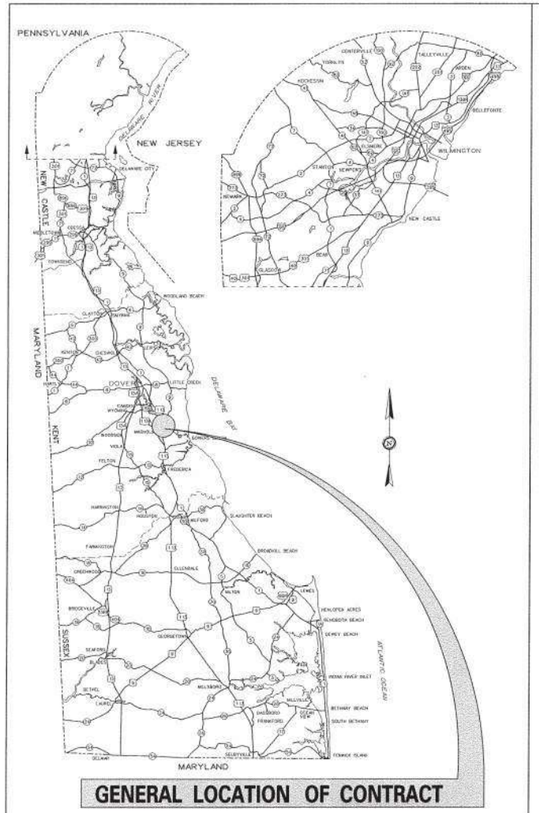


GENERAL LOCATION OF CONTRACT

U.S. CUSTOMARY UNITS

THE STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION

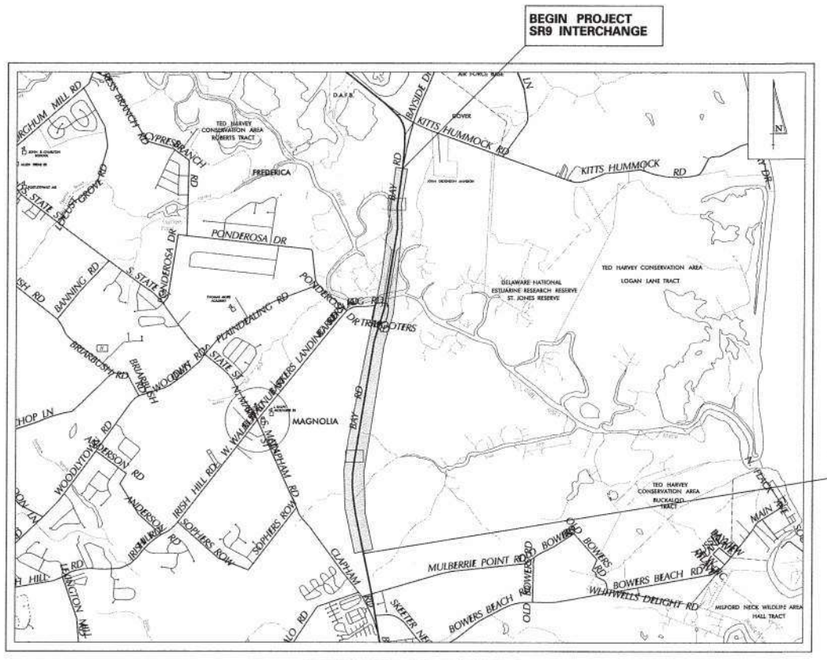
CONSTRUCTION PLANS FOR:

ITMS INTERCONNECT
SR1, SR9 TO LITTLE HEAVEN

CENTURY AGREEMENT NUMBER: 1486

CONTRACT NUMBER: T2012047404

ROADWAY LENGTH: 12,419± **FEET =** 2.35± **MILES**



PROJECT LOCATION
NOT TO SCALE

INDEX OF SHEETS

SHEET Nº	TABLE OF CONTENTS
1	TITLE SHEET
2	GENERAL NOTES
3	PLAN SHEET INDEX
4-8	ITMS CONDUIT PLANS
9	BRIDGE CROSSING DETAIL
10	PARAPET DETAIL

TOTAL SHEETS: 10

APPROVED DESIGN EXCEPTIONS

DESIGN PARAMETER	REQUIRED	PROVIDED	DATE

ADDENDA & REVISIONS

DESCRIPTION	NAME & DATE

PREPARED BY
THE CONSULTING FIRM OF

CENTURY ENGINEERING, INC.
4134 N. DUPONT HWY.
DOVER, DE 19901
(302) 734-9188

RECOMMENDED 10/11/2011 DATE

RECOMMENDED

TRAFFIC DESIGNER DATE

ASSISTANT CHIEF TRAFFIC ENGINEER 10/13/11 DATE

CHIEF TRAFFIC ENGINEER 10/13/11 DATE

FINAL PLANS
OCTOBER 2011

GENERAL NOTES:

1. ALL CONSTRUCTION AND MATERIALS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DELAWARE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION DATED AUGUST 2001 AND ANY ADDENDA THERETO AND THE MOST CURRENT VERSION OF THE DELDOT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

2. ALL DISTURBED AREAS WITHIN THE STATE RIGHT-OF-WAY, BUT NOT IN THE PAVEMENT, SHALL BE TOPSOILED (6" MINIMUM), FERTILIZED, SEEDED AND MULCHED.

3. MISS UTILITY OF DELMARVA SHALL BE NOTIFIED THREE (3) CONSECUTIVE WORKING DAYS PRIOR TO EXCAVATION, AT 1-800-282-8555.

4. EXISTING UTILITIES ARE SHOWN IN ACCORDANCE WITH THE BEST AVAILABLE INFORMATION. COMPLETENESS OR CORRECTNESS THEREOF IS NOT GUARANTEED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE UTILITY COMPANIES INVOLVED IN ORDER TO SECURE THE MOST ACCURATE INFORMATION AVAILABLE AS TO UTILITY LOCATION AND ELEVATION. NO CONSTRUCTION AROUND OR ADJACENT TO UTILITIES SHALL BEGIN WITHOUT NOTIFYING THEIR OWNERS AT LEAST 48 HOURS IN ADVANCE. THE CONTRACTOR SHALL TAKE THE NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE AND ANY DAMAGE DONE TO THEM DUE TO HIS/HER NEGLIGENCE SHALL BE IMMEDIATELY AND COMPLETELY REPAIRED AT THE CONTRACTOR'S EXPENSE. TO LOCATE EXISTING UTILITIES IN THE FIELD PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL CONTACT MISS UTILITY OF DELMARVA (SEE NOTE *3).

5. ANY DAMAGE TO ITEMS THAT ARE REQUIRED TO BE RELOCATED OR RESET BY THE CONTRACTOR SHALL BE REPAIRED AND/OR REPLACED IN KIND AT THE CONTRACTOR'S EXPENSE.

6. IF THIS PROJECT EXTENDS OVER A WINTER PERIOD ANY SNOW REMOVAL ALONG THE STATE MAINTAINED ROAD WILL BE HANDLED BY STATE FORCES. FOLLOWING THE SNOW REMOVAL OPERATION, ANY MAINTENANCE OF TRAFFIC CONTROL DEVICES SHALL BE PERFORMED BY THE CONTRACTOR.

7. POLE BASES, CABINET BASE AND CONDUIT JUNCTION WELLS TO BE REMOVED IN ACCORDANCE WITH SECTION 201 AND 202 OF THE STANDARD SPECIFICATIONS OR AS DIRECTED BY ENGINEER.

8. ALL PROPOSED MAIN LINE TRENCHED CONDUIT SHALL BE 4 INCH PVC WITH 4-1" SMOOTH WALL HDPE. ALL BORING SHALL BE 4" HDPE.

9. ALL UNDERGROUND AND OVERHEAD UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING MISS UTILITY, AND /OR THE APPROPRIATE UTILITY PRIOR TO THE BEGINNING OF CONSTRUCTION FOR THE UTILITY MARKOUTS. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN UTILITIES AND THE TRAFFIC SIGNAL WILL OCCUR, THE CONTRACTOR SHALL NOTIFY DELDOT TRAFFIC IMMEDIATELY BEFORE CONSTRUCTION.

10. ROADWAY GEOMETRY IS BASED OFF AERIAL PHOTOS. A DETAILED FIELD SURVEY WAS NOT CONDUCTED.

11. CONDUIT SHALL BE A MINIMUM OF 24 INCHES BELOW GRADE.

12. TYPE 4 JUNCTION WELLS SHALL BE NO MORE THAN 600 FEET APART, TYPE 7 JUNCTION WELLS SHALL BE NO MORE THAN 2,400 FEET APART.

13. WORK SHALL BE PERFORMED IN A MANNER THAT WILL ENSURE THE LEAST PRACTICAL OBSTRUCTION TO THE TRAVELING PUBLIC, CONSISTENT WITH SAFETY STANDARDS AND SHALL COMPLY WITH THE REQUIREMENTS OF THE 2007 DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) PART 6, HEREIN REFERRED TO AS THE TRAFFIC CONTROL MANUAL (INCLUDING REVISIONS IN EFFECT AT THE TIME OF THE ADVERTISEMENTS OF BIDS).

14. MAINTENANCE OF TRAFFIC DURING LANE CLOSURES AND LANE SHIFTS SHALL CONFORM TO CASE 3 OF THE TRAFFIC CONTROL MANUAL.

15. ACCESS TO ALL BUSINESSES AND RESIDENCES WITHIN THE PROJECT LIMITS SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THIS CONTRACT. ANY TEMPORARY CLOSURE OF A DRIVEWAY FOR TIE-IN PURPOSES SHALL BE COORDINATED WITH THE ENGINEER AND/OR PROPERTY OWNER IN ADVANCE OF THE CLOSURE.

16. ALL SIGNING AND MAINTENANCE OF TRAFFIC IS THE CONTRACTOR'S RESPONSIBILITY AND SHALL FOLLOW THE GUIDELINES SHOWN IN DELAWARE DEPARTMENT OF TRANSPORTATION MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR STREETS AND HIGHWAYS.

17. ALL TRAFFIC CONTROL DEVICES SHALL BE IN NEW OR REFURBISHED CONDITION, SHALL COMPLY WITH THE TRAFFIC CONTROL MANUAL, AND SHALL BE NCHRP-350 APPROVED AND SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION. TRAFFIC CONTROL DEVICES SHALL BE MAINTAINED IN GOOD CONDITION FOR DURATION OF USE.

18. WITHIN THE CONSTRUCTION AREA, UTILITY WORK - 1500FT, 1000FT, 500FT AND END OF WORK PERMANENT SIGNS SHALL BE PLACED WHENEVER POSSIBLE. IF THE ABOVE DISTANCES ARE NOT APPLICABLE, A "UTILITY WORK AHEAD" PERMANENT SIGN SHALL BE PLACED, AS DIRECTED BY THE SOUTH DISTRICT INSPECTOR. AN "END OF UTILITY WORK" PERMANENT SIGN SHALL BE PLACED ON THE RIGHT SIDE, 500FT FROM THE WORK ZONE. ALL DIMENSIONS ARE APPROXIMATE AND MAY BE ADJUSTED TO MEET FIELD CONDITIONS AS APPROVED BY THE DISTRICT INSPECTOR . ALL PERMANENT TRAFFIC CONTROL SIGNS SHALL BE SEVEN FEET FROM THE BOTTOM OF THE SIGN TO THE TOP OF THE GROUND.

19. MAINTENANCE OF TRAFFIC MAY BE REQUIRED FOR THE INSTALLATION OF CONDUIT, FIBER OR DEVICES. TRAFFIC CONTROLS FOR STREET AND HIGHWAY CONSTRUCTION, DELDOT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES SHALL BE ADHERED TO FOR THE SHOULDER CLOSURE MAINTENANCE OF TRAFFIC OPERATION (CONTRACTOR SHALL COORDINATE WITH SAFETY OFFICER).

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

SCALE
0 1000 2000 3000
FEET

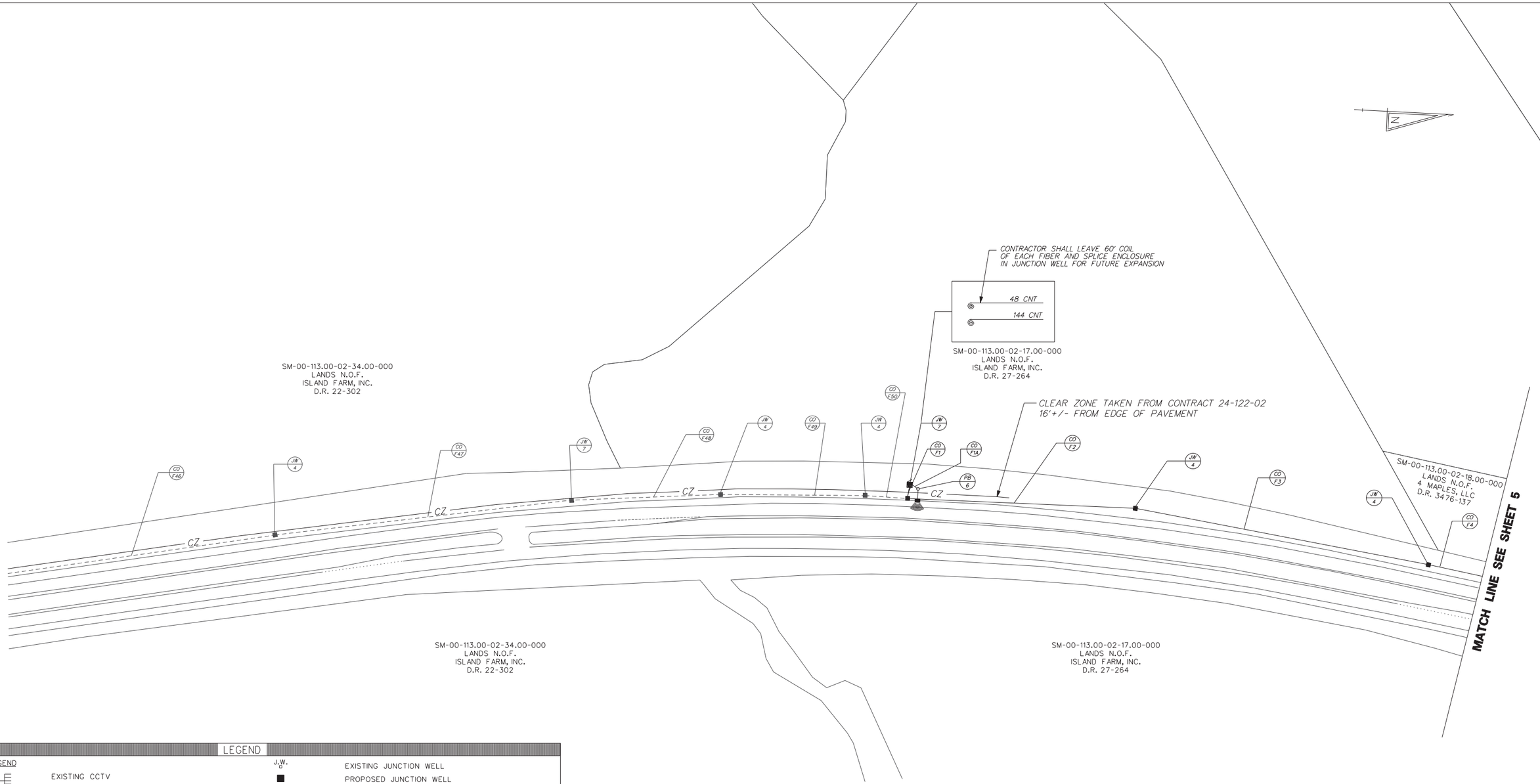
ITMS INTERCONNECT
(SR1, SR9 TO LITTLE HEAVEN)

CONTRACT NO.	PERMIT NO.	-
T201204704	DESIGNED BY:	DLD
COUNTY		
KENT	CHECKED BY:	BAM

ITMS INDEX PLAN

SHEET NO.	3
TOTAL SHTS.	10

10/11/2011
G:\PROJECTS\095007.00 (Traffic Engineering)\095007.01 (SR1 - US9 to LH Fiber)\CADD FILES\Sheets\ut_04.dgn
11:32:54 AM



LEGEND

LEGEND		J.W.	
	EXISTING CCTV	■	EXISTING JUNCTION WELL
	PROPOSED CCTV	■	PROPOSED JUNCTION WELL
		■	PROPOSED JUNCTION WELL FROM PREVIOUS CONTRACT
		- - - - - - - - - - - - - - -	PROPOSED CONDUIT RUN FROM PREVIOUS CONTRACT
JW x	PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	JW x	EXISTING JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)
CO x	PROPOSED CONDUIT RUN IDENTIFIER (# OF CONDUIT RUN)	CO x	EXISTING CONDUIT RUN IDENTIFIER (# OF CONDUIT RUN)
	EXISTING RIGHT OF WAY LINE	= = = = = = = = = = = = = = =	STORM SEWER
	EXISTING PROPERTY LINE	CNT SM	COUNT, SINGLEMODE FIBER OPTICS
	EXISTING MICROWAVE DETECTION		EXISTING ROAD WEATHER INFORMATION SYSTEM (RWIS) PUCK SENSOR
	PROPOSED MICROWAVE DETECTION		PROPOSED ROAD WEATHER INFORMATION SYSTEM (RWIS) PUCK SENSOR
			EXISTING GUARDRAIL
	PROPOSED POLE (TYPE 6)		
	PROPOSED CABINET (TYPE M)		

ITMS GENERAL NOTES:

1. *CONDUIT RUNS F46, F47, F48, F49, F50 AND ASSOCIATED JUNCTION WELLS OBTAINED FROM CONTRACT NO. 24-122-02, SR1 LITTLE HEAVEN GRADE SEPARATED INTERSECTION, FISCAL YEAR 2015.*
2. *POLE BASE, 32' POLE AND RADAR SHALL BE INSTALLED UNDER THIS CONTRACT.*
3. *INITIAL POWER FOR THE PROPOSED MICROWAVE DETECTION TO BE SOLAR. POWER WILL BE ESTABLISHED THROUGH CONTRACT NO. 24-122-02.*
4. *DETECTION UNIT TO BE MOUNTED AT MIN MOUNTING HEIGHT OF 20' AND MAX MOUNTING HEIGHT OF 41' WITH A MANUFACTURER RECOMMENDED MOUNTING HEIGHT OF 30'. FIELD ADJUST MOUNTING HEIGHT AS REQUIRED TO ACHIEVE MAXIMUM DATA OUTPUT. DETECTOR WILL COMMUNICATE WITH THE TMC VIA A CDMA WIRELESS CONNECTION.*

CONDUIT RUN SCHEDULE

CO#	# OF CONDUITS	SIZE	LENGTH	B/T/O	AMOUNT AND TYPE OF CABLE/WIRE
F1	1	4.0"	20'	T	12 CNT SINGLE MODE
F1A	1	4.0"	15'	T	12 CNT SM
F2	1	4.0"	508'	T	144 CNT SM,48 CNT SM
F3	1	4.0"	600'	T	144 CNT SM,48 CNT SM
F4	1	4.0"	110'	T	144 CNT SM,48 CNT SM

* DENOTES EXISTING

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE 0 100 200 300 FEET

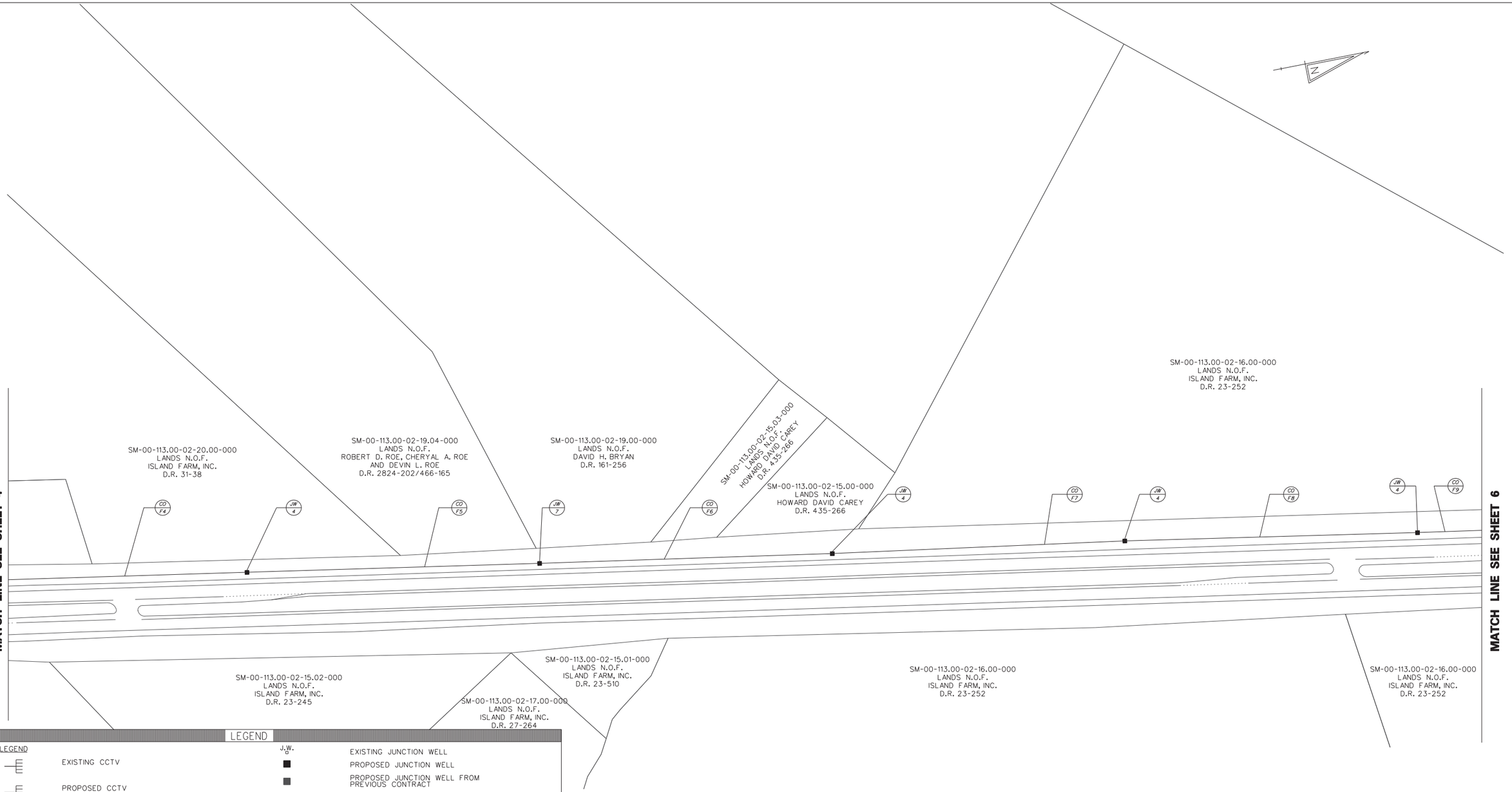
ITMS INTERCONNECT (SR1, SR9 TO LITTLE HEAVEN)

CONTRACT NO.	PERMIT NO.	-
T201204704	DESIGNED BY:	DLD
COUNTY	CHECKED BY:	BAM
KENT		

ITMS CONDUIT PLAN

SHEET NO.
4
TOTAL SHTS.
10

10/12/2011
01:46:55 AM
C:\PROJECTS\095007.00 (Traffic Engineering)\095007.01 (SR1 - US9 to LH Fiber)\CADD FILES\Sheets\ut_05.dgn



LEGEND

LEGEND		J.W.	
	EXISTING CCTV		EXISTING JUNCTION WELL
	PROPOSED CCTV		PROPOSED JUNCTION WELL
			PROPOSED JUNCTION WELL FROM PREVIOUS CONTRACT
			PROPOSED CONDUIT RUN FROM PREVIOUS CONTRACT
JW x	PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	JW x	EXISTING JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)
CO x	PROPOSED CONDUIT RUN IDENTIFIER (# OF CONDUIT RUN)	CO x	EXISTING CONDUIT RUN IDENTIFIER (# OF CONDUIT RUN)
			STORM SEWER
	EXISTING RIGHT OF WAY LINE	CNT SM	COUNT, SINGLEMODE FIBER OPTICS
	EXISTING PROPERTY LINE		EXISTING ROAD WEATHER INFORMATION SYSTEM (RWIS) PUCK SENSOR
	EXISTING MICROWAVE DETECTION		PROPOSED ROAD WEATHER INFORMATION SYSTEM (RWIS) PUCK SENSOR
	PROPOSED MICROWAVE DETECTION		EXISTING GUARDRAIL
	PROPOSED POLE (TYPE 6)		
	PROPOSED CABINET (TYPE M)		

CONDUIT RUN SCHEDULE

CR#	# OF CONDUITS	SIZE	LENGTH	B/T/O	AMOUNT AND TYPE OF CABLE/WIRE
F4	1	4.0"	490'	T	144 CNT SINGLE MODE,48 CNT SINGLE MODE
F5	1	4.0"	600'	T	144 CNT SM,48 CNT SM
F6	1	4.0"	600'	T	144 CNT SM,48 CNT SM
F7	1	4.0"	600'	T	144 CNT SM,48 CNT SM
F8	1	4.0"	600'	T	144 CNT SM,48 CNT SM
F9	1	4.0"	132'	T	144 CNT SM,48 CNT SM

* DENOTES EXISTING

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE
0 100 200 300
FEET

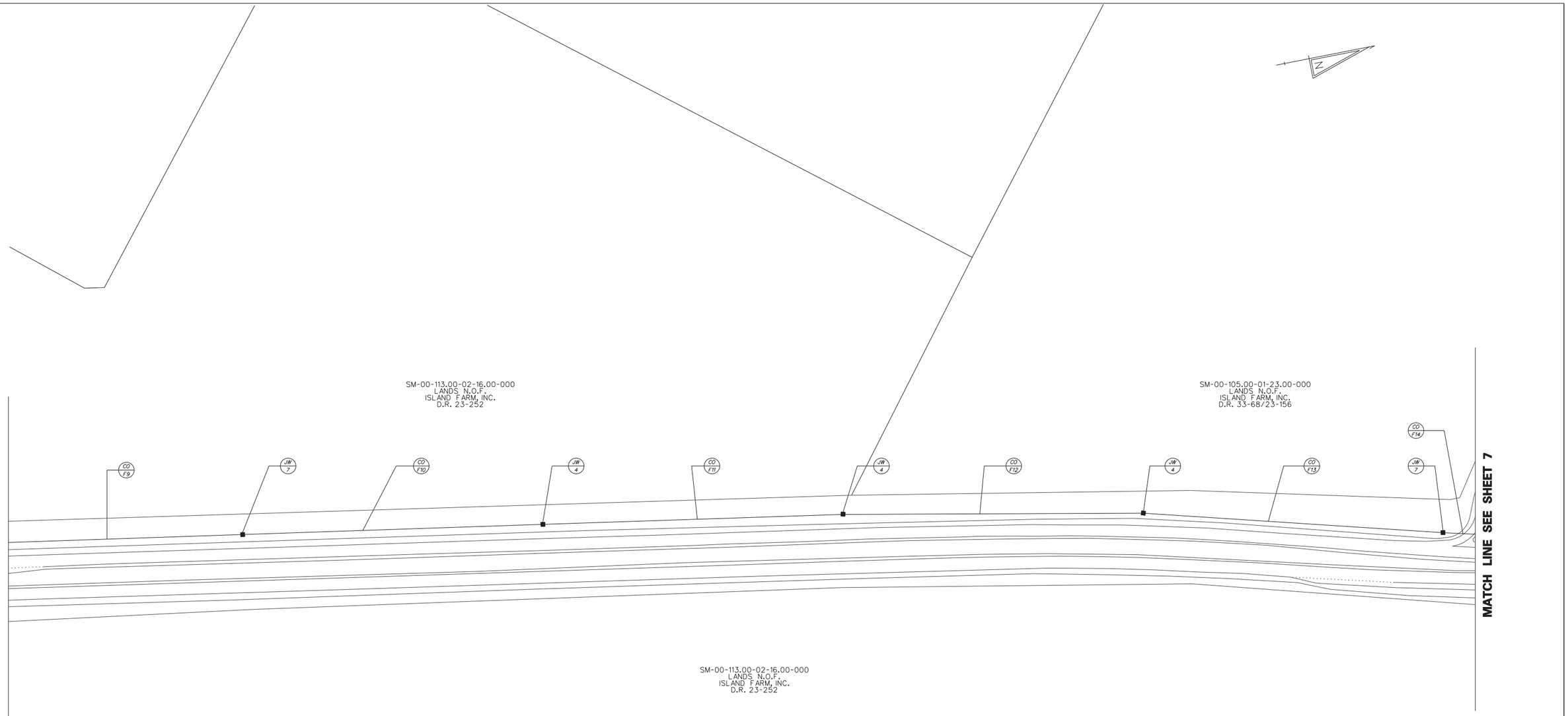
ITMS INTERCONNECT
(SR1, SR9 TO LITTLE HEAVEN)

CONTRACT NO.	PERMIT NO.	-
T201204704	DESIGNED BY:	DLD
COUNTY		
KENT	CHECKED BY:	BAM

ITMS CONDUIT PLAN

SHEET NO.
5
TOTAL SHTS.
10

10/11/2011
G:\PROJECTS\095007.00 (Traffic Engineering)\095007.01 (SR1 - US9 to LH Fiber)\CADD FILES\Sheets\ut_06.dgn
11:32:59 AM



LEGEND

EXISTING CCTV	EXISTING JUNCTION WELL
PROPOSED CCTV	PROPOSED JUNCTION WELL
PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	PROPOSED JUNCTION WELL FROM PREVIOUS CONTRACT
PROPOSED CONDUIT RUN IDENTIFIER (# OF CONDUIT RUN)	PROPOSED CONDUIT RUN FROM PREVIOUS CONTRACT
EXISTING RIGHT OF WAY LINE	EXISTING JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)
EXISTING PROPERTY LINE	EXISTING CONDUIT RUN IDENTIFIER (# OF CONDUIT RUN)
EXISTING MICROWAVE DETECTION	STORM SEWER
PROPOSED MICROWAVE DETECTION	CNT SM — COUNT, SINGLEMODE FIBER OPTICS
PROPOSED POLE (TYPE 6)	EXISTING ROAD WEATHER INFORMATION SYSTEM (RWIS) PUCK SENSOR
PROPOSED CABINET (TYPE M)	PROPOSED ROAD WEATHER INFORMATION SYSTEM (RWIS) PUCK SENSOR
	EXISTING GUARDRAIL

CONDUIT RUN SCHEDULE

CO#	# OF CONDUITS	SIZE	LENGTH	B/T/O	AMOUNT AND TYPE OF CABLE/WIRE
F9	1	4.0"	468'	T	144 CNT SINGLE MODE,48 CNT SINGLE MODE
F10	1	4.0"	600'	T	144 CNT SM,48 CNT SM
F11	1	4.0"	600'	T	144 CNT SM,48 CNT SM
F12	1	4.0"	600'	T	144 CNT SM,48 CNT SM
F13	1	4.0"	600'	T	144 CNT SM,48 CNT SM
F14	1	4.0"	65'	B	144 CNT SM,48 CNT SM

* DENOTES EXISTING

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE: 0 100 200 300 FEET

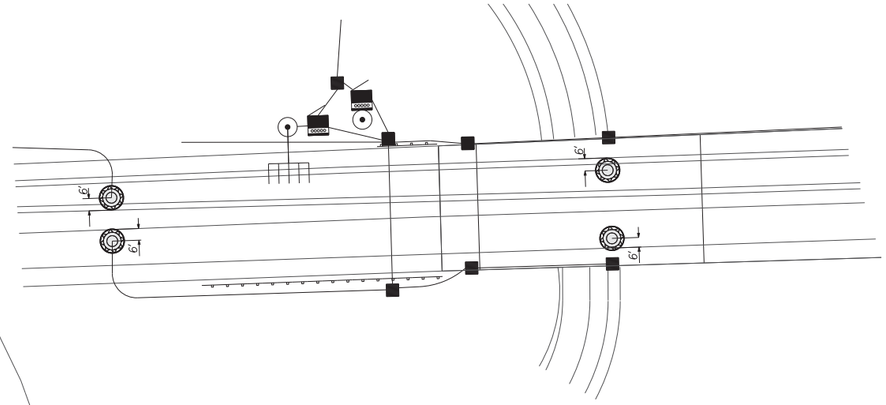
ITMS INTERCONNECT (SR1, SR9 TO LITTLE HEAVEN)

CONTRACT NO.	T201204704	PERMIT NO.	-
COUNTY	KENT	DESIGNED BY:	DLD
		CHECKED BY:	BAM

ITMS CONDUIT PLAN

SHEET NO.	6
TOTAL SHTS.	10

10/11/2011
G:\PROJECTS\095007.00 (Traffic Engineering)\095007.01(SR1 - US9 to LH Fiber)\CADD FILES\Sheets\ut_07.dgn
11:33:01 AM



PAVEMENT PUCK SENSOR DETAIL
NOT TO SCALE

LEGEND

LEGEND		J.W.	EXISTING JUNCTION WELL
	EXISTING CCTV	■	PROPOSED JUNCTION WELL
	PROPOSED CCTV	■	PROPOSED JUNCTION WELL FROM PREVIOUS CONTRACT
JW x	PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	- - - - - - - - - - - - - - -	PROPOSED CONDUIT RUN FROM PREVIOUS CONTRACT
CO x	PROPOSED CONDUIT RUN IDENTIFIER (# OF CONDUIT RUN)	JW x	EXISTING JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)
	EXISTING RIGHT OF WAY LINE	CO x	EXISTING CONDUIT RUN IDENTIFIER (# OF CONDUIT RUN)
	EXISTING PROPERTY LINE	= = = = = = = = = = = = = =	STORM SEWER
	EXISTING MICROWAVE DETECTION	CNT SM	COUNT, SINGLEMODE FIBER OPTICS
	PROPOSED MICROWAVE DETECTION		EXISTING ROAD WEATHER INFORMATION SYSTEM (RWIS) PUCK SENSOR
	PROPOSED POLE (TYPE 6)		PROPOSED ROAD WEATHER INFORMATION SYSTEM (RWIS) PUCK SENSOR
	PROPOSED CABINET (TYPE M)		EXISTING GUARDRAIL

ITMS GENERAL NOTES

1. *CCTV AND RWIS STATION SERVICE FEED SHALL BE COORDINATED WITH LOCAL ELECTRIC COMPANY.*
2. *3'x3'x6" HAND HOLE ATTACHED TO THE PARAPET WALL.*
3. *ALL PAVEMENT PUCK SENSORS SHALL BE INSTALLED APPROXIMATELY 4 FEET FROM THE EDGE OF THE TRAVEL LANE AS SHOWN (SEE DETAIL THIS SHEET).*
4. *SENSOR CABLE TYPE 11A SHALL BE INSTALLED IN ½" x 1 ½" SAWCUT IN PAVEMENT. THE SAWCUT SHALL BE FILLED WITH 3M LOOP DETECTOR SEALANT.*
5. *ALL PAVEMENT PUCK SENSOR HEADS SHALL BE INSTALLED FLUSH WITH FINISHED PAVEMENT SURFACE.*
6. *POLE BASE TYPE 3 SHALL BE A 75' POLE FOR CAMERA AND 25' FOR WEATHER.*
7. *RWIS ASSEMBLY SHALL BE MOUNTED ON THE RWIS POLE.*
8. *THE COMMUNICATION MEDIA FOR THE RWIS ASSEMBLY SHALL BE FIBER OPTIC. (CDMA COMMUNICATIONS SHALL BE USED IF FIBER IS NOT ACTIVATED PRIOR TO COMPLETION OF THE PROJECT).*

CONDUIT RUN SCHEDULE

CO#	# OF CONDUITS	SIZE	LENGTH	B/TO	AMOUNT AND TYPE OF CABLE/WIRE
F14	1	4.0"	92'	B	144 CNT SINGLE MODE,48 CNT SINGLE MODE
F15	1	4.0"	340'	T	144 CNT SM,48 CNT SM
F16	1	4.0"	313'	T	144 CNT SM,48 CNT SM
F16A	1	4.0"	53'	T	144 CNT SM,48 CNT SM
F17	1	4.0"	60'	T	12 CNT SM
F18	1	2.0"	10'	T	12 CNT SM
F19	1	4.0"	25'	T/B	2/#8 U.F.w/GROUND
F20	1	4.0"	25'	T	(6) SENSOR HOMERUN CABLE
F22	1	2.0"	10'	T/B	2/#8 U.F.w/GROUND
F23	1	4.0"	85'	T	(1) SENSOR HOMERUN CABLE
F24	1	4.0"	30'	B	(1) SENSOR HOMERUN CABLE
F25	1	4.0"	95'	T	(5) SENSOR HOMERUN CABLE
F26	1	4.0"	50'	T	(4) SENSOR HOMERUN CABLE
F27	1	4.0"	85'	**	(4) SENSOR HOMERUN CABLE
F30	1	4.0"	85'	**	144 CNT SM,48 CNT SM,(1) SENSOR HOMERUN CABLE
F31	1	4.0"	500'	**	144 CNT SM,48 CNT SM
F32	1	4.0"	600'	**	144 CNT SM,48 CNT SM
F33	1	4.0"	600'	**	144 CNT SM,48 CNT SM
F34	1	4.0"	341'	**	144 CNT SM,48 CNT SM
F35	1	4.0"	134'	**	144 CNT SM,48 CNT SM
F36	1	4.0"	1'	T	144 CNT SM,48 CNT SM
F41	1	2.0"	165'	T/B	2/#8 U.F.w/GROUND
F42	1	2.0"	15'	T	2/#8 U.F.w/GROUND

* DENOTES EXISTING
** DENOTES ATTACHMENT TO BRIDGE

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE: 0 100 200 300 FEET

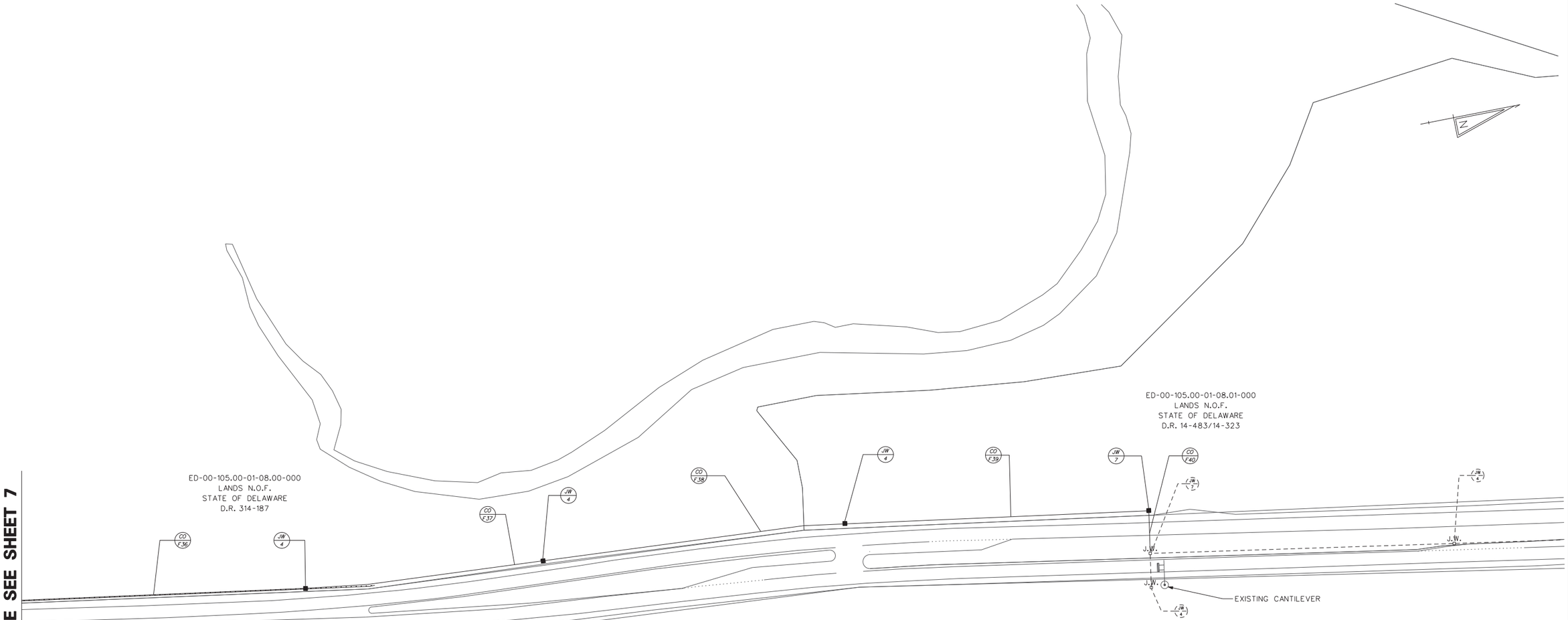
ITMS INTERCONNECT (SR1, SR9 TO LITTLE HEAVEN)

CONTRACT NO.	T201204704	PERMIT NO.	-
COUNTY	KENT	DESIGNED BY:	DLD
		CHECKED BY:	BAM

ITMS CONDUIT PLAN

SHEET NO.	7
TOTAL SHTS.	10

10/11/2011
G:\PROJECTS\095007.00 (Traffic Engineering)\095007.01 (SR1 - US9 to LH Fiber)\CADD FILES\Sheets\ut_08.dgn
11:33:02 AM



LEGEND

LEGEND		J.W.	EXISTING JUNCTION WELL
	EXISTING CCTV		PROPOSED JUNCTION WELL
	PROPOSED CCTV		PROPOSED JUNCTION WELL FROM PREVIOUS CONTRACT
JW X	PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)		PROPOSED CONDUIT RUN FROM PREVIOUS CONTRACT
CO X	PROPOSED CONDUIT RUN IDENTIFIER (# OF CONDUIT RUN)	JW X	EXISTING JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)
	EXISTING RIGHT OF WAY LINE	CO X	EXISTING CONDUIT RUN IDENTIFIER (# OF CONDUIT RUN)
	EXISTING PROPERTY LINE		STORM SEWER
	EXISTING MICROWAVE DETECTION	CNT SM	COUNT, SINGLEMODE FIBER OPTICS
	PROPOSED MICROWAVE DETECTION		EXISTING ROAD WEATHER INFORMATION SYSTEM (RWIS) PUCK SENSOR
	PROPOSED POLE (TYPE 6)		PROPOSED ROAD WEATHER INFORMATION SYSTEM (RWIS) PUCK SENSOR
	PROPOSED CABINET (TYPE M)		EXISTING GUARDRAIL

GENERAL NOTE:

1. *EXISTING JUNCTION WELLS AND CONDUIT RUNS OBTAINED FROM CONTRACT NO. 24-122-04, SR1, SR9 GRADE SEPARATED INTERSECTION.*

CONDUIT RUN SCHEDULE

CO#	# OF CONDUITS	SIZE	LENGTH	B/TO	AMOUNT AND TYPE OF CABLE/WIRE
F36	1	4.0"	565'	T	144 CNT SINGLE MODE,48 CNT SINGLE MODE
F37	1	4.0"	472'	T	144 CNT SM,48 CNT SM
F38	1	4.0"	600'	T	144 CNT SM,48 CNT SM
F39	1	4.0"	600'	T	144 CNT SM,48 CNT SM
F40	1	4.0"	134'	B	144 CNT SM,48 CNT SM

* DENOTES EXISTING

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE 0 100 200 300 FEET

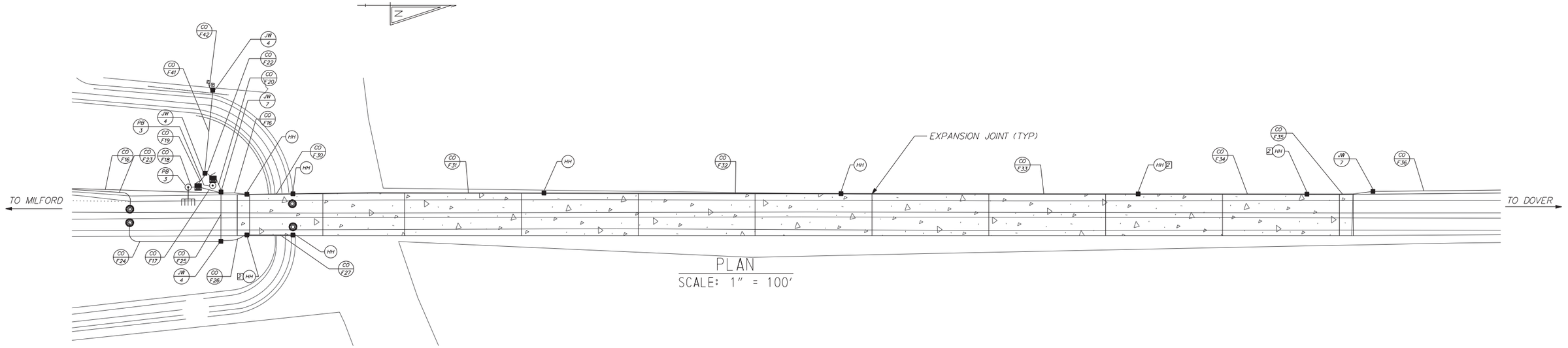
ITMS INTERCONNECT (SR1, SR9 TO LITTLE HEAVEN)

CONTRACT NO.	PERMIT NO.	-
T201204704	DESIGNED BY:	DLD
COUNTY	CHECKED BY:	BAM
KENT		

ITMS CONDUIT PLAN

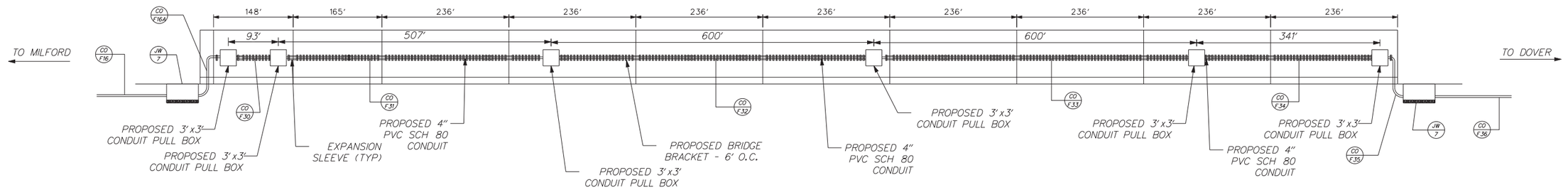
SHEET NO.
8
TOTAL SHTS.
10

10/11/2011
11:35:03 AM
C:\PROJECTS\095007.00 (Traffic Engineering)\095007.01 (SR1 - US9 to LH Fiber)\CADD FILES\Sheets\ut_09.dgn



PLAN

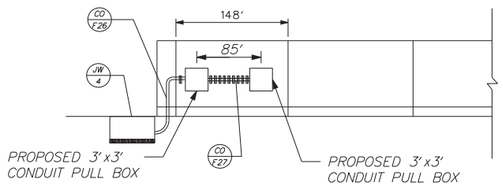
SCALE: 1" = 100'



BRIDGE ELEVATION - SOUTH BOUND SIDE

SCALE: N.T.S.

(MIRROR IMAGE OF SECTION USED FOR INSTALLATION CLARITY)



BRIDGE ELEVATION - NORTH BOUND SIDE

SCALE: N.T.S.

NOTE:

1. *PVC CONDUIT THAT WILL BE EXPOSED TO ELEMENTS (INSTALLED ON PARAPET WALL) WILL BE INSTALLED WITH EXPANSION SLEEVES. THE CONTRACTOR SHALL ENSURE THE PLACEMENT OF EXPANSION SLEEVES AT A MAXIMUM OF 100 FEET.*
2. *ALL CONDUIT SWEEPS INTO BRIDGE PARAPET SHALL BE A MINIMUM OF 24" RADIUS.*

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

SCALE: 0 100 200 300 FEET

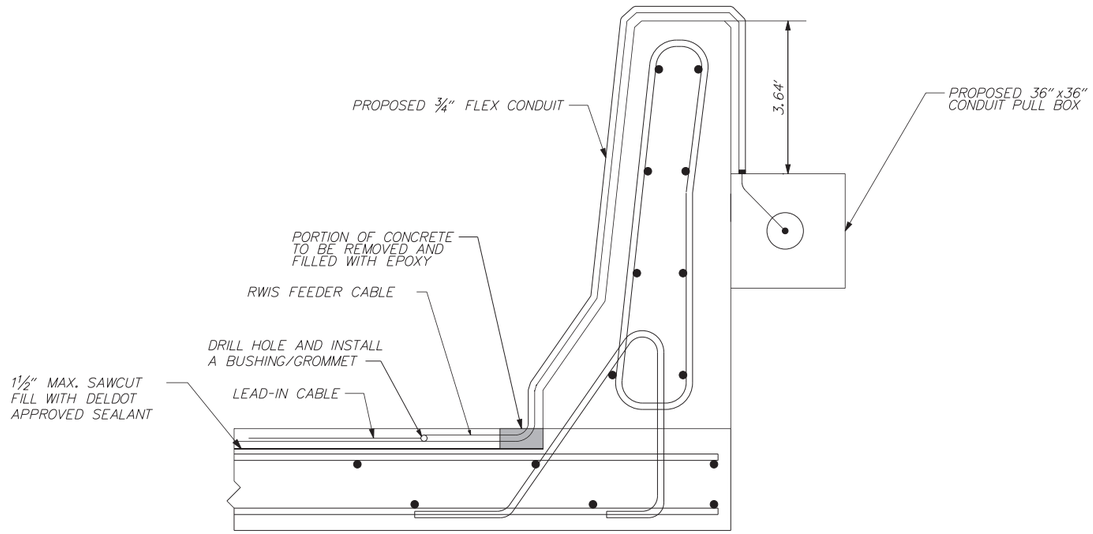
ITMS INTERCONNECT (SR1, SR9 TO LITTLE HEAVEN)

CONTRACT NO.	PERMIT NO.	-
T201204704	DESIGNED BY:	DLD
COUNTY	CHECKED BY:	BAM
KENT		

ITMS CONDUIT PLAN

SHEET NO.
9
TOTAL SHTS.
10

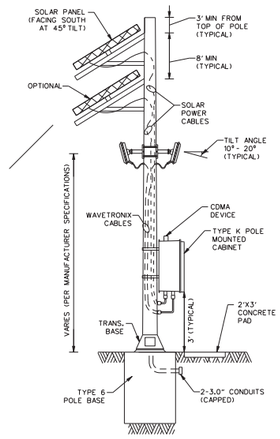
10/11/2011
11:35:08 AM
G:\PROJECTS\095007.00 (Traffic Engineering)\095007.01 (SR1 - US9 to LH Fiber)\CADD FILES\Sheets\ut_10.dgn



TYPICAL PARAPET CONDUIT DETAILS (N.T.S.)

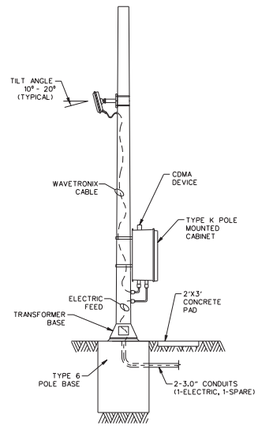
SOLAR INSTALLATION WITH 2 DETECTOR SYSTEM

CDMA COMMUNICATION



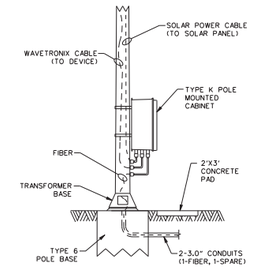
ELECTRIC INSTALLATION

CDMA COMMUNICATION



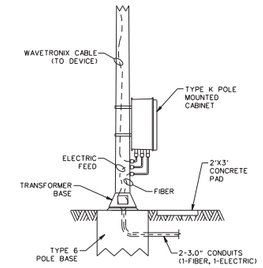
SOLAR INSTALLATION

FIBER COMMUNICATION



ELECTRIC INSTALLATION

FIBER COMMUNICATION



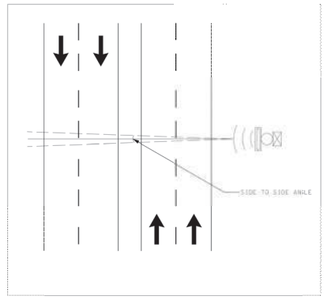
NOTES: 1. SEE PLAN SHEETS FOR DETECTOR MOUNTING HEIGHTS.
2. CONDUIT BODIES USED FOR POLE TO CABINET CONNECTIONS SHALL BE LIQUID TIGHT.
3. DETECTOR POLE SHALL HAVE A HEIGHT OF 40'.
4. CONTRACTOR SHALL INSTALL A 2'X 3' CONCRETE PAD IN FRONT OF CABINET DOOR TO FACILITATE CABINET ACCESS. CONCRETE PAD SHALL BE PAID FOR UNDER ITEM 705001.
5. CABINET SHALL BE PROVIDED WITH SURGE PROTECTOR, CDMA/FIBER COMMUNICATION (AS REQUIRED) AND SOLAR/ELECTRIC EQUIPMENT (AS REQUIRED).
6. BATTERY BACKUP FOR SOLAR INSTALLATIONS SHALL CONSIST OF 4-12V BATTERIES CONNECTED IN PARALLEL.
7. FOR NON-ELECTRIC 2 DETECTOR SYSTEMS, DEVICES SHALL BE POWERED BY 2 SOLAR PANELS.

MICROWAVE DETECTOR TYPICAL

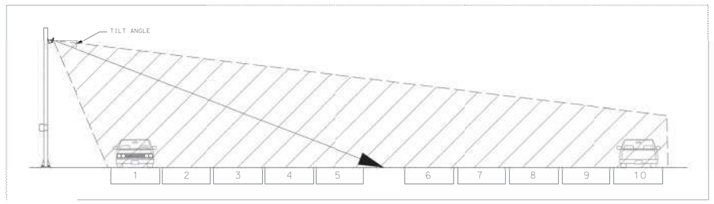
Detector Mounting Hight Guidelines

Offset From First Detection Lane (feet)	Recommended Mounting Height (feet)	Minimum Mounting Height (feet)	Maximun Mounting Height (feet)
6	12	9	19
7	12	9	19
8	12	9	20
9	12	9	21
10	12	9	22
11	12	9	23
12	13	10	24
13	13	11	25
14	14	11	26
15	15	12	26
16	15	12	27
17	16	13	28
18	17	14	29
19	17	14	30
20	18	15	30
21	19	15	31
22	20	16	31
23	22	16	32
24	24	16	33
25	26	17	33
26	26	17	34
27	27	18	35
28	27	18	35
29	27	18	36
30	29	19	37
31	29	19	37
32	29	19	38
33	30	19	39
34	30	19	39
35	30	20	40
36	30	20	41
37	31	20	41
38	31	21	42
39	33	21	43
40	33	22	43
41	34	22	44
42	34	22	44
43	35	22	45
44	35	23	46
45	36	23	46
46	36	23	47
47	36	24	48
48	38	24	48
49	38	24	49
50-230	39	25	Must be ≤ Offset

RECOMENDED OFFSETS



PLAN VIEW



PROFILE VIEW

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE 0 100 200 300 FEET

ITMS INTERCONNECT (SR1, SR9 TO LITTLE HEAVEN)

CONTRACT NO.	PERMIT NO.	-
T201204704	DESIGNED BY:	DLD
COUNTY	CHECKED BY:	BAM
KENT		

PARAPET DETAIL

SHEET NO.
10
TOTAL SHTS.
10

10/12/2011
C:\PROJECTS\095007.00 (Traffic Engineering)\095007.01 (SR1 - US9 to LH Fiber)\CADD FILES\Sheets\ut_11.dgn
10:45:00 AM