

Worcester County Administration Office 1 West Market Street, Room 1103 Snow Hill, MD 21863 Ph. 410-632-1194 Fax 410-632-3131 Email: nrice@co.worcester.md.us

Addendum # 4 New Camera System

Date of Addendum: 2/13/2025

NOTICE TO ALL BIDDERS AND PLANHOLDERS

The Proposal Documents for the above-referenced Project are modified as set forth in this Addendum. The original Proposal Documents and any previously issued addenda remain in full force and effect, except as modified by this Addendum, which is hereby made part of the Proposal Documents. Vendors will take this Addendum into consideration when preparing and submitting a Proposal and shall acknowledge receipt of this Addendum in the space provided in the Proposal Documents.

PROPOSAL SUBMITTAL DEADLINE

The Proposal submittal time has been changed from 2:30pm on Thursday, March 13, 2025 to 2:30pm on Thursday, March 20, 2025.

The last day for questions is noon on March 11, 2025.

SHERIFF OFFICE/COURTHOUSE WALKTHROUGH

A walkthrough of the Sheriff Office/Courthouse will be held Saturday, March 8, 2025 at 9am. Vendors who wish to attend can meet in the lobby of the Government Building, located at 1 West Market Street, Snow Hill, MD 21863.

NOTE: No questions will be allowed during the walkthrough. All questions should be in writing to nrice@co.worcester.md.us.

1.0 - A	1.0 - ATTACHMENTS								
Item	Description								
	Building Drawings (these are what we have currently located)								
	Berlin Roads Building								
1.1	Recreation Center								
1.1	Fire Training Center								
	Government Center								
	Ocean Pines Water Wastewater Plant								

2.0 - CLARIFICATIONS

The following clarifications are provided as a matter of information to clarify issues raised about the Proposal Documents.

Item Description

The following are the requirements for installation of camera equipment at County tower sites:

The County has several locations that are communications sites that require special considerations for cabling, bonding, and grounding. At these locations the following requirements apply:

- All exterior cameras shall be installed in such a manner as to minimize the risk of an individual gaining logical access to the system by accessing the ethernet cabling on the building exterior.
- All metallic components on the exterior of the structure must be fully bonded to the communications site external ground ring with solid tinned copper #2AWG solid wire.
- All metallic components on the interior of the structure must be bonded to the halo ground within the structure using #6AWG copper stranded wire with green insulation and irreversible crimp.
- All rack mount components such as ethernet switches must be grounded to the rack ground bar with #10AWG copper stranded wire with green insulation.
- All exterior cabling shall be shielded twisted pair with the shield bonded to the exterior building bus bar at entry through the use of a purpose designed grounding kit (Commscope GK-SUNV or equivalent).
- All cabling shall enter the building through established entry ports making use of purpose designed entry boots suitable for the cable (CommScope 294573 with CommScope SEC-614 or equivalent).
- All interior ethernet wiring shall be UTP, yellow in color, and routed within established cable support ladders.
- All exterior cabling entering the building shall be suppressed at the interior master bus bar with a Transtector TSJ or equivalent data surge suppressor. Surge suppressor shall be connected to master bus bar with #2AWG copper stranded wire with green insulation and two hole lug.
- Where multiple buildings are present and covered by cameras at a communications site, a switch shall be provided within each building and available inter-building fiber shall be used to connect switches. At no time shall copper conductors be used between buildings.
- Ethernet connection between the security system ethernet switch and county provided MPLS router shall be protected by a Transfector TSJ or equivalent surge suppressor.

Technical answers for export requirements based upon requirements for evidence and use in court:

The system shall permit the export of video from the system, however permission to export shall be controllable by user role. The system shall provide a tool for the redaction of video prior to export. Exported video shall conform to NIST 8161 and IWC 62676-2-32 standards and specifically the following characteristics:

- -MP4 digital multimedia file container
- -H.264 encoded digital video bitstream
- -Electronic UTC timestamp associated with each video frame
- -Recording of system clock offset metadata of the VMS
- -Export file creation date/time metadata
- -Export operator metadata
- -Digital signature for data integrity and chain of custody

2.0 – QUESTIONS AND ANSWERS

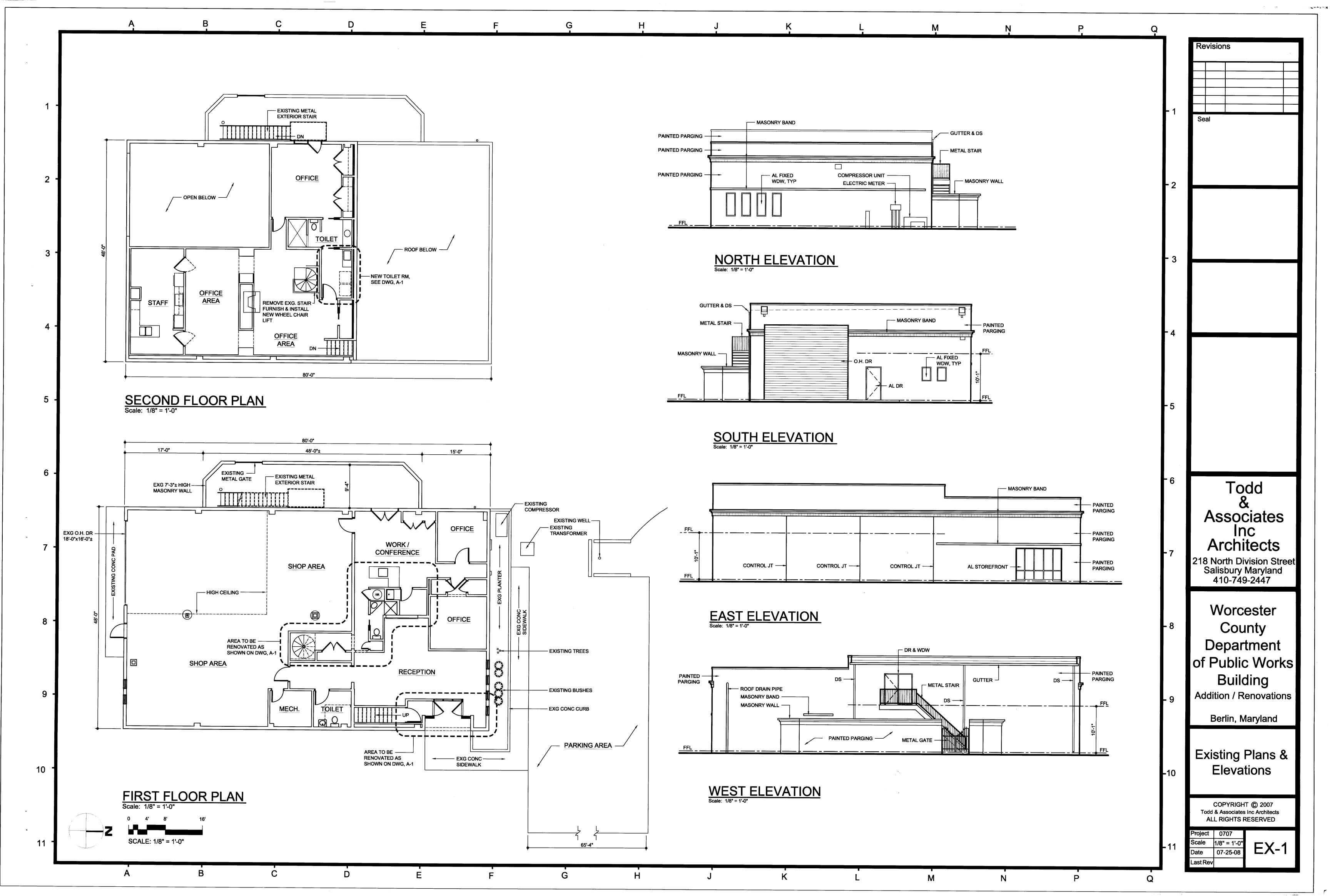
The following questions and answers are provided as a matter of information to clarify issues raised about the Proposal Documents.

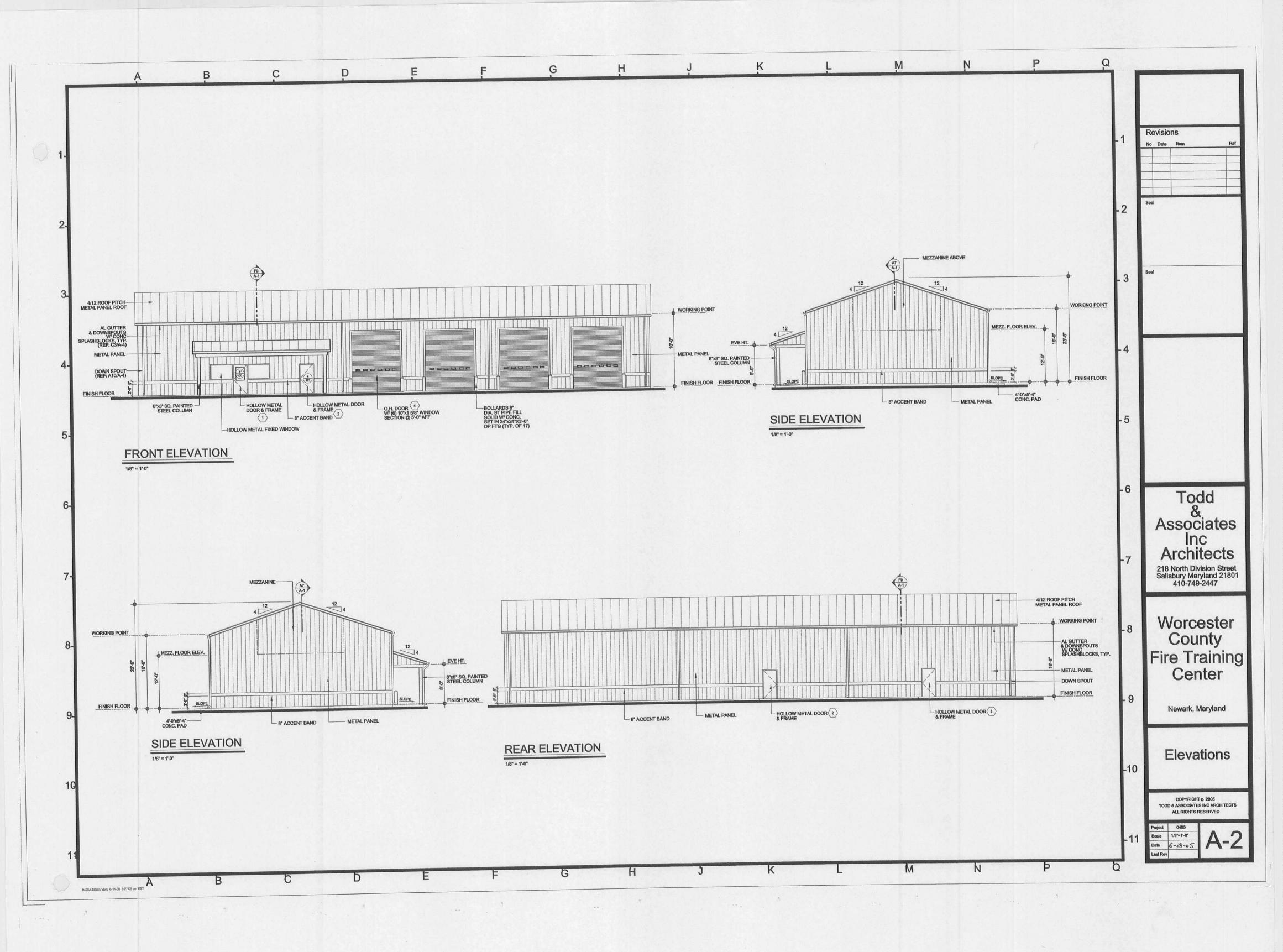
Item | Questions and Answers

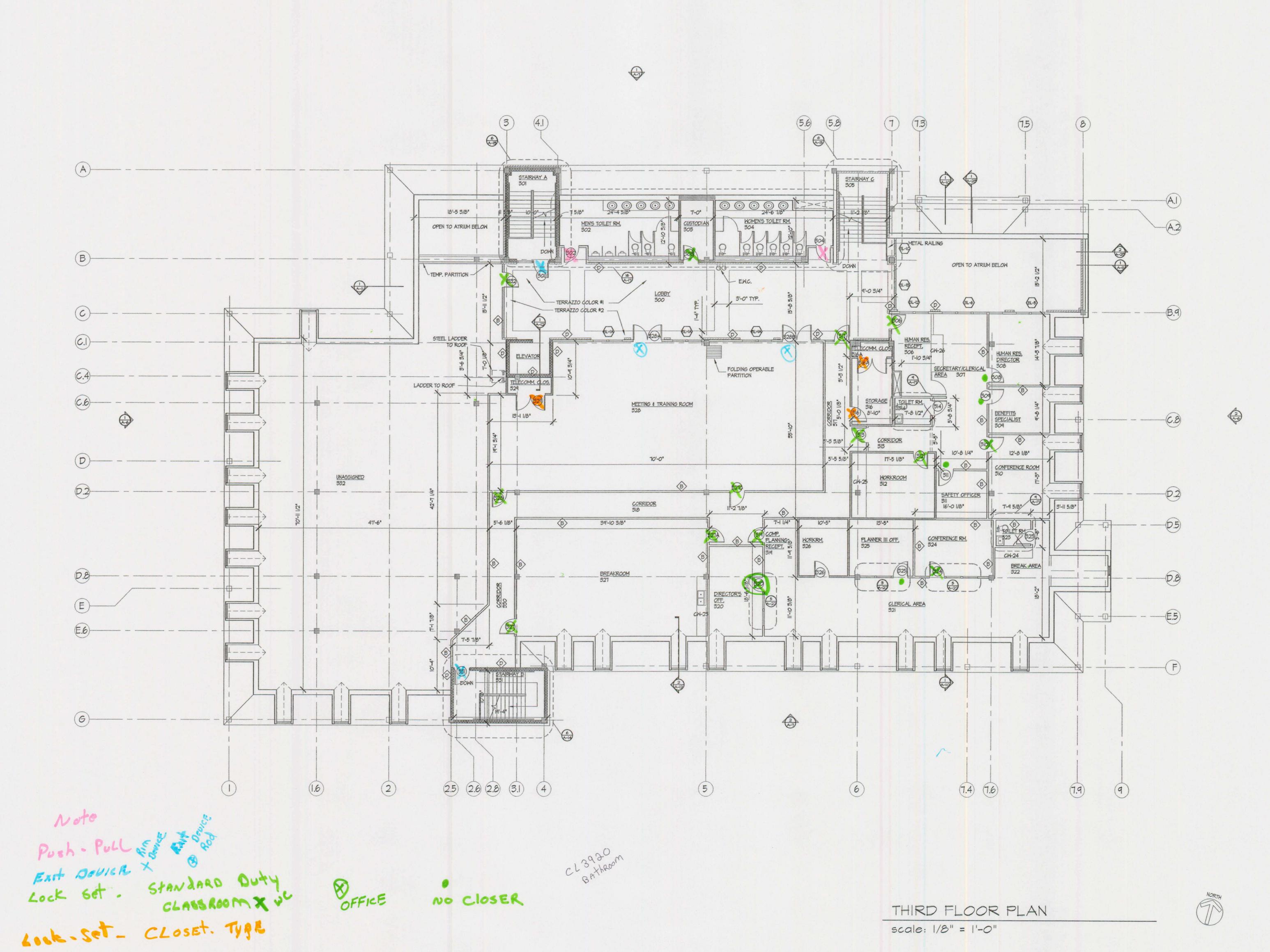
- Q. The "Camera County Building List" provided on the county's website notes information on Internet/No Internet. Can you provide an additional column for "county network"? This is vital information on the proper transmission of video. I.E
 - County Network- connectivity to county government building for recording on server
 - Internet-Hi speed internet service available under a current county subscription

No Internet- No connectivity, vendor will need to provided recommended option for remote access to video.
A. Bandwidth would be sufficient to carry video regardless of the ISP and whether it being on county network or not. If not, we would make corrections. The vendor is not responsible for connectivity or ISP availability. It is the county's responsibility for the bandwidth, we just need to know the recommended bandwidth from the vendor. If no internet services are available, we are expecting Cradlepoint or a suitable solution, but it would the county's responsibility to provide hardware and subscription.
Q. Ocean Pines Recycle" is listed on the Camera systems list distributed with the bid documents but not on the addendum attachment "Camera County building list". Please Clarify
A. This is to be included. No building structure exists, only recycling bins. We currently have a camera on a light pole and a LPR Camera on a separate pole. The recorder is in a NEMA Box. No internet at this location. We do have power.

END OF ADDENDUM



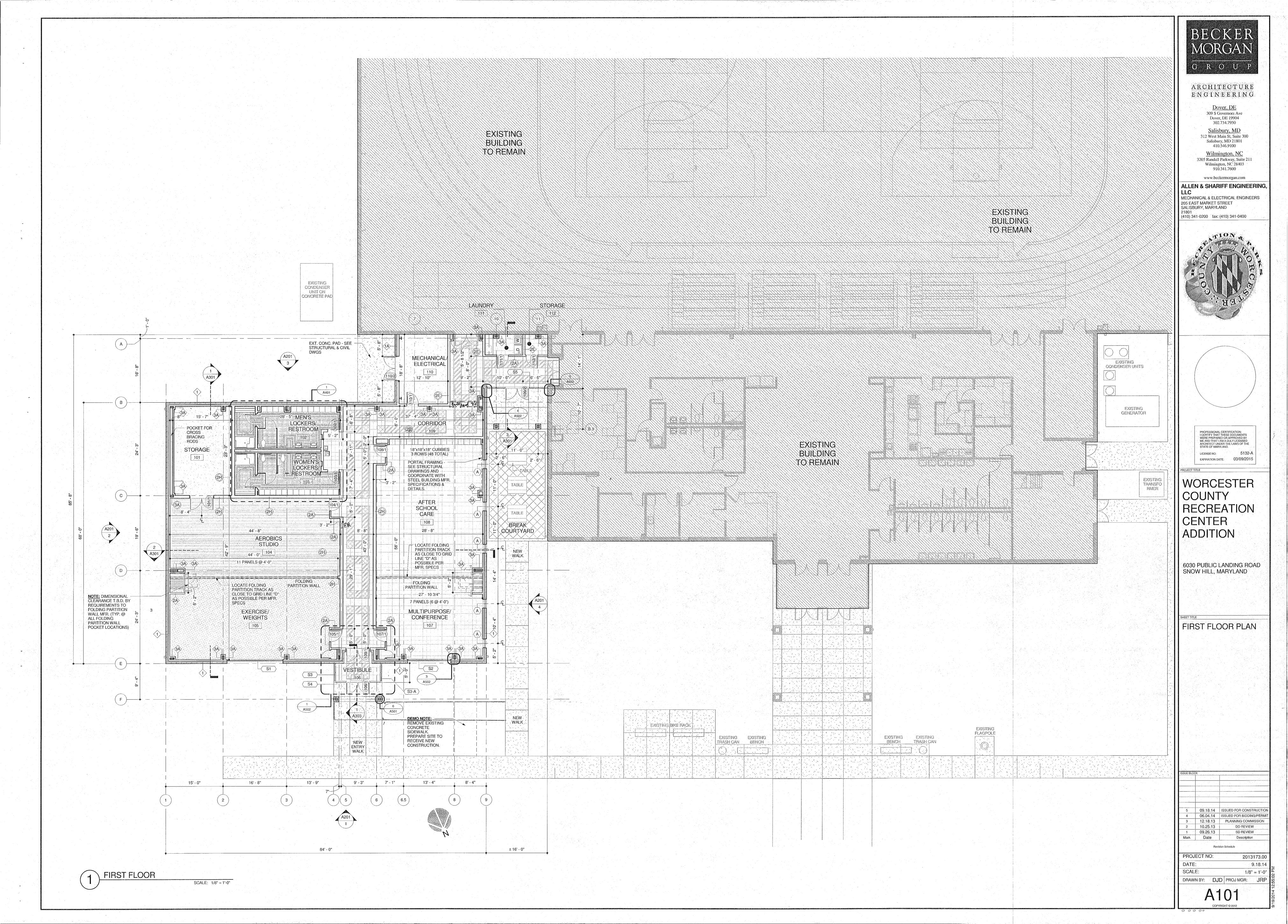




6/30/00 Job No: 9722 Drawing No:

A-4

sheet of sheets



CODE REVIEW:

2015 I.B.C., 2015 NFPA 101

OCCUPANCY TYPE:

BUSINESS GROUP B STORAGE GROUP S-1 (MODERATE HAZARD)

THR @ ELEC. ROOM DUE TO TRANSFORMER

TYPE V-B, UNSPRINKLERED

O HOURS TO FEET OR GREATER

2 HOUR

9,000 S.F

NOT REQUIRED

CONSTRUCTION TYPE:

FIRE RESISTANCE OF BUILDING ELEMENTS: (TABLE 601)

FIRE RESISTANCE EXTERIOR WALLS BASED ON SEPARATION: (TABLE 602)

OCCUPANCY SEPARATION:

(TABLE 6.1.14.4.1 (NFPA)) ALLOWABLE FLOOR AREA

ACTUAL FLOOR AREA:

(TABLE 506.2)

AUTOMATIC SPRINKLER SYSTEMS: (SECTION 903)

OCCUPANT LOAD: (TASLE 1004.1.2)

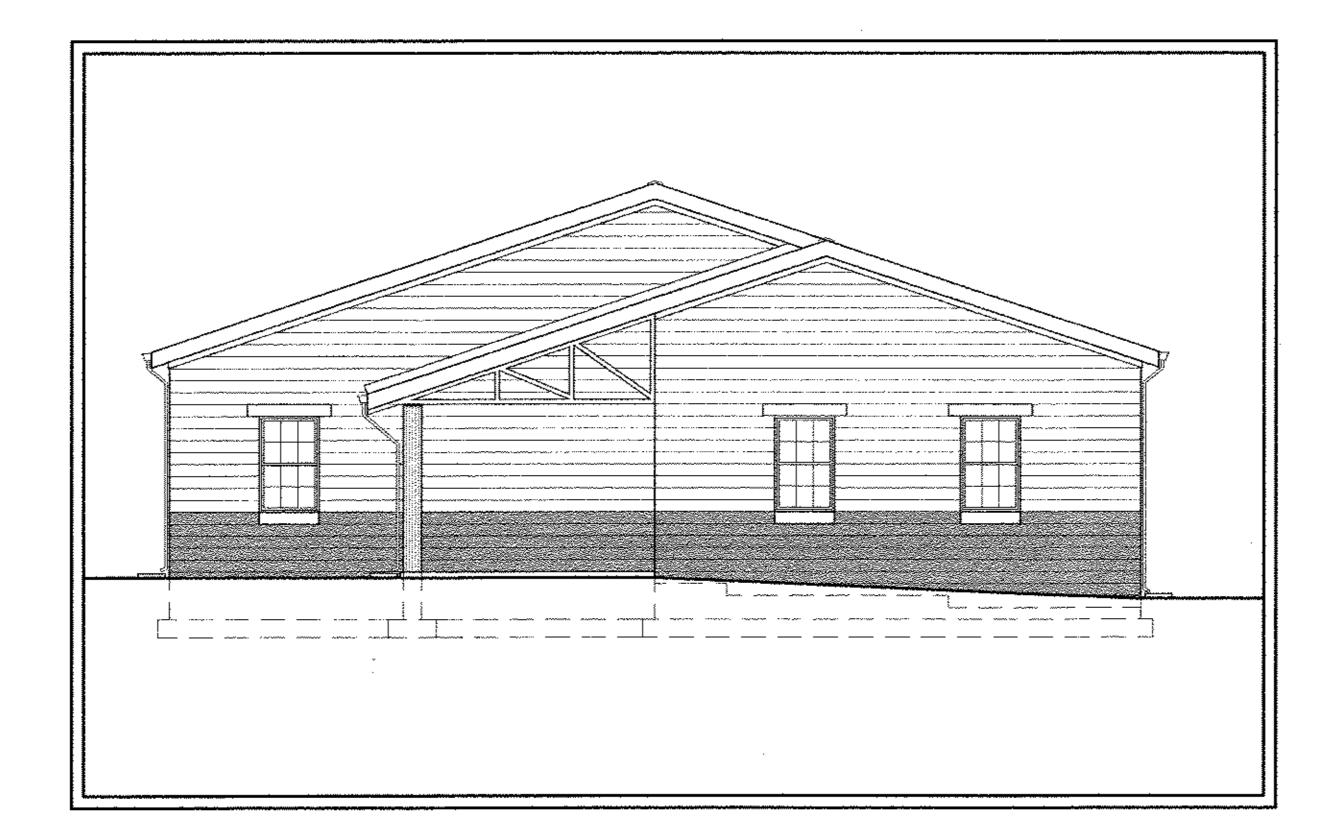
PLUMBING FIXTURES: (TABLE 2902.1)

WC - 1 PER 25 = LAV. - 1 PER 40 =

NEW CONSTRUCTION FOR:

OCEAN PINES WWTP OPERATIONS BUILDING

WORCESTER COUNTY, MARYLAND



- THE CONTRACTOR SHALL PAY ALL FEES, GIVE ALL NOTICES, FILE ALL NECESSARY DRAWINGS AND OBTAIN ALL PERMITS AND CERTIFICATIONS OF APPROVALS REQUIRED IN CONNECTION WITH ALL WORK UNDER THIS CONTRACT.
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THESE FINAL CONSTRUCTION DOCUMENTS. THE GENERAL CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL FELD DIMENSIONS AND PROJECT CONDITIONS AND SHALL NOTIFY THE ARCHITECT OF ANY DISCREPANCIES, CONFLICTS AND OMISSIONS THAT WOULD INTERFERE WITH THE SATISFACTORY COMPLETION OF THE PROJECT.
- BASE INFORMATION INDICATED ON THESE DRAWINGS WAS DERIVED FROM VISUAL AND CASUAL OBSERVATIONS AND ALL DIMENSIONS ARE APPROXIMATE. THIS BASE INFORMATION IS PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR AND IS NOT RATHER AS REFERENCED DATA WHICH FROM ALL SURFACE APPEARANCES OBSERVED AT THE SITE IS BASICALLY ACCEPTABLE FOR THE PURPOSES OF THIS PROJECT.
- THE CONTRACTOR SHALL VERIPY ALL EXISTING CONDITIONS, ELEVATIONS AND DIMENSIONS BEFORE EXECUTION OF ANY WORK, AND, ANY VARIANCES OR INCONSISTENCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT IMMEDIATELY AND IN WRITTEN FORM EITHER ON THE DRAWINGS OR IN A LETTER.
- AFTER DEMOLITION AND REMOVALS ARE COMPLETED, THE CONTRACTOR IS TO NOTIFY THE ARCHITECT, IN WRITING, OF ANY CONDITIONS THAT ARE MADE EVIDENT THAT WILL CONFLICT WITH THE COMPLETION OF THE PROJECT OR REQUIRE ADDITIONAL DEMOLITION TO MEET THE REQUIREMENTS OF THE NEW SCOPE OF WORK REQUIRED BY THE CONTRACT.
- 6. THE CONTRACTOR AGREES TO WORK WITH THE ARCHITECT IN RESOLVING CONFLICTS IN A TIMELY MANNER, INCLUDING CONCEALED OR UNANTICIPATED CONDITIONS THAT AFFECT THE WORK OF THIS CONTRACT.
- ALL WORK SHALL SE PERFORMED IN ACCORDANCE WITH ALL LOCAL LAWS, ORDINANCES, RULES AND REGULATIONS OF THE GOVERNING AGENCIES HAVING JURISDICTION OVER THE PROJECT.
- THE CONTRACTOR MUST TAKE ADEQUATE CARE TO PROTECT ALL AREAS OF THE BUILDING WHERE THE WORK OF THIS ALTERATION IS LOCATED AS WELL AS AREAS ADJACENT TO THE AREA OF WORK OF THIS PROJECT SO AS TO PREVENT DAMAGE TO LIFE OR PROPERTY AS A RESULT OF THIS ALTERATION AND NEW CONSTRUCTION. PROVIDE ALL NECESSARY SAFEGUARDS, BARRICADES, FENCES, SIGNAGE, ETC. AS REQUIRED TO PROTECT THE OCCUPANTS, PUBLIC AND EMPLOYEES PROMIANY POSSBLE INJURY RESULTING FROM THE WORK
- 9. IN ALL CASES, DRAWINGS SHALL NOT BE SCALED FOR INFORMATION. FIGURED DIMENSIONS SHALL GOVERN THE WORK AND ALL DIMENSIONS AND CONDITIONS MUST
- 10. THE CONTRACTOR AND EACH SUB-CONTRACTOR SHALL KEEP ACCURATE RECORDS OF ANY MODIFICATION OR DEVIATIONS FROM THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL DELIVER TO THE ARCHITECT A COMPLETE SET OF "AG-BUILT" DRAWINGS PRIOR TO APPROVAL OF FINAL PAYMENT.
- THE CONTRACTOR SHALL NOT MAKE, CAUSE TO BE MADE, OR PERMIT A SUBCONTRACTOR OR STAFF MEMBER OR LOCAL REPRESENTATIVE OF THE OWNER TO MAKE ANY CHANGES TO WHAT IS SPECIFIED ON THE DRAWINGS WITHOUT SPECIFIC AUTHORIZATION OF THE ARCHITECT.
- 12. REPAIR OR REPLACE ALL AREAS DAMAGED AS A RESULT OF THE WORK TO THE SATISFACTION OF THE OWNER
- 19. ALL WOOD BLOCKING SHALL BE FIRE RETARDANT.
- 14. EXISTING DOCUMENTATION SHOWN PROVIDED BY OWNER THEREFORE GMB DOES NOT TAKE ANY RESPONSIBILITY FOR ERRORS AND OMISSIONS OF THE GRAPHIC INFORMATION PROVIDED WHICH IS FOR PERMIT AND REVIEW.
- 15. REFER TO OWNER SPEC FOR FINISH/COLOR CHOICES, FIXTURE AND EQUIPMENT MANUFACTURERS, DEMOLITION AND REPAIR INSTRUCTIONS AND OTHER MISCELLANEOUS ITEMS.

CONTACTS:

OWNER REP.:

COUNTY COMMISSIONERS OF WORCESTER COUNTY, MARYLAND GOVERNMENT CENTER, ROOM 1103 ONE WEST MAIN STREET SNOW HILL MARYLAND 21863

MADISON J. BUNTING, JR., PRESIDENT

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ALLEN & SHARIFF 205 E MARKET ST SALISBURY, MD 21801 410-341-0200

INDEX OF DRAWINGS:

COVER SHEET

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FLOOR PLAN ELEVATIONS ELEVATIONS

S53

WALL SECTIONS ROOF PLAN AND SCHEDULES HEAD, JAMB AND SILL DETAILS INTERIOR ELEVATIONS

REFLECTED CEILING PLAN DETAILS FOUNDATION PLAN ROOF FRAMING PLAN

S5.2 STRUCTURAL NOTES MECHANICAL SCHEDULES, NOTES AND LEGEND MECHANICAL DETAILS

MECHANICAL FLOOR PLAN

STRUCTURAL DETAILS

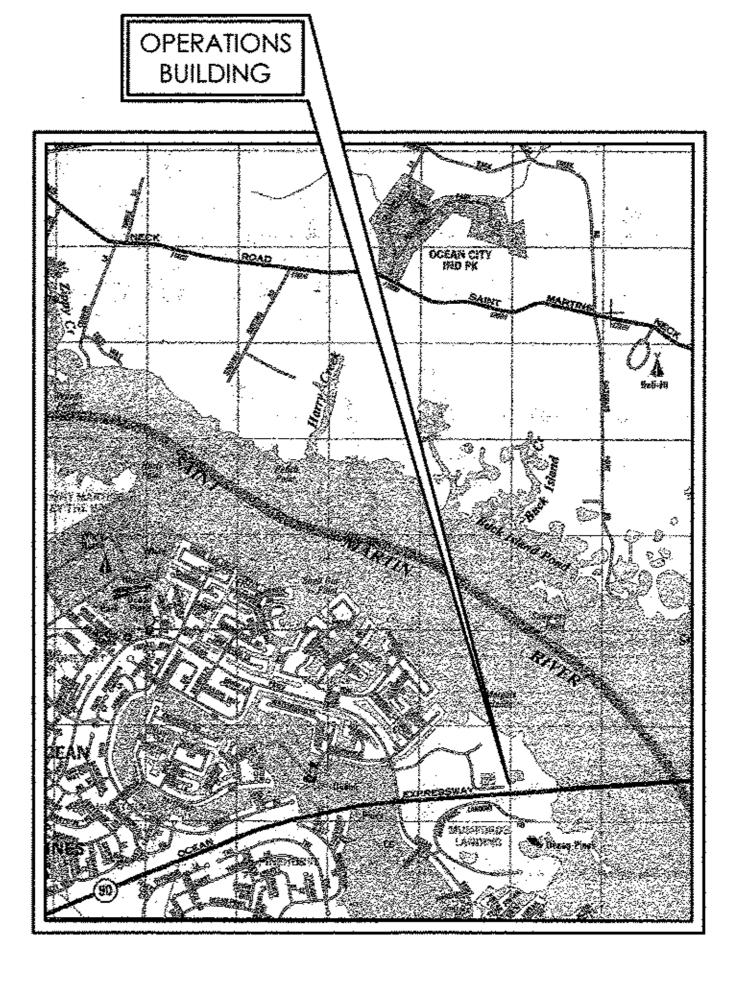
PLUMBING NOTES, SCHEDULES, AND LEGEND 21.0 PLUMBING DETAILS PLUMBING SUPPLY FLOOR PLAN **22**1 PLUMBING WASTE FLOOR PLAN

PLUMBING RISERS

ELECTRICAL SITE PLAN

ELECTRICAL SPECIFICATIONS ELECTRICAL SCHEDULES AND POWER RISER LIGHTING FLOOR PLAN E21 POWER FLOOR PLAN

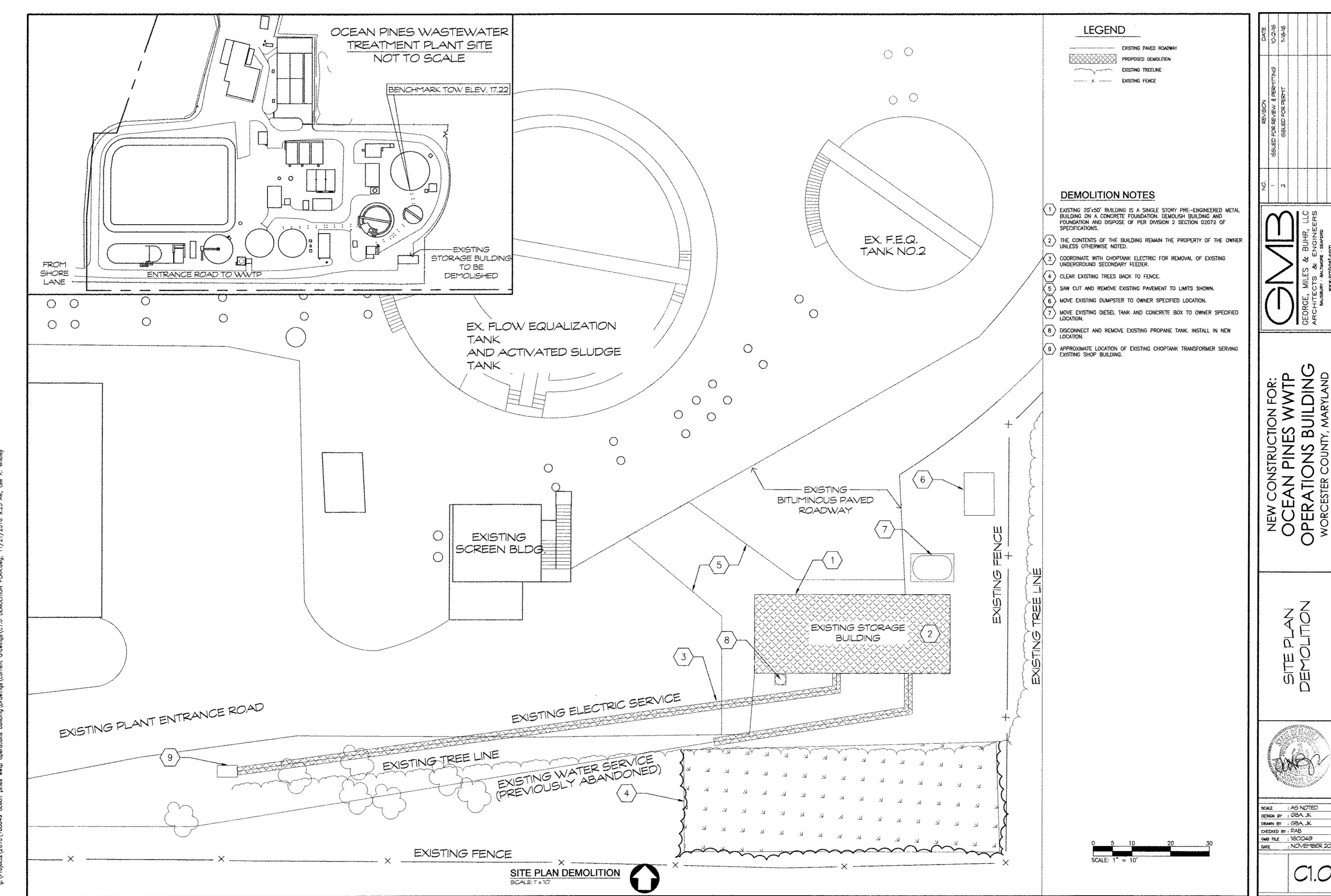
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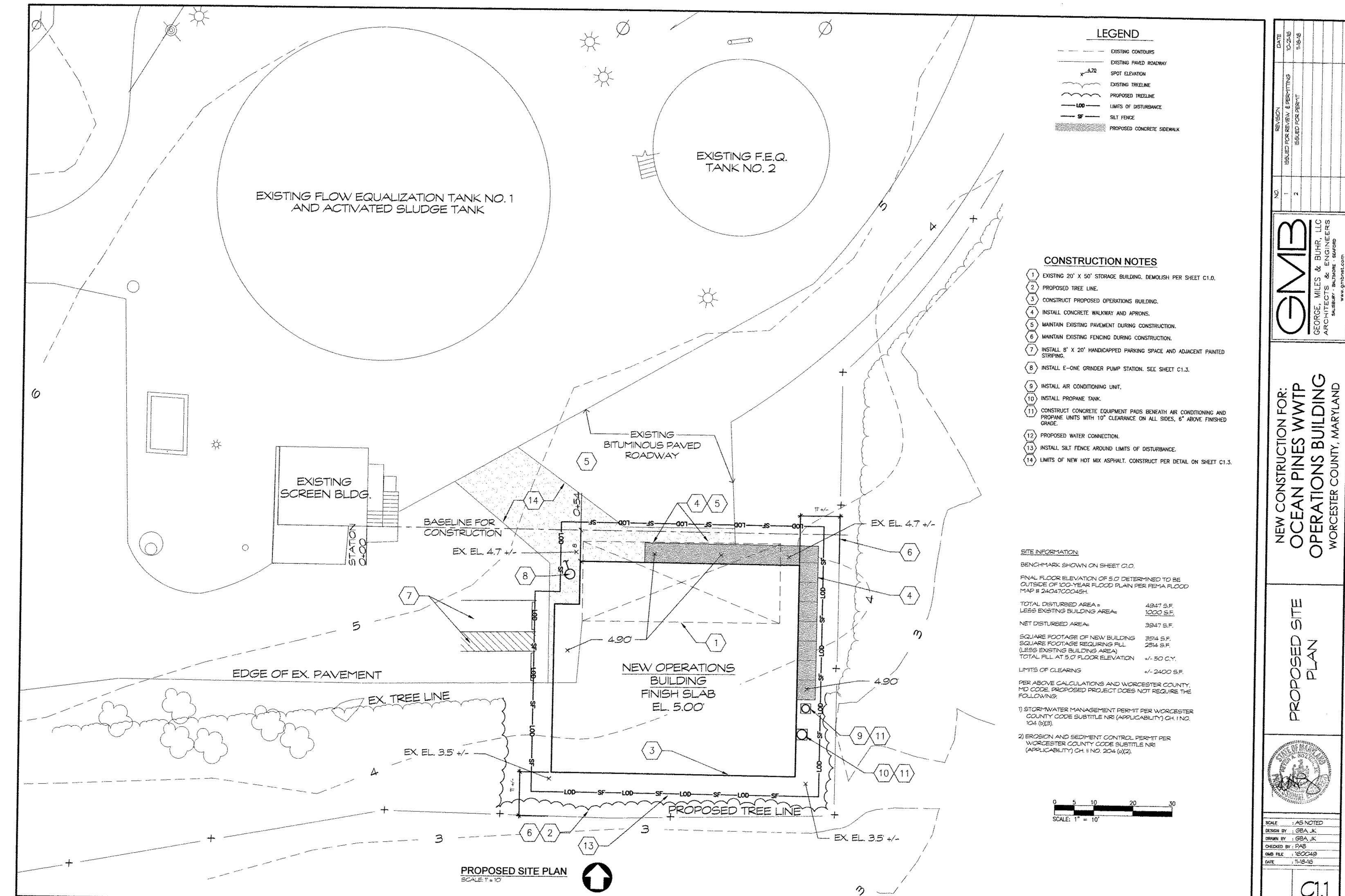
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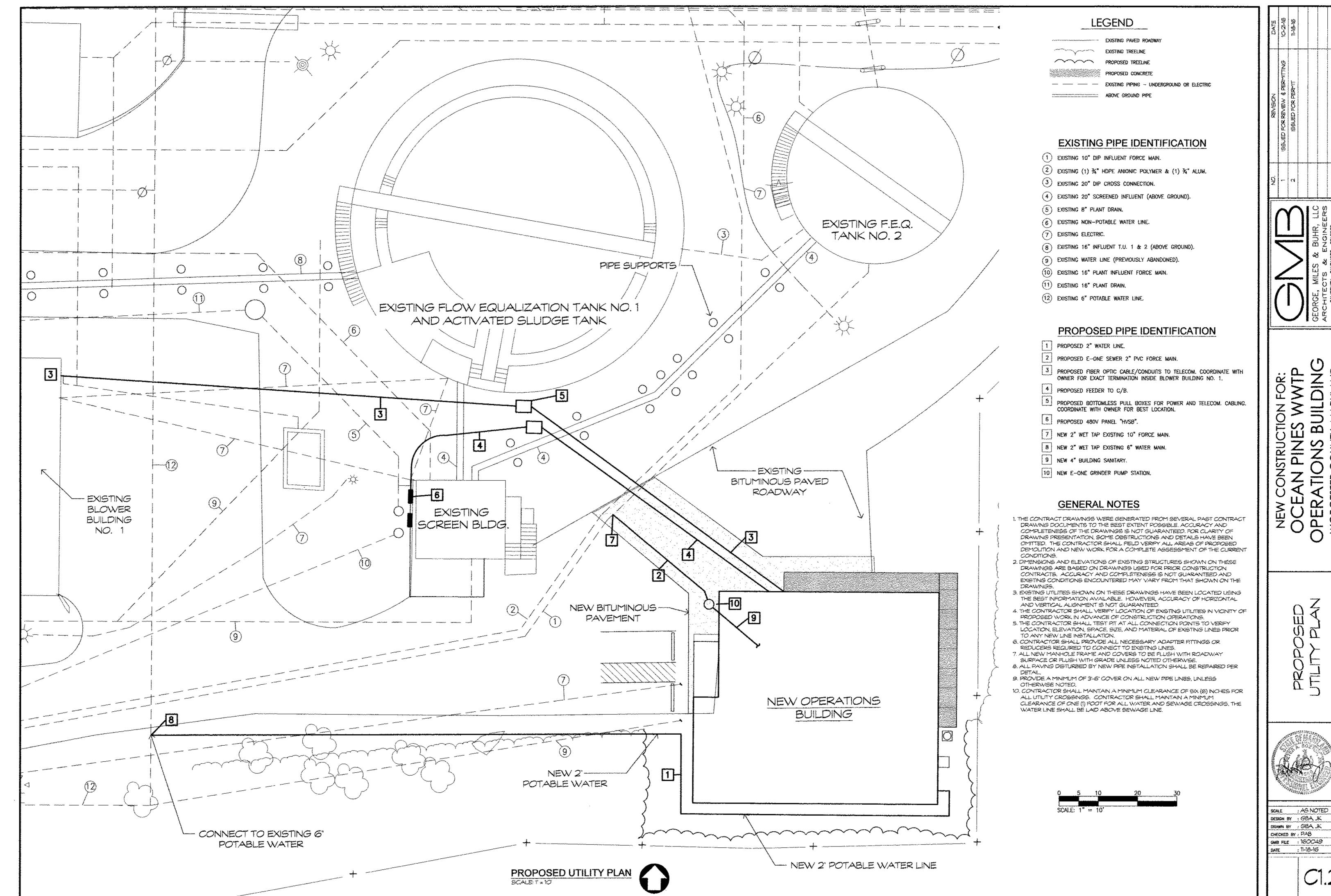
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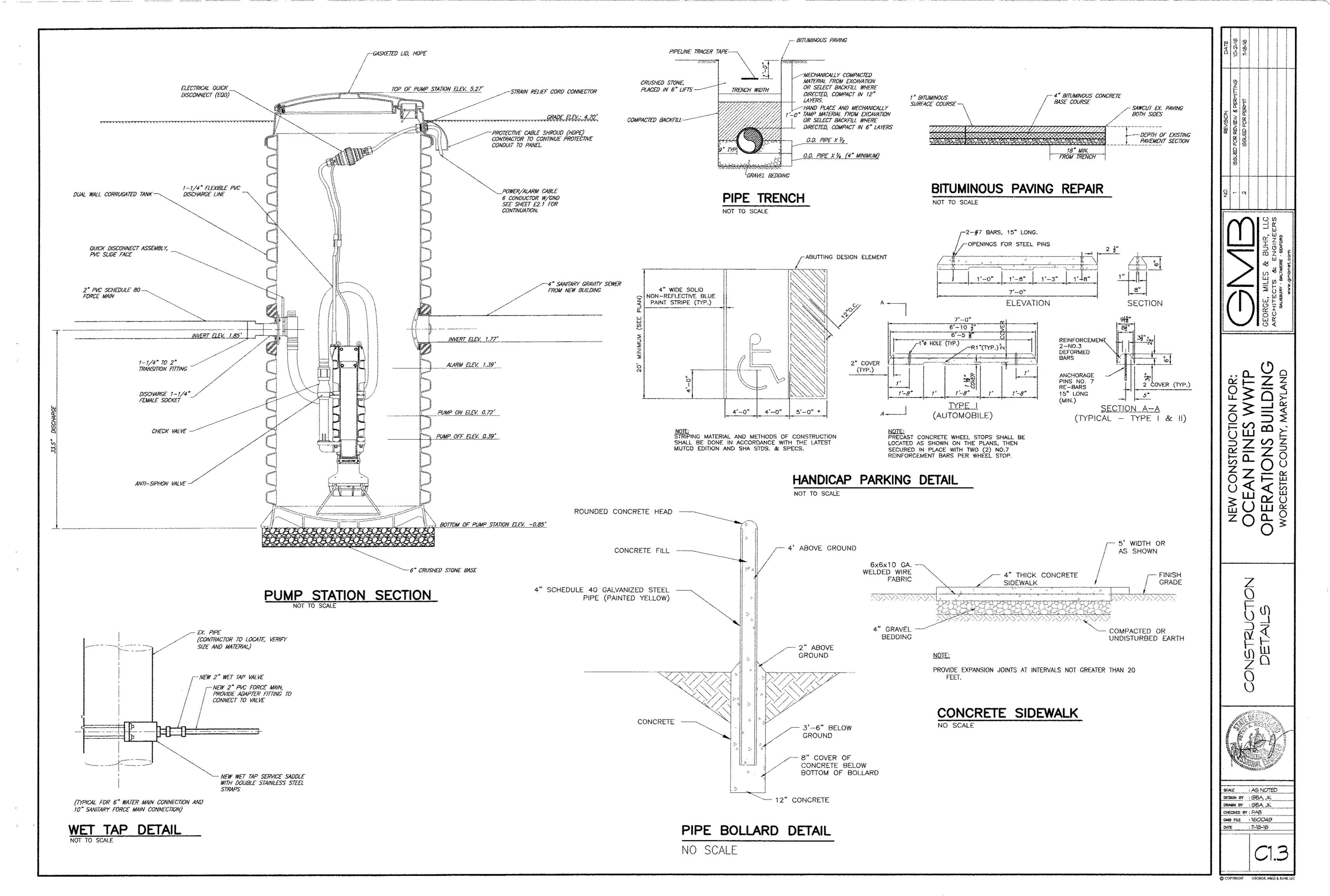


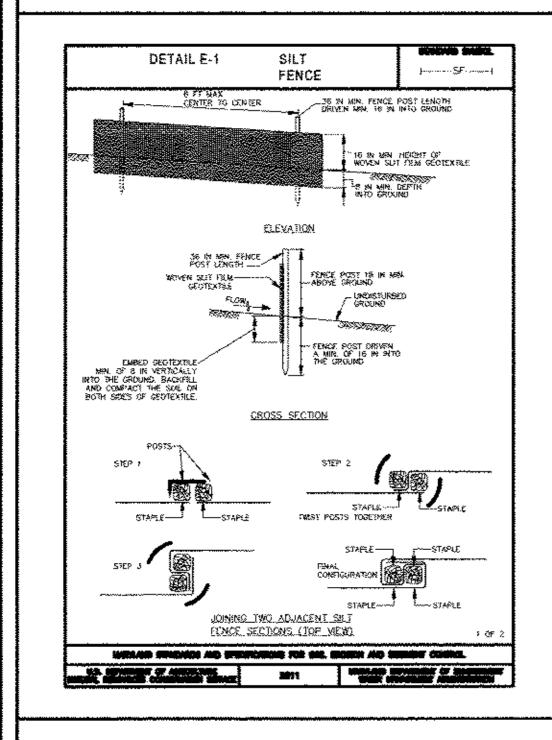


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(2016\160049 ocean pines wwtp operations building\Drawings\current drawings\C1.2 PiPING PLAN.dwg, 11/21/2016 8:21 AM, Lee K. Whaley





DETAIL E	S-1 SILT FENCE	;SF
CONSTRUCTION SPECIFICAT	RONS	
5. USE WOOD POSTS 1% X 1% AN ALTERNATIVE TO MORDEN LESS THAN 1 POWNS PER UN	± %, evon (mannada) square fut of 1 Post USZ Standard "t" of "V" sec Near Foot.	SOUND QUALITY HARCHGOD, AS TICAL STEEL POSTS WEIGHING NOT
2. USE 36 INCH MINABLE POSTS	S ORBYFO OTHE WOMINIUM HICK OF CERCENC	D NO MORE THAN 5 YEET APART.
	XIII.A. AS SPECIFIED BY SECTION R-3 MA OF FENCE FOSTS WITH WHE 1925 OR S	
	REFICATION TO THE AUTHORIZED REFIRET USHIGHTY SHOWING THAT THE GEOTFATE —1 MATERIALS	
S. EMBER GEOTEXTILE A MINIARU THE SOLL ON BOTH SPOES OF	M OF 6 INCHES VERTICALLY BITO THE G FARREC.	EROUND, BACKTIEL AND COMPACT
6. WHERE TWO SECTIONS OF GE ACCORDANCE METH THIS DEST	OTEXPRE AGROIN: OVERLAP, FREST, AND AIL	STAPLE TO FOST DA
	srt fence a medicum of 1946 hoszo Enci alianment to prevent risyoff f	
	MENT AND DEBRIS WARN RULIGES DEVELS PENCE MERRIET, REPLACE GEOREM BLE R	

TEMPORARY STABILIZATION

TO STABILIZE DISTURBED SOILS WITH VEGETATION FOR UP TO 6 MONTHS.

TO USE FAST GROWING VEGETATION THAT PROVIDES COVER ON DISTURBED SOILS

THEN TABLE B.1 PLUS FERTILIZER AND LINE RATES MUST BE PUT ON THE PLAN.

EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR A PERIOD OF & MONTHS OR LESS, FOR LONGER DURATION OF TIME, PERMANENT STABILIZATION

- 1. SELECT ONE OR MORE OF THE SPECIES OR SEED MIXTURES LISTED IN TABLE B.1 OF THE 2011 MARYLAND STANDARDS FOR THE APPROPRIATE PLANS HARDNESS ZONE (FROM FIGURE 8.3), OF THE 2011 MARYLAND STANDARDS AND ENTER THEM IN THE TEMPORARY SEEDING SUMMARY BELOW ALONG WITH APPLICATION RATES, SEEDING DATES AND SEEDING DEPTHS. IF THIS SLAMARY IS NOT PLIT ON THE PLAN AND COMPLETED,
- 2. FOR SITES HAVING SOIL TESTS PERFORMED, USE AND SHOW THE RECOMMENDED RATES BY THE TESTING AGENCY. SOIL TESTS ARE NOT REQUIRED FOR TEMPORARY SEEDING.
- 3. When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in SECTION 8-4-3.A.1.B AND MAINTAIN UNTIL THE NEXT SEEDING SEASON.

			TEMPORARY SEEDIN	ig summai	RY	
HARD	INESS ZONE (FRO	M FIGURE 8.3): TURE (FROM T		SEED	FERTILIZER RATE	LIMATE DATE
NO.	SPECIES	APPL. RATE (L8S/AC)	SEEDING DEPTHS	(10-20-20)	LIME RATE	
:	ANNUAL RYEGRASS	140	2/1 TO 4/30 8/15 TO 11/30	0.5	436LBS/AC. 10LBS/1000SF	2 TONS/AC 90LBS/1000S F

PERMANENT STABILIZATION

TO STABILIZE DISTURBED SOILS WITH PERMANENT VEGETATION

TO USE LONG-LIVED PERENHAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT CROUND COVER ON DISTURBED SOILS.

CONDITIONS WHERE PRACTICE APPLIES EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR 6 MONTHS OR MORE.

- GENERAL USE a. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES USTED IN TAKLE 8.3 OF THE 2011 MARYLAND STANDARDS FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE 8.3) AND BASED ON THE SITE CONDITION OR PURPOSE FOUND ON TABLE 8.2 OF THE 2011 MARYLAND STANDARDS. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO SE PLACED ON THE PLAN.
- ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINES, STREAM BANKS, OR DUNES OR FOR SPECIAL purposes such as wildlife or aesthetic treatment may be found in usda-nrcs technical field office guide, section 342 -CRETICAL AREA PLANTING
- e. For sites having disturbed area over 5 acres, use and show the rates recommended by the soil testing agency. d. FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREA FORM FERTILIZER (48-0-0) AT 3 ½ POUNDS PER 1000 SQUARE FEET (150
- pounds per acke) at the time of seeding in addition to the soil amendments shown in the permanent seeding summary TURFGRASS MEXITIES O. AREAS WHERE TURFGRASS MAY BE DESKED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM
- TO HIGH LEVEL OF MAINTENANCE. b. SELECT ONE OR MORE OF THE SPECIES OR MOXIMES LISTED BELOW BASED ON THE SITE CONDITIONS OR PURPOSE, ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE
- I. KENTUCKY BILLEGRASS: FULL SUN MIXTURE: FOR USE IN AREAS THAT RECEIVE INTENSIVE MANAGEMENT. IRRIGATION REQUIRED IN THE AREAS OF CENTRAL MARYLAND AND EASTERN SHORE. RECOMMENDED CERTIFIED KENTUCKY BLUEGRASS CULTIVARS SEEDING RATE: 1.5 TO 2.0 POLINDS PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT
- II. KENTUCKY BLUECRASS/PERENNAL RYE: FULL SUN MIXTURE: FOR USE IN FULL SUN AREAS WHERE B.22 RAPID ESTABLISHMENT IS NECESSARY AND WHEN TURE WILL RECEIVE MEDIUM TO INTENSIVE MANAGEMENT, CERTIFIED PERENNIAL RYEGRASS CULTIVARS/CERTIFIED KENTUCKY BLUEGRASS SEEDING RATE: 2 POURIDS MIXTURE PER 1000 SQUARE FEET, CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT
- GI. TALL FESCUE/KENTLICKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN DROUGHT PRONE AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM MANAGEMENT IN FULL SUN TO MEDIUM SHADE. RECOMMENDED MIXTURE INCLUDES; CERTIFIED TALL FESCUE CULTIVARS 85 TO 100 percent, certified kentucky bluedrass cultivars o to 5 percent. Seeding rate: 5 to 8 pounds per 1000 square OR MORE CULTIVARS MAY BE BLENDED.
- n. Kentucky Bluegrass/fine Fescue: Shade Mixture: for USE in areas with shade in Bluegrass Lawns. For establishment in High QUALITY, INTENSIVELY MANASED TURF AREA, MIXTURE INCLUDES; CERTIFIED KENTUCKY BILIEGRASS CULTIVARS 30 TO 40 PERCENT AND CERTIFIED FINE FESCUE AND 60 TO 70 PERCENT, SEEDING RATE: 1% TO 3 POUNDS PER 1000 SQUARE FEET.
- select turforass varieties from those listed in the most current university of maryland publication, agronomy memo \$77, "TURFGRASS CULTIVAR RECOMMENDATIONS FOR MARYLAND" choose certified material, certified material is the best glarantee of clutivar purity. The certification program of the MARYLAND DEPARTMENT OF AGRICULTURE, TURE AND SEED SECTION, PROVIDES A RELIABLE MEANS OF CONSUMER PROTECTION AND
- c. IDEAL TIMES OF SEFDING FOR TURF GRASS MIXTURES WESTERN MO: MARCH 15 TO JUNE 1, AUGUST 1 TO OCTOBER 1 (HARDINESS ZONES: 5B, 6A)
- CENTRAL MD: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONE: 68) SOUTHERN MD, EXSTERN SHORE: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDNESS ZONES: 7A, 7B) d. TILL AREAS TO RECEIVE SEED BY DISKING OR OTHER APPROVED METHODS TO A DEPTH OF 2 TO 4 INCHES, LEVEL AND RAKE THE AREAS TO PREPARE A PROPER SEEDBED. REMOVE STONES AND DEBRIS OVER 1½ INCHES IN DIAMETER. THE RESULTING SEEDBED MUST BE IN
- SUCH CONDITION THAT FUTURE MOVING OF GRASSES WILL POSE NO DIFFICULTY. e. If soil moisture is deficient, supply new seedings with acequate water for plant growth (% to 1 inch every 3 to 4 days DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FIRMLY ESTABLISHED, THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN ABNORMALLY DRY OR HOT SEASONS, OR ON ADVERSE SITES.

- SCO: TO PROVIDE QUIEK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER).
- q. CLASS OF TURFORASS SOD MUST BE MARYLAND STATE CERTIFIED. SOD LABELS MUST BE MADE AVAILABLE TO THE JOB FOREMAN AND
- b. SOO MUST BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF \$4 INCH, PLUS OR MINUS \$4 INCH, AT THE TIME OF CUTTING. MEASUREMENT FOR THICKNESS MUST EXCLUDE TOP GROWTH AND THATCH, BROKEN PADS AND TORN OR UNEVEN ENDS WILL NOT BE
- c. Standard size sections of sod must be strong enough to support their own weight and retain their size and shape when SUSPENDED VERTICALLY WITH A FIRM GRASP ON THE UPPER 10 PERCENT OF THE SECTION.
- d 500 hust not be harvested or transplanted when moisture content (excessively dry or wet) may adversely affect its e. Soo must be harvested, delivered, and installed within a period of 36 hours. Sod not transplanted within this period must be approved by an agronomest or son scientist prior to its installation.
- 2. SOD INSTALLATION 6. DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SUBSCIL, LICHTLY IRRIGATE THE SUBSCIL IMMEDIATELY PRIOR TO LAYING THE SOLD
- b. LAY THE FIRST ROW OF SOD IN A STRAIGHT LINE WITH SUBSECUENT ROWS PLACED PARALLEL TO IT AND TIGHTLY WEDGED AGAINST EACH OTHER, STAGGER LATERAL JOINTS TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH, ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE AIR DRVING OF THE ROOTS.
- c. Wherever possible, lay sod with the long edges parallei, to the contour and with staggering joints, roll and tamp, peg or
- OTHERWISE SECURE THE SOD TO PREVENT SLIPPAGE ON SLOPES, ENSURE SOLID CONTACT EXISTS BETWEEN SOD ROOTS AND THE UNDERLYING SOIL SURFACE.
- d. Water the soo immediately following rolling and tamping until the underside of the New Sod Pad and soil sufface below the sod are thoroughly wet, complete the operations of laying, tamping and irregating for any piece of sod within eight SOD MAINTENANCE
- O. IN THE ASSENCE OF ADEQUATE RAINFALL, WATER DAILY DURING THE FIRST WEEK OR AS OFTEN AND SUFFICIENTLY AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF 4 BICHES. WATER SOO DURING THE HEAT OF THE DAY TO PREVENT WILTING.
- b. AFTER THE FIRST WEEK, SOD WATERING IS REQUIRED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE CONTENT. C. DO NOT MOW UNTIL THE SOD IS FIRMLY ROOTED, NO MORE THAN X OF THE GRASS LEAF MUST BE REMOVED BY THE INITIAL CUITING OR SUBSEQUENT CUTTINGS. MAINTAIN A GRASS HEIGHT OF AT LEAST 3 INCHES UNLESS OTHERWISE SPECIFIED.

PERMANENT SEEDING SUMMARY HARDINESS ZONE (FROM FIGURE 8.3): 78 FERTILIZER RATE (10-20-20) MIXTURE (FROM TABLE B.3): LIME RATE K20 SPECIES SEEDING DATES (LBS/AC) DEPTHS 3/1 TO 5/15| COASTAL 1/4 TO 8/15 TO PANIC GRASS 10/15 3/1 TO 5/15 45LBS/AC | 90LBS/AC | 90LBS/AC | 2 TONS/AC CREEPING 8/15 TO 1LBS/1000S| 2LBS/1000 | 2LBS/1000 | 90LBS/1000 FESCUE 10/15 3/1 TO 5/15| ¼ TO PARTRIDGE 8/15 TO 10/15

SEEDING AND MULCHING

THE APPLICATION OF SEED AND MULCH TO ESTABLISH VEGETATIVE COVER

TO PROTECT DISTURBED SOILS FROM EROSION DURING AND AT THE END OF CONSTRUCTION.

CONDITIONS WHERE PRACTICE APPLIES
TO THE SURFACE OF ALL PERIMETER CONTROLS, SLOPES, AND ANY DISTURBED AREA NOT UNDER ACTIVE GRADING.

- SPECIFICATIONS o, all seeding must meet the requirements of the maryland state seed law. All seed must be subject to RE-TESTING BY A RECOGNIZED SEED LABORATORY. ALL SEED USED MUST HAVE BEEN TESTED WITHIN THE 8 MONTHS IMMEDIATELY PROCEEDING THE DATE OF SOWING SUCH MATERIAL ON ANY PROJECT, REFER TO TABLE B.4 REGARDING THE QUALITY OF SEED. SEED TAGS MUST BE AVAILABLE UPON REQUEST TO THE INSPECTOR TO VERIFY TYPE OF SEED
- b. MULCH ALONE MAY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES ONLY IT THE GROUND IS FROZEN.
- THE APPROPRIATE SEEDING MIXTURE MUST BE APPLIED WHEN THE GROUND THAWS. INOCULANTS: THE INOCULANT FOR TREATING LEGIME SEED IN THE SEED MIXTURES MIST BE A PURE CULTURE OF ntrocen fixing bacteria prepared specifically for the species, inoculants must not be used later than THE DATE INDICATED ON THE CONTABLER, ADD FRESH INDICALANTS AS DIRECTED ON THE PACKAGE, USE FOUR TIMES THE RECOMMENDED RATE WHEN HYDROSEEDING, NOTE: IT IS VERY IMPORTANT TO KEEP INOCULANT AS COOL AS possible until used. Temperatures above 75 to 80 degrees fahrerheit can weakijn bacteria and make INOCULANT LESS EFFECTIVE
- 4. SOD OR SEED MUST NOT BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC
- APPLICATION DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OF BROADCAST SPREADERS. I. INCORPORATE SEED INTO TOPSOIL AT THE RATES PRESCRIBED ON THE TEMPORARY SEEDING TABLE B.1, PERMANENT SEEDING TABLE B.3, OR SITE-SPECIFIC SEEDING SUBMARKS.
- ii. Apply seed in two orections, perpendicular to each other, apply half the seeding rate in each direction, roll the seeded area with a weighted roller to provide good seed to soil contact. b. Drill or cultipacker seeding: Mechanized seeders that apply and cover seed with soil.
- IL CULTIPACKER SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEAST X, INCH OF SOIL COVERING, SEED BED MUST BE FIRM AFTER PLANTING. IL APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER, APPLY HALF THE SEEDING RATE IN EACH
- e. Hydroseeding: Apply seed uniformly with hydroseeder (slurry excludes seed and fertilizer). I. IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, THE APPLICATION RATES SHOULD NOT EXCEED THE FOLLOWING: INTROCEN, 100 POUNDS PER ACRE TOTAL OF SOLURILE INTROCEN; P2Os (PHOSPHOROUS), 200 POUNDS
- PER ACRE, K₂O (POTASSIUM), 200 POUNDS PER ACRE. ii, lime: Use only ground agricultural umestone (up to 3 tons per agre may be applied by HYDROSEEDING). NORMALLY, NOT MORE THAN 2 TONS ARE APPLIED BY HRDROSEEDING AT ANY ONE TIME, DO NOT
- USE BURNT OR HYDRATED LIME WHEN HYDROSEEDING. IS. MIX SEED AND FERTILIZER ON SITE AND SEED IMMEDIATELY AND WITHOUT INTERRUPTION. IV. WHEN HYDROSEEDING DO NOT INCORPORATE SEED INTO THE SOIL.

B. MULCHING 1. MULCH MATERIALS (IN ORDER OF PREFERENCE)

- STRAW CONSISTING OF THOROUGHLY THRESHED WHEAT, RYE, CAT, OR BARLEY AND REASONABLY BRIGHT IN COLOR. STRAW IS TO BE FREE OF NOXIOUS WEED SEEDS AS SPECIFIED IN THE MARYLAND SEED LAW AND NOT MUSTY, MOLDY, caked, decayed, or excessively dusity. Mote: use only sterile sy=train malch in areas where one species of grass is desired.
- b. WOOD CELLULOSE FIBER MULCH (WCPM) CONSISTING OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE.
- WCFM IS TO BE DYED GREEN OR CONTAIN A GREEN DYE IN THE PACKAGE THAT WILL PROVIDE AN APPROPRIATE color to facilitate visual inspection of the uniforbily spread slurry.
- WOFM, INCLUDING DYE, MUST CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS WSCM MATERIALS ARE TO BE MANUFACTURED AND PROCESSED IN A MANNER THAT THE WOOD CELLULOSE FIBER wilch will remain in Uriform Suspension in Water and Under Agitation will blend with seed, Fertilizer and other additives to form a homogeneous slurry, the mulch material must form a blotter-like ground cover of the grass selections.
- v. WCFM MATERIAL MUST NOT CONTAIN ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL RE
- WOFM MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS: FIBER LENGTH OF APPROXIMATELY TO MILLIMETERS, DIAMETER APPROXIMATELY I MILLIMETER, PH RANGE OF 4.0 TO 8.5, ASH CONTENT OF 1.8 PERCENT MAXIMUM AND WATER HOLDING CAPACITY OF 90 PERCENT MINIMUM. APPLICATION
- . APPLY MULCH TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING.
- WHEN STRAW MALCH IS USED, SPREAD IT OVER ALL SEEDED AREAS AT A RATE OF 2 TONS PER ACRE TO A UNIFORM LOOSE DEPTH OF 1 TO 2 MICHES. APPLY MULCH TO ACHIEVE A UNBFORM DISTRIBUTION AND DEPTH SO THAT THE SOIL surface is not exposed. When using a malch anchoring tool, increase the application rate to 2.5 tons
- WOOD CELLEOSE FIBER USED AS MULCH MUST BE APPLIED AT A NET DRY WEIGHT OF 1500 POLINOS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER TO ATTAIN A MIXTURE WITH A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FREER PER 100 GALLONS OF WATER.
- ANCHORING a. Perform mulch anchoring immediately following application of mulch to minimize loss by wind or water. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS (LISTED BY PREFERENCE), DEPENDING UPON THE SIZE OF
- A MULCH ANCHORING TOOL IS A TRACTOR DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE soil surface a minimum of 2 inches. This practice is most effective on large areas, but is limited to FLATTER SLOPES WHERE EQUIPMENT CAN OPERATE SAFELY. IF USED ON SLOPING LAND, THIS PRACTICE SHOULD FOLLOW THE CONTOUR.
- WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. APPLY THE FIBER BINDER AT A NET DRY WEIGHT OF CELLULOSE FIBER PER 100 GALLONS OF WATER.
- 31. SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (ARGO-TACK), DCA-70, PETROSET, TERRA TAX II, TERRA TACK AR OR OTHER APPROVED EQUAL MAY BE USED. FOLLOW APPLICATION RATES AS SPECIFIED BY THE MANUFACTURER. APPLICATION OF LIQUID BINDERS NEEDS TO BE HEAVER AT THE EDGES WHERE WIND CATCHES MILCH, SUCH AS IN valleys and on crests of banks, use of asphalt binders is strictly prohibited.
- IV. LIGHTWEIGHT PLASTIC NETTING MAY BE STAPLED OVER MULCH ACCORDING TO MANUFACTURES RECOMMENDATIONS. NETTING IS USUALLY AVAILABLE IN ROLLS 4 TO 15 FEET WIDE AND 300 TO 3,000 FEET LONG.

DUST CONTROL NOTES

CONTROLLING DUST BLOWING AND MOVEMENT ON CONSTRUCTION SITES AND ROADS.

TO PREVENT BLOWING AND MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES, REDUCE ON AND OFF-SITE DAMAGE, HEALTH HAZARDS, AND IMPROVE TRAFFIC SAFETY.

CONDITIONS WHERE PRACTICE APPLIES THIS PRACTICE IS APPLICABLE TO AREAS SUBJECT TO DUST BLOWING AND MOVEMENT WHERE ON AND OFF-SITE DAMAGE IS LIKELY WITHOUT TREATMENT,

SPECIFICATIONS TEMPORARY METHODS

- 1. MULCHES SEE STANDARDS FOR VEGETATIVE STABILIZATION WITH MULCHES ONLY. MULCH SHOULD BE CRIMPED OR TACKED TO PREVENT BLOWING.
- 2. VEGETATIVE COVER SEE STANDARDS FOR TEMPORARY VEGETATIVE COVER.
- 3. TILLAGE TO ROUGHEN SURFACE AND BRING CLODS TO THE SURFACE. THIS IS AN EMERGENCY MEASURE WHICH SHOULD BE USED BEFORE SOIL BLOWING STARTS. BEGIN PLOWING ON WINDWARD SIDE OF SITE. CHISEL-TYPE PLOWS SPACED ABOUT 12" APART, SPRING-TOOTHED HARROWS, AND SIMILAR PLOWS ARE EXAMPLES OF EQUIPMENT WHICH MAY PRODUCE THE DESIRED EFFECT.
- IRRIGATION THIS IS GENERALLY DONE AS AN EMERGENCY TREATMENT. SITE IS SPRINKLED WITH WATER UNTIL THE SURFACE IS MOIST. REPEAT AS NEEDED. AT NO TIME SHOULD THE SITE BE IRRIGATED TO THE POINT THAT RUNOFF BEGINS TO FLOW.
- 5. BARRIERS SOUD BOARD FENCES, SILT FENCES, SNOW FENCES, BURLAP FENCES, STRAW BALES, AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING. BARRIERS PLACED AT RIGHT ANGLES TO PREVAILING CURRENTS AT INTERVALS OF ABOUT 10 TIMES THEIR HEIGHT ARE EFFECTIVE IN CONTROLLING SOIL BLOWING.
- 6. CALCIUM CHLORIDE APPLY AT RATES THAT WILL KEEP SURFACE MOIST. MAY NEED RETREATMENT.
- PERMANENT VEGETATION SEE STANDARDS FOR PERMANENT VEGETATIVE COVER, AND PERMANENT STABILIZATION WITH SOD. EXISTING TREES OR LARGE SHRUBS MAY AFFORD VALUABLE PROTECTION IF
- 2. TOPSOILING COVERING WITH LESS EROSIVE SOIL MATERIALS. SEE STANDARDS FOR TOPSOILING. STONE - COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL

- AGRICULTURE HANDBOOK 346. WIND EROSION FORCES IN THE UNITED STATES AND THEIR USE IN PREDICTING SOIL LOSS.
- 2. AGRICULTURE INFORMATION BULLETIN 354. HOW TO CONTROL WIND EROSION, USDA-ARS.

STANDARD EROSION & SEDIMENT CONTROL NOTES

- 1. THE CONTRACTOR SHALL NOTIFY THE WORCESTER COUNTY DEPARTMENT OF DEVELOPMENT REVIEW AND PERMITTING (DRP) AT (410) 632-1200 SEVEN (7) DAYS BEFORE COMMEMOING ANY LAND DISTURBING ACTIVITY AND, UNLESS WAVED BY THE ADMINISTRATION, SHALL BE
- REQUIRED TO HOLD A PRE-CONSTRUCTION MEETING BETWEEN PROJECT REPRESENTATIVES AND A REPRESENTATIVE OF WORCESTER COUNTY.
- 2. CONTRACTOR MUST NOTIFY WORCESTER COUNTY IN WRITING AND BY TELEPHONE AT THE FOLLOWING POINTS: A THE REQUIRED PRE-CONSTRUCTION MEETING.
- BL FOLLOWING INSTALLATION OF SEDIMENT CONTROL MEASURES. C. During the installation of sediment basins (to be converted into permanent stormwater management STRUCTURES) AT THE REQUIRED INSPECTION POINTS (SEE INSPECTION CHECKLEST ON PLAN). NOTIFICATION PRIOR TO COMMERCING
- CONSTRUCTION OF EACH STEP IS MANDATORY. , PRIOR TO REMOVAL OR MODIFICATION OF ANY SEDIMENT CONTROL STRUCTURE(S). PRIOR TO REMOVAL OF ALL SEDIMENT CONTROL DEVICES.

F. PRIOR TO FEMAL ACCEPTANCE.

THE CONTRACTOR SHALL CONSTRUCT ALL EROSION AND SEDWENT CONTROL WEASURES PER THE APPROVED PLAN AND CONSTRUCTION SEQUENCE AND SHALL HAVE THEM INSPECTED AND APPROVED BY THE AGENCY INSPECTOR OR WORCESTER COUNTY INSPECTOR PRIOR TO regionalis any other land disturbances, minor sediment control device location adjustments may be made in the field with THE APPROVAL OF THE WORCESTER COUNTY INSPECTOR. THE CONTRACTOR SHALL ENSURE THAT ALL RUNOFF FROM DISTURBED AREAS IS directed to the sediment control devices and shall not remove any erosion or sediment control measure without prior PERMISSION FROM WORCESTER COUNTY INSPECTOR AND AGENCY INSPECTOR. THE CONTRACTOR MUST OBTAIN PRIOR AGENCY AND

WORCESTER COUNTY APPROVAL FOR CHANGES TO THE SEDIMENT CONTROL PLAN AND/OR SEQUENCE OF CONSTRUCTION

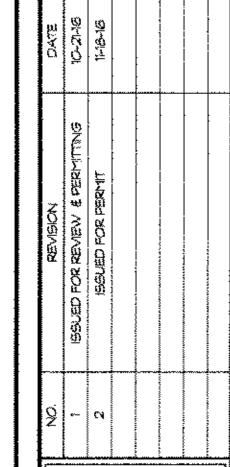
- 4. THE CONTRACTOR SHALL PROTECT ALL POINTS OF CONSTRUCTION INCRESS AND EGRESS TO PREVENT THE DEPOSITION OF MATERIALS ONTO PUBLIC ROADS, ALL MATERIALS DEPOSITED ONTO PUBLIC ROADS SHALL BE REMOVED IMMEDIATELY.
- 5. THE CONTRACTOR SHALL INSPECT DAILY AND MAINTAIN CONTINUOUSLY IN AN EFFECTIVE OPERATING CONDITION ALL EROSION AND SEDIMENT CONTROL MEASURES UNTIL SUCH TIMES AS THEY ARE REMOVED WITH PRIOR PERMISSION FROM WORCESTER COUNTY INSPECTOR AND
- 6. ALL SEDIMENT BASINS, TRAP EMBANGMENTS AND SLOPES, PERIMETER DIKES, SWALES AND ALL DISTURBED SLOPES STEEPER OR EQUAL TO 3:1 SHALL BE STABILIZED WITH SOD OR SEED AND ANCHORED STRAW MULCH, OR OTHER APPROVED STABILIZATION MEASURES, AS SOON AS POSSIBLE BUT NO LATER THAN THREE (3) CALENDAR DAYS AFTER ESTABLISHMENT. ALL AREAS DISTURBED OUTSIDE OF THE PERMETER SEDBIENT CONTROL SYSTEM MUST BE MINIMIZED, MAINTENANCE MUST BE PERFORMED AS NECESSARY TO EASURE CONTINUED SYMBLIZATION. (regulariment for stabilization way be reduced to three (3) days for sensitive areas.)
- 7. THE CONTRACTOR SHALL APPLY SOO OR SEED AND ANCHORED STRAW MULCH, OR OTHER APPROVED STABILIZATION MEASURES TO ALL DISTURBED AREAS AND STOCKPILES WITHIN SEVEN (7) CALENDAR DAYS AFTER STREPPING AND GRADING ACTIVITIES HAVE CEASED IN THE area. Maintenance shall be performed as necessary to ensure continuous stabilization in accordance with requirements of "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL". (REQUIREMENT MAY BE REDUCED TO SEVEN (7) DAYS FOR SENSTINE AREAS.)
- 8. PRIOR TO REMOVAL OF SEDIMENT CONTROL MEASURES, THE CONTRACTOR SHALL STABILIZE AND HAVE ESTABLISHED PERMANENT STABILIZATION FOR ALL CONTRIBUTORY DISTURBED AREAS USING SOD OR AN APPROVED PERMANENT SEED MIXTURE WITH REQUIRED SOL. wendments and an approved anchored Malch, wood fiber mulch way only be used in seeding season where the slope DOES NOT EXCEED 10% AND GRADING HAS BEEN DONE TO PROMOTE SHEET FLOW DRAINAGE. AREAS BROUGHT TO FINISHED GRADE DURING THE SEEDING SEASON SHALL BE PERMANENTLY STABILIZED AS SOON AS POSSIBLE, BUT NOT LATER THAN SEVEN (7) CALENDAR DAYS AFTER ESTABLISHMENT, WHEN PROPERTY IS BROUGHT TO FINISHED GRADE DURING THE MONTHS OF NOVEMBER THROUGH FEBRUARY, AND PERMANENT STABILIZATION IS FOUND TO BE IMPRACTICAL, TEMPORARY SEED AND ANCHORED STRAW MULCH SHALL BE APPLIED TO DISTURBED AREAS. THE FINAL PERMANENT STABILIZATION OF SUCH PROPERTY SHALL BE APPLIED BY MARCH 15 OR EARLIER IF GROUND
- 9. THE SITE'S APPROVAL LETTER, APPROVED EROSION AND SEDIMENT CONTROL PLANS, DAILY LOG BOOKS, AND TEST REPORTS SHALL BE AVAILABLE AT THE SITE FOR INSPECTION BY DULY AUTHORIZED OFFICIALS OF WORCESTER COUNTY AND THE
- 10. SURFACE DRAINAGE FLOWS OVER UNSTABILIZED OUT AND FILL SLOPES SHALL SE CONTROLLED BY EITHER PREVENTING DRAINAGE FLOWS FROM TRAVERSING THE SLOPES OR BY INSTALLING PROTECTIVE DEVICES TO LOWER THE WATER DOWNSLOPE WITHOUT CAUSING EROSION. DIKES SHALL BE INSTALLED AND MAINTAINED AT THE TOP OF A CUT OR FILL SLOPE UNTIL THE SLOPE AND DRAINAGE AREA TO IT ARE PULLY STABILIZED, AT WHICH TIME THEY MUST BE REMOVED AND FINAL GRADING DONE TO PROMOTE SHEET FLOW DRAMAGE. PROTECTIVE METHODS MUST BE PROVIDED AT POINTS OF CONCENTRATED FLOWS WHERE EROSION IS LIKELY TO OCCUR.
- 11. PERMANENT SWALES OR OTHER POINTS OF CONCENTRATED WATER FLOW SHALL BE STABILIZED WITH SOD OR SEED WITH AN APPROVED EROSION CONTROL MATTING, RIP-RAP, OR BY OTHER APPROVED STABILIZED MEASURES.
- 12. TEMPORARY SEDIMENT CONTROL DEVICES MAY BE REMOVED, WITH PERMISSION OF WORCESTER COUNTY INSPECTOR AND AGENCY INSPECTORS, WITHIN THRITY (30) CALENDAR DAYS FOLLOWING ESTABLISHMENT OF PERMANENT STABILIZATION IN ALL CONTRIBUTORY DRAINAGE areas. Stormhater management structures used temporarily for sediment control shall be converted to the permanent CONFIGURATION WITHIN THIS TIME PERKOD AS WELL.
- 13. NO PERMANENT CUT OR FILL SLOPE WITH A GRADIENT STEEPER THAN 3:1 WILL BE PERMITTED IN LAWN MAINTENANCE AREAS. A SLOPE GRADIENT OF UP TO 2:1 WILL BE PERMITTED IN NON-MAINTENANCE AREAS PROVIDED THAT THOSE AREAS ARE INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN WITH LOW-MAINTANCE CROWND COVER SPECIFIED FOR PERMANENT STABILIZATION, SLOPE CRADIENT STEEPER THAN 2:1 WILL NOT BE PERMITTED WITH VEGETATIVE STABILIZATION.
- TWENTY FOUR (24) HOURS AFTER THE EDD OF A RAINFALL EVENT, DRAINAGE COURSES AND SWALE FLOW AREAS MAY TAKE AS LONG AS FORTY-EIGHT (48) HOURS AFTER THE END OF A RAINFALL EVENT TO DRAIN. AREAS DESIGNED TO HAVE STANDING WATER SHALL NOT BE RECEIPED TO MEET THIS RECURREMENT

14. FOR FINISHED GRADING, THE CONTRACTOR SHALL PROVIDE ADEQUATE GRADIENTS TO PREVENT WATER FROM PONDING FOR MORE THAN

- 15. SEDIMENT TRAPS OR BASINS ARE NOT PERMITTED WITHIN 20 FEET OF A FOUNDATION THAT EXISTS OR IS UNDER CONSTRUCTION, NO STRUCTURE MAY BE CONSTRUCTED WITHIN 20 FEET OF AN ACTIVE SEDIMENT TRAP OR BASIN.
- 16. THE WORCESTER COUNTY INSPECTOR HAS THE OPTION OF REQUIRING ADDITIONAL SAFETY OR SETIMENT CONTROL MEASURES, IF DEDAED 17. ALL TRAP DEPTH DIMENSIONS ARE RELATIVE TO THE OUTLET ELEVATION. ALL TRAPS MUST HAVE A STABLE OUTFALL ALL TRAPS AND BASINS
- 18. VEGETATIVE STABILIZATION SHALL BE PERFORMED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDBUENT CONTROL REFER TO APPROPRIATE SPECIFICATIONS FOR TEMPORARY SEEDING, PERMANENT SEEDING, MILICHING, SODDING, AND
- 19. SECIMENT SHALL BE REMOVED AND THE TRAP OR BASIN RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SECIMENT HAS ACCUMULATED TO ONE QUARTER OF THE TOTAL DEPTH OF THE TRAP OR BASIN. TOTAL DEPTH SHALL BE MEASURED FROM THE TRAP OR BASIN BOTTOM
- 20. SEDIMENT REMOVED FROM TRAPS (AND BASINS) SHALL BE PLACED AND STABRIZED IN APPROVED AREAS, BUT NOT WITHIN A FLOODPLAIN, WETLAND OR TREE-SAVE AREA. WHEN PUMPING SEDIMENT LADEN WATER, THE DISCHARGE HUST BE DIRECTED TO A SEDIMENT TRAPPING
- DEVICE PRIOR TO RELEASE FROM THE SITE. A SUMP PT MAY BE USED IF SEDIMENT TRAPS THEMSELVES ARE BEING PUMPED OUT. 21. ALL WATER ROMOVED FROM EXCAVATED AREAS SHALL BE PASSED THROUGH A WORCESTER COUNTY APPROVED DEWATERING PRACTICE OR
- Pumped to a sedment trap or basin from to discharge to a functional storm drain system or to stable ground surface. 22. SEDIMENT CONTROL FOR UTILITY CONSTRUCTION FOR AREAS OUTSIDE OF DESIGNED CONTROLS OR
- AS DIRECTED BY ENGINEER OR WORCESTER COUNTY INSPECTOR: A CALL "MISS UTELTY" AT 1-800-257-7777 48 HOURS PRIOR TO THE START OF WORK
- BL EXCAVATED TRENCH MATERIAL SHALL BE PLACED ON THE HIGH SIDE OF THE TRENCH C. TRENCHES FOR UTILITY INSTALLATION SHALL BE BACKFILLED, COMPACTED, AND STABILIZED AT THE END OF EACH WORKING DAY, NO MORE TRENCH SHALL BE OPENED THAN CAN BE COMPLETED THE SAME DAY, UNLESS;
- D. TEMPORARY SILT FENCE SHALL BE PLACED IMMEDIATELY DOWNSTREAM OF ANY DISTURBED AREA INTENDED TO REMAIN DISTURBED FOR
- 23. WHERE DEEMED APPROPRIATE BY THE ENGINEER OR INSPECTOR, SEDIMENT BASINS AND TRAPS MAY NEED TO B surrounded with an approved safety fence. The fence Must conform to local ordinances and regulations he developer or owner shall check with local building officials on applicable safety requirements, where afety fence is deemed appropriate and local ordinances do not specify fencing size and types, the POLLOWING SHALL BE USED AS A MINIMUM STANDARD: THE SAFETY FENCE MUST BE MADE OF WELDED WIRE AND AT LEAST 42 INCHES HIGH, HAVE POSTS SPACED NO FARTHER APART THAN 8 FEET, HAVE MESH OPENINGS NO GREATER THAN 2 inches in width and 4 inches in height with a winhalm of 14 gauge wire. Safety fence must be waintained and in good
- 24. OFF-SITE, SPOIL OR BORROW AREAS ON STATE OR FEDERAL PROPERTY MUST HAVE PRIOR APPROVAL BY WORCESTER COUNTY AND OTHER APPLICABLE STATE, FEDERAL, AND LOCAL AGENCIES; OTHERWISE APPROVAL MUST BE GRANTED BY THE LOCAL AUTHORITIES. ALL WASTE AND BORROW AREAS OFF-SITE MUST BE PROTECTED BY SEDIMENT CONTROL MEASURES AND STABILIZED.
- 25. SITES WHERE INFILITATION DEVICES ARE USED FOR THE CONTROL OF STOPMWATER, EXTREME CARE MUST BE TAKEN TO PREVENT RUNOFF FROM UNSTABILIZED AREAS FROM ENTERING THE STRUCTURE DURING CONSTRUCTION, SEDMENT CONTROL DEVICES PLACED IN INFLITRATION AREAS MUST HAVE BOTTOM ELEVATIONS AT LEAST TWO (2) FEET HIGHER THAN THE FINISH grade bottom elevation of the infiltration practice, when converting a sediment trap to an application device, all ACCUMULATED SECREENT MUST BE REMOVED AND DISPOSED OF PRIOR TO FINAL GRADING OF INFETRATION DEVICE.
- 26. WHEN A STORM DRAIN SYSTEM OUTFAIL IS DIRECTED TO A SEDIMENT TRAP OR SEDIMENT BASIN AND THE SYSTEM IS TO BE USED FOR TEMPORARILY CONVEYING SEDIMENT LADEN WATER, ALL STORM DRAIN BILETS IN NON-SUMP AREAS SHALL HAVE TEMPORARY ASPINAL BERMS CONSTRUCTED AT THE TIME OF BASE PAYING TO DIRECT QUITER FLOW INTO THE INLETS TO
- 27. APPROVED SEDIMENT AND EROSION CONTROL PLANS WILL REMAIN VALUE FOR 2 YEARS FROM THE DATE OF APPROVAL URLESS SPECIFICALLY EXTENDED OR RENEWED BY THE APPROVAL AUTHORITY.

SEQUENCE OF CONSTRUCTION

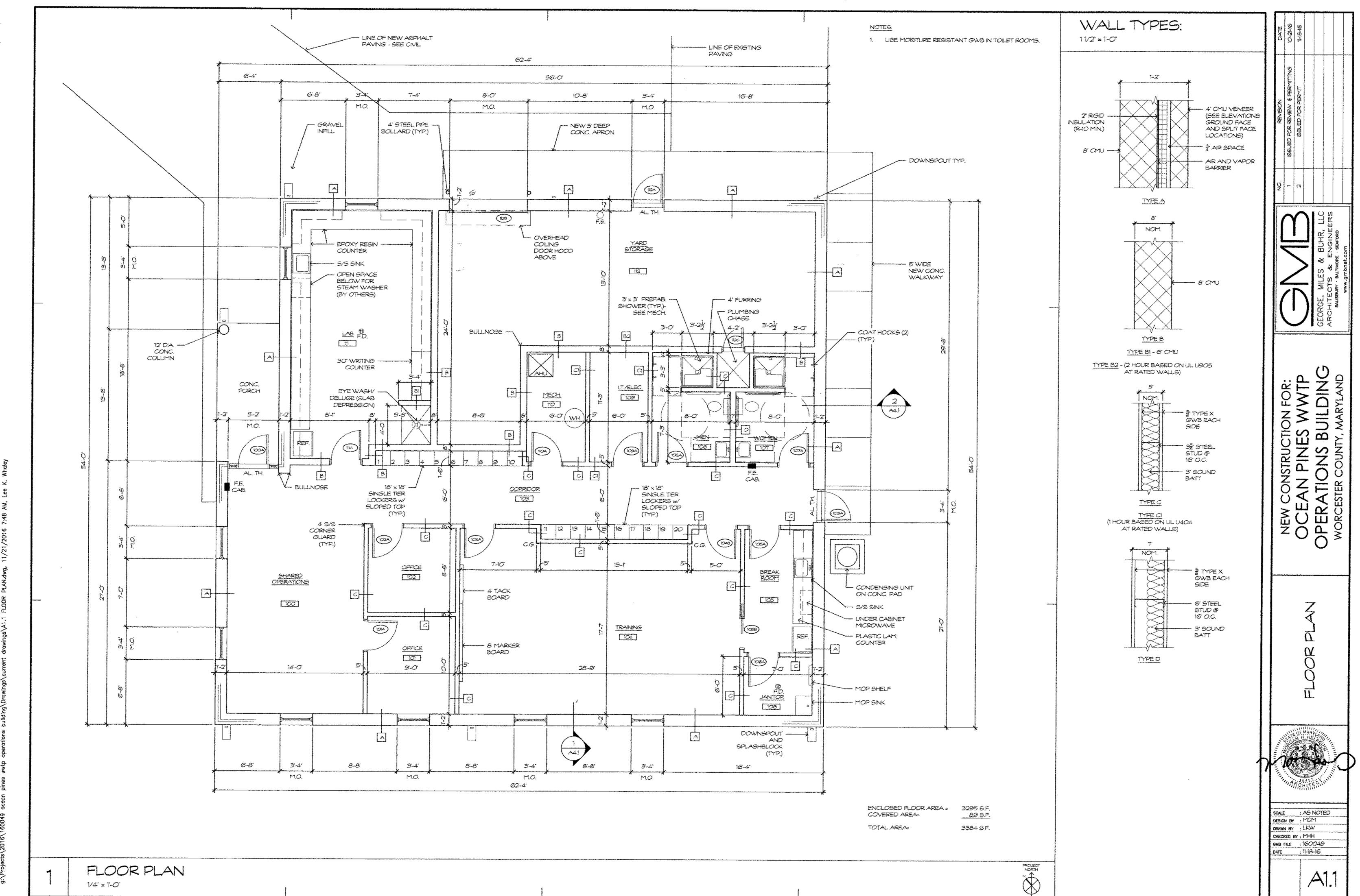
- 1. THE CONTRACTOR SHALL CONTACT THE WORCESTER COLUMY DEPARTMENT OF REVIEW AND PERMITTING AT 410-632-1200 TO SCHEDULE A PRE-CONSTRUCTION MEETING AT LEAST 48 HOURS PRIOR TO COMMENCING ANY
- SITE WORK, FAILURE TO DO SO MAY RESULT IN AN IMMEDIATE STOP WORK CROER. 2. THE CONTRACTOR SHALL NOTIFY MARYLAND DEPARTMENT OF THE ENVIRONMENT (1-410-631-3610), AND MESS UTBITY PROR TO COMMENCING CLEARING OR GRADING.
- 3. Demolish existing wastewater treatment plant storage facility and remove associated material per demolition plan
- CLEAR AND GRUB AS NECESSARY FOR INSTALLATION OF PERIMETER CONTROLS.
- 5. INSTALL PERIMETER CONTROLS.
- CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE AS INDICATED.
- 7. STRIP TOPSOIL AND STOCK PILE AT DESIGNATED LOCATION, STOCK PILES TO BE STABILIZED PER TEMPORARY STABILIZATION RATES.
- 8. CONSTRUCT PROPOSED OPERATIONS BUILDING PER SITE PLANT SHEET C1.1.
- 9. STABILIZE ALL DISTURBED AREAS.
- 10. REMOVE SEDIMENT CONTROL MEASURES AFTER OBTAINING PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR. ANY SEDIMENT REMOVED SHALL BE DISPOSED OF IN AN APPROVED MAINNER.



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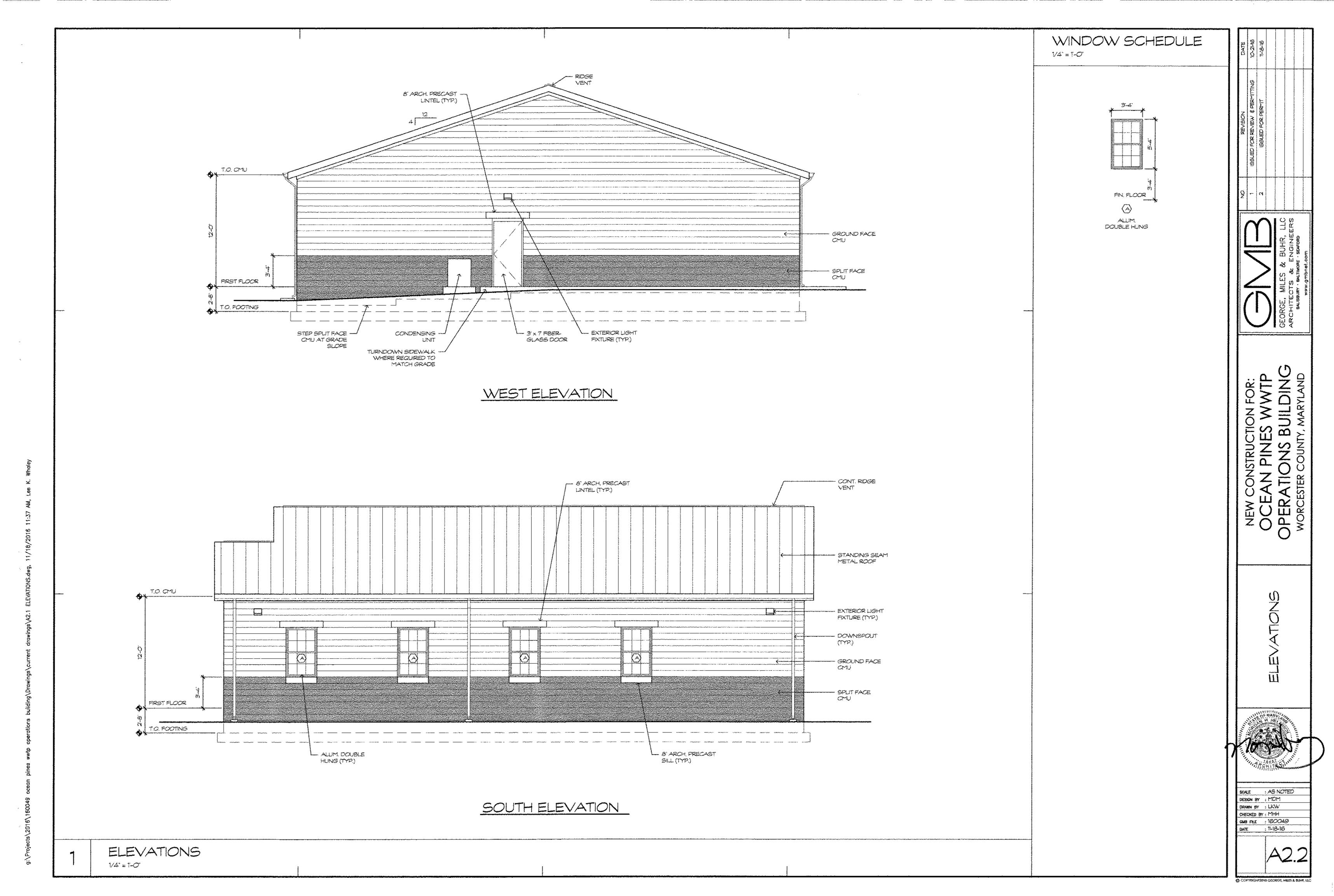


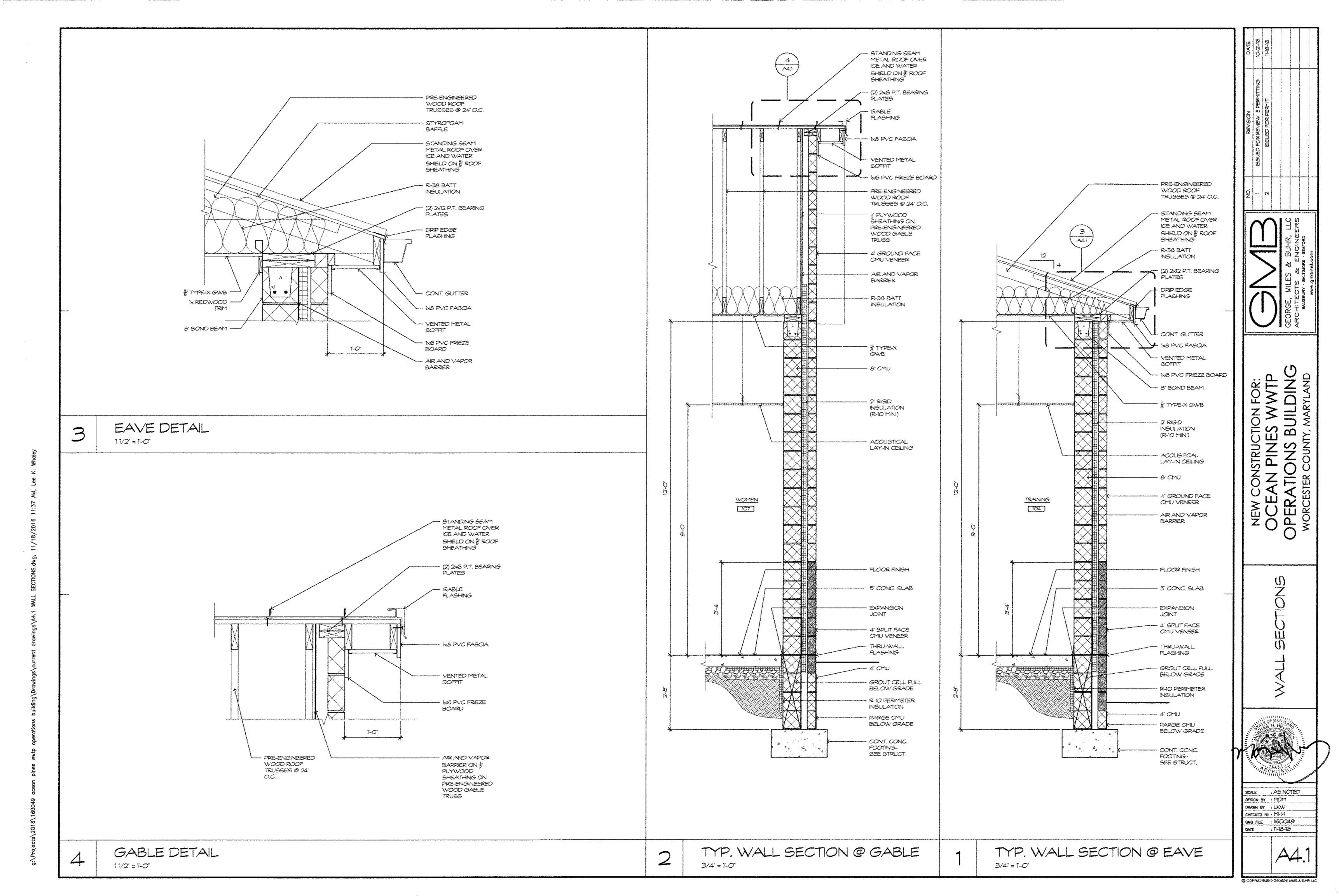
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HARDWARE SETS:

HW-1 KEYED LOCKSET BALANCE OF HARDWARE PROVIDED BY STOREFRONT ENTRY MANUFACTURER

HW-2 1½ PR HINGES (BB) PRIVACY LOCKSET WALL BUMPER

2 KICKPLATES

HW-3 13 PR HINGES (BB) STORAGE LOCKSET

WALL BUMPER 2 KICKPLATES HW-4 13 PR HINGES (BB)

OFFICE LOCKSET

WALL BUMPER

2 KICKPLATES

HW-5 HARDWARE PROVIDED BY POCKET DOOR MANUFACTURER

HW-6 13 PR HINGES (BB) 1 ENTRY LOCKSET W/ PANIC HARDWARE **CLOSER** WEATHERSTRIP 1 THRESHOLD

BPRHINGES (BB) CLASSROOM LOCKSET WALL BUMPER 2 KICKPLATES

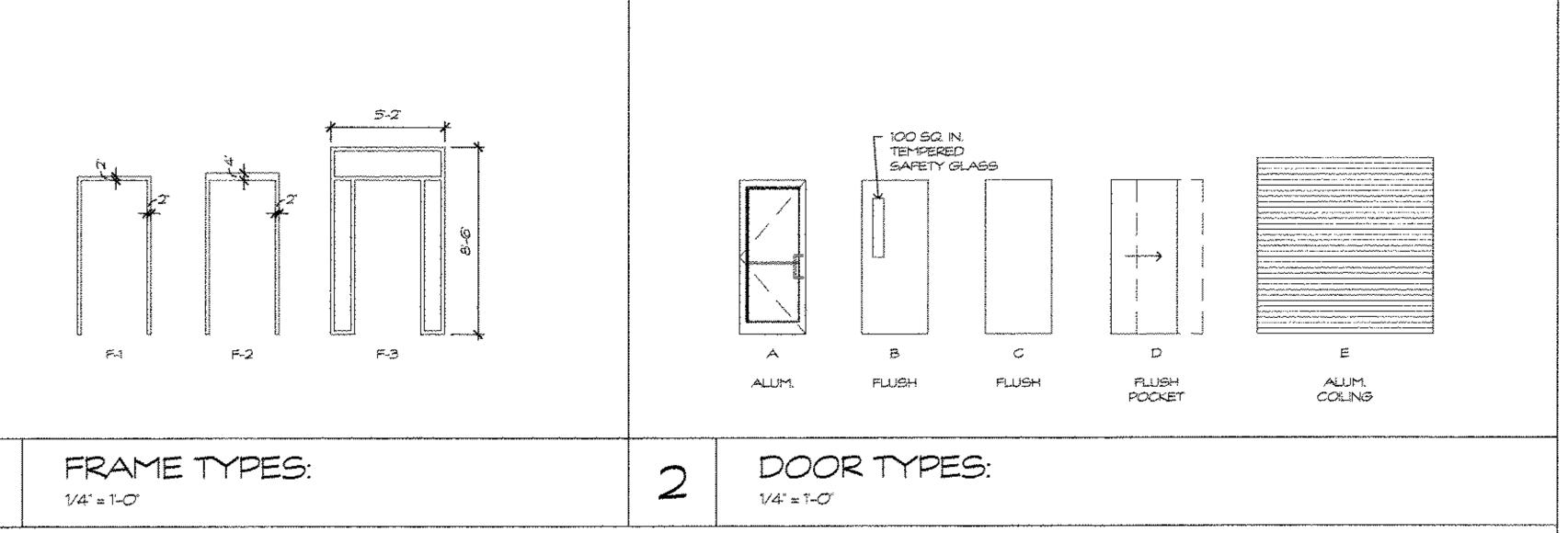
HW-8 HARDWARE PROVIDED BY COILING DOOR MANUFACTURER

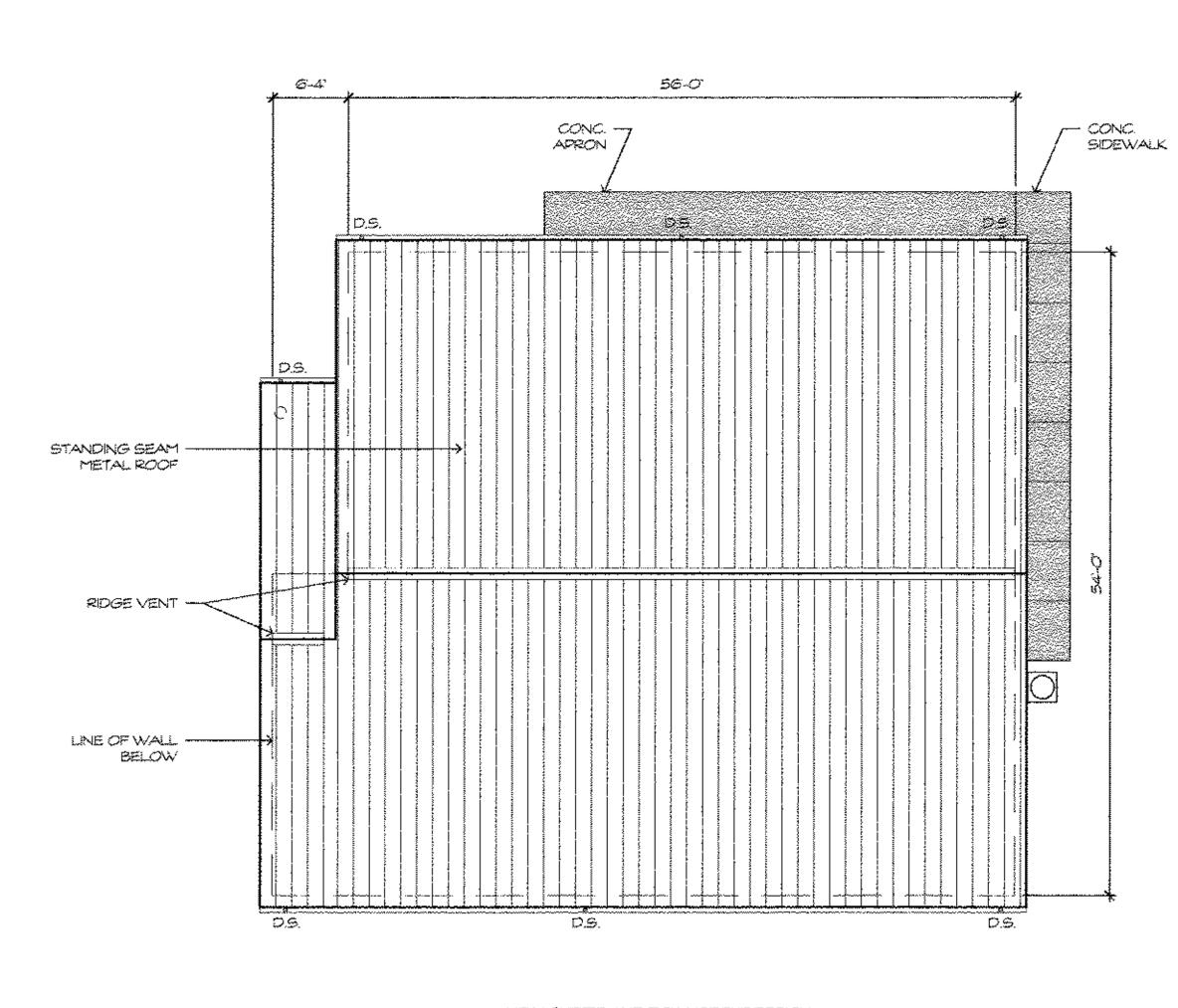
HW-9 14 PR HINGES (BB) 1 STORAGE LOCKSET WALL BUMPER

KICKPLATE CLOSER

SMOKE GASKET

	FINISH SCHEDULE											
ROO™ #	ROOM NAME	FLOOR	BASE		WA	<u>4</u> .5	······································	CEILING	CLG.HT.	NOTES		
				Ni .	€	9	W			1		
100	SHARED OPERATIONS	VCT	RUSBER	PAINT	PAINT	PAINT	PAINT	AC-L#I	9-0			
101	OFFICE	VCT	RUBBER	PANT	PAINT	PAINT	PAINT	ACL#1	9-0			
102	OFFICE	VCT	RUBBER	PAINT	PAINT	PAINT	PAINIT	AC-L#1	9-0			
103	CORRIDOR	VCT	RUBBER	PAINT	PAINT	PANT	PAINT	AC-L #1	9-0			
104	TRANING	var	RUBBER	PANT	PAINT	PAINT	PAINT	AC-L#1	\$-O			
105	BREAK ROOM	VCT	RUBBER	PANT	PAINT	PAINT	PAINT	AC-L#I	9-0			
106	JANITOR	VCT	RUBBER	PAINT	PAINT	PAINT	PAINT	PAINT	12-0			
107	WOMEN	VCT	RUSSER	PANT	PAINT	PAINT	PAINT	AC-L #12	9-0			
108	MEN	VCT	RUBBER	PAINT	PAINT	PAINT	PAINT	ACL#2	9-0			
109	I.T/ELECTRICAL	VCT	RUBBER	PANT	PAINT	PANT	PAINT	PAINT	12-01			
110	MECHANICAL	VCT	RUSSER	PAINT	PAINT	PAINT	PAINT	PAINT	12-O			
¥es I>	LAS	VÇT	RUBBER	PAINT	PAINT	PAINT	PAINT	AC-L #1	g-0'			
112	YARD STORAGE	SEALED CONC.	NONE	NONE	NONE	NONE	NONE	PAINT	12'-0"			





NOTE: NEW GUTTER AND DOWNSPOUT DESIGN SHALL CONFORM TO SMACNA STANDARDS FOR 100 YEAR STORMS.

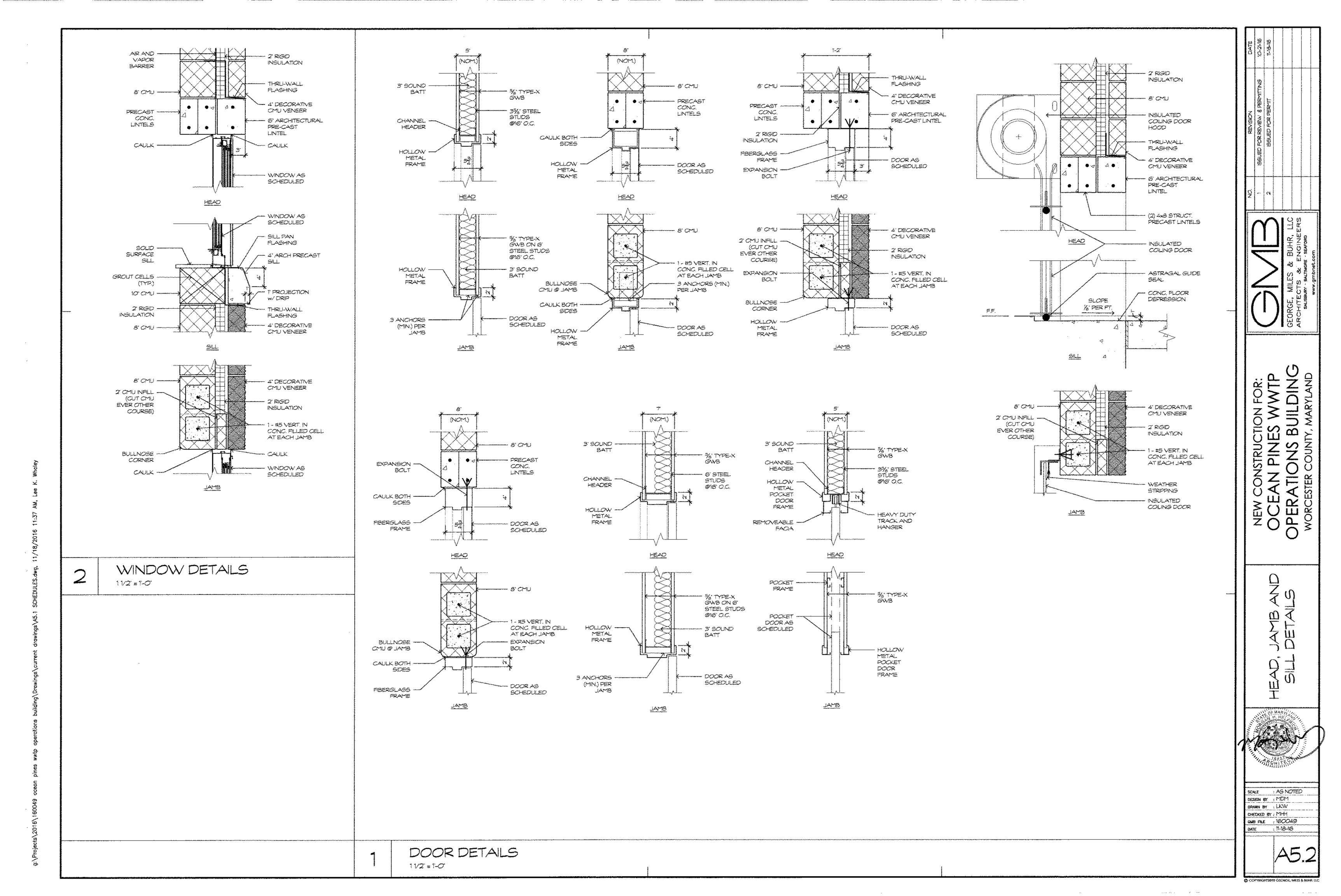
ROOF PLAN 1/8" = 1'-0"

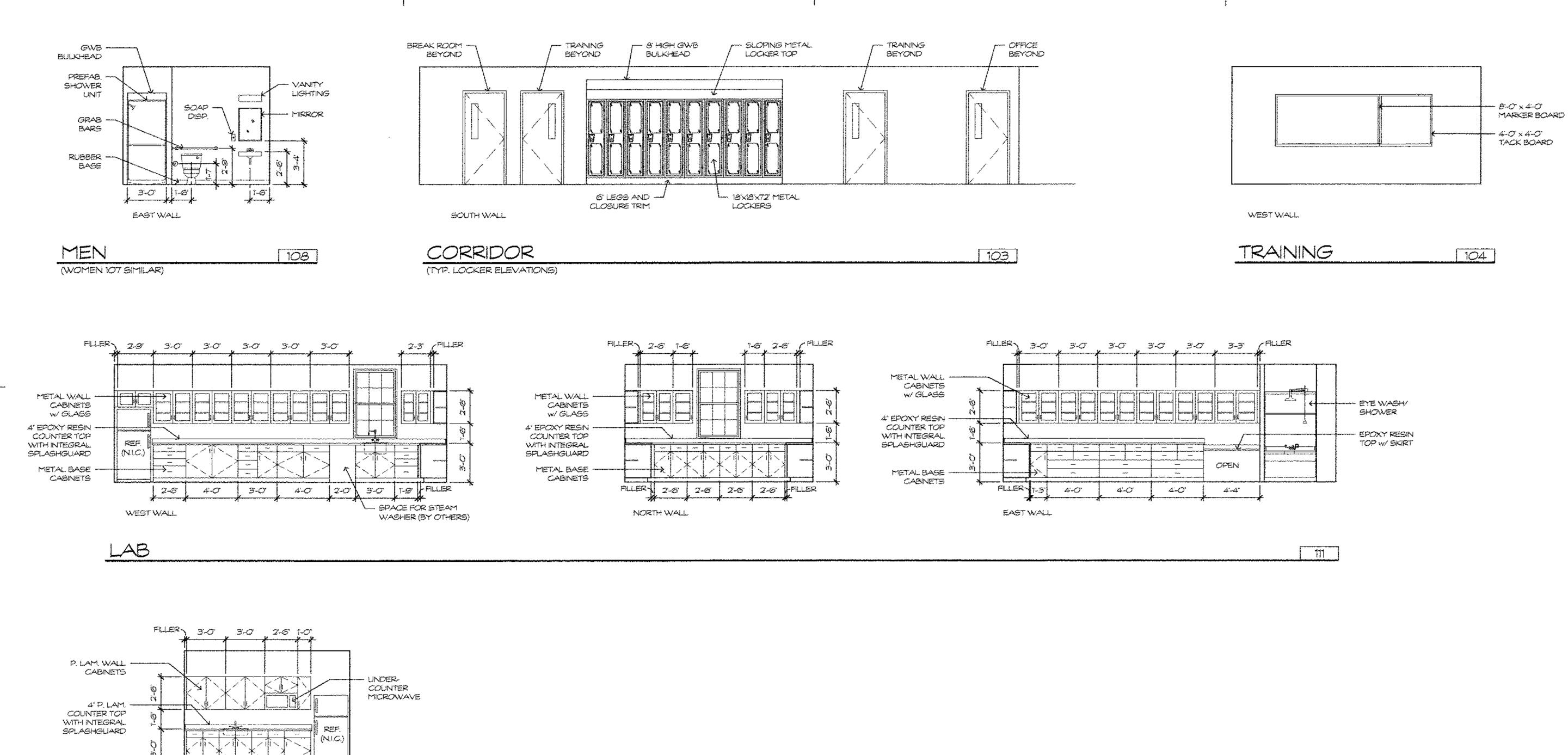
DRAWN BY : LKW CHECKED BY : MHH QUB FILE : 160049 DATE : T-18-16

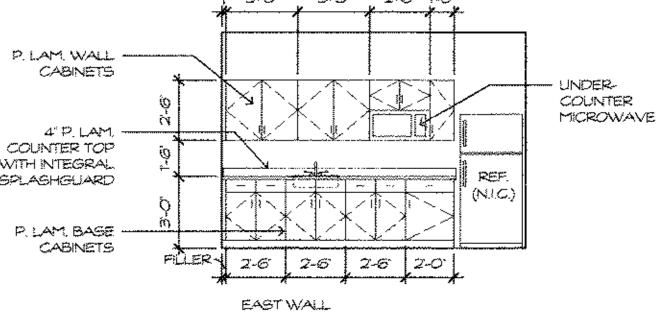
SCALE : AG NOTED

DESIGN BY : MDM

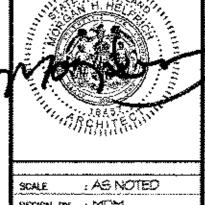
V CONSTRUCTION FOR:
EAN PINES WWTP
RATIONS BUILDING
CESTER COUNTY, MARYLAND





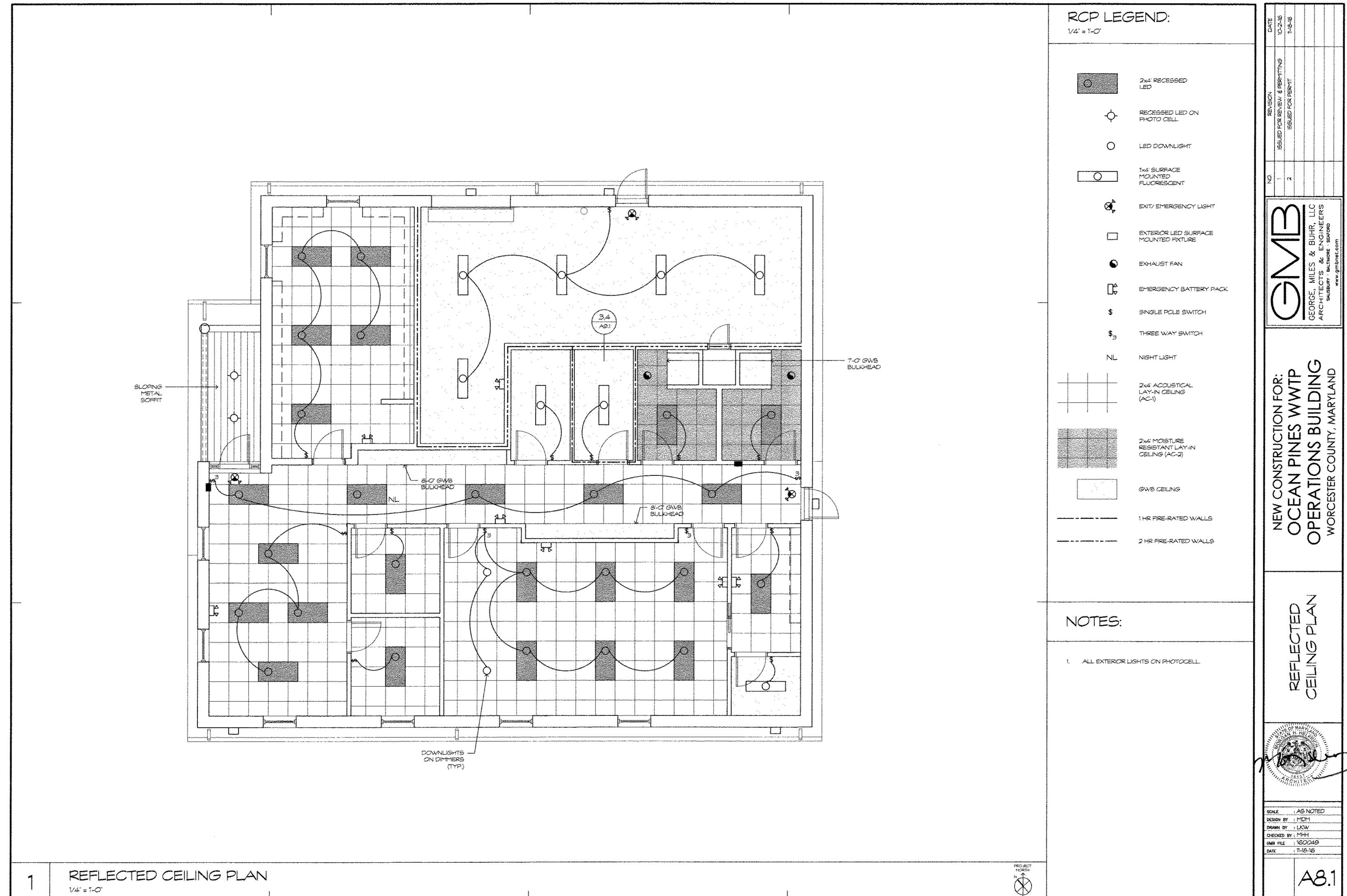


BREAK ROOM 105

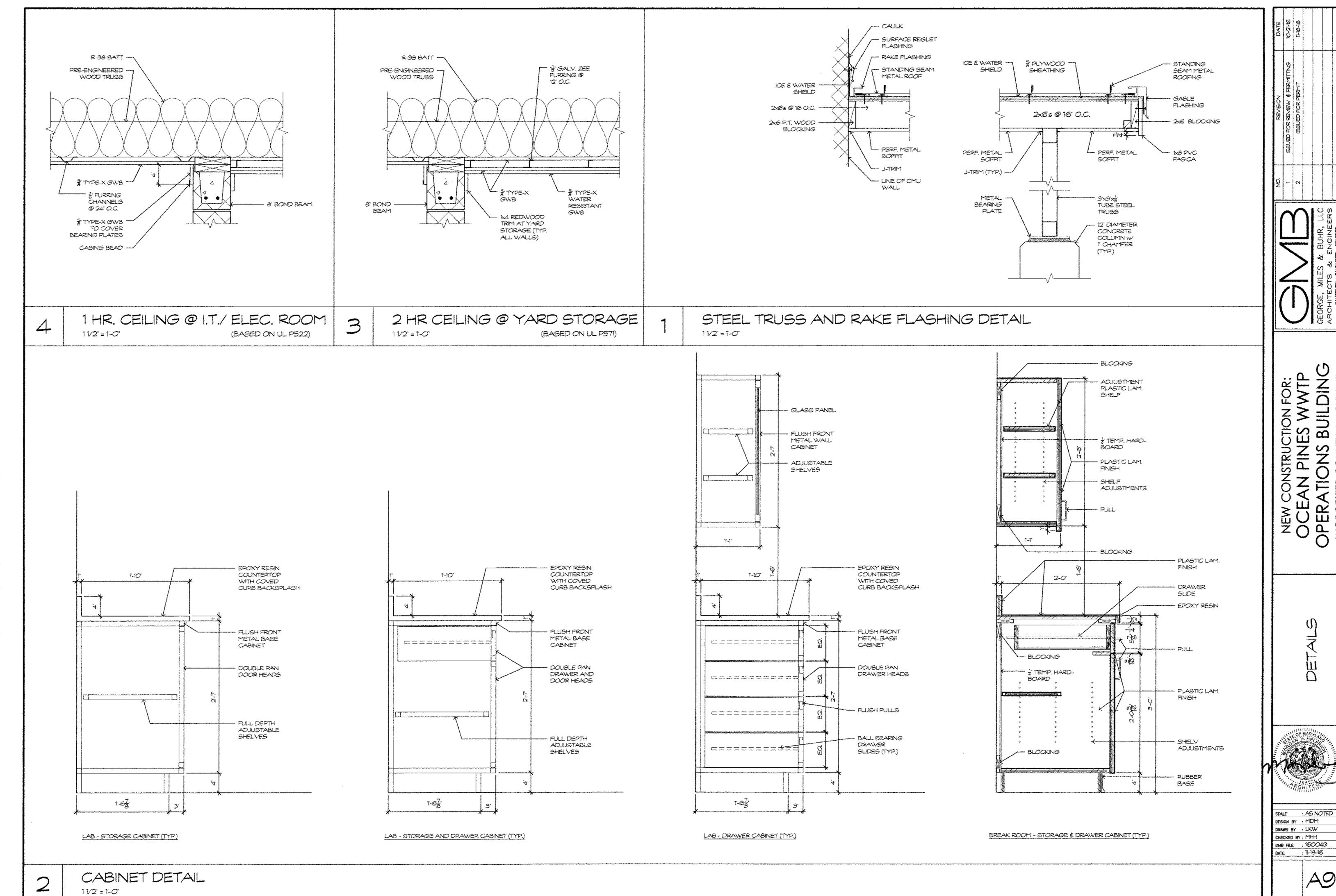


CONSTRUCTION FOR: AN PINES WWTP

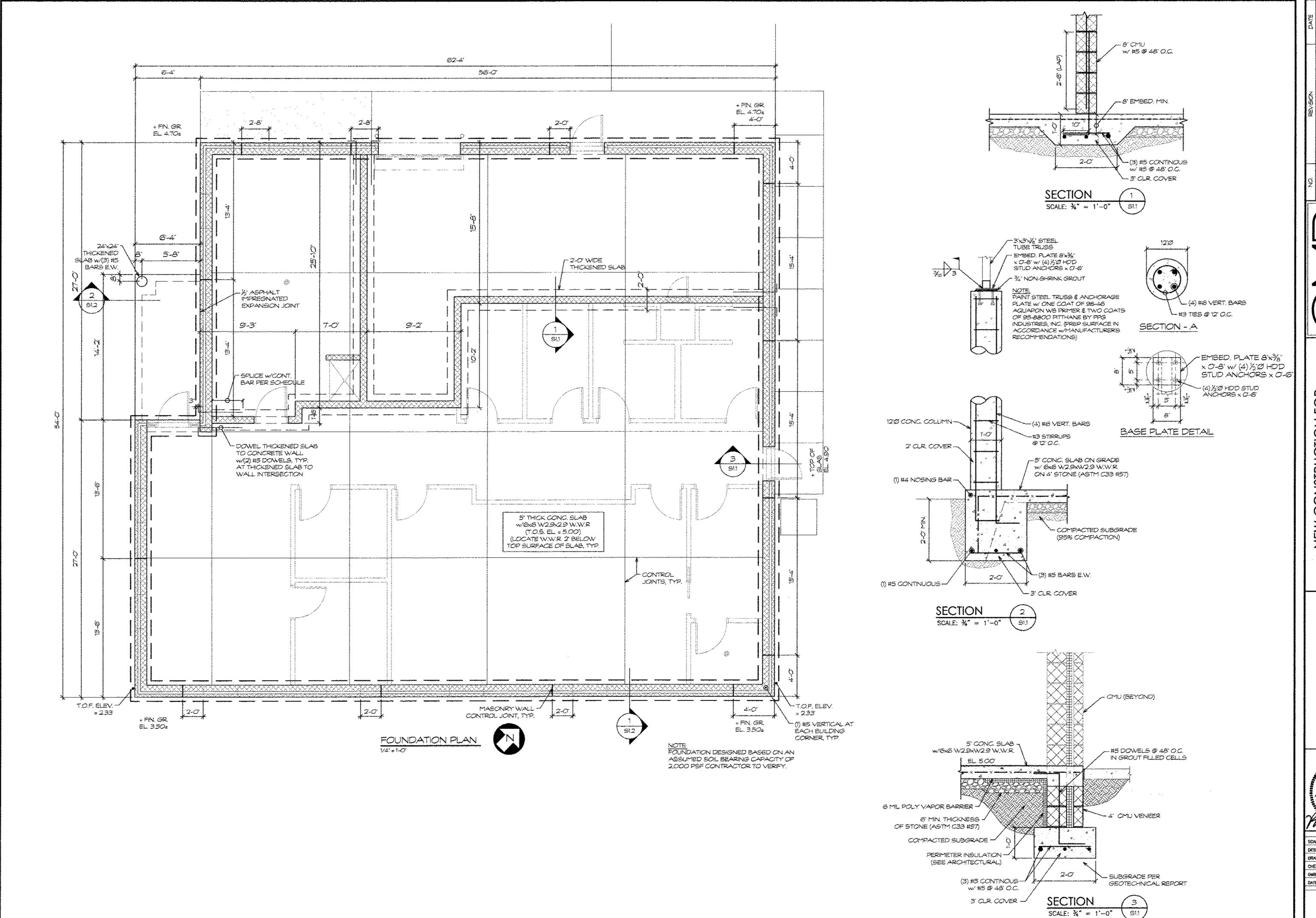
DESIGN BY : MDM CHECKED BY: Mittel GMB FILE : 160049 : 17-1**6-1**6



1/4" = 1-0"



Projects\2016\160049 ocean pines wwtp operations building\Drawings\current drowings\49.1 DETAILS.dwg, 11/18/2016 11:37 AM, Lee K. Whaley



SCALE : AS NOTED

SCALE : AS NOTED

DESIGN BY : REH

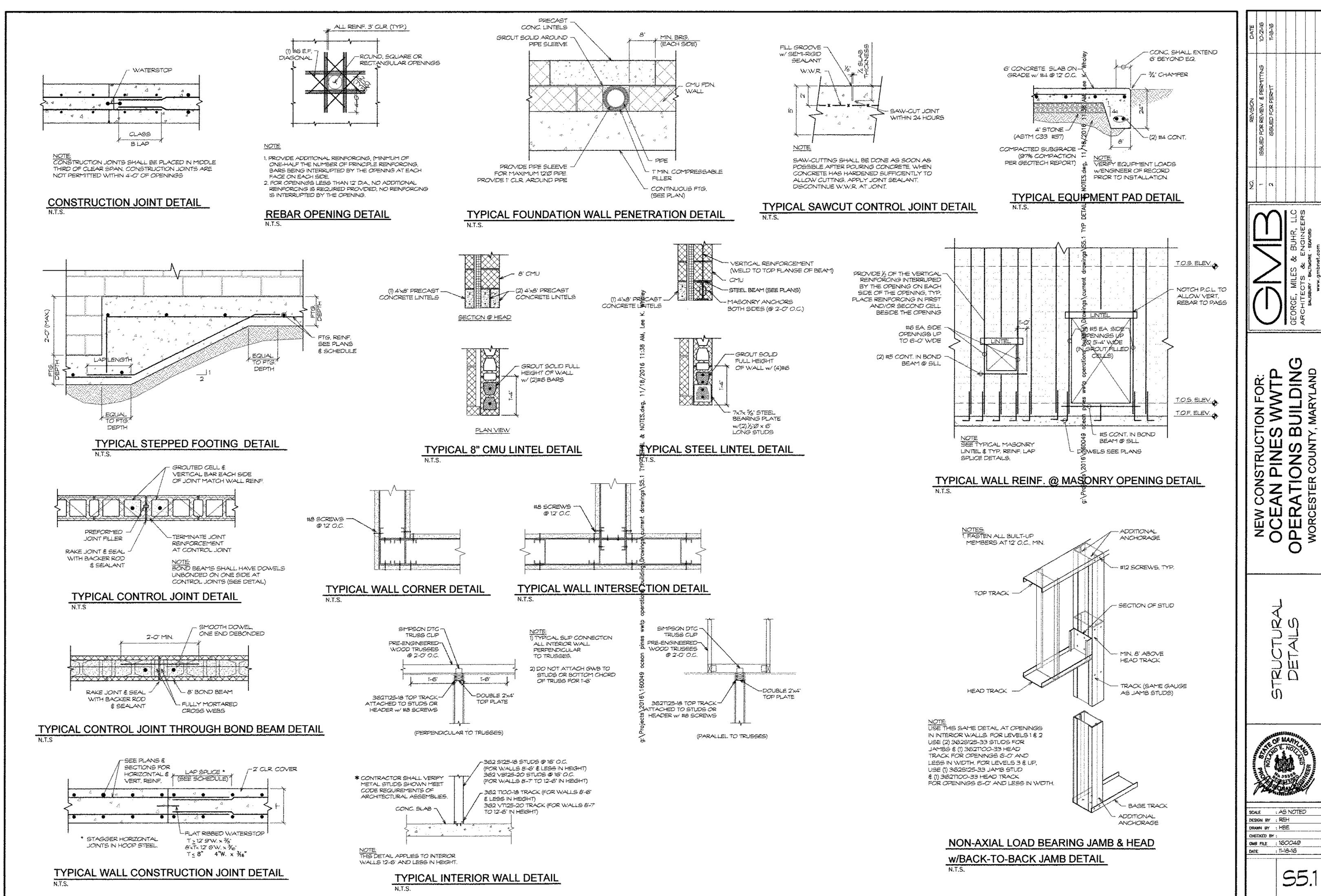
DRAWN BY : HBE

CHECKED BY:

GMB FILE : 160049

DATE : 71-18-16

51.1



SCALE : AS NOTED DESIGN BY : REE-DRAWN BY : HBE CHECKED BY GMB FILE : 160049 : 11-18-16

S5.

THE SIZES AND LOCATIONS OF EQUIPMENT PADS AND PEDESTALS, AS WELL AS EQUIPMENT RELATED FLOOR AND SLAB OPENINGS, ARE DEPENDENT UPON THE ACTUAL EQUIPMENT FURNISHED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY AND COORDINATE ALL SUCH ITEMS. NO DIMENSIONS INDICATED ON THESE DRAWINGS SHALL BE ALTERED WITHOUT THE ENGINEER'S APPROVAL ALL EQUIPMENT PADS AND OTHER EQUIPMENT SUPPORTS REQUIRED, MAY NOT HAVE BEEN SHOWN ON THE STRUCTURAL DRAWINGS. REFER TO CIVIL, ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR SIZES AND LOCATIONS OF

"International Building Code," 2015, International Code Council

AMERICAN INSTITUTE OF STEEL CONSTRUCTION, (AISC) "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" THIRTEENTH EDITION. ANSI/AISC 360-10

AMERICAN CONCRETE INSTITUTE, (ACI-318-14) "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE."

AMERICAN CONCRETE INSTITUTE, (ACI-530-13/ASCE 5-13/TMS402-13) BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES."

"NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION/ 2015, AMERICAN FOREST & PAPER ASSOCIATION. "MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES", AMERICAN SOCIETY OF CIVIL ENGINEERS,

DESIGN LOADS

DEAD LOADS - ACTUAL WEIGHT OF STRUCTURE.

WEIGHT OF SOIL - 100 P.C.F. TO RESIST UPLIFT. 120 P.C.F. DEAD LOAD

earth pressures — lateral earth design pressures per geotech report. Backfill material shall NOT BE PLACED AGAINST FOUNDATION WALLS UNTIL THE UPPER BRACING COMPONENTS ARE IN PLACE FOR AT LEAST 7 DAYS. BACKFILL MATERIAL SHALL BE MEET REQUIREMENTS OF THE CEOTECHNICAL REPORT.

LIVE LOADS - IN AREAS NOT OCCUPIED BY EQUIPMENT OR SUBJECT TO TRUCK LOADING.

ALL OTHER ROOMS - 100 P.S.F. SNOW LOAD DESIGN DATA GROUND SNOW LOAD (Pg) - 25 PSF RAIN ON SNOW SURCHARGE - C PSF FLAT-ROOF SNOW LOAD (Pr) - 23.1 PSF SHOW EXPOSURE FACTOR (Ce) - 1.0 SNOW LOAD IMPORTANCE FACTOR (Is) - 1.1

THERMAL FACTOR (Ct) - 1.0 WIND LOAD DESIGN DATA

BASIC WIND SPEED (3-SECOND GUST) - 135 MPH RISK CATEGORY III WIND EXPOSURE - CAT. C

BUILDING CATEGORY - SIMPLE DIAPHRAM, LOW-RISE ENCLOSED, RIGID STRUCTURE (ALL BUILDINGS)

INTERNAL PRESSURE COEFFICIENT (GCpi) - +- 0.18 (all Buildings)

EARTHQUAKE DESIGN DATA RISK CATEGORY III

SEISMIC IMPORTANCE FACTOR (Ie) - 1.25 SITE CLASS - D

SPECTRAL RESPONSE ACCEL Ss - 0.086 SPECTRAL RESPONSE ACCEL S1 ~ 0.043 SPECTRAL RESPONSE COEFF. Sds - 0.092

SPECTRAL RESPONSE COEFF. Sd1 - 0.068 seismic design category — B

STRUCTURAL SYSTEM - BEARING WALL SYSTEM seismic force resisting system — ordinary reinforced masonry

SHEAR WALLS (BUILDINGS) response modification factor (r) - 2 (buildings)

ANAYLSIS PROCEDURE UTILIZED - EQUIVALENT LATERAL FORCE PROCEDURE

MECHANICAL AND ELECTRICAL WORK TO BE INCORPORATED IN FOUNDATION WORK, SEE MECHANICAL AND

ALL EXCAVATIONS SHALL BE KEPT DRY. STANDING WATER SHALL NOT BE ALLOWED IN EXCAVATIONS.

BEFORE PLACING ANY CONCRETE ON SUB GRADE, THE CONTRACTOR SHALL NOTIFY THE ENGINEER. A STRUCTURAL SLAB SHALL BE USED WHEN UNCOMPACTED FILL EXCEEDS 8".

THE CONTRACTOR SHALL VERIFY THE BEARING CAPACITY OF THE BEARING SOILS IN THE FOOTING EXCAVATION PRIOR TO CASTING ANY FOOTINGS. WRITTEN VERIFICATION SHALL BE SUBMITTED TO THE ARCHITECT AND

REFER TO THE SPECIFICATIONS AND SOILS REPORT FOR THE SITE PREPARATION REQUIREMENTS. ALL CONCRETE FOR FOOTINGS SHALL BE CAST ON THE SAME DAY THAT THE EXCAVATIONS ARE MADE TO THE

THE TOP OF ALL EXTERIOR FOOTINGS SHALL BE PLACED A MINIMUM OF 1'-6" BELOW FINISH GRADE. THE TOP OF INTERIOR FOOTINGS SHALL BE PLACED A MINIMUM OF 0'-8" BELOW FINISH FLOOR.

PLACE FOOTINGS ON FIRM, DRY, NON-FROZEN SUBGRADE, REMOVE SOFT SOILS ENCOUNTERED DURING EXCAVATION. BACKFILL EXCAVATIONS AND AREAS REQUIRING STRUCTURAL FILL WITH CLEAN, MOIST, GRANULAR SELECT BORROW . ALL BACKFILL SHALL BE PLACED IN LIFTS NOT TO EXCEED 8-INCHES IN LOOSE THICKNESS. PROPER EQUIPMENT SHALL BE SELECTED AND USED FOR COMPACTION ACCORDING TO THE TYPE A BACKFILL MATERIAL USED. COMPACTION RATIO SHALL BE 97% MINIMUM.

SOILS, FOOTINGS, FOUNDATION WALLS AND SLABS SHALL NOT BE PLACED ON OR IN MARINE CLAY, PEAT OR OTHER ORGANIC MATERIALS.

WHERE REQUIRED, STEP FOOTINGS IN A RATIO OF 2 HORIZONTAL TO 1 VERTICAL.

1/2" WATERPROOF PARGING IS TO BE APPLIED TO MASONRY FOUNDATIONS, BITUMINOUS WATERPROOFING WITH POURED IN PLACE CONCRETE.

ANCHOR BOLTS SHALL BE MAX. 12" FROM PLATE ENDS, MINIMUM OF (2) PER PLATE SECTION.

FABRICATED WOOD TRUSSES

TRUSSES SHALL BE DESIGNED IN ACCORDANCE WITH THESE SPECIFICATIONS AND WHERE ANY APPLICABLE DESIGN FEATURE IS NOT SPECIFIED HEREIN, DESIGN SHALL BE IN ACCORDANCE WITH APPLICABLE PROVISIONS OF LATEST EDITION OF NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION (NDS) AMERICAN FOREST AND PAPER ASSOCIATION (AFPA), AND DESIGN SPECIFICATIONS FOR METAL PLATE CONNECTED WOOD TRUSSES (ANSI/TP) 1), TRUSS PLATE INSTITUTE (TP1), AND CODES OF JURISDICTION. FABRICATE, SUPPLY AND ERECT WOOD TRUSSES AS SHOWN ON THE DRAWINGS AND AS SPECIFIED. WORK SHALL INCLUDE ALL ANCHORAGE, BLOCKING, CURBING, MISCELLANEOUS FRAMING AND BRACING.

MANUFACTURER SHALL SUBMIT 3 COPIES OF TRUSS DESIGN DRAWINGS BEARING SEAL OF PROFESSIONAL ENGINEER FOR APPROVAL PRIOR TO ERECTION AND ENGINEERING FRAMING PLANS FOR ALL FLAT CHORD TRUSSES.

LUMBER USED FOR TRUSS MEMBERS SHALL BE IDENTIFIED BY GRADE MARK OF A LUMBER INSPECTION AGENCY, AND SHALL BE AS SHOWN ON DESIGN DRAWINGS, TRUSSES SHALL BE HANDLED DURING FABRICATION, DELIVERY AND AF JOBSITE SO AS NOT TO BE SUBJECTEAD TO EXCESSIVE BENDING. TRUSSES SHALL BE UNLOADED ON SMOOTH GROUND TO AVOID LATERAL STRAIN, TRUSSES SHALL BE PROTECTED FROM DAMAGE THAT MIGHT RESULT FROM ON-SITE ACTIVITIES AND ENVIRONMENTAL CONDITIONS, PREVENT TOPPLING WHEN BANDING IS REMOVED.

HANDLE DURING INSTALLATION IN ACCORDANCE WITH HANDLING, INSTALLING AND BRACING WOOD TRUSSES (HIB-91), TPI, AND ANSI/TPI 1-1995, INSTALLATION SHALL BE CONSISTENT WITH GOOD WORKMANSHIP AND GOOD BUILDING PRACTICES. TRUSSES SHALL BE SET AND SECURED LEVEL AND PLUMB, AND IN CORRECT LOCATION. TRUSSES SHALL BE HELD IN CORRECT ALIGNMENT UNTIL SPECIFIED PERMANENT BRACING IS INSTALLED. CUITING AND ALTERING OF TRUSSES IS NOT PERMITTED. CONCENTRATED LOADS (FULL BUNDLES OF DECKING) SHALL NOT BE PLACED ATOP TRUSSES UNTIL ALL SPECIFIED BRACING HAS BEEN INSTALLED AND DECKING IS PERMANENTLY NAILED IN PLACE. ERECTION BRACING IS ALWAYS REQUIRED. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND FURNISHING THE MATERIALS USED FOR INSTALLATION AND PERMANENT BRACING.

STRUCTURAL ENGINEER OF RECORD SHALL APPROVE SHOP DRAWINGS PRIOR TO SUBMITTAL TO BUILDING OFFICIAL BUILDING

OFFICIAL SHALL APPROVE SHOP DRAWING PRIOR TO INSTALLATION.

ALL ROOF TRUSSES SHALL BE ATTACHED TO PERPENDICULAR NON-LOAD BEARING WALLS WITH TRUSS CLIPS. CEILING GWB SHALL BE ATTACHED TO BLOCKING ON THE WALL AND NOT TO THE TRUSS FOR A DISTANCE OF 18" FROM THE WALL.

ALL CONCRETE SHALL BE MADE IN ACCORDANCE WITH DESIGN MIXES WHICH ARE TO BE APPROVED BY THE ARCHITECT OR ENGINEER PRIOR TO CASTING ANY CONCRETE. MIXES SHALL BE IN ACCORDANCE WITH THE AMERICAN CONCRETE INSTITUTION ACI 318. SEE SPECIFICATIONS FOR CEMENT TYPE, MINIMUM CEMENT CONTENT AND

MINIMUM SPECIFIED COMPRESSIVE STRENGTH I'c @ 28 DAYS.

(2) CONCRETE SHALL BE AIR-ENTRAINED.

LOCATION	MIN. COMP. (F'C)	SLUMP (IN.)
BUILDING FOUNDATIONS NOT EXPOSED TO WEATHER	3000 PSI	3" +/- 1"
INTERIOR SLABS ON GRADE	4000 PSI	3" +/- 1"
FOUNDATIONS, EXTERIOR WALLS & OTHER		
CONCRETE EXPOSED TO WEATHER	3500 PSI(1)	3" +/- 1"
DRIVEWAYS, CURBS, WALKS, PATIOS, STEPS AND STAIRS		
AND UNHEATED GARAGE FLOORS EXPOSED TO WEATHER	3500 PSI(2)	3" +/- 1"
NOTES (1) CONCRETE SUBJECTED TO FREEZE AND THAW	DURING CONSTRUCTION	SHALL BE AIR-ENTE

LIQUID-MEMBRANE CURING COMPOUNDS SHALL BE HIGH-SOLIDS, WATER AND ACRYLIC-BASED, COMPLYING WITH ASTM C309 AS TESTED UNDER ASTM C156.

ALL EXTERIOR CONCRETE AND CONCRETE EXPOSED TO WEATHER SHALL BE AIR-ENTRAINED (6% +/-1%). USE OF ADDITIVES SHALL NOT BE PERMITTED UNLESS SPECIFICALLY APPROVED BY THE STRUCTURAL ENGINEER. USE OF ADDITIVES CONTAINING CALCIUM CHLORIDE SHALL NOT BE PERMITTED. DO NOT USE HIGH-RANGE WATER REDUCING ADMIXTURES IN AIR-ENTRAINED CONCRETE. CONFORM TO ASTM C260.

ALL CONCRETE TO BE PLACED IN THE CELLS OF CONCRETE MASONRY UNITS (CMU BLOCK FILL), OR IN THE VOIDS OF BRICK MASONRY CONSTRUCTION, SHALL CONTAIN PEA GRAVEL (3/8—INCH DIAMETER STONE) IN LIEU OF COARSE AGGREGATE. THE CONCRETE MIX SHALL CONTAIN A HIGH-RANGE WATER REDUCER (SUPERPLASTICIZER). SLUMP OF THE CONCRETE SHALL BE A MINIMUM OF 6-INCHES AND A MAXIMUM OF 9-INCHES. SEE THE PROJECT

ADDITION OF WATER TO THE CONCRETE AT THE JOB SITE FOR THE PURPOSE OF INCREASING THE SLUMP OR FOR RETEMPERING THE CONCRETE WHICH HAS BEGUN TO SET IS STRICTLY PROHIBITED. SEE THE PROJECT SPECIFICATIONS FOR REQUIREMENTS OF WATER ADDITION TO CONCRETE AT THE JOBSITE.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING AND INSTALLING ANCHOR BOLTS, CLIPS, INSERTS, CONNECTION PLATES, SLEEVES, SLOTS AND OTHER REQUIRED ITEMS IN ACCORDANCE WITH THE CONTRACT DRAWINGS. AND IN COOPERATION WITH OTHER TRADES PRIOR TO PLACING CONCRETE. ANCHOR BOLTS AND EQUIPMENT PEDESTALS SHALL BE SIZED AND LOCATED AS REQUIRED TO SUIT EQUIPMENT FURNISHED.

REINFORCING STEEL SHALL BE HIGH STRENGTH NEW BILLET STEEL CONFORMING TO ASTM A-615. GRADE 60 (60,000 PSI). WELDED WIRE FABRIC (WWF) SHALL CONFORM TO ASTM A-185. ALL REINFORCING SHALL BE DETAILED, FABRICATED, AND PLACED IN ACCORDANCE WITH ACI'S MANUAL OF STANDARD PRACTICE FOR DEVAILING CONCRETE STRUCTURES, (ACI-315). DETAILS OF REINFORCEMENT SHALL CONFORM TO ACI 318, ACI 315, AND CRSI

ALL REINFORCING STEEL (INCLUDING WELDED WIRE FABRIC) SHALL BE SECURELY TIED AND ANCHORED IN PLACE TO PREVENT DISLOCATION DURING THE PLACING OPERATION.

REINFORCING STEEL SHALL BE CLEAN OF MUD, DEBRIS, LOOSE RUST, CEMENT, GROUT, OR ANY OTHER MATERIAL WHICH MAY INHIBIT THE BOND BETWEEN THE STEEL AND CONCRETE.

REINFORCED CONCRETE SHALL BE DETAILED AND CONSTRUCTED IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE. (ACI 301-LATEST EDITION) "SPECIFICATIONS FOR STRUCTURAL CONCRETE."

UNLESS OTHERWISE NOTED ON THE DRAWINGS, CONCRETE COVER FOR REINFORCEMENT SHALL BE AS FOLLOWS:

FOOTINGS AND OTHER CONCRETE POURED AGAINST EARTH -

FORMED CONCRETE EXPOSED TO EARTH, WEATHER OR PROCESS LIQUIDS—

FORMED CONCRETE NOT EXPOSED TO EARTH, WEATHER OR PROCESS LIQUIDS- 11/2"

SLABS ON GROUND, UNLESS OTHERWISE NOTED -1½" FROM TOP OF SLAB THE CONTRACTOR SHALL SUBMIT SHOP DETAILS OF REINFORCING STEEL BEFORE PROCEEDING WITH FABRICATION.

ALL SPLICES FOR REINFORCING BARS NOT DIMENSIONED ON THE DRAWINGS, SHALL BE DETAILED AS TABULATED ON

PROVIDE 2'-6" X 2'-6" CORNER BARS TO MATCH ALL HORIZONTAL REINFORCING IN WALLS AND FOOTINGS. ALL PROVIDE DOWELS BETWEEN ALL FOOTINGS, WALLS AND PIERS TO MATCH SIZE AND SPACING OF VERTICAL

ALL EXPOSED CONCRETE EDGES SHALL BE CHAMFERED 3/4", UNLESS OTHERWISE NOTED.

CONCRETE SLAB AND WALLS SHALL BE POURED BETWEEN INDICATED JOINTS, ALLOWING A MINIMUM PERIOD OF 3 DAYS TO ELAPSE BETWEEN ADJACENT POURS.

WATERSTOPS SHALL BE 3/8" THICK x 6" WIDE, FLAT DUMBBELL TYPE, AS NOTED ON THE DRAWINGS. SEE SPECIFICATIONS FOR OTHER REQUIREMENTS.

DRY PACK SHALL CONSIST OF SIKA GROUT 212 OR APPROVED SUBSTITUTE. INSTALL PER MANUFACTURERS

SEE ARCHITECTURAL, CIVIL, MECHANICAL AND ELECTRICAL DRAWINGS FOR ALL EMBEDDED ITEMS SUCH AS SLEEVES. ANCHORS, ELECTRICAL CONDUITS, OPENINGS, WHICH MAY INTERFERE WITH CONCRETE CONSTRUCTION. ALL PIPING AND OTHER EMBEDDED ITEMS ARE NOT SHOWN ON STRUCTURAL DRAWINGS.

U.N.O. SLABS ON GRADE SHALL BE 4" THICK CONCRETE AND REINFORCED WITH 6"X6" W2.9 X W2.9 WWR. WELDED WIRE FABRIC SHALL BE SUPPORTED ON HIGH CHAIRS SO THAT THE FABRIC IS POSITIONED IN THE TOP THIRD OF THE SLAB THICKNESS, BUT NOT MORE THAT 1-1/2 INCHES BELOW THE TOP SURFACE, LAP ONE FULL MESH PLUS TWO-INCHES AT SPLICES IN EACH DIRECTION. PLACE CONCRETE OVER 6 MIL. POLYETHYLENE VAPOR BARRIER AND 4 INCHES MINIMUM OR COURSE AGGREGATE OR AS RECOMMENDED BY SOILS ENGINEER. THE AGGREGATE LAYER SHALL BE PLACED OVER FIRM NATURAL SUBGRADE OR ON COMPACTED AND CONTROLLED FILL. FILL UNDER SLABS SHALL HE COMPACTED IN 8 INCH LAYERS TO 95% MAX. DENSITY. USE AIR-ENTRAINED AT ALL EXTERIOR SLABS. POUR SLABS IN ALTERNATE PANELS WITH A MAXIMUM OF 600 SF AND PROVIDE CONTROL AND CONSTRUCTION JOINTS AT 12'-0" MAXIMUM OR AS REQUIRED TO PREVENT UNCONTROLLED CRACKING.

SLAB CONTROL JOINTS: SAW CUT OR FORM TO 1/3 SLAB DEPTH. SPACE NO MORE THAN 12 FEET APART. DISCONTINUE WELDED WIRE FABRIC AT CONTROL JOINTS. PROVIDE JOINTS ON GROUND SUPPORTED SLABS IN RECTANGULAR CONFIGURATION, WITH THE LONGER SIDE NO MORE THAN ONE-AND-ONE-HALF TIMES THE LENGTH OF THE SHORTER SIDE.

TOP TRACK-

TRACK WEB ~

STIFFENER

AT BEARING OF

MIN. (6) #8 SCREWS EA SIDE"

MIN. (8) #8 SCREWS EA. SIDE

FOR 6" DEEP HEADERS.

FOR 10' DEEP HEADERS

EACH HEADER

SLAB ISOLATION JOINTS: PROVIDE PRE-MOLDED JOINT FILLER AROUND ALL PIPING, PIERS AND FOUNDATION WALLS.

lumber shall comply with the requirements of american institute of timber construction and the

NATIONAL FOREST PRODUCTS ASSOCIATION'S NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION. LUMBER FOR JOISTS AND BEAMS SHALL BE NO. 2 GRADE SOUTHERN PINE OR APPROVED EQUIVALENT WITH THE FOLLOWING MINIMUM REQUIREMENTS: Fb = 1200 PSI, Fv = 90 PSI, Fc = 565 PSI (PERPENDICULAR TO GRAIN) AND MODULUS OF ELASTICITY E=1,600,000 PSI, AND A MAXIMUM MOISTURE CONTENT OF 19%.

PLYWOOD SHALL BE EXTERIOR GRADE, EXPOSURE 1, IDENTIFIED WITH THE DFPA GRADE TRADEMARK OF TH AMERICAN PLYWOOD ASSOCIATION, AND SHALL BE INSTALLED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.

wood columns and posts shall be framed to true end bearings, and shall be positively anchored to FOUNDATION WITH APPROVED POST BASES, SUPPORT COLUMN AND POST SECURELY IN POSITION AND PROTECT BASE FROM DETERIORATION. COLUMNS AND POST OF TREATED WOOD MAY BE PLACED DIRECTLY ON

FLOOR JOIST, CEILING JOISTS AND ROOF RAFTERS SHALL HAVE A 4" NOMINAL BEARING ON WOOD, MASONRY, OR WOOD PLATES BOLTED TO STEEL BEAMS.

PROVIDE 2" NOMINAL THICKNESS FULL DEPTH SOLID BLOCKING FOR JOISTS AND RAFTERS AT ENDS AND AT SUPPORTS, OMIT SOLID BLOCKING WHEN JOIST ARE NAILED TO A CONTINUOUS HEADER, LAP JOISTS FRAMING FROM opposite sides of a beam, girder or partition at least 6°. Secure joists framed end to end with metal STRAPS. USE APPROVED FRAMING ANCHORS TO SUPPORT JOISTS FRAMING INTO THE SIDES OF WOOD BEAMS. PROVIDE DOUBLED (OR EQUIVALENT CROSS-SECTION) TRIMMER AND HEADER JOISTS AROUND OPENINGS UNLESS NOTED OTHERWISE, SUPPORT HEADER JOISTS FROM FRAMING ANCHORS OR JOIST HANGERS UNLESS BEARING ON A BEAM, PARTITION OR A WALL. JOIST CARRYING PARTITIONS PERPENDICULAR TO JOISTS SHALL BE OFFSET FROM SUPPORTING GIRDERS, WALLS OR PARTITIONS MORE THAN THE JOIST DEPTH. JOISTS CARRYING PARTITIONS PARALLEL TO JOISTS SHALL BE DOUBLED.

NAIL ROOF SHEATHING TO SUPPORTS W/8d NAILS @ 6" D.C. AT PANEL EDGES, 12" O.C. ELSEWHERE.

THE GENERAL CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL STRUCTURAL ELEMENTS SHOWN ON THE CONTRACT DOCUMENTS FOR APPROVAL. THE STRUCTURAL ENGINEER WILL NOT BE RESPONSIBLE FOR THE STRUCTURAL CERTIFICATION AND DESIGN OF THE PROJECT IF THE GENERAL CONTRACTOR FAILS TO OBTAIN APPROVAL OF THE SHOP drawings. The general contractor shall inform the structural engineer in writing concerning deviations AND/OR OMISSIONS FROM THE CONTRACT DOCUMENTS AT THE TIME OF SHOP DRAWING SUBMISSION. THE CENERAL CONTRACTOR SHALL REVIEW ALL SHOP DRAWINGS AND SHALL MAKE ALL CORRECTIONS HE DEEMS NECESSARY BEFORE SUBMISSION. THE GENERAL CONTRACTOR SHALL STATE ON THE SHOP DRAWINGS THAT CONTRACT DOCUMENT requirements have been met and that all dimensions, conditions and quantities have been reviewed and VERIFIED AS SHOWN AND/OR CORRECTED ON THE SHOP DRAWINGS.

MISCELLANEOUS ITEMS

STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS, AND DRAWINGS OF OTHER TRADES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SEEING THAT THE WORK OF ALL TRADES IS COORDINATED WITH THE STRUCTURAL WORK.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGNING, FURNISHING, ERECTING, AND REMOVING ANY SHORING AND

Bracing required during construction THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL SAFETY REGULATIONS, PROGRAMS AND PRECAUTIONS RELATED TO

CONTRACTOR IS SOLELY RESPONSIBLE FOR THE PROTECTION OF PERSONS AND PROPERTY EITHER ON OR ADJACENT TO

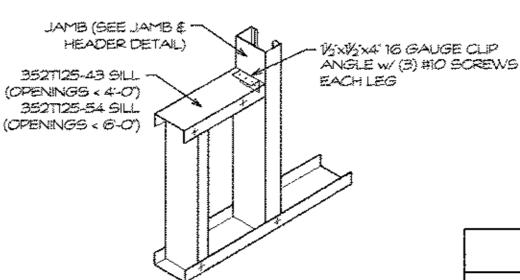
THE PROJECT AND SHALL PROTECT SAME AGAINST INJURY, DAMAGE OR LOSS. NO OPENING NOR ANY CHANGES IN SIZE, DIMENSION OR LOCATION SHALL BE MADE IN ANY STRUCTURAL ELEMENTS

WITHOUT WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR LIMITING THE AMOUNT OF CONSTRUCTION LOAD IMPOSED ON THE STRUCTURE.

SUCH LOADS SHALL NOT EXCEED THE CAPACITY OF THE STRUCTURE AT ANY TIME. THE STRUCTURE IS DESIGNED TO FUNCTION AS A UNIT UPON COMPLETION, AND ANY TEMPORARY BRACING OR SUPPORT

REQUIRED TO ACCOMMODATE THE CONTRACTOR'S MEANS AND METHODS ARE THE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO ORDERING MATERIALS OR PROCEEDING WITH NEW WORK IN AREAS AFFECTED BY EXISTING CONDITIONS. STRUCTURAL ENGINEER SHALL BE INFORMED IN WRITING OF CONFLICTS BETWEEN EXISTING AND PROPOSED NEW CONSTRUCTION.

CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL DIMENSIONS SHOWN ON THE CONTRACT DOCUMENTS. INCONSISTENCIES ON THE STRUCTURAL DRAWINGS OR BETWEEN THE STRUCTURAL DRAWINGS AND ANY OTHER CONTRACT. SHOP, FABRICATION, OR OTHER DRAWINGS OR INFORMATION SHALL BE BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER PRIOR TO PROCEEDING WITH



TYPICAL WINDOW SILL DETAIL

CONDITION CASES												
BAR	TOP	BARS	OTHER	BARS								
SIZE	CASE 1	CASE 2	CASE 1	CASE 2								
#3	23"	34"	18"	27"								
#4	31"	46"	24"	35"								
#5	38"	57"	30"	44"								
#6	46"	68"	35"	53"								
#7	67"	100"	51"	77"								
#8	76"	114"	59"	88"								
#9	86"	128"	66"	99"								
#10	96"	144"	74"	111"								

CLASS "B" LAP SPLICES (fc=4500 psi) NON EPOXY COATED

12 INCHES OF CONCRETE CAST BELOW THE SPLICE,

CASE 1 - OTHER CASES CASE 2 - COLUMNS & BEAMS:

STRUCTURAL STEEL

FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION, (AISC) "MANUAL OF STEEL CONSTRUCTION,"

THE CONTRACTOR SHALL SUBMIT ERECTION PLANS AND SHOP DETAILS BEFORE PROCEEDING WITH FABRICATION.

ALL STRUCTURAL STEEL I BEAMS SHALL CONFORM TO ASTM A992 GRADE 50 (50 KSI).

ANCHOR BOLTS (A.B.) SHALL COMPLY WITH ASTM F1554 GRADE 36.

HIGH STRENGTH BOLTS (HS) SHALL COMPLY WITH ASTM A325N.

ALL WELDING SHALL COMPLY WITH AMERICAN WELDING SOCIETY, (AWS D1.1) "STRUCTURAL WELDING CODE" LATEST

ALL SHOP CONNECTIONS SHALL BE WELDED WITH CLASS E-70 SERIES ELECTRODES, FIELD CONNECTIONS SHALL BE HIGH STRENGTH BOLTED, EXCEPT WHERE OTHERWISE NOTED.

connections not indicated, shall be designed by the fabricator, beam connections shall be designed FOR ONE-HALF THE TOTAL ALLOWABLE UNIFORM LOAD, GIVEN IN PART 2 OF THE AISC "MANUAL OF STEEL CONSTRUCTION." OTHER CONNECTIONS SHALL BE DESIGNED FOR THE LOADS INDICATED. ALL CONNECTIONS SHALL BE A MINIMUM OF TWO 3/4" H.S. BOLTS OR WELDS OF EQUAL STRENGTH.

MILL BOTTOM OF ALL COLUMNS AND FINISH TOP OF ALL BASE PLATES IN ACCORDANCE WITH A.I.S.C. SPECIFICATIONS, BASE PLATES SHALL BE WELDED TO BOTTOM OF COLUMNS.

SPECIFIED GROUT THICKNESS INCLUDES 1/4 INCH THICK LEVELING PLATES WHICH SHALL BE USED UNDER ALL BEAMS AND COLUMNS RESTING ON CONCRETE.

ALL EXPOSED STEEL SHALL BE EPOXY COATED OR GALVANIZED

MASONRY CONSTRUCTION SHALL CONFORM TO AMERICAN CONCRETE INSTITUTE (ACI 530.1-13/ASCE 6-13/TMS802-13,) "SPECIFICATION FOR MASONRY STRUCTURES."

grout shall meet the requirements of astm C476 coarse crout and shall reach a minimum compressive

MORTAR SHALL MEET THE REQUIREMENTS OF ASTM C270 TYPE M OR S. CEMENT SHALL BE PORTLAND CEMENT.

STRENGTH OF 3000 POUNDS PER SQUARE INCH AT 28 DAYS.

REINFORCING BARS SHALL MEET THE REQUIREMENTS OF ASTM A615, GRADE 60.

CONCRETE FOR PRECAST LINTELS SHALL COMPLY WITH SPECIFICATION SECTION 03300, "CAST-IN-PLACE CONCRETE," AND SHALL REACH A MINIMUM COMPRESSIVE STRENGTH OF 3000 POUNDS PER SQUARE INCH.

HOLLOW CMU: SOLID CMU:

NORMAL WEIGHT: ASTM C-90, GRADE N, Fm= 1900 PSI NORMAL WEIGHT: ASTM C-145, GRADE N

SINGLE WYTHE ABOVE GRADE: ASTM C270, PROJECTION SPECIFICATION MORTAR SHALL CONSIST OF TYPE 1 PORTLAND CEMENT, TYPE S HYDRATED LIME AND APPROVED AGGREGATE, WITH 1800psi MINIMUM AVERAGE COMPRESSIVE STRENGTH OF 2-INCH CUBES AT 29-DAYS.

SINGLE WITHE BELOW GRADE:
ASTM C270 PROJECTION SPECIFICATION MORTARS SHALL CONSIST OF TYPE 1 PORTLAND CEMENTS, TYPE M HYDRATED LIME & APPROVED AGGREGATE, 2500 psi MINIMUM AVERAGE COMPRESSIVE STRENGTH OF 2-INCH CUBES AT 29 DAYS.

ASTM C270 PROJECTION SPECIFICATION MORTARS SHALL CONSIST OF TYPE 1 PORTLAND CEMENTS, TYPE N HYDRATED LIME & APPROVED AGGREGATE. WITH 750 PSI MINIMUM AVERAGE COMPRESSIVE STRENGTH OF 2-INCH CUBES AT 29-DAYS.

ALL MASONRY WORK SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF BIA AND NOMA SPECIFICATION FOR CONCRETE MASONRY CONSTRUCTION (ACI 513.1).

PROVIDE CONTINUOUS MASONRY BOND BEAM THAT SPANS ACROSS ALL EXPANSION JOINTS & WALL INTERSECTIONS. PROVIDE (2) #5 BENT BARS WITH 3-FOOT LEGS AT EVERY CORNER OR WALL INTERSECTION

CONTINUOUS TIE OR BOND BEAMS SHALL BE REINFORCED WITH NOT LESS THAN 2 \$5 CONTINUOUS BARS. LINTELS SHALL BE THE SIZES SHOWN AND REINFORCED AS INDICATED ON THE DRAWINGS. REINFORCED MASONRY WALLS SHALL HAVE ALL HOLLOW CELLS FILLED WITH CONCRETE. CONCRETE MAY BE PLACED IN

PROVIDE MINIMUM 2 COURSES 8" x 16" SOLID BEARING AT BEAM AND HEADER BEARING POINTS IN CMU WALLS.

MAXIMUM VERTICAL LIFTS NOT TO EXCEED 4--FEET. ROUGHEN ALL SURFACES OF CONCRETE FILL WHICH ARE TO

GROUT ALL CELLS SOLID BELOW GRADE Lintel for Masonry Walls (U.N.O.): Provide 1 angle for each 4" of Wall Thickness as follows: OPENINGS TO 3'-9": 3 ½"x3"x ¼" (3 ½ " HORIZ.)

3'-1" TO 5'-0": 4"x3 ½"x %s" (3 ½" HORIZ.) 5"x3 ½"x ¾6" (3 ½" HORIZ.) 5'-1" TO 6'-6": 6"x3 ½"x %" (3 ½" HORIZ.) 6'-7" TO 8'-0": GREATER THAN 8'-0". SEE PLANS.

> **CONDITION CASES** TOP BARS OTHER BARS SIZE CASE 1 CASE 2 CASE 1 CASE 2

28" 43" 47" 70" 36" 43" 65" 94" 139" 105" 157" 81" 121"

TOP BARS ARE HORIZONTAL BARS WITH MORE THAN

COVER < BAR DIA. OR CENTER TO CENTER SPACING < 2 BAR DIA. ALL OTHER ELEMENTS:

COVER < BAR DIA. OR CENTER TO CENTER SPACING < 3 BAR DIA.

CLASS "B" LAP SPLICES (fc=3000 psi) NON EPOXY COATED

177"

91"

136"

TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12 INCHES OF CONCRETE CAST BELOW THE SPLICE.

CASE 1 - OTHER CASES CASE 2 - COLUMNS & BEAMS: COVER < BAR DIA. OR CENTER TO CENTER SPACING < 2 BAR DIA. ALL OTHER ELEMENTS: COVER < BAR DIA. OR

CENTER TO CENTER SPACING < 3 BAR DIA.

: AS NOTED DESIGN BY : REH DRAWN BY : HOE CHECKED BY

GMB FILE : 160049 : 11-18-16

S5.

DIN

8≥

S

TYPICAL HEADER DETAIL

HEADER LOCATIONS LVL OI HEADERS & 6-0"

LVL 01-02 HEADERS < 8-4"

LVL 02-05 HEADERS < 6-0"

HEADER WITH TRACK CLOSURES TOP & BOTTOM

1) FASTEN ALL BUILT-UP MEMBERS

2) ALL HEADERS SHALL BE UNPUNCHED.

AT 12 O.C. MIN.

ACRIPISTUDS FIT TO BEAR

(2) 3625162-54 w/ (2) 362T125-54 (T.EB.) (2) 6005162-54

w/ (2) 362T2OO-54 (T.\$3.)

(2) 3625162-33 w/ (2) 362T125-33 (T.EB.)

HVAC GENERAL NOTES

- 1. ALL WORK AND EQUIPMENT SHALL COMPLY WITH ALL APPLICABLE LAWS, CODES, ETC., OF ALL AUTHORITIES HAVING JURISDICTION, INCLUDING BUT NOT LIMITED TO: THE INTERNATIONAL MECHANICAL CODE, THE LOCAL FIRE MARSHAL, UNDERWRITERS LABORATORY (UL), IRI, FM. OSHA, AND THE NATIONAL ELECTRICAL CODE (NEC). MODIFICATIONS REQUIRED BY THE ABOVE SAID AUTHORITIES TO BRING THE SPACE UNDER CONTRACT UP TO CODE SHALL SE MADE. WITHOUT ADDITIONAL CHARGE. WHERE CONTRACT DOCUMENT REQUIREMENTS ARE IN EXCESS OF CODE REQUIREMENTS, THE CONTRACT DOCUMENTS SHALL GOVERN. DEVIATIONS FROM THE CONTRACT DOCUMENTS REQUIRED BY THE ABOVE AUTHORITIES SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW.
- 2. ALL SPECIFICATIONS AND DRAWINGS, LE., ARCHITECTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL ARE COMPLIMENTARY AND MUST BE USED IN COMBINATION TO OBTAIN COMPLETE CONSTRUCTION INFORMATION. ANY INFORMATION CONFLICTS WITHIN THE SPECIFICATIONS AND DRAWINGS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION,
- 3. CONTRACTOR SHALL VERIFY ALL POINTS OF CONNECTION BEFORE COMMENCING WORK, CONTRACTOR SHALL COORDINATE WORK WITH EXISTING WORK. AND OTHER TRADES. CONTRACTOR SHALL REMOVE ALL WASTE MATERIALS, DEBRIS, AND RUBBISH FROM SITE AND LEGALLY DISPOSE OF IT. ALL UNUSED EQUIPMENT SERVING THIS AREA SHALL BE REMOVED AND RETURNED TO THE OWNER.
- 4. SOME WORK SHOWN MAY REQUIRE PREMIUM TIME TO AVOID DISRUPTION OF ACTIVITIES AND MEP SERVICES. CONTRACTOR SHALL CONFIRM THE REQUIREMENTS FOR PREMIUM TIME OR SPECIAL PROCEDURES WITH THE OWNER AND INCLUDE THE COST IN HIS BID PROPOSAL. THE CONTRACTOR, BY SUBMITTING HIS BID PROPOSAL AGREES TO ACCEPT ALL EXISTING SITE CONDITIONS NOT SPECIFICALLY EXCEPTED. ALL EXCEPTIONS SHALL BE PROVIDED IN WRITING TO THE ARCHITECT AND ENGINEER.
- 5. CONTRACTOR SHALL COORDINATE, PREPARE AND SUBMIT SHOP DRAWINGS TO THE ARCHITECT AND ENGINEER FOR THEIR APPROVAL. SHOP DRAWINGS TO BE SUBMITTED INCLUDE: SHEETMETAL, DIFFUSERS, GRILLES, REGISTERS, FIRE DAMPERS, AND ALL EQUIPMENT. SHEETMETAL SHOP DRAWINGS SHALL BE COORDINATED WITH ALL DISCIPLINES AND SHOW DUCT ELEVATIONS. PROVIDE RISES, DROPS AND OFFSETS AS REQUIRED, BRING AREAS OF POTENTIAL. CONFLICT TO THE ENGINEERS ATTENTION.
- 6. A SET OF MEP RECORD/COORDINATION DRAWINGS SHALL BE MAINTAINED IN THE GENERAL CONTRACTORS OFFICE AT THE JOB SITE, ACTUAL LOCATIONS OF ALL EQUIPMENT, PIPING, DUCTWORK, ETC., AND ALL DEVIATIONS OF THE WORK FROM THAT SHOWN ON THE CONTRACT DOCUMENTS SHALL BE MARKED ON THE RECORD/COORDINATION DRAWINGS. EACH TRADE SHALL REVIEW THE COORDINATION DRAWINGS AND RESOLVE ANY POTENTIAL CONFLICTS WITH OTHER TRADES PRIOR TO INSTALLING ANY PORTION OF THEIR WORK, CONTRACTOR SHALL NOT CORE, DRILL, OR OUT CONCRETE SLABS FOR ANY REASON WITHOUT THE KNOWLEDGE AND WRITTEN CONSENT OF THE STRUCTURAL ENGINEER AND THE OWNER.
- 7. WORK SHALL BE EXECUTED IN A GOOD WORKMANLIKE MANNER USING MECHANICS SKILLED IN THEIR RESPECTIVE TRADES. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES FOR COORDINATING THE WORK UNDER THIS CONTRACT, MAINTAIN THE CONSTRUCTION PREMISES IN A NEAT AND ORDERLY CONDITION AT THE END OF EACH WORKING DAY.
- 8. IN CASES OF DOUBT AS TO THE WORK INTENDED, OR IN THE EVENT OF NEED FOR EXPLANATION THEREOF, THE CONTRACTOR SHALL REQUEST SUPPLEMENTARY INSTRUCTIONS FROM THE ENGINEER. NO CHANGES ARE TO BE MADE TO THE WORK OF THIS CONTRACT WITHOUT PRIOR KNOWLEDGE AND APPROVAL OF THE ENGINEER. THE CONTRACTOR SHALL HOLD THE OWNER AND ITS CONSULTANTS HARMLESS AGAINST ALL CLAIMS AND JUDGMENTS. ARISING OUT OF THE CONTRACTORS PERFORMANCE OF THE WORK OF THIS CONTRACT. THE CONTRACTOR SHALL NOT PROCEED WITH ANY WORK, WHICH HE EXPECTS ADDITIONAL COMPENSATION BEYOND THE CONTRACT AMOUNT, WITHOUT WRITTEN AUTHORIZATION FROM THE APPROPRIATE AUTHORITY. FAILURE TO OBTAIN SUCH AUTHORIZATION SHALL INVALIDATE ANY CLAIM FOR EXTRA COMPENSATION.
- 9. THE GENERAL CONTRACTOR SHALL BRING TO THE ATTENTION OF THE MECHANICAL CONTRACTOR ANY SLAB-TO-SLAB PARTITIONS IN ORDER TO PRESERVE RETURN AIR PATHWAYS. ALL PENETRATIONS OF SLAB-TO-SLAB PARTITIONS SHALL BE SEALED AIRTIGHT. CONTRACTOR SHALL VERIFY PARTITION RATING. AND PROVIDE FIRE DAMPER AND ACCESS DOOR AS REQUIRED. CURTAIN TYPE DAMPERS SHALL BE W/ THE CURTAIN OUT OF THE AIR STREAM.
- 10. WHEREVER FIRE RATED PARTITIONS ARE PENETRATED FOR WIRE, DUCT, OR PIPE PASSAGE, SEAL PASSAGES WITH CODE APPROVED, LABORATORY TESTED AND LABELED SEALANT OF FIRE REGISTANCE RATING NOT LESS THAN THAT OF PENETRATED ASSEMBLY THAT WILL PREVENT PASSAGE OF FIRE AND
- 11. CONTRACTOR SHALL VERIFY THAT THE LOCATION OF CEILING MOUNTED DIFFUSERS, GRILLES, AND REGISTERS SHOWN ON THE DRAWINGS ARE ACCEPTABLE TO THE ARCHITECT PRIOR TO INSTALLATION.
- 12. ALL AUTOMATIC TEMPÉRATURE CONTROL SYSTEM WORK, MODIFICATION AND INSPECTION SHALL BE ACCOMPLISHED BY THIS CONTRACTOR. ALL DAMAGED, DEFECTIVE, MISSING, OR INAPPROPRIATE DEVICES SHALL BE REPAIRED OR REPLACED AS REQUIRED. THERMOSTATS SHALL BE INSTALLED AS SHOWN ON THE DRAWINGS UNDER THIS CONTRACT. STANDARD MOUNTING HEIGHT TO TOP OF THERMOSTAT IS 48" ABOVE PINISHED FLOOR OR AS INDICATED. ON THE ARCHITECTURAL DRAWINGS. DO NOT INSTALL THERMOSTATS NEAR DIMMER SWITCHES. WRING OF ALL MOTORIZED OPERATORS AND THERMOSTATS (REGARDLESS OF VOLTAGE) ARE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR.
- 13. CONTRACTOR SHALL MAKE ALL FINAL EQUIPMENT CONNECTIONS AND PROVIDE THE NECESSARY ADAPTORS, FITTINGS, VALVES, DEVICES, ETC. FOR A COMPLETE AND OPERABLE SYSTEM. COORDINATE REQUIREMENT FOR PROVISION OF MOTOR STARTERS, DISCONNECTS, CONTACTORS, CONTROL WIRING, ETC. AS REQUIRED FOR PROPER FUNCTIONING SYSTEM WITH DIVISION 26.
- 14. IT SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR TO INSTALL THE HEATING, VENTILATION AND AIR CONDITIONING SYSTEM SO AS TO INSURE QUIET OPERATION. NO VIBRATION OR SOUND SHALL BE TRANSMITTED TO THE BUILDING, STRUCTURE OR OCCUPIED AREAS. THE DECISION OF THE ENGINEER AS TO THE QUIETNESS OF THE SYSTEM AND EQUIPMENT SHALL BE FINAL. IT SHALL BE THIS CONTRACTORS RESPONSIBILITY TO CORRECT OR REPLACE ANY NOISY SYSTEM OR EQUIPMENT AS REQUIRED.
- 15. ALL PACKAGED EQUIPMENT SHALL BE INDEPENDENTLY THIRD PARTY LABELED AS A SYSTEM FOR ITS INTENDED USE BY A NATIONALLY RECOGNIZED. TESTING LABORATORY (NRTL) IN ACCORDANCE WITH OSHA FEDERAL REGULATIONS 29CFR1910.303 AND .399, AS WELL AS NFPA PAMPHLET NO. 70, AND THE NATIONAL ELECTRICAL CODE (NEC), ARTICLE 90-7.
- 16. CLEAN ALL MECHANICAL EQUIPMENT AND DUCTWORK OF ALL CONSTRUCTION DUST AT PROJECT COMPLETION, REPLACE ALL FILTERS PRIOR TO AIR BALANCING, PROVIDE ONE SPARE SET OF FILTERS FOR EACH PIECE OF EQUIPMENT TO THE OWNER.

MISCELLANEOUS EQUIPMENT SPECIFICATIONS:

PERFORATED FACE DIFFUSER - TITUS MODEL PGS OR APPROVED EQUAL. 24" X 24" FACE, STEEL CONSTRUCTION, WHITE FINISH, FLUSH FACE, LAY IN BORDER, STAR PATTERN. PROVIDE SURFACE MOUNT BOARDER FOR INSTALLATION IN DRYWALL CEILING. ROUND NECK. SEE SCHEDULE FOR NECK AND FLEX DUCT

PERFORATED FACE RETURN/ EXHAUST AIR GRILLES AND REGISTERS - TITUS MODEL PAR OR APPROVED EQUAL. 24" X 24" FACE, STEEL CONSTRUCTION, WHITE FINISH, FLUSH FACE, LAY-IN BORDER (TYPICAL), PROVIDE SURFACE MOUNT BORDER FOR INSTALLATION IN DRYWALL CEILING. SQUARE NECK. SEE SCHEDULE FOR REQUIRED NECK SIZES.

RETURN/ EXHAUST AIR REGISTERS - TITUS MODEL 350 FL OR APPROVED EQUAL. ALUMINUM CONSTRUCTION, BLADES SHALL HAVE 3/4" SPACING & 35" FIXED DEFLECTION. BLADES SHALL BE PARALLEL TO LONG DIMENSION. PROVIDE REGISTER WITH OPPOSED BLADE DAMPER FOR REGISTERS INSTALLED IN DRYWALL CEILINGS. DAMPER SHALL BE ADJUSTABLE FROM FACE OF AIR DEVICE. SEE SCHEDULE FOR NECK SIZES.

SUPPLY AIR REGISTERS - TITUS MODEL 300 FS OR APPROVED EQUAL. ALUMINUM CONSTRUCTION, DOUBLE DEFLECTION BLADES SHALL HAVE 3/4" SPACING. FRONT BLADES PARALLEL TO SHORT DIMENSION. ALL BLADES INDIVIDUALLY ADJUSTABLE. PROVIDE REGISTER WITH OPPOSED BLADE DAMPER FOR REGISTERS INSTALLED IN DRYWALL CEILINGS AND REGISTERS INSTALLED IN THE SIDE OF RECTANGULAR DUCTS. DAMPER SHALL BE ADJUSTABLE FROM FACE OF AIR DEVICE. SEE SCHEDULE FOR NECK SIZES.

LOUVERED DOOR GRILLES - TITUS MODEL T-700L OR APPROVED EQUAL. STEEL CONSTRUCTION, SIGHT PROOF, 20 GAUGE STEEL BLADES, SLADES PARALLEL. TO THE LONG DIMENSION. SIZE SHALL BE 18/18 UNLESS NOTED OTHERWISE. ARCHITECT TO SELECT COLOR.

OUTSIDE AIR INTAKE É EXHAUST AIR LOUVERS - GREENHECK MODEL ESD-403 OR APPROVED EQUAL. STATIONARY, EXTRUDED ALUMINUM CONSTRUCTION, 4" FRAME, DRAINABLE BLADES, WITH BIRDSCREEN (MODEL ESD-202 FOR 2" FRAME FOR SOFFIT INSTALLATIONS).

	SPLIT SYSTEM SCHEDULE - HEAT PUMP																	
	NI COLONIA	SENS.	TOTAL	EAT.	REVERSE CYCLE				INDOOR	RUNIT			(OOCTUC	RUNIT		ELEC.	
JNIT DES. SERV	SERVICE	CAP MBH	АР МВН САР МВН	L EAT. BH DB/W3	/WB HEAT CAP, MBH @	CFM	O.A. CPM	E.S.P. N. W. <i>G</i> .	ΗP	HEATER KW@230V	TRANE MODEL	UNIT. DES.	NOM. TONS	SEER	H5₽F	TRANE MODEL	VOLTS / RE PHASE	REMARKS
AHU-1	SEE PLAN	45.4	55.5	75.6 / 63,2	35. <i>6</i>	1965	320	Q.6	*	10.8000	GAM5BOCGOM	₩P-1	5	14,0	8.5	4TWR5061E	208/1	1 THRU 14

- 1. PIPE 1" INSULATED CONDENSATE DRAIN PIPING TO SPLASH BLOCK LOCATED ON GRADE OUTSIDE.
- PROVIDE SINGLE POINT WIRING KIT, CIRCUIT BREAKER, AND DISCONNECT SWITCH FOR AHU.
- 3. SIZE AND INSTALL INSULATED REFRIGERANT LINES PER MANUFACTURER'S RECOMMENDATIONS.
- A. INTERLOCK AHU AND THERMOSTAT WITH ERV-1. ERV-1 SHALL BE ON DURING OCCUPIED SCHEDULE PROGRAMMED INTO THERMOSTAT.
- 5. PROVIDE RETURN AIR FILTER IN AHU WITH STANDARD FILTER.
- 6. PROVIDE REMOTE PROGRAMMABLE WALL MOUNTED THERMOSTAT WITH AUTOMATIC CHANGEOVER AS SHOWN ON FLOOR PLANS. INTERLOCK AHU WITH ASSOCIATED HP.
- PROVIDE CONDENSATE OVERFLOW SENSOR IN PRIMARY CONNECTION OF THE COOLING COIL TO SHUT SOWN THE UNIT UPON SENSING CONDENSATE.
- 8. PROVIDE FLEXIBLE CONNECTION AT INLET AND DISCHARGE OF AHU TO ISOLATE FAN. USE HEAT RESISTANT MATERIAL.
- 9. PROVIDE TXV AND TIME DELAY RELAY.
- 10. PROVIDE NEOPRENE ISOLATION PAD UNDER AHU AND HP.
- 11. PROVIDE HONEYWELL MODEL EC720 ECONOMIZER CONTROLLER WITH DIFFERENTIAL ENTHALPY CONTROL FOR AHU.
- 12. PROVIDE NIGHT SET BACK CONTROL, MORNING WARM UP CONTROL, COMPRESSOR SUMP HEATER, AND DEFROST CONTROL.
- 13. INSTALL DUCT SMOKE DETECTORS PROVIDED AND WIRED BY ELECTRICAL CONTRACTOR IN SUPPLY AND RETURN DUCTWORK.
- -14. INSTALL OUTDOOR UNIT ON CONCRETE PAD, PROVIDE 1" NEOPRENE VIBRATION PAD BETWEEN UNIT AND CONCRETE PAD.

					DUCT	LESS SPL	IT SY	STEM S	CHEDULE			
UNIT		E.A.T.		j.	IDOOR UNIT	r			OUTDOOR UNIT			
DES.	SERVICE	D8/ WB	CFM	SEER	VOLTS / PHASE	BASIS OF DESIGN	NOM. TONS	AMBIENT AIR °F	HEATING CAPACITY @ 47°F O.A.T. (BUTH)	Basis of Design	VOLTS / PHASE	REMARKS
D\$5-1	ELECT. 109	80 / 67	425	15.2	208/1	MITSUBISHI PKA-A12HA6	1	95	N.A.	MITSUBISHI PUY-A12NHA6	208/1	1 THRU 10

- PROVIDE LOW AMBIENT CONTROL TO O'F.
- 2. PROVIDE UNIT MOUNTED CONTROLS.
- PROVIDE CONDENSATE PUMP FROM FACTORY AND CONDENSATE OVERFLOW SENSOR.
- 4. PROVIDE REMOTE WALL MOUNTED HARD WIRED THERMOSTAT.
- 5. PROVIDE INSULATED REPRIGERANT PIPING BETWEEN INDOOR AND OUTDOOR UNITS. SIZE AND INSTALL PER MANUFACTURES RECOMMENDATIONS
- 6. PROVIDE DC ROTARY COMPRESSOR WITH INDENTER TECHNOLOGY / VARIABLE SPEED.
- 7. INSTALL OUTDOOR UNIT ON CONCRETE PAD, PROVIDE 1" NEOPRENE VIBRATION ISOLATORS BETWEEN CONDENSING UNIT AND CONCRETE PAD.
- 8. INDOOR UNIT MOUNTED ON WALL, PROVIDE SUPPORT AND BLOCKING FOR UNIT.
- 19. PROVIDE DISCONNECT SWITCH FOR INDOOR UNIT.
- 10. PROVIDE 1" INSULATED CONDENSATE DRAIN PIPING TO SPLASH BLOCK LOCATED ON GRADE OUTSIDE.

ENERGY RECOVERY VENTILATOR SCHEDULE														
6 To 1148		SUPPL	Y FAN			ETURN / EX	HAUST FAI	٧	SUM	1MER	Wil	NTER		
UNIT NUMBER	CFM	E.S.P. N. W.G.	8PM	HP	CFM	E.S.P. IN. W.G.	RPM	유된	EAT (DB / WB)	LAT (DB / WB)	EAT	LAT	GREENHECK MODEL #	REMARKS
ERV-1	320	0.75	1695	1/3	280	0.75	1636	1/3	93 / 80	81.4 / 69.7	14	49.8	MINIVENT-450-VG	1 THRU 6

- UNIT TO BE ID VOLT, SINGLE PRASE WITT SINGLE POINT CONNEC
- 2. UNIT TO HAVE INTEGRAL DESICCANT WHEEL AND PACKAGED CONTROLS.
- 3. UNIT TO BE PROVIDED WITH 1" OUTDOOR AND EXHAUST AIR FILTERS: SPRING TYPE VIBRATION ISOLATORS, SPARE BELTS AND FILTERS AND WHEEL FROST
- 4. UNIT SHALL OPERATE PER ITS PACKAGED CONTROLS. INTERLOCK ERV WITH ASSOCIATED HP'S AND MOTORIZED DAMPER, UNIT SHALL OPERATE DURING OCCUPIED MODE ONLY.
- 5. UNIT TO BE PROVIDED WITH SOLID SATE SPEED CONTROLLERS FOR BOTH FANS.
- 6. PROVIDE VARI-GREEN EZ MOTORS.

ELECTRIC UNIT HEATER SCHEDULE										
UNIT NO.	SERVES	KW	VOLTS / PHASE		MANUFACTURER	MODEL	REMARKS			
EUH-1	YARD STORAGE	3	208 / 1	HORIZONTAL	Q-MARK	MUH0381	1, 2			

- PROVIDE DISCONNECT SWITCH AND UNIT MOUNTED THERMOSTAT.
- 2. PROVIDE MOUNTING BRACKET.

149% - 1850

1851 - 2100

2101 - 6550

24/24 PERFORA	TED FACE RETURN AIR	GRILLE SCHEDULE
CFM RANGE	SQUARE NECK SIZE	ROUND NECK SIZE
0 - 125	6X6	6.0
126 - 240	8 X 8	8.0
241 - 375	10 X 10	10°Ø
376 - 550	12 X 12	12"Ø
551 - 725	14 X 14	16'0
726 - 850	18 X 18	N.A.
851 - 1090	22 X 22	N.A.

NOTE: NECK SIZES ABOVE ARE FOR DUCTED APLICATIONS MODEL PAR. NON-DUCTED UNITS SHALL BE MODEL PXP.

32 X 32

40 X 24

48 X 48

RETURN / EXHAUST REGISTER SCHEDULE

M RANGE	DUCT / NECK SIZE (UNO)	DIFFUSER & RUNOUT SCHEDULE						
0 - 75	6×6			T				
\$1 - 15O	8X6	CFM RANGE	NECK SIZE	MAX LENGTH				
ท - 225	10 X 10	0 - 40	4°Ø	8'-0'				
51 ² 350	12 X 12	40 - 100	60	8'-0"				
11 - 410	14 X 14	101 - 230	ô'Ø	8-0°				
41 - 650	22 X 14	231 - 420	10°0	8-0				
51 <i>- 86</i> 5	30 X 14	421 - 500	12°Ø	8'-0"				
6 - 1025	30 X 18	501 - 575	14%	8'-0"				
26 - 1490	42 X 14	576 - 750	16°Ø	8'-0"				

5/6 - /50	160	8-0
NOTE: ALL FLEXIS	LE DUCT DIAMETER	9 SHALL EQUAL
DIFFUSER NECK S	SIZE, SEE PLANS AN	D SPECFICATIONS
FOR FACE TYPE A	ND MODEL NUMBER	ଓ .

ITEM	MECH/ DIV 22 AND 23	ELEC/ DIV 26
AUTOMATIC TEMPERATURE CONTROLS	FURNISH, INSTALL & WIRE	POWER WIRE
CONTROL PANELS FOR MECHANICAL EQUIPMENT	FURNISH & INSTALL	POWER WIRE
LOW VOLTAGE CONTROL WIRING FOR MECH EQUIP.	FURNISH & INSTALL	
LINE VOLTAGE CONTROL WIRING FOR MECH. EQUIP.	FURNISH, INSTALL & WIRE	
MECHANICAL FLOW SWITCHES	FURNISH, INSTALL & WIRE	
THERMOSTATS/ SENSORS	FURNISH, INSTALL & WIRE	
P/E & E/P SWITCHES	FURNISH, INSTALL & WIRE	
DISCONNECT SWITCHES FOR MECHANICAL EQUIPMENT	FURNISH & INSTALL	POWER WIRE
MECHANICAL EQUIPMENT MONITORS	FURNISH & INSTALL	POWER WIRE
MANUAL STARTERS FOR MECHANICAL EQUIPMENT	FURNISH & INSTALL	POWER WIRE
MAGNETIC STARTERS FOR MECHANICAL EQUIPMENT	FURNISH	INSTALL & POWER WIRE
MOTOR CONTROL CENTERS	CONTROL WIRING	FURNISH, INSTALL & POWER WIRE
VARIABLE SPEED CONTROLLERS	FURNISH & INSTALL	POWER WIRE
MOTORIZED DAMPERS & VALVES	FURNISH, INSTALL & WIRE	
DUCT SMOKE DETECTORS	INSTALL	FURNISH & WIRE
HEAT TRACE CABLE FOR PIPING	FURNISH & INSTALL	POWER WIRE
OIL/ GAS EMERGENCY SHUT-OFF SWITCHES		FURNISH, INSTALL & POWER WIRE
SPRINKLER FLOW & TAMPER SWITCHES	BY SPRINKLER CONTRACTOR	WRE

SUPPLY REGISTER SCHEDULE

CFM RANGE

0 - 40

41 - 110

111 - 150

151 - 210

211 - 240

241 - 380

DUCT / NECK SIZE (W X H)

6 X 6

8 X S

12 X 8

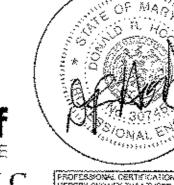
14 X 8

14 X 1/0

16 X 16

Allen & Shariff
DESIGN BUILD MANAGE
Allan & Chariff Engineering III

Allen & Shariff Engineering, LLC 205 East Market Street Salisbury, Maryland 21801 Tel: 410.341.0200



a (rily Ligensed Profession) Engineer Under The Lavis of The State of Maryland GOENSE NUMBER: 00745 PIRATION DATE: 08/20/201

@ ALLEN & SHARFF ENGINEERING, LLC JOB# 1631015

MECHANICAL LEGEND

90° RADIUS ELBOW

DRAWING NOTE

AIR GRILLE

EF CEILING EXHAUST FAN

T-STAT THERMOSTAT/ SENSOR

U/D UNDER OUT DOOR 1"

NEW EQUIPMENT OR DUCTWORK

90° ELBOW WITH TURNING VANES

24/24 PERFORATED FACE RETURN

24/24 PERFORATED FACE DIFFUSER WITH

ROUND NECK, CFM AS INDICATED, SEE

SCHEDULE FOR NECK SIZE

V.C.D. VOLUME CONTROL DAMPER

E.S.P. EXTERNAL STATIC PRESSURE

T.S.P. TOTAL STATIC PRESSURE

IN. W.G.IINCHES WATER GAUGE

FT. W.GIFEET WATER GAUGE

TR. GR. TRANSFER GRILLE

TR TOP REGISTER

CR CELLING REGISTER

OED OPEN ENDED DUCT

UNO IUNLESS NOTED OTHERWISE

B.D. BACKDRAFT DAMPER

OA OUTSIDE AIR

RA RETURN AIR

GR GRILLE

REG REGISTER

SUPPLY AIR

ISPIN TAP WITH VOLUME CONTROL

ABRV. DESCRIPTION

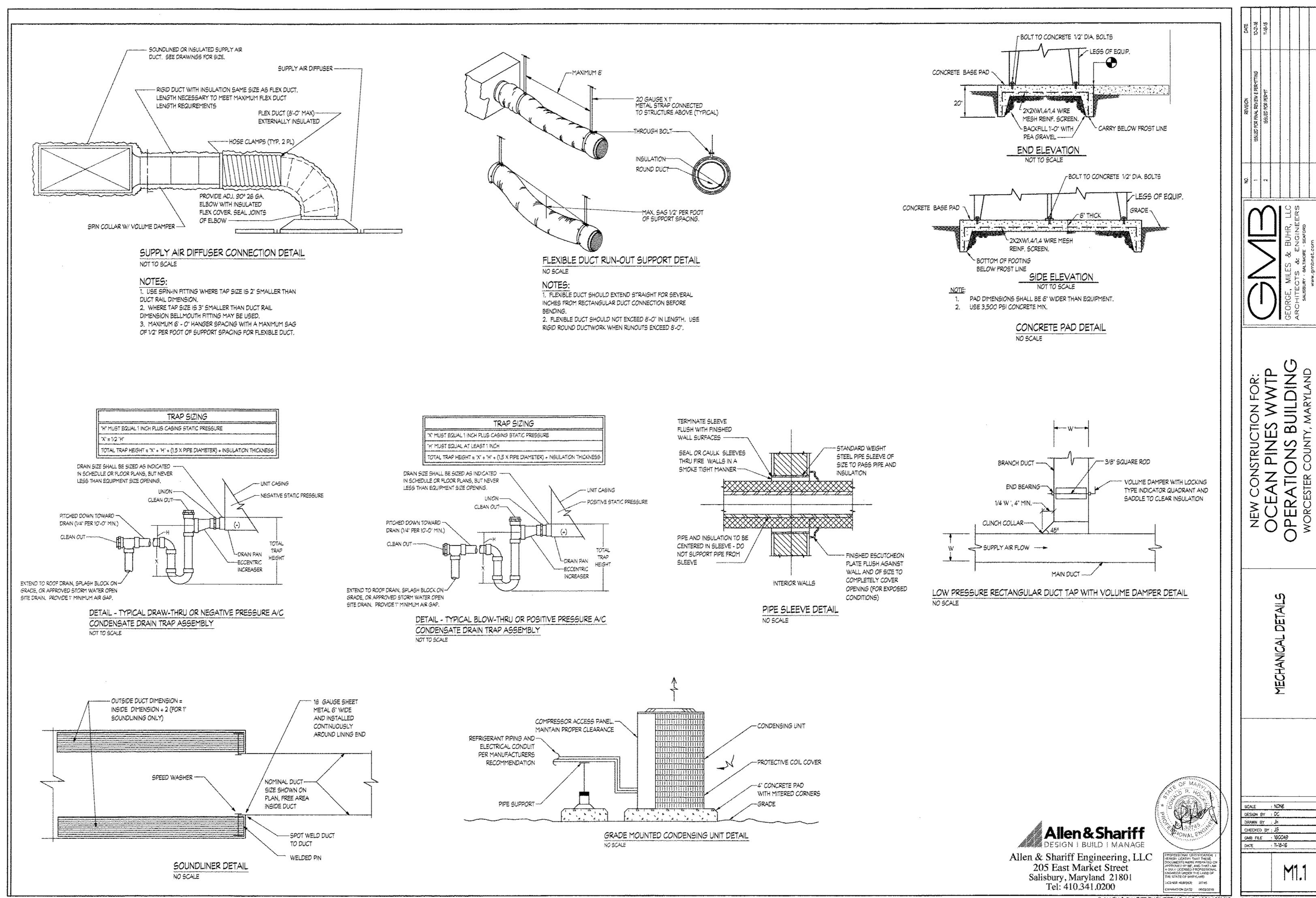
SYMBOL

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PIN ON STRUCT S ER. OCE OPER

> CHEDULES, LEGEND MECHANICAL SC NOTES AND L

: NONE DESKON BY : DC DRAWN BY : JR CHECKED BY : 15 CAR FILE : 160049 : 11-18-16

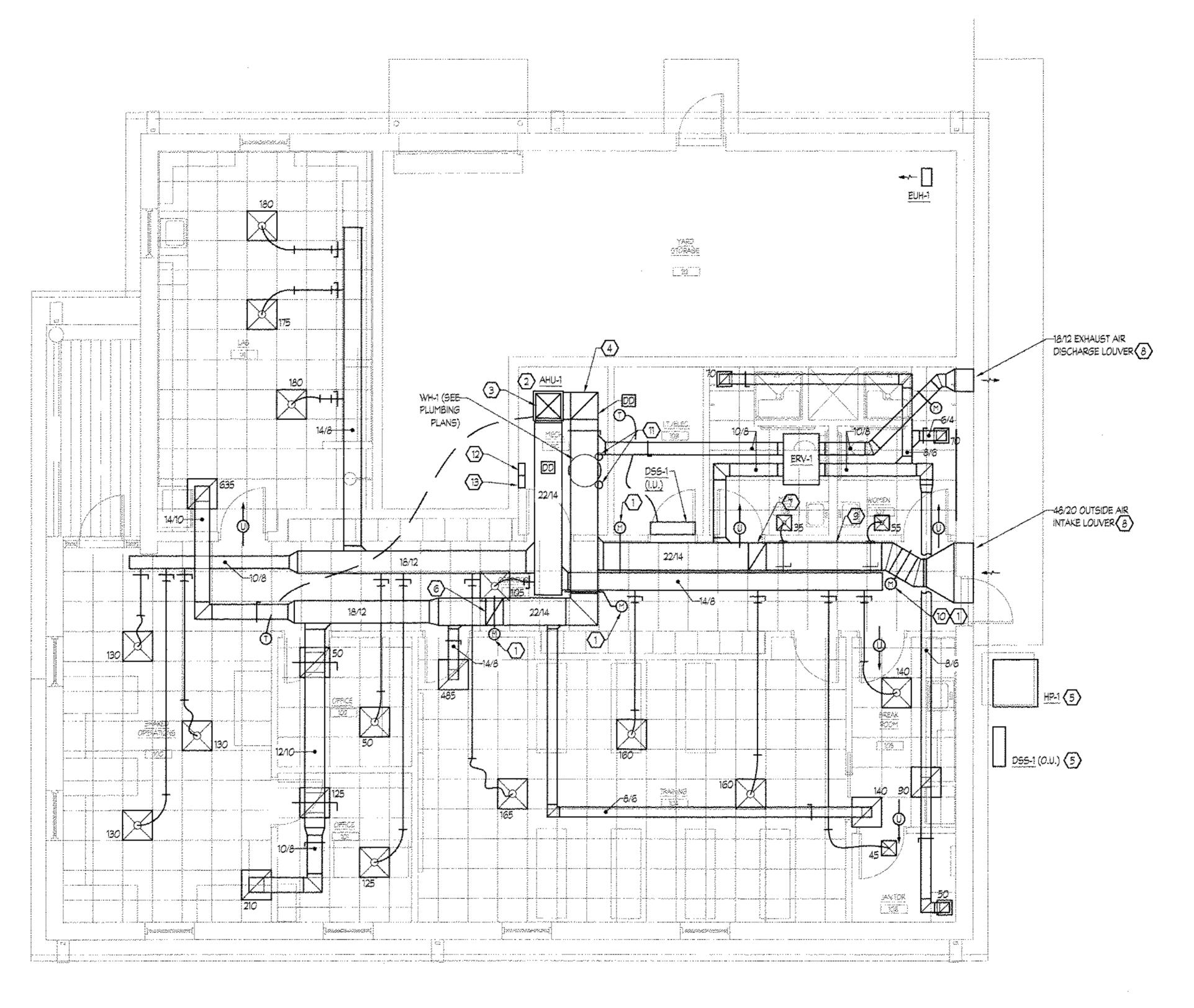


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DETAILS

MECHANICAL

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MECHANICAL FLOOR PLAN

DRAWING NOTES:

1. PROVIDE RETURN AIR, OUTSIDE AIR, AND RELIEF AIR MOTORIZED DAMPERS FOR ECONOMIZER FUCTION. LOCATE CONTROLLER IN MECHANICAL ROOM WITH AHU,

2. INSTALL AHU ON INTERNALLY LINED RETURN AIR MOUNTING PLENUM, SAME SIZE UNIT AT 24" HIGH WITH T NEOPRENE ISOLATION PAD. POSITION UNIT TO PROVIDE REQUIRED CLEARANCES.

3. SUPPLY AIR ELBOW WITH DUCT DOWN TO AHU DISHARGE SAME SIZE AS UNIT WITH FLEXIBLE CONNECTION. 4, RETURN AIR ELBOW WITH DUCT DOWN TO AHU RETURN AIR MOUNTING PLENUM AND CONNECT WITH FLEXIBLE

CONNECTION, INSTALL DUCT DETECTOR IN DROP. 5. INSTALL OUTDOOR UNIT ON GRADE ON CONCRETE PAD. INSTALL NEOPRENE ISOLATION PAD UNDER UNIT.

6. 22/14 RELIEF AIR DUCT OFF TOP OF RETURN AIR DUCT AND UP TO ATTIC SPACE WITH OED WITH WMS.

7, 22/14 OUTSIDE AIR DUCT UP TO ATTIC SPACE AND CONTINUE TO LOUVER CONNECTION AS SHOWN.

8. EXHAUST AIR AND OUTSIDE AIR LOUVERS TO BE SEPARATED A MINIMUM OF 10'-0" HORIZONTALLY.

9. OUTSIDE AIR DUCT TO LOUVER INSTALLED IN EXTERIOR WALL IN ATTIC SPACE. 10. PROVIDE ACCESS DOOR IN DRYWALL FOR MOD. INTERLOCK MOD WITH ERV-1 AND ECONOMIZER CONTROLLER.

11. 370 SCH. 40 PVC COMBUSTION INTAKE AIR PIPING AND 370 SCH. 40 PVC EXHAUST AIR VENT PIPING FROM WH-1 TO

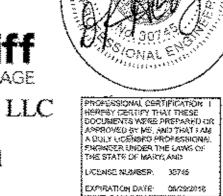
CONCENTRIC VENT KIT THRU ROOF, INSTALL PER WATER HEATER MANUFACTURER'S WRITTEN INSTRUCTIONS.

12. ERV-1 REMOTE CONTROL PANEL.
13. AHU-1 ECONOMIZER CONTROLLER.

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Allen & Shariff Engineering, LLC 205 East Market Street Salisbury, Maryland 21801 Tel: 410.341.0200



。这一点,我们就是看到你的时候的时间,这个时候是我的。所以的概念,**感觉**的感觉是是一

Ø ALLEN & SHARIFF ENGINEERING, LLC JOB# 1631015

MECHANICAL SCALE : W:1+0" DESIGN BY : DC DRAWN BY : JH CHECKED BY : JG GMB FILE : 160049 DATE : 15-16-16

F.00R

PLUMBING CONSTRUCTION NOTES

1. PRODUCTS AND INSTALLATION SHALL COMPLY WITH ALL APPLICABLE LAWS, CODES, GOVERNMENT REGULATIONS, UTILITY COMPANY REQUIREMENTS, ETC. OF ALL AUTHORITIES HAVING JURISDICTION. WORK SHALL COMPLY WITH THE FOLLOWING CODES, STANDARDS AND ORGANIZATIONS:

2012 NATIONAL STANDARD PLUMBING CODE (IPC)

2012 INTERNATIONAL MECHANICAL CODE (IMC)
2012 INTERNATIONAL ENERGY CONSERVATION CODE

2012 INTERNATIONAL ENERGY CO

2014 NATIONAL ELECTRIC CODE

2012 NATIONAL PUEL GAS CODE (NPPA 54)

NFPA 51, 54 AND 58

2012 INTERNATIONAL EXISTING BUILDING CODE

2012 INTERNATIONAL BUILDING CODE

COMAR 05.02.02 & ADAAG, 2010 ED. UNDERWRITERS LABORATORY (UL), IRI, FM

WHERE CONFLICTS EXIST BETWEEN CODES, STANDARDS OR THIS SPECIFICATION THE HIGHER REQUIREMENT SHALL APPLY. DEVIATIONS FROM THE CONTRACT DOCUMENTS REQUIRED BY THE ABOVE AUTHORITIES SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW. OBTAIN PERMITS AND PAY ALL FEES. ARRANGE FOR ALL REQUIRED INSPECTIONS AND APPROVALS. CONFIRM ALL UTILITY COMPANY REQUIREMENTS AND CONNECTION POINTS IN FIELD. PRIOR TO STARTING WORK.

2. ALL SPECIFICATIONS AND DRAWINGS, I.E., ARCHITECTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL ARE COMPLIMENTARY AND MUST BE USED IN COMBINATION TO OBTAIN COMPLETE CONSTRUCTION INFORMATION. ANY INFORMATION CONFLICTS WITHIN THE SPECIFICATIONS AND DRAWINGS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION. DRAWINGS ARE DIAGRAMMATIC. CONFIRM ALL DIMENSIONS BY FIELD MEASUREMENT. THE EXACT LOCATIONS FOR APPARATUS, FIXTURES, EQUIPMENT AND PIPING WHICH IS NOT COVERED BY DRAWINGS, SHALL BE OBTAINED FROM THE ARCHITECT OR HIS REPRESENTATIVE IN THE FIELD, AND THE WORK SHALL BE LAID OUT ACCORDINGLY.

3. WORK SHALL BE EXECUTED IN A GOOD WORKMANLIKE MANNER USING MECHANICS SKILLED IN THEIR RESPECTIVE TRADES. ALL EQUIPMENT AND MATERIALS SHALL BE NEW, FREE OF DEFECTS. SYSTEMS ARE TO BE COMPLETE AND WORKABLE IN ALL RESPECTS. PLACED IN OPERATION AND PROPERLY ADJUSTED.

4. MAINTAIN THE CONSTRUCTION PREMISES IN A NEAT AND ORDERLY CONDITION AT THE END OF EACH WORKING DAY. CLEAN-UP, REMOVE AND LEGALLY DISPOSE OF ALL RUBBISH DAILY. CONTRACTOR SHALL PROTECT THEIR WORK AND EXISTING OR ADJACENT PROPERTY AGAINST WEATHER, TO MAINTAIN THEIR WORK, MATERIALS, APPARATUS AND FIXTURES FREE FROM INJURY OR DAMAGE. ANY WORK DAMAGED BY FAILURE TO PROVIDE PROTECTION REQUIRED, SHALL BE REMOVED AND REPLACED WITH NEW WORK AT THE CONTRACTOR'S EXPENSE.

5. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE SAFETY OF HIS WORKERS, ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES FOR COORDINATING THE WORK UNDER THIS CONTRACT. CONFORM TO ALL GENERAL AND SPECIAL CONDITIONS OF CONTRACT AS SPECIFIED BY ARCHITECT AND/OR OWNER.

6. IN CASES OF DOUBT AS TO THE WORK INTENDED, OR IN THE EVENT OF NEED FOR EXPLANATION THEREOF, THE CONTRACTOR SHALL REQUEST SUPPLEMENTARY INSTRUCTIONS FROM THE ENGINEER. NO CHANGES ARE TO BE MADE TO THE WORK OF THIS CONTRACT WITHOUT PRIOR KNOWLEDGE AND APPROVAL OF THE ENGINEER. THE CONTRACTOR SHALL HOLD THE OWNER AND ITS CONSULTANTS HARMLESS AGAINST ALL CLAIMS AND JUDGMENTS ARISING OUT OF THE CONTRACTORS PERFORMANCE OF THE WORK OF THIS CONTRACT. THE CONTRACTOR SHALL NOT PROCEED WITH ANY WORK, WHICH HE EXPECTS ADDITIONAL COMPENSATION BEYOND THE CONTRACT AMOUNT, WITHOUT WRITTEN AUTHORIZATION FROM THE APPROPRIATE AUTHORITY. FAILURE TO OSTAIN SUCH AUTHORIZATION SHALL INVALIDATE ANY CLAIM FOR EXTRA COMPENSATION.

7. IT SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR TO INSTALL THE PLUMBING SYSTEM SO AS TO INSURE QUIET OPERATION. NO VIBRATION OR SOUND SHALL BE TRANSMITTED TO THE BUILDING, STRUCTURE OR OCCUPIED AREAS. THE DECISION OF THE ENGINEER AS TO THE QUIETNESS OF THE SYSTEM AND EQUIPMENT SHALL BE FINAL. IT SHALL BE THIS CONTRACTORS RESPONSIBILITY TO CORRECT OR REPLACE ANY NOISY SYSTEM OR EQUIPMENT AS REQUIRED.

MISCELLANEOUS EQUIPMENT SCHEDULE (BASIS OF DESIGN)

TRAP PRIMER VALVE - TP-1: PRECISION PLUMBING PRODUCTS MODEL# P2-500 TRAP PRIMER VALVE; TRAP PRIMER VALVE TRAP PRIMER VAL

TRAP PRIMER VALVE - TP-2: PRECISION PLUMBING PRODUCTS MODEL# PI-500 TRAP PRIMER VALVE WITH DISTRIBUTION CUP: TRAP PRIMER VALVE SHALL BE INSTALLED IN AREAS SERVED BY A MULTIPLE FLOOR DRAINS AS SHOWN ON DRAWINGS

		2	***	NSULATION THIC	KNESS (INCHES)	
SYSTEM OR SERVICE	FLUID TEMPERATURE RANGE (DEG F)	INSULATION TYPE	············	PIPE SIZE	(INCHES)	
JERY OL	14 11022 (2520)		1/2" TO \$-1/4"	1-1/2" TO 4"	4" 70 8"	> 8*
DOMESTIC HOT WATER AND HOT WATER CIRCULATION	105 10 140	MINERAL FIBER	1"	1-1/2"	1-1/2"	1-1/2
DOMESTIC COLD WATER	35 TO 104	MINERAL FIBER	1"	• • • • • • • • • • • • • • • • • • • •	* =	1-1/2

NOTES:

- 1. NOT ALL PIPE SIZES LISTED ARE USED ON PROJECT.
- 2. SIZES LISTED ARE BASED UPON ASHRAE STANDARD 90.1-2010 TABLE 6.8.3A.
- 3. ALL PIPING INSULATION SHALL HAVE A MAXIMUM THERMAL CONDUCTIVITY FACTOR (K) OF 0.27 BTU'IN/HR'FT2°F. ADHESIVE SYSTEMS THAT EMPLOY RELEASE PAPER WILL NOT BE ACCEPTABLE.

	SHOCK ARR	ESTOR SCHE	DULE
DESG.	W.5.F.U.'S	CONN. SIZE	MODEL NO. (BASIS OF DESIGN)
A	1 TO fi	1/2	500A
8	12 10 32	3/4"	7508
C	33 TO 60	\$ r	10000
D	61 TO 113	Post of the Post o	1250D

NOTES:

- 1, W.S.F.U. COUNT BASED UPON PLUMBING DRAINAGE INSTITUTE (PDI)
 STANDARD PDI-WH 201.
- 2. MODEL NUMBERS BASED ON PRECISION PLUMBING PRODUCTS PISTON
- TYPE ARRESTORS.
- 3. NOT ALL MODEL #'S LISTED ARE USED ON PROJECT. REFER TO
- FLOOR PLANS FOR LOCATIONS AND SIZES USED.

ITEM	MECH/ DIV 22 AND 23	ELEC/ DIV 26
AUTOMATIC TEMPERATURE CONTROLS	FURNISH, INSTALL & WRE	POWER WIRE
CONTROL PANELS FOR MECHANICAL EQUIPMENT	FURNISH & INSTALL	POWER WIRE
LOW VOLTAGE CONTROL WIRING FOR MECH EQUIP.	FURNISH & INSTALL	
LINE VOLTAGE CONTROL WIRING FOR MECH. EQUIP.	FURNISH, INSTALL & WIRE	
MECHANICAL FLOW SWITCHES	FURNISH, INSTALL & WIRE	***************************************
THERMOSTATS/ SENSORS	FURNISH, INSTALL & WIRE	
P/E & E/P SWITCHES	FURNISH, INSTALL & WIRE	
DISCONNECT SWITCHES FOR MECHANICAL EQUIPMENT	FURNISH & INSTALL	POWER WIRE
MECHANICAL EQUIPMENT MONITORS	FURNISH & INSTALL	POWER WIRE
MANUAL STARTERS FOR MECHANICAL EQUIPMENT	FURNISH & INSTALL	POWER WIRE
MAGNETIC STARTERS FOR MECHANICAL EQUIPMENT	FURNISH	INSTALL & POWER WIRE
MOTOR CONTROL CENTERS	CONTROL WIRING	FURNISH, INSTALL & POWER WIRE
VARIABLE SPEED CONTROLLERS	FURNISH & INSTALL	POWER WIRE
MOTORIZED DAMPERS & VALVES	FURNISH, INSTALL & WIRE	
DUCT SMOKE DETECTORS	INSTALL	FURNISH & WIRE
HEAT TRACE CABLE FOR PIPING	FURNISH & INSTALL	POWER WIRE
OIL/ GAS EMERGENCY SHUT-OFF SWITCHES		FURNISH, INSTALL & POWER WIRE
SPRINKLER FLOW & TAMPER SWITCHES	BY SPRINKLER CONTRACTOR	WRE

		ON TANK SCHEDULE	(BASIS OF DESIGN))	
DESIGNATION	DESCRIPTION	MANUFACTURER / MODEL#	LOCATION	TANK SIZE	Remarks
<u>EXP-1</u>	DOMESTIC HOT WATER EXPANSION TANK	AMTROL / ST-5	MECHANICAL ROOM	2 GALLON	1, 2

REMARKS:

- 1. MAXIMUM WORKING PRESSURE 150 PSIG.
- 2. MAXIMUM SYSTEM TEMPERATURE 140°F

					PLI	JMBING FIXT	URE SCHEDULE (BA	SIS OF D	<u>ESIGN)</u>			
ESIGNATION	FIXTURE TYPE	C.W.	H.W.	WASTE	MANUFACTURER	MODEL NO.	TRIM	DRAIN	TRAP	SUPPLY	ACCESSORES	REMARKS
1-1A	LAVATORY - ADA	1/2"	1/2*	1-1/4°	KOHLER	K-1728	K-7305-5A	K-7731-A	K-8998	RIGID CONNECTIONS W/ WHEEL HANDLES	ASSE 1070 MV	1, 2, 3, 4
WC-1A	WATER GLOSET - ADA	1/2"	-	3"	KOHLER	K-3493 / K-3493-RA	-	-	۲	- -	BEMIS 1955SSTFR SEAT	1, 2, 4, 5, 6
EW-1	EMER. SHOWER W/ EYE & FACE WASH	1*	1"	1-1/4*	SPEAKMAN	SE-603	-	*	•	1-1/4" TEMPERED WATER INLET	SPEAKMAN SE-350 MV CONFORMING TO ASSE 1071	1, 4
<u>K\$-1</u>	BREAKROOM SINK	1/2"	1/2"	1-1/2*	ELKAY	LRADQ252155-3	LK100	LK35	CHROME PLATED W/ CLEAN OUT PLUG	RIGID CONNECTIONS W/ WHEEL HANDLES	-	1, 4
<u>L5-1</u>	LAB SINK	1/2"	1/2*	1-1/2*	LAB DESIGN & SUPPLY	W31481-000	WATER SAVER L611VB-BH	GRID STRAINER	ZURN Z1180	RIGID CONNECTIONS W/ WHEEL HANDLES	*	1,4
<u>M-1</u>	ICE MAKER SUPPLY	1/2"	-	-	WATER TITE	AB9700HA		•	-	•		1
<u>9-1A</u>	SHOWER - ADA	1/2"	1/2"	2°	FREEDOM SHOWERS	APF3838BF4.5	SPEAKMAN SM-3080-ADA	ZURN FD2260	-	*	ASSE 1016 MV INCLUDED W/ SHOWER HEAD PACKAGE; GRAB BARS, WEIGHTED SHOWER CURTAIN AND ROD, AND COLLAPSIBLE WATER RETAINER	1, 2, 4
MS-1	MOP SINK	1/2"	1/2"	3"	FAT	T583010	832-AA / 830-AA	-	_	-	889-CC / M5G2424	1, 4
<u>HB-1</u>	HOSE BIB - EXTERIOR	3/4"	_	-	PRIER	C-634	÷	-	-	*	*	1
<u>FD-1</u>	FLOOR DRAIN	*	-	3"	ZURN	Z4158-P-V	HEEL PROOF GRATE	-	-	*	INTEGRAL BACK WATER VALVE & TRAP PRIMER CONNECTION	1, 4
<u>FD-2</u>	FLOOR DRAIN	<u> </u>	-	4*	ZURN	Z415B-P-V	HEEL PROOF GRATE	-	-	-	INTEGRAL BACK WATER VALVE & TRAP PRIMER CONNECTION	1, 4

REMARKS

- 1. PROVIDE ALL REQUIRED COMPONENTS FOR COMPLETE FIXTURE ROUGH-IN, I.E., SUPPLIES, STOPS, TRAPS, CARRIERS, GRID DRAINS, TAILPIECES, ETC. NOT ALL REQUIRED COMPONENTS ARE SPECIFIED ABOVE. CARRIERS FOR LAVATORIES AND WATER CLOSETS SHALL COMPLY WITH ANSI STANDARD A112.6.1M AND PLUMBING DRAIN INSTITUTE (PDI) ARTICLE "MINIMUM SPACE REQUIREMENTS FOR ENCLOSED PLUMBING FIXTURE SUPPORTS."
- 2. FIXTURES SHALL BE ADA COMPLIANT, PROVIDED WITH ADA COMPLIANT ACCESSORIES. MOUNT ADA COMPLIANT. SEE ARCHITECTURAL PLANS FOR ELEVATIONS.
- 3. PROVIDE SKAL+GUARD INSULATING DEVICES ON EXPOSED UNDER-COUNTER PLUMBING.
- 4. REFER TO RISER DIAGRAM FOR VENT PIPE SIZES AND CONNECTIONS.
- 5. COORDINATE ADA GRAB BAR INSTALLATION WITH WATER CLOSET ROUGH-IN. ADA GRAB BARS SHALL NOT INTERFERE WITH USE AND MAINTENANCE OF WATER CLOSET TANK. PORVIDE EXTENSIONS AS REQUIRED.
- 6. COORDINATE WATER CLOSET MODEL NUMBER WITH ROUGH-IN ORIENTATION, TANK LEVER SHALL BE INSTALLED ON THE OPEN/APPROACH SIDE OF FIXTURE,

**************************************			GAS WATER H	EATER SCHEDU	LE (BASIS OF D	ESIGN)				
DESIGNATION	DESCRIPTION	MANUFACTURER / MODEL#	LOCATION	STORAGE VOLUME	GPH RECOVERY AT 100 DEG. F RISE	PROPANE GAS INPUT IN MBH	VOLTAGE	EFFICIENCY	FLUE SIZE AND TYPE	REMARKS
<u>WH-1</u>	GAS FIRED WATER HEATER	STATE / SUF60-120NE PROPANE	MECHANICAL ROOM	60 GALLONS	138	120	120V/1Ø	MAX. 95%	REFER TO MECH. DRAWINGS	1, 2, 3, 4, 5, 6

REMARKS:

- 1. PROVIDE EXPANSION TANK. REFER TO EXPANSION TANK SCHEDULE ON THIS DRAWING.
- 2. PROVIDE HEAT TRAPS ON WATER HEATER(S).
- 3. DISCONNECTS BY PLUMBING CONTRACTOR; WIRED BY ELECTRICAL CONTRACTOR.
- 4. PROVIDE CONDENSATE NEUTRALIZATION MODEL# 9007959005.
- 5. PROVIDE VENT TERMINATION KIT MODEL# 9006328005.
- 6. REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR FURTHER INSTALLATION REQUIREMENTS.

V IW WR G D IV IV	COLD WATER PIPING HOT WATER PIPING HOT WATER RETURN PIPING GAS PIPING CONDENSATE DRAIN PIPING PIPING ROUTED UNDER SLAB / GROUND PIPE UP PIPE DOWN PIPE TEE DOWN CAPPED PIPE PIPE UNION BALL VALVE OR SHUTOFF VALVE BALL VALVE OR SHUTOFF VALVE IN RISE GAS COCK MIXING VALVE VACUUM RELIEF VALVE CHECK VALVE CHECK VALVE TYPE STRAINER
WR G D N N N N N N N N N N N N N N N N N N	HOT WATER PIPING HOT WATER RETURN PIPING GAS PIPING CONDENSATE DRAIN PIPING PIPING ROUTED UNDER SLAB / GROUND PIPE UP PIPE DOWN CAPPED PIPE PIPE UNION BALL VALVE OR SHUTOFF VALVE BALL VALVE OR SHUTOFF VALVE IN RISE GAS COCK MIXING VALVE VACUUM RELIEF VALVE BALANCING VALVE CHECK VALVE
WR G D TV	HOT WATER RETURN PIPING GAS PIPING CONDENSATE DRAIN PIPING PIPING ROUTED UNDER SLAB / GROUND PIPE UP PIPE DOWN PIPE TEE DOWN CAPPED PIPE PIPE UNION BALL VALVE OR SHUTOFF VALVE IN RISE GAS COCK MIXING VALVE VACUUM RELIEF VALVE BALANCING VALVE CHECK VALVE
G D N	GAS PIPING CONDENSATE DRAIN PIPING PIPING ROUTED UNDER SLAB / GROUND PIPE UP PIPE DOWN PIPE TEE DOWN CAPPED PIPE PIPE UNION BALL VALVE OR SHUTOFF VALVE BALL VALVE OR SHUTOFF VALVE IN RISE GAS COCK MIXING VALVE VACUUM RELIEF VALVE BALANCING VALVE CHECK VALVE
1V	CONDENSATE DRAIN PIPING PIPING ROUTED UNDER SLAB / GROUND PIPE UP PIPE DOWN CAPPED PIPE PIPE UNION BALL VALVE OR SHUTOFF VALVE BALL VALVE OR SHUTOFF VALVE IN RISE GAS COCK MIXING VALVE VACUUM RELIEF VALVE BALANCING VALVE CHECK VALVE
1V	CONDENSATE DRAIN PIPING PIPING ROUTED UNDER SLAB / GROUND PIPE UP PIPE DOWN CAPPED PIPE PIPE UNION BALL VALVE OR SHUTOFF VALVE BALL VALVE OR SHUTOFF VALVE IN RISE GAS COCK MIXING VALVE VACUUM RELIEF VALVE BALANCING VALVE CHECK VALVE
1V	PIPING ROUTED UNDER SLAB / GROUND PIPE UP PIPE DOWN CAPPED PIPE PIPE UNION BALL VALVE OR SHUTOFF VALVE BALL VALVE OR SHUTOFF VALVE IN RISE GAS COCK MIXING VALVE VACUUM RELIEF VALVE BALANCING VALVE CHECK VALVE
3V 2V	PIPE UP PIPE DOWN PIPE TEE DOWN CAPPED PIPE PIPE UNION BALL VALVE OR SHUTOFF VALVE BALL VALVE OR SHUTOFF VALVE IN RISE GAS COCK MIXING VALVE VACUUM RELIEF VALVE BALANCING VALVE CHECK VALVE
3V 2V	PIPE DOWN CAPPED PIPE PIPE UNION BALL VALVE OR SHUTOFF VALVE BALL VALVE OR SHUTOFF VALVE IN RISE GAS COCK MIXING VALVE VACUUM RELIEF VALVE BALANCING VALVE CHECK VALVE
3V 2V	PIPE TEE DOWN CAPPED PIPE PIPE UNION BALL VALVE OR SHUTOFF VALVE BALL VALVE OR SHUTOFF VALVE IN RISE GAS COCK MIXING VALVE VACUUM RELIEF VALVE BALANCING VALVE CHECK VALVE
3V 2V	CAPPED PIPE PIPE UNION BALL VALVE OR SHUTOFF VALVE BALL VALVE OR SHUTOFF VALVE IN RISE GAS COCK MIXING VALVE VACUUM RELIEF VALVE BALANCING VALVE CHECK VALVE
3V 2V	PIPE UNION BALL VALVE OR SHUTOFF VALVE BALL VALVE OR SHUTOFF VALVE IN RISE GAS COCK MIXING VALVE VACUUM RELIEF VALVE BALANCING VALVE CHECK VALVE
3V 2V	BALL VALVE OR SHUTOFF VALVE IN RISE GAS COCK MIXING VALVE VACUUM RELIEF VALVE BALANCING VALVE CHECK VALVE
3V 2V	BALL VALVE OR SHUTOFF VALVE IN RISE GAS COCK MIXING VALVE VACUUM RELIEF VALVE BALANCING VALVE CHECK VALVE
3V 2V	GAS COCK MIXING VALVE VACUUM RELIEF VALVE BALANCING VALVE CHECK VALVE
3V 2V	MIXING VALVE VACUUM RELIEF VALVE BALANCING VALVE CHECK VALVE
3V 2V	VACUUM RELIEF VALVE BALANCING VALVE CHECK VALVE
V	BALANCING VALVE CHECK VALVE
V	CHECK VALVE
THE PERSON NAMED IN COLUMN NAM	
787	Y TYPE STRAINER
TRV	
,, T. F	PRESSURE AND/OR TEMPERATURE RELIEF VALVE
FP F	BACK FLOW PREVENTER
	HOSE BIB OR HOSE END DRAIN VALVE
22.2	HOSE BIB, EXTERNAL DOMESTIC SHOCK ABSORBER WATER HAMMER
	ARRESTER: TEXT DENOTES SIZE (PDI: A ~ F)
20	CLEAN OUT, FLOOR
0	CLEAN OUT, EXPOSED
- Culling	FLOOR DRAIN; OPEN SITE DRAIN
-	FLOOR DRAIN WITH TRAP PRIMER
m	INVERT ELEVATION B.F.F. (IN FEET)
	DRAWING NOTE
	REVISION NUMBER
	INCHES WATER COLUMN
····	UNLESS NOTED OTHERWISE GREASE WASTE DRAIN LINE
	FLOOR CLEAN OUT
co	WALL CLEAN OUT
лв	CLEAN OUT TO GRADE
	ABOVE FINISHED FLOOR ELEVATION
	BELOW PINISHED FLOOR ELEVATION
	VENT THROUGH ROOF TERMINATION
	EXISTING TO REMAIN
72. A	TO BE DEMOLISHED TO BE RELOCATED
	VO

PLUMBING LEGEND

ABRY. DESCRIPTION

SAN., W. SANITARY PIPING

SYMBOL



Allen & Shariff Engineering, LLC 205 East Market Street Salisbury, Maryland 21801 Tel: 410.341.0200

PROFESSIONAL CERTIFICATION 1
HERBBY CHRTS Y THAT THESE
DOCUMENTS WISHE PREPARED OR
APPROVED BY ME, AND THAT I AM
A DELY INCENSED PROFESSIONAL
ENGINEER CHOSEN THE CAVIS OF
THE STATE OF MARYL AND
UCENSE NUMBER 20745
EXPIRATION DATE: 22/92/2618

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NEW CONSTRUCTION FOR:

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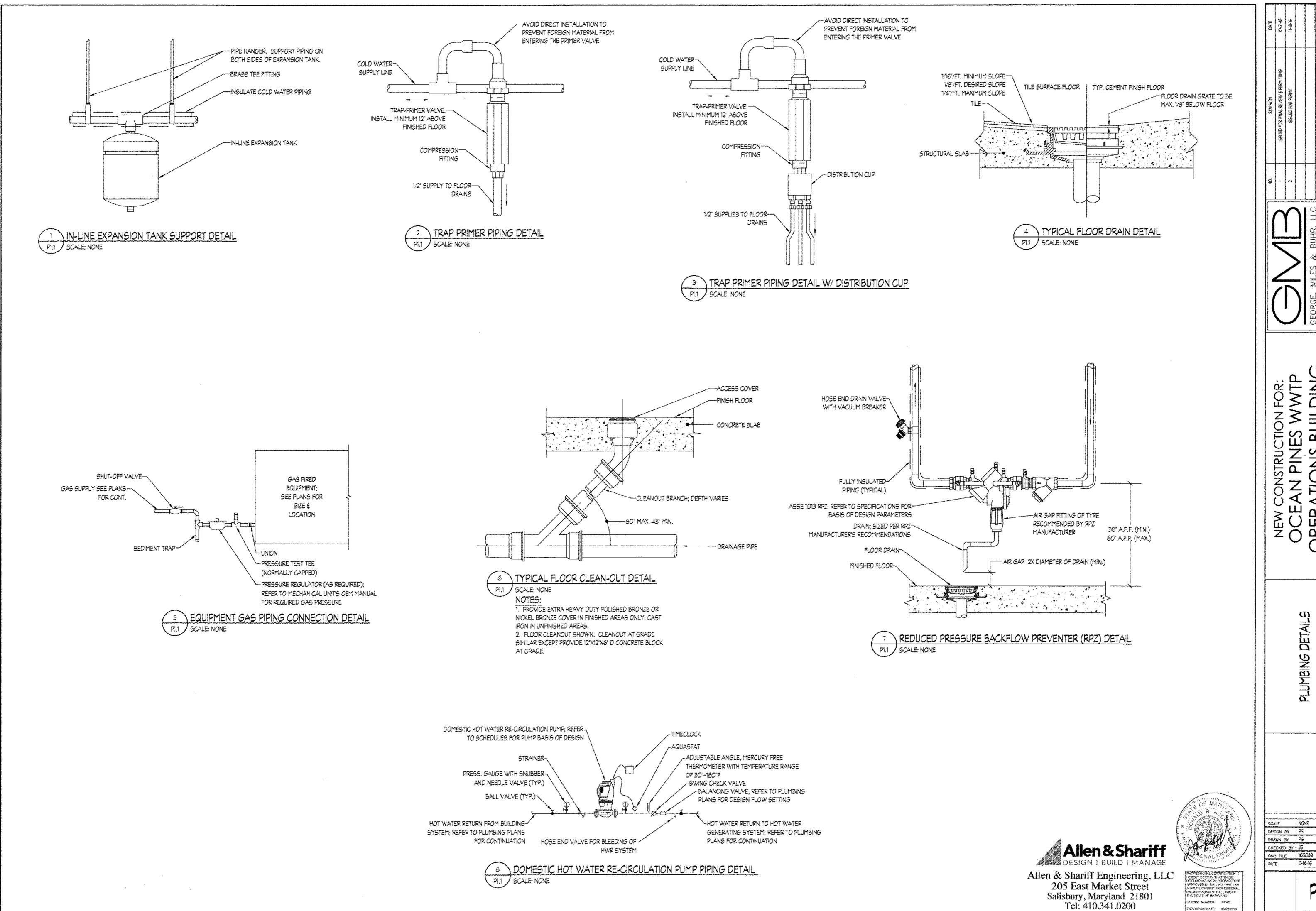
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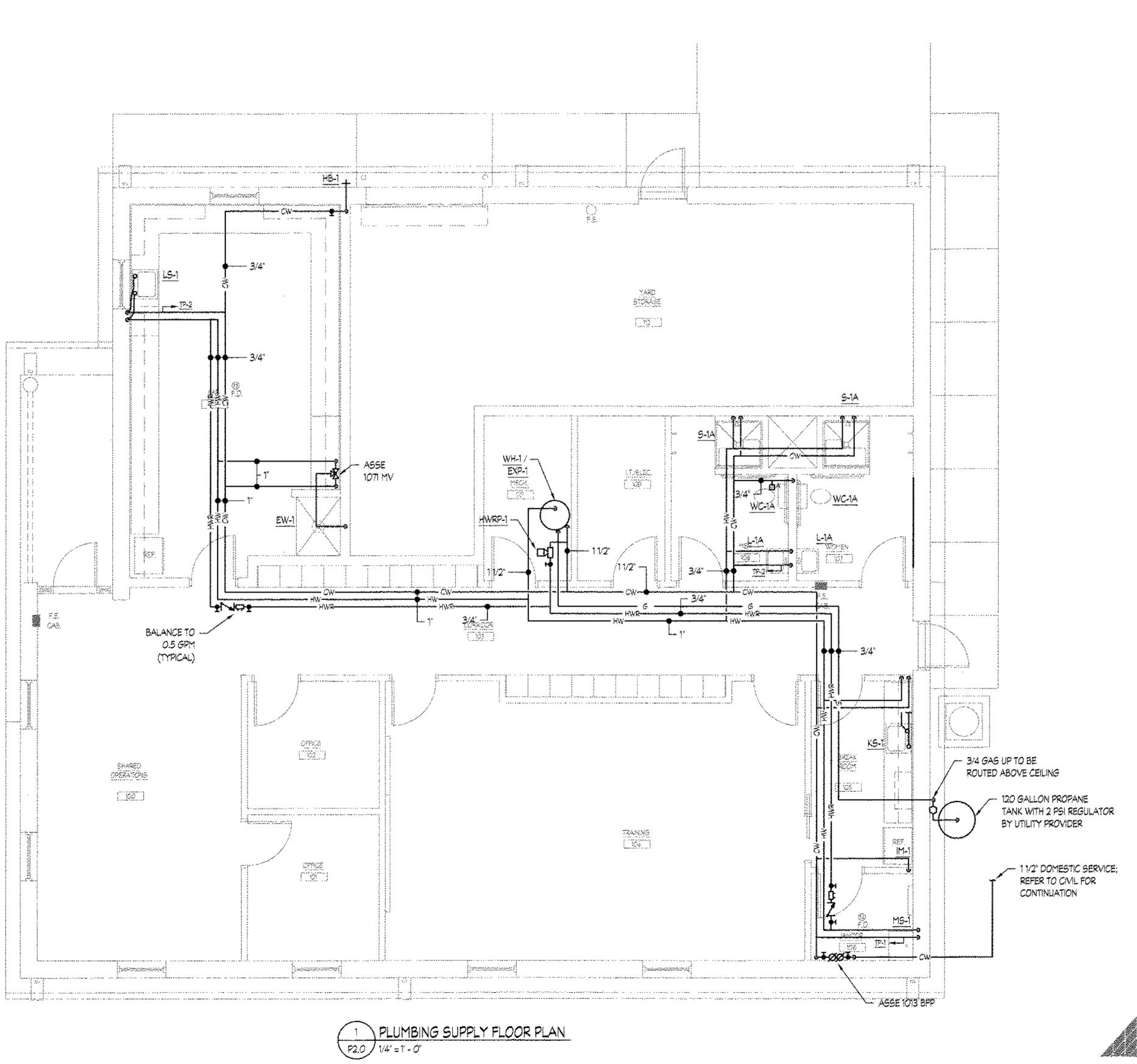
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DESIGN | BUILD | MANAGE

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PROTESSIONAL CERTIFICATOR I IMPREY CERTIFY THAT THESE OCCUMENTS WETH PREPARED OR ATTENDED TO ME, AND THAT I AND ATTENDED PROFESSIONAL ENTENESS UNION THE LAWS OF THE STATE OF MARYLAND.

SCALE : \$40 = \$ - 57

DESIGN BY : PG

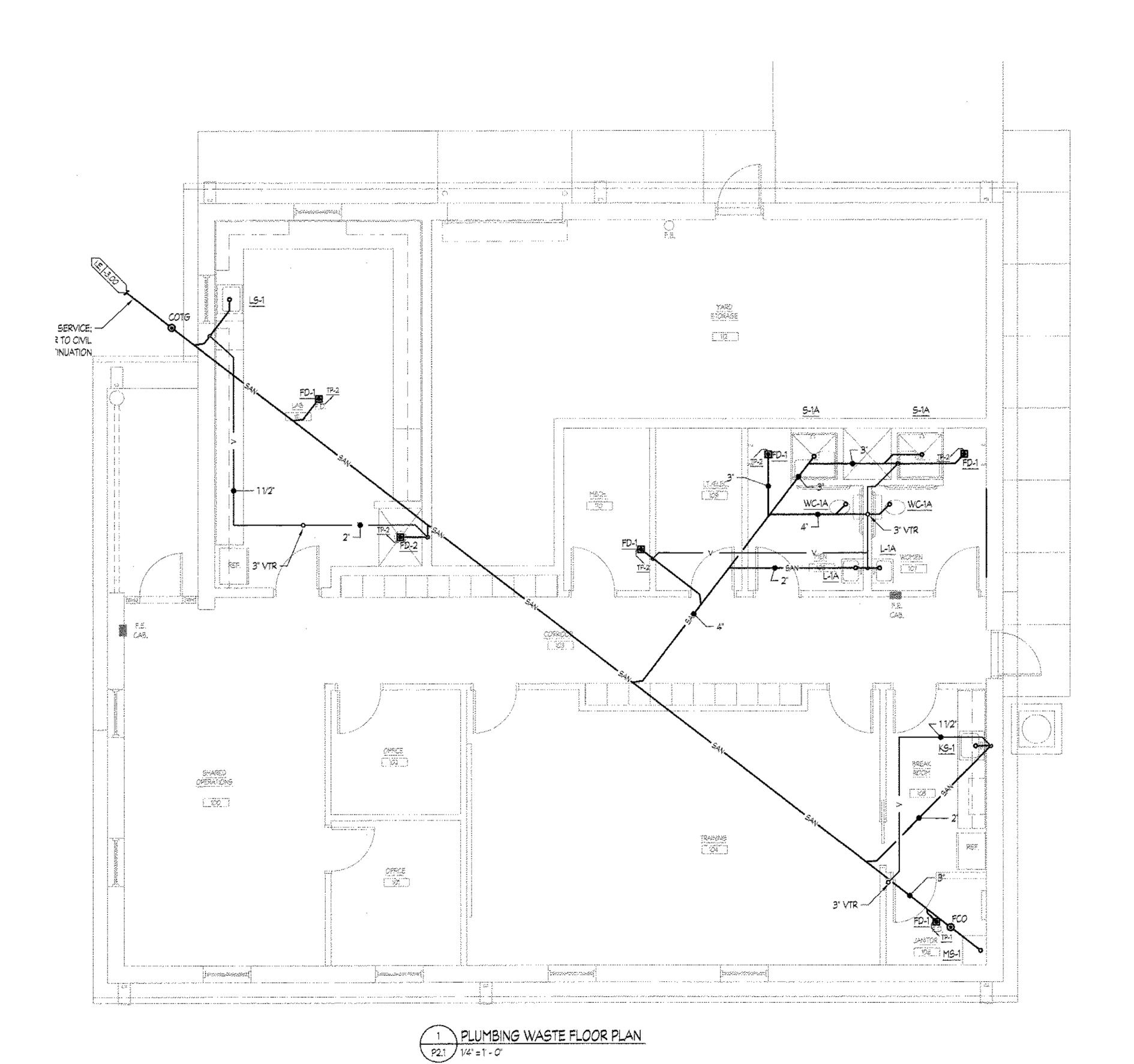
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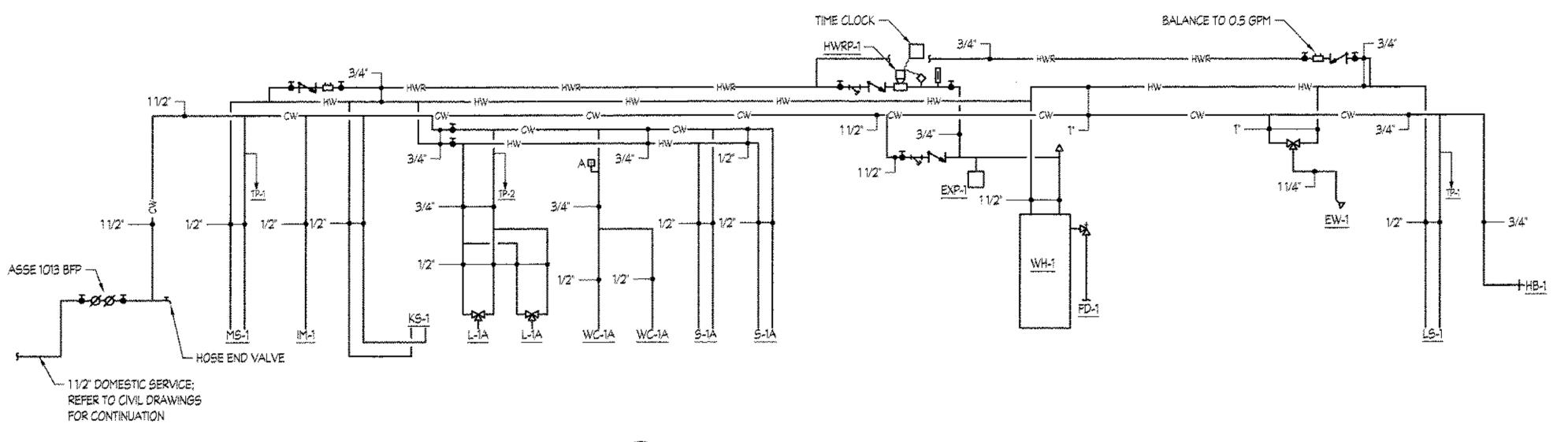




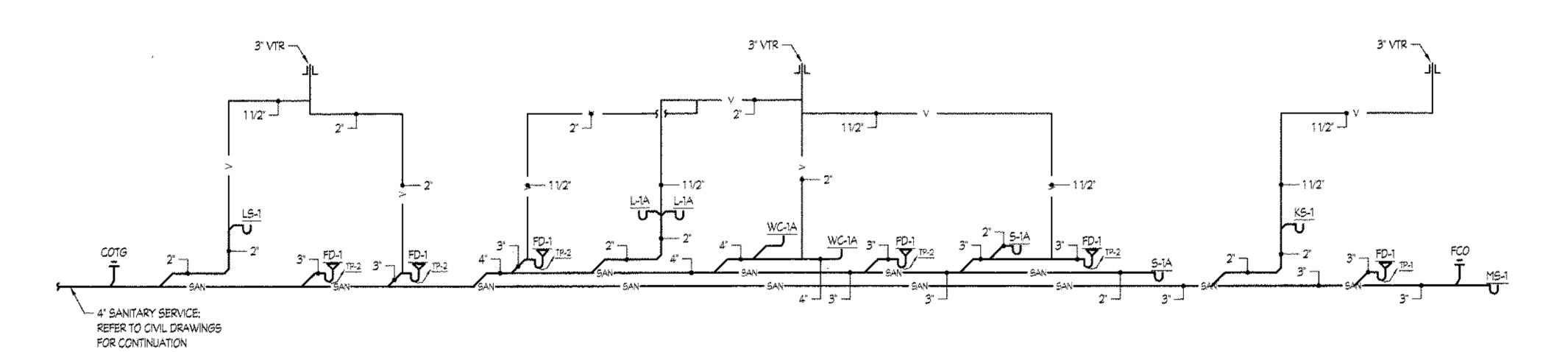
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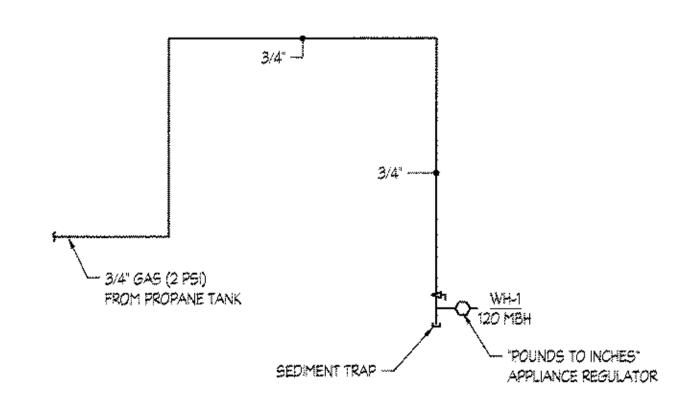
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PS.0 PLUMBING SUPPLY RISER DIAGRAM NONE W.S.F.U.'S = 21



2 PLUMBING WASTE RISER DIAGRAM P3.0 NONE D.F.U.'S = 21



3 PROPANE GAS RISER DIAGRAM P3.0 NONE NOTES:

1. GAS LOAD; 120 MBH AT 250' MAXIMUM EQUIVALENT LENGTH. 2. GAS PIPE SIZING BASED ON 6.3(c) SCHEDULE 40 METALLIC PIPE WITH AN INLET PRESSURE OF 2 PSI. 3. REFER TO DETAIL 5/PI.2 FOR FURTHER CONNECTION REQUIREMENTS.



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PROFESSIONAL CERTIFICATION :
HERSEY CERTIFY THAT THESE
DOCUMENTS WERE PREPARED OR
AFFROMED BY ME, AND THAT I AN
A FULLY SUCCESSED PROFESSIONAL
EMORETE UNDER THE LAWS OF
THE STATE OF MARYYLAND CICENSE NUMBER: 36745

P3.0

SCALE NONE

design by : PG drawn by : PG

GMS FILE : \$60049

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CHECKED BY: 35

PLUMBING RISERS

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ELECTRICAL NOTES

- 1. ALL WORK AND EQUIPMENT SHALL COMPLY WITH ALL APPLICABLE LAWS, CODES, ETC., OF ALL AUTHORITIES HAVING JURISDICTION, INCLUDING BUT NOT LIMITED TO: THE INTERNATIONAL MECHANICAL CODE, THE LOCAL FIRE MARSHAL, UNDERWRITERS LABORATORY (UL), IRI, FM, OSHA, AND THE NATIONAL ELECTRICAL CODE (NEC). MODIFICATIONS REQUIRED BY THE ABOVE SAID AUTHORITIES TO BRING THE SPACE UNDER CONTRACT UP TO CODE SHALL BE MADE WITHOUT ADDITIONAL CHARGE. WHERE CONTRACT DOCUMENT REQUIREMENTS ARE IN EXCESS OF CODE REQUIREMENTS, THE CONTRACT DOCUMENTS SHALL GOVERN, DEVIATIONS FROM THE CONTRACT DOCUMENTS REQUIRED BY THE ABOVE AUTHORITIES SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW,
- 2. ALL SPECIFICATIONS AND DRAWINGS, I.E., ARCHITECTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL ARE COMPLIMENTARY AND MUST BE USED IN COMBINATION TO OBTAIN COMPLETE CONSTRUCTION INFORMATION, ANY INFORMATION CONFLICTS WITHIN THE SPECIFICATIONS AND DRAWINGS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION, ELECTRICAL DRAWINGS ARE DIAGRAMMATIC. THEY ARE INTENDED TO SHOW THE APPROXIMATE LOCATIONS OF EQUIPMENT AND CONDUIT. THE ELECTRICAL CONTRACTOR SHALL LAYOUT ALL EQUIPMENT ROOMS TO MAKE SURE THE EQUIPMENT FITS IN THE ROOM OR SPACE SHOWN AND HAS ALL CLEARANCES REQUIRED BY THE NEC, PRIOR TO ORDER. EXACT LOCATION OF ALL EQUIPMENT SHALL BE VERIFIED IN THE FIELD AND ROUTING OF CONDUITS SHALL SUIT FIELD CONDITIONS.
- 3. WORK SHALL BE EXECUTED IN A GOOD WORKMANLIKE MANNER USING MECHANICS SKILLED IN THEIR RESPECTIVE TRADES. ALL EQUIPMENT AND MATERIALS SHALL BE NEW, FREE OF DEFECTS. SYSTEMS ARE TO BE COMPLETE AND WORKABLE IN ALL RESPECTS, PLACED IN OPERATION AND PROPERLY ADJUSTED.
- 4. MAINTAIN THE CONSTRUCTION PREMISES IN A NEAT AND ORDERLY CONDITION AT THE END OF EACH WORKING DAY, CLEAN UP, REMOVE AND LEGALLY DISPOSE OF ALL RUBBISH DAILY, CONTRACTOR SHALL PROTECT THEIR WORK AND EXISTING OR ADJACENT PROPERTY AGAINST WEATHER, TO MAINTAIN THEIR WORK, MATERIALS, APPARATUS AND FIXTURES FREE FROM INJURY OR DAMAGE. ANY WORK DAMAGED BY FAILURE TO PROVIDE PROTECTION REQUIRED, SHALL BE REMOVED AND REPLACED WITH NEW WORK AT THE CONTRACTOR'S EXPENSE.
- 5. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE SAFETY OF HIS WORKERS, ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES FOR COORDINATING THE WORK UNDER THIS CONTRACT. CONFORM TO ALL GENERAL AND SPECIAL CONDITIONS OF CONTRACT AS SPECIFIED BY ARCHITECT AND/OR
- 6. IN CASES OF DOUBT AS TO THE WORK INTENDED, OR IN THE EVENT OF NEED FOR EXPLANATION THEREOF, THE CONTRACTOR SHALL REQUEST SUPPLEMENTARY INSTRUCTIONS FROM THE ENGINEER. NO CHANGES ARE TO BE MADE TO THE WORK OF THIS CONTRACT WITHOUT PRIOR KNOWLEDGE AND APPROVAL OF THE ENGINEER. THE CONTRACTOR SHALL HOLD THE OWNER AND ITS CONSULTANTS HARMLESS AGAINST ALL CLAIMS AND JUDGMENTS ARISING OUT OF THE CONTRACTORS PERFORMANCE OF THE WORK OF THIS CONTRACT, THE CONTRACTOR SHALL NOT PROCEED WITH ANY WORK, WHICH HE EXPECTS ADDITIONAL COMPENSATION BEYOND THE CONTRACT AMOUNT, WITHOUT WRITTEN AUTHORIZATION FROM THE APPROPRIATE AUTHORITY, FAILURE TO OSTAIN SUCH AUTHORIZATION SHALL INVALIDATE ANY CLAIM FOR EXTRA COMPENSATION.
- -7. ALL PRODUCTS SHALL COMPLY WITH 25/50 FLAME AND SMOKE HAZARD RATINGS PER ASTM E-84, NEPA 255 AND UL 723.
- 8. IT SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR TO INSTALL ALL ELECTRICAL FIXTURES AND EQUIPMENT AS TO INSURE QUIET OPERATION. NO VIBRATION OR SOUND SHALL BE TRANSMITTED TO THE BUILDING, STRUCTURE OR OCCUPIED AREAS. THE DECISION OF THE ENGINEER AS TO THE QUIETNESS OF THE SYSTEM AND EQUIPMENT SHALL BE FINAL. IT SHALL BE THIS CONTRACTORS RESPONSIBILITY TO CORRECT OR REPLACE ANY NOISY FIXTURES. OR EQUIPMENT AS REQUIRED.

WORK IN EXISTING BUILDINGS

射熱性 医精膜性性 化自动物 医内侧透射液体内特性的 医皮肤 医皮肤 医皮肤 蒙特的 人名阿尔 医牙孔 医皮肤

- 1. EXISTING BUILDING IS TO REMAIN OCCUPIED AND ACCESSIBLE AT ALL TIMES. PROTECT THE BUILDING PREMISES AND ALL OCCUPANTS ON THE PROJECT SITE. THE CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGES CAUSED BY IMPROPER PROTECTION AND SHALL MAKE ALL NECESSARY REPLACEMENTS OR REPAIRS AT NO ADDITIONAL COST. MAKE ALL ARRANGEMENTS, MAINTAIN AND PAY ALL COSTS FOR TEMPORARY WATER, PLUMBING, POWER, LIGHTING, AND HEATING OR VENTILATION AS REQUIRED TO PROPERLY CONDUCT THE WORK OF THIS CONTRACT AND MAINTAIN SERVICES. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN FOR THE ENTIRE LENGTH OF THIS CONTRACT ALL EXITS. EXIT LIGHTING. FIRE PROTECTION DEVICES AND ALARMS TO CONFORM TO LOCAL BUILDING CODE REQUIREMENTS.
- 2. VERIFY POINTS OF CONNECTION BEFORE COMMENCING WORK, COORDINATE WORK WITH EXISTING WORK AND OTHER TRADES, REMOVE WASTE MATERIALS, DEBRIS, AND RUBBISH FROM SITE AND LEGALLY DISPOSE OF IT. THE OWNER HAS THE RIGHT OF FIRST REFUSAL ON EQUIPMENT, FIXTURES, DEVICES, ETC., REMOVED AND NOT REINSTALLED. DELIVER TO THE OWNER, AT THE OWNER'S DESIGNATED LOCATION, ITEMS ACCEPTED BY THE OWNER. DISPOSE OF IN A LEGAL MANNER ITEMS REJECTED BY THE OWNER.
- 3. EXISTING EQUIPMENT TO REMAIN OR TO BE RELOCATED WITHIN OR SERVING THE RENOVATED SPACE, WHICH IS DAMAGED OR DOES NOT COMPLY WITH THE SPECIFICATIONS, SHALL BE RESTORED TO LIKE NEW CONDITION SUBJECT TO REVIEW BY THE ARCHITECT AND ENGINEER. EQUIPMENT THAT CANNOT BE REPAIRED SHALL BE REPLACED WITH NEW MATERIALS MEETING THE SPECIFICATION REQUIREMENTS. CLEAN, REPAIR, AND RE-LAMP LIGHT FIXTURES THAT ARE TO BE REUSED. THE CONTRACTOR SHALL NOT PROCEED WITH ANY WORK, WHICH HE EXPECTS ADDITIONAL COMPENSATION BEYOND THE CONTRACT AMOUNT, WITHOUT WRITTEN AUTHORIZATION FROM THE APPROPRIATE AUTHORITY. FAILURE TO OBTAIN SUCH AUTHORIZATION SHALL INVALIDATE ANY CLAIM FOR EXTRA COMPENSATION.
- 4. SOME WORK SHOWN MAY REQUIRE PREMIUM TIME INCLUDING NOISE PRODUCING ACTIVITIES, ACCESS INTO ADJOINING SPACES & ACTIVITIES DISRUPTING MEP SERVICES, CONFIRM THE REQUIREMENTS FOR PREMIUM TIME OR SPECIAL PROCEDURES WITH THE OWNER/LANDLORD AND INCLUDE THE COST IN BID PROPOSAL, WORK RELATED TO THE EXISTING BUILDING SHALL BE COORDINATED TO MINIMIZE INTERFERENCE OR INTERRUPTION OF NORMAL BUILDING USE BY OWNER. REFER TO ARCHITECTURAL PLANS FOR ANY PHASING REQUIREMENTS, ARRANGE FOR AND OBTAIN OWNER'S PERMISSION FOR ANY SERVICE SHUTDOWNS.
- 5. THE CONTRACTOR, BY SUBMITTING THEIR BID PROPOSAL AGREES TO ACCEPT ALL EXISTING SITE CONDITIONS NOT SPECIFICALLY EXPECTED. ALL EXCEPTIONS SHALL BE PROVIDED IN WRITING TO THE ARCHITECT AND ENGINEER.

- 6. WHERE EXISTING PANELBOARDS ARE INDICATED TO BE REUSED, PROVIDE NEW CBIS AS REQUIRED FOR NEW BRANCH CIRCUITING SHOWN, NEW PANELBOARDS SHALL BE SQUARE "D" OR MATCH EXISTING. PROVIDE TYPED PANEL DIRECTORIES IN ALL PANELS. CIRCUIT BREAKERS SHALL BE MOLDED CASE, THERMAL MAGNETIC. QUICK-MAKE, QUICK-BREAK, BOLT-ON TYPE. CIRCUIT BREAKER SHALL BE RATED AT OR ABOVE EXISTING PANELBOARD FAULT CURRENT (AIC) RATING.
- 7. FIRE ALARM SYSTEM EQUIPMENT AND WIRING SHALL MATCH EXISTING FIRE ALARM SYSTEM, VERIFY EXISTING EQUIPMENT CAPACITY AND PROVIDE REQUIRED EXTENSIONS TO THE EXISTING SYSTEM. VERIFY EXISTING BATTERY CAPACITY FOR ADDITIONAL FIRE ALARM SIGNAL DEVICES, COORDINATE WITH SPRINKLER CONTRACTOR AND PROVIDE REQUIRED ALARM AND POWER CONNECTIONS.
- 8. COORDINATE ALL CONNECTIONS TO EXISTING SYSTEMS WITH BUILDING ENGINEER/LANDLORD AND PROVIDE COMPATIBLE EQUIPMENT AS REQUIRED FOR PROPER OPERATION.

DEMOLITION

- 1. DISCONNECT, DISASSEMBLE, CAP, PLUG AND REMOVE ALL MEP ELEMENTS (PIPING, DUCTS, ELECTRICAL DEVICES, WIRING, CONDUIT, EQUIPMENT, HANGERS, SUPPORTS, ETC) INDICATED ON THE DRAWINGS OR NOT OTHERWISE REQUIRED FOR COMPLETED PRODUCT, REPOUTE AND RECONNECT ANY CIRCUITS THAT REMAIN IN USE OR ARE RELOCATED, NO MEP ELEMENTS ARE TO BE ASANDONED IN PLACE UNLESS SPECIFICALLY NOTED. NOT ALL ITEMS TO BE REMOVED ARE INDICATED ON DRAWING.
- 2. WIRING SHALL BE DISCONNECTED AT CIRCUIT BREAKERS AND REMOVED AND BREAKERS MARKED "SPARE." REMOVE ALL ABANDONED COMMUNICATION WIRING INCLUDING WIRING ASANDONED UDER PREVIOUS PROJECTS.
- 3. ANY EQUIPMENT DESIGNATED BY OWNER TO BE SALVAGED SHALL BE PROTECTED AND DELIVERED TO AN OWNER DESIGNATED AREA ON SITE.
- 4. ALL ASBESTOS REMOVAL (IF REQUIRED) WILL BE HANDLED BY THE OWNER AND IS NOT A PART OF THIS WORK IF MATERIALS SUSPECTED OF CONTAINING HAZARDOUS MATERIALS ARE ENCOUNTERED, DO NOT DISTURB; NOTIFY ARCHITECT AND OWNER IMMEDIATELY.
- 5. WHERE EXISTING ELECTRICAL WORK INTERFERES WITH NEW WORK AND WHERE SUCH INSTALLATIONS ARE TO REMAIN IN USE, THE INSTALLATIONS SHALL BE RELOCATED AND/OR RECONNECTED TO COORDINATE WITH THE WORK INDICATED ON THE CONTRACT DRAWINGS AND AS SPECIFIED, FOR EXISTING INSTALLATION WHICH INVOLVE BASE BUILDING SYSTEMS, OBTAIN APPROVAL OF OWNER'S REPRESENTATIVE PRIOR TO MAKING ANY MODIFICATIONS.
- 6. MAINTAIN CONTINUITY OF THOSE FEEDERS AND/OR BRANCH CIRCUITS SERVING MULTIPLE ITEMS OF WHICH ONE OR MORE ARE BEING REMOVED.

RECORD DRAWINGS

1. A SET OF MEP RECORD/COORDINATION DRAWINGS SHALL BE MAINTAINED IN THE GENERAL CONTRACTORS OFFICE AT THE JOB SITE, PRINTS SHALL INDICATE ADDITIONS, DELETIONS, VARIATIONS IN LOCATION, VARIATIONS IN NUMBERING ETC. ALTERATIONS SHALL BE MARKED IN RED AND DELETIONS ALL BE MARKED IN GREEN AND SHALL BE ON THE LATEST CONTRACT DRAWING ISSUED, RECORD DRAWINGS SHALL BE KEPT CLEAN AND UNDAMAGED AND SHALL NOT BE USED FOR ANY PURPOSE OTHER THAN RECORDING DEVIATIONS FROM WORKING DRAWINGS. AFTER THE PROJECT IS COMPLETED, THESE SETS OF DRAWINGS SHALL BE DELIVERED TO THE ARCHITECT IN GOOD CONDITION, AS A PERMANENT RECORD OF THE INSTALLATION AS ACTUALLY CONSTRUCTED

ITEM	MECH/ DIV 22 AND 23	ELEC/ DIV 26
AUTOMATIC TEMPERATURE CONTROLS	FURNISH, INSTALL & WIRE	POWER WIRE
CONTROL PANELS FOR MECHANICAL EQUIPMENT	FURNISH & INSTALL	POWER WIRE
LOW VOLTAGE CONTROL WIRING FOR MECH EQUIP.	FURNISH & INSTALL	
LINE VOLTAGE CONTROL WIRING FOR MECH. EQUIP.	FURNISH, INSTALL & WIRE	
MECHANICAL FLOW SWITCHES	FURNISH, INSTALL & WIRE	
THERMOSTATS/ SENSORS	FURNISH, INSTALL & WIRE	
P/E & E/P SWITCHES	FURNISH, INSTALL & WIRE	
DISCONNECT SWITCHES FOR MECHANICAL EQUIPMENT	FURNISH & INSTALL	POWER WIRE
MECHANICAL EQUIPMENT MONITORS	FURNISH & INSTALL	POWER WIRE
MANUAL STARTERS FOR MECHANICAL EQUIPMENT	FURNISH & INSTALL	POWER WIRE
MAGNETIC STARTERS FOR MECHANICAL EQUIPMENT	FURNISH	INSTALL & POWER WIRE
MOTOR CONTROL CENTERS	CONTROL WIRING	FURNISH, INSTALL & POWER WIRE
VARIABLE SPEED CONTROLLERS	FURNISH & INSTALL	POWER WIRE
MOTORIZED DAMPERS & VALVES	FURNISH, INSTALL & WIRE	
DUCT SMOKE DETECTORS	INSTALL	FURNISH & WIRE
HEAT TRACE CABLE FOR PIPING	FURNISH & INSTALL	POWER WIRE
OIL/ GAS EMERGENCY SHUT-OFF SWITCHES		FURNISH, INSTALL & POWER WIRE
SPRINKLER FLOW & TAMPER SWITCHES	BY SPRINKLER CONTRACTOR	WIRE

	ELECTRICAL ABBREVIATIONS					
AØA	AMERICANS WITH DISABILITIES ACT COMPLIANCE					
AFF	ABOVE FINISHED FLOOR					
CLG	CELING					
C/8	CIROUT BREAKER					
C	CONDUIT					
C/T	CURRENT TRANSFORMER					
D	DEMOLISH					
E, EX	EXISTING					
EC	ELECTRICAL CONTRACTOR					
E¥	EMERGENCY					
ENCL	ENCLOSURE					
FSS	FUSED SAFETY SWITCH					
9. GRD	GROUND					
GFC:	GROUND FAULT CIRCUIT INTERRUPTER					
GC	GENERAL CONTRACTOR					
KVA	KILOVOLT-AMPERES					
MCB	MAIN CIRCUIT BREAKER					
MLO	MAIN LUG ONLY					
MC	MECHANICAL CONTRACTOR					
MECH	MECHANICAL					
MCA	MINIMUM CIRCUIT AMPS					
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOC					
NFSS	NON-FUSED SAFETY SWITCH					
PNL	PANEL					
₽	POLES					
Ø	PHAGE					
REC	RECEPTACLE					
THRU	THROUGH					
UNO	UNLESS NOTED OTHERWISE					
VFQ	VARIABLE FREQUENCY DRIVE					
WP	WEATHER PROOF					
XFMR	TRANSFORMER					

SYMBOL	ABRV.	DESCRIPTION	MTG	REMARKS
	PNL	ELECTRICAL PANEL		
	FIRE.	208Y/120V		
	<u> </u>	HOME RUN		ARROWHEADS INDICAT
	•	CONNECT TO CIRCUIT BREAKER INDICATED		# OF CIRCUITS
	<u></u>	WIRE RUN, AS REQUIRED		1 # Or Orougis
		WINE YOR, YO REQUIRED		
	<u></u>	WIRE RUN IN OR BELOW FLOOR SLAB		
	M	WAS KUN IN ON DEDOM FEOOR SEAS		
		CAT 5e NON-BOOTED LIGHTING CONTROL		AVATTOTOTOTO #
	-	CABLE, GREEN JACKET, OR LOW VOLTAGE		WATTSTOPPER # LMRJ OR EQUAL
		CABLE		
	<u> </u>	EXIT SIGN		
Ø Ø 🕏	-	SINGLE FACE, DOUBLE FACE, DIRECTIONAL		
		SWTCH	48" AFF	
\$ \$2 \$3 \$4		1 POLE, 2 POLE, 3WAY, 4WAY	UNO	P
	LD	LOW VOLTAGE DIGITAL DIMMING SWITCH.	48" AFF	11/45TCTOTOTOT #
\$ ₁₀	'ناسا	WHITE FINISH	UNO	WATTSTOPPER #
				LMDM-101-W OR EQUAL
1	90	PASSIVE DUAL TECHNOLOGY SINGLE POLE	48" AFF	WATTSTOPPER #
\$0	<u> </u>	WALL SWITCH SENSOR, MANUAL ON/OFF, LINE	UNO	DSW-100-W OR EQUAL
·····		VOLTAGE 120/277V, WHITE		
	05	DUAL TECHNOLOGY CEILING MOUNTED LOW		WATTSTOPPER#
<u></u>		VOLTAGE DIGITAL OCCUPANCY SENSOR,		LMDC-100 OR EQUAL
		WHITE FINISH, 30 MIN. TIME DELAY		
********	091	DUAL TECHNOLOGY CEILING MOUNTED LINE		WATTSTOPPER#
<i>0</i> 51		VOLTAGE OCCUPANCY SENSOR, WHITE FINISH,		DT-355 OR EQUAL
	ļ	30 MIN. TIME DELAY		2
FP	pp	SWITCHING DIGITAL ROOM RELAY		WATTSTOPPER#
<u> </u>		CONTROLLER, SINGLE RELAY		LMRC-101 OR EQUAL
June 1913	RC	0-10V DIMMING DIGITAL ROOM RELAY		WATTSTOPPER#
RC		CONTROLLER, SINGLE RELAY		LMRC-211 OR EQUAL
······································	RC2	O-TOV DIMMING DIGITAL ROOM RELAY		WATTSTOPPER #
203	×	CONTROLLER, DUAL RELAY		LMRC-212 OR EQUAL
		,		LE SAUCASA OK ESKUAL
		20A DUPLEX OR QUADRAPLEX RECEPTACLE.	18" AFF	
Φ Φc Φ		SUBMIT COLORS TO ARCHITECT FOR APPROVAL.	UNO	
# # # #		RECEPTACLES WITH LETTER C DESIGNATION		
		ARE TO BE MOUNTED 6° ABOVE COUNTER		•
j.i 43		20A DUPLEX GFCI RECEPTACLE; GFCI WITH THE	18° AFF	
♦ ♦ _c		LETTER 'C' DESIGNATION ARE TO BE MOUNTED	UNO	
<u> </u>		6" ABOVE COUNTER		
		20A DUPLEX GFCI RECEPTACLE; WP INDICATES	18" AFF	
Ф _{wp}		RECEPTACLE WITH EXTRA DUTY WHILE IN USE	UNO	
VVP		FLIP-UP COVER		
.4		SIMPLEX RECEPTACLE - NEMA L5-30R	18° AFF	**************************************
Ф			UNC	
	500	DISCONNECT CHATCH BICED NOW BICED	200	
ىا ئا∑ىپ	FSS NFSS	DISCONNECT SWITCH; FUSED, NON-FUSED;		
wp ⊠ ' □'	11 35	DISCONNECTS WITH WP DESIGNATION SHALL BE NEMA 3R		
	<u></u>			
		JUNCTION BOX		
······································		MANAGEMENT AND	46" :	
		COMMUNICATIONS OUTLET, PROVIDE 3/4" EMT		CAT 6 CABLING PER
A		TO ABOVE ACCESSIBLE CEILING AND A	UNO	SPEC SECTION 271313
		MINIMUM OF 2 CAT 6 TO NETWORK PATCH		
		PANEL, COORDINATE WITH OWNER		
M		MOTORIZED DAMPER CONNECTION,		
	···	COORDINATE WITH MECHANICAL CONTRACTOR		
PC	PC	120V BUTTON STYLE PHOTOCELL, MOUNT IN	10-0"	INTERMATIC #
1 L-/ \$		WEATHER PROOF BOX	AFF	K4021C OR EQUAL
T. A.		1		111000000000000000000000000000000000000
DO RI		DUCT DETECTOR AND REMOTE TEST SWITCH.		



Allen & Shariff Engineering, LLC 205 East Market Street Salisbury, Maryland 2180 Tel: 410.341.0200

PROYESCONAL CERTIFICATION, 1 HEREBY CERTIFY THAT THISSE DOCUMENTS WERE PREPARES OR APPROVED BY ME, AND THAT I AM A DOLY LICENSED PROFESSIONAL PRIGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. EICKNOS NUMBER: 00745

@ ALLEN & SHARIFF ENGINEERING, LLC JOB# 1631015

NONE

11-48-95

DESIGN BY : 16 DRAWN BY : JG CHECKED BY : JG

GAR FILE : 160049

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PECIFICATIONS

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TYPE	DESCRIPTION	MANUFACTURER	CATALOG		LAMPS	BF	WATTS	MOUNTING	VOLTAGE	remarks
			NUMBER	QTY	TYPE					
DL •	4" APERTURE LED DOWNLIGHT FIXTURE, SELF-FLANGED WHITE PAINTED TRIM, MEDIUM REFLECTOR, GASKET KIT FOR SHOWERS, 120V ELECTRONIC DRIVER	PORTFOLIO	LD4A-09D010TE-ERM4A- 09835-4LM1W-WF- HB26 LGSKT4IP66 GASKET KIT IN SHOWERS	QOOD THE THE HITTHEW TO A LOOK A CONTROL OF THE CON	14W LED 3500K	F1777	14	RECESSED	120V	1, 2, 3, 4
[O]	2' X 4' LED PRISMATIC LAY-IN TROFFER, .125' ACRYLIC LENS, 120V 0-10V DIMMING DRIVER	METALUX	24GR-LD4-38-F1-UNV- L835-CD1-U	4117	36W LED 3500K	*	36	RECESSED	12 <i>0</i> V	1, 2, 3, 4
	2' X 4' LED VOLUMETRIC LAY-IN TROFFER, DIFFUSED CENTER BASKET, 120V O-10V DIMMING DRIVER	PHILIPS	2AVEG43L835-4-ACR- UNV-D	Aus have	39W LED 3500K	goos -	39	RECESSED	120V	1, 2, 3, 4
오 오	LED WALL PACK. WEATHERPROOF DIE-CAST ALUMINUM HOUSING, BLACK POWDER COAST FINISH, TYPE IV WIDE DISTRIBUTION, 120V ELECTRONIC DRIVER	McGRAW- EDISON	ISW-EO:-LED-E1-BL4- BK-ULG	fino	25W LED 4000K	5	25	WALL MOUNT @ 10'-0" AFF UNO	12 <i>0</i> V	1, 2, 3, 4
F5 	4' FLUORESCENT INDUSTRIAL STRIP FIXTURE, SOLID TOP REFLECTOR, MEDIUM DUTY, WIRE GUARD, 120/277V PROGRAM START BALLAST	METALUX	DIF-232-120V-EB81-U- WG/DIF-4FT-U	2	32W T8 3500K	.88	56	SURFACE/ SUSPENDED	120V	1, 2, 3, 4, 5
EM	LED DUAL HEAD EMERGENCY LIGHTING UNIT, BLACK THERMOPLASTIC HOUSING, BATTERY CAPACITY FOR DUAL REMOTE HEAD, 120/277V	EVENLITE	TCL4-B-SD	2	LED	4	2	WALL MOUNT @ 8'-0" AFF UNO	120/277N	1, 2, 3, 4
≅	UNIVERSAL MOUNT EXIT LIGHT WITH DIRECTIONAL ARROWS AS INDICATED, BLACK PLASTIC HOUSING, RED LETTERS, BATTERY BACKUP, 120/277V	evenlite	TLX-EM-RU-8-SD	1	LED	1	1.5	WALL MOUNT @ 8'-0' AFF UNO	120/277V	1, 2, 3, 4
XE	UNIVERSAL MOUNT COMBINATION EXIT/EMERGENCY LIGHT WITH DIRECTIONAL ARROWS AS INDICATED, INTEGRATED LED EMERGENCY LIGHT BAR, BLACK THERMOPLASTIC HOUSING, RED LETTERS, BATTERY CAPACITY FOR DUAL REMOTE HEAD, 120/277V	EVENLITE	TLP-R-U-W	2	LED	1	3	WALL MOUNT @ 8'-0" AFF UNO	120/277V	1, 2, 3, 4
₽ ER	LED SINGLE REMOTE HEAD, 3.6VDC, WEATHERPROOF HOUSING, CONNECT TO NEAREST "XE" EXIT/EMERGENCY FIXTURE OR "EM" FIXTURE	EVENLITE	PRWLED1	qua,	LED	1	1	SURFACE	3.6VDC	1, 2, 3, 4

REMARKS:

- 1. ALL FIXTURES SHOWN ESTABLISH THE BASIS OF DESIGN OR LEVEL OF QUALITY EXPECTED, IF ALTERNATE FIXTURES ARE SUBSTITUTED DURING THE SUBMITTAL PROCESS.
- THE ENGINEER AND ARCHITECT RESERVE THE RIGHT TO REJECT THE SUBSTITUTED FIXTURE BASED UPON OUR PROFESSIONAL JUDGEMENT.
- 2. COORDINATE WITH ARCHITECT FOR FIXTURES FINAL MOUNTING HEIGHTS AND LOCATIONS. 3. ALL WALL/CEILING TYPES SHALL BE VERIFIED PRIOR TO FIXTURES BEING ORDERED.
- 4. ALL FIXTURES PROVIDED ARE EXPECTED TO HAVE ALL APPURTENANCES, MOUNTING HARDWARE AND ETC. PROVIDED IN ORDER TO PROVIDE A PROPER INSTALLATION.
- 5. ALL FLUORESCENT FIXTURES SHALL BE PROVIDED WITH HIGH POWER FACTOR ELECTRONIC BALLASTS

	WIRE		CKT 8	KS	125	ÓΑÌ	h	r	[EOS		CKTE	WP.
⟨₹	FOR	P	AMP				KVA	CKT	FOR	Þ	AMP	
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7.	EXISTING UNKNOWN	3	30	480	200	S	2.50	38	EXISTING UNKNOWN	73	40	480
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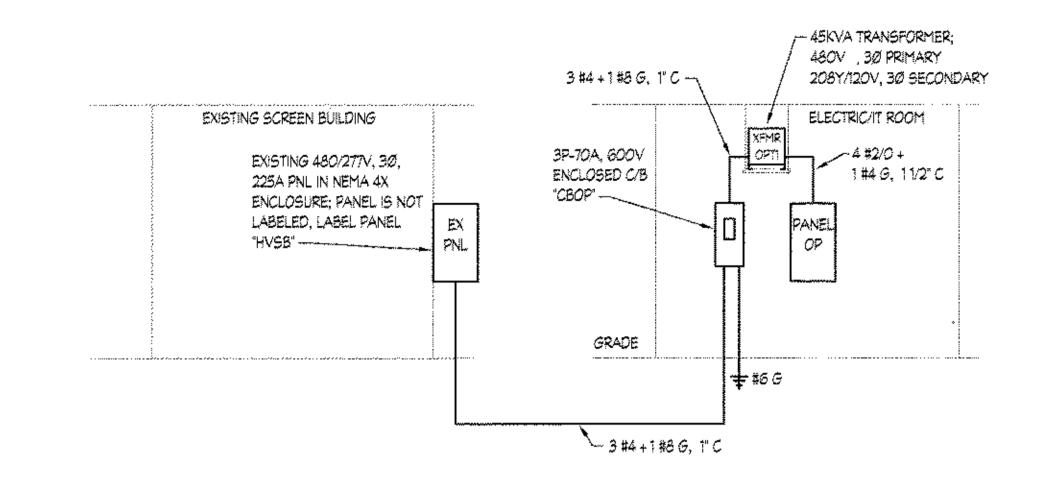
NOTES:

1. EXISTING LOADS SHOWN ARE BASED OFF
AS-BUILT DRAWINGS AND MAY NOT MATCH
ACTUAL FIELD CONDITIONS. CONTRACTOR
TO MODIFY CIRCUITS IN THE FIELD AS
REQUIRED TO MEET DESIGN INTENT.
2. EXISTING SQUARE D NEHB PANELBOARD.
3. LABEL PANELBOARD "PANEL HVSB"

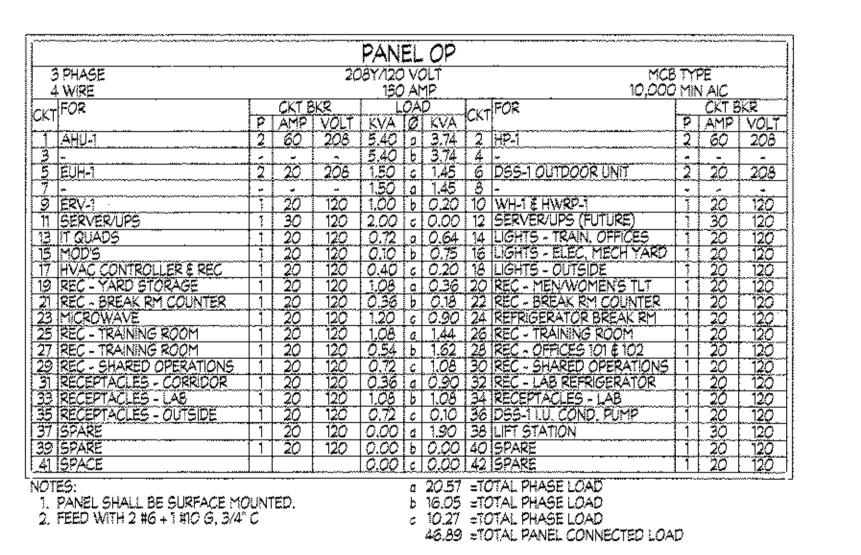
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1. EXISTING LOADS SHOWN ARE BASED OFF
AS-BUILT DRAWINGS AND MAY NOT MATCH
ACTUAL PIELD CONDITIONS. CONTRACTOR
TO MODIFY CIRCUITS IN THE FIELD AS
REQUIRED TO MEET DESIGN INTENT.
2. EXISTING SQUARE D NEHB PANELBOARD.
3. PROVIDE NEW BREAKER AS INDICATED

6 30.55 =TOTAL PHASE LOAD 6 25.77 =TOTAL PHASE LOAD 98.49 =TOTAL PANEL CONNECTED LOAD

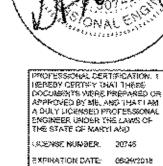


POWER RISER DIAGRAM NOT TO SCALE





Allen & Shariff Engineering, LLC 205 East Market Street Salisbury, Maryland 21801 Tel: 410.341.0200



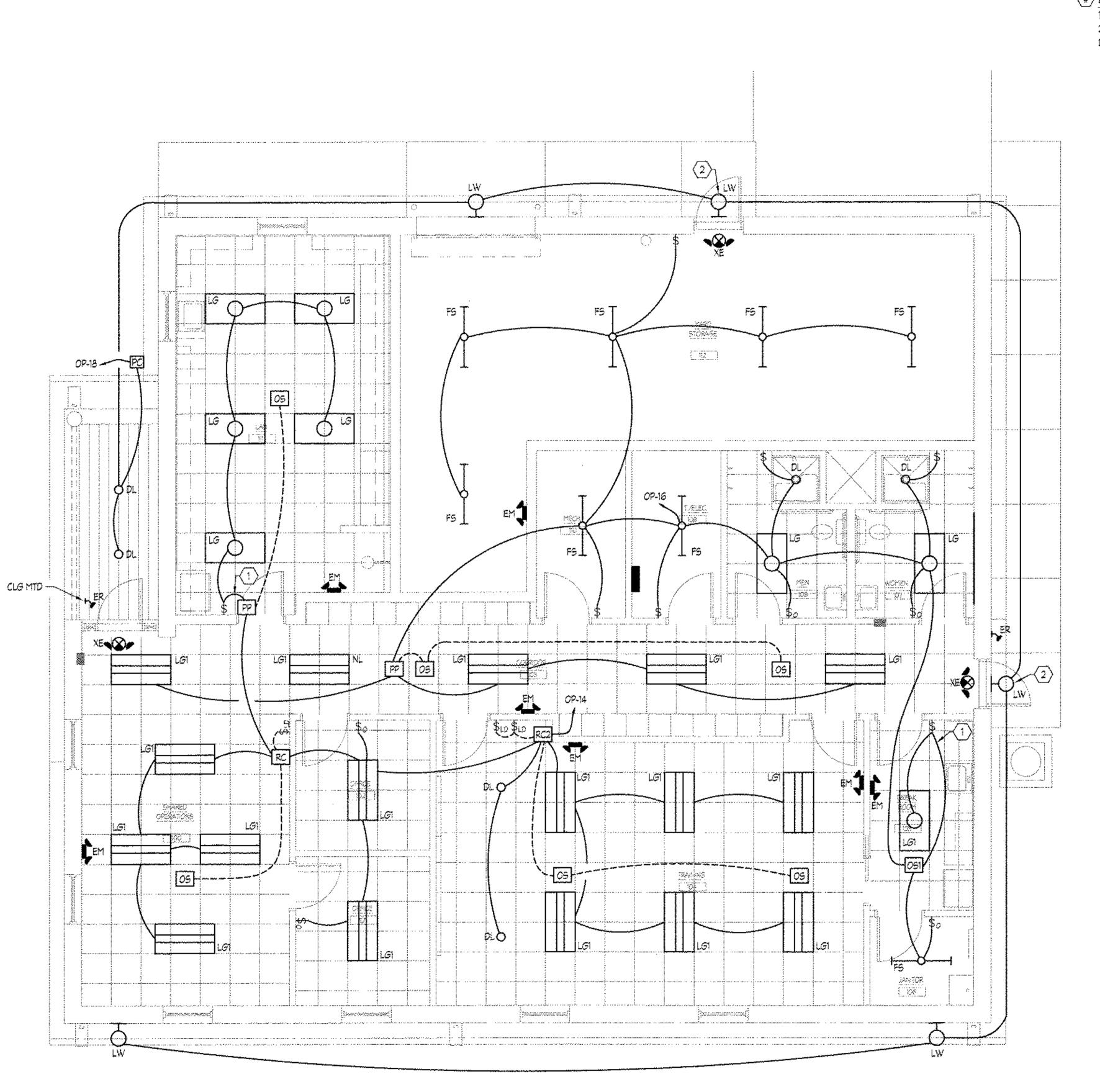
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ECTRICAL SCHEDULES POWER RISER

BUILDIN

OPERATIC WORCESTER O



LIGHTING FLOOR PLAN
E2.0 1/4" = 1' - 0"

O MARKANA PARA BARBARAN BARBAR

GENERAL NOTES:

1. COORDINATE WITH TENANT ON ELEVATIONS FOR ALL MOUNTING HEIGHTS AND FINAL LOCATIONS OF FIXTURES AND DEVICES.

2. EXIT SIGNS, EMERGENCY LIGHTING UNITS AND FIXTURES WITH "NL" DESIGNATION SHALL BE WIRED TO THE UNSWITCHED SIDE OF THE LOCAL LIGHTING CIRCUIT, CARRY EXTRA HOT WIRE TO BEST SUITE FIELD CONDITIONS.

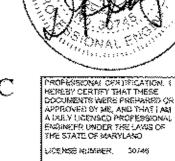
3. O-10V WIRING IS NOT SHOWN, INSTALL O-10V WIRING FROM ROOM CONTROLLERS TO LED DIMMABLE FIXTURES AS REQUIRED.

4. KEEP CEILING MOUNTED OCCUPANCY SENSORS A MINIMUM OF 3 FEET FROM AIR DIFFUSERS.

(*) DRAWING NOTES:

1. ROUTE LOAD SIDE OF POWER PACK THROUGH SWITCH FOR MANUAL ON/OFF CONTROL. 2. MOUNT FIXTURE 12" ABOVE DOOR; ALL OTHER "LW" FIXTURES SHALL BE MOUNTED AS DIRECTED BY ONWER/ARCHITECT.

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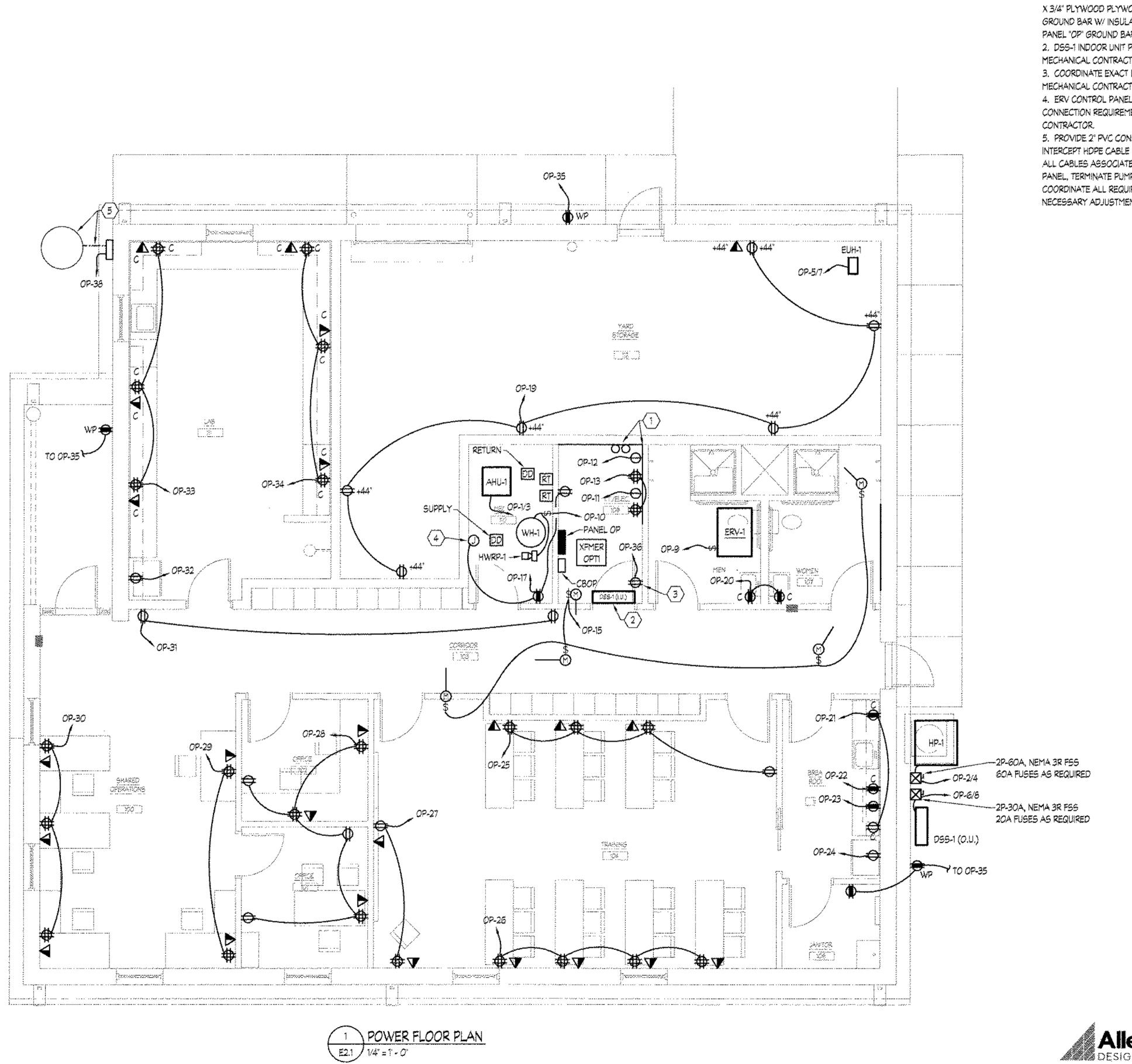


PROPESSIONAL CHAIR CATION, I HEREBY CERTRY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, ARE THAT I AS A LELLY LICENSIC, PROPESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND

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GENERAL NOTES:

1. COORDINATE WITH MECHANICAL AND PLUMBING CONTRACTORS FOR EXACT LOCATIONS OF EQUIPMENT AND CONNECTIONS.

2. COORDINATE WITH OWNER FOR EXACT MOUNTING LOCATIONS OF RECEPTACLES IN ELEC/IT ROOM PRIOR TO ROUGH-IN,

DRAWING NOTES:

1. PROVIDE (2) 2 1/2" CONDUITS FROM IDF BACKBOARD TO MOF IN EXISTING OPERATIONS BUILDING AS DIRECTED BY OWNER. INSTALL TWO SHEETS OF 4' X 8' X 3/4" PLYWOOD PLYWOOD WRAPPING CORNERS. INSTALL 12" X 4" X 1/4" TELECOM GROUND BAR W/ INSULATED STAND-OFFS AT 24" AFF; PROVIDE \$1/0 GROUND TO PANEL "OP" GROUND BAR.

2. DSS-1 INDOOR UNIT POWER VIA OUTDOOR UNIT, COORDINATE WITH MECHANICAL CONTRACTOR, PROVIDE DISCONNECT SWITCH AS REQUIRED. 3. COORDINATE EXACT LOCATION OF RECEPTACLE FOR CONDENSATE PUMP WITH MECHANICAL CONTRACTOR.

4. ERV CONTROL PANEL AND AHU-1 CONTROLLER; COORDINATE EXACT CONNECTION REQUIREMENTS AND ROUGH-IN LOCATIONS WITH MECHANICAL

5. PROVIDE 2" PVC CONDUIT FROM LIFT STATION CONTROL PANEL TO SUMP AND INTERCEPT HOPE CABLE SHROUD, REFER TO DETAIL ON CIVIL DRAWING CL3: RUN ALL CABLES ASSOCIATED WITH PUMPS, FLOATS AND ALARMS INTO CONTROL PANEL, TERMINATE PUMP CABLES PER MANUFACTURER'S INSTRUCTIONS. COORDINATE ALL REQUIREMENTS OF LIFT STATION PRIOR TO ROUGH-IN AND MAKE NECESSARY ADJUSTMENTS.

Allen & Shariff
DESIGN | BUILD | MANAGE Allen & Shariff Engineering, LLC 205 East Market Street Salisbury, Maryland 21801 Tel: 410.341.0200

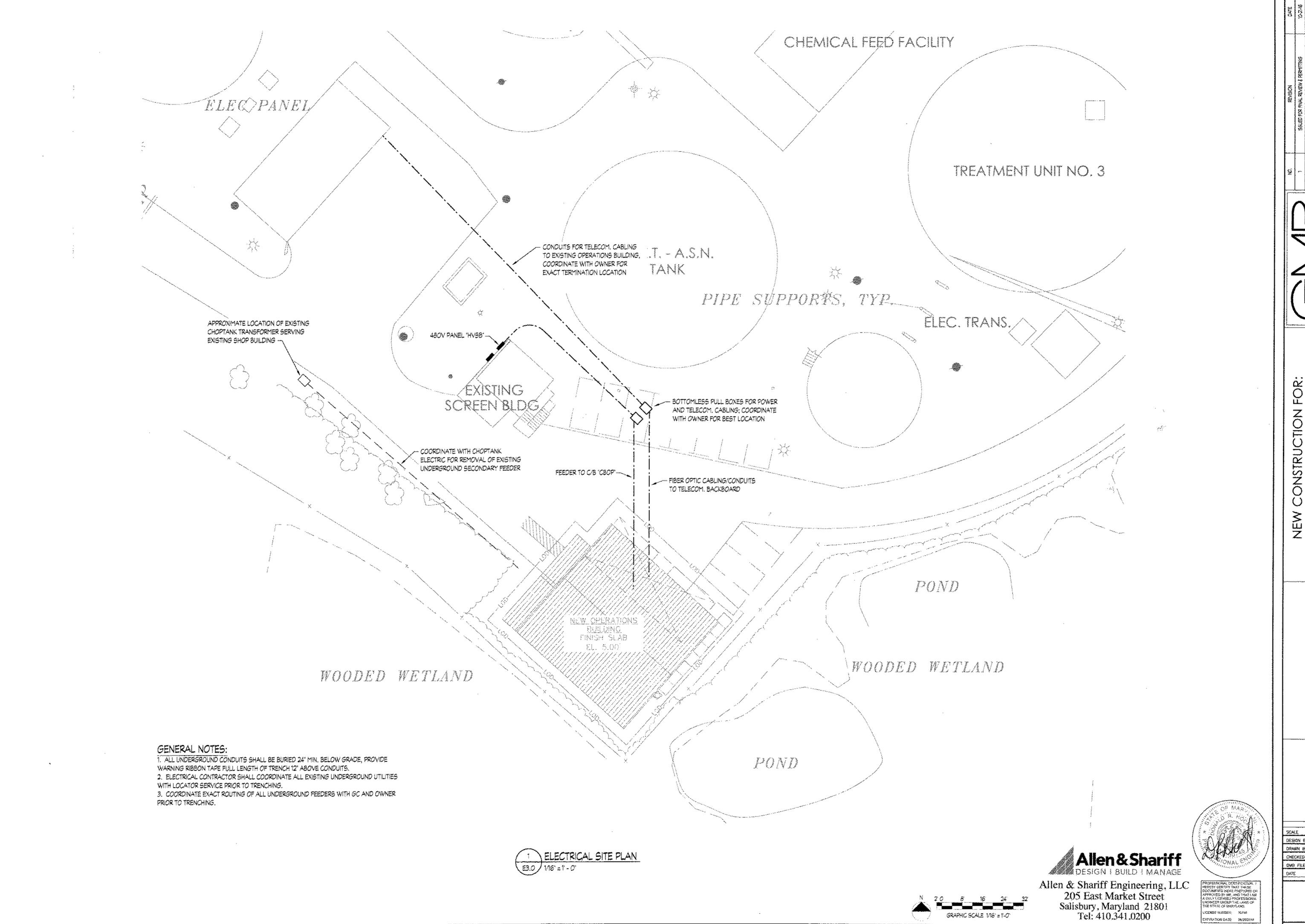
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HENERY CERTIFY THAT THESE
DOCUMENTS WHITE PREPARED OR
APPROVED IN ME, JUB TRATT HAM
A SULY LICENSED PROPASSICIAL
ENGINEER UNDER THE CAWS OF
THE STATE OF WARYLAND

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CONTRACTOR AND A CONTRACTOR OF THE STATE OF

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