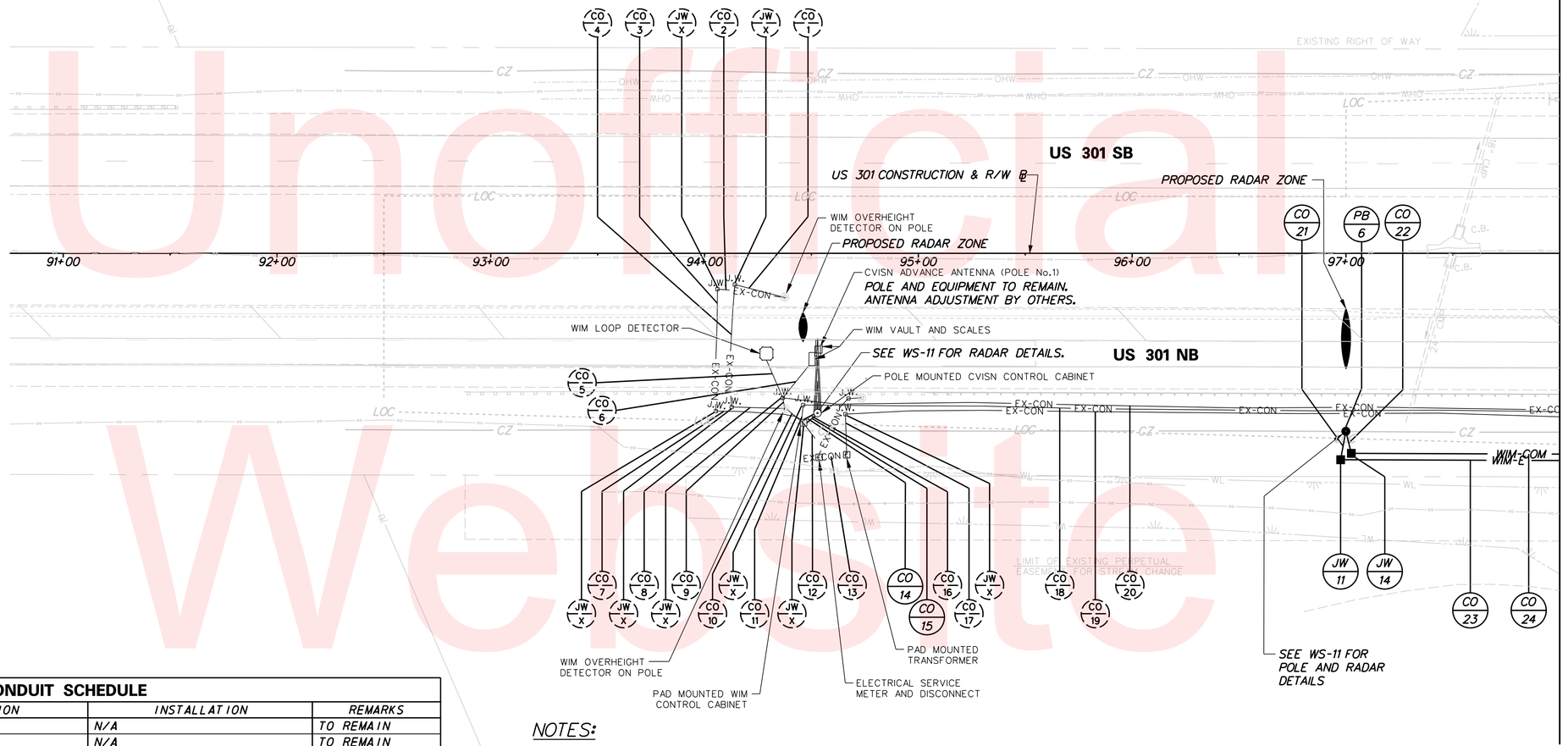

CONDUIT SCHEDULE

NO.	DISTANCE (L.F.)	DESCRIPTION	INSTALLATION	REMARKS
1	25	EXISTING CONDUIT	N/A	TO REMAIN
2	35	EXISTING CONDUIT	N/A	TO REMAIN
3	60	EXISTING CONDUIT	N/A	TO REMAIN
4	60	EXISTING CONDUIT	N/A	TO REMAIN
5	20	EXISTING CONDUIT	N/A	TO REMAIN
6	20	EXISTING CONDUIT	N/A	TO REMAIN
7	45	EXISTING CONDUIT	N/A	TO REMAIN
8	25	EXISTING CONDUIT	N/A	TO REMAIN
9	10	EXISTING CONDUIT	N/A	TO REMAIN
10	15	EXISTING CONDUIT	N/A	TO REMAIN
11	10	EXISTING CONDUIT	N/A	TO REMAIN
12	20	EXISTING CONDUIT	N/A	TO REMAIN
13	15	EXISTING CONDUIT	N/A	TO REMAIN
14	10	4" SCH80 PVC	TRENCH	ELECTRIC SERV.
15	10	4" SCH80 PVC	TRENCH	COMM CABLE
16	10	EXISTING CONDUIT	N/A	TO REMAIN
17	20	EXISTING CONDUIT	N/A	TO REMAIN
18	530	EXISTING CONDUIT	N/A	TO REMAIN
19	535	EXISTING CONDUIT	N/A	TO REMAIN
20	535	EXISTING CONDUIT	N/A	TO REMAIN
21	14	4" SCH80 PVC	TRENCH	ELECTRIC SERV.
22	11	4" SCH80 PVC	TRENCH	COMM CABLE
23	155	4" SCH80 PVC	TRENCH	ELECTRIC SERV.
24	150	4" SCH80 PVC	TRENCH	COMM CABLE

NOTES:

1. ANY DAMAGE TO ITEMS NOTED TO BE RELOCATED OR RESET BY THE CONTRACTOR, AT THE DISCRETION OF THE ENGINEER, SHALL BE REPAIRED AND/OR REPLACED IN KIND AT THE CONTRACTOR'S EXPENSE.
2. CONTRACTOR MUST VERIFY WITH PROJECT ENGINEER AND WIM VENDOR THAT ALL CONDUIT AND CONDUIT INSERTS INTO CABINET BASE(S) ARE ADEQUATE PRIOR TO PLACEMENT OF CONDUIT AND CABINET BASE.
3. CONTROLLER CABINET BASE AND CONDUIT INSERTS TO BE PROVIDED BY THE CONTRACTOR.
4. ALL ELECTRIC CABLES PERTAINING TO THE WIM SYSTEM WILL BE SIZED BY THE WIM VENDOR. VOLTAGE DROP AND AMPACITY CALCULATIONS MUST BE SUBMITTED TO THE PROJECT ENGINEER FOR APPROVAL. DEVICE SELECTION COULD AFFECT CABLE/CONDUIT SIZE OR MAY REQUIRE STEP-UP/STEP-DOWN TRANSFORMERS.
5. SECONDARY POWER AND COMMUNICATIONS JUNCTION WELLS SHALL BE LOCATED NEXT TO EACH OTHER AND INSTALLED IN THE SAME TRENCH.
6. SECONDARY POWER AND ADJACENT COMMUNICATIONS CONDUIT SHALL BE INSTALLED IN THE SAME TRENCH. CONDUIT SHALL MAINTAIN A MINIMUM 12 INCH HORIZONTAL AND 6 INCH VERTICAL SEPARATION BETWEEN EACH OTHER AND EXISTING UNDERGROUND INFRASTRUCTURE.
7. ALL EQUIPMENT CABINETS (CVISN, WIM, LOOP DETECTOR, ETC) REQUIRING ELECTRICAL POWER SHALL HAVE AN EXTERNAL DISCONNECT SWITCH WITH AN APPROPRIATE ELECTRICAL RATING AND AN ENCLOSURE WITH A MINIMUM NEMA 3R RATING.
8. EXCEPT AS NOTED BELOW, ALL EXISTING WIM AND CVISN CONDUIT AND DEVICES ARE TO REMAIN IN PLACE AND OPERATIONAL UNTIL PHASE 5 OF CONSTRUCTION OR UNTIL WEIGH STATION IS TEMPORARILY CLOSED. THE CONTRACTOR IS TO COORDINATE ALL ACTIVITIES WHICH MIGHT IMPACT WEIGH STATION OPERATIONS WITH THE ENGINEER AND THE DELAWARE STATE POLICE (DSP).
9. PRIOR TO BEGINNING BRIDGE CONSTRUCTION AT STRAWBERRY LANE (BR1-486) THE CONTRACTOR MUST COORDINATE WITH THE WIM VENDOR TO TEMPORARILY RELOCATE FIBER OPTIC COMMUNICATIONS CABLE FROM NEAREST EXISTING JUNCTION WELL ON EITHER SIDE OF STRAWBERRY LANE ALONG THE NORTHBOUND SIDE OF US 301. COMMUNICATION CABLE IS TO BE TEMPORARILY RELOCATED IN A MANNER THAT WILL NOT INTERFERE WITH BRIDGE CONSTRUCTION OR WEIGH STATION OPERATIONS AND AS APPROVED BY THE ENGINEER. THE PROPOSED RELOCATION SCHEME MUST BE PROVIDED TO THE ENGINEER AT LEAST 2 WEEKS IN ADVANCE OF SCHEDULED RELOCATION WORK. THE ENGINEER WILL COORDINATE THE RELOCATION SCHEME AND SCHEDULE OF WORK WITH THE DSP AND CONTRACTOR. NO TEMPORARY RELOCATION WORK WILL BE AUTHORIZED UNTIL THE DSP AND ENGINEER APPROVE THE PROPOSED SCHEME AND SCHEDULE A TEMPORARY CLOSURE OF THE WEIGH STATION.
10. THE ELECTRICAL CONTRACTOR SHALL COORDINATE THE INSTALLATION OF WIM CONDUITS WITH ITMS AND LIGHTING CONDUITS. WIM, ITMS AND LIGHTING CONDUITS MAY SHARE A COMMON TRENCH BUT SHALL NOT SHARE COMMON JUNCTION WELLS.
11. CVISN ANTENNA ADJUSTMENTS TO BE PERFORMED BY OTHERS. THE CONTRACTOR IS TO NOTIFY DELDOT 30 DAYS PRIOR TO THE ANTICIPATED COMPLETION OF PHASE 5 TO COORDINATE THE CVISN WORK.

WS-01

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE
0 30 60 90
FEET

US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT	BRIDGE NO.	
T200811301	DESIGNED BY: RW	
COUNTY	CHECKED BY: RB	
NEW CASTLE		

WIM AND CVISN PLANS

SHEET NO.
800
TOTAL SHTS.
850

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MATCH LINE STA 98+00 SHEET WS-01

MATCH LINE STA 106+00 SHEET WS-03

LOOP DETECTOR AND ASSOCIATED WIRING
TO BE REMOVED

LOOP DETECTOR AND ASSOCIATED WIRING
TO BE REPLACED AFTER MILL AND OVERLAY

CVISN IN-CAB NOTIFICATION ANTENNA (POLE NO. 2)
POLE AND EQUIPMENT TO REMAIN.
ANTENNA ADJUSTMENT BY OTHERS.

US 301 SB

US 301 CONSTRUCTION & R/W ℄

99+00 *100+00* *101+00* *102+00* *103+00* *104+00* *105+00*

US 301 NB

CO 18, CO 19, CO 20, RM C, CO 23, CO 24, JW X, CO 25, CO 26, JW X, CO 27, CO 28, CO 29, CO 30, JW X, JW X, CO 31, CO 32, CO 33, CO 34, CO 35

RISER

TC POLE

WIM VARIABLE MESSAGE SIGN #1

EXISTING SIGN *TO REMAIN*

LOOP DETECTOR CABINET MOUNTED ON POLE

EXISTING RIGHT OF WAY

R/W

SIGN

C.B.

36" RCP

24" RCP

CONDUIT SCHEDULE

NO.	DISTANCE (L.F.)	DESCRIPTION	INSTALLATION	REMARKS
25	30	EXISTING CONDUIT	N/A	TO REMAIN
26	30	EXISTING CONDUIT	N/A	TO REMAIN
27	50	EXISTING CONDUIT	N/A	TO REMAIN
28	535	EXISTING CONDUIT	N/A	TO REMAIN
29	530	EXISTING CONDUIT	N/A	TO REMAIN
30	535	EXISTING CONDUIT	N/A	TO REMAIN
31	35	EXISTING CONDUIT	N/A	TO REMAIN
32	25	EXISTING CONDUIT	N/A	TO REMAIN
33	670	EXISTING CONDUIT	N/A	TO REMAIN
34	675	EXISTING CONDUIT	N/A	TO REMAIN
35	675	EXISTING CONDUIT	N/A	TO REMAIN

WS-02

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE
0 30 60 90
FEET

US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT	BRIDGE NO.	
T200811301	DESIGNED BY: RW	
COUNTY	CHECKED BY: RB	
NEW CASTLE		

WIM AND CVISN PLANS

SHEET NO.
801
TOTAL SHTS.
850

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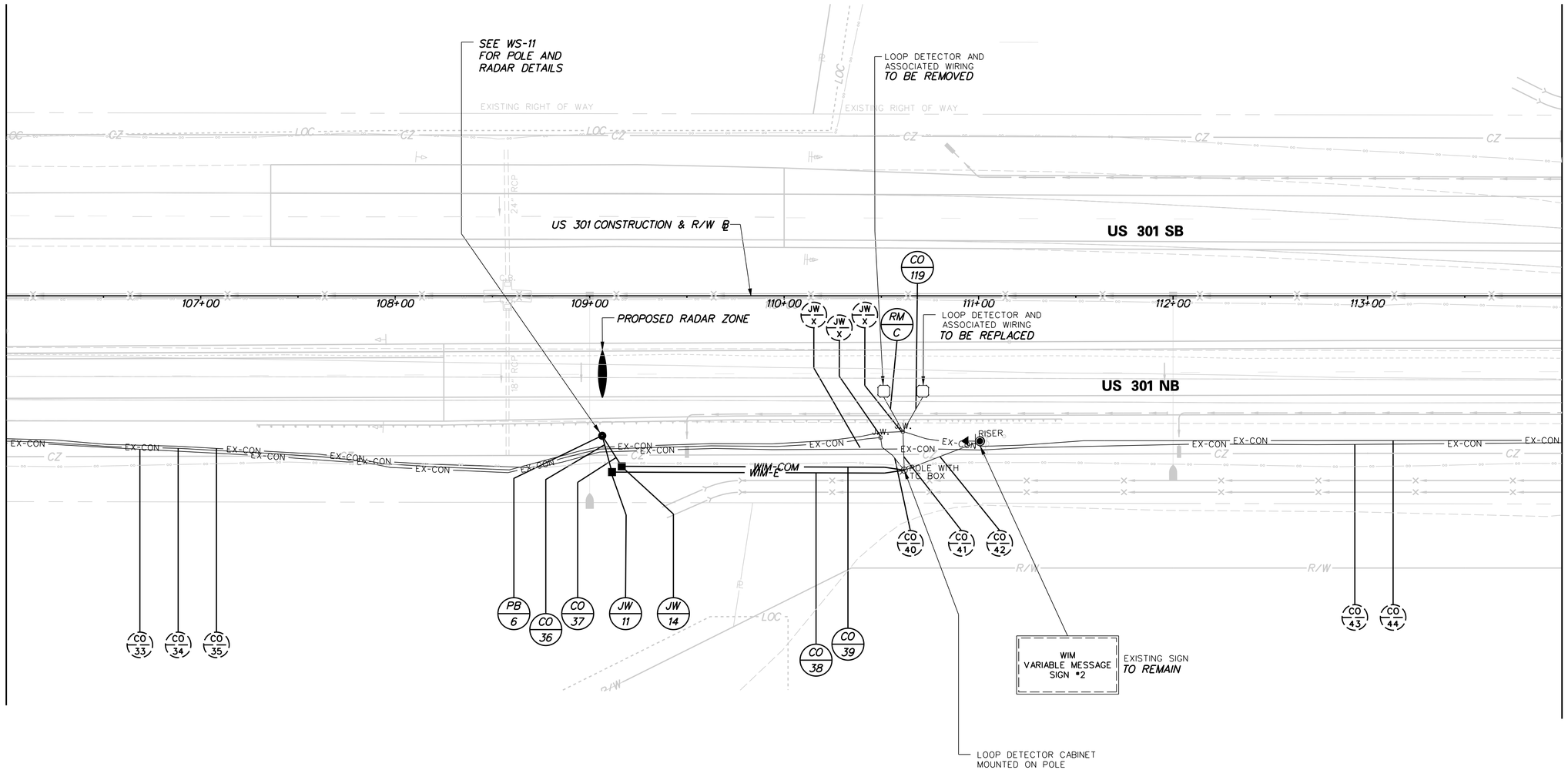
MATCH LINE STA 106+00 SHEET WS-02

MATCH LINE STA 114+00 SHEET WS-04



CONDUIT SCHEDULE

NO.	DISTANCE (L.F.)	DESCRIPTION	INSTALLATION	REMARKS
36	20	4" SCH80 PVC	TRENCH	ELECTRIC SERV.
37	20	4" SCH80 PVC	TRENCH	COMM CABLE
38	155	4" SCH80 PVC	TRENCH	ELECTRIC SERV.
39	150	4" SCH80 PVC	TRENCH	COMM CABLE
40	25	EXISTING CONDUIT	N/A	TO REMAIN
41	25	EXISTING CONDUIT	N/A	TO REMAIN
119	5	2" GALVANIZED RIGID STEEL	TRENCH	LOOP CABLE
42	45	EXISTING CONDUIT	N/A	TO REMAIN
43	430	EXISTING CONDUIT	N/A	TERMINATE IN NEW JW.
44	410	EXISTING CONDUIT	N/A	TERMINATE IN NEW JW.

WS-03

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE 0 30 60 90 FEET

US 301 MARYLAND STATE LINE TO LEVELS ROAD

CONTRACT	BRIDGE NO.		SHEET NO.
T200811301	DESIGNED BY: RW	WIM AND CVISN PLANS	802
COUNTY			TOTAL SHTS.
NEW CASTLE	CHECKED BY: RB		850

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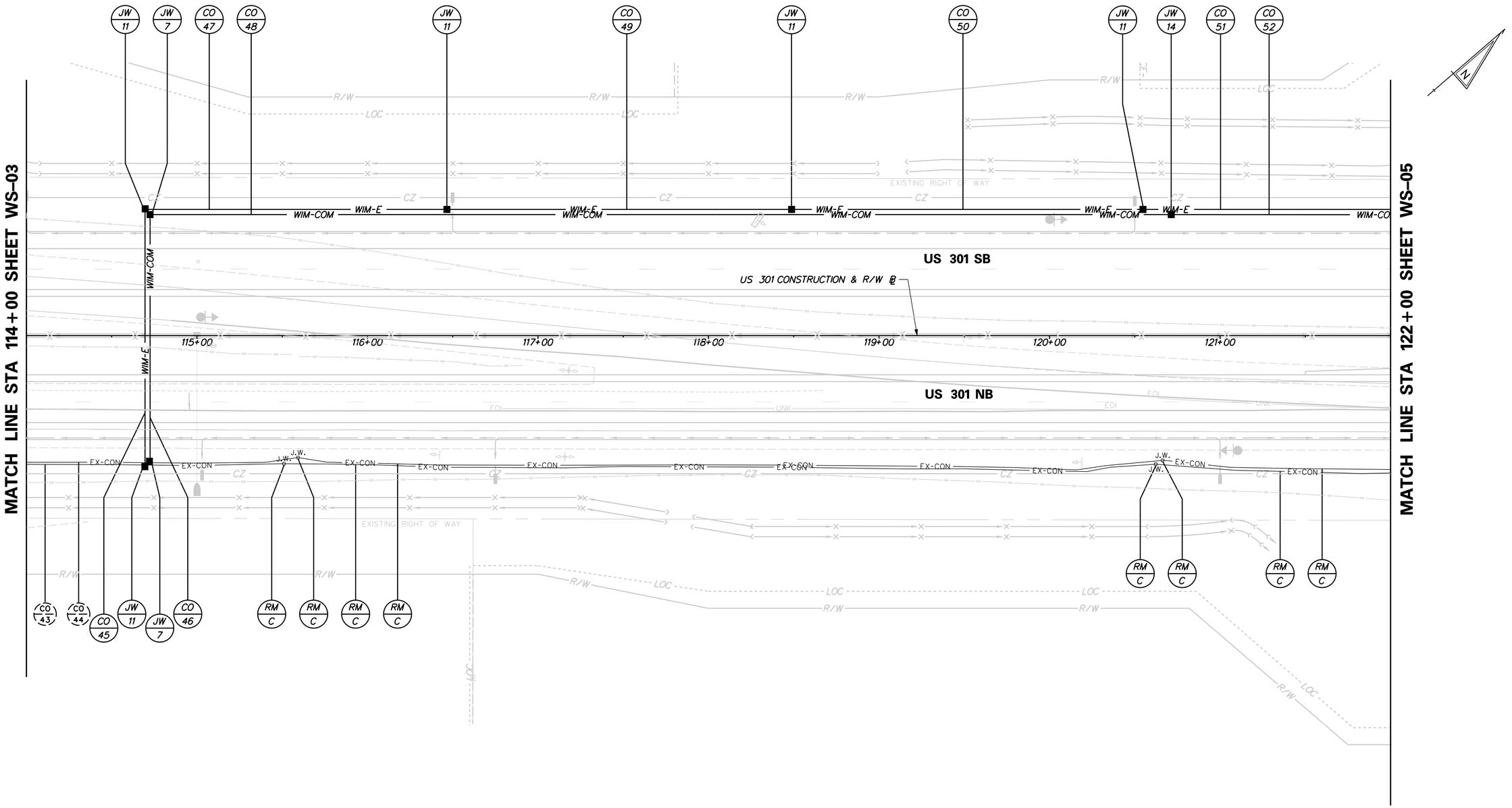

CONDUIT SCHEDULE

NO.	DISTANCE (L.F.)	DESCRIPTION	INSTALLATION	REMARKS
45	150	4" SCH80 HDPE	BORE	ELECTRIC SERV.
46	145	4" SCH80 HDPE	BORE	COMM CABLE
47	175	4" SCH80 PVC	TRENCH	ELECTRIC SERV.
48	590	4" SCH80 PVC	TRENCH	COMM CABLE
49	200	4" SCH80 PVC	TRENCH	ELECTRIC SERV.
50	205	4" SCH80 PVC	TRENCH	ELECTRIC SERV.
51	240	4" SCH80 PVC	TRENCH	ELECTRIC SERV.
52	525	4" SCH80 PVC	TRENCH	COMM CABLE

WS-04

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE
0 30 60 90
FEET

US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT	BRIDGE NO.	
T200811301	DESIGNED BY: RW	
COUNTY	CHECKED BY: RB	
NEW CASTLE		

WIM AND CVISN PLANS

SHEET NO.
803
TOTAL SHTS.
850

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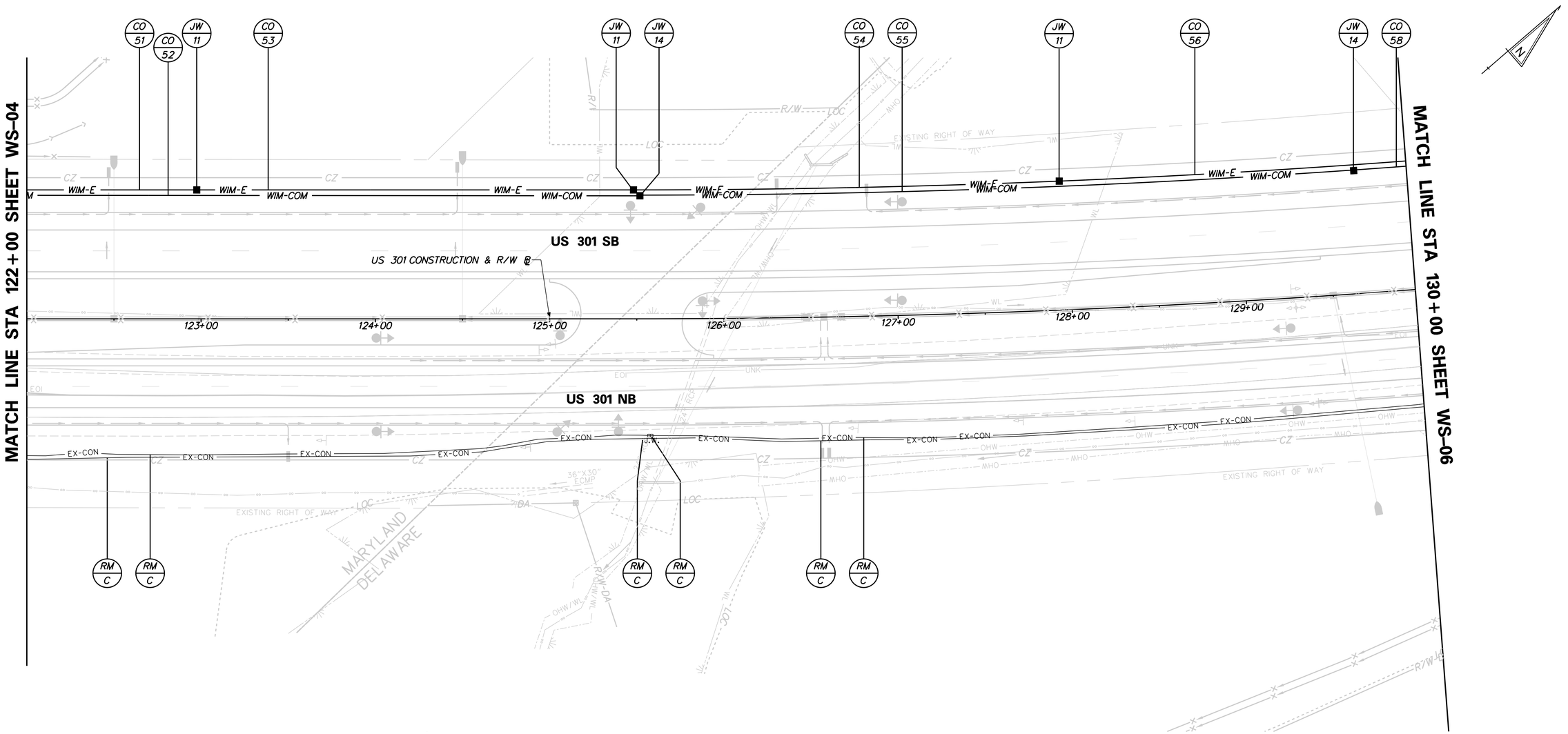

CONDUIT SCHEDULE				
NO.	DISTANCE (L.F.)	DESCRIPTION	INSTALLATION	REMARKS
53	250	4" SCH80 PVC	TRENCH	ELECTRIC SERV.
54	245	4" SCH80 PVC	TRENCH	ELECTRIC SERV.
55	420	4" SCH80 PVC	TRENCH	COMM CABLE
56	245	4" SCH80 PVC	TRENCH	ELECTRIC SERV.
58	335	4" SCH80 PVC	TRENCH	COMM CABLE

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WS-05

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

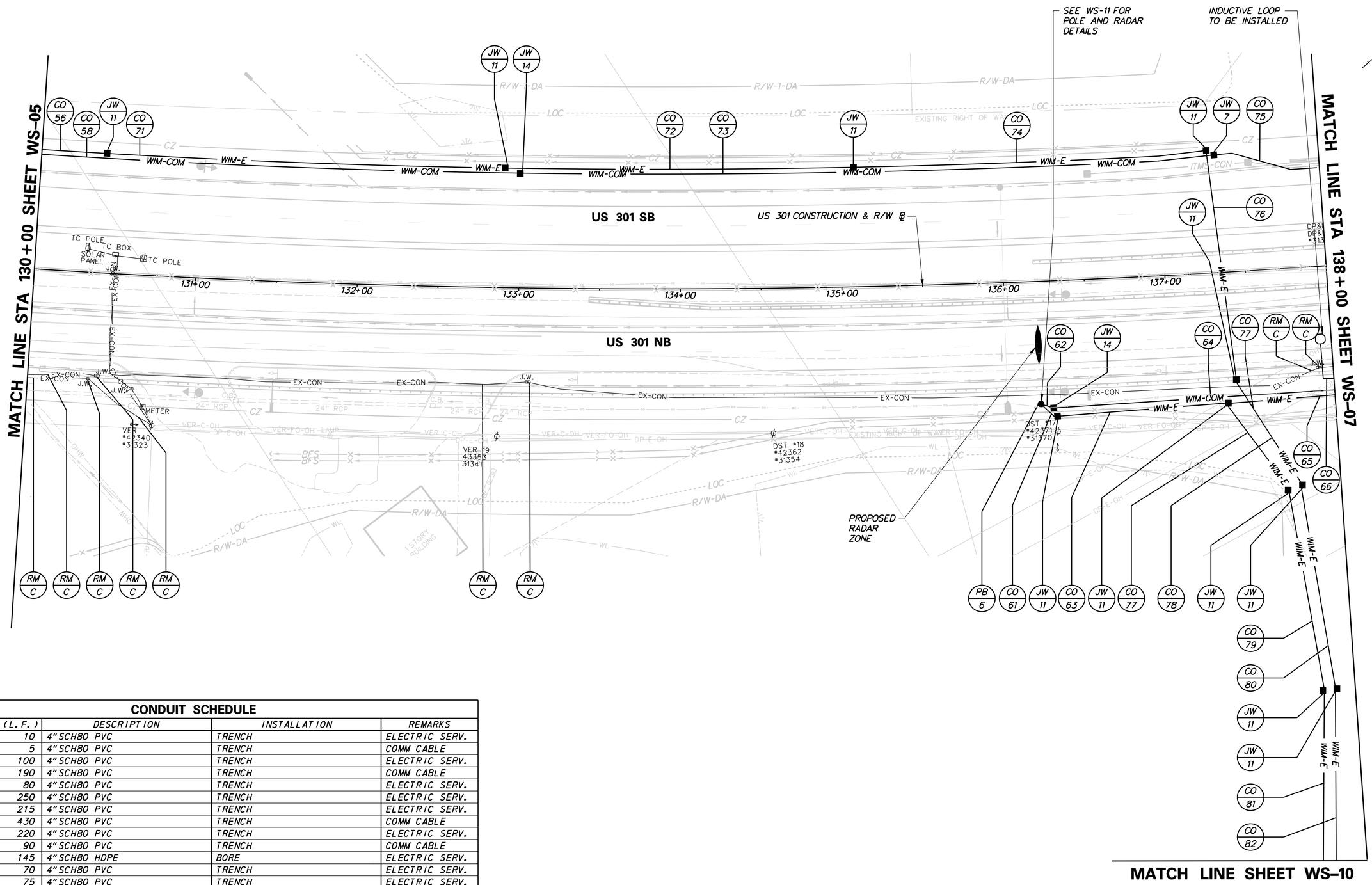
SCALE
0 30 60 90
FEET

US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT	BRIDGE NO.	
T200811301	DESIGNED BY: RW	
COUNTY	CHECKED BY: RB	
NEW CASTLE		

WIM AND CVISN PLANS

SHEET NO.
804
TOTAL SHTS.
850



MATCH LINE SHEET WS-10

CONDUIT SCHEDULE

NO.	DISTANCE (L.F.)	DESCRIPTION	INSTALLATION	REMARKS
61	10	4" SCH80 PVC	TRENCH	ELECTRIC SERV.
62	5	4" SCH80 PVC	TRENCH	COMM CABLE
63	100	4" SCH80 PVC	TRENCH	ELECTRIC SERV.
64	190	4" SCH80 PVC	TRENCH	COMM CABLE
65	80	4" SCH80 PVC	TRENCH	ELECTRIC SERV.
71	250	4" SCH80 PVC	TRENCH	ELECTRIC SERV.
72	215	4" SCH80 PVC	TRENCH	ELECTRIC SERV.
73	430	4" SCH80 PVC	TRENCH	COMM CABLE
74	220	4" SCH80 PVC	TRENCH	ELECTRIC SERV.
75	90	4" SCH80 PVC	TRENCH	COMM CABLE
76	145	4" SCH80 HDPE	BORE	ELECTRIC SERV.
77	70	4" SCH80 PVC	TRENCH	ELECTRIC SERV.
78	75	4" SCH80 PVC	TRENCH	ELECTRIC SERV.
79	125	4" SCH80 PVC	TRENCH	ELECTRIC SERV.
80	125	4" SCH80 PVC	TRENCH	ELECTRIC SERV.
81	150	4" SCH80 PVC	TRENCH	ELECTRIC SERV.
82	150	4" SCH80 PVC	TRENCH	ELECTRIC SERV.

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DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE 0 30 60 90 FEET

US 301 MARYLAND STATE LINE TO LEVELS ROAD

CONTRACT	BRIDGE NO.		SHEET NO.
T200811301	DESIGNED BY: RW	WIM AND CVISN PLANS	805
COUNTY	CHECKED BY: RB		TOTAL SHTS.
NEW CASTLE			850

WS-06

MATCH LINE STA 138+00 SHEET WS-06

MATCH LINE STA 146+00 SHEET WS-08

LOOP DETECTOR AND ASSOCIATED WIRING *TO BE REMOVED*

US 301 SB

US 301 NB

US 301 CONSTRUCTION & R/W ℄

PROPOSED DUAL RADAR ZONE

LOOP DETECTOR AND ASSOCIATED WIRING *TO BE REMOVED*

STRAWBERRY LANE

MIDDLETOWN WARWICK ROAD

SEE WS-11 FOR POLE AND RADAR DETAILS

WIM VARIABLE MESSAGE SIGN *3

SIGN RELOCATED FROM STA 145+50

WIM VARIABLE MESSAGE SIGN *3

EXISTING SIGN *RELOCATE TO STA 138+15*

MATCH LINE SHEET WS-10

CONDUIT SCHEDULE

NO.	DISTANCE (L.F.)	DESCRIPTION	INSTALLATION	REMARKS
66	28	4" SCH80 PVC	TRENCH	LOOP CABLE
67	5	4" SCH80 PVC	TRENCH	ELECTRIC SERV.
68	5	4" SCH80 PVC	TRENCH	COMM CABLE
69	135	4" SCH80 PVC	TRENCH	COMM CABLE
70	120	4" SCH80 PVC	TRENCH	COMM CABLE
83	425	4" SCH80 PVC	TRENCH	COMM CABLE
84	515	4" SCH80 PVC	TRENCH	COMM CABLE
85	11	4" SCH80 PVC	TRENCH	COMM CABLE
86	12	4" SCH80 PVC	TRENCH	ELECTRIC SERV.
87	500	4" SCH80 PVC	TRENCH	COMM CABLE
88	170	4" SCH80 PVC	TRENCH	ELECTRIC SERV.
89	175	4" SCH80 PVC	TRENCH	ELECTRIC SERV.

WS-07

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE 0 30 60 90 FEET

US 301 MARYLAND STATE LINE TO LEVELS ROAD

CONTRACT T200811301 | COUNTY NEW CASTLE | BRIDGE NO. | DESIGNED BY: RW | CHECKED BY: RB

WIM AND CVISN PLANS

SHEET NO. 806 | TOTAL SHTS. 850

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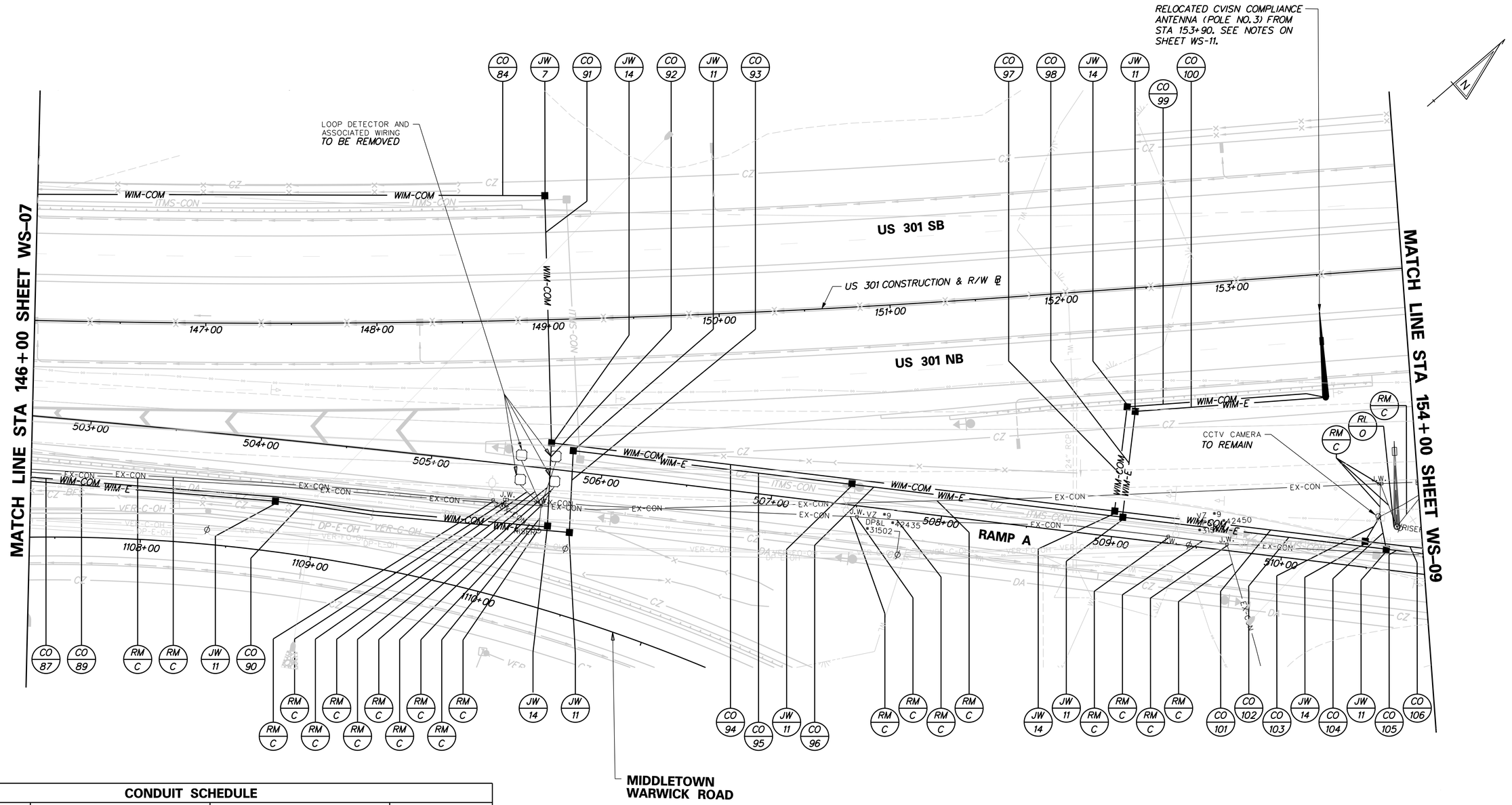

CONDUIT SCHEDULE

NO.	DISTANCE (L.F.)	DESCRIPTION	INSTALLATION	REMARKS
90	160	4" SCH80 PVC	TRENCH	ELECTRIC SERV.
91	140	4" SCH80 HDPE	BORE	COMM CABLE
92	50	4" SCH80 PVC	TRENCH	COMM CABLE
93	45	4" SCH80 PVC	TRENCH	ELECTRIC SERV.
94	330	4" SCH80 PVC	TRENCH	COMM CABLE
95	160	4" SCH80 PVC	TRENCH	ELECTRIC SERV.
96	160	4" SCH80 PVC	TRENCH	ELECTRIC SERV.
97	65	4" SCH80 PVC	TRENCH	COMM CABLE
98	65	4" SCH80 PVC	TRENCH	ELECTRIC SERV.
99	115	4" SCH80 PVC	TRENCH	COMM CABLE
100	120	4" SCH80 PVC	TRENCH	ELECTRIC SERV.
101	155	4" SCH80 PVC	TRENCH	COMM CABLE
102	155	4" SCH80 PVC	TRENCH	ELECTRIC SERV.
103	20	4" SCH80 PVC	TRENCH	ELECTRIC SERV.
104	20	4" SCH80 PVC	TRENCH	COMM CABLE
105	255	4" SCH80 PVC	TRENCH	ELECTRIC SERV.
106	115	4" SCH80 PVC	TRENCH	COMM CABLE

WS-08

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE
0 30 60 90
FEET

US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT	BRIDGE NO.	
T200811301	DESIGNED BY: RW	WIM AND CVISN PLANS
COUNTY	CHECKED BY: RB	
NEW CASTLE		

SHEET NO.
807
TOTAL SHTS.
850

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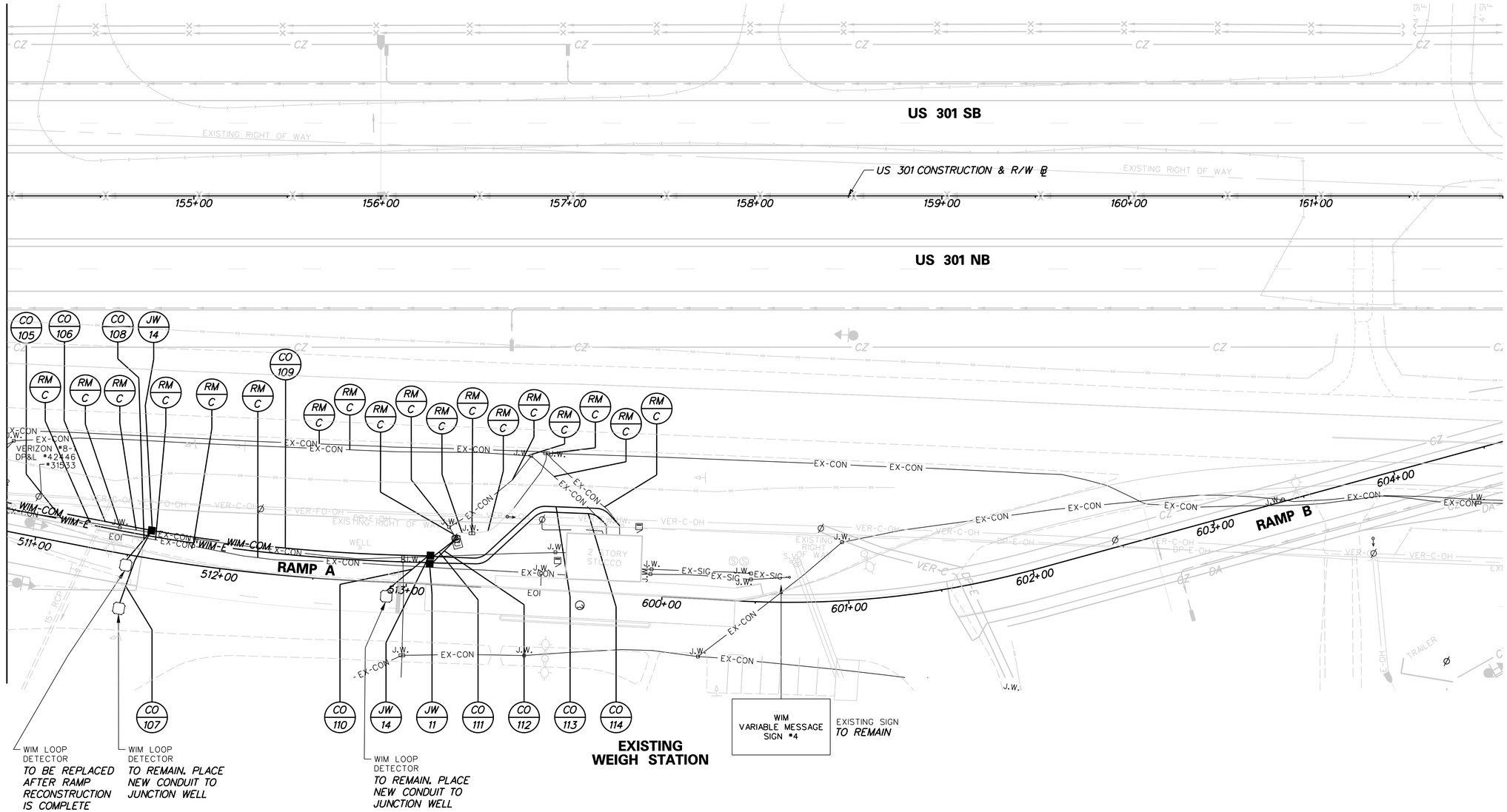
MATCH LINE STA 154+00 SHEET WS-08



CONDUIT SCHEDULE

NO.	DISTANCE (L.F.)	DESCRIPTION	INSTALLATION	REMARKS
107	30	2" GALVANIZED RIGID STEEL	TRENCH	LOOP CABLE
108	10	2" GALVANIZED RIGID STEEL	TRENCH	LOOP CABLE
109	155	4"SCH80 PVC	TRENCH	COMM CABLE
110	20	2" GALVANIZED RIGID STEEL	TRENCH	LOOP CABLE
111	20	4"SCH80 PVC	TRENCH	COMM CABLE
112	20	4"SCH80 PVC	TRENCH	ELECTRIC SERV.
113	120	4"SCH80 PVC	TRENCH	COMM CABLE
114	110	4"SCH80 PVC	TRENCH	ELECTRIC SERV.

NOTE:
CONDUITS 107, 108, AND 110 ARE TO TIE INTO EXISTING LEAD-IN CABLES TO EXISTING LOOP DETECTORS.

WS-09

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE
0 30 60 90
FEET

US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT	BRIDGE NO.	
T200811301	DESIGNED BY: RW	
COUNTY	CHECKED BY: RB	
NEW CASTLE		

WIM AND CVISN PLANS

SHEET NO.
808
TOTAL SHTS.
850

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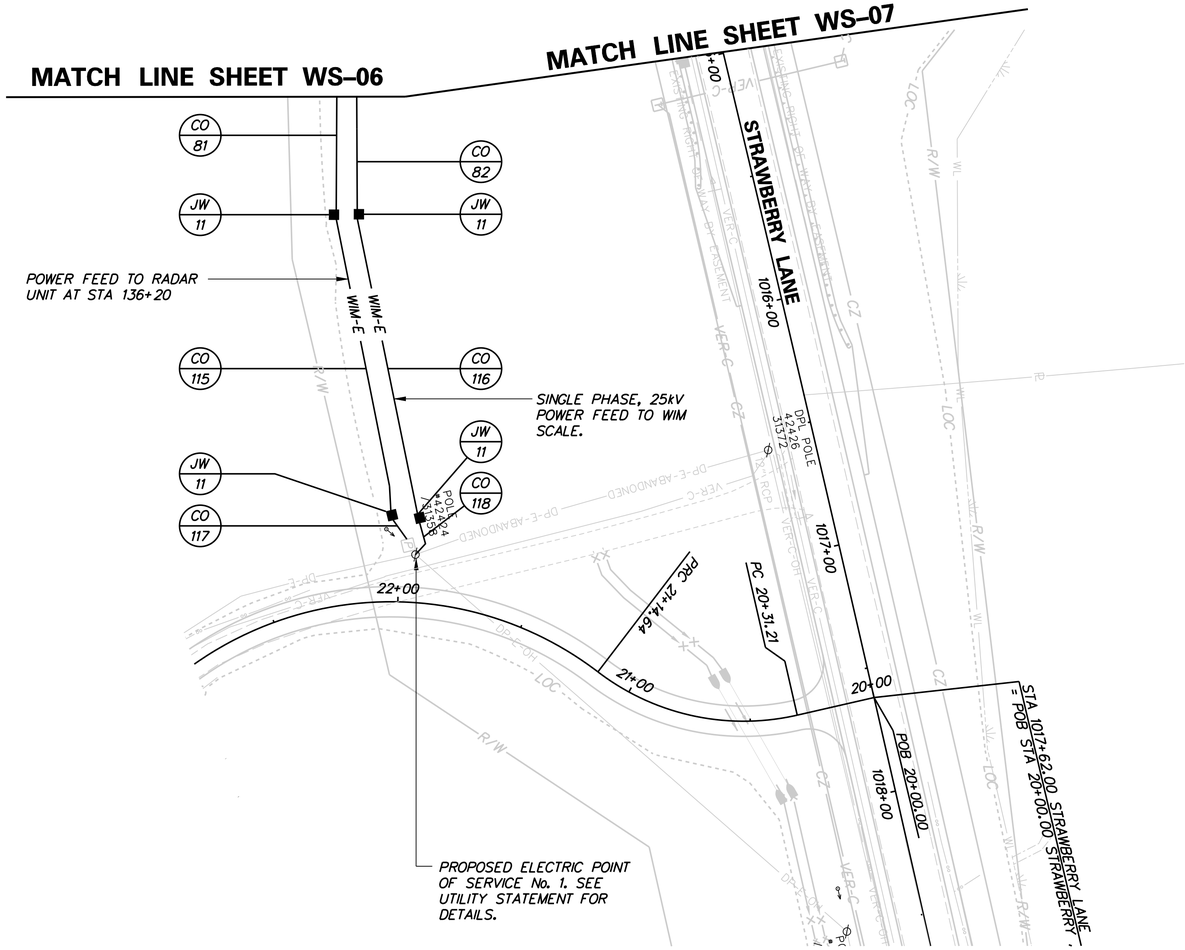

CONDUIT SCHEDULE				
NO.	DISTANCE (L.F.)	DESCRIPTION	INSTALLATION	REMARKS
115	125	4" SCH80 PVC	TRENCH	ELECTRIC SERV.
116	125	4" SCH80 PVC	TRENCH	ELECTRIC SERV.
117	15	4" GALVANIZED RIGID STEEL	TRENCH	ELECTRIC SERV.
118	20	4" GALVANIZED RIGID STEEL	TRENCH	ELECTRIC SERV.

WS–10

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE
0 30 60 90
FEET

US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT	BRIDGE NO.	
T200811301	DESIGNED BY: RW	
COUNTY	CHECKED BY: RB	
NEW CASTLE		

WIM AND CVISN PLANS

SHEET NO.
809
TOTAL SHTS.
850

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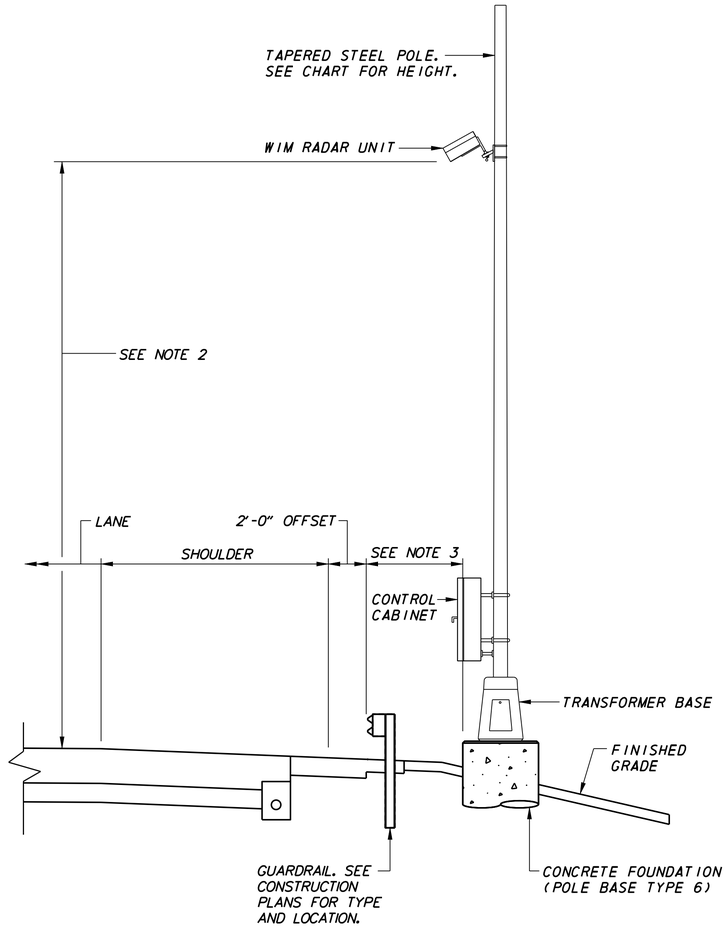
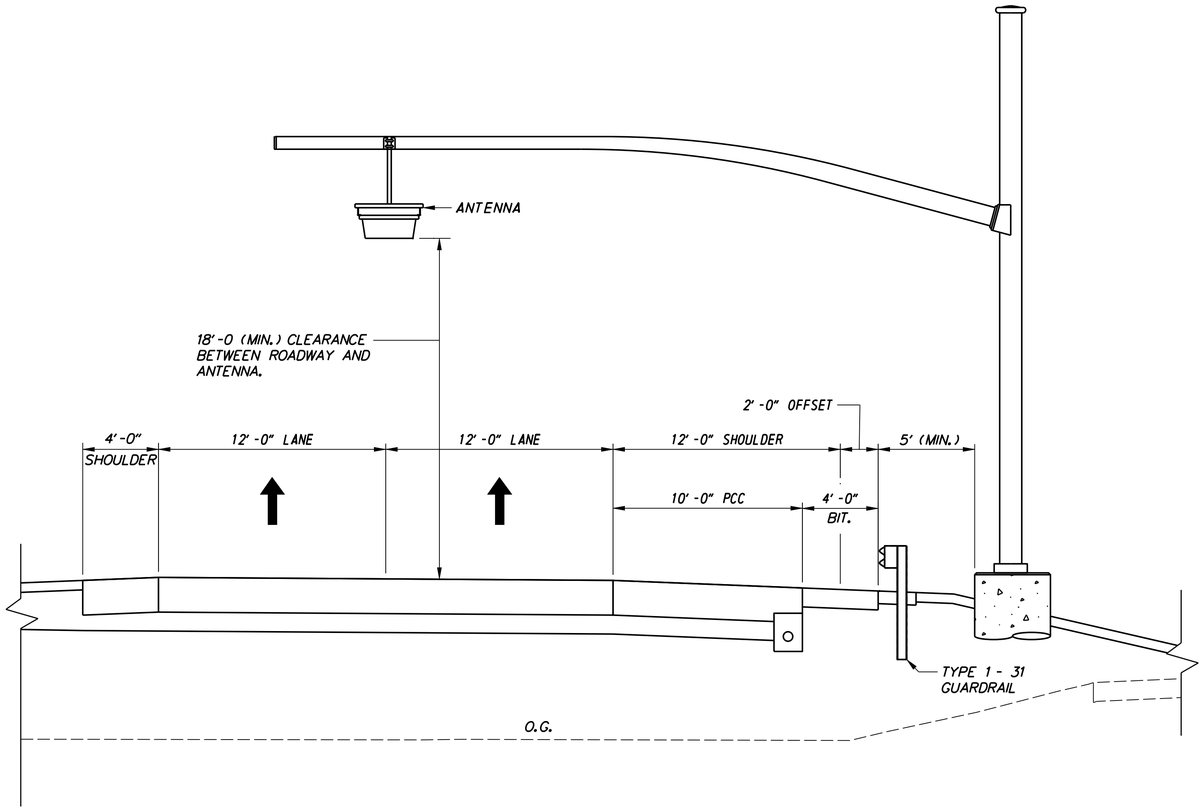


WIM RADAR SUPPORT DETAIL

WIM RADAR INFORMATION CHART							
RADAR NO.	POLE HEIGHT	POLE BASE TYPE	POLE LOCATION				REMARKS
			STATION	OFFSET	NORTHING	EASTING	
1	-	-	94+53	75'	-	-	MOUNT TO EXISTING POLE.
2	25'	6	97+00	83.25'	512277.9933	554714.9791	NEW INSTALLATION.
3	25'	6	109+06	72.00'	513198.1449	555495.4090	NEW INSTALLATION.
4	30'	6	136+20	76.00'	515317.9679	557204.9210	NEW INSTALLATION.
5	30'	6	144+00	83.50'	516018.4142	557568.3778	NEW INSTALLATION.

NOTES

1. LOCATIONS NOTED ARE GIVEN TO CENTER OF POLE.
2. RADAR MOUNTING HEIGHT TO BE DETERMINED BY WIM VENDOR.
3. 5' (MIN.) FOR TYPE 1-31 GUARDRAIL, AND 5'-6" (MIN.) FOR TYPE 1-27 GUARDRAIL.
4. FURNISHING AND INSTALLATION OF RADAR UNIT AND CONTROL CABINET TO BE INCLUDED WITH ITEM 763619 - WEIGH IN MOTION SYSTEM (WIM).
5. PROPOSED POLES AND TRANSFORMER BASES TO BE FURNISHED AND INSTALLED BY DELDOT TRAFFIC FORCES. CONTRACTOR SHALL COORDINATE WITH DELDOT TRAFFIC FORCES AT 302.222.5920 TEN (10) WORKING DAYS PRIOR TO INSTALLING POLE BASES.



CVISN POLE AND MAST ARM DETAIL
NB US 301 STATION 153+50

NOTES

1. EXISTING CVISN COMPLIANCE POLE, CONTROLLER CABINET, MAST ARM, AND ANTENNA TO BE RELOCATED FROM STA 153+90 TO STA 153+50. RELOCATION AND NEW POLE BASE TO BE INCLUDED WITH ITEM 746951 - RELOCATING POLE AND MAST ARM. SEE POLE BASE DETAIL ON SHEET DT-22.
2. PRIOR TO PHASE 5 OF CONSTRUCTION, THE ENGINEER WILL COORDINATE THE CVISN EQUIPMENT RELOCATIONS WITH THE CONTRACTOR AND CVISN REPRESENTATIVE.
3. THE CONTRACTOR WILL BE REQUIRED TO REMOVE THE CONDUIT, JUNCTION WELLS, AND POLE BASE(S) DESIGNATED TO BE REMOVED AS NOTED ON THE PLANS. THE REMOVAL OF THESE ITEMS SHALL OCCUR ONLY AFTER APPROVAL FROM THE ENGINEER.
4. PAYMENT FOR REMOVING CONDUIT, CABLE, AND JUNCTION WELLS WILL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 211000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS.

CVISN POLE AND MAST ARM INFORMATION CHART					
POLE NO.	POLE LOCATION				REMARKS
	STATION	OFFSET	NORTHING	EASTING	
1	94+53	75'	-	-	ANTENNA ADJUSTMENT ONLY.
2	104+10	75'	-	-	ANTENNA ADJUSTMENT ONLY.
3	153+50	72.00'	516930.8864	557866.2859	RELOCATE FROM STA 153+90.

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

NOT TO SCALE

US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT	BRIDGE NO.
T200811301	DESIGNED BY: RWW
COUNTY	CHECKED BY: SKH
NEW CASTLE	

WIM AND CVISN DETAILS

SHEET NO.
810
TOTAL SHTS.
850

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INDEX OF SHEETS

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FOR INFORMATION ONLY (BY OTHERS)

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DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

NOT TO SCALE

US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT	BRIDGE NO.		SHEET NO.
T200811301	DESIGNED BY: TD	INDEX SHEET	811
COUNTY			TOTAL SHTS.
NEW CASTLE	CHECKED BY: BP		850

LAST REVISED: 3/12/2008
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EXISTING SYMBOLS

DRAINAGE

	DITCH OR STREAM CENTERLINE
	DIRECTIONAL STREAM FLOW ARROW
C.B.	DRAINAGE CATCH BASIN
J.B.	DRAINAGE JUNCTION BOX
D	DRAINAGE MANHOLE
SIZE/TYPE LABEL	DRAINAGE PIPE AND FLOW ARROW
	DRAINAGE PIPE HEADWALL
	RIPRAP - AREA FEATURE
	RIPRAP - LINEAR FEATURE

MANMADE ROADSIDE FEATURES

(TYPE LABEL)	CURB
(TYPE LABEL)	CURB AND GUTTER
	FENCE - CHAINLINK OR STRANDED
	FENCE - STOCKADE OR SPLIT RAIL
FP	FLAG POLE
	GUARDRAIL - STEEL BEAM
	GUARDRAIL - WIRE ROPE
LAMP	LAMP AND POST - RESIDENTIAL
MB	MAILBOX
PM	PARKING METER AND POST
	PAVEMENT - FLEXIBLE
	PAVEMENT - RIGID
	PILE - BRIDGE
	PILLAR OR MISCELLANEOUS POST
	TRAFFIC SIGN AND POST
	WALL - BRICK OR BLOCK
	WALL - STONE

NATURAL ROADSIDE FEATURES

	GRASS LAWN
	HEDGEROW OR THICKET
	MARSH BOUNDARY LINE
	TREE - CONIFEROUS
	TREE - DECIDUOUS
	TREE STUMP
	SHRUBBERY
WL	DELINEATED WETLAND BOUNDARY LINE
	WOODS LINE BOUNDARY

SURVEY CONTROL & MONUMENTATION

B.M.	SURVEY BENCHMARK LOCATION
T.P.	SURVEY TIE POINT LOCATION
△	SURVEY TRAVERSE POINT
	POINT OF CURVATURE OR TANGENCY
	POINT OF INTERSECTING TANGENTS
C.M.	PROPERTY MARKER - CONCRETE MON.
I.P.	PROPERTY MARKER - IRON PIPE

UTILITY

	SOIL BORING LOCATION
	UTILITY TEST HOLE LOCATION
TV	CABLE TV DISTRIBUTION BOX
E	ELECTRIC MANHOLE
EM	ELECTRIC METER
E	ELECTRIC TRANSFORMER
	POLE MOUNTED LUMINAIRE
G	GAS MANHOLE
G.M.	GAS METER
G.V.	GAS VALVE
G.P.	GAS PUMP - SERVICE STATION
	RAILROAD TRACKS
S	SANITARY SEWER MANHOLE
S.V.	SANITARY SEWER VALVE
VENT	SANITARY SEWER VENT OR CLEANOUT
S.D.F.	SEPTIC DRAIN FIELD
B	TELEPHONE BOOTH
T	TELEPHONE MANHOLE
T	TELEPHONE TEST POINT
J.W.	TRAFFIC - CONDUIT JUNCTION WELL
	TRAFFIC - LIGHT POLE AND BASE
	TRAFFIC - PEDESTRIAN POLE & BASE
	TRAFFIC - SIGNAL CABINET & BASE
	TRAFFIC - SIGNAL POLE AND BASE
U	UTILITY BOX
	UTILITY POLE GUY WIRE ANCHOR
	UTILITY POLE
F.H.	WATER - FIRE HYDRANT
W.M.	WATER METER
W.V.	WATER VALVE
WELL	WELL HEAD

PROPOSED SYMBOLS

CONSTRUCTION

	CONCRETE SAFETY BARRIER - PERMANENT
BFS	BIOFILTRATION SWALE
	BUTT JOINT
100+00	CONSTRUCTION BASELINE
	CURB, TYPE 1 & TYPE 3
	CURB, TYPE 2
	CURB & GUTTER, TYPE 1
	CURB & GUTTER, TYPE 2
	CURB & GUTTER, TYPE 3
	CURB & GUTTER, TYPE 4
CZ	CLEAR ZONE
	DRAINAGE INLET
	DITCH
	FENCE - METAL
	FENCE - WOOD
	FLARED END SECTION
	GUARDRAIL, TYPES 1 & 3
	GUARDRAIL, TYPE 2
	GUARDRAIL END TREATMENT - PARALLEL
	GUARDRAIL END TREATMENT - PARABOLIC
HC	HORIZONTAL CLEARANCE
	JUNCTION BOX - DRAINAGE
LOC	LIMIT OF CONSTRUCTION
	MANHOLE
	PAVEMENT PATCH
	PIPE & DIRECTIONAL FLOW ARROW
	RIPRAP
	P.C.C. SIDEWALK @ 6"
	UNDERDRAIN
	UNDERDRAIN OUTLET

CONSTRUCTION PHASING SYMBOLS

	BARRICADE, TYPE 3
	CONCRETE SAFETY BARRIER - PORTABLE
	CONSTRUCTION WARNING SIGN LOCATION
END ROAD WORK	CONSTRUCTION WARNING SIGN
	CRASH CUSHION ARRAY
	DRUM - TRAFFIC CONTROL
	PHASING TRAFFIC FLOW ARROW

LANDSCAPING

	SHRUBBERY
	CONIFEROUS TREE
	DECIDUOUS TREE

EROSION & SEDIMENT CONTROL

DWB	DEWATERING BASIN
	EROSION CONTROL BLANKET
ED	EARTH DIKE
	INLET SEDIMENT CONTROL
	PERIMETER DIKE/SWALE
PST	PORTABLE SEDIMENT TANK
RSF	REINFORCED SILT FENCE
SBD	SANDBAG DIKE
SB	SANDBAG DIVERSION
	STONE CHECK DAM
SCE	STABILIZED CONSTRUCTION ENTRANCE
SF	SILT FENCE
SP-1	SUMP PIT, TYPE 1
SP-2	SUMP PIT, TYPE 2
ST	SEDIMENT TRAP
ST	SEDIMENT TRAP WITH INLET AS OUTLET
ST	SEDIMENT TRAP PIPE OUTLET
SW	STILLING WELL
	TEMPORARY SWALE
TSD	TEMPORARY SLOPE DRAIN

IDENTIFIERS

A/C	ADJUST BY CONTRACTOR
A/O	ADJUST BY OTHERS
B	CONCRETE SAFETY BARRIER
C	CURB OR CURB & GUTTER
C/JB	CONVERT TO JUNCTION BOX
C/MH	CONVERT TO DRAINAGE MANHOLE
C/O	CURB OPENING
CR	CURB RAMP / TYPE
CR-N	CURB RAMP / TYPE - WITHOUT SIDEWALK SURFACE DETECTABLE WARNING SYSTEM
DI	DRAINAGE INLET
DND	DO NOT DISTURB
FES	FLARED END SECTION
FS	FILTRATION STRUCTURE
GR	GUARDRAIL
JB	JUNCTION BOX
LS	LANDSCAPE PLANTINGS
MH	MANHOLE
M	MONUMENT - RIGHT-OF-WAY
P	PIPE
R/C	RELOCATE BY CONTRACTOR
R/O	RELOCATE BY OTHERS
RM/C	REMOVE BY CONTRACTOR
RM/O	REMOVE BY OTHERS
ST	SEDIMENT TRAP
SF	SILT FENCE
UD	UNDERDRAIN

IDENTIFIERS

DS	DOWNSPOUT
SW	SIDEWALK

PAVEMENT SECTION(S)

	OVERLAY PAVEMENT - SEE TYPICAL SECTIONS FOR MATERIALS AND DEPTHS
	RECONSTRUCTED PAVEMENT - SEE TYPICAL SECTIONS FOR MATERIALS AND DEPTHS
	DRIVEWAY AND ENTRANCE PAVEMENT - SEE TYPICAL SECTIONS FOR MATERIALS AND DEPTHS

RIGHT-OF-WAY SYMBOLS

	PROPOSED RIGHT-OF-WAY MONUMENT
PL	EXISTING PROPERTY LINE
EASEMENT TYPE	EXISTING EASEMENT
	EXISTING RIGHT-OF-WAY
DA	PROPOSED DENIAL OF ACCESS
PE	PROPOSED PERMANENT EASEMENT
R/W	PROPOSED RIGHT-OF-WAY
R/W-DA	PROPOSED R/W & DENIAL OF ACCESS
TCE	TEMPORARY CONSTRUCTION EASEMENT
100+00	PROPOSED RIGHT-OF-WAY BASELINE
100+00	HISTORIC RIGHT-OF-WAY BASELINE

TRAFFIC

ITMS-CON	ITMS CONDUIT
SIG-CON	SIGNAL CONDUIT
	CONDUIT JUNCTION WELL
	LUMINAIRE
	PAVEMENT MARKINGS
	PAVEMENT STRIPING
	TRAFFIC SIGN

FOR INFORMATION ONLY (BY OTHERS)

LG-03

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

ADDENDUMS / REVISIONS

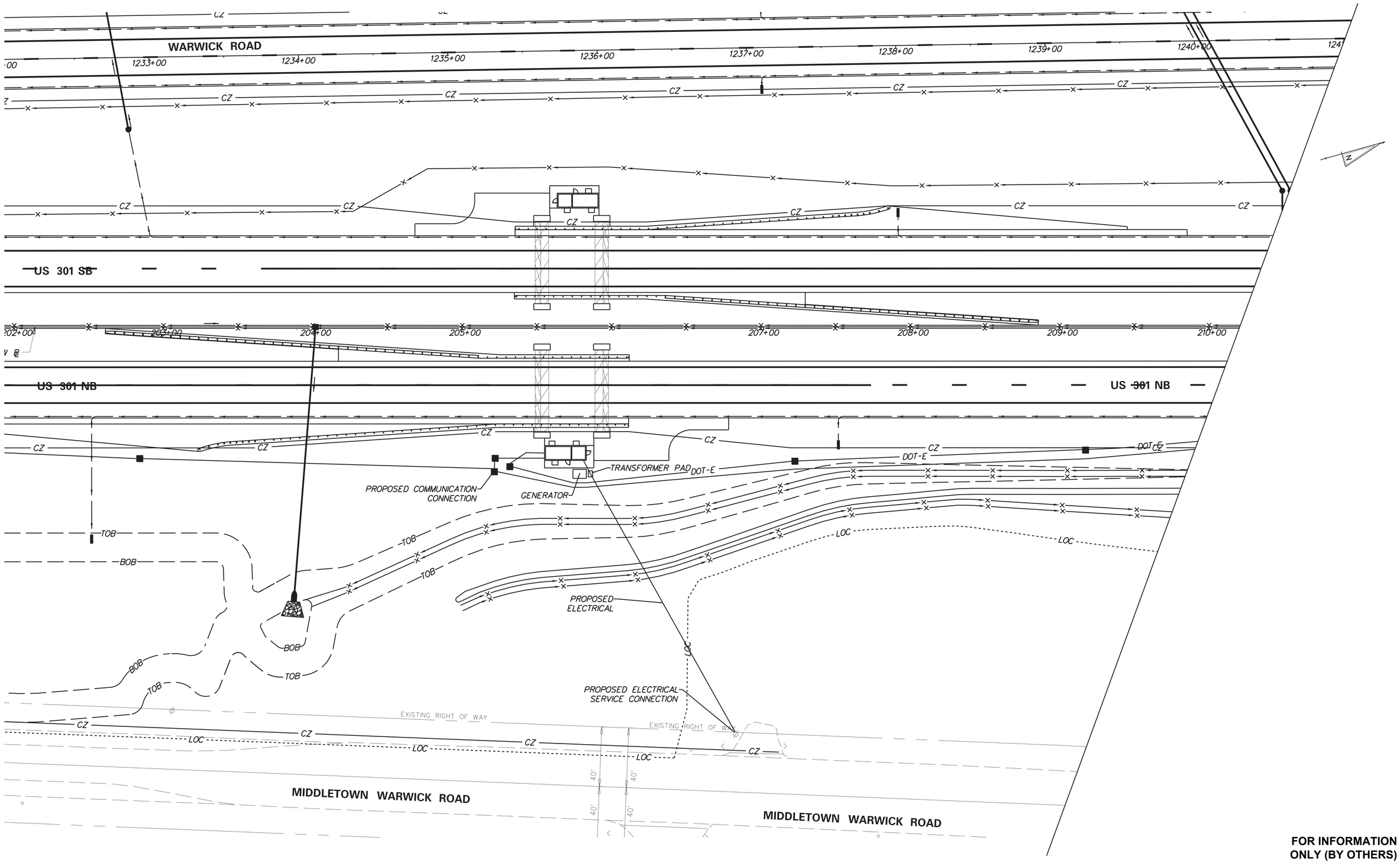
NOT TO SCALE

US 301 MARYLAND STATE LINE TO LEVELS ROAD

CONTRACT	T200811301
COUNTY	NEW CASTLE
BRIDGE NO.	
DESIGNED BY:	TD
CHECKED BY:	BP

LEGEND

SHEET NO.	812
TOTAL SHTS.	850



FOR INFORMATION ONLY (BY OTHERS)

UT–46

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	SCALE 0 30 60 90 FEET	US 301 MARYLAND STATE LINE TO LEVELS ROAD	CONTRACT T200811301	BRIDGE NO.	UTILITY CONSTRUCTION PLAN	SHEET NO. 813
				COUNTY NEW CASTLE	DESIGNED BY: JS		TOTAL SHTS. 850
					CHECKED BY: GW		

LAST REVISED: 3/12/2008
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GENERAL NOTES

1. ALL WORK SHALL BE COORDINATED WITH DELDOT.
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, AND MECHANICAL DRAWINGS.
4. ALL DIMENSIONS SHOWN TO FACE OF CMU 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. FOR ALL DIMENSIONS NOT SHOWN ON FLOOR PLAN REFER TO ENLARGED PLANS.
7. ALL MASONRY DIMENSIONS, MO, ETC ARE NOMINAL DIMENSIONS UNLESS OTHERWISE NOTED.
8. SEE SPECIFICATIONS FOR ALL INTERIOR AND EXTERIOR SIGNAGE REQUIREMENTS.
9. FE INDICATES FIRE EXTINGUISHER. SURFACE MOUNTED UNITS
10. INTERIOR DOOR DIMENSIONS ARE TO MASONRY OPENINGS UNLESS OTHERWISE NOTED.
11. SEE MECHANICAL / ELECTRICAL DRAWINGS FOR EXACT LOCATION OF CURB AND TYPE OF EQUIPMENT. SEE STRUCTURAL DRAWINGS FOR REINFORCING REQUIREMENTS.
12. 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.
13. 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
NB	NORTH BOUND
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
SB	SOUTH BOUND
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
- L-1 — 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
- INDICATES PARTITION HEIGHT TO EXTEND TO UNDERSIDE OF STRUCTURAL DECK ABOVE
- ELEVATION INDICATION
- 0 — REVISION REFERENCE
- REVISION CLOUD

- A / A301 — SECTION REFERENCE
- DRAWING ON WHICH SECTION APPEARS
- A / A401 — DETAIL REFERENCE
- DRAWING ON WHICH DETAIL APPEARS
- A / D B C — A01 — MULTIPLE ELEVATION REFERENCE
- DRAWING ON WHICH ELEVATIONS APPEAR
- A / A301 — SINGLE ELEVATION REFERENCE
- DRAWING ON WHICH ELEVATION APPEARS
- A / A401 — 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

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	

FOR INFORMATION ONLY (BY OTHERS)

A–1

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

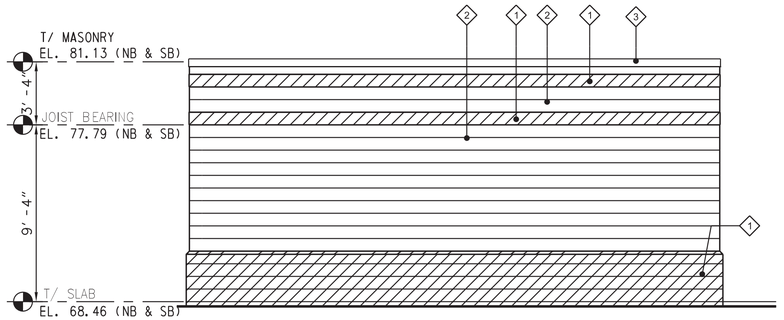
US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT	BRIDGE NO.	
T200811301	DESIGNED BY:	DRE
COUNTY	CHECKED BY:	JRS
NEW CASTLE		

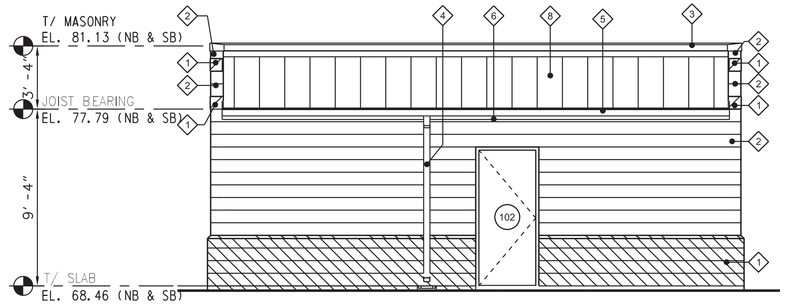
ARCHITECTURAL LEGENDS, SYMBOLS AND ABBREVIATIONS

SHEET NO. 814
TOTAL SHTS. 850

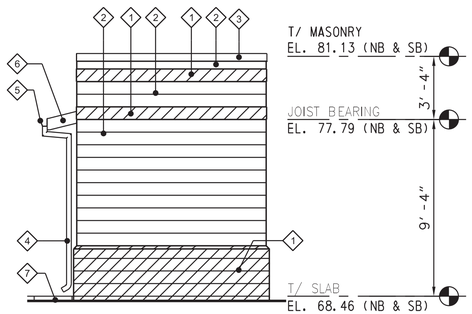
LAST REVISED: 3/12/2008
H:\50343_TOLL-PLAZA\GENERAL\XREFS\SB_A1.DGN



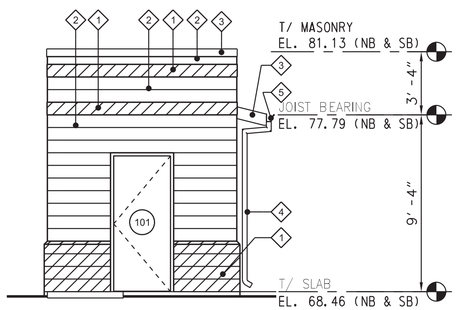
ELEVATION
SCALE: 1/4" = 1'-0" (1 A-2)



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



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



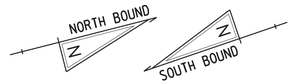
ELEVATION
SCALE: 1/4" = 1'-0" (4 A-2)

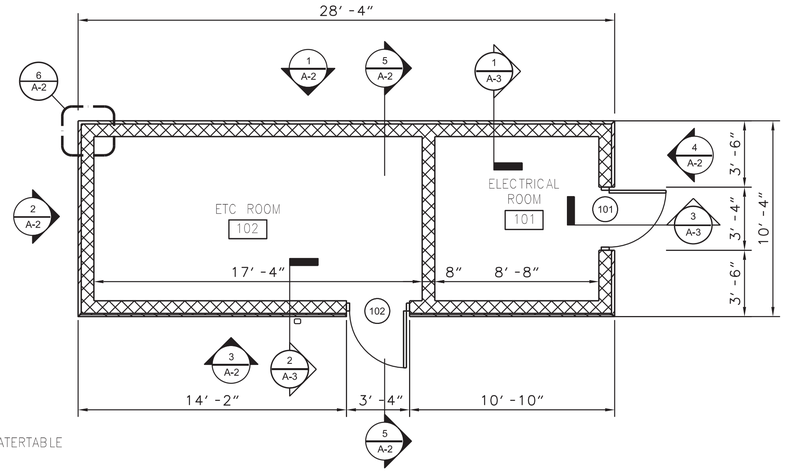
KEYNOTES

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

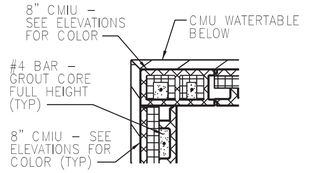
FLOOR PLAN NOTES

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, 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 FINISHED FIRST FLOOR ELEVATION.
6. SEE CIVIL DRAWINGS FOR CONCRETE PADS AND BOLLARD LOCATIONS AT EXTERIOR DOORS

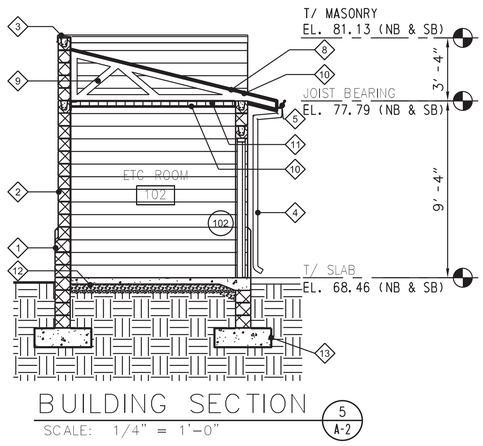




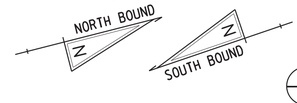
FLOOR PLAN
SCALE: 1/4" = 1'-0"

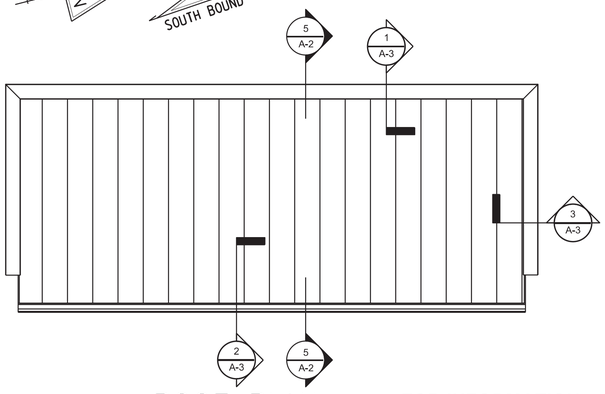


DETAIL
SCALE: 3/4" = 1'-0" (6 A-2)



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





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

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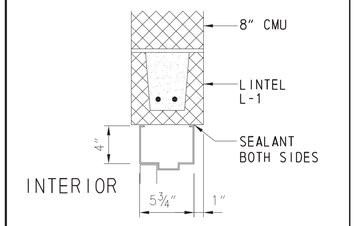
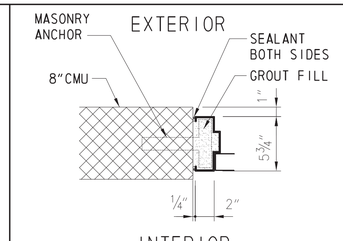


1

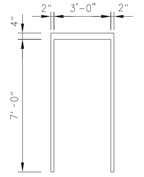


2

DOOR TYPE

A

FRAME TYPE



1

LINTEL SCHEDULE

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

ROOM FINISHES

LOCATION ROOM NO.	ROOM NAME	FLOORS MATERIALS: CONCRETE W/ SEALER	FLOORS: CONCRETE W/ EPOXY COATING	FLOORS: NOT USED	FLOORS: NOT USED	FLOORS: NOT USED	BASES MATERIALS: PAINTED	BASES: NOT USED	BASES: NOT USED	BASES: NOT USED	BASES: NOT USED	WALLS MATERIALS: CMU	WALLS: NOT USED	WALLS: NOT USED	WALLS: NOT USED	WALLS: NOT USED	WALLS: PAINT	CEILINGS MATERIALS: ½" PLYWOOD	CEILINGS: NOT USED	CEILINGS: NOT USED	CEILINGS: NOT USED	CEILINGS: PAINT	CEILING HEIGHT	REMARKS
		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"	

DOORS AND FRAMES

LOCATION	DOOR NO.	DOOR SIZE W	DOOR SIZE H	DOOR SIZE T	DOOR MAT	DOOR TYPE	DOOR GLASS	DOOR LOUVER W	DOOR 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
NORTH BOUND	101	3' -0"	7' -0"	1 3/4"	HM	A				HM	1	1	2				1	EXT	L-1	SMOKE SEALS AND CLOSER REQUIRED. CARD READER.
NORTH BOUND	102	3' -0"	7' -0"	1 3/4"	HM	A				HM	1	1	2				2	EXT	L-1	CARD READER.
SOUTH BOUND	101	3' -0"	7' -0"	1 3/4"	HM	A				HM	1	1	2				1	EXT	L-1	SMOKE SEALS AND CLOSER REQUIRED. CARD READER.
SOUTH BOUND	102	3' -0"	7' -0"	1 3/4"	HM	A				HM	1	1	2				2	EXT	L-1	CARD READER.

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

ADDENDUMS / REVISIONS

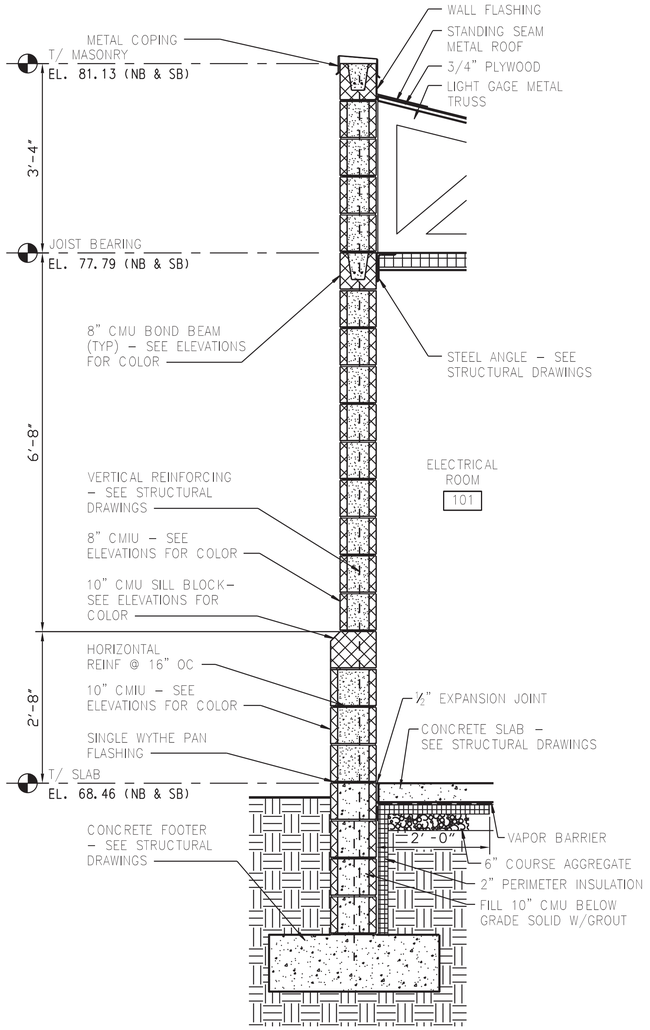
US 301 MARYLAND STATE LINE TO LEVELS ROAD

CONTRACT	BRIDGE NO.	
T200811301	DESIGNED BY: BJO	
COUNTY	CHECKED BY: JRS	
NEW CASTLE		

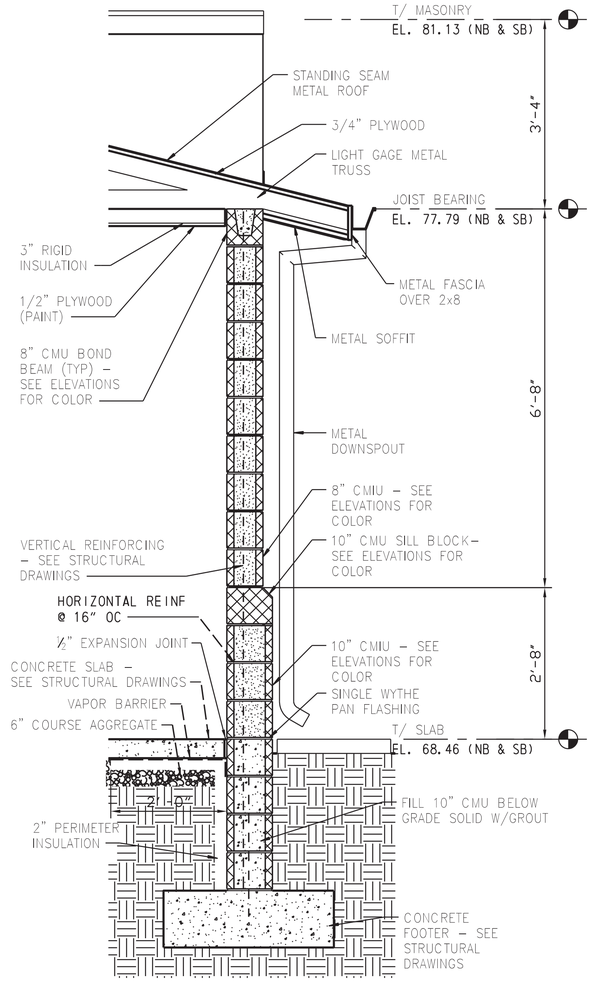
ARCHITECTURAL PLANS, ELEVATIONS, AND DETAILS

A-2

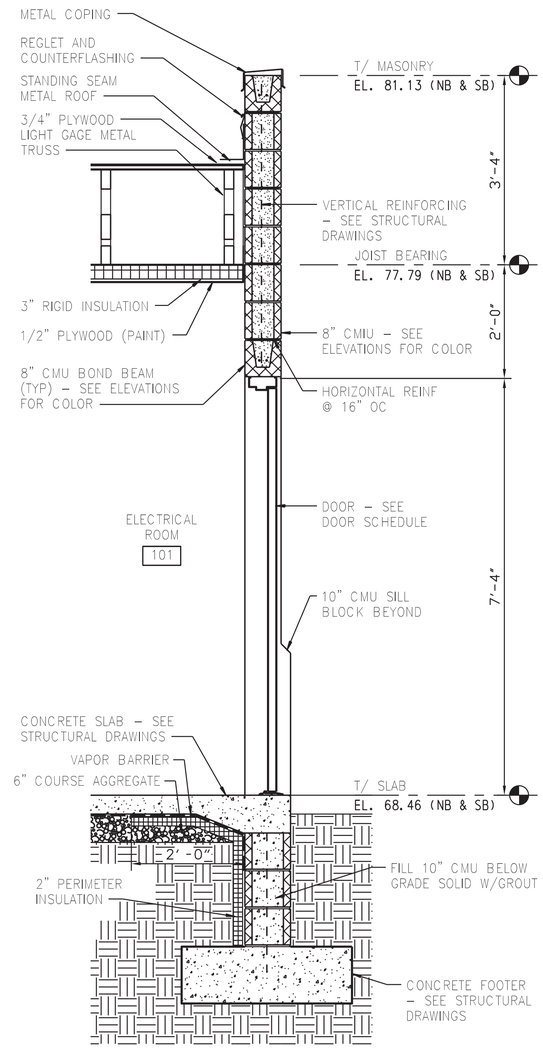
SHEET NO.	TOTAL SHTS.
815	850



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



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



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

NOTE: SEE BUILDING ELEVATIONS ON DRAWING A-2 FOR LOCATION DESIGNATIONS OF SPLIT FACE AND MATTE FACE CMU.

FOR INFORMATION ONLY (BY OTHERS)

A-3

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

ADDENDUMS / REVISIONS	

US 301 MARYLAND STATE LINE TO LEVELS ROAD

CONTRACT	BRIDGE NO.	
T200811301	DESIGNED BY: BJO	
COUNTY	CHECKED BY: JRS	
NEW CASTLE		

ARCHITECTURAL WALL SECTIONS

SHEET NO.
816
TOTAL SHTS.
850

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

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 PSIIN 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. PROVIDE ANCHOR BOLT HOLES ¼" LARGER THAN BOLT DIAMETER FOR BASE PLATE. PROVIDE BOLT HOLES ⅛" LARGER THAN BOLT DIAMETER FOR ANCHOR PLATE.
11. 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.
12. 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.
13. PROVIDE DOUBLE NUTS AND WASHERS FOR EACH ANCHOR BOLT.
14. GALVANIZED HIGH STRENGTH BOLTS SHALL CONFORM TO AASHTO M164/ASTM A325.
15. 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.
16. GALVANIZED ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM F1554 GRADE 55.
17. FOOTINGS WILL BE POURED AGAINST FILL COMPACTED TO 98% RELATIVE MAXIMUM DENSITY OR ON UNDISTURBED MATERIAL.
18. 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.
19. COORDINATE, LOCATE AND CONDUCT ALL WORK RELATED TO PUBLIC AND PRIVATE UTILITIES IN ACCORDANCE WITH DELDOT UTILITIES MANUAL.
20. 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.

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
PL	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
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT	BRIDGE NO.	
T200811301	DESIGNED BY: AB	
COUNTY	CHECKED BY: CAM	
NEW CASTLE		

STRUCTURAL
GENERAL NOTES
& ABBREVIATIONS

SHEET NO.	817
TOTAL SHTS.	850

LAST REVISED: 3/12/2008
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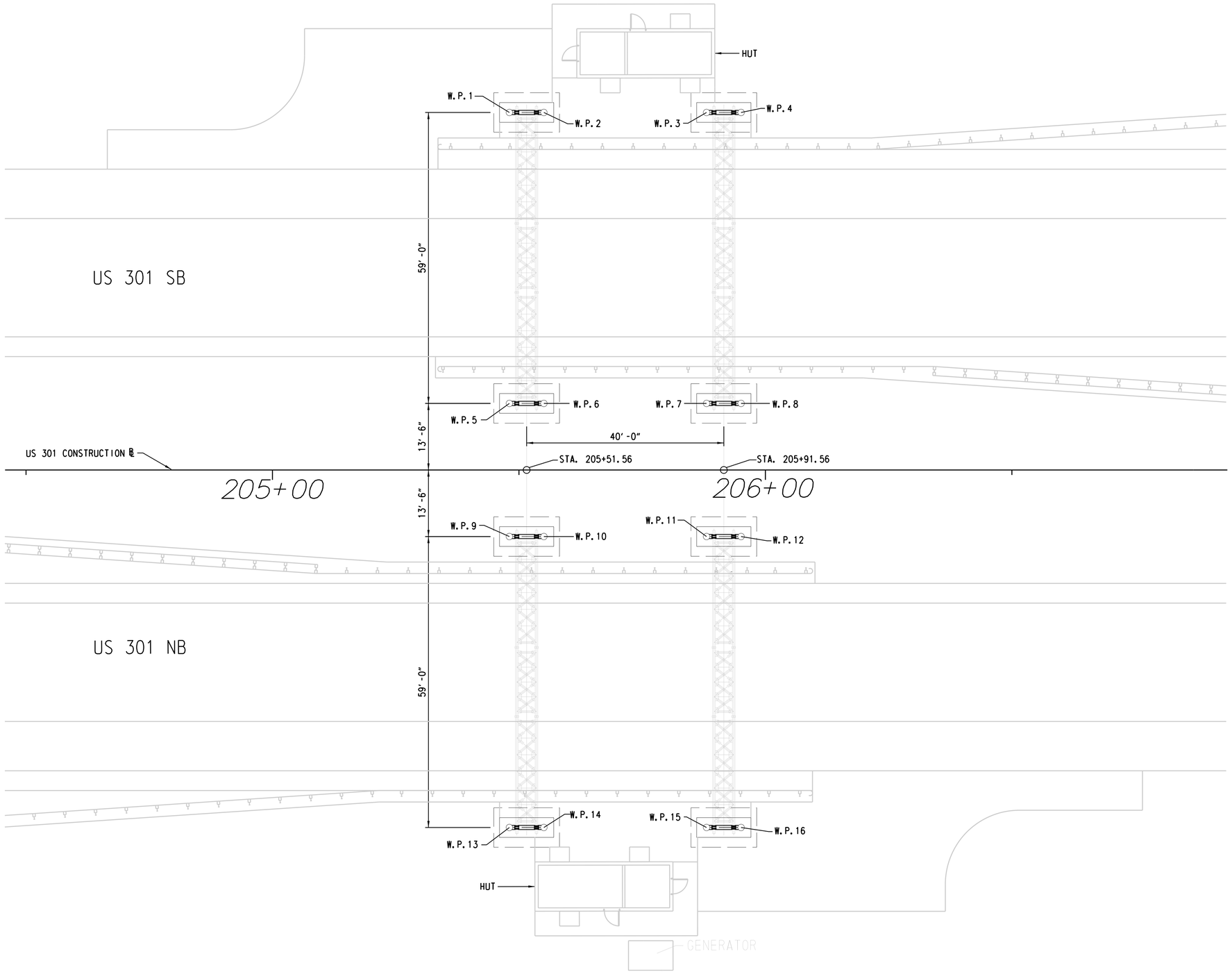

GANTRY FOUNDATION PLAN

SCALE: 3/32" = 1'-0"

WORKING POINT COORDINATES

WORKING POINTS	NORTHING	EASTING	STATION	OFFSET
W.P. 1	517595.9129	573133.8094	205+48.06	72.50 LT.
W.P. 2	517602.6524	573135.7013	205+55.06	72.50 LT.
W.P. 3	517634.4243	573144.6204	205+88.06	72.50 LT.
W.P. 4	517641.1637	573146.5123	205+95.06	72.50 LT
W.P. 5	517579.9667	573190.6136	205+48.06	13.50 LT.
W.P. 6	517586.7062	573192.5055	205+55.06	13.50 LT.
W.P. 7	517618.4780	573201.4246	205+88.06	13.50 LT.
W.P. 8	517625.2175	573203.3165	205+95.06	13.50 LT.
W.P. 9	517572.6715	573216.6005	205+48.06	13.50 RT.
W.P. 10	517579.4110	573218.4925	205+55.06	13.50 RT.
W.P. 11	517611.1829	573227.4116	205+88.06	13.50 RT.
W.P. 12	517617.9223	573229.3035	205+95.06	13.50 RT.
W.P. 13	517556.7253	573273.4047	205+48.06	72.50 RT.
W.P. 14	517563.4648	573275.2967	205+55.06	72.50 RT.
W.P. 15	517595.2366	573284.2158	205+88.06	72.50 RT.
W.P. 16	517601.9761	573286.1077	205+95.06	72.50 RT.

NOTES:
1. FOR GENERAL NOTES, SEE SHEET ST-01.
2. FOR FOUNDATION DETAILS, SEE SHEET ST-04.

ST-02

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

US 301 MARYLAND STATE LINE TO LEVELS ROAD

CONTRACT	BRIDGE NO.		SHEET NO.
T200811301	DESIGNED BY: AB	**STRUCTURAL GANTRY FOUNDATION PLAN**	818
COUNTY			TOTAL SHTS.
NEW CASTLE	CHECKED BY: CAM		850

LAST REVISED: 3/12/2008
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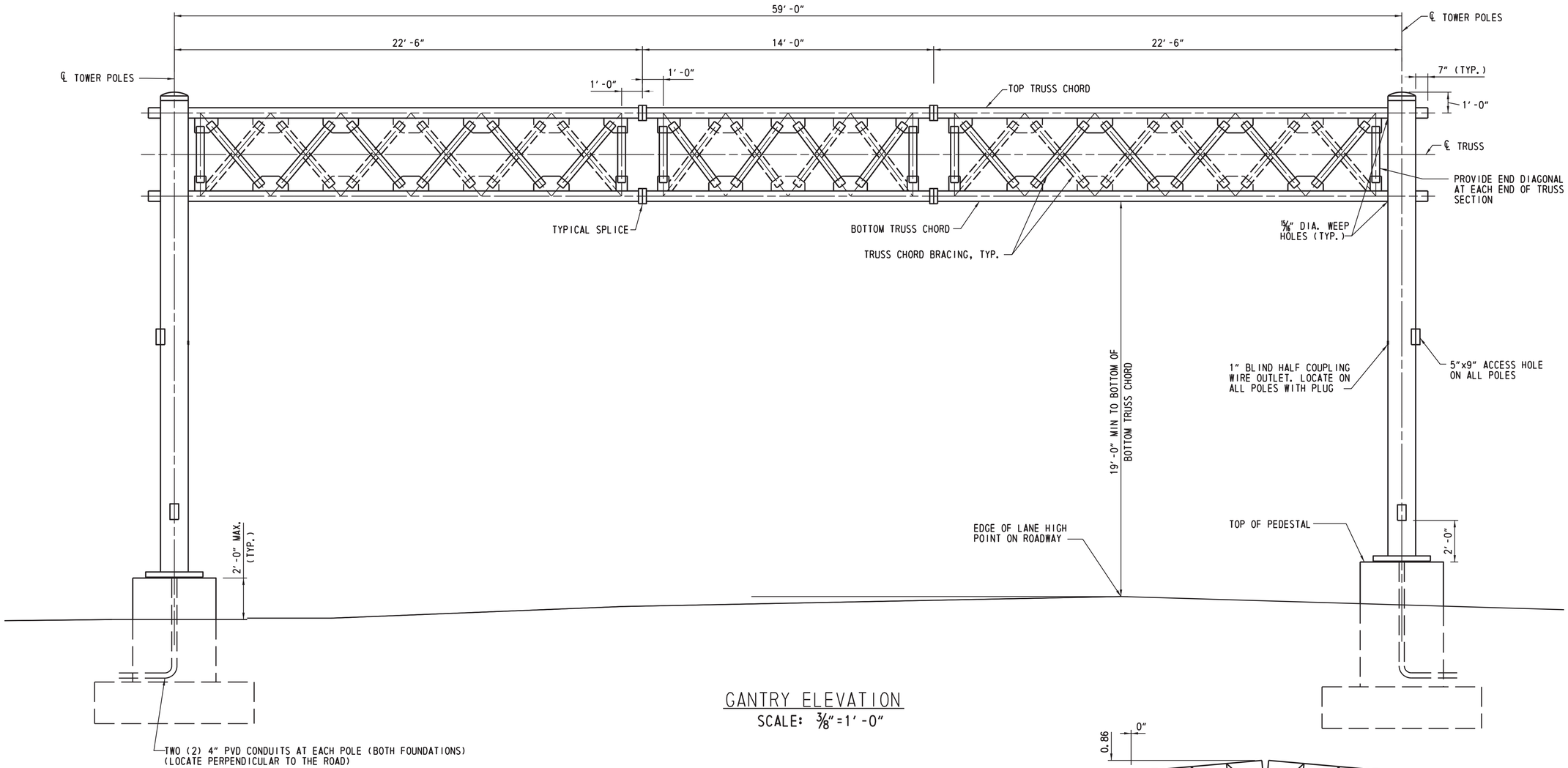
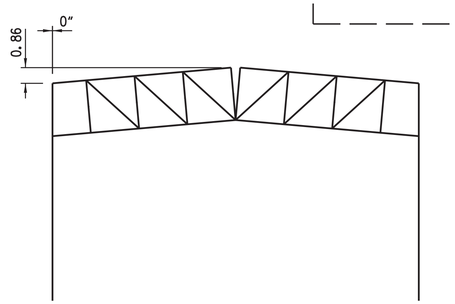


GANTRY ELEVATION
SCALE: ⅜"=1'-0"



GANTRY CAMBER DIAGRAM
SCALE: NTS

NOTES:
1. FOR GENERAL NOTES, SEE SHEET ST-01.
2. FOR STRUCTURE DETAILS, SEE SHEETS ST-05, ST-06, AND ST-07.
3. FOR FOUNDATION DETAILS, SEE SHEET ST-04.

FOR INFORMATION ONLY (BY OTHERS)

ST-03

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		US 301 MARYLAND STATE LINE TO LEVELS ROAD	CONTRACT T200811301	BRIDGE NO.	STRUCTURAL GANTRY ELEVATION
				COUNTY NEW CASTLE	DESIGNED BY: AB	SHEET NO. 819
					CHECKED BY: CAM	TOTAL SHTS. 850

LAST REVISED: 3/12/2008
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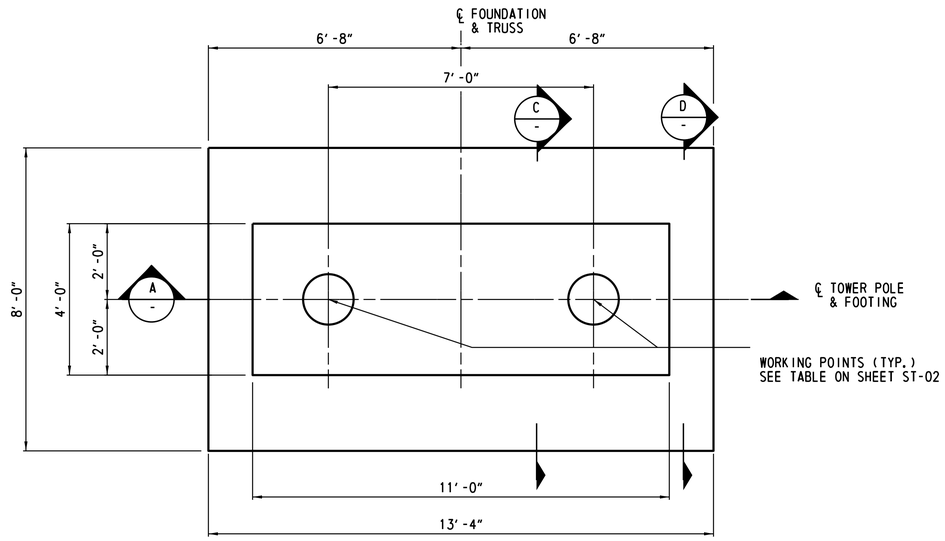
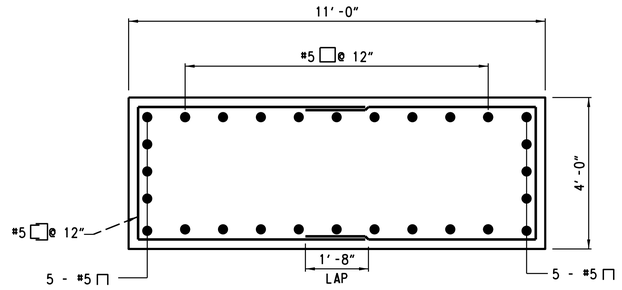
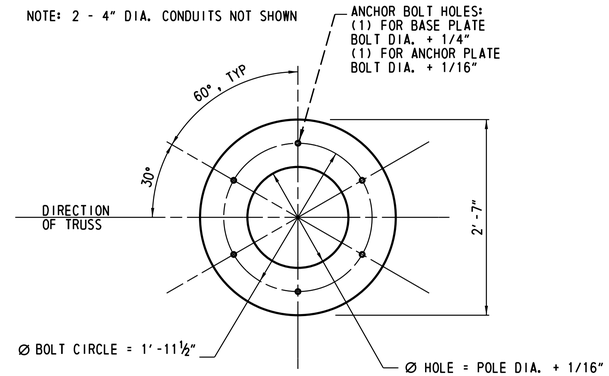


PLAN
SCALE: 1/2″=1′-0″

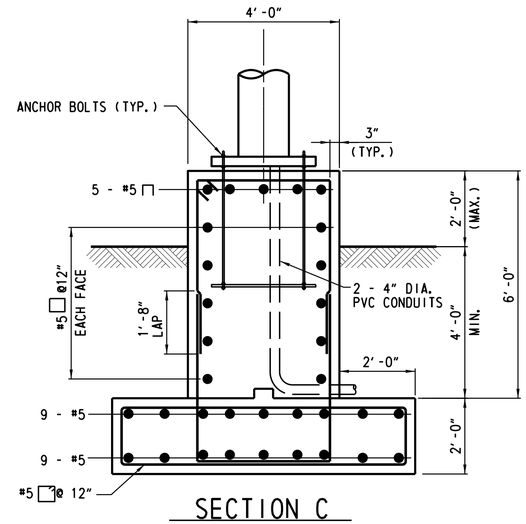


SECTION B
SCALE: ½″=1′-0″

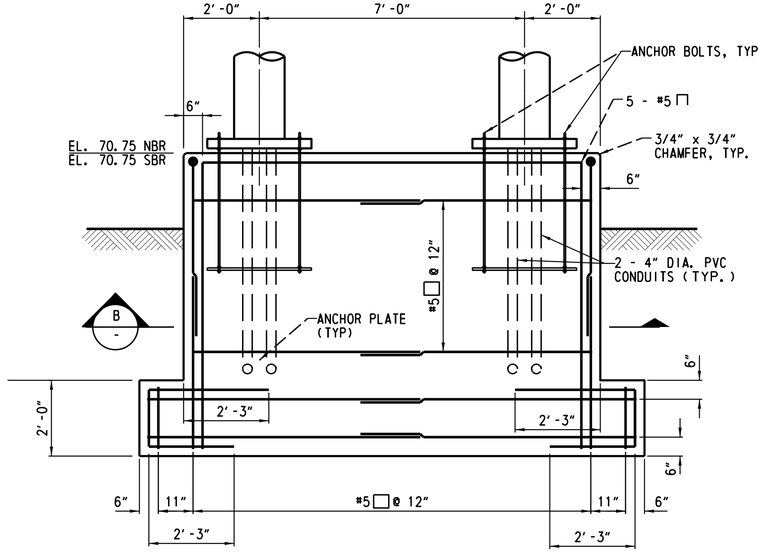
NOTE: 2 - 4″ DIA. CONDUITS NOT SHOWN



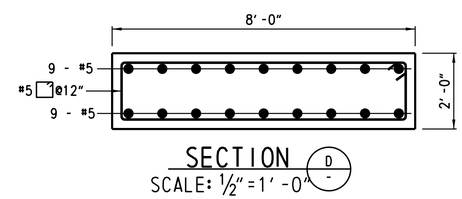
BASE PLATE PLAN VIEW
SCALE: 1″=1′-0″



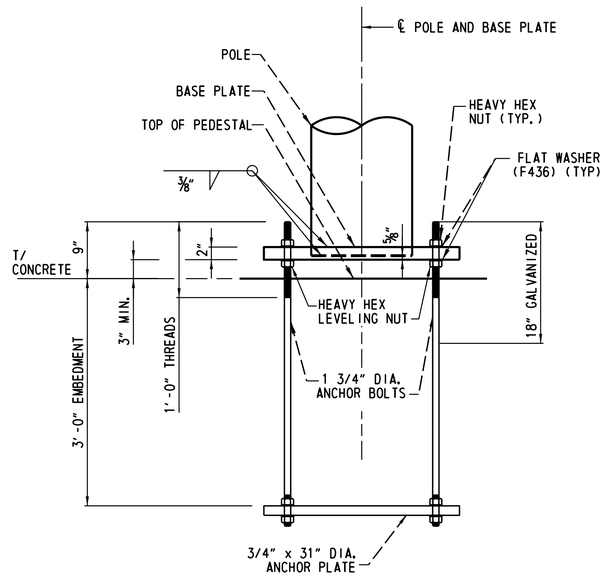
SECTION C
SCALE: 1/2″=1′-0″



SECTION A
SCALE: ½″=1′-0″



SECTION D
SCALE: ½″=1′-0″



BASE PLATE & ANCHOR PLATE DETAIL
SCALE: 1″=1′-0″

NOTE: 2 - 4″ DIA. CONDUITS NOT SHOWN

NOTES:

1. CONDUIT SHALL BE EXTENDED 3′ BEYOND EDGE OF FOOTING AND CAPPED.

ST-04

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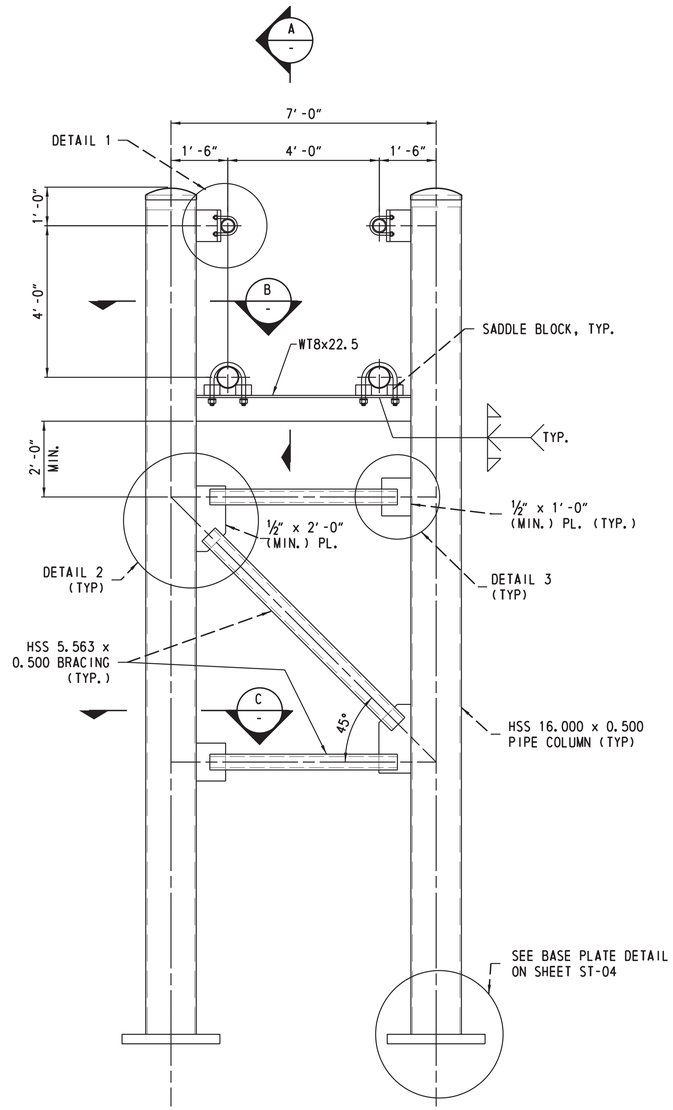
DELAWARE DEPARTMENT OF TRANSPORTATION

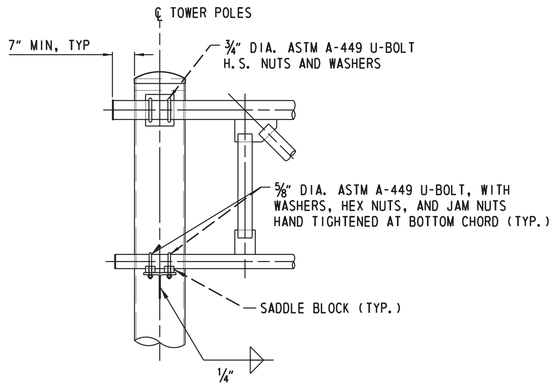
ADDENDUMS / REVISIONS

US 301 MARYLAND STATE LINE TO LEVELS ROAD

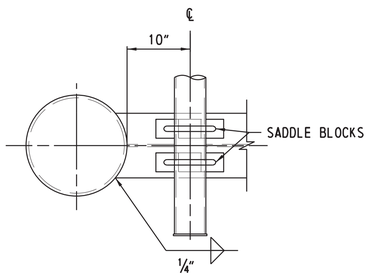
CONTRACT	BRIDGE NO.		SHEET NO.
T200811301	DESIGNED BY: AB	STRUCTURAL GANTRY FOUNDATION	820
COUNTY			TOTAL SHTS.
NEW CASTLE	CHECKED BY: CAM		850



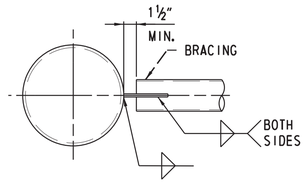
TOWER ELEVATION
SCALE: 1/2"=1'-0"



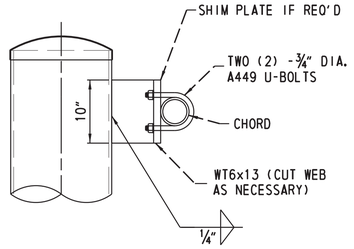
SECTION A
SCALE: ½"=1'-0"



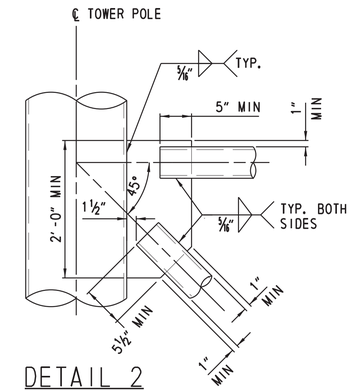
SECTION B
SCALE: 1"=1'-0"



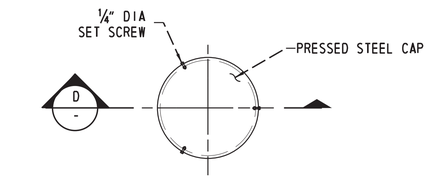
SECTION C
SCALE: 1"=1'-0"



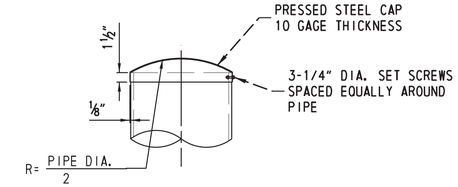
DETAIL 1
SCALE: 1"=1'-0"



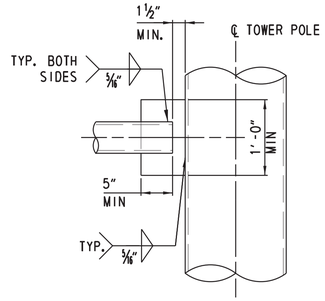
DETAIL 2
SCALE: 1"=1'-0"



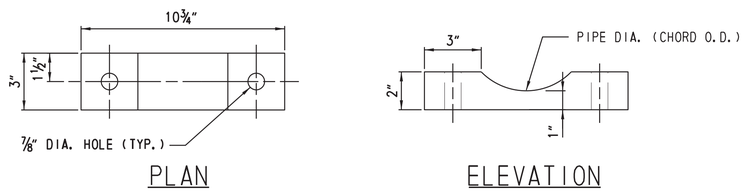
PIPE CAP DETAIL
SCALE: 1"=1'-0"



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



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



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-04,
3. FOR COPE HOLE DETAILS, SEE SHEET ST-07.
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.

FOR INFORMATION ONLY (BY OTHERS)

ST-05

LAST REVISED: 3/12/2008
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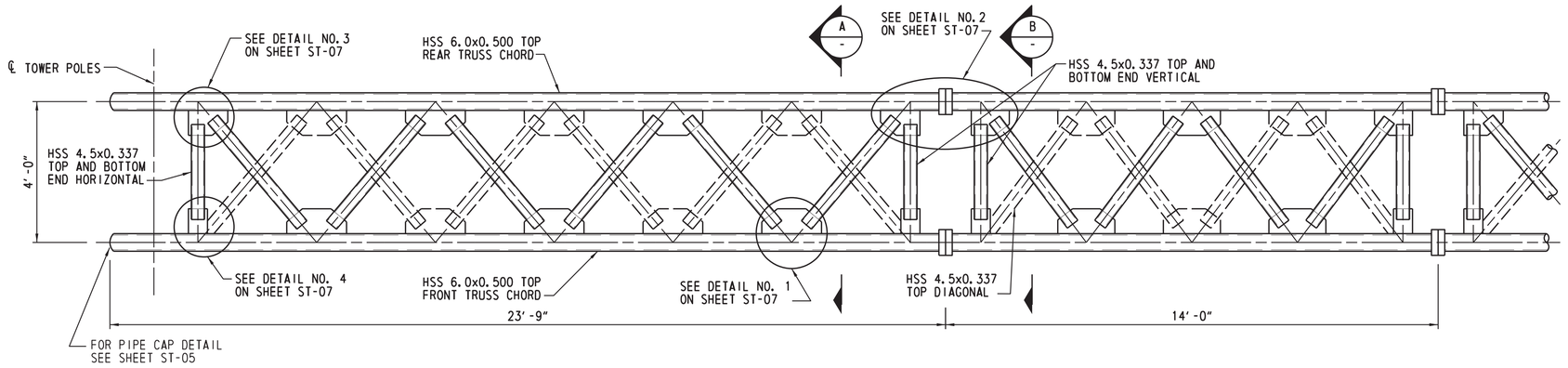
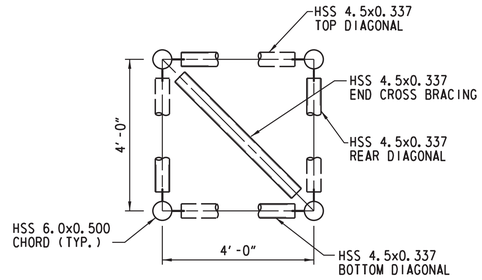
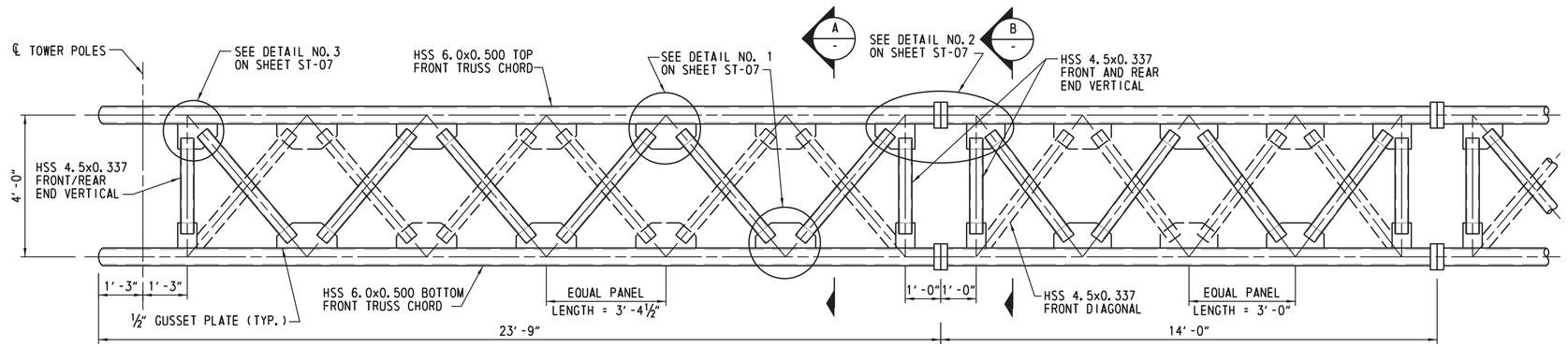
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	**US 301 MARYLAND STATE LINE TO LEVELS ROAD**	CONTRACT T200811301	BRIDGE NO.	**STRUCTURAL GANTRY ELEVATION & SECTIONS** SHEET NO. 821
			COUNTY NEW CASTLE	DESIGNED BY: AB	TOTAL SHTS. 850
				CHECKED BY: CAM	



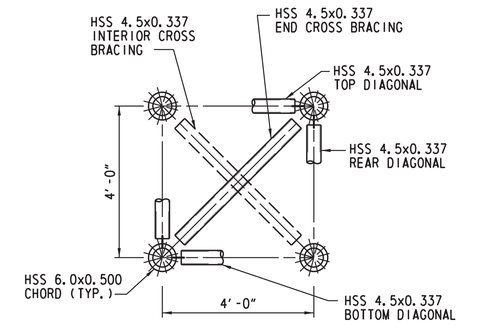
TOP VIEW OF TRUSS
SCALE: ½"=1'-0"



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.

FOR INFORMATION ONLY (BY OTHERS)

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT	BRIDGE NO.	
T200811301	DESIGNED BY: AB	
COUNTY	CHECKED BY: CAM	
NEW CASTLE		

STRUCTURAL
GANTRY TRUSS
DETAILS I

SHEET NO.
822
TOTAL SHTS.
850

LAST REVISED: 3/12/2008
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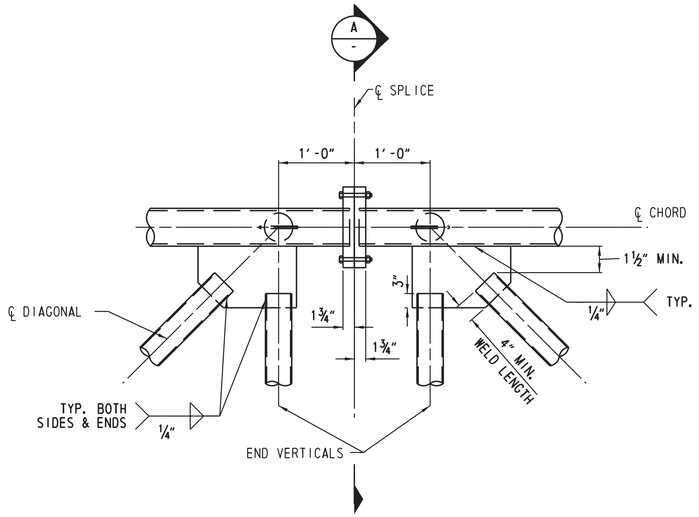
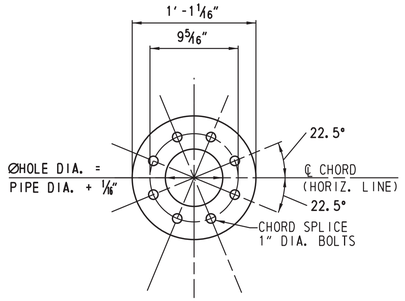
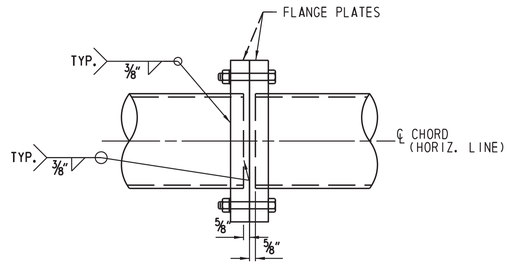


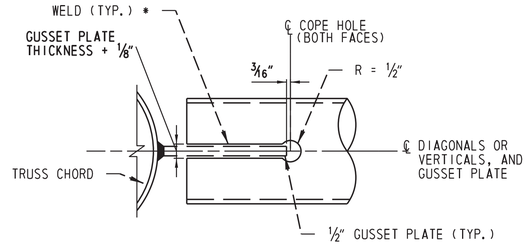
DETAIL 2
SCALE: 1"=1'-0"



SECTION A
SCALE: 1 ½"=1'-0"

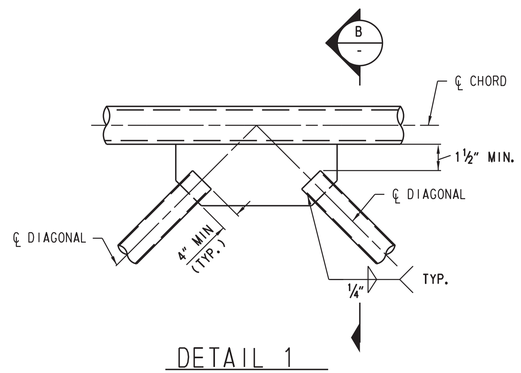


FLANGE SPLICE DETAIL
SCALE: 1 ½"=1'-0"



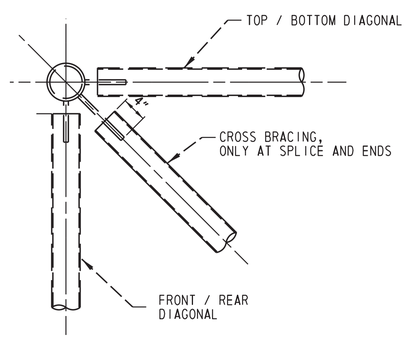
COPE HOLE DETAIL (TYP.)
SCALE: NTS

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

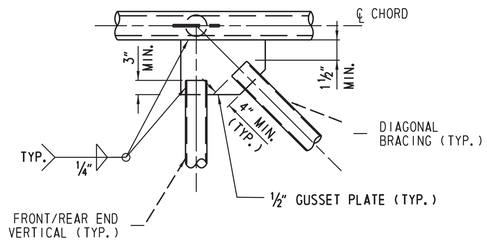


DETAIL 1
SCALE: 1"=1'-0"

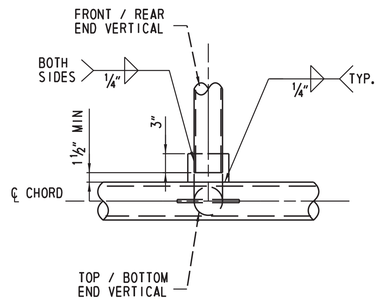
CROSS BRACING ONLY AT SPLICE & ENDS



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



DETAIL 3
SCALE: ¾"=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 LENGTH ARE ACHIEVED.

FOR INFORMATION ONLY (BY OTHERS)

ST-07

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

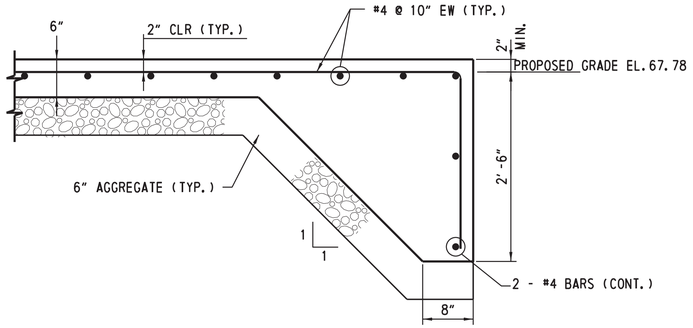
ADDENDUMS / REVISIONS

US 301 MARYLAND STATE LINE TO LEVELS ROAD

CONTRACT	BRIDGE NO.	
T200811301	DESIGNED BY: AB	
COUNTY	CHECKED BY: CAM	
NEW CASTLE		

STRUCTURAL GANTRY TRUSS DETAILS II

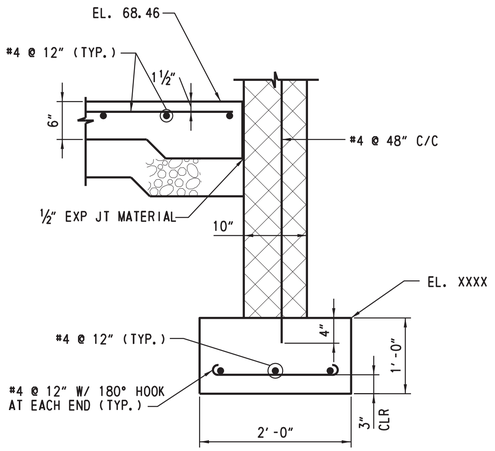
SHEET NO.
823
TOTAL SHTS.
850



NOTES:

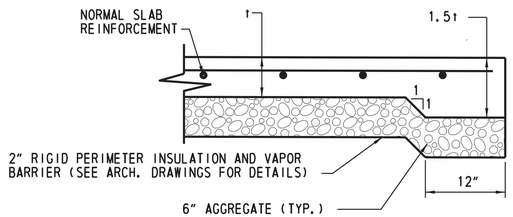
1. THE DIMENSIONS OF THE GENERATOR PAD ARE 10'-6"x5'-6".
2. THE DESIGN OF THE GENERATOR PAD IS FOR A 6500 LB. UNIT THAT MEASURES 8'-6"x3'-6". ACTUAL SIZE AND WEIGHT OF GENERATOR SHALL BE COORDINATED WITH THE ELECTRICAL DISCIPLINE.
3. THE GENERATOR PAD SHALL EXTEND AN ADDITIONAL 1 FT. ON EACH SIDE OF 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"

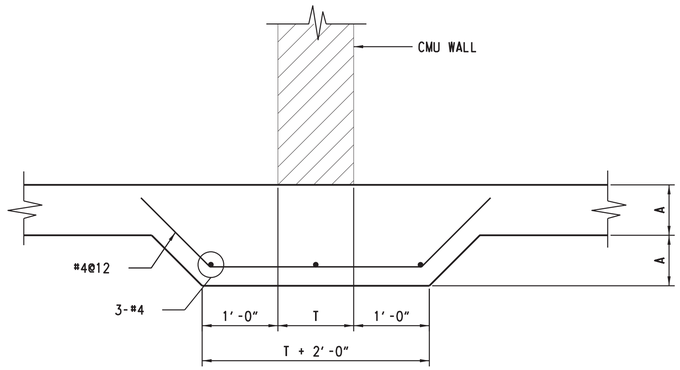


NOTE: FOR EQUIPMENT HUT DETAILS, SEE ARCHITECTURAL DRAWINGS

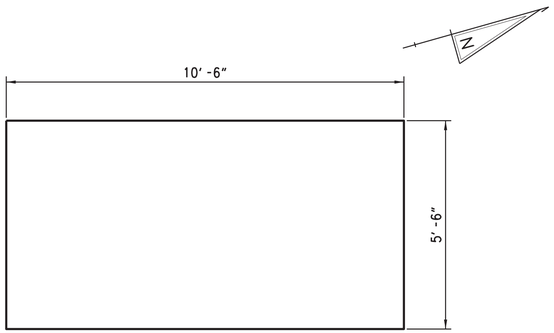
HUT DETAIL
SCALE: 1"=1'-0"



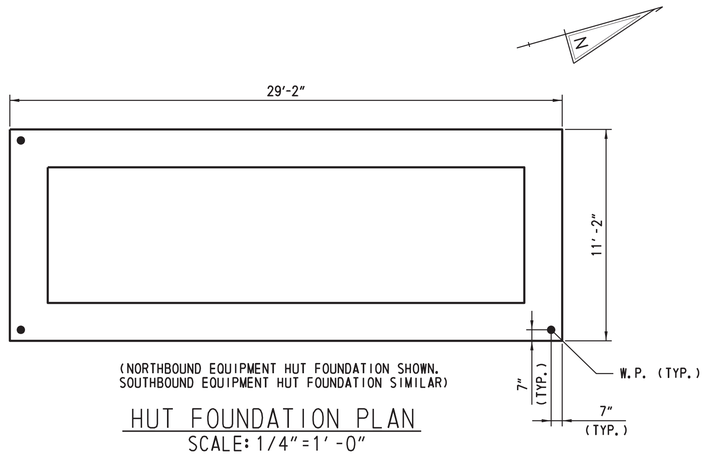
THICKENED SLAB EDGE
SCALE: NTS



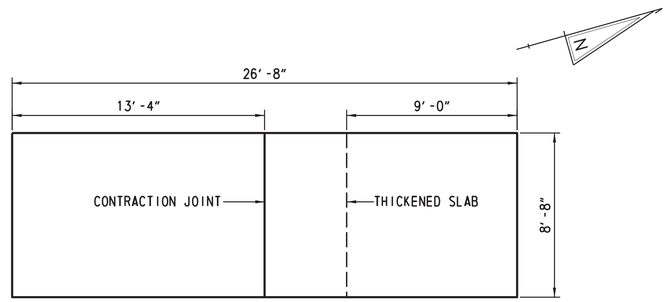
THICKENED SLAB AT MASONRY WALLS
SCALE: NTS



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



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



(NORTHBOUND EQUIPMENT HUT SLAB SHOWN. SOUTHBOUND EQUIPMENT HUT SLAB SIMILAR)

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

NOTES:

1. FOR GENERALNOTES, REFER TO SHEET ST-01.
2. FOR LOCATION OF GENERAL PAD AND EQUIPMENT HUT, REFER TO SHEET DT-01
3. FOR DETAILS OF EQUIPMENT HUT, REFER TO SHEET A-2.
4. FOR WORKING POINT COORDINATES, REFER TO SHEET ST-02.

NOTES:

1. ALTERNATE BARS SHALL BE STOPPED 2" ON BOTH SIDES OF CONTRACTION JOINT.
2. PLACE 1" DEEP SAW CUT CONTRACTION JOINT.

FOR INFORMATION ONLY (BY OTHERS)

ST-08

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

ADDENDUMS / REVISIONS

US 301 MARYLAND STATE LINE TO LEVELS ROAD

CONTRACT	BRIDGE NO.	
T200811301	DESIGNED BY: CAB	
COUNTY	CHECKED BY: CAM	
NEW CASTLE		

STRUCTURAL MISC. STRUTURES SECTIONS AND DETAILS

SHEET NO.
824
TOTAL SHTS.
850

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

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
- X; X-X — EQUIPMENT POWERED WITH LINE VOLTAGE; EQUIPMENT IDENTITY ABREVIATION; 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

FOR INFORMATION ONLY (BY OTHERS)

M–01

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DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

US 301 MARYLAND STATE LINE TO LEVELS ROAD

CONTRACT	T200811301
COUNTY	NEW CASTLE
BRIDGE NO.	
DESIGNED BY: CLG	
CHECKED BY: DWF	

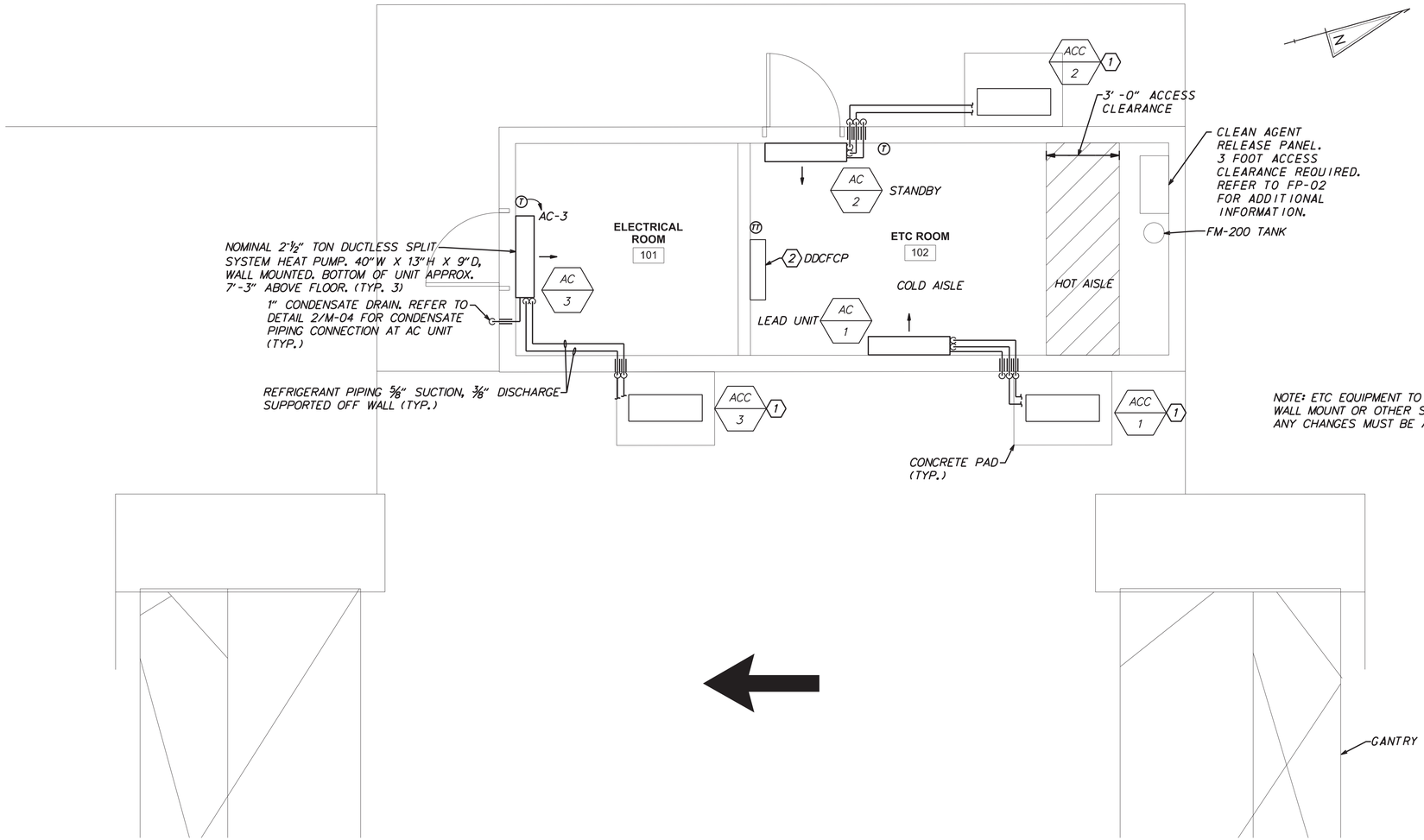
MECHANICAL SYMBOLS, ABBREVIATIONS & GENERAL NOTES

SHEET NO.	825
TOTAL SHTS.	850

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.



NOTE: ETC EQUIPMENT TO BE SUPPLIED BY OTHERS. WALL MOUNT OR OTHER SOLUTIONS MAY BE UTILIZED. ANY CHANGES MUST BE APPROVED BY THE ETC CONTRACTOR.

MECHANICAL HUT PLAN 301 SB
SCALE: 3/8" = 1'-0"

FOR INFORMATION ONLY (BY OTHERS)

M–02

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		US 301 MARYLAND STATE LINE TO LEVELS ROAD	CONTRACT T200811301	BRIDGE NO.	SHEET NO. 826
				COUNTY NEW CASTLE	DESIGNED BY: CLG	TOTAL SHTS. 850
					CHECKED BY: DWF	
			MECHANICAL HUT PLAN 301 SB			

LAST REVISED: 3/12/2008
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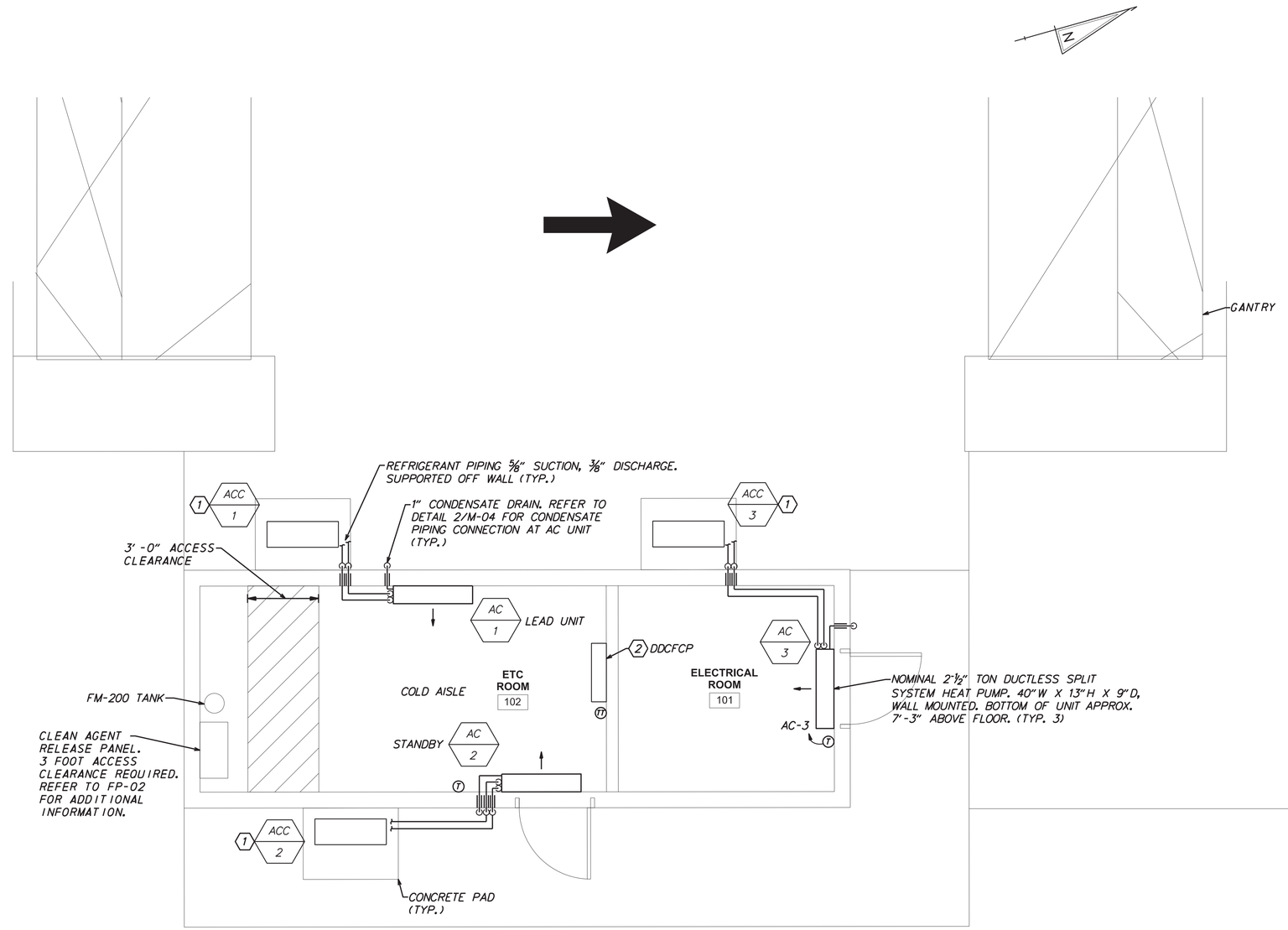
GENERAL NOTES:
1. SEE ARCHITECTURAL DWG. A-1 FOR GENERAL NOTES.

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



NOTE: ETC EQUIPMENT TO BE SUPPLIED BY OTHERS.
WALL MOUNT OR OTHER SOLUTIONS MAY BE UTILIZED.
ANY CHANGES MUST BE APPROVED BY THE ETC CONTRACTOR.

MECHANICAL HUT PLAN 301 NB
SCALE: 3/8" = 1'-0"

FOR INFORMATION ONLY (BY OTHERS)

M-03

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	US 301 MARYLAND STATE LINE TO LEVELS ROAD	CONTRACT T200811301	BRIDGE NO.	MECHANICAL HUT PLAN 301 NB	SHEET NO. 827
			COUNTY NEW CASTLE	DESIGNED BY: CLG		TOTAL SHTS. 850
				CHECKED BY: DWF		

LAST REVISED: 3/12/2008
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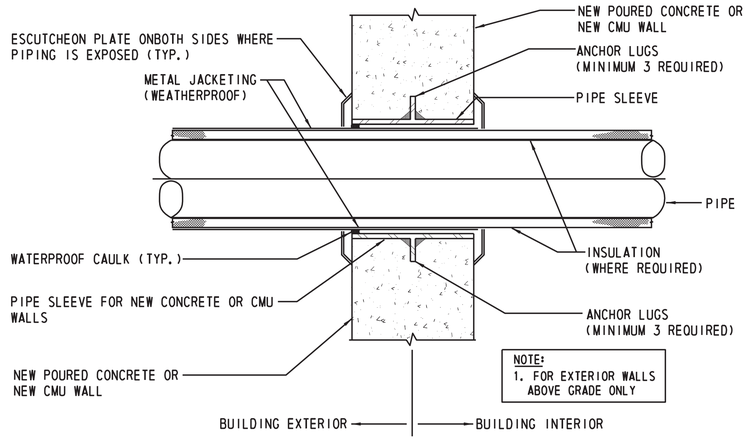
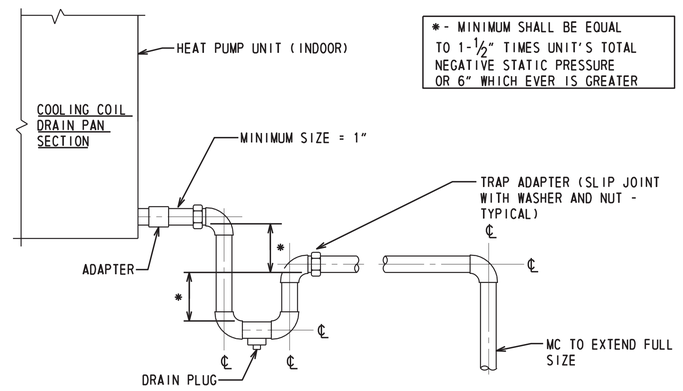


1 PIPE SLEEVE - EXTERIOR WALL ABOVE GRADE

SCALE: NONE

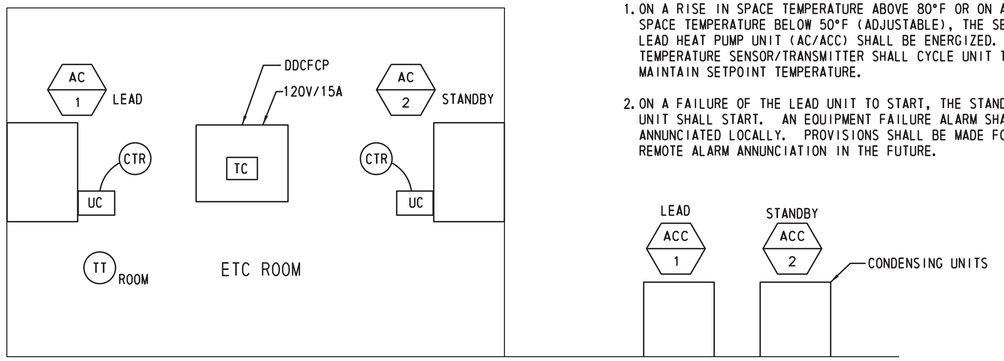


2 DETAIL - CONDENSATE DRAIN

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 1 & 2
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 1 & 2
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 NOTE 1

NOTES:
1. FURNISH HEAT PUMP WITH SINGLE POINT POWER CONNECTION, DISCONNECT SWITCH, LOW AMBIENT CONTROL DOWN TO 0°F, THERMOSTAT, AND MOUNTING HARDWARE.
2. REFER TO ETC ROOM TEMPERATURE CONTROL DIAGRAM ABOVE FOR CONTROL REQUIREMENTS FOR AC-1/ACC-1 AND AC-2/ACC-2.

FOR INFORMATION ONLY (BY OTHERS)

M–04

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. 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
7. MAKE ALL NECESSARY SUBMISSIONS AND OBTAIN ALL NECESSARY PERMITS AND APPROVALS, INCLUDING ENGINEER'S APPROVAL PRIOR TO STARTING FABRICATION AND CONSTRUCTION.
8. REFER TO ARCHITECTURAL DRAWINGS FOR ROOM LAYOUTS, ROOM DIMENSIONS, CEILING HEIGHTS, BUILDING CONSTRUCTION, AND OTHER ARCHITECTURAL AND STRUCTRAL DETAILS IMPACTING DESIGN.
9. REFER TO FIRE PROTECTION SPECIFICATIONS FOR REQUIREMENTS ON MATERIALS, METHODS OF INSTALLATION, PRODUCTS AND GENERAL PROVISIONS.
10. 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.

FOR INFORMATION ONLY (BY OTHERS)

FP-01

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

US 301 MARYLAND STATE LINE TO LEVELS ROAD

CONTRACT	BRIDGE NO.	
T200811301	DESIGNED BY: MLW	
COUNTY		
NEW CASTLE	CHECKED BY: DWF	

FIRE PROTECTION SYMBOLS, ABBREVIATIONS & GENERAL NOTES

SHEET NO.
829
TOTAL SHTS.
850

LAST REVISED: 3/12/2008
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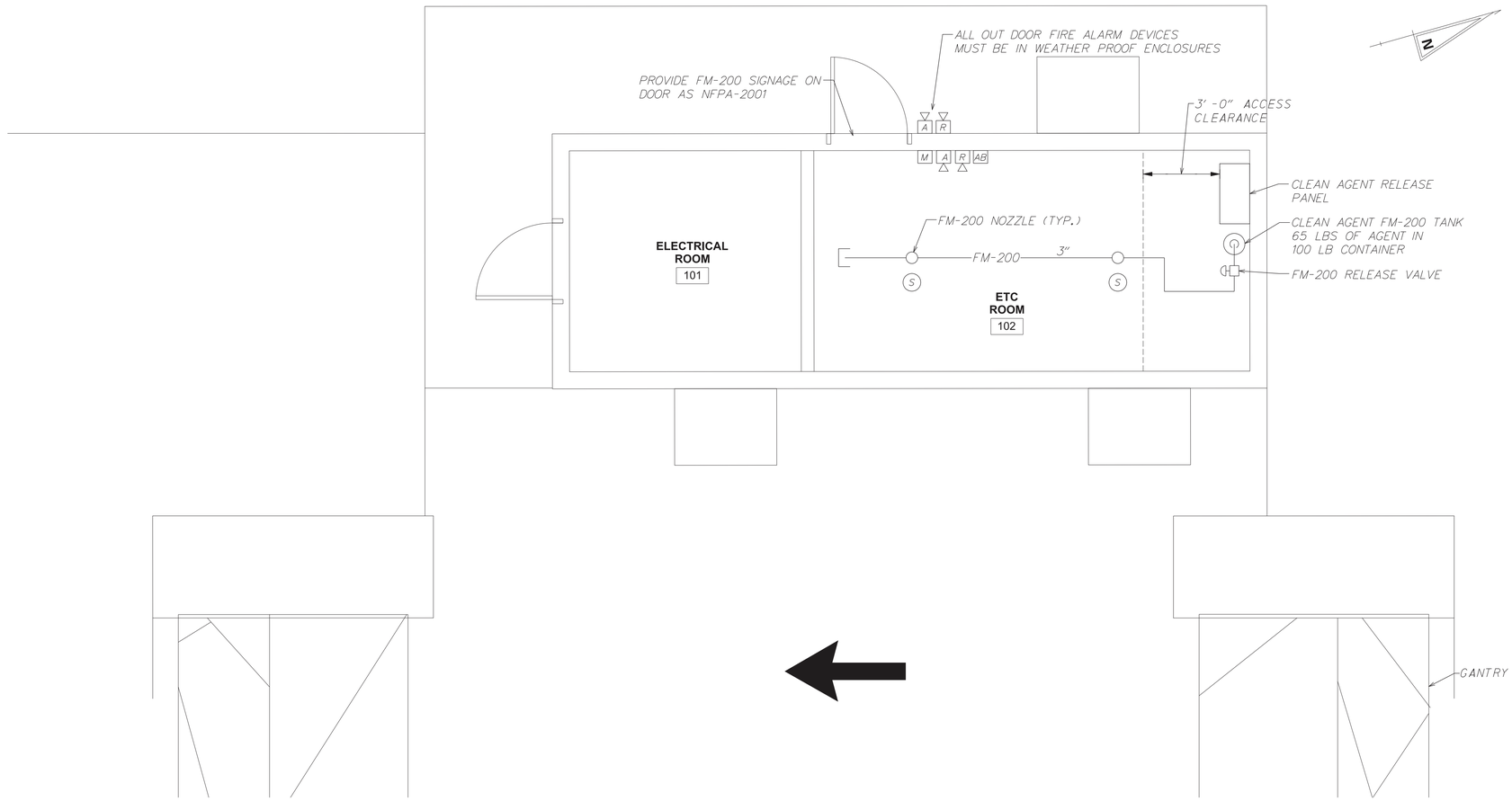

FIRE PROTECTION HUT PLAN 301 SB

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

FOR INFORMATION ONLY (BY OTHERS)

FP–02

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		**US 301 MARYLAND STATE LINE TO LEVELS ROAD**	CONTRACT T200811301	BRIDGE NO.	**FIRE PROTECTION HUT PLAN 301 SB**	SHEET NO. 830
				COUNTY NEW CASTLE	DESIGNED BY: MLW		TOTAL SHTS. 850
					CHECKED BY: DWF		

LAST REVISED: 3/12/2008
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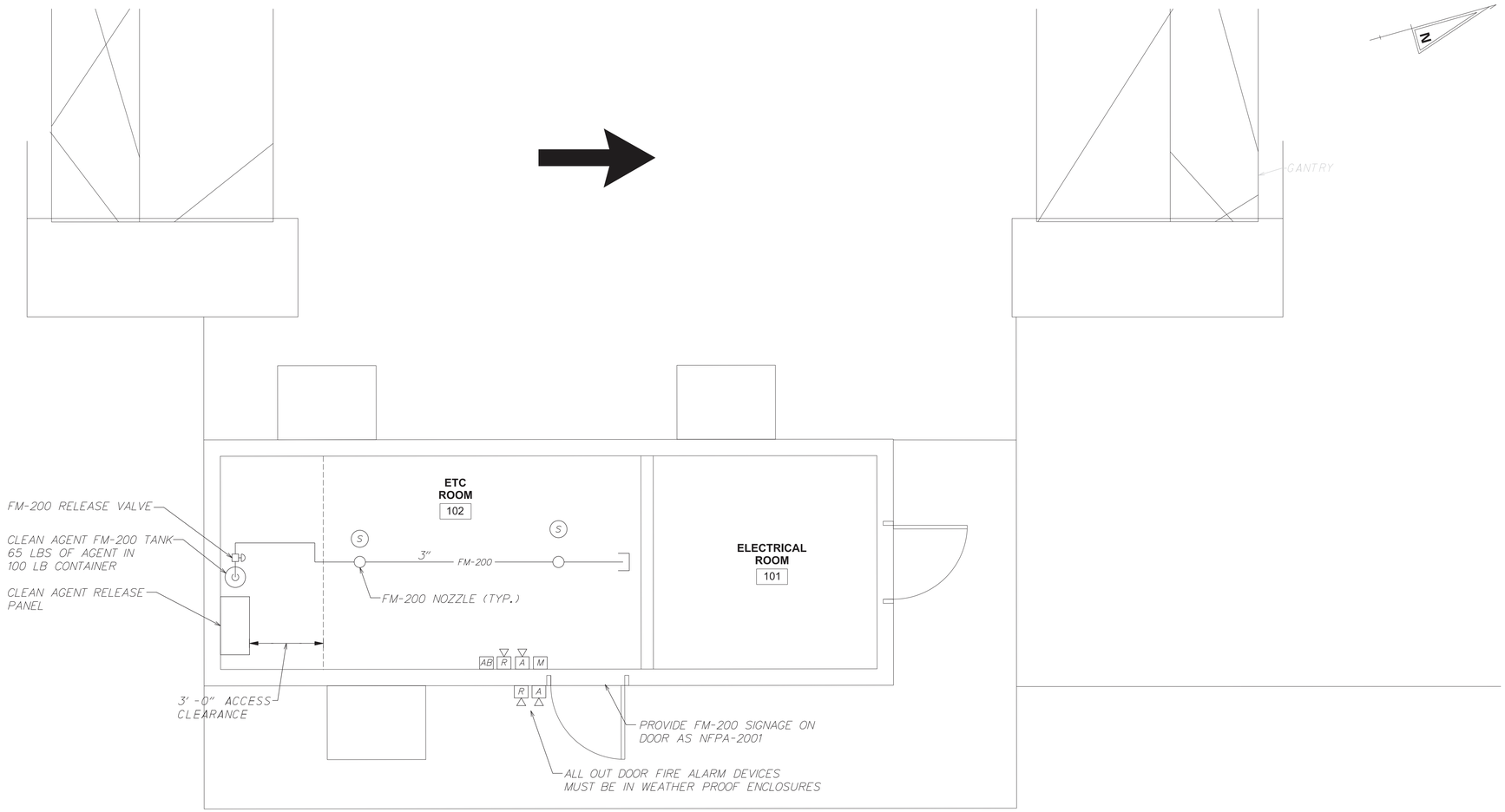

FIRE PROTECTION HUT PLAN 301 NB

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

FOR INFORMATION ONLY (BY OTHERS)

FP-03

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

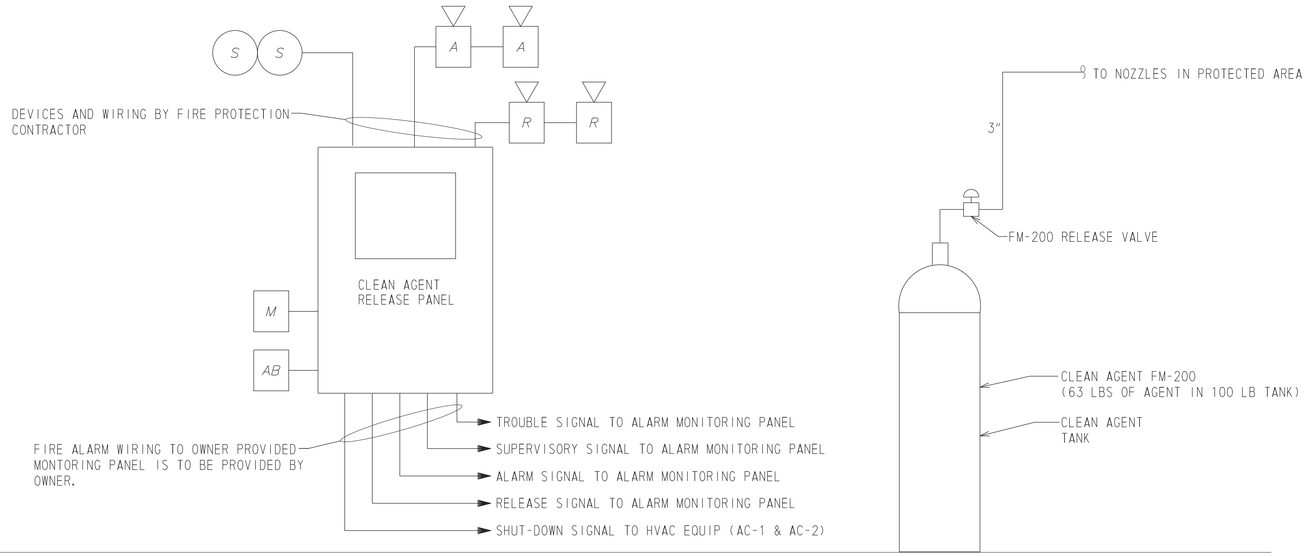
ADDENDUMS / REVISIONS	

US 301 MARYLAND STATE LINE TO LEVELS ROAD

CONTRACT	BRIDGE NO.	
T200811301	DESIGNED BY: MLW	
COUNTY		
NEW CASTLE	CHECKED BY: DWF	

FIRE PROTECTION HUT PLAN 301 NB

SHEET NO.
831
TOTAL SHTS.
850



1 CLEAN AGENT FIRE SUPPRESSION SYSTEM SCHEMATIC
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.

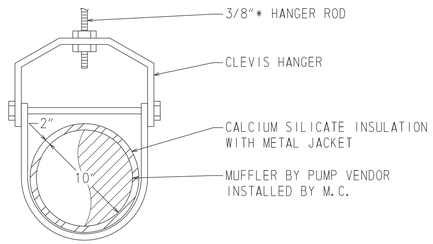
2. SEND SIGNAL TO SHUT DOWN HVAC EQUIPMENT AND DE-ENERGIZE ANY DOOR OPENERS/HOLDERS.

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



2 CLEVIS HANGER DETAIL
SCALE: NONE

FOR INFORMATION ONLY (BY OTHERS)

FP–04

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

US 301 MARYLAND STATE LINE TO LEVELS ROAD

CONTRACT	BRIDGE NO.	
T200811301	DESIGNED BY: MLW	
COUNTY		
NEW CASTLE	CHECKED BY: DWF	

FIRE PROTECTION DETAILS & SCHEDULES

SHEET NO.
832
TOTAL SHTS.
850

LAST REVISED: 3/12/2008
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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 — CEILING OCCUPANCY SENSOR
- PP — POWER PACK FOR CEILING 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.)
- HEAT DETECTOR (FIXED TEMP U.O.N.) R — RATE OF RISE
- D — DUCT SMOKE DETECTOR
- FS — SPRINKLER SYSTEM WATER FLOW SWITCH
- TS — SPRINKLER SYSTEM TAMPER SWITCH
- F, C (75) — CEILING MOUNTED FIRE ALARM STROBE, 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
- RT — REMOTE-TEST-INDICATOR
- DH — MAGNETIC DOOR HOLDER
- CO — CARBON MONOXIDE DETECTOR
- SD — SMOKE DAMPER
- DACT — DIGITAL ALARM COMMUNICATOR TRANSMITTER

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
- COMBINATION MAGNETIC MOTOR STARTER
- 3 — 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
- NS — 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 S — WALL MOUNTED DOUBLE SPEAKER
- S — POLE MOUNTED SPEAKER
- S S — POLE MOUNTED DOUBLE SPEAKER
- VOICE DATA OUTLET
- 6 — DATA OUTLET, INDICATES NUMBER OF PORTS
- FLOOR MOUNTED OUTLET
- CATV — CABLE TELEVISION OUTLET
- P — PAY PHONE; W — WALL MOUNTED — TELEPHONE OUTLET
- 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
- CR — 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 — SHUNT TRIP; GF — GROUND FAULT; EO — ELECTRICALLY OPERATED
- DISCONNECT, ISOLATION OR SAFETY SWITCH
- FUSED CUTOUT
- FUSED LOAD BREAK SWITCH
- MEDIUM VOLTAGE MOTOR STARTER
- 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
- CURRENT TRANSFORMER; 600/5 — RATIO; 2 — NUMBER REQUIRED
- GROUND FAULT CURRENT TRANSFORMER
- 5 — MOTOR, NUMBER INDICATES HORSE POWER
- GENERATOR
- 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:

- EDH 4 — EQUIPMENT IDENTIFICATION
- A, E5 — SECTION IDENTIFICATION; SECTION NOMENCLATURE; SHEET NUMBER ON WHICH SECTION IS SHOWN
- A, E5 — SITE WORK
- 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 DELAWARE STATE FIRE MARSHALL.

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 EQUIPMENTPLANS 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 NO. 12 AWG & 12 GRD FOR SINGLE PHASE CIRCUITS LESS THAN 75 FEET AND 3 NO. 12 & NO. 12 GROUND 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 GRD IN ¾"C. BRANCH CIRCUITS WITH CIRCUIT LENGTH GREATER THAN 125 FEET SHALL BE (2)#8, (1)#8 GRD IN ¾" C. BRANCH CIRCUITS WITH CIRCUIT LENGTH GREATER THAN 200 FEET SHALL BE (2)#6, (1)#6 GRD IN ¾" C. BRANCH CIRCUITS WITH CIRCUIT LENGTH GREATER THAN 250 FEET SHALL BE (2)#4, (1)#4 GRD IN 1" C. SHORT TAPS OFF THE MAIN RUN TO INDIVIDUAL OUTLETS SHALL BE PERMITTED TO BE NO. 12 AWG.

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

FOR INFORMATION ONLY (BY OTHERS)

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DELAWARE DEPARTMENT OF TRANSPORTATION

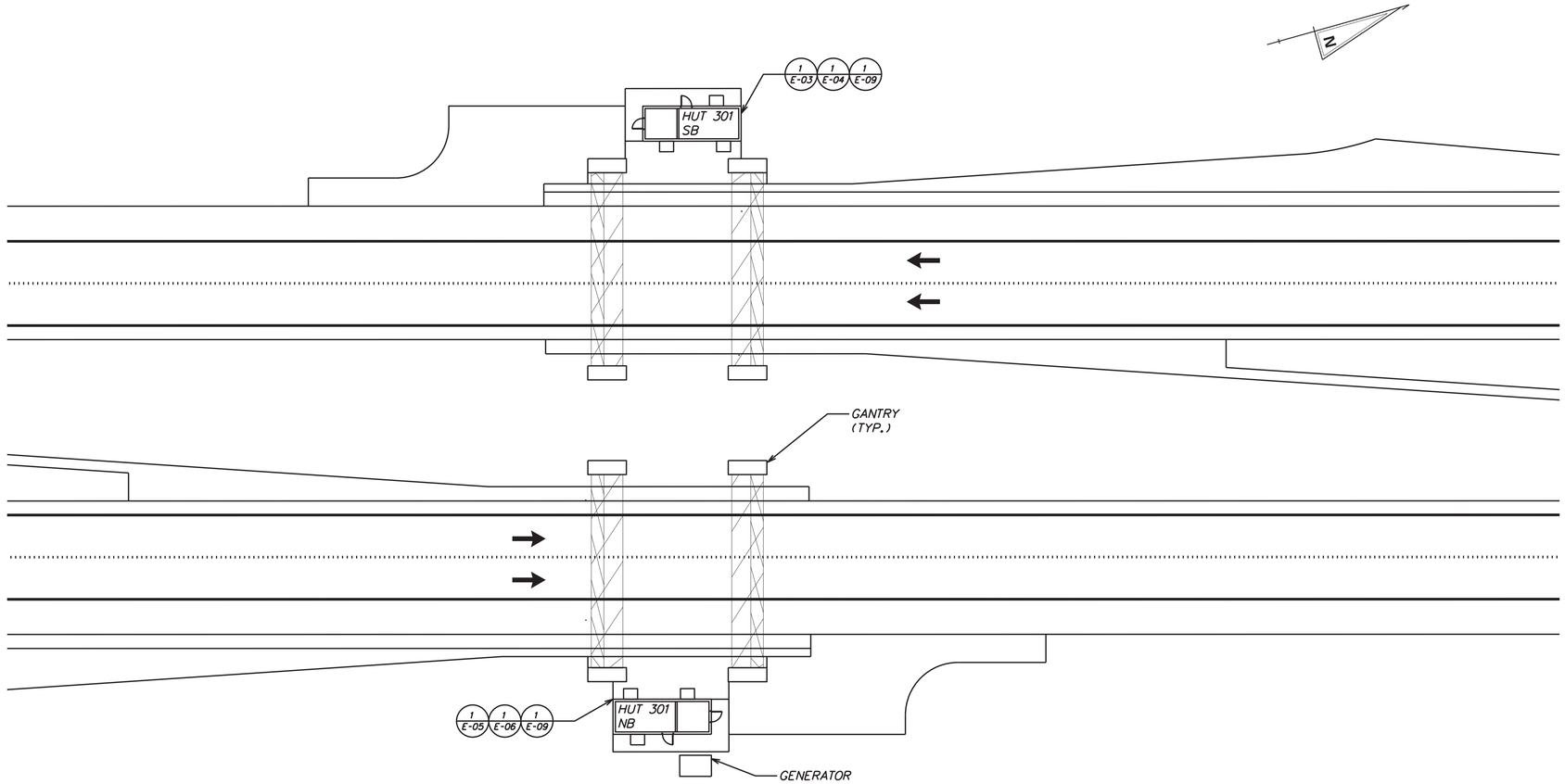
ADDENDUMS / REVISIONS	

US 301 MARYLAND STATE LINE TO LEVELS ROAD

CONTRACT T200811301	BRIDGE NO.	
COUNTY NEW CASTLE	DESIGNED BY: JLG	
	CHECKED BY: RAK	

ELECTRICAL LEGEND, SYMBOLS & ABBREVIATIONS

SHEET NO. 833
TOTAL SHTS. 850



SITE PLAN
SCALE: 1" = 20'

FOR INFORMATION ONLY (BY OTHERS)

8/07/15	E-02

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT	T200811301
COUNTY	NEW CASTLE
BRIDGE NO.	
DESIGNED BY: JLG	
CHECKED BY: RAK	

ELECTRICAL SITE PLAN

SHEET NO.	834
TOTAL SHTS.	850

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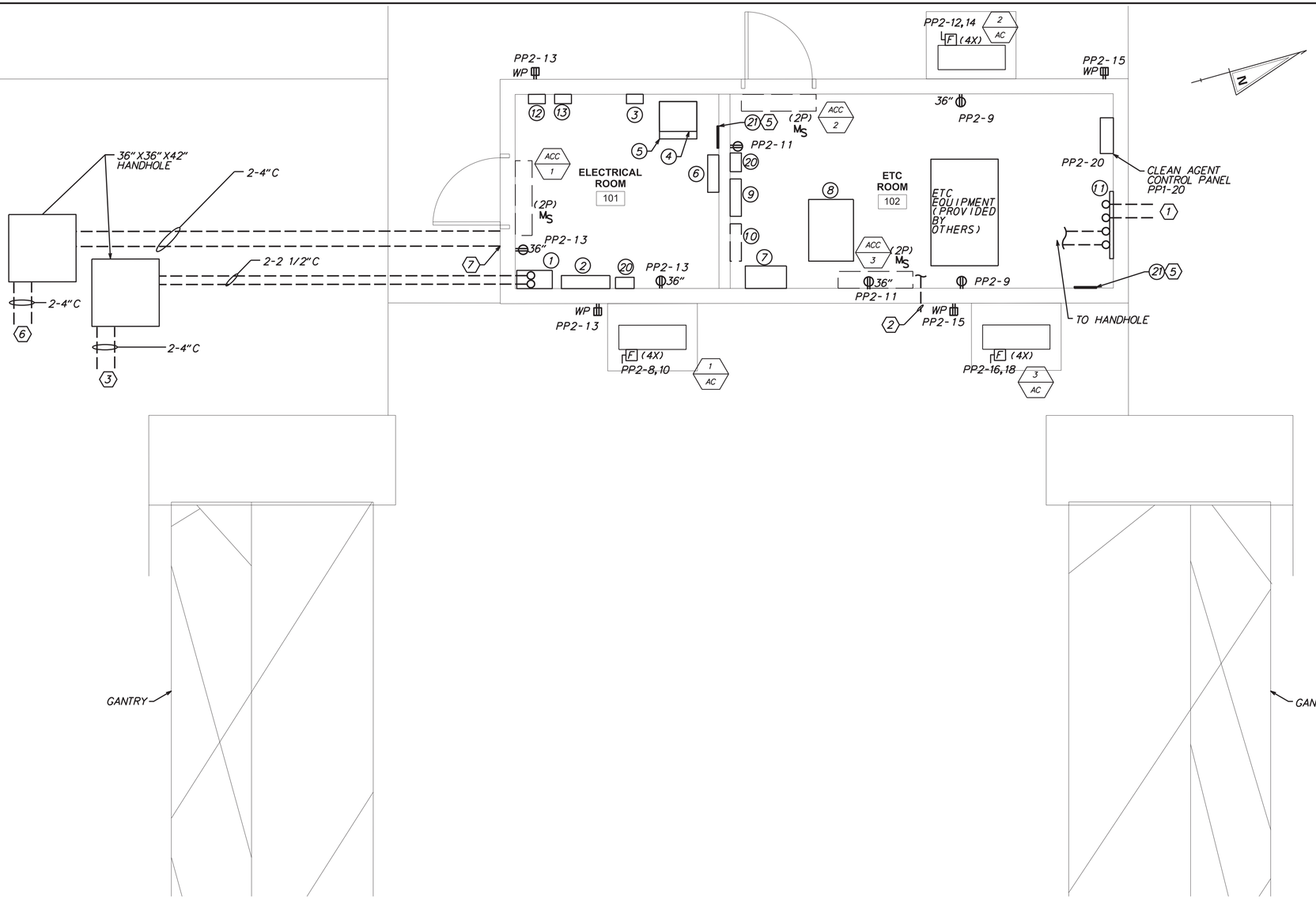


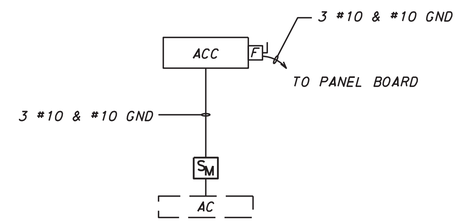
301 SB

DESIGNATION	DESCRIPTION
1	BUILDING DISCONNECT (100A)
2	PANEL 'DP-2'
3	15KVA TRANSFORMER SECONDARY CIRCUIT BREAKER
4	15KVA TRANSFORMER (MOUNTED ABOVE)
5	30KVA TRANSFORMER (FLOOR)
6	PANEL 'PP-2'
7	UPS MAINTENANCE BYPASS SWITCH
8	UPS
9	PANEL 'UPP-3'
10	PANEL 'UPP-4' (FUTURE)
11	3'-0" TELE/DATA BACKBOARD
12	PRIMARY DISCONNECT 15KVA TRANSFORMER
13	PRIMARY DISCONNECT 30KVA TRANSFORMER
14	NOT USED
15	NOT USED
16	NOT USED
17	NOT USED
18	NOT USED
19	NOT USED
20	SURGE PROTECTIVE DEVICE (SPD)
21	GROUND BUS

KEY NOTES:

1. CONDUITS FOR ITMS FIBER OPTIC BACKBONE CONNECTION AND CAPPED SPARE. PROVIDE GROUNDING TYPE BUSHINGS. SEE CIVIL DRAWINGS FOR CONDUIT SIZE.
2. SEE DRAWING ETC-03 FOR ETC CONDUIT QUANTITY AND SIZES.
3. TWO CONDUITS FROM 301 NB HUT PANEL DP-1. SEE CIVIL DRAWINGS FOR CONTINUATION.
4. NOT USED
5. COPPER GROUND BUS, STORM COPPER OR EQUAL. 4"X12"XO.25".
6. COMMUNICATION CONDUIT TO HUT 301 NB. SEE CIVIL DRAWINGS FOR CONTINUATION.
7. CONTINUE CONDUIT UNDER SLAB AND STUB UP AT BACKBOARD IN ROOM 102.

1 / E-03 ELECTRICAL HUT POWER PLAN 301 SB
SCALE: 3/8" = 1'-0"



2 / E-03 DUCTLESS SPLIT SYSTEM WIRING

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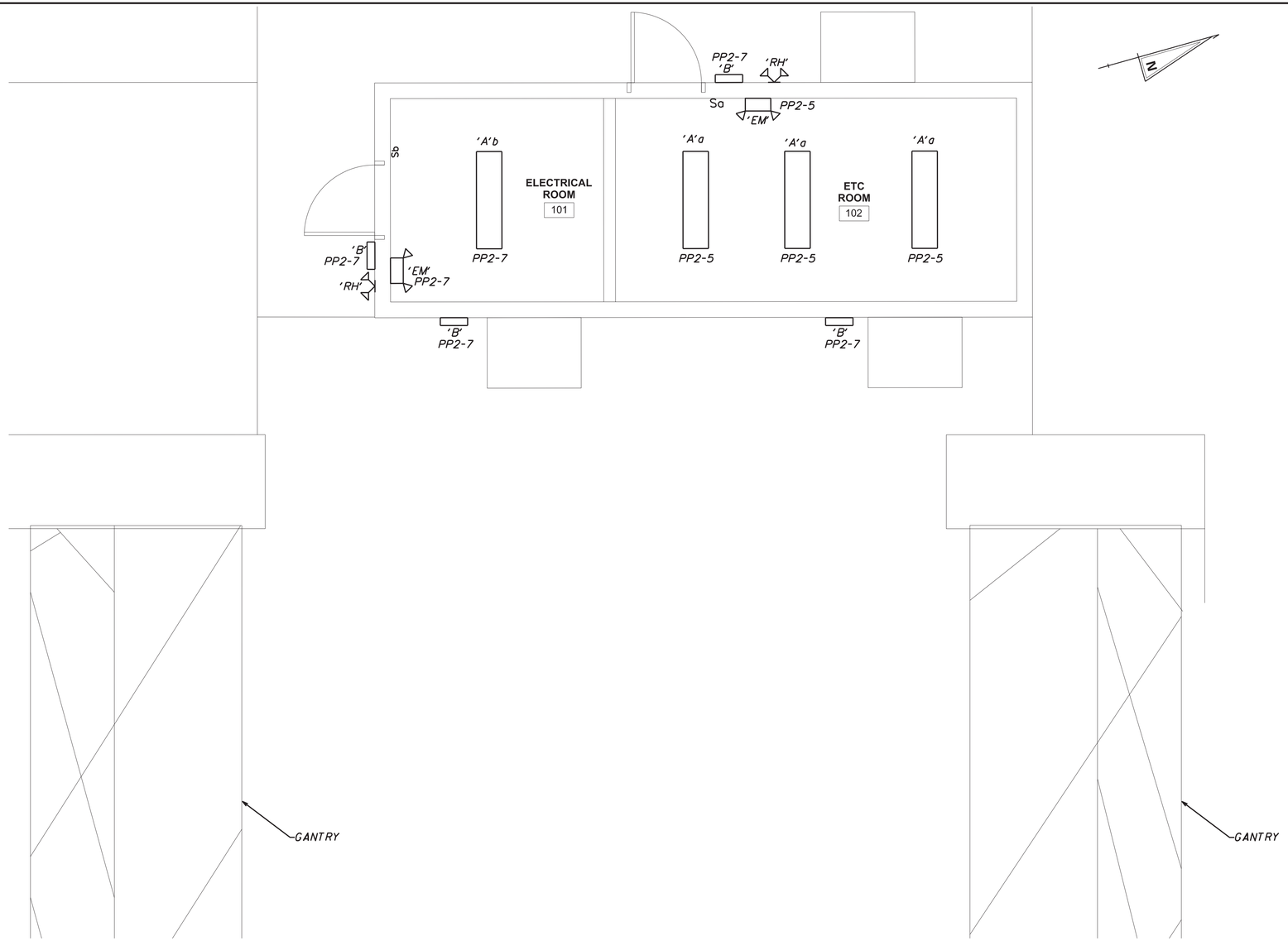
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		US 301 MARYLAND STATE LINE TO LEVELS ROAD	CONTRACT T200811301	BRIDGE NO.	8/07/15 / E-03
				COUNTY NEW CASTLE	DESIGNED BY: JLG	ELECTRICAL HUT POWER PLAN 301 SB
					CHECKED BY: RAK	SHEET NO. 835 / TOTAL SHTS. 850



1 / E-04 ELECTRICAL HUT LIGHTING PLAN 301 SB

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

NOTES:
1. SEE DWG. E-10 FOR LUMINAIRE SCHEDULE.

FOR INFORMATION ONLY (BY OTHERS)

8/07/15	E-04

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	US 301 MARYLAND STATE LINE TO LEVELS ROAD	CONTRACT T200811301	BRIDGE NO.	ELECTRICAL HUT LIGHTING PLAN 301 SB
			COUNTY NEW CASTLE	DESIGNED BY: JLG	SHEET NO. 836
				CHECKED BY: RAK	TOTAL SHTS. 850

LAST REVISED: 3/12/2008
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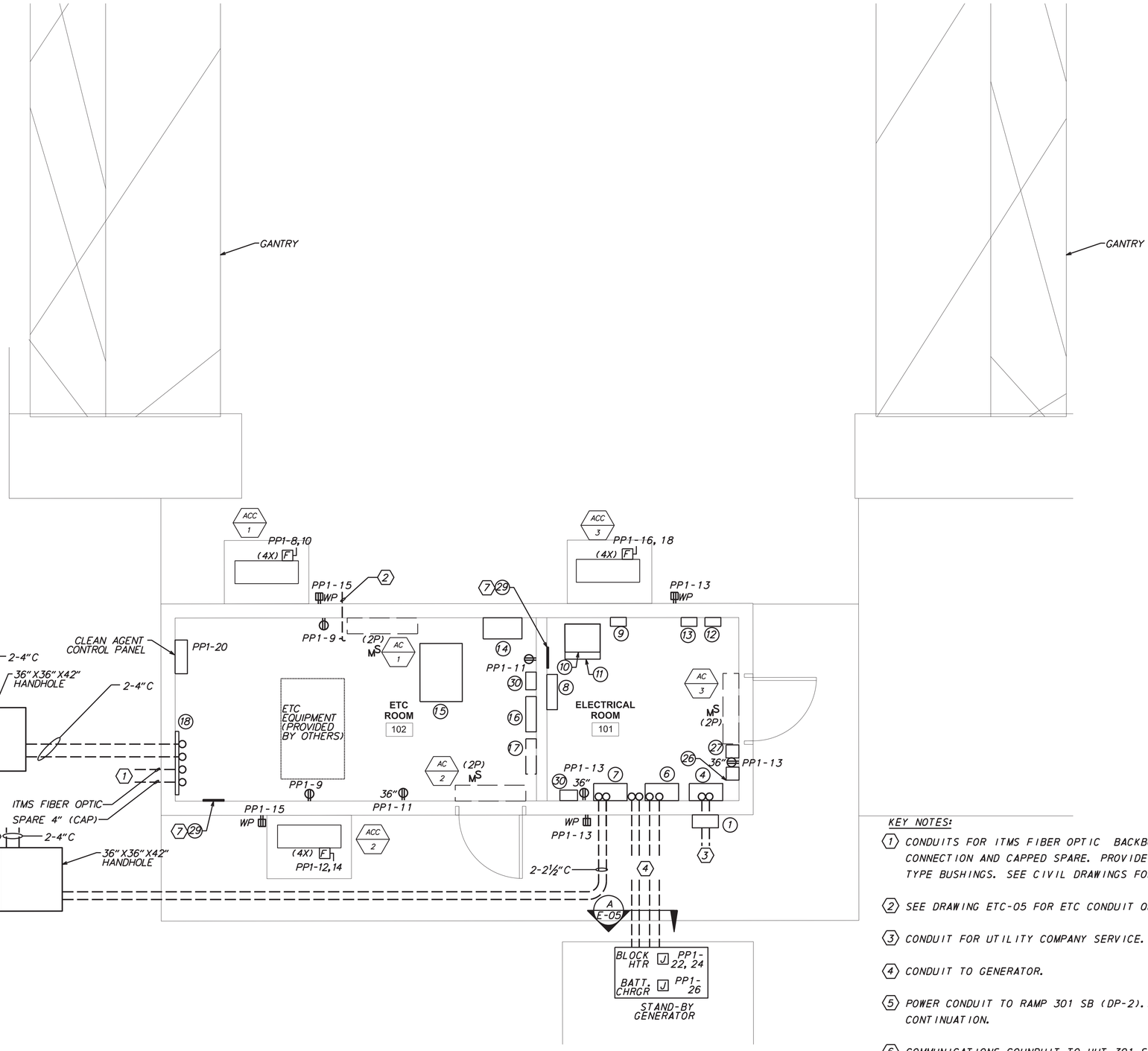
301 NB

DESIGNATION	DESCRIPTION
(1)	UTILITY COMPANY METER
(2)	NOT USED
(3)	NOT USED
(4)	SERVICE DISCONNECT (200A)
(5)	NOT USED
(6)	AUTOMATIC TRANSFER SWITCH
(7)	PANEL 'DP-1'
(8)	PANEL 'PP-1'
(9)	15KVA TRANSFORMER SECONDARY CIRCUIT BREAKER
(10)	15KVA TRANSFORMER (MOUNTED ABOVE)
(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 ANNUNICIATOR
(27)	GENERATOR ESTOP
(28)	NOT USED
(29)	GROUND BUS
(30)	SURGE PROTECTIVE DEVICE (SPD)



1 E-05 ELECTRICAL HUT POWER PLAN 301 NB

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

KEY NOTES:

(1) CONDUITS FOR ITMS FIBER OPTIC BACKBONE CONNECTION AND CAPPED SPARE. PROVIDE GROUNDING TYPE BUSHINGS. SEE CIVIL DRAWINGS FOR CONDUIT SIZE.

(2) SEE DRAWING ETC-05 FOR ETC CONDUIT QUANTITY AND SIZES.

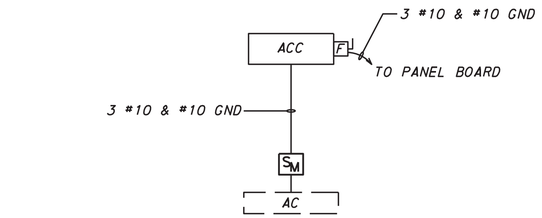
(3) CONDUIT FOR UTILITY COMPANY SERVICE.

(4) CONDUIT TO GENERATOR.

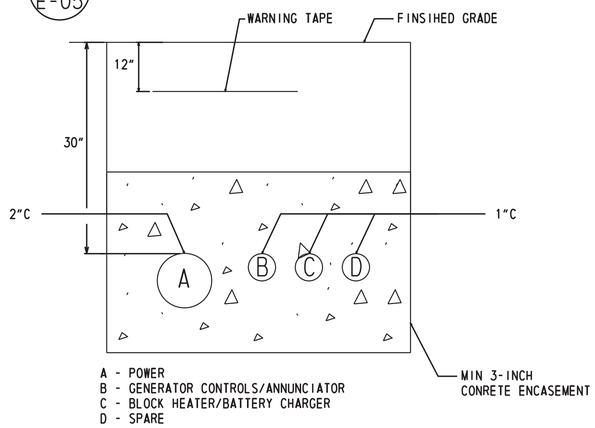
(5) POWER CONDUIT TO RAMP 301 SB (DP-2). SEE CIVIL DRAWINGS FOR CONTINUATION.

(6) COMMUNICATIONS COUNDUIT TO HUT 301 SB. SEE CIVIL DRAWINGS FOR CONTINUATION.

(7) COPPER GROUND BUS. STORM COPPER OR EQUAL. 4"X12"XO. 25"



2 E-05 DUCTLESS SPLIT SYSTEM WIRING



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

SECTION 'A'

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DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

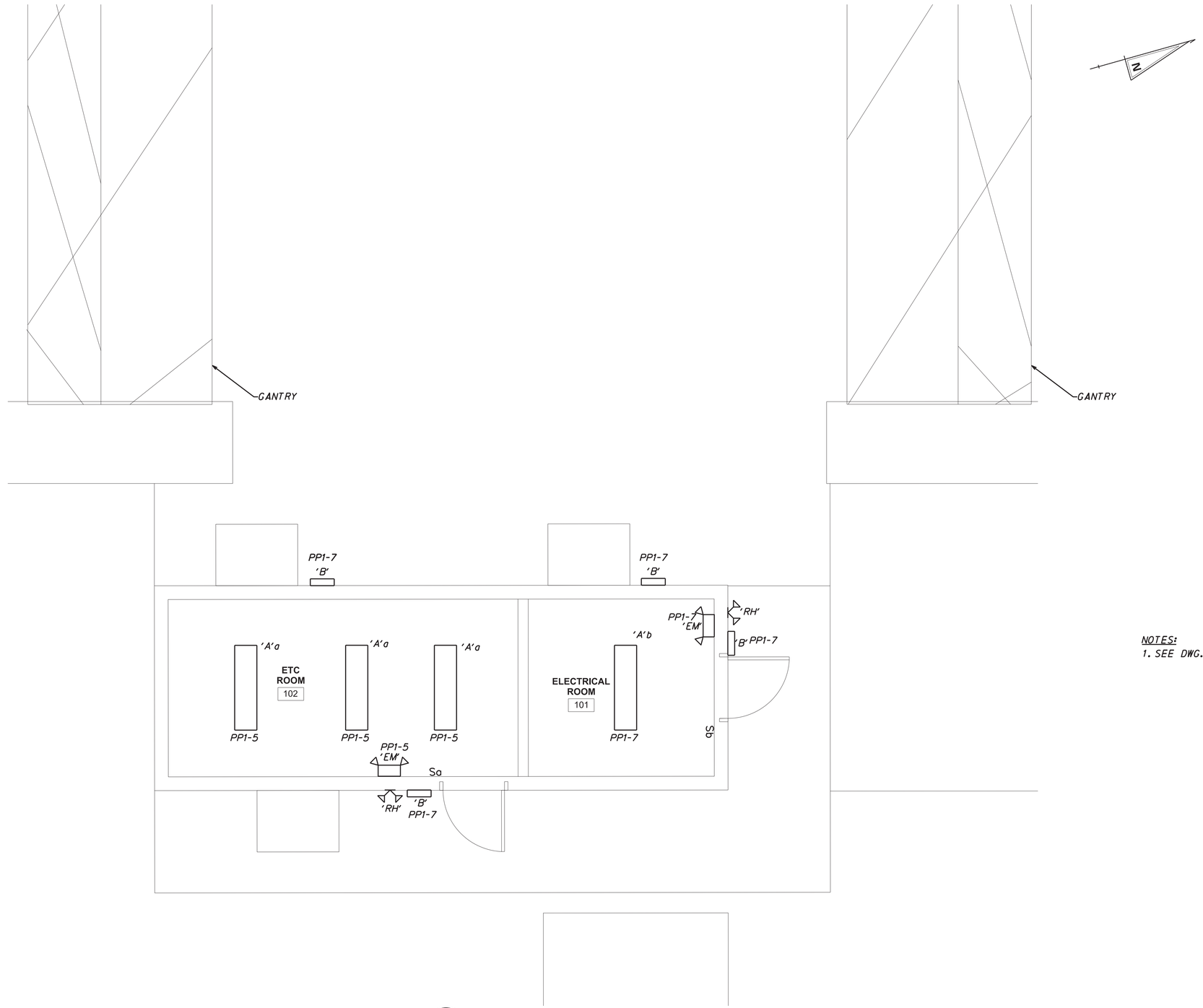
US 301 MARYLAND STATE LINE TO LEVELS ROAD

CONTRACT	BRIDGE NO.
T200811301	
COUNTY	DESIGNED BY: JLG
NEW CASTLE	CHECKED BY: RAK

8/07/15 | E-05

ELECTRICAL HUT POWER PLAN 301 NB

SHEET NO.	TOTAL SHTS.
837	850



NOTES:
1. SEE DWG. E-10 FOR LUMINAIRE SCHEDULE.

1 / E-06 ELECTRICAL HUT LIGHTING PLAN 301 NB
SCALE: 3/8" = 1'-0"

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LAST REVISED: 3/22/2008
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DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		US 301 MARYLAND STATE LINE TO LEVELS ROAD	CONTRACT T200811301	BRIDGE NO.	ELECTRICAL HUT POWER PLAN 301 NB
				COUNTY NEW CASTLE	DESIGNED BY: JLG	SHEET NO. 838
					CHECKED BY: RAK	TOTAL SHTS. 850
					8/07/15	E-06

PANEL DESIGNATION: DP-1

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

LOCATION: ELECTRICAL ROOM - HUT 301NB
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			7.2					2
3	30	15 KVA XMFR (UPS)		4.0			8.8		DP-2 (RAMP 301 SB)	100	4
5					4.0			7.7			6
7			3.5			-					8
9	50	30 KVA XMFR (PP-1)		6.8			-		SURGE PROTECTIVE DEVICE (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

___ 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 - HUT 301NB
VOLTAGE: 120/208V, 3Ø, 4W
PANEL MOUNTING: SURFACE
PANEL ENCLOSURE (NEMA): 1
PANEL MIN. A.I.C. RATING: 10 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											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									SURGE PROTECTIVE DEVICE (SPD)	40	40
41											42
		TOTAL							TOTAL		

PANEL CONNECTED LOAD
AØ ____
BØ ____
CØ ____
____ TOTAL

___ SOLID NEUTRAL BUS
___ EQUIPMENT GROUND BUS
___ FEED THRU LUGS

PANEL DESIGNATION: PP-1

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

LOCATION: ELECTRICAL ROOM - HUT 301NB
VOLTAGE: 120/208V, 3Ø, 4W
PANEL MOUNTING: SURFACE
PANEL ENCLOSURE (NEMA): 1
PANEL MIN. A.I.C. RATING: 10 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	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		GENERATOR BLOCK HEATER	30	22	
23	20	SPARE						2.0			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

___ SOLID NEUTRAL BUS
___ EQUIPMENT GROUND BUS

(1) PROVIDE LOCKDOG ON CIRCUIT BREAKER HANDLE.

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

FOR INFORMATION ONLY (BY OTHERS)

807/15 | E-07

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT: T200811301
COUNTY: NEW CASTLE
BRIDGE NO.:
DESIGNED BY: JLG
CHECKED BY: RAK

ELECTRICAL
PANEL SCHEDULES

SHEET NO. 839
TOTAL SHTS. 850

LAST REVISED: 3/12/2008
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PANEL DESIGNATION: DP-2

TYPE: -
NUMBER OF POLES: 42
MAIN BUS RATING: 225A
MAIN RATING: 100A M.L.O.

LOCATION: ELECTRICAL ROOM - '301 SB'
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	BØ	CØ	LOAD - KVA AØ	BØ	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	SURGE PROTECTIVE DEVICE (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

___ SOLID NEUTRAL BUS
___ EQUIPMENT GROUND BUS

PANEL DESIGNATION: PP-2

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

LOCATION: ELECTRICAL ROOM - '301 SB'
VOLTAGE: 120/208V, 3Ø, 4W
PANEL MOUNTING: SURFACE
PANEL ENCLOSURE (NEMA): 1
PANEL MIN. A.I.C. RATING: 10 KA

CIR. No.	CIR. BKR.	DESCRIPTION	LOAD - KVA AØ	BØ	CØ	LOAD - KVA AØ	BØ	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 (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									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

___ SOLID NEUTRAL BUS
___ EQUIPMENT GROUND BUS

(1) PROVIDE LOCKDOG ON CIRCUIT BREAKER HANDLE.

PANEL DESIGNATION: UPP-3

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

LOCATION: ETC ROOM - '301 SB'
VOLTAGE: 120/208V, 3Ø, 4W
PANEL MOUNTING: SURFACE
PANEL ENCLOSURE (NEMA): 1
PANEL MIN. A.I.C. RATING: 10 KA

CIR. No.	CIR. BKR.	DESCRIPTION	LOAD - KVA AØ	BØ	CØ	LOAD - KVA AØ	BØ	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									SURGE PROTECTIVE DEVICE (SPD)	40	40
41											42
		TOTAL							TOTAL		

PANEL CONNECTED LOAD
AØ ____
BØ ____
CØ ____
____ TOTAL

___ SOLID NEUTRAL BUS
___ EQUIPMENT GROUND BUS
___ FEED THRU LUGS

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

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DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

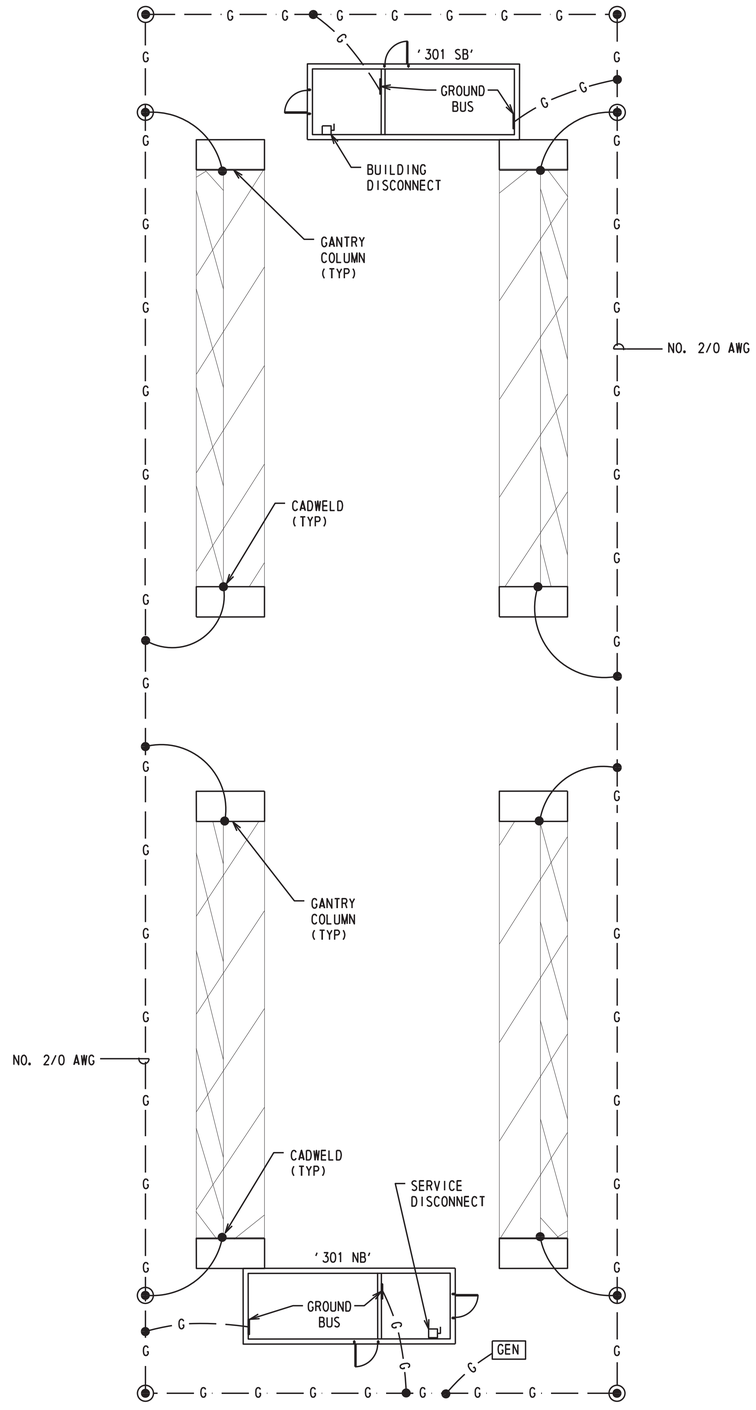
US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT	BRIDGE NO.
T200811301	
DESIGNED BY: JLG	
COUNTY	CHECKED BY: RAK
NEW CASTLE	

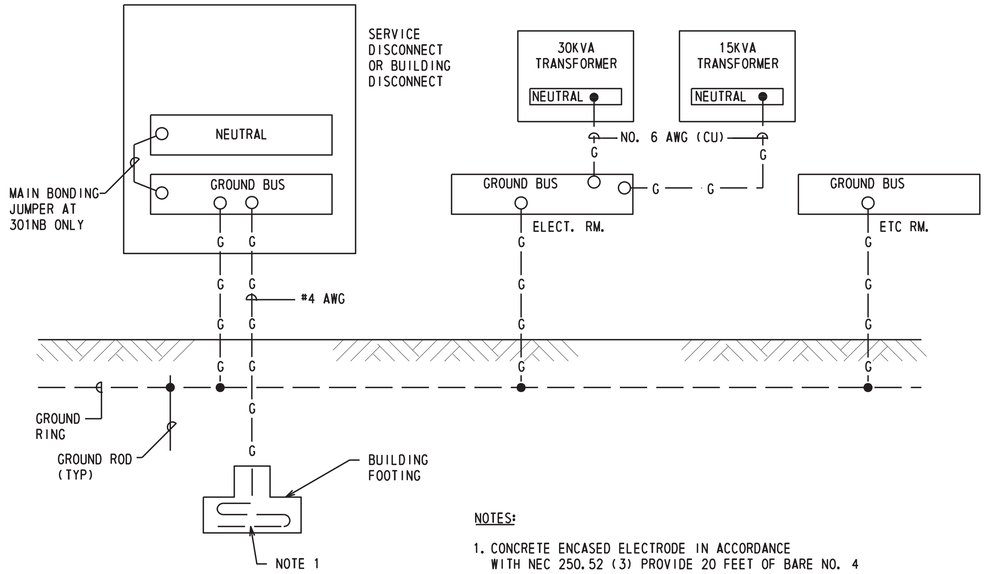
ELECTRICAL
PANEL SCHEDULES

8/07/15 | E-08

SHEET NO.	TOTAL SHTS.
840	850



1 E-09 GROUNDING PLAN
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.

2 E-09 GROUNDING DETAIL
SCALE: N.T.S.

FOR INFORMATION ONLY (BY OTHERS)

8/07/15	E-09

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

US 301
MARYLAND STATE LINE TO LEVELS ROAD

CONTRACT	BRIDGE NO.
T200811301	DESIGNED BY: JLG
COUNTY	CHECKED BY: RAK
NEW CASTLE	

ELECTRICAL DETAILS

SHEET NO.	TOTAL SHTS.
841	850

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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.

FOR INFORMATION ONLY (BY OTHERS)

8/07/15 | E–10

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT T200811301
COUNTY NEW CASTLE
BRIDGE NO.
DESIGNED BY: JLG
CHECKED BY: RAK

ELECTRICAL
LUMINAIRE SCHEDULE

SHEET NO. 842
TOTAL SHTS. 850

LAST REVISED: 3/2/2008
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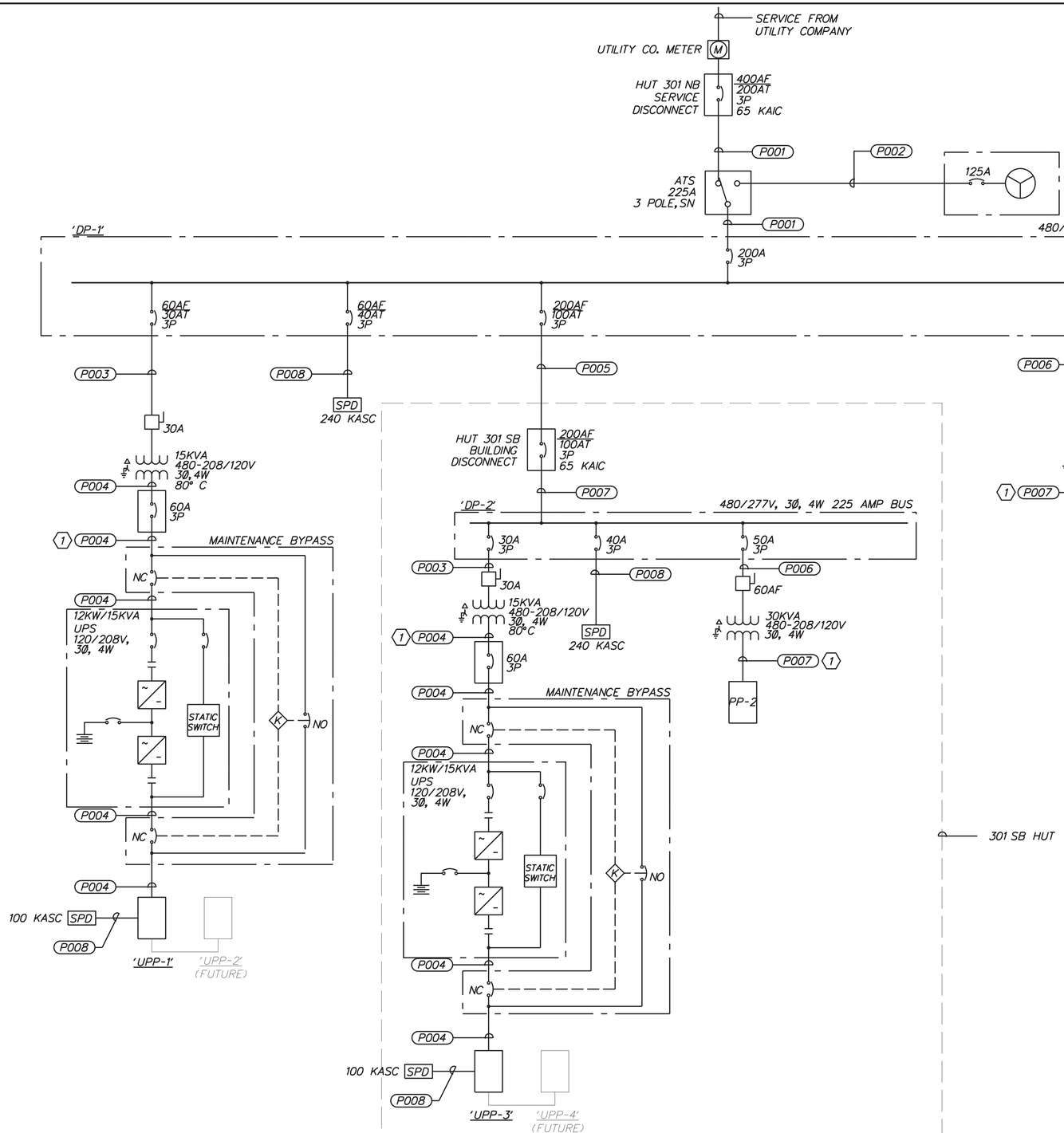
FEEDER SCHEDULE		
CABLE	SIZE	WIRE
P001	2"	4-1/C NO. 3/0 AWG & NO. 4 GND
P002	DUCT BANK	4-1/C NO. 1/0 AWG & NO. 4 GND
P003	¾"	3-1/C NO. 10 AWG & NO. 10 GND
P004	1-1/2"	4-1/C NO. 4 AWG & NO. 8 GND
P005	DUCT BANK	4-1/C NO. 2/0 AWG & NO. 4 GND
P006	1"	3-1/C NO. 6 AWG & NO. 10 GND
P007	1-1/2"	4-1/C NO. 1 AWG & NO. 6 GND
P008	1"	4-1/C NO. 6 AWG & NO. 6 GND



KEY NOTES:

(1) MAXIMUM CONDUCTOR LENGTH 25 FEET.

1 / E-11 MAIN ONE LINE DIAGRAM
SCALE: N.T.S.

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DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT T200811301
COUNTY NEW CASTLE
BRIDGE NO.
DESIGNED BY: JLG
CHECKED BY: RAK

8/07/15 | E-11

ELECTRICAL
MAIN ONE LINE DIAGRAM

SHEET NO. 843
TOTAL SHTS. 850

LEGEND:

GROUND CONNECTION

CONDUIT - EXPOSED

CONDUIT - EMBEDDED

CONDUIT - TURNED DOWN

CONDUIT - TURNED UP

POWER OR CONTROL PULLBOX

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

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 RIGID STEEL CONDUIT (PCRMC). ALL OTHER EXPOSED OUTDOOR CONDUITS SHALL BE GALVANIZED RIGID 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.

FOR INFORMATION ONLY (BY OTHERS)

8/07/15	ETC-01

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT	BRIDGE NO.
T200811301	DESIGNED BY: JTB
COUNTY	CHECKED BY: RAK
NEW CASTLE	

ETC
LEGEND, SYMBOLS
& ABBREVIATIONS

SHEET NO.	844
TOTAL SHTS.	850

LAST REVISED: 3122008
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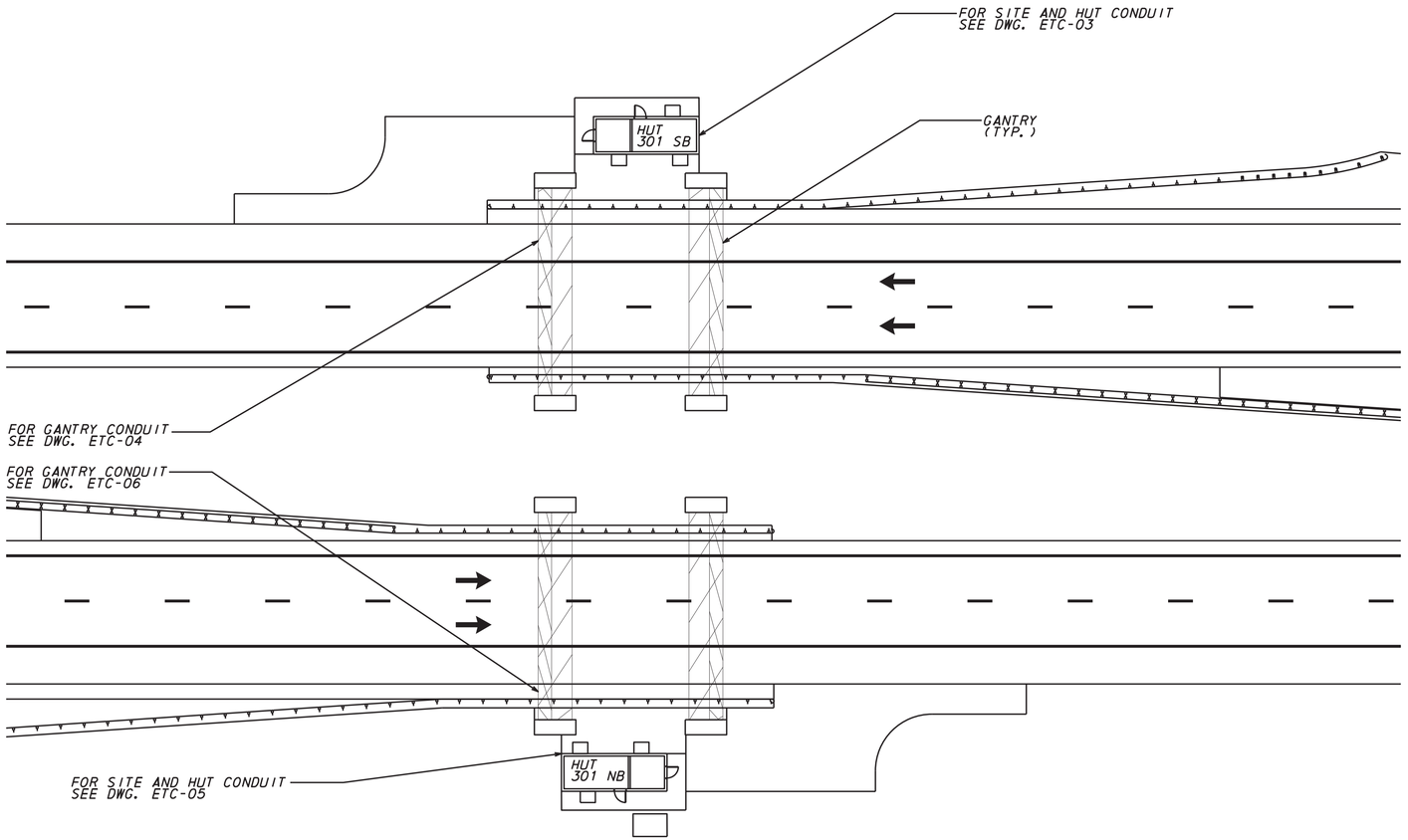

SITE PLAN
SCALE: 1" = 20'-0"

FOR INFORMATION ONLY (BY OTHERS)

8/07/15	ETC–02

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

US 301
MARYLAND STATE LINE TO LEVELS ROAD

CONTRACT	T200811301
COUNTY	NEW CASTLE
BRIDGE NO.	
DESIGNED BY:	JTB
CHECKED BY:	RAK

ETC OVERALL SITE PLAN

SHEET NO.	845
TOTAL SHTS.	850

LAST REVISED: 3/22/2008
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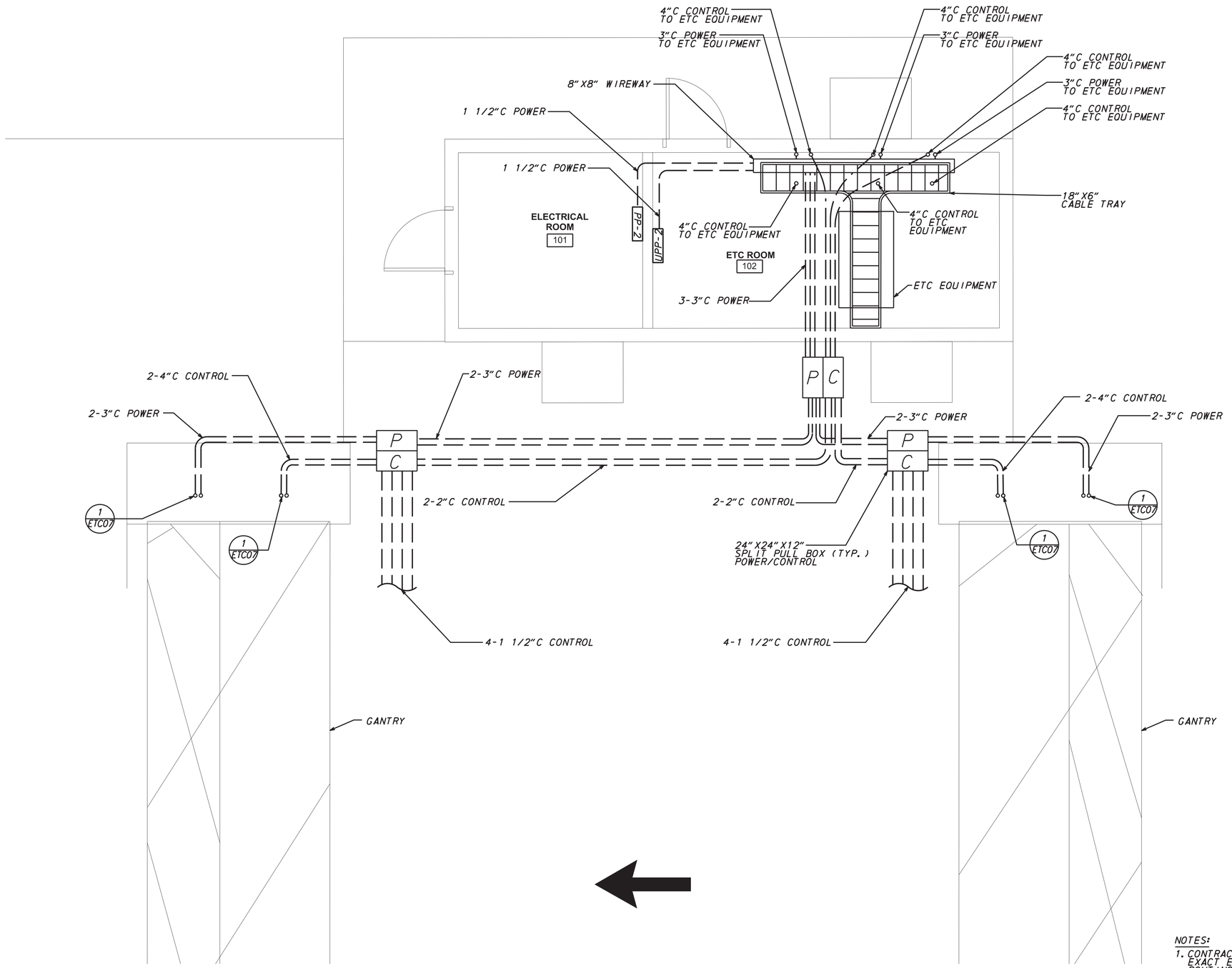

NOTES:

1. CONTRACTOR SHALL COORDINATE WITH ETC CONTRACTOR FOR EXACT EQUIPMENT LOCATIONS AND ADJUST FINAL CONDUIT ROUTING AS NECESSARY.
2. SEE DWG. ETC-07 FOR GANTRY COLUMN CONDUIT DETAILS.
3. ALL ETC EQUIPMENT TO BE HOUSED WITHIN THE "ETC ROOM".

FOR INFORMATION ONLY (BY OTHERS)

ETC SITE & HUT 301 SB - AET CONDUIT PLAN

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

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		US 301 MARYLAND STATE LINE TO LEVELS ROAD	CONTRACT T200811301	BRIDGE NO.	8/07/15 ETC-03
				COUNTY NEW CASTLE	DESIGNED BY: JTB	ETC SITE & HUT 301 SB AET CONDUIT PLAN
					CHECKED BY: RAK	SHEET NO. 846 / TOTAL SHTS. 850

LAST REVISED: 3/12/2008
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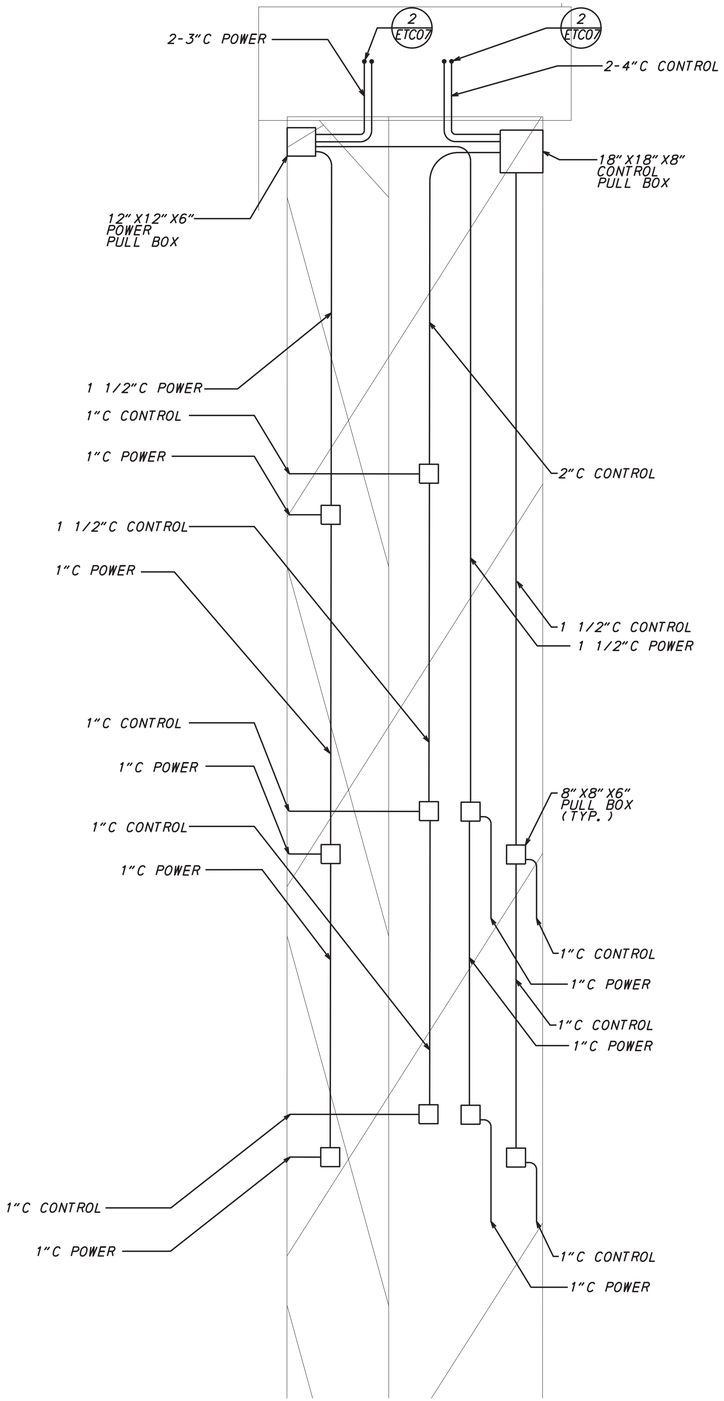

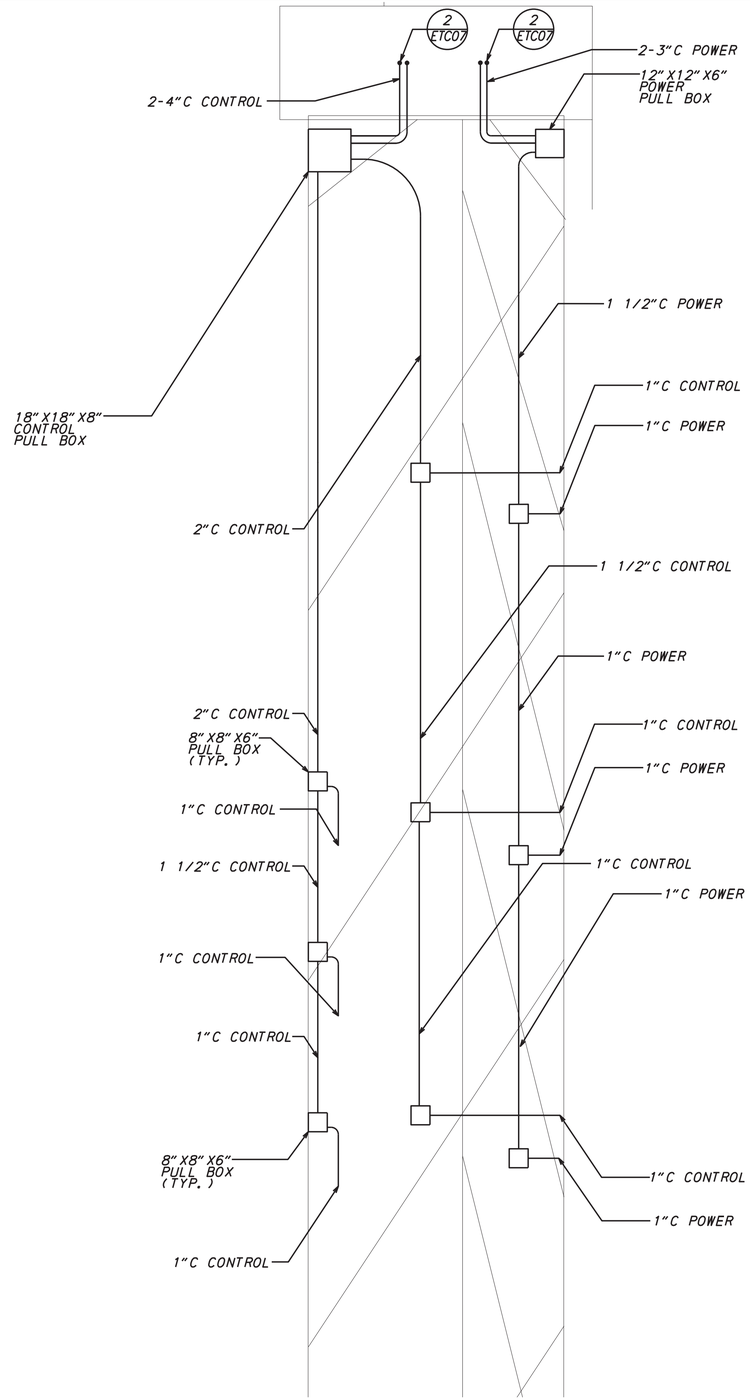

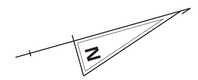

ETC GANTRY CONDUIT PLAN AET SB

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-07 FOR GANTRY COLUMN CONDUIT DETAILS.

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8/07/15	ETC–04

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

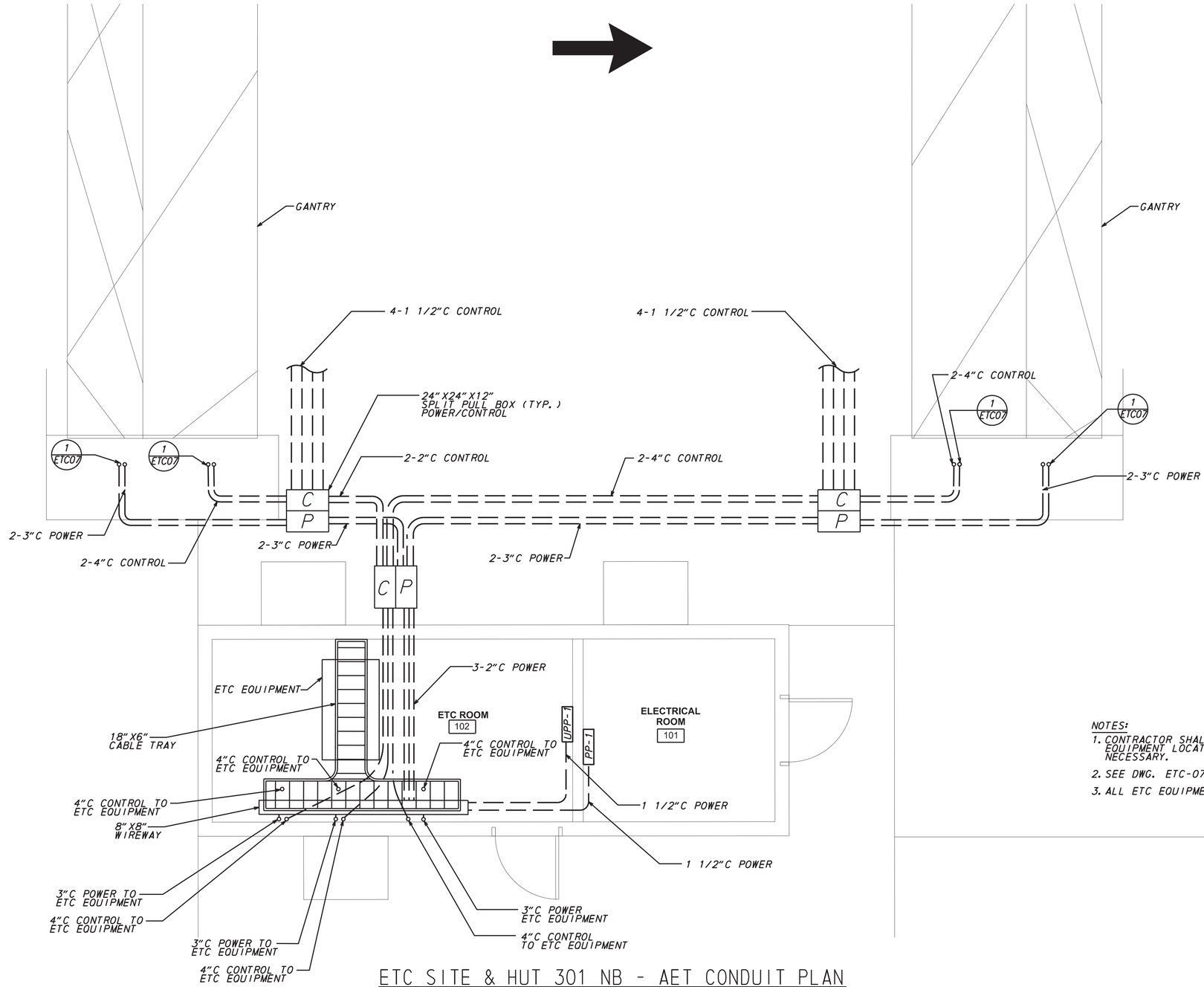
ADDENDUMS / REVISIONS

US 301
MARYLAND STATE LINE TO LEVELS ROAD

CONTRACT	BRIDGE NO.	
T200811301	DESIGNED BY: JTB	
COUNTY	CHECKED BY: RAK	
NEW CASTLE		

ETC GANTRY CONDUIT PLAN AET SB

SHEET NO.
847
TOTAL SHTS.
850



ETC SITE & HUT 301 NB - AET CONDUIT PLAN

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-07 FOR GANTRY COLUMN CONDUIT DETAILS.
3. ALL ETC EQUIPMENT TO BE HOUSED WITHIN THE "ETC ROOM".

FOR INFORMATION ONLY (BY OTHERS)

LAST REVISED: 3/12/2008
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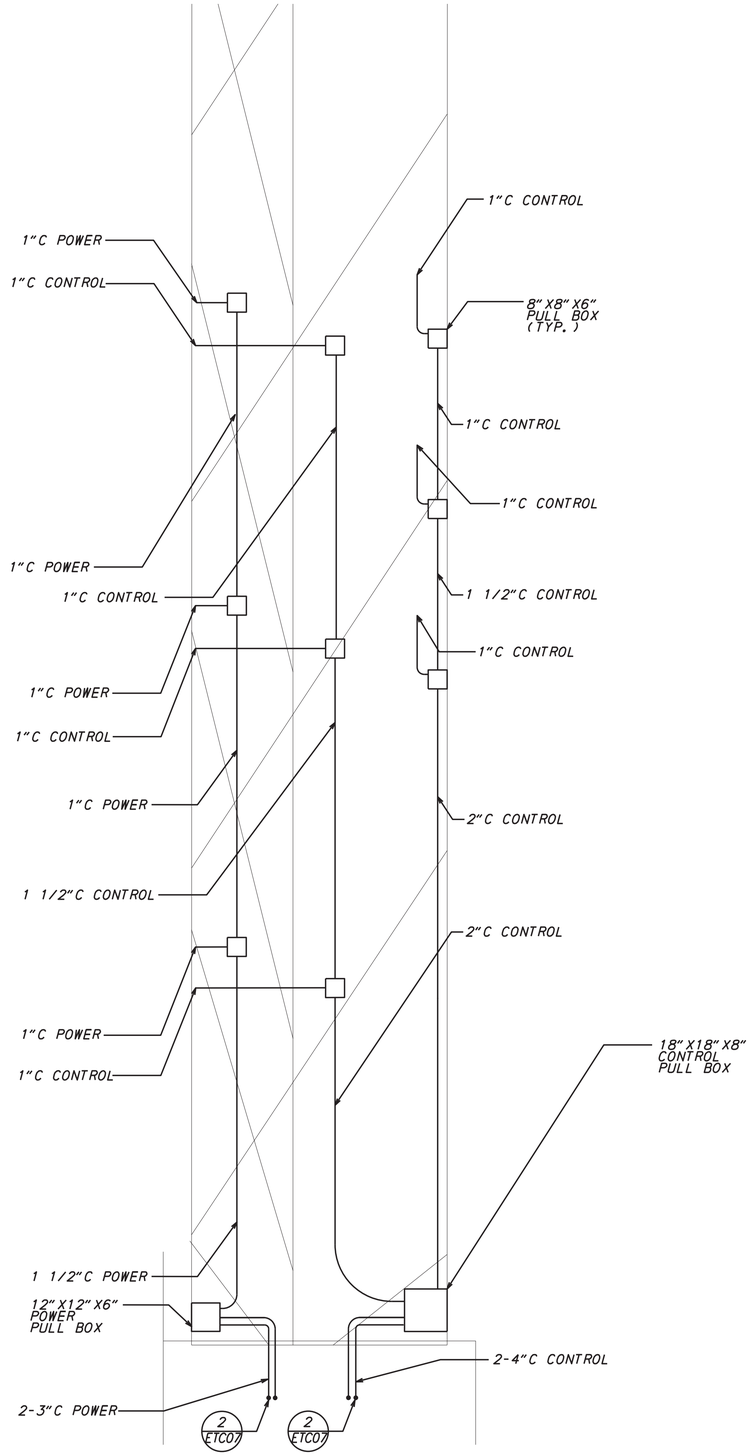
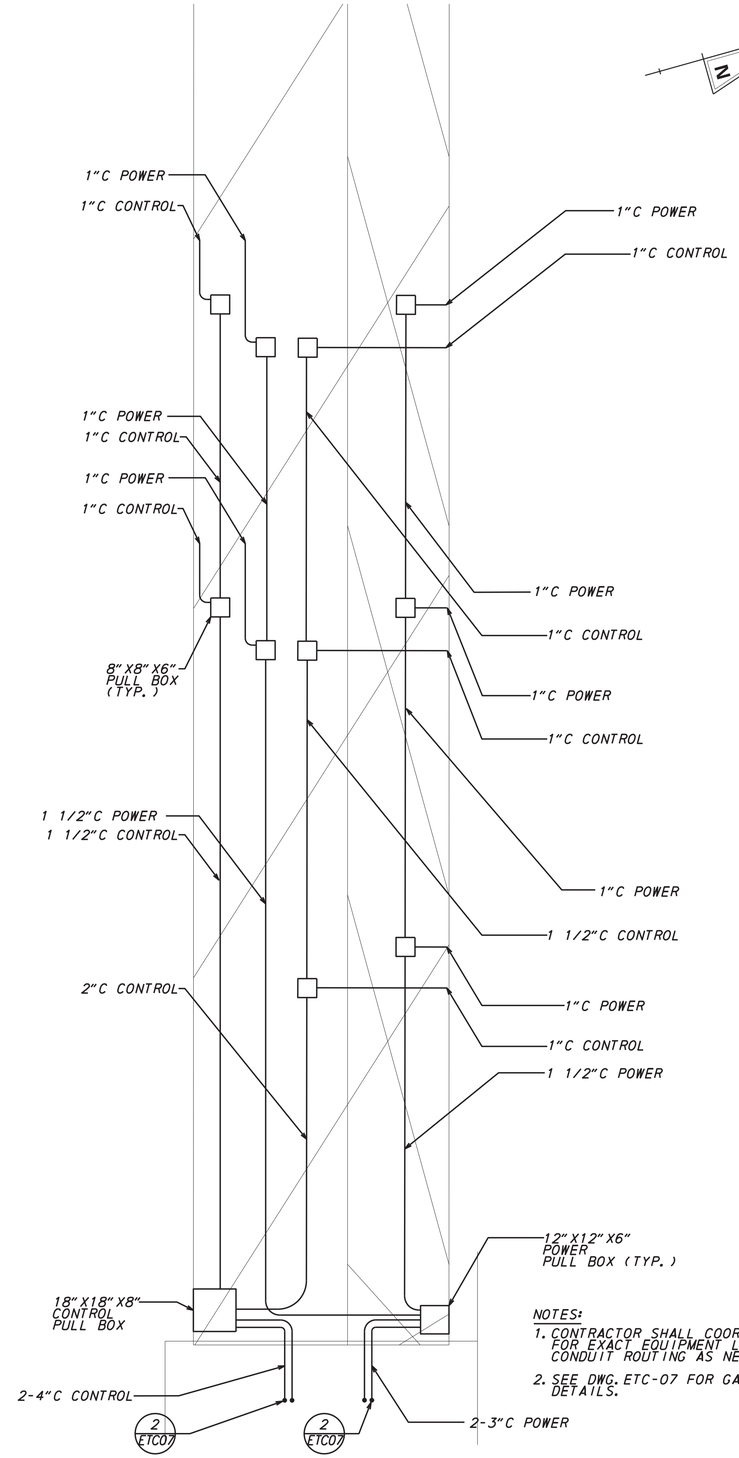
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		US 301 MARYLAND STATE LINE TO LEVELS ROAD	CONTRACT T200811301	BRIDGE NO.	8/07/15 ETC-05
				COUNTY NEW CASTLE	DESIGNED BY: JTB	ETC SITE & HUT 301 NB AET CONDUIT PLAN
					CHECKED BY: RAK	SHEET NO. 848 TOTAL SHTS. 850





NOTES:
1. CONTRACTOR SHALL COORDINATE WITH ETC CONTRACTOR FOR EXACT EQUIPMENT LOCATIONS AND ADJUST FINAL CONDUIT ROUTING AS NECESSARY.
2. SEE DWG. ETC-07 FOR GANTRY COLUMN CONDUIT DETAILS.

FOR INFORMATION ONLY (BY OTHERS)

ETC GANTRY CONDUIT PLAN AET NB

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

8/07/15	ETC-06

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

US 301 MARYLAND STATE LINE TO LEVELS ROAD

CONTRACT	BRIDGE NO.	ETC GANTRY CONDUIT PLAN AET NB	SHEET NO.
T200811301	DESIGNED BY: JTB		849
COUNTY			TOTAL SHTS.
NEW CASTLE	CHECKED BY: RAK		850

LAST REVISED: 3/12/2008
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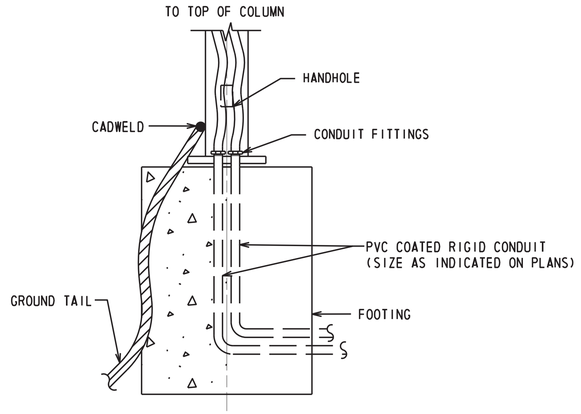
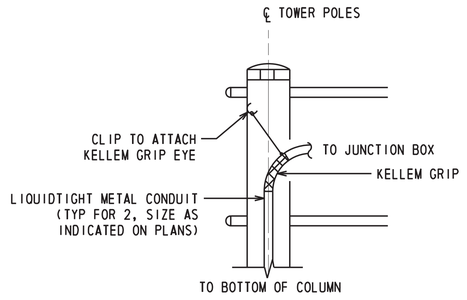


1 ETC07 TYPICAL GANTRY COLUMN BOTTOM ELEVATION

N.T.S.



2 ETC07 TYPICAL GANTRY COLUMN TOP ELEVATION

N.T.S.

FOR INFORMATION ONLY (BY OTHERS)

8/07/15	ETC–07

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT	BRIDGE NO.	
T200811301	DESIGNED BY: JLG	
COUNTY	CHECKED BY: RAK	
NEW CASTLE		

ETC DETAILS

SHEET NO.
850
TOTAL SHTS.
850

LAST REVISED: 3/12/2008
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