

# State of New Jersey Department of Transportation

PLANS OF

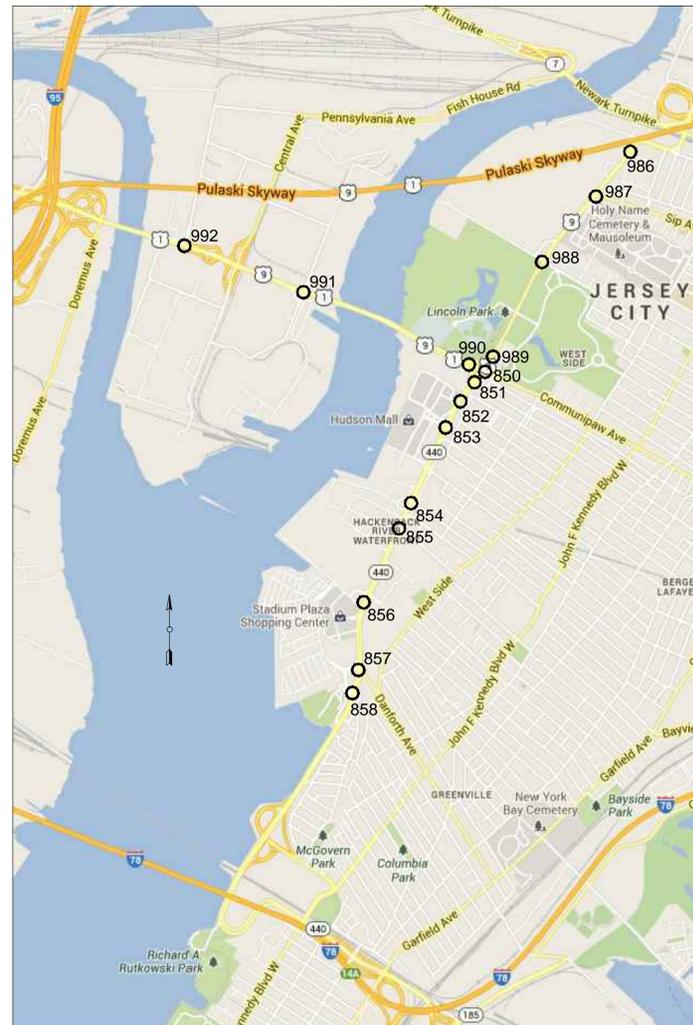
## U.S. ROUTE 1/9T & N.J. ROUTE 440 EXPANSION OF MEADOWLANDS ADAPTIVE SIGNAL SYSTEM FOR TRAFFIC REDUCTION

TOWN OF KEARNY & CITY OF JERSEY CITY  
HUDSON COUNTY, NEW JERSEY

JULY 2013



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NOTICE:  
LOCATIONS OF CONDUITS, JUNCTION BOXES, TRAFFIC SIGNAL POLES, ETC. AS SHOWN ON THE PLANS ARE PLOTTED FROM AVAILABLE DATA ON FILE AND ARE NOT GUARANTEED AS TO EXACTNESS. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION AND DEPTH OF ALL UTILITIES IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL USE THE LOCATIONS OF THE CONDUITS, JUNCTION BOXES, TRAFFIC SIGNAL POLES, ETC. AS AN AID IN DETERMINING EXACT LOCATIONS.

NJDOT 2007 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND NJDOT 2007 STANDARD SPECIFICATIONS FOR ELECTRICAL MATERIAL AND CONSTRUCTION SHALL GOVERN EXCEPT FOR THE SPECIFICATIONS OF NON-STANDARD NJDOT ITEMS, CONTAINED IN THE SPECIFICATIONS OF THE PROJECT.

STANDARD ROADWAY CONSTRUCTION/TRAFFIC CONTROL BRIDGE CONSTRUCTION DETAILS BOOKLET 2007, AND STANDARD ELECTRICAL DETAILS BOOKLET 2007, ARE APPLICABLE TO THIS PROJECT EXCEPT FOR THOSE DETAILS CONTAINED HEREIN.

"CHANGES MADE TO THESE PLANS SINCE SIGNATURE BY THE CONSULTANT MAY BE DETERMINED BY COMPARISON OF THE PLANS FILED AT THE DEPARTMENT WITH THOSE FILED AT THE OFFICE OF THE CONSULTANT."

NEW JERSEY MEADOWLANDS COMMISSION

DAVID LIEBGOLD

NEW JERSEY PROFESSIONAL ENGINEER  
LICENSE NO. 45897

KEY MAP

N.T.S.

Submitted by \_\_\_\_\_  
Executive Director, Statewide Traffic Operations

Approved by \_\_\_\_\_  
State Transportation Engineer

STATE	NJMC PROJECT
N.J.	NJDOT PULASKI

## GENERAL NOTES

### LEGAL

THE CONTRACT DOCUMENTS SHALL BE COMPRISED OF THE BID PACKAGE AND APPENDICES, INCLUDING CONTRACT PLANS, TECHNICAL SPECIFICATIONS, CONSTRUCTION DETAILS, CONTRACT PROPOSAL, THE MOST CURRENT EDITIONS OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, STANDARD INPUTS, AND STANDARD DETAILS, AS PUBLISHED BY THE NEW JERSEY DEPARTMENT OF TRANSPORTATION (NJDOT), AND ANY AMENDMENTS CONTAINED HEREINAFTER. THE CONTRACTOR SHALL READ AND UNDERSTAND THE PROJECT SPECIFICATIONS PRIOR TO CONSTRUCTION.

1. THE CONTRACTOR SHALL VISIT THE SITE (S) AND BECOME FAMILIAR WITH THE EXISTING CONDITIONS PRIOR TO SUBMITTING THE BID. ANY DISCREPANCIES BETWEEN THESE PLANS AND THE ACTUAL CONDITIONS AT THE SITE SHALL IMMEDIATELY BE REPORTED TO THE NJMC.

2. THE CONTRACTOR SHALL COMPLY WITH ALL LAWS, ORDINANCES, RULES, ORDERS AND REGULATIONS RELATING TO THE PERFORMANCE OF THE WORK, THE PROTECTION OF ADJACENT PROPERTY AND MAINTENANCE OF PASSAGE WAYS.

3. THE NJMC SHALL NOT BE HELD RESPONSIBLE AND/OR LIABLE FOR THE SAFETY OF THE WORK SITE. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING A SAFE WORK SITE AT ALL TIMES.

4. THE CONTRACTOR IS RESPONSIBLE TO OBEY ALL HEALTH AND SAFETY REGULATIONS. THE NJMC ASSUMES NO RESPONSIBILITY FOR THE HEALTH AND AND SAFETY OF THE WORK PERFORMED.

5. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED LOCAL, COUNTY, STATE AND FEDERAL ROAD OPENING PERMITS AND SHALL BEAR THE COST OF ANY ACCOMPANYING FEES. ALL PERMITS MUST BE SECURED PRIOR TO THE COMMENCEMENT OF WORK.

6. WHENEVER A QUESTION ARISES REGARDING THE SPECIFICATIONS OR DRAWINGS, OR ANY SUPPLEMENTARY DRAWINGS OR INSTRUCTIONS OF THE FIELD ENGINEER, SAME SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE NJMC.

### SITE CLEARING AND CONSTRUCTION

7. THE CONTRACTOR IS REQUIRED TO COORDINATE CONSTRUCTION SCHEDULING WITH OTHER NJDOT AND NJMC CONTRACTORS WORKING IN THE VICINITY OF THE PROJECT.

8. ONE COPY OF THE APPROVED PLANS AND SPECIFICATIONS FURNISHED TO THE CONTRACTOR SHALL BE KEPT ON THE PROJECT SITE. ALL WORK AND MATERIALS NECESSARY FOR THE COMPLETION OF THE WORK ACCORDING TO THE INTENT AND MEANING OF THE CONTRACT DOCUMENTS, SHALL BE FURNISHED AND PERFORMED IN ACCORDANCE WITH THE SPECIFICATIONS AND PLANS. ANY CONFLICT OR INCONSISTENCY BETWEEN THE PLANS AND THE SPECIFICATIONS OR ANY DISCREPANCY BETWEEN THE FIGURES AND SCALE OF DRAWINGS SHALL BE SUBMITTED BY THE CONTRACTOR TO THE NJMC, WHOSE DECISION THEREON SHALL BE FINAL.

9. THE CONTRACTOR IS RESPONSIBLE TO CONSTRUCT THE PROJECT IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. ALL PROPOSED FIELD CHANGES MUST BE APPROVED IN WRITING BY THE NJMC PRIOR TO THE CONSTRUCTION OF ANY FIELD CHANGES.

10. ALL INFORMATION SHOWN OR NOTED FOR EXISTING AND PROPOSED FACILITIES, ROADWAYS, CONDUITS, JUNCTION BOXES, POLES ETC. AND MATERIAL IS APPROXIMATE. THE CONTRACTOR IS RESPONSIBLE TO VERIFY ALL INFORMATION WHICH MAY AFFECT THE WORK.

11. ALL DISTURBED PLANTINGS, FENCING, WALKWAYS, SIGNS, MAILBOXES, DRIVEWAYS, IRRIGATION SYSTEMS, DECORATIVE LIGHTING, ETC. SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AND TO THE SATISFACTION OF THE NJMC AND/OR THE OWNER. NO SEPARATE PAYMENT SHALL BE MADE FOR THIS RESTORATION WORK UNLESS SAME IS CLEARLY SPECIFIED ELSEWHERE IN THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL TAKE PRUDENT MEASURES TO PROTECT ALL EXISTING EVIDENCE (MONUMENTS, PIPES, ETC.) DURING CONSTRUCTION.

12. ALL PROPERTY CORNERS OR MONUMENTS REMOVED OR DAMAGES DURING CONSTRUCTION SHALL BE REPLACED BY A NJ-LICENSED LAND SURVEYOR AT NO ADDITIONAL COST TO THE OWNER AND OR THE NJMC.

13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DISPOSAL OF ALL EXCESS MATERIALS EXCAVATED, WHATEVER THEIR NATURE AT HIS/HER OWN EXPENSE. THE CONTRACTOR SHALL NOT DEPOSIT THE EXCESS MATERIALS WITHIN THE MUNICIPAL LIMITS WITHOUT THE EXPRESS PERMISSION OF THE NJMC AND/THE MUNICIPAL ENGINEER. EXCAVATED MATERIAL MAY NOT BE STORED ON SITE SHALL BE REMOVED AT THE END OF EACH DAY.

14. ALL LAND EXCAVATED MATERIALS SHALL BE DISPOSED OF IN ACCORDANCE WITH APPROVED NJDOT/NJDEP METHODS AND MEANS, OR TRANSPORTED AT THE DIRECTION OF THE NJMC.

15. THE CONTRACTOR SHALL PROVIDE A SMOOTH SAWCUT EDGE IN ALL CASES WHERE PROPOSED PAVEMENT OF WHATEVER NATURE ABUT EXISTING PAVEMENTS, CURBS, OR SIDEWALKS. NO SEPARATE PAYMENT WILL BE MADE FOR SAWCUTTING. THE COST SHALL BE INCLUDED IN THE VARIOUS ITEMS IN THE PROPOSAL.

16. TRENCHES WILL NOT BE LEFT OPEN OVER NIGHT IN AREAS WHERE ROADWAY IS TO BE OPEN TO VEHICULAR OR PEDESTRIAN TRAFFIC. NO SEPARATE PAYMENT WILL BE GIVEN FOR SUCH RESTORATION, THE COST OF WHICH SHALL BE INCLUDED IN THE VARIOUS ITEMS IN THE PROPOSAL.

17. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE INSTALLED IN CONFORMANCE WITH SOIL CONSERVATION DISTRICT STANDARDS PRIOR TO ANY MAJOR SOIL DISTURBANCES. ALL WORK SHALL BE COMPLETED IN PROPER SEQUENCE AND ALL EROSION CONTROL DEVICES SHALL BE MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.

18. ALL WORK RELATED TO THE ANTENNA POLES OR POLE EXTENSIONS (E.G. FOUNDATION, STRUCTURAL DESIGN, ETC.) SHALL BE INCLUDED IN THE ANTENNA POLE AND POLE EXTENSION BID PRICE, RESPECTIVELY.

19. PAVEMENT REPAIR STRIP BID PRICE SHALL BE DISTRIBUTED OVER VARIOUS BID ITEMS.

20. THE JUNCTION BOX BID PRICE SHALL INCLUDE JUNCTION BOX FRAME AND COVER.

21. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL PROPERTIES AT ALL TIMES DURING CONSTRUCTION.

22. THE CONTRACTOR SHALL RESTORE ALL ACCESS DRIVEWAYS TO THEIR ORIGINAL CONDITION AT NO ADDITIONAL COST.

23. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO MAINTAIN DUST CONTROL AS REQUIRED OR DIRECTED BY THE NJMC.

24. THE CONTRACTOR SHALL KEEP THE SITE CLEAN AT ALL TIMES AND SWEEP THE STREET AT THE END OF EACH WORK DAY, AS NECESSARY OR AS DIRECTED BY THE NJMC.

25. THE CONTRACTOR SHALL INSPECT ALL CONDUITS AT EACH INDIVIDUAL INTERSECTION PRIOR TO INSTALLATION OF ANY CABLES AT THAT INTERSECTION (I.E. CAT 5E, VEHICLE DETECTION CABLE ETC.) TO ENSURE THE CABLE CAN BE PULLED THROUGH ALL CONDUITS. THE CONTRACTOR SHALL NOTIFY THE RESIDENT ENGINEER OF ANY CONDUIT ISSUES PRIOR TO THE INSTALLATION OF ANY CABLES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST ASSOCIATED WITH ANY PARTIALLY INSTALLED CABLES AT LOCATIONS WHERE THE CONDUITS WERE NOT INSPECTED PRIOR TO INSTALLATION.

### TRAFFIC CONTROL

26. WHERE REQUIRED, THE CONTRACTOR SHALL MAKE PROVISIONS TO ACQUIRE AND/OR POST TEMPORARY NO PARKING SIGNS 48 HOURS IN ADVANCE OF CONSTRUCTION ACTIVITIES.

27. ADVANCE WARNING SIGNS DISTANCES AND TAPER LENGTHS MAY BE EXTENDED, AT THE DIRECTION OF THE NJMC, TO ADJUST FOR REDUCED VISIBILITY DUE TO HORIZONTAL AND VERTICAL CURVATURE OF THE ROADWAY.

28. APPROXIMATE LOCATIONS OF THE ILLUMINATED FLASHING ARROW BOARDS ARE SHOWN ON THE TRAFFIC CONTROL PLANS. THESE LOCATIONS MAY BE MODIFIED AS APPROVED BY THE NJMC TO ADJUST FOR VISIBILITY DUE TO HORIZONTAL OR VERTICAL CURVATURE OF THE ROADWAY OR TO POSITION AT A SAFER LOCATION. ILLUMINATED FLASHING ARROW BOARDS AND FLASHING BAR SHALL BE USED FOR TEMPORARY LANE AND SHOULDER CLOSINGS RESPECTIVELY AND AT LOCATIONS SHOWN ON THE TRAFFIC CONTROL PLANS.

29. PRIOR TO ANY ROAD CONSTRUCTION, TRAFFIC CONTROL SIGNS AND DEVICES SHALL BE IN PLACE.

30. RAMPS AND/OR SIDE STREETS ENTERING THE ROADWAY AFTER THE FIRST ADVANCE WARNING SIGN SHALL BE PROVIDED WITH A MINIMUM OF ONE W20-IF SIGN (ROAD WORK AHEAD).

31. ALL EXISTING ROAD SIGNS, PAVEMENT MARKINGS AND/OR PLOWABLE PAVEMENT REFLECTORS WHICH CONFLICT WITH THE PROPOSED TRAFFIC CONTROL PLAN SHALL BE COVERED, REMOVED OR RELOCATED AS DIRECTED BY THE NJMC SUBJECT TO THE APPROVAL OF NJDOT.

32. CONFLICTING OR NON-OPERATING SIGNAL INDICATIONS ON EITHER THE EXISTING, TEMPORARY OR PROPOSED TRAFFIC SIGNAL SYSTEMS SHALL BE BAGGED OR COVERED, UNTIL SUCH TIME WHEN THE NJMC DETERMINES THAT THE COVERING CAN BE REMOVED.

33. MAINTENANCE AND PROTECTION OF TRAFFIC SHALL BE PROVIDED IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES - PART VI "STANDARDS AND GUIDES FOR TRAFFIC CONTROL FOR STREET AND HIGHWAY CONSTRUCTION, MAINTENANCE, UTILITY, AND INCIDENT MANAGEMENT OPERATIONS", UNLESS OTHERWISE NOTED IN THE PLANS AND SPECIFICATIONS.

34. CONSTRUCTION SIGN W99-2 (GIVE US A BRAKE) SHALL BE LOCATED 200 FEET IN ADVANCE OF PROJECT LIMITS.

35. A W1-6 (ARROW) SIGN MOUNTED ON A BREAKAWAY BARRICADE AND CENTERED ON THE CLOSED WIDTH SHALL BE LOCATED 100 FEET BEYOND EACH INTERSECTION OR MAIN ACCESS POINT WITHIN THE AREA OF LANE OR SHOULDER CLOSURE.

36. CONSTRUCTION SIGNS R11-4 (ROAD CLOSED TO THRU TRAFFIC) SHALL BE PLACED AT THE INTERSECTING STREETS WHICH ARE CLOSED TO TRAFFIC BECAUSE OF CONSTRUCTION.

37. CONSTRUCTION SIGNS W8-9A (SYMBOL FOR UNEVEN PAVEMENT) AND W8-14A (GROOVED PAVEMENT) SHALL BE USED WHEN SUCH PAVEMENT CONDITIONS EXIST. THE PLACEMENT OF THESE SIGNS SHALL BE AS DIRECTED BY THE NJMC, SUBJECT TO THE APPROVAL OF NJDOT.

38. TRAFFIC SAFETY SERVICE SHALL BE USED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR TRAFFIC CONTROL.

39. MOVING WORK AREAS IN A LANE CLOSURE REQUIRE A TRAILER MOUNTED ILLUMINATED FLASHING ARROW TO REMAIN AT THE END OF THE TAPER. THE TRAFFIC CONTROL TRUCK SHALL ALSO HAVE A MOUNTED CRASH CUSHION AND SHALL MOVE WITH THE WORK AREAS TO KEEP A 70 FEET MIN. AND 150 FEET MAX. BUFFER IN ADVANCE OF EACH WORK AREA.

40. THE CONTRACTOR SHALL SUBMIT A PLAN FOR THE SAFE ACCESS OF CONSTRUCTION VEHICLES THROUGHOUT THE WORK SITE WHERE SPACE CONSTRAINTS PREVENT THE USE OF LANE CLOSURES. THE PLAN SHALL BE SUBMITTED TO THE NJMC IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

41. ALL EXCAVATED AREAS WITHIN OR ADJACENT TO THE ROADWAY SHALL BE BACKFILLED AND PLACED ON A SLOPE OF AT LEAST 6H : 1V BEFORE THE END OF EACH WORK DAY. OTHER EXCAVATED AREAS WITHIN THE CLEAR ZONE SHALL BE BACKFILLED.

42. WHERE REQUIRED, THE CONTRACTOR SHALL MAKE PROVISIONS FOR MAINTAINING PEDESTRIAN CROSSING LOCATIONS AS DIRECTED BY THE NJMC, SUBJECT TO THE APPROVAL OF NJDOT.

43. BITUMINOUS CONCRETE PLACED DURING THE VARIOUS CONSTRUCTION STAGES SHALL BE TRANSITIONED ON A MINIMUM 20H : 1V SLOPE TO MEET THE ADJACENT EXISTING GRADE AT THE LONGITUDINAL AND TRANSVERSE LIMITS OF THE STAGE CONSTRUCTION AREAS UNLESS OTHERWISE NOTED ON THE STAGE CONSTRUCTION PLANS.

44. THE PLACEMENT AND OR RELOCATION OF PRECAST CONCRETE CURB, CONSTRUCTION BARRIER SHALL BE DONE DURING APPROVED OFF-PEAK HOURS WHEN TRAFFIC MAY BE REDUCED TO ONE LANE IN EACH DIRECTION.

45. CONSTRUCTION ZONE SPEED LIMIT WILL BE DETERMINED BY THE NJMC AND SUBJECT TO THE APPROVAL OF NJDOT, AT THE TIME OF OR DURING CONSTRUCTION.

46. THE SPEED LIMIT, R2-1 (BLACK AND WHITE) WITH ADDED WORK ZONE PLATE (BLACK ON ORANGE) SIGNS SHALL BE LOCATED THROUGH WORK AREAS AS DIRECTED BY THE NJMC, SUBJECT TO THE APPROVAL OF NJDOT.

47. THE REDUCED SPEED AHEAD SIGN, W3-5(S) (BLACK ON ORANGE) SHALL BE LOCATED IN ADVANCE OF SPEED LIMIT R2-1 SIGNS WHICH REDUCE THE NORMAL POSTED SPEED LIMIT THROUGH THE CONSTRUCTION ZONE.

48. TRAFFIC FINES DOUBLE IN WORK AREA R(N)J-5(17)(S), 4 FEET BY 2.5 FEET SIGN SHALL BE LOCATED 500 FEET AFTER THE FIRST ADVANCE WARNING SIGN, (W20 SERIES) AT EACH WORK AREA LOCATED WITHIN URBAN AREAS. THIS SIGN SHALL ALSO BE USED ON PROJECTS REQUIRING MOVING OPERATIONS IN WHICH CASE THE SIGN SHALL BE MOUNTED ON A SLOW MOVING CONSTRUCTION VEHICLE.

49. TRAFFIC CONTROL DEVICES FOR LANE CLOSURES INCLUDING SIGNS, CONES, BARRICADES, ETC. SHALL BE PLACED AS SHOWN ON PLANS. SIGNS SHALL NOT BE PLACED WITHOUT ACTUAL LANE CLOSURES AND SHALL BE IMMEDIATELY REMOVED UPON REMOVAL OF THE CLOSURES.

50. CONES MAY BE SUBSTITUTED FOR DRUMS AND INSTALLED UPON AUTHORIZATION FROM THE NJMC AND APPROVAL OF THE NJDOT.

51. TRAFFIC IMPACT NOTICES AND CHANGES

### A. TERMS:

WHEN THE FOLLOWING TERMS ARE USED, THE INTENT AND MEANING SHALL BE AS FOLLOWS:

i. IMPACTS TO NORMAL TRAFFIC FLOW - WORK THAT REQUIRES A PORTION OF THE PAVED ROADWAY TO BE BLOCKED OR CLOSED WITH SAFETY DEVICES OR VEHICLES, INCLUDING, BUT NOT LIMITED TO, FULL OR PARTIAL LANE CLOSURES, FULL OR PARTIAL RAMP CLOSURES, SHOULDER CLOSURES, MOVING OPERATIONS SUCH AS TRAFFIC STRIPING OR SWEEPING, LANE SHIFTS, OR ALTERNATING TRAFFIC. THIS APPLIES EVEN WHEN DETOURS ARE PROVIDED.

ii. TEMPORARY LANE CLOSURES - WORK DESCRIBED UNDER "IMPACTS TO NORMAL TRAFFIC FLOW" WHICH IS ROUTINELY SET UP AND REMOVED ON A DAILY BASIS.

iii. PERMANENT LANE CLOSURES - WORK DESCRIBED UNDER "IMPACTS TO NORMAL TRAFFIC FLOW" WHICH REMAINS IN PLACE CONTINUOUSLY FOR 24 HOURS OR MORE.

### B. ADVANCE NOTICES

FOR THE INITIAL START OF WORK THAT REQUIRES "IMPACTS TO NORMAL TRAFFIC FLOW", THE CONTRACTOR SHALL NOTIFY THE RESIDENT ENGINEER IN WRITING, OF THE PROPOSED DATE. THE CONTRACTOR SHALL CONFIRM, IN WRITING TO THE NJMC, THE PROPOSED DATE SEVEN (AND/OR FOURTEEN, AS REQUIRED BELOW) CALENDAR DAYS BEFORE STARTING THE ESTABLISHMENT OF THE TRAFFIC CONTROL MEASURES FOR THE TRAFFIC IMPACT. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE NJMC IF THE PROPOSED ESTABLISHMENT CAN NOT BE COMPLETED ON THE PROPOSED DATE.

FOR A "PERMANENT LANE CLOSURE", THE CONTRACTOR SHALL NOTIFY THE NJMC IN WRITING OF THE PROPOSED DATE A NEW TRAFFIC PATTERN WILL BE ESTABLISHED. THE NOTICE SHALL BE SUBMITTED AT LEAST FOURTEEN CALENDAR DAYS, BUT NOT MORE THAN THIRTY CALENDAR DAYS, IN ADVANCE OF THE PROPOSED DATE. START OF A NEW TRAFFIC PATTERN WILL NOT BE PERMITTED PRIOR TO THE DATE STATED IN THE NOTICE. THE CONTRACTOR SHALL CONFIRM, IN WRITING TO THE NJMC, THE PROPOSED DATE OF THE NEW TRAFFIC PATTERN SEVEN DAYS BEFORE STARTING TRAFFIC CONTROL MEASURES FOR THE ESTABLISHMENT OF THE NEW PATTERN. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE NJMC IF THE PROPOSED ESTABLISHMENT CAN NOT BE COMPLETED ON THE PROPOSED DATE.

STARTING THE ESTABLISHMENT OF A NEW PERMANENT TRAFFIC PATTERN SHALL BE COMPLETED IN ACCORDANCE WITH THE LANE CLOSURE HOURS SPECIFIED IN THE CONTRACT.

ADVANCE NOTICES SENT PRIOR TO THE PRE-CONSTRUCTION MEETING SHALL BE ADDRESSED TO THE CONTACT PERSON AS SPECIFIED.

### C. PROGRESS NOTICES

ALL "IMPACTS TO NORMAL TRAFFIC FLOW" SCHEDULED FOR THE SEVEN DAY PERIOD STARTING ON THE FOLLOWING MONDAY SHALL BE SUBMITTED TO THE NJMC BY 9:00 AM OF EACH FRIDAY ON "WEEKLY FORM TO-101" PROVIDED BY THE NJMC.

EACH DAY OF "TEMPORARY LANE CLOSURES" SHALL BE SUBMITTED TO THE NJMC BY 9:00 AM OF THE DAY IN ADVANCE OF THE START OF THOSE OPERATIONS.

"TEMPORARY LANE CLOSURES" FOR WEEKENDS SHALL BE SUBMITTED TO THE NJMC BY 9:00 AM ON THE IMMEDIATELY PRECEDING FRIDAY.

### D.CHANGES TO THE SCHEDULED CLOSURES

REQUEST FOR A CHANGE TO THE TRAFFIC CONTROL REQUIREMENTS IN THE CONTRACT DOCUMENTS SHALL BE SUBMITTED IN WRITING TO THE NJMC AS FOLLOWS:

CHANGES TO THE SCHEDULED HOURS FOR "TEMPORARY LANE CLOSURES" SHALL BE SUBMITTED TO THE NJMC, AT LEAST EIGHT CALENDAR DAYS IN ADVANCE OF WHEN THE CHANGE IS PROPOSED TO START.

OTHER PROPOSED CHANGES TO "TEMPORARY LANE CLOSURES" AND ALL CHANGES TO "PERMANENT LANE CLOSURES" SHALL BE SUBMITTED TO THE NJMC AS SPECIFIED IN THE SPECIFICATIONS.

52. DIMENSIONS, COLORS AND DETAILS OF VARIOUS SIZE SIGNS, AND ACCESSORY PANELS TO FOLLOW STANDARDS IN THE CURRENT "STANDARD HIGHWAY SIGN PUBLICATION" AND THE CURRENT "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS".

53. (S) REPRESENTS A SPECIAL SIGN.

54. LETTERS AND NUMERALS SHALL CONFORM TO THE CURRENT MANUAL, "STANDARD ALPHABETS FOR HIGHWAY SIGNS" U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION.

55. THE CONTRACTOR SHALL OBTAIN THE APPROVAL OF THE NJMC FOR THE DISTANCE TO BE USED ON THE ADVANCE WARNING SIGNS, AND FOR THE SPEED LIMIT TO BE USED IN THE 2-1 SIGN.

56. ALUMINUM SHALL BE FLAT SHEET OF ALLOY 5052-H38 OR 6061-T6 ALLOY, 0.10 GAUGE.

57. SIGN SUPPORTS SHALL BE OF WELL SEASONED LUMBER, S4S, FREE OF SPLITS KNOTS AND WRAPS, OR OF STEEL COMPONENTS

58. 4' X 6' WOOD POST SHALL HAVE A UNIFORM CROSS-SECTION AND SHALL NOT EXCEED THE FOLLOWING DIMENSIONS FOR:

SINGLE POST = 4' X 6'  
TWO POSTS = 3' X 6' OR 4' X 5'  
THREE POSTS = 3' X 5' OR 4' X 4'

4' X 6' WOOD POSTS SHALL BE MODIFIED BY DRILLING 1 3/4" DIAMETER HOLES 4" AND 18" ABOVE THE GROUND LINE AND PERPENDICULAR TO THE ROADWAY CENTERLINE.

59. NO BRACING IS PERMITTED. VERTICAL CLEARANCES FOR SIGNS MOUNTED ON WOOD SUPPORTS SHALL BE 7' MINIMUM. EMBEDMENT DEPTH FOR THE WOOD POST SHALL NOT EXCEED 3.5'

60. STEEL POST SHALL BE IN ACCORDANCE WITH THE STANDARD DETAIL FOR U-POST SIGN SUPPORT.

61. TEMPORARY SIGN SUPPORTS NOT MEETING THIS CRITERIA SHALL BE SHIELD BY A LONGITUDINAL BARRIER OR CRASH CUSHIONS.

62. SIGN FACES SHALL BE ASTM D 4956 TYPE VII OR VIII FLUORESCENT ORANGE SHEETING.

63. ALL SIGNS SHALL BE SECURELY FASTENED TO THEIR SUPPORTS WITH BOLTS, NUTS AND WASHERS IN ACCORDANCE WITH THE SPECIFICATIONS.

## LEGEND

	EXISTING 18' X 36' JUNCTION BOX
	EXISTING TRAFFIC SIGNAL POLE
	EXISTING SIGNAL HEAD
	EXISTING CONDUITS
	EXISTING LOOP DETECTORS
	EXISTING FIBER OPTIC JUNCTION BOX
	PROPOSED IMAGE DETECTION AREA
	EXISTING IMAGE DETECTION UNIT
	PROPOSED IMAGE DETECTION UNIT
	PROPOSED ANTENNA POLE
	EXISTING ANTENNA POLE
	PROPOSED CONDUITS
	PROPOSED 18' X 36' JUNCTION BOX
	PROPOSED ANTENNA ASSEMBLY
	PROPOSED TRAVEL TIME ANTENNA
	PROPOSED PTZ CAMERA ASSEMBLY WITH LOWERING DEVICE
	BREAKAWAY BARRICADES
	BREAKAWAY BARRICADES WITH SIGN
	CONSTRUCTION SIGN
	DRUM
	CONE
	DIRECTION OF TRAFFIC FLOW
	TRAFFIC DIRECTOR, FLAGGER
	ILLUMINATED FLASHING ARROW MOUNTED ON TOWING VEHICLE SHOWING ARROW PATTERN (Left, Right, Both)
	TRAFFIC CONTROL TRUCK WITH MOUNTED CRASH CUSHION AND ARROW BOARD SHOWING CAUTION MODE
	TRAFFIC CONTROL TRUCK WITH MOUNTED CRASH CUSHION AND ARROW BOARD SHOWING ARROW PATTERN (Left, Right, Both)
	TEMPORARY CRASH CUSHION, (all other approved)
	WORK AREA
	BUFFER ZONE

GN-1  
GN-2

NEW JERSEY DEPARTMENT OF TRANSPORTATION

U.S. RT. 1/9T & N.J. RT. 440  
EXPANSION OF MASSTR  
GENERAL NOTES

NEW JERSEY MEADOWLANDS COMMISSION

DAVID LIEBGOLD  
NEW JERSEY PROFESSIONAL ENGINEER  
LICENSE NO. 45897

2  
25

NEW JERSEY MEADOWLANDS COMMISSION	REVISION DATE	
	DESCRIPTION	
	DATE	7/1/13
	BY	

### LANE CLOSURE NOTES

#### N.J. ROUTE 440

##### LANE CLOSURE HOURS

ROUTE 440 NORTH & SOUTH (MP 24.00 TO 26.20)

(TWO AND THREE TRAVEL LANES IN EACH DIRECTION)

ALL LANES MAINTAINED

MONDAY THROUGH FRIDAY	5:00 AM TO 10:00 AM, 2:00 PM TO 9:00PM
SATURDAY	7:00 AM TO 10:00 PM
SUNDAY	8:00 AM TO 9:00 PM

ONE LANE MAINTAINED (ONE LANE CLOSED)

MONDAY THROUGH FRIDAY	10:00 AM TO 2:00 PM
MONDAY THROUGH THURSDAY	9:00 PM TO 5:00 AM (NEXT DAY)
FRIDAY	9:00 PM TO 7:00 AM (SATURDAY)
SATURDAY	10:00 PM TO 8:00 AM (SUNDAY)
SUNDAY	9:00 PM TO 5:00 AM (MONDAY)

##### LANE CLOSURE HOURS

ROUTE 440 NORTH & SOUTH (MP. 24.00 TO 26.20)

(RAMP CLOSURES)

##### RAMPS MAINTAINED OPEN

MONDAY THROUGH FRIDAY	5:00 AM TO 10:00 PM
SATURDAY	6:00 AM TO 10:00 PM
SUNDAY	6:00 AM TO 10:00 PM

##### RAMPS CLOSED

MONDAY THROUGH THURSDAY	10:00 PM TO 5:00 AM (NEXT DAY)
FRIDAY	10:00 PM TO 6:00 AM (SATURDAY)
SATURDAY	10:00 PM TO 6:00 AM (SUNDAY)
SUNDAY	10:00 PM TO 5:00 AM (MONDAY)

#### U.S. 1 & 9 TRUCK

##### TWO LANES EACH DIRECTION

ALL LANES MAINTAINED

MONDAY THROUGH FRIDAY	6:00AM TO 10:00PM
SATURDAY	6:00AM TO 10:00PM
SUNDAY	6:00AM TO 10:00PM

ONE LANE MAINTAINED (ONE LANE CLOSED)

MONDAY THROUGH THURSDAY	10:00PM TO 6:00AM (NEXT DAY)
FRIDAY	10:00PM TO 6:00AM (SATURDAY)
SATURDAY	10:00PM TO 6:00AM (SUNDAY)
SUNDAY	10:00PM TO 6:00AM (MONDAY)

##### THREE LANES EACH DIRECTION

ALL LANES MAINTAINED

MONDAY THROUGH FRIDAY	6:00 AM TO 9:00 AM, 3:00 PM TO 10:00PM
SATURDAY	6:00AM TO 10:00PM
SUNDAY	6:00AM TO 10:00PM

TWO LANES MAINTAINED (ONE LANE CLOSED)

MONDAY THROUGH FRIDAY	9:00AM TO 3:00PM
MONDAY THROUGH FRIDAY	10:00PM TO 6:00AM (NEXT DAY)

SHOULDER CLOSURES WILL BE PERMITTED AT ANY TIME WITH NO RESTRICTIONS DUE TO HOLIDAYS. THIS CORRESPONDS TO TEMPORARY CHANGES IN TRAFFIC PATTERNS THAT ARE NOT SHOWN ON THE CONSTRUCTION STAGING AND TRAFFIC CONTROL PLANS. THE WORKING HOURS LISTED ABOVE SHALL NOT APPLY IF THE RESIDENT ENGINEER DETERMINES THAT HAZARDOUS TRAFFIC OPERATIONS WOULD RESULT.

NO LANE CLOSURES WILL BE PERMITTED ON THE FOLLOWING HOLIDAYS:

- EASTER SUNDAY (INCLUDING 6:00AM SATURDAY UNTIL NOON MONDAY)
- MEMORIAL DAY (SEE NOTE BELOW)
- JULY 4TH (SEE NOTE BELOW)
- LABOR DAY (SEE NOTE BELOW)
- ELECTION DAY (6:00AM UNTIL 8:00PM THE DAY OF)
- THANKSGIVING DAY (SEE NOTE BELOW)
- CHRISTMAS DAY (SEE NOTE BELOW)
- NEW YEARS DAY (SEE NOTE BELOW)

NOTE:

##### IF HOLIDAY FALLS ON

SUNDAY OR MONDAY  
TUESDAY  
WEDNESDAY  
THURSDAY  
FRIDAY OR SATURDAY

##### NO LANE CLOSURES PERMITTED

6:00 AM FRIDAY UNTIL NOON TUESDAY  
6:00 AM FRIDAY UNTIL NOON WEDNESDAY  
6:00 AM TUESDAY UNTIL NOON THURSDAY  
6:00 AM WEDNESDAY UNTIL NOON MONDAY  
6:00 AM THURSDAY UNTIL NOON MONDAY

NEW JERSEY MEADOWLANDS COMMISSION	REVISION DATE
DRAWN BY BM	
CHECKED BY LA	
APPROVED BY HY	
DATE 7/1/13	

GN-2  
GN-2

NEW JERSEY DEPARTMENT OF TRANSPORTATION

U.S. RT. 1/9T & N.J. RT. 440  
EXPANSION OF MASSTR  
GENERAL NOTES

NEW JERSEY MEADOWLANDS COMMISSION

DAVID LIEBGOLD  
NEW JERSEY PROFESSIONAL ENGINEER  
LICENSE NO. 45897



2B  
25

PAY ITEM NO.	DESCRIPTION	ESTIMATE AND DISTRIBUTION OF QUANTITIES (ELECTRICAL PLANS)																PLAN TOTAL	IF & WHERE DIRECTED	TOTAL QUANTITY	AS-BUILT QUANTITY	UNIT	PAY ITEM NO.
		PLAN SHEET QUANTITY																					
		E-1 (850)	E-2 (851)	E-3 (852)	E-4 (853)	E-5 (854)	E-6 (855)	E-7 (856)	E-8 (857)	E-9 (858)	E-10 (986)	E-11 (987)	E-12 (988)	E-13 (989)	E-14 (990)	E-15 (991)	E-16 (992)						
101	Maintenance and Protection of Traffic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1		LS	101	
102	Police Traffic Control	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	256	144	400		HRS	102	
111	Performance and Payment Bond	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1		LS	111	
112	Maintenance Bond	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1		LS	112	
210	Vehicle Detection Unit Installation	4	2	2	5	4	3	5	4	4	-	4	4	3	3	4	4	55	5	60		UNIT	210
221	Vehicle Detection Cable, 3/C # 14	770	205	555	940	1,305	595	2,390	1,035	1,250	-	700	640	540	660	730	690	13,005	1,995	15,000		LF	221
234	Travel Time System Installation	1	-	-	-	-	-	-	-	1	-	1	-	-	-	1	4	1	5		UNIT	234	
241	Removal of Existing Vehicle Detection Unit	-	-	-	2	2	1	3	-	-	-	2	-	-	2	4	16	2	18		UNIT	241	
243	Adjust Angle of Existing Image Detection Unit	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	4	4		UNIT	243	
244	Relocate Existing Image Detection Unit	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	4	4		UNIT	244	
311	Ethernet Cable, Cat 5e	1,860	400	1,010	810	1,460	770	580	1,100	465	970	400	470	465	-	970	70	11,800	2,200	14,000		LF	311
332a	Tranceiver/Antenna Assembly Installation (15 - 42')	-	1	2	2	2	2	2	2	1	1	2	1	1	-	-	19	2	21		UNIT	332a	
332b	Tranceiver/Antenna Assembly Installation (43 - 55')	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	3		UNIT	332b	
332c	Tranceiver/Antenna Assembly Installation (56 - 75')	2	-	-	-	-	-	-	-	-	1	-	-	-	2	-	5	2	7		UNIT	332c	
332d	Tranceiver/Antenna Assembly Installation (76 - 100')	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	1	2		UNIT	332d	
411	Antenna Pole, Type A (75')	-	-	-	-	-	-	-	1	-	-	-	1	-	-	1	1	4	-	4		UNIT	411
602	2" Rigid Metal Conduit	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	85	100		LF	602	
603	3" Rigid Metal Conduit	-	-	-	-	-	-	-	40	-	-	-	25	-	-	60	10	135	65	200		LF	603
611	18"x36" Junction Box	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	3		UNIT	611	
616	Traffic Signal Mast Arm, Aluminum, Type "C", 25 feet	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	1	1		UNIT	616	
617	Foundation, Type SFT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	1	1		UNIT	617	
621	Service Wire, No. 6 AWG	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	100	100		LF	621	
622	Traffic Signal Cable, 2 Conductor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	100	100		LF	622	
623	Traffic Signal Cable, 5 Conductor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	100	100		LF	623	
624	Traffic Signal Cable, 10 Conductor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	100	100		LF	624	
625	Ground Wire, No. 8 AWG	15	-	-	-	-	-	-	40	-	-	-	25	-	-	60	10	150	50	200		LF	625
626	Push Button	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	4	4		UNIT	626	
631	9"x18" Concrete Vertical Curb	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	100	100		LF	631	
632	Concrete Sidewalk, 4" Thick	-	-	-	-	-	-	-	-	15	-	-	15	-	-	-	30	70	100		SY	632	
633	Full Depth Concrete Pavement Repair, HMA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	100	100		SY	633	
641	Topsoiling, 2" Thick	20	-	-	-	-	-	-	-	-	-	-	-	-	15	10	45	55	100		SY	641	
642	Fertilizing and Seeding	20	-	-	-	-	-	-	-	-	-	-	-	-	15	10	45	55	100		SY	642	
643	Straw Mulching	20	-	-	-	-	-	-	-	-	-	-	-	-	15	10	45	55	100		SY	643	
651	Lighting Standard Aluminum, 42'	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	1	1		UNIT	651	
742	Foundation, Antenna Pole Type A	-	-	-	-	-	-	-	1	-	-	-	1	-	-	1	1	4	-	4		UNIT	742
751	PTZ Camera Assembly	-	-	-	-	-	-	-	1	-	-	-	1	-	-	1	1	4	-	4		UNIT	751
752	PTZ Camera / Transceiver Assembly Lowering System	-	-	-	-	-	-	-	2	-	-	-	2	-	-	2	2	8	-	8		UNIT	752
753	Hardened Video Encoder	-	-	-	-	-	-	-	1	-	-	-	1	-	-	1	1	4	-	4		UNIT	753
756	Traffic Signal Cabinet Skirt, 18"	-	-	-	1	1	-	1	1	1	1	-	-	1	-	1	1	9	1	10		UNIT	756
PAY ITEM NO.	DESCRIPTION	PLAN SHEET QUANTITY (BY OTHERS)																PLAN TOTAL	IF & WHERE DIRECTED	TOTAL QUANTITY	AS-BUILT QUANTITY	UNIT	PAY ITEM NO.
		E-1 (850)	E-2 (851)	E-3 (852)	E-4 (853)	E-5 (854)	E-6 (855)	E-7 (856)	E-8 (857)	E-9 (858)	E-10 (986)	E-11 (987)	E-12 (988)	E-13 (989)	E-14 (990)	E-15 (991)	E-16 (992)						
301	Tranceiver/Antenna Assembly	3	1	2	2	2	2	2	3	1	3	2	2	1	0	3	1	30	-	30		UNIT	301
313a	Ethernet Switch, Field	1	1	1	1	1	1	1	-	1	-	1	-	1	-	-	11	-	11		UNIT	313a	
313c	Ethernet Switch, Hub	1	-	-	-	-	-	-	1	-	1	-	1	-	-	1	1	6	-	6		UNIT	313c
313d	Ethernet Switch, Hub Rack Mount	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	-	1		UNIT	313d	
314	SFP Optical Transceiver	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	4	2	6		UNIT	314	
318	Cabinet PDU, 2 port	1	1	1	1	1	1	1	-	1	1	1	1	1	-	1	13	1	14		UNIT	318	
319	Cabinet PDU, 8 port	1	-	-	-	-	-	-	1	-	1	-	-	-	-	1	4	1	5		UNIT	319	
332c	Tranceiver/Antenna Assembly Installation (56 - 75')	-	-	-	-	-	-	-	1	-	-	1	-	-	1	1	4	-	4		UNIT	332c	
502	Advanced Traffic Signal Controller	1	1	2	1	1	1	1	1	1	-	1	1	1	1	1	16	3	19		UNIT	502	
503	Conflict Monitor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	2	2		UNIT	503	
550	System Server (2 ATCS, CS, VDS)	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	4	-	4		UNIT	550	

NEW JERSEY MEADOWLANDS COMMISSION  
DRAWN BY BM  
CHECKED BY LA  
APPROVED BY HY  
DATE 7/1/13

EDQ-1  
EDQ-1

NEW JERSEY DEPARTMENT OF TRANSPORTATION

U.S. RT. 1/9T & N.J. RT. 440  
EXPANSION OF MASSTR  
ESTIMATE OF QUANTITIES

NEW JERSEY MEADOWLANDS COMMISSION  
DAVID LIEBGOLD  
NEW JERSEY PROFESSIONAL ENGINEER  
LICENSE NO. 45897

3  
25

ITEM NO.	TO BE CONSTRUCTED	CONTRACT QUANTITY	AS-BUILT QUANTITY
210	VEHICLE DETECTION UNIT INSTALLATION	4 UNITS	
221	VEHICLE DETECTION CABLE, 3/C #14	770 LF	
234	TRAVEL TIME SYSTEM INSTALLATION	1 UNIT	
311	ETHERNET CABLE, CAT 5e	1,860 LF	
332b	TRANSCEIVER / ANTENNA ASSEMBLY INSTALLATION (43'-55")	1 UNIT	
332c	TRANSCEIVER / ANTENNA ASSEMBLY INSTALLATION (56'-75")	2 UNITS	
602	2" RIGID METAL CONDUIT	15 LF	
625	GROUND WIRE, NO. 8 AWG	15 LF	
611	18" x 36" JUNCTION BOX	1 UNIT	
641	TOPSOILING	20 SY	
642	FERTILIZING AND SEEDING	20 SY	
643	STRAW MULCHING	20 SY	

ITEM NO.	TO BE CONSTRUCTED (BY OTHERS)	CONTRACT QUANTITY	AS-BUILT QUANTITY
313a	ETHERNET SWITCH, FIELD	1 UNIT	
313c	ETHERNET SWITCH, HUB	1 UNIT	
318	CABINET PDU, 2 PORT	1 UNIT	
319	CABINET PDU, 8 PORT	1 UNIT	
502	ADVANCED TRAFFIC SIGNAL CONTROLLER	1 UNIT	

**NOTE:**  
 1. ORIGINAL ELECTRICAL PLAN TITLED "TRAFFIC SIGNAL INSTALLATION ROUTE U.S. 1&9T & ROUTE 440 COMMUNIPAW AVE -NW CORNER", PREPARED BY NEW JERSEY DEPARTMENT OF TRANSPORTATION, DATED 04-26-86.

**NOTE:**  
 MAINTENANCE AND PROTECTION OF TRAFFIC SHALL BE CONDUCTED IN ACCORDANCE WITH NJDOT TRAFFIC CONTROL DETAILS, 2007.

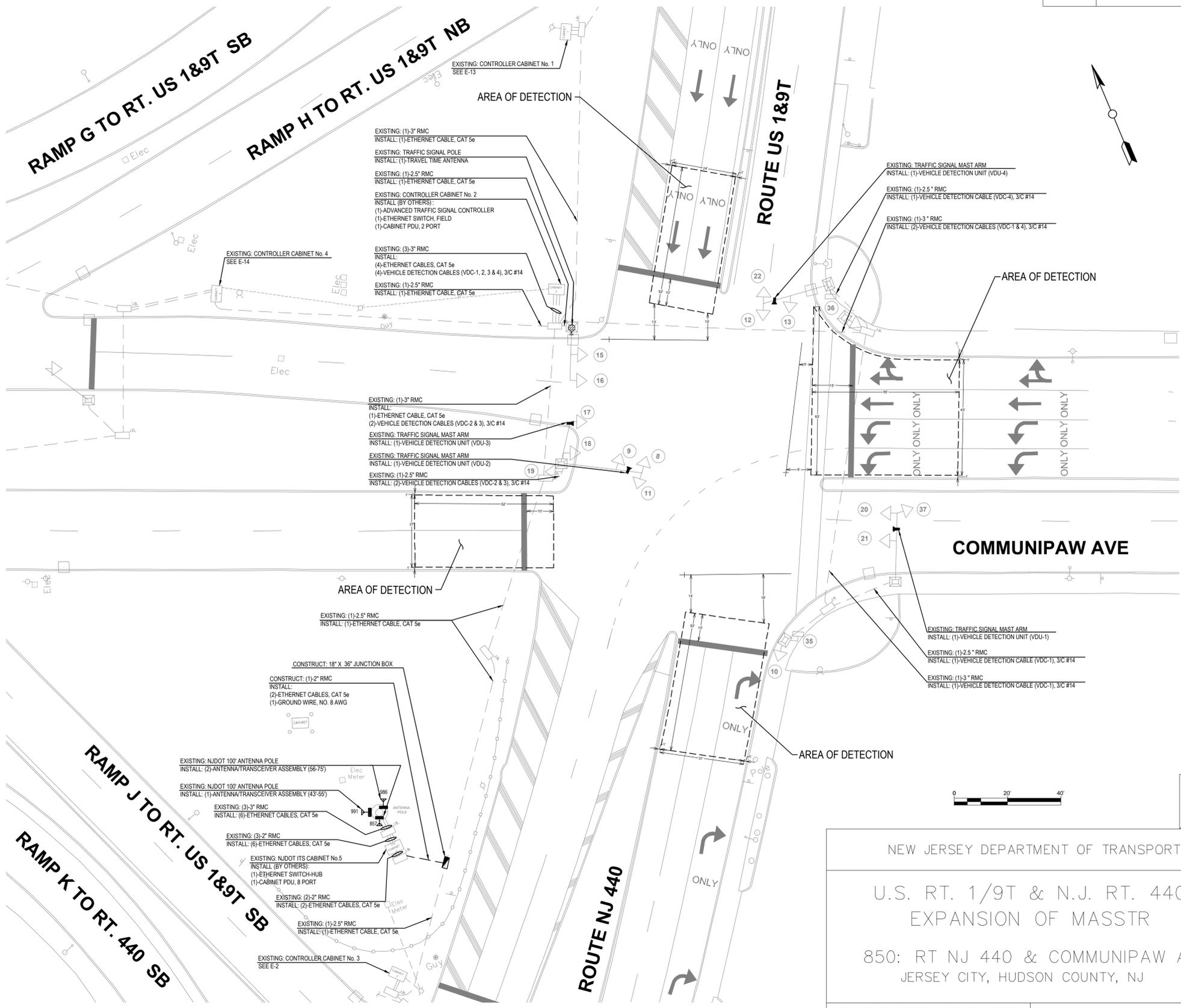
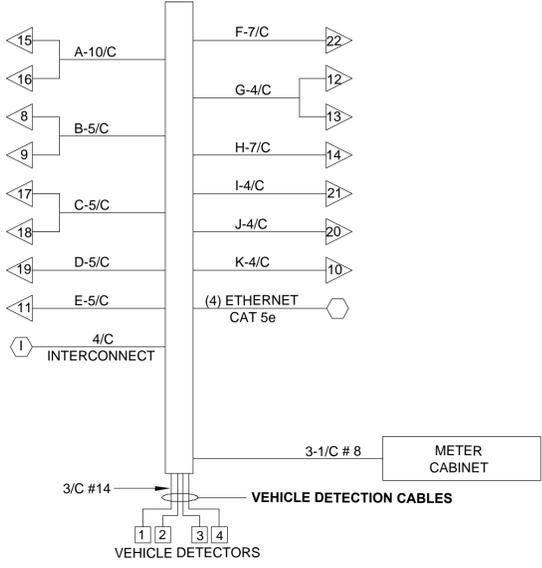
N.J. RT. 440 SPEED LIMIT = 45 MPH  
 US 1&9 TRUCK SPEED LIMIT = 50 MPH

FOR VDU-2&3 INSTALLATION:  
 USE NJDOT TRAFFIC CONTROL DETAILS, SHEET TCD-13 ON NJ RT 440 SOUTHBOUND APPROACH

FOR VDU-1 INSTALLATION:  
 USE NJDOT TRAFFIC CONTROL DETAILS, SHEET TCD-11 ON COMMUNIPAW AVE EASTBOUND APPROACH

FOR VDU-4 INSTALLATION:  
 USE NJDOT TRAFFIC CONTROL DETAILS, SHEET TCD-5 ON NJ RT 440 NORTHBOUND APPROACH

**BLOCK WIRING DIAGRAM  
 CABINET No. 2**



NEW JERSEY MEADOWLANDS COMMISSION  
 DRAWN BY OG REVISION DESCRIPTION  
 CHECKED BY LA  
 APPROVED BY HY  
 DATE 7/1/13

NEW JERSEY DEPARTMENT OF TRANSPORTATION

U.S. RT. 1/9T & N.J. RT. 440  
 EXPANSION OF MASSTR

850: RT NJ 440 & COMMUNIPAW AVE  
 JERSEY CITY, HUDSON COUNTY, NJ

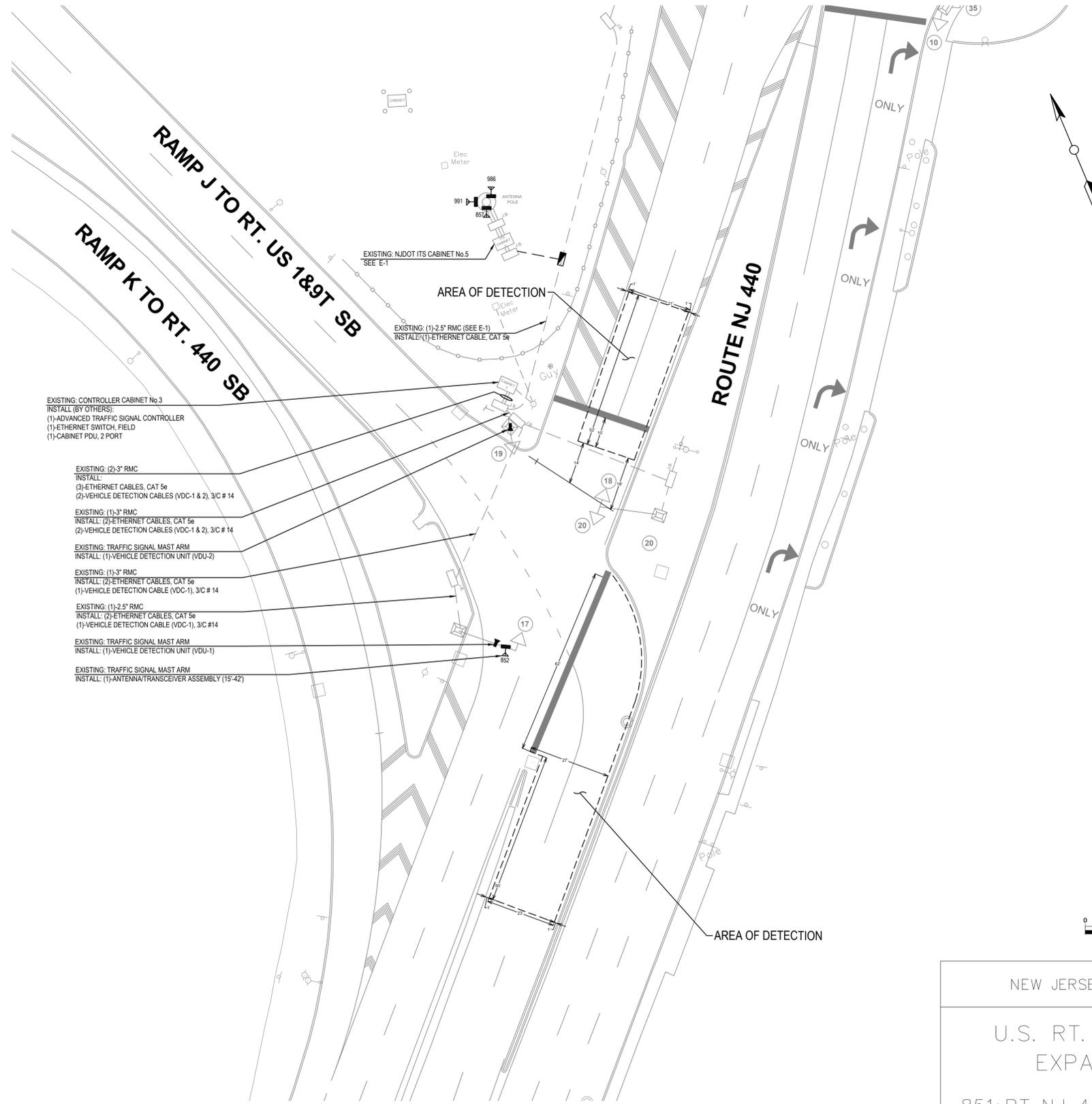
NEW JERSEY MEADOWLANDS COMMISSION  
 DAVID LIEBGOLD  
 NEW JERSEY PROFESSIONAL ENGINEER  
 LICENSE NO. 45897

E-1  
 E-16

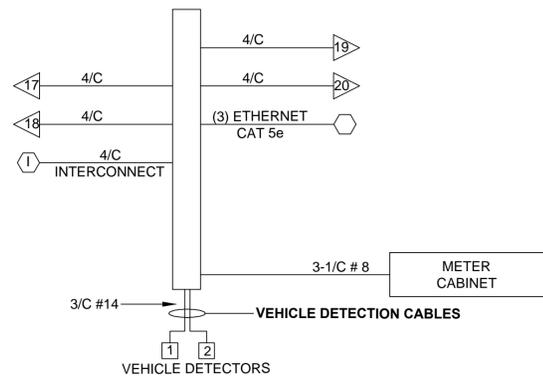
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ITEM NO.	TO BE CONSTRUCTED	CONTRACT QUANTITY	AS-BUILT QUANTITY
210	VEHICLE DETECTION UNIT INSTALLATION	2 UNITS	
221	VEHICLE DETECTION CABLE, 3/C #14	205 LF	
311	ETHERNET CABLE, CAT 5e	400 LF	
332a	TRANSCEIVER / ANTENNA ASSEMBLY INSTALLATION (15'-42")	1 UNIT	

ITEM NO.	TO BE CONSTRUCTED (BY OTHERS)	CONTRACT QUANTITY	AS-BUILT QUANTITY
313a	ETHERNET SWITCH, FIELD	1 UNIT	
318	CABINET PDU, 2 PORT	1 UNIT	
502	ADVANCED TRAFFIC SIGNAL CONTROLLER	1 UNIT	



BLOCK WIRING DIAGRAM  
CABINET No. 3



**HIGH-VOLTAGE WIRES NOTE:**  
1. HIGH VOLTAGE HIGHWAY LIGHTING CABLES ARE LOCATED IN THE TRAFFIC SIGNAL CONDUITS. ONLY ELECTRICIANS LICENSED TO WORK WITH HIGH-VOLTAGE ARE PERMITTED TO ACCESS THESE JUNCTION BOXES.

**TCP NOTE:**  
MAINTENANCE AND PROTECTION OF TRAFFIC SHALL BE CONDUCTED IN ACCORDANCE WITH NJDOT TRAFFIC CONTROL DETAILS, 2007.

N.J. RT. 440 SPEED LIMIT = 45 MPH  
US 1&9 TRUCK SPEED LIMIT = 50 MPH

FOR VDU-1, VDU-2 & ANTENNA INSTALLATION:  
USE NJDOT TRAFFIC CONTROL DETAILS, SHEET TCD-11 ON NJ RT 440 SOUTHBOUND APPROACH

**PLAN NOTE:**  
1. ORIGINAL ELECTRICAL PLAN TITLED "ELECTRICAL PLANS ROUTE 440 AND RAMP TO ROUTE U.S. 1&9T SOUTH", PREPARED BY NEW JERSEY DEPARTMENT OF TRANSPORTATION, DATED 11-05-81.



E-2  
E-16

NEW JERSEY DEPARTMENT OF TRANSPORTATION

U.S. RT. 1/9T & N.J. RT. 440  
EXPANSION OF MASSTR

851: RT NJ 440 & RAMP TO US 1&9T SB  
JERSEY CITY, HUDSON COUNTY, NJ

NEW JERSEY MEADOWLANDS COMMISSION

DAVID LIEBGOLD  
NEW JERSEY PROFESSIONAL ENGINEER  
LICENSE NO. 45897

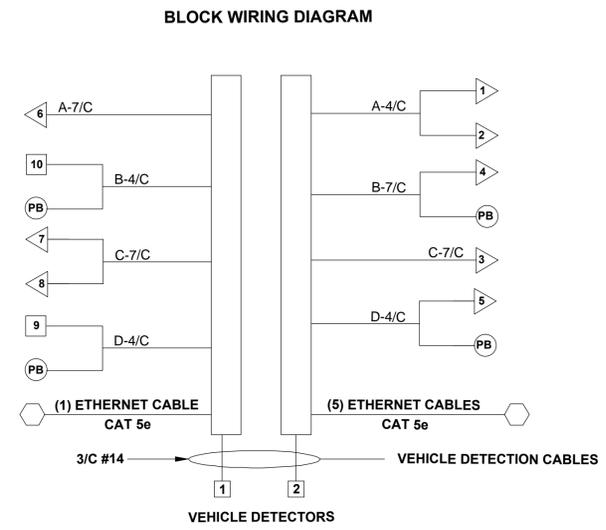
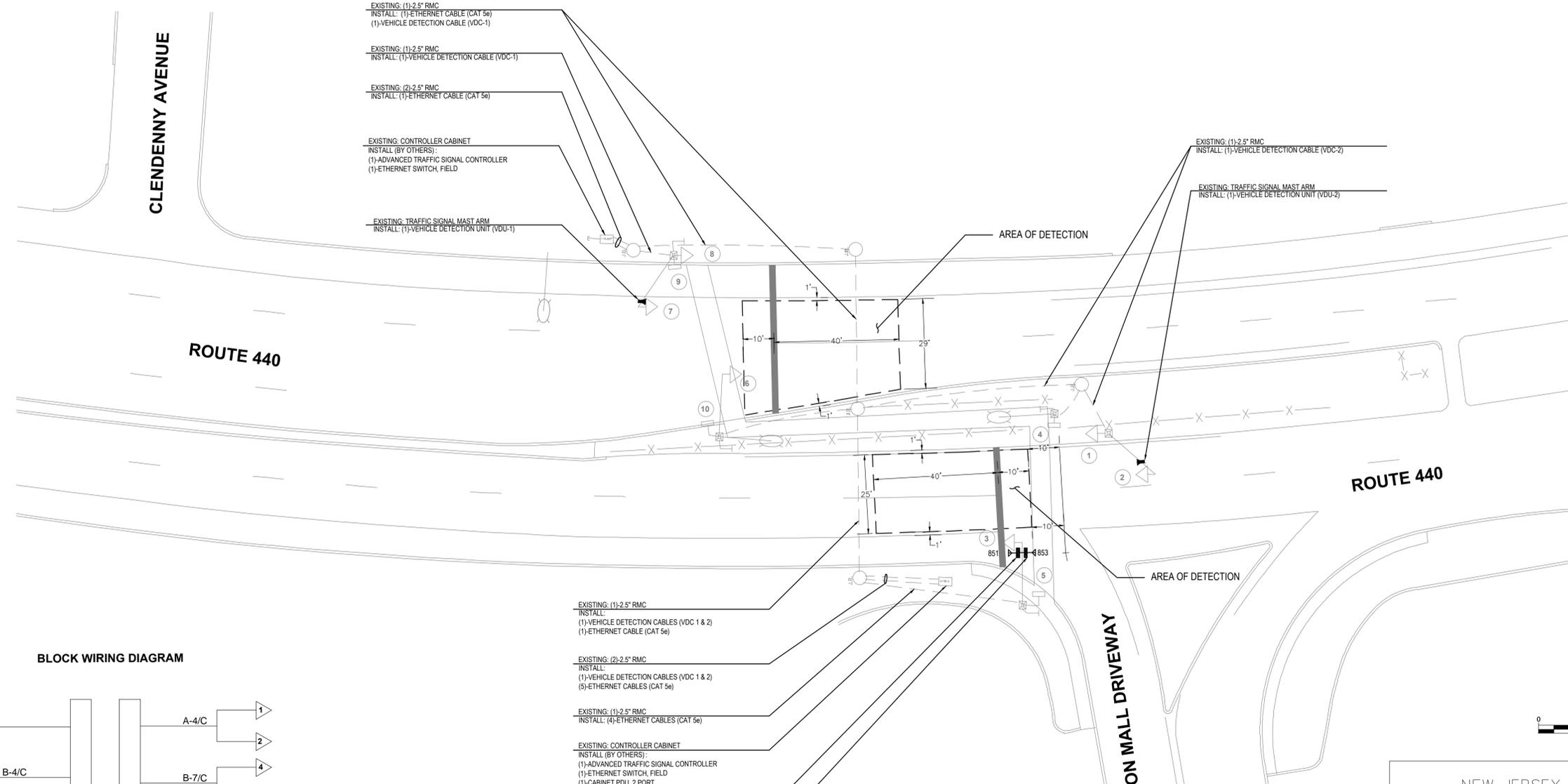
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NEW JERSEY MEADOWLANDS COMMISSION  
DRAWN BY OG  
CHECKED BY LA  
APPROVED BY HY  
DATE 7/1/13

REVISION DATE

ITEM NO.	TO BE CONSTRUCTED	QUANTITY	AS-BUILT QUANTITY
210	VEHICLE DETECTION UNIT INSTALLATION	2 UNITS	
221	VEHICLE DETECTION CABLE, 3/C #14	555 LF	
311	ETHERNET CABLE, CAT 5e	1,010 LF	
332a	TRANSCIEVER ASSEMBLY UNIT INSTALLATION (15 - 42')	2 UNITS	

ITEM NO.	TO BE CONSTRUCTED (BY OTHERS)	QUANTITY	AS-BUILT QUANTITY
313a	ETHERNET SWITCH, FIELD	1 UNIT	
318	CABINET PDU, 2 PORT	1 UNIT	
502	ADVANCED TRAFFIC SIGNAL CONTROLLER	2 UNITS	



- EXISTING: (1)-2.5" RMC  
INSTALL: (1)-VEHICLE DETECTION CABLE (VDC-1)  
(1)-ETHERNET CABLE (CAT 5e)
- EXISTING: (1)-2.5" RMC  
INSTALL: (1)-VEHICLE DETECTION CABLE (VDC-1)
- EXISTING: (2)-2.5" RMC  
INSTALL: (1)-ETHERNET CABLE (CAT 5e)
- EXISTING: CONTROLLER CABINET  
INSTALL (BY OTHERS):  
(1)-ADVANCED TRAFFIC SIGNAL CONTROLLER  
(1)-ETHERNET SWITCH, FIELD
- EXISTING: TRAFFIC SIGNAL MAST ARM  
INSTALL: (1)-VEHICLE DETECTION UNIT (VDU-1)
- EXISTING: (1)-2.5" RMC  
INSTALL: (1)-VEHICLE DETECTION CABLE (VDC-2)  
(1)-ETHERNET CABLE (CAT 5e)
- EXISTING: TRAFFIC SIGNAL MAST ARM  
INSTALL: (1)-VEHICLE DETECTION UNIT (VDU-2)
- EXISTING: (1)-2.5" RMC  
INSTALL:  
(1)-VEHICLE DETECTION CABLES (VDC 1 & 2)  
(1)-ETHERNET CABLE (CAT 5e)
- EXISTING: (2)-2.5" RMC  
INSTALL:  
(1)-VEHICLE DETECTION CABLES (VDC 1 & 2)  
(5)-ETHERNET CABLES (CAT 5e)
- EXISTING: (1)-2.5" RMC  
INSTALL: (4)-ETHERNET CABLES (CAT 5e)
- EXISTING: CONTROLLER CABINET  
INSTALL (BY OTHERS):  
(1)-ADVANCED TRAFFIC SIGNAL CONTROLLER  
(1)-ETHERNET SWITCH, FIELD  
(1)-CABINET PDU, 2 PORT
- EXISTING: TRAFFIC SIGNAL MAST ARM  
INSTALL: (1)-ANTENNA/TRANSCEIVER ASSEMBLY (15-42')
- EXISTING: TRAFFIC SIGNAL MAST ARM  
INSTALL: (1)-ANTENNA/TRANSCEIVER ASSEMBLY (15-42')

**NOTE:**  
ORIGINAL ELECTRICAL PLAN TITLED "ELECTRICAL PLANS"  
AS-BUILT PREPARED BY NJDOT 4-15-10

**NOTE:**  
MAINTENANCE AND PROTECTION OF TRAFFIC SHALL BE CONDUCTED IN ACCORDANCE WITH NJDOT TRAFFIC CONTROL DETAILS, 2007.

N.J. RT. 440 SPEED LIMIT = 45 MPH

FOR VDU-1 INSTALLATION:  
USE NJDOT TRAFFIC CONTROL DETAILS, SHEET TCD-14 ON NJ RT 440 NORTHBOUND APPROACH

FOR VDU-2 INSTALLATION:  
USE NJDOT TRAFFIC CONTROL DETAILS, SHEET TCD-15 ON NJ RT 440 SOUTHBOUND APPROACH

FOR ANTENNA/TRANSCEIVER INSTALLATION:  
USE NJDOT TRAFFIC CONTROL DETAILS, SHEET TCD-14 ON NJ RT 440 SOUTHBOUND APPROACH



E-3  
E-16

NEW JERSEY DEPARTMENT OF TRANSPORTATION

U.S. RT. 1/9T & N.J. RT. 440  
EXPANSION OF MASSTR

852: ROUTE 440 & CLENDENNY AVENUE  
JERSEY CITY, HUDSON COUNTY, NJ

NEW JERSEY MEADOWLANDS COMMISSION

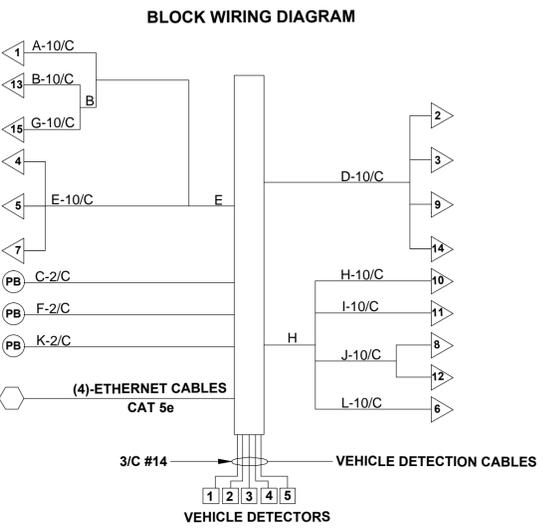
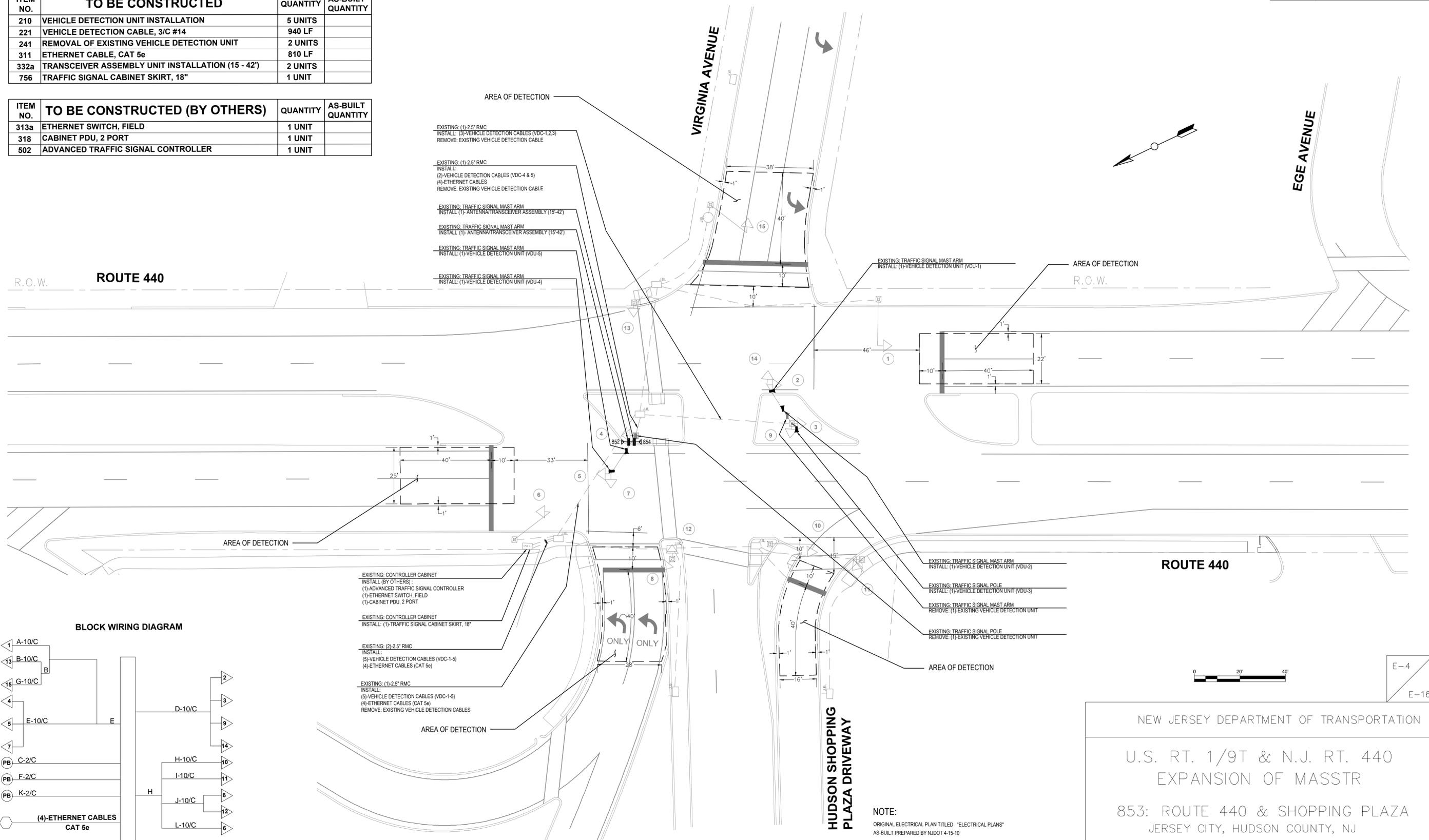
DAVID LIEBGOLD  
NEW JERSEY PROFESSIONAL ENGINEER  
LICENSE NO. 45897

6  
25

NEW JERSEY MEADOWLANDS COMMISSION  
DRAWN BY DN  
CHECKED BY LA  
APPROVED BY HY  
DATE 7/1/13

ITEM NO.	TO BE CONSTRUCTED	QUANTITY	AS-BUILT QUANTITY
210	VEHICLE DETECTION UNIT INSTALLATION	5 UNITS	
221	VEHICLE DETECTION CABLE, 3/C #14	940 LF	
241	REMOVAL OF EXISTING VEHICLE DETECTION UNIT	2 UNITS	
311	ETHERNET CABLE, CAT 5e	810 LF	
332a	TRANSCIEVER ASSEMBLY UNIT INSTALLATION (15 - 42')	2 UNITS	
756	TRAFFIC SIGNAL CABINET SKIRT, 18"	1 UNIT	

ITEM NO.	TO BE CONSTRUCTED (BY OTHERS)	QUANTITY	AS-BUILT QUANTITY
313a	ETHERNET SWITCH, FIELD	1 UNIT	
318	CABINET PDU, 2 PORT	1 UNIT	
502	ADVANCED TRAFFIC SIGNAL CONTROLLER	1 UNIT	



EXISTING: CONTROLLER CABINET  
 INSTALL (BY OTHERS):  
 (1)-ADVANCED TRAFFIC SIGNAL CONTROLLER  
 (1)-ETHERNET SWITCH, FIELD  
 (1)-CABINET PDU, 2 PORT

EXISTING: CONTROLLER CABINET  
 INSTALL: (1)-TRAFFIC SIGNAL CABINET SKIRT, 18"

EXISTING: (2)-2.5' RMC  
 INSTALL:  
 (5)-VEHICLE DETECTION CABLES (VDC-1-5)  
 (4)-ETHERNET CABLES (CAT 5e)

EXISTING: (1)-2.5' RMC  
 INSTALL:  
 (5)-VEHICLE DETECTION CABLES (VDC-1-5)  
 (4)-ETHERNET CABLES (CAT 5e)  
 REMOVE: EXISTING VEHICLE DETECTION CABLES

NOTE:  
 ORIGINAL ELECTRICAL PLAN TITLED "ELECTRICAL PLANS"  
 AS-BUILT PREPARED BY NJDOT 4-15-10

NOTE:  
 MAINTENANCE AND PROTECTION OF TRAFFIC SHALL BE CONDUCTED IN ACCORDANCE WITH NJDOT TRAFFIC CONTROL DETAILS, 2007.  
 N.J. RT. 440 SPEED LIMIT = 45 MPH  
 VIRGINIA AVENUE/DRIVEWAY SPEED LIMIT = 25 MPH  
 FOR VDU-4 & 5 INSTALLATION:  
 USE NJDOT TRAFFIC CONTROL DETAILS, SHEET TCD-16 ON NJ RT 440 AVE SOUTHBOUND APPROACH

NEW JERSEY MEADOWLANDS COMMISSION  
 DRAWN BY DN  
 CHECKED BY LA  
 APPROVED BY HY  
 DATE 7/1/13

NEW JERSEY DEPARTMENT OF TRANSPORTATION

U.S. RT. 1/9T & N.J. RT. 440  
 EXPANSION OF MASSTR

853: ROUTE 440 & SHOPPING PLAZA  
 JERSEY CITY, HUDSON COUNTY, NJ

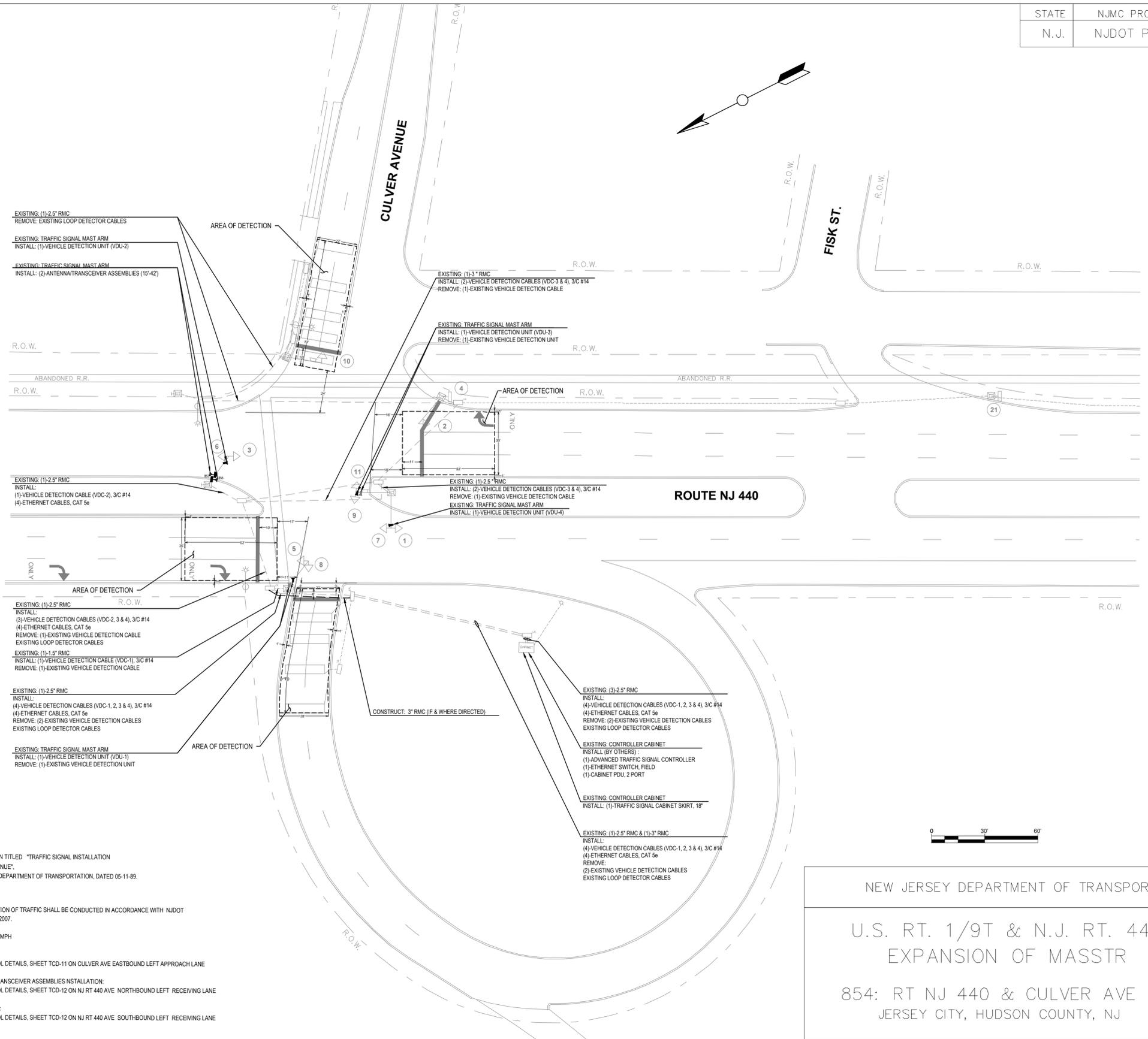
NEW JERSEY MEADOWLANDS COMMISSION  
 DAVID LIEBGOLD  
 NEW JERSEY PROFESSIONAL ENGINEER  
 LICENSE NO. 45897

E-4  
 E-16

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ITEM NO.	TO BE CONSTRUCTED	CONTRACT QUANTITY	AS-BUILT QUANTITY
210	VEHICLE DETECTION UNIT INSTALLATION	4 UNITS	
221	VEHICLE DETECTION CABLE, 3/C #14	1,305 LF	
241	REMOVAL OF EXISTING VEHICLE DETECTION UNIT	2 UNITS	
311	ETHERNET CABLE, CAT 5e	1,460 LF	
332A	TRANSCEIVER / ANTENNA ASSEMBLY INSTALLATION (15'-42")	2 UNITS	
756	TRAFFIC SIGNAL CABINET SKIRT, 18"	1 UNIT	

ITEM NO.	TO BE CONSTRUCTED (BY OTHERS)	CONTRACT QUANTITY	AS-BUILT QUANTITY
313a	ETHERNET SWITCHM FIELD	1 UNIT	
318	CABINET PDU, 2 PORT	1 UNIT	
502	ADVANCED TRAFFIC SIGNAL CONTROLLER	1 UNIT	



**NOTE:**  
 1. ORIGINAL ELECTRICAL PLAN TITLED "TRAFFIC SIGNAL INSTALLATION ROUTE 440 AND CULVER AVENUE". PREPARED BY NEW JERSEY DEPARTMENT OF TRANSPORTATION, DATED 05-11-89.

**NOTE:**  
 MAINTENANCE AND PROTECTION OF TRAFFIC SHALL BE CONDUCTED IN ACCORDANCE WITH NJDOT TRAFFIC CONTROL DETAILS, 2007.

N.J. RT. 440 SPEED LIMIT = 45 MPH

FOR VDU-1 INSTALLATION:  
 USE NJDOT TRAFFIC CONTROL DETAILS, SHEET TCD-11 ON CULVER AVE EASTBOUND LEFT APPROACH LANE

FOR VDU-2 AND ANTENNA/TRANSCEIVER ASSEMBLY INSTALLATION:  
 USE NJDOT TRAFFIC CONTROL DETAILS, SHEET TCD-12 ON NJ RT 440 AVE. NORTHBOUND LEFT RECEIVING LANE

FOR VDU-3 & 4 INSTALLATION:  
 USE NJDOT TRAFFIC CONTROL DETAILS, SHEET TCD-12 ON NJ RT 440 AVE. SOUTHBOUND LEFT RECEIVING LANE

NEW JERSEY MEADOWLANDS COMMISSION	REVISION DATE
DRAWN BY	OG
CHECKED BY	LA
APPROVED BY	HY
DATE	7/1/13

E-5  
E-16

NEW JERSEY DEPARTMENT OF TRANSPORTATION

U.S. RT. 1/9T & N.J. RT. 440  
EXPANSION OF MASSTR

854: RT NJ 440 & CULVER AVE  
JERSEY CITY, HUDSON COUNTY, NJ

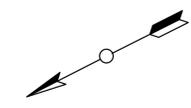
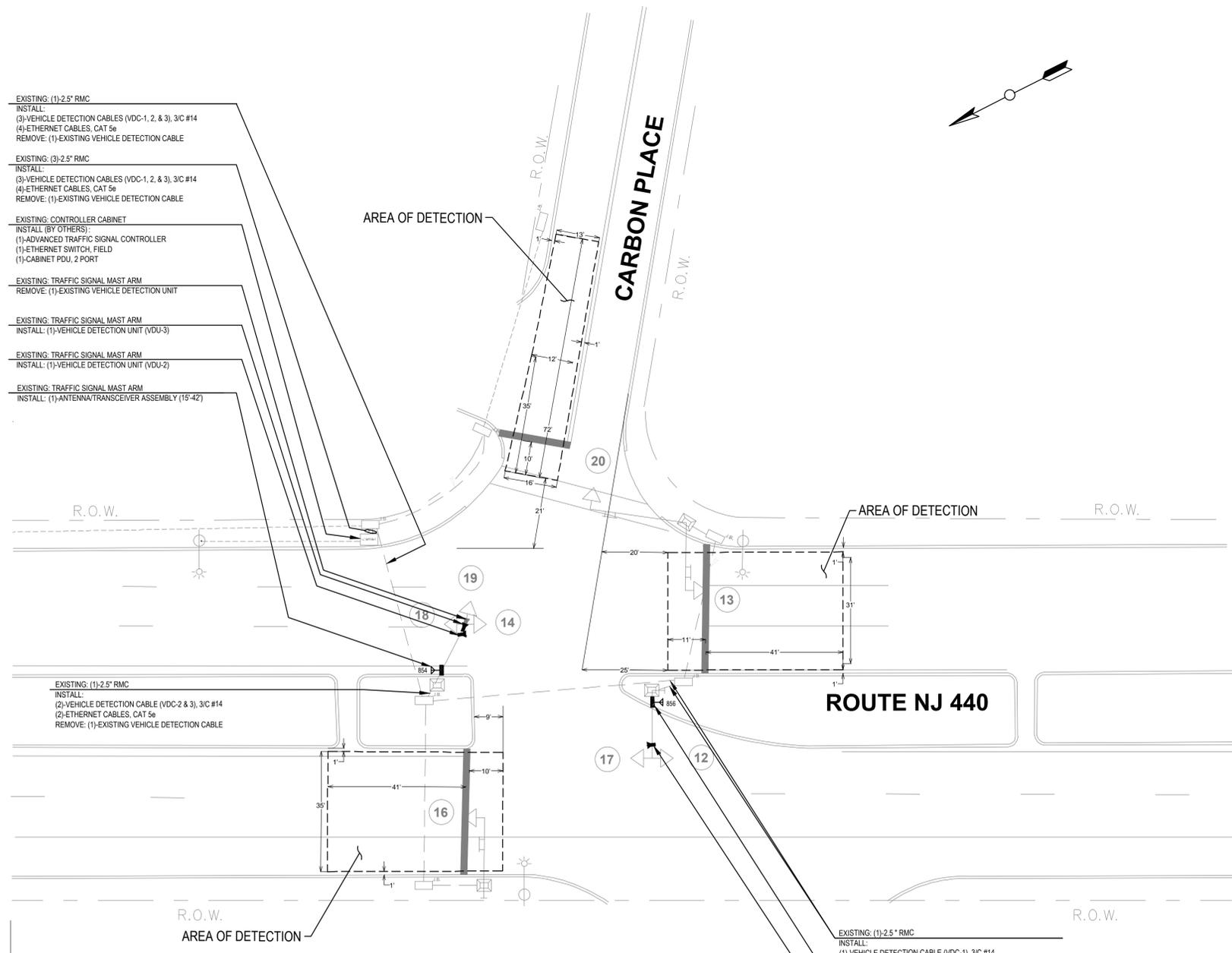
NEW JERSEY MEADOWLANDS COMMISSION

DAVID LIEBGOLD *David Liebgold*  
 NEW JERSEY PROFESSIONAL ENGINEER  
 LICENSE NO. 45897

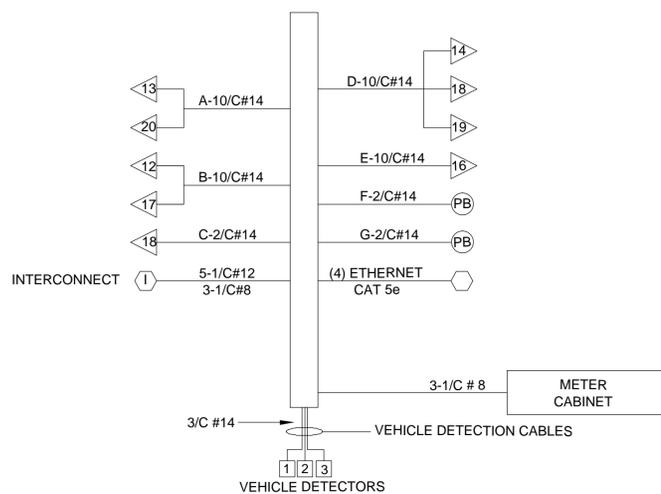
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ITEM NO.	TO BE CONSTRUCTED	CONTRACT QUANTITY	AS-BUILT QUANTITY
210	VEHICLE DETECTION UNIT INSTALLATION	3 UNITS	
221	VEHICLE DETECTION CABLE, 3/C #14	595 LF	
241	REMOVAL OF EXISTING VEHICLE DETECTION UNIT	1 UNIT	
311	ETHERNET CABLE, CAT 5e	770 LF	
332a	TRANSCEIVER / ANTENNA ASSEMBLY INSTALLATION (15'-42")	2 UNITS	

ITEM NO.	TO BE CONSTRUCTED (BY OTHERS)	CONTRACT QUANTITY	AS-BUILT QUANTITY
313a	ETHERNET SWITCH, FIELD	1 UNIT	
318	CABINET PDU, 2 PORT	1 UNIT	
502	ADVANCED TRAFFIC SIGNAL CONTROLLER	1 UNIT	



BLOCK WIRING DIAGRAM



**NOTE:**  
 1. ORIGINAL ELECTRICAL PLAN TITLED "TRAFFIC SIGNAL INSTALLATION ROUTE 440 AND CARBON PLACE". PREPARED BY NEW JERSEY DEPARTMENT OF TRANSPORTATION, DATED 10-13-10.

**NOTE:**  
 MAINTENANCE AND PROTECTION OF TRAFFIC SHALL BE CONDUCTED IN ACCORDANCE WITH NJDOT TRAFFIC CONTROL DETAILS, 2007.

N.J. RT. 440 SPEED LIMIT = 45 MPH

FOR VDU-1 AND ANTENNA/TRANSCEIVER ASSEMBLY INSTALLATION:  
 USE NJDOT TRAFFIC CONTROL DETAILS, SHEET TCD-12 ON NJ RT 440 AVE. SOUTHBOUND LEFT RECEIVING LANE

FOR VDU-2, 3 AND ANTENNA/TRANSCEIVER ASSEMBLY INSTALLATION:  
 USE NJDOT TRAFFIC CONTROL DETAILS, SHEET TCD-12 ON NJ RT 440 AVE. NORTHBOUND LEFT RECEIVING LANE



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NEW JERSEY DEPARTMENT OF TRANSPORTATION

U.S. RT. 1/9T & N.J. RT. 440  
 EXPANSION OF MASSTR

855: RT NJ 440 & CARBON PLACE  
 JERSEY CITY, HUDSON COUNTY, NJ

NEW JERSEY MEADOWLANDS COMMISSION

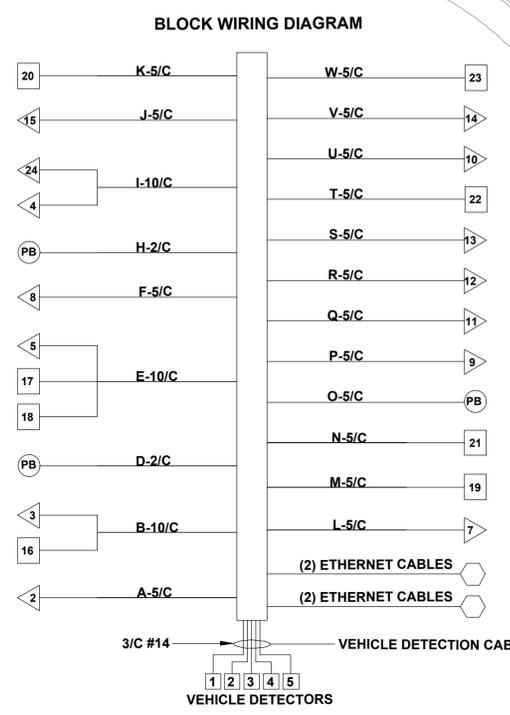
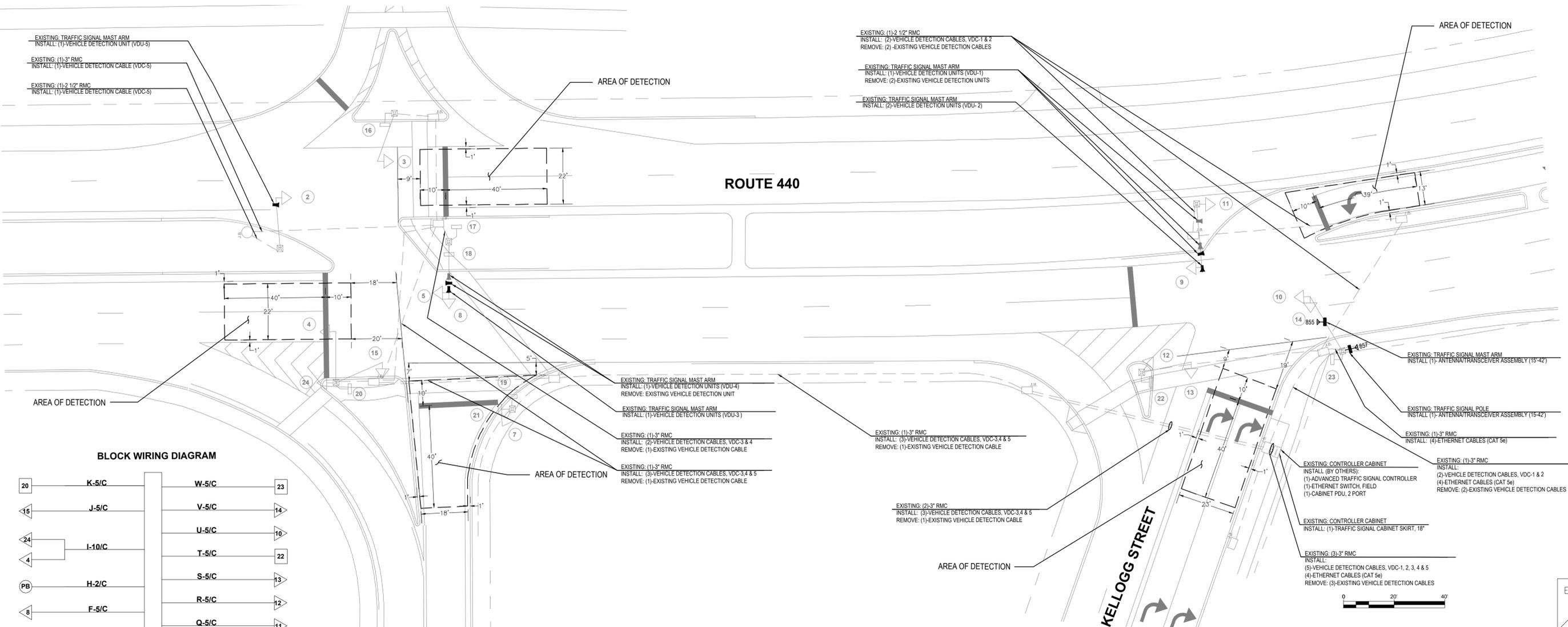
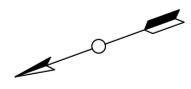
DAVID LIEBGOLD  
 NEW JERSEY PROFESSIONAL ENGINEER  
 LICENSE NO. 45897

NEW JERSEY MEADOWLANDS COMMISSION  
 DRAWN BY OG  
 CHECKED BY LA  
 APPROVED BY HY  
 DATE 7/1/13

ITEM NO.	TO BE CONSTRUCTED	QUANTITY	AS-BUILT QUANTITY
210	VEHICLE DETECTION UNIT INSTALLATION	5 UNITS	
221	VEHICLE DETECTION CABLE, 3/C #14	2,390 LF	
241	REMOVAL OF EXISTING VEHICLE DETECTION UNIT	3 UNITS	
311	ETHERNET CABLE, CAT 5e	580 LF	
332a	TRANSCEIVER ASSEMBLY UNIT INSTALLATION (15 - 42')	2 UNITS	
756	TRAFFIC SIGNAL CABINET SKIRT, 18"	1 UNIT	

ITEM NO.	TO BE CONSTRUCTED (BY OTHERS)	QUANTITY	AS-BUILT QUANTITY
313a	ETHERNET SWITCH, FIELD	1 UNIT	
318	CABINET PDU, 2 PORT	1 UNIT	
502	ADVANCED TRAFFIC SIGNAL CONTROLLER	1 UNIT	



NEW JERSEY MEADOWLANDS COMMISSION	REVISION DATE
DRAWN BY DN	
CHECKED BY LA	
APPROVED BY HY	
DATE 7/1/13	

**NOTE:**  
 ORIGINAL ELECTRICAL PLAN TITLED "ELECTRICAL PLANS"  
 AS-BUILT PREPARED BY NJDOT 4-15-10

**NOTE:**  
 MAINTENANCE AND PROTECTION OF TRAFFIC SHALL BE CONDUCTED IN ACCORDANCE WITH NJDOT TRAFFIC CONTROL DETAILS, 2007.

N.J. RT. 440 SPEED LIMIT = 45 MPH  
 KELLOGG STREET/JUG HANDLE SPEED LIMIT = 25 MPH

FOR VDU-1,2,3,4 & 5 INSTALLATION:  
 USE NJDOT TRAFFIC CONTROL DETAILS, SHEET TCD-11 ON NJ RT 440 AVE SOUTHBOUND & NORTHBOUND APPROACHES

NEW JERSEY DEPARTMENT OF TRANSPORTATION

U.S. RT. 1/9T & N.J. RT. 440  
 EXPANSION OF MASSTR

856: ROUTE 440 & KELLOGG STREET  
 JERSEY CITY, HUDSON COUNTY, NJ

NEW JERSEY MEADOWLANDS COMMISSION

DAVID LIEBGOLD  
 NEW JERSEY PROFESSIONAL ENGINEER  
 LICENSE NO. 45897

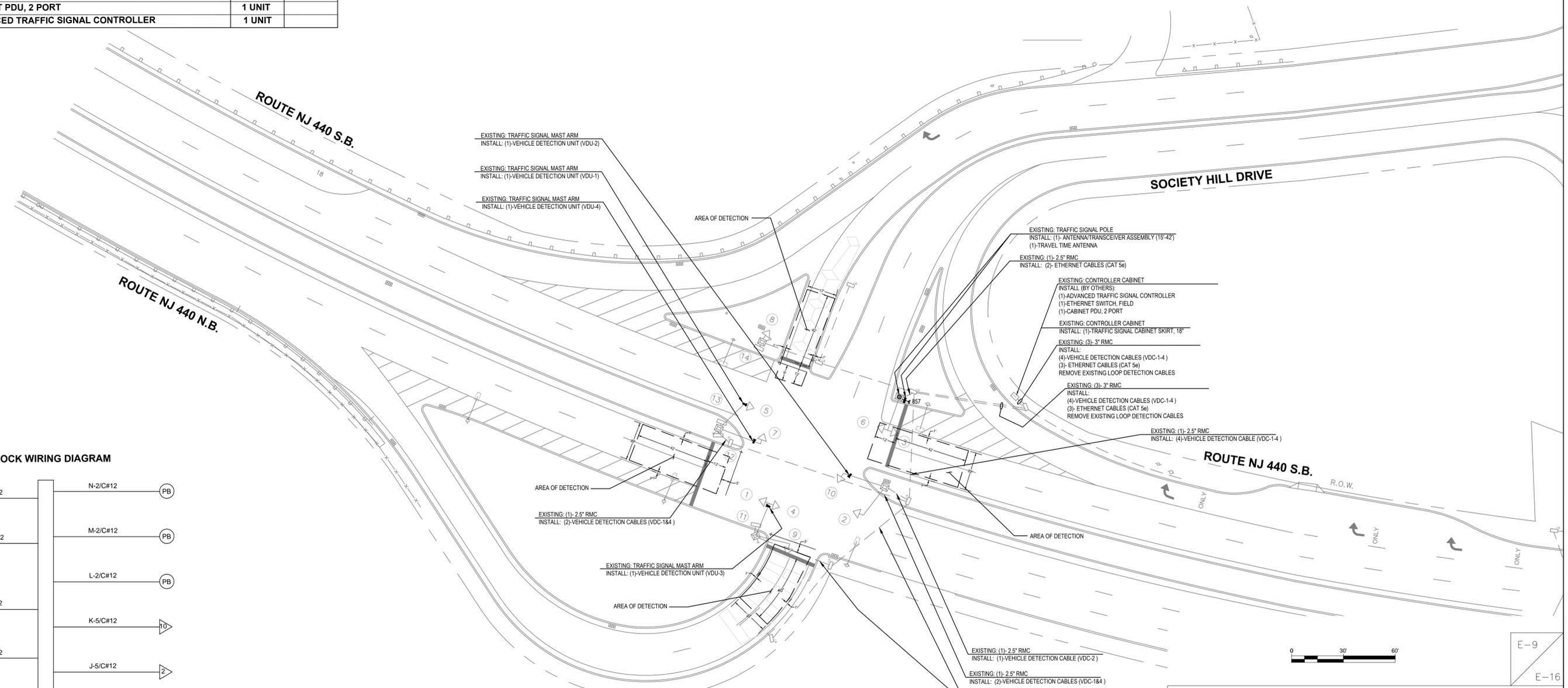
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 E-16

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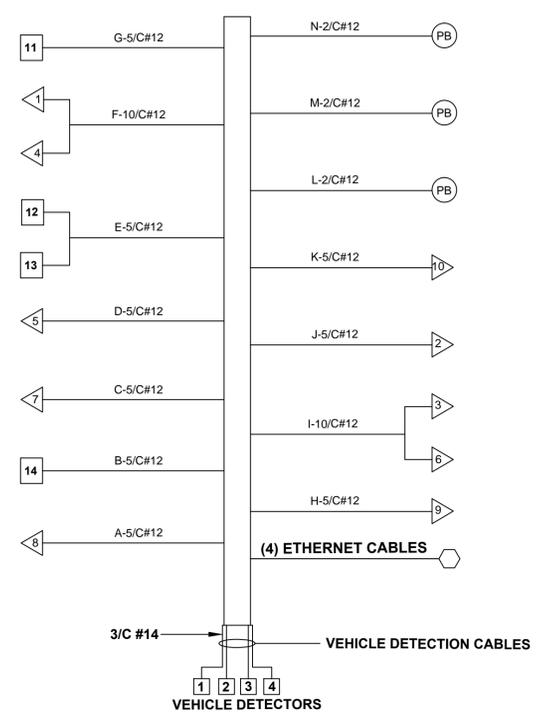


ITEM NO.	TO BE CONSTRUCTED	QUANTITY	AS-BUILT QUANTITY
210	VEHICLE DETECTION UNIT INSTALLATION	4 UNITS	
221	VEHICLE DETECTION CABLE, 3/C #14	1,250 LF	
234	TRAVEL TIME SYSTEM INSTALLATION	1 UNIT	
311	ETHERNET CABLE, CAT 5e	465 LF	
332a	TRANSCEIVER ASSEMBLY UNIT INSTALLATION (15' - 42')	1 UNIT	
756	TRAFFIC SIGNAL CABINET SKIRT, 18"	1 UNIT	

ITEM NO.	TO BE CONSTRUCTED (BY OTHERS)	QUANTITY	AS-BUILT QUANTITY
313a	ETHERNET SWITCH, FIELD	1 UNIT	
318	CABINET PDU, 2 PORT	1 UNIT	
502	ADVANCED TRAFFIC SIGNAL CONTROLLER	1 UNIT	



**BLOCK WIRING DIAGRAM**



**NOTE:**  
ORIGINAL ELECTRICAL PLAN TITLED "ELECTRICAL PLAN"  
AS-BUILT PREPARED BY NJDOT 6-24-11

**NOTE:**  
MAINTENANCE AND PROTECTION OF TRAFFIC SHALL BE CONDUCTED IN ACCORDANCE WITH NJDOT TRAFFIC CONTROL DETAILS, 2007.

N.J. RT. 440 SPEED LIMIT = 45 MPH  
SOCIETY HILL DRIVE/JUG HANDLE SPEED LIMIT = 25 MPH

FOR VDU-1&4 INSTALLATION:  
USE NJDOT TRAFFIC CONTROL DETAILS, SHEET TCD-13 ON NJ RT 440 AVE SOUTHBOUND APPROACH

FOR VDU-2 INSTALLATION:  
USE NJDOT TRAFFIC CONTROL DETAILS, SHEET TCD-13 ON NJ RT 440 AVE NORTHBOUND APPROACH

FOR VDU-3 INSTALLATION:  
USE NJDOT TRAFFIC CONTROL DETAILS, SHEET TCD-11 ON NJ RT 440 AVE NORTHBOUND APPROACH

FOR ANTENNA/TRANSCEIVER INSTALLATION:  
USE NJDOT TRAFFIC CONTROL DETAILS, SHEET TCD-11 ON NJ RT 440 AVE SOUTHBOUND APPROACH

NEW JERSEY DEPARTMENT OF TRANSPORTATION

U.S. RT. 1/9T & N.J. RT. 440  
EXPANSION OF MASSTR

858: RT. 440 & SOCIETY HILL DRIVE  
JERSEY CITY, HUDSON COUNTY, NJ

NEW JERSEY MEADOWLANDS COMMISSION

DAVID LIEBGOLD  
NEW JERSEY PROFESSIONAL ENGINEER  
LICENSE NO. 45897

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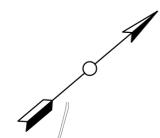
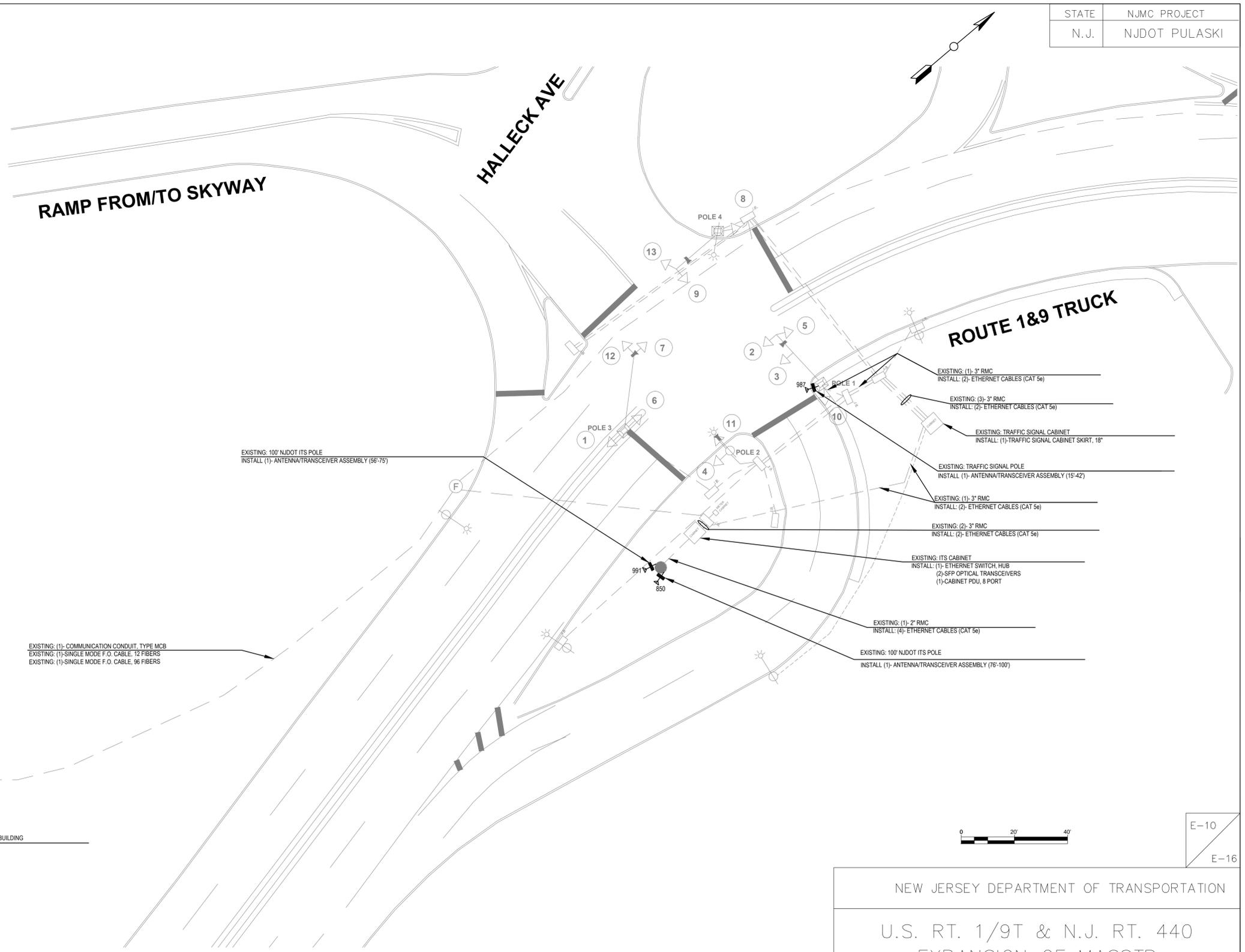
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NEW JERSEY MEADOWLANDS COMMISSION

DATE	7/1/13
APPROVED BY	HY
CHECKED BY	LA
DRAWN BY	BM

ITEM NO.	TO BE CONSTRUCTED	QUANTITY	AS-BUILT QUANTITY
311	ETHERNET CABLE, CAT 5e	970 LF	
332a	TRANSCEIVER ASSEMBLY UNIT INSTALLATION (15 - 42')	1 UNIT	
332c	TRANSCEIVER ASSEMBLY UNIT INSTALLATION (56 - 75')	1 UNIT	
332d	TRANSCEIVER ASSEMBLY UNIT INSTALLATION (76 - 100')	1 UNIT	
756	TRAFFIC SIGNAL CABINET SKIRT, 18"	1 UNIT	

ITEM NO.	TO BE CONSTRUCTED (BY OTHERS)	QUANTITY	AS-BUILT QUANTITY
313c	ETHERNET SWITCH - HUB	1 UNIT	
313d	ETHERNET SWITCH - HUB RACK MOUNT	1 UNIT	
314	SFP, OPTICAL TRANSCEIVER	4 UNITS	
319	CABINET PDU, 8 PORT	1 UNIT	
550	SYSTEM SERVER ((2)-ATCS, (1)-CS & (1)-VDS)	4 UNITS	



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NEW JERSEY DEPARTMENT OF TRANSPORTATION

U.S. RT. 1/9T & N.J. RT. 440  
EXPANSION OF MASSTR

986: US 1&9T AND HALLECK AVENUE  
JERSEY CITY, HUDSON COUNTY, NJ

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NEW JERSEY MEADOWLANDS COMMISSION

DAVID LIEBGOLD *David Liebgold*  
NEW JERSEY PROFESSIONAL ENGINEER  
LICENSE NO. 45897

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NEW JERSEY MEADOWLANDS COMMISSION
DRAWN BY: BM
CHECKED BY: LA
APPROVED BY: HY
DATE: 7/1/13
REVISION DATE

**NOTE:**  
ORIGINAL ELECTRICAL PLAN TITLED "ELECTRICAL PLANS" AS-BUILT PREPARED BY NJDOT 5-12-08

**NOTE:**  
MAINTENANCE AND PROTECTION OF TRAFFIC SHALL BE CONDUCTED IN ACCORDANCE WITH THE NJDOT TRAFFIC CONTROL DETAILS, 2007.  
U.S. 1/9 TRUCK SPEED LIMIT = 40 MPH

FOR ANTENNA/TRANSCEIVER ASSEMBLY INSTALLATIONS:  
USE NJDOT TRAFFIC CONTROL DETAILS, SHEET TCD-19 ON JUG-HANDLE WESTBOUND LEFT APPROACH LANE.

NJDOT MAINTENANCE YARD

HALLECK AVE

RAMP FROM/TO SKYWAY

ROUTE 1&9 TRUCK

EXISTING: INDOOR ITS CABINET  
INSTALL:  
(4)-SYSTEM SERVERS (2 ATCS, CS, VDS)  
(1)-ETHERNET SWITCH, HUB RACK MOUNT  
(2)-SFP OPTICAL TRANSCEIVERS

EXISTING: NJDOT MAINTENANCE BUILDING

EXISTING: 100' NJDOT ITS POLE  
INSTALL (1)- ANTENNA/TRANSCEIVER ASSEMBLY (56-75')

EXISTING: (1)- COMMUNICATION CONDUIT, TYPE MCB  
EXISTING: (1)-SINGLE MODE F.O. CABLE, 12 FIBERS  
EXISTING: (1)-SINGLE MODE F.O. CABLE, 96 FIBERS

EXISTING: (1)- 3" RMC  
INSTALL: (2)- ETHERNET CABLES (CAT 5e)

EXISTING: (3)- 3" RMC  
INSTALL: (2)- ETHERNET CABLES (CAT 5e)

EXISTING: TRAFFIC SIGNAL CABINET  
INSTALL: (1)-TRAFFIC SIGNAL CABINET SKIRT, 18"

EXISTING: TRAFFIC SIGNAL POLE  
INSTALL: (1)- ANTENNA/TRANSCEIVER ASSEMBLY (15-42')

EXISTING: (1)- 3" RMC  
INSTALL: (2)- ETHERNET CABLES (CAT 5e)

EXISTING: (2)- 3" RMC  
INSTALL: (2)- ETHERNET CABLES (CAT 5e)

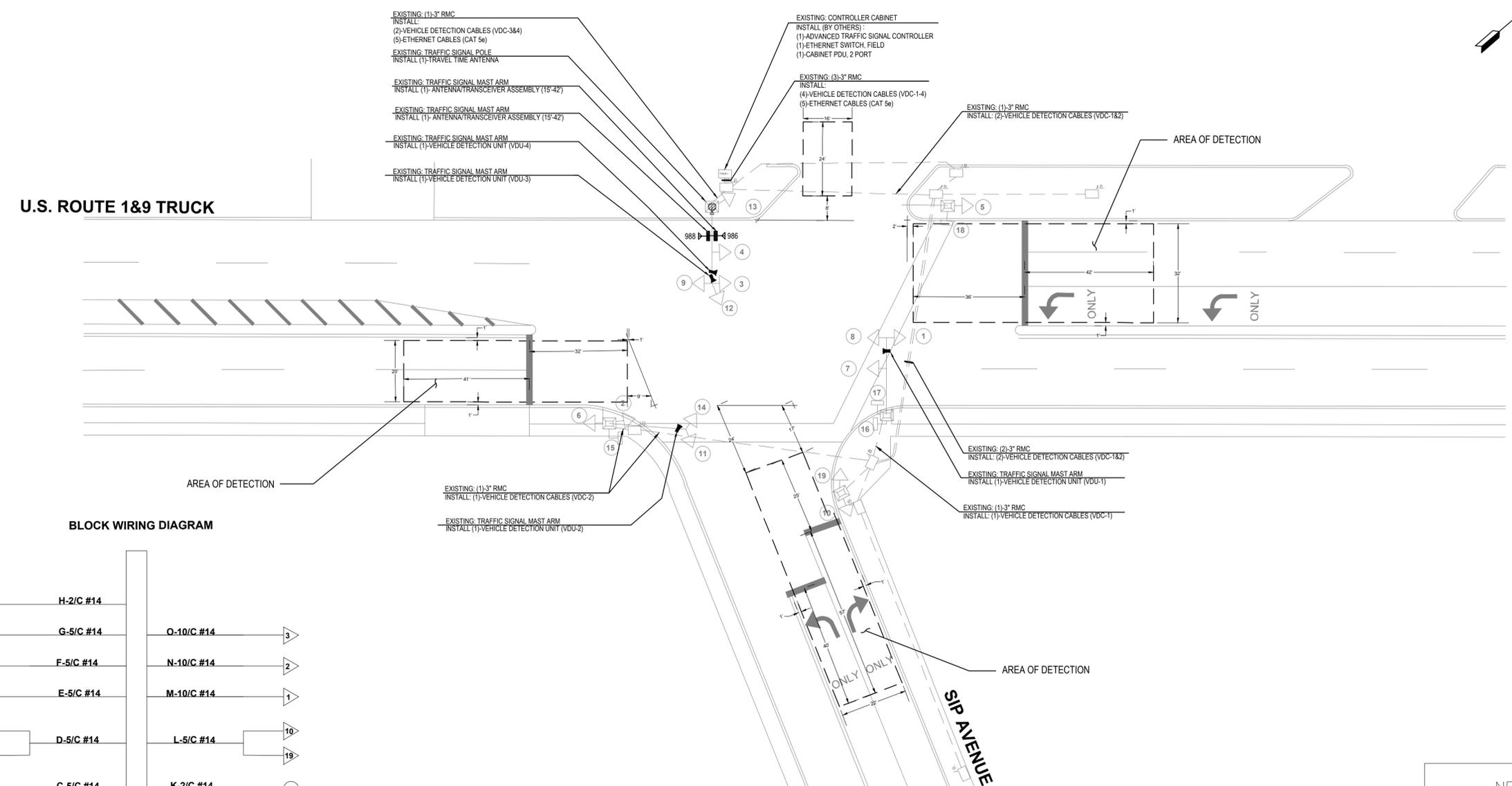
EXISTING: ITS CABINET  
INSTALL: (1)- ETHERNET SWITCH, HUB  
(2)-SFP OPTICAL TRANSCEIVERS  
(1)-CABINET PDU, 8 PORT

EXISTING: (1)- 2" RMC  
INSTALL: (4)- ETHERNET CABLES (CAT 5e)

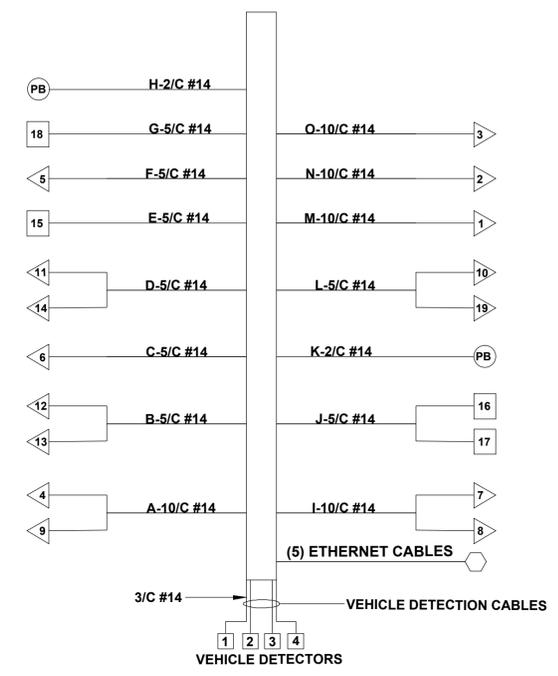
EXISTING: 100' NJDOT ITS POLE  
INSTALL (1)- ANTENNA/TRANSCEIVER ASSEMBLY (76-100')

ITEM NO.	TO BE CONSTRUCTED	QUANTITY	AS-BUILT QUANTITY
210	VEHICLE DETECTION UNIT INSTALLATION	4 UNITS	
221	VEHICLE DETECTION CABLE, 3/C #14	700 LF	
234	TRAVEL TIME SYSTEM INSTALLATION	1 UNIT	
311	ETHERNET CABLE, CAT 5e	400 LF	
332a	TRANSCEIVER ASSEMBLY UNIT INSTALLATION (15 - 42')	2 UNITS	

ITEM NO.	TO BE CONSTRUCTED (BY OTHERS)	QUANTITY	AS-BUILT QUANTITY
313a	ETHERNET SWITCH, FIELD	1 UNIT	
318	CABINET PDU, 2 PORT	1 UNIT	
502	ADVANCED TRAFFIC SIGNAL CONTROLLER	1 UNIT	



**BLOCK WIRING DIAGRAM**



NEW JERSEY MEADOWLANDS COMMISSION  
 DRAWN BY: BM  
 CHECKED BY: LA  
 APPROVED BY: HY  
 DATE: 7/1/13

**NOTE:**  
 ORIGINAL ELECTRICAL PLAN TITLED "ELECTRICAL PLANS"  
 AS-BUILT PREPARED BY NJDOT 5-12-08

**NOTE:**  
 MAINTENANCE AND PROTECTION OF TRAFFIC SHALL BE CONDUCTED IN ACCORDANCE WITH NJDOT TRAFFIC CONTROL DETAILS, 2007.

U.S. 1/9 TRUCK SPEED LIMIT = 40 MPH  
 SIP AVE SPEED LIMIT = 25 MPH

FOR VDU-1 INSTALLATION:  
 USE NJDOT TRAFFIC CONTROL DETAILS, SHEET TCD-11 ON U.S. 1/9 TRUCK NORTHBOUND APPROACH

FOR VDU-2 INSTALLATION:  
 USE NJDOT TRAFFIC CONTROL DETAILS, SHEET TCD-13 ON U.S. 1/9 TRUCK NORTHBOUND APPROACH

FOR VDU-3&4, ANTENNA/TRANSCEIVER ASSEMBLIES, AND TRAVEL TIME ANTENNA INSTALLATION:  
 USE NJDOT TRAFFIC CONTROL DETAILS, SHEET TCD-11 ON U.S. 1/9 TRUCK SOUTHBOUND APPROACH



NEW JERSEY DEPARTMENT OF TRANSPORTATION

U.S. RT. 1/9T & N.J. RT. 440  
 EXPANSION OF MASSTR

987: US 1&9 TRUCK & SIP AVENUE  
 JERSEY CITY, HUDSON COUNTY, NJ

NEW JERSEY MEADOWLANDS COMMISSION

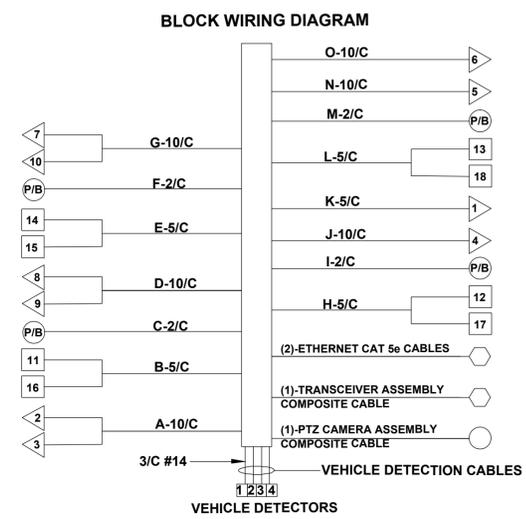
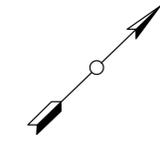
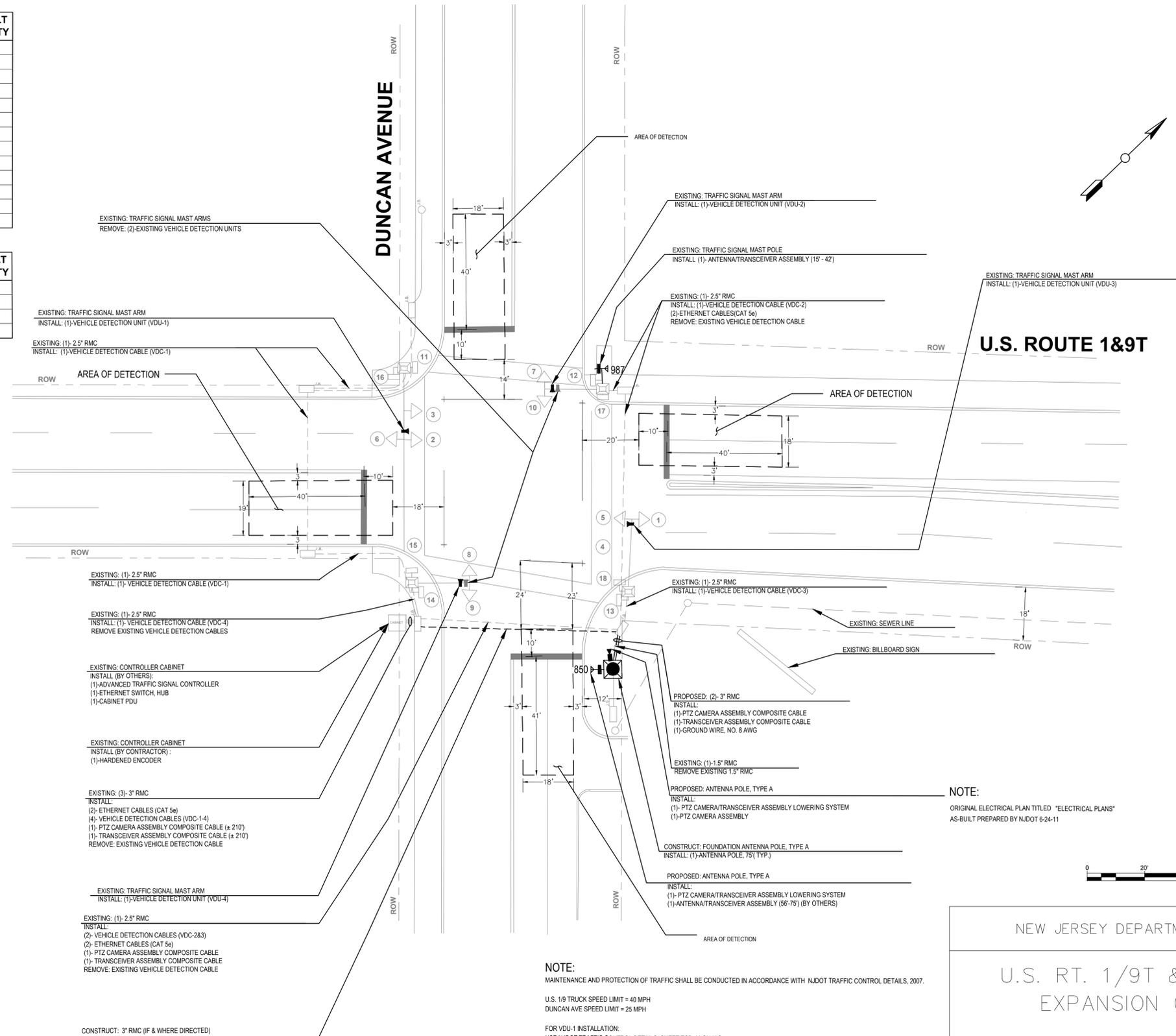
DAVID LIEBGOLD  
 NEW JERSEY PROFESSIONAL ENGINEER  
 LICENSE NO. 45897

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E-16

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ITEM NO.	TO BE CONSTRUCTED	QUANTITY	AS-BUILT QUANTITY
210	VEHICLE DETECTION UNIT INSTALLATION	4 UNITS	
221	VEHICLE DETECTION CABLE, 3/C #14	640 LF	
241	REMOVAL OF EXISTING VEHICLE DETECTION UNIT	2 UNITS	
311	ETHERNET CABLE, CAT 5e	470 LF	
332a	TRANSCIVER ASSEMBLY UNIT INSTALLATION (15 - 42')	1 UNIT	
411	ANTENNA POLE, TYPE A (75')	1 UNIT	
603	3" RIGID METALLIC CONDUIT	25 LF	
625	GROUND WIRE, NO. 8 AWG	25 LF	
632	CONCRETE SIDEWALK, 4" THICK	15 SY	
742	FOUNDATION ANTENNA POLE, TYPE A	1 UNIT	
751	PTZ CAMERA ASSEMBLY	1 UNIT	
752	PTZ CAMERA /TRANSCIVER ASSEMBLY LOWERING SYSTEM	2 UNITS	
753	HARDENED VIDEO ENCODER	1 UNIT	

ITEM NO.	TO BE CONSTRUCTED (BY OTHERS)	QUANTITY	AS-BUILT QUANTITY
313c	ETHERNET SWITCH, HUB	1 UNIT	
318	CABINET PDU, 2 PORT	1 UNIT	
332c	TRANSCIVER ASSEMBLY UNIT INSTALLATION (56 - 75')	1 UNIT	
502	ADVANCED TRAFFIC SIGNAL CONTROLLER	1 UNIT	



**NOTE:**  
 MAINTENANCE AND PROTECTION OF TRAFFIC SHALL BE CONDUCTED IN ACCORDANCE WITH NJDOT TRAFFIC CONTROL DETAILS, 2007.

U.S. 1/9 TRUCK SPEED LIMIT = 40 MPH  
 DUNCAN AVE SPEED LIMIT = 25 MPH

FOR VDU-1 INSTALLATION:  
 USE NJDOT TRAFFIC CONTROL DETAILS, SHEET TCD-11 ON U.S. 1/9 TRUCK SOUTHBOUND APPROACH

FOR VDU-2 INSTALLATION:  
 USE NJDOT TRAFFIC CONTROL DETAILS, SHEET TCD-7 ON DUNCAN AVE WESTBOUND APPROACH

FOR VDU-3 INSTALLATION:  
 USE NJDOT TRAFFIC CONTROL DETAILS, SHEET TCD-13 ON U.S. 1/9 TRUCK NORTHBOUND APPROACH

FOR VDU-4 INSTALLATION:  
 USE NJDOT TRAFFIC CONTROL DETAILS, SHEET TCD-7 ON DUNCAN AVE EASTBOUND APPROACH

FOR ANTENNA POLE INSTALLATION:  
 USE NJDOT TRAFFIC CONTROL DETAILS, SHEET TCD-11 ON DUNCAN AVE WESTBOUND APPROACH

**NOTE:**  
 ORIGINAL ELECTRICAL PLAN TITLED "ELECTRICAL PLANS"  
 AS-BUILT PREPARED BY NJDOT 6-24-11



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NEW JERSEY DEPARTMENT OF TRANSPORTATION

U.S. RT. 1/9T & N.J. RT. 440  
 EXPANSION OF MASSTR

988: US 1&9T & DUNCAN AVENUE  
 JERSEY CITY, HUDSON COUNTY, NJ

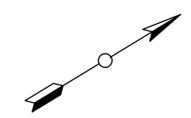
NEW JERSEY MEADOWLANDS COMMISSION

DAVID LIEBGOLD  
*David Liebgold*  
 NEW JERSEY PROFESSIONAL ENGINEER  
 LICENSE NO. 45897

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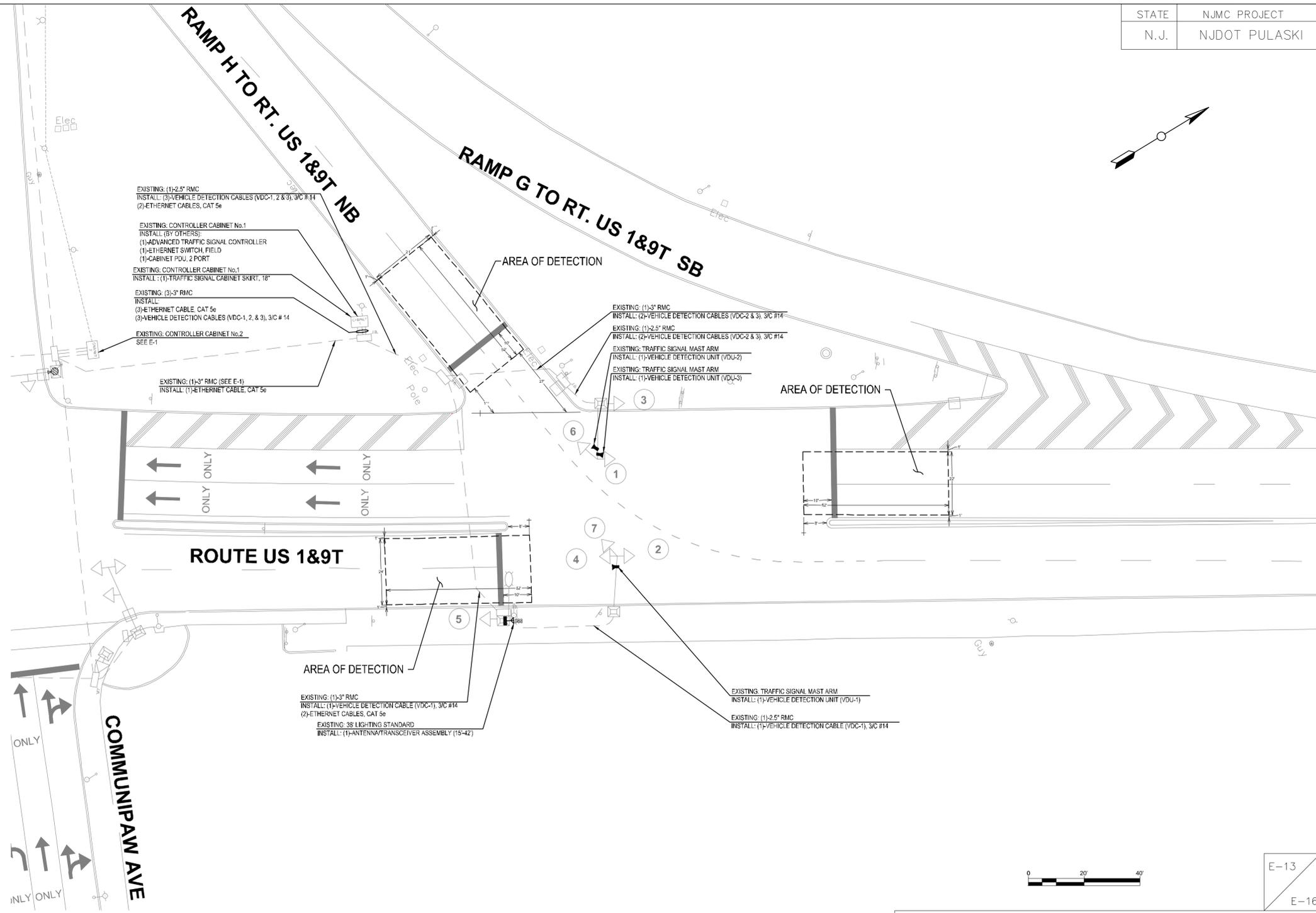
NEW JERSEY MEADOWLANDS COMMISSION

REVISION DATE	
REVISION DESCRIPTION	
DATE	7/1/13
APPROVED BY	HY
CHECKED BY	LA
DRAWN BY	BM

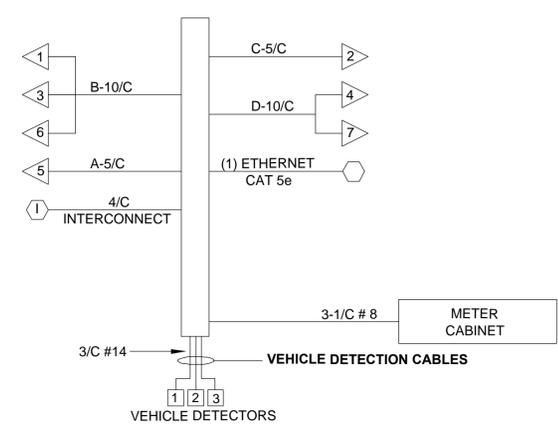


ITEM NO.	TO BE CONSTRUCTED	CONTRACT QUANTITY	AS-BUILT QUANTITY
210	VEHICLE DETECTION UNIT INSTALLATION	3 UNITS	
221	VEHICLE DETECTION CABLE, 3/C #14	540 LF	
311	ETHERNET CABLE, CAT 5e	465 LF	
332a	TRANSCEIVER / ANTENNA ASSEMBLY INSTALLATION (15'-42")	1 UNIT	
756	TRAFFIC SIGNAL CABINET SKIRT, 18"	1 UNIT	

ITEM NO.	TO BE CONSTRUCTED (BY OTHERS)	CONTRACT QUANTITY	AS-BUILT QUANTITY
313a	ETHERNET SWITCH, FIELD	1 UNIT	
318	CABINET PDU, 2 PORT	1 UNIT	
502	ADVANCED TRAFFIC SIGNAL CONTROLLER	1 UNIT	



**BLOCK WIRING DIAGRAM  
CABINET No. 1**



NEW JERSEY MEADOWLANDS COMMISSION  
DRAWN BY: OG  
CHECKED BY: LA  
APPROVED BY: HY  
DATE: 7/1/13

**NOTE:**  
1. ORIGINAL ELECTRICAL PLAN TITLED "TRAFFIC SIGNAL INSTALLATION ROUTE U.S. 1&9T NB AND ROUTE 440 - COMMUNIPAW AVENUE", PREPARED BY NEW JERSEY DEPARTMENT OF TRANSPORTATION, DATED 05-05-86.

**NOTE:**  
MAINTENANCE AND PROTECTION OF TRAFFIC SHALL BE CONDUCTED IN ACCORDANCE WITH NJDOT TRAFFIC CONTROL DETAILS, 2007.

N.J. RT. 440 SPEED LIMIT = 45 MPH  
US 1&9 TRUCK SPEED LIMIT = 50 MPH

FOR VDU-1 INSTALLATION:  
USE NJDOT TRAFFIC CONTROL DETAILS, SHEET TCD-14 ON RT US 1&9T NORTHBOUND APPROACH

FOR VDU-2 & VDU-3 INSTALLATION:  
USE NJDOT TRAFFIC CONTROL DETAILS, SHEET TCD-11 ON RT US 1&9T SOUTHBOUND APPROACH

NEW JERSEY DEPARTMENT OF TRANSPORTATION

U.S. RT. 1/9T & N.J. RT. 440  
EXPANSION OF MASSTR

989: US 1&9T & RAMP TO US 1&9T NB  
JERSEY CITY, HUDSON COUNTY, NJ

NEW JERSEY MEADOWLANDS COMMISSION

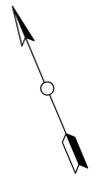
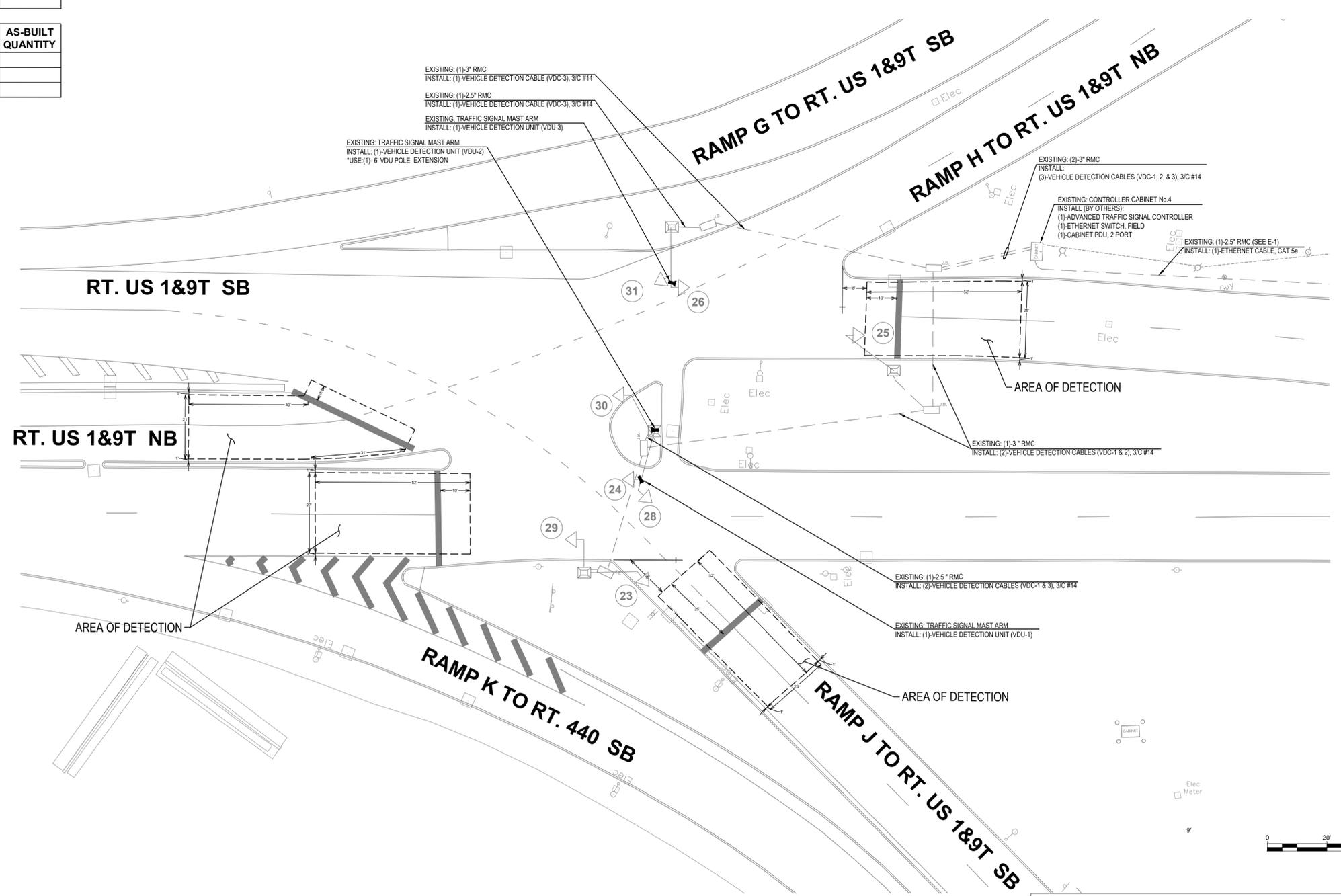
DAVID LIEBGOLD  
NEW JERSEY PROFESSIONAL ENGINEER  
LICENSE NO. 45897

E-13  
E-16

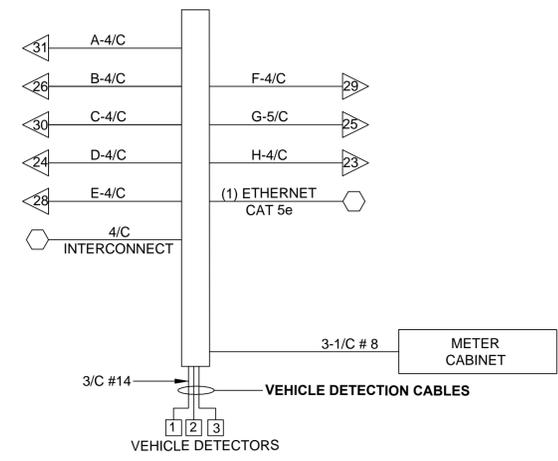
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ITEM NO.	TO BE CONSTRUCTED	CONTRACT QUANTITY	AS-BUILT QUANTITY
210	VEHICLE DETECTION UNIT INSTALLATION	3 UNITS	
221	VEHICLE DETECTION CABLE, 3/C #14	660 LF	

ITEM NO.	TO BE CONSTRUCTED (BY OTHERS)	CONTRACT QUANTITY	AS-BUILT QUANTITY
313a	ETHERNET SWITCH	1 UNIT	
318	CABINET PDU, 2 PORT	1 UNIT	
502	ADVANCED TRAFFIC SIGNAL CONTROLLER	1 UNIT	



BLOCK WIRING DIAGRAM  
CABINET No. 4



**NOTE:**  
1. ORIGINAL ELECTRICAL PLAN TITLED "TRAFFIC SIGNAL INSTALLATION ROUTE U.S. 1&9T NB AND ROUTE 440 - COMMUNIPAW AVENUE-NW ISLAND", PREPARED BY NEW JERSEY DEPARTMENT OF TRANSPORTATION, DATED 05-05-86.

**NOTE:**  
MAINTENANCE AND PROTECTION OF TRAFFIC SHALL BE CONDUCTED IN ACCORDANCE WITH NJDOT TRAFFIC CONTROL DETAILS, 2007.

N.J. RT. 440 SPEED LIMIT = 45 MPH  
US 1&9 TRUCK SPEED LIMIT = 50 MPH

FOR VDU-1 & VDU-2 INSTALLATION:  
USE NJDOT TRAFFIC CONTROL DETAILS, SHEET TCD-15 ON COMMUNIPAW AVE EASTBOUND APPROACH  
USE NJDOT TRAFFIC CONTROL DETAILS, SHEET TCD-14 ON RT US 1&9T SOUTHBOUND APPROACH

FOR VDU-3 INSTALLATION:  
USE NJDOT TRAFFIC CONTROL DETAILS, SHEET TCD-11 ON RT US 1&9T SOUTHBOUND APPROACH  
USE NJDOT TRAFFIC CONTROL DETAILS, SHEET TCD-15 ON RT US 1&9T NORTHBOUND APPROACH



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NEW JERSEY DEPARTMENT OF TRANSPORTATION

U.S. RT. 1/9T & N.J. RT. 440  
EXPANSION OF MASSTR

990:US 1&9T & COMMUNIPAW AVE  
JERSEY CITY, HUDSON COUNTY, NJ

NEW JERSEY MEADOWLANDS COMMISSION

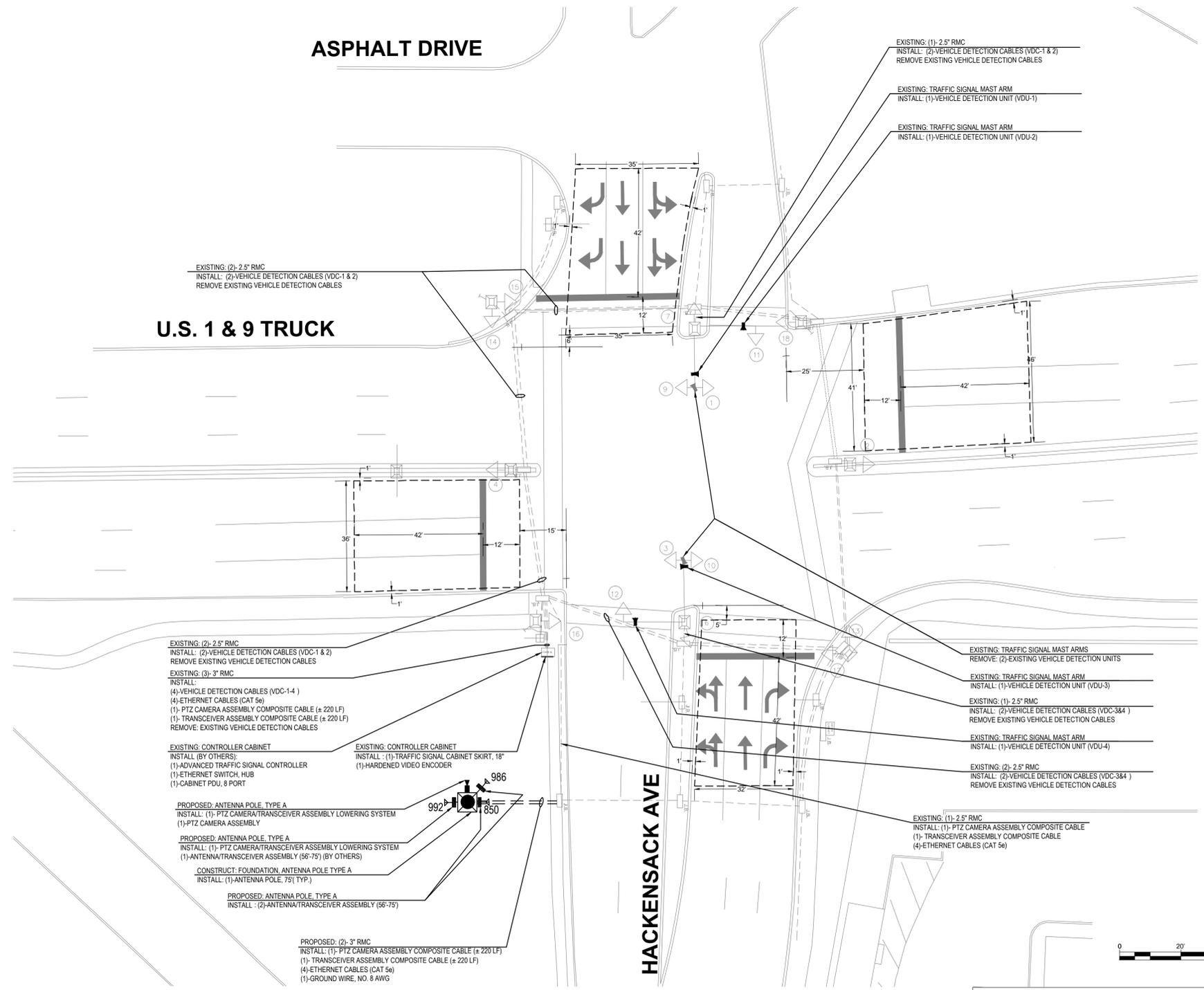
DAVID LIEBGOLD  
NEW JERSEY PROFESSIONAL ENGINEER  
LICENSE NO. 45897

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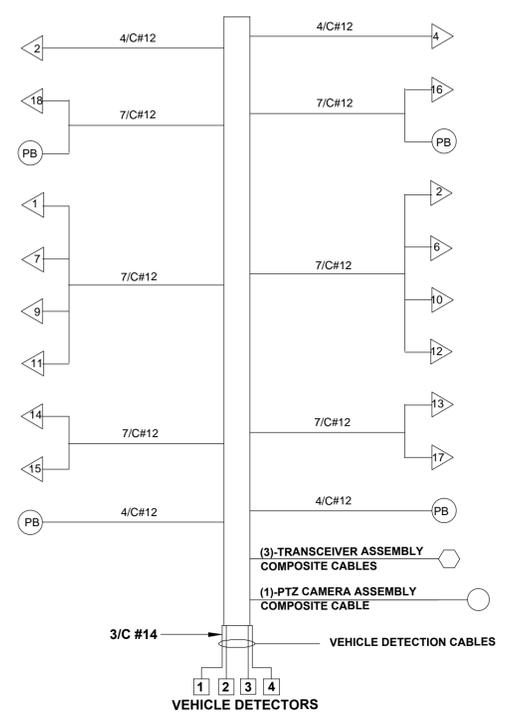
NEW JERSEY MEADOWLANDS COMMISSION  
DRAWN BY OG  
CHECKED BY LA  
APPROVED BY HY  
DATE 7/1/13

ITEM NO.	TO BE CONSTRUCTED	QUANTITY	AS-BUILT QUANTITY
210	VEHICLE DETECTION UNIT INSTALLATION	4 UNITS	
221	VEHICLE DETECTION CABLE, 3/C #14	730 LF	
241	REMOVAL OF EXISTING VEHICLE DETECTION UNIT	2 UNITS	
311	ETHERNET CABLE, CAT 5e	970 LF	
332c	TRANSCEIVER/ANTENNA ASSEMBLY INSTALLATION (56-75')	2 UNITS	
411	ANTENNA POLE, TYPE A (75')	1 UNIT	
603	3" RIGID METAL CONDUIT	60 LF	
625	GROUND WIRE, NO. 8 AWG	60 LF	
641	TOPSOILING, 2" THICK	15 SY	
642	FERTILIZING AND SEEDING	15 SY	
643	STRAW MULCHING	15 SY	
742	FOUNDATION, ANTENNA POLE TYPE A	1 UNIT	
751	PTZ CAMERA ASSEMBLY	1 UNIT	
752	PTZ CAMERA /TRANSCEIVER ASSEMBLY LOWERING SYSTEM	2 UNITS	
753	HARDENED VIDEO ENCODER	1 UNIT	
756	TRAFFIC SIGNAL CABINET SKIRT, 18"	1 UNIT	

ITEM NO.	TO BE CONSTRUCTED (BY OTHERS)	QUANTITY	AS-BUILT QUANTITY
313c	ETHERNET SWITCH - HUB	1 UNIT	
319	CABINET PDU, 8 PORT	1 UNIT	
332c	TRANSCEIVER ASSEMBLY UNIT INSTALLATION (56' - 75')	1 UNIT	
502	ADVANCED TRAFFIC SIGNAL CONTROLLER	1 UNIT	



**BLOCK WIRING DIAGRAM**



NEW JERSEY MEADOWLANDS COMMISSION  
 DRAWN BY: BM  
 CHECKED BY: LA  
 APPROVED BY: HY  
 DATE: 7/1/13

**NOTE:**  
 ORIGINAL ELECTRICAL PLAN TITLED "ELECTRICAL PLANS"  
 AS-BUILT PREPARED BY NJDOT 6-24-11

**NOTE:**  
 MAINTENANCE AND PROTECTION OF TRAFFIC SHALL BE CONDUCTED IN ACCORDANCE WITH NJDOT TRAFFIC CONTROL DETAILS, 2007.

U.S. 1/9 TRUCK SPEED LIMIT = 50 MPH  
 HACKENSACK AVE SPEED LIMIT = 25 MPH

FOR VDU-1 INSTALLATION & EXISTING VDU REMOVAL:  
 USE NJDOT TRAFFIC CONTROL DETAILS, SHEET TCD-11 ON U.S. 1/9 TRUCK SOUTHBOUND APPROACH

FOR VDU-2 INSTALLATION:  
 USE NJDOT TRAFFIC CONTROL DETAILS, SHEET TCD-11 ON HACKENSACK AVE NORTHBOUND APPROACH

FOR VDU-3 INSTALLATION & EXISTING VDU REMOVAL:  
 USE NJDOT TRAFFIC CONTROL DETAILS, SHEET TCD-11 ON U.S. 1/9 TRUCK NORTHBOUND APPROACH

FOR VDU-4 INSTALLATION:  
 USE NJDOT TRAFFIC CONTROL DETAILS, SHEET TCD-11 ON HACKENSACK AVE SOUTHBOUND APPROACH

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NEW JERSEY DEPARTMENT OF TRANSPORTATION

U.S. RT. 1/9T & N.J. RT. 440  
 EXPANSION OF MASSTR

991: US 1&9T & HACKENSACK AVENUE  
 KEARNY, HUDSON COUNTY, NJ

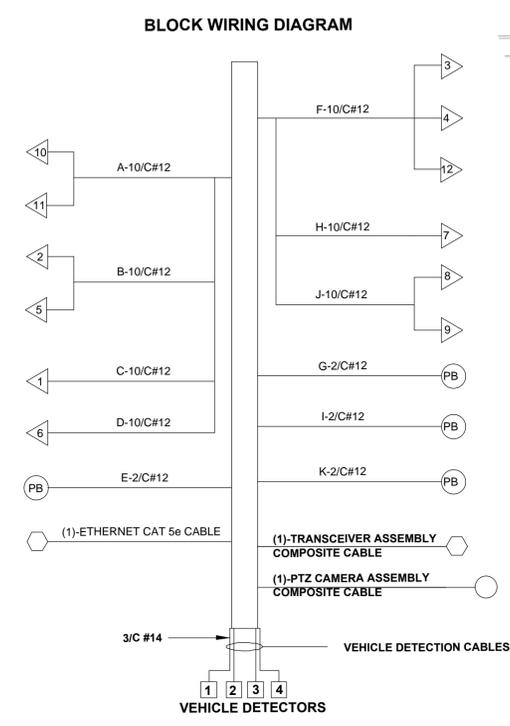
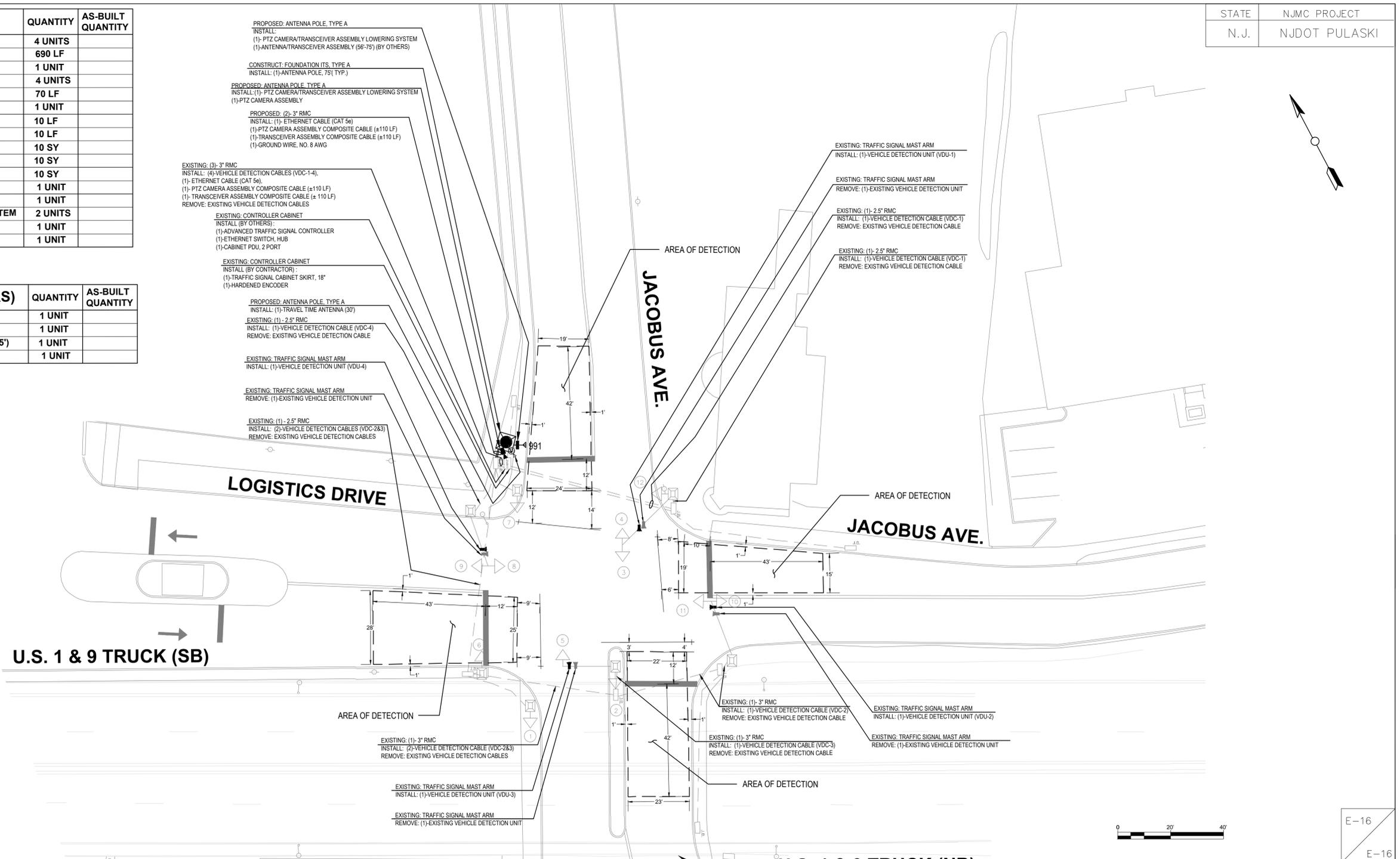
NEW JERSEY MEADOWLANDS COMMISSION

DAVID LIEBGOLD  
*David Liebgold*  
 NEW JERSEY PROFESSIONAL ENGINEER  
 LICENSE NO. 45897

18  
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ITEM NO.	TO BE CONSTRUCTED	QUANTITY	AS-BUILT QUANTITY
210	VEHICLE DETECTION UNIT INSTALLATION	4 UNITS	
221	VEHICLE DETECTION CABLE, 3/C #14	690 LF	
234	TRAVEL TIME SYSTEM INSTALLATION	1 UNIT	
241	REMOVAL OF EXISTING VEHICLE DETECTION UNIT	4 UNITS	
311	ETHERNET CABLE, CAT 5e	70 LF	
411	ANTENNA POLE, TYPE A (75")	1 UNIT	
603	3" RIGID METAL CONDUIT	10 LF	
625	GROUND WIRE, NO 8 AWG	10 LF	
641	TOPSOILING, 2" THICK	10 SY	
642	FERTILIZING AND SEEDING	10 SY	
643	STRAW MULCHING	10 SY	
742	FOUNDATION ANTENNA POLE, TYPE A	1 UNIT	
751	PTZ CAMERA ASSEMBLY	1 UNIT	
752	PTZ CAMERA /TRANSCEIVER ASSEMBLY LOWERING SYSTEM	2 UNITS	
753	HARDENED VIDEO ENCODER	1 UNIT	
756	TRAFFIC SIGNAL CABINET SKIRT, 18"	1 UNIT	

ITEM NO.	TO BE CONSTRUCTED (BY OTHERS)	QUANTITY	AS-BUILT QUANTITY
313c	ETHERNET SWITCH, HUB	1 UNIT	
318	CABINET PDU, 2 PORT	1 UNIT	
332c	TRANSCEIVER ASSEMBLY UNIT INSTALLATION (56' - 75')	1 UNIT	
502	ADVANCED TRAFFIC SIGNAL CONTROLLER	1 UNIT	



**NOTE:**  
ELECTRICAL PLAN BASED OFF FIELD VERIFICATION AND "PULASKI DECK REPLACEMENT" PLAN.

**NOTE:**  
MAINTENANCE AND PROTECTION OF TRAFFIC SHALL BE CONDUCTED IN ACCORDANCE WITH NJDOT TRAFFIC CONTROL DETAILS, 2007.

U.S. 1/9 TRUCK SPEED LIMIT = 50 MPH  
JACOBUS AVE SPEED LIMIT = 25 MPH

FOR VDU-1 INSTALLATION & EXISTING VDU REMOVAL:  
USE NJDOT TRAFFIC CONTROL DETAILS, SHEET TCD-7 ON JACOBUS AVE NORTHBOUND APPROACH

FOR VDU-2 INSTALLATION & EXISTING VDU REMOVAL:  
USE NJDOT TRAFFIC CONTROL DETAILS, SHEET TCD-7 ON JACOBUS AVE EASTBOUND APPROACH

FOR VDU-3 INSTALLATION & EXISTING VDU REMOVAL:  
USE NJDOT TRAFFIC CONTROL DETAILS, SHEET TCD-6 ON JACOBUS AVE SOUTHBOUND APPROACH

FOR VDU-4 INSTALLATION & EXISTING VDU REMOVAL:  
USE NJDOT TRAFFIC CONTROL DETAILS, SHEET TCD-7 ON LOGISTICS DRIVE WESTBOUND APPROACH

FOR ANTENNA POLE INSTALLATION:  
USE NJDOT TRAFFIC CONTROL DETAILS, SHEET TCD-5 ON JACOBUS AVE SOUTHBOUND APPROACH



E-16  
E-16

NEW JERSEY DEPARTMENT OF TRANSPORTATION

U.S. RT. 1/9T & N.J. RT. 440  
EXPANSION OF MASSTR

992: US 1&9T & JACOBUS AVENUE  
KEARNY, HUDSON COUNTY, NJ

NEW JERSEY MEADOWLANDS COMMISSION

DAVID LIEBGOLD  
NEW JERSEY PROFESSIONAL ENGINEER  
LICENSE NO. 45897

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NEW JERSEY MEADOWLANDS COMMISSION

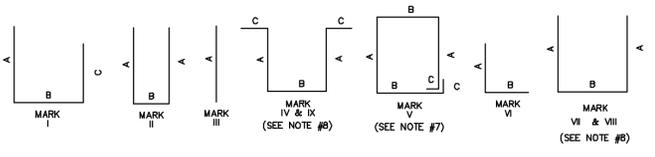
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REVISION DATE

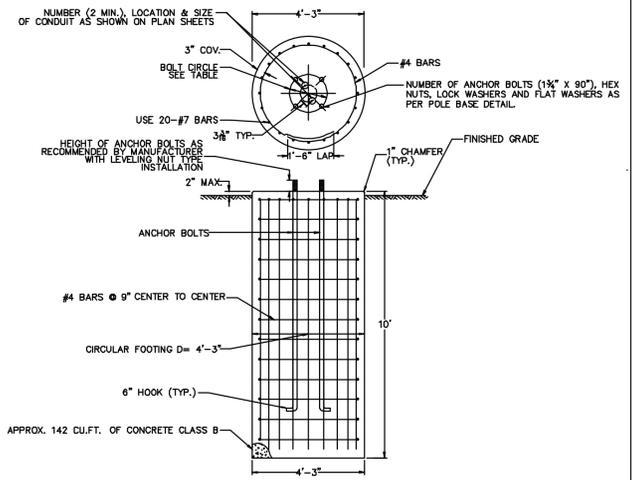
**ITEM**

18" X 36" JUNCTION BOX "JB"

MARK	SIZE NO. 4 RODS			NO. RODS REQ.
	A	B	C	
II	42"	25"	---	4
III	21"	---	---	2
V	44"	26"	4"	3
VI	2"	16"	---	2
VI	15"	26"	---	2



- NOTES:**
- THE CONSTRUCTION AND INSTALLATION OF PRECAST JUNCTION BOX FOUNDATION AND 18" X 36" JUNCTION BOX SHALL CONFORM TO SPECIFICATIONS FOR THE CONTRACT AND TO DETAILS AND NOTES SHOWN ON THIS DRAWING AND SHALL INCLUDE APPLICABLE NOTES AND DETAILS SHOWN ON DRAWING FOR CAST-IN-PLACE TYPE.
  - COMPACTED 3/4" GRAVEL OR BROKEN STONE BASE REQUIRED FOR ALL PRECAST UNITS. MINIMUM DEPTH 8".
  - A 16" X 7" X 4" RECESS TO BE PROVIDED IN SIDE AND END WALLS AS SHOWN.
  - AFTER THE INSTALLATION OF CONDUIT, ALL OPEN RECESSES ARE TO BE COMPLETELY BRICKED AND FINISHED.
  - AN ALTERNATE RECESS ARRANGEMENT MAY BE SUBSTITUTED AS SHOWN BELOW IN DETAIL "A" & "B". IF THIS ARRANGEMENT IS USED AND THE CONDUIT IS BROUGHT INTO THE JUNCTION BOX THROUGH THE TOP OF THE RECESS THEN THE ENTIRE RECESS MUST BE BRICKED FROM TOP TO BOTTOM.
  - PRECAST JUNCTION BOX FOUNDATION MAY BE INSTALLED BEHIND THE GUIDE RAIL OR IN AREAS WHERE THE SLOPE IS LESS THAN 1:22.
  - INSTALL THIS BAR WHEN USING DETAIL "A" ONLY.
  - FOR ALTERNATE LOCATION FOR THE FOUNDATION, USE MARK VII AND IX IN PLACE OF MARK I AND IV.
  - ALIGN CONDUITS.



**"BOLT CIRCLE TABLE"**

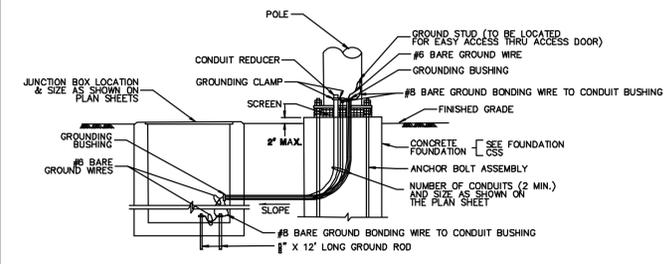
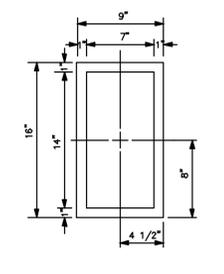
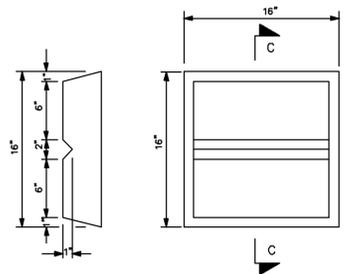
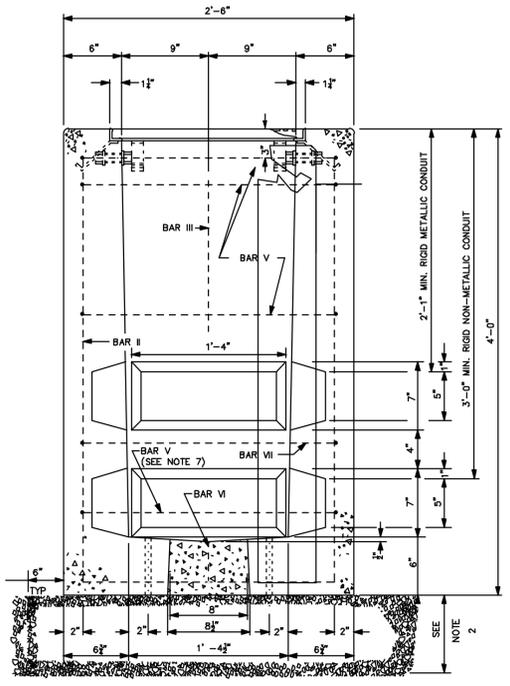
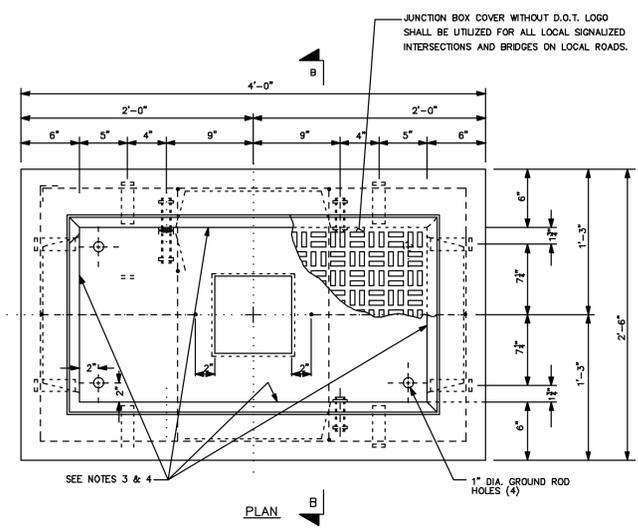
FOUNDATION TYPE	POLE HEIGHT	ANCHOR BOLT CIRCLE DIAMETER	ANCHOR BOLT SPECIFICATION
C	40'	20"	ASTM F1554 GRADE 36 OR 55
B	55'	24"	ASTM F1554 GRADE 36 OR 55
A	75'	30"	ASTM F1554 GRADE 36 OR 55

**GENERAL DESIGN SPECIFICATIONS:**

CONCRETE DESIGN STRESS:  
 SPECIFIED COMPRESSIVE STRENGTH (f'<sub>c</sub>) (CLASS B).....3,000 PSI  
 EXTREME FIBER COMPRESSIVE STRESS (f<sub>cu</sub>).....1,200 PSI

REINFORCEMENT STEEL DESIGN STRESS:  
 YIELD STRENGTH (f<sub>y</sub>) (A615, GRADE 60).....60 KSI  
 TENSILE STRENGTH (f<sub>t</sub>).....90 KSI

- NOTES:**
- IF EXISTING SOIL APPEARS TO BE UNSUITABLE (SOFT, WET, COMPRESSIBLE, MUCK, ETC.) AND MAY NOT SUSTAIN CONSTRUCTION EQUIPMENT, NJDOT GEOTECHNICAL ENGINEERING UNIT, 609-530-5726, SHOULD BE CONTACTED.
  - HOT DIP GALVANIZE ANCHOR BOLTS PER ASTM A153 FOR THE FULL LENGTH OF THE BOLT AFTER THREADING.
  - MANUFACTURER IS TO PROVIDE ANCHOR BOLTS ANCHOR BOLT EMBEDMENT LENGTH, THREADED LENGTH AND PROJECTION LENGTH IS TO BE DETERMINED BY THE MANUFACTURER.
  - LUBRICATE ANCHOR BOLT PROJECTION PORTION BEFORE MOUNTING THE POLE.
  - FOR ANCHOR BOLT TIGHTENING PROCEDURE SEE NOTE 11 ON SHEET 25 OF 29 (ITS STANDARD TYPE A&B), AND NOTE TO ON SHEET 26 OF 29 (ITS STANDARD TYPE C).



NEW JERSEY MEADOWLANDS COMMISSION	REVISION DATE
DRAWN BY BM	
CHECKED BY LA	
APPROVED BY HY	
DATE 7/1/13	

NEW JERSEY DEPARTMENT OF TRANSPORTATION

U.S. RT. 1/9T & N.J. RT. 440  
 EXPANSION OF MASSTR  
 CONSTRUCTION DETAILS

NEW JERSEY MEADOWLANDS COMMISSION

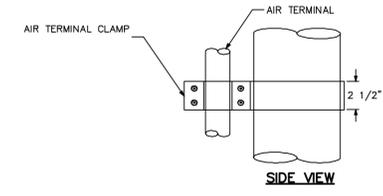
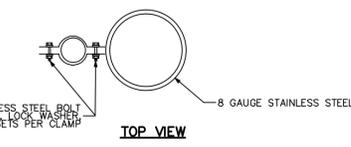
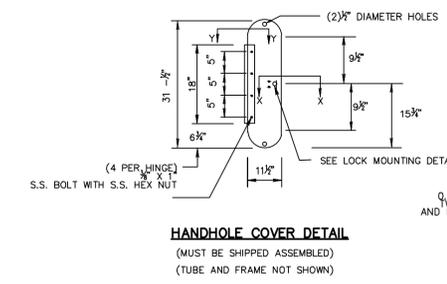
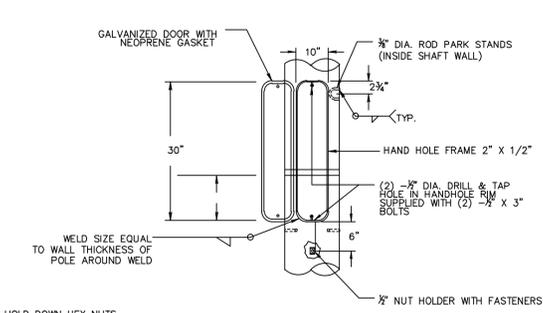
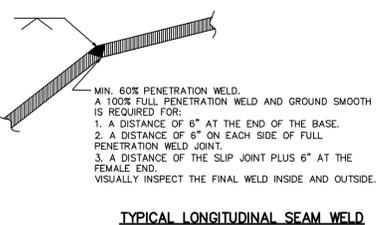
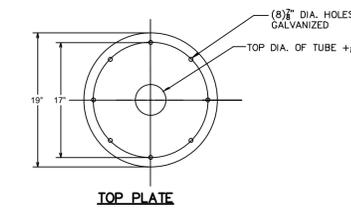
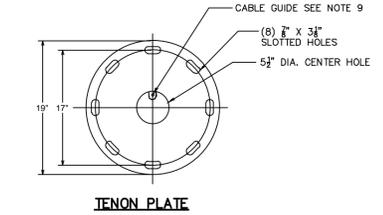
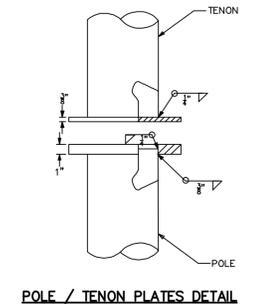
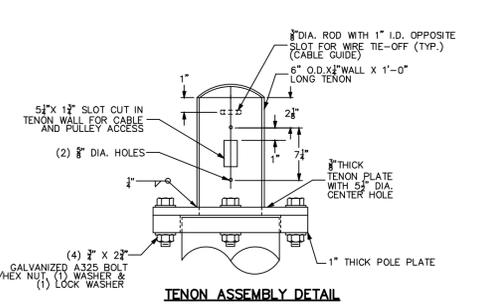
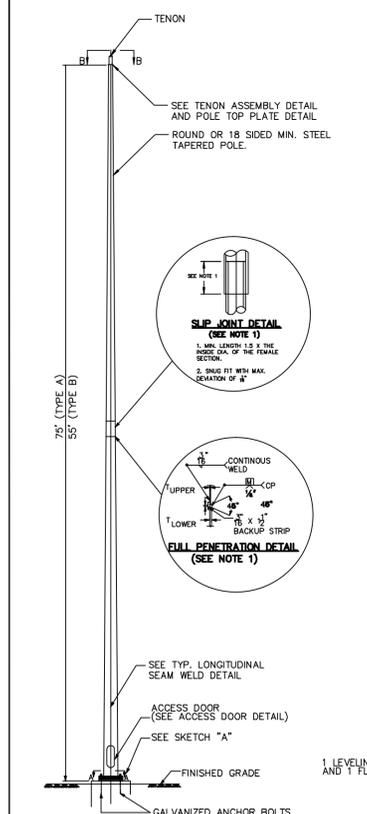
DAVID LIEBGOLD  
*David Liebgold*  
 NEW JERSEY PROFESSIONAL ENGINEER  
 LICENSE NO. 45897

DTL-1  
 DTL-9

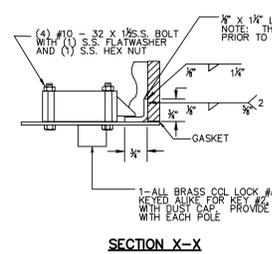
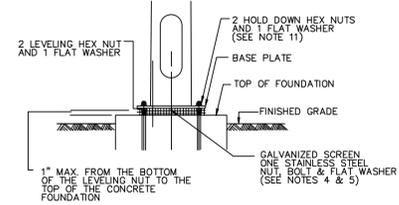
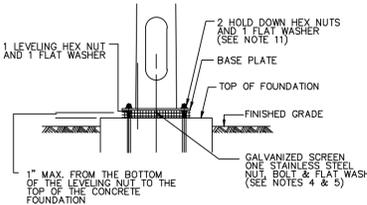
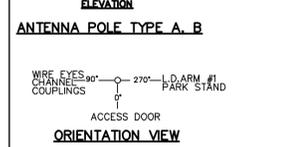
**DESIGN SPECIFICATIONS:**  
 UTILIZE 2001 AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORT FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS WITH THE LATEST INTERIM.  
 DESIGN WIND VELOCITY 80 M.P.H. (APPENDIX C)  
 DESIGN ICE LOAD 3 P.S.F.  
 FATIGUE CATEGORY 2  
 DESIGN LIFE 50 YEARS  
 ENSURE ALL LOADS APPLIED TO ALL MEMBERS HAVE BEEN TAKEN INTO ACCOUNT FOR STRENGTH DESIGN AND ALL WELDED STRUCTURAL DETAILS HAVE BEEN ANALYZED AGAINST FATIGUE. THE DESIGN SHOULD CONSIDER, BUT IS NOT LIMITED TO POLE, HAND HOLE, BASE PLATE, POLE-TO-BASE CONNECTION, ANCHOR BOLTS AND EMBEDMENT.  
 ENSURE MAXIMUM HORIZONTAL DEFLECTION AT THE TOP OF THE POLE COMPLETELY ASSEMBLED WITH RADIO TRANSCEIVERS, ANTENNAS, AND ALL FIXTURES ATTACHED DOES NOT EXCEED 4 INCHES FROM THE CENTER LINE, DUE TO A 40 MPH (GUST FACTOR 1.3) WIND SPEED (APPENDIX C WIND PRESSURE FORMULA).  
 SUBMIT DETAIL PLANS AND DESIGN CALCULATIONS OF ITS STANDARD POLES AND TRANSMITTER WEIGHT AND PROJECTION AREA, ANTENNA WEIGHT AND PROJECTION AREA, AND ANCHOR BOLT ASSEMBLY FOR APPROVAL. ENSURE THE DESIGN CALCULATIONS AND WORKING DRAWINGS ARE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW JERSEY.

**MATERIALS:**  
 TAPER THE STEEL POLE. ENSURE THE POLE AND TENON MATERIAL CONFORMS TO ASTM SPECIFICATIONS A595. GRADE 55 (MIN. YIELD POINT 55 KSI) OR GRADE 50 (MIN. YIELD POINT 50 KSI) AND CONTAIN ONLY ONE LONGITUDINAL SEAM WELD. HOWEVER, IF THE POLE IS GREATER THAN 24 INCHES, TWO LONGITUDINAL SEAM WELDS WILL BE PERMITTED. EITHER SLIP JOINTS OR FULL PENETRATION WELD JOINTS ARE ACCEPTABLE. SEE SLIP JOINT AND FULL PENETRATION DETAILS. LAMINATED TUBES ARE NOT PERMITTED. SEE TYPICAL LONGITUDINAL SEAM WELD DETAIL. ENSURE THAT THE POLE DIAMETER IS SUFFICIENT TO ACCOMMODATE THE WINCH / MOTOR ASSEMBLY COMPLETELY INSIDE THE POLE.  
 PROVIDE STAINLESS STEEL FASTENERS (INCLUDING BOLTS, NUTS AND WASHERS) CONFORMING TO CURRENT ASTM A320, GRADE B8, CLASS 2 (ASTI TYPE 304) AND STRAIN HARDENED. ENSURE ALL NUTS LOCK TYPE WITH SEALING ALL THREADS. MATERIALS OTHER THAN SPECIFIED ARE TO BE APPROVED BY NJDOT.  
 ALL CONCRETE SHALL BE "CLASS B" AS DEFINED IN THE NJDOT STANDARD SPECIFICATIONS.  
 HIGH STRENGTH BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED PER ASTM A153 CLASS 5.  
 ENSURE ANCHOR BOLT MATERIALS CONFORM TO ASTM F1554, GRADE 55. GALVANIZE THE ANCHOR BOLTS PER ASTM A153, CLASS 5 AFTER THREADING FOR THE FULL LENGTH OF THE BOLT, AS WELL AS NUTS AND WASHERS.  
 PROVIDE STAINLESS STEEL BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED PER ASTM A153 CLASS 5.

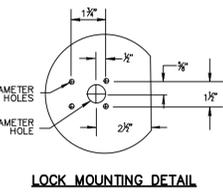
**NOTES:**  
 1. ENSURE STEEL POLE CONSISTS OF A MAXIMUM OF TWO SECTIONS. THE LOWER SECTION SHALL BE A MIN. OF 40 FT AND MAXIMUM OF 80 LONG WITH A MIN. THICKNESS OF 1/2".  
 2. PROVIDE NEOPRENE DOOR GASKET CEMENTED TO DOOR.  
 3. INSTALL ITS STANDARD IN THE AREA BEYOND RECOVERY DISTANCE OR BEHIND THE GUIDE RAIL.  
 4. PROVIDE A GALVANIZED SCREEN, WRAPPED AROUND THE BASE OF POLE.  
 5. ENSURE THE GALVANIZED SCREEN HAS NO MORE THAN 1/2" OPENINGS AND IS HELD TOGETHER WITH STAINLESS STEEL NUTS, BOLTS AND FLAT WASHERS.  
 6. DO NOT GROUT UNDER THE POLE.  
 7. PROVIDE ONE (1) LEVELING HEX NUT, TWO (2) HOLD DOWN HEX NUTS AND TWO (2) FLAT WASHERS PER ANCHOR BOLT. (SEE SKETCH A) DETERMINE THE PROPER LENGTH OF THE ANCHOR BOLT FOR PROJECTION AND EMBEDMENT. THE CLEARANCE BETWEEN THE TOP OF THE FOUNDATION AND THE BOTTOM OF THE LEVELING NUT SHALL NOT EXCEED 1/2". THE PROJECTION LENGTH SHALL BE A MINIMUM OF 9".  
 8. ENSURE WELDING CONFORMS TO THE AWS/AWS D1.1 STRUCTURAL WELDING CODE - STEEL WITH NJDOT APPROVAL. IN NJDOT STANDARD SPECIFICATIONS, WELDING INSPECTION AND FULL PENETRATION WELD NONDESTRUCTIVE TESTING CONFORM TO AWS D1.1, UNLESS OTHERWISE SPECIFIED.  
 9. LOCATE TOP, CENTER AND BOTTOM ELECTRICAL CABLE GUIDES WITHIN THE POLE AND ALIGN WITH EACH OTHER. POSITION THE BOTTOM CABLE GUIDE 2 INCHES BELOW THE HANDHOLE AND THE TOP CABLE GUIDE 1 INCH DIRECTLY BELOW THE TOP OF TENON POSITION. TWO PARKING STANDS A MAXIMUM OF 24 INCHES BELOW THE TOP OF THE HANDHOLE AND LOCATED AT 90° AND 270° FROM THE HANDHOLE. ENSURE EACH CABLE GUIDE IS 1/2" WIRE EYE BOLT HAVING 1" INTERNAL DIA. FOR WIRE TIE OFF.  
 10. REFER TO MANUFACTURER'S SPECIFICATIONS FOR RADIO TRANSCEIVER AND ANTENNA WEIGHT AND PROJECTION AREA.  
 11. THE TIGHTENING PROCEDURE FOR ANCHOR BOLTS SHALL FOLLOW SECTION 6.9 OF THE 2005 FHWA GUIDELINES FOR THE INSTALLATION, INSPECTION, MAINTENANCE AND REPAIR OF STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS.



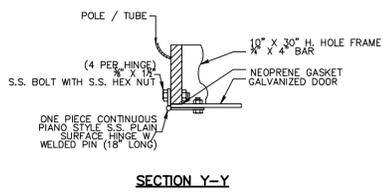
AIR TERMINAL CLAMP



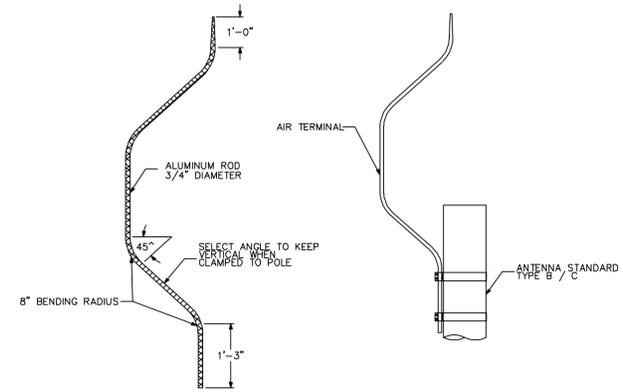
SECTION X-X



LOCK MOUNTING DETAIL

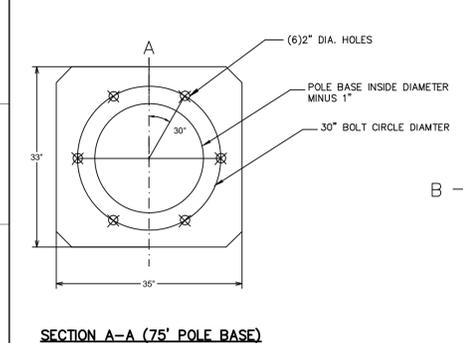


SECTION Y-Y

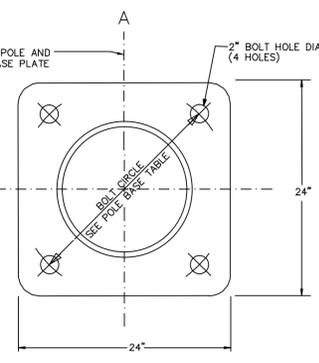


AIR TERMINAL DETAILS

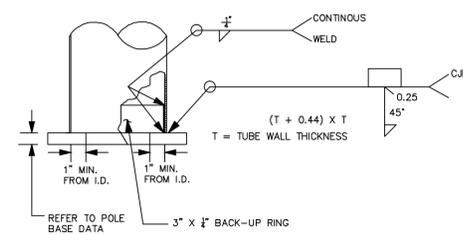
**NOTES:**  
 1. INSTALL ALL WIRING INSIDE THE POLE AND PROVIDE STRAIN RELIEF FOR ALL ANTENNA CABLES.  
 2. SUPPORT ELECTRICAL AND COMMUNICATION CABLES WITH SEPARATE CIRCLIS.



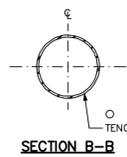
SECTION A-A (75' POLE BASE)



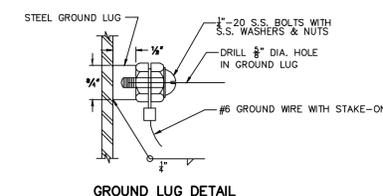
SECTION A-A (55' POLE BASE)



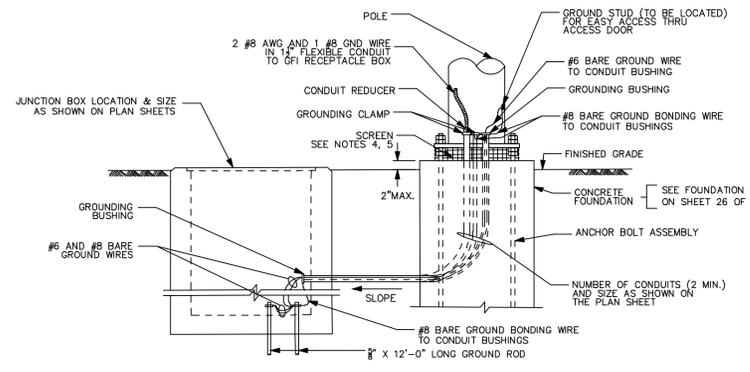
BASE PLATE



SECTION B-B



GROUND LUG DETAIL



GROUNDING DETAIL

POLE TYPE	POLE HEIGHT	BASE PLATE SIZE (AxB) (IN)	BOLT HOLE DIAMETER (IN)	BASE PLATE THICKNESS (IN)	BOLT HOLE DIAMETER (IN)
A	75'	35X33	30	2	2 1/2"
B	55'	24X24	24	2	2 1/2"

\* FOR ANCHOR BOLT DIA. 1 3/4"

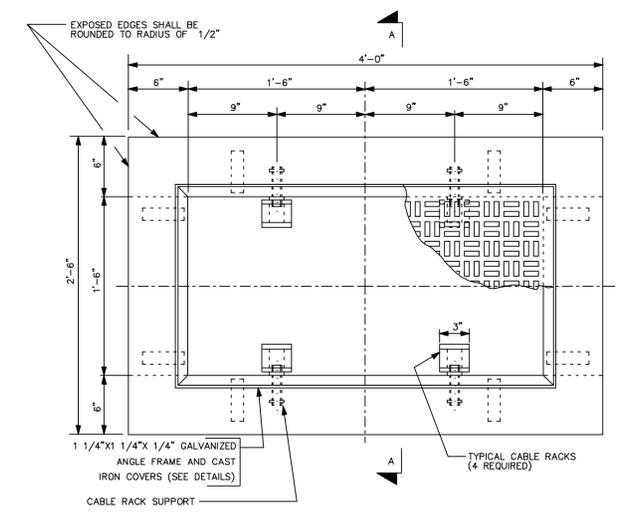
NEW JERSEY MEADOWLANDS COMMISSION  
 DRAWN BY: BM  
 CHECKED BY: LA  
 APPROVED BY: HY  
 DATE: 7/1/13

NEW JERSEY DEPARTMENT OF TRANSPORTATION  
 U.S. RT. 1/9T & N.J. RT. 440  
 EXPANSION OF MASSTR  
 CONSTRUCTION DETAILS

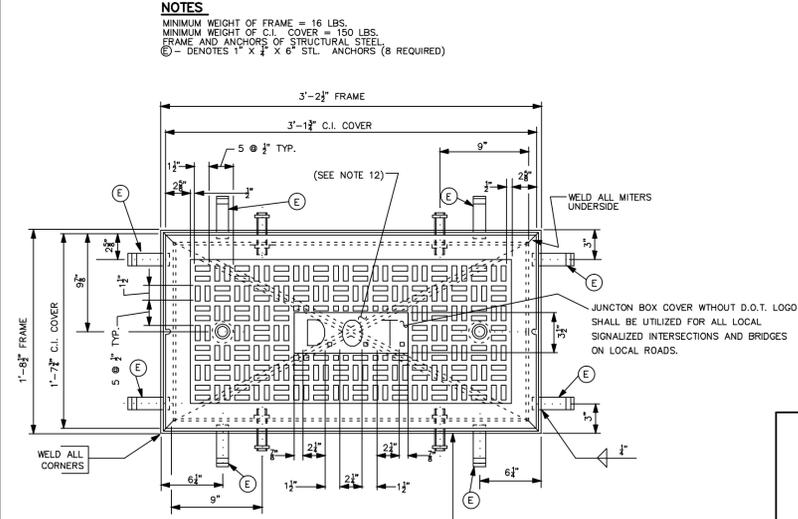
NEW JERSEY MEADOWLANDS COMMISSION  
 DAVID LIEBGOLD  
 NEW JERSEY PROFESSIONAL ENGINEER  
 LICENSE NO. 45897

21  
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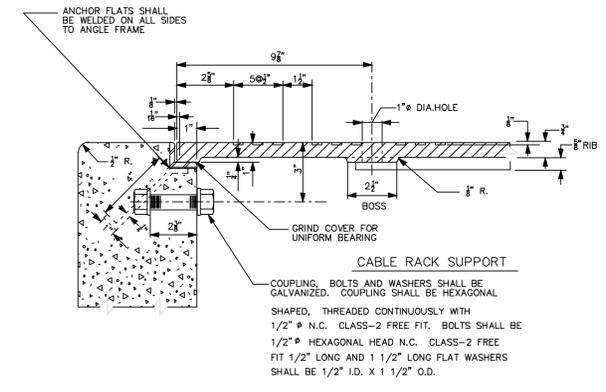




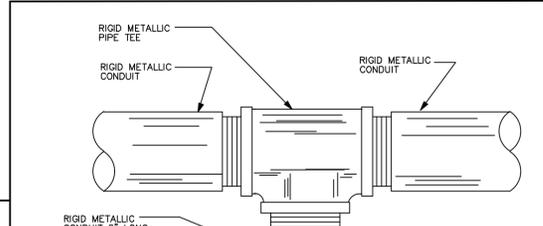
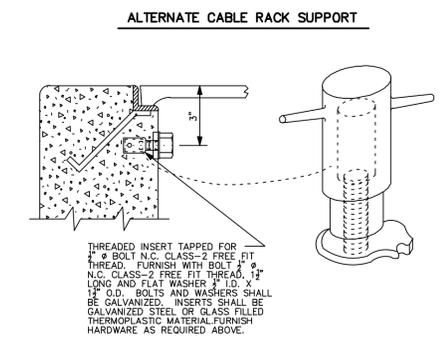
PLAN  
**18" X 36" JUNCTION BOX - CLASS "JB"**  
CONCRETE CLASS "C"  
USING APPROVED 5/8" AGGREGATE  
0.8 CU. YD.



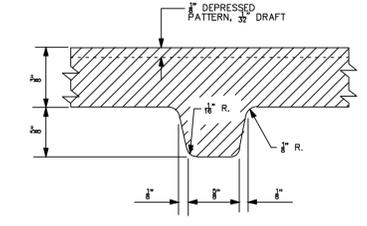
COVER & FRAME



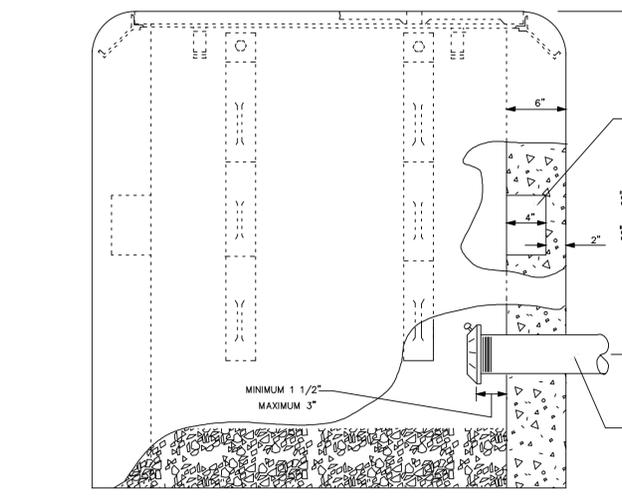
SECTION THRU JUNCTION BOX



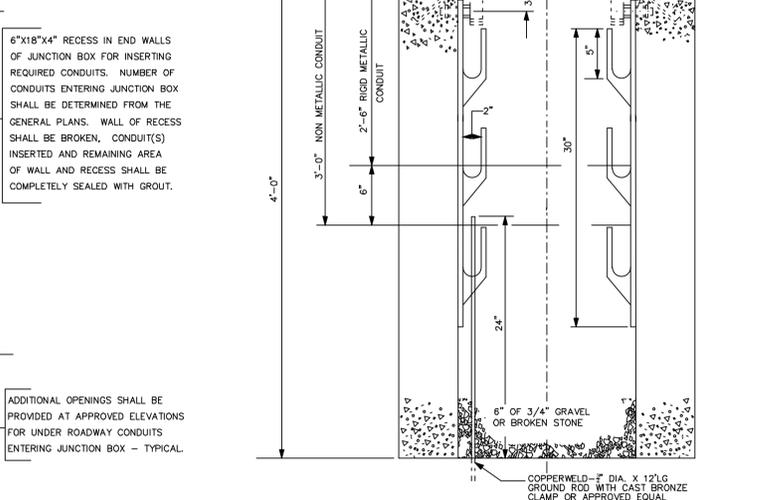
TYPICAL TEE DRAIN



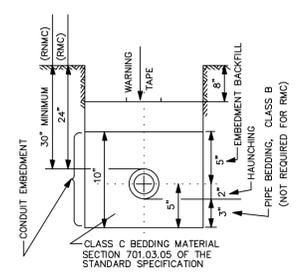
SECTION OF RIB



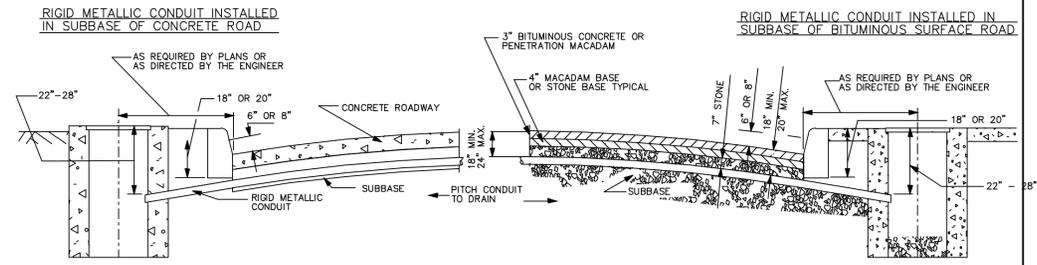
ELEVATION



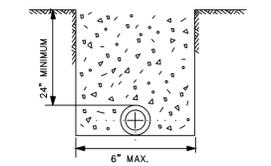
SECTION A-A



NON METALLIC CONDUIT & CUG INSTALLATION  
TYPICAL CONDUIT INSTALLATION



TYPICAL INSTALLATION OF UNDER ROADWAY RIGID METALLIC CONDUITS AND TYPICAL JUNCTION BOXES (18" X 36") INSTALLATION  
SUBJECT TO APPROVAL OF THE ENGINEER



CONDUITS INSTALLATION - OPEN CUT METHOD

- NOTES:
- JUNCTION BOX FOUNDATION SHALL BE SET PARALLEL TO THE CURB AND TOP OF JUNCTION BOX SHALL BE SET AT GRADE IN SIDEWALK, PAVED AREA, IN GRASS OR DIRT AREAS.
  - CABLE RACKS FURNISHED AND INSTALLED AS INDICATED.
  - BONDING AND GROUNDING INSULATED BUSHINGS SHALL BE INSTALLED ON METALLIC CONDUITS TERMINATING IN JUNCTION BOXES AND/OR FOUNDATIONS AND SHALL HAVE A FITTING TO PREVENT ENTRY OF FOREIGN MATTER PRIOR TO INSTALLATION OF WIRING.
  - A NYLON CORD, 125 POUND MINIMUM TEST STRENGTH, SHALL BE FURNISHED AND INSTALLED IN ALL CONDUITS. SEE SPECIFICATIONS.
  - CONDUITS SHALL ENTER JUNCTION BOX PERPENDICULAR TO WALLS OR AS APPROVED BY THE ENGINEER. A 2" SEPARATION SHALL BE MAINTAINED BETWEEN ADJACENT WALLS, CONDUITS, AND CABLE RACK LOCATIONS.
  - TERMINAL ENDS OF ALL METALLIC CONDUIT SHALL BE THREADED.
  - ALL NON-METALLIC CONDUITS SHALL TERMINATE WITH BELL END CONSTRUCTION IN JUNCTION BOX.
  - ALL UNUSED CONDUITS SHALL BE PLUGGED OR CAPPED.
  - ENGINEER MAY REQUIRE TOP OF JUNCTION BOX TO BE INCLINED IN ORDER TO CONFORM WITH FIELD CONDITIONS. JUNCTION BOX SHALL BE SET TO GRADE IN SIDEWALK AREA AND IN ALL OTHER AREAS.
  - WARNING TAPE SHALL BE A RED 4 MIL. FLEXIBLE POLYETHYLENE FILM WHICH IS RESISTANT TO ACIDS, BASES, HYDROCARBONS AND WATER.
  - IN INCLINE AREA, NO PART OF THE JUNCTION BOX SHALL EXTEND MORE THAN 4" ABOVE THE FINISH GRADE.
  - JUNCTION BOX COVER WITHOUT D.O.T. LOGO SHALL BE UTILIZED FOR ALL LOCAL SIGNALIZED INTERSECTIONS AND BRIDGES ON LOCAL ROADS.

NEW JERSEY DEPARTMENT OF TRANSPORTATION  
U.S. RT. 1/9T & N.J. RT. 440  
EXPANSION OF MASSTR  
CONSTRUCTION DETAILS

NEW JERSEY MEADOWLANDS COMMISSION  
DAVID LIEBGOLD  
NEW JERSEY PROFESSIONAL ENGINEER  
LICENSE NO. 45897

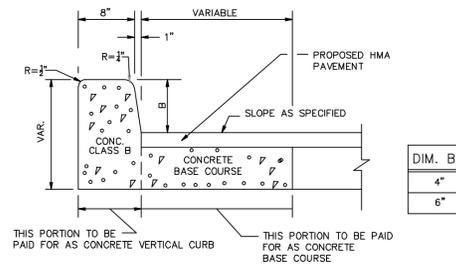
DTL-4  
DTL-9

23  
25

NEW JERSEY MEADOWLANDS COMMISSION  
DRAWN BY BM  
CHECKED BY LA  
APPROVED BY HY  
DATE 7/1/13

WARNING TAPE  
CAUTION CAUTION CAUTION  
ELECTRIC LINE BURIED BELOW

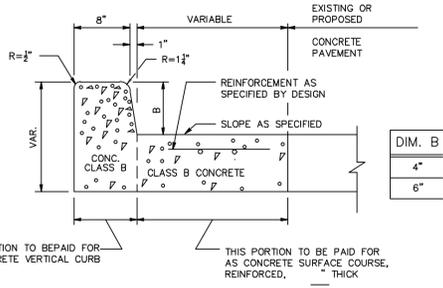
CURB SIZE	DIM. A	DIM. B
9"x16"	16"	4"
9"x18"	18"	6"



NOTES:

JOINT MATERIAL IN THE CURB SHALL BE AS SPECIFIED FOR CONCRETE VERTICAL CURB. THE TRANSVERSE EXPANSION JOINT MATERIAL SHALL NOT EXTEND THRU THE CURB.

**CONCRETE VERTICAL CURB MONOLITHIC WITH CONCRETE BASE COURSE**

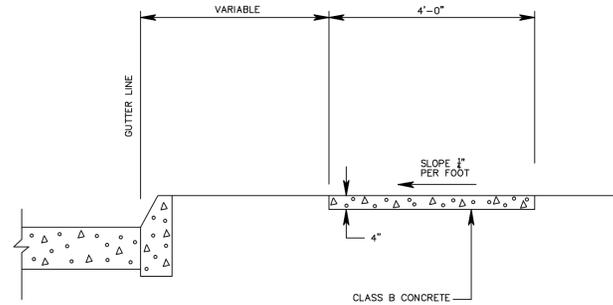


NOTES:

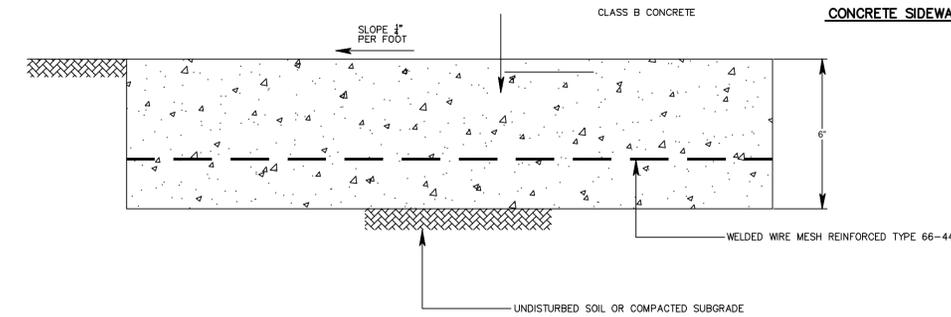
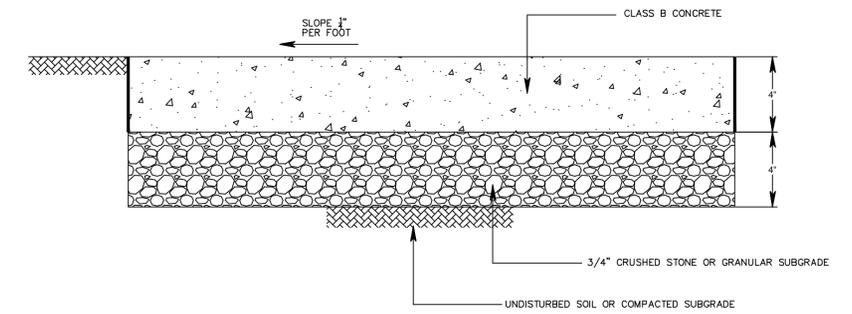
EXPANSION JOINTS 1/2 INCH WIDE IN THE CURB, AND EXPANSION JOINTS TYPE A IN THE MONOLITHIC PAVEMENT STRIP SHALL BE DIRECTLY OPPOSITE EVERY TRANSVERSE JOINT IN THE CENTRAL PAVEMENT STRIPS.

JOINT MATERIAL IN THE CURB SHALL BE AS SPECIFIED FOR CONCRETE VERTICAL CURB. THE TRANSVERSE EXPANSION JOINT MATERIAL SHALL NOT EXTEND THRU THE CURB.

**CONCRETE VERTICAL CURB MONOLITHIC WITH CONCRETE PAVEMENT**



**CONCRETE SIDEWALK, 4" THICK**



**CONCRETE SIDEWALK, REINFORCED, 6" THICK**

NOTES:

- CURB AND SIDEWALK CONCRETE SHALL BE CLASS B AIR-ENTRAINED.
- PROVIDE PREFORMED BITUMINOUS FIBER EXPANSION JOINTS 1/2" THICK, AT 16'-0" (MAX.) INTERVALS. PROVIDE DUMMY JOINTS (FORMED) MIDWAY BETWEEN EXPANSION JOINTS.
- STONE BASE SHALL NOT BE MEASURED FOR PAYMENT BUT THE COST THEREOF SHALL BE INCLUDED IN THE COST OF THE SIDEWALK.

**FOR NJDOT INTERSECTIONS ONLY**

REGULATORY APPROACH SPEED OF TRAFFIC MILES/HOUR	RECOMMENDED TAPER LENGTH AND SPACING FOR CHANNELIZING TAPERS			RECOMMENDED SPACING ALONG TANGENTS	
	MINIMUM TAPER RATIO IN LENGTH PER FOOT OF WIDTH	MINIMUM TAPER LENGTH L - FOR LANE WIDTHS		MAXIMUM DEVICE (B) SPACING ALONG TAPERS IN FEET	MAXIMUM DEVICE (D) SPACING ALONG TANGENTS IN FEET
25	10.5:1	105	115 125	25	50
30	15:1	150	165 180	30	60
35	20.5:1	205	225 245	35	70
40	27:1	270	300 325	40	80
45	45:1	450	495 540	45	90
50	50:1	500	550 600	50	100
55	55:1	550	605 660	55	110
60	60:1	600	660 720	60	120
65	65:1	650	715 780	65	130

NOTE:

THE MAXIMUM DEVICE SPACING ALONG CURVES SHALL BE AS DEFINED FOR TAPERS (B) IN THE ABOVE TABLE.

DTL-5

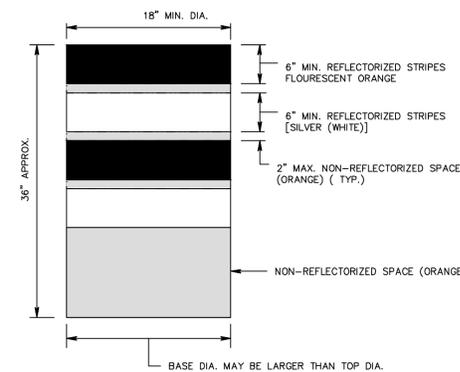
DTL-9

NOTES:

DRUMS SHALL BE MADE OF ORANGE PLASTIC WITH A MINIMUM OF FOUR ALTERNATE FLOURESCENT ORANGE AND SILVER (WHITE) RETROREFLECTIVE STRIPES. IF THERE ARE NON-REFLECTORIZED SPACES BETWEEN THE STRIPES, THEY SHALL BE NO MORE THAN 2" WIDE. RETROREFLECTIVE SHEETING FOR STRIPES SHALL CONFORM WITH ASTM D 4956 S2 REQUIREMENTS AND SHALL BE FROM THE APPROVED PRODUCTS LIST MAINTAINED BY THE BUREAU OF QUALITY MANAGEMENT SERVICES, NEW TECHNOLOGIES AND PRODUCTS SECTION.

THE TOP OF THE DRUM SHALL NOT BE OPEN. DRUMS SHALL BE CONSTRUCTED TO INHIBIT ROLLING IF KNOCKED OVER.

THE REFLECTORIZED AREA OF DRUMS SHALL BE ROUND EXCEPT THAT OTHER SHAPES, WHICH PROVIDE THE SAME VISIBILITY AS AN 18 INCH DIAMETER ROUND DRUM REGARDLESS OF ORIENTATION, MAY BE USED IF APPROVED BY THE BUREAU OF MATERIALS.

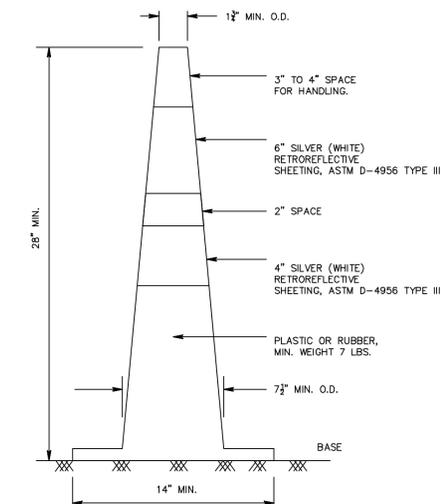


**DRUMS**

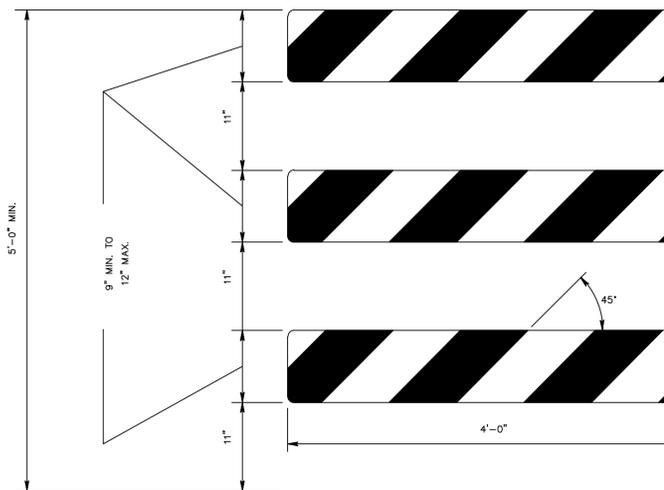
WHEN BALLAST IS REQUIRED BY THE ENGINEER, SAND SHALL BE USED. THE MAXIMUM WEIGHT OF THE BALLAST SHALL BE 50 LBS. AND BE LOCATED APPROXIMATELY AT GROUND LEVEL. ALTERNATE TYPES OF BALLAST SHALL BE APPROVED BY THE ENGINEER.

NOTES:

TRAFFIC CONES SHALL BE PREDOMINATELY ORANGE IN COLOR. BASES MAY BE OF BREAKAWAY BALLASTED TYPE. MINOR MANUFACTURER'S VARIATIONS MAY BE ACCEPTABLE UPON APPROVAL OF THE ENGINEER.



**TRAFFIC CONES**



**TYPE III BARRICADE -- FRONT VIEW**

NOTES:

- THE 9" MIN. x 48" OR 12" MAX. x 48" BARRICADE RAILS SHALL BE FABRICATED FROM 0.125" MAX. PLASTIC SHEETING AND SHALL BE ATTACHED, 4 PER RAIL, WITH 1 INCH NO. 14 PAN HEAD METAL SCREWS OR PLASTIC RIVETS. ALL CORNERS SHALL BE ROUNDED.
- ORANGE AND SILVER (WHITE) STRIPES SHALL BE RETROREFLECTIVE SHEETING, ASTM D 4956 TYPE III, AS SHOWN FOR CONSTRUCTION SIGNS. ALTERNATE ORANGE AND SILVER (WHITE) STRIPES 6" WIDE SLOPING DOWNWARD AT AN ANGLE OF 45 DEGREES IN THE DIRECTION TRAFFIC IS TO PASS.
- THE FRAMING AND BALLAST FOR BARRICADE PANELS SHALL BE NCHRP-350 CRASHED TESTED AND FHWA APPROVED.
- IF NECESSARY, THE BALLAST SHALL BE FABRICATED AND PLACED ACCORDING TO THE MANUFACTURE'S RECOMMENDATION.

**BREAKAWAY BARRICADES**

REVISION DATE	REVISION DESCRIPTION
7/1/13	APPROVED BY HY
	CHECKED BY LA
	DRAWN BY BM

NEW JERSEY DEPARTMENT OF TRANSPORTATION

U.S. RT. 1/9T & N.J. RT. 440  
EXPANSION OF MASSTR

CONSTRUCTION DETAILS

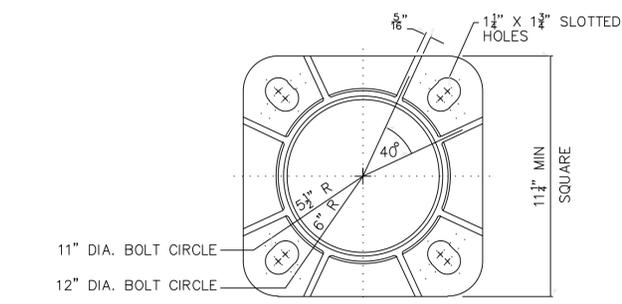
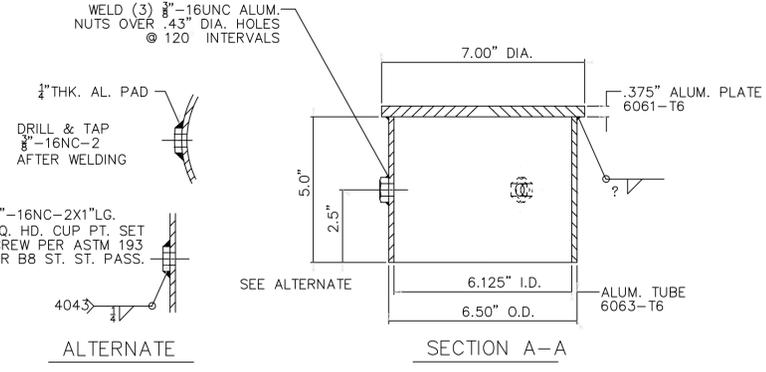
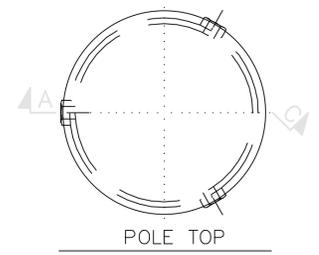
NEW JERSEY MEADOWLANDS COMMISSION

DAVID LIEBGOLD  
NEW JERSEY PROFESSIONAL ENGINEER  
LICENSE NO. 45897



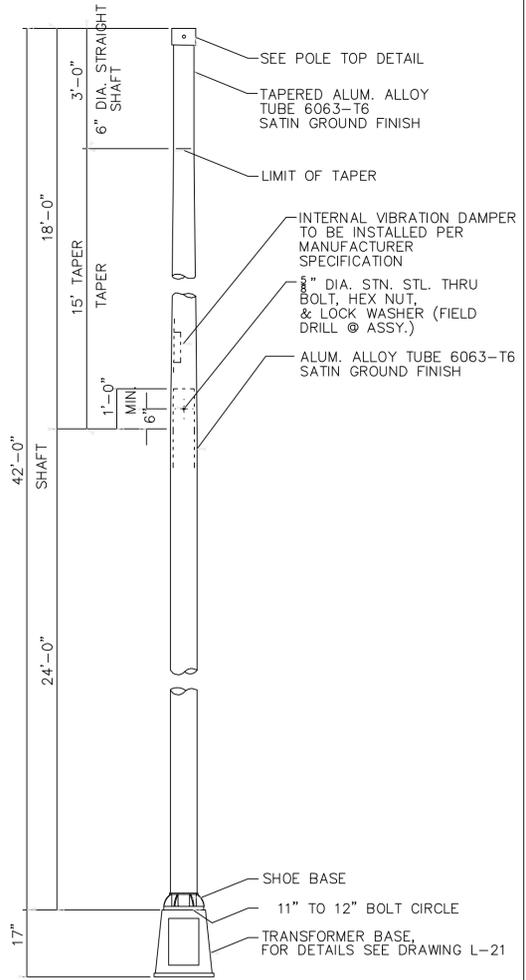
FURNISH WITH POLE TOP

- (3) 3/8"-16UNC X 1" SQ.HD.CUP PT. STN. STL. SET SCREWS
- (3) 3/8"-16UNC STN. STL. JAM NUTS



NOTES:

- A. FURNISH CERTIFICATION THAT ALUMINUM ALLOY AND TEMPER SHOWN MEET REQUIREMENTS AS SET FORTH BELOW OR AS OTHERWISE INDICATED ON DRAWING. ALUMINUM CASTINGS, PERMANENT OR SAND MOLD FOR CLAMPS, AND SHOE BASE, TRADE DESIGNATION 356-T6.
- B. FURNISH WITH EACH POLE:
  - (4) 1" DIA. X 3 1/2" LONG HEX HEAD BOLTS, ASTM A-193, GRADE B8, 8 THREADS PER INCH, CLASS 2 FREE FIT., STAINLESS STEEL
  - (4) 2 1/2" O.D. X 1 1/8" I.D. X 1/8" THICK OR 2 1/2" O.D. X 1 1/8" I.D. X 3/16" THICK LARGE HEAVY STEEL FLATWASHERS GALVANIZED PER ASTM B696, CLASS 50
  - (4) 1" DIA. PLAIN WASHERS, STAINLESS STEEL
  - (4) 1" DIA. LOCK WASHERS, STAINLESS STEEL
  - (4) 1"-8NC-2 HEX NUTS, STAINLESS STEEL
  - (4) BOLT COVERS ALUMINUM ALLOY 443.0 OR 360 WITH STAINLESS STEEL SCREWS.



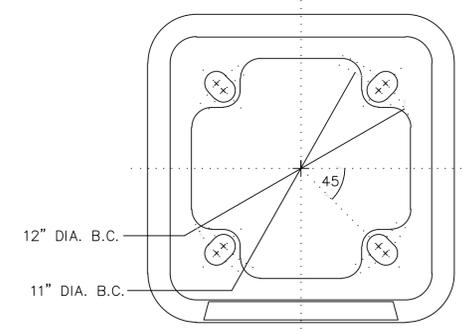
LIGHTING STANDARD ASSEMBLY

SCHEDULE 2

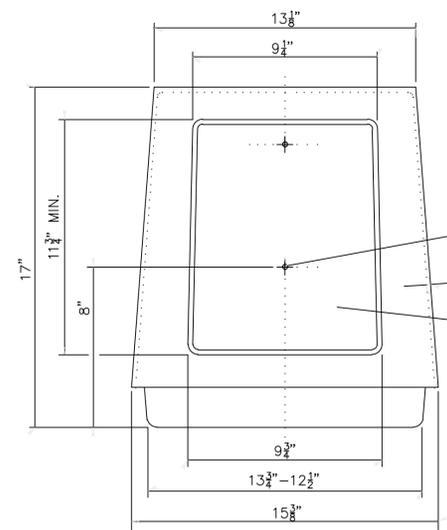
N.J. STANDARD POLES				MAX. LUMINAIRE SIZE	
TYPE	SHAFT DIMENSIONS		WEIGHT	PROJ. AREA SQ. FT.	
	TAPER	MIN. WALL THICKNESS	LENGTH		
L-E-S-45	8 X 6	.250"	42'	100#	3.8

C. ALUMINUM LIGHTING STANDARD SHALL BE DESIGNED TO ADEQUATELY SUPPORT A LUMINAIRE OF THE WEIGHT AND PROJECTED AREA AS CALLED FOR IN SCHEDULE 2 ON THIS SHEET.

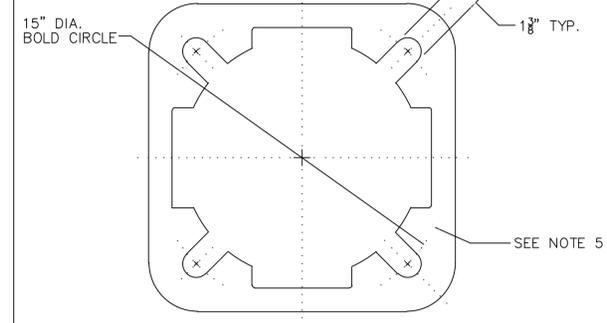
D. DESIGN AND MANUFACTURE ACCORDING TO THE 2001 AASHTO SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINARIES AND TRAFFIC SIGNALS. UTILIZE APPENDIX C OF THE SPECIFICATIONS FOR IDENTIFICATION OF LOADING CRITERIA. DESIGN WIND SPEED IS 80 MPH. DESIGN FOR FATIGUE IS WAVED.



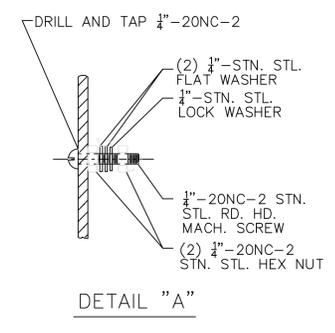
TOP VIEW



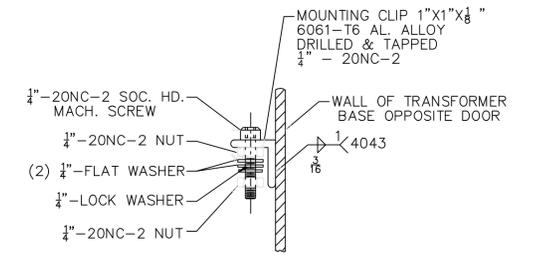
ELEVATION



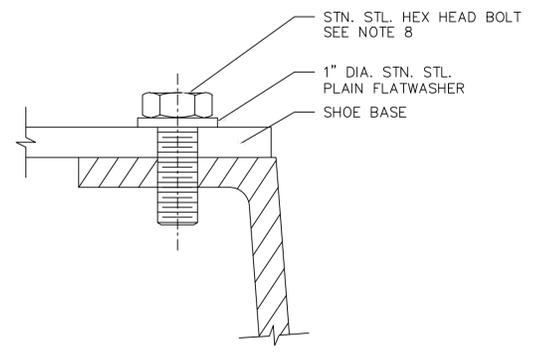
PLAN VIEW OF BASE



DETAIL "A"  
GROUND STUD DETAIL  
OPPOSITE DOOR OPENING



ALTERNATE DETAIL "B"  
GROUND STUD DETAIL  
OPPOSITE DOOR OPENING



BOLTING DETAIL

NOTES:

- ATTACH DOOR TO BASE WITH AN APPROVED VANDAL RESISTANT LOCKING DEVICE USING A 1/2" OR 3/8" STN. STL. GRADE B8 SOCKET HD. CAP SCREW. AS AN ALTERNATE, A FIBERGLASS DOOR WITH UV INHIBITERS MAY BE UTILIZED.
- HOLE SHALL BE OF SUFFICIENT DIAMETER TO ACCEPT 1" DIA. BOLTS.
- FURNISH CERTIFICATION THAT ALUMINUM ALLOY AND TEMPER SHOWN MEET REQUIREMENTS AS SET FORTH BELOW OR AS OTHERWISE INDICATED ON DRAWING. ALUMINUM CASTINGS, PERMANENT OR SAND MOLD FOR CLAMPS, AND SHOE BASE, TRADE DESIGNATION 356-T6.
- ALL DIMENSIONS OF CASTINGS SHALL BE +/- 1/32".
- UNDERSIDE OF TRANSFORMER BASE SHALL BE COATED WITH BITUMINOUS PAINT.
- DESIGN AND MANUFACTURE ACCORDING TO THE 2001 AASHTO SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINARIES AND TRAFFIC SIGNALS. UTILIZE APPENDIX C OF THE SPECIFICATIONS FOR IDENTIFICATION OF LOADING CRITERIA. DESIGN WIND SPEED IS 80 MPH. DESIGN FOR FATIGUE IS WAVED.
- THE LIGHTING STANDARD ASSEMBLY MUST BE CERTIFIED TO MEET 1985 AASHTO BREAKAWAY CRITERIA FOR STRUCTURAL SUPPORTS UTILIZING A TYPE APPROVED TRANSFORMER BASE.
- DIAGRAM IS FOR METHOD OF INSTALLATION.
- THE MANUFACTURER SHALL SUPPLY ALL OTHER HARDWARE WHICH HE DEEMS NECESSARY TO INSTALL THE BASE AS WELL AS INSTRUCTION FOR INSTALLATION.

NEW JERSEY MEADOWLANDS COMMISSION	REVISION DATE
DRAWN BY BM	
CHECKED BY LA	
APPROVED BY HY	
DATE 7/1/13	

NEW JERSEY DEPARTMENT OF TRANSPORTATION

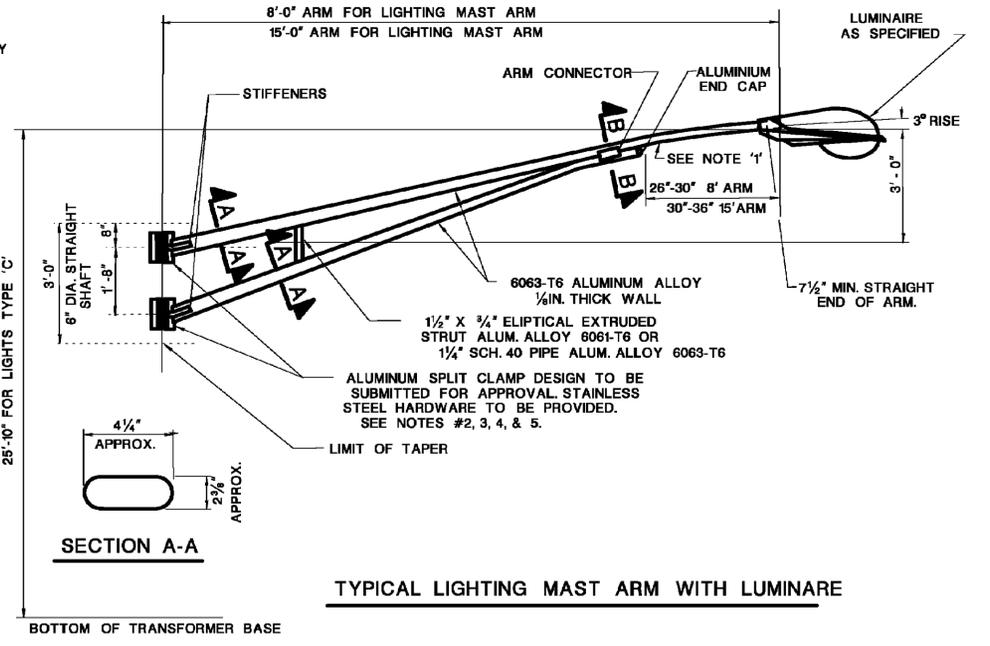
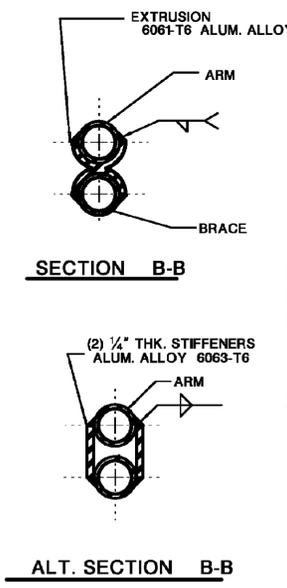
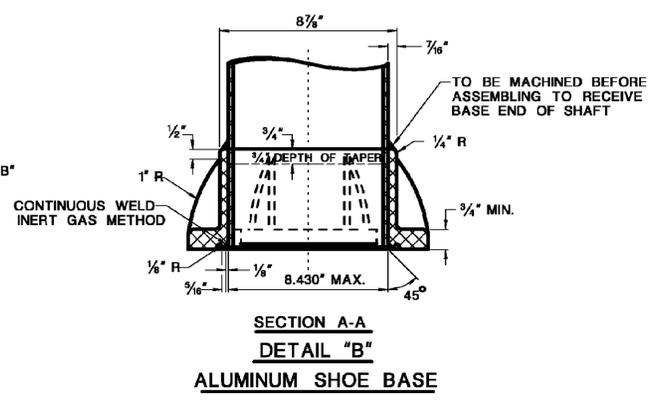
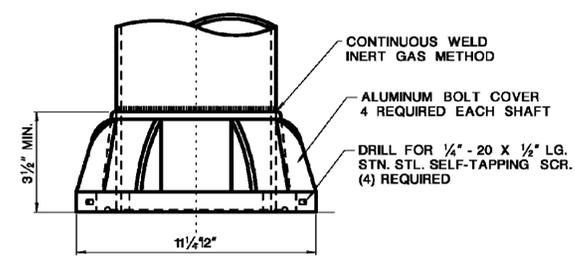
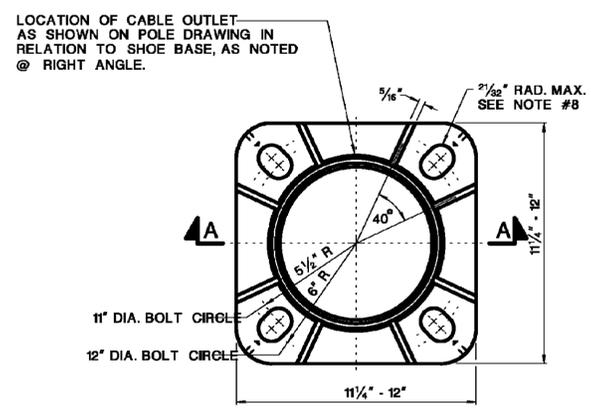
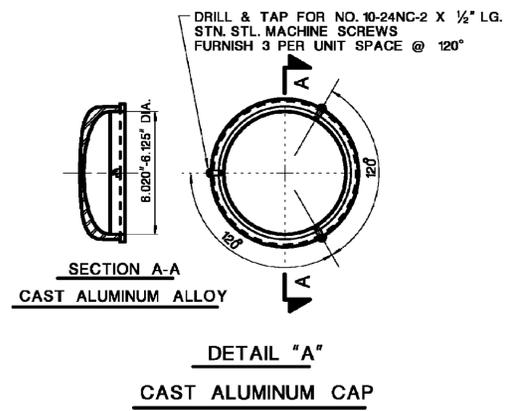
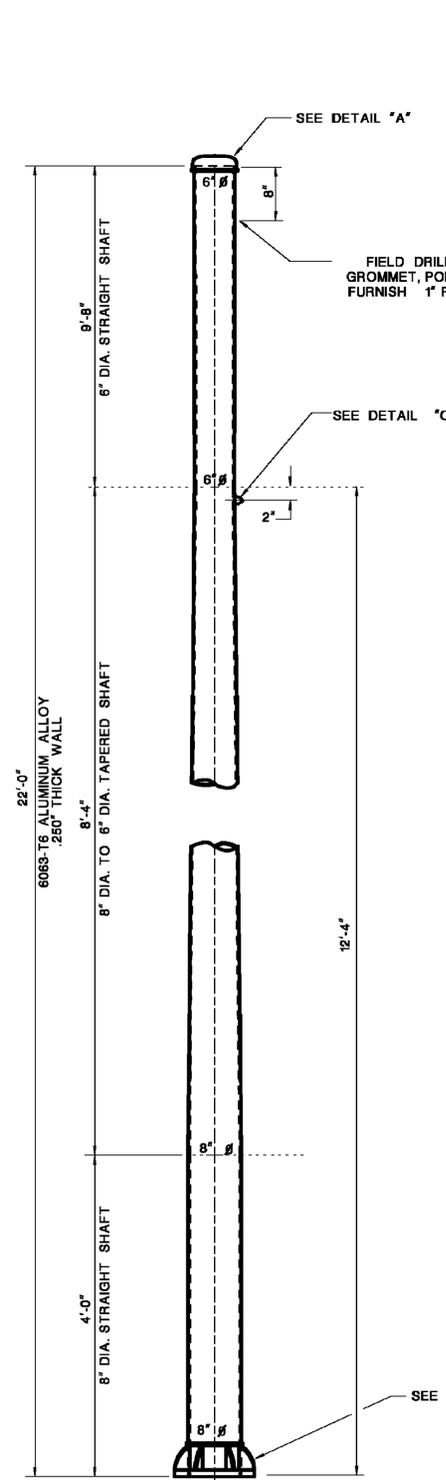
U.S. RT. 1/9T & N.J. RT. 440  
EXPANSION OF MASSTR  
CONSTRUCTION DETAILS

NEW JERSEY MEADOWLANDS COMMISSION  
DAVID LIEBGOLD  
NEW JERSEY PROFESSIONAL ENGINEER  
LICENSE NO. 45897

DTL-7  
DTL-9

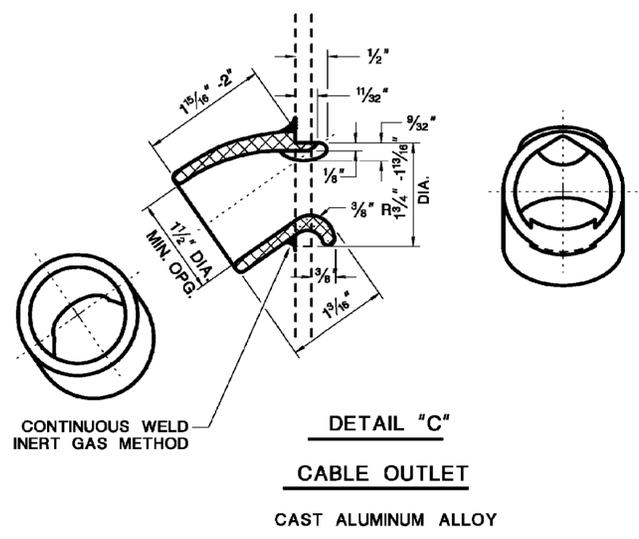
25B  
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- FURNISH WITH EACH STANDARD**
- 4 - 1" DIA. X 3 1/2" LONG HEX HEAD BOLTS, 8 THREADS PER INCH CLASS 2, FREE FIT. STAINLESS STEEL ASTM A-193 GRADE BB.
  - 8 - 1" DIA. PLAIN WASHERS, STAINLESS STEEL, (4) 2" O.D., (4) 2 1/2" O.D.
  - 4 - 1" DIA. LOCK WASHERS, STAINLESS STEEL.
  - 4 - 1" DIA. HEX NUTS, STAINLESS STEEL.
  - 4 - BOLT COVERS ALUMINUM ALLOY 43 WITH STAINLESS STEEL SCREWS.
  - 1 - CAP.

- GENERAL NOTES**
- ALTERNATE ARRANGEMENT OF TAPERED ELLIPTICAL TRUSS TYPE BRACKET ARM MEMBERS PERMISSIBLE SUBJECT TO APPROVAL. WIRE WILL ENTER UPPER MEMBER 8" FROM TOP OF STANDARD. PROVIDE ALUMINUM SPLIT CLAMPS.
  - FURNISH CERTIFICATIONS THAT ALUMINUM ALLOY AND TEMPER MEET REQUIREMENTS AS SET FORTH BELOW OR AS OTHERWISE INDICATED ON DRAWING.
  - ALUMINUM CASTINGS, PERMANENT OR SAND MOLD FOR CLAMPS, SHOE BASE AND TRANSFORMER BASE TRADE DESIGNATION 356-T6.
  - ALUMINUM EXTRUSION FOR CLAMPS OR MAST ARM STRUT: CURRENT ASTM SPECIFICATION B221 ALLOY 6061-T6, 6005-T5 OR 6063-T6.
  - HARDWARE SUPPLIED: (8) 1/2" - 13NC HARDWARE ASTM A193, GRADE B-8 STAINLESS STEEL COMPLETE WITH (8) STAINLESS STEEL HEX NUTS, (16) STAINLESS STEEL FLAT WASHERS AND (8) STAINLESS STEEL LOCK WASHERS.
  - DESIGN AND MANUFACTURE ACCORDING TO THE 2001 AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS. UTILIZE APPENDIX C OF THE SPECIFICATIONS FOR IDENTIFICATION OF LOADING CRITERIA. DESIGN WIND SPEED IS 80 MPH. DESIGN FOR FATIGUE IS WAVED.
  - ALL TOLERANCES IN CASTINGS SHALL BE ±1/32".
  - HOLE IS SUFFICIENT DIAMETER TO ACCEPT 1" DIAMETER BOLT.
  - DO NOT INSTALL STANDARD WITHOUT ARM



NEW JERSEY MEADOWLANDS COMMISSION	REVISION DATE
DRAWN BY BM	
CHECKED BY LA	
APPROVED BY HY	
DATE 7/1/13	

NEW JERSEY DEPARTMENT OF TRANSPORTATION

U.S. RT. 1/9T & N.J. RT. 440  
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