REPLACE ELEVATOR IN FOUR VENTILATION BUILDINGS CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

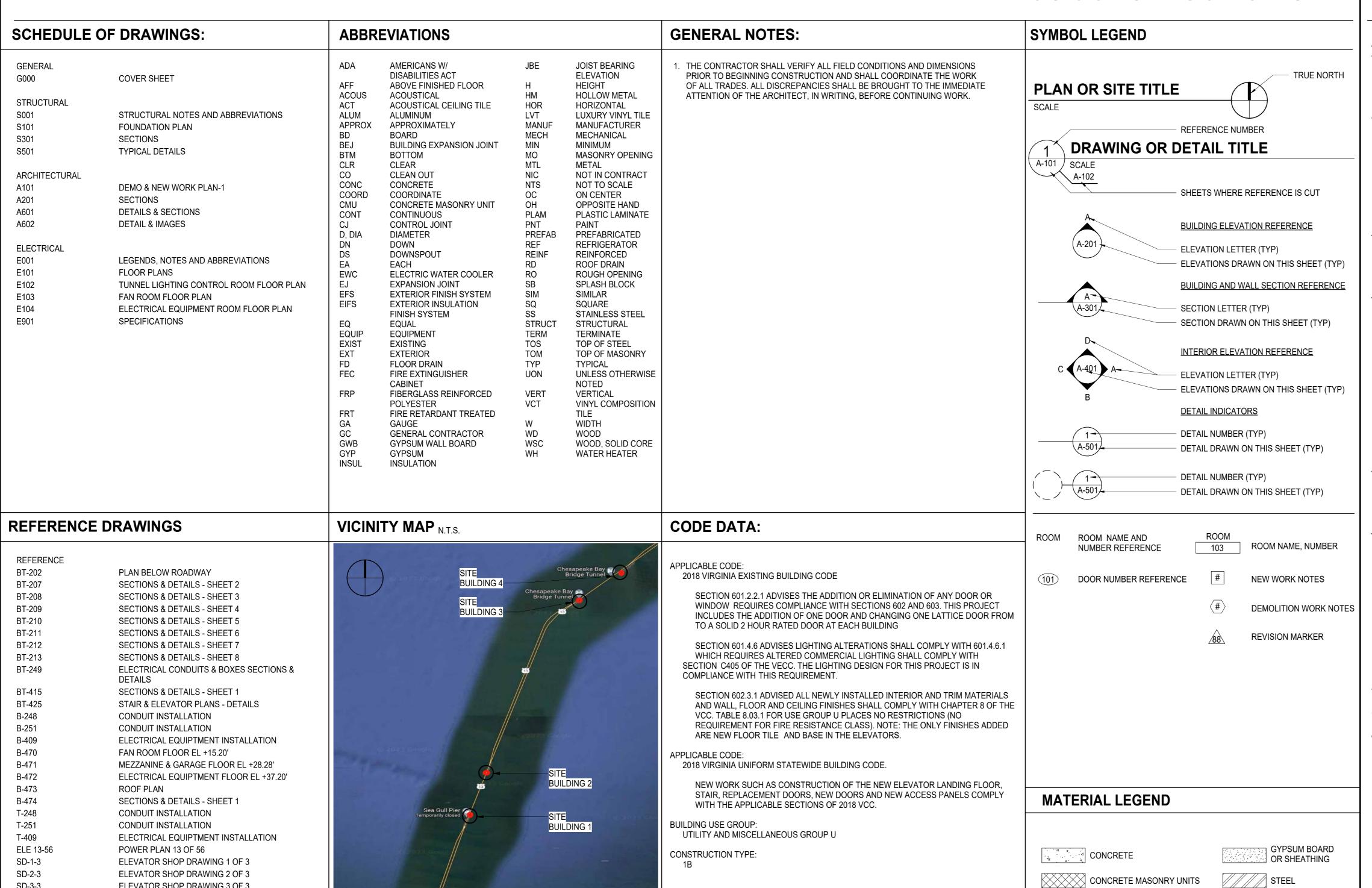
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ELEVATOR SHOP DRAWING 3 OF 3

BIDDING / CONSTRUCTION SET

CONTINUOUS BLOCKING



ARCHITECT

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STRUCTURAL ENGINEER

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ARCHITECTURE INTERIOR DESIGN



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GENERAL NOTES:

- THE STRUCTURAL DRAWINGS MUST BE USED IN CONJUNCTION WITH THE ARCHITECTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS. THE CONTRACTOR MUST VERIFY THE REQUIREMENTS OF OTHER TRADES FOR ITEMS TO BE PLACED OR SET IN THE STRUCTURAL WORK.
- THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE PROVISIONS OF THE INTERNATIONAL BUILDING CODE, 2018 EDITION, AS ADOPTED BY THE VIRGINIA UNIFORM STATEWIDE BUILDING CODE, 2018 EDITION:
- THE CONTRACTOR MUST BE RESPONSIBLE FOR TEMPORARY SHORING AND BRACING REQUIRED TO ERECT AND HOLD THE STRUCTURE IN PROPER ALIGNMENT UNTIL PERMANENT SUPPORTS AND LATERAL BRACING ARE IN PLACE.
- BEFORE PROCEEDING WITH WORK WITHIN OR NEAR THE EXISTING STRUCTURE. THE CONTRACTOR MUST BECOME FAMILIAR WITH THE EXISTING STRUCTURAL CONDITIONS. THE SHORING AND BRACING SHOWN IS A PARTIAL AND SCHEMATIC REPRESENTATION OF THAT REQUIRED. THE CONTRACTOR MUST BE RESPONSIBLE FOR THE DESIGN AND ERECTION OF ALL SAFEGUARDS NECESSARY TO PROTECT THE EXISTING STRUCTURE FROM DAMAGE.
- THE CONTRACTOR MUST FIELD VERIFY THE DIMENSIONS, ELEVATIONS AND OTHER REQUIREMENTS NECESSARY FOR THE PROPER CONSTRUCTION AND ALIGNMENT OF THE NEW PORTIONS OF THE STRUCTURE TO THE EXISTING. THE CONTRACTOR MUST MAKE ALL MEASUREMENTS NECESSARY FOR FABRICATION AND ERECTION OF STRUCTURAL MEMBERS.
- SPECIFIC NOTES AND DETAILS ON THE DRAWINGS MUST TAKE PRECEDENCE OVER STRUCTURAL NOTES AND TYPICAL DETAILS.
- CONSULTANTS' DRAWINGS, INCLUDING STRUCTURAL DRAWINGS, ARE CONSIDERED SUPPLEMENTARY TO THE ARCHITECTURAL DRAWINGS. ANY OMISSIONS OR CONFLICTS, INCLUDING DIMENSIONS, BETWEEN VARIOUS ELEMENTS OF THE CONSULTANTS' DRAWINGS MUST BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.
- THE DOCUMENTS DEFINING THE STRUCTURE ARE INSTRUMENTS OF SERVICE PREPARED BY SPEIGHT, MARSHALL AND FRANCIS, PLLC. FOR ONE USE ONLY. THE STRUCTURAL DOCUMENTS MUST NOT BE REPRODUCED, OR COPIED IN WHOLE OR IN PART BY THE CONTRACTOR OR SUBCONTRACTORS FOR PREPARATION OF SHOP DRAWINGS OR OTHER SUBMITTALS WITHOUT WRITTEN PERMISSION FROM THE ARCHITECT.
- LOADS USED IN THE DESIGN OF THIS STRUCTURE ARE AS FOLLOWS: A. LIVE LOAD: SLAB-ON-GRADE 100 PSF

CAST-IN-PLACE CONCRETE NOTES:

- CAST-IN-PLACE CONCRETE HAS BEEN DESIGNED IN ACCORDANCE WITH THE AMERICAN CONCRETE INSTITUTE (ACI) "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318-14) AND COMMENTARY (ACI 318R-14)".
- CONCRETE MUST BE VDOT CLASS A4 GENERAL, UNLESS OTHERWISE NOTED.
- REINFORCING MATERIALS MUST BE AS FOLLOWS:
 - REINFORCING BARS ASTM A615, GRADE 60, DEFORMED WELDED WIRE FABRIC - ASTM A1064, WELDED STEEL WIRE FABRIC. SHEET TYPE - ROLLED TYPE NOT ACCEPTABLE
 - FIBER REINFORCING SYNTHETIC ASTM C1116. TYPE III
- ALL REINFORCING STEEL AND EMBEDDED ITEMS MUST BE ACCURATELY PLACED IN THE POSITIONS SHOWN AND ADEQUATELY TIED AND SUPPORTED BEFORE CONCRETE IS PLACED TO PREVENT DISPLACEMENT BEYOND PERMITTED TOLERANCES.
- MINIMUM CONCRETE COVER FOR REINFORCING STEEL AS INDICATED ON THE DRAWINGS MUST GOVERN WHEN IN CONFLICT WITH ACI 318-14.
- NEW CONCRETE SLABS MUST RECEIVE A SEVEN DAY WET CURE. CONCRETE REPAIRS MUST USE AN APPROVED CURING COMPOUND.

CONCRETE MASONRY NOTES:

- CONCRETE MASONRY HAS BEEN DESIGNED IN ACCORDANCE WITH THE MASONRY SOCIETY (TMS) "BUILDING CODE FOR MASONRY STRUCTURES" TMS 402-16.
- CONCRETE MASONRY CONSTRUCTION MUST CONFORM TO THE MASONRY SOCIETY (TMS) "SPECIFICATIONS FOR MASONRY STRUCTURES" TMS 602-16.
- CONCRETE MASONRY UNITS MUST CONFORM TO ASTM C90 AND BE MADE WITH LIGHTWEIGHT AGGREGATE. THE COMPRESSIVE STRENGTH OF MASONRY F'm, EXPRESSED AS FORCE PER UNIT OF NET CROSS-SECTIONAL AREA, MUST BE 2,000 PSI AT 28 DAYS.
- REINFORCING STEEL MUST COMPLY WITH ASTM A615, GRADE 60. SHOP FABRICATE REINFORCING BARS SHOWN TO BE BENT OR HOOKED.
- GROUT MUST COMPLY WITH ASTM C476 OR IBC SECTION 2103.3, AND MUST BE PROPORTIONED TO OBTAIN A 28 DAY COMPRESSIVE STRENGTH OF 2.500 PSI.

CONCRETE MASONRY NOTES (CONTINUED)

- MORTAR MUST COMPLY WITH ASTM C270. TYPE S OR M. AGGREGATE FOR MORTAR MUST COMPLY WITH ASTM C144. AGGREGATE FAILING TO COMPLY WITH ASTM C144 GRADATION REQUIREMENTS MAY BE USED PROVIDED THE MORTAR CAN BE PREPARED TO COMPLY WITHY THE AGGREGATE RATIO, WATER RETENTION AND COMPRESSIVE STRENGTH REQUIREMENTS OF THE PROPERTY SPECIFICATIONS OF ASTM C270.
- VERTICAL REINFORCING BARS MUST BE THE GIVEN SIZE AND SPACING SHOWN. LAP REINFORCING AT ALL SPLICES AS FOLLOWS:

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A.	#3 - 19"	D.	#6 - 52"	G.	#9 - 119"
B.	#4 - 25"	E.	#7 - 67"	H.	#10 OR LARGER -
C.	#5 - 31"	F.	#8 - 93"		'MECHANICALLY SPLICED'

- REBAR DOWELS MUST BE THE SAME SIZE AND SPACING AS VERTICAL REINFORCING FROM FOUNDATION.
- HORIZONTAL JOINT REINFORCING MUST BE STANDARD 9 GAGE LADDER TYPE IN CMU WALLS AT 16" ON-CENTER. JOINT REINFORCING MUST COMPLY WITH
- VERTICAL REINFORCING MUST HAVE BAR POSITIONERS AT SPACING NOT TO EXCEED 200 BAR DIAMETERS, AT GROUT LIFT HEIGHTS OR BAR SPLICE LOCATIONS. WHICHEVER IS LESS.

STRUCTURAL STEEL NOTES:

- STRUCTURAL STEEL HAS BEEN DESIGNED IN ACCORDANCE WITH THE FOURTEENTH EDITION OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC 360-16) "STEEL CONSTRUCTION MANUAL" - ALLOWABLE STRESS DESIGN
- STRUCTURAL STEEL MUST COMPLY WITH THE FOLLOWING SPECIFICATIONS: RECTANGULAR AND SQUARE HSS - ASTM A500, GRADE C, Fy=50 KSI
 - ANCHOR RODS ASTM F1554, GRADE 36 ALL OTHER STRUCTURAL STEEL SHAPES, PLATES AND BARS - ASTM A36,
- Fy=36 KSI (UNLESS OTHERWISE NOTED) WELDING MUST BE IN ACCORDANCE WITH AWS D1.1, "STRUCTURAL WELDING
- CODE STEEL". WELD ELECTRODES MUST BE E70XX. CONTINUOUS 3/16" FILLET WELDS ARE REQUIRED UNLESS OTHERWISE NOTED.
- SEE THE ARCHITECTURAL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS FOR ADDITIONAL STEEL (IF ANY) NOT SHOWN ON THE STRUCTURAL DRAWINGS.
- STRUCTURAL STEEL NOTED TO BE GALVANIZED MUST CONFORM TO ASTM A123 OR ASTM A153. GALVANIZE STRUCTURAL STEEL AFTER FABRICATION WHERE PRACTICAL. REPAIR DAMAGED GALVANIZED COATING USING ASTM A780 ZINC-RICH PAINT.

POST-INSTALLED ANCHOR NOTES:

- POST-INSTALLED ANCHORS MUST CONSIST OF THE FOLLOWING ANCHOR TYPES (OR APPROVED EQUIVALENT) UNLESS NOTED OTHERWISE:
 - ANCHORAGE TO CRACKED AND/OR UNCRACKED CONCRETE ADHESIVE ANCHORS:
 - HILTI HIT-HY 200 V3, SAFE SET SYSTEM WITH HILTI HIT-Z ROD OR HILTI HOLLOW DRILL BIT SYSTEM WITH HAS-E THREADED ROD AT CONTRACTOR'S OPTION
 - MECHANICAL ANCHORS:
 - HILTI KWIK BOLT-TZ2 EXPANSION ANCHORS
 - HILTI KWIK HUS-EZ SCREW ANCHORS REBAR DOWELING INTO CRACKED AND/OR UNCRACKED CONCRETE: ADHESIVE ANCHORS:
 - HILTI HIT-HY 200 V3 SAFE SET SYSTEM WITH HILTI HOLLOW
 - DRILL BIT SYSTEM WITH CONTINUOUSLY DEFORMED REBAR ANCHORAGE TO SOLID GROUTED MASONRY:
 - MECHANICAL ANCHORS: HILTI KWIK BOLT-TZ2 EXPANSION ANCHORS
 - HILTI KWIK HUS-EZ SCREW ANCHOR
- REQUESTS FOR ANCHOR SUBSTITUTIONS MUST BE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD. CONTRACTOR MUST SUBMIT TECHNICAL DATA DEMONSTRATING THE PROPOSED ANCHOR SUBSTITUTIONS MEET OR EXCEED THE STRENGTH AND PERFORMANCE VALUES OF THE SPECIFIED ANCHORS.
- INSTALL ANCHORS PER THE MANUFACTURER INSTRUCTIONS INCLUDED IN THE ANCHOR PACKAGING.
- ANCHOR CAPACITY IS DEPENDENT UPON SPACING BETWEEN ADJACENT ANCHORS AND PROXIMITY OF ANCHORS TO EDGE OF CONCRETE. INSTALL ANCHORS IN ACCORDANCE WITH SPACING AND EDGE CLEARANCES INDICATED.
- EXISTING REINFORCING BARS IN THE CONCRETE STRUCTURE MAY CONFLICT WITH SPECIFIC ANCHOR LOCATIONS. UNLESS OTHERWISE NOTED, EXISTING REINFORCING BARS CANNOT BE CUT. THE CONTRACTOR MUST REVIEW THE EXISTING STRUCTURAL DRAWINGS AND MUST LOCATE THE POSITION OF THE REINFORCING BARS AT THE LOCATIONS OF THE CONCRETE ANCHORS BY HILTI FERROSCAN, GPR, X-RAY OR OTHER MEANS.

STRUCTURAL TESTING:

- THE FOLLOWING MATERIALS MUST BE TESTED ACCORDING TO IBC SECTION 1705. ANY ITEMS FOUND TO BE DEFICIENT MUST BE CORRECTED AND RE-TESTED AT NO ADDITIONAL COST TO THE OWNER.
- CONCRETE STRENGTH VERIFICATION AND TESTING: ALL CONCRETE MUST BE TESTED AT THE POINT OF THE POUR TO VERIFY STRENGTH, SLUMP, UNIT WEIGHT, AIR CONTENT AND TEMPERATURE. SEE BELOW FOR TESTING CRITERIA,
 - FREQUENCY AND ACCEPTABILITY CRITERIA: TESTING FREQUENCY: ONE COMPOSITE SAMPLE FOR EACH DAY'S POUR OF EACH CONCRETE MIXTURE EXCEEDING 5 CY, BUT NOT LESS THAN 25 CY, PLUS ONE SET FOR EACH ADDITIONAL 50 CY
 - SLUMP: ASTM C143; ONE TEST AT POINT OF PLACEMENT FOR EACH COMPOSITE SAMPLE
 - AIR CONTENT: ASTM C231, PRESSURE METHOD FOR NORMAL WEIGHT CONCRETE; ONE TEST FOR EACH COMPOSITE SAMPLE
 - TEMPERATURE: ASTM C1064; ONE TEST FOR EACH COMPOSITE SAMPLE (TEST HOURLY WHEN TEMPERATURE IS BELOW 40, OR ABOVE 80 DEGREES F)
 - COMPRESSION TEST SPECIMENS: ASTM C31, CAST AND FIELD CURE TWO SETS OF TWO STANDARD CYLINDER SPECIMENS, AND ONE SPARE, FOR EACH COMPOSITE SAMPLE
 - COMPRESSIVE STRENGTH TESTS: ASTM C39, TEST ONE SET OF TWO SPECIMENS AT 7 DAYS AND ONE SET OF TWO SPECIMENS AT 28 DAYS
- STRUCTURAL STEEL: WELDED CONNECTIONS MUST BE TESTED FOR COMPLIANCE WITH AWS D.1.1 AND THE CONTRACT DOCUMENTS.
- SEE THE IBC FOR NON-STRUCTURAL ITEMS REQUIRED TO BE TESTED.

STRUCTURAL ABBREVIATION LIST.

±	WITH PLUS/MINUS	K K.S.F.	KIPS KIPS PER SQUARE FOOT
Ø	DIAMETER	K.S.I.	KIPS PER SQUARE INCH
CL	CENTERLINE		
	ON CENTER	LG.	LONG
o/c	ON CENTER	_	LONG
		LLH	LONG LEG HORIZONTAL
A.B.	ANCHOR BOLT	LLO	LONG LEG OUTSTANDING
AESS	ARCHITECTURALLY EXPOSED	LLV	LONG LEG VERTICAL
	STRUCTURAL STEEL	LSH	LONG SIDE HORIZONTAL
٨٥١			
ACI	AMERICAN CONCRETE INSTITUTE	LSV	LONG SIDE VERTICAL
AISC	AMERICAN INSTITUTE OF		
	STEEL CONSTRUCTION	M.O.S.	MIDDLE OF SLAB
A.R.	ANCHOR ROD	M.O.W.	MIDDLE OF WALL
ASTM	AMERICAN SOCIETY FOR	MANUF.	
AO I IVI		MAINOI .	
	TESTING AND MATERIALS		MANUFACTURER'S
ADJ.	ADJACENT	MAS.	MASONRY
ARCH.	ARCHITECT or ARCHITECTURAL	MATL.	MATERIAL
		MAX.	MAXIMUM
B.	BOTTOM	MECH.	MECHANICAL
B.E.J.		MIN.	MINIMUM
B.D.	BAR DIAMETER	MTL.	METAL
BLDG.	BUILDING		
BM.	BEAM	N.T.S.	NOT TO SCALE
BRCG.		11.1.0.	1101 10 00/122
		000	ODIENTED OTDANS SOLE
BRDG.		OSB	ORIENTED STRAND BOAR
BRG.	BEARING	OPP.	OPPOSITE
BTWN.	BETWEEN		
	 .	P/T	POST-TENSIONED
\circ	CENTED OF CDAVITY		
C.G.	CENTER OF GRAVITY	PAF	POWDER ACTUATED FASTE
C.I.P.	CAST IN PLACE	P.C.	PRECAST
C.J.P.	COMPLETE JOINT PENETRATION	P.E.B.	PRE-ENGINEERED BUILDIN
CANT.	CANTILEVER	PLF	POUNDS PER LINEAR FOO
CLR.	CLEAR	P.S.	PRE-STRESSED
	_		
CMU	CONCRETE MASONRY UNIT	PSF	POUNDS PER SQUARE FO
COL.	COLUMN	PSI	POUNDS PER SQUARE INC
CONC.	CONCRETE	P.T.	PRESSURE TREATED
CONN.	CONNECT or CONNECTION	Pc	PIECE
CONT.	CONTINUOUS	PLUMB.	PLUMBING
COORD.	COORDINATE	PROJ.	PROJECTION
D.	DEEP or DEPTH	R.	RADIUS
DBL.	DOUBLE	REF.	REFERENCE
DET.	DETAIL	REINF.	
DIA.	DIAMETER	REQD.	REQUIRED
DIAG.	DIAGONAL	REV.	REVISION
DWG.	DRAWING		
DWG.	DRAWING DOWEL		SHORT LEG OUTSTANDING
DWG. DWL.	DRAWING DOWEL	SLO	
DWL.	DOWEL	SLO S.D.I.	STEEL DECK INSTITUTE
		SLO	STEEL DECK INSTITUTE
DWL.	DOWEL EACH FACE	SLO S.D.I.	STEEL DECK INSTITUTE SEISMIC EXPANSION JOIN
DWL. E.F. E.O.	DOWEL EACH FACE EDGE OF	SLO S.D.I. S.E.J. S.J.I.	STEEL DECK INSTITUTE SEISMIC EXPANSION JOIN STEEL JOIST INSTITUTE
DWL. E.F. E.O. E.W.	DOWEL EACH FACE EDGE OF EACH WAY	SLO S.D.I. S.E.J. S.J.I. S.O.G.	STEEL DECK INSTITUTE SEISMIC EXPANSION JOIN STEEL JOIST INSTITUTE SLAB-ON-GRADE
DWL. E.F. E.O. E.W. EA.	DOWEL EACH FACE EDGE OF EACH WAY EACH	SLO S.D.I. S.E.J. S.J.I. S.O.G. S.F.	STEEL DECK INSTITUTE SEISMIC EXPANSION JOIN STEEL JOIST INSTITUTE SLAB-ON-GRADE STEPPED FOOTING
DWL. E.F. E.O. E.W. EA. EL.	DOWEL EACH FACE EDGE OF EACH WAY EACH ELEVATION	SLO S.D.I. S.E.J. S.J.I. S.O.G. S.F. SCHED.	STEEL DECK INSTITUTE SEISMIC EXPANSION JOIN STEEL JOIST INSTITUTE SLAB-ON-GRADE STEPPED FOOTING SCHEDULE
DWL. E.F. E.O. E.W. EA. EL. ELEC.	DOWEL EACH FACE EDGE OF EACH WAY EACH ELEVATION ELECTRICAL	SLO S.D.I. S.E.J. S.J.I. S.O.G. S.F. SCHED. SECT.	STEEL DECK INSTITUTE SEISMIC EXPANSION JOIN STEEL JOIST INSTITUTE SLAB-ON-GRADE STEPPED FOOTING
DWL. E.F. E.O. E.W. EA. EL.	DOWEL EACH FACE EDGE OF EACH WAY EACH ELEVATION ELECTRICAL	SLO S.D.I. S.E.J. S.J.I. S.O.G. S.F. SCHED.	STEEL DECK INSTITUTE SEISMIC EXPANSION JOIN STEEL JOIST INSTITUTE SLAB-ON-GRADE STEPPED FOOTING SCHEDULE
DWL. E.F. E.O. E.W. EA. EL. ELEC.	DOWEL EACH FACE EDGE OF EACH WAY EACH ELEVATION ELECTRICAL	SLO S.D.I. S.E.J. S.J.I. S.O.G. S.F. SCHED. SECT.	STEEL DECK INSTITUTE SEISMIC EXPANSION JOIN STEEL JOIST INSTITUTE SLAB-ON-GRADE STEPPED FOOTING SCHEDULE SECTION
DWL. E.F. E.O. E.W. EA. EL. ELEC. ELEV. EMB.	EACH FACE EDGE OF EACH WAY EACH ELEVATION ELECTRICAL ELEVATOR or ELEVATION EMBED or EMBEDMENT	SLO S.D.I. S.E.J. S.J.I. S.O.G. S.F. SCHED. SECT. SHT. SIM.	STEEL DECK INSTITUTE SEISMIC EXPANSION JOIN STEEL JOIST INSTITUTE SLAB-ON-GRADE STEPPED FOOTING SCHEDULE SECTION SHEET SIMILAR
DWL. E.F. E.O. E.W. EA. EL. ELEC. ELEV. EMB. ENG.	EACH FACE EDGE OF EACH WAY EACH ELEVATION ELECTRICAL ELEVATOR or ELEVATION EMBED or EMBEDMENT ENGINEER	SLO S.D.I. S.E.J. S.J.I. S.O.G. S.F. SCHED. SECT. SHT.	STEEL DECK INSTITUTE SEISMIC EXPANSION JOIN STEEL JOIST INSTITUTE SLAB-ON-GRADE STEPPED FOOTING SCHEDULE SECTION SHEET SIMILAR SLOPED INTEGRAL ROOF
DWL. E.F. E.O. E.W. EA. EL. ELEC. ELEV. EMB. ENG.	EACH FACE EDGE OF EACH WAY EACH ELEVATION ELECTRICAL ELEVATOR or ELEVATION EMBED or EMBEDMENT ENGINEER EQUAL	SLO S.D.I. S.E.J. S.J.I. S.O.G. S.F. SCHED. SECT. SHT. SIM. S.I.R.D.A.	STEEL DECK INSTITUTE SEISMIC EXPANSION JOIN STEEL JOIST INSTITUTE SLAB-ON-GRADE STEPPED FOOTING SCHEDULE SECTION SHEET SIMILAR SLOPED INTEGRAL ROOF DECK ASSEMBLY
DWL. E.F. E.O. E.W. EA. EL. ELEC. ELEV. EMB. ENG.	EACH FACE EDGE OF EACH WAY EACH ELEVATION ELECTRICAL ELEVATOR or ELEVATION EMBED or EMBEDMENT ENGINEER	SLO S.D.I. S.E.J. S.J.I. S.O.G. S.F. SCHED. SECT. SHT. SIM.	STEEL DECK INSTITUTE SEISMIC EXPANSION JOIN STEEL JOIST INSTITUTE SLAB-ON-GRADE STEPPED FOOTING SCHEDULE SECTION SHEET SIMILAR SLOPED INTEGRAL ROOF
DWL. E.F. E.O. E.W. EA. EL. ELEC. ELEV. EMB. ENG.	EACH FACE EDGE OF EACH WAY EACH ELEVATION ELECTRICAL ELEVATOR or ELEVATION EMBED or EMBEDMENT ENGINEER EQUAL	SLO S.D.I. S.E.J. S.J.I. S.O.G. S.F. SCHED. SECT. SHT. SIM. S.I.R.D.A.	STEEL DECK INSTITUTE SEISMIC EXPANSION JOIN STEEL JOIST INSTITUTE SLAB-ON-GRADE STEPPED FOOTING SCHEDULE SECTION SHEET SIMILAR SLOPED INTEGRAL ROOF DECK ASSEMBLY
DWL. E.F. E.O. E.W. EA. ELC. ELEC. EMB. ENG. EQ. EQUIV. EXIST.	EACH FACE EDGE OF EACH WAY EACH ELEVATION ELECTRICAL ELEVATOR or ELEVATION EMBED or EMBEDMENT ENGINEER EQUAL EQUIVALENT EXISTING	SLO S.D.I. S.E.J. S.J.I. S.O.G. S.F. SCHED. SECT. SHT. SIM. S.I.R.D.A.	STEEL DECK INSTITUTE SEISMIC EXPANSION JOIN STEEL JOIST INSTITUTE SLAB-ON-GRADE STEPPED FOOTING SCHEDULE SECTION SHEET SIMILAR SLOPED INTEGRAL ROOF DECK ASSEMBLY SLOPE SPACE
DWL. E.F. E.O. E.W. EA. EL. ELEC. ELEV. EMB. ENG. EQ.	EACH FACE EDGE OF EACH WAY EACH ELEVATION ELECTRICAL ELEVATOR or ELEVATION EMBED or EMBEDMENT ENGINEER EQUAL EQUIVALENT EXISTING	SLO S.D.I. S.E.J. S.J.I. S.O.G. S.F. SCHED. SECT. SHT. SIM. S.I.R.D.A. SL SPA. STD.	STEEL DECK INSTITUTE SEISMIC EXPANSION JOIN STEEL JOIST INSTITUTE SLAB-ON-GRADE STEPPED FOOTING SCHEDULE SECTION SHEET SIMILAR SLOPED INTEGRAL ROOF DECK ASSEMBLY SLOPE SPACE STANDARD
DWL. E.F. E.O. E.W. EA. ELEC. ELEV. EMB. ENG. EQ. EQUIV. EXIST. EXP.	EACH FACE EDGE OF EACH WAY EACH ELEVATION ELECTRICAL ELEVATOR or ELEVATION EMBED or EMBEDMENT ENGINEER EQUAL EQUIVALENT EXISTING EXPANSION	SLO S.D.I. S.E.J. S.J.I. S.O.G. S.F. SCHED. SECT. SHT. SIM. S.I.R.D.A. SL SPA. STD. STIFF.	STEEL DECK INSTITUTE SEISMIC EXPANSION JOIN STEEL JOIST INSTITUTE SLAB-ON-GRADE STEPPED FOOTING SCHEDULE SECTION SHEET SIMILAR SLOPED INTEGRAL ROOF DECK ASSEMBLY SLOPE SPACE STANDARD STIFFENER
DWL. E.F. E.O. E.W. EA. EL. ELEC. ELEV. EMB. ENG. EQUIV. EXIST. EXP.	EACH FACE EDGE OF EACH WAY EACH ELEVATION ELECTRICAL ELEVATOR or ELEVATION EMBED or EMBEDMENT ENGINEER EQUAL EQUIVALENT EXISTING EXPANSION FULL LENGTH	SLO S.D.I. S.E.J. S.J.I. S.O.G. S.F. SCHED. SECT. SHT. SIM. S.I.R.D.A. SL SPA. STD. STIFF. STIR.	STEEL DECK INSTITUTE SEISMIC EXPANSION JOIN STEEL JOIST INSTITUTE SLAB-ON-GRADE STEPPED FOOTING SCHEDULE SECTION SHEET SIMILAR SLOPED INTEGRAL ROOF DECK ASSEMBLY SLOPE SPACE STANDARD STIFFENER STIRRUP
DWL. E.F. E.O. E.W. EA. ELEC. ELEV. EMB. ENG. EQ. EQUIV. EXIST. EXP.	EACH FACE EDGE OF EACH WAY EACH ELEVATION ELECTRICAL ELEVATOR or ELEVATION EMBED or EMBEDMENT ENGINEER EQUAL EQUIVALENT EXISTING EXPANSION	SLO S.D.I. S.E.J. S.J.I. S.O.G. S.F. SCHED. SECT. SHT. SIM. S.I.R.D.A. SL SPA. STD. STIFF.	STEEL DECK INSTITUTE SEISMIC EXPANSION JOIN STEEL JOIST INSTITUTE SLAB-ON-GRADE STEPPED FOOTING SCHEDULE SECTION SHEET SIMILAR SLOPED INTEGRAL ROOF DECK ASSEMBLY SLOPE SPACE STANDARD STIFFENER STIRRUP
DWL. E.F. E.O. E.W. EA. ELEC. ELEV. EMB. ENG. EQUIV. EXIST. EXP. F.L. F.O.	EACH FACE EDGE OF EACH WAY EACH ELEVATION ELECTRICAL ELEVATOR or ELEVATION EMBED or EMBEDMENT ENGINEER EQUAL EQUIVALENT EXISTING EXPANSION FULL LENGTH FACE OF	SLO S.D.I. S.E.J. S.J.I. S.O.G. S.F. SCHED. SECT. SHT. SIM. S.I.R.D.A. SL SPA. STD. STIFF. STIR. STL.	STEEL DECK INSTITUTE SEISMIC EXPANSION JOIN STEEL JOIST INSTITUTE SLAB-ON-GRADE STEPPED FOOTING SCHEDULE SECTION SHEET SIMILAR SLOPED INTEGRAL ROOF DECK ASSEMBLY SLOPE SPACE STANDARD STIFFENER STIRRUP STEEL
DWL. E.F. E.O. E.W. EA. ELEC. ELEV. EMB. ENG. EQUIV. EXIST. EXP. F.L. F.O. F.R.	EACH FACE EDGE OF EACH WAY EACH ELEVATION ELECTRICAL ELEVATOR or ELEVATION EMBED or EMBEDMENT ENGINEER EQUAL EQUIVALENT EXISTING EXPANSION FULL LENGTH FACE OF FIRST RISER	SLO S.D.I. S.E.J. S.J.I. S.O.G. S.F. SCHED. SECT. SHT. SIM. S.I.R.D.A. SL SPA. STD. STIFF. STIR. STRUCT.	STEEL DECK INSTITUTE SEISMIC EXPANSION JOIN STEEL JOIST INSTITUTE SLAB-ON-GRADE STEPPED FOOTING SCHEDULE SECTION SHEET SIMILAR SLOPED INTEGRAL ROOF DECK ASSEMBLY SLOPE SPACE STANDARD STIFFENER STIRRUP STEEL STRUCTURAL
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ARCHITECTURE INTERIOR DESIGN



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23040

SPEIGHT · MARSHALL · FRANCIS 1228 PERIMETER PARKWAY, SUITE 20 VIRGINIA BEACH, VIRGINIA 23454 P: 757.427.1020 11 EMERYWOOD PARKWAY SUITE 300 RICHMOND, VIRGINIA 23294 P: 804.464.4111

FOUNDATION PLAN

1/4" = 1'-0"

FOUNDATION PLAN NOTES:

- A. TOP OF EXISTING ELEVATOR MOTOR ROOM FLOOR MUST SERVE AS THE REFERENCE ELEVATION 0'-0".
- B. FOR THE STRUCTURAL NOTES AND ABBREVIATIONS SEE SHEET S001.
- C. FOR DIMENSIONS NOT SHOWN SEE THE ARCHITECTURAL DRAWINGS.
- D. EXISTING 8'-0"± CONCRETE MAT SLAB.
- E. NEW MEZZANINE FLOOR MUST BE A 6" THICK FIBRILLATED SYNTHETIC FIBER REINFORCED CONCRETE SLAB, OVER 10 MIL. VAPOR RETARDER MINIMUM, OVER GEOFOAM SYSTEM SUPPLIED BY UNIVERSAL CONSTRUCTION FOAM. FIBERS MUST BE TUF-STRAND SF AS MANUFACTURED BY EUCLID CHEMICAL AT A DOSAGE RATE OF 3 POUNDS PER CUBIC YARD.
- F. NEW RAMP SLAB MUST BE A 4" THICK CONCRETE SLAB-ON-GRADE, REINFORCED WITH W.W.F. 6x6-W2.1xW2.1 SET 1" CLEAR FROM TOP OF SLAB. RAMP SLOPES IN PLAN NORTH-SOUTH DIRECTION ONLY, NO CROSS SLOPE.
- G. ALIGN FACE OF NEW CMU WALL WITH FACE OF EXISTING SHAFT WALL ABOVE.
- H. NEW OPENING IN EXISTING WALL SEE RELEVANT SECTION.
- J. SAW CUT INTO EXISTING LIGHTWEIGHT CONCRETE FILL AND CHIP TO AN ELEVATION 4" (MINIMUM) BELOW TOP OF NEW RAMP SLAB FINISHED ELEVATION.
- K. EXISTING ELEVATOR GUIDE RAIL SEE GUIDE RAIL BRACKET DETAILS ON SHEET S501 AND THE ELEVATOR MANUFACTURER'S DRAWINGS.

FOUNDATION PLAN LEGEND:

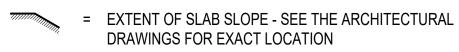
- CJ = SLAB-ON-GRADE CONTROL JOINT SEE TYPICAL DETAIL ON SHEET S501
- S = SLAB-ON-GRADE JOINT



+X'-XX" = TOP OF SLAB ELEVATION - MEASURED FROM REFERENCE ELEVATION 0'-0"



= CHANGE IN SLAB ELEVATION - SEE THE ARCHITECTURAL DRAWINGS FOR EXACT SIZE AND LOCATION



± = APPROXIMATE DIMENSION OR ELEVATION (FIELD VERIFY)

DRAWINGS FOR EXACT LOCATION

(E) = EXISTING

± = EXISTING DIMENSION OR ELEVATION (FIELD VERIFY)

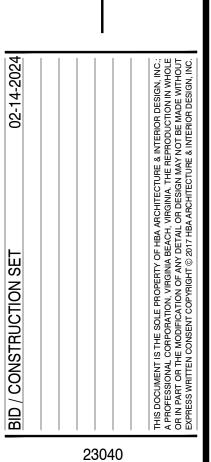
ARCHITECTURE INTERIOR DESIGN

BID / CONSTRUCTION SET

FOUNDATION PLAN

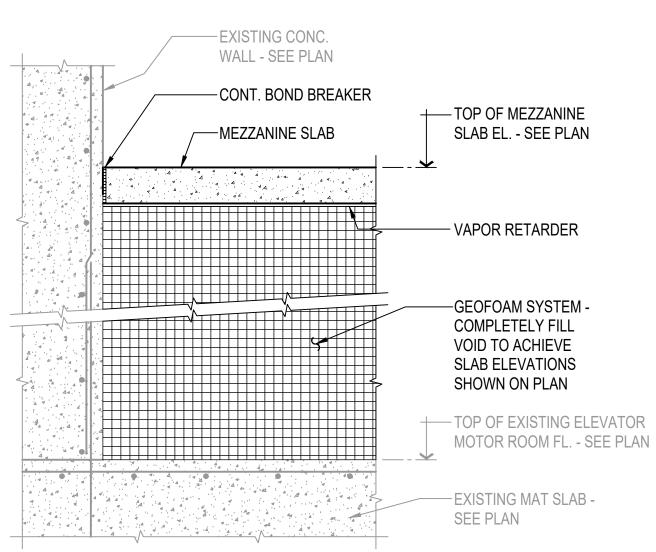
DISTRICT VENTILATION BUILDINGS E AND TUNNEL I

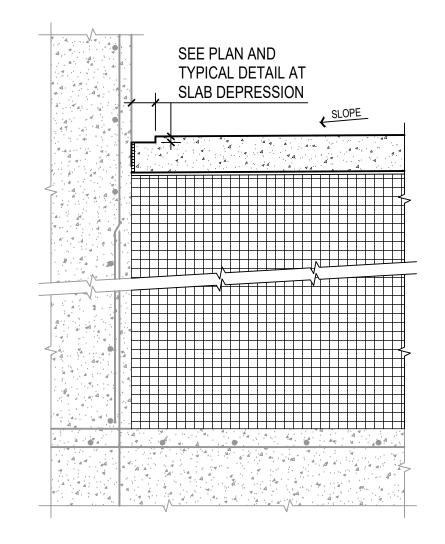
ATOR IN FOUR WI CHESAPEAKE

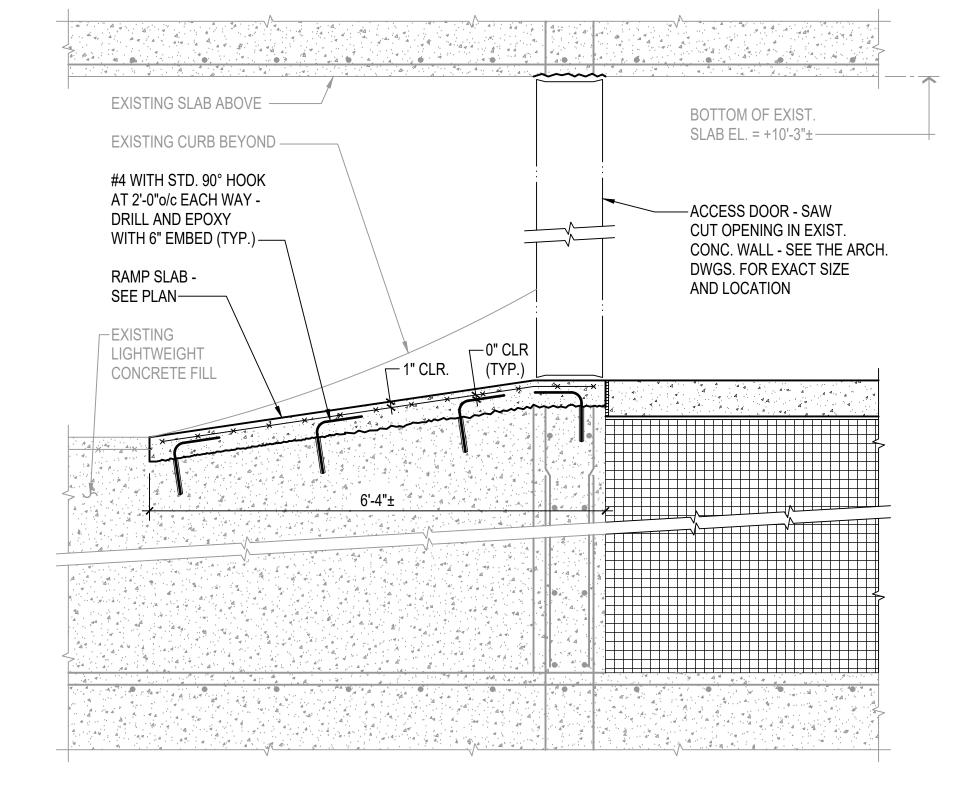


THE INFORMATION REGARDING THE EXISTING CONSTRUCTION WAS OBTAINED FROM THE RECORD DRAWINGS PREPARED BY SVERDRUP & PARCEL DATED JULY 27, 1964 AND BY FIELD INVESTIGATION. ALL INFORMATION SPECIFYING EXISTING CONDITIONS MUST BE VERIFIED BY THE GENERAL CONTRACTOR.









S301

SECTION 3/4" = 1'-0"

FOR DETAILS NOT NOTED SEE SECTION 1/S301 S301 3/4" = 1'-0"

S301

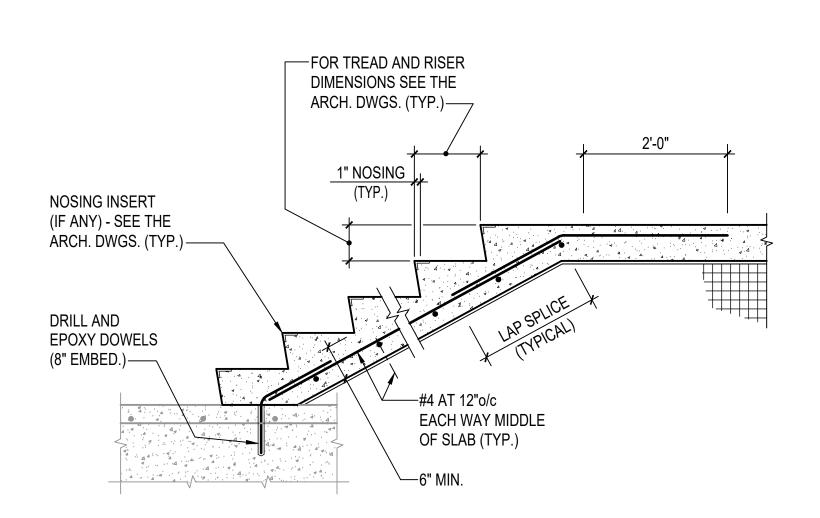
FOR DETAILS

NOT NOTED SEE

SECTION 1/S301

FOR DETAILS NOT NOTED SEE SECTION 1/S301

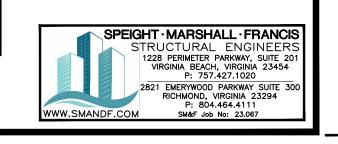
+--BOTTOM OF EXIST. BEAM ABOVE — -EXIST. CONC. BEAM -GALV. L6x4x5/16 (LLV) x 0'-6" ALIGN FACE OF CMU AT EACH END AND AND AT WALL WITH FACE OF 32"o/c (MAX.) WITH 4 - 1/2"Ø MECH. HOISTWAY ABOVE -ANCHORS (3" EMBED) - TYP. -CONT. 8" CMU BOND BEAM REINF. WITH 2 - #4 BOTTOM -CUT COURSE AS REQUIRED **VERTICAL WALL REINFORCING** -SLOPE #4 AT 24"o/c-8" CMU - GROUT **SOLID BELOW** MEZZANINE SLAB -DRILL AND **EPOXY DOWLES** (8" EMBED.)—



FOR DETAILS NOT NOTED SEE SECTION SECTION 1/S301 S301 3/4" = 1'-0"

SECTION

THE INFORMATION REGARDING THE EXISTING CONSTRUCTION WAS OBTAINED FROM THE RECORD DRAWINGS PREPARED BY SVERDRUP & PARCEL DATED JULY 27, 1964 AND BY FIELD INVESTIGATION. ALL INFORMATION SPECIFYING EXISTING CONDITIONS MUST BE VERIFIED BY THE GENERAL CONTRACTOR.





ARCHITECTURE INTERIOR DESIGN MICHAEL J. RIDGE Lic. No. 054268 02/14/24 ESSIONAL .

BID / CONSTRUCTION SET

DISTRICT ION BUILDINGS

TUNNEL AND

TOR IN FOUR BRIDGE

BAY

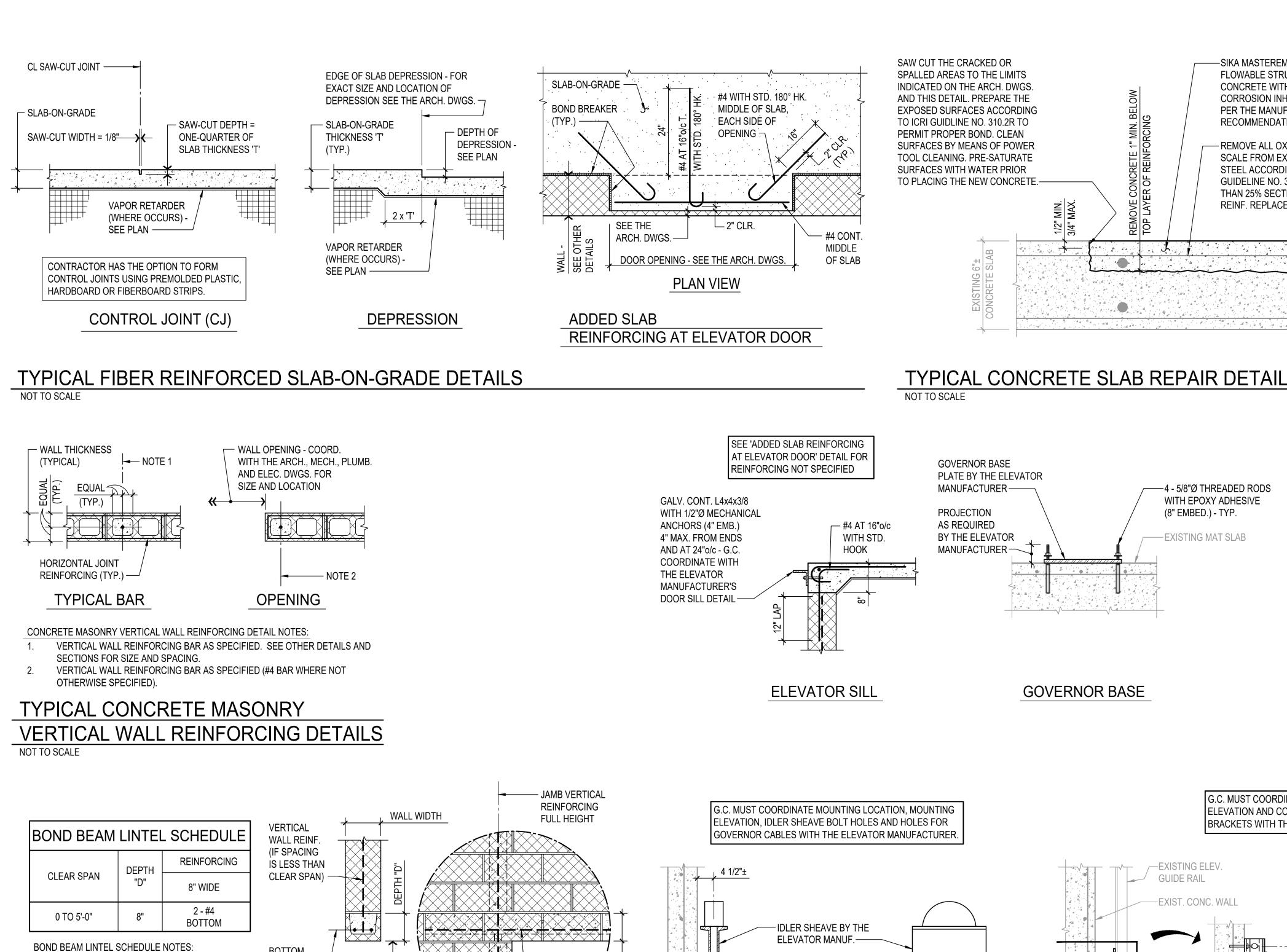
LIONS

SEC.

CHESAPEAKE

23040

S301



LINTEL - SEE

SCHEDULE—

REINFORCING -

SEE SCHEDULE

CLEAR SPAN

(MASONRY OPENING)

TYPICAL JAMB

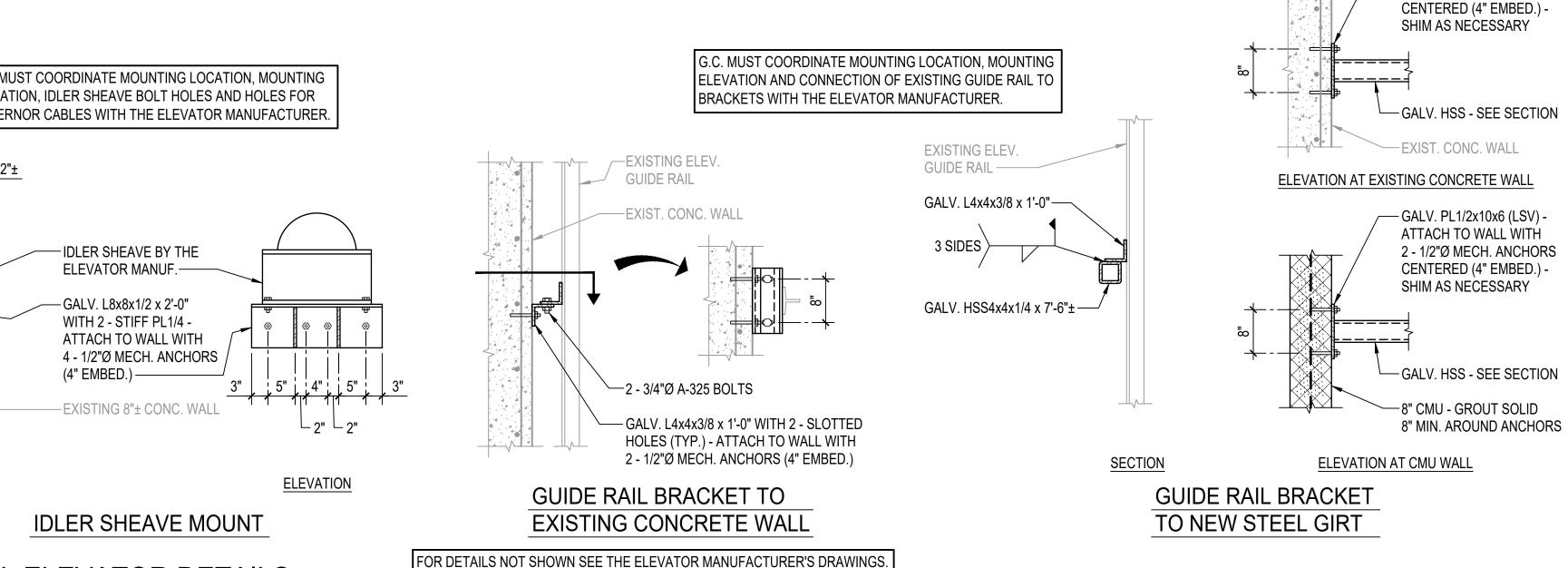
ELEVATION

SECTION

NOT TO SCALE

TYPICAL ELEVATOR DETAILS

24" BEARING



-SIKA MASTEREMACO S 466CI

CONCRETE WITH INTEGRAL

PER THE MANUFACTURER'S

- REMOVE ALL OXIDATION AND

SCALE FROM EXPOSED REINF.

GUIDELINE NO. 310.1R. IF MORE

THAN 25% SECTION LOSS, SEE

REINF. REPLACEMENT DETAIL

STEEL ACCORDING TO ICRI

—4 - 5/8"Ø THREADED RODS WITH EPOXY ADHESIVE

(8" EMBED.) - TYP.

-EXISTING MAT SLAB

RECOMMENDATIONS)

FLOWABLE STRUCTURAL-REPAIR

CORROSION INHIBITOR (INSTALI

TYPICAL BOND BEAM LINTEL DETAILS NOT TO SCALE

REINF.

EL. - SEE THE ARCH.

MECH., PLUMB. OR

ELEC. DRAWINGS

TYPICAL SECTION

(SEE NOTE 2)

1. PROVIDE 24" BEARING EACH END OF LINTEL.

REINFORCING MUST BE DOWELED INTO

2. FOR EXACT SIZE AND LOCATION OF ALL WALL

ARCHITECTURAL, MECHANICAL, PLUMBING

OPENINGS COORDINATE WITH THE

AND ELECTRICAL DRAWINGS.

ADHESIVE (6" EMBED."

EXISTING CONCRETE WALL USING EPOXY

IF 24" BEARING NOT AVAILABLE, BOND BEAM

THE INFORMATION REGARDING THE EXISTING CONSTRUCTION WAS OBTAINED FROM THE RECORD DRAWINGS PREPARED BY SVERDRUP & PARCEL DATED JULY 27, 1964 AND BY FIELD INVESTIGATION. ALL INFORMATION SPECIFYING EXISTING CONDITIONS MUST BE VERIFIED BY THE GENERAL CONTRACTOR.



- GALV. PL1/2x10x6 (LSV) -

ATTACH TO WALL WITH

2 - 1/2"Ø MECH. ANCHORS

REMOVE ALL EXIST. REINF. THAT HAS MORE THAN 25% SECTION LOSS

REPLACE DAMAGED

REINF. WITH #4 BAR -

SOLID EXIST. REINF. TO

-TEMPORARY SHORING - SEE

GENERAL NOTE #4 ON SHEET S001

REPAIR SLAB IN ACCORDANCE WITH 'TYPICAL

SLAB REPAIR DETAIL' ON THIS SHEET.

TYPICAL SLAB REINF. REPLACEMENT DETAIL

-1"Ø THREADED ROD

WITH EPOXY ADHESIVE

-BASE BY THE ELEVATOR

MANUFACTURER

NOT TO SCALE

TRACTION MACHINE ANCHOR BOLT

PROJECTION

AS REQUIRED

BY THE ELEVATOR

MANUFACTURER -

EXISTING 9"± CURB-

EXISTING MAT SLAB-

(SHORING MUST BE IN PLACE PRIOR TO REMOVING ANY REINFORCING) -

-3/4" CLR.

(MIN).

ACHIEVE LAP SPLICE

-EXPOSE ENOUGH

25" LAP SPLICE

ARCHITECTURE INTERIOR DESIGN

MICHAEL J. RIDGE Lic. No. 054268 02/14/24

BID / CONSTRUCTION SET

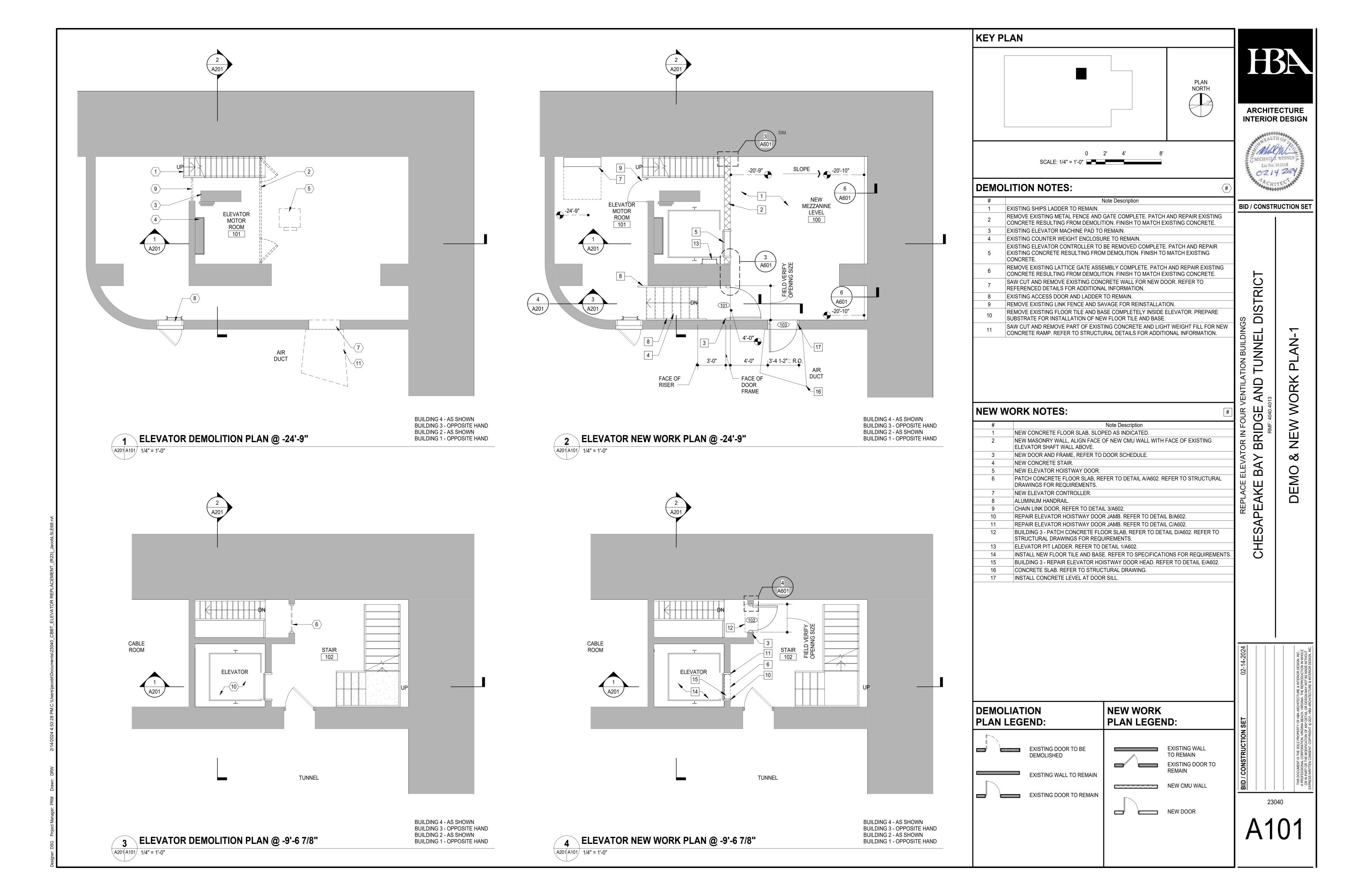
DISTRICT TUNNEL

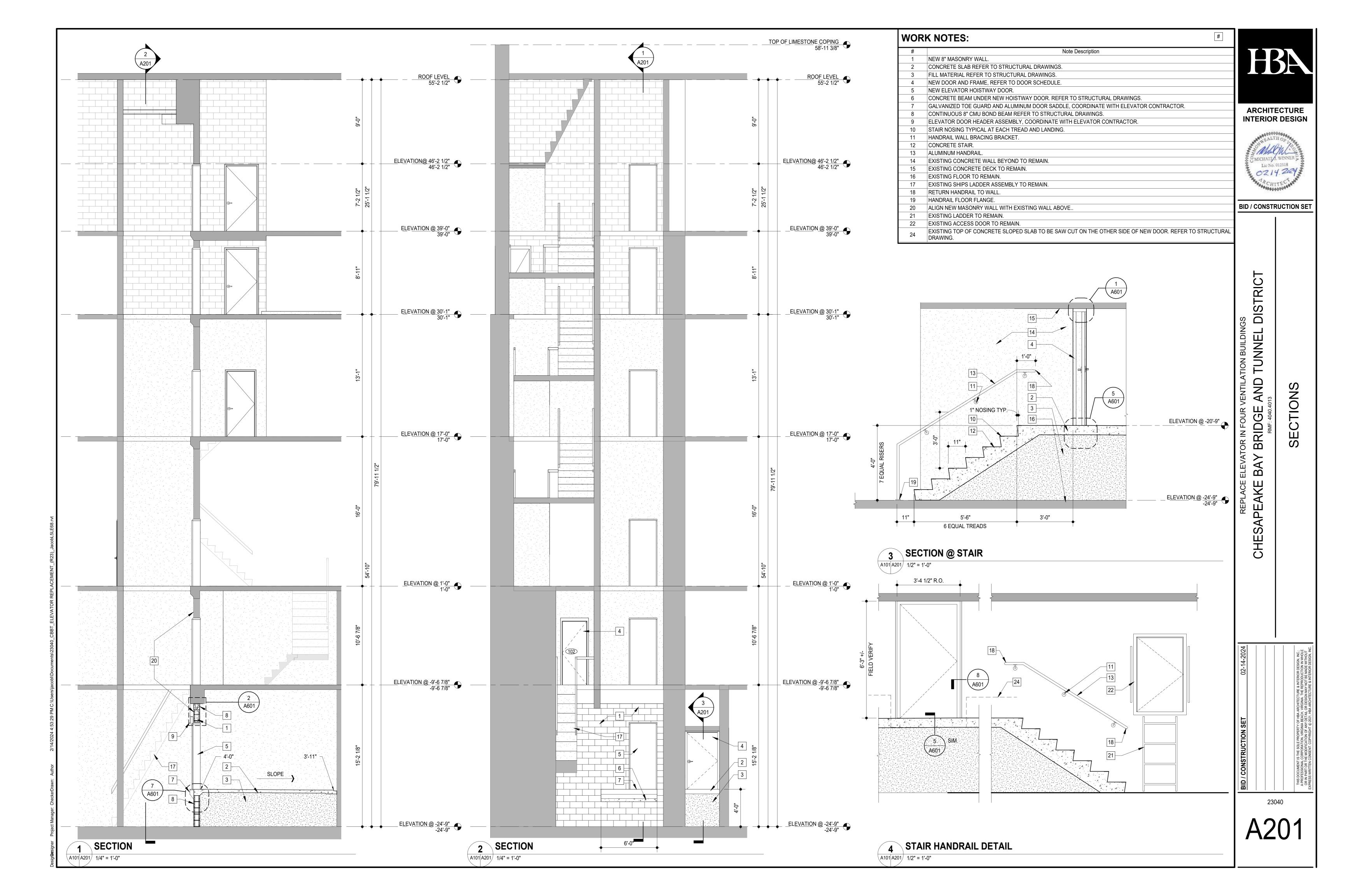
ETAILS TYPICAL

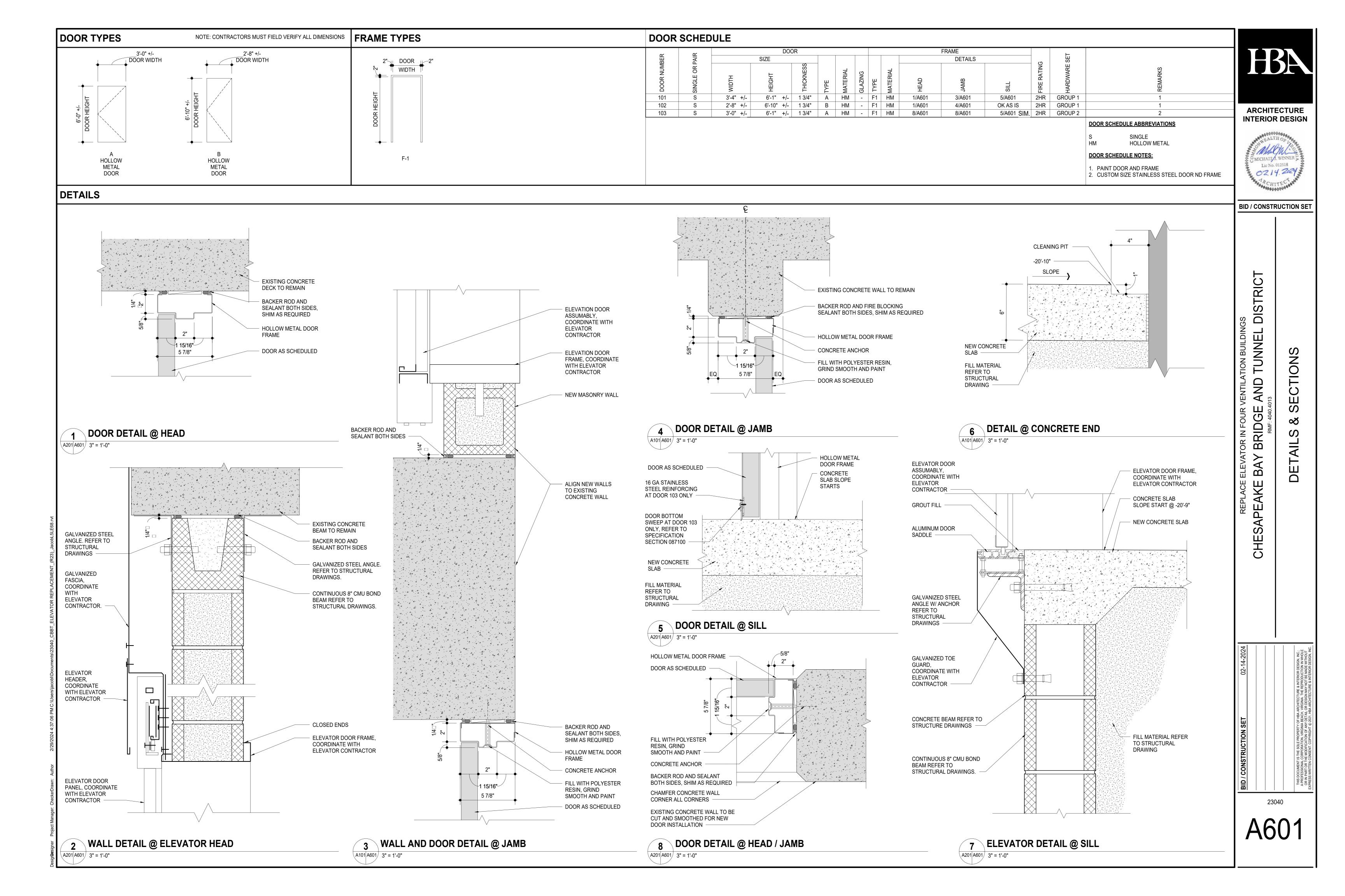
AND TOR IN FOUR BRIDGE BAY EAKE

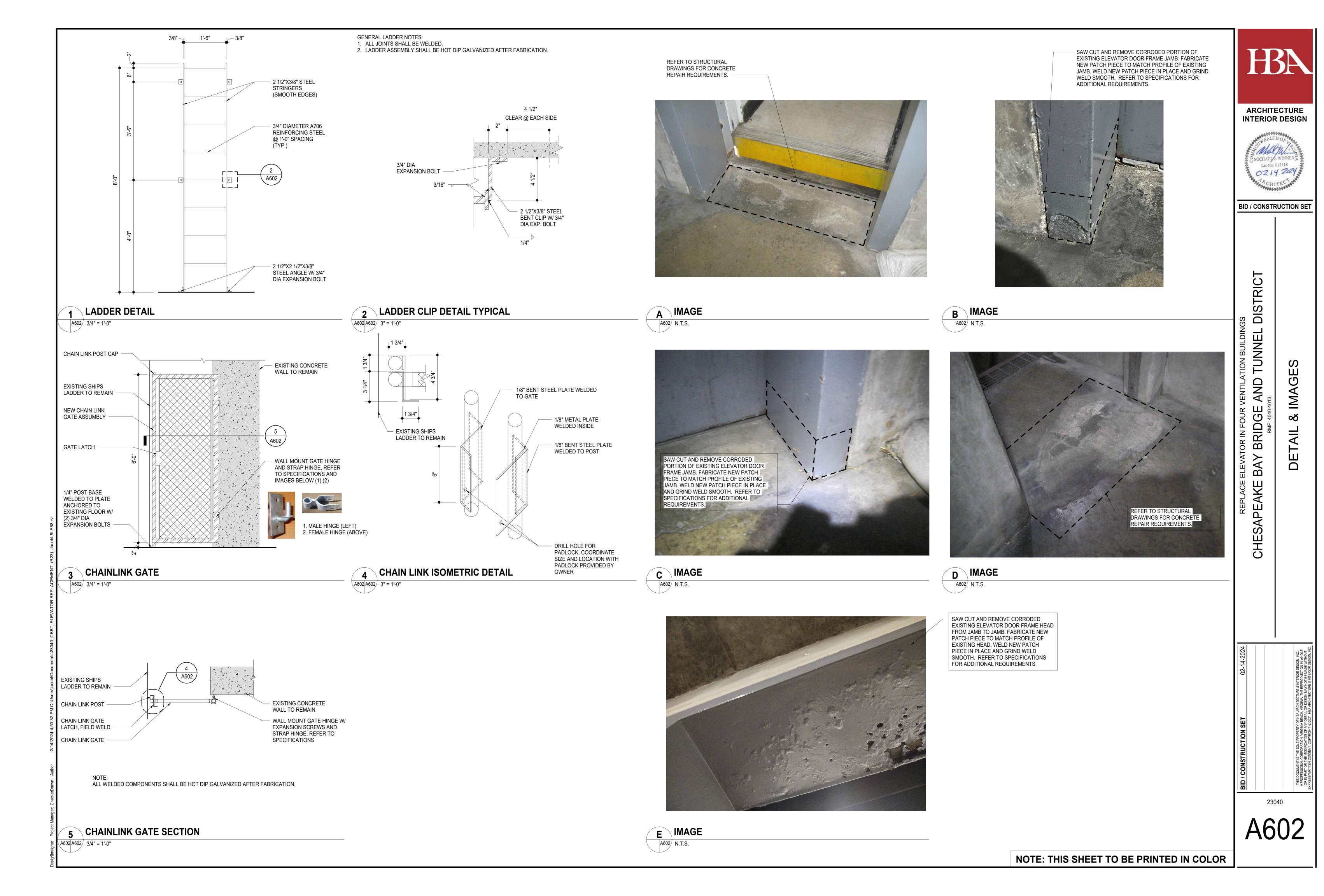
CHESAPE

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COORDINATION: CONTRACTOR SHALL COORDINATE AND COOPERATE WITH ALL TRADES ON THE PROJECT. THE CONTRACTOR SHALL REVIEW ALL CONTRACT DOCUMENTS INCLUDING DRAWINGS AND SPECIFICATIONS. CONTRACTOR SHALL COORDINATE AND ADJUST ACCORDINGLY AS DIRECTED BY THE ENGINEER/OWNER.

AS-BUILT DRAWINGS: CONTRACTOR SHALL SECURE AN EXTRA SET OF ELECTRICAL DRAWINGS TO BE KEPT ON SITE AND MARK, DAILY, THE DRAWINGS IN RED AS THE PROJECT PROGRESSES IN ORDER TO KEEP AN ACCURATE RECORD OF ALL DEVIATIONS BETWEEN THE WORK SHOWN ON THE DRAWINGS AND THE WORK WHICH IS ACTUALLY INSTALLED. THESE MARKED DRAWINGS SHALL REFLECT ANY AND ALL CHANGES AND REVISIONS TO THE ORIGINAL DESIGN WHICH EXISTS IN THE COMPLETED WORK. CONTRACTOR SHALL DELIVER THE MARKED DRAWINGS TO THE OWNER AT PROJECT CLOSE-OUT.

TESTS: CONTRACTOR SHALL TEST ALL WIRING FOR CONTINUITY AND GROUNDS BEFORE CONNECTING ANY FIXTURES OR DEVICES. CONTRACTOR SHALL PERFORM INSULATION RESISTANCE TESTS ON ALL WIRING #6 OR LARGER TO ENSURE THAT ALL PORTIONS ARE FREE FROM SHORT-CIRCUITS AND GROUNDS.

INSPECTIONS: CONTRACTOR SHALL ARRANGE ALL NECESSARY INSPECTIONS. DELIVER ALL REQUIRED INSPECTION CERTIFICATES TO THE

GROUNDING: CONTRACTOR SHALL PROVIDE GROUNDING IN ACCORDANCE WITH THE NEC FOR THE ENTIRE ELECTRICAL SYSTEM INCLUDING EQUIPMENT FRAMES CONDUITS, SWITCHES, CONTROLLERS, WIRE-WAYS, NEUTRAL CONDUCTORS, AND OTHER EQUIPMENT. CONTRACTOR SHALL PROVIDE A GROUNDING CONDUCTOR IN ALL POWER CONDUITS.

LABELS: CONTRACTOR SHALL PROVIDE LABELS FOR ALL ENCLOSED CIRCUIT BREAKERS, PANELBOARDS, SAFETY SWITCHES AND ELEVATOR CONTROLLERS. LABELS SHALL BE MACHINE ENGRAVED, LAMINATED PLASTIC, PERMANENTLY ATTACHED WITH SELF-TAPPING SCREWS OR RIVETS. DO NOT USE SELF-ADHESIVE LABELS. LABEL SHALL INDICATE EQUIPMENT DESIGNATION AND ASSOCIATED PANEL AND CIRCUIT THAT SERVES IT.

J-BOX LABELING: CONTRACTOR SHALL LABEL ALL JUNCTION BOXES WITH PERMANENT MARKER IDENTIFYING CIRCUIT NUMBER AND PANELBOARD OF CIRCUITS WITHIN.

WIRING DEVICES: LABEL ALL WIRING DEVICES WITH PANELBOARD AND CIRCUIT DESIGNATION PERMANENTLY ATTACHED WITH BLACK TYPED DESIGNATION ON CLEAR TAPE.

PANEL DIRECTORY: CONTRACTOR SHALL PROVIDE TYPEWRITTEN PANELBOARD DIRECTORY CARD IN EACH PANELBOARD ADDED OR MODIFIED WITH CIRCUIT LOAD INFORMATION AND ROOM NUMBER CLEARLY IDENTIFIED. CONTRACTOR SHALL USE ACTUAL ROOM NUMBERS IN THE BUILDING, NOT THE ROOM NUMBERS SHOWN ON THE CONTRACT DRAWINGS, AS THEY ARE OFTEN DIFFERENT

CONDUCTORS AND MATCHING LUGS: IN SITUATIONS WHERE CONDUCTOR SIZES AND/OR QUANTITIES OF PARALLEL SETS HAVE BEEN INCREASED DUE TO VOLTAGE DROP OR FOR OTHER REASONS, CONTRACTOR SHALL PROVIDE THE APPROPRIATE LUG SIZES/QUANTITIES WITHIN THE EQUIPMENT CONNECTED TO PERMIT SATISFACTORY CONNECTION OF THE INDICATED CONDUCTORS. WHERE SUFFICIENT LUG SIZES AND/OR QUANTITIES CANNOT BE PROVIDED TO ACCOMMODATE THE CONDUCTORS INDICATED, THEN PROVIDE REDUCING ADAPTERS, PIN TERMINALS, OR A JUNCTION BOX TO SPLICE LARGER CONDUCTORS TO APPROPRIATELY SIZED SMALLER CONDUCTORS TO FIT INTO THE LUGS PROVIDED. ALL CONDUCTORS SHALL BE SIZED IN ACCORDANCE WITH THE NEC.

WORKING CLEARANCE: CONTRACTOR SHALL COORDINATE FINAL LOCATIONS OF ELECTRICAL EQUIPMENT WITH MECHANICAL DUCTWORK, PIPING ETC. AND ASSURE WORKING CLEARANCE REQUIRED BY NEC WILL BE MET. SUFFICIENT ACCESS AND WORKING SPACE SHALL BE PROVIDED AND MAINTAINED AROUND ELECTRICAL EQUIPMENT AS REQUIRED BY THE NATIONAL ELECTRICAL CODE. CONTRACTOR SHALL COORDINATE FINAL LOCATION OF EQUIPMENT PROVIDED AND INSTALLED BY OTHER TRADES

MATERIAL COORDINATION: CONTRACTOR SHALL VERIFY CEILING AND WALL CONSTRUCTION AND MATERIAL PRIOR TO ORDERING EQUIPMENT OR OTHER DEVICES TO INSURE PROPER EQUIPMENT OR DEVICE IS FURNISHED TO MATCH CONSTRUCTION

BARRIERS: WHERE A MULTIPLE-GANG BOX HAS CIRCUITS OF DIFFERENT VOLTAGES OR SYSTEMS WHICH ARE REQUIRED TO BE SEPARATED, CONTRACTOR SHALL PROVIDE THE CODE-REQUIRED SEPARATION USING A FULL HEIGHT AND DEPTH BARRIER PLATE.

CLEAN UP: ON PROJECT CLOSE-OUT, CONTRACTOR SHALL CLEAN ALL ELECTRICAL DEVICES, AND EQUIPMENT AND REMOVE ALL PAINT SPATTERS.

PHASE ROTATION: CONTRACTOR SHALL ENSURE PROPER PHASE ROTATION PRIOR TO ENERGIZING LOADS.

ELECTRICAL DEMOLITION NOTES

GENERAL: DEMOLITION DRAWINGS ARE BASED ON EXISTING PLANS AND FIELD INVESTIGATION PRIOR TO DEMOLITION. PROPOSED BIDDERS SHALL VISIT THE EXISTING BUILDING PRIOR TO BID IN ORDER TO BECOME FAMILIAR WITH THE EXISTING CONDITIONS AND IN ORDER TO AVOID CONFLICTS.

DASHED ITEMS: ALL ITEMS SHOWN DASHED ON DEMOLITION PLANS ARE EXISTING AND SHALL BE REMOVED BY THE CONTRACTOR.

SOLID ITEMS: ALL ITEMS SHOWN SOLID ON DEMOLITION PLANS ARE EXISTING TO

CIRCUITING TO REMAIN: EXISTING CIRCUITING TO REMAIN SHALL BE REROUTED OR RECONNECTED BY THE CONTRACTOR, AS REQUIRED, WHERE AFFECTED BY NEW WORK IN ORDER TO MAINTAIN CONTINUITY OF THE CIRCUIT.

EXISTING CONDUIT: ALL EXISTING CONDUITS AND WIRING THAT WILL NOT BE REUSED SHALL BE REMOVED BY THE CONTRACTOR WHERE THEY WILL BE EXPOSED UPON COMPLETION OF NEW WORK. EXISTING CONDUIT TO REMAIN CONCEALED IN WALLS SHALL BE ABANDONED. EXISTING CONDUIT TO REMAIN BELOW FLOOR SLAB SHALL BE CUT OFF ONE INCH BELOW ROUGH FLOOR AND GROUTED FLUSH BY THE CONTRACTOR. ALL EXISTING WIRING IN CONDUITS TO BE ABANDONED SHALL BE DISCONNECTED FROM POWER SOURCE AND REMOVED BY THE CONTRACTOR.

REPAIR DAMAGE: CONTRACTOR SHALL EXERCISE CARE IN REMOVAL OF DEMOLITION ITEMS. CONTRACTOR SHALL REPAIR, AT NO ADDITIONAL COST TO THE OWNER, ANY DAMAGE CAUSED TO EXISTING CONSTRUCTION AND/OR EQUIPMENT TO REMAIN.

ASSOCIATED APPURTENANCES: CONTRACTOR SHALL REMOVE ALL ELECTRICAL APPURTENANCES (DISCONNECTS, STARTERS, WIRING, CONDUIT, ETC.) ASSOCIATED WITH ITEMS TO BE REMOVED.

KNOCKOUT PLUGS AND COVERS: ALL CONDUIT REMOVED SHALL BE REMOVED IN ITS ENTIRETY BY THE CONTRACTOR, INCLUDING FITTINGS, MOUNTING DEVICES, MOUNTING HARDWARE, ETC. CONTRACTOR SHALL PROVIDE CONDUIT PLUGS AND BLANKS FOR ALL OPENINGS CREATED BY THE REMOVAL OF CONDUIT. CONTRACTOR SHALL PROVIDE BLANK COVER PLATES FOR ALL OPENED OUTLET BOXES CREATED BY THE REMOVAL OF EQUIPMENT AND/OR DEVICES

DEMOLISHED MATERIALS: ALL MATERIALS REMOVED UNDER DEMOLITION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED COMPLETELY FROM THE SITE BY THE CONTRACTOR.

SCHEDULE OUTAGES: CONTRACTOR SHALL SCHEDULE ALL WORK AND ALL POWER OUTAGES IN THE EXISTING BUILDINGS AT TIMES CONVENIENT TO THE OWNER WITH A MINIMUM OF 48 HOURS NOTICE.

NOTIFICATION: CONTRACTOR SHALL NOTIFY THE OWNER PRIOR TO TURNING OFF ANY CIRCUITS.

1. HOUSING SHALL BE NEMA 4X FIBERGLASS WITH STAINLESS STEEL MOUNTING BRACKETS.

5. UL LISTED FOR DAMP LOCATIONS AND TESTED IN ACCORDANCE WITH IESNA LM-79 AND

DETAIL BASED ON COLUMBIA LIGHTING, "LXEM4" SERIES

4' LED INDUSTRIAL STRIP

VOLTAGE

120-277V

MOUNTING

SURFACE, CEILING/WALL

RFA Lens: 2', 4', 8', RFP Lens: 2', 4'

LUMINAIRE DESCRIPTION:

2. FINISH SHALL BE WHITE.

LM-80 STANDARDS.

TYPE | LUMENS |

5,721

3. LENS SHALL BE RIBBED FROSTED POLYCARBONATE.

4. HIGH EFFICIENCY, INTEGRAL ELECTRONIC LED DRIVERS.

6. PROVIDE FIXTURE WITH 0-10V DIMMING DOWN TO 10%.

4000K LED

LAMP TYPE I INPUT WATTS

ELECTRICAL LEGEND

LIGHTING

LIGHTING FIXTURE TYPE SYMBOL. SEE LIGHTING FIXTURE DETAIL

SINGLE POLE SWITCH, 20A, 120/277V, 46" AFF UON

THREE-WAY SWITCH, 20A, 120/277V, 46" AFF UON

LIGHTING FIXTURE, SUBSCRIPT "NL", WHERE USED, INDICATES A NIGHT LIGHT

(ALL DRIVERS UNSWITCHED)

EXISTING SURFACE MOUNTED LIGHTING FIXTURE

EXISTING WALL MOUNTED LIGHTING FIXTURE

POWER

 \bigcirc

ㅁ

AND

0

THE FOLLOWING SUBSCRIPTS SHALL APPLY TO RECEPTACLES WHERE USED:

WEATHER RESISTANT GFI RECEPTACLE WITH WEATHERPROOF

WHILE-IN-USE COVER.

SINGLE RECEPTACLE 20A, 120V, 18" AFF, UON

DUPLEX CONVENIENCE RECEPTACLE 20A, 120V, 18" AFF, UON

JUNCTION BOX

MOTOR CONNECTION \mathcal{O}'

SAFETY SWITCH, 60A-3P, FU @ 30A, 3R

SWITCH RATING— NUMBER OF POLES—

FUSE RATING (NF INDICATES NON-FUSED) NEMA ENCLOSURE IF OTHER THAN NEMA 1-

ENCLOSED CIRCUIT BREAKER, 60A-3P, 3R

BREAKER TRIP RATING NUMBER OF POLES-NEMA ENCLOSURE IF OTHER THAN NEMA 1-

ELECTRICAL PANELBOARD

DRY-TYPE TRANSFORMER

ELECTRICAL CIRCUIT RUN IN CONDUIT AND CIRCUIT HOMERUN TO PANELBOARD (PANEL AND CIRCUIT DESIGNATION AS INDICATED). AS A MINIMUM CONDITION, EACH SINGLE PHASE CIRCUIT SHALL HAVE 1 #12 PHASE CONDUCTOR, 1 #12 NEUTRAL CONDUCTOR AND 1 #12 GROUNDING CONDUCTOR IN 3/4" CONDUIT. PROVIDE ADDITIONAL PHASE CONDUCTORS AS REQUIRED FOR "MULTIPLE PHASED" ELECTRICAL LOADS. PROVIDE NEUTRAL CONDUCTOR TO ALL WALL SWITCH OUTLET BOXES WHETHER REQUIRED OR NOT. PROVIDE ADDITIONAL "SWITCH LEG" CONDUCTORS TO PROVIDE THE LIGHT FIXTURE CONTROL INDICATED. MULTIPLE SINGLE PHASE CONDUCTORS MAY BE GROUPED TOGETHER IN A COMMON CONDUIT IN ACCORDANCE WITH THE NEC AND AT THE CONTRACTOR'S DISCRETION. GROUNDING CONDUCTORS MAY BE SHARED AS ALLOWED BY THE NEC. NEUTRAL CONDUCTORS SHALL NOT BE SHARED. MULTI-POLE BREAKERS SHALL BE PROVIDED IN ACCORDANCE WITH THE NEC WHERE MULTI-WIRE

BRANCH CIRCUITS ARE REQUIRED. CONDUIT LARGER THAN 3/4" AND

CONDUCTORS LARGER THAN #12 SHALL BE AS INDICATED.

GENERAL

 $\langle 1 \rangle$

NEW WORK NOTE SYMBOL

DEMOLITION NOTE SYMBOL

ABBREVIATIONS

A AMPERE

AFF ABOVE FINISHED FLOOR

AFG ABOVE FINISHED GRADE AIC AMPERE INTERRUPTING CAPACITY

CFCI CONTRACTOR FURNISHED,

C CONDUIT

CONTRACTOR INSTALLED

CKT CIRCUIT

CB CIRCUIT BREAKER

DE DOMINION ENERGY EC EMPTY CONDUIT

ECB ENCLOSED CIRCUIT BREAKER

EF EXHAUST FAN

ETR EXISTING TO REMAIN

FLA FULL LOAD AMPS

GFI GROUND FAULT INTERRUPTER GND GROUND

HP HORSE POWER

KAIC THOUSAND AMPERE

INTERRUPTING CAPACITY

KVA KILO-VOLT-AMPERES

KW KILO-WATTS

LTG LIGHTING

MCB MAIN CIRCUIT BREAKER

MCC MOTOR CONTROL CENTER

MLO MAIN LUGS ONLY

NEC NATIONAL ELECTRICAL CODE

NF NON-FUSED NIC NOT IN CONTRACT

NTS NOT TO SCALE

OC ON CENTER

OFCI OWNER FURNISHED,

CONTRACTOR INSTALLED

P POLE PF POWER FACTOR

PNL PANEL

PNLBD PANELBOARD

Ø PHASE

PTST PARALLEL THIMBLE SHOAL TUNNEL

RECEPT RECEPTACLE

REQ'D REQUIRED

SPD SURGE PROTECTION DEVICE

TYP TYPICAL

UON UNLESS OTHERWISE NOTED

V VOLT

W WATTS/WIRE

WP WEATHERPROOF

 \circ

COLLABORATIVE

ARCHITECTURE

INTERIOR DESIGN

ROBERT T. WEISE

Lic. No. 054492

02-14-2024

BID / CONSTRUCTION SET

BREVIATION

0

<u>~</u>

BRID RMF.

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EXISTING CONDITIONS NOTE:

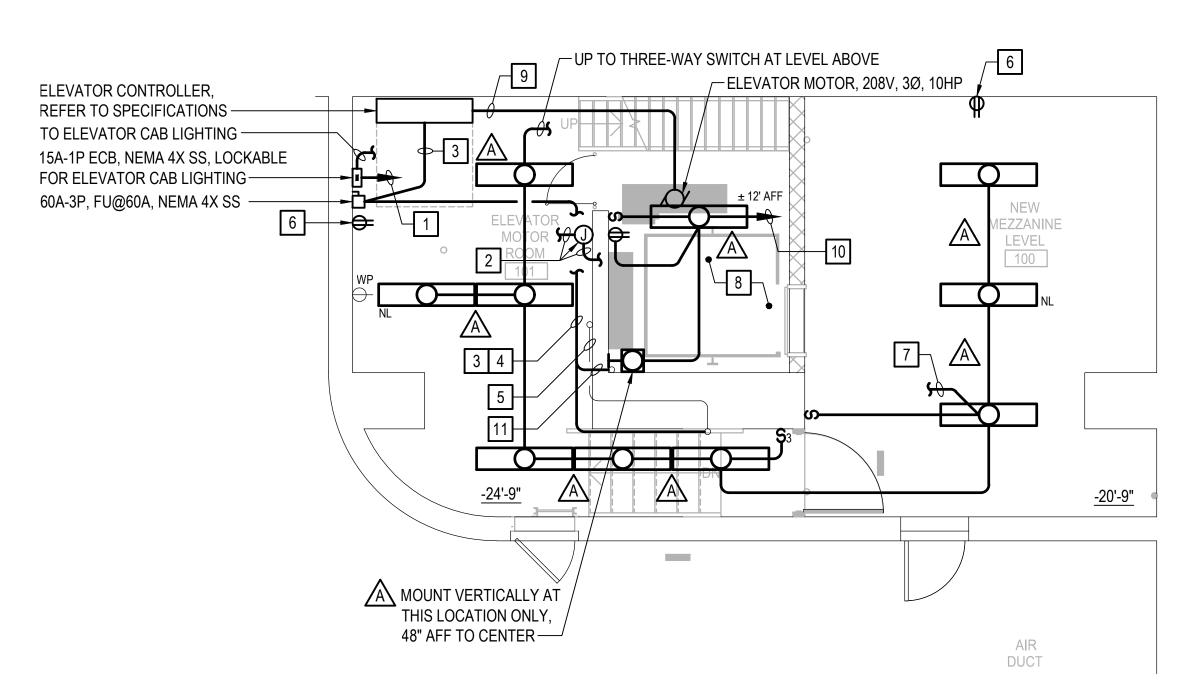
THE CONTRACTOR SHALL VISIT THE EXISTING SITES PRIOR TO BID IN ORDER TO BECOME FAMILIAR WITH THE EXISTING CONDITIONS AND IN ORDER TO AVOID CONFLICTS. LACK OF KNOWLEDGE OF EXISTING CONDITIONS SHALL NOT BE A BASIS FOR CHANGE ORDERS.

GENERAL NOTE:

WORK SHOWN IN THIS SET OF CONTRACT DOCUMENTS IS BASED ON PORTAL ISLAND BUILDING #3. THIS WORK IS TYPICAL FOR PORTAL ISLAND BUILDINGS #1, #2, AND #4.

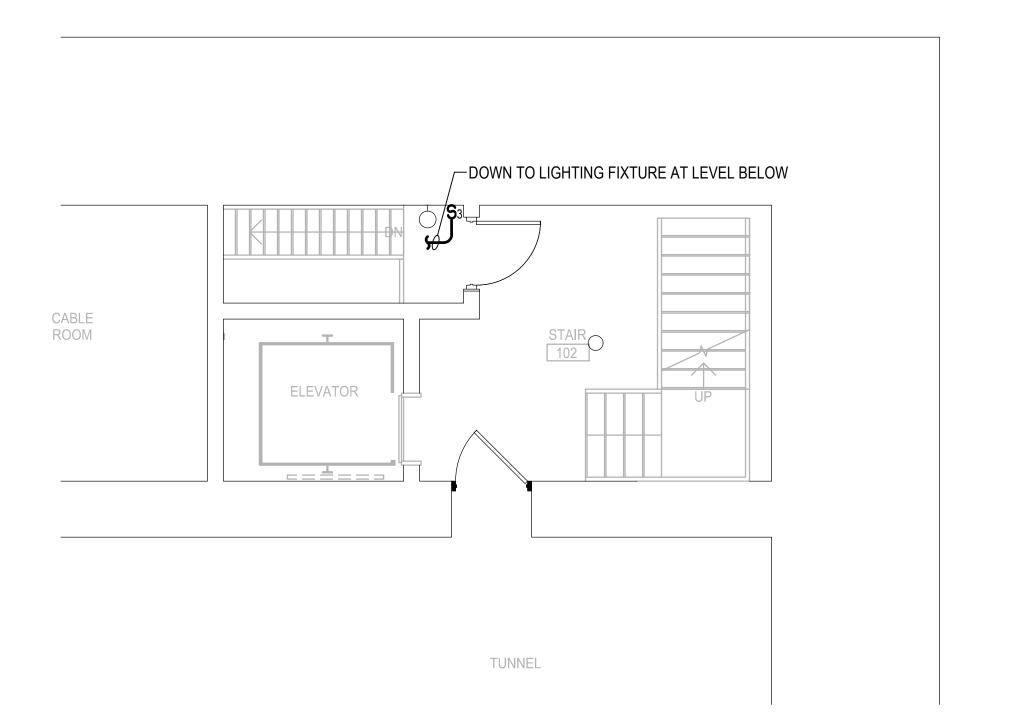
ELEVATOR DEMOLITION PLAN @ -24'-9"

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



ELEVATOR NEW WORK PLAN @ -20'-9" AND -24'-9"

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



ELEVATOR NEW WORK PLAN @ -9'-6 7/8"

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

NOTES THIS SHEET - DEMOLITION

- REMOVE ELEVATOR CAB LIGHTING SWITCH. SAVE EXISTING CIRCUIT FOR REUSE PER NEW WORK PLANS.
- REMOVE ELEVATOR CONTROLLER DISCONNECT SWITCH AND REMOVE ASSOCIATED WIRING BACK TO EXISTING "HOUSE-BUS-2" ON ELECTRICAL EQUIPMENT ROOM FLOOR. REMOVE EXISTING CONDUIT TO A CONVENIENT POINT FOR REUSE PER NEW WORK PLANS.
- AT PORTAL ISLAND #1, #2, AND #4 ONLY CONDUITS ROUTED AS SHOWN (EXISTING CONDUIT RUN CONCEALED WITHIN CONCRETE AND TURNING UP AT CONDUIT BANK ALONG ELEVATOR SHAFT TO ABOVE).
- REMOVE EXISTING ELEVATOR CONTROL WIRING AND CONDUIT COMPLETE.
- 5 AT PORTAL ISLAND #1 ONLY THE DISTRICT'S CONTRACTOR SHALL RELOCATE EXISTING TUNNEL INSTALLATION/MONITORING EQUIPMENT AS REQUIRED TO ACCOMMODATE NEW WORK. COORDINATE WITH THE DISTRICT
- 6 REMOVE EXISTING RECEPTACLE TO ACCOMMODATE MEZZANINE FLOOR INSTALLATION. SAVE CIRCUIT FOR REUSE.
- 7 DEVICE/FIXTURE LOCATED AT PORTAL ISLAND #1 ONLY.
- 8 REMOVE EXISTING RECEPTACLE AND BOX. SAVE CIRCUIT FOR REUSE.
- 9 AT PORTAL ISLAND #3 ONLY CONDUITS ROUTED AS SHOWN (EXISTING CONDUIT RUN EXPOSED WITHIN ELEVATOR SHAFT).

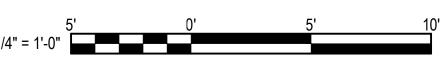
FEEDER ROUTING NOTE:

FEEDER ROUTING IS BASED ON REFERENCE DRAWINGS AND LIMITED FIELD INVESTIGATION. CONTRACTOR SHALL FIELD VERIFY EXISTING ROUTING FOR EACH PORTAL ISLAND BUILDING. NOTE THAT EXACT ROUTING AND LOCATION OF PULL BOX, PULLING ELBOWS, ETC. MAY VARY IN EACH BUILDING.

NOTES THIS SHEET - NEW WORK

- 1 CONNECT TO EXISTING PANEL "ESP" (TUNNEL LIGHTING CONTROL ROOM FLOOR PLAN SEE E102).
- JUNCTION BOX FOR ELEVATOR CAB PHONE AND CAT-6 CABLING TO OWNER FURNISHED IP PHONE IN ELEVATOR (COORDINATE WITH ELEVATOR SPECIFICATIONS). PROVIDE (1) 3/4"C WITH CAT-6 CABLING TO EXISTING CNC CABINET ON TUNNEL LIGHTING CONTROL ROOM FLOOR SEE E102.
- 3 #4, 1 #4 GND 1-1/2"C.
- 4 UTILIZE EXISTING CONDUIT TO THE FULLEST EXTENT POSSIBLE. EXTEND 1-1/2"C AS REQUIRED.
- 5 AT PORTAL ISLAND #1, #2, AND #4 ONLY CONDUITS ROUTED AS SHOWN (EXISTING CONDUIT RUN CONCEALED WITHIN CONCRETE AND TURNING UP AT CONDUIT BANK ALONG ELEVATOR SHAFT TO ABOVE).
- 6 CONNECT RECEPTACLE TO EXISTING CIRCUIT SAVED DURING DEMOLITION. EXTEND 2 #12, 1 #12 GND 3/4"C AS REQUIRED.
- 7 CONNECT TO EXISTING CIRCUIT SAVED DURING DEMOLITION (PREVIOUSLY SERVING ELEVATOR CAB LIGHTING). EXTEND 2 #12, 1 #12 GND 3/4"C AS REQUIRED.
- 8 SUPPORTS FOR CABLES AND RACEWAYS LOCATED IN HOISTWAY SHALL BE SECURELY FASTENED TO THE GUIDE RAILS OR HOISTWAY IN ACCORDANCE WITH NEC ARTICLE 620.34.
- 9 3 #6, 1 #10 GND 3/4"C.
- 10 CONNECT TO SPARE 20A-1P CIRCUIT BREAKER IN EXISTING PANEL "LP2" (TUNNEL LIGHTING CONTROL ROOM FLOOR SEE E102). CORE DRILL EXISTING FLOOR AS REQUIRED.
- AT PORTAL ISLAND #3 ONLY CONDUITS ROUTED AS SHOWN (EXISTING CONDUIT RUN EXPOSED WITHIN ELEVATOR SHAFT).

GRAPHIC SCALE:



GENERAL NOTE:

WORK SHOWN IN THIS SET OF CONTRACT DOCUMENTS IS BASED ON PORTAL ISLAND BUILDING #3. THIS WORK IS

TYPICAL FOR PORTAL ISLAND BUILDINGS #1, #2, AND #4.

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E101

ARCHITECTURE

INTERIOR DESIGN

BID / CONSTRUCTION SET

DISTRIC

TUNNEL

AND

BRIDGE

CHESAPEAKE

00

9/14/2023 10·01·16 AM

: Drawn:

Project Manager:

Designer: Project M

FEEDER ROUTING NOTE:

FEEDER ROUTING IS BASED ON REFERENCE DRAWINGS AND LIMITED FIELD INVESTIGATION. CONTRACTOR SHALL FIELD VERIFY EXISTING ROUTING FOR EACH PORTAL ISLAND BUILDING. NOTE THAT EXACT ROUTING AND LOCATION OF PULL BOX, PULLING ELBOWS, ETC. MAY VARY IN EACH BUILDING.



HBA

ARCHITECTURE INTERIOR DESIGN

ONAL ENG

BID / CONSTRUCTION SET

DISTRIC

TUNNEL

AND

BRIDGE RMF: 4040

CHESAPEAKE

FLOOR

ROOM

CONT

LIGHTING

TUNNEL

NOTES THIS SHEET - NEW WORK

NOTES THIS SHEET - DEMOLITION

1 REMOVE ELEVATOR FEEDER WIRING FROM ELEVATOR CONTROLLER

SHOWN (CONDUIT RUN UP BANK ALONG ELEVATOR SHAFT TO IN-SLAB

(3) AT PORTAL ISLAND #3 ONLY - CONDUITS ROUTED AS SHOWN (EXISTING

DISCONNECT BACK TO EXISTING 70A-3P CIRCUIT BREAKER IN

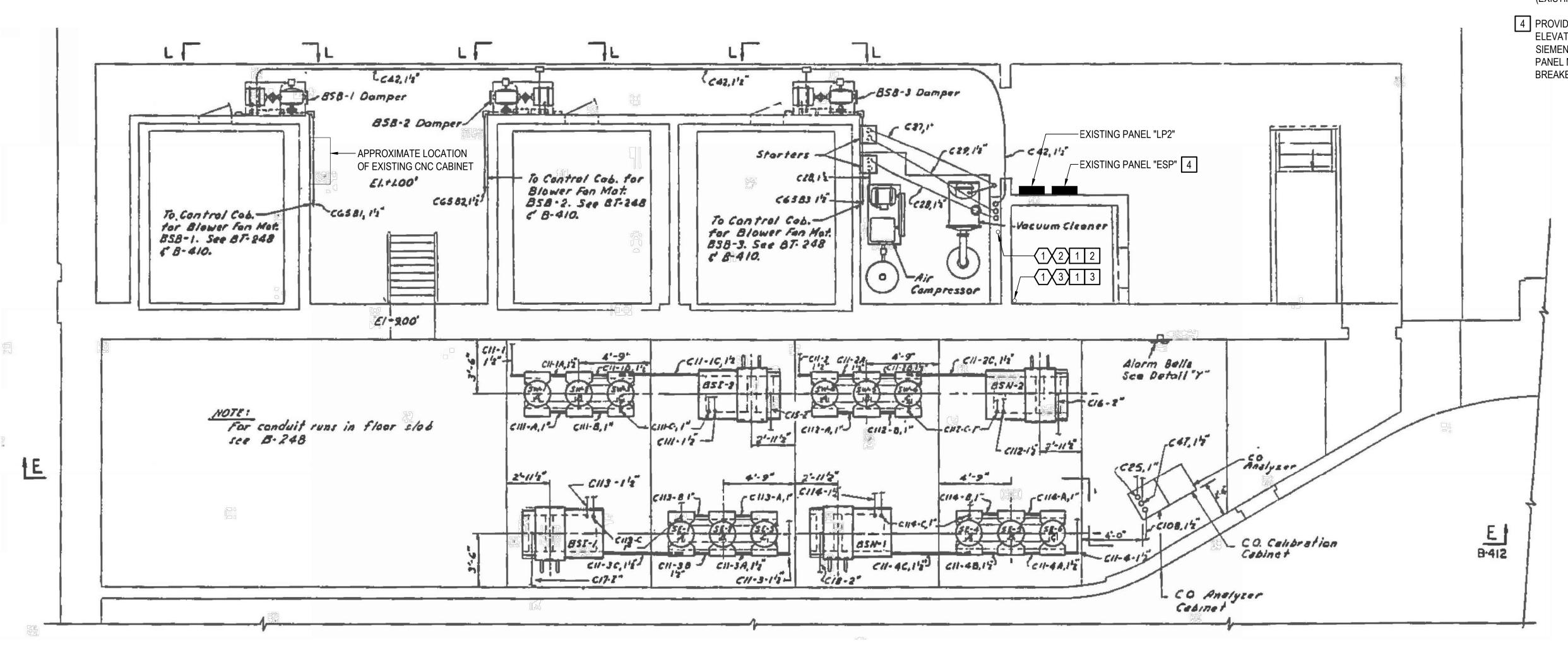
2 AT PORTAL ISLAND #1, #2, AND #4 ONLY - CONDUITS ROUTED AS

CONDUIT RUN EXPOSED WITHIN ELEVATOR SHAFT).

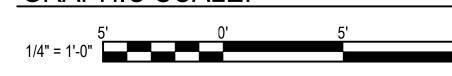
"HOUSE-BUS-2" - SAVE CONDUIT FOR REUSE.

PULLBOX ABOVE).

- 1 3 #4, 1 #4 GND 1-1/2"C. UTILIZE EXISTING CONDUIT TO THE FULLEST EXTENT POSSIBLE. EXTEND 1-1/2"C AS REQUIRED.
- 2 AT PORTAL ISLAND #1, #2, AND #4 ONLY CONDUITS ROUTED AS SHOWN (CONDUIT RUN UP BANK ALONG ELEVATOR SHAFT TO IN-SLAB PULLBOX ABOVE).
- 3 AT PORTAL ISLAND #3 ONLY CONDUITS ROUTED AS SHOWN (EXISTING CONDUIT RUN EXPOSED WITHIN ELEVATOR SHAFT).
- PROVIDE (1) 20A-1P CIRCUIT BREAKER IN EXISTING SPACE TO SERVE ELEVATOR CAB LIGHTING. EXISTING PANEL IS MANUFACTURED BY SIEMENS "S1" SERIES. CONTRACTOR TO FIELD VERIFY EXISTING PANEL MANUFACTURER/SERIES PRIOR TO ORDERING CIRCUIT BREAKER TO ENSURE COMPATIBILITY.



GRAPHIC SCALE:



GENERAL NOTE:

WORK SHOWN IN THIS SET OF CONTRACT DOCUMENTS IS BASED ON PORTAL ISLAND BUILDING #3. THIS WORK IS TYPICAL FOR PORTAL ISLAND BUILDINGS #1, #2, AND #4.

23040

E102

TUNNEL LIGHTING CONTROL ROOM FLOOR PLAN (ELEVATION +1.0')

SCALE: APPROXIMATELY 1/4" = 1'-0" (CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS)

lanager: Drawn: 9/

: Project Manager:

FEEDER ROUTING IS BASED ON REFERENCE DRAWINGS AND LIMITED FIELD INVESTIGATION. CONTRACTOR SHALL FIELD VERIFY EXISTING ROUTING FOR EACH PORTAL ISLAND BUILDING. NOTE THAT EXACT ROUTING AND LOCATION OF PULL BOX, PULLING ELBOWS, ETC. MAY VARY IN EACH BUILDING.

-1212





ARCHITECTURE INTERIOR DESIGN Lic. No. 054492

3 #4, 1 #4 GND - 1-1/2"C. UTILIZE EXISTING CONDUIT TO THE FULLEST EXTENT POSSIBLE. EXTEND 1-1/2"C AS REQUIRED.

NOTES THIS SHEET - DEMOLITION

2 AT PORTAL ISLAND #1, #2, AND #4 ONLY - CONDUITS ROUTED AS

"HOUSE-BUS-2" - SAVE CONDUIT FOR REUSE.

PULLBOX ABOVE).

REMOVE ELEVATOR FEEDER WIRING FROM ELEVATOR CONTROLLER DISCONNECT BACK TO EXISTING 70A-3P CIRCUIT BREAKER IN

SHOWN (CONDUIT RUN UP BANK ALONG ELEVATOR SHAFT TO IN-SLAB

AT PORTAL ISLAND #3 ONLY - CONDUITS ROUTED AS SHOWN (EXISTING CONDUIT RUN EXPOSED WITHIN ELEVATOR SHAFT).

- SHOWN (CONDUIT RUN UP BANK ALONG ELEVATOR SHAFT TO IN-SLAB PULLBOX ABOVE).
- 3 AT PORTAL ISLAND #3 ONLY CONDUITS ROUTED AS SHOWN

BID / CONSTRUCTION SET

DISTRIC

NOTES THIS SHEET - NEW WORK

- 2 AT PORTAL ISLAND #1, #2, AND #4 ONLY CONDUITS ROUTED AS

(EXISTING CONDUIT RUN EXPOSED WITHIN ELEVATOR SHAFT).

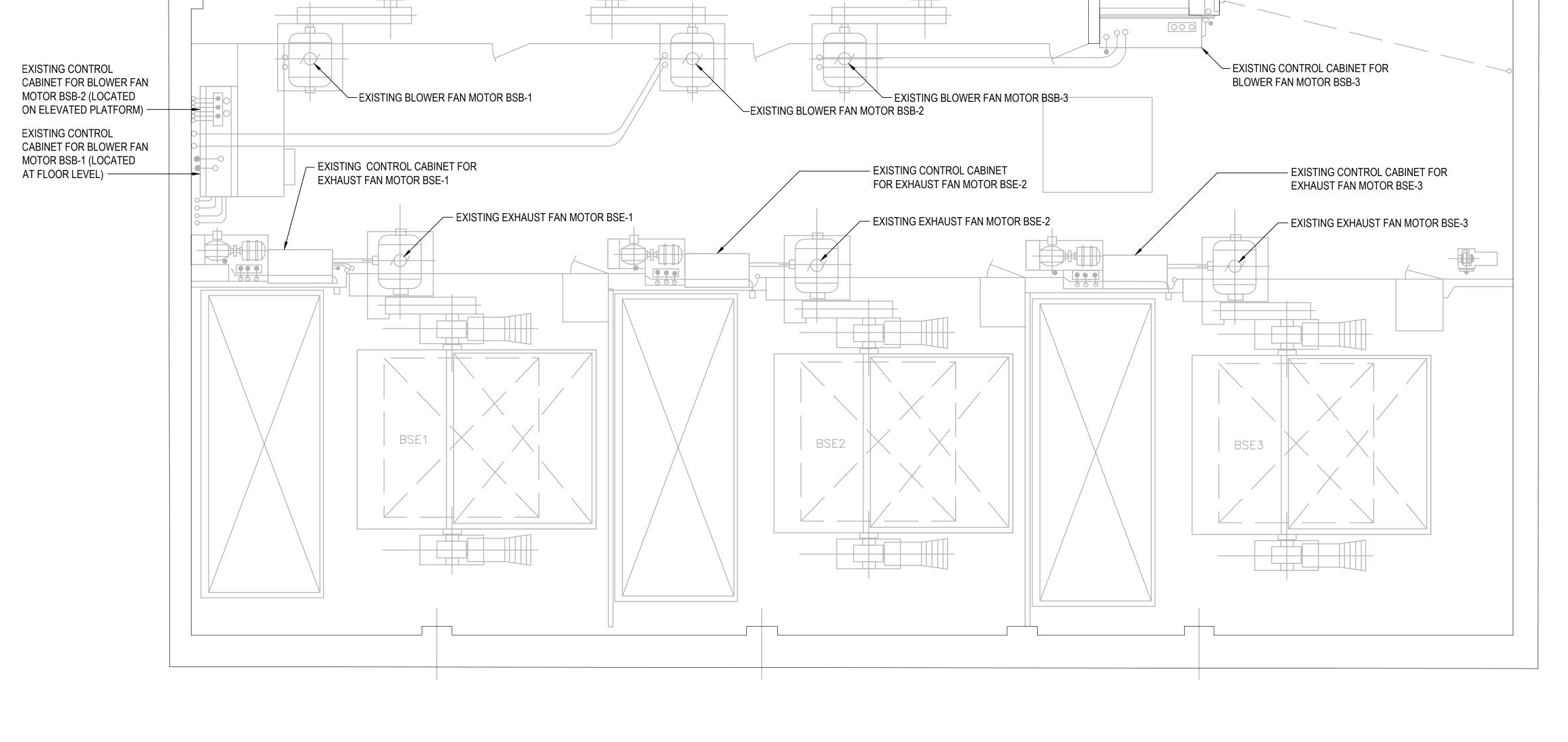
TUNNEL VENTILAT SOL3 NTOR IN FOUR V BRIDGE

PLAN

OOR

FAN ROOM CHESAPEAKE

23040



BSB2

APPROXIMATE OUTLINE OF

EXISTING IN-SLAB PULL BOX ABOVE ——

FAN ROOM FLOOR PLAN (ELEVATION +17.0')

BSB1

SCALE: APPROXIMATELY 1/4" = 1'-0" (CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS)

GENERAL NOTE:

WORK SHOWN IN THIS SET OF CONTRACT DOCUMENTS IS BASED ON PORTAL ISLAND BUILDING #3. THIS WORK IS TYPICAL FOR PORTAL ISLAND BUILDINGS #1, #2, AND #4.

GRAPHIC SCALE:

FEEDER ROUTING IS BASED ON REFERENCE DRAWINGS AND LIMITED FIELD INVESTIGATION. CONTRACTOR SHALL FIELD VERIFY EXISTING ROUTING FOR EACH PORTAL ISLAND BUILDING. NOTE THAT EXACT ROUTING AND LOCATION OF PULL BOX, PULLING ELBOWS, ETC. MAY VARY IN EACH BUILDING.

OH DOOR

✓ OPEN

BELOW —

EXISTING RADIATOR

PLENUM

EXISTING 500KW GENERATOR

EXISTING 13.8KV SWITCHGEAR

TOILET NO. 2

EXISTING IN-SLAB PULL BOX —

1 3

EXISTING 13.8KV

SWITCHGEAR

EXISTING COLD WATER SERVICE TO REMAIN -

1 3

ELECTRICAL ROOM

EXISTING BUS-2

BOILER ROOM NO.1

1000KVA

EXISTING BUS-1

1000KVA

KITCHEN





ARCHITECTURE **INTERIOR DESIGN** Lic. No. 054492

BID / CONSTRUCTION SET

DISTRIC

FLOOR

ROOM

EQUIPME

ELECTRICAL

NOTES THIS SHEET - NEW WORK

- 4 AT PORTAL ISLAND #1, #2, AND #4 ONLY CONDUITS ROUTED AS SHOWN (CONDUIT RUN UP BANK ALONG ELEVATOR SHAFT TO IN-SLAB
- 5 AT PORTAL ISLAND #3 ONLY CONDUITS ROUTED AS SHOWN (EXISTING CONDUIT RUN EXPOSED WITHIN ELEVATOR SHAFT).

NOTES THIS SHEET - DEMOLITION

2 AT PORTAL ISLAND #1, #2, AND #4 ONLY - CONDUITS ROUTED AS

"HOUSE-BUS-2" - SAVE CONDUIT FOR REUSE.

REMOVE ELEVATOR FEEDER WIRING FROM ELEVATOR CONTROLLER DISCONNECT BACK TO EXISTING 70A-3P CIRCUIT BREAKER IN

SHOWN (CONDUIT RUN UP BANK ALONG ELEVATOR SHAFT TO IN-SLAB

AT PORTAL ISLAND #3 ONLY - CONDUITS ROUTED AS SHOWN (EXISTING CONDUIT RUN EXPOSED WITHIN ELEVATOR SHAFT).

- 1 APPROXIMATE OUTLINE OF FUTURE "EMCC" TO BE INSTALLED UNDER A SEPARATE CONTRACT.
- 2 APPROXIMATE LOCATION OF SUSPENDED DRY-TYPE XFMR AND ECB SERVING ESSENTIAL BUS TO BE INSTALLED UNDER A SEPARATE CONTRACT, BOTTOM OF XFMR MINIMUM 7'-0" AFF.
- 3 #4, 1 #4 GND 1-1/2"C. UTILIZE EXISTING CONDUIT TO THE FULLEST EXTENT POSSIBLE. EXTEND 1-1/2"C AS REQUIRED.
- PULLBOX).

TUNNEL AND E ELEVATOR IN FOUR V BAY BRIDGE BAY CHESAPEAKE

23040



LOCKER ROOM NO.1

EXISTING VERIZON EQUIPMENT (ISLAND #3 ONLY) TO REMAIN-

TELEPHONE ROOM

OFFICE

CONTROL ROOM

TOILET NO. 1

GRAPHIC SCALE:

GENERAL NOTE:

WORK SHOWN IN THIS SET OF CONTRACT DOCUMENTS IS BASED ON PORTAL ISLAND BUILDING #3. THIS WORK IS TYPICAL FOR PORTAL ISLAND BUILDINGS #1, #2, AND #4.

- National Electrical Code, (NFPA 70) (NEC).
- Institute of Electrical and Electronic Engineers (IEEE).
- Rules and regulations of local electric utility company.
- National Electrical Manufacturer's Association (NEMA).
- American National Standards Institute (ANSI).
- Applicable local codes.
- Underwriter's Laboratories, Inc. (UL).
- National Fire Protection Association (NFPA).
- Virginia Uniform Statewide Building Code
- 1.2 Scope of work provide all work required for this division including all labor, materials, equipment, appurtenances and services to provide complete electrical systems as shown on the drawings and specified in this division of the specifications. The word "provide" shall mean "furnish and install complete and ready for use".
- 1.3 The Contractor shall visit the site prior to bid to determine the extent of the work. Lack of knowledge of existing conditions will not be considered a basis for change orders. Prior to ordering equipment, verify that equipment to be provided under this contract is acceptable and can fit into bldg. and room. Expense incurred by the Contractor, which in the Engineer's opinion could have been avoided by this step, shall not be a basis for change orders.
- 1.4 Drawings and specifications the drawings are diagrammatic and indicate the general extent, character and arrangement of equipment, fixtures and conduit and wiring systems. It is the intention of these specifications and drawings to fully cover all work and materials for a complete, first-class electrical installation, and any devices such as pull boxes and disconnect switches, usually employed in this class of work, though not specifically mentioned or shown on the drawings or in this specification, but which may be necessary for the satisfactory completion of the work, shall be furnished and installed by the Contractor as a part of his total work under this Division. Consult the specifications and drawings of all other trades and perform all electrical work required therein. Cooperate with all other Contractors or Subcontractors to furnish complete workable systems.
- 1.5 During construction, keep an accurate record of all deviations between the work as shown on the contract drawings and that which is actually installed on a set of blue line prints of the electrical drawings, and note changes thereon with red marks, in a neat and accurate manner. When all revisions have been shown on these prints to indicate the work as finally installed, the prints shall be delivered to the owner, before final payment.
- 1.6 Permits, inspection and tests the right is reserved to inspect and test any portion of the installation/equipment during the progress of its installation. This Contractor shall test all wiring for continuity and grounds before connecting any fixtures or devices. This Contractor shall test the entire system when the work is finally completed to ensure that all portions are free from short circuits and grounds.
- 1.7 Secure and pay for all required permits and inspections. Inspection certificates from local authorities having jurisdiction shall be delivered to the Owner before final payment.
- 1.8 Submittals submit shop drawings, product data and samples within thirty (30) days of award of contract and in accordance with the general conditions and supplementary conditions. Submittals are required for all items provided under this specification. Review of submittals by the Engineer and any associated action taken by the Engineer does not relieve the Contractor of any requirements set forth by the contract documents.

PART 2 - PRODUCTS

- 2.1 Manufacturing standards materials shall be new and approved and labeled by UL wherever standards have been established by that agency. Defective equipment or equipment damaged in the course of installation or test shall be replaced or repaired in a manner meeting the approval of the Owner. All items of the same type and rating shall be identical.
- 2.2 Disconnect switches and power wiring up to and including motor connections for all equipment provided under other divisions of this specification shall be included in this division. Motor controllers and motor starters furnished under other divisions shall be set in place and connected to source and load under this division. In general, motors will be provided with the equipment they drive and are not part of this work under this division, except that they shall be connected hereunder.
- 2.3 Obtain approved shop drawings showing wiring diagrams, connection diagrams, roughing-in and hookup details, from other involved Contractors for all equipment and comply therewith.
- 2.4 Control, interlock, and internal equipment wiring regardless of voltage will be provided under the respective division where the equipment is shown unless specifically shown here.
- 2.5 Reasonable amounts of electricity will be made available to the Contractor for the project. The Contractor shall be responsible for extending the electricity to the specific required locations within the project.

- 2.6 Grounding the entire electrical system, including equipment frames, conduit, switches, controllers, wireways, neutral conductors, and all other such equipment shall be permanently and effectively grounded in accordance with the NEC. Provide a separate ground conductor in all branch circuit conduits sized in accordance with the NEC.
- 2.7 Schedule of work the schedule of the electrical work shall be arranged to suit the progress of work by the other trades and shall in no way retard progress of construction of the
- 2.8 Work under this division shall proceed in advance of the work of others whenever possible, eliminating all cutting and patching. When such procedure is impossible, cutting and patching shall be done in an approved manner. Cutting shall not endanger structural integrity in any way. Patching shall exactly match contiguous work. Actual work of cutting and patching of existing surfaces shall be performed by the Subcontractor who originally prepared these surfaces, e.g., cutting and patching of masonry wall will be performed by the masonry Subcontractor. Costs of such cutting and patching shall be borne by the electrical Subcontractor. Cutting shall be carefully done and damage to building, piping, wiring or equipment as a result of cutting shall be repaired by skilled mechanics of trade involved.
- 2.9 Storage and materials space will be assigned to the Contractor by the Owner for the storage of materials. This Contractor will be responsible for the protection and safekeeping of materials, tools, and equipment. All materials and equipment shall be kept in its assigned place until the time of its installation. Excess materials and refuse shall be promptly removed from the work site. The space provided by the Owner may or may not be a conditioned space. Contractor shall take the appropriate measures to store materials in accordance with the manufacturer's recommendations.
- 2.10 Labeling of equipment
- A. All cabinets, safety switches shall be identified by machine engraved laminated plastic designation plates permanently attached thereto with self-tapping screws or rivets. All component parts of each item of equipment or device shall bear the manufacturer's nameplate, giving name of manufacturer, description, size, type, serial and model number and electrical characteristics in order to facilitate maintenance or replacement.
- B. All industrial control panels shall be field marked to warn personnel of the potential for Arc Flash. Labels shall state "WARNING - ARC FLASH AND SHOCK HAZARD APPROPRIATE PPE REQUIRED".
- 2.11 Coordination cooperate and coordinate efforts with all Contractors on the project. This is especially important in determining exact locations of all switches, receptacles and lighting fixtures. Arrange lighting fixtures in accordance with the architectural reflected ceiling plans unless otherwise indicated. Coordinate lighting fixture locations with grilles, diffusers, access panels, etc. Verify ceiling and wall construction and material prior to ordering lighting fixtures or other devices to ensure proper fixture or device is furnished to match construction. This verification must be executed regardless of information placed on the drawings. Any cost incurred which in the opinion of the Owner, could have been avoided by this step shall be the responsibility of the electrical Contractor.
- 2.12 Guarantee of work Contractor guarantees by his acceptance of the contract that all work installed is tree from any and all defects in workmanship and/or materials, and that the apparatus will develop capacities and characteristics specified, and that if, during the period of one year or as otherwise specified, from date of certificate of completion and acceptance of the work any such defects in workmanship, material or performance appear, he will, without cost to the Owner, remedy such defects within a reasonable time to be specified in notice. In default thereof, the Owner may have such work done and charge cost to Contractor. Equipment guarantees from date of "start-up" will not be recognized.

PART 3 – EXECUTION

- 3.1 The installation shall be complete including but not limited to the requirements indicated on the drawings and in these specifications.
- 3.2 Contractor shall thoroughly coordinate and comply with the manufacturer's requirements. Coordination shall be accomplished prior to commencing work.
- 3.3 All work shall be accomplished in a neat and workmanlike manner consistent with commercial construction practices, code requirements and the local authority having jurisdiction.

SECTION 260519 - CONDUCTORS

- A. Conductors and insulation wire and cable shall be soft drawn, annealed copper with 600 volt color coded insulation. Minimum wire size shall be #12 awg. Insulation for branch circuits and feeders shall be type XHHW-2. Conductors No. 8 AWG and larger diameter shall be stranded. Conductors No. 10 AWG and smaller diameter shall be solid, except that conductors for remote-control and signal circuits, classes 1, 2, and 3, may be stranded.
- B. Provide a separate ground conductor in all raceways sized in accordance with the
- Joints and terminations for conductors #12 and #10 all fixture and branch circuits joints in junction and outlet boxes shall be made with UL listed pressure type connectors rated at 600 volts and 105 degrees C. Connectors shall be Ideal Industries "Wing-Nut" or Buchannan "B-Cap", 3M "Scotch-Lok" connectors or approved equal. Wire #8 and larger shall be joined or terminated with solderless pressure connectors properly taped in layers to form a moisture-tight joint.
- D. All wiring shall be in conduit unless otherwise noted.

SECTION 260533 - RACEWAY, FITTINGS AND BOXES

- A. Raceways conduit shall be hot-dipped, zinc coated or sherardized rigid steel (RS). Minimum size raceway shall be 3/4".
- Flexible conduit shall be galvanized, continuous spiral, single strip type. Flexible conduit shall be covered with PVC jacket. Provide suitable fittings with ground connector.
- Fittings all conduit entering or leaving outlet, junction or pull boxes, and cabinets and all conduit stubs shall have bushings. Provide insulating bushings where required by NEC. Provide expansion fittings with bonding jumper where conduits cross expansion joints.
- Fittings for RS shall be threaded type.
- Outlet boxes shall be cast-metal, threaded hub-type with gaskets.
- Junction or pull boxes not over 100 cubic inches in volume shall be standard outlet boxes. Junction boxes over 100 cubic inches in volume shall be constructed of code gage, galvanized sheet steel. Junction boxes shall have removable covers and shall be accessible after completion of work.
- Raceway and fitting installation run exposed conduit parallel or perpendicular to walls, structural members, or intersections of vertical planes and ceiling.
- Support conduits by pipe straps, wall brackets, strap hangers, or ceiling trapeze.
- Sleeves All electrical system conduit shall have sleeves where conduit passes through concrete slabs except concrete slabs in contact with grade. All conduit 1 1/4 inch and larger running concealed above ceiling shall have sleeves where the conduit passes through masonry, tile and gypsum wall construction. Sleeves shall be constructed of galvanized steel pipe, Schedule 40. Provide escutcheon plates for all exposed conduit passing through walls, floors and ceilings. Where plates are provided for conduits passing through sleeves, which extend above the floor surface, provide deep recessed plates to conceal the sleeves. Terminate sleeves flush with wall, partitions and ceilings. In areas where conduits are concealed, as in chases, terminate sleeves flush with floor. In finished areas, where conduits are exposed, extend sleeves 1/2 inch above finished floor, except in rooms having floor drains extend sleeves 1 inch above floor. Fasten sleeves securely in floors, walls, so that they will not become displaced when concrete is poured or when other construction is built around them. Where sleeves pass through floors or fire rated walls provide proper sealant around conduit to maintain fire rating.

SECTION 262416 - CIRCUIT BREAKERS

- A. Circuit breakers shall be provided as indicated on drawings and be fully compatible with panelboards. Circuit breakers shall conform to latest UL and NEMA standards and shall bear UL labels.
- Circuit breakers shall be single, double pole, or three pole thermalmagnetic quick-make, quick-break trip-free on overload or short circuit alternating current circuit breakers with trip ratings and frame size as shown on the drawings. Branch circuit breakers shall provide inverse time delayed tripping on overloads and instantaneous tripping on short circuits. Trip indication shall be clearly shown by the breaker handle taking position between ON and OFF when the breaker is tripped. Double and three-pole breakers shall be common trip type. Sub-feed breakers are not acceptable.
- 2. Circuit breakers shall be fully rated for the available fault current, series ratings are not acceptable, unless stated otherwise on drawings.
- Circuit breakers shall be installed in conformance with panelboard manufacturer's recommendations.

SECTION 262726 - WIRING DEVICES

- Wiring devices shall be "specification grade" as manufactured by General Electric, Slater (Medalist), Arrow-Hart, Bryant, Hubbell or Pass & Seymour. Device finishes shall be
- Provide samples of each device type and cover plate specified herein for Owner/Architect approval.
- Local switches shall be single pole, double pole, three way and four way as shown on the drawings, black plastic cup with red plastic cover, plastic handle, back or side wired, 20 ampere, 120/277 volts.
- Duplex convenience receptacles shall be plastic, 20 ampere, 125 volts, 2 pole, 3 wire NEMA and ASA standard, grounding type
- Weatherproof receptacles shall be in cast metal box with gasketed, weatherproof, cast-metal cover plate and gasketed "while in use" cover.
- Ground fault circuit interrupting receptacles shall conform to NEC, shall be UL listed, plastic, shall have a "push-to-test" button and visible indication of a tripped condition.
- Device plates shall be zinc-coated sheet steel having rounded or beveled edges.

SECTION 262810 - SAFETY SWITCHES

A. Safety switches - safety switches shall be rated at 600 or 240 volts with number of poles and current rating as indicated. Switches shall be fused or non-fused type as indicated, NEMA type GD or HD as required, with full cover interlocks and quick-make, quick-break

SECTION 265100 - LIGHTING FIXTURES

- A. Fixtures fixtures shall be as indicated in schedule.
- B. LED DRIVERS
- 1. LED Electronic Drivers shall be UL approved and shall have the following characteristics:
- a. Electronic with Input Voltage range as shown on the drawings ±10%, 50/60 Hz, with primary fusing.
- b. Output Drive Current shall be 350mA maximum, +/- 5%
- Power Factor shall be >90% at full load with THD <20% at full load
- Load regulation shall be +/- 1% from no load to full load
- Output shall be isolated Case temperature shall be rated for -40°C through +80°C and provided with thermal protection and self-limited short circuit and overload protection.
- Driver Life Rating shall have less than 0.5% failure rate at the LED module's maximum L70 rated life.
- Dimming Range: 100 to 10 percent of rated lamp lumens.
- Driver Manufacturer

Drivers shall be considered acceptable for approval as manufactured by the following LED Driver manufacturers.

- a. Advance Transformer Co.
- Magtech
- Thomas Research Products (TRP)
- Osram/Sylvania
- C. LED FIXTURES
- 1. Life Rating (L70) Provide L70 documentation, defined as time of operation (in hours) to 30% lumen depreciation (70% lumen maintenance), derived from temperature measurement testing under UL1598 environments and directly correlated to LED package manufacturers IESNA LM-80-08 data.
- 2. Mechanical Housing shall be designed specifically for use with LED components and incorporate high performance Thermal Management methods, i.e. heat sink(s). No active thermal management/cooling features (i.e. fans), etc. will be allowed. Luminaire configuration shall allow for modular replacement and/or field repair of all electrical components (i.e. LED modules, Drivers, etc.).
- 3. LED Module Manufacturers

LED modules considered acceptable for approval are as manufactured by the following LED component (chip) manufacturers.

- Nichia Corporation.
- b. Cree, Inc
- Philips LumiLED
- Osram Opto Semiconductors
- D. Ballasts which are not guiet and hum-free will be rejected and shall be replaced.
- E. Ballasts in unconditioned spaces or outdoors shall be rated for operation in high or low temperature environments.
- No fixtures shall be hung with zip-clips.





ARCHITECTURE **INTERIOR DESIGN** ROBERT T. WEISE Lic. No. 054492 02-14-2024

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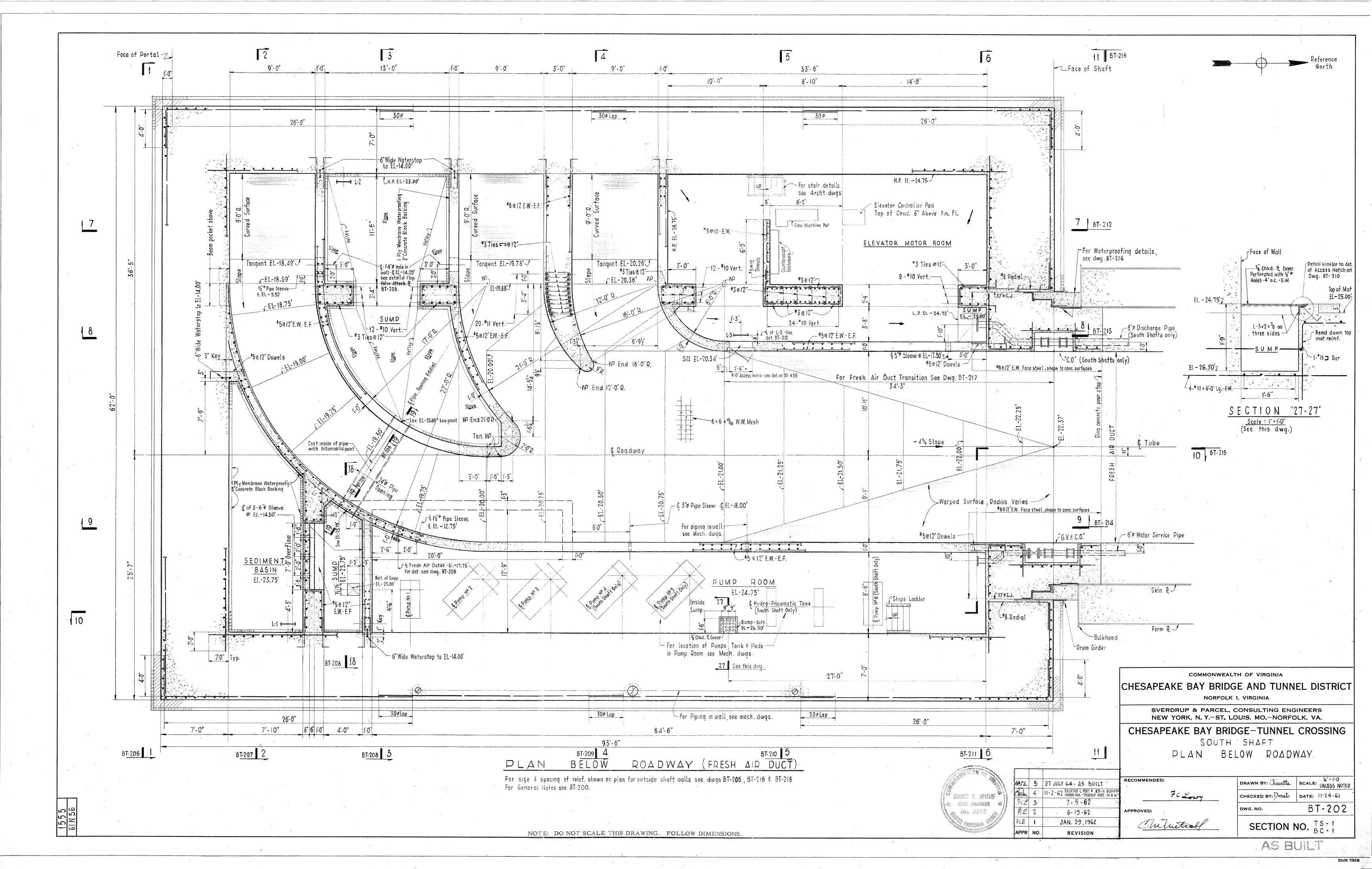
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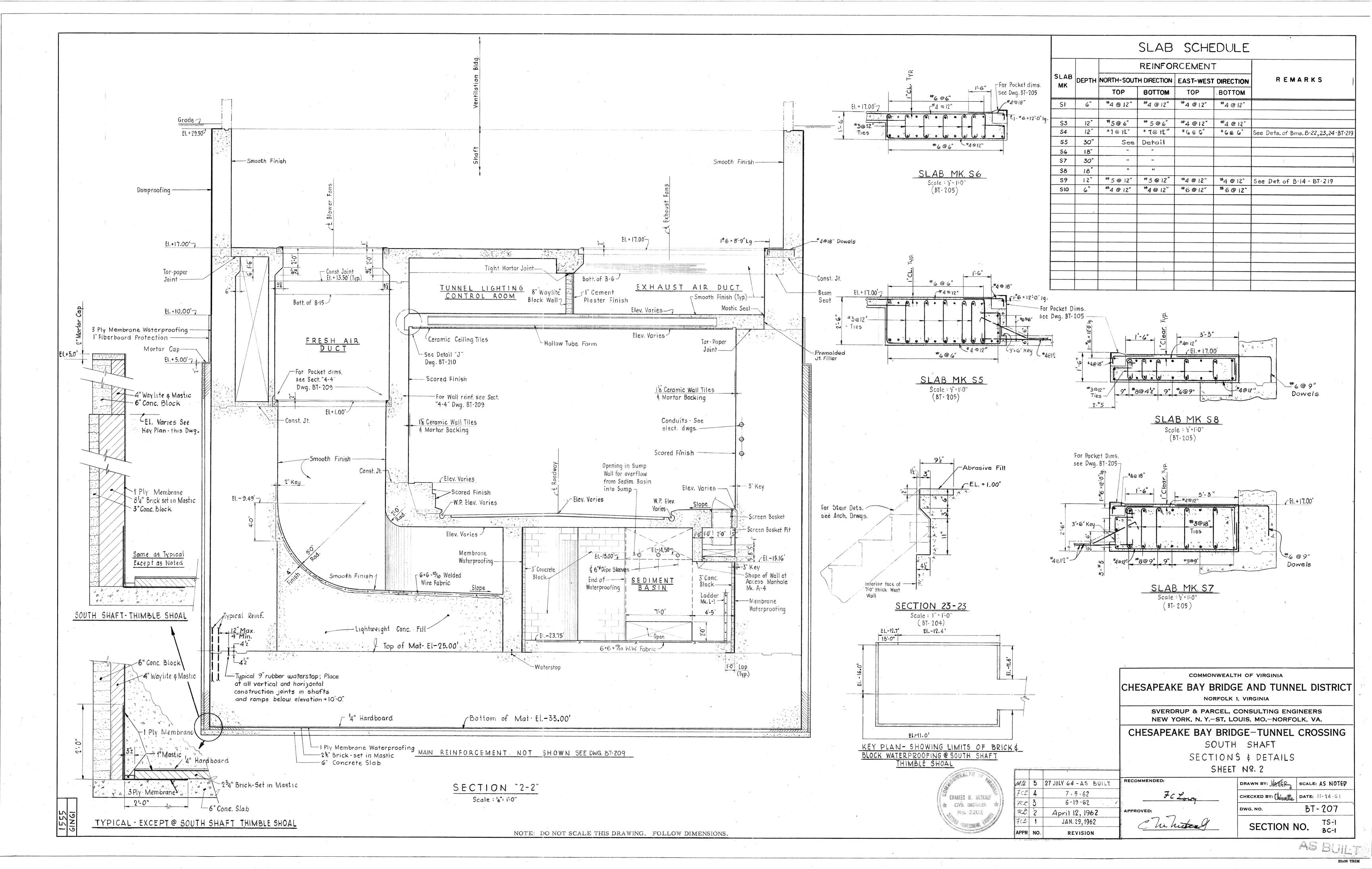
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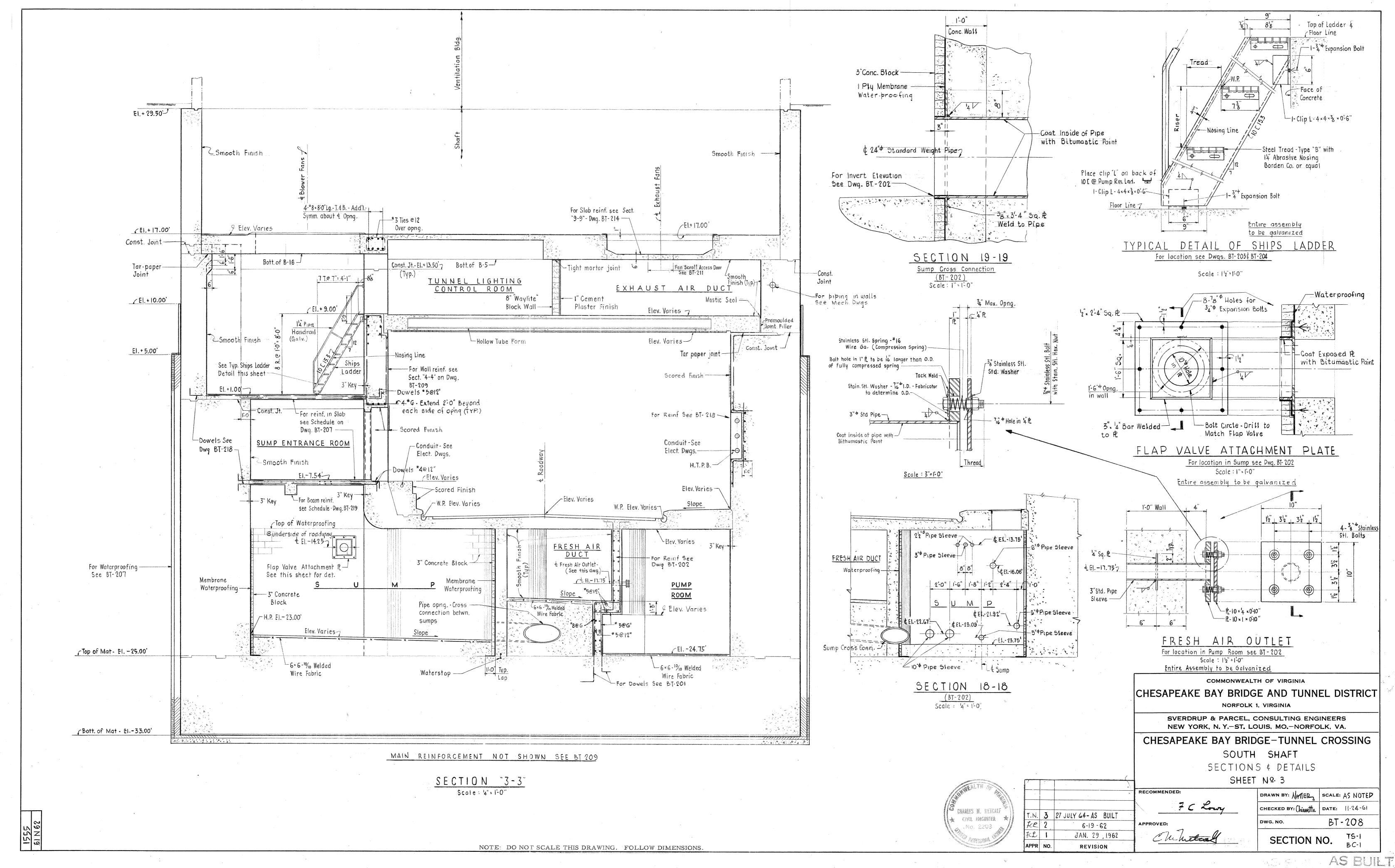
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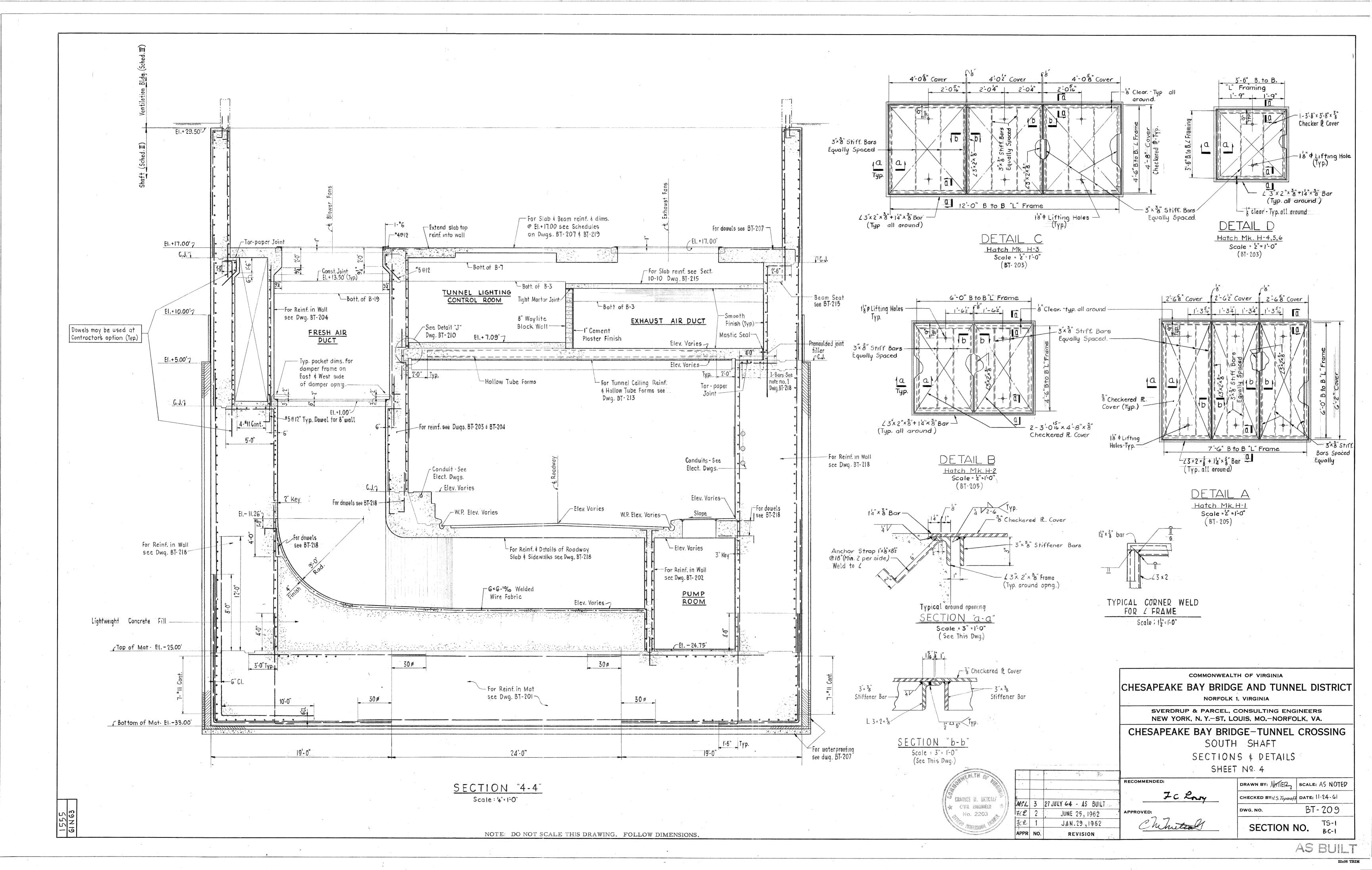
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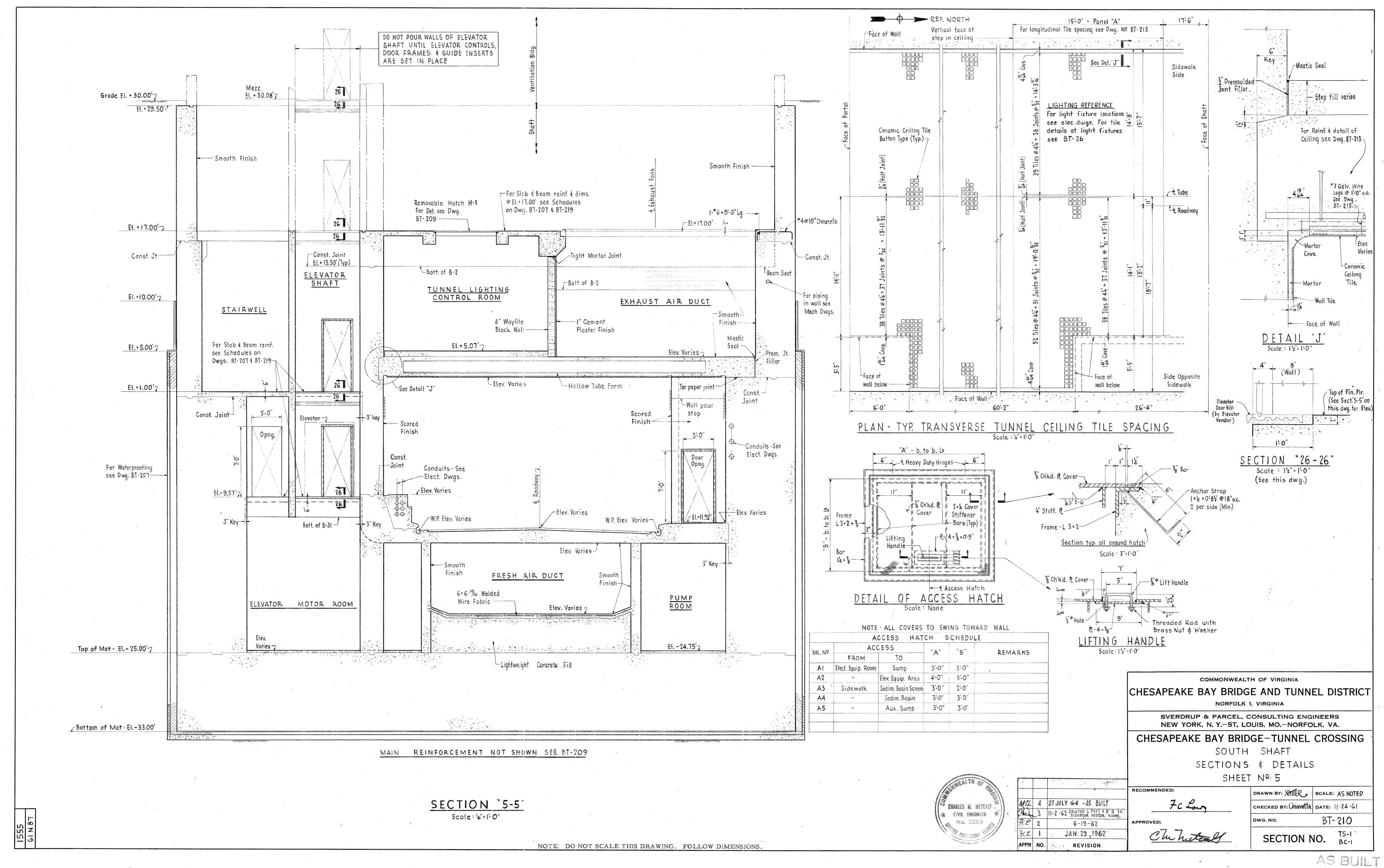
WORK SHOWN IN THIS SET OF CONTRACT DOCUMENTS IS BASED ON PORTAL ISLAND BUILDING #3. THIS WORK IS TYPICAL FOR PORTAL ISLAND BUILDINGS #1, #2, AND #4.

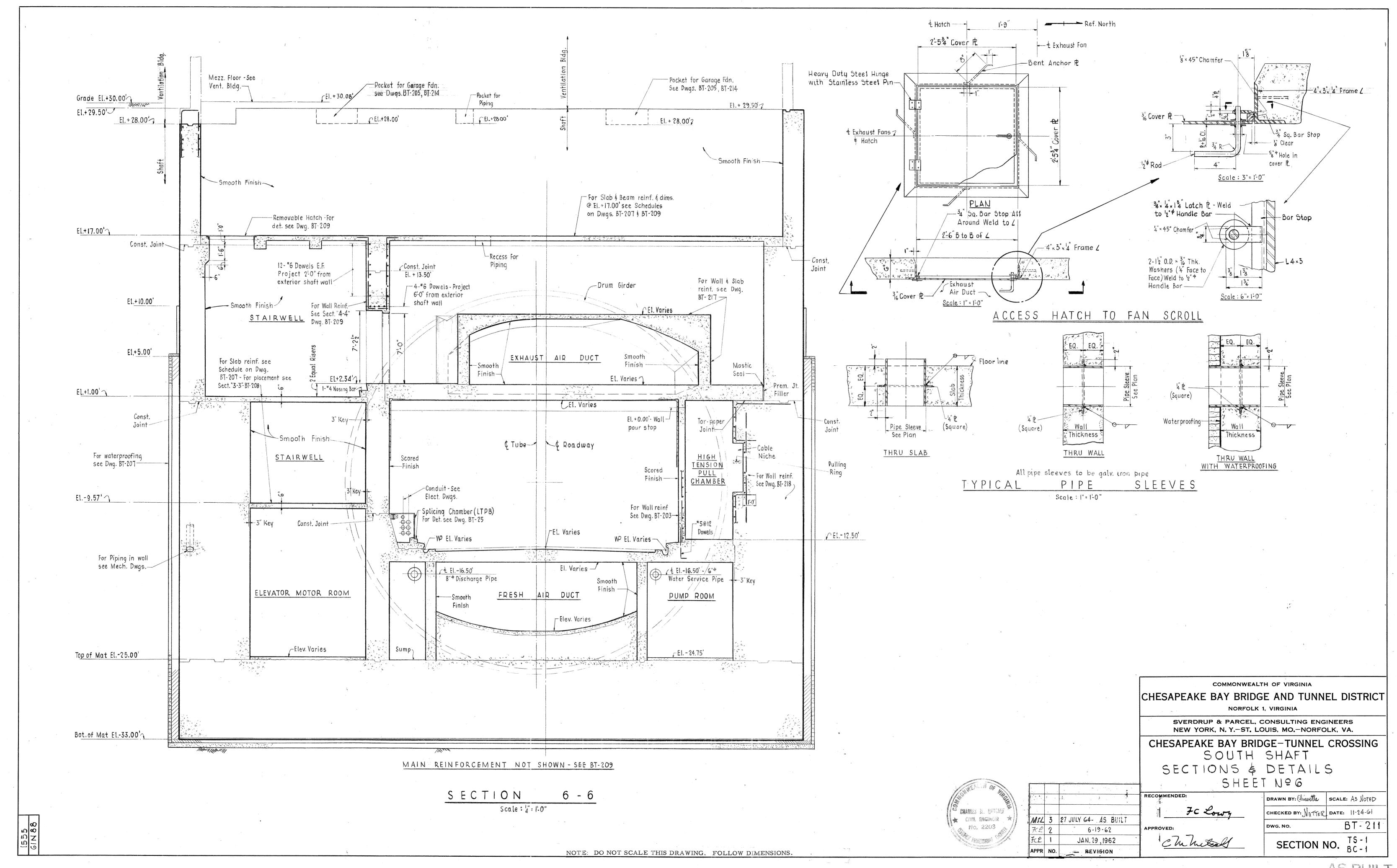




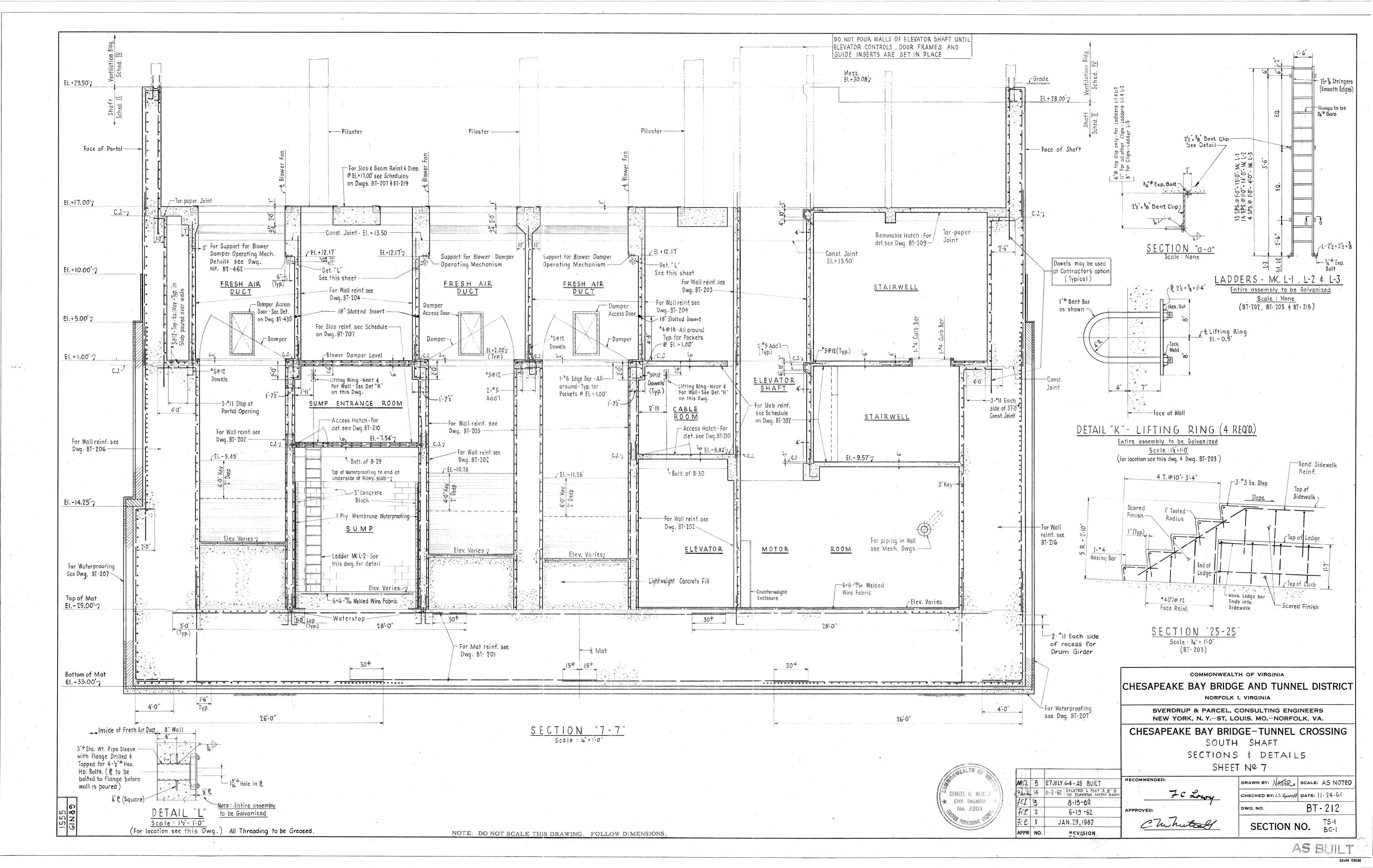


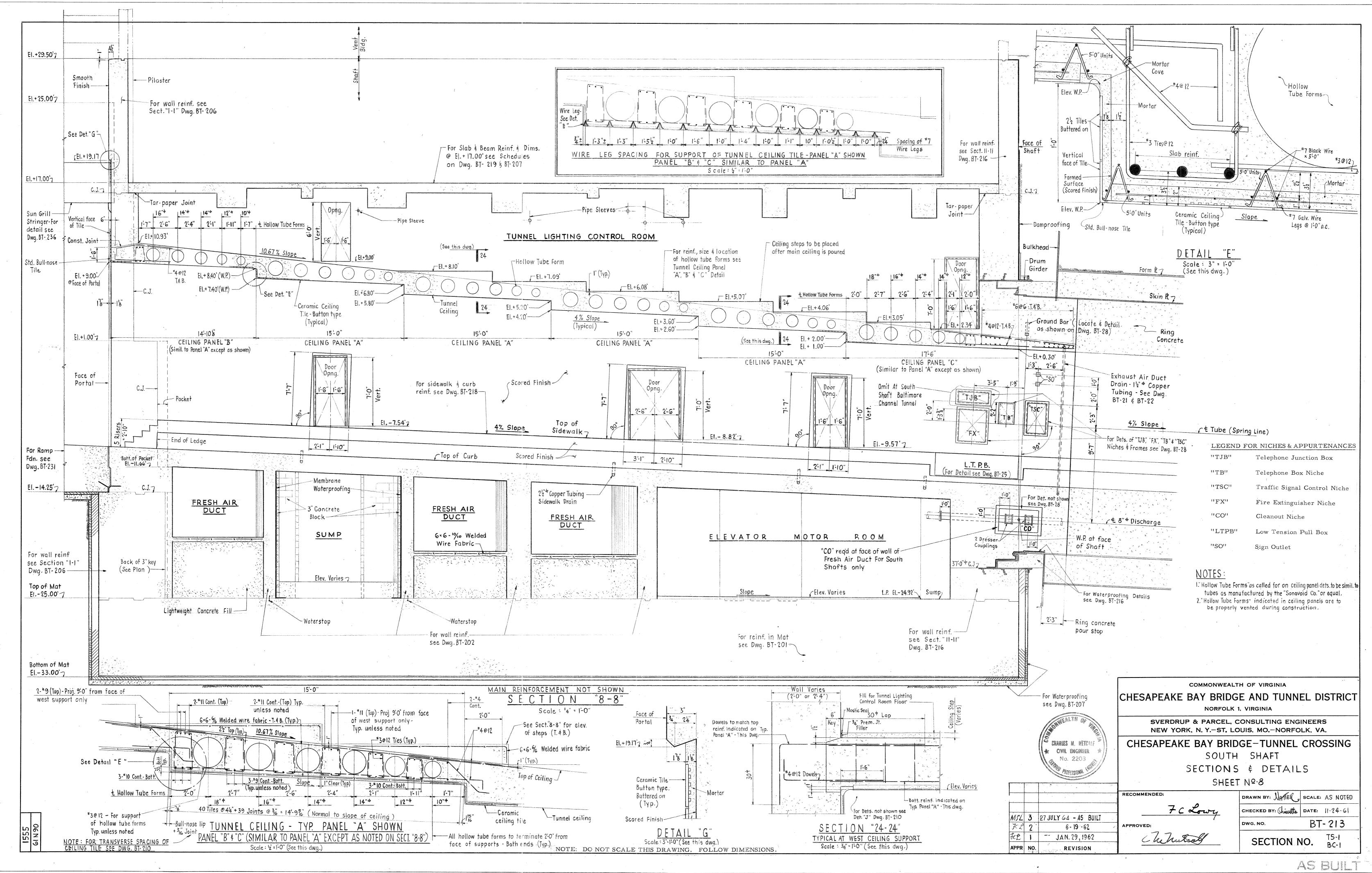


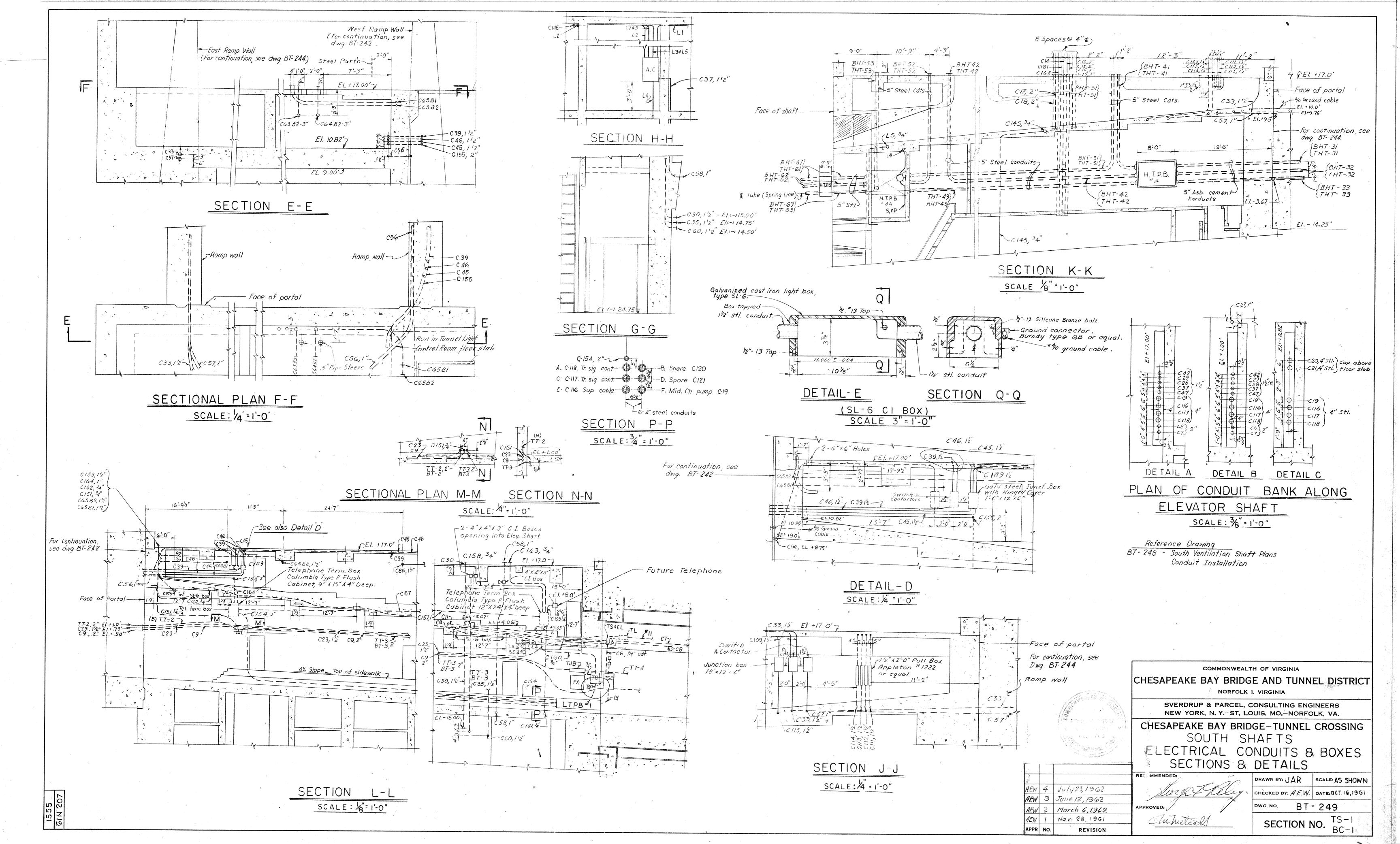


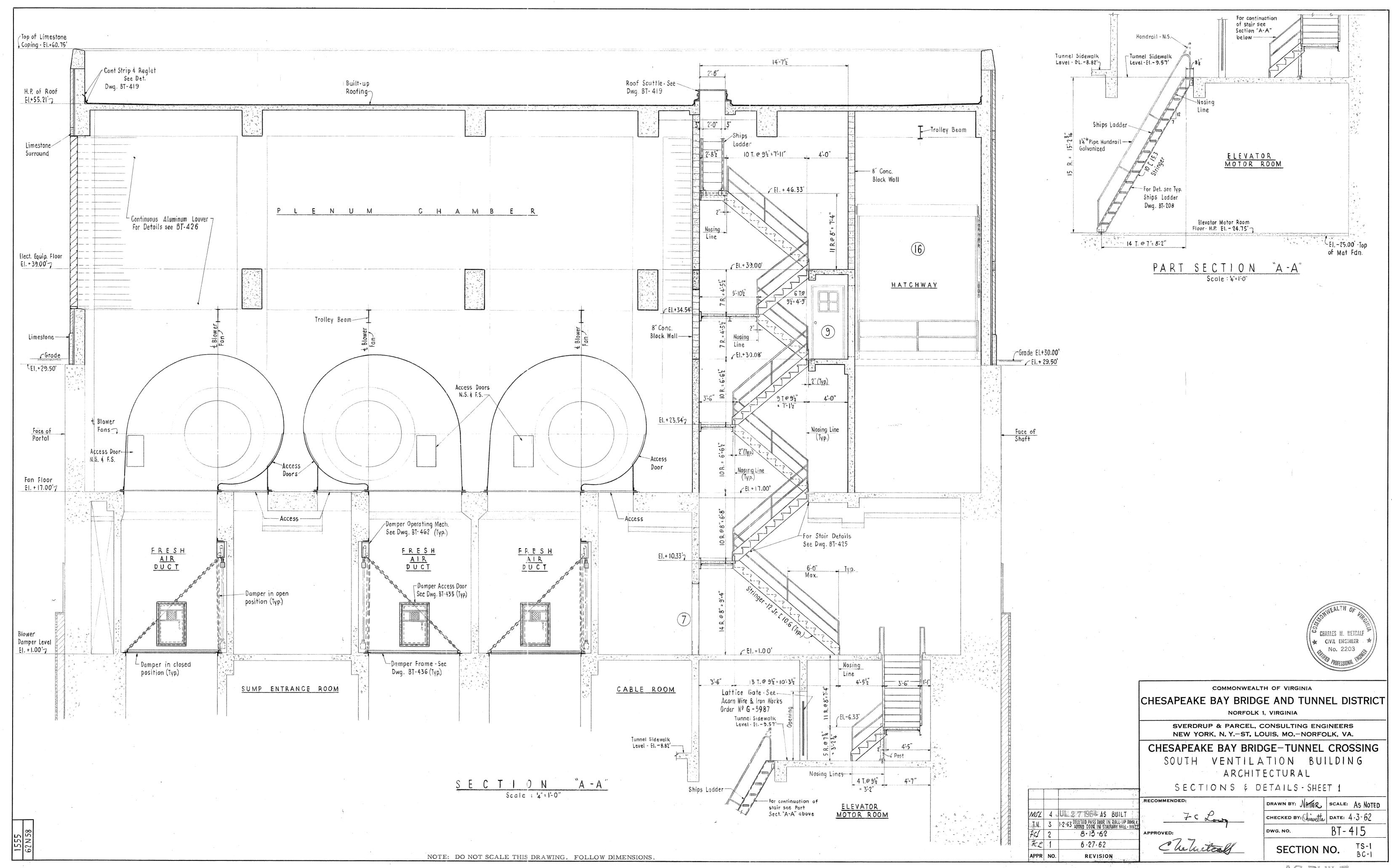


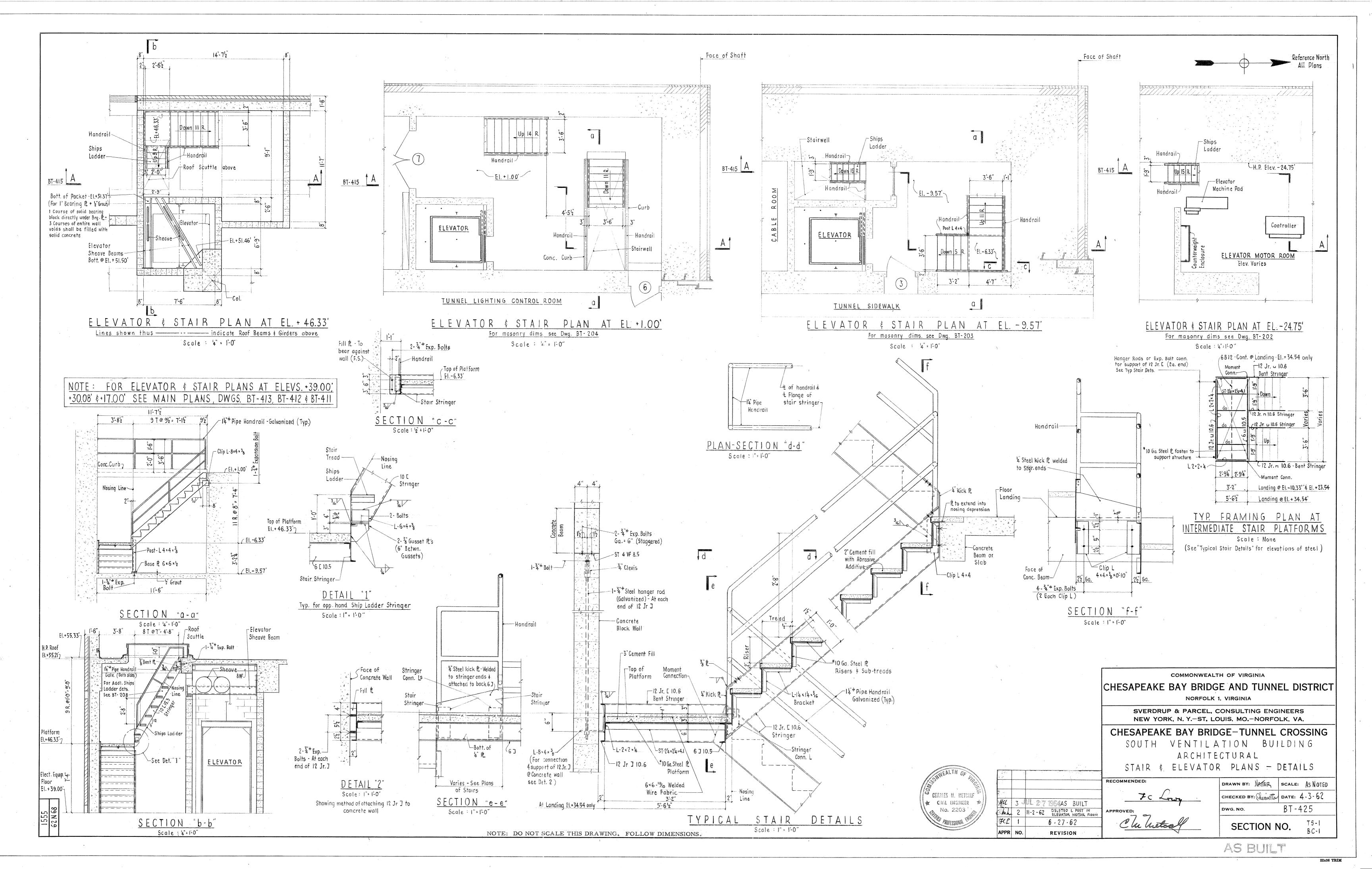
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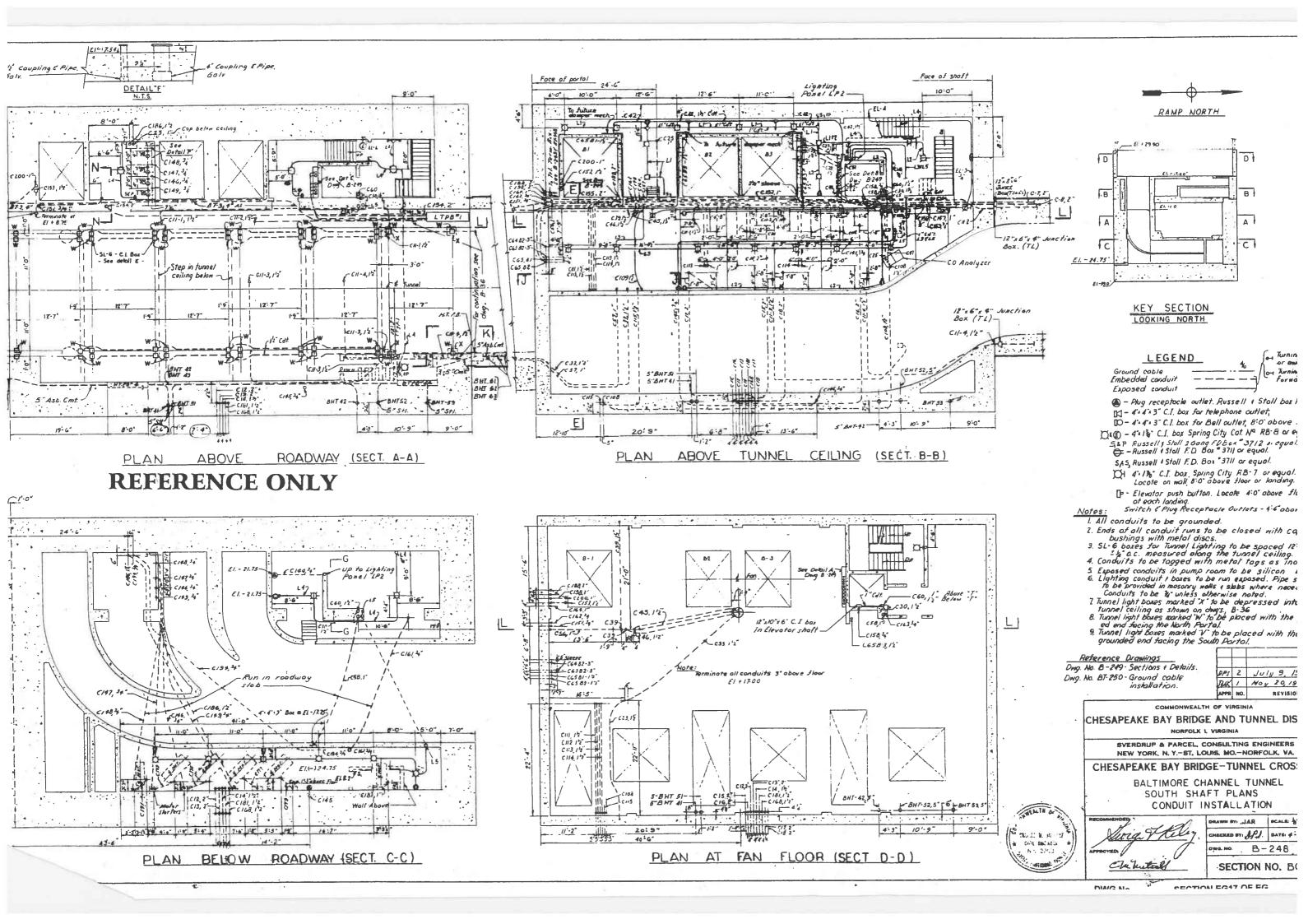


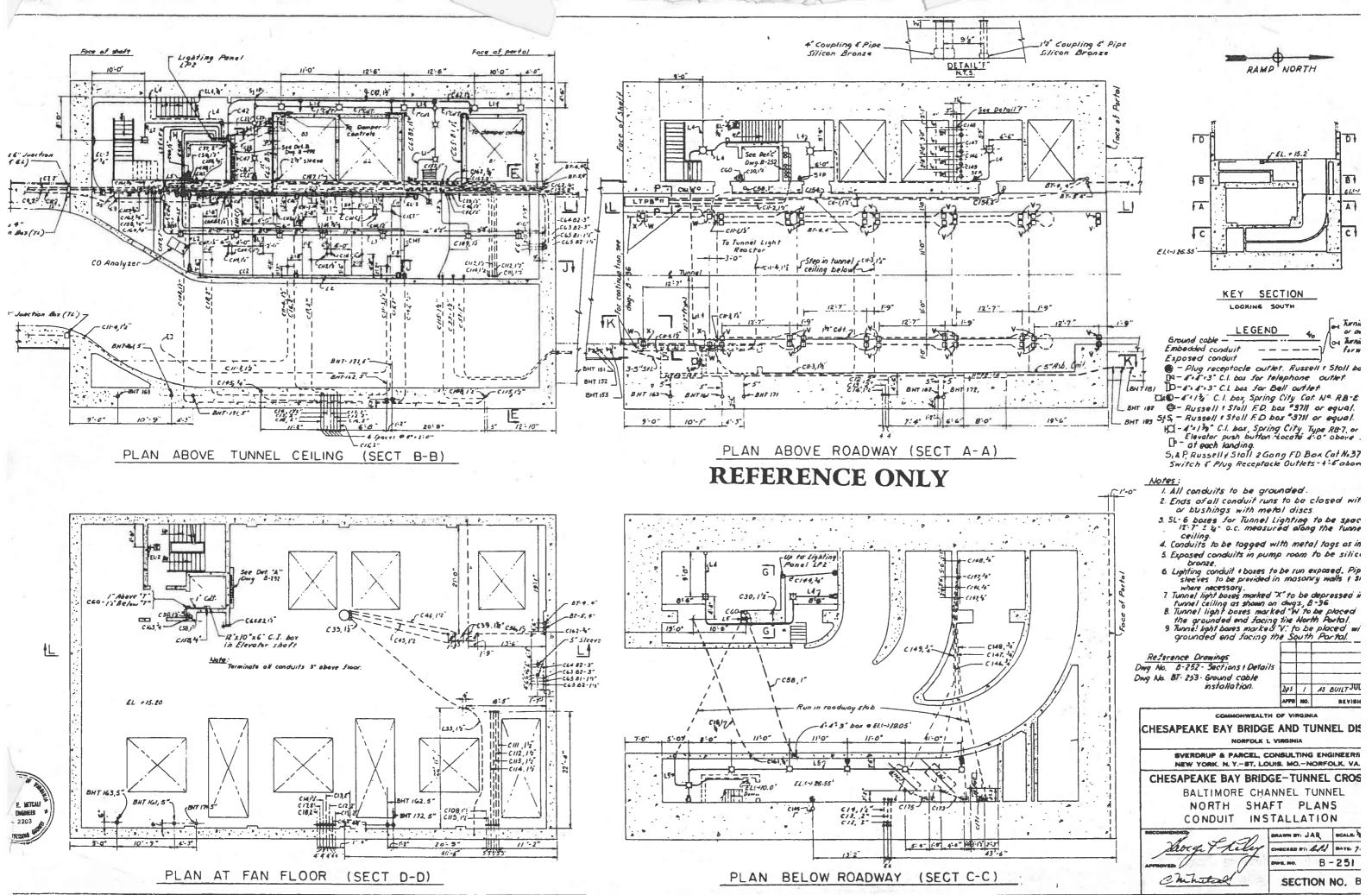




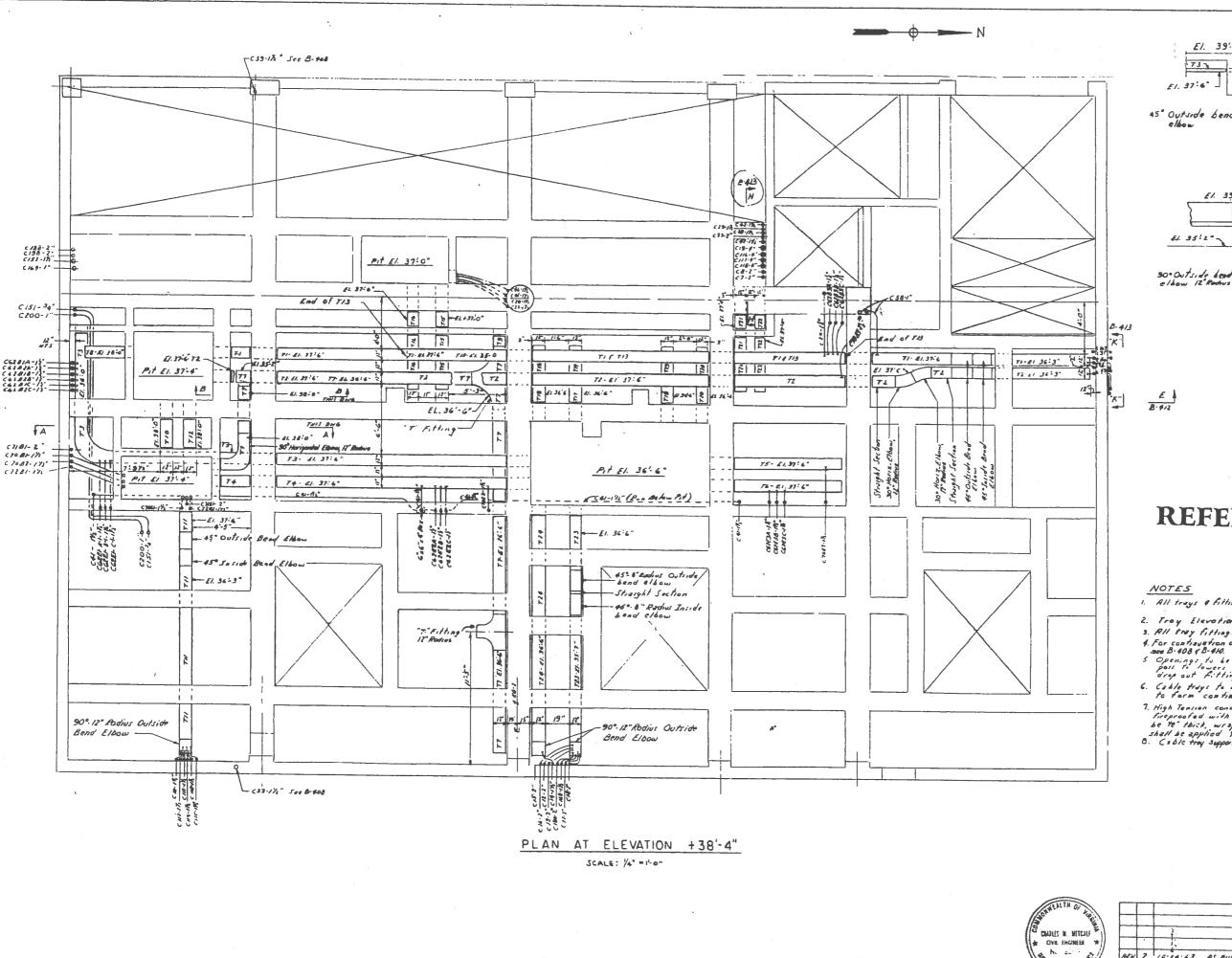


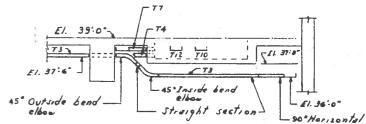




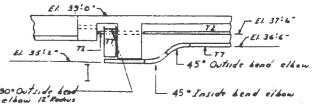


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SECTION A-A SCALE: M' + 1-0"



SECTION B-B

SCALE: AT- NO.

REFERENCE ONLY

- 1. All trays & fittings to be 12" mide Husky Products "Ventrib", all aluminum, or equ
- 2. Troy Elevations given in Plan are to bottom of trays.
- 3. All tray fittings to be 24" Redius bends unless otherwise meted.
- 4. For continuetron of conduits shown on this drawing 4 other conduits not shown are B-408 + B-410.

 5. Openings to be field cut in better of trays where cooles are require pass to lowers trays or conduits. Each opening to be provided with drop out fittings, Husky AVAE-12.

 6. Cable trays to be bonded to each other and to building ground sy to form continuous ground system.

 7. High Tourism conditions are supposed to the continuous ground system.
- 7. High Tension conduits passing exposed thru the exhaust fan rooms shall a fireproofed with Johns Magrille Magrille B. As bestoment tope. The tape be "te" thick, wrapped in three (3) layers. Over the tape, Asbestoment Ty shall be applied 12" (initimum) thick.

 6. (able tray supports shall be speed 10:0" maximum.

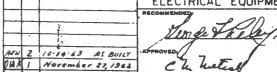
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CHESAPEAKE BAY BRIDGE AND TUNNEL DI: NORFOLK I, VIRGINIA

> SVERDRUP & PARCEL, CONSULTING ENGINEER'S NEW YORK, N. Y.-ST, LOUIS. MO,-NORFOLK, VA.

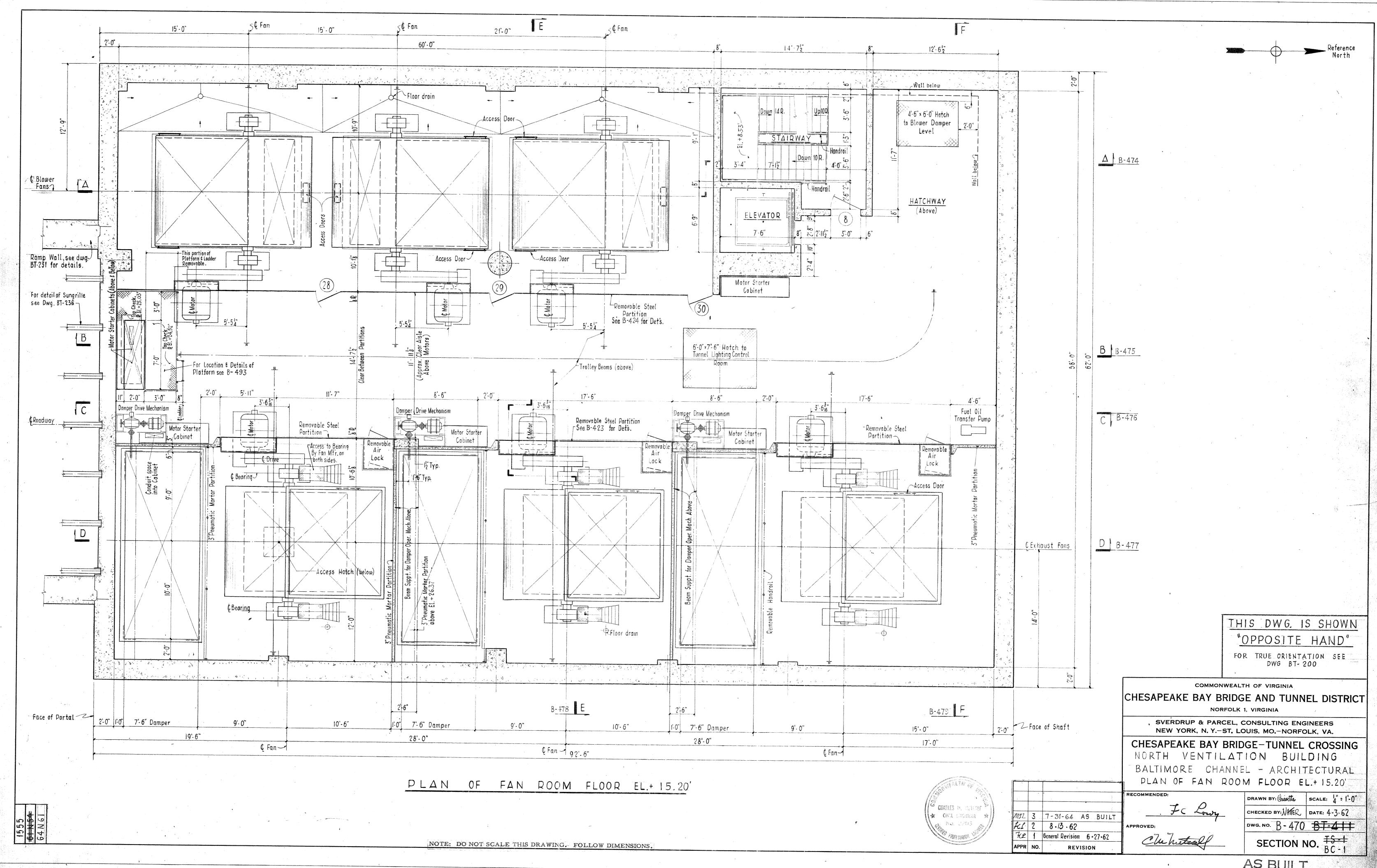
CHESAPEAKE BAY BRIDGE-TUNNEL CROS BALTIMORE CHANNEL TUNNEL

SOUTH VENTILATION BUILDING BELOW ELECTRICAL EQUIPMENT FLOO ELECTRICAL EQUIPMENT INSTALLATION

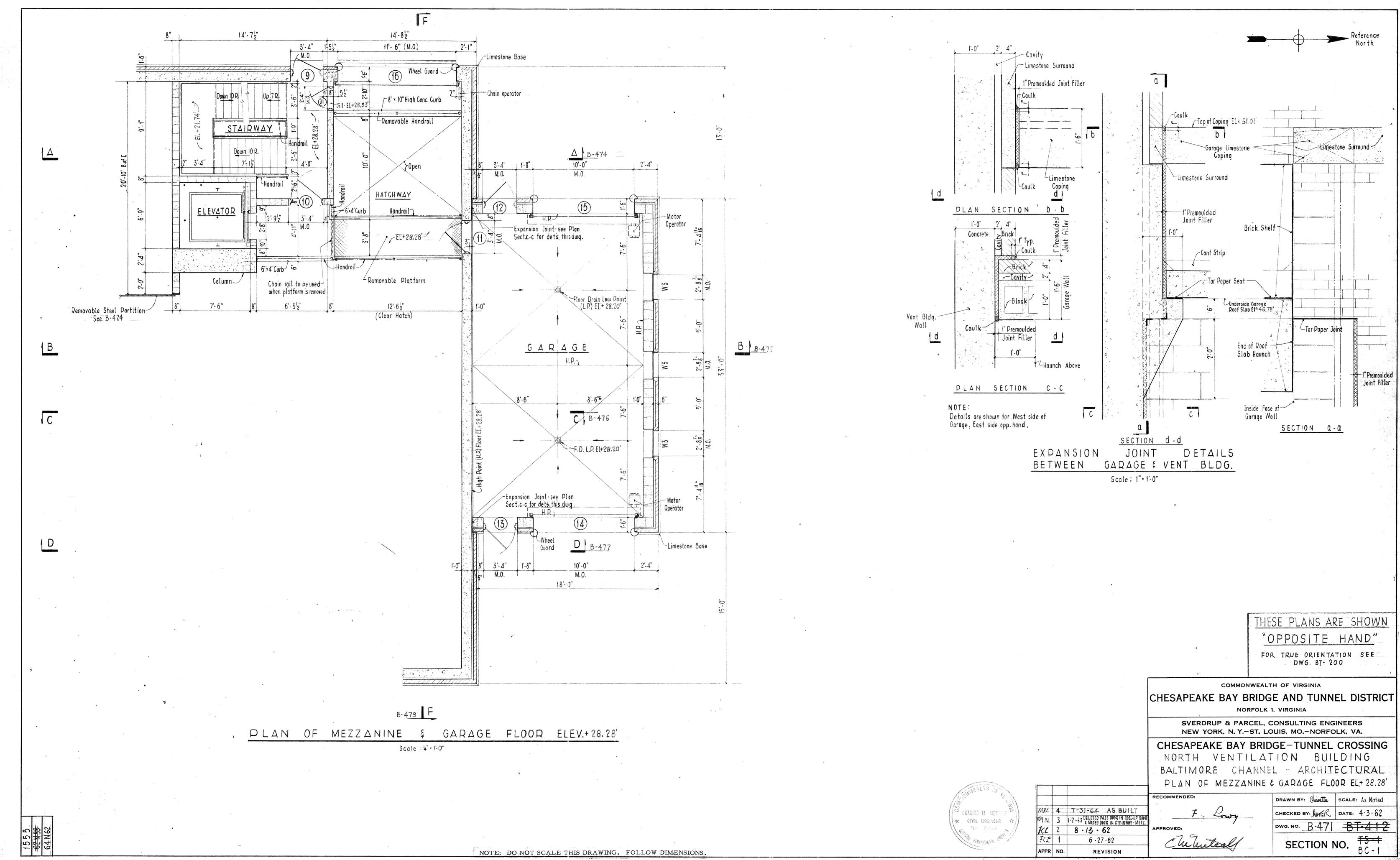


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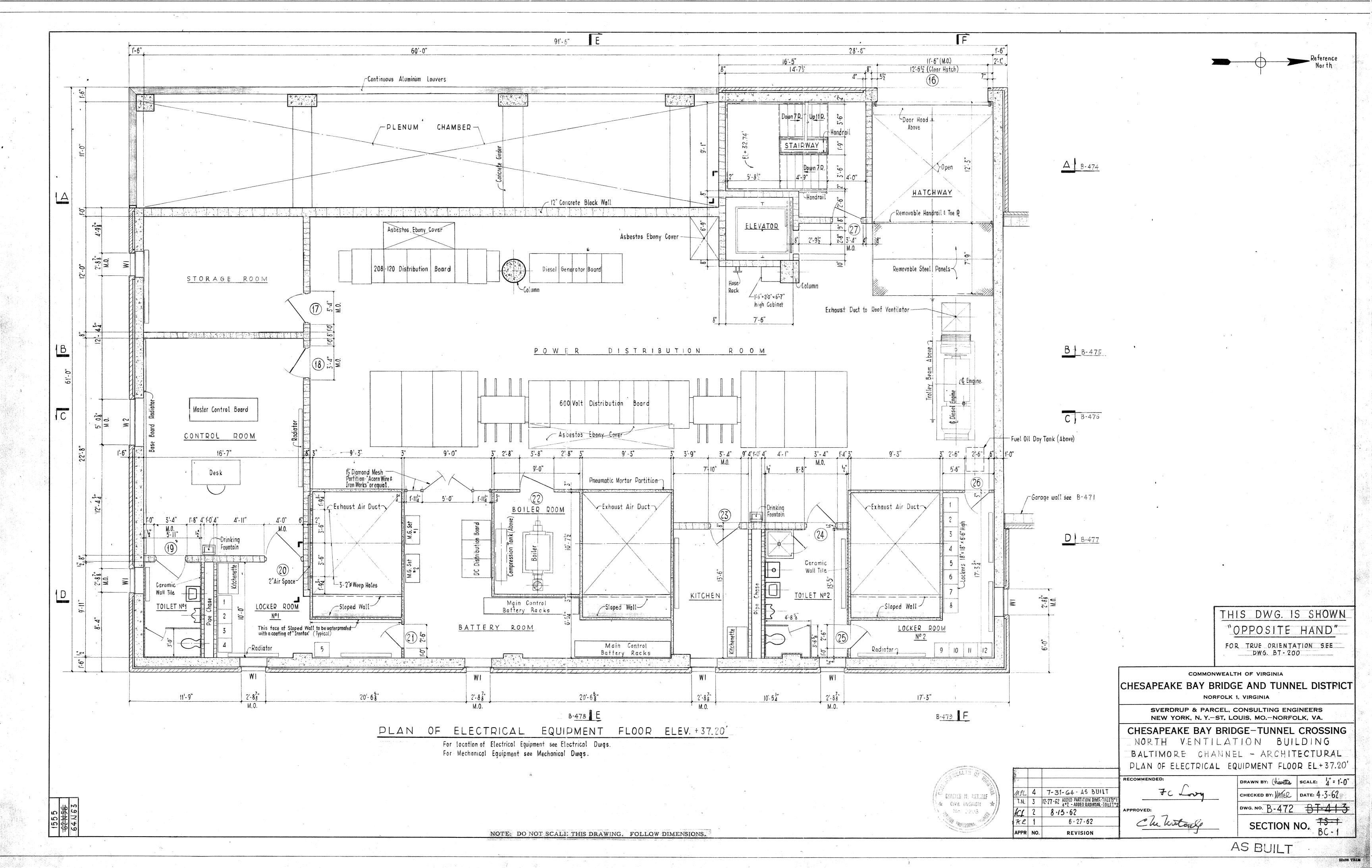
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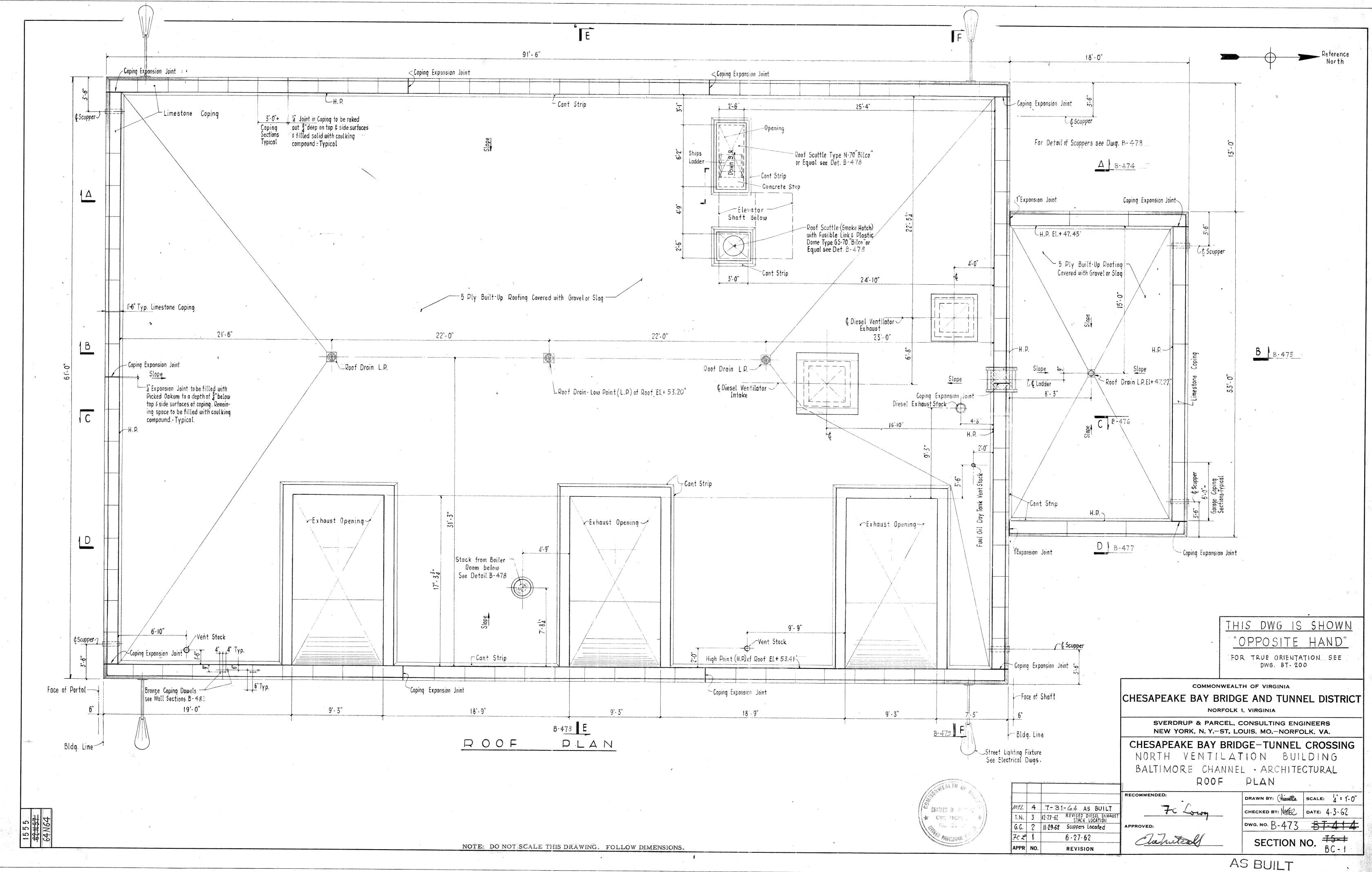


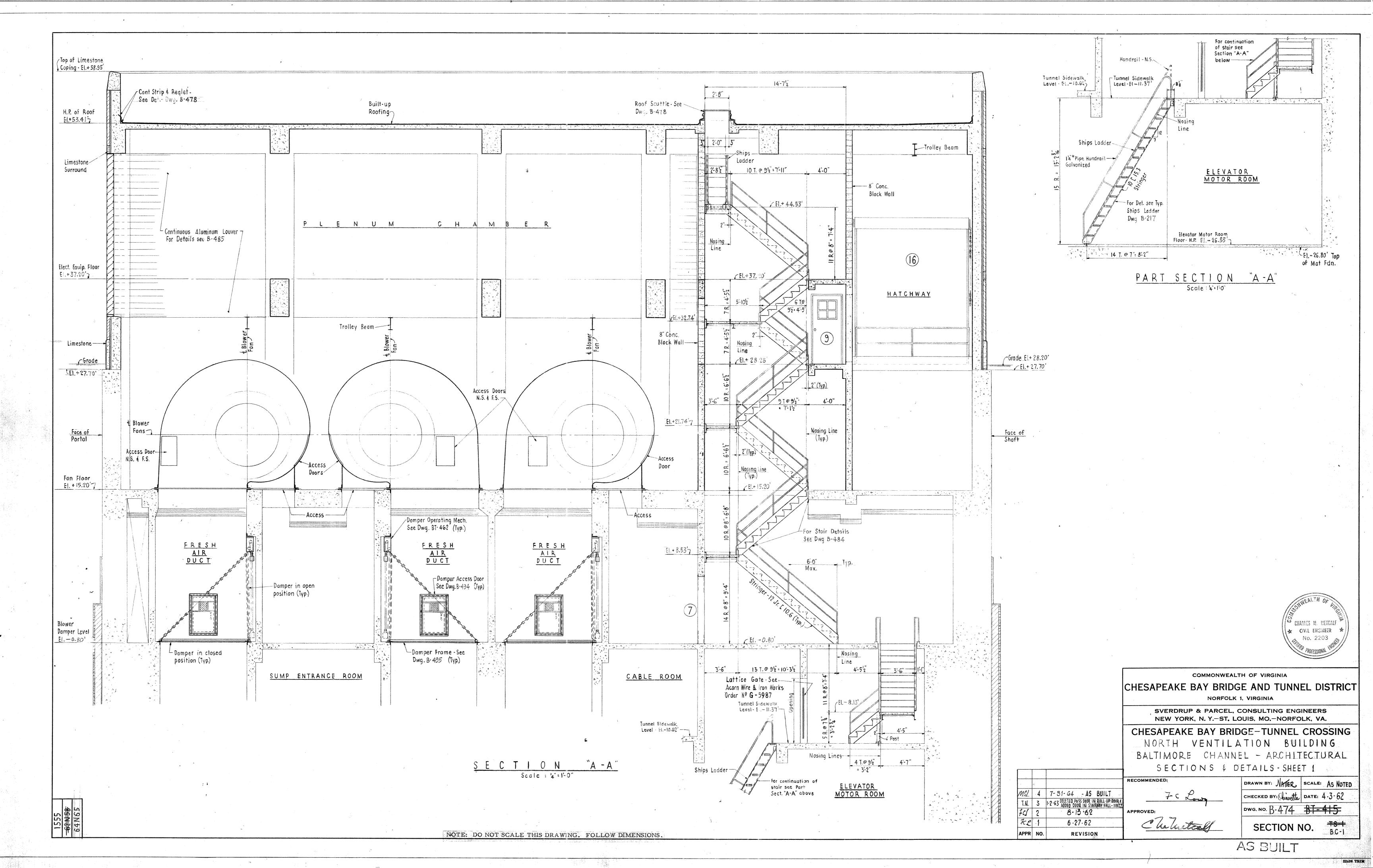
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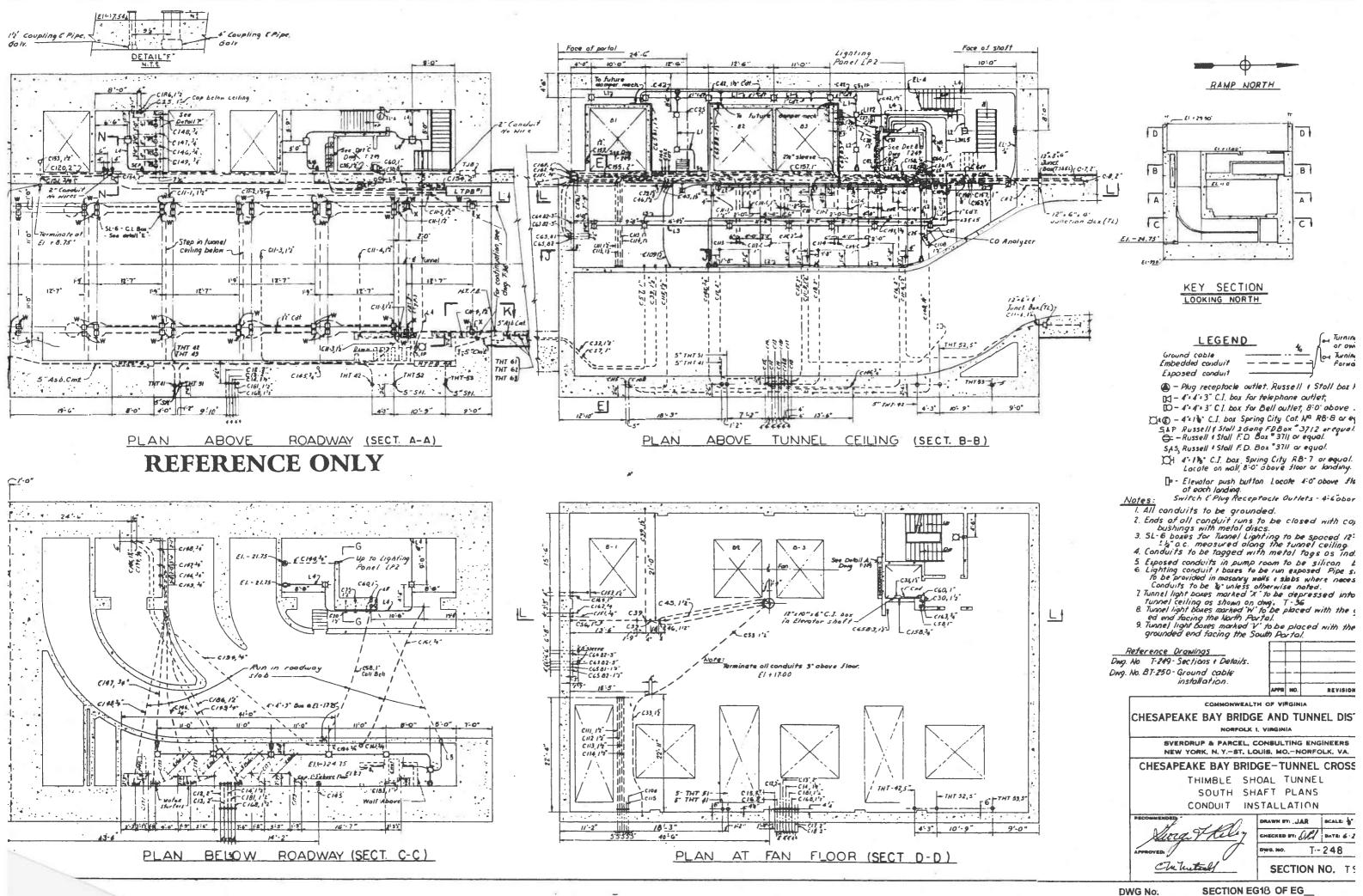


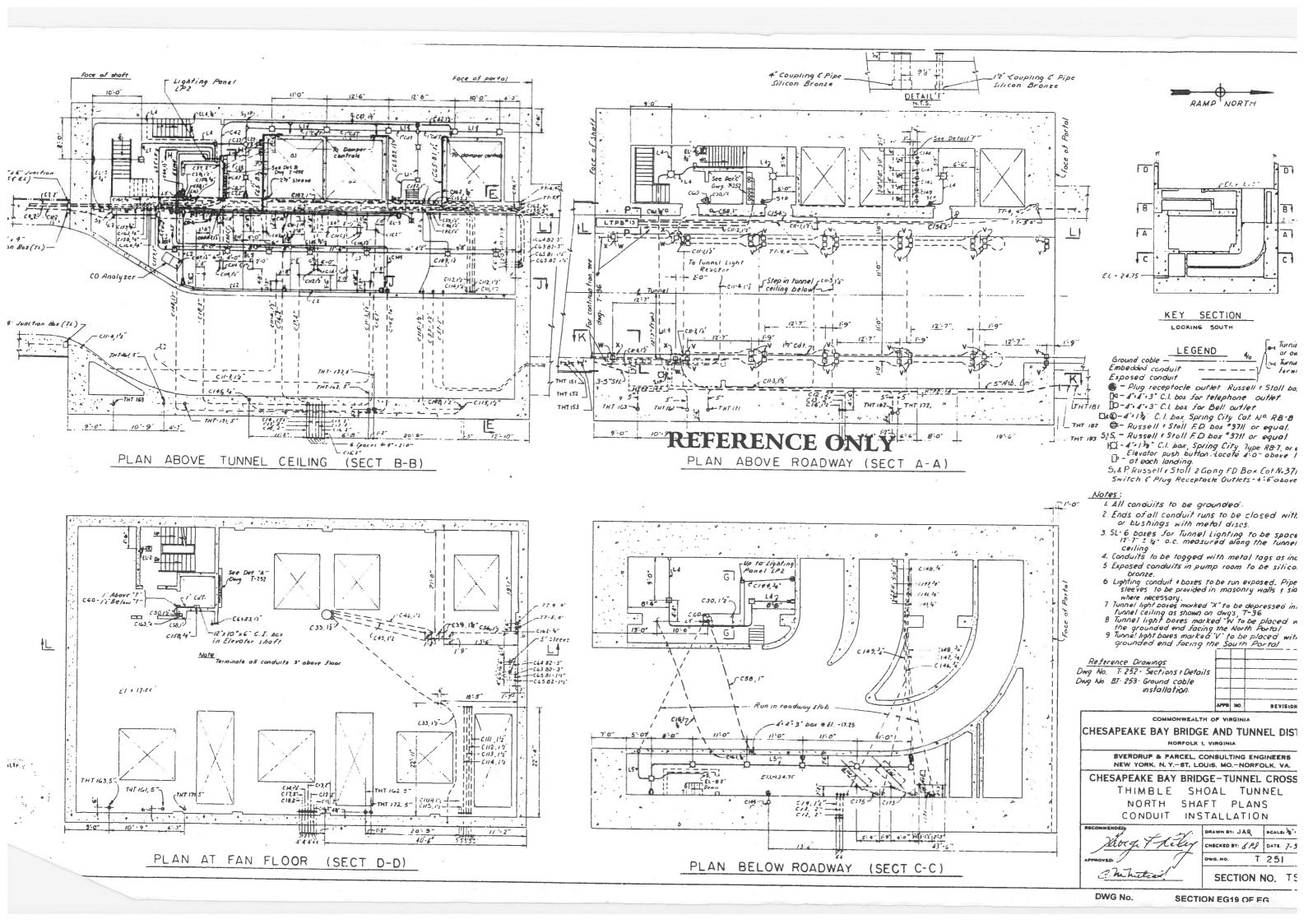
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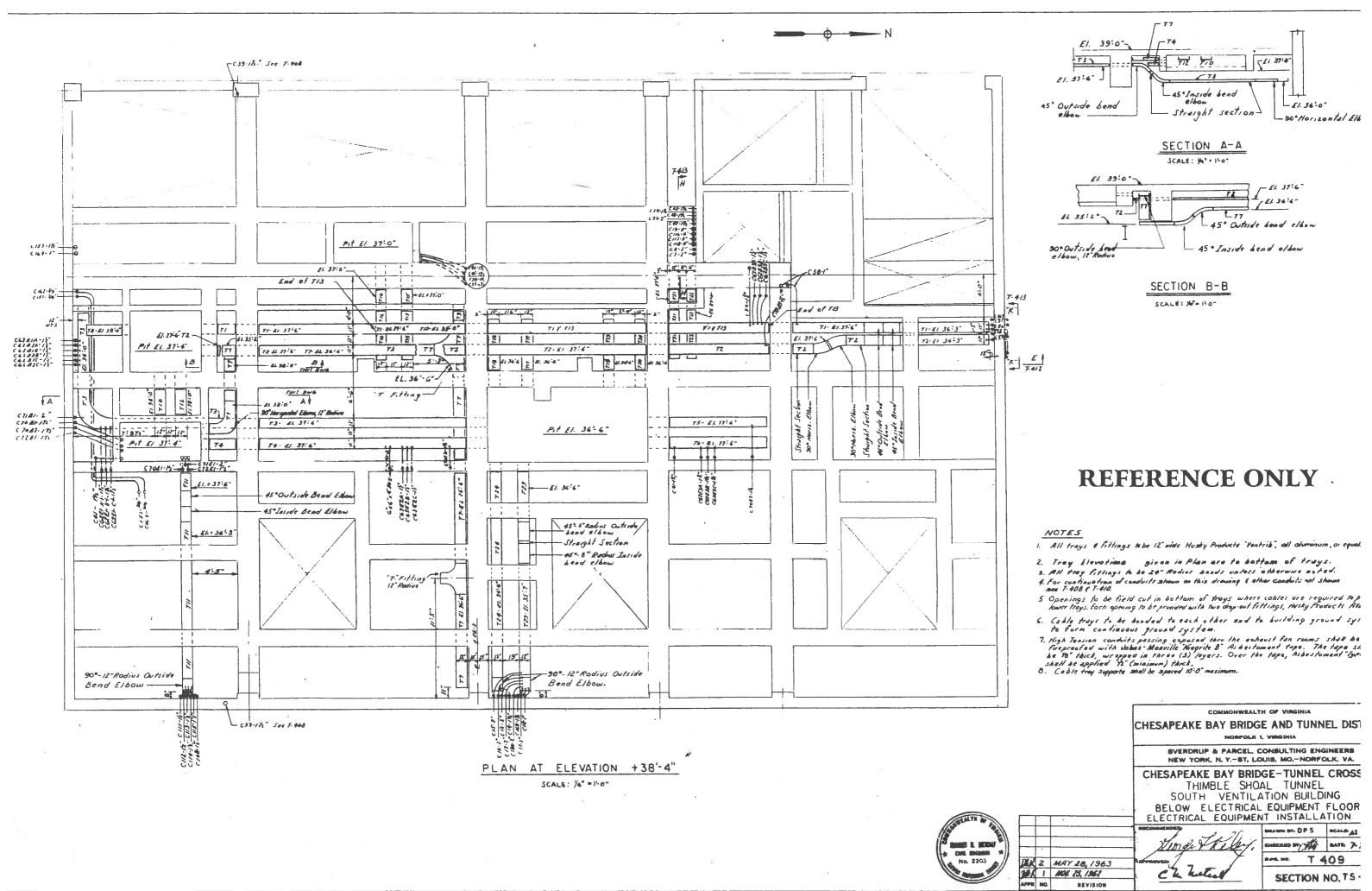












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SECTION FG12 OF FG

