

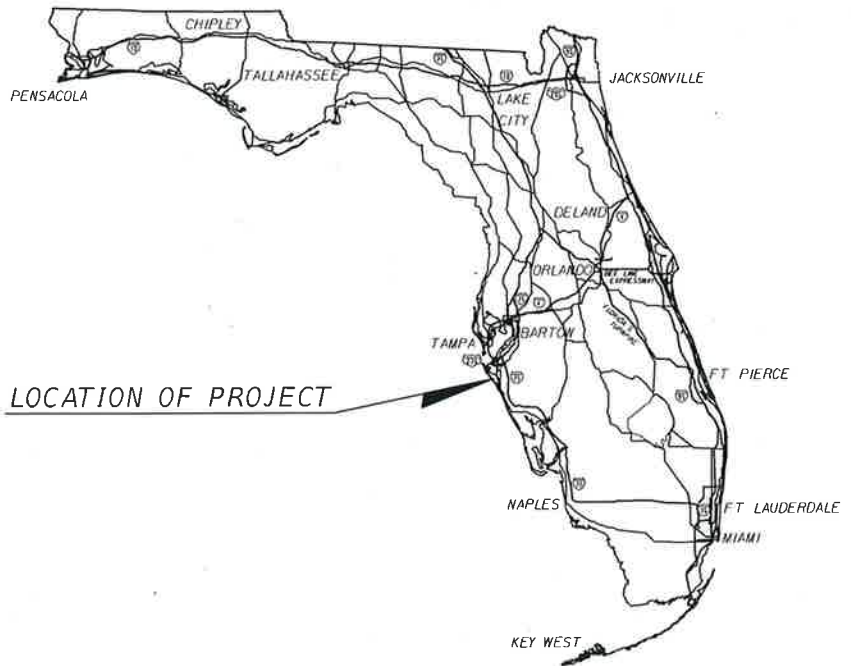
MANATEE COUNTY
PUBLIC WORKS DEPARTMENT

CONTRACT PLANS

MANATEE COUNTY (13160)
COUNTY PROJECT 6082960

53RD AVENUE WEST FROM EAST OF 75TH STREET WEST
TO WEST OF 43RD STREET WEST

LIGHTING PLANS

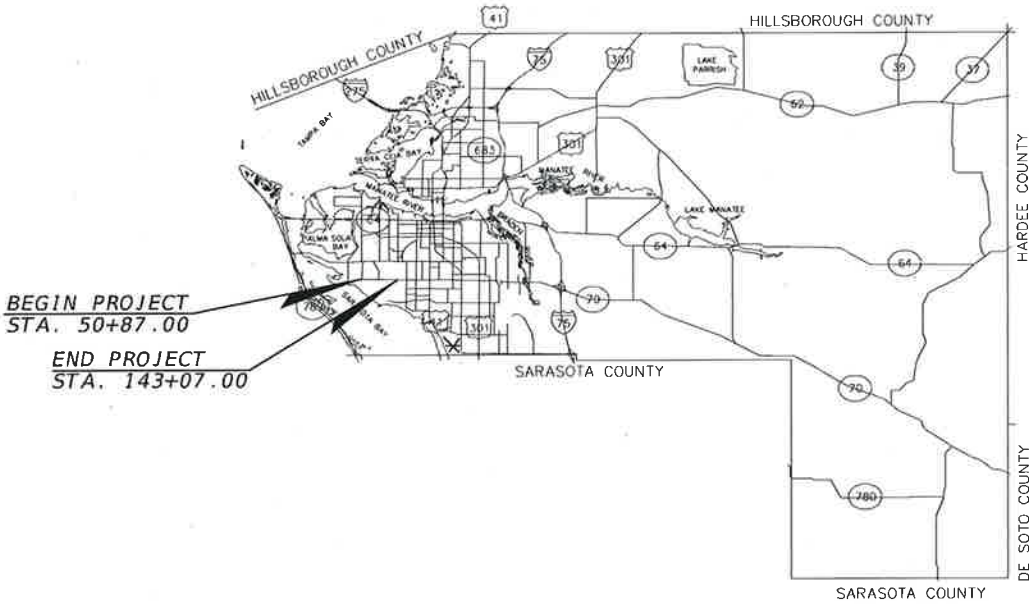


LOCATION OF PROJECT

CONTRACT PLAN COMPONENTS
LIGHTING PLANS

INDEX OF LIGHTING PLANS

SHEET NO.	SHEET DESCRIPTION
L-1	KEY SHEET
L-2 THRU L-3	TABULATION OF QUANTITIES
L-4	PROJECT NOTES
L-5	POLE DATA AND LEGEND
L-6 THRU L-22	LIGHTING PLAN
L-23	LIGHT POLE FOUNDATION AND SLAB DETAIL
L-24	PANEL SCHEDULES
L-25 THRU L-26	LIGHT POLE SPREAD FOOTING



BEGIN PROJECT
STA. 50+87.00
END PROJECT
STA. 143+07.00



LIGHTING SHOP DRAWINGS
TO BE SUBMITTED TO:
MICHAEL J. OATES, PE
HDR ENGINEERING, INC.
5426 BAY CENTER DRIVE, STE. 400
TAMPA, FLORIDA 33609-3444
PHONE NO. (813) 282-2300

PLANS PREPARED BY:
HDR ENGINEERING, INC.
2601 CATTLEMEN ROAD., STE. 400
SARASOTA, FLORIDA 34232-6233
PHONE NO. (941) 342-2700
FAX (941) 342-6589
CONTRACT NO. 12348
VENDOR NO. VF-470680568
CERTIFICATE OF AUTHORIZATION No. 4213

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

GOVERNING STANDARDS AND SPECIFICATIONS:
Florida Department of Transportation 2017/2018 Design Standards and
revised Index Drawings, as appended herein, and applicable Articles
and Subarticles of Division I and all of Divisions II & III of the July
2017 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/>

MANATEE COUNTY PROJECT MANAGER: ANTHONY BENITEZ, PE

KEY SHEET REVISIONS		
DATE	BY	DESCRIPTION

LIGHTING PLANS
ENGINEER OF RECORD: MICHAEL J. OATES, PE

P.E. NO.: 49282

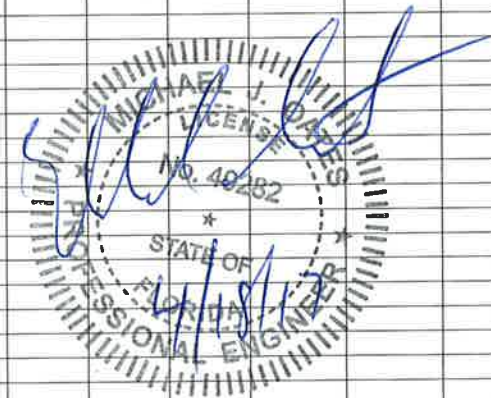
FISCAL YEAR	SHEET NO.
17	L-1

TABULATION OF QUANTITIES

PAY ITEM NO.	DESCRIPTION	UNIT	SHEET NUMBERS																		TOTAL THIS SHEET		GRAND TOTAL		REF. SHEET		
			L-6		L-7		L-8		L-9		L-10		L-11		L-12		L-13		L-14		L-15		PLAN	FINAL		PLAN	FINAL
			PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL					
630-2-11	CONDUIT, F&I, OPEN TRENCH	LF	15		9		9		9		6		9		12		9		9		9		96				
630-2-12	CONDUIT, F&I, DIRECTIONAL BORE	LF												30								30					
715-1-13	LIGHTING CONDUCTORS, F&I, NO. 4 TO NO. 2	LF	1683		1824		1824		1824		1776		1824		2755		3040		3040		3040		22630				
715-4-021	LIGHT POLE COMPLETE, F&I, STD POLE, SPECIAL FDN, (130) (40)	EA												1		3		3		3		10					
715-4-121	LIGHT POLE COMPLETE, F&I, STD POLE, STANDARD FDN, (130) (40)	EA	5		3		3		3		2		3		3							22					
715-7-11	LOAD CENTER, F&I SECONDARY VOLTAGE	EA												1								1					
715-500-1	LIGHT POLE CABLE DISTRIBUTION SYSTEM, CONVENTIONAL	EA	5		3		3		3		2		3		4		3		3		3		32				

				SCALE	AS NOTED	 HDR Engineering, Inc. 2601 Cattlemen Road Suite 400 Sarasota, FL 34232-6233 FBPR Certificate of Authorization No. 4213	DATE	03/08/2017	 MANATEE COUNTY PUBLIC WORKS	DESIGN ENGINEER	MICHAEL J. OATES	TABULATION OF QUANTITIES	SHEET NO. L-2
				DESIGNED BY	MO		PROJECT NO. 6082960	FL. LICENSE NO. 49282					
				DRAWN BY	MH								
				CHECKED BY	CR								
No.	REVISIONS			DATE	BY					PW:\007982\CON\0044618\000000000221764\13.00_CAD\12345675201\Lighting_Poles\TABQLT02.DGN			

TABULATION OF QUANTITIES

[illegible]

				SCALE AS NOTED	 HDR Engineering, Inc. 2601 Cattlemen Road Suite 400 Sarasota, FL 34232-6233 FBPR Certificate of Authorization No. 4213	DATE 03/08/2017	 Manatee County FLORIDA	MANATEE COUNTY PUBLIC WORKS	DESIGN ENGINEER MICHAEL J. OATES	TABULATION OF QUANTITIES	SHEET NO. L-3
				DESIGNED BY MO		PROJECT NO. 6082960			FL. LICENSE NO. 49282		
				DRAWN BY MH							
				CHECKED BY CR							
No.	REVISIONS	DATE	BY								

1. CONTACT THE ENGINEER, IN CONJUNCTION WITH MANATEE COUNTY'S PROJECT MANAGEMENT DIVISION BEFORE STARTING WORK.

2. ONE WEEK PRIOR TO THE BEGINNING OF THE PROJECT, THE CONTRACTOR SHALL NOTIFY:

MANATEE COUNTY PROJECT MANAGEMENT DIVISION
ANTHONY BENITEZ
1026 26TH AVENUE EAST
BRADENTON, FLORIDA 34208
PHONE: 941-708-7450 EXT. 7331

MANATEE COUNTY TRAFFIC ENGINEERING DIVISION
VISHAL KAKKAD
2101 47TH TERRACE EAST
BRADENTON, FLORIDA 34203
PHONE: 941-749-3500 EXT. 7812

3. FOR A LIST OF UTILITY OWNERS, SEE "UTILITY CONTACTS" LISTED BELOW.

4. THE LOCATION OF UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE ONLY. THE EXACT LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR, VIA SUNSHINE STATE ONE CALL OF FLORIDA, INC AT 811 OR 1-800-432-4770, IN COORDINATION WITH UNDERGROUND AND OVERHEAD UTILITY OWNERS. A MINIMUM OF 2 FULL BUSINESS DAYS PRIOR TO DIGGING IS REQUIRED.

5. HAND DIG THE FIRST 48 INCHES OF THE HOLE WHERE POLES ARE IN CLOSE PROXIMITY TO UTILITIES.

6. PRIOR TO ORDERING MATERIALS, SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW FOR ALL EQUIPMENTAND MATERIALS FURNISHED AND INSTALLED.

7. THE ACCEPTANCE OF ANY SUBMITTED DATA FOR MATERIALS, AND EQUIPMENT SHALL NOT RELIEVE THE CONTRACTOR FROM THE RESPONSIBILITY OF PLACING SAME AND PROPER DIMENSIONS, CAPACITIES, SIZES, QUANTITY AND INSTALLATIONS DETAILS TO EFFICIENTLY PERFORM THE REQUIREMENTS AND INTENT OF THE CONTRACT. SUCH ACCEPTANCE SHALL NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR ERRORS OF ANY SORT ON THE SUBMITTAL DATA.

8. VERIFY POLE LENGTHS REQUIRED IN ORDER TO ACHIEVE THE PROPER MOUNTING HEIGHT FOR EACH LUMINAIRE. THIS VERIFICATION SHALL OCCUR PRIOR TO THE SUBMISSION OF SHOP DRAWINGS. MOUNTING HEIGHTS ARE DETERMINED FROM THE BOTTOM OF THE LUMINAIRE HOUSING VERTICALLY TO PAVEMENT GRADE.

9. THE CONTRACTOR SHALL RETURN ALL DISTURBED AREAS TO PRE-CONSTRUCTION CONDITIONS WITHIN 72 HOURS OF THE CONSTRUCTION ACTIVITY, INCLUDING BUT NOT LIMITED TO: RESTORATION OF GRADE; REMOVAL OF CONSTRUCTION TRASH; REPLACEMENT OF SIDEWALK; RESTORATION OF LANDSCAPE IRRIGATION, ETC. THE CONTRACTOR SHALL VERIFY THE LOCATION AND FUNCTION OF EXISTING IRRIGATION LINES PRIOR TO INITIALIZING CONSTRUCTION.

10. THE CONTRACTOR SHALL INSTALL ALL PROJECT INFRASTRUCTURE AND FIELD ELEMENTS WITHIN THE RIGHT-OF-WAY.

11. ALL AREAS OF EXPOSED EARTH RESULTING FROM CONSTRUCTION ACTIVITIES SHALL BE SODDED AS DIRECTED BY THE COUNTY. SEEDING AND MULCHING SHALL BE APPLIED ONLY WHERE DIRECTED BY THE COUNTY.

12. ALL SPLICES SHALL BE MADE IN PULL BOXES ONLY WHEN NECESSARY WITH WATER PROOF SOLDERLESS CONNECTORS OR COMPRESSION SLEEVES AS PER CURRENT FOOT STANDARD SPECIFICATIONS. SPLICES AND CONNECTIONS MADE IN PULL BOXES SHALL BE LIMITED TO THE SERVICE POINT AND CONDUIT JUNCTION WITH MULTI-DIRECTIONAL CIRCUIT RUNS AS INDICATED ON PLANS.

13. THE LOCATIONS OF EXISTING UTILITIES, AS SHOWN ON THESE PLANS, ARE APPROXIMATE AND BASED ON THE INFORMATION FURNISHED TO THE ENGINEER BY THE UTILITY OWNER(S) AND ARE SHOWN AS NOTICE TO THE CONTRACTOR THAT UNDERGROUND UTILITIES EXIST. BEFORE EXCAVATING STAKE ALL POLE LOCATIONS AND TAKE RESPONSIBILITY FOR NOTIFYING THE UTILITY COMPANY OWNER(S) AND REQUEST THEM TO LOCATE AND STAKE THEIR UNDERGROUND FACILITIES.
- UTILITY CONTACTS:
- MANATEE COUNTY PUBLIC WORKS DEPARTMENT
INFRASTRUCTURE ENGINEERING
CHRIS MOWBRAY, P.E.
1022 26TH AVENUE EAST
BRADENTON, FL 34208
(941) 708-7450
FAX: (941) 708-7431
- TECO/PEOPLE GAS CO.
DAN SHANAHAN
8261 VICO COURT
SARASOTA, FL 34240
(813) 645-2700
FAX: (941) 342-4011
EMERGENCY:
1-877-832-6911
dshanahan@tecoenergy.com
- FRONTIER COMMUNICATIONS
DENISE HUTTON
1701 RINGLING BLVD
SARASOTA, FL 34236
(941) 906-6722
denise.hutton@ftr.com
- FLORIDA POWER & LIGHT
GREG COKER
1253 12TH AVENUE EAST
PALMETTO, FL 34221
(941) 723-4430
FAX: (941) 723-4430
EMERGENCY:
1-800-4-OUTAGE
Greg_Coker@fpl.com
- MANATEE COUNTY HEALTH DEPARTMENT
HARRY MESSICK
410 6TH AVENUE EAST
BRADENTON, FL 34208
(941) 748-0747 EXT. 1355
FAX: (941) 750-9364
- SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
SARASOTA SERVICE OFFICE
STEVE LOPES, P.E.
6750 FRUITVILLE ROAD
SARASOTA, FL 34240
(941) 377-3722
FAX: (941) 373-7660
- FLORIDA GAS TRANSMISSION SAFETY HARBOR TEAM
7804 ANDERSON ROAD
TAMPA, FL 33634
JOSEPH SANCHEZ
(813) 466-3327
CELL: (727) 639-7512
joseph.e.sanchez@sug.com
- CHARTER COMMUNICATIONS
JAMES CRUZAN
5413 E. STATE ROAD 64
BRADENTON, FL 34208-5535
(727) 329-2846
James.Cruzan@charter.com
- DEPT OF ENVIRONMENTAL PROTECTION
STEPHANIE BARIOS
13051 N. TELECOM PKWY
TEMPLE TERRACE, FL 33637
(813) 632-7600, EXT. 408
FAX: (813) 632-7662
- PEACE RIVER ELECTRIC COOPERATIVE, INC.
P.O. BOX 1310
WACHULA, FL 33873
DAVID MCCLINTOCK
(863) 767-4621
David.McClintock@preco.coop
- MANATEE COUNTY PUBLIC WORKS DEPARTMENT
TRAFFIC ENGINEERING
VISHAL KAKKAD, P.E.
(941) 749-3500 EXT. 7812
FAX: (941) 749-3517
- SUNSHINE STATE ONE CALL OF FLORIDA
1 (800) 432-4770
14. IF THE LUMINAIRE USED IS DIFERENT THAN DESIGNED, THE CONTRACTOR SHALL PROVIDE SUBMITTAL DATA WHICH INCLUDES A COMPUTER PRINTOUT SHOWING HORIZONTAL FOOTCANDLE LEVELS TO BE OBTAINED, USING THE SUBMITTED LUMINAIRES THAT ARE NOT THE BASIS OF DESIGN, ON THIS PROJECT. AT FINAL INSPECTION, VERIFY THE HORIZONTAL FOOTCANDLE EVELS ON THE ROADWAY WITH AN APPROVED CURRENTLY CALIBRATED LIGHT METER.

15. IDENTIFY ALL CIRCUITS AND EQUIPMENT WITH "LAMACOID TAGS". INSTALL SIMILAR TAGS OF STAINLESS STEEL IDENTIFYING CIRCUIT FOR EACH LUMINAIRE AT ACCESS HANDHOLE FOR EACH POLE.

16. PULLING INSTRUCTIONS: CONNECT PULLING DEVICES TO COPPER WIRE AND NOT TO JACKET AND MEET MANUFACTURER'S REQUIREMENTS. USE PULLING COMPOUND PER MANUFACTURER'S REQUIREMENTS. ALL BENDS SHALL NOT BE LESS THAN RECOMMENDED BY N.E.C. OR N.E.S.C. FOR CABLE USED.

17. AT LOCATIONS WHERE UNDERGROUND UTILITIES ARE WITHIN 2' TO THE LIGHTING POLE FOUNDATIONS AS DETERMINED BY THE ENGINEER, HAND DIG THE FIRST 4 FEET OF THE HOLE FOR THE POLE FOUNDATION AND/OR CONDUIT RUN(S).

18. ALL EXCESS DIRT AND DEBRIS EXCAVATED FROM POLE FOUNDATIONS SHALL BE REMOVED DAILY TO AREAS APPROVED BY THE ENGINEER, AND SHALL BE INCLUDED IN PAY ITEM NO. 715-4-021 OR 715-4-121.

19. PREPARE ACCURATELY DIMENSIONED "AS-BUILT" PLANS OF THE FINAL POLE AND LOAD CENTER LOCATIONS. PLANS SHALL BE REVIEWED AND APPROVED BY THE ENGINEER. COST OF SUCH PREPARATION SHALL BE INCIDENTAL TO PAY ITEMS PROVIDED. UPON FINAL ACCEPTANCE OF THE PROJECT, FORWARD A COMPLETE SET OF AS-BUILT PLANS WITH ALL CHANGES MARKED IN RED TO THE ENGINEER.

20. PULL BOXES SHALL NOT BE INSTALLED WITHIN ANY DITCHES OR AREAS THAT MAY CAUSE WATER INTRUSION.
- CONDUIT NOTES
1. EXISTING CONDUIT INFRASTRUCTURE HAS BEEN INSTALLED DURING THE ROADWAY WIDENING TO FOUR LANE DIVIDED IN ANTICIPATION OF FUTURE LIGHTING TO BE INSTALLED. PULL BOXES ARE LOCATED AT THE FUTURE LIGHT POLES AND LOAD CENTER LOCATIONS. PROPOSED CONDUCTORS SHALL BE INSTALLED IN THESE EXISTING CONDUIT RUNS AND PULL BOXES FOR THIS PROEJCT. HOWEVER, CONDUIT WILL BE NEEDED FROM THE PROPOSED POWER SOURCE TO THE LOAD CENTER. THE CONTRACTOR SHALL WAIT TO INSTALL THE CONDUCTORS UNTIL THE POLES ARE INSTALLED AND READY TO BE ENERGIZED TO AVOID DAMAGE OR THEFT TO THE PROPOSED CONDUCTORS.

2. ALL HDPE CONDUIT CONNECTIONS SHALL BE JOINED WITH A FUSION COUPLER OR FUSION SPLICE.

3. ADJUST THE CONDUIT RUNS TO AVOID ANY UTILITY CONFLICT IDENTIFIED BY THE LOCATES. ANY SIGNIFICANT CHANGE SHALL BE APPROVED BY THE ENGINEER.

4. THE CONDUITS TO BE INSTALLED ARE TO BE PLACED SO AS TO TOTALLY AVOID ANY CONFLICTS WITH EXISTING UTILITIES ALONG THE ROUTE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN THE NECESSARY INFORMATION REQUIRED TO PLAN THE WORK AHEAD FOR THE INSTALLATION OF THE REQUIRED CONDUITS WITHIN DESIGN OR SPECIFIED PARAMETERS, AND HIS TIME FRAME. THE CONTRACTOR SHALL ADJUST CONDUIT VERTICALLY OR HORIZONTALLY TO AVOID CONFLICT WITH UNDERGROUND UTILITIES. THE CONTRACTOR SHALL USE HAND EXCAVATION METHODS WHEN EXCAVATING NEAR EXISTING UTILITIES. NO SEPARATE PAYMENT SHALL BE MADE FOR THIS WORK. EXTREME CAUTION SHALL BE USED BY THE CONTRACTOR WHEN EXCAVATING, INSTALLING, BACK FILLING AND COMPACTING AROUND EXISTING UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ANY UTILITY.
5. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD LOCATE ALL ABOVE GROUND AND UNDERGROUND CONFLICTS IN ADVANCE OF THE PLACEMENT OF ANY POLES OR OTHER FACILITIES. THE CONTRACTOR SHALL FIELD MARK THE PROPOSED ALIGNMENT FOR REVIEW AND CONCURRENCE BY THE ENGINEER PRIOR TO TRENCHING AND/OR PLACEMENT.

6. PLACE ALL CONDUITS IN A MANNER THAT MINIMIZES DEFLECTION BOTH HORIZONTALLY AND VERTICALLY, THUS MINIMIZING STRESS ON CABLES DURING CABLE INSTALLATION. BENDS SHALL NOT BE PERMITTED EXCEPT AS SPECIFIED ON THE PLANS.

7. ALL CONDUIT TRENCHES SHALL BE BACKFILLED COMPLETELY TO PROVIDE SAFE CROSSING BY THE END OF THE WORKING DAY OR WHENEVER THE WORK ZONE BECOMES INACTIVE. DO NOT OPEN ANY AREA THAT CANNOT BE BACKFILLED IN THE SAME DAY/NIGHT OPERATION.

8. ALL NEW CONDUIT SHALL BE PLACED AT A MINIMUM DEPTH OF 30" UNLESS PLACED IN AN AREA OF NEW FILL, IN WHICH CASE THE CONDUIT SHALL BE 48". DIRECTIONALLY BORED CONDUIT SHALL BE AT A MINIMUM DEPTH OF 48".

9. DURING TRENCHING OPERATIONS, THE CONTRACTOR SHALL AVOID LANDSCAPING WHICH MIGHT BE AFFECTED BY SUCH OPERATIONS.
- PAY ITEM NOTES
1. 630-2-11 & 630-2-12:
CONDUITS INSTALLED WITH THE DIRECTIONAL BORE METHOD SHALL BE HDPE WITH A MINIMUM SIZE OF 2" UNLESS OTHERWISE NOTED IN THE PLANS. COST OF PULL WIRE SHALL BE INCLUDED UNDER THIS PAY ITEM.

CONDUIT SHOULD BE ADJUSTED TO FIT AROUND THE EXISTING AND PROPOSED UTILITIES. WHERE PLANNED LOCATION OF LIGHTING CONDUIT RUNS 30" UNDER PAVEMENT IS FOUND TO CONFLICT WITH UNDERGROUND UTILITIES, THE LIGHTING CONDUIT POSITION SHALL BE ALTERED VERTICALLY OR HORIZONTALLY TO AVOID THE CONFLICT AS RECOMMENDED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. A 24" ABSOLUTE MINIMUM DEPTH SHALL BE MAINTAINED. WHERE LIGHTING CONDUITS ARE LOCATED CLOSER THAN 30" BELOW THE GROUND SURFACE, PLACE IN AN ADDITIONAL 3" PVC COATED RGS SLEEVE OR BACKFILL WITH A MINIMUM 4" CONCRETE COVER. COST OF SUCH TREATMENT WILL BE INCIDENTAL TO PAY ITEMS PROVIDED. COST OF THE PULL (TRACE/LOCATE) WIRE SHALL BE INCLUDED UNDER THIS PAY ITEM.

2. 715-4-021 AND 715-4-121:
INCLUDES THE ADJUSTING THE EXISTING PULL BOX TO BE FLUSH TO GRADE OF THE PROPOSED SLAB AS PER THE PLANS.

3. 715-7-11:
INCLUDES NEMA 3R INDIVIDUALLY MOUNTED ENCLOSED CIRCUIT BREAKER ON LOAD SIDE OF METER, METER BASE, SERVICE POLE INSULATORS, WEATHERHEADS, CONTROL POWER TRANSFORMERS, ENCLOSURES, PANEL BOARDS, BREAKERS, FUSES, LIGHTING CONTACTOR, LIGHTING PROJECTOR, PHOTO-ELECTRIC ASSEMBLY, CONDUIT & FEEDER CONDUCTORS FROM POWER COMPANY POINT OF SERVICE TO LOAD CENTER, PULL BOX AND ALL MISCELLANEOUS HARDWARE FOR A COMPLETE INSTALLATION AS PER PLANS AND STANDARD INDEX 17504 DETAIL "B". INCLUDES THE COST OF FURNISHING AND INSTALLING 12' TYPE P-II PRESTRESSED CONCRETE POLE.

4. 715-500-1 INCLUDES THE COST OF BREAK-AWAY WATERTIGHT, IN-LINE FUSE HOLDERS, THE STRAIN RELIEF AND THE SURGE ARRESTOR PER DESIGN STANDARDS INDEX 17500.
-
- | | | | | | | | | | | | | |
|-----|-----------|------|----|-------------------|---|---|--------------------|---|--------------------------------|---|---------------|-------------------------|
| | | | | SCALE
AS NOTED |  | HDR Engineering, Inc.
2601 Cattleman Road
Suite 400
Sarasota, FL 34232-6233
FBPR Certificate of
Authorization No. 4213 | DATE
03/08/2017 |  | MANATEE COUNTY
PUBLIC WORKS | DESIGN ENGINEER
MICHAEL J. OATES
FL. LICENSE NO.
49282 | PROJECT NOTES | SHEET
NO.

L-4 |
| | | | | DESIGNED BY
MO | | | | | | | | |
| | | | | DRAWN BY
MH | | | | | | | | |
| | | | | CHECKED BY
CR | | | | | | | | |
| No. | REVISIONS | DATE | BY | | | | | | | | | |
- 12:18:11 PM
- 4/18/2017
- PW:\007982\CON\044618\00000000221764\13.00_CAD\12345675201\Lighting_Poles\GNNTLT02.DGN

LEGEND

SYMBOLS

DESCRIPTION

-  206 WATT LED LUMINAIRE ATTACHED ON SHOULDER MOUNTED CONVENTIONAL LIGHT POLE. ANALYZED USING MONGOOSE LUMINAIRE, PHOTOMETRIC CURVE NUMBER MGLED_5_4K_AX_F_L_X_X_US AT 18,627 LUMENS. POLE MOUNTING HEIGHT IS 40 FT AND ARM LENGTH IS 8 FT. SYMBOL INCLUDES LUMINAIRE, SINGLE ARM, POLE WITH VIBRATION DAMPER, STANDARD FOUNDATION, BREAKAWAY TRANSFORMER BASE, CONCRETE SLAB, AND POLE CABLE DISTRIBUTION SYSTEM. THE LUMINAIRE IS A CUTOFF FIXTURE DESIGNED FOR FORWARD THROW TYPE IV DISTRIBUTION.
-  168 WATT LED LUMINAIRE ATTACHED ON SHOULDER MOUNTED CONVENTIONAL LIGHT POLE. ANALYZED USING MONGOOSE LUMINAIRE, PHOTOMETRIC CURVE NUMBER MGLED_4_4K_AX_M_L_X_X_US AT 15,773 LUMENS. POLE MOUNTING HEIGHT IS 40 FT AND ARM LENGTH IS 8 FT. SYMBOL INCLUDES LUMINAIRE, DUAL ARM, POLE WITH VIBRATION DAMPER, STANDARD FOUNDATION, BREAKAWAY TRANSFORMER BASE, CONCRETE SLAB, AND POLE CABLE DISTRIBUTION SYSTEM. THE LUMINAIRE IS A CUTOFF FIXTURE DESIGNED FOR MEDIUM TYPE III DISTRIBUTION.
-  168 WATT LED LUMINAIRE ATTACHED ON SHOULDER MOUNTED CONVENTIONAL LIGHT POLE. ANALYZED USING MONGOOSE LUMINAIRE, PHOTOMETRIC CURVE NUMBER MGLED_4_4K_AX_M_L_X_X_US AT 15,773 LUMENS. POLE MOUNTING HEIGHT IS 40 FT AND ARM LENGTH IS 8 FT. SYMBOL INCLUDES LUMINAIRE, DUAL ARM, POLE WITH VIBRATION DAMPER, SPREAD FOOTING FOUNDATION, BREAKAWAY TRANSFORMER BASE, CONCRETE SLAB, AND POLE CABLE DISTRIBUTION SYSTEM. THE LUMINAIRE IS A CUTOFF FIXTURE DESIGNED FOR MEDIUM TYPE III DISTRIBUTION.
-  EXISTING CONVENTIONAL LIGHT POLE ASSEMBLY TO REMAIN.
-  PROPOSED CONDUCTORS INSIDE EXISTING CONDUIT, NUMBER AND SIZE OF CONDUCTORS SHOWN ON PLANS. CALLOUT NUMBER INCLUDES ONE COPPER GROUND BONDING CONDUCTOR (GREEN INSULATION) INSIDE CONDUIT WITH OTHER CONDUCTORS.
-  ONE - 2" SCHEDULE 40 PVC UNDER PAVEMENT CONDUIT CONTAINING CONDUCTORS. NUMBER AND SIZE OF CONDUCTORS CALLED OUT ON PLAN SHEETS. CALLOUT NUMBER INCLUDES ONE COPPER GROUND BONDING CONDUCTOR (GREEN INSULATION) INSIDE CONDUIT WITH OTHER CONDUCTORS.
-  EXISTING LIGHTING PULL BOX TO BE ADJUSTED AS NECESSARY TO BE FLUSH TO GRADE WITH PROPOSED CONCRETE SLAB SURROUNDING PROPOSED LIGHT POLE.
-  PROPOSED TYPICAL FDOT SHOULDER MOUNTED LIGHTING PULL BOX WITH CONCRETE SLAB PER FDOT DESIGN STANDARDS AND SPECIFICATIONS. PULL BOX COVER SIZE 13" X 24" UNLESS OTHERWISE NOTED.
-  PROPOSED LOAD CENTER "A" 240/ 480 VOLT, SINGLE PHASE, 3 WIRE, PER FDOT DESIGN STANDARDS AND SPECIFICATIONS INCLUDING THE METER ENCLOSURE WITH BASE AND SERVICE DISCONNECT PER FP&L REQUIREMENTS. INCLUDE A MANUAL BYPASS SWITCH TO THE METER BASE PER FP&L REQUIREMENTS.

CONVENTIONAL LIGHTING DESIGN CRITERIA

DESIGN WIND SPEED	130 MPH
AVERAGE INITIAL ILLUMINATION	1.5 H.F.C
AVERAGE TO MIN.	4 : 1 OR LESS
MAX TO MIN.	10 : 1 OR LESS
VEILING LUMINANCE RATIO	0.3: 1 OR LESS

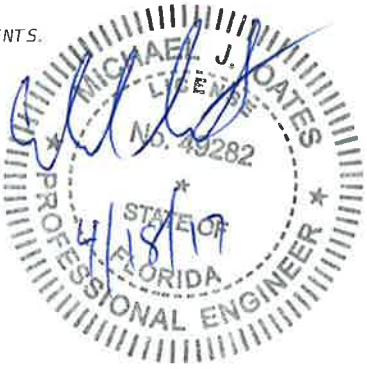
LIGHT POLE NOTES:

- FOR POLE 1 THROUGH 4, COORDINATE WITH THE MANATEE COUNTY PROJECT MANAGER FOR ANY NEEDED FIELD ADJUSTMENTS TO AVOID THE EXISTING 8' FM.
- FOR POLES 23 THROUGH 55, COORDINATE WITH THE MANATEE COUNTY PROJECT MANAGER FOR ANY NEEDED FIELD ADJUSTMENTS TO AVOID THE EXISTING 42" FM. IT IS PREFERABLE TO UTILIZE STANDARD FOUNDATIONS FOR THESE POLES IN THE MEDIAN RATHER THAN THE SPREAD FOOTING FOUNDATIONS THAT ARE SPECIFIED. BASED ON AS-BUILT INFORMATION OF THE 42" FM, INSTALL A STANDARD FOUNDATION THAT AVOIDS ALL UTILITY CONFLICTS, IF FEASIBLE, AS DETERMINED BY THE MANATEE COUNTY PROJECT MANAGER.
- FOR BASELINE INFORMATION, REFER TO THE ROADWAY PLANS FOR THE WIDENING OF 53RD AVENUE W.

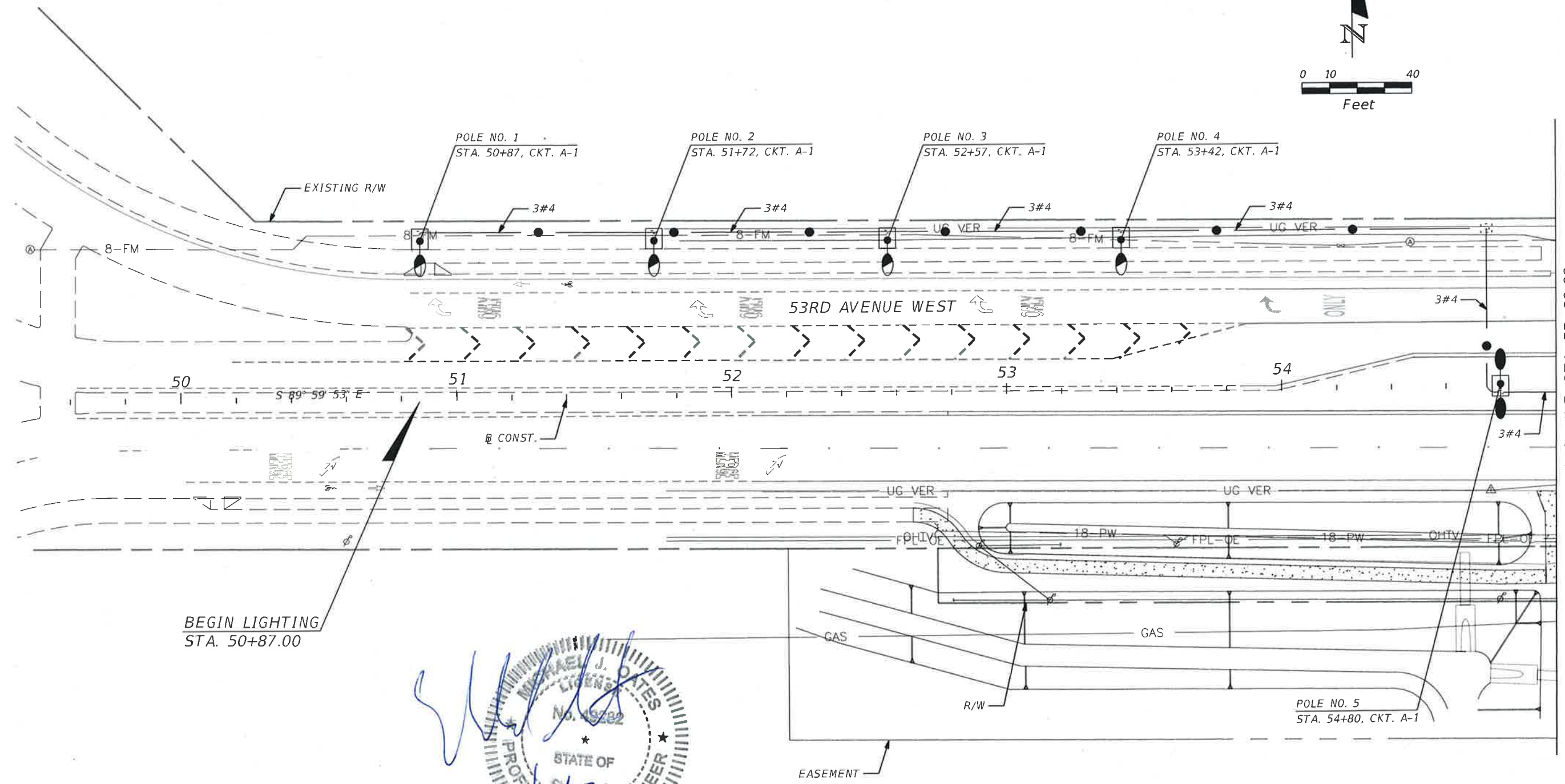
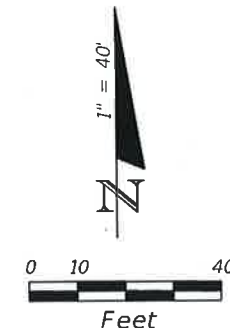
POLE DATA

POLE NO.	CIRCUIT	STATION	DIST. OR ARM	LUMINAIRE WATTAGE	MOUNTING HEIGHT	POLE SETBACK	PAY ITEM
1	A-1	STA. 50+87	8'	206	40'	2.6 FOP TO BOS	715-4-121
2	A-1	STA. 51+72	8'	206	40'	2.6 FOP TO BOS	715-4-121
3	A-1	STA. 52+57	8'	206	40'	2.6 FOP TO BOS	715-4-121
4	A-1	STA. 53+42	8'	206	40'	2.6 FOP TO BOS	715-4-121
5	A-1	STA. 54+80	8'	168/168	40'	COM	715-4-121
6	A-1	STA. 56+67	8'	168/168	40'	COM	715-4-121
7	A-1	STA. 58+54	8'	168/168	40'	COM	715-4-121
8	A-1	STA. 60+41	8'	168/168	40'	COM	715-4-121
9	A-1	STA. 62+28	8'	168/168	40'	COM	715-4-121
10	A-1	STA. 64+15	8'	168/168	40'	COM	715-4-121
11	A-1	STA. 66+02	8'	168/168	40'	COM	715-4-121
12	A-1	STA. 67+89	8'	168/168	40'	COM	715-4-121
13	A-1	STA. 69+76	8'	168/168	40'	COM	715-4-121
14	A-1	STA. 71+49	8'	168/168	40'	COM	715-4-121
15	A-1	STA. 73+10	8'	168/168	40'	COM	715-4-121
16	A-1	STA. 76+21	8'	168/168	40'	7.6 FOP TO EOTL WB	715-4-121
17	A-1	STA. 77+77	8'	168/168	40'	7.6 FOP TO EOTL WB	715-4-121
18	A-1	STA. 79+62	8'	168/168	40'	7.6 FOP TO EOTL WB	715-4-121
19	A-1	STA. 81+42	8'	168/168	40'	7.6 FOP TO EOTL WB	715-4-121
20	A-1	STA. 83+28	8'	168/168	40'	7.6 FOP TO EOTL WB	715-4-121
21	A-1	STA. 85+14	8'	168/168	40'	COM	715-4-121
22	A-1	STA. 86+72	8'	168/168	40'	COM	715-4-121
23	A-1	STA. 88+26	8'	168/168	40'	COM	715-4-021
24	A-2	STA. 89+80	8'	168/168	40'	COM	715-4-021
25	A-2	STA. 91+48	8'	168/168	40'	COM	715-4-021
26	A-2	STA. 93+29	8'	168/168	40'	COM	715-4-021
27	A-2	STA. 95+08	8'	168/168	40'	COM	715-4-021
28	A-2	STA. 96+82	8'	168/168	40'	COM	715-4-021
29	A-2	STA. 98+58	8'	168/168	40'	COM	715-4-021
30	A-2	STA. 100+33	8'	168/168	40'	COM	715-4-021
31	A-2	STA. 102+07	8'	168/168	40'	COM	715-4-021
32	A-2	STA. 103+83	8'	168/168	40'	COM	715-4-021
33	A-2	STA. 105+58	8'	168/168	40'	COM	715-4-021
34	A-2	STA. 107+33	8'	168/168	40'	COM	715-4-021
35	A-2	STA. 109+08	8'	168/168	40'	COM	715-4-021
36	A-2	STA. 110+83	8'	168/168	40'	COM	715-4-021
37	A-2	STA. 112+58	8'	168/168	40'	COM	715-4-021
38	A-2	STA. 114+32	8'	168/168	40'	COM	715-4-021
39	A-2	STA. 116+07	8'	168/168	40'	COM	715-4-021
40	A-2	STA. 117+71	8'	168/168	40'	COM	715-4-021
41	A-2	STA. 119+30	8'	168/168	40'	COM	715-4-021
42	A-2	STA. 121+01	8'	168/168	40'	COM	715-4-021
43	A-3	STA. 122+84	8'	168/168	40'	COM	715-4-021
44	A-3	STA. 124+45	8'	168/168	40'	COM	715-4-021
45	A-3	STA. 126+04	8'	168/168	40'	COM	715-4-021
46	A-3	STA. 128+00	8'	168/168	40'	COM	715-4-021
47	A-3	STA. 129+41	8'	168/168	40'	COM	715-4-021
48	A-3	STA. 130+63	8'	168/168	40'	COM	715-4-021
49	A-3	STA. 132+45	8'	168/168	40'	COM	715-4-021
50	A-3	STA. 134+30	8'	168/168	40'	COM	715-4-021
51	A-3	STA. 136+16	8'	168/168	40'	COM	715-4-021
52	A-3	STA. 138+01	8'	168/168	40'	COM	715-4-021
53	A-3	STA. 139+87	8'	168/168	40'	COM	715-4-021
54	A-3	STA. 141+56	8'	168/168	40'	COM	715-4-021
55	A-3	STA. 143+07	8'	168/168	40'	COM	715-4-021

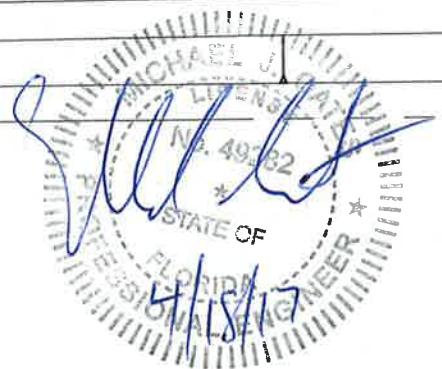
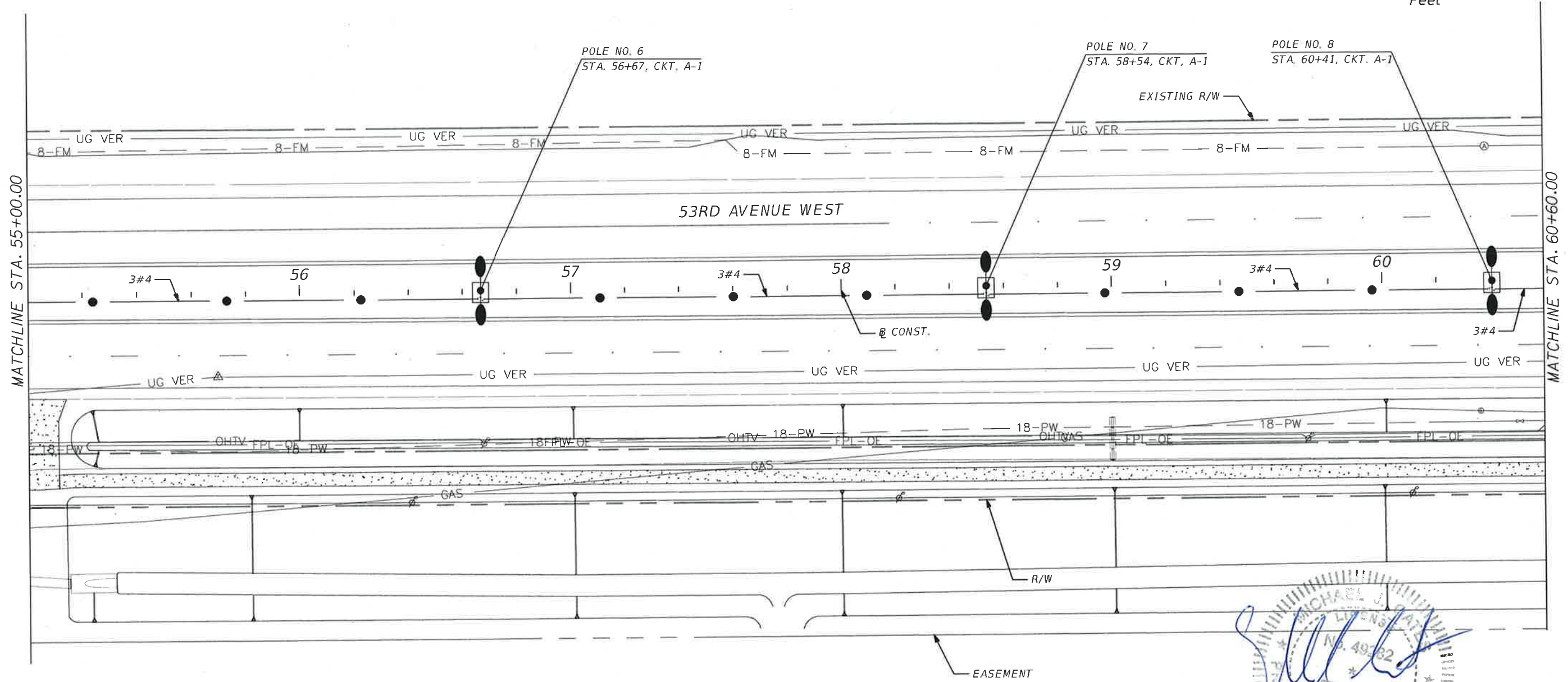
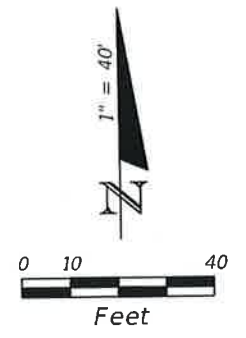
- EOTL - EDGE OF TRAVEL LANE
FOP - FACE OF POLE
BOS - BACK OF SIDEWALK
COM - CENTER OF MEDIAN

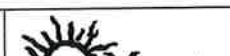


No.	REVISIONS	DATE	BY	CR	SCALE	AS NOTED	DESIGNED BY	MO	DRAWN BY	MH	CHECKED BY	CR	HDR Engineering, Inc. 2601 Cattlemen Road Suite 400 Sarasota, FL 34232-6233 FBPR Certificate of Authorization No. 4213	DATE	03/08/2017	PROJECT NO.	6082960	MANATEE COUNTY PUBLIC WORKS	DESIGN ENGINEER MICHAEL J. OATES FL. LICENSE NO. 49282	SHEET NO.	L-5
PW:\007982\CON\0044618\000000000221764\13.00_CAD\12345675201\Lighting_Poles\GNNTLT02.DGN																					



				SCALE AS NOTED	 HDR Engineering, Inc. 2601 Cattlemen Road Suite 400 Sarasota, FL 34232-6233 FBPR Certificate of Authorization No. 4213	DATE 03/08/2017	 MANATEE COUNTY PUBLIC WORKS	DESIGN ENGINEER MICHAEL J. OATES	LIGHTING PLAN (1)	SHEET NO.
				DESIGNED BY MO		PROJECT NO. 6082960		FL. LICENSE NO. 49282		L-6
				DRAWN BY MH						
				CHECKED BY CR						
No.	REVISIONS	DATE	BY							

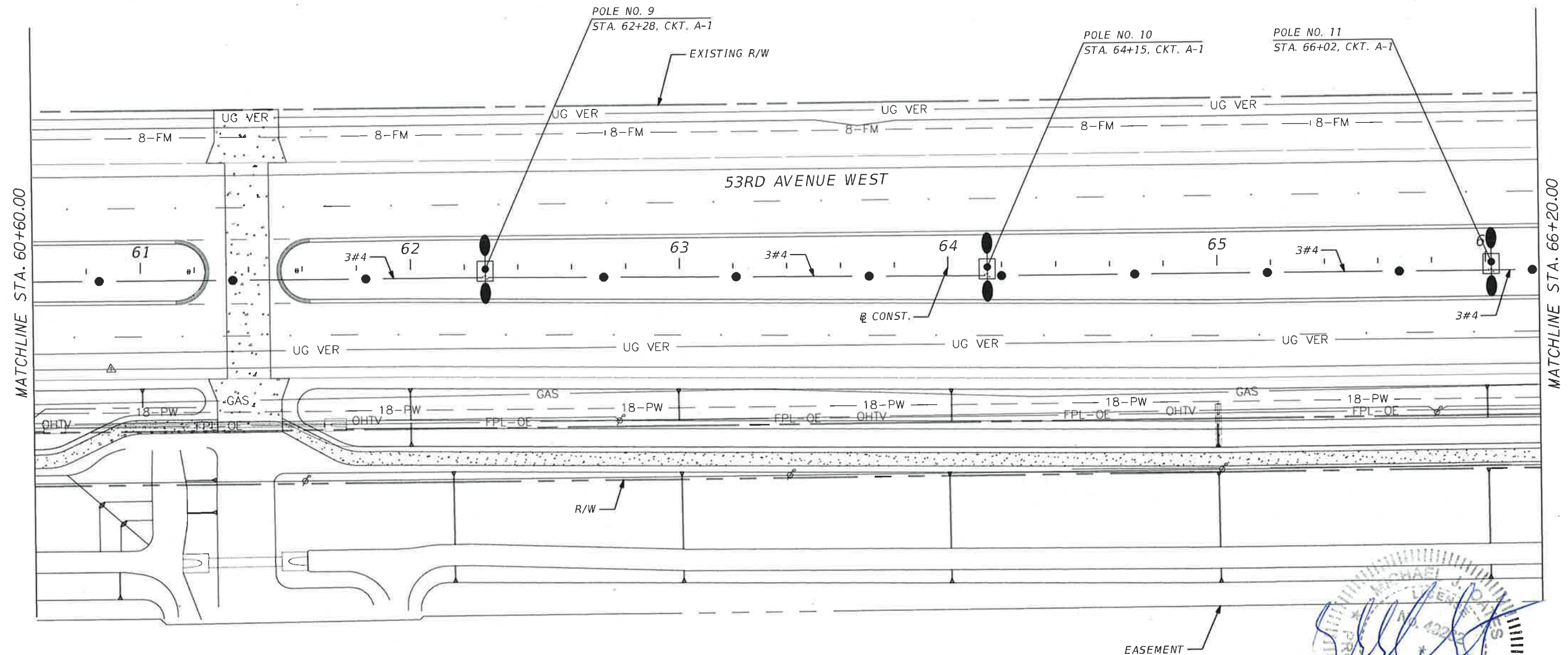
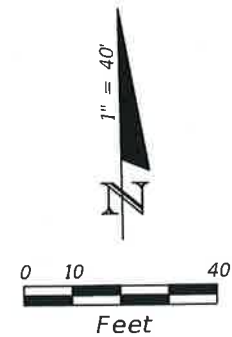


				SCALE	AS NOTED		HDR Engineering, Inc. 2601 Cattlemen Road Suite 400 Sarasota, FL 34232-6233 FBPR Certificate of Authorization No. 4213	DATE	03/08/2017		MANATEE COUNTY PUBLIC WORKS	DESIGN ENGINEER	MICHAEL J. OATES	<i>LIGHTING PLAN (2)</i>	SHEET NO.
				DESIGNED BY	MO			PROJECT NO. 6082960	FL. LICENSE NO. 49282						
				DRAWN BY	MH										
				CHECKED BY	CR										
No.	REVISIONS	DATE	BY												

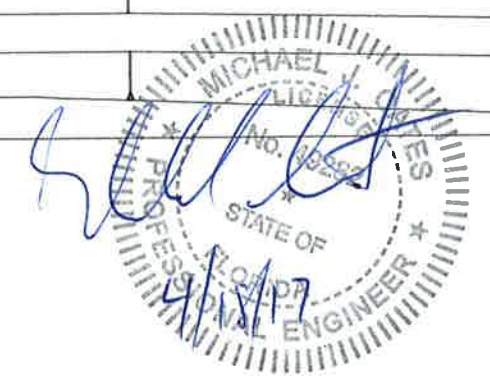
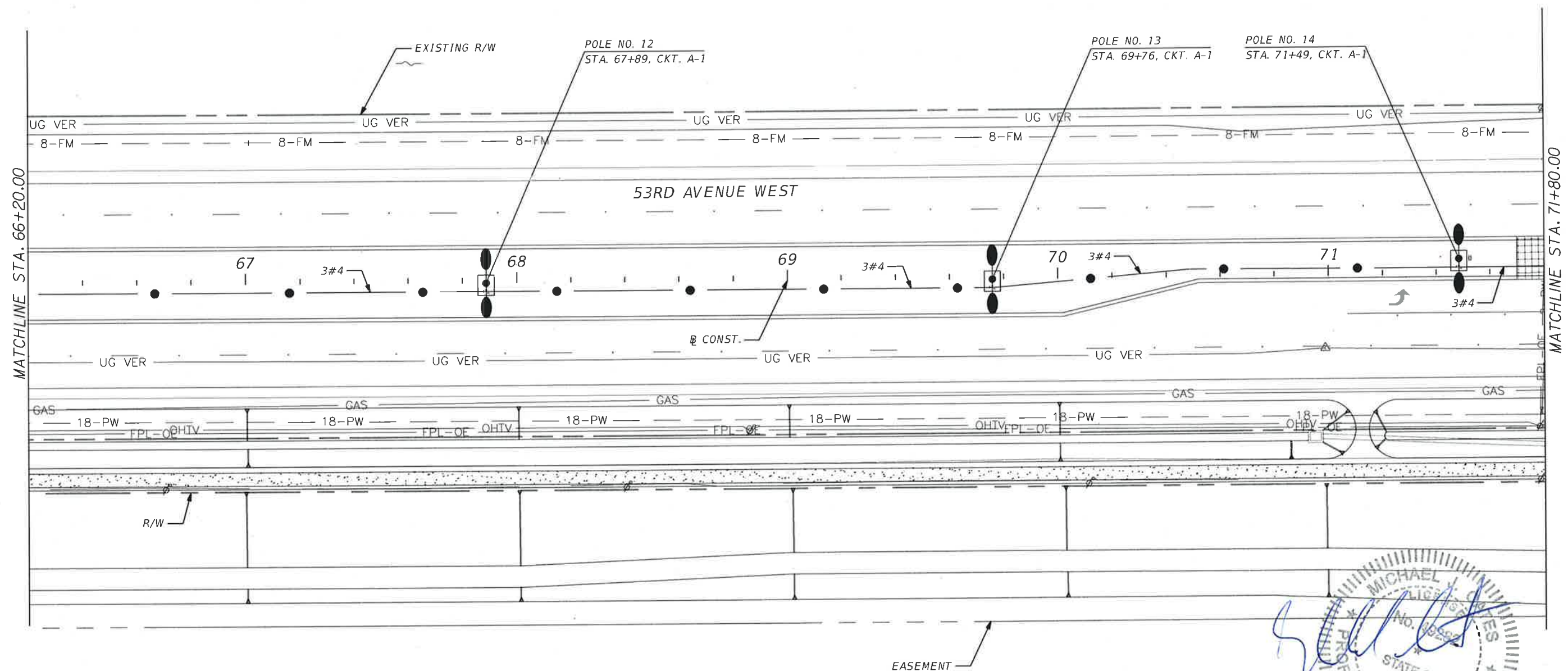
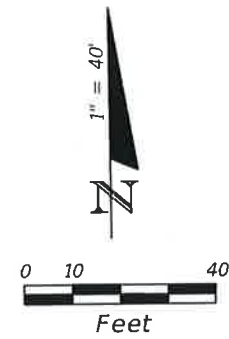
12:18:40 PM

4/18/2017

PW:\007982\CON0044618\000000000221764\13.00_CAD\12345675201\Lighting_Poles\plansp02.dgn



				SCALE	AS NOTED		HDR Engineering, Inc. 2601 Cattlemen Road Suite 400 Sarasota, FL 34232-6233 FBPR Certificate of Authorization No. 4213	DATE	03/08/2017		MANATEE COUNTY PUBLIC WORKS	DESIGN ENGINEER	MICHAEL J. OATES	LIGHTING PLAN (3)	SHEET NO. L-8
				DESIGNED BY	MO			PROJECT NO.	6082960			FL. LICENSE NO.	49282		
				DRAWN BY	MH										
				CHECKED BY	CR										
No.	REVISIONS			DATE	BY	PW:\007982\CON\044618\000000000221764\13.00_CAD\12345675201\Lighting_Poles\plans\p03.dgn									



				SCALE	AS NOTED		HDR Engineering, Inc. 2601 Cattlemen Road Suite 400 Sarasota, FL 34232-6233 FBPR Certificate of Authorization No. 4213	DATE	03/08/2017		MANATEE COUNTY PUBLIC WORKS	DESIGN ENGINEER	MICHAEL J. OATES	LIGHTING PLAN (4)	SHEET NO.
				DESIGNED BY	MO			PROJECT NO.	6082960			FL. LICENSE NO.	49282		
				DRAWN BY	MH										
				CHECKED BY	CR										
No.	REVISIONS			DATE	BY										

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

03/08/2017

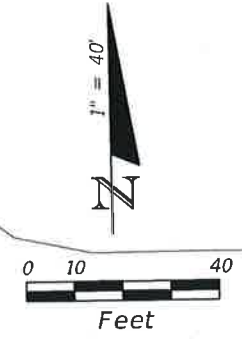
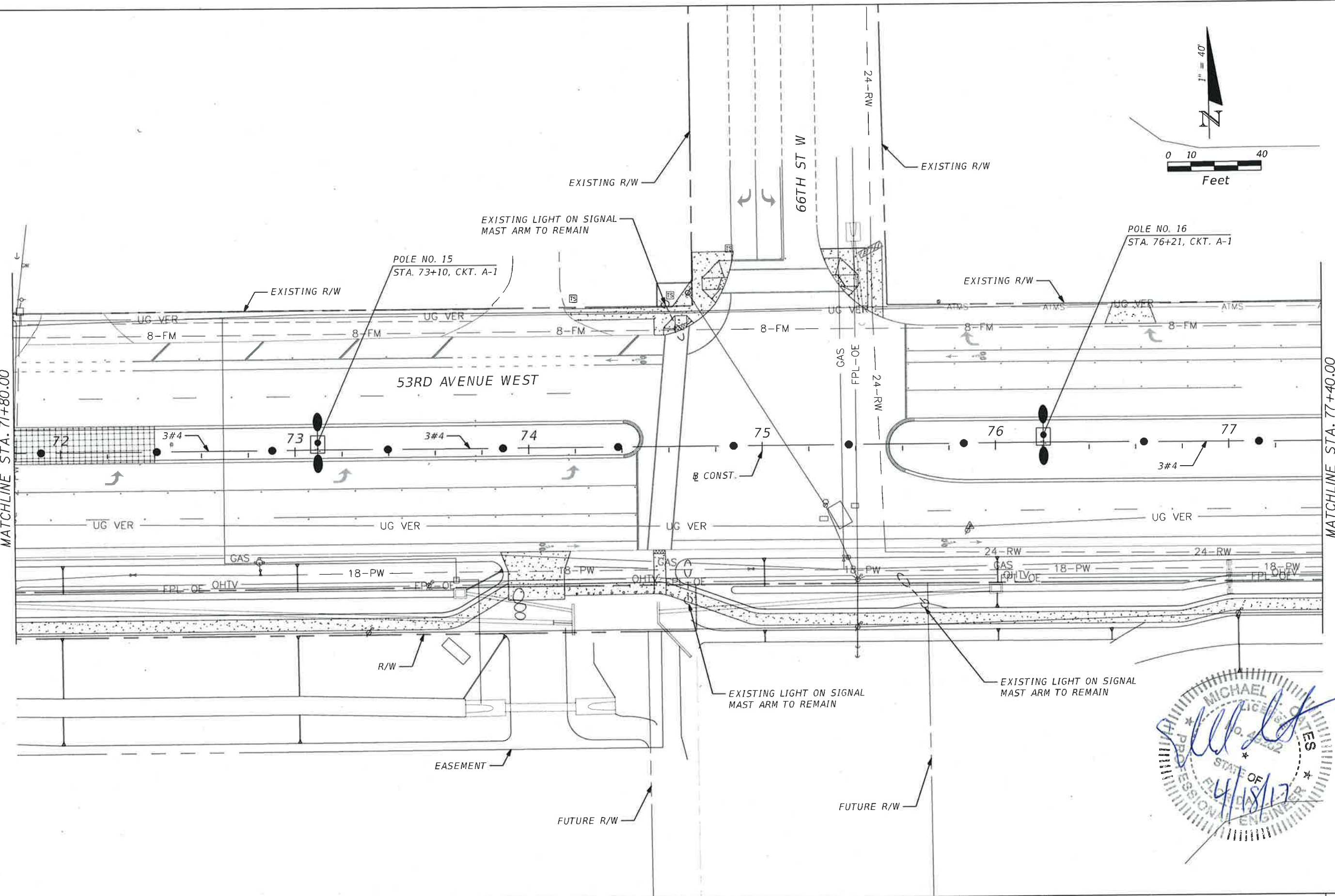
03/08/2017

03/

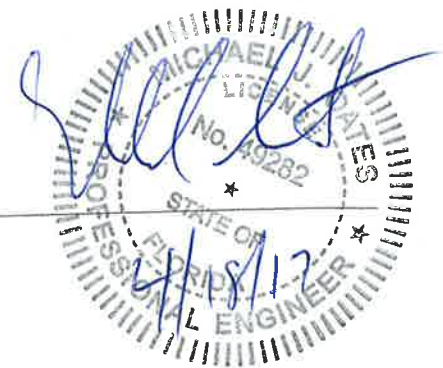
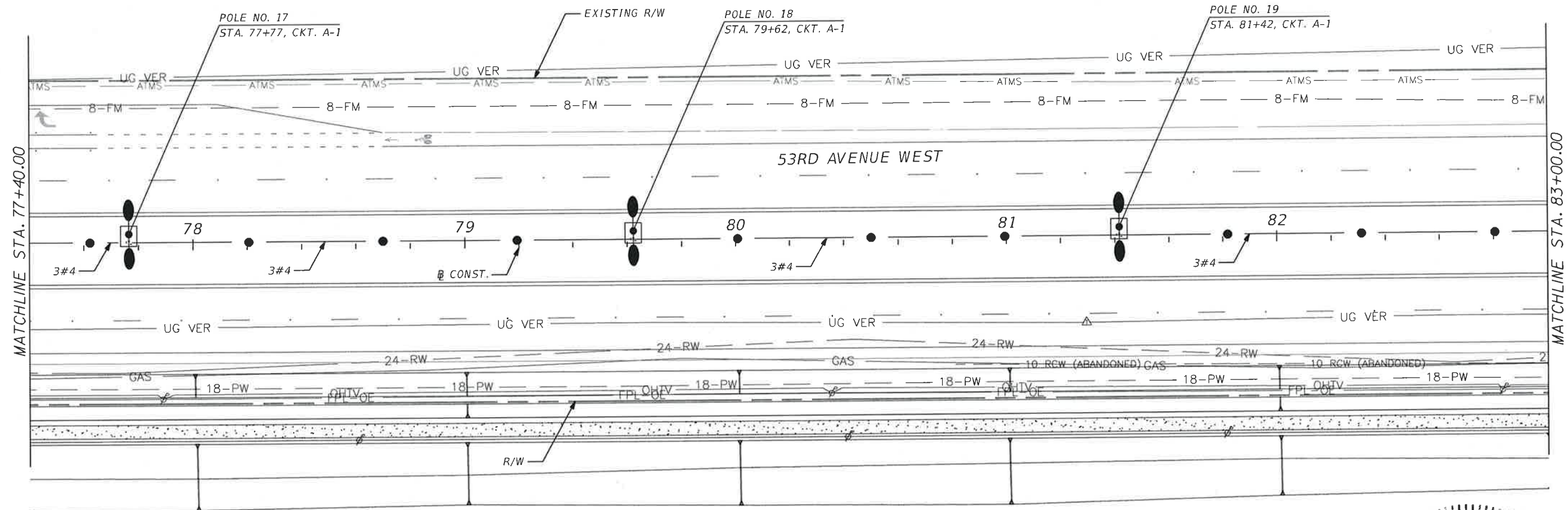
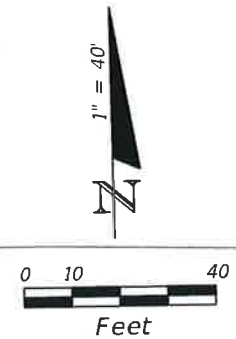
12:19:04 PM

4/18/2017

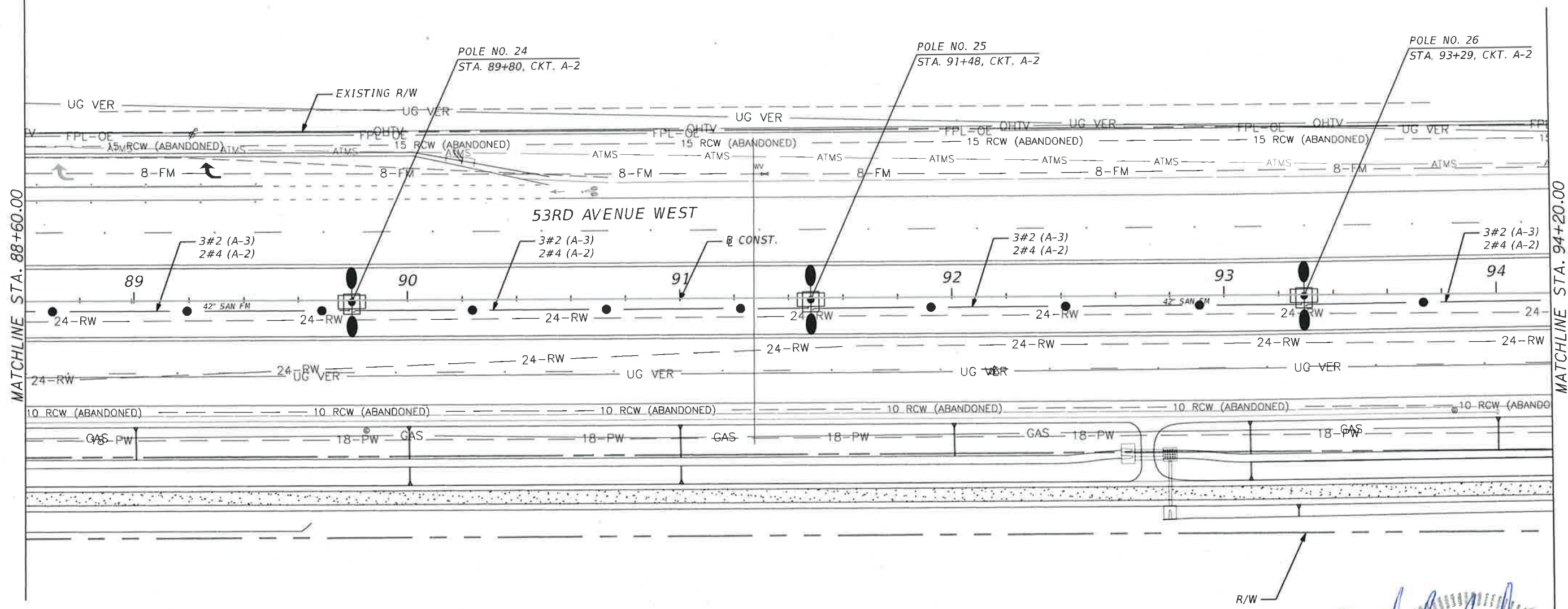
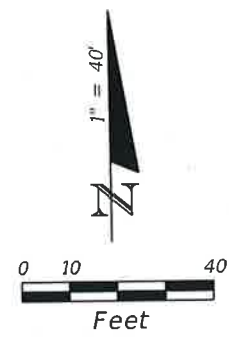
PW:\007982\CON\0044618\000000000221764\13.00_CAD\12345675201\Lighting_Poles\plansp04.dgn

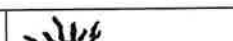


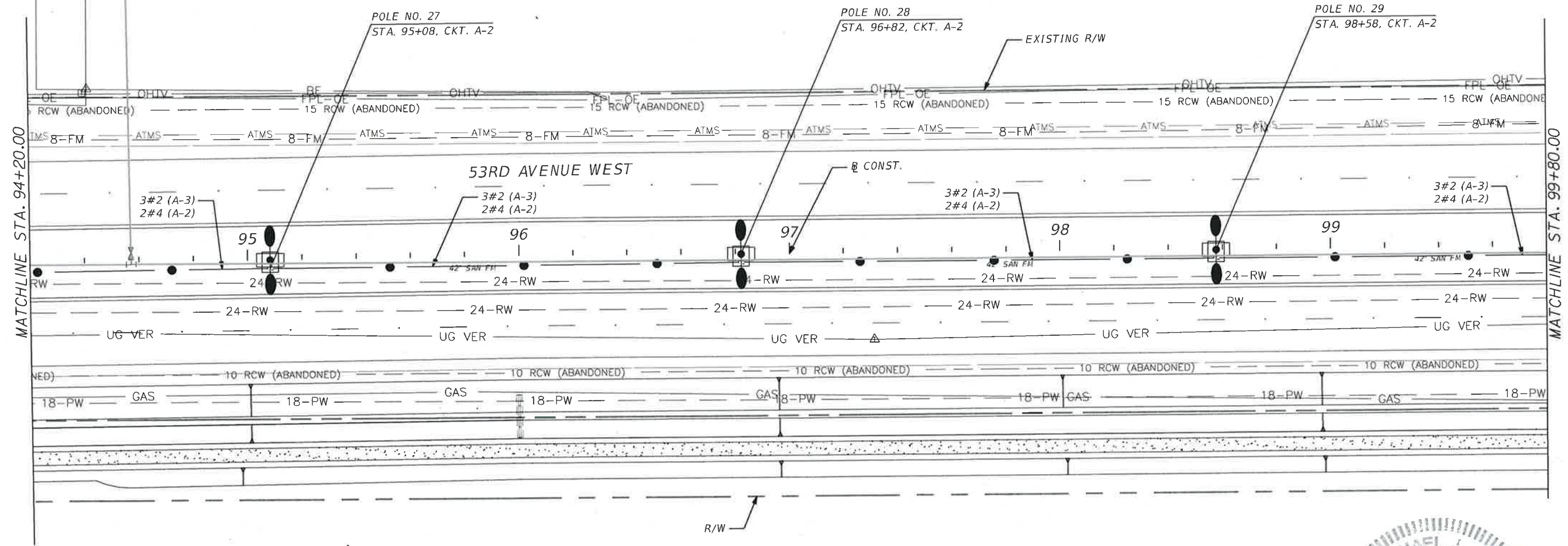
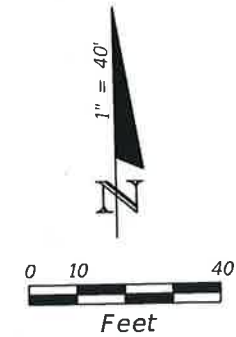
No.	REVISIONS	DATE	BY	SCALE AS NOTED DESIGNED BY MO DRAWN BY MH CHECKED BY CR	 HDR Engineering, Inc. 2601 Cattlemen Road Suite 400 Sarasota, FL 34232-6233 FBPR Certificate of Authorization No. 4213	DATE 03/08/2017 PROJECT NO. 6082960	 Manatee County FLORIDA	MANATEE COUNTY PUBLIC WORKS	DESIGN ENGINEER MICHAEL J. OATES FL. LICENSE NO. 49282	LIGHTING PLAN (5)	SHEET NO. L-10
-----	-----------	------	----	--	---	--	---	--------------------------------	--	-------------------	-------------------



				SCALE AS NOTED	 HDR Engineering, Inc. 2601 Cattlemen Road Suite 400 Sarasota, FL 34232-6233 FBPR Certificate of Authorization No. 4213	DATE 03/08/2017	 MANATEE COUNTY PUBLIC WORKS	DESIGN ENGINEER MICHAEL J. OATES	LIGHTING PLAN (6)	SHEET NO.
				DESIGNED BY MO		PROJECT NO. 6082960		FL. LICENSE NO. 49282		L-11
				DRAWN BY MH						
				CHECKED BY CR						
No.	REVISIONS	DATE	BY							



				SCALE	AS NOTED		HDR Engineering, Inc. 2601 Cattlemen Road Suite 400 Sarasota, FL 34232-6233 FBPR Certificate of Authorization No. 4213	DATE 03/08/2017		MANATEE COUNTY PUBLIC WORKS	DESIGN ENGINEER MICHAEL J. OATES	LIGHTING PLAN (8)	SHEET NO. L-13
				DESIGNED BY	MO						FL. LICENSE NO. 49282		
				DRAWN BY	MH								
				CHECKED BY	CR								
No.	REVISIONS			DATE	BY	PW:\007982\CAD\0044618\000000000221764\13.00_CAD\12345675201\Lighting_Poles\plansp08.dgn							

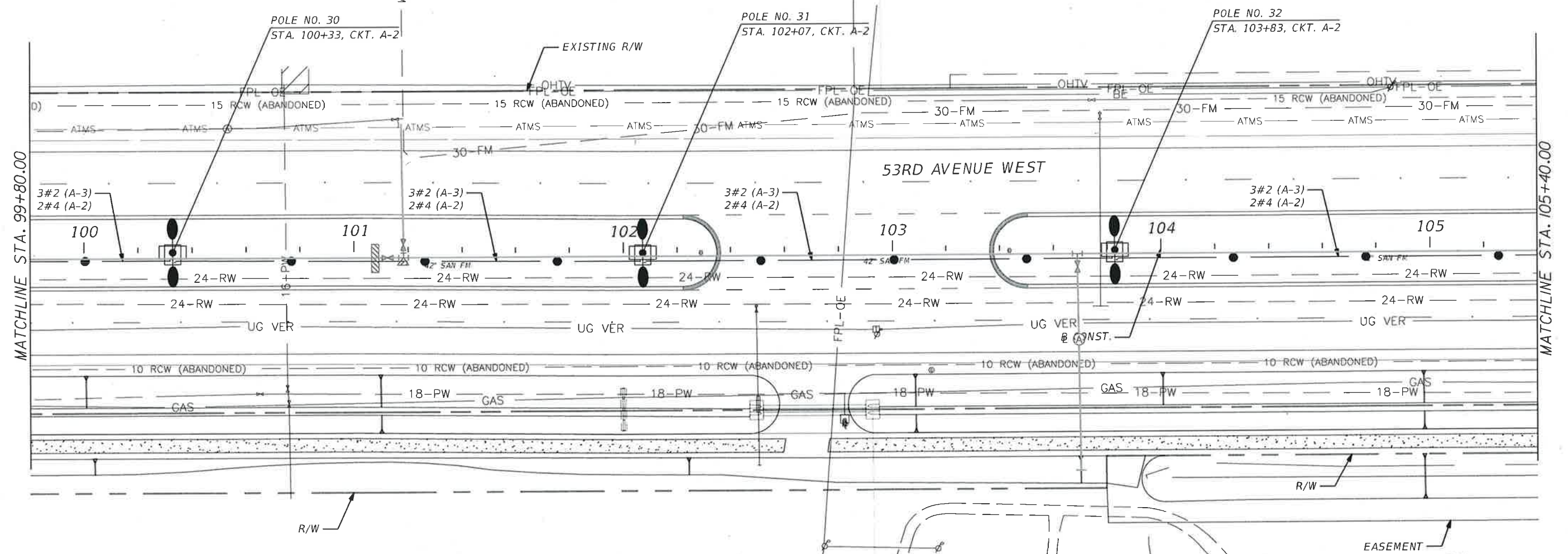
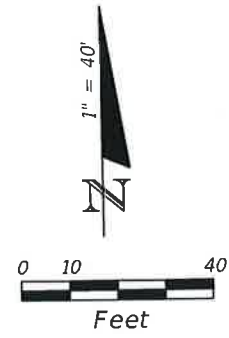


				SCALE AS NOTED	 HDR Engineering, Inc. 2601 Cattlemen Road Suite 400 Sarasota, FL 34232-6233 FBPR Certificate of Authorization No. 4213	DATE 03/08/2017	 MANATEE COUNTY PUBLIC WORKS	DESIGN ENGINEER MICHAEL J. OATES	LIGHTING PLAN (9)	SHEET NO. L-14
				DESIGNED BY MO		PROJECT NO. 6082960		FL. LICENSE NO. 49282		
				DRAWN BY MH						
				CHECKED BY CR						
No.	REVISIONS			DATE	BY	PW:\07082\CON\044618\00000000221764\13 00 CAD\12345675201\Lighting Poles\plansp09.dgn				

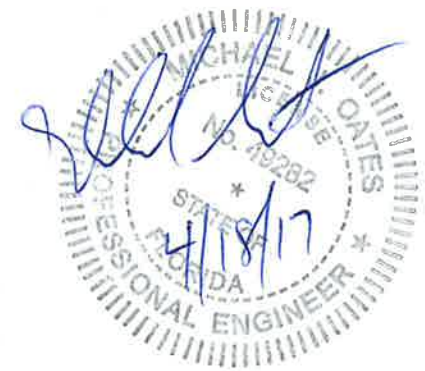
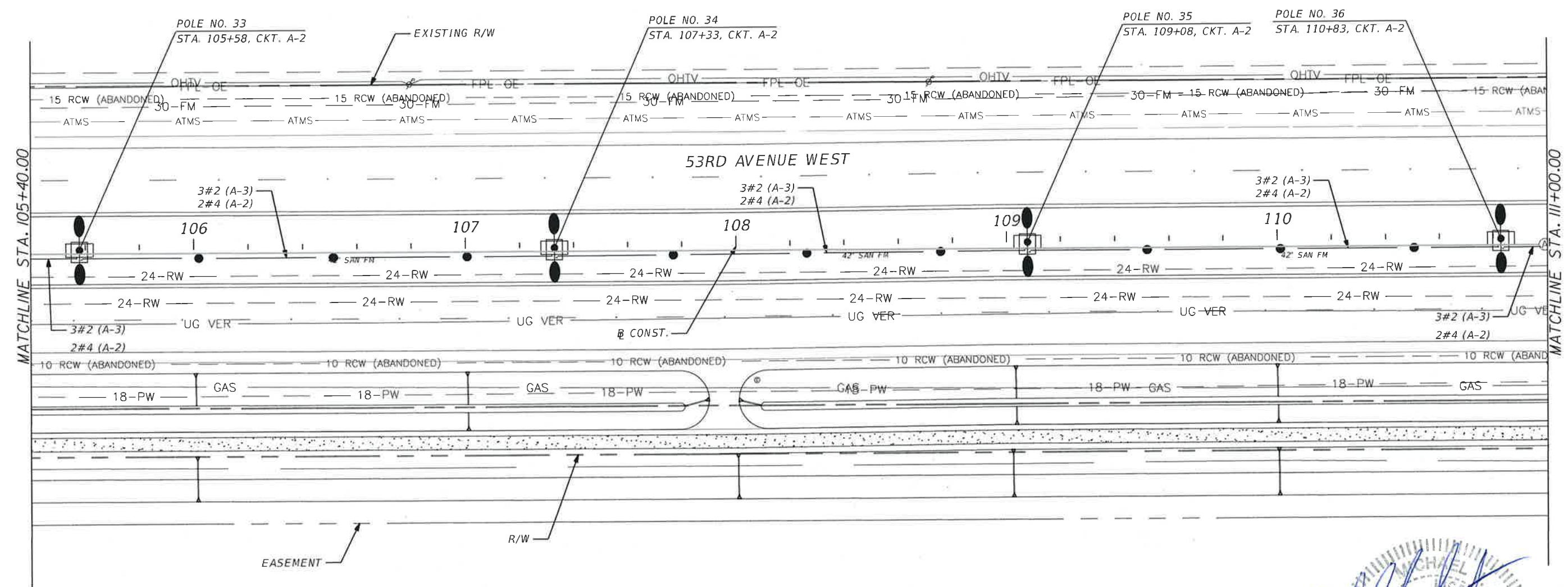
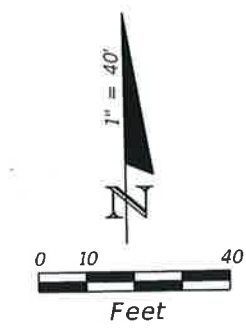
12:20:04 PM

4/18/2017

PW:\007982\CON\0044618\000000000221764\13.00_CAD\12345675201\Lighting_Poles\plansp09.dgn



No.				REVISIONS				DATE				BY				CR			
SCALE				AS NOTED				DESIGNED BY				MO				DRAWN BY			
CHECKED BY				MH				DATE				03/08/2017				PROJECT NO.			
6082960				HDR				HDR Engineering, Inc.				2601 Cattlemen Road				Suite 400			
Sarasota, FL 34232-6233				FBPR Certificate of				Authorization No. 4213				DATE				03/08/2017			
MANATEE COUNTY				PUBLIC WORKS				DESIGN ENGINEER				MICHAEL J. OATES				FL. LICENSE NO.			
49282				LIGHTING PLAN (10)				SHEET NO.				L-15				PW:\007982\CON0044618\000000000221764\13.00_CAD\12345675201\Lighting_Poles\plansp010.dgn			

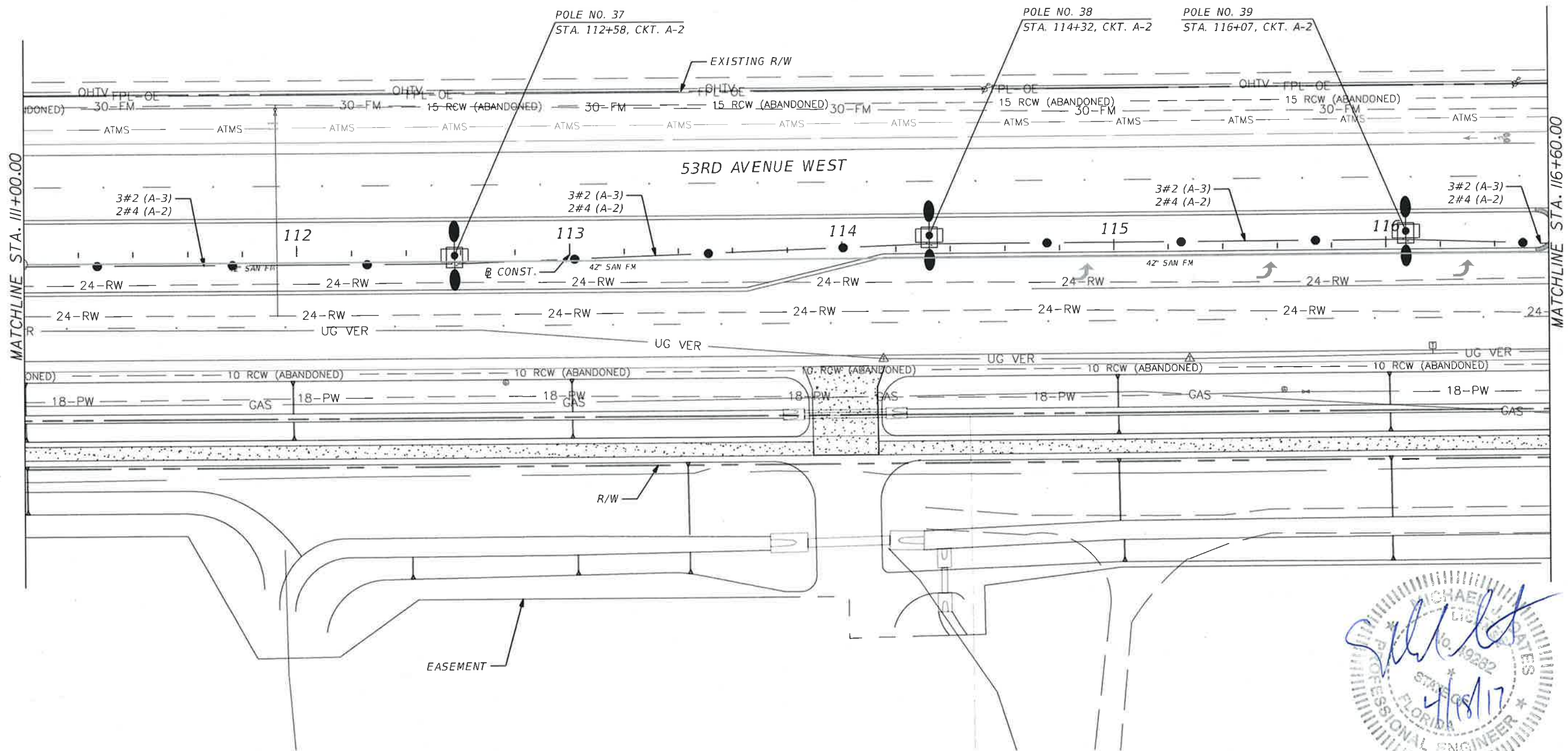


--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

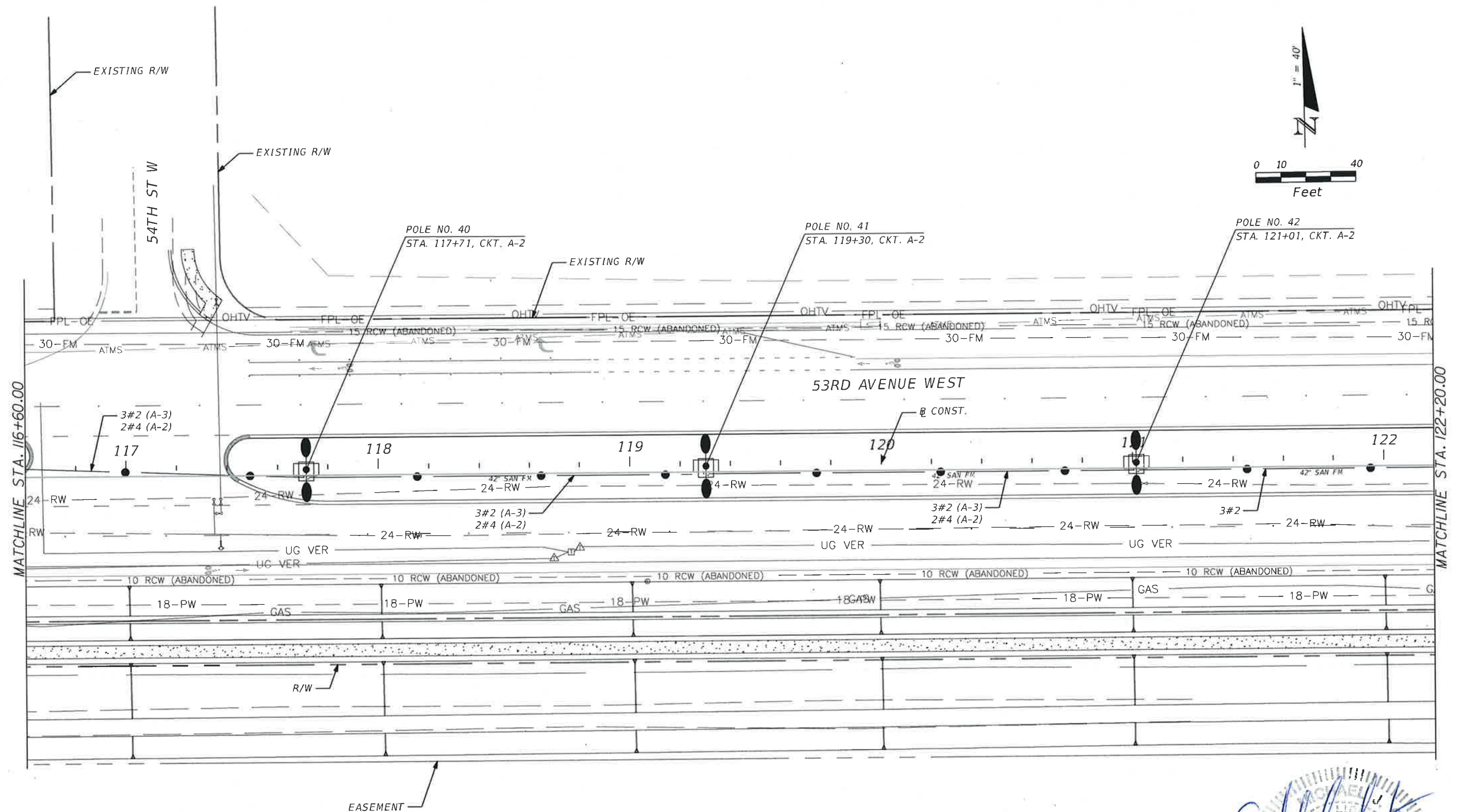
12:20:28 PM

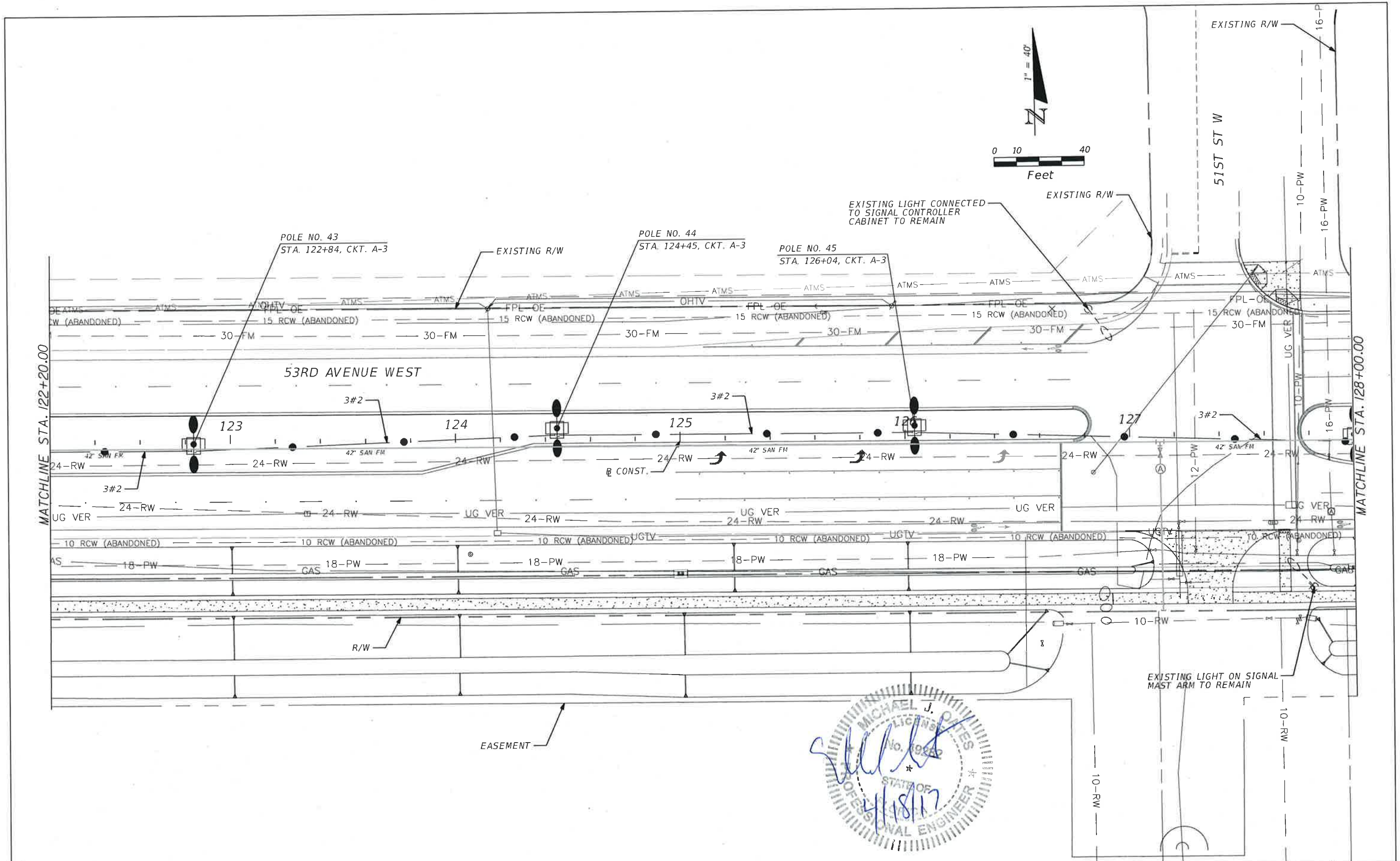
4/18/2017

PW:\007982\CON\0044618\00000000221764\13.00_CAD\12345675201\Lighting_Poles\plansp011.dgn

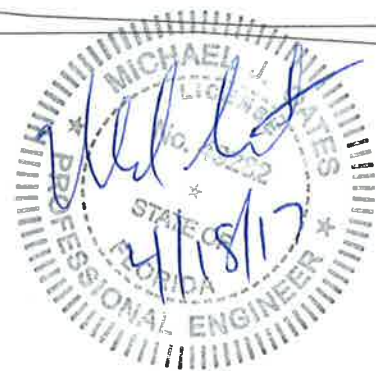
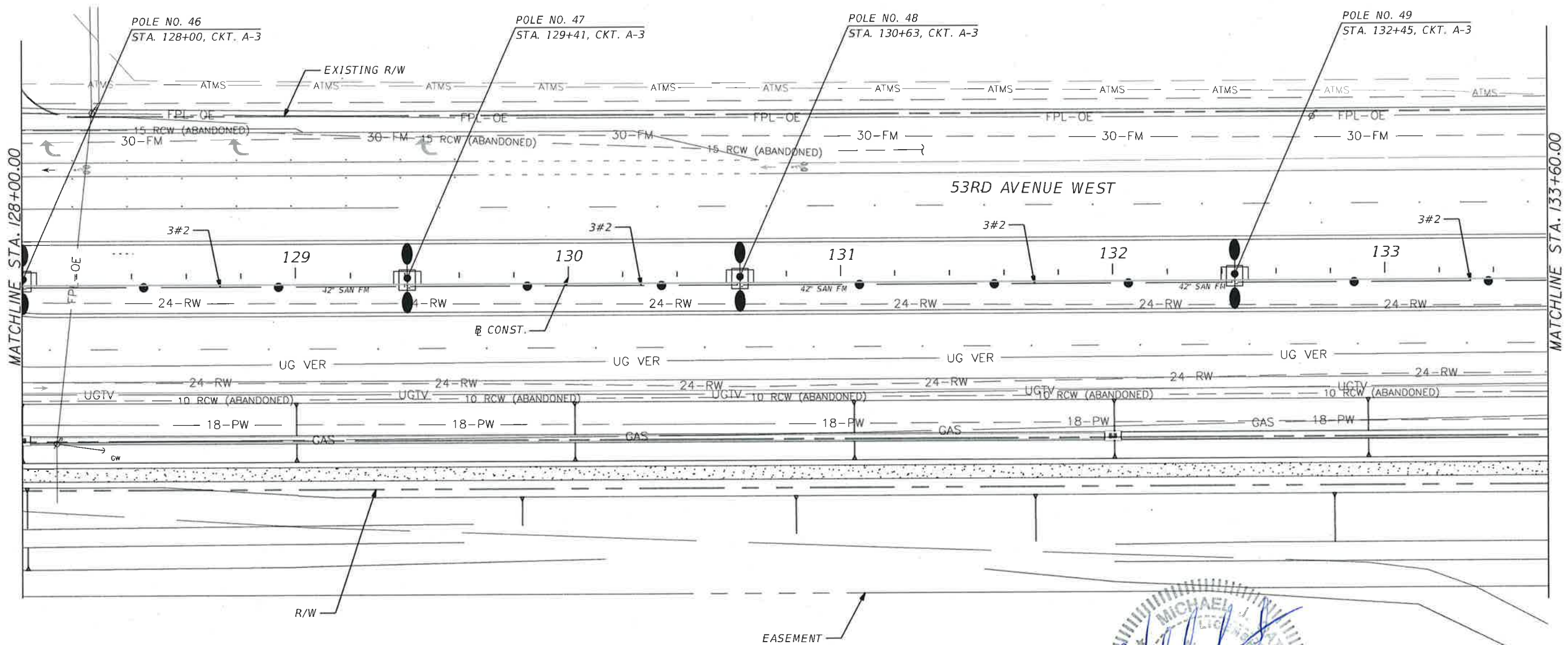
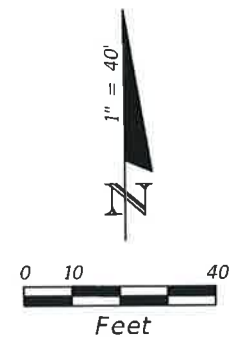


				SCALE	 HDR Engineering, Inc. 2601 Cattlemen Road Suite 400 Sarasota, FL 34232-6233 FBPR Certificate of Authorization No. 4213	DATE	 MANATEE COUNTY PUBLIC WORKS	DESIGN ENGINEER	LIGHTING PLAN (12)	SHEET NO.
				AS NOTED		03/08/2017		MICHAEL J. OATES		L-17
				DESIGNED BY MO		PROJECT NO. 6082960		FL. LICENSE NO.		
				DRAWN BY MH				49282		
				CHECKED BY CR						
No.	REVISIONS			DATE	BY	B:\031002\CON\044518\00000000221764\13.00_CAD\12345675201\Lighting_Poles\plansp012.dgn				

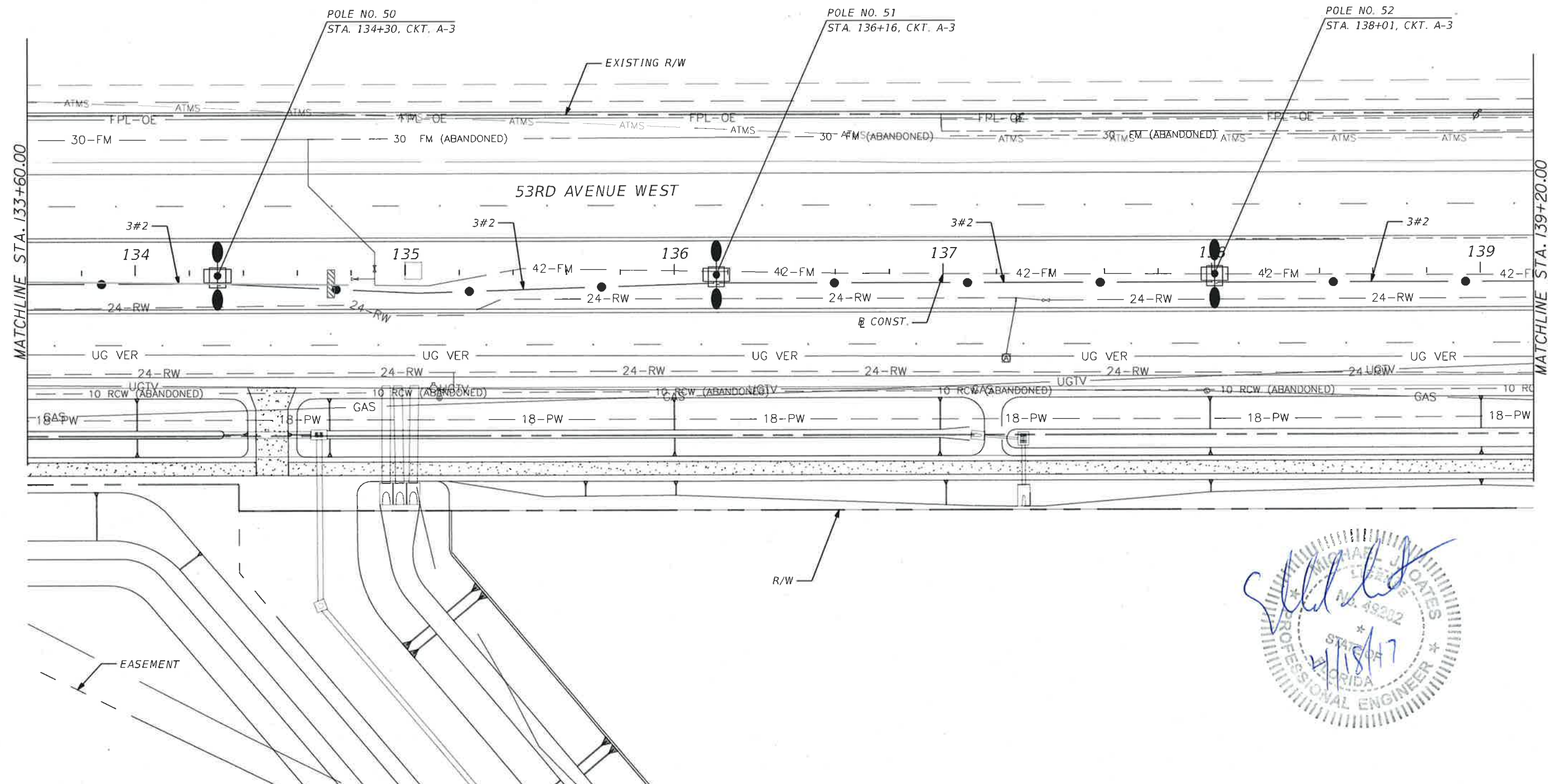
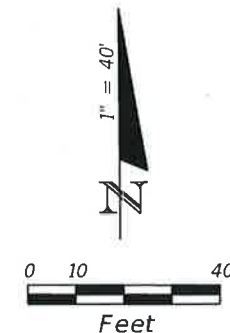




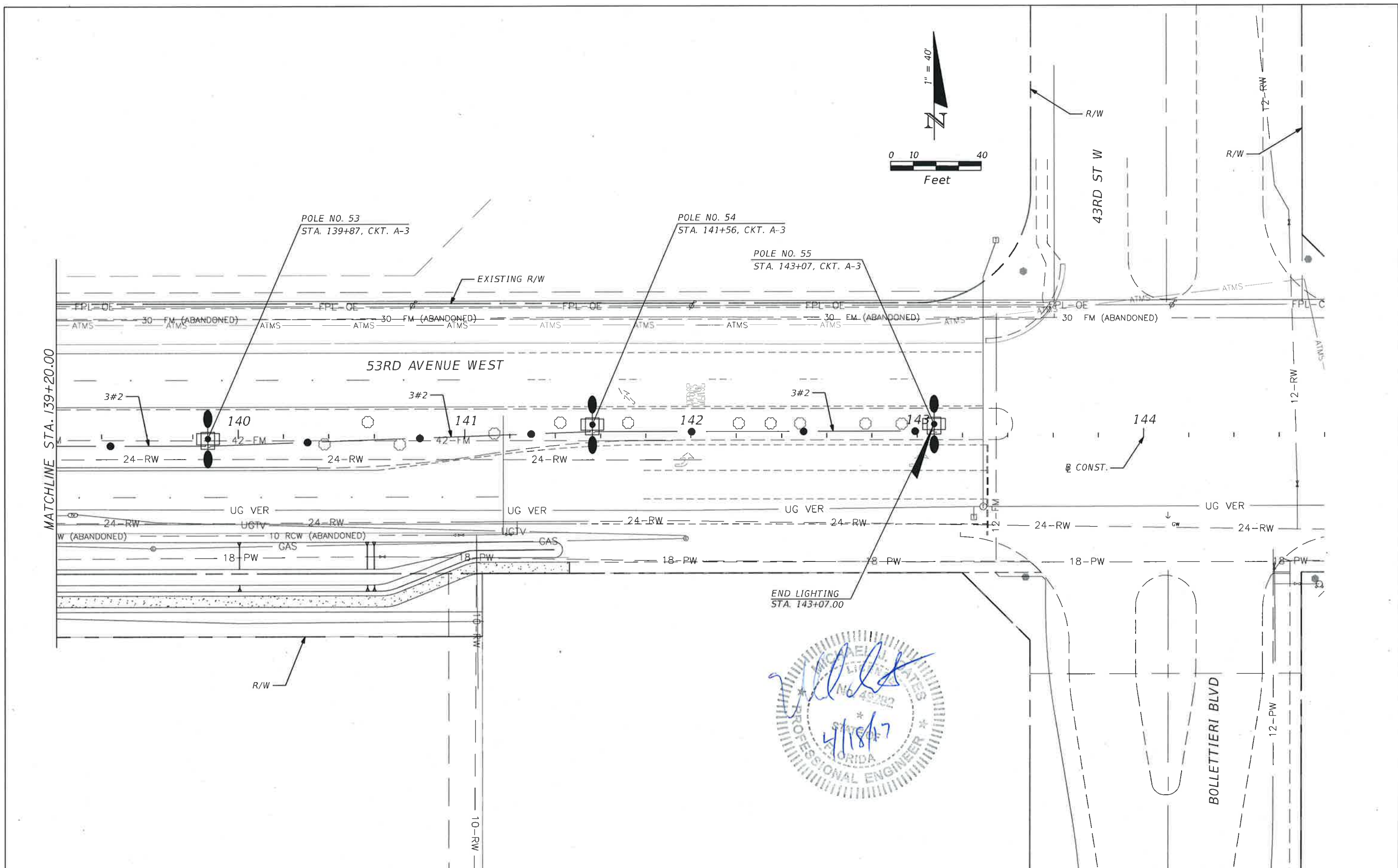
				 HDR Engineering, Inc. 2601 Cattlemen Road Suite 400 Sarasota, FL 34232-6233 FBPR Certificate of Authorization No. 4213	DATE 03/08/2017 PROJECT NO. 6082960	 MANATEE COUNTY PUBLIC WORKS	DESIGN ENGINEER MICHAEL J. OATES FL. LICENSE NO. 49282	LIGHTING PLAN (14)	SHEET NO. L-19
No.	REVISIONS	DATE	BY						
			SCALE AS NOTED						
			DESIGNED BY MO						
			DRAWN BY MH						
			CHECKED BY CR						



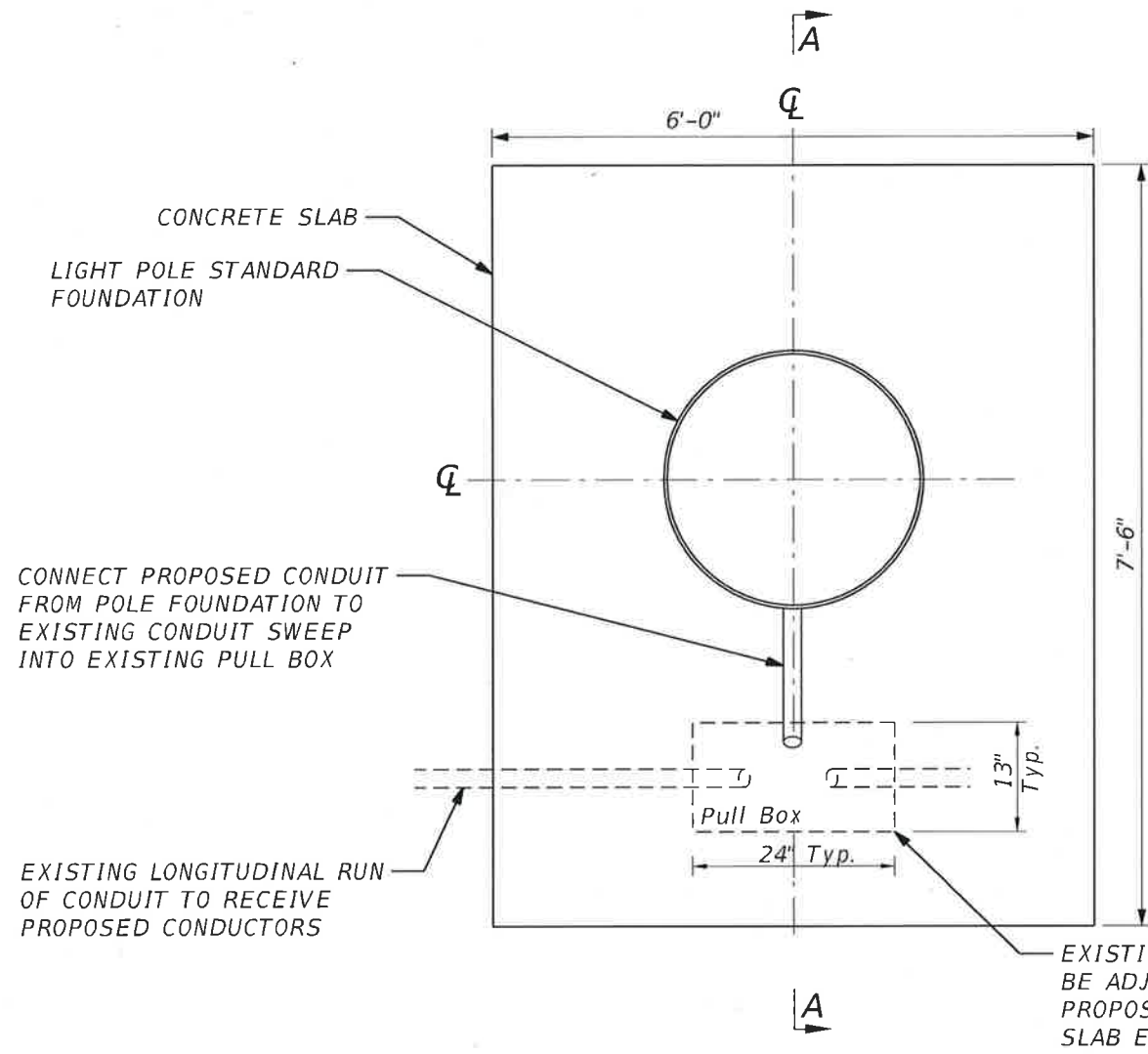
				SCALE	AS NOTED		HDR Engineering, Inc. 2601 Cattlemen Road Suite 400 Sarasota, FL 34232-6233 FBPR Certificate of Authorization No. 4213	DATE 03/08/2017		MANATEE COUNTY PUBLIC WORKS	DESIGN ENGINEER	MICHAEL J. OATES	<i>LIGHTING PLAN (15)</i>	SHEET NO. L-20
				DESIGNED BY	MO						FL. LICENSE NO.			
				DRAWN BY	MH						49282			
				CHECKED BY	CR									
No.	REVISIONS			DATE	BY									



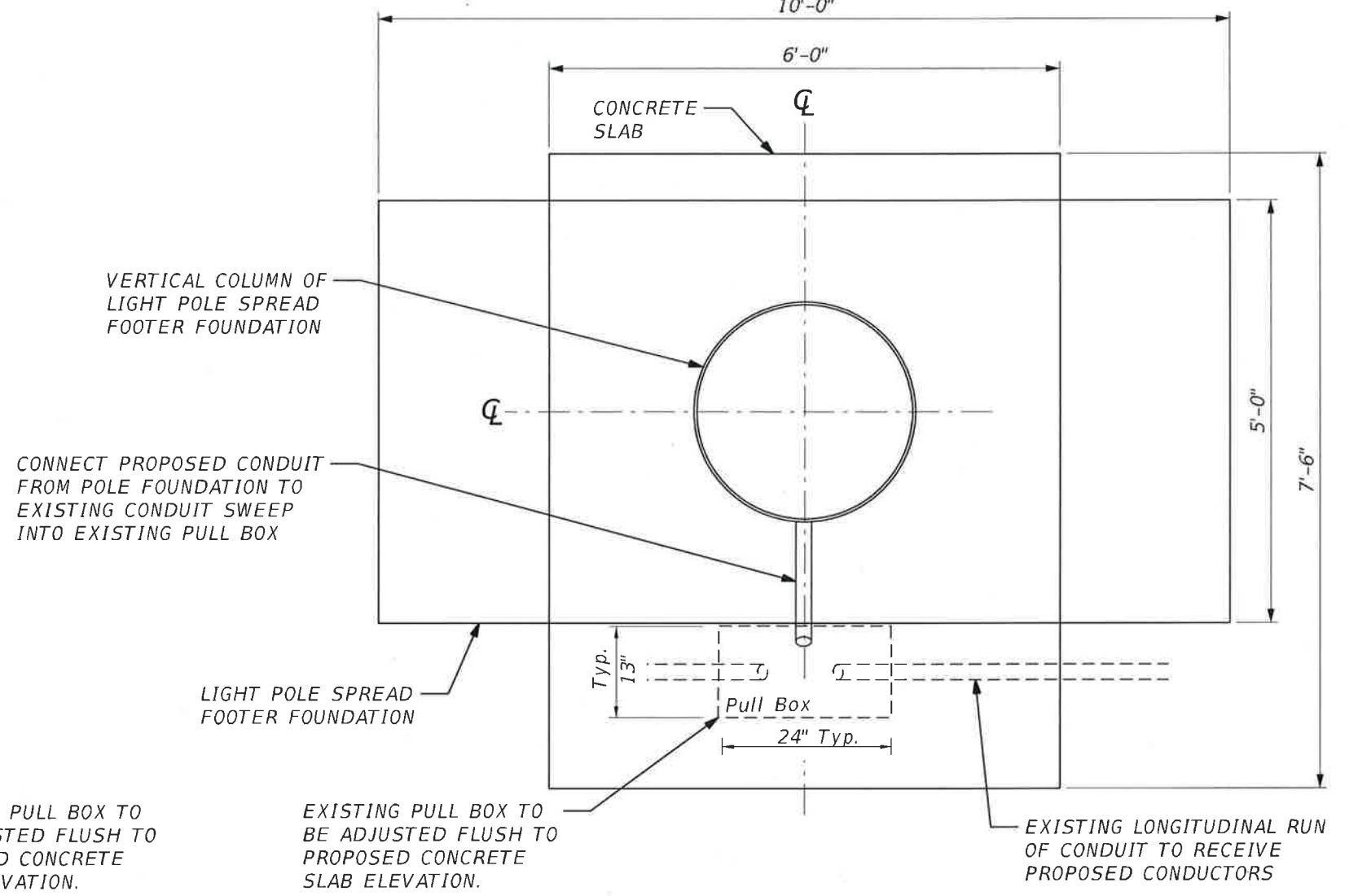
				SCALE	AS NOTED		HDR Engineering, Inc. 2601 Cattlemen Road Suite 400 Sarasota, FL 34232-6233 FBPR Certificate of Authorization No. 4213	DATE	03/08/2017		MANATEE COUNTY PUBLIC WORKS	DESIGN ENGINEER	MICHAEL J. OATES	LIGHTING PLAN (16)	SHEET NO. L-21
				DESIGNED BY	MO			PROJECT NO.	6082960			FL. LICENSE NO.	49282		
				DRAWN BY	MH										
				CHECKED BY	CR										
No.	REVISIONS			DATE	BY										



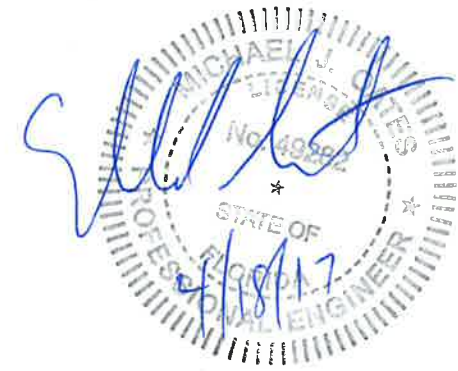
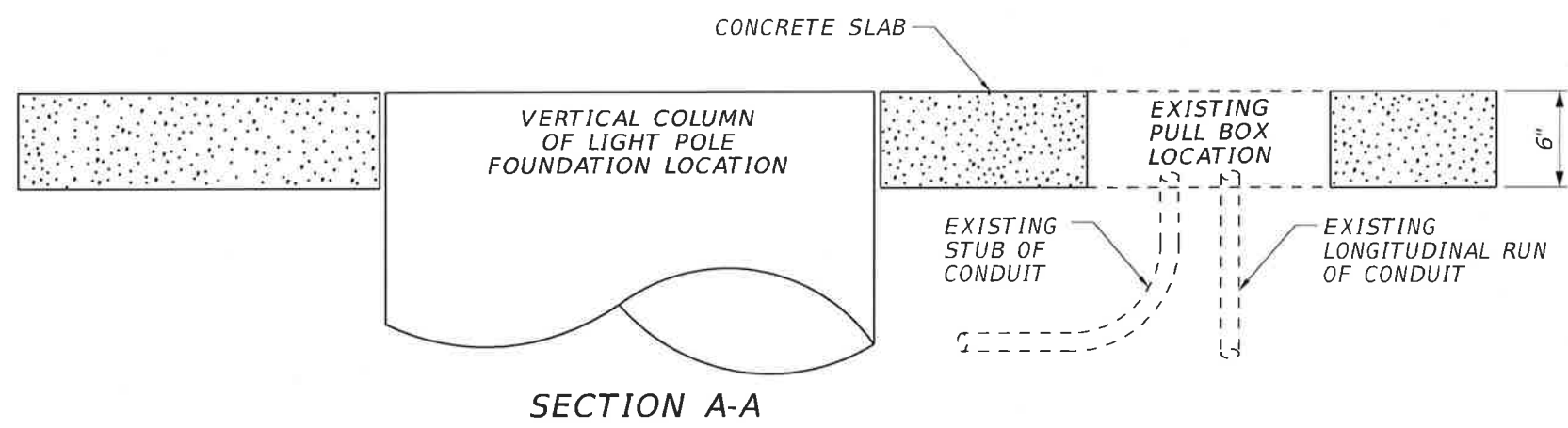
No.	REVISIONS	DATE	BY	SCALE AS NOTED DESIGNED BY MO DRAWN BY MH CHECKED BY CR	 HDR Engineering, Inc. 2601 Cattlemen Road Suite 400 Sarasota, FL 34232-6233 FBPR Certificate of Authorization No. 4213	DATE 03/08/2017 PROJECT NO. 6082960	 MANATEE COUNTY PUBLIC WORKS	DESIGN ENGINEER MICHAEL J. OATES FL. LICENSE NO. 49282	LIGHTING PLAN (17)		SHEET NO. L-22
-----	-----------	------	----	--	---	--	--	---	--------------------	--	-------------------



STANDARD POLE FOUNDATION WITH CONCRETE SLAB DETAILS
NTS



SPREAD FOOTING POLE FOUNDATION WITH CONCRETE SLAB DETAILS
NTS



--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

PANELBOARD NO:

A

VOLTAGE:

480/240

PHASE:

1

WIRE:

3+GND

200% NEUTRAL:

NO

BUS RATING (A):

100

MAIN OC DEVICE:

INTERRUPTING RATING (KA):

35

SERVICE ENTRANCE LABEL:

NO

ENCLOSURE:

NEMA 1

MOUNTING:

SURFACE

LOCATION:

Service Point Control Panel

CKT NO.	DESCRIPTION	CONNECTED LOAD (VA)				OCP		OCP		CONNECTED LOAD (VA)				DESCRIPTION	CKT NO.	
		LTS	REC	MECH	MISC	AMPS	P	AMPS	P	LTS	REC	MECH	MISC			
1	CKT A-1:(P2&P3)	4,128				40	2	A	40	2	2,496				CKT A-3: (P1&P4)	2
3	ROADWAY LIGHTING	4,128						B			2,496				ROADWAY LIGHTING	4
5	CKT A-2:(P6&P7)	3,648				40	2	A	40	2	0				SPARE	6
7	ROADWAY LIGHTING	3,648						B			0				ROADWAY LIGHTING	8
9	SPACE							A							SPACE	10
11								B								12

LOAD SUMMARY

	LTS	REC	MECH	MISC	SPARE	TOTAL			PHASE BALANCE	
CONNECTED LOAD (KVA)	20.5	0.0	0.0	0.0	---	20.5	480	LINE-TO-LINE VOLTS	PHASE A (KVA)	16
DEMAND FACTOR	1.25	NEC	1.00	1.00	20%	---	42.8	CONNECTED AMPS	PHASE B (KVA)	16
DESIGN LOAD (KVA)	25.7	0.0	0.0	0.0	4.1	29.8	62.1	DESIGN AMPS		

BREAKER SIZING

CKT NO.	TOTAL LOAD	DEMAND	MINIMUM BREAKER SIZE
1	17.20	125%	21.50
2	15.20	125%	19.00
3	10.40	125%	13.00
4	0.00	125%	0.00
MAIN	42.80	125%	53.50

NOTES:

1. PROVIDE PANEL WITH A GROUND TERMINAL LUG FOR THE NUMBER OF GROUND CONDUCTOR PLUS 20%

SERVICE FEEDER	3- #2 AWG	2" CONDUIT
MAIN BREAKER	100 AMP, 2P	480V
LIGHTING CONTACTOR	100 A, 2P, 480V	480 V COIL
GROUNDING ELECTRODE CONDUCTOR	1 #6 AWG	1/2" RGS

SCALE

AS NOTED

DESIGNED BY

MO

DRAWN BY

MH

CHECKED BY

CR

HDR

HDR Engineering, Inc.
2601 Cattlemen Road
Suite 400
Sarasota, FL 34232-6233
FBPR Certificate of
Authorization No. 4213

DATE

03/08/2017

PROJECT NO.

6082960

Manatee County
FLORIDA

MANATEE COUNTY
PUBLIC WORKS

DESIGN ENGINEER

MICHAEL J. OATES

FL. LICENSE NO.

49282

PANEL SCHEDULES

SHEET NO.

L-24

No.

REVISIONS

DATE

BY

12:21:58 PM

4/18/2017

PW:\007982\CON\0044618\000000000221764\13.00_CAD\12345675201\Lighting_Poles\SRPTLT03.DGN

CONSTRUCTION SPECIFICATIONS:

FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (2016 EDITION) WITH APPROVED SUPPLEMENTS THERETO.

DESIGN SPECIFICATIONS:

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) LRFD BRIDGE DESIGN SPECIFICATIONS, SEVENTH EDITION (2014) WITH SUBSEQUENT INTERIMS AS APPLICABLE.

STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, SIXTH EDITION WITH 2015 INTERIMS.

FDOT STRUCTURES MANUAL DATED JANUARY 2016.

FDOT PLANS PREPARATION MANUAL DATED JANUARY 2016.

DESIGN WIND SPEED EQUALS 130 MPH.

CONCRETE:

CLASS IV f'c = 5500 PSI (28-DAY)

REINFORCING STEEL:

REINFORCEMENT CAN BE EITHER DEFORMED BAR REINFORCEMENT OR WELDED WIRE FABRIC. BAR REINFORCEMENT SHALL BE ASTM A615, GRADE 60. DEFORMED WELDED WIRE FABRIC SHALL MEET THE REQUIREMENTS OF ASTM A1064.

CONCRETE COVER:

CONCRETE COVER SHOWN IN THE PLANS DOES NOT INCLUDE REINFORCEMENT PLACEMENT AND FABRICATION TOLERANCE UNLESS SHOWN AS "MINIMUM COVER". SEE FDOT SPECIFICATIONS FOR ALLOWABLE REINFORCEMENT PLACEMENT TOLERANCES.

LUMINAIRE FOUNDATION NOTES:

1. THE CONTRACTOR IS RESPONSIBLE TO LOCATE ANY EXISTING UTILITIES THAT MAY BE IN CONFLICT WITH THE PROPOSED FOUNDATION PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST 120 DAYS PRIOR TO BEGIN OF CONSTRUCTION AT ANY CONFLICT LOCATION. AT THE CONTRACTOR'S RISK, BASED ON LOCATION OF EXISTING UTILITIES DESIGN CHANGES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO PERFORMING WORK.
2. THE COST ASSOCIATED WITH THE FOOTING CONSTRUCTION IS TO BE INCLUDED IN THE COST OF THE LIGHT POLE.
3. SOIL BELOW FOOTING IS TO HAVE A MINIMUM BEARING CAPACITY OF 2.5 KIPS/SQ. FT. FOR LEVELED GROUND.
4. ANCHOR BOLTS ARE TO HAVE A MINIMUM 4 1/2 INCH CONCRETE COVER AT BOTTOM OF FOOTING. ANCHOR BOLTS SHALL MEET MATERIAL REQUIREMENTS OF INDEX 17515 OF THE DESIGN STANDARDS.
5. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ANCHOR BOLTS THAT EFFECTIVELY TRANSMIT THE LIGHT POLE LOAD TO THE PEDESTAL/FOOTING AND THAT FIT THE REINFORCING CAGE. THE CONTRACTOR MUST PROVIDE CALCULATIONS SHOWING THAT THE FORCES OF THE LIGHT POLE DO NOT EXCEED THE DESIGN LOADS OF THE FOOTING. PRIOR TO PERFORMING THE WORK, THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS TO THE ENGINEER, THAT PROVIDE THE SIZE, SPACING AND QUANTITY OF REINFORCEMENT IF CALCULATED MAXIMUM LOADS OR PLAN DIMENSIONS OF SPREAD FOOTING (LENGTH AND WIDTH) ARE DIFFERENT THAN SHOWN. NO CHANGES SHALL BE ALLOWED WITHOUT THE ENGINEER'S PRIOR APPROVAL
6. DESIGN LOADS AT TOP OF PEDESTAL NOT TO EXCEED:
MOMENT IN TRANSVERSE DIRECTION = 14.3 KIP-FT
MOMENT IN LONGITUDINAL DIRECTION = 2.9 KIP-FT
SHEAR IN TRANSVERSE DIRECTION = 0.64 KIP
SHEAR IN LONGITUDINAL DIRECTION = 0.13 KIP
AXIAL LOAD = 0.3 KIP

LUMINAIRE FOUNDATION NOTES (CONT.):

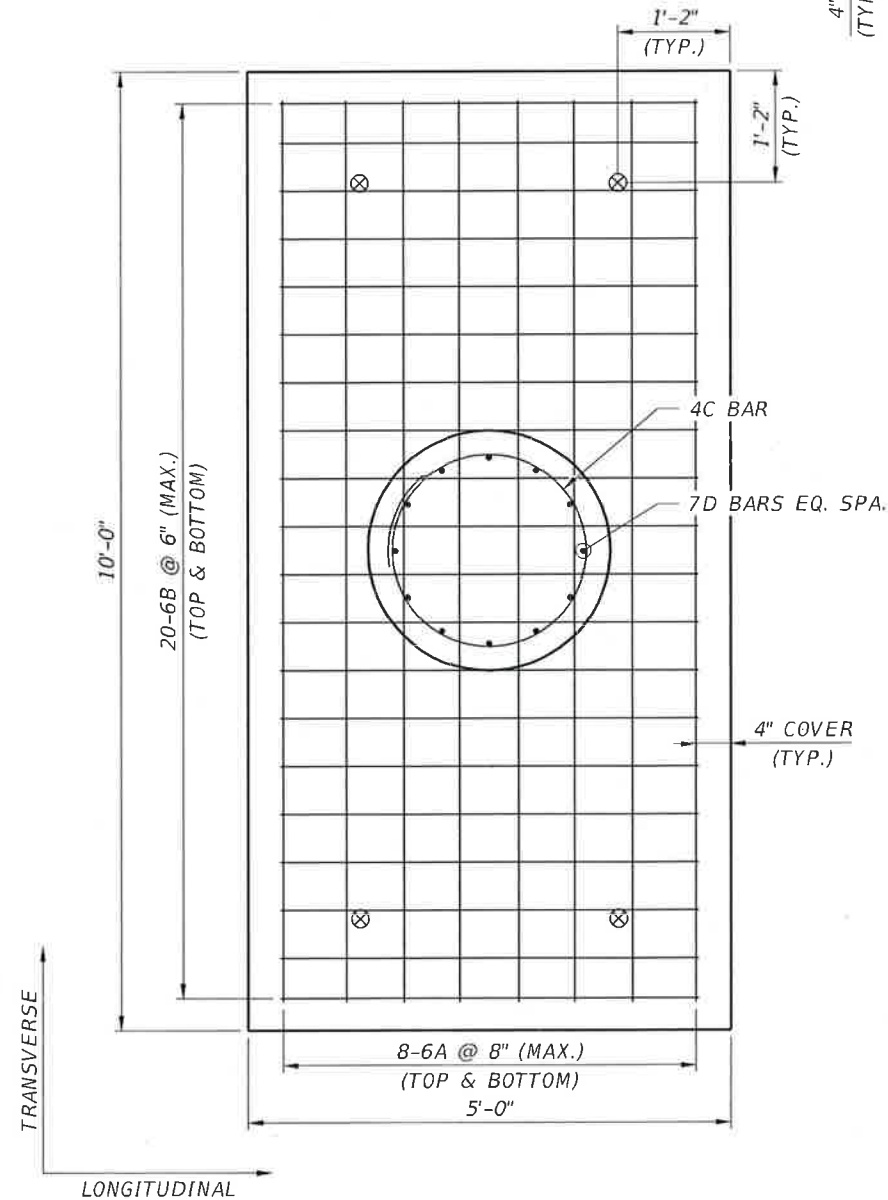
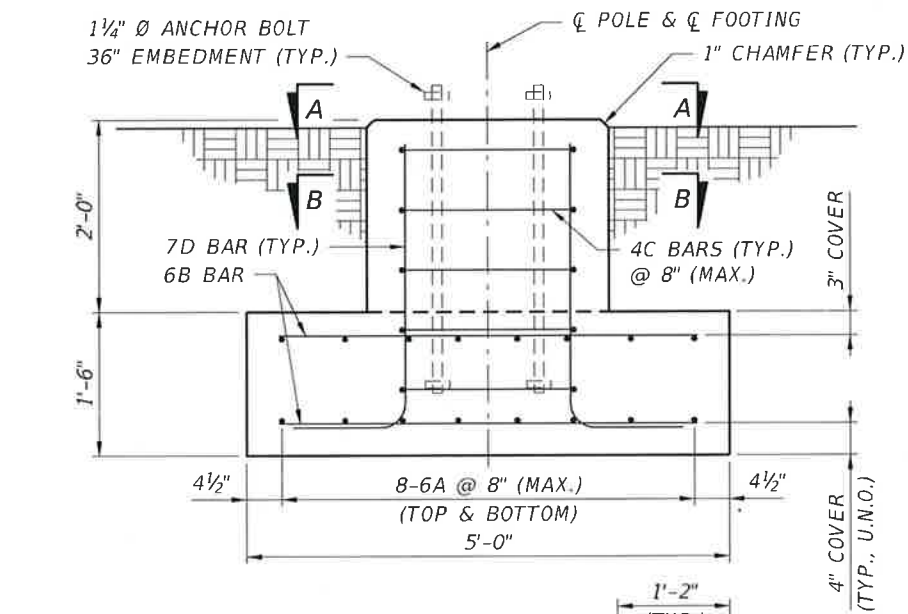
7. THE PULL BOX SHALL BE INSTALLED ADJACENT TO BUT NOT ABOVE THE FOOTING. ADEQUATE DRAINAGE OF THE PULL BOX SHALL BE PROVIDED. CONDUIT AND PULL BOXES SHALL NOT BE INSTALLED IN, OR ALONG THE BOTTOM OF DITCHES OR SWALES.
8. ALL CONDUITS SHALL BE RIGID GALVANIZED STEEL OR SCHEDULE 40 PVC. BENDS IN CONDUIT SHALL BE MADE USING A RADIUS NOT LESS THAN 11 IN. LOCATION OF THE CONDUITS SHALL BE VERIFIED PRIOR TO CONSTRUCTION (CONDUIT NOT SHOWN FOR CLARITY).

PRECAST FOOTING NOTES:

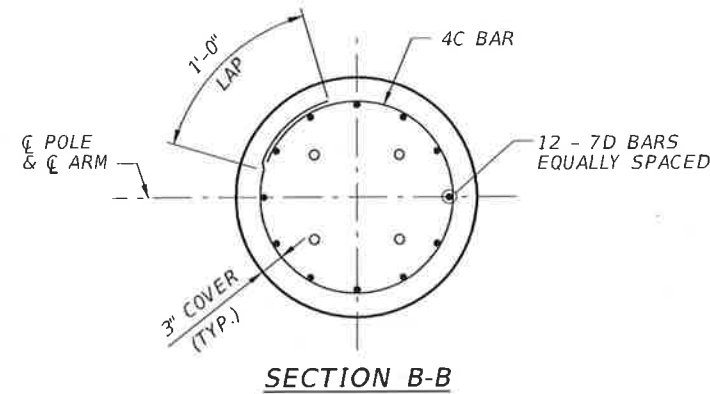
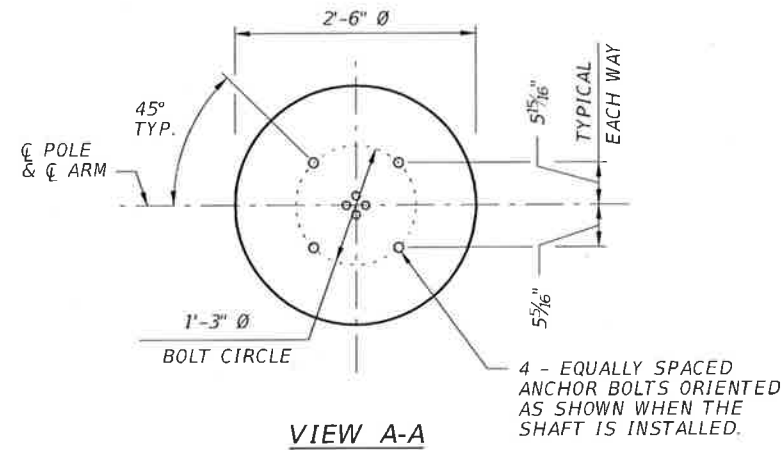
1. SURFACE FINISH: THE EXPOSED PART OF THE PEDESTAL SHALL HAVE A CLASS 3 FINISH.
2. HANDLING: PRECAST CONCRETE FOOTINGS MUST BE MAINTAINED IN A FLAT POSITION. THEY MUST BE PICKED UP FROM POINTS AS SHOWN AT EACH CORNER. (SEE SHEET L-26).
3. STORAGE AND TRANSPORTATION: ALL PRECAST CONCRETE FOOTINGS MUST BE STORED ON ADEQUATE DUNNAGE. THE PRECAST CONCRETE FOOTING MUST BE SUPPORTED NO CLOSER THAN 6 INCHES AND NO FURTHER THAN 18 INCHES FROM THE END.
4. MARKING: EACH PRECAST CONCRETE FOOTING SHALL BE MARKED SHOWING CASTING DATE, AND IDENTIFICATION LETTERS AND NUMBERS.
5. PLACEMENT: PLACE THE PRECAST FOOTING ON A DRY, SLIGHTLY YIELDING FOUNDATION, TO ENSURE UNIFORM BEARING ACROSS THE FOOTING. THE ANCHOR BOLTS SHALL BE PLUMB AFTER INSTALLATION OF THE FOOTING.
6. WELDED WIRE FABRIC MUST HAVE AN AREA EQUIVALENT TO THE REINFORCEMENT SHOWN IN THE DRAWING. (APPROVED SHOP DRAWING IS REQUIRED)
7. CONTRACTOR IS RESPONSIBLE TO ASSURE THE PRECAST FOOTING HAS BEEN ADEQUATELY DESIGNED FOR ANY LIFTING LOADS AND CONSTRUCTION LOADS.
8. CALCULATIONS SIGNED & SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF FLORIDA SHALL BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEER OF RECORD FOR REVIEW AND APPROVAL SHOWING THAT THESE REQUIREMENTS HAVE BEEN MET PRIOR TO CONSTRUCTION.



				SCALE AS NOTED		HDR Engineering, Inc. 2601 Cattlemen Road Suite 400 Sarasota, FL 34232-6233 FBPR Certificate of Authorization No. 4213	DATE 3/8/2017		MANATEE COUNTY PUBLIC WORKS	DESIGN ENGINEER JORGE L. PEREZ	LIGHT POLE SPREAD FOOTING (1) 53RD AVE.	SHEET NO.
				DESIGNED BY NHN						FL. LICENSE NO.		
				DRAWN BY DRA			PROJECT NO. 6082960			42690		
				CHECKED BY JLP								L-25
No.	REVISIONS			DATE	BY							

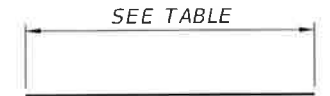


LIGHT POLE SPREAD FOOTING

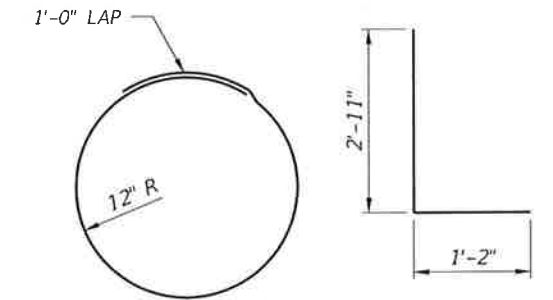


BILL OF REINFORCING STEEL			
LIGHT POLE SPREAD FOOTING (SF 1)			
MARK	SIZE	NO. REQ'D	LENGTH
A	6	16	9'-6"
B	6	40	4'-6"
C	4	5	-
D	7	12	4'-1"

BENDING DIAGRAM



BARS 6A & 6B



BARS 4C

BARS 7D

ALL BAR DIMENSIONS ARE OUT TO OUT.

NOTES:

1. ADJUST SPACING OF HORIZONTAL BARS IN FIELD TO CLEAR VERTICAL BARS.



				SCALE	AS NOTED		HDR Engineering, Inc. 2601 Cattlemen Road Suite 400 Sarasota, FL 34232-6233 FBPR Certificate of Authorization No. 4213	DATE	3/8/2017		MANATEE COUNTY PUBLIC WORKS	DESIGN ENGINEER	JORGE L. PEREZ	LIGHT POLE SPREAD FOOTING (2) 53RD AVE.	SHEET NO.
				DESIGNED BY	NHN			PROJECT NO. 6082960	FL. LICENSE NO.			42690	L-26		
				DRAWN BY	DRA										
				CHECKED BY	LJP										
No.	REVISIONS	DATE	BY												



HDR Engineering, Inc.
2601 Cattlemen Road
Suite 400
Sarasota, FL 34232-6233
FBPR Certificate of
Authorization No. 4213



MANATEE COUNTY
PUBLIC WORKS