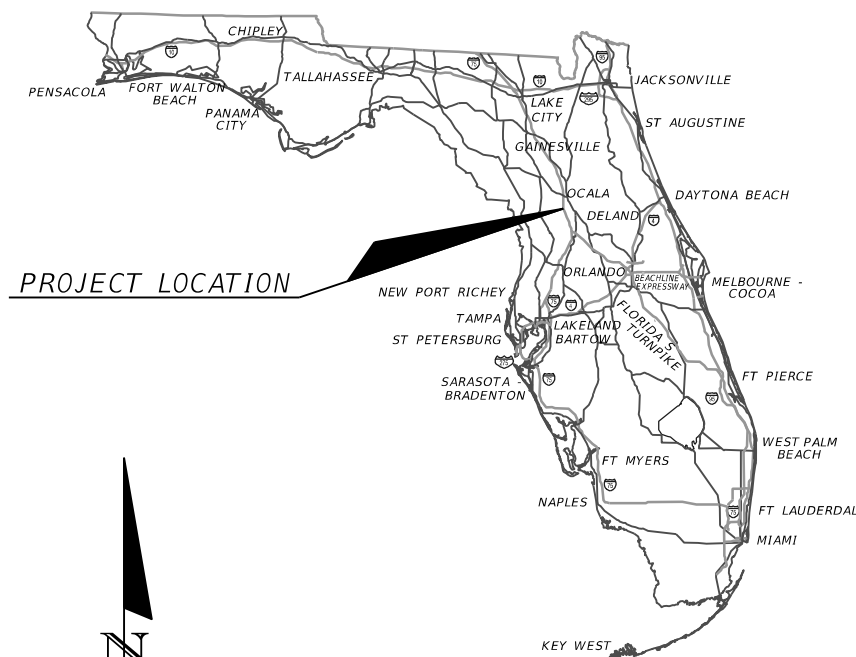


COMPONENTS OF CONTRACT PLANS SET

INTELLIGENT TRANSPORTATION SYSTEMS PLANS

**STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION
CONTRACT PLANS**

**FINANCIAL PROJECT ID 428213-2-52-02
MARION COUNTY (36210)
STATE ROAD NO. 93 (I-75)**

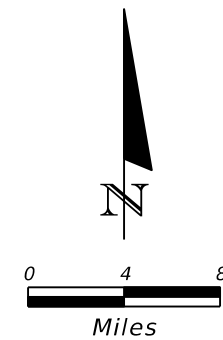
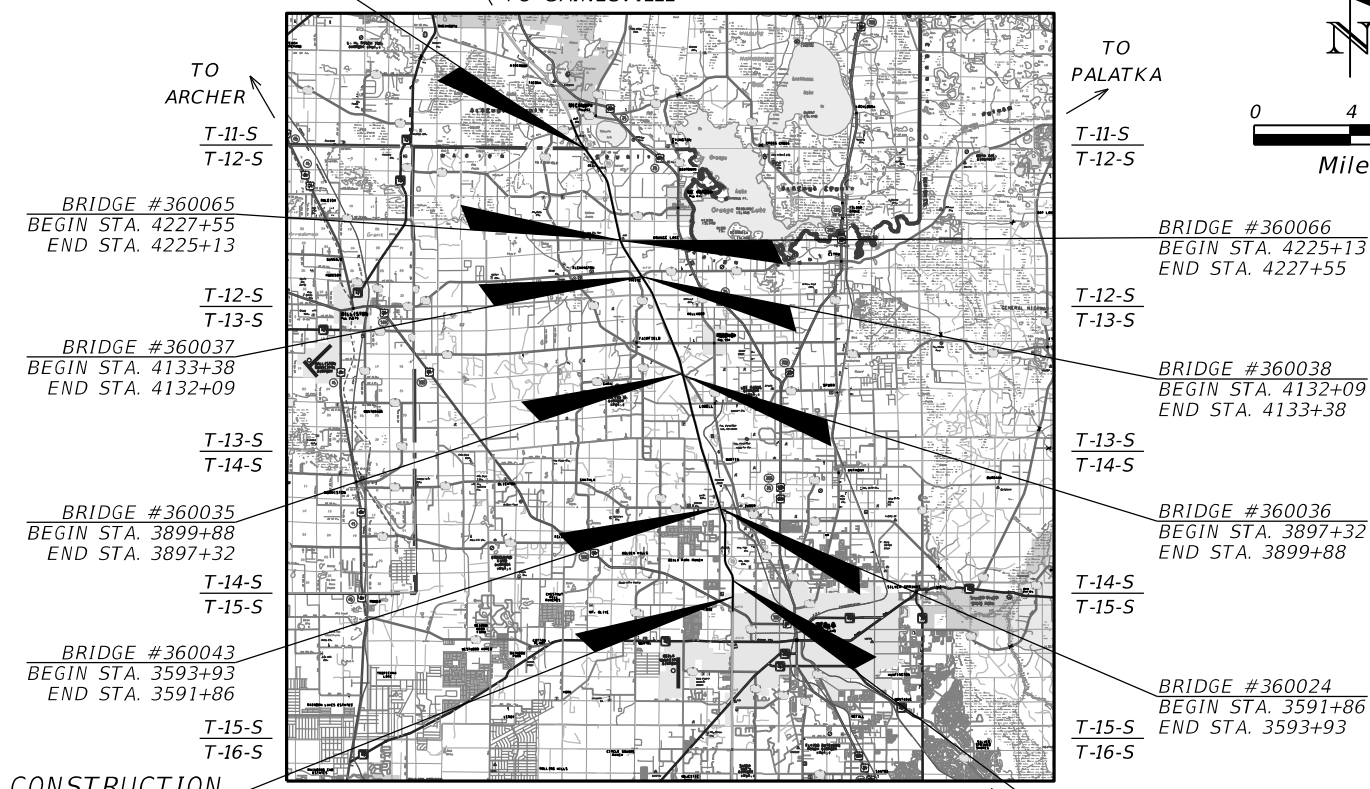


A DETAILED INDEX APPEARS ON THE KEY SHEET OF EACH COMPONENT

INDEX OF ITS PLANS

SHEET NO.	SHEET DESCRIPTION
IT-1	KEY SHEET
IT-2	SIGNATURE SHEET
IT-2A	SIGNATURE SHEET
IT-2B	SIGNATURE SHEET
IT-2C	SIGNATURE SHEET
IT-3	SUMMARY OF PAY ITEMS
SQ-1 - SQ-3	SUMMARY OF QUANTITIES
IT-4 - IT-12	TABULATION OF QUANTITIES
IT-13	SUMMARY OF DEVICES
IT-14	POLE DATA SHEET
IT-15 - IT-17	PROJECT LAYOUT
IT-18 - IT-19	PROJECT NOTES
IT-20 - IT-101	PLAN SHEETS
IT-102 - IT-103	STORMWATER POLLUTION PREVENTION PLAN
IT-104 - IT-105	TEMPORARY TRAFFIC CONTROL PLAN
IT-106	SEDIMENT BARRIER DETAIL
IT-107 - IT-112	POWER SERVICE DETAILS
IT-113 - IT-114	ITS MOUNTING DETAILS
IT-115	CLEARZONE DETAIL
IT-116	DIRECTIONAL BORE DETAIL
IT-117	SPLICE VAULT DETAIL
IT-118	CONCRETE APRON DETAIL
IT-119	ROUTE MARKER DETAIL
IT-120 - IT-123	CABINET DETAILS
IT-124	EXISTING MICROWAVE TOWER DETAIL
IT-125	MANAGED FIELD ETHERNET SWITCH DETAIL
IT-126 - IT-127	LOGICAL NETWORK DIAGRAM
IT-128 - IT-137	SPLICING DIAGRAMS
IT-138 - IT-141	WIRING DIAGRAMS
IT-142 - IT-153	SCADA DETAILS
IT-154	CONCRETE POLE DATA SHEET
IT-155 - IT-166	REPORT OF CORE BORINGS

**END PROJECT/
CONSTRUCTION**
STA. 4446+10.55
M.P. 38.282



**ITS SHOP DRAWINGS
TO BE SUBMITTED TO:**

ROBERT MASTASCUSA, P.E.
METRIC ENGINEERING, INC.
615 CRESCENT EXECUTIVE CT, SUITE 524
LAKE MARY, FL 32746

PLANS PREPARED BY:

METRIC ENGINEERING, INC.
615 CRESCENT EXECUTIVE CT, SUITE 524
LAKE MARY, FLORIDA 32746
TEL. (407) 644-1898
FAX. (407) 644-2376
CERTIFICATE OF AUTHORIZATION 2294
VENDOR NO. F-59-1685550
CONTRACT NO. C9G16

NOTE: THE SCALE OF THESE PLANS MAY HAVE CHANGED DUE TO REPRODUCTION.

LIST OF REVISED INDEX DRAWINGS

INDEX NO.	SHEET NO.
600	1-12 OF 12

GOVERNING STANDARDS AND SPECIFICATIONS:
Florida Department of Transportation, 2015 Design Standards and revised Index Drawings as appended herein, and January 2015 Standard Specifications for Road and Bridge Construction, as amended by Contract Documents.

For Design Standards click on the "Design Standards" link at the following web site:
<http://www.dot.state.fl.us/rddesign/>

For the Standard Specifications for Road and Bridge Construction click on the "Specifications" link at the following web site:
<http://www.dot.state.fl.us/specificationsoffice/>

REVISIONS:

- △ SHEETS: IT-1, IT-2A, IT-18 (REVISED 06/08/2015)
- △ SHEETS: IT-1, IT-2B, IT-126, IT-128 - IT-134 (REVISED 01/04/2016)
- △ SHEETS: IT-1, IT-2C, IT-9, IT-12, IT-77 (REVISED 05/27/2016)

PROJECT LENGTH IS BASED ON NON-SURVEYED BASELINE

LENGTH OF PROJECT		
	LINEAR FEET	MILES
ROADWAY	100,972.96	19.124
BRIDGE	834.00	0.158
NET LENGTH OF PROJECT	101,806.96	19.282
EXCEPTIONS		
GROSS LENGTH OF PROJECT	101,806.96	19.282

KEY SHEET REVISIONS	
DATE	DESCRIPTION
06/08/15	ADDED SHEET IT-2A
01/04/16	ADDED SHEET IT-2B
05/27/16	ADDED SHEET IT-2C

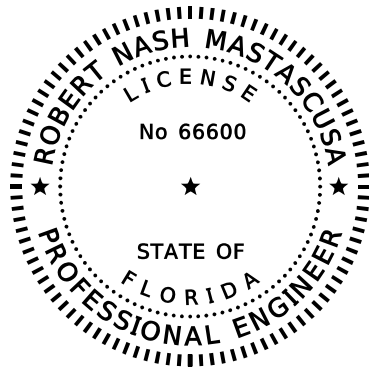
ITS PLANS
ENGINEER OF RECORD: ROBERT MASTASCUSA, P.E.

P.E. NO.: 66600

FISCAL YEAR	SHEET NO.
15	IT-1

FDOT PROJECT MANAGER: JAMES MILLER

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.



METRIC ENGINEERING, INC.
 615 CRESCENT EXECUTIVE CT
 SUITE 524
 LAKE MARY, FLORIDA 32746
 TEL. (407) 644-1898
 FAX. (407) 644-2376
 CERTIFICATE OF AUTHORIZATION 2294

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE WITH RULE 61G15-23.003, F.A.C.

ITS PLANS

SHEET NO.	SHEET DESCRIPTION
IT-1	KEY SHEET
IT-2C	SIGNATURE SHEET
IT-9	TABULATION OF QUANTITIES
IT-12	TABULATION OF QUANTITIES
IT-77	PLAN SHEET

REVISIONS				METRIC ENGINEERING, INC. 615 CRESCENT EXECUTIVE CT SUITE 524 LAKE MARY, FLORIDA 32746 TEL. (407) 644-1898 FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION 2294	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SIGNATURE SHEET	SHEET NO. IT-2C
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
05/27/16	3 DESCRIPTION				SR 93	MARION	428213-2-52-02		

TABULATION OF QUANTITIES

PAY ITEM NO.	DESCRIPTION	UNIT	SHEET NUMBERS																				TOTAL THIS SHEET		REF. SHEET									
			IT-70		IT-71		IT-72		IT-73		IT-74		IT-75		IT-76		IT-77		IT-78		IT-79		PLAN	FINAL										
			PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL												
000-500-1	SCADA SYSTEM ASSEMBLY,F&I	AS	1						1							1								3										
630-2-11	CONDUIT,F&I,OPEN TRENCH	LF	1361		1403			1370				1073			1260			786			700			1326			1549			12230				
630-2-12	CONDUIT,F&I,DIRECTIONAL BORE	LF	63									311			169			582			676									1801				
630-2-14	CONDUIT,F&I,ABOVEGROUND	LF	20		10						20			10										10						70				
633-1-121	FO CABLE,F&I,UNDERGROUND,2-12 FIBERS	LF	109								95																			204				
633-1-123	FO CABLE,F&I,UNDERGROUND,49-96 FIBERS	LF	1620		1593			1420			1562			1434			1570			1368			1895			1376			1524			15362		
633-2-31	FO CONN.,INSTALL,SPLICE	EA	8								8												192							208				
633-3-11	FO CONN. HARDWARE,F&I,SPLICE ENCLOSURE	EA	1								1																			2				
633-3-12	FO CONN. HARDWARE,F&I,SPLICE TRAY	EA	1								1												16							18				
633-3-13	FO CONN. HARDWARE,F&I,PRETERMINATED CONN. ASSEM.	EA																					192							192				
633-3-15	FO CONN. HARDWARE,F&I,PRETERMINATED PATCH PANEL	EA	1								1																			2				
633-3-16	FO CONN. HARDWARE,F&I,FIELD TERMINATED PATCH PANEL	EA																					2							2				
633-3-17	FO CONN. HARDWARE,F&I,CONNECTOR PANEL	EA																					16							16				
633-3-51	FO CONN. HARDWARE,ADJUST/MODIFY SPLICE TRAY	EA																																
633-8-1	MULTI-CONDUCTOR COMM. CABLE,F&I	LF	1237		1374										368			1368			1150						892			6389				
635-2-11	PULL & SPLICE BOX,F&I,13" X 24" COVER SIZE	EA	2		2			1			2																			7				
635-2-12	PULL & SPLICE BOX,F&I,24" X 36" COVER SIZE	EA	1				1						1													1				4				
635-2-13	PULL & SPLICE BOX,F&I,36" ROUND COVER	EA	1		1						1																1		1		6			
639-1-112	ELECTRICAL POWER SERV.,F&I,O.H.,METER BY CONTRACTOR	AS																																
639-2-1	ELECTRICAL SERVICE WIRE	LF	1429		1393			1370			1134																			5326				
639-3-11	ELECTRICAL SERVICE DISCONNECT,F&I,POLE MOUNT	EA	1								1																			2				
639-6-1	ELECTRICAL SERVICE,TRANSFORMER,F&I	EA	1								1																			2				
641-2-12	PRESTRESSED CONC. POLE,F&I,TYPE P-11 SERV. POLE	EA																																
641-2-19	PRESTRESSED CONCRETE POLE,F&I,CUSTOM DESIGN	EA	1		1						1				1														1		5			
641-2-80	PREST. CONC. POLE,COMPLETE POLE REM.-30' AND GREATER	EA																																
660-3-11	VDS-MICROWAVE,F&I,CABINET EQUIPMENT	EA	1		1						1																			6				
660-3-12	VDS-MICROWAVE,F&I,ABOVE GROUND EQUIPMENT	EA	1		1						1				1															6				
660-3-60	VDS-MICROWAVE,REMOVE	EA																						1						1				
676-2-122	ITS CABINET,F&I,POLE MOUNT W/ SUNSHIELDS,336S	EA	1								1																			2				
676-2-600	ITS CABINET,REMOVE	EA																																
676-3-10	SMALL EQUIP. ENCLOSURE,F&I,LESS THAN 10"Wx13"Hx11"D	EA			1										1												1			4				
676-3-60	SMALL EQUIP. ENCLOSURE,REMOVE	EA																												1				
682-1-60	ITS CCTV CAMERA,REMOVE	EA																												1				
682-1-113	ITS CCTV CAMERA,F&I,DOME ENCLOSURE-PRESSURIZED,IP,HD	EA	1								1																			3				
684-1-1	MANAGED FIELD ETHERNET SWITCH, F&I	EA	1								1																			2				
684-2-1	DEVICE SERVER,F&I	EA	1								1																							
684-5-1	MEDIA CONVERTER,F&I	EA	1		1									1																				
684-6-60	WIRELESS COMM. DEVICE,REMOVE AND DISPOSE	EA																																
684-7	LONG HAUL ETHERNET SWITCH,F&I	EA																																
685-106	SYSTEM AUXILIARIES,F&I,UNINTERRUPTIBLE POWER SOURCE	EA	1								1																				2			

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
05/27/16	△ UPDATED QUANTITIES		

METRIC ENGINEERING, INC.
 ROBERT MASTASCUSA, P.E. # 66600
 615 CRESCENT EXECUTIVE CT
 SUITE 524
 LAKE MARY, FLORIDA 32746
 TEL. (407) 644-1898
 FAX. (407) 644-2376
 CERTIFICATE OF AUTHORIZATION 2294

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	MARION	428213-2-52-02

TABULATION OF QUANTITIES

SHEET NO.
IT-9

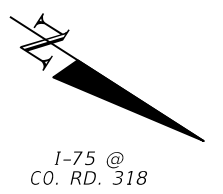
NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

TABULATION OF QUANTITIES

PAY ITEM NO.	DESCRIPTION	UNIT	SHEET NUMBERS																				TOTAL THIS SHEET		GRAND TOTAL		REF. SHEET
			IT-100		IT-101																PLAN	FINAL	PLAN	FINAL			
			PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL			
000-500-1	SCADA SYSTEM ASSEMBLY ,F&I	AS			1																		1	24			
630-2-11	CONDUIT ,F&I ,OPEN TRENCH	LF	814		230																		1044	95037			
630-2-12	CONDUIT ,F&I ,DIRECTIONAL BORE	LF	573		140																		713	17005			
630-2-14	CONDUIT ,F&I ,ABOVEGROUND	LF	10		20																		30	685			
633-1-121	FO CABLE ,F&I ,UNDERGROUND ,2-12 FIBERS	LF			113																		113	4654			
633-1-123	FO CABLE ,F&I ,UNDERGROUND ,49-96 FIBERS	LF	1535		512																		2047	116957			
633-2-31	FO CONN. ,INSTALL ,SPLICE	EA			9																		9	465			
633-3-11	FO CONN. HARDWARE ,F&I ,SPLICE ENCLOSURE	EA			1																		1	23			
633-3-12	FO CONN. HARDWARE ,F&I ,SPLICE TRAY	EA			1																		1	47			
633-3-13	FO CONN. HARDWARE ,F&I ,PRETERMINATED CONN. ASSEM.	EA																							192		
633-3-15	FO CONN. HARDWARE ,F&I ,PRETERMINATED PATCH PANEL	EA			1																		1	23			
633-3-16	FO CONN. HARDWARE ,F&I ,FIELD TERMINATED PATCH PANEL	EA																							2		
633-3-17	FO CONN. HARDWARE ,F&I ,CONNECTOR PANEL	EA																							16		
633-3-51	FO CONN. HARDWARE ,ADJUST/MODIFY SPLICE TRAY	EA																							1		
633-8-1	MULTI-CONDUCTOR COMM. CABLE ,F&I	LF	1048		375																		1423	47232			
635-2-11	PULL & SPLICE BOX ,F&I ,13" X 24" COVER SIZE	EA	2		2																		4	86			
635-2-12	PULL & SPLICE BOX ,F&I ,24" X 36" COVER SIZE	EA																							48		
635-2-13	PULL & SPLICE BOX ,F&I ,36" ROUND COVER	EA	1		1																		2	45			
639-1-112	ELECTRICAL POWER SERV. ,F&I ,O.H. ,METER BY CONTRACTOR	AS			1																		1	16			
639-2-1	ELECTRICAL SERVICE WIRE	LF	1335		420																		1755	38947			
639-3-11	ELECTRICAL SERVICE DISCONNECT ,F&I ,POLE MOUNT	EA			1																		1	24			
639-6-1	ELECTRICAL SERVICE ,TRANSFORMER ,F&I	EA			1																		1	17			
641-2-12	PRESTRESSED CONC. POLE ,F&I ,TYPE P-11 SERV. POLE	EA			1																		1	16			
641-2-19	PRESTRESSED CONCRETE POLE ,F&I ,CUSTOM DESIGN	EA	1		1																		2	42			
641-2-80	PREST. CONC. POLE ,COMPLETE POLE REM. -30' AND GREATER	EA																							1		
660-3-11	VDS-MICROWAVE ,F&I ,CABINET EQUIPMENT	EA	1		1																		2	44			
660-3-12	VDS-MICROWAVE ,F&I ,ABOVE GROUND EQUIPMENT	EA	1		1																		2	44			
660-3-60	VDS-MICROWAVE ,REMOVE	EA																							3		
676-2-122	ITS CABINET ,F&I ,POLE MOUNT W/ SUNSHIELDS ,336S	EA			1																		1	23			
676-2-600	ITS CABINET ,REMOVE	EA																							2		
676-3-10	SMALL EQUIP. ENCLOSURE ,F&I ,LESS THAN 10"Wx13"Hx11"D	EA	1																				1	21			
676-3-60	SMALL EQUIP. ENCLOSURE ,REMOVE	EA																							1		
682-1-60	ITS CCTV CAMERA ,REMOVE	EA																							2		
682-1-113	ITS CCTV CAMERA ,F&I ,DOME ENCLOSURE -PRESSURIZED ,IP ,HD	EA			1																		1	24			
684-1-1	MANAGED FIELD ETHERNET SWITCH , F&I	EA			1																		1	23			
684-2-1	DEVICE SERVER ,F&I	EA			1																		1	24			
684-5-1	MEDIA CONVERTER ,F&I	EA	1		1																		2	42			
684-6-60	WIRELESS COMM. DEVICE ,REMOVE AND DISPOSE	EA																							2		
684-7	LONG HAUL ETHERNET SWITCH ,F&I	EA																							1		
685-106	SYSTEM AUXILIARIES ,F&I ,UNINTERRUPTIBLE POWER SOURCE	EA			1																		1	23			

REVISIONS		METRIC ENGINEERING, INC. ROBERT MASTASCUSA, P.E. # 66600 615 CRESCENT EXECUTIVE CT SUITE 524 LAKE MARY, FLORIDA 32746 TEL. (407) 644-1898 FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION 2294	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		TABULATION OF QUANTITIES	SHEET NO. IT-12
DATE	DESCRIPTION		ROAD NO.	COUNTY		
05/27/16	△ UPDATED QUANTITIES	SR 93	MARION	428213-2-52-02		

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1-75 @
CO. RD. 318

EXIST. TOWER 75N-367.9
PROPOSED LAYER 3 SWITCH
PATCH ALL 96 FIBERS FROM
NORTH AND 96 FIBERS FROM
THE SOUTH
STA. 4130+10, RT

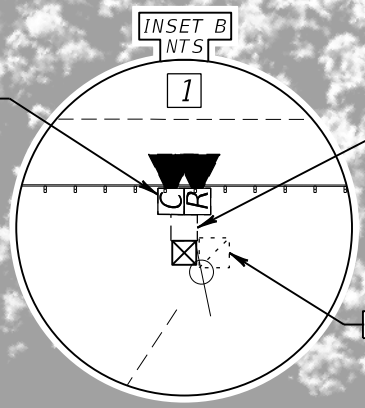
1 AS	000-500-1
192 EA	633-2-31
16 EA	633-3-12
192 EA	633-3-13
2 EA	633-3-16
16 EA	633-3-17
1 EA	684-2-1
2 EA	684-5-1
1 EA	684-7



USE EXISTING
PULL BOX TO ENTER
EXISTING TOWER BUILDING

REMOVE EXIST. ITS ENCLOSURE
(SKELETON KEY),
REMOVE EXIST. CCTV,
REMOVE EXIST. MVDS,
ITS POLE TO REMAIN.

1 EA	660-3-60
1 EA	676-3-60
1 EA	682-1-60



INSTALL CCTV 75-367.9
MVDS 75-367.9
ITS ENCLOSURE
ON EXIST. ITS POLE
STA. 4131+02, RT

660-3-11	1 EA
660-3-12	1 EA
676-3-10	1 EA
682-1-13	1 EA
684-5-1	1 EA

EXIST. PULL BOX

INSIDE EXISTING TOWER
2-96 SM FOC
COMPOSITE CABLE (CCTV)
2-SM COMPOSITE CABLE (MVDS)

2 x 100 LF	633-1-123
3 x 100 LF	633-8-1

USE EXIST. CONDUIT
2-96 SM FOC
COMPOSITE CABLE (CCTV)
2-SM COMPOSITE CABLE (MVDS)

633-1-123	2 x 33 LF
633-8-1	3 x 33 LF

OVHD ELEC (12.47kV)
(TO REMAIN)
DUKE ENERGY DIST

BFO (72Pr/2" CONDUIT)
(TO REMAIN)
WINDSTREAM

BFO (1200Pr/2-4" CONDUIT)
(TO REMAIN)
WINDSTREAM

BRIDGE NO. 360037

BRIDGE NO. 360038



MATCHLINE STA. 4126+40

MATCHLINE STA. 4139+60

2-2" CONDUITS
REMOVE EXISTING CABLES
3-AWG #10
1-6MM

SEE INSET B

UTILIZE EXIST. CONDUIT
COMPOSITE CABLE (CCTV)
SM COMPOSITE CABLE (MVDS)

633-8-1	2 x 142 LF
---------	------------

SEE INSET A

DIRECTIONAL BORE
2-1.25" HDPE CONDUIT
96SM FOC (ORANGE CONDUIT)
1-#12 AWG TONE WIRE
SM COMPOSITE CABLE (MVDS)

2 RUNS @ 414 LF	630-2-12
414 LF	633-1-123
414 LF	633-8-1

TRENCH
2-1.25" HDPE CONDUIT
2-96SM FOC (ORANGE CONDUIT)
SM COMPOSITE CABLE (MVDS)

2 RUNS @ 53 LF	630-2-11
2 x 53 LF	633-1-123
53 LF	633-8-1

TRENCH
2-1.25" HDPE CONDUIT
96SM FOC (ORANGE CONDUIT)
1-#12 AWG TONE WIRE

630-2-11	2 RUNS @ 111 LF
633-1-123	111 LF

DIRECTIONAL BORE
4" HDPE CASING
2-1.25" HDPE CONDUIT
96SM FOC (ORANGE CONDUIT)
1-#12 AWG TONE WIRE

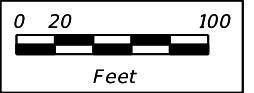
630-2-12	3 RUNS @ 262 LF
633-1-123	262 LF

TRENCH
2-1.25" HDPE CONDUIT
96SM FOC (ORANGE CONDUIT)
1-#12 AWG TONE WIRE

630-2-11	2 RUNS @ 536 LF
633-1-123	536 LF

FIBER OPTIC SPLICE VAULT
200 LF 96SM SLACK

633-1-123	200 LF
635-2-13	1 EA



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
05/27/16	ADDED MEDIA CONVERTERS		

METRIC ENGINEERING, INC.
ROBERT MASTASCUSA, P.E. # 66600
615 CRESCENT EXECUTIVE CT
SUITE 524
LAKE MARY, FLORIDA 32746
TEL. (407) 644-1898
FAX. (407) 644-2376
CERTIFICATE OF AUTHORIZATION 2294

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	MARION	428213-2-52-02

PLAN SHEET

SHEET NO.
IT-77

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