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IS-05

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

NOT TO SCALE

US 301
LEVELS ROAD TO
SUMMIT BRIDGE ROAD

CONTRACT	BRIDGE NO.	
T200911303	DESIGNED BY: TQD	
COUNTY		
NEW CASTLE	CHECKED BY: BDP	

TOLL INDEX

SHEET NO.
1184
TOTAL SHTS.
1256

LAST REVISED: 3/12/2008
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CONSTRUCTION NOTES:

1. GANTRY
2. GENERATOR
3. JUNCTION BOX
4. FIBER OPTIC
5. ELECTRICAL LINE

RAMP E
RAMP F
RAMP C
RAMP D
LEVELS ROAD
BRIDGE 1-479
US 301 SB
US 301 NB
HAUL ROAD
SEE CONDUIT TRENCHING DETAIL
BEGIN CONTRACT T200911303 STATION 258+00
SEE CONTRACT T200911301
POOLE VENTURES, LLC T.M.#23-065.00-005 INS.#20050331-0030404
RAMP PAVEMENT
4" PVC Conduit Concrete Encasing

CONDUIT TRENCHING DETAIL

NOTE:
1. FIBER OPTIC AND ELECTRICAL LINES ARE TO BE ENCASED IN CONCRETE UNDER RAMPS. EXACT CROSSING AND DEPTH TO BE DETERMINED.
2. SEE HORIZONTAL AND VERTICAL CONTROLS FOR RAMP BASELINE INFORMATION

CP-66

LAST REVISED: 3/12/2008
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DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE 0 50 100 150 FEET

US 301 LEVELS ROAD TO SUMMIT BRIDGE ROAD

CONTRACT	BRIDGE NO.	
T200911303	DESIGNED BY: GW	
COUNTY		
NEW CASTLE	CHECKED BY: BDP	

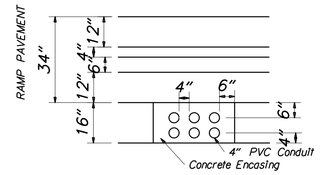
GENERAL LAYOUT CONSTRUCTION PLAN

SHEET NO.
1185
TOTAL SHTS.
1256

POB 10+00.00
CONNECTOR
RAMP K
RAMP L
RAMP I
RAMP J
CONNECTOR ROAD
US 301 SB
US 301 NB
BR. 1-5703
BR. 1-5704
PI 68+55.68
PC 67+06.92
PT 55+52.77
PI 84+36.45
PC 17+44.82
PI 19+23.77
PI 84+70.90
PC 32+06.87
PC 472+26.77
PI 35+62.47
LOC
CZ
ITMS-CON
DOT-E
NOD-SW

CONSTRUCTION NOTES:

1. GANTRY
2. GENERATOR
3. JUNCTION BOX
4. FIBER OPTIC
5. ELECTRICAL LINE



CONDUIT TRENCHING DETAIL

NOTE:
1. FIBER OPTIC AND ELECTRICAL LINES ARE TO BE ENCASED IN CONCRETE UNDER RAMPS. EXACT CROSSING AND DEPTH TO BE DETERMINED.
2. SEE HORIZONTAL AND VERTICAL CONTROLS FOR RAMP BASELINE INFORMATION

CP-67

LAST REVISED: 3/12/2008
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DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE
0 50 100 150
FEET

US 301
LEVELS ROAD TO
SUMMIT BRIDGE ROAD

CONTRACT	BRIDGE NO.	
T200911303	DESIGNED BY: GW	
COUNTY	CHECKED BY: BDP	
NEW CASTLE		

GENERAL LAYOUT
CONSTRUCTION PLAN

SHEET NO.
1186
TOTAL SHTS.
1256

GENERAL NOTES

1. ALL WORK SHALL BE COORDINATED WITH THE AUTHORITY.
2. COORDINATION OF WORK: THE CONTRACTOR HAS THE RESPONSIBILITY TO COORDINATE THE WORK OF SUBCONTRACTORS TO SUIT PROJECT CONDITIONS. THE CONTRACT SCOPE OF WORK SHALL INCLUDE ALL WORK TO PROVIDE A FINISHED CLEAN AND NEAT APPEARANCE.
3. VERIFY AND COORDINATE THE LOCATION OF EQUIPMENT WITH ELECTRICAL, PLUMBING AND MECHANICAL DRAWINGS.
4. ALL DIMENSIONS SHOWN TO FACE OF CMU/STUD OR CENTERLINE OF COLUMN GRID UNLESS OTHERWISE NOTED. DIMENSIONS NOTED "CLEAR" SHALL BE FROM FINISH FACE TO FINISH FACE.
5. ALL DIMENSIONS SHALL BE FIELD VERIFIED PRIOR TO FABRICATION, ERECTION, AND/OR INSTALLATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMEDYING ANY DIMENSIONAL ERRORS IN FABRICATION, ERECTION, AND/OR INSTALLATION WITHOUT ADDITIONAL COST TO THE OWNER AND WITHOUT ADDITIONAL TIME TO PROJECT SCHEDULE.
6. FIELD VERIFY ALL DIMENSIONS PRIOR TO FABRICATION OF MILLWORK.
7. FOR ALL DIMENSIONS NOT SHOWN ON FLOOR PLAN REFER TO ENLARGED PLANS.
8. ALL MASONRY DIMENSIONS, MO, ETC ARE NOMINAL DIMENSIONS UNLESS OTHERWISE NOTED.
9. SEE SPECIFICATIONS FOR ALL INTERIOR AND EXTERIOR SIGNAGE REQUIREMENTS.
10. FE INDICATES FIRE EXTINGUISHER. SURFACE MOUNTED UNITS
11. INTERIOR DOOR DIMENSIONS ARE TO MASONRY OPENINGS UNLESS OTHERWISE NOTED.
12. SEE MECHANICAL / ELECTRICAL DRAWINGS FOR EXACT LOCATION OF CURB AND TYPE OF EQUIPMENT. SEE STRUCTURAL DRAWINGS FOR REINFORCING REQUIREMENTS.
13. ALL PARTITIONS SHALL EXTEND TO THE UNDERSIDE OF THE STRUCTURAL DECK AND/OR TO BOTTOM OF TRUSS AND BE SEALED TIGHTLY WITH NON-COMBUSTIBLE SEALANT. ALL FIRE RATED WALLS SHALL BE FILLED WITH AN APPROVED MATERIAL TO PROHIBIT THE PASSAGE OF FIRE.
14. OPENINGS IN RATED PARTITIONS FOR CONDUIT, PIPING, AND OTHER ITEMS SHALL BE FILLED WITH AN APPROVED NON-COMBUSTIBLE MATERIAL OR APPROVED PRODUCT TO PROHIBIT THE PASSAGE OF FIRE AND SMOKE.
15. ALL CEILINGS TO RECEIVE SAME PAINT FINISH AS THE ROOM WALLS UNLESS OTHERWISE NOTED.

ARCHITECTURAL ABBREVIATIONS

ABV	ABOVE
AC	AIR CONDITIONER
ACST	ACOUSTIC
ADDL	ADDITIONAL
ADJ	ADJACENT
AFF	ABOVE FINISH FLOOR
AGGR	AGGREGATE
AL	ALUMINUM
ALT	ALTERNATE
ARCH	ARCHITECTURAL
ASB	ASBESTOS
ASPH	ASPHALT
ASPHRS	ASPHALT ROOF SHINGLES
ASSN	ASSOCIATION
ASST	ASSISTANT
ASSY	ASSEMBLY
AVE	AVENUE
AVG	AVERAGE
B/O	BOTTOM OF
BALC	BALCONY
BD	BOARD
BETW	BETWEEN
BLDG	BUILDING
BLKG	BLOCKING
BLR	BOILER
BM	BEAM
BP	BASE PLATE
BRDG	BRIDGING
BRG	BEARING
BS	BOTH SIDES
BSMT	BASEMENT
CAB	CABINET
CAP	CAPACITY
CARP	CARPET
CDR	COILING DOOR
CER	CERAMIC
CER TILE	CERAMIC TILE
CI	CAST IRON
CIP	CAST-IRON PIPE
CJ	CONTROL JOINT
CL	CENTERLINE
CLG	CEILING
CLO	CLOSET
CLR	CLEAR
CMIU	CONCRETE MASONRY INSULATED UNIT
CMU	CONCRETE MASONRY UNIT
CNCL	CONCEALED
CO	CLEANOUT
COM	COMPANY
COL	COLUMN
COMP	COMPOSITION
CONC	CONCRETE
CONSTR	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACTOR
CRV	CURVED
CSK	COUNTERSINK
CTD	COATED
CTR	CENTER
CUH	CABINET UNIT HEATER
D	DEPTH
DBL	DOUBLE
DEG	DEGREE
DEPT	DEPARTMENT
DET	DETAIL
DGL	DIAGONAL
DIA	DIAMETER
DIM	DIMENSION
DIV	DIVISION
DL	DEAD LOAD
DMPF	DAMPPROOFING
DN	DOWN
DPN	DEMOUNTABLE PARTITION
	MANUFACTURER
DR	DOOR
DS	DOWNSPOUT
DW	DISHWASHER
DWG	DRAWING
E	EAST
EA	EACH
EGEN	EMERGENCY GENERATOR
EF	EXHAUST FAN
EIFS	EXTERIOR INSULATION & FINISH SYSTEM
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATOR
ENTR	ENTRANCE
EPDM	ETHYLENE PROPYLENE DIENE MONOMER
ETC	ETCETERA
EQ	EQUAL
EQUIP	EQUIPMENT
EWC	ELECTRIC WATER COOLER
EXH	EXHAUST
EXIST	EXISTING
EXP	EXPANSION
EXP JT	EXPANSION JOINT
EXT	EXTERIOR

FAB	FABRICATE
FBD	FIBERBOARD
FC	FILE CABINET
FD	FLOOR DRAIN
FDN	FOUNDATION
FDR	FIRE DOOR
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER & CABINET
FHY	FIRE HYDRANT
FIN	FINISH
FL	FLASHING
FLEX	FLEXIBLE
FLG	FLANGE
FLR	FLOOR
FLRG	FLOORING
FP	FIREPROOF
FRP	FIBERGLASS-REINFORCED PLASTICS
FT	FOOT
FTG	FOOTING
FURN	FURNITURE
GA	GAUGE
GALV	GALVANIZED
GAR	GARAGE
GEN	GENERATOR
GL	GLASS
GLU-LAM	GLUE-LAMINATED
GOVT	GOVERNMENT
GR	GRADE
GRD	GROUND
GVL	GRAVEL
GWB	GYPSUM WALLBOARD
GYP	GYPSUM
H	HIGH
HCP	HANDICAP
HDWE	HARDWARE
HM	HOLLOW METAL
HMD	HOLLOW METAL DOOR
HORIZ	HORIZONTAL
HPT	HIGH POINT
HT	HEIGHT
HTR	HEATER
HVAC	HEATING, VENTILATING, & AIR CONDITIONING
ID	INSIDE DIAMETER
IE	THAT IS
IH	INTAKE HOOD
IN	INCH
INSUL	INSULATION
INTR	INTERIOR
JST	JOIST
JT	JOINT
LAB	LABORATORY
LAM	LAMINATE
LAV	LAVATORY
LG	LENGTH
LH	LEFT HAND
LIB	LIBRARY
LIN	LINEAR
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LPT	LOW POINT
LT	LIGHT
LWC	LIGHTWEIGHT CONCRETE
MAINT	MAINTENANCE
MAS	MASONRY
MATL	MATERIAL
MAX	MAXIMUM
MECH	MECHANICAL
MEMB	MEMBRANE
MEZZ	MEZZANINE
MFR	MANUFACTURER
MGR	MANAGER
MH	MANHOLE
MIL	MILITARY
MIN	MINIMUM
MISC	MISCELLANEOUS
MET	METAL
ML	METAL LATH
MLDG	MOLDING
MLP	METAL LATH AND PLASTER
MO	MASONRY OPENING
MOD	MOTOR OPERATED DAMPER
MTG	MOUNTING
N	NORTH
NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NO	NUMBER
NRC	NOISE-REDUCTION COEFFICIENT
NTS	NOT TO SCALE
OA	OVERALL
OC	ON CENTER
OD	OUTSIDE DIAMETER
OFF	OFFICE
OH	OPPOSITE HAND
OHDR	OVERHEAD DOOR
OPNG	OPENING
OPP	OPPOSITE

OSB	ORIENTED STRAND BOARD
P/L	PROPERTY LINE
PASS	PASSENGER
PERF	PERFORATED
PL	PLATE
PLAS	PLASTER
PLBG	PLUMBING
PLYWD	PLYWOOD
PNL	PANEL
PNT	PAINT
PORC	PORCELAIN
PR	PAIR
PREFAB	PREFABRICATED
PROJ	PROJECT
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	POINT
PTD	PAINTED
PTN	PARTITION
PVC	POLYVINYL CHLORIDE
QTF	QUARRY-TILE FLOOR
R	RADIUS
RI	RISER
RD	ROOF DRAIN
REF	REFRIGERATOR
REINF	REINFORCE
REQD	REQUIRED
RET	RETURN
REV	REVISION
REG	REGISTER
RFG	ROOFING
RH	RIGHT HAND
RM	ROOM
RWC	RAIN WATER CONDUCTOR
S	SOUTH
SAPC	SUSPENDED ACOUSTICAL PANEL CEILING
SCHED	SCHEDULE
SDG	SIDING
SEC	SECTION
SF	SQUARE FOOT
SGFT	STRUCTURAL GLAZED FACING TILE
SH	SHOWER
SHM	SECURITY HOLLOW METAL
SHT	SHEET
SI	INTERNATIONAL SYSTEM OF UNITS
SIM	SIMILAR
SKY	SKYLIGHT
SLDR	SLIDING DOOR
SMLS	SEAMLESS
SPA	SPACED
SPEC	SPECIFICATION
SPKLR	SPRINKLER
SPKR	SPEAKER
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
STL	STEEL
STOR	STORAGE
STRUCT	STRUCTURE/STRUCTURAL
STWY	STAIRWAY
SUPT	SUPERINTENDENT
SUPVR	SUPERVISOR
SURF	SURFACE
SUSP	SUSPENDED/SUSPENSION
SYS	SYSTEM
T	TREAD
T/O	TOP OF
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
TAN	TANGENT
TDD	TELECOMMUNICATION DISPLAY DEVICE
TEL	TELEPHONE
TEMP	TEMPORARY
TER	TERRAZZO
THRU	THROUGH
TLT	TOILET
TRTD	TREATED
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VAT	VINYL ASBESTOS TILE
VCT	VINYL COMPOSITION TILE
VEND	VENDING MACHINE
VERT	VERTICAL
VIF	VERIFY IN FIELD
VTR	VENT THRU ROOF
W	WEST
WI	WIDE
W/	WITH
W/O	WITHOUT
WBD	WALLBOARD
WC	WATER CLOSET
WD	WOOD
WDR	WOOD DOOR
WH	WATER HEATER
WTRPRF	WATERPROOFING
WWF	WELDED WIRE FABRIC
XFMR	TRANSFORMER

SYMBOLS LEGEND

- 101 — DOOR NUMBER REFERENCE
- 101 — ROOM NUMBER REFERENCE
- W2 — WINDOW TYPE REFERENCE
- W2* — * INDICATES WINDOW IS (BR) BULLET RESISTENT
- L-2 — LINTEL TYPE REFERENCE
- LV1 — LOUVER TYPE REFERENCE
- 0.0 — COLUMN REFERENCE
- 5 — TOILET ACCESSORY REFERENCE
- 1 — PARTITON TYPE REFERENCE
- 1 — INDICATES PARTITION HEIGHT TO BE 4" ABOVE CEILING
- 1 — INDICATES PARTITION HEIGHT TO EXTEND TO UNDERSIDE OF STRUCTURAL DECK ABOVE
- ELEVATION INDICATION
- 0 — REVISION REFERENCE
- REVISION CLOUD
- A / A-2 — SECTION REFERENCE / DRAWING ON WHICH SECTION APPEARS
- A / A-2 — DETAIL REFERENCE / DRAWING ON WHICH DETAIL APPEARS
- A, B, C, D / A-2 — MULTIPLE ELEVATION REFERENCE / DRAWING ON WHICH ELEVATIONS APPEAR
- A / A-2 — SINGLE ELEVATION REFERENCE / DRAWING ON WHICH ELEVATION APPEARS
- A / A-2 — LARGE SCALE PLAN/SECTION/ DETAIL REFERENCE / DRAWING ON WHICH LARGE SCALE PLAN/SECTION/DETAIL APPEARS
- N — NORTH ARROW REFERENCE

MATERIALS LEGEND

- BRICK
- CMU
- ACOUSTICAL CMU
- CMIU
- SGFT / GLAZED CMU
- STEEL
- ALUMINUM
- FINISH LUMBER
- DIMENSIONAL LUMBER
- SHIM
- CONCRETE
- GYP BD / GROUT
- BATT INSULATION
- RIGID INSULATION
- COARSE AGGREGATE / BALLAST
- PLYWOOD
- ACOUSTICAL PANEL
- TILE
- OSB
- EARTH

NOTE: SOME OF THESE SYMBOLS AND MATERIALS MAY NOT BE REPRESENTED ON THE DRAWINGS.

CODE CRITERIA

ALL CODE REFERENCES ARE FROM THE INTERNATIONAL BUILDING CODE 2006

DESCRIPTION	CODE REFERENCE	REQUIREMENT	PROVIDED
GENERAL			
USE GROUP SIMILAR TO:	312.1	UTILITY AND MISCELLANEOUS GROUP (U)	UTILITY AND MISCELLANEOUS GROUP (U)
CONSTRUCTION TYPE:	TABLES 601	TYPE 2-B	TYPE 2-B
NO. OF STORIES	TABLE 503	2 STORIES (MAX)	1 STORY
BUILDING AREA	TABLE 503	8,500 SF (MAX)	293 SF
SPECIAL REQUIREMENTS	CHAPTER 4 - N/A		
SPRINKLERED	DELAWARE STATE FIRE PREVENTION REG.	NOT REQUIRED	CLEAN AGENT FIRE SUPRESSION SYSTEM PROVIDED FOR ETC ROOM
FIRE ALARM SYSTEM	907	FIRE ALARM NOT REQUIRED	FIRE ALARM PROVIDED
FIRE RESISTANCE RATING			
BUILDING ELEMENTS			
1. STRUCTURAL FRAME	TABLE 601	0 HOURS	0 HOURS
2. BEARING WALLS	TABLE 601	0 HOURS	0 HOURS
3. NON BEARING WALLS	TABLE 601	0 HOURS	0 HOURS
4. FLOOR CONSTRUCTION	TABLE 601	0 HOURS	0 HOURS
5. ROOF CONSTRUCTION	TABLE 601	0 HOURS	0 HOURS
OTHER ELEMENTS			
1. SHAFT ENCLOSURES	707	N/A	
2. EXIT ENCLOSURES	1020.1	N/A	

A-1

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

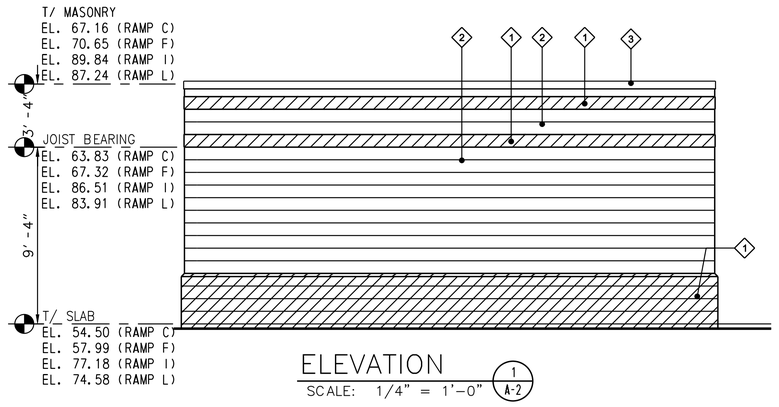
US 301
LEVELS ROAD TO
SUMMIT BRIDGE ROAD

CONTRACT	T200911303
COUNTY	NEW CASTLE
BRIDGE NO.	
DESIGNED BY:	DRE
CHECKED BY:	JRS

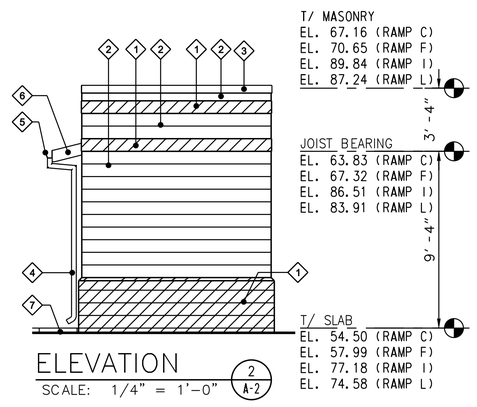
ARCHITECTURAL LEGENDS, SYMBOLS AND ABBREVIATIONS

SHEET NO.	1187
TOTAL SHTS.	1256

LAST REVISED: 3/12/2008
H:\50343_TOLL-PLAZA\GENERAL\XREFS\SB_A1_AECOM.DGN



ELEVATION
SCALE: 1/4" = 1'-0" (1 / A-2)



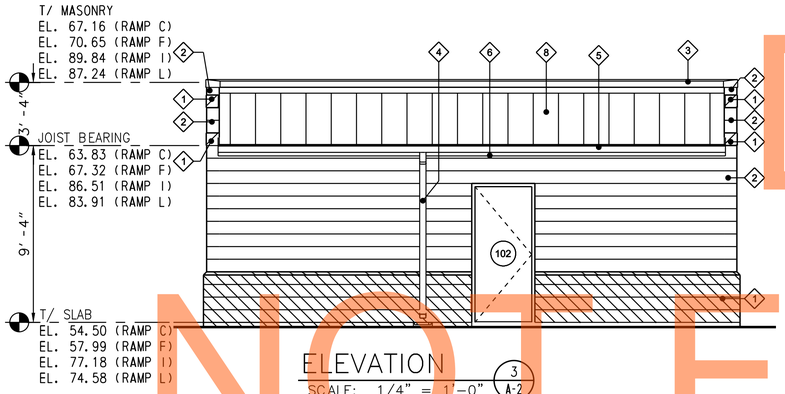
ELEVATION
SCALE: 1/4" = 1'-0" (2 / A-2)

KEYNOTES

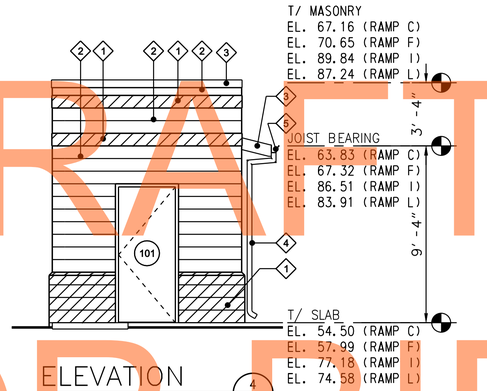
1 SPLIT FACE CMU COLOR #1
2 MATTE FACE CMU COLOR #2
3 METAL COPING
4 METAL DOWNSPOUT
5 METAL GUTTER
6 METAL FASCIA
7 SPLASHBLOCK
8 STANDING SEAM METAL ROOF
9 LIGHT GAUGE METAL TRUSS
10 3/4" PLYWOOD SHEATHING
11 RIGID INSULATION
12 VAPOR BARRIER OVER COURSE AGGREGATE
13 CONCRETE FOOTING. SEE STRUCTURAL DRAWINGS

FLOOR PLAN NOTES

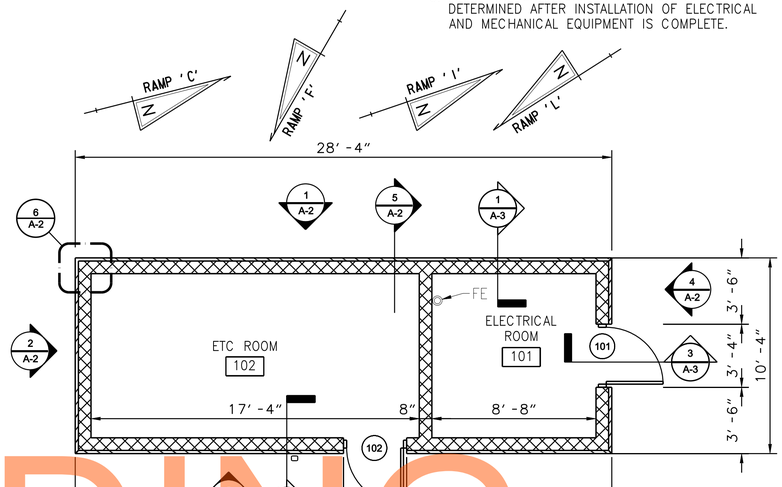
1. MASONRY DIMENSIONS ARE NOMINAL UNLESS NOTED OTHERWISE.
2. DIMENSIONS AT CMU WALLS ARE TO THE FACE OF CMU UNLESS NOTED OTHERWISE.
3. PROVIDE LINTELS FOR OPENINGS IN MASONRY WALLS INCLUDING BUT NOT LIMITED TO OPENINGS FOR DOORS, WINDOWS, LOUVERS, AND MECHANICAL AND ELECTRICAL PENETRATIONS.
4. THE INSIDE EDGE OF DOOR FRAMES SHALL BE SET 4" CLEAR FROM THE FINISH FACE OF THE ADJACENT PERPENDICULAR PARTITION UNLESS OTHERWISE DIMENSIONED.
5. SEE CIVIL DRAWINGS FOR CONCRETE PADS AND BOLLARD LOCATIONS AT EXTERIOR DOORS.
6. FINAL FIRE EXTINGUISHER LOCATION TO BE DETERMINED AFTER INSTALLATION OF ELECTRICAL AND MECHANICAL EQUIPMENT IS COMPLETE.



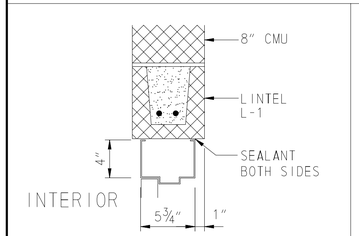
ELEVATION
SCALE: 1/4" = 1'-0" (3 / A-2)



ELEVATION
SCALE: 1/4" = 1'-0" (4 / A-2)



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



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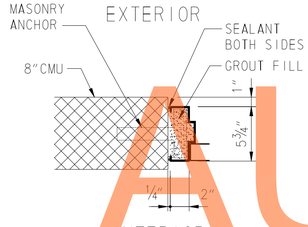

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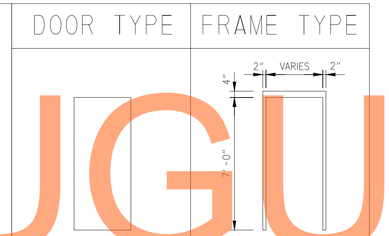
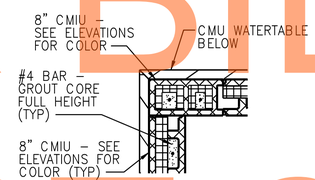
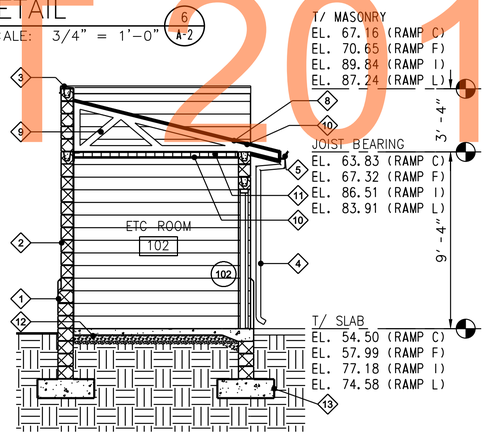


A 1

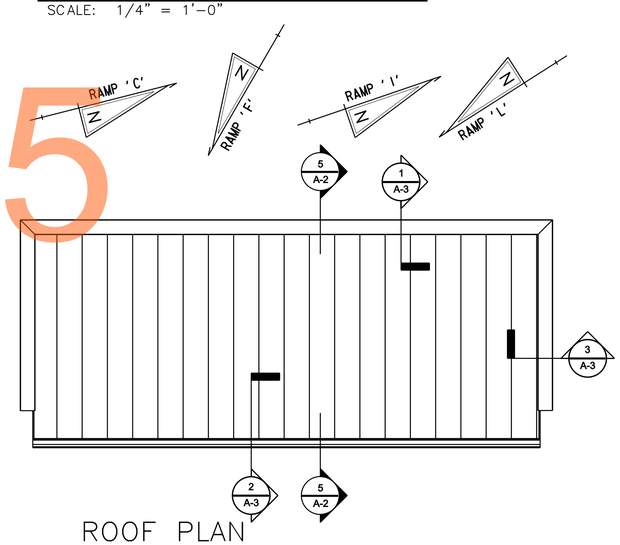
LINTEL SCHEDULE
L-1 8" PRE-CAST CMU LINTEL BEAR 6" ON EITHER JAMB



DETAIL
SCALE: 3/4" = 1'-0" (6 / A-2)



BUILDING SECTION
SCALE: 1/4" = 1'-0" (5 / A-2)



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

DOORS AND FRAMES

LOCATION	DOOR NO.	DOOR SIZE W	DOOR SIZE H	DOOR SIZE T	DOOR MAT	DOOR TYPE	GLASS	LOUVER W	LOUVER H	FRAME MAT	FRAME TYPE	FRAME DETAILS HEAD	FRAME DETAILS JAMB(S)	FRAME DETAILS SILL	FIRE RATING LAB	FIRE RATING HOUR	HARDWARE SET NO.	HARDWARE KEYSIDE ROOM NO.	LINTEL	REMARKS
RAMP C	101	3'-0"	7'-0"	1 3/4"	HM	A				HM	1	1	2				1	EXT	L-1	CARD READER.
	102	3'-0"	7'-0"	1 3/4"	HM	A				HM	1	1	2				2	EXT	L-1	CARD READER.
RAMP F	101	3'-0"	7'-0"	1 3/4"	HM	A				HM	1	1	2				1	EXT	L-1	CARD READER.
	102	3'-0"	7'-0"	1 3/4"	HM	A				HM	1	1	2				2	EXT	L-1	CARD READER.
RAMP I	101	3'-0"	7'-0"	1 3/4"	HM	A				HM	1	1	2				1	EXT	L-1	CARD READER.
	102	3'-0"	7'-0"	1 3/4"	HM	A				HM	1	1	2				2	EXT	L-1	CARD READER.
RAMP L	101	3'-0"	7'-0"	1 3/4"	HM	A				HM	1	1	2				1	EXT	L-1	CARD READER.
	102	3'-0"	7'-0"	1 3/4"	HM	A				HM	1	1	2				2	EXT	L-1	CARD READER.

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DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

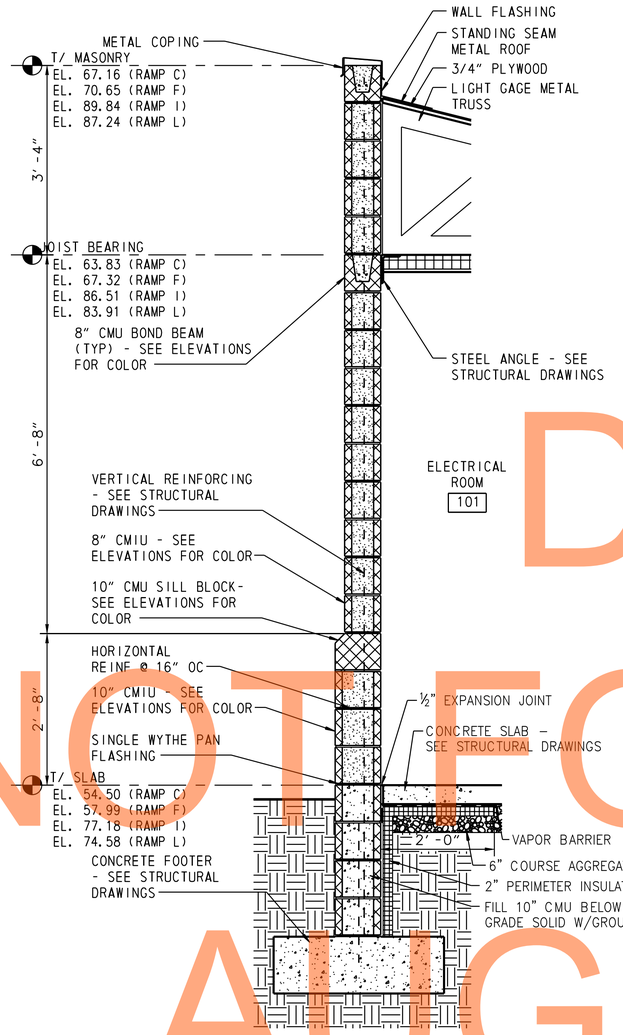
US 301 LEVELS ROAD TO SUMMIT BRIDGE ROAD

CONTRACT	BRIDGE NO.
T200911303	
COUNTY	DESIGNED BY: BJO
NEW CASTLE	CHECKED BY: JRS

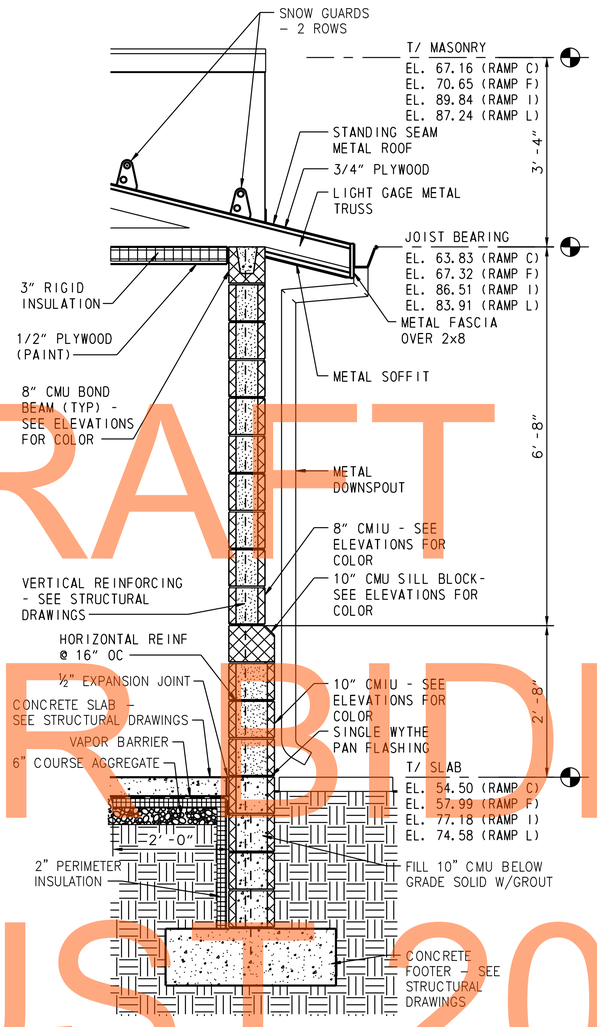
ARCHITECTURAL PLANS, ELEVATIONS, AND DETAILS

A-2

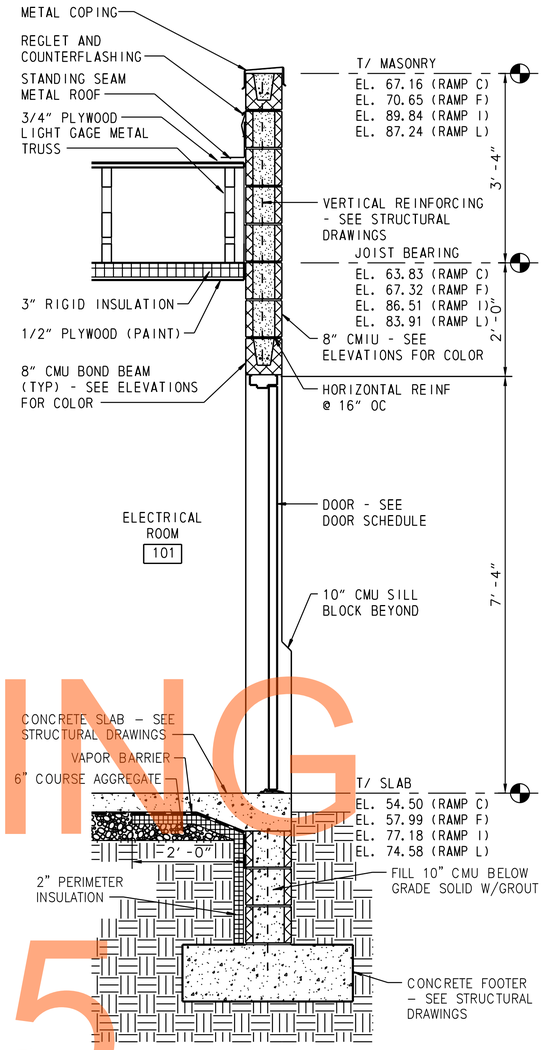
SHEET NO.	TOTAL SHTS.
1188	1256



WALL SECTION 1 A-3
SCALE: 3/4" = 1'-0"



WALL SECTION 2 A-3
SCALE: 3/4" = 1'-0"



WALL SECTION 3 A-3
SCALE: 3/4" = 1'-0"

ROOM FINISHES

LOCATION ROOM NO.	ROOM NAME	FLOORS MATERIALS					BASES MATERIALS					WALLS MATERIALS						CEILINGS MATERIALS						REMARKS
		CONCRETE W/ SEALER	CONCRETE W/ EPOXY COATING	NOT USED	NOT USED	NOT USED	PAINTED	NOT USED	NOT USED	NOT USED	NOT USED	CMU	NOT USED	NOT USED	NOT USED	NOT USED	PAINT	1/2" PLYWOOD	NOT USED	NOT USED	NOT USED	PAINT	CEILING HEIGHT	
		1	2	4	5	6	1	2	3	4	5	1	2	3	4	5	P	1	2	3	4	P		
101	ELECTRICAL ROOM	1					1					1					P	1				P	9'-0"	
102	ETC ROOM		2				1					1					P	1				P	9'-0"	

A-3

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

US 301
LEVELS ROAD TO
SUMMIT BRIDGE ROAD

CONTRACT	BRIDGE NO.
T200911303	
COUNTY	DESIGNED BY: BJO
NEW CASTLE	CHECKED BY: JRS

ARCHITECTURAL
WALL SECTIONS AND
ROOM FINISH SCHEDULE

SHEET NO.	TOTAL SHTS.
1189	1256

LAST REVISED: 3/12/2008
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GENERAL STRUCTURAL NOTES:

GENERAL

1. THE STRUCTURE IS DESIGNED TO ACT AS A STRUCTURAL UNIT UPON COMPLETION. CONTRACTOR SHALL DESIGN AND PROVIDE NECESSARY BRACING, TEMPORARY SUPPORTS, AND SHORING TO RESIST FORCES, INCLUDING UPLIFT, ON THE STRUCTURE DURING CONSTRUCTION.

2. WORK SHALL BE COORDINATED WITH THE VARIOUS TRADES TO AVOID CONFLICT OR INTERFERENCE WITH REINFORCING STEEL OR STRUCTURAL STEEL MEMBERS.

3. THE LOCATION OF ALL AERIAL FACILITIES SHALL BE IDENTIFIED IN THE FIELD BEFORE CONSTRUCTION COMMENCES AND PSE&G PROXIMITY REQUIREMENTS ADHERED TO.

DESIGN CRITERIA

1. APPLICABLE CODES AND SPECIFICATIONS
   IBC 2006 W/ NEW CASTLE COUNTY CODE
   ASCE 7-05, MINIMUM BUILDING LOADS - AS APPLICABLE
   AISC 360-05, MANUAL OF STEEL CONSTRUCTION - LOAD AND RESISTANCE FACTOR DESIGN
   ACI 318-05, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND COMMENTARY

2. DESIGN LOADS:

   ROOF LIVE LOAD _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ 17 PSF
   SNOW LOAD:
   GROUND SNOW LOADS _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ 25 PSF
   ROOF SNOW LOAD _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ 20 PSF
   TERRAIN FACTOR _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ C
   THERMAL FACTOR _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ 1.2
   EXPOSURE FACTOR_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ 0.9
   IMPORTANCE FACTOR _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ 1.0
   WIND LOAD:
   BASIC WIND SPEED (3 SECOND GUST): _ _ _ _ _ _ _ _ 90 MPH
   WIND IMPORTANCE FACTOR _ _ _ _ _ _ _ _ _ _ _ _ _ 1.0
   WIND EXPOSURE _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ C
   SEISMIC LOADS:
   FRAMING SYSTEM:
   STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE, EXCLUDING CANTILEVER COLUMNS SYSTEMS (NORTH/SOUTH); CANTILEVERED COLUMN SYSTEMS DETAILED TO CONFORM TO THE REQUIREMENTS FOR ORDINARY STEEL MOMENT FRAMES.

   DESIGN BASIS: EQUIVALENT LATERAL FORCE PROCEDURE
   0.2 SEC SPECTRAL RESPONSE _ _ _ _ _ _ _ _ _ _ _ 0.235
   1.0 SEC SPECTRAL RESPONSE _ _ _ _ _ _ _ _ _ _ _ 0.08
   SITE CLASS _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ D
   SEISMIC DESIGN CATEGORY _ _ _ _ _ _ _ _ _ _ _ _ B
   SEISMIC IMPORTANCE FACTOR _ _ _ _ _ _ _ _ _ _ _ 1.0
   RESPONSE MODIFICATION FACTOR_ _ _ _ _ _ _ _ _ _ 3.0
   DEFLECTION AMPLIFICATION FACTOR _ _ _ _ _ _ _ _ 3.0
   BASE SHEAR _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ 15 K

FOUNDATIONS

1. THE MAXIMUM ALLOWABLE SOIL BEARING PRESSURE FOR SPREAD FOOTING IS 4,000 PSF.

2. ALL CONCRETE SLABS, FOOTINGS AND PRECAST ELEMENTS BEARING ON SOIL SHALL BE UNDERLAIN BY A MINIMUM OF 6 INCHES OF NO. 57 STONE (UNO).

3. ALL AREAS EXCAVATED FOR THE BUILDING BASEMENT ARE TO BE BACKFILLED AND SUPPORT STRIP FOOTINGS SHALL BE USING NO. 57 STONE COMPACTED IN 8" LIFTS (MAX).

CONCRETE

1. ALL CONCRETE FOR STRUCTURES EXCEPT FOR PRECAST ITEMS SHALL BE AIR-ENTRAINED CONCRETE (EXCEPT INTERIOR SLABS) WITH A MINIMUM COMPRESSIVE STRENGTH OF 4000 POUNDS PER SQUARE INCH AT 28 DAYS.

2. REINFORCEMENT BARS SHALL BE NEW BILLET STEEL CONFORMING TO A.S.T.M. DESIGNATION A615, GRADE 60, DEFORMED.

3. WELDED WIRE FABRIC SHALL CONFORM TO A.S.T.M. DESIGNATION A185.

4. WATERSTOPS SHALL BE POLYVINYL CHLORIDE, 6"X3/8" IN CONSTRUCTION JOINTS AND 9"X 3/8" W/CENTER BULB IN EXPANSION JOINTS UNLESS SHOWN OTHERWISE.

5. CONCRETE DESIGN IS IN CONFORMANCE WITH "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (A.C.I. 318-05).

6. DETAIL, FABRICATE AND ERECT REINFORCEMENT BARS, INCLUDING BAR SUPPORTS, SPACES, ETC. IN ACCORDANCE WITH "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT" (A.C.I. 315-92).

7. UNLESS SHOWN OTHERWISE, BARS AT SPLICES SHALL BE LAPPED IN ACCORDANCE WITH THE TABLE "REINFORCING STEEL LAP SPLICES AND EMBEDMENTS" SHOWN ON THIS SHEET.

8. CONCRETE COVER FOR REINFORCEMENT BARS SHALL CONFORM TO THE FOLLOWING, UNLESS INDICATED OTHERWISE ON THE DRAWINGS:

   A. UNFORMED SURFACES IN CONTACT WITH GROUND _ _ _ _ _ 3 INCHES
   B. FORMED SURFACES IN CONTACT WITH GROUND OR EXPOSED TO WEATHER, AND ALL WALLS _ _ _ _ _ _ _ _ _ 2 INCHES
   C. ALL COLUMNS, BEAMS_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ 1- 1/2 INCHES
   D. EXTERIOR EXPOSURE, TOP OF SLABS _ _ _ _ _ _ _ _ _ 1- 1/2 INCHES
   E. INTERIOR EXPOSURE TOP AND BOTTOM OF SLABS _ _ _ _ _ 1 INCH

9. CHAMFER EXPOSED CONCRETE EDGES 3/4 INCH X 3/4 INCH UNLESS NOTED OTHERWISE.

10. LATERAL LOADS SHALL NOT BE APPLIED TO ANY WALL PRIOR TO ACHIEVING THE 28 DAY CONCRETE COMPRESSIVE STRENGTH. ALL SUPPORTING FLOORS AND SLABS AT TOP OF WALLS MUST ALSO BE IN PLACE.

11. TUNNEL AND TUNNEL STAIRWAY SHALL BE MANFACTURED WITH PRECAST CONCRETE. PRECAST CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 5000 POUNDS PER SQUARE INCH AT 28 DAYS.

GANTRY NOTES:

1. PROVIDE MATERIALS AND WORKMANSHIP IN THE ACCORDANCE WITH THE DELAWARE DEPARTMENT OF TRANSPORTATION SPECIFICATIONS, ANSI/AASHTO/AWS/D1.5-2002 BRIDGE WELDING CODE AND CONTRACT SPECIAL PROVISIONS. USE ANSI/AWS/D1.1-2002 FOR WELDING NOT COVERED IN ANSI/AASHTO/AWS/D1.5-2002.

2. DESIGN SPECIFICATIONS: AASHTO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS 2009, 5TH EDITION.

3. ALL DIMENSIONS SHOWN ARE HORIZONTAL, EXCEPT AS NOTED.

4. USE CLASS A CEMENT CONCRETE f'c = 3000 PSI IN PEDESTALS AND FOOTINGS.

5. CHAMFER EXPOSED CONCRETE EDGES 1" X 1" EXCEPT AS NOTED.

6. PROVIDE A MINIMUM OF 2" CONCRETE COVER ON REINFORCEMENT BARS, EXCEPT AS NOTED.

7. PROVIDE GRADE 60 REINFORMENT BARS THAT MEET THE REQUIREMENTS OF ASTM A615/A 615-96A FOR CONCRETE REINFORCEMENT. DO NOT WELD REINFORCEMENT BARS.

8. USE UNCOATED REINFORCEMENT BARS.

9. PROVIDE MINIMUM LAP AND EMBEDMENT LENGTH OF 20 DIAMETERS OR IN ACCORDANCE WITH AASHTO.

10. RAKE-FINISH ALL HORIZONTAL CONSTRUCTION JOINTS EXCEPT AS NOTED.

11. THE DESIGN WIND VELOCITY IS 90 MPH.

12. THE DESIGN ICE LOAD IS 3 PSF.

13. ALL STRUCTURAL DETAILS HAVE BEEN DESIGNED FOR FATIGUE RESISTANCE UNDER THE FOLLOWING FATIGUE LOADS:
    - NATURAL WIND GUST (5.2 * Cd PSF)
    - TRUCK INDUCED GUSTS (18.8 * Cd PSF)

14. PROVIDE STRUCTURAL STEEL CONFORMING TO THE FOLLOWING:
    - ASTM A 53, GRADE B, Fy = 35 KSI FOR PIPE COLUMNS, CHORDS AND STRUTS.
    - AASHTO M 270M, GRADE 36, (ASTM A709M, GRADE 36) FOR SHAPES AND PLATES.
    ALL STEEL SHALL MEET SUPPLEMENTARY REQUIREMENTS FOR NOTCH TOUGHNESS. (CHARPY TESTING, ZONE "2 NON-FRACTURE CRITICAL).

15. PROVIDE ANCHOR BOLT HOLES 1/4" LARGER THAN BOLT DIAMETER FOR BASE PLATE. PROVIDE BOLT HOLES 1/8" LARGER THAN BOLT DIAMETER FOR ANCHOR PLATE.

16. USE TEMPLATES TO ACCURATELY SET BASE PLATE ANCHOR BOLTS TO CORRECT ELEVATION AND ALIGNMENT. SECURELY BRACE ANCHOR BOLTS AGAINST DISPLACEMENT BEFORE PEDESTAL CONCRETE IS PLACE AND DURING CONCRETE CURING.

17. GROUT PADS SHALL NOT BE USED. BASE PLATES AND EXPOSED ANCHOR BOLTS SHALL BE PLACED SO RUN-OFF AND/OR RAIN WATER CANNOT RUN ONTO OR POND AT THIS AREA.

18. PROVIDE DOUBLE NUTS AND WASHERS FOR EACH ANCHOR BOLT.

19. GALVANIZED HIGH STRENGTH BOLTS SHALL CONFORM TO AASHTO M164/ASTM A325.

20. GALVANIZED HEAT TREATED NUTS SHALL CONFORM TO AASHTO M292/ASTM A1494 OR AASHTO M291/ASTM A563 GRADE 2H, DH. GALVANIZED HARDENED STEEL WASHERS SHALL CONFORM TO AASHTO M293/ASTM F436.

21. GALVANIZED ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM F1554 GRADE 55.

22. INSTALL ACCESS HOLES ON POLE OPPOSITE DIRECTION OF TRAFFIC.

23. DIMENSIONS ARE BASED ON A NORMAL TEMPERATURE OF 68° F.

24. VERIFY ALL ELEVATIONS AND DIMENSIONS IN THE FIELD.

25. FOOTINGS WILL BE POURED AGAINST FILL COMPACTED TO 98% RELATIVE MAXIMUM DENSITY OR ON UNDISTURBED MATERIAL.

26. DIVERT ALL SURFACE RUNOFF AWAY FROM EXCAVATIONS. PERFORM ALL EXCAVATIONS IN ACCORDANCE WITH OSHA REQUIREMENTS. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING SUFFICIENT DEWATERING SO THAT EXCAVATIONS ARE DRY ENOUGH FOR INSPECTION AND CONSTRUCTION.

27. COORDINATE, LOCATE AND CONDUCT ALL WORK RELATED TO PUBLIC AND PRIVATE UTILITIES IN ACCORDANCE WITH DELDOT UTILITIES MANUAL.

28. VERIFY AND LOCATE ALL EXISTING UTILITIES PRIOR TO STARTING WORK. CONDUCT OPERATIONS IN A MANNER WHICH ENSURES THAT THE UTILITIES WILL NOT BE DISTURBED OR ENDANGERED, AND ASSUME FULL RESPONSIBILITY FOR ANY DAMAGE TO UTILITIES DURING CONSTRUCTION. THE DEPARTMENT DOES NOT ASSUME RESPONSIBILITY FOR REIMBURSEMENT, PARTICIPATION IN DESIGN AND/OR REVISIONS, OR LIABILITY FOR ACCURACY OF TYPE, SIZE AND LOCATION OF ANY UTILITY.

29. WELDING OF STEEL SHALL BE AS SPECIFICED IN THE CONSTRUCTION SPECIFICATIONS.

30. PIPE, COLUMNS AND CHORDS ARE DENOTED BY DIAMETER AND THICKNESS.

31. DESIGN AND PROVIDE TEMPORARY SUPPORTS AS REQUIRED TO RETAIN EXCAVATED EARTH SURFACES IN ACCORDANCE WITH SPECIFICATIONS.

32. PROVIDE CONNECTIONS AT SUPPORTS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. SHOP DRAWINGS FOR STRUCTURAL STEEL SHALL BE SUBMITTED FOR APPROVAL.

33. VERIFY THE LOCATION OF ALL CONDUIT ROUGH-INS WITH THE EQUIPMENT MANUFACTURER AND COMMISSION'S REPRESENTATIVE, PRIOR TO PLACEMENT OF CONCRETE FOUNDATIONS.

34. PRIOR TO FABRICATION, CONTRACTOR MUST VERIFY CLEARANCE AND ADJUST THE PROPOSED MOUNTING HEIGHT ACCORDINGLY AND AS DIRECTED BY DELDOT.

35. TRUSS CAMBER SHALL BE INCORPORATED DURING FABRICATION. THE CONTRACTOR SHALL ACHIEVE CAMBER BY TILTING THE POLE AND ADJUSTING LEVELING NUTS DURING INSTALLATION.

STRUCTURAL ABBREVIATIONS

@	AT
AL. OR ALUM.	ALUMINUM
APPROX.	APPROXIMATE
B/B	BACK TO BACK
BOTT.	BOTTOM
B/	BOTTOM OF
BTWN	BETWEEN
CJ	CONSTRUCTION JOINT
C/C	CENTER TO CENTER
CIR	CIRCULAR
℄	CENTERLINE
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC.	CONCRETE
CONST.	CONSTRUCTION
CONT	CONTINUOUS
DIA.	DIAMETER
EA.	EACH
EF	EACH FACE
EL OR ELEV	ELEVATION
EMBED.	EMBEDMENT
EQ.	EQUAL
EQUIP.	EQUIPMENT
EW	EACH WAY
EXIST	EXISTING
EXP.	EXPANSION
EXT.	EXTERIOR
FD	FLOOR DRAIN
FIN.	FINISHED
FLR.	FLOOR
FT	FEET
FTG.	FOOTING
HORIZ.	HORIZONTAL
HP	HIGH POINT
I.D.	INSIDE DIAMETER
INT.	INTERIOR
JT.	JOINT
KSF	THOUSAND POUNDS PER SQUARE FOOT
LG.	LONG
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LP	LOW POINT
MAX.	MAXIMUM
MIN.	MINIMUM
NO.	NUMBER
N.T.S.	NOT TO SCALE
O/C	ON CENTER
O.D.	OUTSIDE DIAMETER
OPP.	OPPOSITE
ℙ	PLATE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
R	RISER
RAD.	RADIUS
REINF.	REINFORCEMENT
REQ'D	REQUIRED
SC	SLIP CRITICAL
SCH	SCHEDULE
SF	SQUARE FOOT
SIM	SIMILAR
SPA.	SPACES
SQ.	SQUARE
S.S.	STAINLESS STEEL
ST	STRUCTURAL TUBE
STD.	STANDARD
T	TREAD
T&B	TOP AND BOTTOM
T/	TOP OF
TYP.	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
W/	WITH
WWF	WELDED WIRE FABRIC

ST-01

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

US 301
LEVELS ROAD TO
SUMMIT BRIDGE ROAD

CONTRACT T200911303
COUNTY NEW CASTLE
BRIDGE NO.
DESIGNED BY: AB
CHECKED BY: CAM

STRUCTURAL
GENERAL NOTES
& ABBREVIATIONS

SHEET NO. 1190
TOTAL SHTS. 1256

LAST REVISED: 3/12/2008
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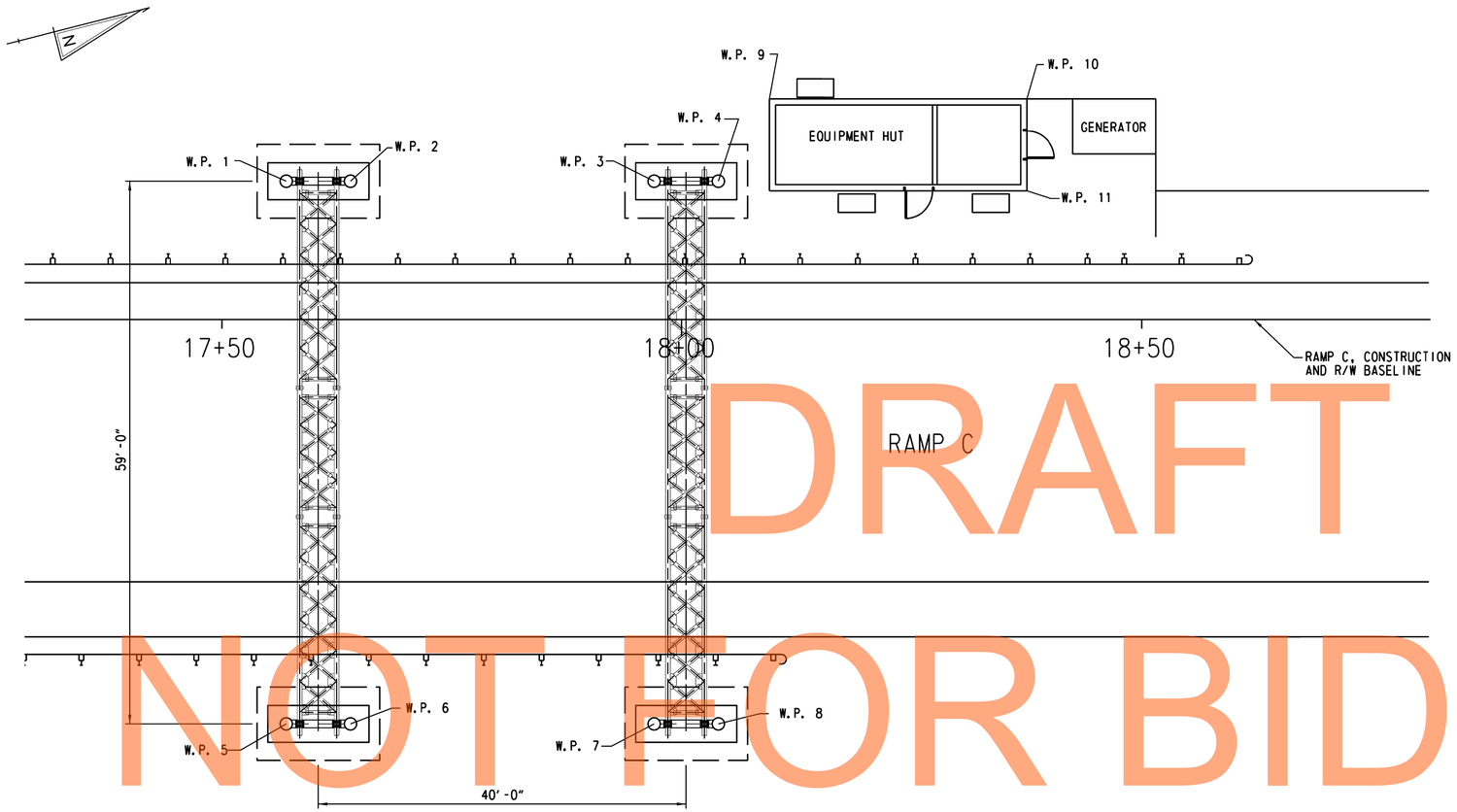

WORKING POINT COORDINATES				
WORKING POINTS	NORTHING	EASTING	STATION	OFFSET
W.P. 1	526819.4172	562208.2670	17+56.98	11.04 LT.
W.P. 2	526826.2012	562209.9925	17+63.98	11.04 LT.
W.P. 3	526858.1829	562218.1270	17+96.98	11.04 LT.
W.P. 4	526864.9669	562219.8525	18+03.98	11.04 LT.
W.P. 5	526804.8735	562265.4463	17+56.98	47.96 RT.
W.P. 6	526811.6575	562267.1718	17+63.98	47.96 RT.
W.P. 7	526843.6392	562275.3063	17+96.98	47.96 RT.
W.P. 8	526850.4232	562277.0319	18+03.98	47.96 RT.
W.P. 9	526872.5352	562212.5317	18+09.51	24.00 LT.
W.P. 10	526899.6712	562219.4337	18+37.51	24.00 LT.
W.P. 11	526897.2062	562229.1251	18+37.51	14.00 LT.

RAMP C - GANTRY PLAN
SCALE: 1/8" = 1'-0"

NOTES:
1. FOR GENERAL NOTES, SEE SHEET ST-01.
2. FOR GANTRY ELEVATION, SEE SHEET ST-06.
3. FOR FOUNDATION DETAILS, SEE SHEET ST-08.
4. FOR GANTRY STRUCTURE DETAILS, SEE SHEETS ST-09, ST-10, AND ST-11.
5. FOR EQUIPMENT HUT FOUNDATION AND SLAB, AND GENERATOR SLAB, SEE SHEET ST-12.

ST-02

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

US 301
LEVELS ROAD TO
SUMMIT BRIDGE ROAD

CONTRACT T200911303
COUNTY NEW CASTLE
BRIDGE NO.
DESIGNED BY: AB
CHECKED BY: CAM

STRUCTURAL
GANTRY PLAN
RAMP C

SHEET NO. 1191
TOTAL SHTS. 1256

LAST REVISED: 3/12/2008
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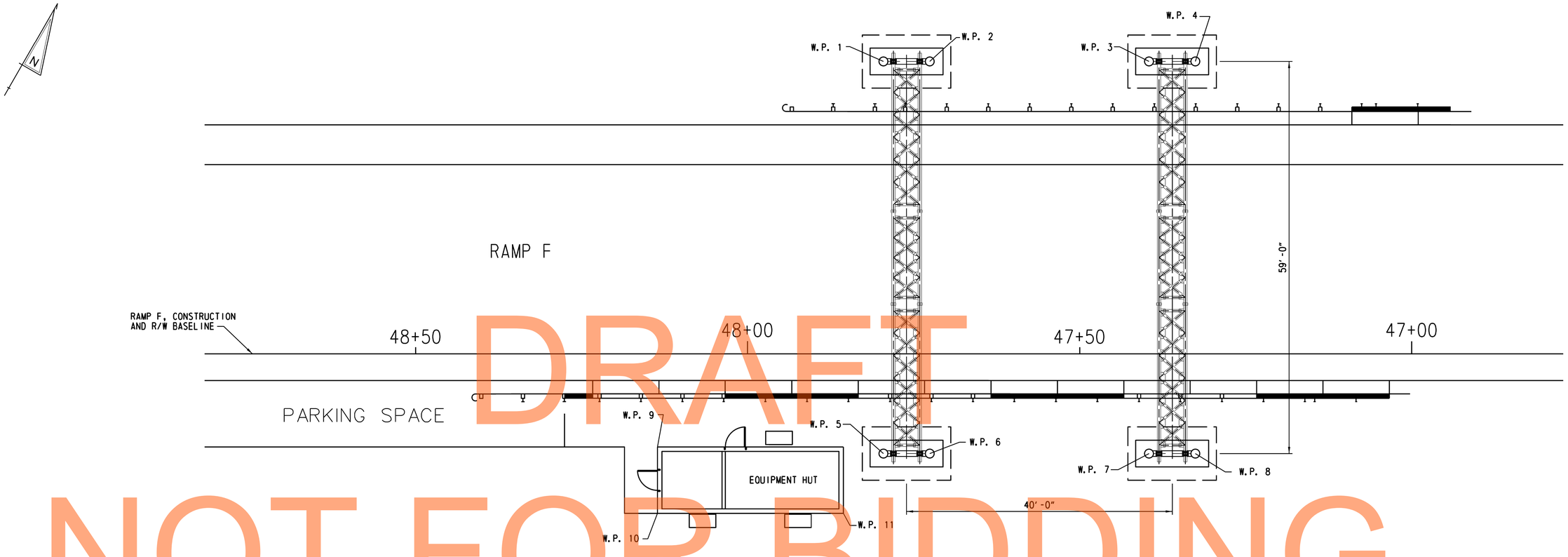

RAMP F - GANTRY PLAN

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

WORKING POINT COORDINATES				
WORKING POINTS	NORTHING	EASTING	STATION	OFFSET
W.P. 1	527192.5766	561696.5684	47+79.57	44.00 RT.
W.P. 2	527196.0663	561702.6365	47+72.57	44.00 RT.
W.P. 3	527212.5181	561731.2431	47+39.57	44.00 RT.
W.P. 4	527216.0078	561737.3112	47+32.57	44.00 RT.
W.P. 5	527141.4313	561725.9819	47+79.57	15.00 LT.
W.P. 6	527144.9210	561732.0500	47+72.57	15.00 LT.
W.P. 7	527161.3728	561760.6566	47+39.57	15.00 LT.
W.P. 8	527164.8625	561766.7247	47+32.57	15.00 LT.
W.P. 9	527125.3393	561696.0092	48+13.58	14.00 LT.
W.P. 10	527116.6706	561700.9945	48+13.58	24.00 LT.
W.P. 11	527130.6296	561725.2669	47+85.58	24.00 LT.

NOTES:
1. FOR GENERAL NOTES, SEE SHEET ST-01.
2. FOR GANTRY ELEVATION, SEE SHEET ST-06.
3. FOR FOUNDATION DETAILS, SEE SHEET ST-08.
4. FOR GANTRY STRUCTURE DETAILS, SEE SHEETS ST-09, ST-10, AND ST-11.
5. FOR EQUIPMENT HUT FOUNDATION AND SLAB, SEE SHEET ST-12.

ST-03

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

US 301
LEVELS ROAD TO
SUMMIT BRIDGE ROAD

CONTRACT T200911303
COUNTY NEW CASTLE
BRIDGE NO.
DESIGNED BY: AB
CHECKED BY: CAM

STRUCTURAL
GANTRY PLAN
RAMP F

SHEET NO. 1192
TOTAL SHTS. 1256

LAST REVISED: 3/12/2008
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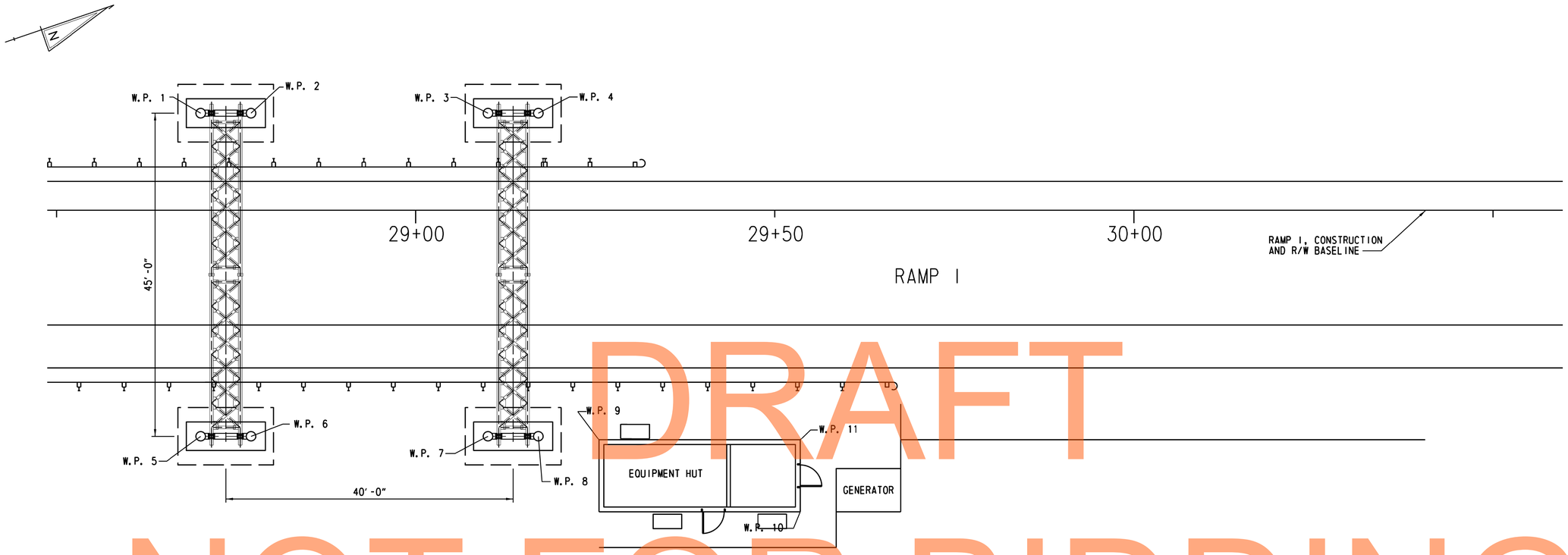

WORKING POINT COORDINATES				
WORKING POINTS	NORTHING	EASTING	STATION	OFFSET
W.P. 1	540992.6199	570289.6119	28+70.08	13.50 LT.
W.P. 2	540999.2457	570291.8699	28+77.08	13.50 LT.
W.P. 3	541030.4817	570302.5150	29+10.08	13.50 LT.
W.P. 4	541037.1075	570304.7731	29+17.08	13.50 LT.
W.P. 5	540978.1038	570332.2062	28+70.08	31.50 RT.
W.P. 6	540984.7296	570334.4643	28+77.08	31.50 RT.
W.P. 7	541015.9655	570345.1093	29+10.08	31.50 RT.
W.P. 8	541022.5913	570347.3674	29+17.08	31.50 RT.
W.P. 9	541030.4418	570350.5758	29+25.55	42.00 RT.
W.P. 10	541053.7192	570369.0735	29+53.55	42.00 RT.
W.P. 11	541056.9449	570359.6081	29+53.55	32.00 RT.

RAMP 1 - GANTRY PLAN
SCALE: 1/8"=1'-0"

NOTES:
1. FOR GENERAL NOTES, SEE SHEET ST-01.
2. FOR GANTRY ELEVATION, SEE SHEET ST-07.
3. FOR FOUNDATION DETAILS, SEE SHEET ST-08.
4. FOR GANTRY STRUCTURE DETAILS, SEE SHEETS ST-09, ST-10, AND ST-11.
5. FOR EQUIPMENT HUT FOUNDATION AND SLAB, AND GENERATOR SLAB, SEE SHEET ST-12.

ST-04

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

US 301
LEVELS ROAD TO
SUMMIT BRIDGE ROAD

CONTRACT T200911303
COUNTY NEW CASTLE
BRIDGE NO.
DESIGNED BY: AB
CHECKED BY: CAM

STRUCTURAL
GANTRY PLAN
RAMP 1

SHEET NO. 1193
TOTAL SHTS. 1256

LAST REVISED: 3/12/2008
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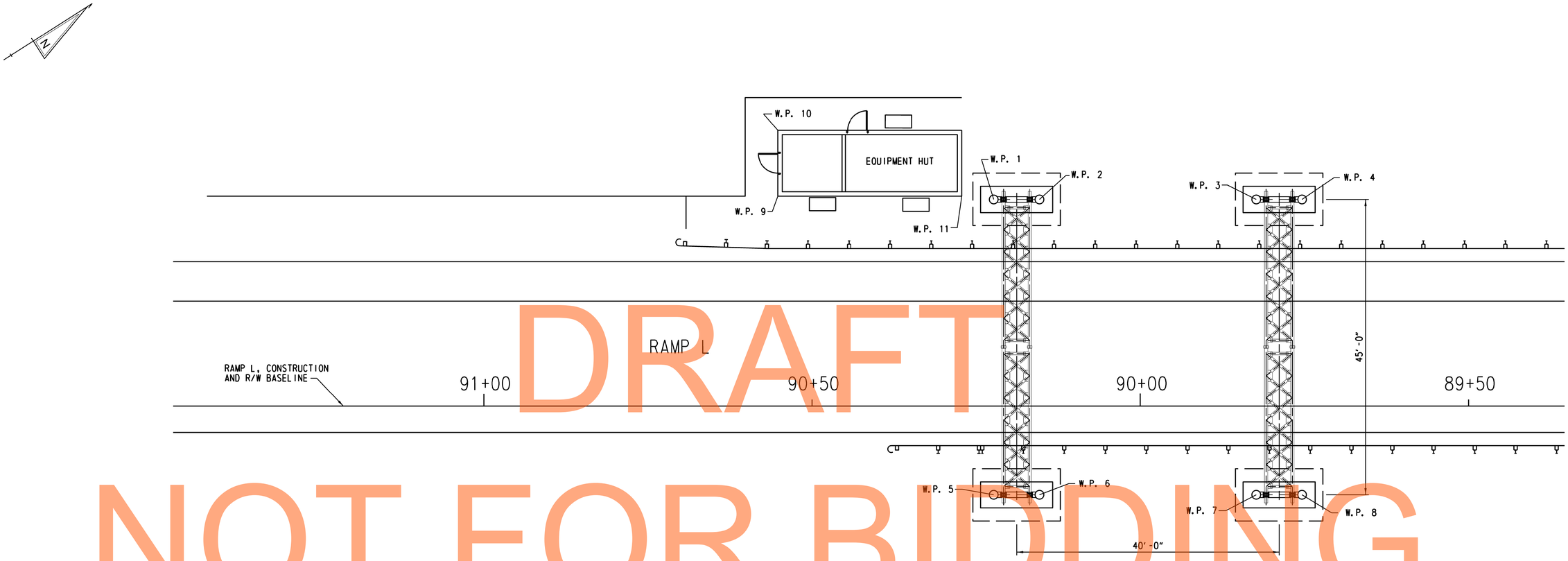

RAMP L - GANTRY PLAN
SCALE: 1/8"=1'-0"

WORKING POINT COORDINATES

WORKING POINTS	NORTHING	EASTING	STATION	OFFSET
W.P. 1	541145.7880	570031.3148	90+22.33	31.50 RT.
W.P. 2	541151.6888	570035.0805	90+15.33	31.50 RT.
W.P. 3	541179.5072	570052.8327	89+82.33	31.50 RT.
W.P. 4	541185.4080	570056.5983	89+75.33	31.50 RT.
W.P. 5	541121.5803	570069.2488	90+22.33	13.50 LT.
W.P. 6	541127.4811	570073.0145	90+15.33	13.50 LT.
W.P. 7	541155.2995	570090.7666	89+82.33	13.50 LT.
W.P. 8	541161.2003	570094.5323	89+75.33	13.50 LT.
W.P. 9	541118.3516	570013.2153	90+55.19	32.00 RT.
W.P. 10	541123.7311	570004.7856	90+55.19	42.00 RT.
W.P. 11	541141.9550	570028.2779	90+27.19	42.00 RT.

NOTES:
1. FOR GENERAL NOTES, SEE SHEET ST-01.
2. FOR GANTRY ELEVATION, SEE SHEET ST-07.
3. FOR FOUNDATION DETAILS, SEE SHEET ST-08.
4. FOR GANTRY STRUCTURE DETAILS, SEE SHEETS ST-09, ST-10, AND ST-11.
5. FOR EQUIPMENT HUT FOUNDATION AND SLAB, SEE SHEET ST-12.

ST-05

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

US 301
LEVELS ROAD TO
SUMMIT BRIDGE ROAD

CONTRACT T200911303
COUNTY NEW CASTLE
BRIDGE NO.
DESIGNED BY: AB
CHECKED BY: CAM

STRUCTURAL
GANTRY PLAN
RAMP L

SHEET NO. 1194
TOTAL SHTS. 1256

LAST REVISED: 3/12/2008
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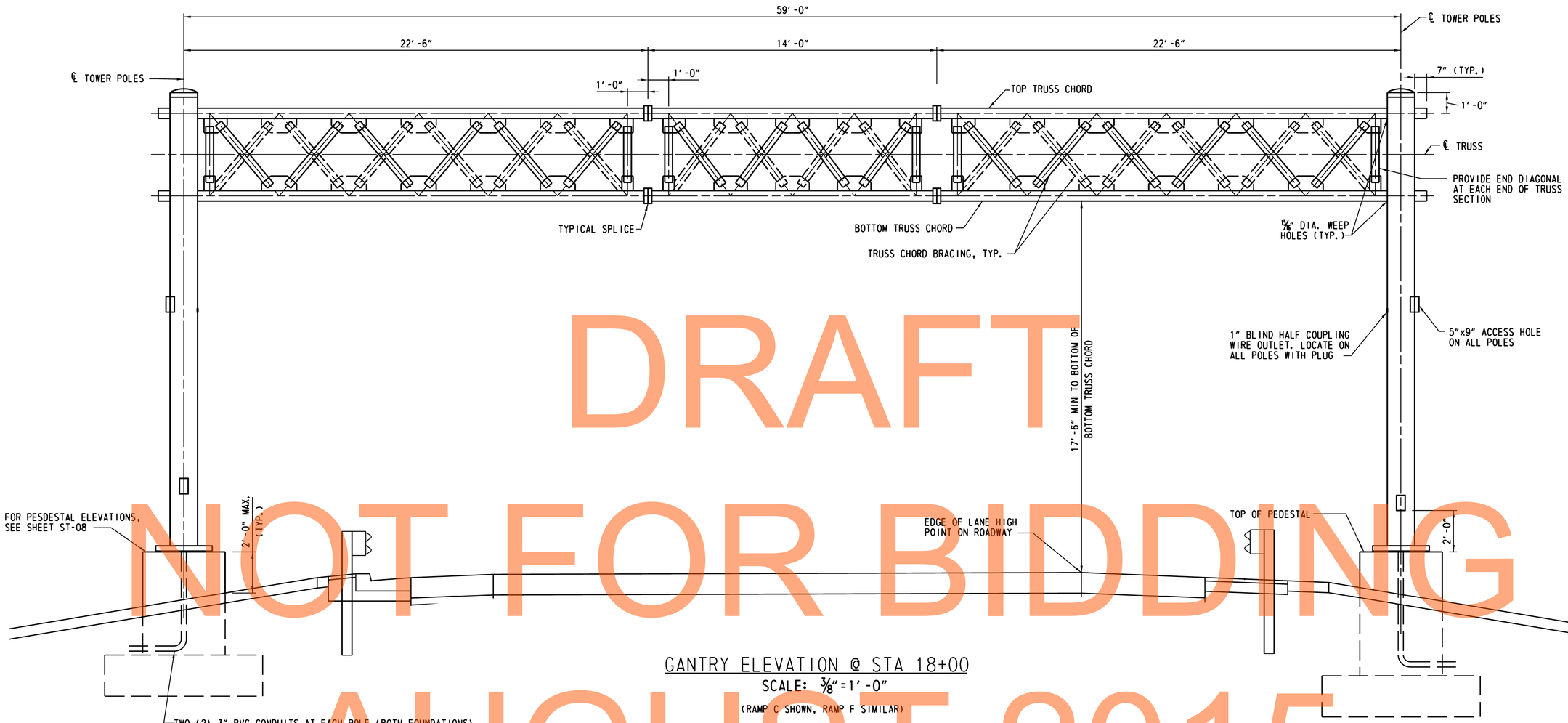
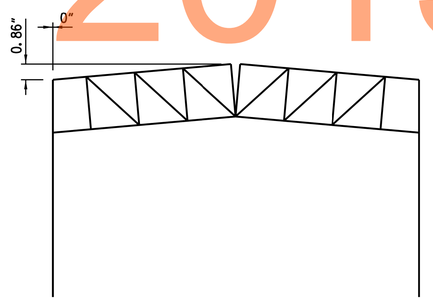


GANTRY ELEVATION @ STA 18+00

SCALE: 3/8"=1'-0"

(RAMP C SHOWN, RAMP F SIMILAR)



GANTRY CAMBER DIAGRAM

SCALE: NTS

NOTES:
1. FOR GENERAL NOTES, SEE SHEET ST-01.
2. FOR STRUCTURE DETAILS, SEE SHEETS ST-09, ST-10, AND ST-11.
3. FOR FOUNDATION DETAILS, SEE SHEET ST-08.

ST-06

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	US 301 LEVELS ROAD TO SUMMIT BRIDGE ROAD	CONTRACT T200911303	BRIDGE NO.	STRUCTURAL GANTRY ELEVATION RAMPS C & F	SHEET NO. 1195
			COUNTY NEW CASTLE	DESIGNED BY: AB		TOTAL SHTS. 1256
				CHECKED BY: CAM		

LAST REVISED: 3/12/2008
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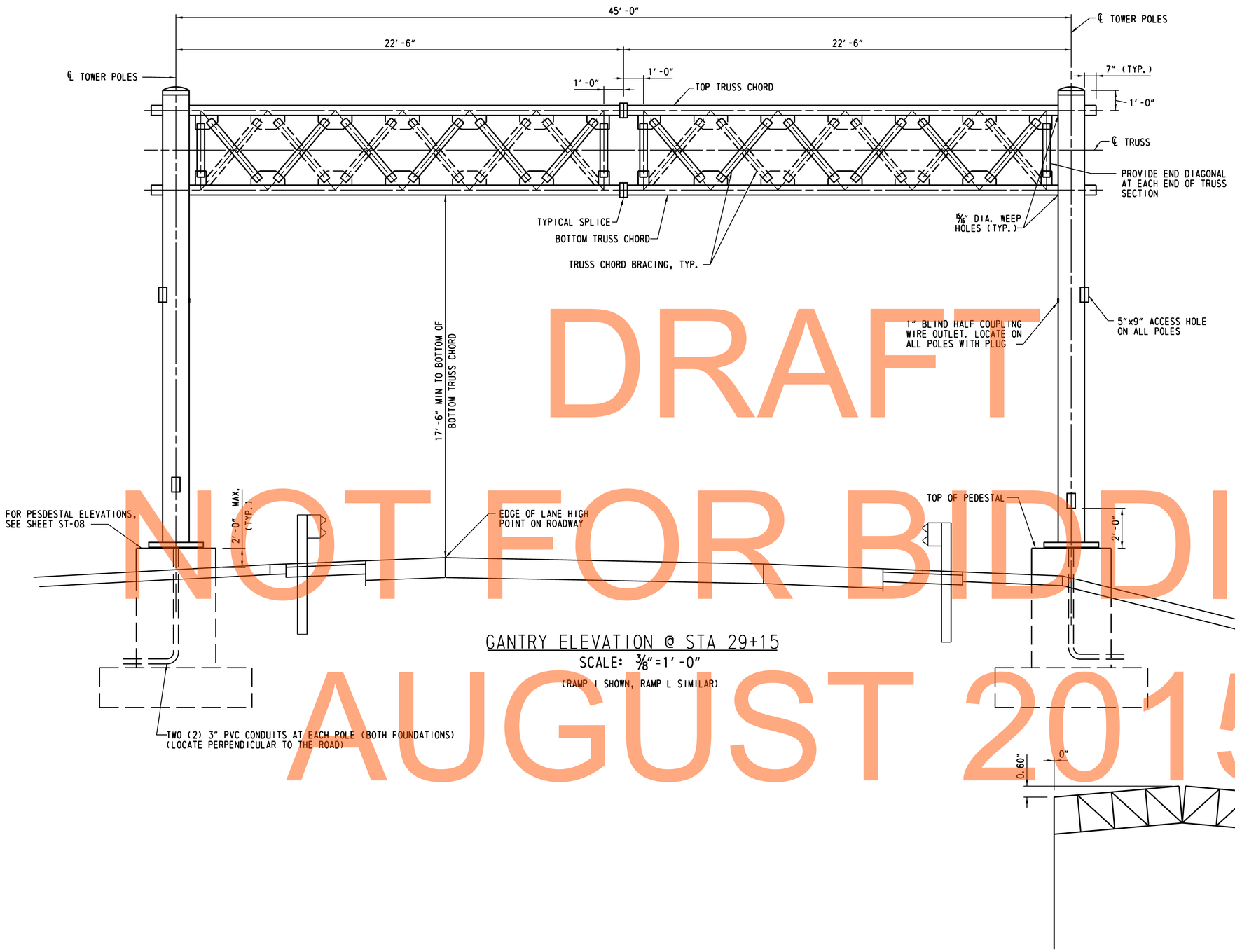

GANTRY ELEVATION @ STA 29+15

SCALE: 3/8"=1'-0"

(RAMP I SHOWN, RAMP L SIMILAR)

GANTRY CAMBER DIAGRAM

SCALE: NTS

NOTES:
1. FOR GENERAL NOTES, SEE SHEET ST-01.
2. FOR STRUCTURE DETAILS, SEE SHEETS ST-09, ST-10, AND ST-11.
3. FOR FOUNDATION DETAILS, SEE SHEET ST-08.

ST-07

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	US 301 LEVELS ROAD TO SUMMIT BRIDGE ROAD	CONTRACT T200911303	BRIDGE NO.	STRUCTURAL GANTRY ELEVATION RAMPS I & L	SHEET NO. 1196
			COUNTY NEW CASTLE	DESIGNED BY: AB		TOTAL SHTS. 1256
				CHECKED BY: CAM		

LAST REVISED: 3/12/2008
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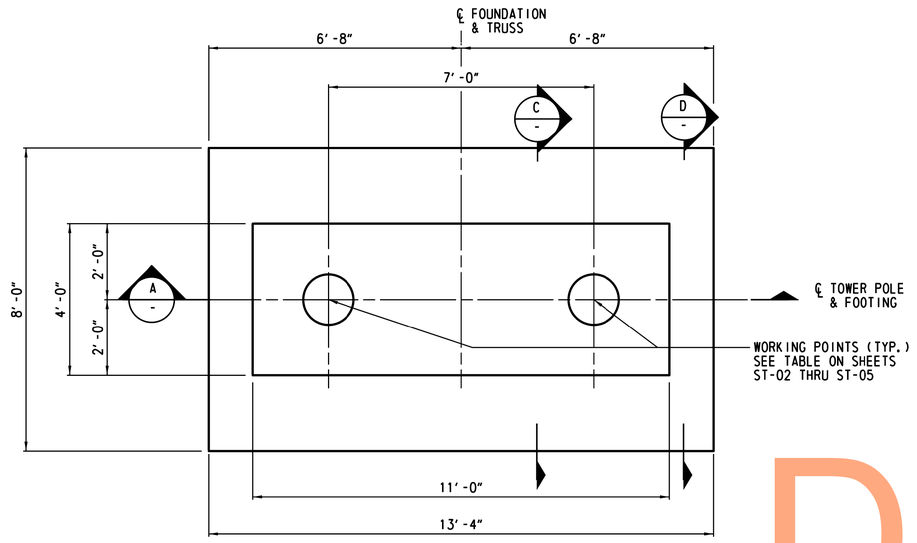
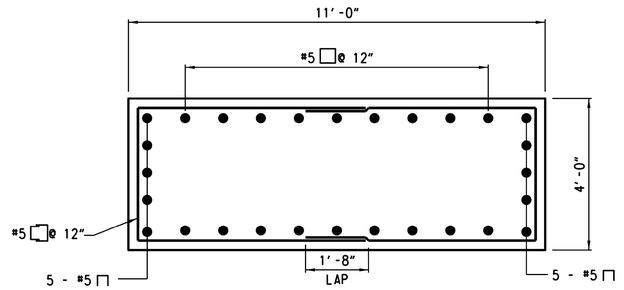
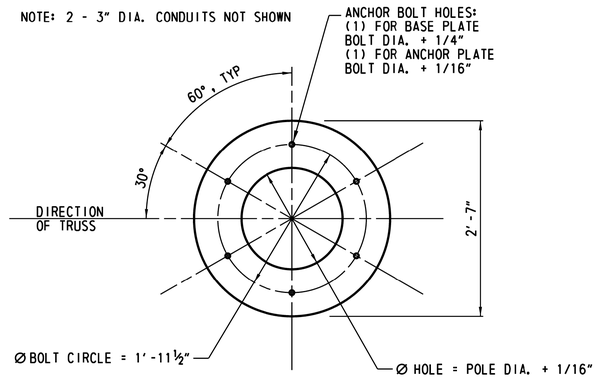
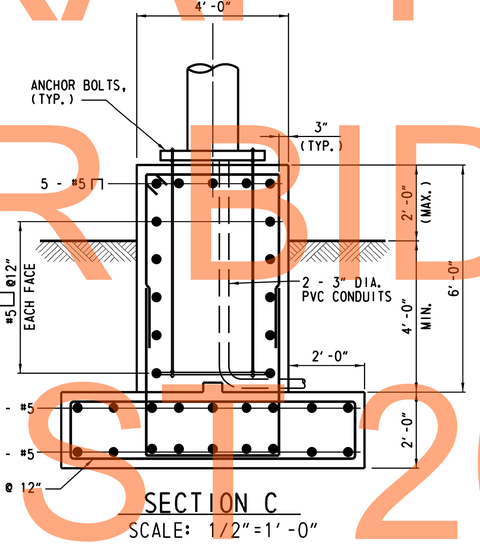


PLAN
SCALE: 1/2"=1'-0"

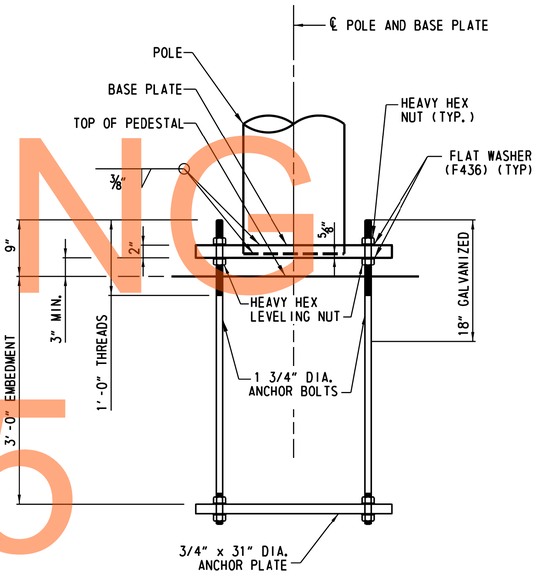


SECTION B
SCALE: 1/2"=1'-0"
NOTE: 2 - 3" DIA. CONDUITS NOT SHOWN



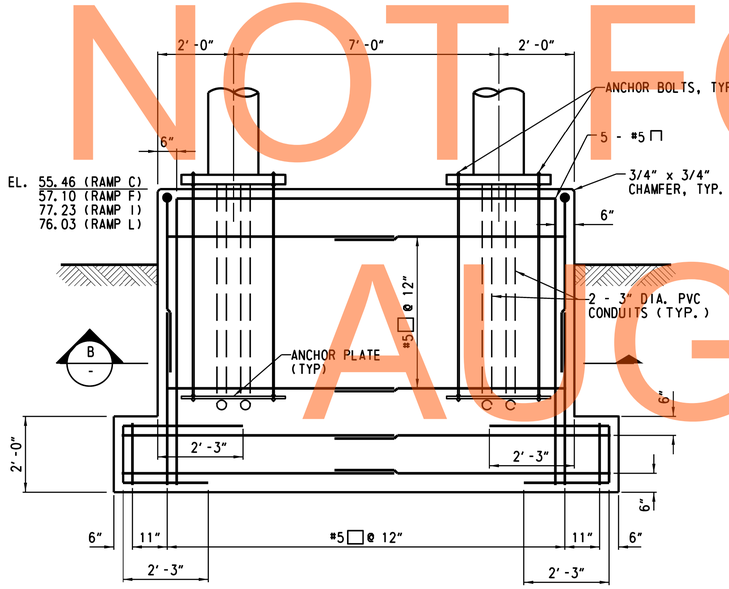


SECTION C
SCALE: 1/2"=1'-0"

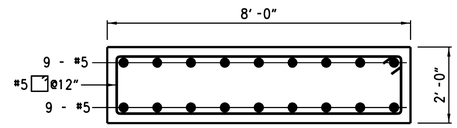


BASE PLATE PLAN VIEW
SCALE: 1"=1'-0"

BASE PLATE & ANCHOR PLATE DETAIL
SCALE: 1"=1'-0"
NOTE: 2 - 3" DIA. CONDUITS NOT SHOWN



SECTION A
SCALE: 1/2"=1'-0"



SECTION D
SCALE: 1/2"=1'-0"

LAST REVISED: 3/12/2008
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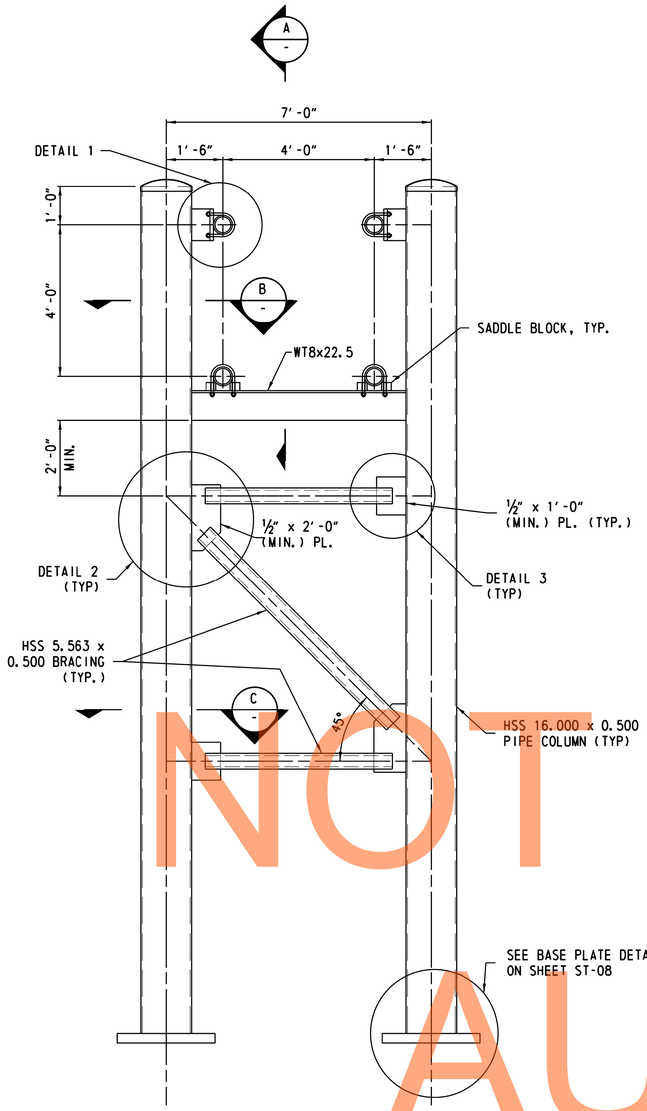
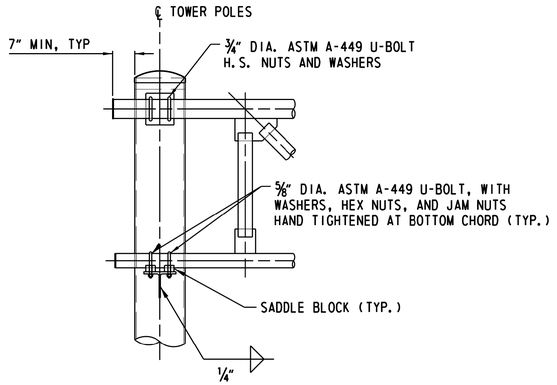
ST-08

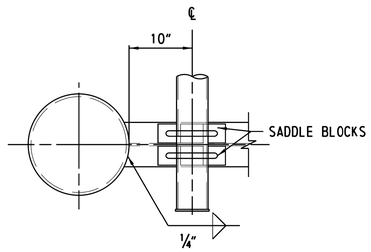
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		US 301 LEVELS ROAD TO SUMMIT BRIDGE ROAD	CONTRACT T200911303	BRIDGE NO.	STRUCTURAL GANTRY FOUNDATION DETAILS	SHEET NO. 1197
				COUNTY NEW CASTLE	DESIGNED BY: AB		TOTAL SHTS. 1256
					CHECKED BY: CAM		



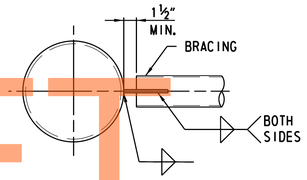
TOWER ELEVATION
SCALE: 1/2"=1'-0"



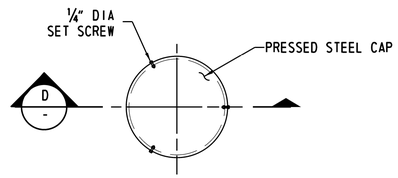
SECTION A
SCALE: ½"=1'-0"



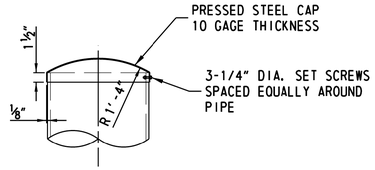
SECTION B
SCALE: 1"=1'-0"



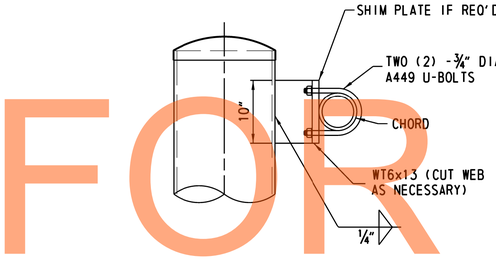
SECTION C
SCALE: 1"=1'-0"



PIPE CAP DETAIL
SCALE: 1"=1'-0"



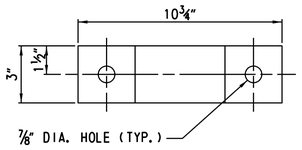
SECTION D
SCALE: 1"=1'-0"



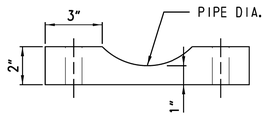
DETAIL 1
SCALE: 1"=1'-0"

DETAIL 2
SCALE: 1"=1'-0"

DETAIL 3
SCALE: 1"=1'-0"



PLAN



ELEVATION

SADDLE BLOCK DETAIL
SCALE: 3"=1'-0"

NOTES:

1. FOR GENERAL NOTES, SEE SHEET ST-01.
2. FOR BASE PLATE, ANCHOR BOLT AND ANCHOR PLATE DETAILS, SEE SHEET ST-08.
3. FOR COPE HOLE DETAILS, SEE SHEET ST-11.
4. TO PREVENT INTERSECTING FILLET WELDS ON OPPOSITE SIDES OF COMMON PLANE, PROVIDE A WELD "HOLDBACK" AT THE EDGE OF THE GUSSET PLATE IN THE BRACING MEMBERS EQUAL TO THE MINIMUM WELD SIZE REQUIRED. ENSURE MINIMUM TOTAL WELD LENGTHS ARE ACHIEVED.

ST-09

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

US 301
LEVELS ROAD TO
SUMMIT BRIDGE ROAD

CONTRACT	BRIDGE NO.	
T200911303	DESIGNED BY: AB	
COUNTY	CHECKED BY: CAM	
NEW CASTLE		

STRUCTURAL
GANTRY TOWER ELEVATION
& SECTIONS

SHEET NO.	
1198	
TOTAL SHTS.	
1256	

LAST REVISED: 3/12/2008
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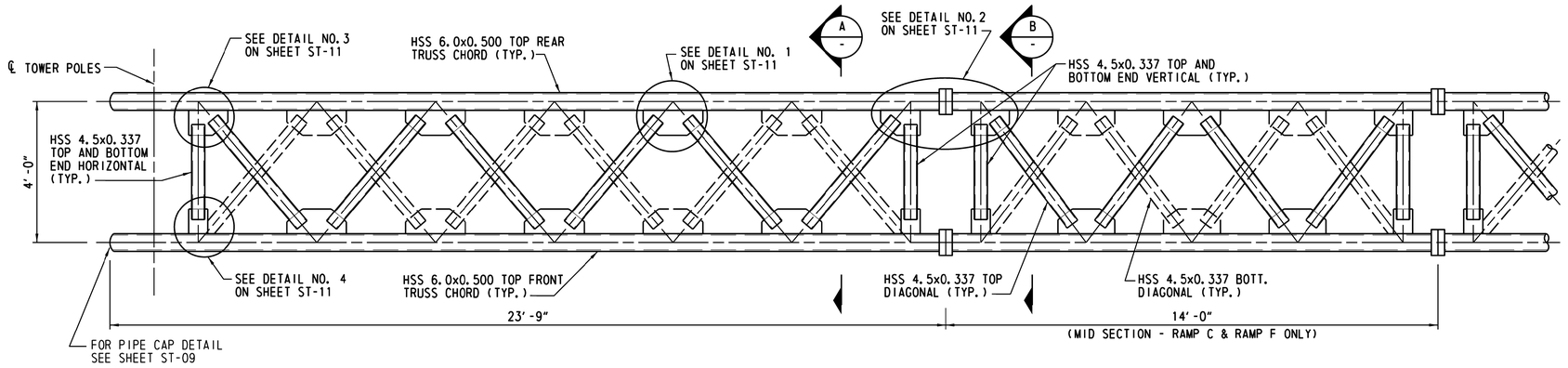
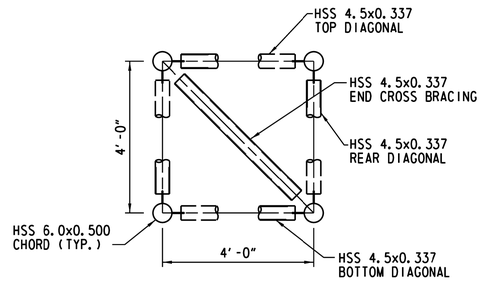
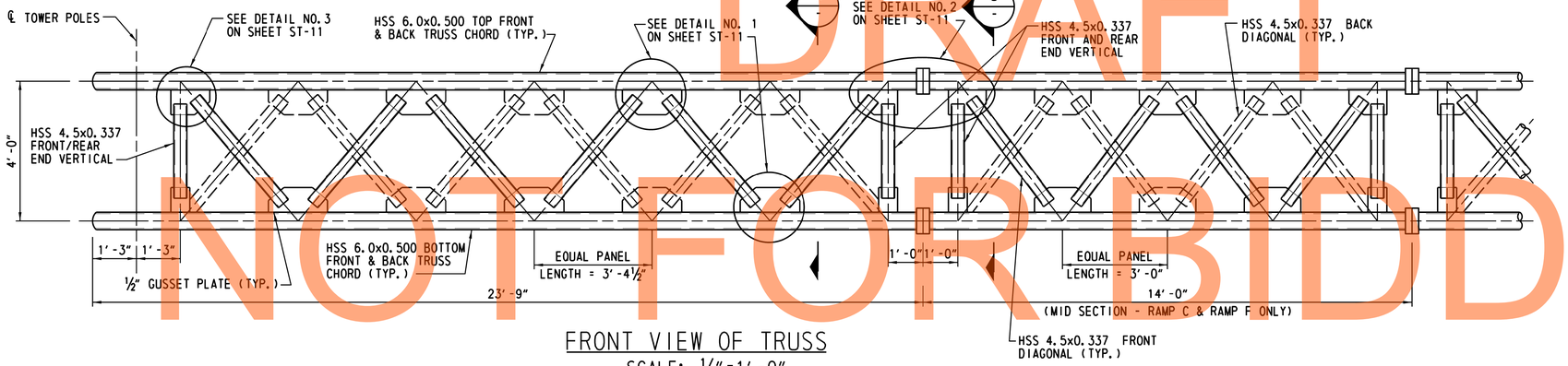


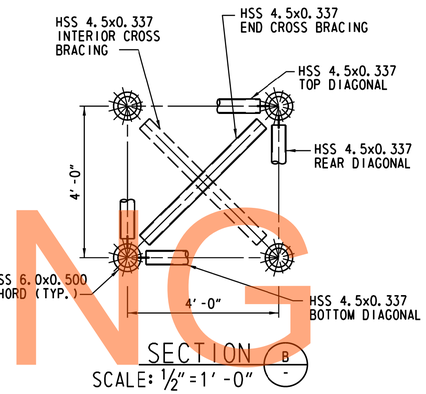
TOP VIEW OF TRUSS
SCALE: ½"=1'-0"



SECTION A
SCALE: ½"=1'-0"



FRONT VIEW OF TRUSS
SCALE: ½"=1'-0"



SECTION B
SCALE: ½"=1'-0"

NOTES:

1. FOR GENERAL NOTES, SEE SHEET ST-01.
2. TEMPORARY END FRAME TO BE USED TO PROVIDE ADDITIONAL SUPPORT TO ENDS OF TRUSS CHORDS DURING FABRICATION AND GALVANIZING PROCESSES. REMOVE AND REPAIR GALVANIZING AT POINTS OF CONTACT PRIOR TO TRUSS ASSEMBLY AND ERECTION. TEMPORARY FRAME IS NOT PART OF THE STRUCTURE AND SHALL REMAIN THE PROPERTY OF THE CONTRACTOR.
3. TRUSSES SHALL BE FABRICATED WITH CAMBER AT THE CENTER OF THE SPAN EQUAL TO THE VALUE GIVEN BY THE CAMBER DIAGRAM ON THE CONTRACT DRAWING. ALL TRUSSES SHALL BE ASSEMBLED IN THE SHOP IN A NO LOAD CONDITION TO ENSURE FIT AT SPLICES AND TO CHECK CAMBER.

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

US 301
LEVELS ROAD TO
SUMMIT BRIDGE ROAD

CONTRACT	BRIDGE NO.	
T200911303	DESIGNED BY: AB	
COUNTY	CHECKED BY: CAM	
NEW CASTLE		

STRUCTURAL
GANTRY TRUSS
DETAILS I

SHEET NO.
1199
TOTAL SHTS.
1256

LAST REVISED: 3/12/2008
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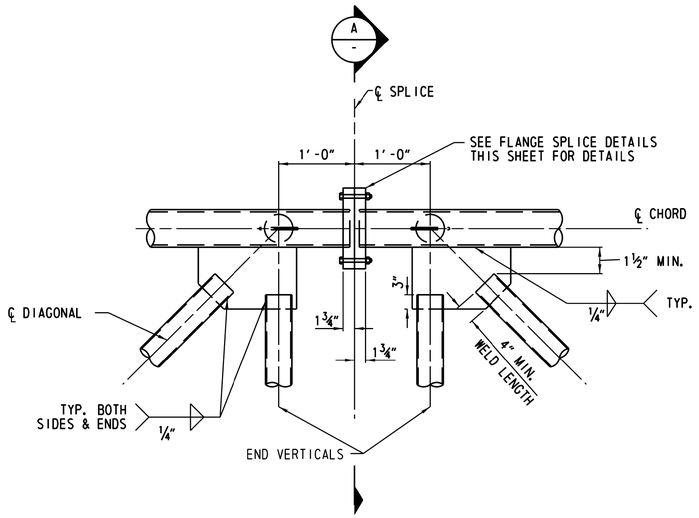
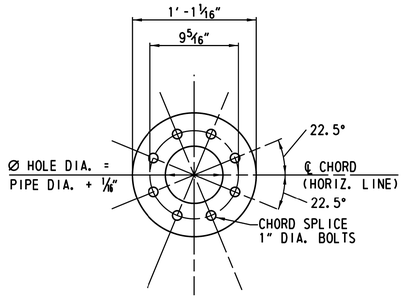
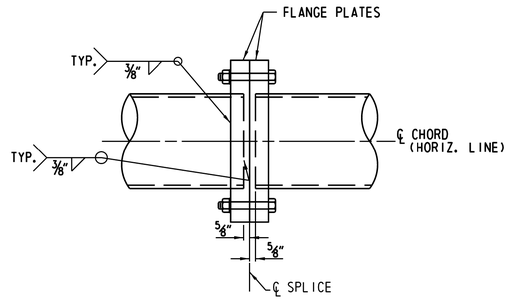


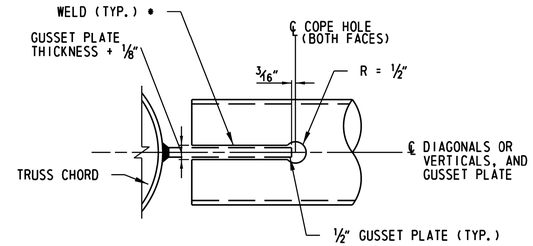
DETAIL 2
SCALE: 1"=1'-0"



SECTION A
SCALE: 1 ½"=1'-0"



FLANGE SPLICE DETAIL
SCALE: NTS



COPE HOLE DETAIL (TYP.)
SCALE: NTS

• - PROVIDE A WELD "HOLDBACK" AT THE EDGE OF THE GUSSET PLATE IN THE BRACING MEMBER EQUAL TO THE MINIMUM WELD SIZE REQUIRED.

DETAIL 1
SCALE: 1"=1'-0"

CROSS BRACING ONLY AT SPLICE & ENDS

SECTION B
SCALE: 1"=1'-0"

DETAIL 3
SCALE: 1"=1'-0"

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

NOTES:

1. FOR GENERAL NOTES, SEE SHEET ST-01.
2. CHORD SPLICE BOLTS SHALL BE ASTM A325 HIGH STRENGTH STEEL BOLTS, HOLES IN SPLICE PLATE SHALL BE 1/16" LARGER THAN BOLT DIAMETER.
3. ASTM A325 SPLICE BOLTS SHALL BE HEAVY HEXAGON TYPE AND SHALL BE FURNISHED WITH HEAVY HEXAGON NUTS AND WASHER.
4. THE THREADED PORTION OF THE SPLICE BOLTS SHALL BE EXCLUDED FROM THE SHEAR PLANE OF THE SPLICE.
5. TO PREVENT INTERSECTING FILLET WELDS ON OPPOSITE SIDES OF COMMON PLANE, PROVIDE A WELD "HOLDBACK" AT THE EDGE OF THE GUSSET PLATE IN THE BRACING MEMBERS EQUAL TO THE MINIMUM WELD SIZE REQUIRED. ENSURE MINIMUM TOTAL WELD LENGTHS ARE ACHIEVED.

ST-11

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

US 301
LEVELS ROAD TO
SUMMIT BRIDGE ROAD

CONTRACT T200911303
COUNTY NEW CASTLE
BRIDGE NO.
DESIGNED BY: AB
CHECKED BY: CAM

STRUCTURAL GANTRY TRUSS DETAILS II

SHEET NO. 1200
TOTAL SHTS. 1256

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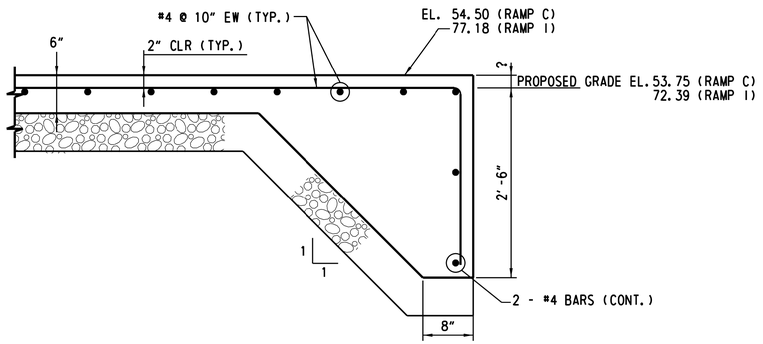
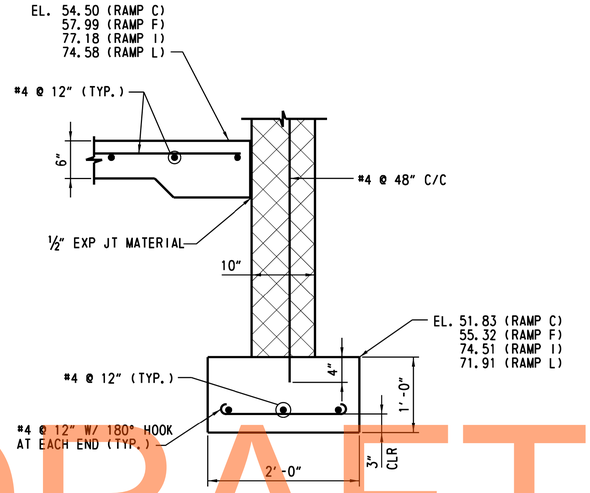


NOTES:

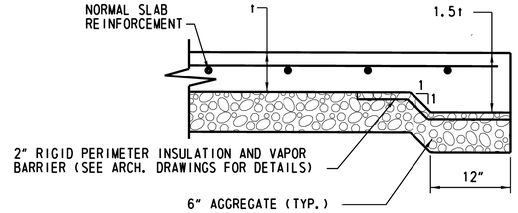
1. THE DIMENSIONS OF THE GENERATOR PAD ARE 10'-6"x5'-6".
2. THE DESIGN OF THE GENERATOR PAD IS FOR A 6500 LB. UNIT THAT MEASURES 8'-6"x3'-6". ACTUAL SIZE AND WEIGHT OF GENERATOR SHALL BE COORDINATED WITH THE ELECTRICAL CONTRACTOR.
3. THE GENERATOR PAD SHALL EXTEND AN ADDITIONAL 1 FT. ON EACH SIDE OF THE APPROVED UNIT.
4. PROVIDE BONDOUT TO ACCOMMODATE CONDUITS FROM BELOW. COORDINATE SIZE AND LOCATION WITH GENERATOR VENDOR SUBMITTALS.

GENERATOR PAD DETAIL
SCALE: 1"=1'-0"

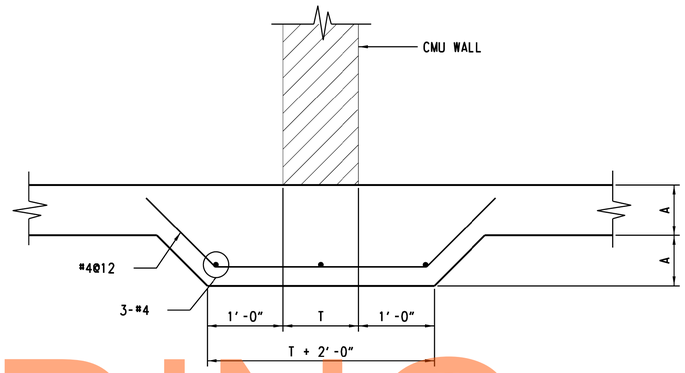


NOTE: FOR EQUIPMENT HUT DETAILS, SEE ARCHITECTURAL DRAWINGS

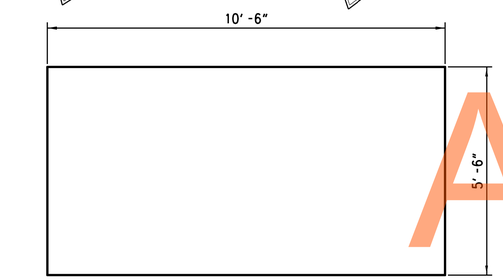
EQUIPMENT HUT DETAIL
SCALE: 1"=1'-0"



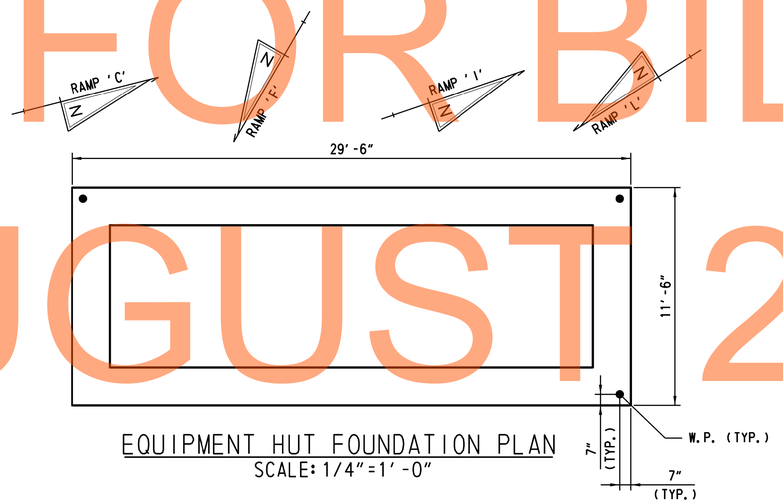
THICKENED SLAB EDGE
SCALE: NTS



THICKENED SLAB AT MASONRY WALLS
SCALE: NTS

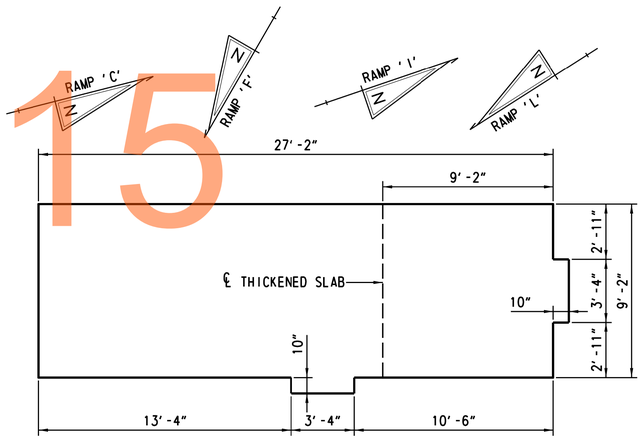


GENERATOR PAD PLAN
SCALE: 1/2"=1'-0"



EQUIPMENT HUT FOUNDATION PLAN
SCALE: 1/4"=1'-0"

NOTE:
FOR LOCATION OF WORK POINTS AT EACH EQUIPMENT HUT, REFER TO SHEETS ST-02, ST-03 ST-04 AND ST-05



EQUIPMENT HUT SLAB PLAN
SCALE: 1/4"=1'-0"

LAST REVISED: 3/12/2008
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ST-12

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

US 301
LEVELS ROAD TO
SUMMIT BRIDGE ROAD

CONTRACT	BRIDGE NO.	
T200911303	DESIGNED BY: CAB	
COUNTY	CHECKED BY: CAM	
NEW CASTLE		

STRUCTURAL
MISC. STRUCTURES
SECTIONS AND DETAILS

SHEET NO.	
1201	
TOTAL SHTS.	
1256	

ABBREVIATIONS

(NOT ALL ABBREVIATIONS MAY APPEAR ON THESE CONTRACT DOCUMENTS)

ABV	ABOVE
AC	AIR COMPRESSOR
ACCU	AIR COOLED CONDENSING UNIT
ACU	AIR CONDITIONING UNIT
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
AFR	ABOVE FINISHED ROOF
AHU	AIR HANDLING UNIT
AP	ACCESS PANEL
APD	AIR PRESSURE DROP
APPROX.	APPROXIMATE
AS	AIR SEPERATOR
ATC	AUTOMATIC TEMPERATURE CONTROL
AUTO	AUTOMATIC
AVG	AVERAGE
AVS	AIR VOLUME MEASUREMENT STATION
AWT	AVERAGE WATER TEMPERATURE
BCU	BUILDING CONTROL UNIT
BDD	BACK DRAFT DAMPER
BFP	BACK FLOW PREVENTOR
BG	BLAST GATE
BLDG	BUILDING
BOL	BOTTOM OF LOUVER
BOD	BOTTOM OF DUCT/BASIS OF DESIGN
BOI	BOTTOM OF INSULATION
BOT	BOTTOM
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNIT PER HOUR
CA	COMPRESSED AIR
CAP	CAPACITY
CAV	CONSTANT AIR VOLUME
CBV	CIRCUIT BALANCING VALVE
CC	COOLING COIL
CD	CEILING DIFFUSER\CONDENSATE DRAIN
CFM	CUBIC FEET PER MINUTE
CH	CHILLER
CHP	CONCRETE HOUSEKEEPING PAD
CHWS	CHILLED WATER SUPPLY
CHWR	CHILLED WATER RETURN
CI	CAST IRON
CLG	CEILING
CMU	CONCRETE MASONARY UNIT
CO	CLEAN OUT
COL	COLUMN
COMP	COMPRESSOR
CONC	CONCRETE
COND	CONDENSATE
CONN	CONNECTION
CONTD	CONTINUED
CONV	CONVECTOR
COP	COEFFICIENT OF PERFROMANCE
CT	COOLING TOWER
CU	CONDENSING UNIT
CUH	CABINET UNIT HEATER
CV	CONSTANT AIR VOLUME BOX
CVS	CONTROL VALVE STATION
CW	COLD WATER
D	DAMPER
DDC	DIRECT DIGITAL CONTROL
DEPT	DEPARTMENT
DIA	DIAMETER
DIAG	DIAGRAM
DIFF	DIFFERENTIAL
DISC	DISCONNECT
DIV	DIVISION
DIW	DOWN IN WALL
DL	DOOR LOUVER
DN	DOWN
DWG	DRAWING
DX	DIRECT EXPANSION
DPI	DIFFERENTIAL PRESSURE INDICATOR
DPT	DIFFERENTIAL PRESSURE TRANSMITTER
(E),EXIST	EXISTING
EA	EACH OR EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EAV	EXHAUST AIR VALVE
ECC	ECCENTRIC
EDB	ENTERING DRY BULB
EDH	ELECTRIC DUCT HEATER
EER	ENERGEY EFFICIENCY RATING
EF	EXHAUST FAN
EG	EXHAUST GRILLE
EL	ELEVATION
ELEC	ELECTRIC
EQ	EQUAL
EQUIP	EQUIPMENT
ER	EXHAUST REGISTER
ES	END SWITCH
ESP	EXTERNAL STATIC PRESSURE
ET	EXPANSION TANK
EUH	ELECTRIC UNIT HEATER
EWT	ENTERING WATER TEMPERATURE
EXP	EXPANSION
*F	DEGREES FAHRENHEIT
FA	FROM ABOVE
FB	FROM BELOW
FC	FLEXIBLE CONNECTION
FCU	FAN COIL UNIT
FCV	FLOW CONTROL VALVE
FD	FIRE DAMPER/FLOOR DRAIN
FIN	FINISHED
FL	FLANGE
FLA	FULL LOAD AMPS
FLEX	FLEXIBLE
FLR	FLOOR
FM	FLOW METER
FO	FAIL OPEN
FOB	FLAT ON BOTTOM
FOT	FLAT ON TOP
FP	FIRE PROTECTION
FPB	FAN POWERED BOX
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FS	FLOW SWITCH
FT	FEET, FLASH TANK
FTR	FIN TUBE RADIATION
FV	FACE VELOCITY
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GRD	GROUND
GRS/LB	GRAINS PER POUND
GUH	GAS FIRED UNIT HEATER
H	HUMIDIFIER
HC	HEATING COIL
HD	HEAD (PRESSURE IN FEET)
HOA	HAND OFF AUTO SWITCH
HORIZ.	HORIZONTAL
HP	HORSEPOWER
HRU	HEAT RECOVERY UNIT
HWHC	HOT WATER HEATING COIL
HWS	HOT WATER SUPPLY
HWR	HOT WATER RETURN
HVAC	HEATING VENTILATION AND AIR CONDITIONING
HVU	HEATING AND VENTILATION UNIT
HX	HEAT EXCHANGER
HZ	HERTZ
H20	WATER
ID	INSIDE DIMENSION
IN	INCHES
INFO	INFORMATION
IN WG	INCHES IN WATER COLUMN
INV	INVERT
IPLV	INTEGRATED PART LOAD VALUE
KE	KITCHEN EXHAUST
KEH	KITCHEN EXHAUST HOOD
KW	KILOWATT
L	LENGTH
LAT	LEAVING AIR TEMPERATURE
LBG	LINEAR BAR GRILLE
LBS	POUNDS
LBS/HR	POUNDS PER HOUR
LD	LINEAR DIFFUSER
LDB	LEAVING DRY BULB TEMPERATURE
LIN	LINEAR
LRA	LOCKED ROTOR AMPS
LVR	LOUVER
LWB	LEAVING WET BULB TEMPERATURE
LWT	LEAVING WATER TEMPERATURE
M	MOTOR
MAU	MAKE UP AIR UNIT
MAX	MAXIMUM
MB	MIXING BOX
MBH	THOUSANDS OF BTU PER HOUR
MC	MECHANICAL CONTRACTOR
MD	MOTORIZED DAMPER
MED	MEDIUM
MER	MECHANICAL EQUIPMENT ROOM
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MOD	MODULATING
N/A	NOT APPLICABLE
NG	NATURAL GAS
NC	NORMALLY CLOSED
NEG	NEGATIVE
NIC	NOT IN CONTRACT
No	NUMBER
NO	NORMALLY OPEN
NOM	NOMINAL
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OAI	OUTSIDE AIR INTAKE
OAT	OUTSIDE AIR TEMPERATURE
OC	ON CENTER
OCC	OCCUPIED*
OD	OUTSIDE DIMENSION
ODP	OPEN DRIP PROOF
PC	PLUMBING CONTRACTOR
PD	PRESSURE DROP
PERF	PERFORATED
PNEU	PNEUMATIC
POS	POSITIVE
PRV	PRESSURE REDUCING VALVE
PS	PRESSURE SWITCH
PSA	PRIMARY SUPPLY AIR
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH VALVE
PT	PRESSURE TRANSMITTER
PVC	POLYVINYL CHOLORIDE
RA	RETURN AIR
RD	ROOF DRAIN
RF	RETURN FAN
RG	RETURN GRILLE
RH	RELATIVE HUMIDITY
RHC	REHEAT COIL
RL	REFRIGERANT LIQUID
RLA	RATED LOAD AMPS
RM	ROOM
RPM	REVOLUTIONS PER MINUTE
RR	RETURN REGISTER
RS	REFRIGERANT SUCTION
RTU	ROOFTOP AIR HANDLING UNIT
RV	RELIEF VALVE
SA	SUPPLY AIR
SAV	SUPPLY AIR VALVE
SCH	SCHEDULE
SD	SMOKE DAMPER
SF	SUPPLY FAN
SG	SUPPLY GRILLE
SHT	SHEET
SP	STATIC PRESSURE
SPEC	SPECIFICATION
SQ	SQUARE
SR	SUPPLY REGISTER
SRV	SAFETY RELIEF VALVE
SS	STAINLESS STEEL
ST	SOUND TRAP
SW	SWITCH
SUCT	SUCTION
SUP	SUPPLY
SYS	SYSTEM
T	THERMOSTAT
TAD	TRANSFER AIT DUCT
TEMP	TEMPERATURE
TF	TRANSFER FAN
TG	TRANSFER GRILLE
TK	TANK
TP	TOTAL PRESSURE
TRAN	TRANSITION
TS	TEMPERATURE SWITCH
TYP	TYPICAL
UH	UNIT HEATER
VAC	VACUUM
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER
VEL	VELOCITY
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VTR	VENT THRU ROOF
W	WIDTH
WB	WET BULB
WG	WATER GAUGE
WH	WATER HEATER
WPD	WATER PRESSURE DROP
WT	WEIGHT
X	VARIABLE
2 POS	TWO POSITION

PIPING ELEMENTS/VALVES

(NOT ALL ELEMENTS MAY APPEAR ON THESE CONTRACT DOCUMENTS)

- VALVE, SEE SPEC'S
- GLOBE VALVE
- PLUG VALVE, GAS COCK
- BUTTERFLY VALVE
- BALL VALVE
- CHECK VALVE
- GATE VALVE, ANGLE
- GLOBE VALVE, ANGLE
- THREE WAY CONTROL VALVE
- TWO WAY CONTROL VALVE
- SOLENOID VALVE
- PRESSURE REDUCING VALVE (PRV)
- SV — COMBINATION STRAINER AND SHUT OFF VALVE WITH PETES PLUGS
- FV — COMBINATION FLOW CONTROL VALVE AND SHUT OFF VALVE WITH PETES PLUGS
- CIRCUIT BALANCING VALVE
- TPV — TEMPERATURE/PRESSURE RELIEF VALVE
- FLEXIBLE CONNECTION
- PIPE GUIDE
- RELIEF/SAFETY VALVE
- AUTOMATIC FILL VALVE
- MV — MANUAL AIR VENT
- AV — AUTOMATIC AIR VENT (EXTEND DISCHARGE TO DRAIN)
- FLOW METER-ORIFICE
- DIRECTION OF FLOW
- DIRECTION OF SLOPE
- STRAINER
- STRAINER WITH BLOW OFF VALVE
- BFP — BACK-FLOW PREVENTOR
- PIPE RISING UP
- PIPE DROPPING DOWN
- TEE OUTLET DOWN
- CONCENTRIC REDUCER
- ECCENTRIC REDUCER
- UNION - SCREWED OR FLANGED
- BLIND FLANGE
- A — PIPE ANCHOR
- EJ — EXPANSION JOINT
- AQUASTAT
- ELECTRICALLY TRACED PIPING
- H / W — EXPANSION LOOP (WxH)
- PT — PRESSURE / TEMPERATURE TEST STATION
- THERMOMETER

DUCTWORK

(NOT ALL COMPONENTS MAY APPEAR ON THESE CONTRACT DOCUMENTS)

	DOUBLE LINE	SINGLE LINE
FLEXIBLE DUCTWORK		
NEW DUCTWORK - DUCT SIZE INDICATED INCLUDES ALLOWANCE FOR ACOUSTIC LINING WHERE APPLICABLE	20X12	20X12
RADIUS ELBOW		
VANED ELBOW		
BRANCH DUCT TAKE-OFF		
RISE OR DROP DIRECTION OF AIR FLOW	D R	D R
DIFFUSER	SIZE CFM (TYPE, NECK, CFM)	
CEILING RETURN/EXHAUST REGISTER (R) OR GRILLE (G)	SIZE CFM (TYPE, NECK, CFM)	
SUPPLY AIR GRILLE (G) OR SUPPLY AIR REGISTER (R)	SIZE CFM (TYPE, NECK, CFM)	
RETURN AND/OR EXHAUST AIR GRILLE (G) OR REGISTER (R)	SIZE CFM (TYPE, NECK, CFM)	
VOLUME DAMPER W / LOCKING QUADRANT	VD	
SMOKE DAMPER W / AD	SD	
FIRE DAMPER W / AD	FD	
FIRE & SMOKE DAMPER W / AD	FSD	
MOTORIZED DAMPER (OPPOSED BLADE)	M	
CENTRIFUGAL FAN		
DOME FAN		
AXIAL FAN	8	
AIR VOLUME MEASUREMENT STATION		
THERMOSTAT	T	
HUMIDISTAT	H	
SMOKE DETECTOR	S	
UNDERCUT	U	
DOOR LOUVER	DL 12X12	
CEILING MOUNTED GRILLE OR REGISTER		
DIFFUSER, 4-WAY BLOW		
DIFFUSER, 3-WAY BLOW		
DIFFUSER, 2-WAY BLOW		
DIFFUSER, 1-WAY BLOW		
LINEAR DIFFUSER		
GAS CONCENTRATION MONITOR		
CARBON DIOXIDE MONITOR	CO2	

REFERENCE SYMBOLS

(NOT ALL SYMBOLS MAY APPEAR ON THESE CONTRACT DOCUMENTS)

- (X)X — QUANTITY / NON POWERED EQUIPMENT (SEE SCHEDULE) / EQUIPMENT IDENTITY ABBREVIATION
- X — OPTIONAL CELL
- X — FLOW RATE
- EQUIPMENT POWERED WITH LINE VOLTAGE
- X — EQUIPMENT IDENTITY ABREVIATION
- X-X — EQUIPMENT NUMBER
- SYSTEM NUMBER (IF APPLICABLE)
- X / X — INDICATES DETAIL LETTER (APPLIES ONLY WHERE INDICATED ON DRAWINGS) / INDICATES DRAWING ON WHICH DETAIL APPEARS
- X / X — INDICATES SECTION NUMBER / INDICATES ON WHICH DRAWING SECTION APPEARS
- X — INDICATES REVISION & NUMBER
- ELEVATION REFERENCE
- CONNECT NEW TO EXISTING
- TERMINATION POINT OF DEMOLITION
- CONNECT TO MANUFACTURER'S PREPIPED CONNECTION
- PREPURCHASED EQUIPMENT
- X — SHEET NOTE NUMBER (SN)

LINE DESIGNATIONS

(NOT ALL LINETYPES MAY APPEAR ON THESE CONTRACT DOCUMENTS)

- CD — CONDENSATE DRAIN
- D — DRAIN
- EA — EXHAUST AIR
- HWS — HOT WATER SUPPLY
- HWR — HOT WATER RETURN
- NG — NATURAL GAS
- RA — RETURN AIR
- RL — REFRIGERANT LIQUID
- RS — REFRIGERANT SUCTION
- SA — SUPPLY AIR
- —P—P—P— VENDOR PROVIDED EQUIIP
- —#— —#— —#— LOW VOLTAGE WIRING

M–01

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DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

US 301
LEVELS ROAD TO
SUMMIT BRIDGE ROAD

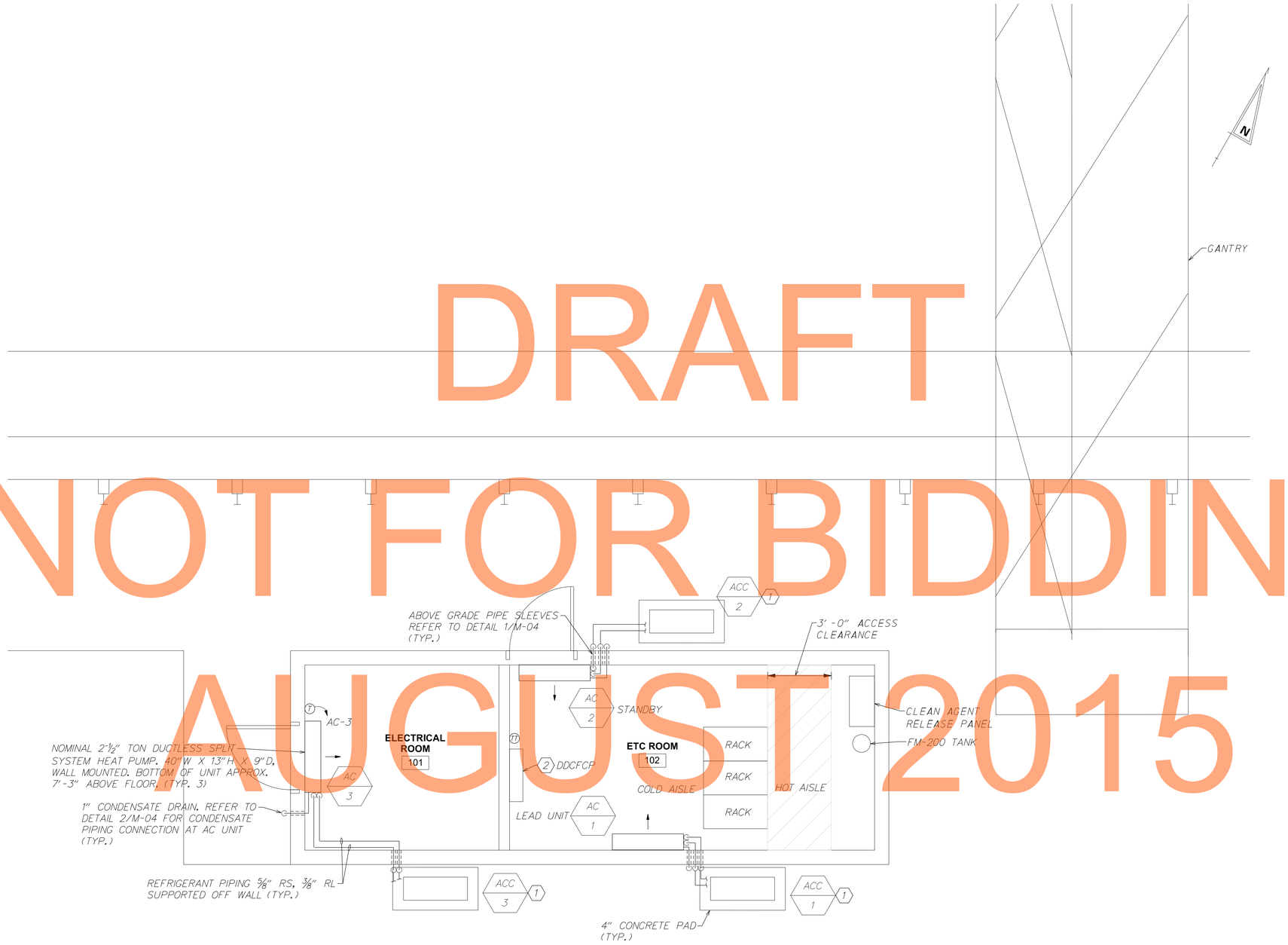
CONTRACT	T200911303
COUNTY	NEW CASTLE
BRIDGE NO.	
DESIGNED BY: CLG	
CHECKED BY:	

MECHANICAL
SYMBOLS, ABBREVIATIONS
& GENERAL NOTES

SHEET NO.	1202
TOTAL SHTS.	1256

GENERAL NOTES:
1. SEE ARCHITECTURAL DWG. A-1 FOR GENERAL NOTES.

SHEET NOTES:
(1) REFER TO SCHEDULE ON DWG. M-04 FOR ADDITIONAL HEAT PUMP SYSTEM INFORMATION.
(2) SEE DWG. M-04 FOR ADDITIONAL INFORMATION.



MECHANICAL RAMP HUT PLAN RAMP 'F' & 'L'
SCALE: 3/8" = 1'-0"

M-02

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		US 301 LEVELS ROAD TO SUMMIT BRIDGE ROAD	CONTRACT T200911303	BRIDGE NO.	MECHANICAL RAMP HUT PLAN RAMP 'F' & 'L'	SHEET NO. 1203
				COUNTY NEW CASTLE	DESIGNED BY: CLG		TOTAL SHTS. 1256
					CHECKED BY:		

LAST REVISED: 3/12/2008
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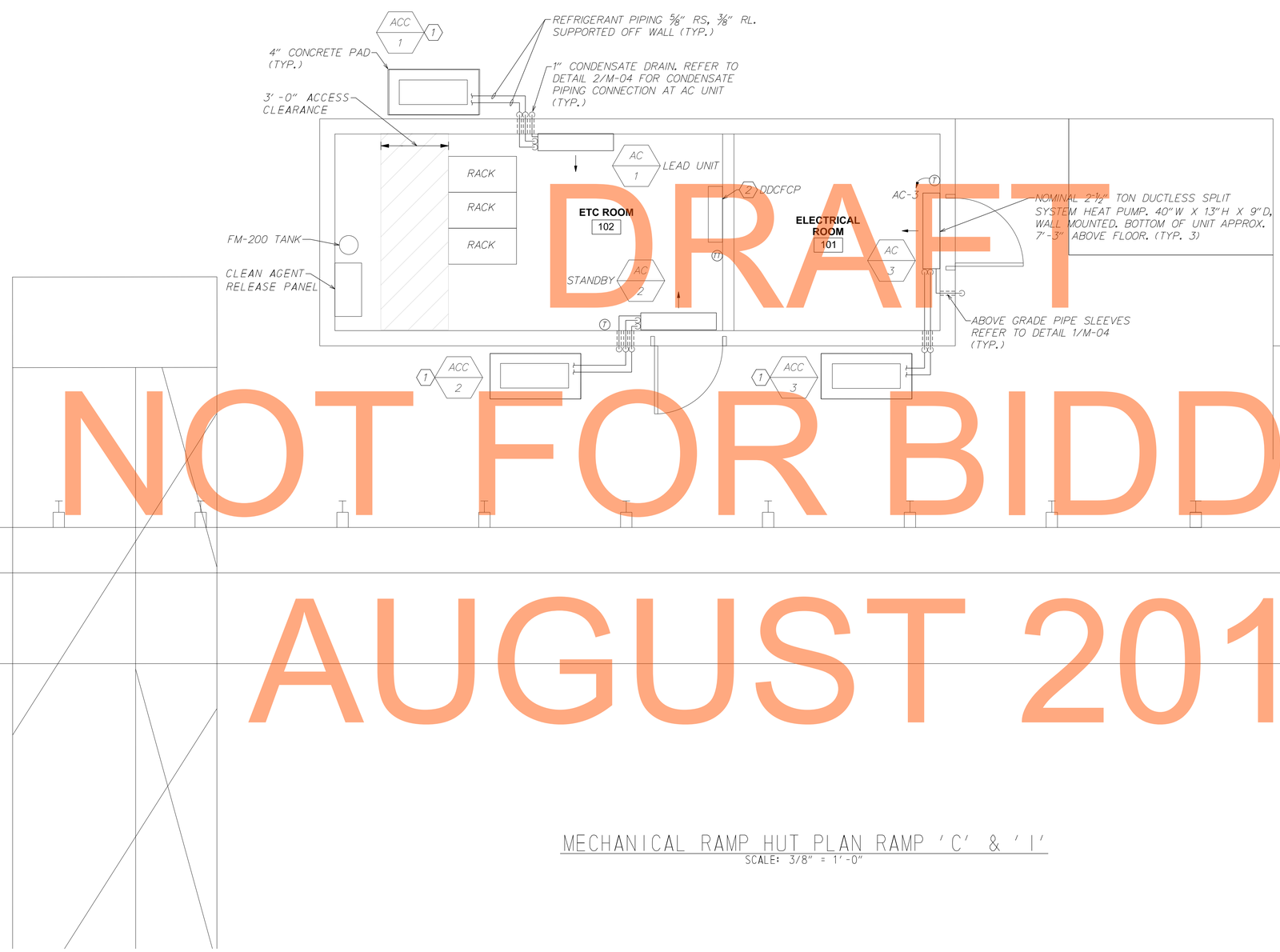
GENERAL NOTES:

1. SEE ARCHITECTURAL DWG. A-1 FOR GENERAL NOTES.

SHEET NOTES:

(1) REFER TO SCHEDULE ON DWG. M-04 FOR ADDITIONAL HEAT PUMP SYSTEM INFORMATION.

(2) SEE DWG. M-04 FOR ADDITIONAL INFORMATION.



MECHANICAL RAMP HUT PLAN RAMP 'C' & 'I'

SCALE: 3/8" = 1'-0"

LAST REVISED: 3/12/2008
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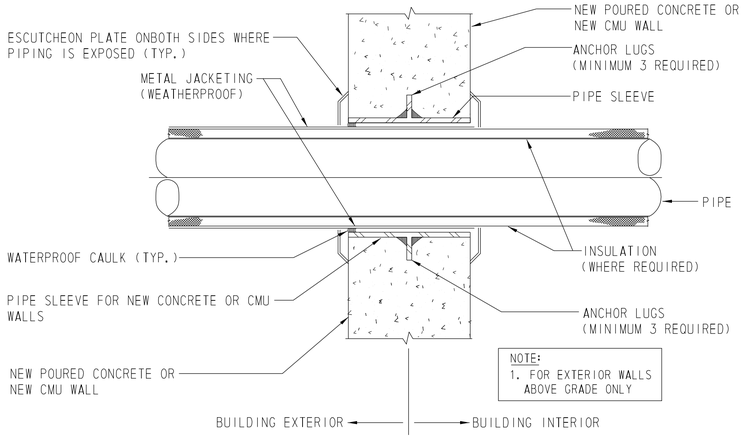
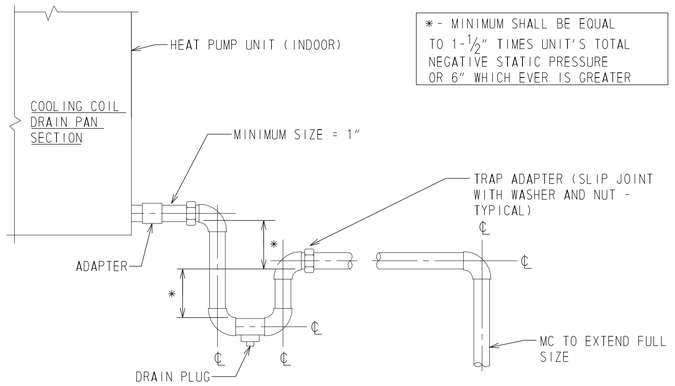
M-03

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	US 301 LEVELS ROAD TO SUMMIT BRIDGE ROAD	CONTRACT T200911303	BRIDGE NO.	MECHANICAL RAMP HUT PLAN RAMP 'C' & 'I'	SHEET NO. 1204
			COUNTY NEW CASTLE	DESIGNED BY: CLG		TOTAL SHTS. 1256
				CHECKED BY:		



1 PIPE SLEEVE - EXTERIOR WALL ABOVE GRADE

SCALE: NONE



2 DETAIL - CONDENSATE DRAIN

SCALE: NONE

ETC ROOM TEMPERATURE CONTROL SEQUENCE

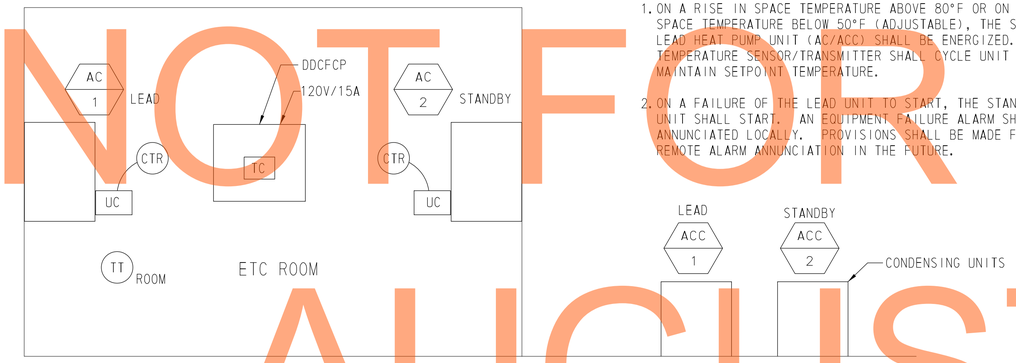
1. ON A RISE IN SPACE TEMPERATURE ABOVE 80°F OR ON A DROP SPACE TEMPERATURE BELOW 50°F (ADJUSTABLE), THE SELECTED LEAD HEAT PUMP UNIT (AC/ACC) SHALL BE ENERGIZED. SPACE TEMPERATURE SENSOR/TRANSMITTER SHALL CYCLE UNIT TO MAINTAIN SETPOINT TEMPERATURE.
2. ON A FAILURE OF THE LEAD UNIT TO START, THE STANDBY UNIT SHALL START. AN EQUIPMENT FAILURE ALARM SHALL BE ANNUNCIATED LOCALLY. PROVISIONS SHALL BE MADE FOR REMOTE ALARM ANNUNCIATION IN THE FUTURE.

SYMBOL LIST

TT	TEMPERATURE SENSOR AND TRANSMITTER
UC	UNIT CONTROLLER (BY OEM)
CTR	CURRENT TRANSFORMER RELAY
TC	TEMPERATURE CONTROLLER PROVIDED BY ATC CONTRACTOR PARAGON: PART NUMBER PC 12931
DDCFCP	DDC FIELD CONTROL PANEL ENCLOSURE BY ATC CONTRACTOR. 110V WITH 24VDC TRANSFORMER, PARAGON: A1008CHOR W/ A10P8 BACKPLATE

GENERAL CONTROL NOTES:

1. ALL CONTROL COMPONENTS SHALL BE FIELD MOUNTED AND WIRED, EXCEPT FOR UNIT CONTROLLERS UC.
2. TEMPERATURE SENSORS (TT) SHALL BE CAPABLE OF PROVIDING A TEMPERATURE SIGNAL TO REMOTE BUILDING MANAGEMENT SYSTEM IN THE FUTURE.
3. DDCFCP SHALL INCLUDE FLUSHMOUNT LOCAL DISPLAYS INDICATING: SETPOINT, TEMPERATURE DISPLAY; LOCAL "SYSTEM START", "HAND, OFF, AUTO" AND MANUAL ON" SWITCHES WITH OPTIONAL REMOTE CONNECTIONS.
4. LEAD UNIT SHALL BE SELECTABLE FROM DDCFCP.



3 ETC ROOM TEMPERATURE CONTROL DIAGRAM/SYMBOLS/NOTES

SCALE: NONE

SPLIT SYSTEM HEAT PUMP UNIT SCHEDULE

UNIT TAG	INDOOR UNIT DATA						OUTDOOR UNIT DATA			ELECTRICAL DATA					MANUFACTURER/MODEL	REMARKS
	NOMINAL COOLING (MBH)	NOMINAL HEATING (MBH)	MAX AIRFLOW (CFM)	OA (CFM)	DIMENSIONS H/W/D (IN.)	WEIGHT (LBS.)	FAN RPM (CLG/HTG)	DIMENSIONS H/W/D (IN.)	WEIGHT (LBS.)	MAX AMPS HEATING	MAX AMPS COOLING	VOLTS	PHASE	HERTZ		
AC-1/ACC-1	30	32	695	-	12-5/8 / 39-1/4 / 9	31	850/850	32-3/4 / 35-3/8 / 13	137	18.5	17	208	1	60	FUJITSU / 30 RLX	SEE NOTES
AC-2/ACC-2	30	32	695	-	12-5/8 / 39-1/4 / 9	31	850/850	32-3/4 / 35-3/8 / 13	137	18.5	17	208	1	60	FUJITSU / 30 RLX	SEE NOTES
AC-3/ACC-3	30	32	695	-	12-5/8 / 39-1/4 / 9	31	850/850	32-3/4 / 35-3/8 / 13	137	18.5	17	208	1	60	FUJITSU / 30 RLX	SEE NOTES

NOTES:
1. FURNISH HEAT PUMP WITH SINGLE POINT POWER CONNECTION, DISCONNECT SWITCH, LOW AMBIENT CONTROL DOWN TO 0°F, THERMOSTAT, AND MOUNTING HARDWARE.

M–04

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

US 301
LEVELS ROAD TO
SUMMIT BRIDGE ROAD

CONTRACT T200911303
COUNTY NEW CASTLE
BRIDGE NO.
DESIGNED BY: CLG
CHECKED BY:

MECHANICAL
DETAILS & SCHEDULES

SHEET NO. 1205
TOTAL SHTS. 1256

LAST REVISED: 3/12/2008
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VALVE SYMBOLS

FM-200 RELEASE VALVE

PIPING ELEMENT SYMBOLS

FM-200 — FM-200 PIPING

FM-200 RELEASE NOZZLE

DEVICE SYMBOLS

A — ALARM HORN AND STROBE

R — RELEASE HORN AND STROBE

AB — MANUAL ABORT SWITCH

M — MANUAL PULL STATION

S — SMOKE DETECTOR

FCO — FUSED CUT-OUT

GENERAL NOTES

1. SEE ARCHITECTURAL DRAWING FOR GENERAL NOTES.
2. LEGENDS, SYMBOLS, NOTES AND ABBREVIATIONS SHOWN ON THIS DRAWING PERTAIN TO FIRE PROTECTION DRAWINGS ONLY.
3. COORDINATE WITH OTHER CONTRACTORS FOR CUTTING AND PATCHING OF ALL OPENINGS, EQUIPMENT PADS, PIPE SLEEVES, ETC.
4. PROVIDE OPENINGS THROUGH CONSTRUCTION AND SLEEVES AS REQUIRED.
5. PROVIDE ALL NECESSARY TEMPORARY OR PERMANENT CAPS OR PLUGS FOR PIPING. DO NOT LEAVE PIPING OPEN ENDED.
6. ALARM MONITORING PANEL AND FA SYSTEM WIRING SHALL BE PROVIDED BY OWNER.
7. ENTIRE INSTALLATION SHALL MEET THE REQUIREMENTS OF THE FOLLOWING:
   A. NFPA 2001 - ALL APPLICABLE CHAPTERS
   B. OWNER'S INSURANCE COMPANY
   C. LOCAL AND STATE REGULATIONS
8. MAKE ALL NECESSARY SUBMISSIONS AND OBTAIN ALL NECESSARY PERMITS AND APPROVALS, INCLUDING ENGINEER'S APPROVAL PRIOR TO STARTING FABRICATION AND CONSTRUCTION.
9. REFER TO ARCHITECTURAL DRAWINGS FOR ROOM LAYOUTS, ROOM DIMENSIONS, CEILING HEIGHTS, BUILDING CONSTRUCTION, AND OTHER ARCHITECTURAL AND STRUCTRAL DETAILS IMPACTING DESIGN.
10. REFER TO FIRE PROTECTION SPECIFICATIONS FOR REQUIREMENTS ON MATERIALS, METHODS OF INSTALLATION, PRODUCTS AND GENERAL PROVISIONS.
11. REFER TO MECHANICAL DRAWINGS FOR EQUIPMENT LOCATION.
12. IN ORDER TO FINALIZE THE PLAN REVIEW RELEASE FOR FIRE PROTECTION AND DEMONSTRATE COMPLIANCE WITH IFC 901.2 & IBC 907.1.1, THE CONTRACTOR SHALL PROVIDE TO THE ENGINEER THE FOLLOWING:
    A. SHOP DRAWINGS, DETAILS, SPECIFICATIONS, FIRE SUPRESSION CALCULATIONS, WATER SUPPLY DATA, AND EQUIPMENT DATA SHEETS, FOR THE AUTOMATIC FIRE SPRINKLER SYSTEM TO BE INSTALLED.
    B. SHOP DRAWINGS, DETAILS, SPECIFICATIONS, EQUIPMENT DATA SHEETS, ETC. ON ALL COMPONENTS AND DEVICES TO BE INSTALLED AS PART OF THE AUTOMATIC FIRE ALARM SYSTEM
    C. THE SHOP DRAWING SUBMISSION MUST BE SIGNED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF DELEWARE.

FP-01

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

US 301
LEVELS ROAD TO
SUMMIT BRIDGE ROAD

CONTRACT	BRIDGE NO.	
T200911303	DESIGNED BY: MLW	
COUNTY		
NEW CASTLE	CHECKED BY:	

FIRE PROTECTION
SYMBOLS, ABBREVIATIONS
& GENERAL NOTES

SHEET NO.
1206
TOTAL SHTS.
1256

LAST REVISED: 3/12/2008
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FIRE PROTECTION RAMP HUT PLAN RAMP 'F' & 'L'
SCALE: 3/8" = 1'-0"

FP-02

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		US 301 LEVELS ROAD TO SUMMIT BRIDGE ROAD	CONTRACT T200911303	BRIDGE NO.	FIRE PROTECTION RAMP HUT PLAN RAMP 'F' & 'L'
				COUNTY NEW CASTLE	DESIGNED BY: MLW	SHEET NO. 1207
					CHECKED BY:	TOTAL SHTS. 1256

LAST REVISED: 3/12/2008
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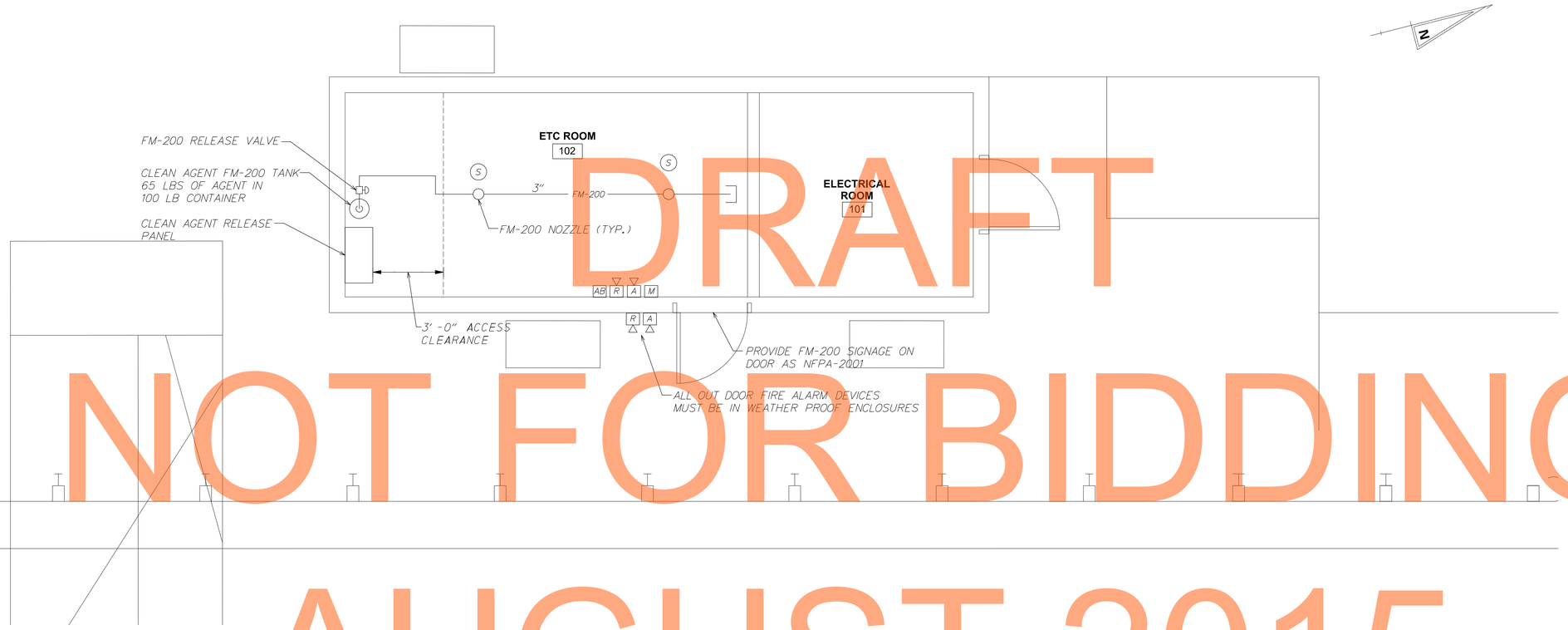

FIRE PROTECTION RAMP HUT PLAN RAMP 'C' & 'I'
SCALE: 3/8" = 1'-0"

LAST REVISED: 3/12/2008
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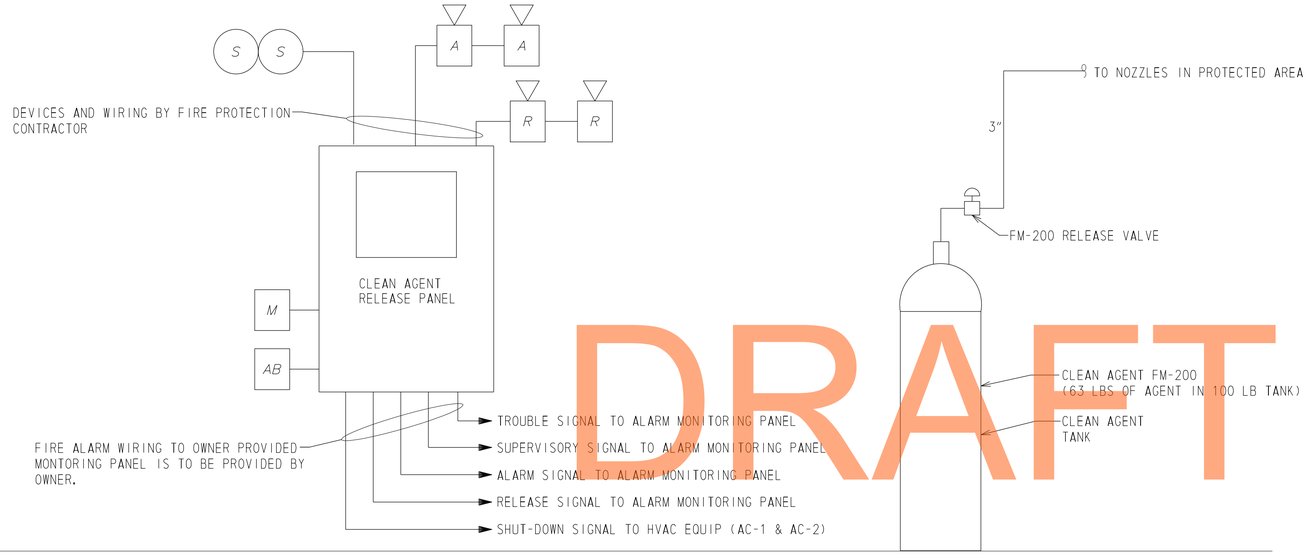
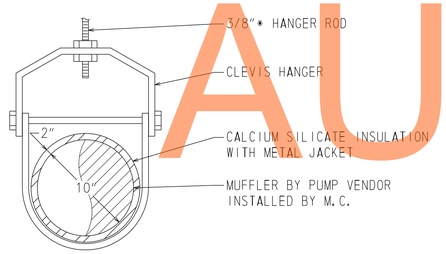
FP-03

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	US 301 LEVELS ROAD TO SUMMIT BRIDGE ROAD	CONTRACT T200911303	BRIDGE NO.	FIRE PROTECTION RAMP HUT PLAN RAMP 'C' & 'I'	SHEET NO. 1208
			COUNTY NEW CASTLE	DESIGNED BY: MLW		TOTAL SHTS. 1256
				CHECKED BY:		



1 CLEAN AGENT FIRE SUPPRESSION SYSTEM SCHEMATIC
SCALE: NONE



2 CLEVIS HANGER DETAIL
SCALE: NONE

SEQUENCE OF OPERATIONS

UPON THE PULLING OF A MANUAL PULL STATION THE CLEAN AGENT RELEASE PANEL SHALL:

1. SEND ALARM SIGNAL TO MAIN BUILDING FIRE ALARM PANEL

2. SEND SIGNAL TO SHUT-DOWN HVAC EQUIPMENT

3. RING ALARM HORN AND STROBES

4. ARM THE TANK VALVE AND INITIATE 30 SECOND WAITING PERIOD

5. AT THE END OF 30 SECOND WAITING PERIOD RING RELEASE HORN AND STROBE

6. SEND SIGNAL TO TANK VALVE TO RELEASE AGENT

UPON THE TRIPPING OF ONE SMOKE DETECTOR THE CLEAN AGENT RELEASE PANEL SHALL:

1. SEND ALARM SIGNAL TO MAIN BUILDING FIRE ALARM PANEL

2. RING ALARM HORN AND STROBES.

UPON THE TRIPPING OF A SECOND SMOKE DETECTOR THE CLEAN AGENT RELEASE PANEL SHALL:

1. ARM THE TANK VALVE AND INITATE 30 SECOND WAITING PERIOD.

2. SEND SIGNAL TO SHUT DOWN HVAC EQUIPMENT AND DE-ENERGIZE ANY DOOR OPENERS/HOLDERS.

3. AT THE END OF THE 30 SECOND WAITING PERIOD RING RELEASE HORN AND STROBES

4. SEND SIGNAL TO TANK VALVE TO RELEASE AGENT

UPON RECIEVING SIGNAL FROM MANUAL ABORT SWITCH THE CLEAN AGENT RELEASE PANEL SHALL:

1. DISARM TANK VALVE

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DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

US 301
LEVELS ROAD TO SUMMIT BRIDGE ROAD

CONTRACT	BRIDGE NO.	
T200911303	DESIGNED BY: MLW	
COUNTY		
NEW CASTLE	CHECKED BY:	

FIRE PROTECTION DETAILS & SCHEDULES

FP-04

SHEET NO.
1209
TOTAL SHTS.
1256

LIGHTING: (NOTE: SEE LIGHTING FIXUTRE SCHEDULE FOR FIXTURE TYPES)

- LP-1 — CIRCUIT; 2x2 FLUORESCENT FIXTURE
- A — FIXTURE TYPE
- a — CONTROL DEVICE
- 2x4 FLUORESCENT FIXTURE
- 4' FLUORESCENT FIXTURE
- 8' FLUORESCENT FIXTURE
- LIGHT FIXTURE FOR EMERGENCY ILLUMINATION
- CEILING MOUNTED DOWN LIGHT
- WALL MOUNT FIXTURE
- TRACK LIGHTING
- POLE STANDARD LIGHT FIXTURE (ONE LUMINAIRE INDICATED)
- LIGHTING BOLLARD
- EXIT SIGN FIXTURE (SINGLE FACE UNIVERSAL MOUNT INDICATED)
- EXIT SIGN FIXTURE W/DIRECTIONAL ARROWS (DOUBLE FACE UNIVERSAL MOUNT INDICATED)
- S — SWITCH, SINGLE POLE
- S_3 — SWITCH, 3-WAY
- S_4 — SWITCH, 4-WAY
- S_D — SWITCH, DIMMER
- S_P — SWITCH WITH PILOT LIGHT
- TC — TIME CLOCK
- DIRECTIONAL MOTION DETECTOR LIGHT CONTROL
- MULTI-DIRECTIONAL MOTION DETECTOR LIGHT CONTROL
- OS — WALL OCCUPANCY SENSOR
- VS — WALL VACANCY SENSOR
- S — SPECIAL PURPOSE LIGHT SWITCH; DESCRIPTION OF SWITCH WILL BE AS NOTED ON DRAWINGS
- PHOTOELECTRIC CONTROL
- LIGHTING CONTACTOR: LC1 — REPRESENTS LIGHTING CONTACTOR IDENTIFICATION
- LIGHTING CONTACTOR REMOTE CONTROL: LC1 — REPRESENTS LIGHTING CONTACTOR TO BE CONTROLLED

EMERGENCY LIGHTING:

- EMERGENCY BATTERY PACK FIXTURE WITH TWO HEADS
- TD — TD-TIME DELAY RESET
- REMOTE HEADS FOR EMERGENCY BATTERY PACK UNIT

FIRE ALARM SYSTEM:

- FACP — FIRE ALARM CONTROL PANEL
- FAAP — FIRE ALARM ANNUNCIATOR PANEL
- F — FIRE ALARM MANUAL PULL STATION
- SMOKE DETECTOR (PHOTOELECTRIC U.O.N.)
- R — HEAT DETECTOR (FIXED TEMP U.O.N.); RATE OF RISE
- D — DUCT SMOKE DETECTOR
- FS — SPRINKLER SYSTEM WATER FLOW SWITCH
- TS — SPRINKLER SYSTEM TAMPER SWITCH
- F — C — CEILING MOUNTED FIRE ALARM STROBE; (75) — CANDELL RATING (15 U.O.N.)
- F — FIRE ALARM SPEAKER/STROBE
- F — FIRE ALARM SPEAKER
- F — FIRE ALARM HORN/STROBE
- MM — MONITOR MODULE
- CM — CONTROL MODULE
- RTI — REMOTE-TEST-INDICATOR
- DH — MAGNETIC DOOR HOLDER
- CO — CARBON MONOXIDE DETECTOR
- SD — SMOKE DAMPER
- DACT — DIGITAL ALARM COMMUNICATOR TRANSMITTER

SYMBOLS AND ABBREVIATIONS ARE FOR REFERENCE ONLY AND DO NOT INDICATE THEIR INCORPORATION INTO THE PROJECT.

GENERAL POWER:

- SINGLE RECEPTACLE (NEMA 5-20R)
- GF — RECEPTACLE WIRED TO GROUND FAULT CIRCUIT BREAKER
- IG — ISOLATED GROUND
- S — SWITCHED
- TR — TAMPER RESISTANT
- WP — WEATHER RESISTANT RECEPTACLE W/IN-USE COVER (WET LOCATION)
- WR — WEATHER RESISTANT RECEPTACLE W/NON-IN-USE COVER (DAMP LOCATION)
- DUPLEX RECEPTACLE (NEMA 5-20R)
- DOUBLE DUPLEX RECEPTACLE
- GROUND FAULT CIRCUIT INTERRUPTER (DUPLEX NEMA 5-20R)
- SPECIAL PURPOSE RECEPTACLE (NEMA CONFIGURATION AS NOTED)
- RECEPTACLE FLOOR MOUNTED
- SPECIAL PURPOSE RECEPTACLE FLOOR MOUNTED (NEMA CONFIGURATION AS NOTED)
- MULTIOUTLET ASSEMBLY: LENGTH, TYPE AND QUANTITY OF RECEPTACLES AS NOTED
- P — POWER POLE
- P — WALL BOX FOR MODULAR FURNITURE WHIP
- J — JUNCTION BOX
- NON FUSED SAFETY SWITCH
- (3R) — 30A — SWITCH RATING; ENCLOSURE NEMA RATING
- F — FUSED SAFETY SWITCH
- 30AS — SWITCH RATING
- 20AF — FUSE RATING
- MAGNETIC MOTOR STARTER
- (12) — 2 — NEMA SIZE; ENCLOSURE NEMA RATING
- 3 — COMBINATION MAGNETIC MOTOR STARTER; NEMA SIZE
- CB — ENCLOSED CIRCUIT BREAKER
- CONTACTOR
- S_T — TIME SWITCH
- S_M — MANUAL MOTOR SWITCH (WITHOUT OVERLOADS)
- S_{MT} — MANUAL MOTOR STARTER (WITH THERMAL OVERLOADS)
- S_{MP} — MANUAL MOTOR SWITCH WITH PILOT LIGHT
- HS — CONTROL STATION, TYPE AS NOTED
- MUSHROOM SWITCH
- MOTOR (HORSEPOWER INDICATED ON PLANS)
- T — TRANSFORMER
- GENERATOR
- MOD — MOTOR OPERATED DAMPER
- T — THERMOSTAT
- UPS — UNINTERRUPTIBLE POWER SUPPLY
- SPD — SURGE PROTECTIVE DEVICE
- UNIT HEATER

COMMUNICATIONS:

- S — CEILING SPEAKER
- S — WALL MOUNTED SPEAKER
- S — WALL MOUNTED DOUBLE SPEAKER
- S — POLE MOUNTED SPEAKER
- S — POLE MOUNTED DOUBLE SPEAKER
- VOICE DATA OUTLET
- DATA OUTLET
- 6 — INDICATES NUMBER OF PORTS
- FLOOR MOUNTED OUTLET
- CATV — CABLE TELEVISION OUTLET
- TELEPHONE OUTLET
- P — PAY PHONE
- W — WALL MOUNTED
- C — WALL BOX FOR SYSTEMS FURNITURE VOICE/DATA WHIP
- TTC — TELEPHONE TERMINAL CABINET

ACCESS CONTROL/INTRUSION ALARM:

- AICP — ACCESS/INTRUSION ALARM CONTROL PANEL
- D — DOOR CONTACT
- KP — ACCESS KEYPAD
- ACR — ACCESS CARD READER
- MD — MOTION DETECTOR
- CCTV — CLOSED CIRCUIT TELEVISION CAMERA

GROUNDING:

- GROUND ROD
- EXOTHERMIC WELD CONNECTION
- MECHANICAL CONNECTION (BOLTED OR COMPRESSION)
- BARE COPPER CONDUCTOR EXPOSED
- G — BARE COPPER CONDUCTOR BURIED OR EMBEDDED IN CONCRETE
- GND — GROUND BUS

ONE LINE DIAGRAM:

- 52 — MEDIUM VOLTAGE DRAWOUT CIRCUIT BREAKER
- AF — AMP FRAME; AT — AMP TRIP; EO — ELECTRICALLY OPERATED — LOW VOLTAGE DRAWOUT CIRCUIT BREAKER
- CIRCUIT BREAKER
- ST — ST - SHUNT TRIP; GF - GROUND FAULT; EO - ELECTRICALLY OPERATED
- DISCONNECT, ISOLATION OR SAFETY SWITCH
- FUSED CUTOUT
- FUSED LOAD BREAK SWITCH
- MEDIUM VOLTAGE MOTOR STARTER
- 1 — MAGNETIC MOTOR STARTER. NUMERAL INDICATES NEMA SIZE FVNR UNLESS OTHERWISE NOTED. FVR - FULL VOLTAGE REVERSING; RVAT - REDUCING VOLTAGE AUTO TRANSFORMER; 2S - 2 SPEED; RVSS - REDUCED VOLTAGE SOLID STATE
- CAPACITOR
- VFD — VARIABLE FREQUENCY DRIVE
- POWER TRANSFORMER
- CONNECTION
- SHIELDED ISOLATION TRANSFORMER
- 480/120 — RATIO; 2 — NUMBER REQUIRED — POTENTIAL TRANSFORMER
- 600/5 — RATIO; 2 — NUMBER REQUIRED — CURRENT TRANSFORMER
- GROUND FAULT CURRENT TRANSFORMER
- 5 — MOTOR, NUMBER INDICATES HORSE POWER
- GENERATOR
- ATS — ATS - AUTOMATIC TRANSFER SWITCH; MTS - MANUAL TRANSFER SWITCH
- A — METER; A - AMMETER; V - VOLTMETER; W - WATTMETER; WH - WATT HOURMETER; KWH - KILOWATT HOUR; KVAR - KILOVAR METER; VAR - VAR METER; HZ - FREQUENCY METER; PF - POWER FACTOR METER
- DPM — DIGITAL POWER METER
- AS — METER TRANSFER SWITCH; AS - AMMETER SWITCH; VS - VOLTMETER SWITCH
- SPD — SURGE PROTECTIVE DEVICE
- LIGHTNING ARRESTOR
- K — KEY INTERLOCK
- FUSE
- E / F — ELECTRONIC POWER FUSE
- DRAWOUT DEVICE
- GROUND

MISCELLANEOUS:

- EQUIPMENT IDENTIFICATION
- A / E5 — SECTION IDENTIFICATION; SECTION NOMENCLATURE; SHEET NUMBER ON WHICH SECTION IS SHOWN — SITE WORK
- A / E5 — BLDG PLANS
- 2 / E5 — DETAIL IDENTIFICATION; DETAIL NOMENCLATURE; SHEET NUMBER ON WHICH DETAIL IS SHOWN
- C — COMMUNICATION
- E — ELECTRIC
- T — TELEPHONE
- OHE — OVERHEAD ELECTRIC
- OHT — OVERHEAD TELEPHONE
- UTILITY POLE
- HANDHOLE
- HH-x — MANHOLE; MH-x

CONDUIT FEEDERS & BRANCH CIRCUITS:

- CONDUIT
- CONDUIT - EMBEDDED IN FLOOR OR EARTH
- CONDUIT TURNED UP
- CONDUIT TURNED DOWN
- CONDUIT CAPPED
- CIRCUIT HOME RUN
- 10 — FEEDER IDENTIFICATION (SEE FEEDER LEGEND ON DRAWING)
- (3)#8 AWG, (1)#10 GRD-1"C. — CONDUIT FEEDER IDENTIFICATION
- TYPICAL FEEDER WITH NO SIZE IDENTIFICATION SEE GENERAL NOTE 9

WIRING METHODS:

A. INTERIOR
1. EXPOSED AREAS NOT SUBJECT TO PHYSICAL ABUSE-EMT.
2. EXPOSED AREAS SUBJECT TO ABUSE-RIGID STEEL CONDUIT.
3. ELEVATOR PIT-RIGID STEEL CONDUIT.
4. CONCEALED IN STUD WALL OR ABOVE SUSPENDED CEILING-EMT OR TYPE MC CABLE.
5. CONCEALED IN MASONRY WALLS - EMT OR RIGID STEEL CONDUIT.

B. TUNNEL
1. RIGID STEEL CONDUIT

C. EXTERIOR
1. RIGID STEEL CONDUIT

D. BELOW GRADE
1. CONCRETE ENCASED-SCHEDULE 40 PVC
2. DIRECT BURIED-SCHEDULE 40 PVC

E. PENETRATIONS
1. UP THROUGH GRADE-PVC COATED RIGID STEEL
2. THROUGH FOUNDATION WALLS-PVC COATED RIGID STEEL

ABBREVIATIONS:

A OR AMP	AMPERE
AC	ALTERNATING CURRENT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
AIC	AMPERE INTERRUPTING CAPACITY
AL	ALUMINUM
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
AWG	AMERICAN WIRE GAUGE
BFG	BELOW FINISHED GRADE
BLDG	BUILDING
BOS	BOTTOM OF STEEL
C	CONDUIT
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
CP	CONTROL PANEL
CPT	CONTROL POWER TRANSFORMER
CT	CURRENT TRANSFORMER
CU	COPPER
DISC	DISCONNECT
DIV	DIVISION
DN	DOWN
DS	DISCONNECT SWITCH
EC	ELECTRICAL CONTRACTOR
EMT	ELECTRICAL METALLIC TUBING
EF	EXHAUST FAN
ECH	ELECTRIC CABINET HEATER
EGC	EQUIPMENT GROUNDING CONDUCTOR
EUH	ELECTRIC UNIT HEATER
EWC	ELECTRIC WATER COOLER
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
FBO	FURNISHED BY OTHERS
FC	FAILS CLOSED
F/T	FEED THROUGH
FU	FUSE
FRE	FIBERGLASS REINFORCED EPOXY
FWE	FURNISHED WITH EQUIPMENT
GF	GROUND FAULT
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GRD	GROUND
HID	HIGH INTENSITY DISCHARGE
HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
HVAC	HEAT-VENT-AIR CONDITIONING
IG	ISOLATED GROUND
IND	INDUSTRIAL
JIC	JOINT INDUSTRIAL COUNCIL
KV	KILOVOLT
KVA	KILOVOLT AMPERE
KVAR	KILOVARS
KW	KILOWATT
LA	LIGHTNING ARRESTOR
LC	LIGHTING CONTACTOR
LTG	LIGHTING
MC	METAL CLAD
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MFR	MANUFACTURE
MI	MINERAL INSULATED
MLO	MAIN LUG ONLY
MOA	MULTI-OUTLET ASSEMBLY
MOD	MOTOR OPERATED DAMPER
MS	MOTOR STARTER
MT	MANUAL TRANSFER SWITCH
MTD	MOUNTED
MV	MEDIUM VOLTAGE
N/A	NOT APPLICABLE
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NEUT	NEUTRAL
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
No.	NUMBER
NTS	NOT TO SCALE
PF	POWER FACTOR
PH	PHASE
PM	POWER MONITOR
PNL	PANEL
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE
RECP	RECEPTACLES
RGS	RIGID GALVANIZED STEEL(CONDUIT)
RTD	RESISTANCE TEMPERATURE DETECTOR
RVAT	REDUCED VOLTAGE AUTOTRANSFORMER
RVSS	REDUCED VOLTAGE SOLID STATE
SC	SURGE CAPACITOR
SN	SOLID NEUTRAL
SPD	SURGE PROTECTIVE DEVICE
STP	SHIELDED TWISTED PAIR
STT	SHIELDED TWISTED TRIPLET
SW	SWITCH
SWBD	SWITCHBOARD
TC	TRAY-CABLE
TOS	TOP OF STEEL
TTB	TELEPHONE TERMINAL BOARD
TTC	TELEPHONE TERMINAL CABINET
TYP	TYPICAL
UL	UNDERWRITERS LABORATORIES
UH	UNIT HEATER
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
V	VOLT
VA	VOLT AMPERE
VAR	VOLT AMPERE REACTIVE
W	WIRE
WP	WEATHERPROOF
WR	WEATHER RESISTANT
XFMR	TRANSFORMER
1-PH	SINGLE PHASE
3-PH	THREE PHASE

GENERAL NOTES:

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NFPA-70) AS ADOPTED AND AMENDED BY THE AUTHORITY HAVING JURISDICTION (AHJ).
2. ARCHITECTURAL FEATURES SHOWN ON THESE DRAWINGS ARE FOR REFERENCE ONLY. REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR BUILDING DIMENSIONS, SECTIONS, ELEVATIONS, PARTITION RATINGS AND CONSTRUCTION DETAILS OF BUILDING ELEMENTS.
3. EQUIPMENT LOCATIONS ARE SHOWN FOR REFERENCE ONLY. REFER TO ARCHITECTURAL, HVAC, PLUMBING, FIRE PROTECTION AND EQUIPMENT PLANS FOR EQUIPMENT LOCATIONS.
4. THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND WORK AND DO NOT SHOW EVERY SUPPORT, OFFSET, FITTING OR COMPONENT. PROVIDE ALL MATERIALS FOR A COMPLETE ELECTRICAL INSTALLATION AND FIELD VERIFY ALL DIMENSIONS.
5. COORDINATE ALL WORK WITH OTHER TRADES TO AVOID INTERFERENCES.
6. ALL MOTOR SAFETY SWITCHES, LOCAL DISCONNECTS, MOTOR STARTERS AND DRIVES SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR (DIVISION 26) UNLESS OTHERWISE NOTED ON THE DRAWINGS AS FURNISHED WITH EQUIPMENT (FWE).
7. ALL PENETRATIONS THROUGH FLOORS, WALLS AND RATED PARTITIONS SHALL BE SEALED WITH UL LISTED FIRE SEALANT MATERIALS TO MAINTAIN THE RATING OF THE SEPARATION.
8. AN EQUIPMENT GROUNDING CONDUCTOR SHALL BE PROVIDED WITH EVERY FEEDER AND BRANCH CIRCUIT.
9. ALL WIRING SHALL BE COPPER. WHERE CONDUCTOR SIZES ARE NOT INDICATED ON THE DRAWINGS, MINIMUM WIRING SHALL BE (2) #12 AWG & #12 GND FOR SINGLE PHASE CIRCUITS LESS THAN 75 FEET AND (3) #12 & #12 GND FOR THREE PHASE CIRCUITS. WIRE SIZE FOR 20 AMP-120 VOLT BRANCH CIRCUITS WITH CIRCUIT LENGTH GREATER THAN 75 FEET SHALL BE (2) #10, (1) #10 GND IN ¾" C. BRANCH CIRCUITS WITH CIRCUIT LENGTH GREATER THAN 125 FEET SHALL BE (2) #8, (1) #8 GND IN ¾" C. BRANCH CIRCUITS WITH CIRCUIT LENGTH GREATER THAN 200 FEET SHALL BE (2) #6, (1) #6 GND IN ¾" C. BRANCH CIRCUITS WITH CIRCUIT LENGTH GREATER THAN 250 FEET SHALL BE (2) #4, (1) #4 GND IN 1" C. SHORT TAPS OFF THE MAIN RUN TO INDIVIDUAL OUTLETS SHALL BE PERMITTED TO BE #12 AWG.

11/09/12	E-01

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

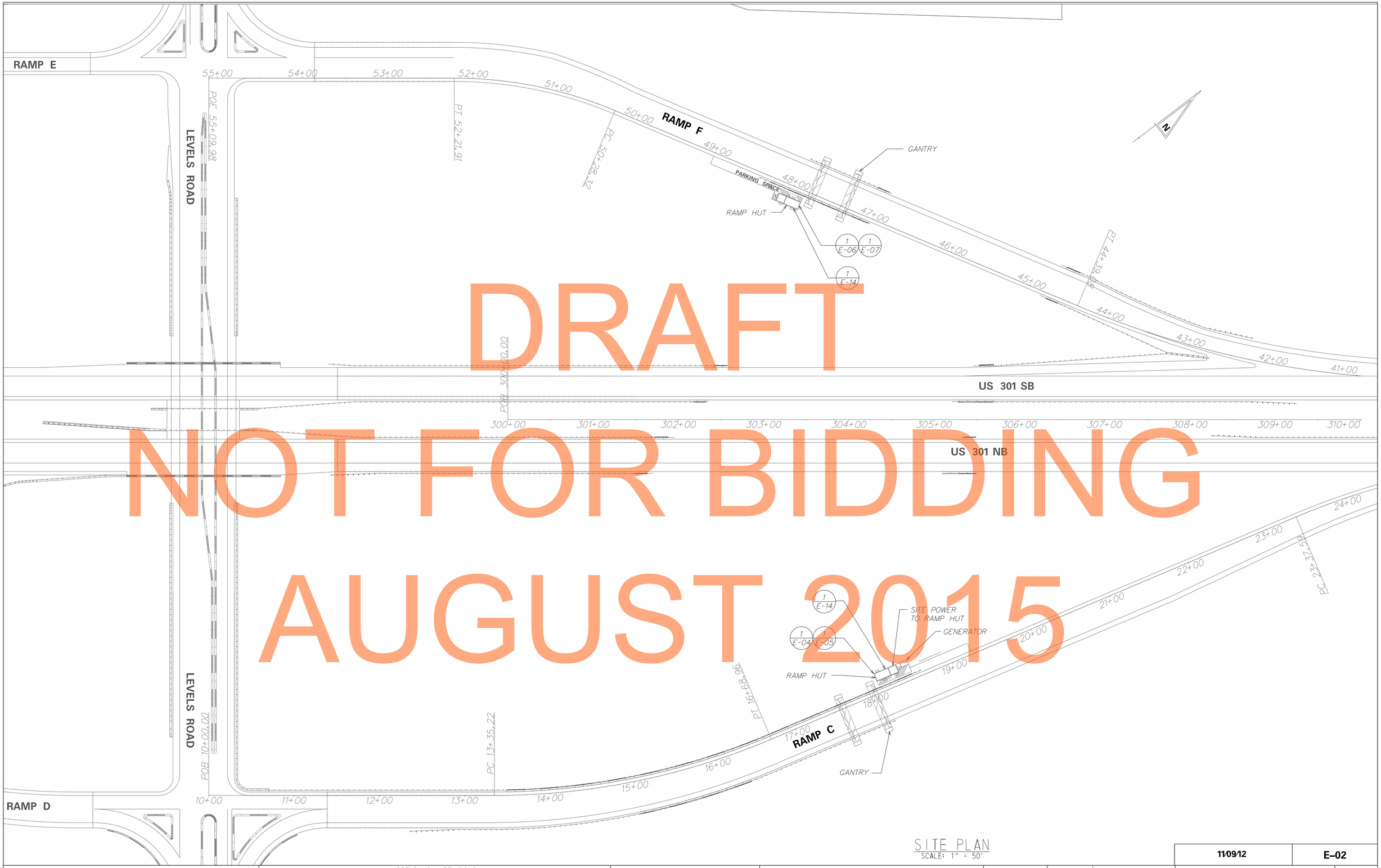
US 301
LEVELS ROAD TO
SUMMIT BRIDGE ROAD

CONTRACT	BRIDGE NO.	
T200911303	DESIGNED BY: RAK	
COUNTY		
NEW CASTLE	CHECKED BY: JEP	

ELECTRICAL
LEGEND, SYMBOLS
& ABBREVIATIONS

SHEET NO.
1210
TOTAL SHTS.
1256

LAST REVISED: 3/12/2008
K:\50343_AET\GENERAL\XREFS\SB_A1_AECOM.DGN



SITE PLAN
SCALE: 1" = 50'

LAST REVISED: 3/12/2008
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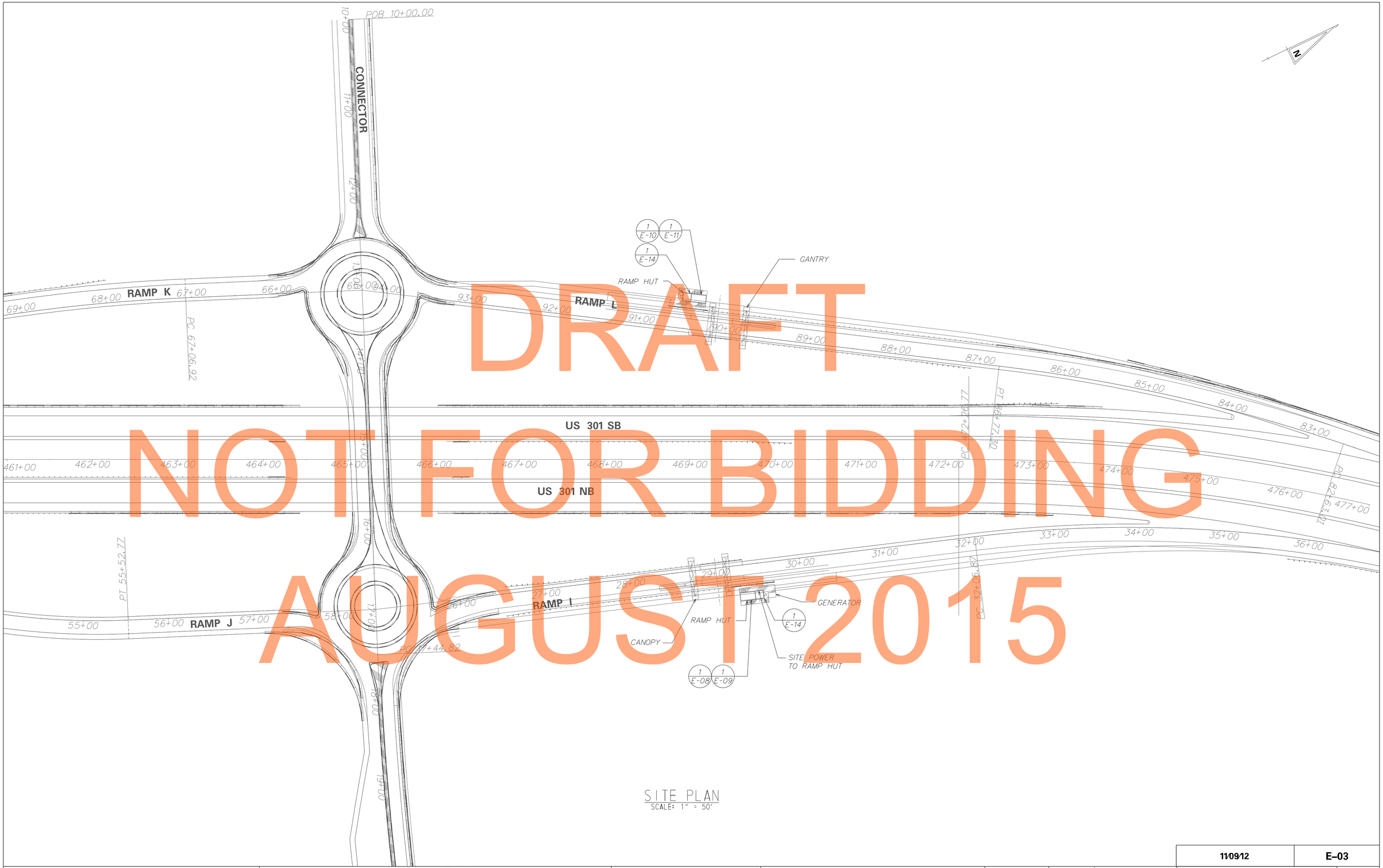
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	US 301 LEVELS ROAD TO SUMMIT BRIDGE ROAD	CONTRACT T200911303	BRIDGE NO.	11/09/12 / E-02
			COUNTY NEW CASTLE	DESIGNED BY: RAK	ELECTRICAL SITE PLAN SHEET 1 OF 2
				CHECKED BY: JEP	SHEET NO. 1211 / TOTAL SHTS. 1256



SITE PLAN
SCALE: 1" = 50'

LAST REVISED: 3/12/2008
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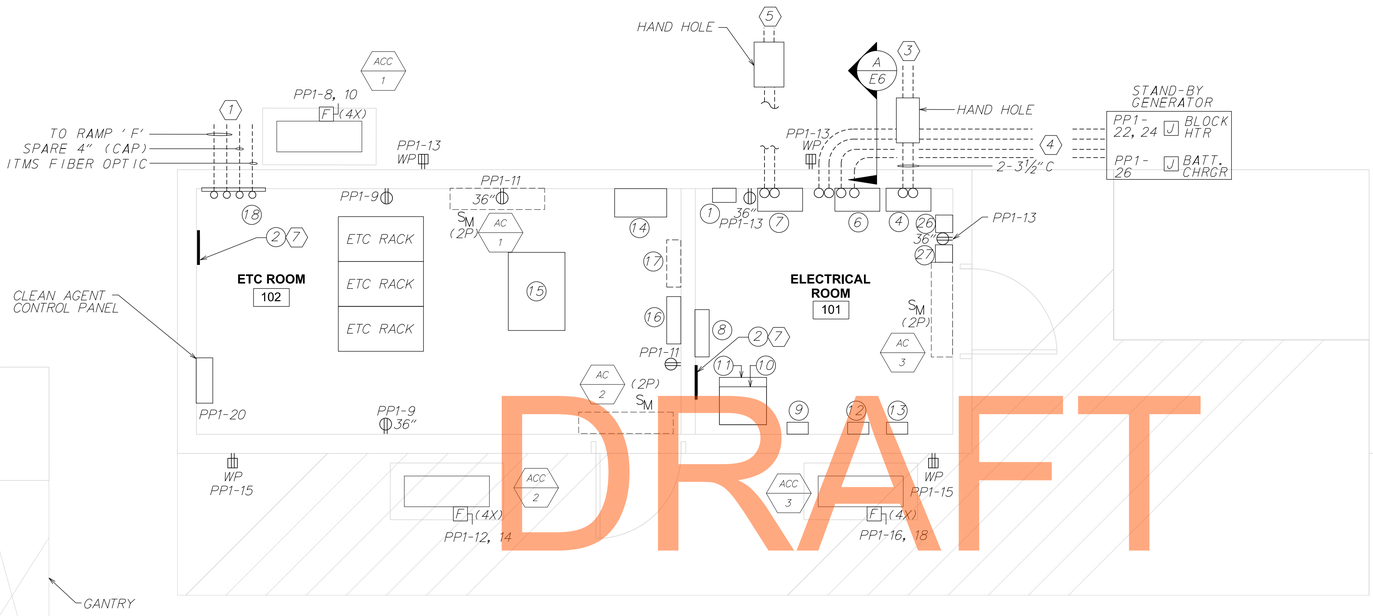
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		US 301 LEVELS ROAD TO SUMMIT BRIDGE ROAD	CONTRACT T200911303	BRIDGE NO.
				COUNTY NEW CASTLE	DESIGNED BY: RAK
					CHECKED BY: JEP

11/09/12	E-03
ELECTRICAL SITE PLAN SHEET 2 OF 2	SHEET NO. 1212
	TOTAL SHTS. 1256

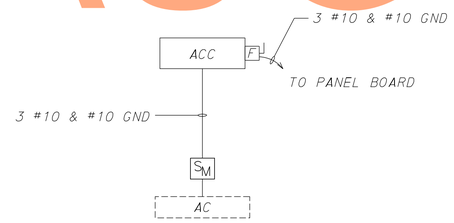


RAMP 'C'

DESIGNATION	DESCRIPTION
1	SURGE PROTECTIVE DEVICE
2	GROUND BUS
3	NOT USED
4	BUILDING DISCONNECT
5	NOT USED
6	AUTOMATIC TRANSFER SWITCH
7	PANEL 'DP-1'
8	PANEL 'PP-1'
9	15KVA TRANSFORMER SECONDARY CIRCUIT BREAKER
10	15KVA TRANSFORMER (HUNG)
11	30KVA TRANSFORMER (FLOOR)
12	PRIMARY DISCONNECT 15KVA TRANSFORMER
13	PRIMARY DISCONNECT 30KVA TRANSFORMER
14	UPS MAINTENANCE BYPASS SWITCH
15	UPS
16	PANEL 'UPP-1'
17	PANEL 'UPP-2' (FUTURE)
18	3'-0" TELE/DATA BACKBOARD
19	NOT USED
20	NOT USED
21	NOT USED
22	NOT USED
23	NOT USED
24	NOT USED
25	NOT USED
26	GENERATOR ANNUNCIATOR
27	GENERATOR ESTOP
28	NOT USED

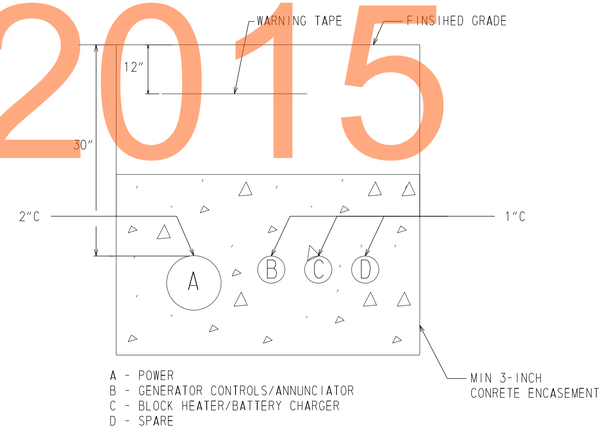
1 E-04 ELECTRICAL RAMP HUT POWER PLAN RAMP 'C'

SCALE: 3/8" = 1'-0"



2 E-04 DUCTLESS SPLIT SYSTEM WIRING

SCALE: N.T.S.



A - POWER
B - GENERATOR CONTROLS/ANNUNCIATOR
C - BLOCK HEATER/BATTERY CHARGER
D - SPARE

SECTION 'A'

KEY NOTES:

1. PROVIDE TWO (2) CONDUITS FOR ITMS BACKBONE AND TWO (2) CONDUITS FOR CONNECTION TO HUT 'F' AS INDICATED.
2. NOT USED
3. CONDUIT FOR BUILDING POWER FROM SITE DISTRIBUTION.
4. CONDUIT TO GENERATOR.
5. POWER CONDUIT TO RAMP 'F' (DP-2).
6. NOT USED.
7. COPPER GROUND BUS, STORM COPPER OR EQUAL, 4" X 12" X 0.25".

LAST REVISED: 3/12/2008
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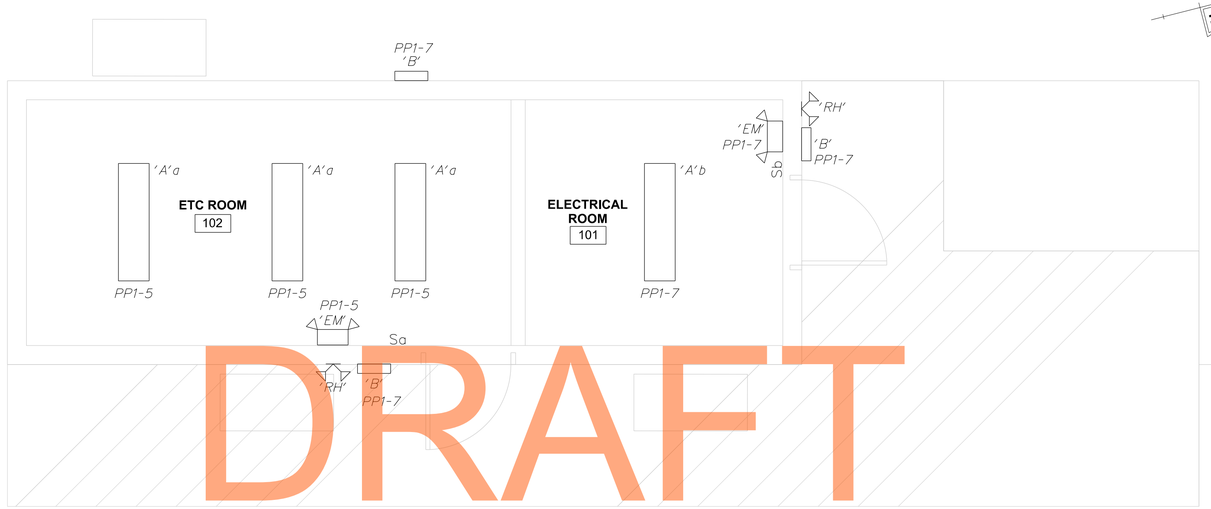
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	US 301 LEVELS ROAD TO SUMMIT BRIDGE ROAD	CONTRACT T200911303	BRIDGE NO.	11/09/12 E-04
			COUNTY NEW CASTLE	DESIGNED BY: RAK	ELECTRICAL RAMP HUT POWER PLAN RAMP 'C'
				CHECKED BY: JEP	SHEET NO. 1213 / TOTAL SHTS. 1256

NOTES:
1. SEE DRAWING E-15 FOR LUMINAIRE SCHEDULE.



1/E-05 ELECTRICAL RAMP HUT LIGHTING PLAN RAMP 'C'
SCALE: 3/8" = 1'-0"

LAST REVISED: 3/12/2008
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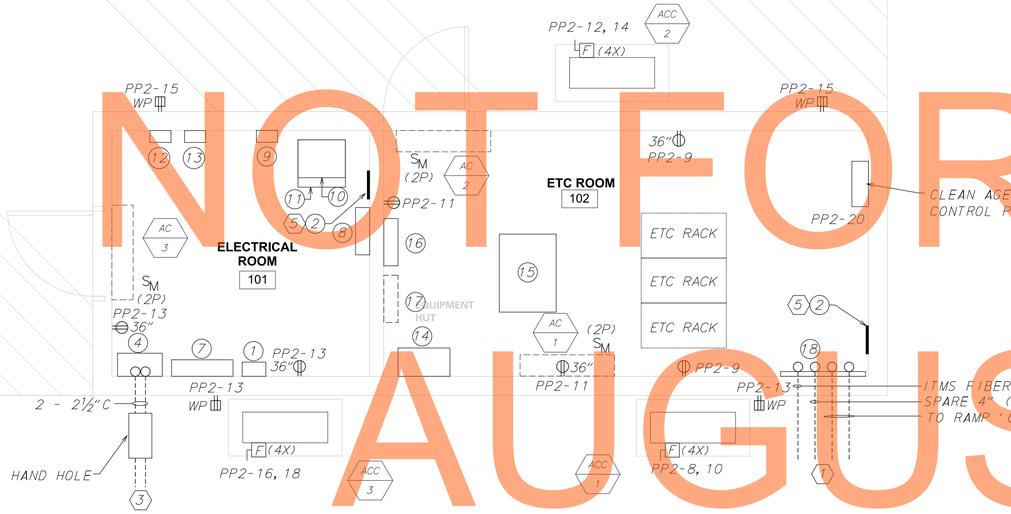
					11/09/12	E-05
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		US 301 LEVELS ROAD TO SUMMIT BRIDGE ROAD	CONTRACT T200911303	BRIDGE NO.	ELECTRICAL RAMP HUT LIGHTING PLAN RAMP 'C'	SHEET NO. 1214
				COUNTY NEW CASTLE	DESIGNED BY: RAK		TOTAL SHTS. 1256
					CHECKED BY: JEP		

RAMP 'F'

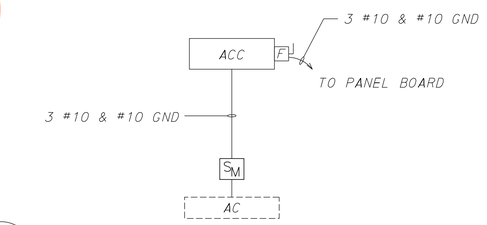
DESIGNATION	DESCRIPTION
(1)	SURGE PROTECTIVE DEVICE
(2)	GROUND BUS
(3)	NOT USED
(4)	BUILDING DISCONNECT
(5)	NOT USED
(6)	NOT USED
(7)	PANEL 'DP-2'
(8)	PANEL 'PP-2'
(9)	15KVA TRANSFORMER SECONDARY CIRCUIT BREAKER
(10)	15KVA TRANSFORMER (HUNG)
(11)	30KVA TRANSFORMER (FLOOR)
(12)	PRIMARY DISCONNECT 15KVA TRANSFORMER
(13)	PRIMARY DISCONNECT 30KVA TRANSFORMER
(14)	UPS MAINTENANCE BYPASS SWITCH
(15)	UPS
(16)	PANEL 'UPP-3'
(17)	PANEL 'UPP-4' (FUTURE)
(18)	3'-0" TELE/DATA BACKBOARD
(19)	NOT USED
(20)	NOT USED
(21)	NOT USED
(22)	NOT USED
(23)	NOT USED
(24)	NOT USED
(25)	NOT USED
(26)	NOT USED
(27)	NOT USED
(28)	NOT USED



1 / E-08 ELECTRICAL RAMP HUT POWER PLAN RAMP 'F'
SCALE: 3/8" = 1'-0"

KEY NOTES:

1. PROVIDE TWO (2) CONDUITS FOR ITMS BACKBONE AND TWO (2) CONDUITS FOR CONNECTION TO HUT 'C' AS INDICATED.
2. NOT USED.
3. TWO (2) CONDUITS FROM RAMP 'C' HUT PANEL DP-1.
4. NOT USED
5. COPPER GROUND BUS, STORM COPPER OR EQUAL, 4" X 12" X 0.25".



2 / E-08 DUCTLESS SPLIT SYSTEM WIRING
SCALE: N.T.S.

LAST REVISED: 3/12/2008
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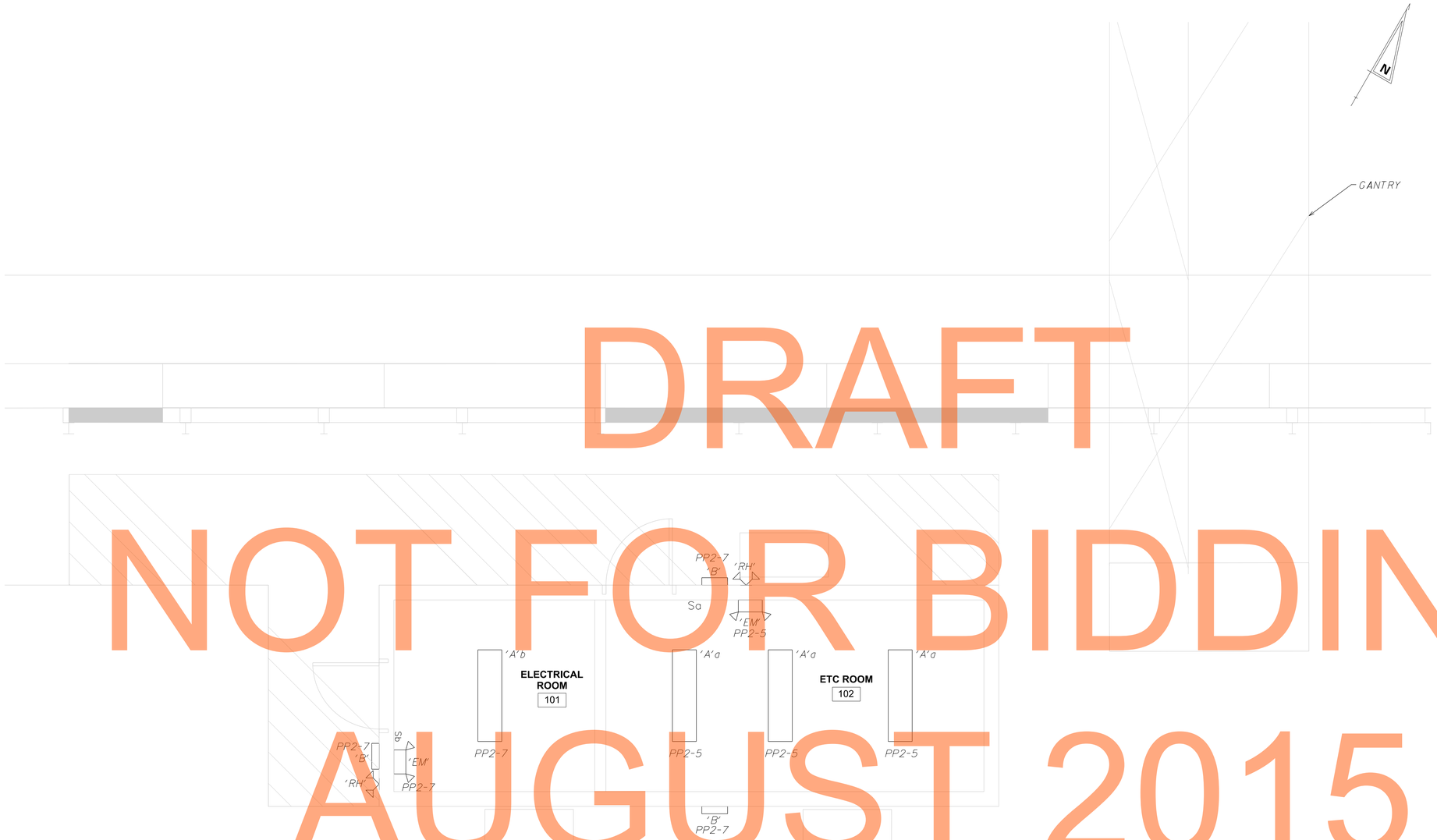
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	US 301 LEVELS ROAD TO SUMMIT BRIDGE ROAD	CONTRACT T200911303	BRIDGE NO.	11/09/12 / E-06
			COUNTY NEW CASTLE	DESIGNED BY: RAK	ELECTRICAL RAMP HUT POWER PLAN RAMP 'F'
				CHECKED BY: JEP	SHEET NO. 1215 / TOTAL SHTS. 1256

NOTES:
1. SEE DWG. E-15 FOR LUMINAIRE SCHEDULE.



1 / E-09 ELECTRICAL RAMP HUT LIGHTING PLAN RAMP 'F'
SCALE: 3/8" = 1'-0"

LAST REVISED: 3/12/2008
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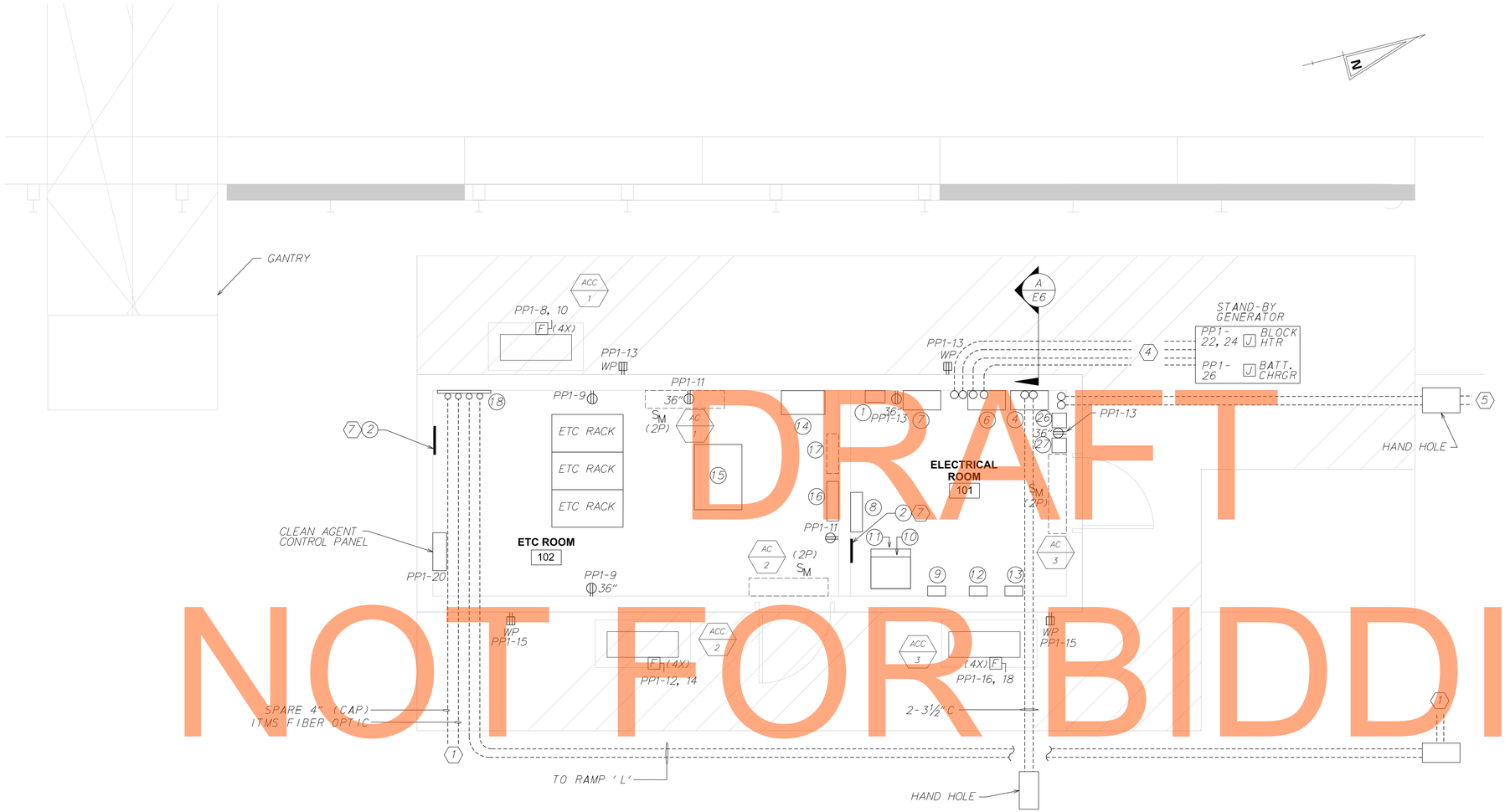
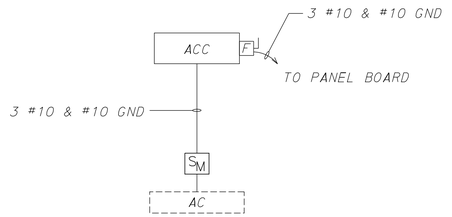
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	US 301 LEVELS ROAD TO SUMMIT BRIDGE ROAD	CONTRACT T200911303	BRIDGE NO.	ELECTRICAL RAMP HUT LIGHTING PLAN RAMP 'F'
			COUNTY NEW CASTLE	DESIGNED BY: RAK	11/09/12
				CHECKED BY: JEP	E-07
					SHEET NO. 1216
					TOTAL SHTS. 1256

RAMP 'I'

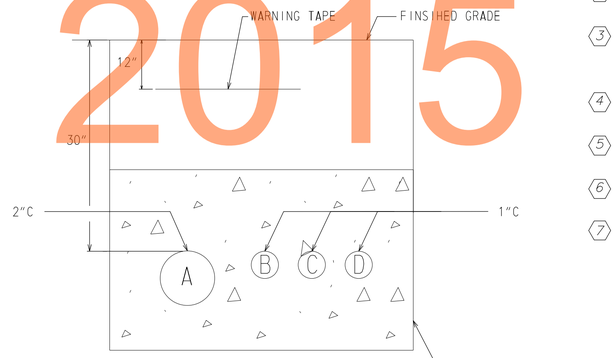
DESIGNATION	DESCRIPTION
1	SURGE PROTECTIVE DEVICE
2	GROUND BUS
3	NOT USED
4	BUILDING DISCONNECT
5	NOT USED
6	AUTOMATIC TRANSFER SWITCH
7	PANEL 'DP-1'
8	PANEL 'PP-1'
9	15KVA TRANSFORMER SECONDARY CIRCUIT BREAKER
10	15KVA TRANSFORMER (HUNG)
11	30KVA TRANSFORMER (FLOOR)
12	PRIMARY DISCONNECT 15KVA TRANSFORMER
13	PRIMARY DISCONNECT 30KVA TRANSFORMER
14	UPS MAINTENANCE BYPASS SWITCH
15	UPS
16	PANEL 'UPP-1'
17	PANEL 'UPP-2' (FUTURE)
18	3'-0" TELE/DATA BACKBOARD
19	NOT USED
20	NOT USED
21	NOT USED
22	NOT USED
23	NOT USED
24	NOT USED
25	NOT USED
26	GENERATOR ANNUNCIATOR
27	GENERATOR ESTOP
28	NOT USED



1 E-06 ELECTRICAL RAMP HUT POWER PLAN RAMP 'I'
SCALE: 3/8" = 1'-0"



2 E-06 DUCTLESS SPLIT SYSTEM WIRING
SCALE: N.T.S.



A - POWER
B - GENERATOR CONTROLS/ANNUNCIATOR
C - BLOCK HEATER/BATTERY CHARGER
D - SPARE

SECTION 'A'

KEY NOTES:

1. PROVIDE TWO (2) CONDUITS FOR ITMS BACKBONE AND TWO (2) CONDUITS FOR CONNECTION TO HUT 'I' AS INDICATED.
2. NOT USED
3. CONDUIT FOR BUILDING POWER FROM SITE DISTRIBUTION.
4. CONDUIT TO GENERATOR.
5. POWER CONDUIT TO RAMP 'L' (DP-2).
6. NOT USED.
7. COPPER GROUND BUS, STORM COPPER OR EQUAL, 4" X 12" X 0.25".

LAST REVISED: 3/12/2008
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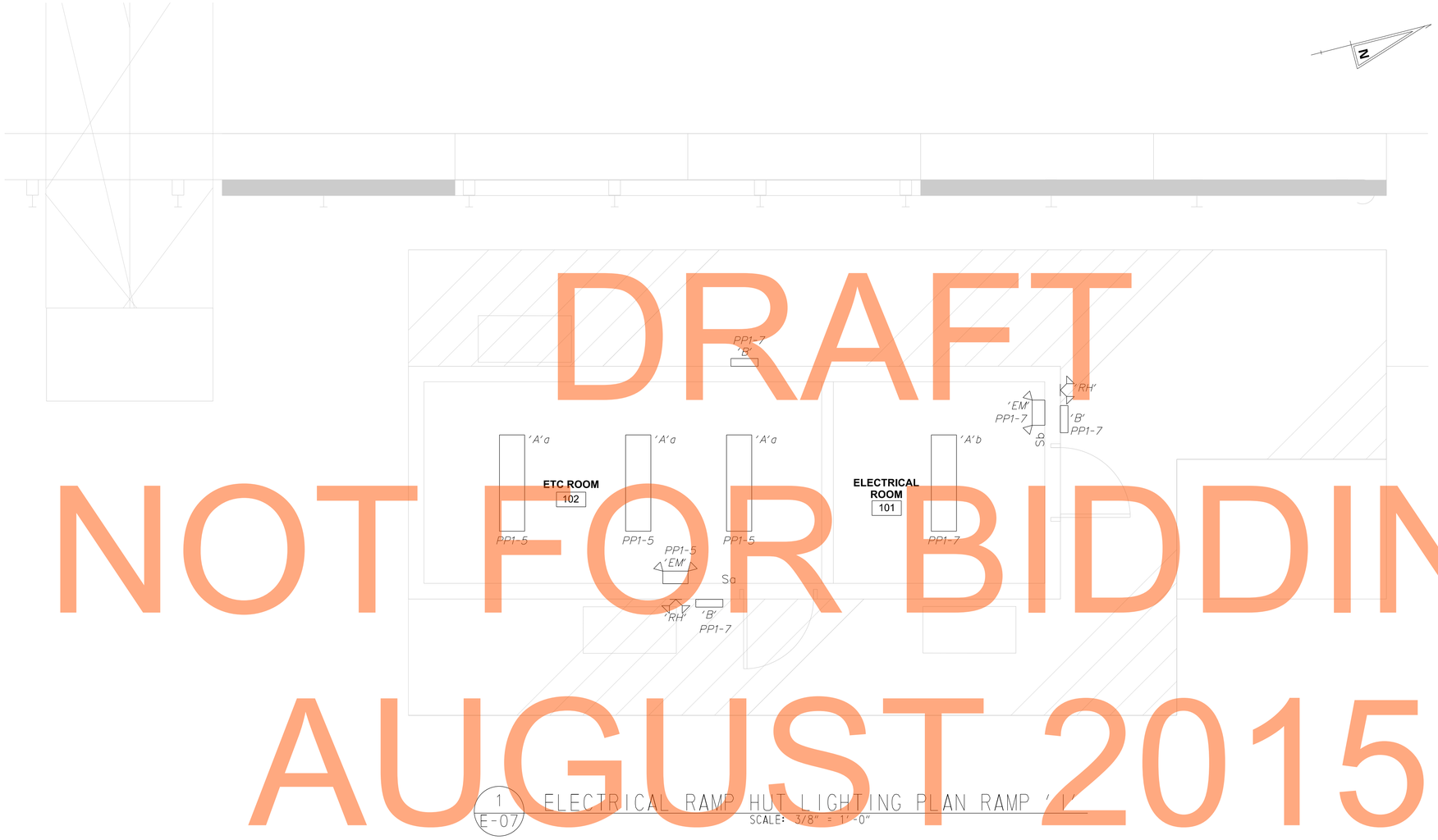
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		US 301 LEVELS ROAD TO SUMMIT BRIDGE ROAD	CONTRACT T200911303	BRIDGE NO.	ELECTRICAL RAMP HUT POWER PLAN RAMP 'I'
				COUNTY NEW CASTLE	DESIGNED BY: RAK	SHEET NO. 1217
					CHECKED BY: JEP	TOTAL SHTS. 1256

11/09/12 E-08

NOTE:

1. SEE DRAWING E-15 FOR LUMINAIRE SCHEDULE.



1 E-07 ELECTRICAL RAMP HUT LIGHTING PLAN RAMP 'I'

SCALE: 3/8" = 1'-0"

LAST REVISED: 3/12/2008
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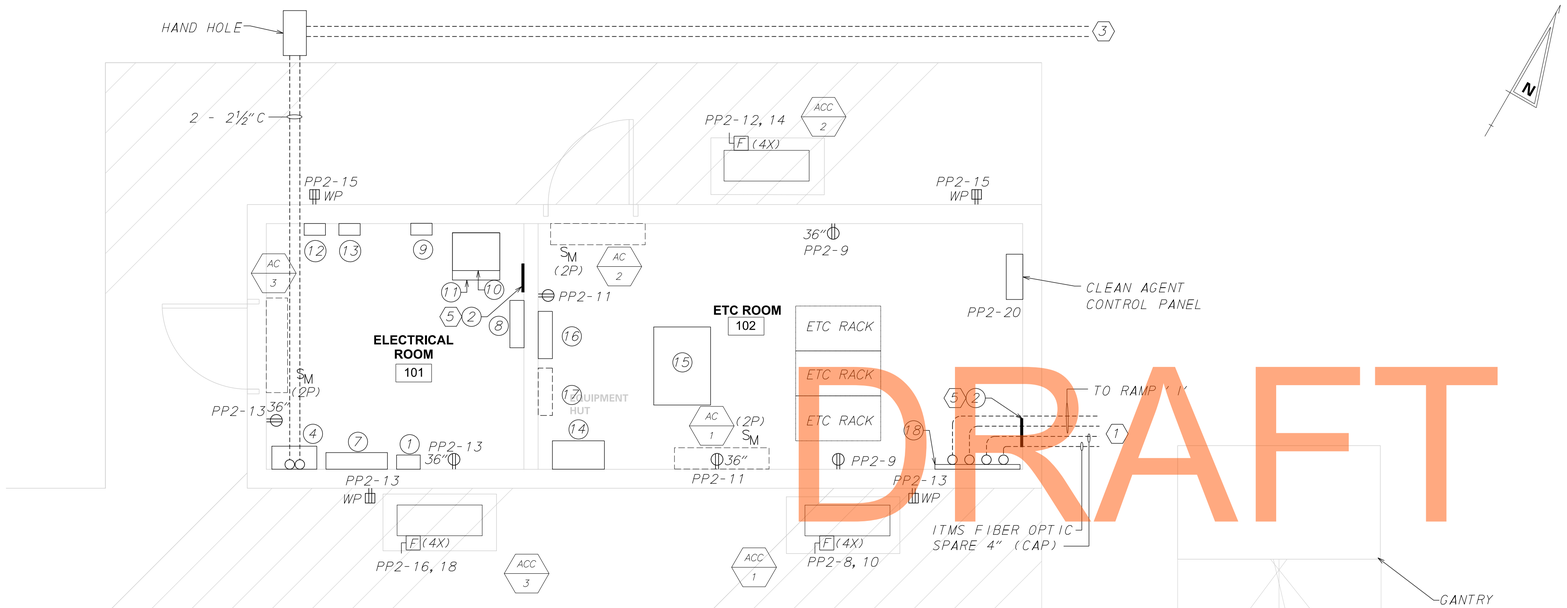
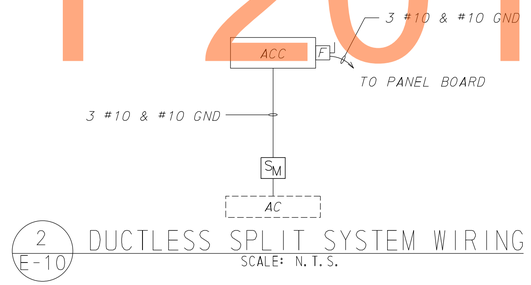
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		US 301 LEVELS ROAD TO SUMMIT BRIDGE ROAD	CONTRACT T200911303	BRIDGE NO.	ELECTRICAL RAMP HUT LIGHTING PLAN RAMP 'I'	SHEET NO. 1218
				COUNTY NEW CASTLE	DESIGNED BY: RAK		TOTAL SHTS. 1256
					CHECKED BY: JEP		

11/09/12 | E-09



1 E-10 ELECTRICAL RAMP HUT POWER PLAN RAMP 'L'
SCALE: 3/8" = 1'-0"



2 E-10 DUCTLESS SPLIT SYSTEM WIRING
SCALE: N.T.S.

RAMP 'L'

DESIGNATION	DESCRIPTION
1	SURGE PROTECTIVE DEVICE
2	GROUND BUS
3	NOT USED
4	BUILDING DISCONNECT
5	NOT USED
6	NOT USED
7	PANEL 'DP-2'
8	PANEL 'PP-2'
9	15KVA TRANSFORMER SECONDARY CIRCUIT BREAKER
10	15KVA TRANSFORMER (HUNG)
11	30KVA TRANSFORMER (FLOOR)
12	PRIMARY DISCONNECT 15KVA TRANSFORMER
13	PRIMARY DISCONNECT 30KVA TRANSFORMER
14	UPS MAINTENANCE BYPASS SWITCH
15	UPS
16	PANEL 'UPP-3'
17	PANEL 'UPP-4' (FUTURE)
18	3'-0" TELE/DATA BACKBOARD
19	NOT USED
20	NOT USED
21	NOT USED
22	NOT USED
23	NOT USED
24	NOT USED
25	NOT USED
26	NOT USED
27	NOT USED
28	NOT USED

KEY NOTES:

1. PROVIDE TWO (2) CONDUITS FOR ITMS BACKBONE AND TWO (2) CONDUITS FOR CONNECTION TO HUT 'I' AS INDICATED.
2. NOT USED.
3. TWO (2) CONDUITS FROM RAMP 'I' HUT PANEL DP-1.
4. NOT USED
5. COPPER GROUND BUS, STORM COPPER OR EQUAL, 4" X 12" X 0.25".

LAST REVISED: 3/12/2008
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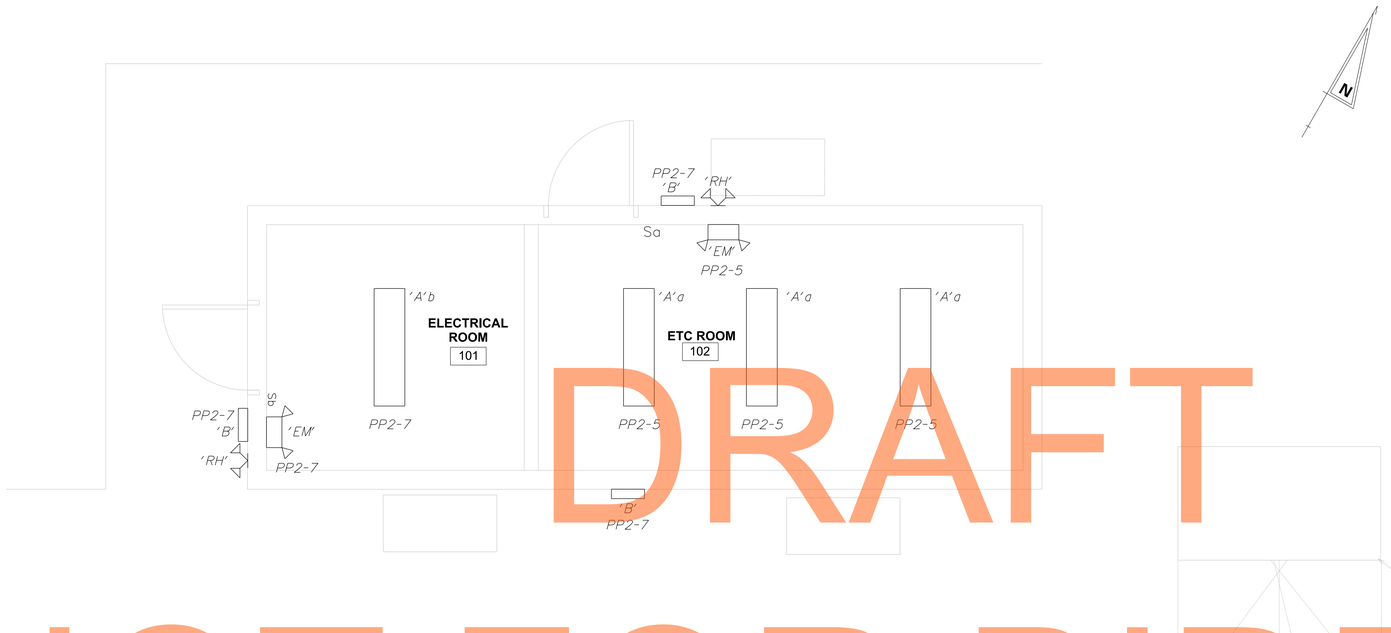
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		US 301 LEVELS ROAD TO SUMMIT BRIDGE ROAD	CONTRACT T200911303	BRIDGE NO.	ELECTRICAL RAMP HUT POWER PLAN RAMP 'L'
				COUNTY NEW CASTLE	DESIGNED BY: RAK	SHEET NO. 1219
					CHECKED BY: JEP	TOTAL SHTS. 1256
					11/09/12	E-10

NOTES:

1. SEE DRAWING E-15 FOR LUMINAIRE SCHEDULE.



1 ELECTRICAL RAMP HUT LIGHTING PLAN RAMP 'L'
E-11 SCALE: 3/8" = 1'-0"

LAST REVISED: 3/12/2008
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DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		US 301 LEVELS ROAD TO SUMMIT BRIDGE ROAD	CONTRACT T200911303	BRIDGE NO.	11/09/12 E-11
				COUNTY NEW CASTLE	DESIGNED BY: RAK	ELECTRICAL RAMP HUT LIGHTING PLAN RAMP 'L'
					CHECKED BY: JEP	SHEET NO. 1220 TOTAL SHTS. 1256

PANEL DESIGNATION: DP-1

TYPE: -
NUMBER OF POLES: 42
MAIN BUS RATING: 225A
MAIN RATING: 200A MCB

LOCATION: ELECTRICAL ROOM - RAMP 'C' OR 'I'
VOLTAGE: 480/277V, 3Ø, 4W
PANEL MOUNTING: SURFACE
PANEL ENCLOSURE (NEMA): 1
PANEL MIN. A.I.C. RATING: 65KA

CIR. No.	CIR. BKR.	DESCRIPTION	LOAD - KVA AØ	LOAD - KVA BØ	LOAD - KVA CØ	LOAD - KVA AØ	LOAD - KVA BØ	LOAD - KVA CØ	DESCRIPTION	CIR. BKR.	CIR. No.
1			4.0			7.2					2
3	30	15 KVA XMFR (UPS)		4.0			8.8		DP-2	100	4
5					4.0			7.7			6
7			3.5								8
9	50	30 KVA XMFR (PP-1)		6.8					SPD	40	10
11					5.7						12
13			-								14
15	30	SPARE		-							16
17					-						18
19											20
21											22
23											24
25											26
27											28
29											30
31											32
33											34
35											36
37											38
39											40
41											42
		TOTAL	7.5	10.8	9.7	7.2	8.8	7.7	TOTAL		

PANEL CONNECTED LOAD
AØ 14.7
BØ 19.6
CØ 17.4
51.7 TOTAL

DEMAND LOAD: _____

___ SOLID NEUTRAL BUS
___ EQUIPMENT GROUND BUS

PANEL DESIGNATION: UPP-1

TYPE: -
NUMBER OF POLES: 42
MAIN BUS RATING: 225A
MAIN RATING: 60A MCB

LOCATION: ETC ROOM - RAMP 'C' OR 'I'
VOLTAGE: 120/208V, 3Ø, 4W
PANEL MOUNTING: SURFACE
PANEL ENCLOSURE (NEMA): 1
PANEL MIN. A.I.C. RATING: 10,000

CIR. No.	CIR. BKR.	DESCRIPTION	LOAD - KVA AØ	LOAD - KVA BØ	LOAD - KVA CØ	LOAD - KVA AØ	LOAD - KVA BØ	LOAD - KVA CØ	DESCRIPTION	CIR. BKR.	CIR. No.
1											2
3			-			-					4
5											6
7											8
9											10
11											12
13											14
15											16
17											18
19											20
21											22
23											24
25											26
27											28
29											30
31											32
33											34
35											36
37											38
39											40
41											42
		TOTAL							TOTAL		

PANEL CONNECTED LOAD
AØ ____
BØ ____
CØ ____
____ TOTAL

DEMAND LOAD: _____

___ SOLID NEUTRAL BUS
___ EQUIPMENT GROUND BUS
___ SURGE PROTECTIVE DEVICE
___ FEED THRU LUGS

PANEL DESIGNATION: PP-1

TYPE: -
NUMBER OF POLES: 42
MAIN BUS RATING: 225A
MAIN RATING: 100A MCB

LOCATION: ELECTRICAL ROOM - RAMP 'C' OR 'I'
VOLTAGE: 120/208V, 3Ø, 4W
PANEL MOUNTING: SURFACE
PANEL ENCLOSURE (NEMA): 1
PANEL MIN. A.I.C. RATING: 10,000

CIR. No.	CIR. BKR.	DESCRIPTION	LOAD - KVA AØ	LOAD - KVA BØ	LOAD - KVA CØ	LOAD - KVA AØ	LOAD - KVA BØ	LOAD - KVA CØ	DESCRIPTION	CIR. BKR.	CIR. No.
1	20	SPARE	-			-					2
3	20	SPARE		-			-		SPARE	15	4
5	20	ETC ROOM LIGHTING			0.3			-			6
7	20	ELECT RM/EXTERIOR LTG	0.2			2.0			ACC-1	30	8
9	20	RECEPT - ETC ROOM		0.4			2.0				10
11	20	RECEPT - ETC ROOM			0.4			-	ACC-2 (STAND-BY)	30	12
13	20	RECEPT - ELEC RM/OUTDOOR	0.8			-					14
15	20	RECEPT - OUTDOOR		0.4			2.0		ACC-3	30	16
17	15	SPARE			-			2.0			18
19	20	SPARE				0.2			CLEAN AGENT PANEL	20	20 (1)
21	20	SPARE					2.0				22
23	20	SPARE						2.0	GENERATOR BLOCK HEATER	30	24
25	20	SPARE				0.3			GENERATOR BATT. CHARGER	20	26
27	20	SPARE									28
29	20	SPARE									30
31	20	SPARE									32
33	20	SPARE									34
35	20	SPARE									36
37	20	SPARE									38
39	20	SPARE		-							40
41	20	LEC			1.0						42
		TOTAL	1.0	0.8	1.7	2.5	6.0	4.0	TOTAL		

PANEL CONNECTED LOAD
AØ 3.5
BØ 6.8
CØ 5.7
16.0 TOTAL

DEMAND LOAD: _____

___ SOLID NEUTRAL BUS
___ EQUIPMENT GROUND BUS

NOTES:
(1) PROVIDE LOCKDOG ON CIRCUIT BREAKER HANDLE.

PANEL DESIGNATION KEY	
DP-1	UPP-1
PP-1	

LAST REVISED: 3/12/2008
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		11/09/12	E-12

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

US 301 LEVELS ROAD TO SUMMIT BRIDGE ROAD

CONTRACT	BRIDGE NO.	
T200911303	DESIGNED BY: RAK	
COUNTY	CHECKED BY: JEP	
NEW CASTLE		

ELECTRICAL PANEL SCHEDULES

SHEET NO.
1221
TOTAL SHTS.
1256

PANEL DESIGNATION: DP-2

TYPE: -
NUMBER OF POLES: 42
MAIN BUS RATING: 225A
MAIN RATING: M.L.O.

LOCATION: ELECTRICAL ROOM - RAMP 'F' OR 'L'
VOLTAGE: 480/277V, 3Ø, 4W
PANEL MOUNTING: SURFACE
PANEL ENCLOSURE (NEMA): 1
PANEL MIN. A.I.C. RATING: 65 KA

CIR. No.	CIR. BKR.	DESCRIPTION	LOAD - KVA AØ	LOAD - KVA BØ	LOAD - KVA CØ	LOAD - KVA AØ	LOAD - KVA BØ	LOAD - KVA CØ	DESCRIPTION	CIR. BKR.	CIR. No.
1			4.0			3.2					2
3	30	15 KVA XFMR (UPS)		4.0			4.8		30 KVA XFMR (PP-2)	50	4
5					4.0			3.7			6
7						-					8
9	40	SPD					-		SPARE	30	10
11								-			12
13											14
15											16
17											18
19											20
21											22
23											24
25											26
27											28
29											30
31											32
33											34
35											36
37											38
39											40
41											42
		TOTAL	4.0	4.0	4.0	3.2	4.8	3.7	TOTAL		

PANEL CONNECTED LOAD
AØ 7.2
BØ 8.8
CØ 7.7
23.7 TOTAL

DEMAND LOAD: _____

___ SOLID NEUTRAL BUS
___ EQUIPMENT GROUND BUS

PANEL DESIGNATION: UPP-3

TYPE: -
NUMBER OF POLES: 42
MAIN BUS RATING: 225A
MAIN RATING: 60A MCB

LOCATION: ETC ROOM - RAMP 'F' OR 'L'
VOLTAGE: 120/208V, 3Ø, 4W
PANEL MOUNTING: SURFACE
PANEL ENCLOSURE (NEMA): 1
PANEL MIN. A.I.C. RATING: 10,000

CIR. No.	CIR. BKR.	DESCRIPTION	LOAD - KVA AØ	LOAD - KVA BØ	LOAD - KVA CØ	LOAD - KVA AØ	LOAD - KVA BØ	LOAD - KVA CØ	DESCRIPTION	CIR. BKR.	CIR. No.
1											2
3			-			-					4
5											6
7											8
9											10
11											12
13											14
15											16
17											18
19											20
21											22
23											24
25											26
27											28
29											30
31											32
33											34
35											36
37											38
39											40
41											42
		TOTAL							TOTAL		

PANEL CONNECTED LOAD
AØ _____
BØ _____
CØ _____
_____ TOTAL

DEMAND LOAD: _____

___ SOLID NEUTRAL BUS
___ EQUIPMENT GROUND BUS
___ SURGE PROTECTIVE DEVICE
___ FEED THRU LUGS

PANEL DESIGNATION: PP-2

TYPE: -
NUMBER OF POLES: 42
MAIN BUS RATING: 225A
MAIN RATING: 100A MCB

LOCATION: ELECTRICAL ROOM - RAMP 'F' OR 'L'
VOLTAGE: 120/208V, 3Ø, 4W
PANEL MOUNTING: SURFACE
PANEL ENCLOSURE (NEMA): 1
PANEL MIN. A.I.C. RATING: 10,000

CIR. No.	CIR. BKR.	DESCRIPTION	LOAD - KVA AØ	LOAD - KVA BØ	LOAD - KVA CØ	LOAD - KVA AØ	LOAD - KVA BØ	LOAD - KVA CØ	DESCRIPTION	CIR. BKR.	CIR. No.
1	20	SPARE	-			-					2
3	20	SPARE		-			-		SPARE	15	4
5	20	ETC ROOM LIGHTING			0.3			-			6
7	20	ELEC RM/EXTERIOR LTG	0.2			2.0			ACC-1	30	8
9	20	RECEPT - ETC ROOM		0.4			2.0				10
11	20	RECEPT - ETC ROOM			0.4			-	ACC-2	30	12
13	20	RECEPT - ELEC RM/OUTDOOR	0.8			-					14
15	20	RECEPT - OUTDOOR		0.4			2.0		ACC-3	30	16
17	15	SPARE			-			2.0			18
19	20	SPARE				0.2			CLEAN AGENT PANEL	20	20 (1)
21	20	SPARE									22
23	20	SPARE									24
25	20	SPARE									26
27	20	SPARE									28
29	20	SPARE									30
31	20	SPARE									32
33	20	SPARE									34
35	20	SPARE									36
37	20	SPARE									38
39	20	SPARE									40
41	20	LEC			1.0						42
		TOTAL	1.0	0.8	1.7	2.2	4.0	2.0	TOTAL		

PANEL CONNECTED LOAD
AØ 3.2
BØ 4.8
CØ 3.7
11.7 TOTAL

DEMAND LOAD: _____

___ SOLID NEUTRAL BUS
___ EQUIPMENT GROUND BUS

NOTES:
(1) PROVIDE LOCKDOG ON CIRCUIT BREAKER HANDLE.

PANEL DESIGNATION KEY	
DP-2	UPP-3
PP-2	

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DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

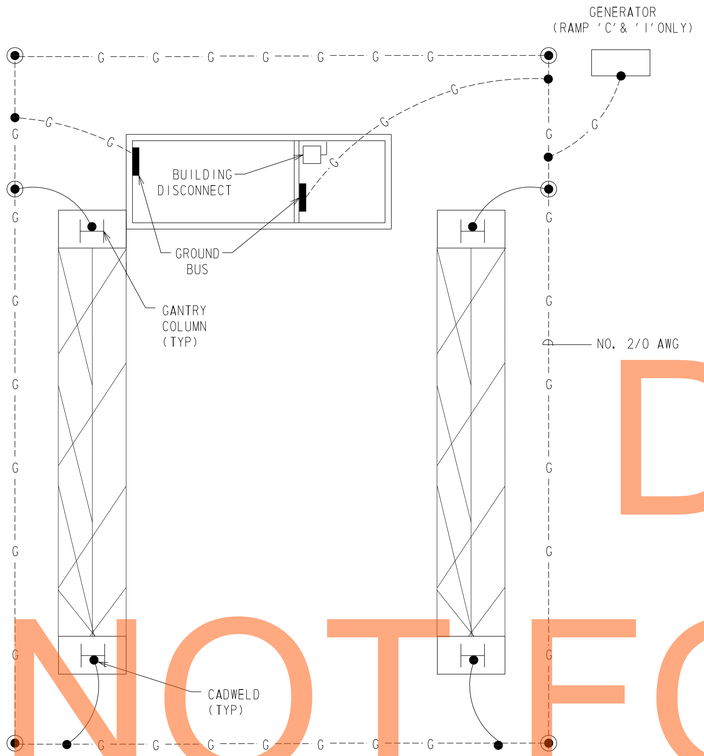
US 301
LEVELS ROAD TO SUMMIT BRIDGE ROAD

CONTRACT T200911303
COUNTY NEW CASTLE
BRIDGE NO.
DESIGNED BY: RAK
CHECKED BY: JEP

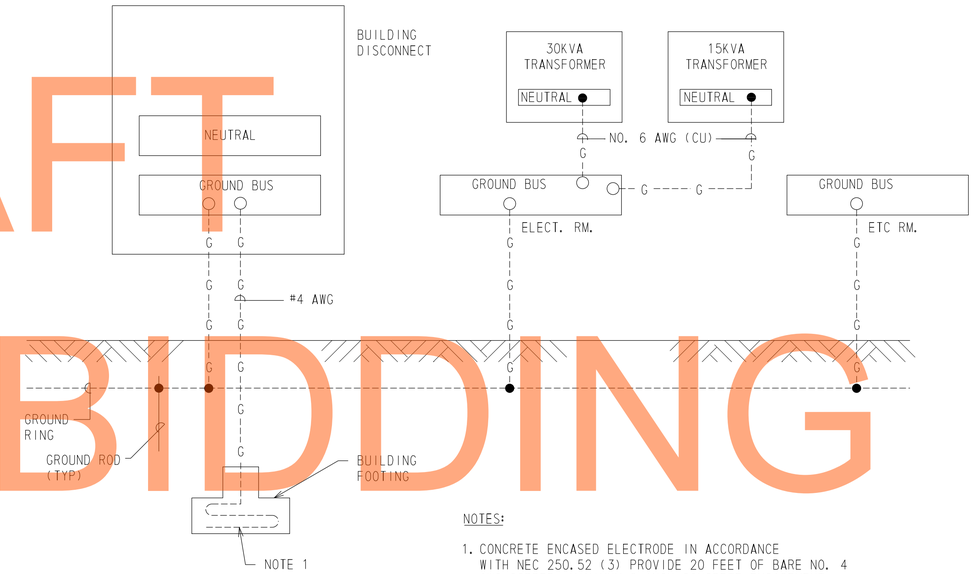
ELECTRICAL PANEL SCHEDULES

11/09/12 | E-13

SHEET NO. 1222
TOTAL SHTS. 1256



1 E-10 GROUNDING PLAN
SCALE: N.T.S.



2 E-10 GROUNDING DETAIL
SCALE: N.T.S.

NOTES:

1. CONCRETE ENCASED ELECTRODE IN ACCORDANCE WITH NEC 250.52 (3) PROVIDE 20 FEET OF BARE NO. 4 AWG COPPER, MINIMUM 2-INCH CONCRETE ENCASEMENT AT BOTTOM OF FOOTING.

			11/09/12	E-14	
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	US 301 LEVELS ROAD TO SUMMIT BRIDGE ROAD	CONTRACT T200911303	BRIDGE NO.	ELECTRICAL GROUNDING DETAILS
			COUNTY NEW CASTLE	DESIGNED BY: RAK	SHEET NO. 1223
				CHECKED BY: JEP	TOTAL SHTS. 1256

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LUMINAIRE SCHEDULE

FIXTURE TYPE	MANUFACTURER AND CATALOG NO.	VOLT	SYSTEM				LAMP	MOUNTING				INPUT WATTS	NOTES	DESCRIPTION	REMARKS
			INCAND.	FLUOR.	HID	NO.	WATTS	SURF.	RECESS	WALL	OTHER				
'A'	LITHONIA 'AFST' SERIES	120/277		●		3	32W T8	●				87	(1)	HEAVY DUTY INDUSTRIAL, SOLID REFLECTOR	ELECTRONIC BALLAST, INSTANT START & 10% THD, WITH BALLAST DISCONNECT
'B'	LITHONIA 'TWF1' SERIES	120		●		2	26W DTT					49	(1)	EXTERIOR ARHCITECTURAL WALL PACK, POLYCARBONATE LENS, DIE-CAST METAL BEZEL, DARK BRONZE FINISH UL LISTED FOR WET LOCATIONS	BOTTOM OF FIXTURE MOUNTED AT 7'-0" AFG PROVIDE WITH INTEGRAL PHOTO ELECTRIC CELL
'EM'	LITHONIA 'ELM' SERIES	120/277	●			2	9W KRYPTON			●		8	(1)	THERMOPLASTIC EMERGENCY UNIT, DUAL HEADS, HIGH CAPACITY 54W OUTPUT	-
'RH'	LITHONIA 'ELA' SERIES	120/277	●			2	9W KYRPTON			●		-	(1)	THERMOPLASTIC EMERGENCY REMOTE TWIN HEAD, 6 VOLT KRYPTON LAMPS.	-

NOTES:

(1) ALL LAMPS TO BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR UNLESS OTHERWISE NOTED.

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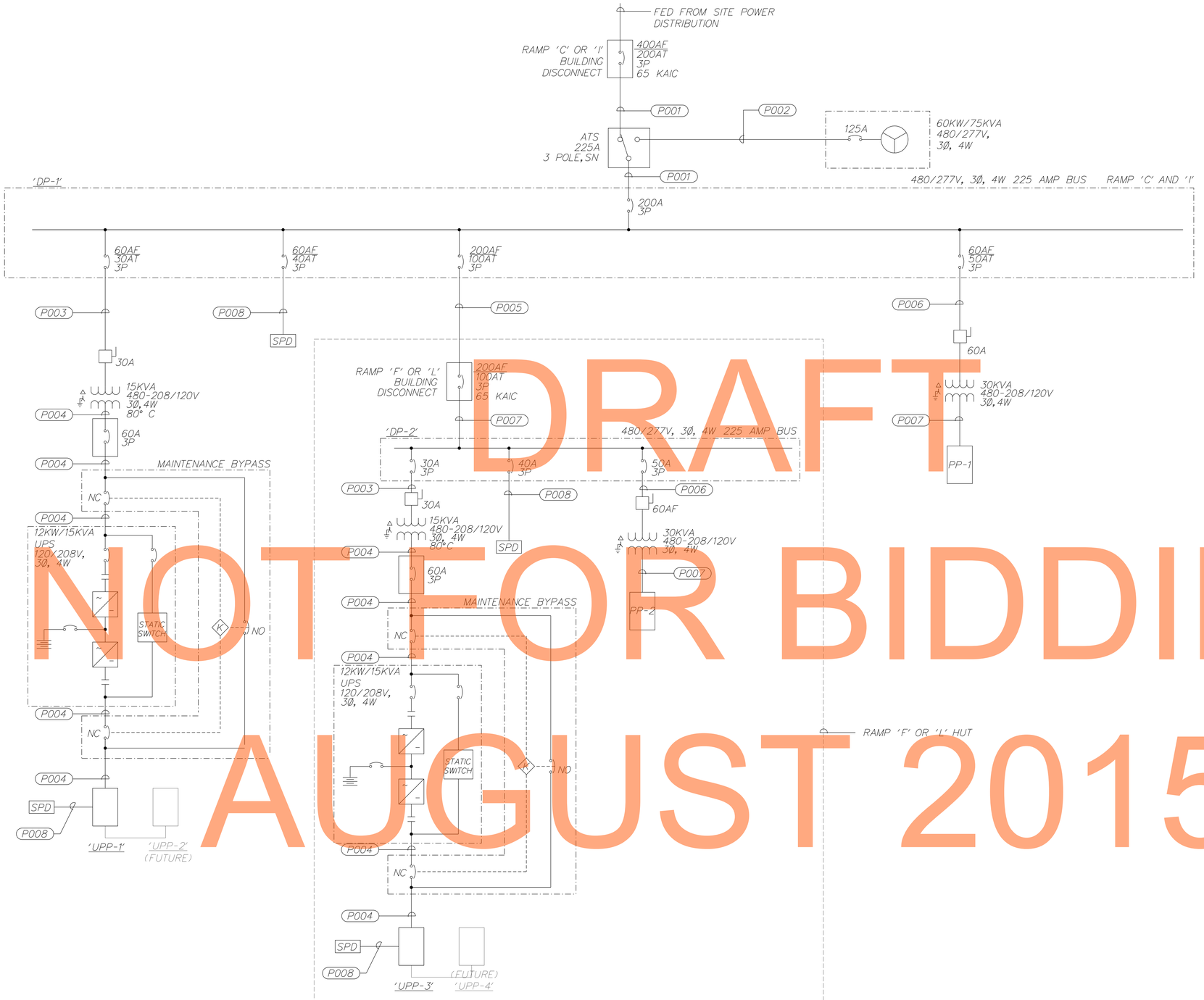
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	US 301 LEVELS ROAD TO SUMMIT BRIDGE ROAD	CONTRACT T200911303	BRIDGE NO.	11/09/12	E-15
			COUNTY NEW CASTLE	DESIGNED BY: RAK	ELECTRICAL LUMINAIRE SCHEDULE	SHEET NO. 1224
				CHECKED BY: JEP		TOTAL SHTS. 1256

FEEDER SCHEDULE		
CABLE	SIZE	WIRE
P001	2"	4-1/C NO. 3/0 AWG & NO. 4 GND
P002	DUCT BANK	4-1/C NO. 1/0 AWG & NO. 4 GND
P003	¾"	3-1/C NO. 10 AWG & NO. 10 GND
P004	1-1/2"	4-1/C NO. 4 AWG & NO. 8 GND
P005	DUCT BANK	
P006	1"	3-1/C NO. 6 AWG & NO. 10 GND
P007	1-1/2"	4-1/C NO. 1 AWG & NO. 6 GND
P008	1"	4-1/C NO. 6 AWG & NO. 6 GND



1 / E-12 MAIN ONE LINE DIAGRAM
SCALE: N.T.S.

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DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		US 301 LEVELS ROAD TO SUMMIT BRIDGE ROAD	CONTRACT T200911303	BRIDGE NO.	ELECTRICAL MAIN ONE LINE DIAGRAM	SHEET NO. 1225
				COUNTY NEW CASTLE	DESIGNED BY: RAK		TOTAL SHTS. 1256
					CHECKED BY: JEP		

11/09/12 | E-16

LEGEND:

GROUND CONNECTION

CONDUIT - EXPOSED

CONDUIT - EMBEDDED

CONDUIT - TURNED DOWN

CONDUIT - TURNED UP

POWER OR CONTROL PULLBOX

GENERAL NOTES:

1. DRAWINGS ARE DIAGRAMMATIC IN NATURE, CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO INSTALLATION. CONTRACTORS SHALL COORDINATE ALL WORK WITH OTHER DIVISION TRADES. LOCATE FIXTURES, DEVICES, ETC. IN ORDER TO AVOID INTERFERENCE'S.
2. ARCHITECTURAL FEATURES SHOWN ON THESE DRAWINGS ARE FOR BACKGROUND INFORMATION ONLY. REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR ACTUAL BUILDING CONSTRUCTION OF WALLS AND CURBS. REFER TO MECHANICAL DRAWINGS FOR ACTUAL LOCATION OF EQUIPMENT.
3. CONTRACTORS SHALL IN A WORKMANLIKE MANNER, PROVIDE A COMPLETE OPERABLE SYSTEM. OUTLINE DESCRIPTION AND DIAGRAMMATIC REPRESENTATION OF SYSTEM OPERATION AND EQUIPMENT DOES NOT LIMIT CONTRACTOR LIABILITY FOR INSTALLATION OF A COMPLETE AND OPERABLE SYSTEM.
4. ALL WORK SHALL BE PERFORMED AS REQUIRED BY APPLICABLE SECTIONS OF THE NATIONAL ELECTRICAL CODE, LATEST EDITION, AND ALL GOVERNING LOCAL CODES, LAWS/OR REGULATIONS.
5. ALL CONDUIT PENETRATIONS UP THROUGH GRADE AND THROUGH FOUNDATIONS SHALL BE PVC-COATED GALVANIZED RIGID STEEL CONDUIT (PCRMC). ALL OTHER EXPOSED OUTDOOR CONDUITS SHALL BE GALVANIZED STEEL CONDUIT. MINIMUM SIZED DIAMETER SHALL BE 1" UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL UTILIZE THE CONDUIT MANUFACTURER'S RECOMMENDED SUPPORTS FOR ALL CONDUIT ROUTINGS.

ABBREVIATIONS:

A	AMPERE
A.C.	ALTERNATING CURRENT
A/C	AIR CONDITIONING
ADJ.	ADJACENT
AE	AUTOMATIC ENTRY
A.F.F.	ABOVE FINISHED FLOOR
A.F.G	ABOVE FINISHED GRADE
A.I.C.	AMPERE INTERRUPTING CAPACITY
A.T.S.	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
AVI	AUTOMATIC VEHICLE IDENTIFICATION
AWG	AMERICAN WIRE GAUGE
BCC	BOOTH CONTROL CENTER
BLDG.	BUILDING
C	CONDUIT
CB	CIRCUIT BREAKER
C.P.	CONTROL PANEL
CNTL	CONTROL CABLE/CONDUIT
CONTR	CONTRACTOR
COTB.	CANOPY OVERRIDE TERMINATION BOX
CNTOR	CONTACTOR
D.C.	DIRECT CURRENT
DE	DEDICATED ENTRY
DIA.	DIAMETER
D.S.	DISCONNECT SWITCH
E.C.	ELECTRICAL CONTRACTOR
EM.	EMERGENCY
EMB.	EMBEDDED
E.P.	EXPLOSION PROOF
ETC	ELECTRONIC TOLL COLLECTOR
EXH.	EXHAUST
F.A.	FIRE ALARM
FT.	FOOT, FEET
FU.	FUSE
G.C.	GENERAL CONTRACTOR
G.F.I.	GROUND FAULT INTERRUPTER
GRD.	GROUND
H.I.D.	HIGH INTENSITY DISCHARGE
HP	HORSEPOWER
H.P.S.	HIGH PRESSURE SODIUM
HVAC	HEAT-VENT-AIR CONDITIONING
HTR.	HEATER
I.G.	ISOLATED GROUND
I.M.C.	INTERMEDIATE METAL CONDUIT
IN.	INCH
JB	JB
KW.	KILOWATT
LTG.	LIGHTING
MIN.	MINIMUM
M.H.	MOUNTING HEIGHT
M.L.O.	MAIN LUG ONLY
MTD.	MOUNTED
MCB	MAIN CIRCUIT BREAKER
M.C.S.	MOLDED CASE SWITCH
NB	NORTH BOUND
N.C.	NORMALLY CLOSED
NF	NONFUSIBLE
N.I.C.	NOT IN CONTRACT
N.O.	NORMALLY OPEN
No.	NUMBER
N.T.S.	NOT TO SCALE
O.C.	ON CENTER
OH	OVERHEAD
PNL.	PANEL
PWR	POWER CABLE/CONDUIT
PVC	POLYVINYL CHLORIDE
PCRMC	PVC-COATED RIGID METAL CONDUIT
R.G.S.	RIGID GALVANIZED STEEL
SB	SOUTHBOUND
SCI	SIGN CONTROLLER INTERFACE
SW	SWITCH
T.B.	TOLL BOOTH
T.S.	TRAFFIC SIGNAL
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
TYP.	TYPICAL
U.L.	UNDERWRITERS LABORATORIES
U.N.O.	UNLESS NOTED OTHERWISE
UPS	UNINTERRUPTED POWER SUPPLY
V	VOLT
VES	VEHICLE ENFORCEMENT SYSTEM
W.P.	WEATHERPROOF
X	EXIT
PED. ACC.	PEDESTRIAN ACCESSWAY

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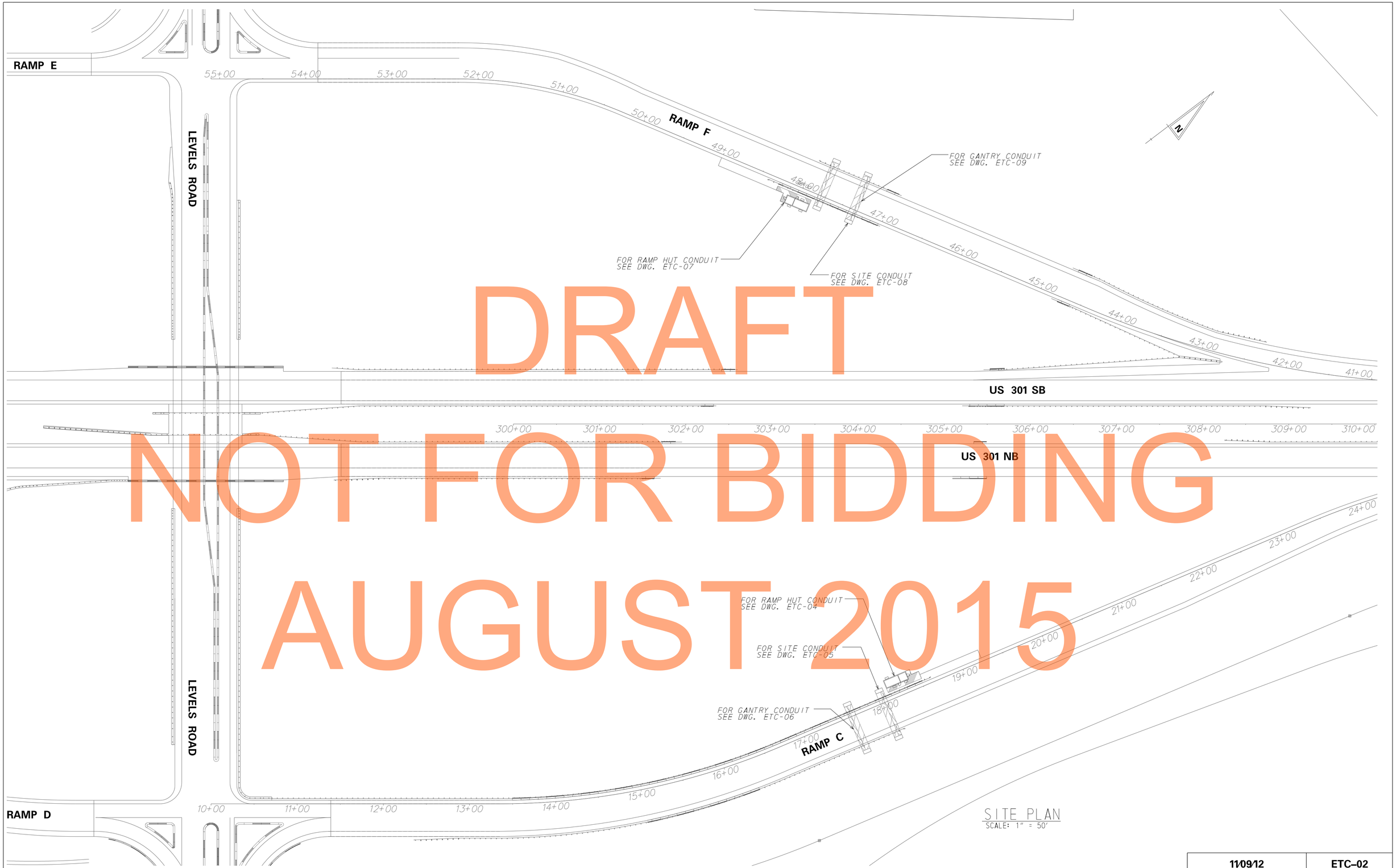
					11/09/12	ETC-01
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		US 301 LEVELS ROAD TO SUMMIT BRIDGE ROAD	CONTRACT T200911303	BRIDGE NO.	ETC LEGEND, SYMBOLS & ABBREVIATIONS	SHEET NO. 1226
				COUNTY NEW CASTLE	DESIGNED BY: JTB		TOTAL SHTS. 1256
					CHECKED BY: RAK		



SITE PLAN
SCALE: 1" = 50'

LAST REVISED: 3/12/2008
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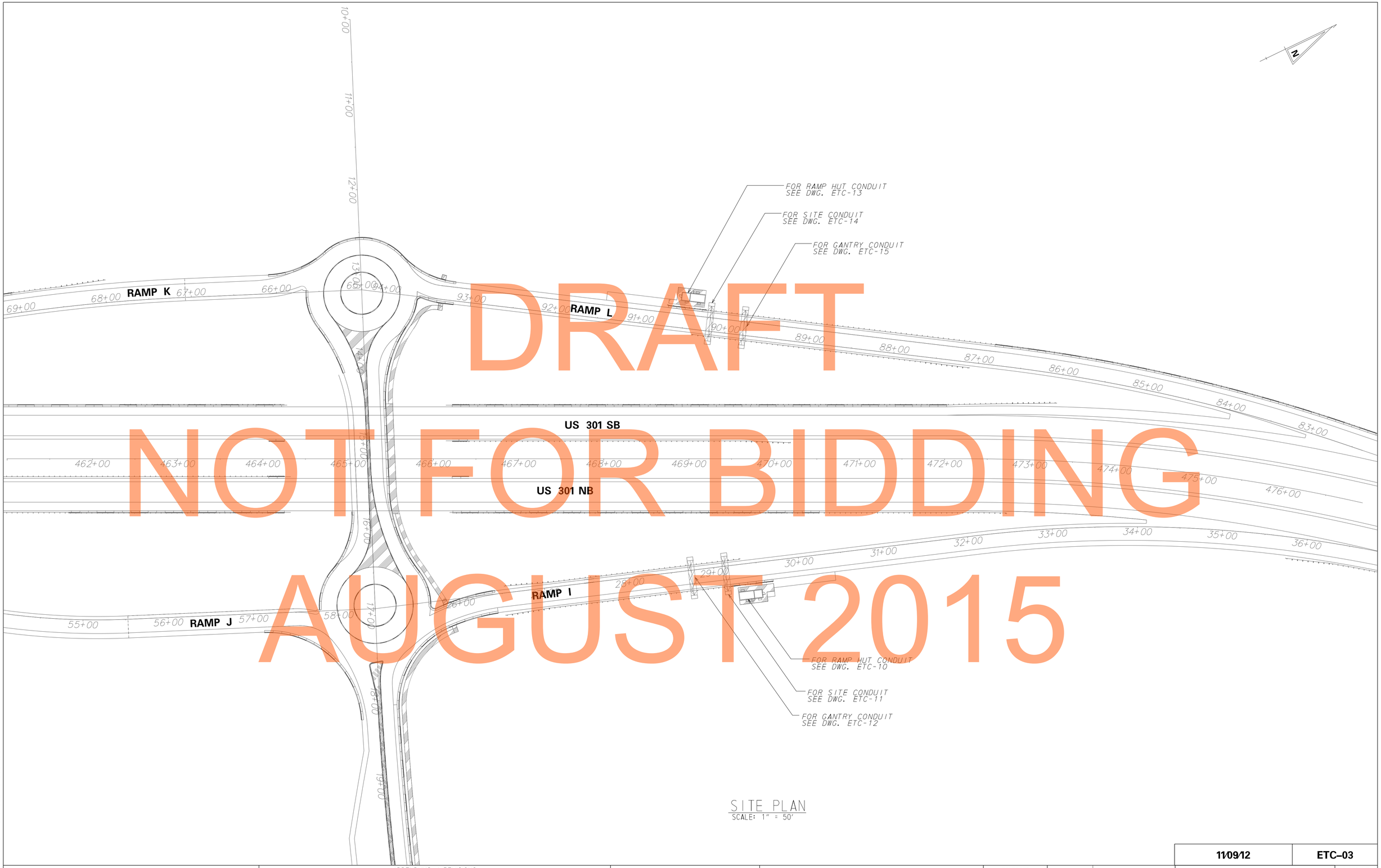
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	SCALE 0 50 100 150 FEET	US 301 LEVELS ROAD TO SUMMIT BRIDGE ROAD	CONTRACT T200911303	BRIDGE NO.	ETC OVERALL SITE PLAN 1 OF 2
				COUNTY NEW CASTLE	DESIGNED BY: JTB	SHEET NO. 1227
					CHECKED BY: RAK	TOTAL SHTS. 1256
					11/09/12	ETC-02



SITE PLAN
SCALE: 1" = 50'

LAST REVISED: 3/12/2008
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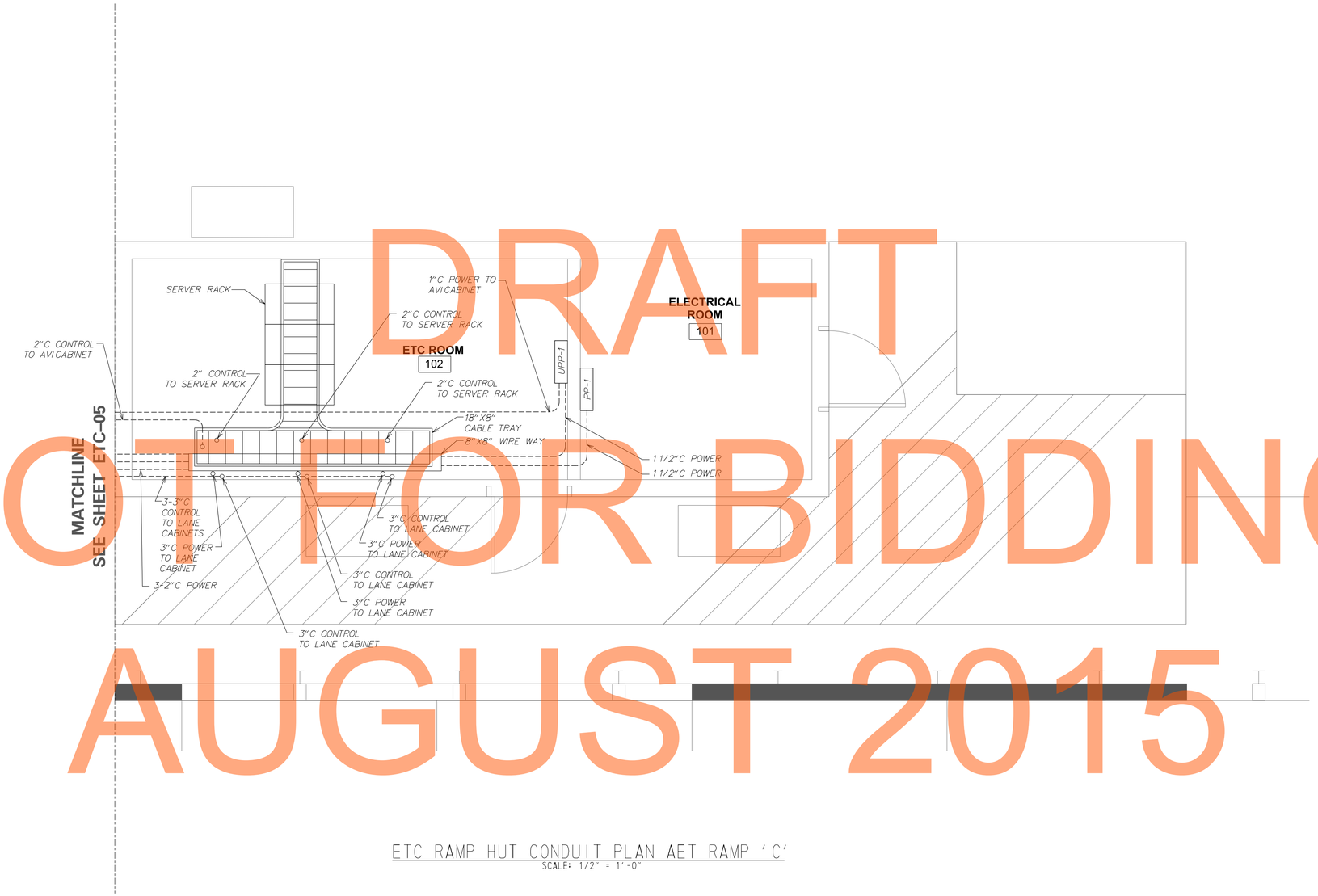
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	SCALE 0 50 100 150 FEET	US 301 LEVELS ROAD TO SUMMIT BRIDGE ROAD	CONTRACT T200911303 / COUNTY NEW CASTLE / BRIDGE NO. / DESIGNED BY: JTB / CHECKED BY: RAK	ETC OVERALL SITE PLAN 2 OF 2

11/09/12	ETC–03
SHEET NO.	1228
TOTAL SHTS.	1256



ETC RAMP HUT CONDUIT PLAN AET RAMP 'C'
SCALE: 1/2" = 1'-0"

NOTES:
1. CONTRACTOR SHALL COORDINATE WITH ETC CONTRACTOR FOR EXACT CABINET LOCATIONS AND ADJUST FINAL CONDUIT ROUTING AS NECESSARY.

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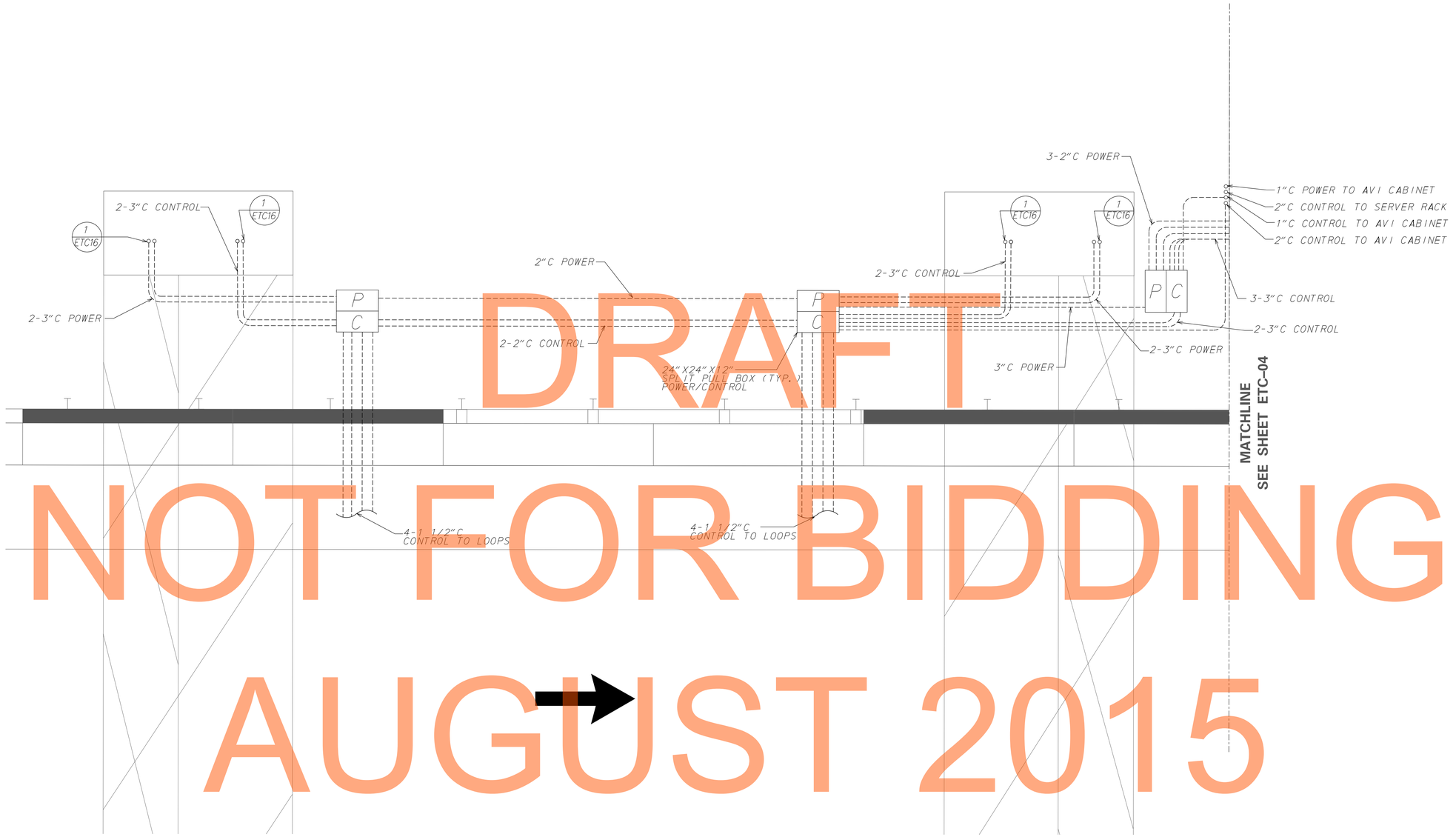
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		US 301 LEVELS ROAD TO SUMMIT BRIDGE ROAD	CONTRACT T200911303	BRIDGE NO.	ETC RAMP HUT CONDUIT PLAN AET RAMP 'C	11/09/12 ETC-04
				COUNTY NEW CASTLE	DESIGNED BY: JTB		SHEET NO. 1229
					CHECKED BY: RAK		TOTAL SHTS. 1256



ETC SITE CONDUIT PLAN AET RAMP 'C'
SCALE: 3/8" = 1'-0"

NOTES:
1. CONTRACTOR SHALL COORDINATE WITH ETC CONTRACTOR FOR EXACT EQUIPMENT LOCATIONS AND ADJUST FINAL CONDUIT ROUTING AS NECESSARY.
2. SEE DWG. ETC-16 FOR GANTRY COLUMN CONDUIT DETAILS.

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	US 301 LEVELS ROAD TO SUMMIT BRIDGE ROAD	CONTRACT T200911303	BRIDGE NO.	11/09/12 ETC–05
			COUNTY NEW CASTLE	DESIGNED BY: JTB	ETC SITE CONDUIT PLAN AET RAMP 'C'
				CHECKED BY: RAK	SHEET NO. 1230 / TOTAL SHTS. 1256

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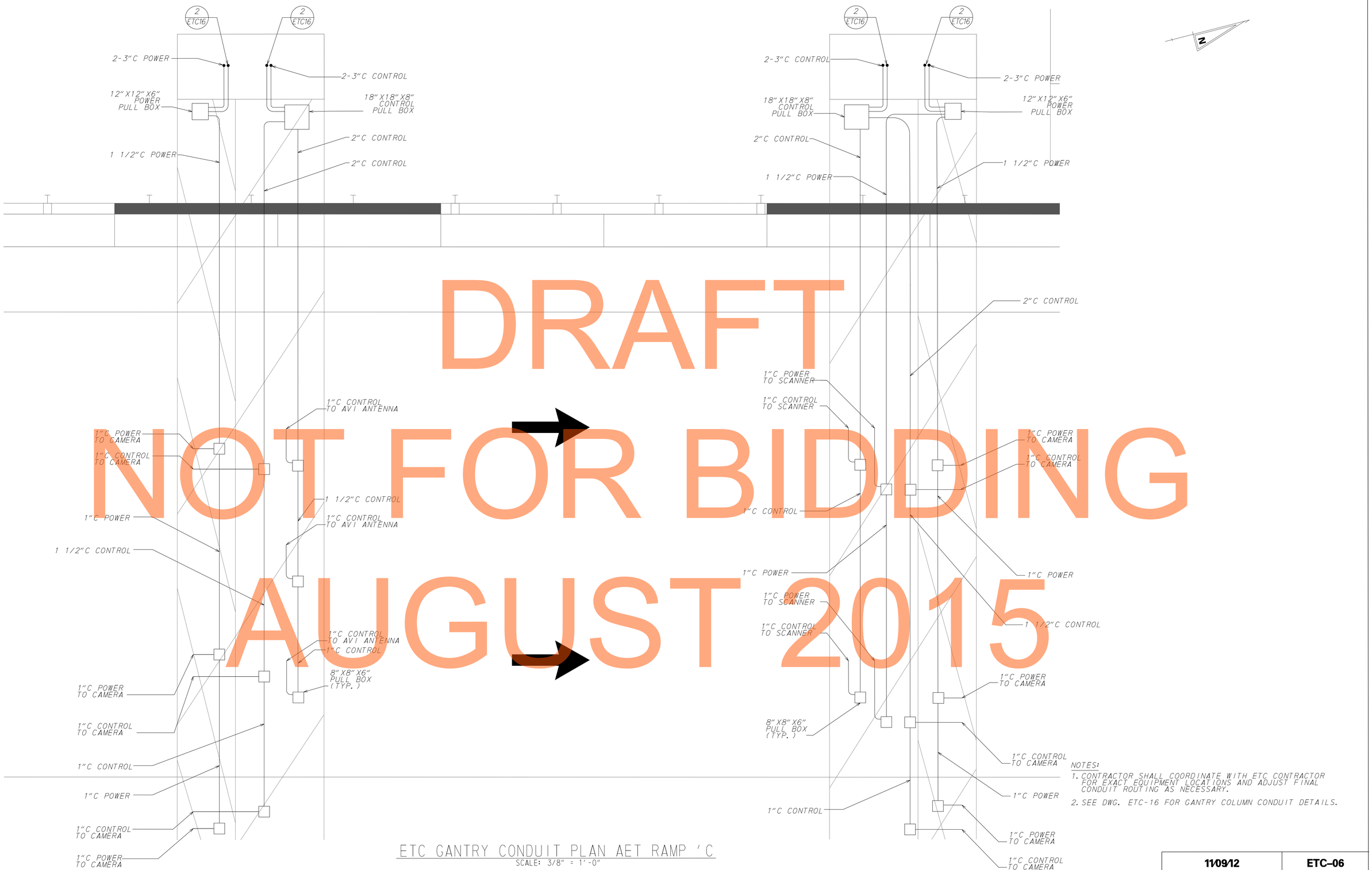

NOTES:
1. CONTRACTOR SHALL COORDINATE WITH ETC CONTRACTOR FOR EXACT EQUIPMENT LOCATIONS AND ADJUST FINAL CONDUIT ROUTING AS NECESSARY.
2. SEE DWG. ETC-16 FOR GANTRY COLUMN CONDUIT DETAILS.

ETC GANTRY CONDUIT PLAN AET RAMP 'C
SCALE: 3/8" = 1'-0"

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	US 301 LEVELS ROAD TO SUMMIT BRIDGE ROAD	11/09/12 ETC-06
		CONTRACT T200911303 / BRIDGE NO.	ETC GANTRY CONDUIT PLAN RAMP AET 'C
		COUNTY NEW CASTLE / DESIGNED BY: JTB / CHECKED BY: RAK	SHEET NO. 1231 / TOTAL SHTS. 1256

LAST REVISED: 3/12/2008
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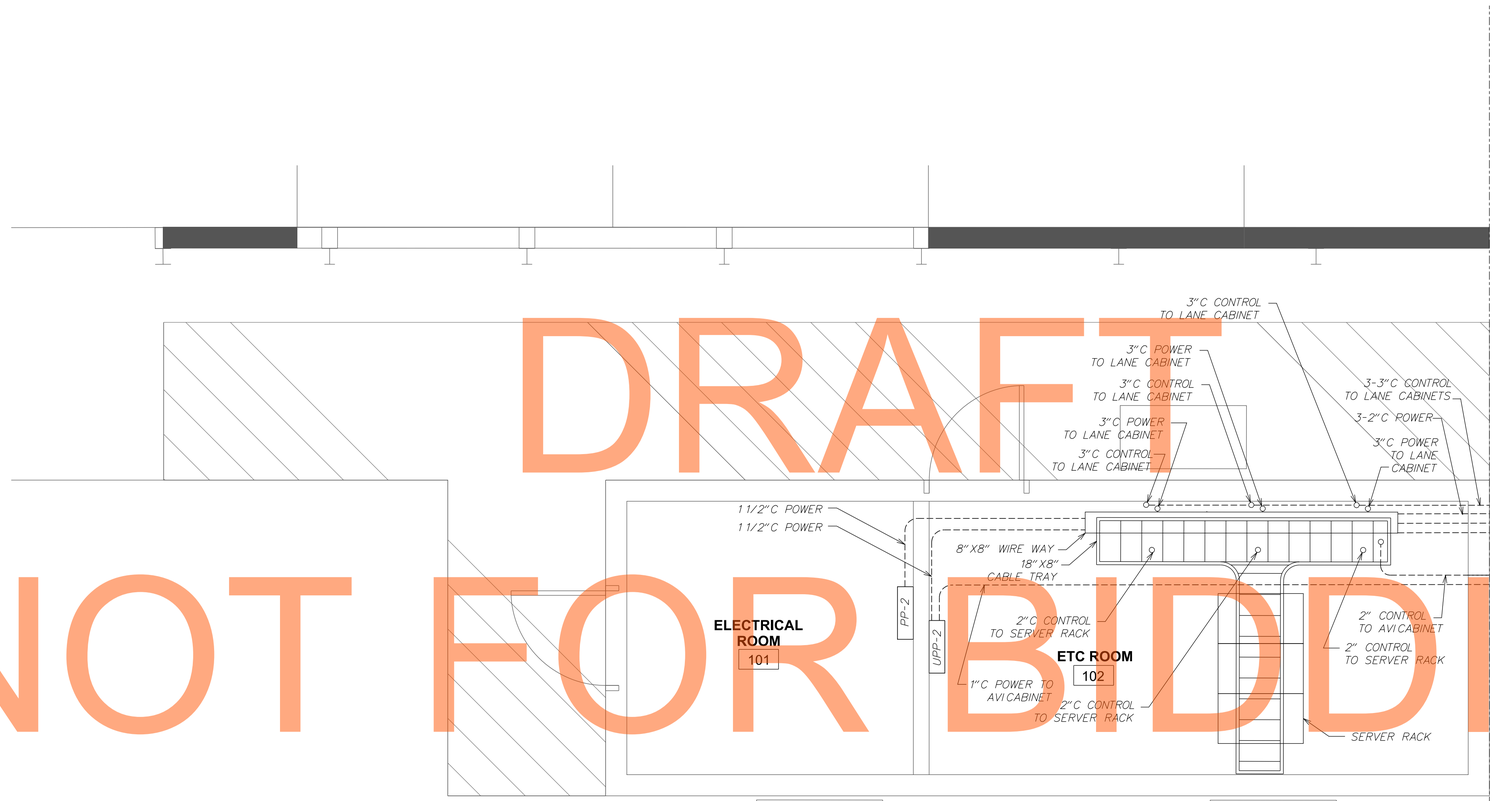

ETC RAMP HUT CONDUIT PLAN AET RAMP 'F'
SCALE: 1/2" = 1'-0"

NOTES:
1. CONTRACTOR SHALL COORDINATE WITH ETC CONTRACTOR FOR EXACT CABINET LOCATIONS AND ADJUST FINAL CONDUIT ROUTING AS NECESSARY.

11/09/12	ETC-07

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

US 301
LEVELS ROAD TO
SUMMIT BRIDGE ROAD

CONTRACT	T200911303
COUNTY	NEW CASTLE
BRIDGE NO.	
DESIGNED BY:	JTB
CHECKED BY:	RAK

ETC
RAMP HUT
CONDUIT PLAN
AET RAMP 'F'

SHEET NO.	1232
TOTAL SHTS.	1256

LAST REVISED: 3/12/2008
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ETC SITE CONDUIT PLAN AET RAMP 'F'
SCALE: 3/8" = 1'-0"

NOTES:
1. CONTRACTOR SHALL COORDINATE WITH ETC CONTRACTOR FOR EXACT EQUIPMENT LOCATIONS AND ADJUST FINAL CONDUIT ROUTING AS NECESSARY.
2. SEE DWG. ETC-16 FOR GANTRY COLUMN CONDUIT DETAILS.

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		US 301 LEVELS ROAD TO SUMMIT BRIDGE ROAD	CONTRACT T200911303	BRIDGE NO.	11/09/12 ETC–08
				COUNTY NEW CASTLE	DESIGNED BY: JTB	ETC SITE CONDUIT PLAN AET RAMP 'F'
					CHECKED BY: RAK	SHEET NO. 1233 / TOTAL SHTS. 1256

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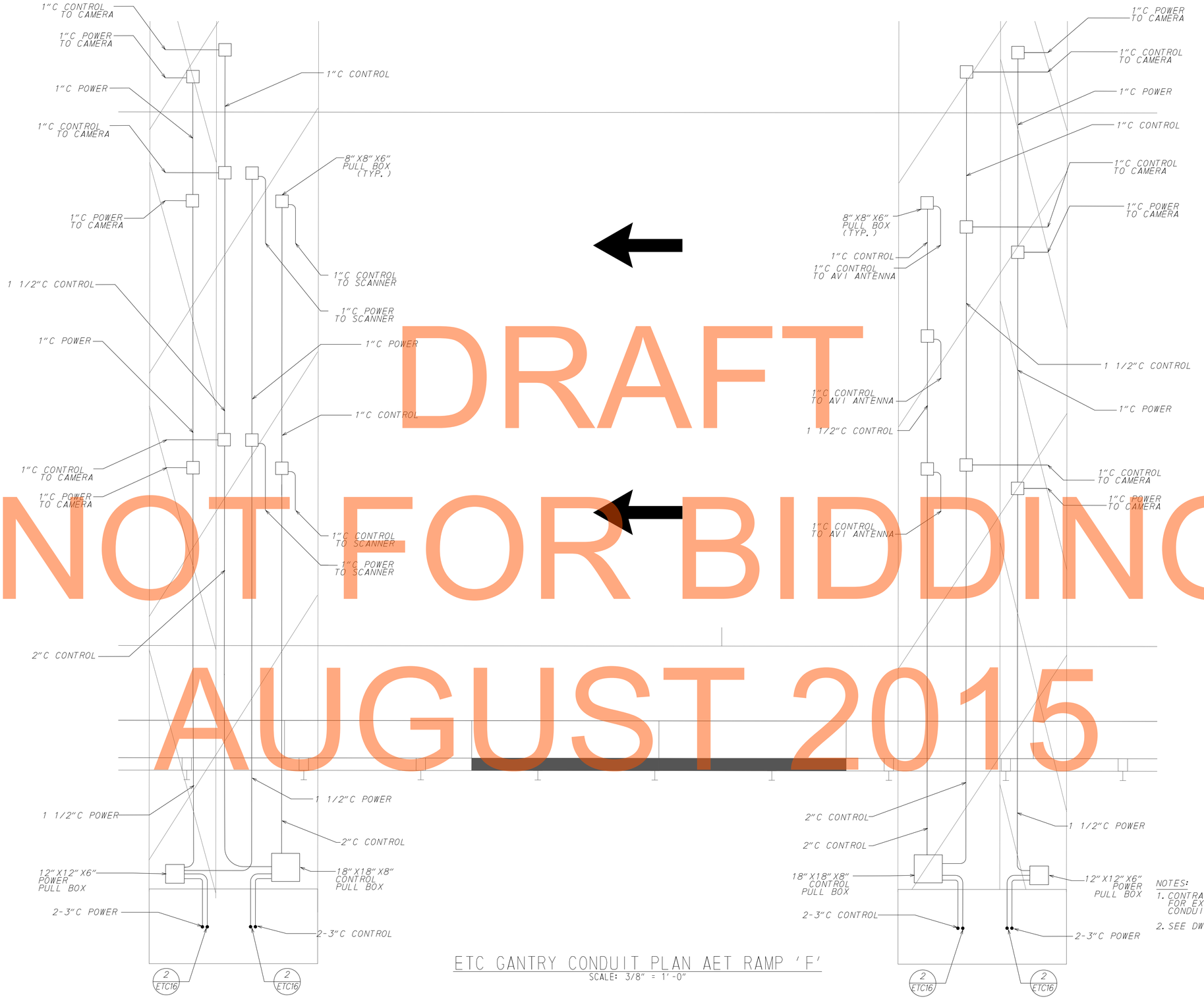

NOTES:
1. CONTRACTOR SHALL COORDINATE WITH ETC CONTRACTOR FOR EXACT EQUIPMENT LOCATIONS AND ADJUST FINAL CONDUIT ROUTING AS NECESSARY.
2. SEE DWG. ETC-16 FOR GANTRY COLUMN CONDUIT DETAILS.

ETC GANTRY CONDUIT PLAN AET RAMP 'F'

SCALE: 3/8" = 1'-0"

LAST REVISED: 3/12/2008
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DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

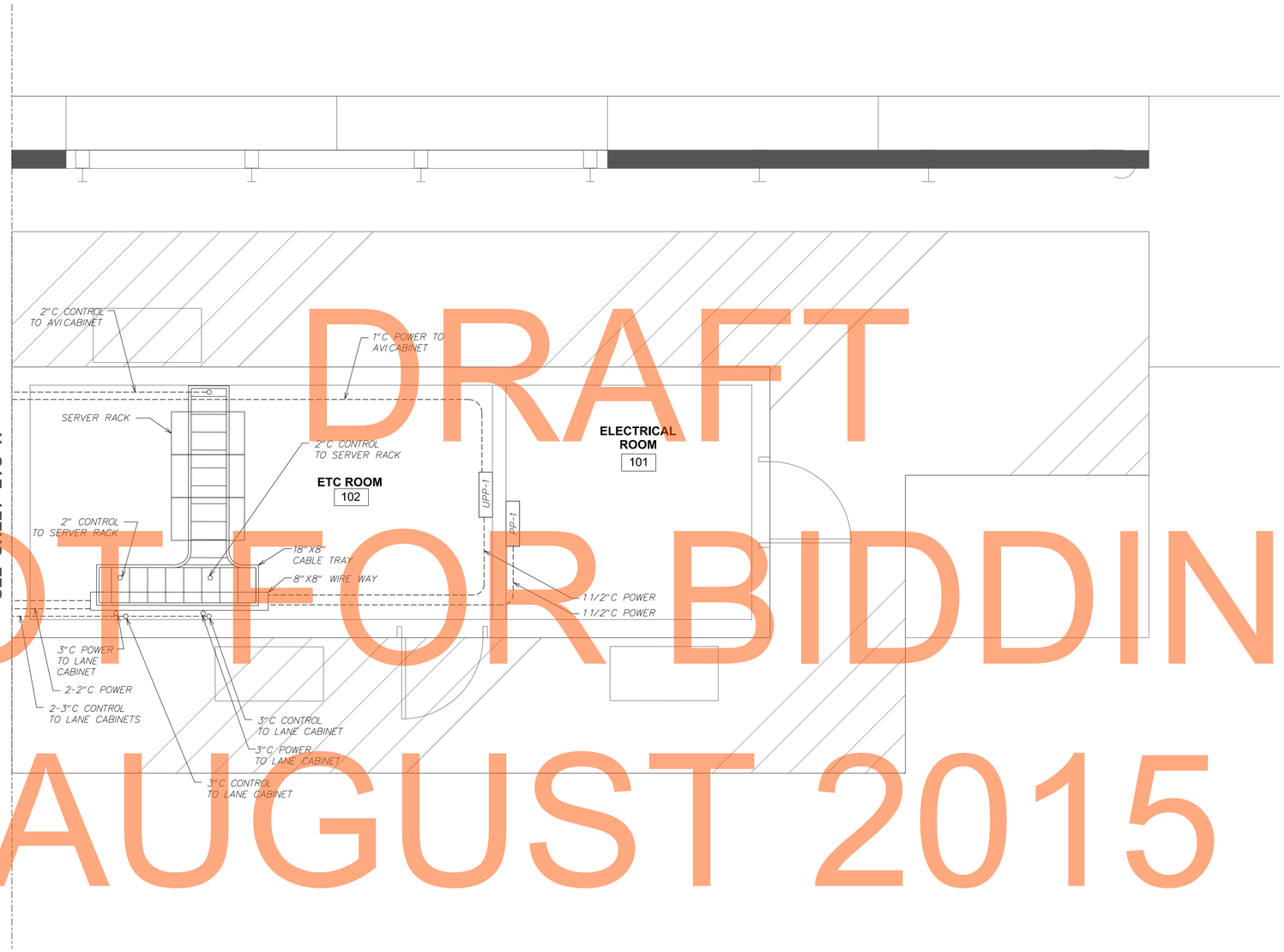
US 301 LEVELS ROAD TO SUMMIT BRIDGE ROAD

CONTRACT	BRIDGE NO.
T200911303	DESIGNED BY: JTB
COUNTY	CHECKED BY: RAK
NEW CASTLE	

11/09/12 | ETC-09

ETC GANTRY CONDUIT PLAN AET RAMP 'F'

SHEET NO.	TOTAL SHTS.
1234	1256



ETC RAMP HUT CONDUIT PLAN AET RAMP 'I'

SCALE: 1/2" = 1'-0"

NOTES:

1. CONTRACTOR SHALL COORDINATE WITH ETC CONTRACTOR FOR EXACT CABINET LOCATIONS AND ADJUST FINAL CONDUIT ROUTING AS NECESSARY.

				11/09/12	ETC-10
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		US 301 LEVELS ROAD TO SUMMIT BRIDGE ROAD	CONTRACT T200911303	BRIDGE NO.	ETC RAMP HUT CONDUIT PLAN AET RAMP 'I'	SHEET NO. 1235
				COUNTY NEW CASTLE	DESIGNED BY: JTB		TOTAL SHTS. 1256
					CHECKED BY: RAK		

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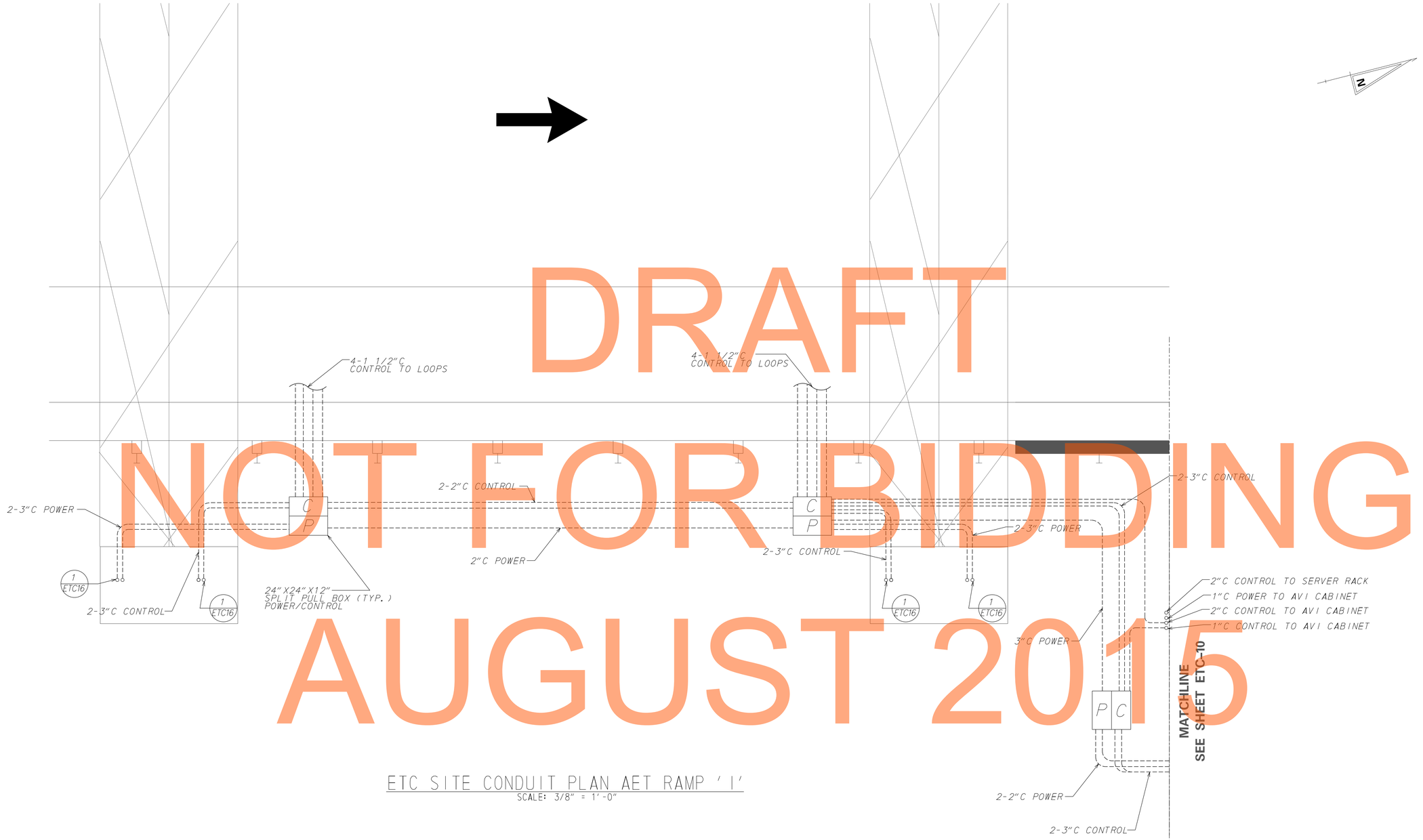

ETC SITE CONDUIT PLAN AET RAMP 'I'
SCALE: 3/8" = 1'-0"

NOTES:
1. CONTRACTOR SHALL COORDINATE WITH ETC CONTRACTOR FOR EXACT EQUIPMENT LOCATIONS AND ADJUST FINAL CONDUIT ROUTING AS NECESSARY.
2. SEE DWG. ETC-16 FOR GANTRY COLUMN CONDUIT DETAILS.

LAST REVISED: 3/12/2008
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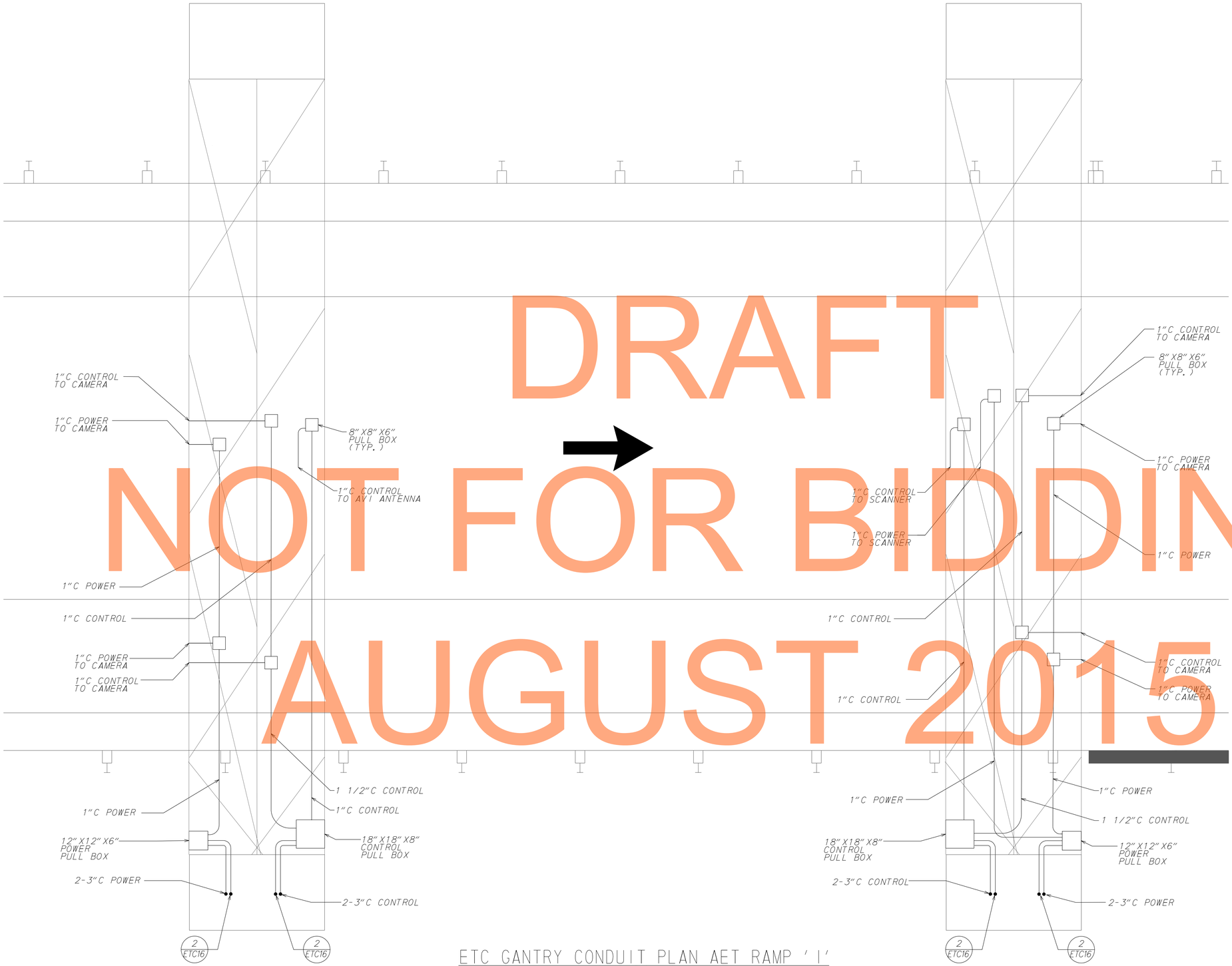
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	US 301 LEVELS ROAD TO SUMMIT BRIDGE ROAD	CONTRACT T200911303 / COUNTY NEW CASTLE / BRIDGE NO. / DESIGNED BY: JTB / CHECKED BY: RAK	11/09/12 · ETC-11 · ETC SITE CONDUIT PLAN AET RAMP 'I' · SHEET NO. 1236 · TOTAL SHTS. 1256



ETC GANTRY CONDUIT PLAN AET RAMP 'I'
SCALE: 3/8" = 1'-0"

NOTES:
1. CONTRACTOR SHALL COORDINATE WITH ETC CONTRACTOR FOR EXACT EQUIPMENT LOCATIONS AND ADJUST FINAL CONDUIT ROUTING AS NECESSARY.
2. SEE DWG. ETC-16 FOR GANTRY COLUMN CONDUIT DETAILS.

LAST REVISED: 3/12/2008
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DELAWARE DEPARTMENT OF TRANSPORTATION

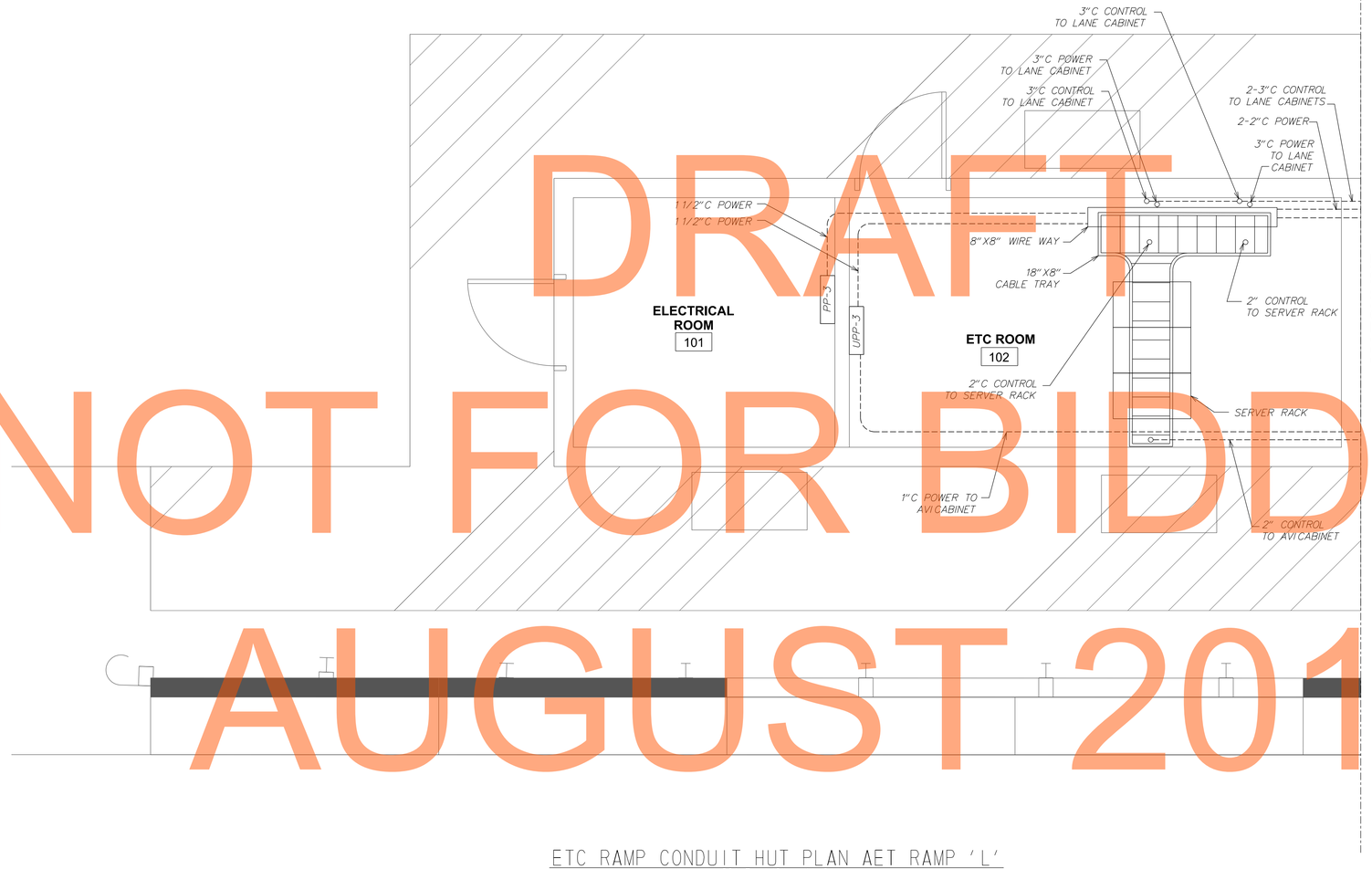
ADDENDUMS / REVISIONS	

US 301 LEVELS ROAD TO SUMMIT BRIDGE ROAD

CONTRACT	T200911303
COUNTY	NEW CASTLE
BRIDGE NO.	
DESIGNED BY: JTB	
CHECKED BY: RAK	

ETC GANTRY CONDUIT PLAN AET RAMP 'I'

11/09/12	ETC-12
SHEET NO.	1237
TOTAL SHTS.	1256



ETC RAMP CONDUIT HUT PLAN AET RAMP 'L'
SCALE: 1/2" = 1'-0"

NOTES:
1. CONTRACTOR SHALL COORDINATE WITH ETC CONTRACTOR FOR EXACT CABINET LOCATIONS AND ADJUST FINAL CONDUIT ROUTING AS NECESSARY.

LAST REVISED: 3/12/2008
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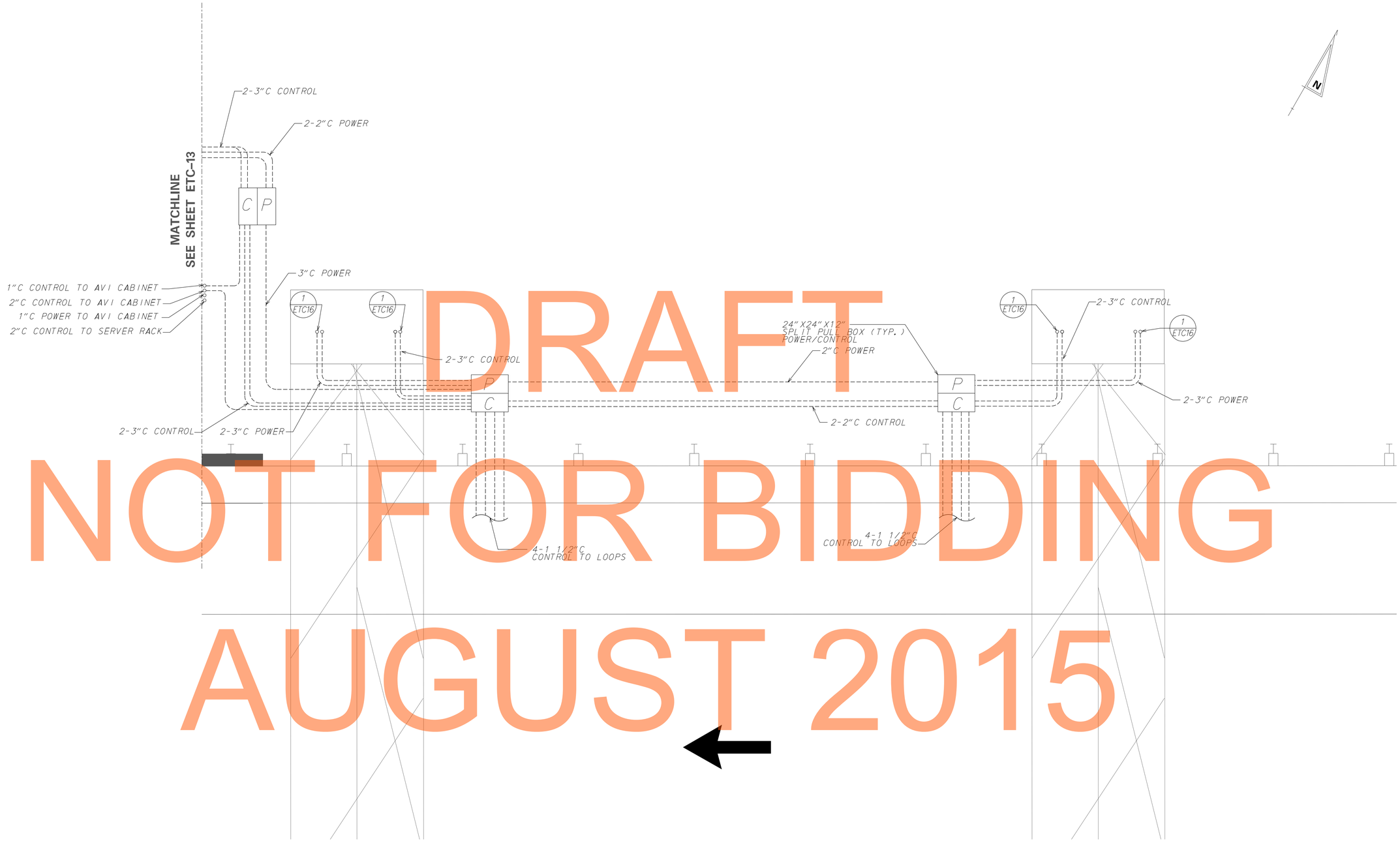
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		US 301 LEVELS ROAD TO SUMMIT BRIDGE ROAD	CONTRACT T200911303	BRIDGE NO.	ETC RAMP HUT CONDUIT PLAN AET RAMP 'L'
				COUNTY NEW CASTLE	DESIGNED BY: JTB	SHEET NO. 1238
					CHECKED BY: RAK	TOTAL SHTS. 1256

11/06/12 | ETC-13



ETC SITE CONDUIT PLAN AET RAMP 'L'
SCALE: 3/8" = 1'-0"

NOTES:
1. CONTRACTOR SHALL COORDINATE WITH ETC CONTRACTOR FOR EXACT EQUIPMENT LOCATIONS AND ADJUST FINAL CONDUIT ROUTING AS NECESSARY.
2. SEE DWG. ETC-16 FOR GANTRY COLUMN CONDUIT DETAILS.

LAST REVISED: 3/12/2008
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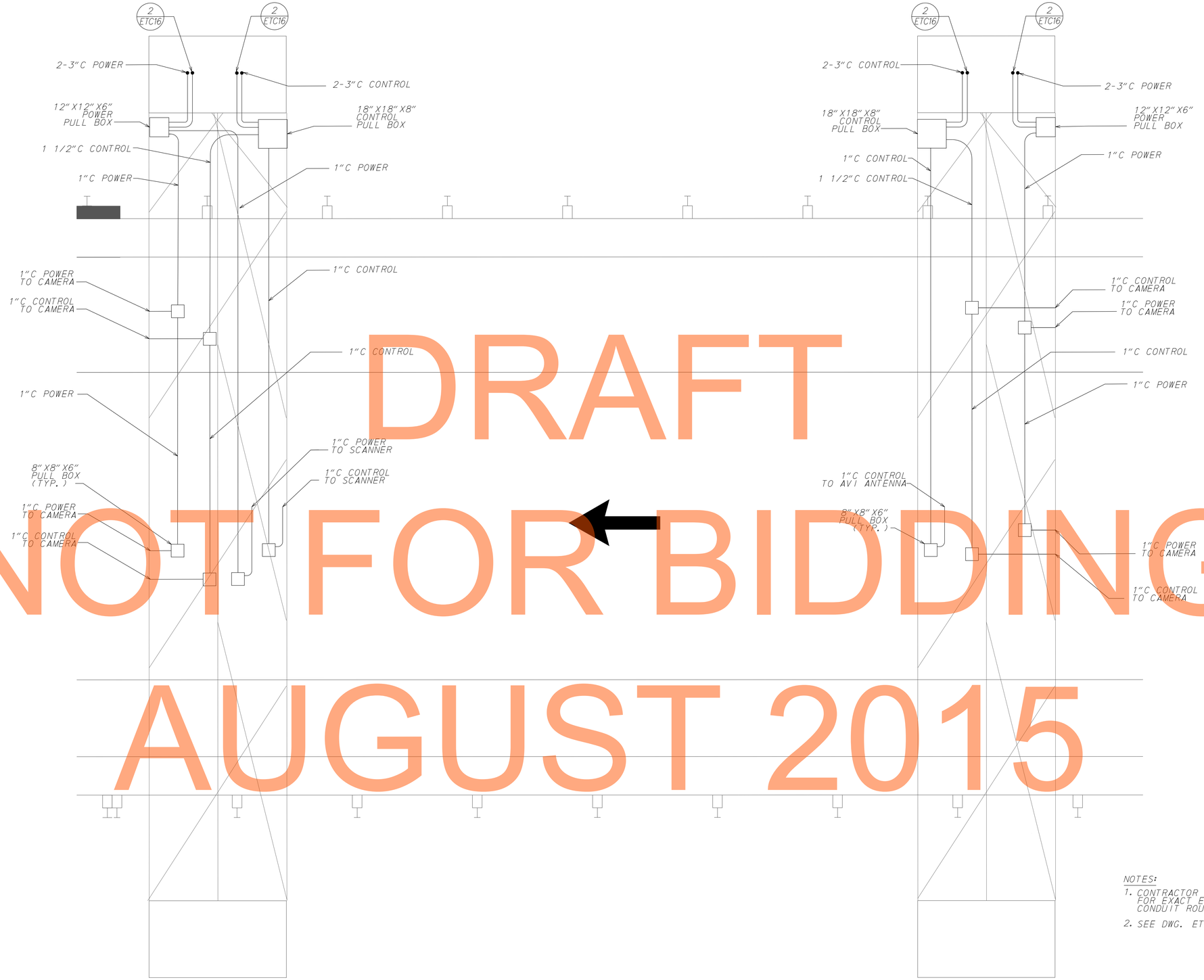
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		US 301 LEVELS ROAD TO SUMMIT BRIDGE ROAD	CONTRACT T200911303	BRIDGE NO.	11/09/12 ETC-14
				COUNTY NEW CASTLE	DESIGNED BY: JTB	ETC SITE CONDUIT PLAN AET RAMP 'L'
					CHECKED BY: RAK	SHEET NO. 1239 / TOTAL SHTS. 1256



NOTES:

1. CONTRACTOR SHALL COORDINATE WITH ETC CONTRACTOR FOR EXACT EQUIPMENT LOCATIONS AND ADJUST FINAL CONDUIT ROUTING AS NECESSARY.
2. SEE DWG. ETC-08 FOR GANTRY COLUMN CONDUIT DETAILS.

ETC GANTRY CONDUIT PLAN RAMP AET 'L'
SCALE: 3/8" = 1'-0"

LAST REVISED: 3/12/2008
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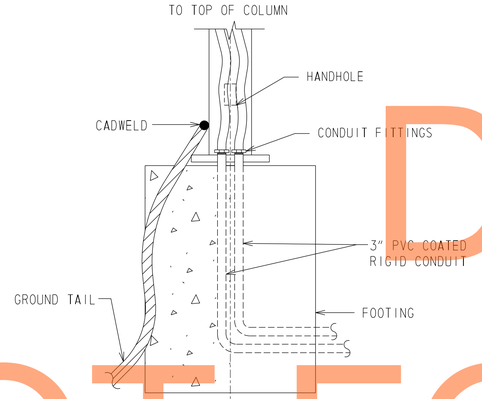
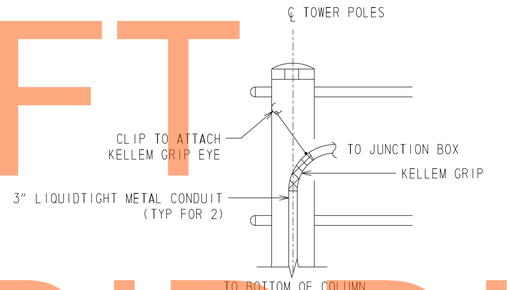
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		US 301 LEVELS ROAD TO SUMMIT BRIDGE ROAD	CONTRACT T200911303	BRIDGE NO.	11/09/12 ETC-15
				COUNTY NEW CASTLE	DESIGNED BY: JTB	ETC GANTRY CONDUIT PLAN AET RAMP 'L'
					CHECKED BY: RAK	SHEET NO. 1240 / TOTAL SHTS. 1256



1 ETC16 TYPICAL GANTRY COLUMN BOTTOM ELEVATION
N.T.S.



2 ETC16 TYPICAL GANTRY COLUMN TOP ELEVATION
N.T.S.

LAST REVISED: 3/12/2008
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DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		US 301 LEVELS ROAD TO SUMMIT BRIDGE ROAD	CONTRACT T200911303	BRIDGE NO.	11/09/12	ETC–16
				COUNTY NEW CASTLE	DESIGNED BY: JTB	ETC DETAILS	SHEET NO. 1241
					CHECKED BY: RAK		TOTAL SHTS. 1256