

CONTRACT PLANS COMPONENTS:

- ROADWAY PLANS
- SIGNING AND PAVEMENT MARKING PLANS
- SIGNALIZATION PLANS
- LIGHTING PLANS
- LANDSCAPE AND IRRIGATION PLANS
- STRUCTURAL PLANS

FDOT FPN# 431759-2-54-01

INDIAN RIVER COUNTY BOARD OF COUNTY COMMISSIONERS



**STATE ROUTE 60
WIDENING, MILL & RESURFACE
FROM 44TH AVENUE TO 38TH AVENUE**

&

**43RD AVENUE
RECONSTRUCTION
FROM 19TH STREET TO 26TH STREET**

**BEGIN BRIDGE STATION 129+62.455
END BRIDGE STATION 130+94.455**

PUBLIC WORKS DIRECTOR:
RICHARD B. SZPYRKA, P.E.

COUNTY ENGINEER:
JAMES W. ENNIS, P.E.

PROJECT MANAGER:
WILLIAM JOHNSON, P.E.

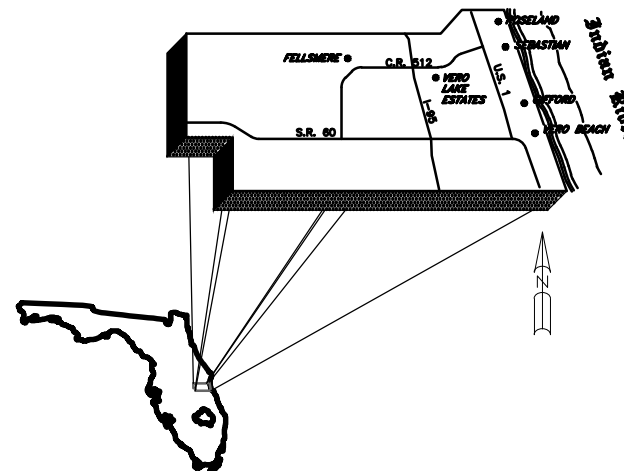
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THESE PLANS HAVE BEEN PREPARED IN ACCORDANCE WITH AND ARE GOVERNED BY THE FLORIDA DEPARTMENT OF TRANSPORTATION, DESIGN STANDARDS (2017-2018 EDITION) AND SUPPLEMENTS THERETO.

GOVERNING SPECIFICATIONS:
THE FLORIDA DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION, 2017 EDITION, SUPPLEMENTS THERETO, AND SPECIAL PROVISIONS THERETO IF NOTED IN THE CONTRACT SPECIFICATIONS FOR THIS PROJECT.

	SR 60		43RD AVE.	
	MILES	FEET	MILES	FEET
ROADWAY	0.476	2512	0.806	4254
BRIDGES	-	-	0.033	174
NET LENGTH OF PROJECT	0.476	2512	0.839	4428
EXCEPTIONS	-	-	-	-
GROSS LENGTH OF PROJECT	0.476	2512	0.839	4428



ATTENTION IS DIRECTED TO THE FACT THAT THESE PLANS MAY HAVE BEEN ALTERED IN SIZE BY REPRODUCTION. THIS MUST BE CONSIDERED WHEN OBTAINING SCALED DATA.

ENGINEER'S CERTIFICATION

I HEREBY CERTIFY THAT THE ATTACHED PLANS AND DESIGN ARE IN SUBSTANTIAL COMPLIANCE WITH THE DESIGN STANDARDS AND CRITERIA IN EFFECT ON THIS DATE FOR INDIAN RIVER COUNTY ENGINEERING DEPARTMENT AND THE STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION.

DATE: _____ PROFESSIONAL ENGINEER # 32026 _____

WILLIAM E. PINO, P.E.

MAIN STREET ENGINEERING

7035B SW 47th Street . Miami, Florida 33155
Tel.: (305) 666-7450 . Fax: (305) 666-2450
FL PE Certificate No.: 00008731

Department of Public Works
Engineering Division

Date:	
By:	
Revision:	
No:	
Scale:	N.T.S.
Approved:	WP
Drawn:	JS
Checked:	WP
Date:	12/17/2018

STATE ROUTE 60
&
43RD AVENUE

Sheet:	1
Of:	42
Project No.	
LNW#	WP1027

SYMBOLS

DESCRIPTION

- 2" SCHEDULE 40 PVC CONDUIT WITH 2 #4 XLT-RHW CONDUCTORS AND 1 #8 THW GREEN INSULATED STRANDED GROUND CONDUCTOR AS INDICATED IN PLAN DETAIL, UNLESS OTHERWISE INDICATED IN PLANS.
- OHE— OVERHEAD ELECTRIC POWER WIRING INSTALLED BY OTHERS IN EASEMENT DIRECTLY BEHIND SIDEWALK - NOT SHOWN IN EXACT LOCATION ON THESE DRAWINGS IN ORDER TO IMPROVE CLARITY. REFER TO "CITY OF VERO BEACH MUNICIPAL ELECTRIC SYSTEM" DRAWINGS.
- ⊙ EXISTING FPL WOOD POLE TO REMAIN OR BE REMOVED BY OTHERS SHOWN FOR REFERENCE ONLY
- ⊠ EXISTING FPL CONCRETE POLE SHOWN FOR REFERENCE ONLY
- ⊞ EXISTING FPL TRANSFORMER ON WOOD POLE SHOWN FOR REFERENCE ONLY
- ⊡ DISTRIBUTION POINT - FOR REQUIREMENT SEE INDEX NO. 17504 OF DESIGN STANDARDS
- ⊞ PULL BOX - FOR SPECIFICATIONS SEE SECTION 635 OF STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION
- PULL BOXES REQUIRED AT:
 1. TWO (2) PULL BOXES AT BASE OF SERVICE POLE.
 2. ONE AT BASE AT EACH POLE.
 3. AS NECESSARY FOR COMPLETION OF THE PROJECT.
- LIGHT FIXTURE AND BRACKET ARM MOUNTED ON BREAKAWAY ALUMINUM POLE MOUNTED ON CONCRETE POLE BASE.
- ⊙ NEW LIGHT FIXTURE AND BRACKET ARM MOUNTED ON TRAFFIC SIGNAL POLE
- CP CONFLICT POLE - INDICATES NEW POLE & BRACKET ARM ASSEMBLY SHALL BE CONSTRUCTED TO MAINTAIN FPL REQUIRED CLEARANCE (10') FROM POWER WIRING. CRANES SHALL NOT BE USED TO INSTALL CONFLICT POLES. CONFLICT POLE LOCATIONS ARE INDICATED AS A GUIDE. CONTRACTOR SHALL COORDINATE WITH FPL AND VERO BEACH UTILITY REGARDING OVERHEAD WIRING LOCATIONS AND INSTALL CONFLICT POLES ACCORDINGLY.

LUMINAIRE SCHEDULE					
Symbol	Label	Catalog Number	Description	Lumens	LLF Watts
○—○	A	SCHREDER #36L177-NW-T2M	LED, 40' MH ON ALUMINUM BREAKAWAY POLE	17700	1.00 155
○—○	B	SCHREDER #48L200-NW-T3M	LED, 40' MH ON ALUMINUM BREAKAWAY POLE	20000	1.00 166
○—⊙	C	SCHREDER #36L168-NW-T3M	LED, 40' MH ON TRAFFIC SIGNAL POLE	16800	1.00 144
○—○	D	SCHREDER #48L185-NW-T2M	LED, 40' MH ON ALUMINUM BREAKAWAY POLE	18500	1.00 148

CONTRACTOR SHALL VERIFY VOLTAGES PRIOR TO ORDERING FIXTURES

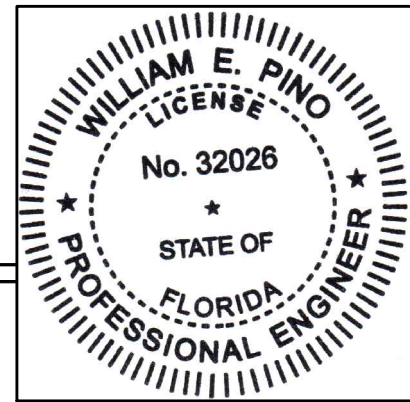
TABULATION OF MATERIAL QUANTITIES

PAY ITEM NO.	DESCRIPTION	UNIT	SHEET NUMBER																								GRAND TOTAL	
			L-4		L-5		L-6		L-7		L-8		L-9		L-10		L-11		L-12		L-13		L-14		L-15		ORIG.	FINAL
			ORIG.	FINAL	ORIG.	FINAL	ORIG.	FINAL	ORIG.	FINAL	ORIG.	FINAL	ORIG.	FINAL	ORIG.	FINAL	ORIG.	FINAL	ORIG.	FINAL	ORIG.	FINAL	ORIG.	FINAL	ORIG.	FINAL		
715-1-12	LIGHTING CONDUCTOR, F & I, INSULATED, NO. 4	LF	924	3485	3485	3472	2964	3452	4835	2373	2478	3719	3892	1706	36765													
715-2-11-1	LIGHTING CONDUIT, F & I, UNDERGROUND, 2" PVC SCH. 40	LF	280	1056	1050	1052	898	1046	1465	719	751	1127	1133	517	11094													
715-4-111	CONFLICT LIGHT POLE COMPLETE W/ CONCRETE BASE, F&I, WIND SPEED 160	LF	1	3	3	6	4	3	3	1	3	3	4	2	36													
715-4-111	STANDARD LIGHT POLE COMPLETE W/ CONCRETE BASE, F&I, WIND SPEED 160	EA	1	3	3	3	1	3	2	3	2	3	4	2	30													
715-5-11	LUMINERE AND BRACKET ARM MOUNTED ON SIGNAL POLE, F&I	EA	-	-	-	2	-	-	-	2	-	-	-	4														
715-500-1	POLE CABLE DISTRIBUTION SYSTEM, IP-68 LISTED	EA	2	6	6	11	5	6	5	6	5	6	8	4	70													
715-7-11	LOAD CENTER (INCLUDES ALL COMPONENTS LISTED ON SERVICE POINT DETAILS DRAWING)	EA	-	-	1	-	-	1	-	-	-	1	-	-	3													
715-14-11	PULL BOX (F&I) (ROADSIDE), MOULDED	EA	2	6	6	11	6	6	5	6	5	6	8	4	71													

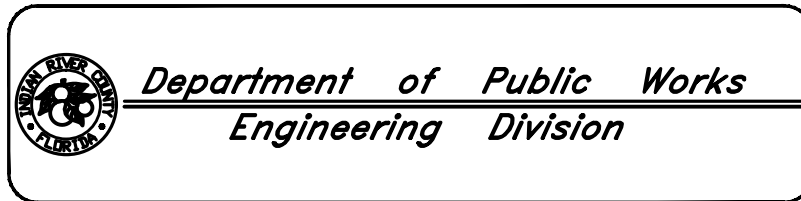
PAY ITEM NOTES:

- ITEM NO. 715-7-11 INCLUDES ALL COMPONENTS, EXTERNAL, INTERNAL CONDUIT AND CONDUCTORS FOR THE SERVICE AS INDICATED ON PLANS.
- ITEM NO. 715-4-111 INCLUDES LIGHT POLE, LUMINAIRE, FUSE HOLDERS WITH FUSES, ALL NECESSARY MOUNTING HARDWARE AND ALL INTERNAL CONDUIT, CONDUCTORS AND CONNECTIONS COMPLETE PER PLANS.
- ITEM NO. 715-1-12 INCLUDES COST OF FURNISHING AND INSTALLING WIRES PER LINEAR FOOT AND ALL MISCELLANEOUS HARDWARE NECESSARY FOR A COMPLETE INSTALLATION AS PER PLANS. INCLUDES AN ADDITIONAL 10% OF TOTAL DISTANCE TO ALLOW FOR SPLICING.
- ITEM NO. 715-2-11-1 INCLUDES THE COST OF TRENCHING/BORING CONDUITS PER LINEAR FOOT, MISCELLANEOUS PARTS NECESSARY FOR A COMPLETE INSTALLATION AS PER PLANS, SUCH AS ELBOWS, SWEEPS, CONNECTING HARDWARE, TRENCHING, BACKFILLING AND EXPANSION FITTINGS AND CONNECTIONS PER STANDARD INDEXES. INCLUDES FOUR FEET OF ADDITIONAL CONDUIT FOR EACH SWEEP.
- ITEM NO. 715-500-1 PCDS SHALL BE IP-68 LISTED AS WHOLE COMPONENT. REFER TO SPECIFICATION OF PCDS ON SHEET L-21. SUBMIT CERTIFICATION WITH SUBMITTALS.

SYMBOLS, LUMINAIRE SCHEDULE, PAY ITEMS



Revision: _____ By: _____ Date: _____



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 Field Book No: _____

Project: ROADWAY LIGHTING PLANS
 FOR SR 60 & 43RD AVENUE

Sheet: L-1
 Of: 24
 Project No. LNW# WP1027

43RD AVENUE POLE DATA

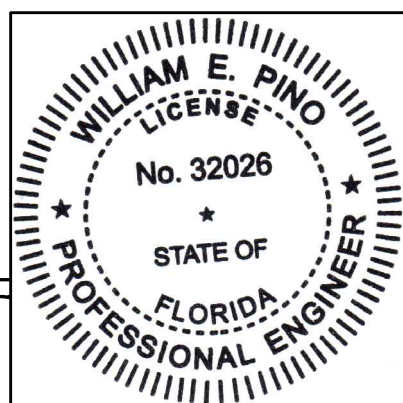
POLE NO.	STATION	DIST. OR ARM	LUMINAIRE WATTAGE	LUMINAIRE MOUNTING HEIGHT	POLE SET BACK AND NOTES	FINAL
A1	CP STA. 110+10	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A2	STA. 112+11	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A3	CP STA. 112+26	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A4	STA. 113+45	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A5	CP STA. 114+21	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A6	STA. 115+51	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A7	CP STA. 116+28	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A8	STA. 117+56	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A9	CP STA. 118+51	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A10	STA. 119+40	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A11	CP STA. 120+58	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A12	STA. 120+87	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A13	CP STA. 122+60	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A14	STA. 123+31	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A15	CP STA. 124+32	12' ARM	155W LED	40'	BACK OF SIDEWALK	
D1	CP STA. 129+83	12' ARM	148W LED	40'	BACK OF SIDEWALK	
D2	STA. 130+74	12' ARM	148W LED	40'	BACK OF SIDEWALK	
A16	CP STA. 132+1	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A17	CP STA. 132+82	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A18	CP STA. 134+16	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A19	CP STA. 135+34	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A20	CP STA. 136+22	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A21	STA. 136+55	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A22	CP STA. 138+55	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A23	STA. 139+22	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A24	CP STA. 140+11	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A25	STA. 141+50	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A26	CP STA. 142+72	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A27	STA. 143+62	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A28	CP STA. 144+68	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A29	STA. 146+25	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A30	CP STA. 147+64	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A31	STA. 149+4	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A32	CP STA. 150+41	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A33	STA. 151+61	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A34	STA. 153+20	12' ARM	155W LED	40'	BACK OF SIDEWALK	
C3	STA. 153+56	12' ARM	144W LED	40'	SEE DRAWING L-11 FOR POLE LOCATION	
C4	STA. 153+58	12' ARM	144W LED	40'	SEE DRAWING L-11 FOR POLE LOCATION	

STATE ROUTE 60 POLE DATA

POLE NO.	STATION	DIST. OR ARM	LUMINAIRE WATTAGE	LUMINAIRE MOUNTING HEIGHT	POLE SET BACK AND NOTES	FINAL
A35	CP STA. 2636+49	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A36	STA. 2638+29	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A37	CP STA. 2638+46	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A38	STA. 2639+93	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A39	CP STA. 2639+97	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A40	STA. 2645+69	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A41	CP STA. 2646+22	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A42	STA. 2647+72	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A43	CP STA. 2647+85	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A44	STA. 2649+78	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A45	CP STA. 2649+82	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A46	STA. 2651+50	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A47	CP STA. 2651+59	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A48	STA. 2653+17	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A49	CP STA. 2653+33	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A50	STA. 2654+94	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A51	CP STA. 2655+35	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A52	STA. 2656+75	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A53	CP STA. 2656+94	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A54	CP STA. 2658+31	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A55	STA. 2658+62	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A56	CP STA. 2659+81	12' ARM	155W LED	40'	BACK OF SIDEWALK	
A57	STA. 2660+11	12' ARM	155W LED	40'	BACK OF SIDEWALK	

INTERSECTION OF 43RD AVENUE & STATE ROUTE 60 POLE DATA

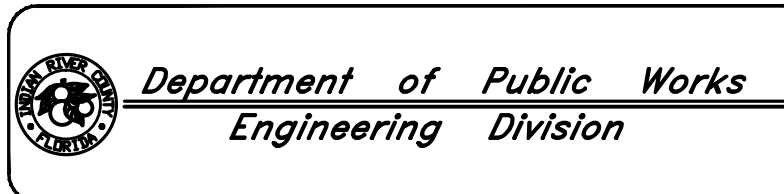
POLE NO.	STATION	DIST. OR ARM	LUMINAIRE WATTAGE	LUMINAIRE MOUNTING HEIGHT	POLE SET BACK AND NOTES	FINAL
B1	STA. 2641+48	12' ARM	166W LED	40'	BACK OF SIDEWALK	
B2	CP STA. 2641+71	12' ARM	166W LED	40'	BACK OF SIDEWALK	
B3	CP STA. 125+46	12' ARM	166W LED	40'	BACK OF SIDEWALK	
B4	STA. 2643+94	12' ARM	166W LED	40'	BACK OF SIDEWALK	
B5	CP STA. 128+48	12' ARM	166W LED	40'	BACK OF SIDEWALK	
B6	STA. 128+28	12' ARM	166W LED	40'	BACK OF SIDEWALK	
B7	CP STA. 2644+37	12' ARM	166W LED	40'	BACK OF SIDEWALK	
C1	STA. 125+97 STA. 2642+14	12' ARM	144W LED	40'	SEE DRAWING L-7 FOR POLE LOCATION	
C2	STA. 126+25 STA. 2643+46	12' ARM	144W LED	40'	SEE DRAWING L-7 FOR POLE LOCATION	



POLE DATA



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Project: ROADWAY LIGHTING PLANS
 FOR SR 60 & 43RD AVENUE

Sheet: L-2
 Of: 24
 Project No. LNW# WP1027

GENERAL ELECTRICAL NOTES:

1. CONTRACTOR SHALL FURNISH AND INSTALL THE LIGHTING SYSTEM AS DEPICTED ON ELECTRICAL DRAWINGS AND AS SPECIFIED IN TABULATION OF LIGHTING QUANTITIES AND PAY ITEM NOTES.
2. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL MATERIALS AND LABOR TO INSTALL THE ELECTRICAL SYSTEMS AS INDICATED ON THE DRAWINGS. IT IS NOT THE INTENT OF THESE PLANS TO SHOW EVERY MINOR DETAIL OF CONSTRUCTION. ITEMS NOT SHOWN BUT OBVIOUSLY NECESSARY FOR COMPLETION OF THE WORK SHALL BE INCLUDED.
3. THE INSTALLATION SHALL BE IN ACCORDANCE WITH THE LATEST ADOPTED VERSION OF THE NATIONAL ELECTRICAL CODE, NFPA-70, A.A.S.H.T.O., 2018, FBC 2014, DOT UTILITY ACCOMMODATION MANUAL, 2017-18, FDOT DESIGN STANDARDS, 2017-18, LATEST ADOPTED VERSION OF NFPA-101, CURRENT LOCAL CODES, AND OTHER APPLICABLE JURISDICTION CODES.
4. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS, INSPECTIONS AND APPROVALS. ALL WORK SHALL BE DONE BY A LICENSED ELECTRICIAN.
5. THE CONTRACTOR SHALL COORDINATE WORK WITH THE ENGINEER AND OWNER.
6. THE CONTRACTOR SHALL DETERMINE THE SERVICE REQUIRED DATE FOR THE POWER COMPANY TRANSFORMER INSTALLATION AT THE PRE-CONSTRUCTION CONFERENCE.
7. GROUNDING SHALL BE INSTALLED TO MEET NEC, ARTICLE 250 REQUIREMENTS. A GROUNDING SYSTEM SHALL NOT EXCEED A 48 HOUR DRY RESISTANCE OF 10 OHMS. ADDITIONAL GROUNDING TO MEET THIS REQUIREMENT SHALL BE INSTALLED AT NO EXTRA COST. GROUNDING AND BONDING CONNECTIONS SHALL NOT BE PAINTED.
8. AN EQUIPMENT GROUND WIRE SIZED PER NEC SHALL BE PULLED IN ALL ELECTRICAL CONDUITS, WHETHER OR NOT INDICATED ON PLANS.
9. ALL EQUIPMENT AND MATERIALS SHALL BE NEW AND UNUSED AND U.L. LISTED.
10. UNDERGROUND CONDUITS SHALL BE SCHEDULE 40 P.V.C.
11. ELECTRICAL WARNING TAPE SHALL BE PLACED 12 INCHES DEEP IN TOP OF ALL UNDERGROUND TRENCHINGS.
12. ALL TRENCHES SHALL BE FILLED WITH COMPACTED EXISTING CLEAN BACKFILL (98% ASSHTO T-99) AND COMPACTED UTILIZING COMPACTION MACHINE AT DEPTH OF NOT MORE THAN 6 INCH LAYERS.
13. ALL UNDERGROUND ELECTRICAL CONDUITS SHALL BE A MINIMUM 36 INCH DEEP TO TOP OF THE CONDUITS UNLESS OTHERWISE NOTED.
14. INSTALL PULL BOXES AS NECESSARY TO ACCOMMODATE LONG CABLE PULLS. INSTALL DUCT SEALS AT END OF CONDUITS THAT ENTER PULL BOXES AND JUNCTION BOXES. LEAVE A MINIMUM OF 6 INCH SPACE BETWEEN WIRES AND PULL BOX COVERS.
15. THE DRAWINGS ARE NOT INTENDED TO SHOW THE EXACT LOCATION OF CONDUIT RUNS. TRENCHING SHALL BE COORDINATED WITH THE OTHER TRADES SUCH AS LANDSCAPING AND OTHER UNDERGROUND UTILITIES, SO THAT CONFLICTS ARE AVOIDED PRIOR TO INSTALLATION. ADDITIONALLY, MAINTAIN ENOUGH DISTANCE FROM EXISTING TREES AND LANDSCAPE AREAS TO MINIMIZE DAMAGE TO EXISTING ROOTS.
16. THE CONTRACTOR IS RESPONSIBLE TO TEST ALL SYSTEMS AND SHALL REPAIR OR REPLACE ALL DEFECTIVE WORK TO THE SATISFACTION OF THE ENGINEER AND THE OWNER.
17. A TYPE WRITTEN PANEL SCHEDULE SHALL BE INSTALLED IN THE PANEL BOARD. ALL CIRCUITS SHALL BE IDENTIFIED IN PULL BOXES, PANEL BOARD AND CONTACTORS. IDENTIFICATION SHALL MATCH PANEL BOARD.
18. THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH THE EXISTING CONDITIONS AND COORDINATION OF THE WORK. ANY OMISSIONS OR CONFLICT IN THE WORKING DRAWINGS OR BETWEEN THE DRAWINGS AND EXISTING FIELD CONDITIONS WHICH MAY INTERFERE WITH THE PROPER EXECUTION AND COMPLETION OF THE DESCRIBED WORK SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND THE OWNER PRIOR TO PROCEEDING WITH THE WORK.
19. TWO WEEKS AFTER JOB COMPLETION, THE CONTRACTOR SHALL PERFORM A NIGHT CHECK OF THE LIGHTS AND REPAIR OR REPLACE ANY NON-FUNCTIONING LUMINAIRES AND NOTIFY THE CITY OF ACTIONS TAKEN.
20. CONTRACTOR SHALL TAKE ALL NECESSARY STEPS TO PREVENT OBJECTIONABLE BLOWING OR DRIFTING OF DIRT, SOIL, OR OTHER DEBRIS DURING EXCAVATION AND INSTALLATION OF ELECTRICAL CONDUIT.
21. THE CONTRACTOR SHALL LEAVE THE SITE CLEAN AND ORDERLY AT THE END OF EACH WORKDAY.
22. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR AND PAINTING OF ANY DAMAGED PORTIONS OF POLES AND BRACKET ARMS AT NO COST TO THE OWNER.
23. ALL MATERIALS AND EQUIPMENT SHALL BE STORED AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS UNLESS OTHERWISE NOTED.
24. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS & CATALOG NUMBERS FOR ALL NEW MATERIAL FOR APPROVAL BY THE ELECTRICAL CONSULTANT AND THE OWNER.
- 24.A. PHOTOMETRIC SHOP DRAWING SUBMITTALS: CONTRACTOR SHALL SUBMIT A POINT BY POINT SIGNED & SEALED BY A FLORIDA P.E. PHOTOMETRIC LAYOUT INDICATING COMPLIANCE WITH CURRENT FDOT STANDARDS AND DESIGN CRITERIA ESTABLISHED BY THE E.O.R.
- 24.B. WINDLOADING CALCULATIONS: CONTRACTOR SHALL SUBMIT SIGNED & SEALED BY A FLORIDA STRUCTURAL P.E. POLES' WINDLOADING CALCULATIONS IN COMPLIANCE WITH FDOT AND AASHTO'S DESIGN CRITERIA FOR THE SPECIFIC GEOGRAPHIC LOCATION
- 24.C. POLE CABLE DISTRIBUTION SUBMITTAL. SUBMIT IP-68 CERTIFICATION OF THE PCDS AS WHOLE CAPABLE OF OPERATING CONTINUOUSLY SUBMERGED UNDER A MINIMUM OF 5 FT OF WATER.
25. EVERY ATTEMPT SHALL BE MADE TO PROTECT ALL EQUIPMENT & MATERIAL FROM ANY DAMAGE DURING TRANSPORTATION, LOADING, UNLOADING AND INSTALLATION AT THE SITE.
26. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOST, STOLEN OR DAMAGED EQUIPMENT OR MATERIAL.
27. ALL EQUIPMENT INSTALLED OUTSIDE OR EXPOSED TO WEATHER SHALL BE NEMA TYPE 4X, UNLESS NOTED OTHERWISE.
28. POLES AND BRACKET ARMS SHALL BE DESIGNED IN ACCORDANCE WITH THE DESIGN CRITERIA AS INDICATED ON THE PLANS.
29. THE LUMINAIRE AND ARM ON "JOINT USE POLES" SHALL BE GROUNDED.
30. ALL GRASS AREAS AFFECTED BY CONSTRUCTION SHALL BE RE-SODED.
31. THE CONTRACTOR SHALL TAKE SPECIAL NOTE OF SOIL CONDITIONS THROUGHOUT THIS PROJECT. ANY SPECIAL SHORING, SHEETING OR OTHER PROCEDURES NECESSARY TO PROTECT ADJACENT PROPERTY, PUBLIC OR PRIVATE, DURING THE EXCAVATION OF SUBSOIL MATERIAL AND EXFILTRATION TRENCH, OR FILLING OF ANY AREA, OR FOR ANY OPERATION DURING CONSTRUCTION, SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
32. THE CONTRACTOR SHALL RESTRICT PERSONNEL, THE USE OF EQUIPMENT, AND THE STORAGE OF MATERIALS TO AREAS WITHIN THE LIMITS OF CONSTRUCTION AND DESIGNATED STAGING AREA.
33. ALL EXCESS MATERIAL, AS DESIGNATED BY THE ENGINEER OR OWNER, SHALL BE DISPOSED OF BY THE CONTRACTOR IN AREAS PROVIDED BY HIM WITHIN 72 HOURS OF BEING DEPOSITED IN THE CONSTRUCTION AREA AND AT THE CONTRACTOR'S EXPENSE.
34. ALL DISPOSAL OF MATERIALS, RUBBISH, AND DEBRIS SHALL BE MADE AT A LEGAL DISPOSAL SITE OR BY OTHER PRIOR APPROVED MANNER. MATERIAL CLEARED FROM THE SITE SHALL NOT BE DEPOSITED ON ADJACENT OR NEARBY PROPERTY.
35. EXISTING ABOVE GROUND FEATURES ARE SHOWN ACCORDING TO THE BEST AVAILABLE DATA AND MAY NOT ACCURATELY REFLECT PRESENT CONDITIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH CURRENT SITE CONDITIONS, AND SHALL REPORT DISCREPANCIES TO THE ENGINEER PRIOR TO STARTING WORK.
36. THE LUMINAIRE MANUFACTURER SHALL PLACE A PERMANENT TAG ON THE LUMINAIRE HOUSING ON WHICH IS IMPRINTED THE FOLLOWING INFORMATION: WATTAGE, POSITION OF LUMINAIRE, IES LIGHT DISTRIBUTION WITH LIGHT SOURCE IN POSITION SPECIFIED, INPUT VOLTAGE AND POWER FACTOR.
37. WHEN DISSIMILAR MATERIAL CONNECTIONS ARE MADE, SUCH AS CONCRETE TO METAL, THE DISSIMILAR MATERIAL SHALL BE SEPARATED BY COATING THE CONTACT SURFACE WITH BITUMASTIC MATERIAL.
38. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROVISION, INSTALLATION, AND MAINTENANCE OF ALL TRAFFIC CONTROL AND SAFETY DEVICES IN ACCORDANCE WITH THE FDOT DESIGN STANDARDS.
39. THE INFORMATION PROVIDED IN THESE DRAWINGS IS SOLELY TO ASSIST THE CONTRACTOR IN ASSESSING THE NATURE AND EXTENT OF CONDITIONS WHICH WILL BE ENCOUNTERED DURING THE COURSE OF WORK. THE CONTRACTORS ARE DIRECTED, PRIOR TO BIDDING, TO CONDUCT WHATEVER INVESTIGATIONS THEY DEEM NECESSARY TO ARRIVE AT THEIR OWN CONCLUSIONS REGARDING THE ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED, AND UPON WHICH BIDS WILL BE BASED.
40. OPERATING INSTRUCTIONS: UPON COMPLETION OF ALL WORK AND OF ALL TESTS, FURNISH THE NECESSARY SKILLED LABOR AND HELPERS FOR OPERATING ALL ELECTRICAL SYSTEMS AND EQUIPMENT IN ORDER TO INSTRUCT AND TRAIN THE OWNER'S REPRESENTATIVE IN THE OPERATION AND MAINTENANCE OF ALL EQUIPMENT FURNISHED.
41. OPERATION AND MAINTENANCE MANUALS: WITHIN 30 DAYS AFTER THE DATE OF SYSTEM ACCEPTANCE, THE CONTRACTOR SHALL PROVIDE TO THE OWNER, OPERATION AND MAINTENANCE MANUALS CONTAINING SUBMITTAL DATA STATING EQUIPMENT RATING, SELECTED OPTIONS AND REQUIRED MAINTENANCE ACTIONS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE. THE CONTRACTOR SHALL ALSO PROVIDE THE NAME AND ADDRESS OF AT LEAST ONE QUALIFIED SERVICE AGENCY.
42. RECORD DRAWINGS: THE CONTRACTOR IS RESPONSIBLE FOR ALL AS-BUILT DRAWINGS, WHICH SHALL BE PROVIDED TO THE OWNER WITHIN 30 DAYS AFTER THE DATE OF SYSTEM ACCEPTANCE. THEY SHALL INCLUDE A POWER RISER DIAGRAM AND ROADWAY PLANS INDICATING AN ACCURATE DEPICTION OF ALL INSTALLED ELECTRICAL EQUIPMENT.
43. BRANCH CIRCUIT VOLTAGE DROP: CONTRACTOR SHALL VERIFY THAT THE VOLTAGE DROP FOR ALL THE BRANCH CIRCUITS DOES NOT EXCEED 3% OF THE HOMERUN CIRCUITS ORIGINAL VOLTAGE AND SHALL INCREASE THE WIRE SIZE AS NECESSARY TO ADJUST FOR VOLTAGE DROP.
44. CONDUIT ROUTING SHALL BE POLE TO POLE, MAINTAINING POLE SETBACK DISTANCE FROM THE EDGE OF PAVEMENT.
45. POLE POSITION AND ROUTING MAY BE ADJUSTED, AS APPROVED BY THE ENGINEER, TO PREVENT CONFLICTS WITH UTILITY AND DRAINAGE STRUCTURES NOT INDICATED ON THE PLANS.
46. CONTRACTOR SHALL INSTALL CONCRETE PAD AROUND THE POLE FOUNDATION AND PULLBOX PER DOT SPECIFICATION INDICATED AND WHERE GRASS EXISTS, DIRT SHALL BE BACKFILLED TO THE EDGE OF THE PAD, COMPACTED TO A FIRM, STABLE CONDITION APPROXIMATELY EQUAL TO THAT OF THE ADJACENT SOIL. THE FILL SHALL CONFORM TO EXISTING GRADE AND BE FULLY SODED.
47. ALL EXPOSED OR SURFACE MOUNTED CONDUIT SHALL BE FRE COMPOSITE OR RIGID ALUMINUM CONDUIT. THE EXPOSED RUNS OF CONDUIT ON THE BRIDGE, SHALL BE PROVIDED WITH EITHER EXPANSION JOINTS OR LIQUIDTIGHT FLEXIBLE METAL CONDUIT SECTIONS ADEQUATE TO WITHSTAND VIBRATIONS AND THERMAL EXPANSION.
48. ALL CONDUIT THAT WILL REMAIN EMPTY AS SPARES SHALL BE MANDREL TESTED, CLEANED INSIDE AND BOTH ENDS CAPPED. LEAVE CORROSION RESISTANT, PULL/DRAW WIRE AND PLACE DUCT MARKERS, OR PULLBOXES TO MARK THE LOCATION OF THE ENDS OF THE CONDUIT.
49. PULL BOXES SHALL BE LOCATED AT ENDS OF CONDUIT CROSSING ROADWAYS, AND AS NECESSARY FOR THE COMPLETION OF THE PROJECT.
50. THESE PLANS REPRESENT MINIMUM ACCEPTABLE CRITERIA. THE INSPECTION PER THESE DRAWINGS REPRESENT THE MINIMUM BASE ACCEPTANCE.
51. A PULL BOX SHALL BE INSTALLED AT EACH POLE LOCATION. PULL BOXES SHALL BE LOCATED 2' MAXIMUM FROM THE POLE UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER.
52. A HANDHOLE IS REQUIRED IN ALL POLES. HANDHOLE SHALL BE LOCATED OPPOSITE APPROACHING TRAFFIC WITH COVER FASTENED WITH STAINLESS STEEL SCREWS. SCREW THREADS SHALL BE COATED WITH WHITE GREASE. THE HANDHOLE OPENING SHALL BE AT LEAST 20 SQUARE INCHES.
53. THE PROJECT ENGINEER MAY LIMIT THE CONTRACTOR'S OPERATION DURING PEAK PERIODS (6:00AM - 9:00AM) AND (4:00PM - 7:00PM).

SPECIAL NOTES TO CONTRACTOR

1. THE ELECTRICAL CONTRACTOR SHALL VERIFY ALL UTILITIES BY ELECTRONIC METHODS AND PRE-TRENCHING IN COORDINATION WITH ALL UTILITY COMPANIES PRIOR TO BEGINNING ANY CONSTRUCTION OPERATIONS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT ALL EXISTING UNDERGROUND AND ABOVE GROUND IMPROVEMENTS SUCH AS CONDUITS, GAS MAINS, SANITARY SEWER LINES, TV CABLE, TELEPHONE, LATERALS, WATER MAINS, POLES, PIPES, CABLES AND OTHER STRUCTURES FROM DAMAGE AND SHALL BE RESPONSIBLE TO RESTORE, REPAIR OR REPLACE ANY DAMAGED ITEMS WITHOUT COMPENSATION.
3. HAND-DIGGING IS REQUIRED WHERE THERE MAY BE ANY CONFLICT WITH EXISTING UNDERGROUND UTILITIES.
4. CONTRACTOR SHALL DO A "POT HOLE" TEST BEFORE INSTALLING THE POLES.
5. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT ALL UTILITY COMPANIES FOR LOCATION OF THEIR EXISTING FACILITIES AND TO LOCATE THESE UTILITIES FOR THE EXACT DEPTH. CONTACT "SUNSHINE" AT 811 48 HOURS PRIOR TO DIGGING.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL DAMAGES SUSTAINED OR COST INCURRED BECAUSE OF THE CONTRACTOR'S OPERATION IN THE VICINITY OF EXISTING UTILITIES OR STRUCTURES. THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE UTILITY COMPANIES WHEN THEIR EXISTING FACILITIES CONFLICT WITH THE NEW CONSTRUCTION.
7. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE TO CONTACT/LOCATE OTHER UTILITIES NOT SUBSCRIBING TO "SUNSHINE".
8. CONTRACTOR SHALL USE CAUTION WHEN WORKING UNDER AND IN THE VICINITY OF OVERHEAD AND UNDERGROUND UTILITIES.

UTILITY AND CITY COORDINATION

1. CONTRACTOR SHALL COORDINATE WITH FPL TO PROVIDE POWER TO METERED SERVICES.
2. CONTRACTOR SHALL COORDINATE WITH FPL TO MAINTAIN THE EXISTING STREET LIGHTING UNTIL THE NEW LIGHTING IS INSTALLED, AND OPERATIONAL.
3. THIS LIGHTING SYSTEM IS WITHIN THE CITY OF VERO BEACH BOUNDARY, AND AS SUCH, SHALL BE OPERATED AND MAINTAINED BY THE CITY.

ELECTRICAL INSTALLATION

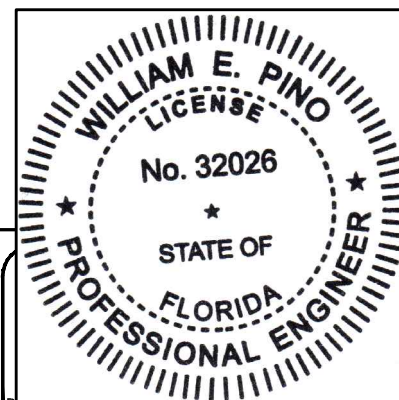
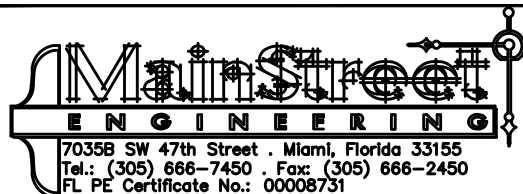
1. INSTALL STREET LIGHTING POLES AND FIXTURES AS SHOWN ON ROADWAY PLANS. INSTALLATION SHALL INCLUDE BUT NOT BE LIMITED TO POLES, FIXTURES, LAMPS, BRACKETS, FUSE HOLDERS, FUSES, PULL BOXES, GROUND RODS, TRENCHING, BORING, CONDUIT, WIRING, CONCRETE PADS AND FOUNDATIONS FROM EACH SERVICE AREA, FOR A COMPLETE OPERATING SYSTEM.
2. PROVIDE COMPLETE ELECTRIC SERVICE AS SHOWN ON ELECTRICAL DRAWINGS.

LIGHT POLE INSTALLATION / BORING NOTES:

1. DO NOT SCALE OFF ELECTRICAL DRAWINGS.
2. THE LOCATION OF POLES SHALL FIRST BE FLAGGED BY SURVEYOR. THE CONTRACTOR SHALL THEN WALK DOWN ALL POLE LOCATIONS TO VERIFY THAT THEY DO NOT INTERFERE WITH TREES, DRIVeways, SIDEWALKS, OVERHEAD LINES, AND OTHER UNFORESEEN CONDITIONS, PRIOR TO INSTALLATION OF POLES.
3. THE CONTRACTOR SHALL UTILIZE DIRECTIONAL/BORING UNDER EXISTING ROADWAYS.
4. THE CONTRACTOR SHALL SELECT THE AREA FOR BORING THAT WILL HAVE ADEQUATE SPACE TO SET UP THE DIRECTIONAL BORING EQUIPMENT.

UTILITIES	CONTACT	TELEPHONE NUMBERS
FLORIDA POWER & LIGHT-TRANSMISSION	FPL	(800)-226-3545
CITY OF VERO BEACH UTILITIES	CITY OF VERO	(772)-978-5100
INDIAN RIVER COUNTY	GENERAL INFO.	(772)-226-8000
AT&T	BURIED LINES	(800)-924-9420
GAS	FLORIDA CITY GAS	(800)-993-7546
SUNSHINE ON CALL	SUNSHINE	811

GENERAL ELECTRICAL NOTES, CONTACT NUMBERS



By:	Date:

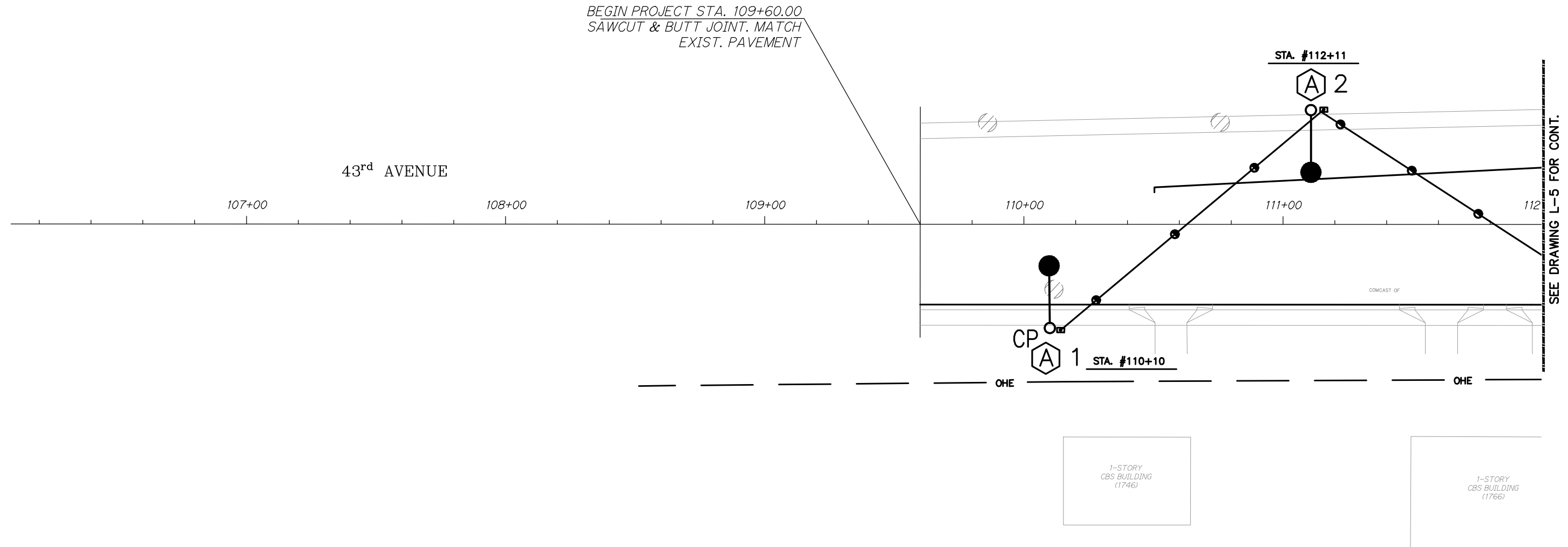
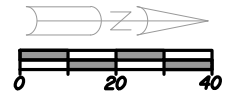


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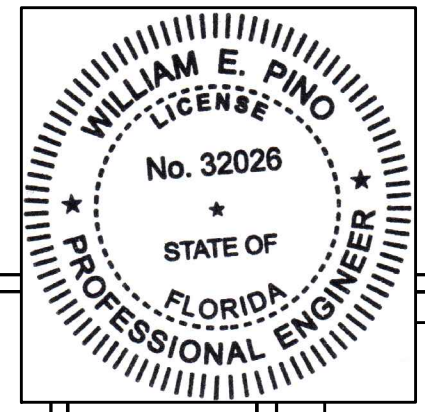
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Date: 12/17/2018
Field Book No:

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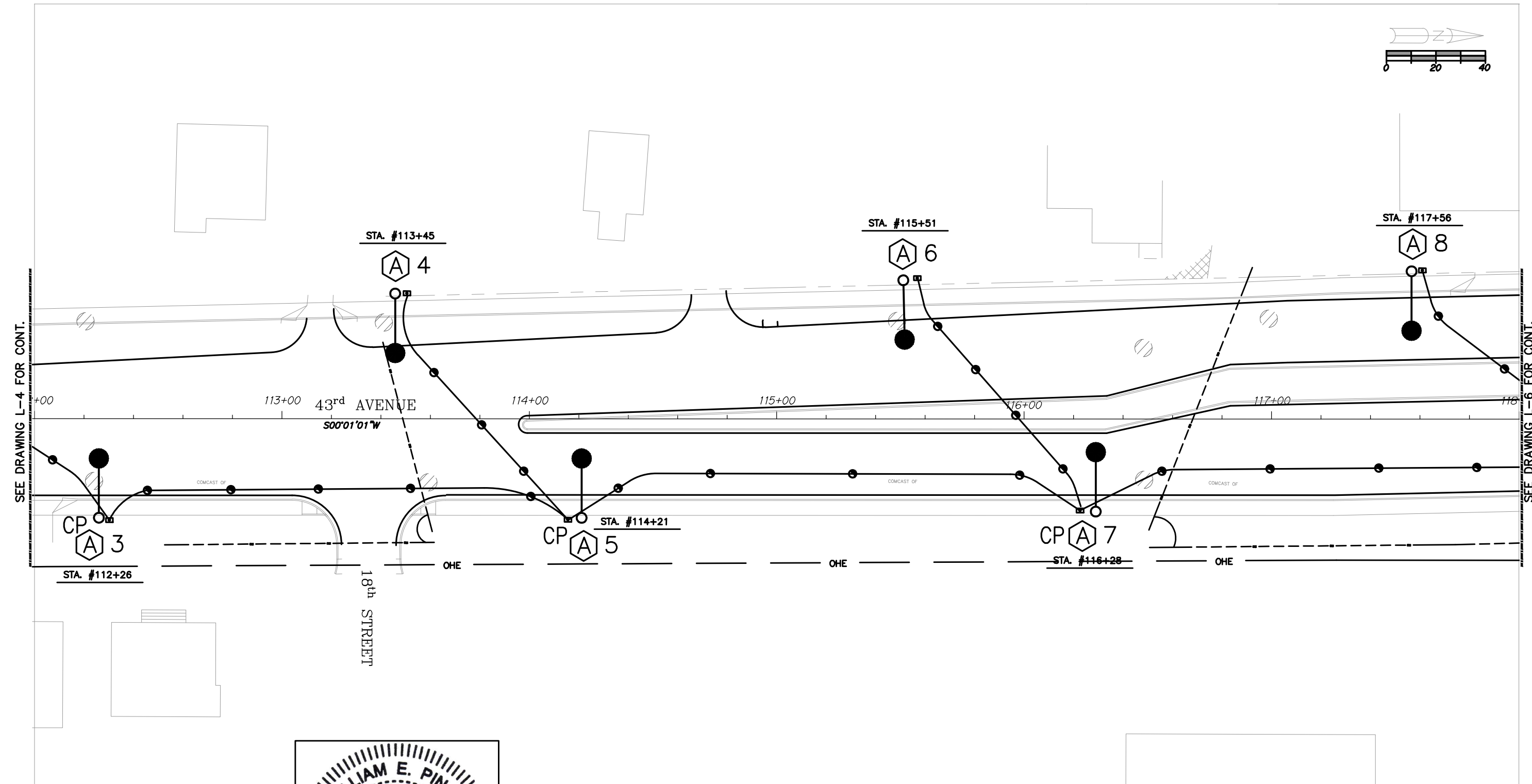
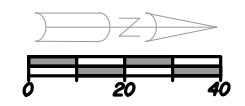
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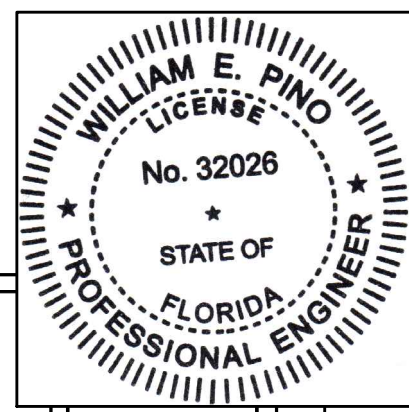
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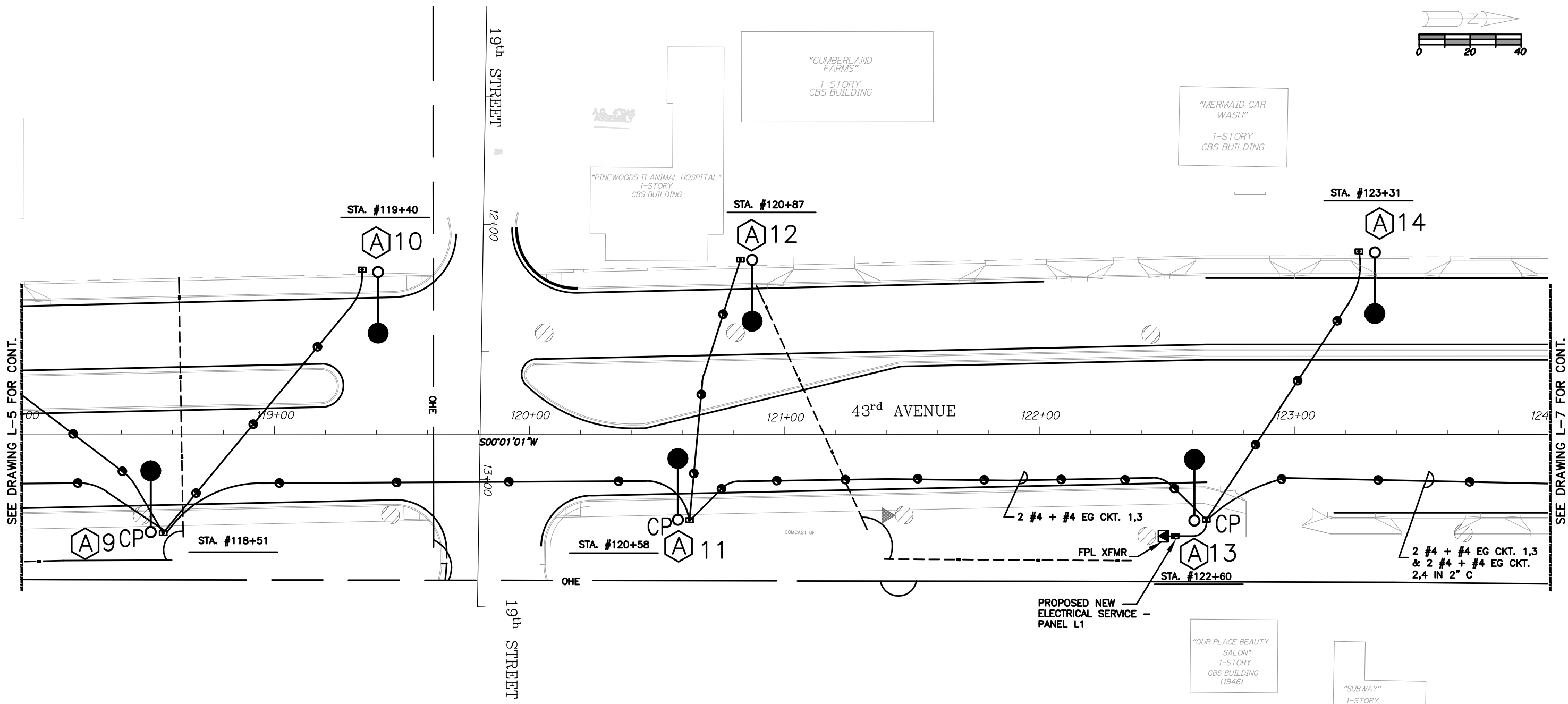
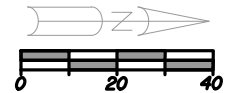
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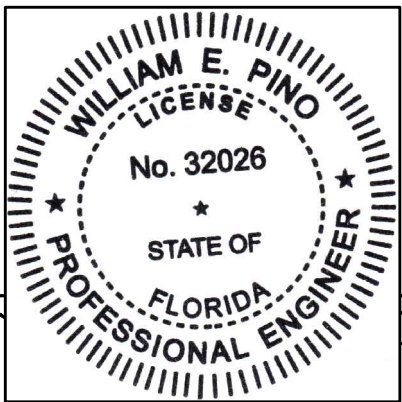
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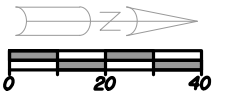
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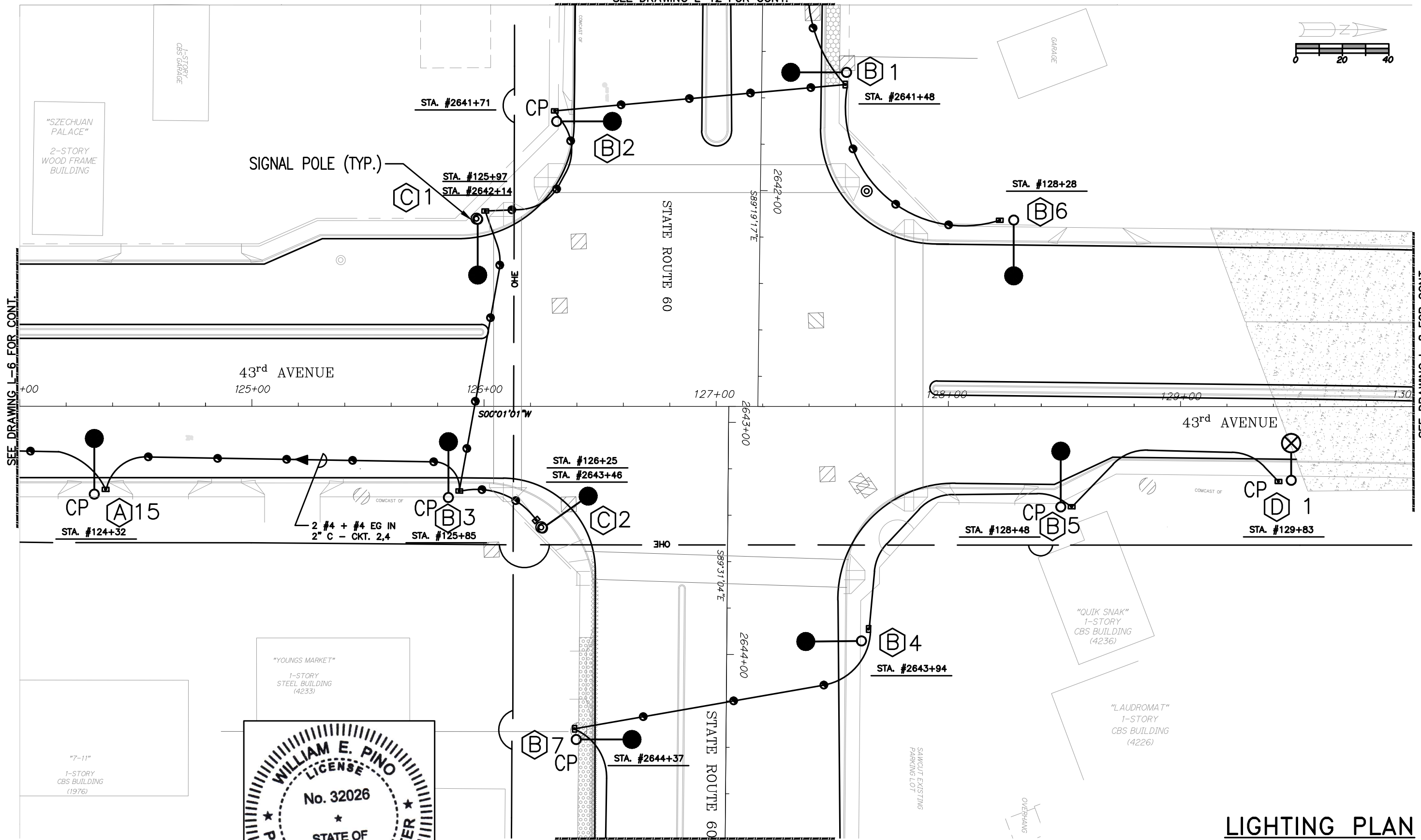
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WILLIAM E. PINO
 LICENSE
 No. 32026
 STATE OF
 FLORIDA
 PROFESSIONAL ENGINEER

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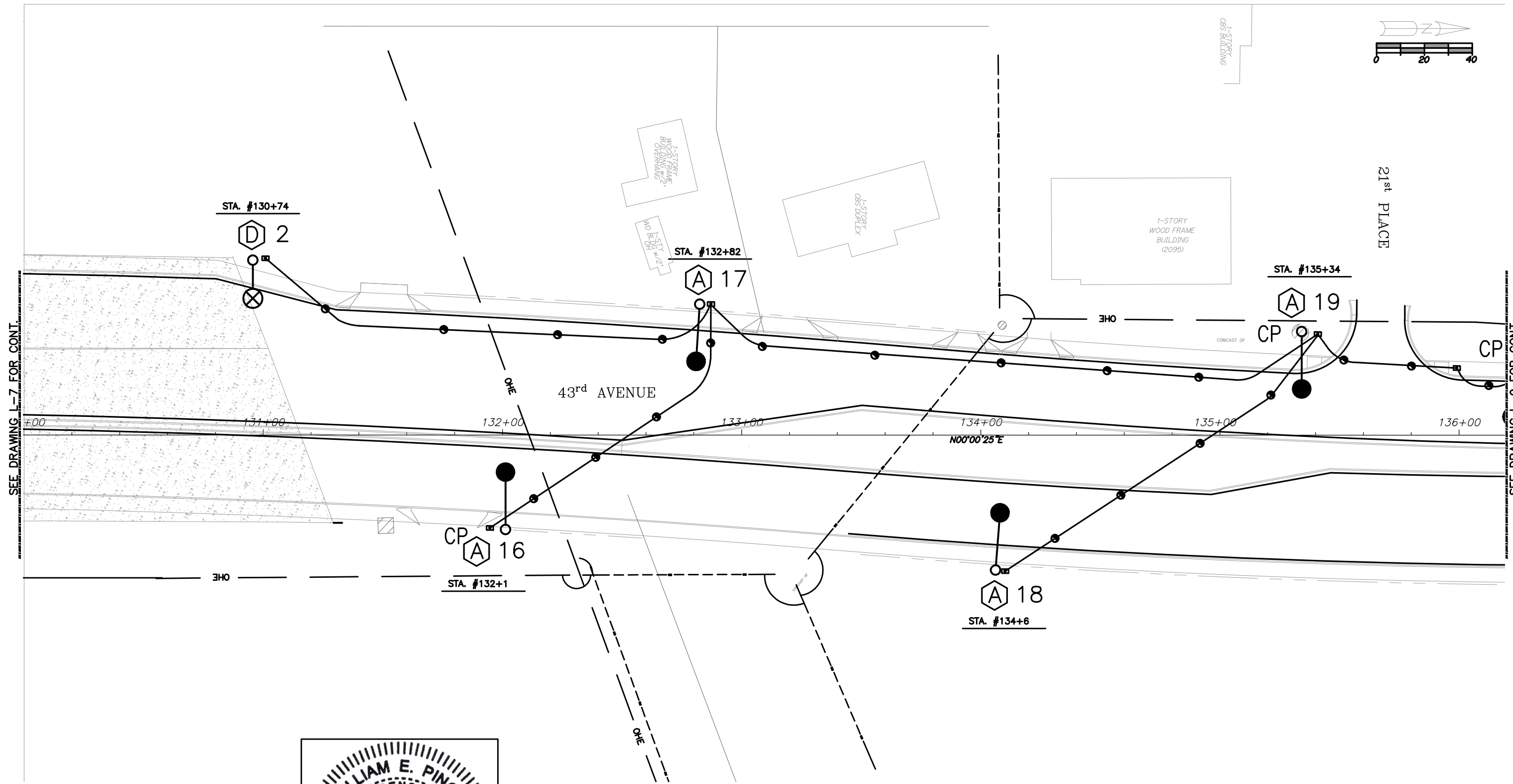
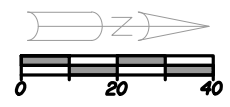


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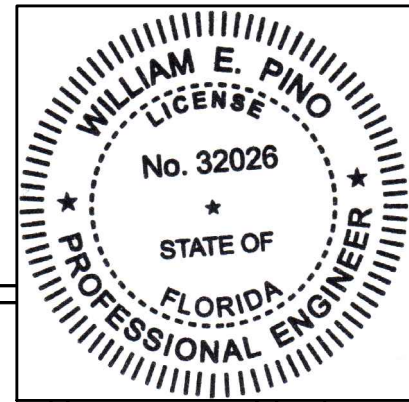
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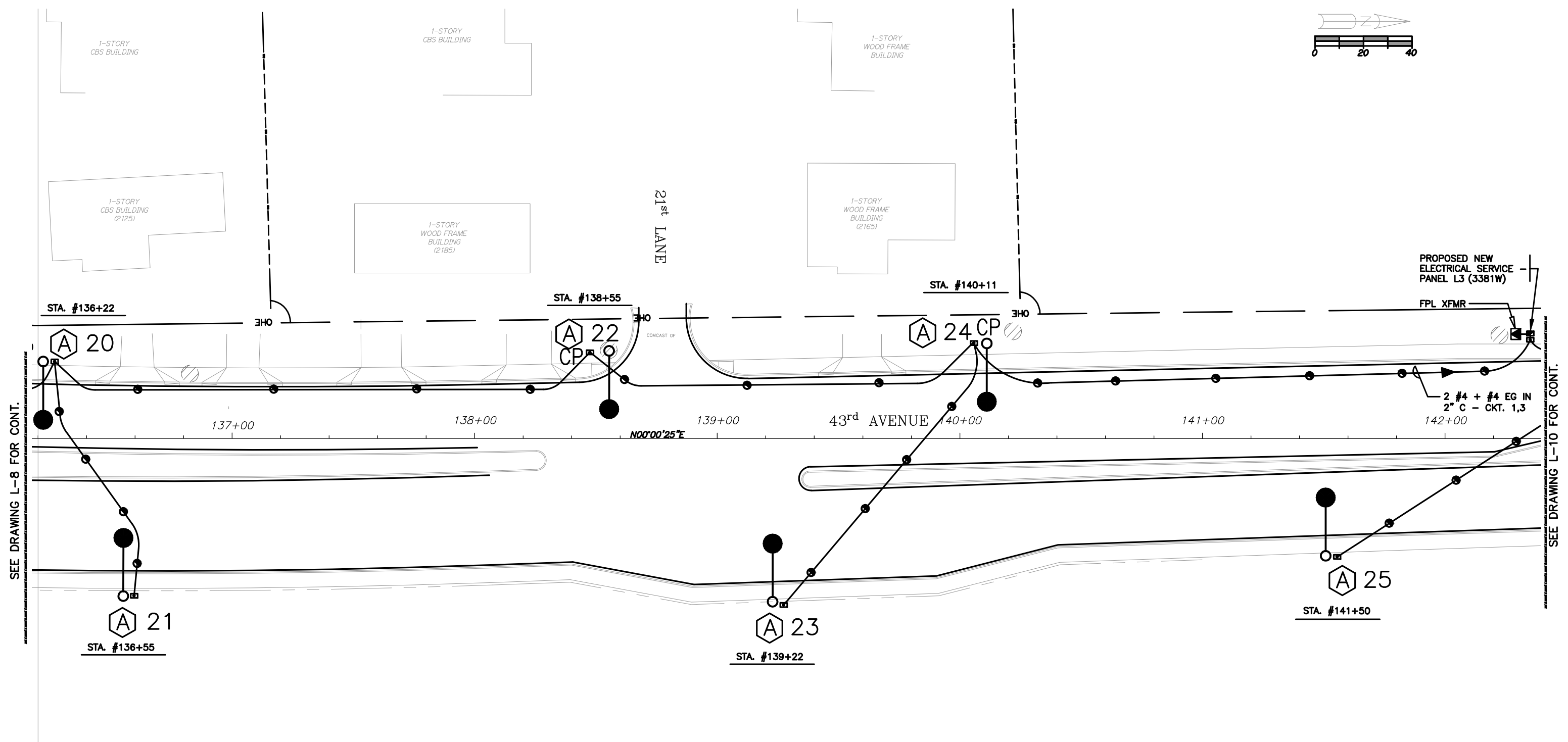
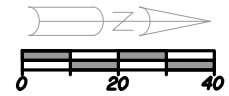
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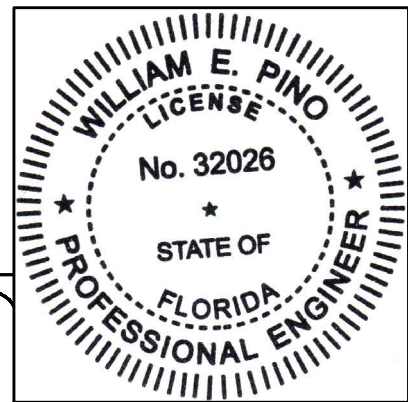
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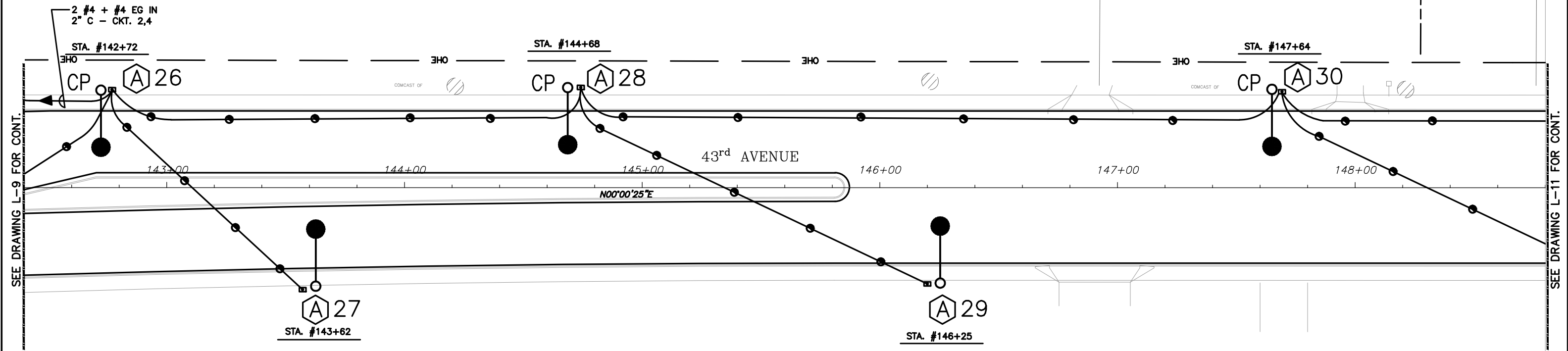
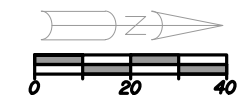
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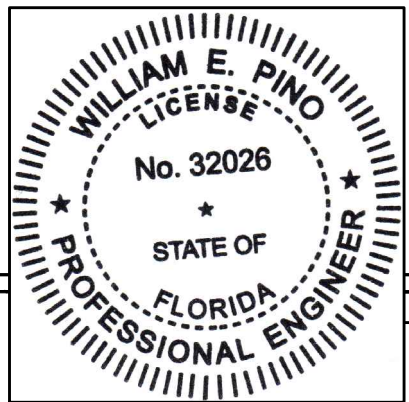
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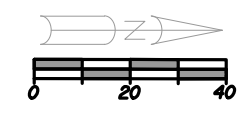
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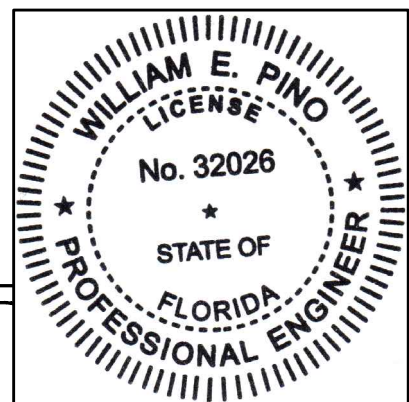
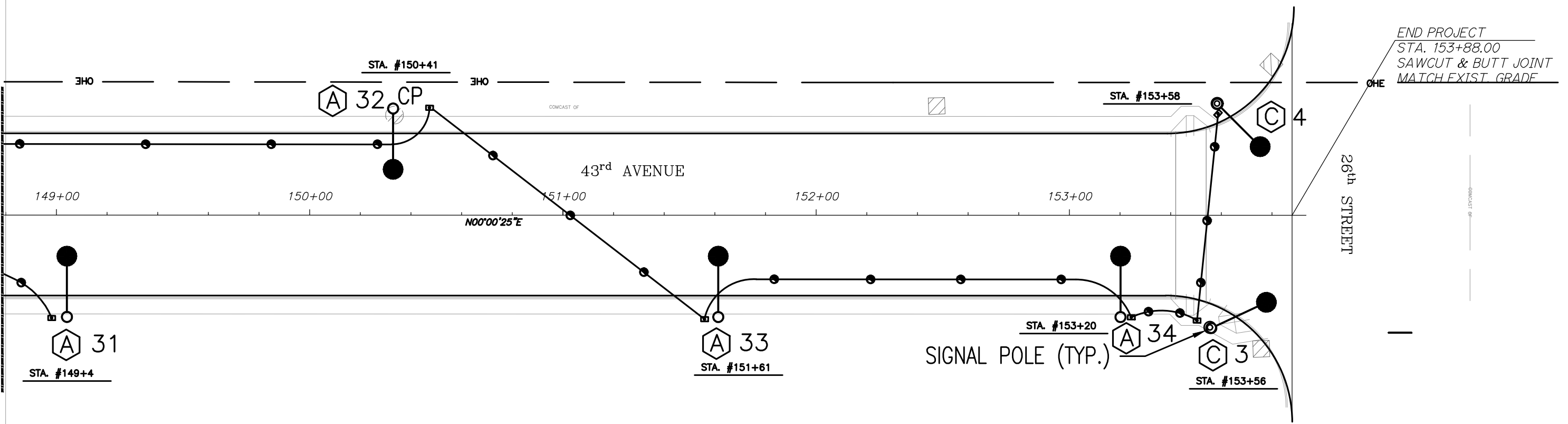
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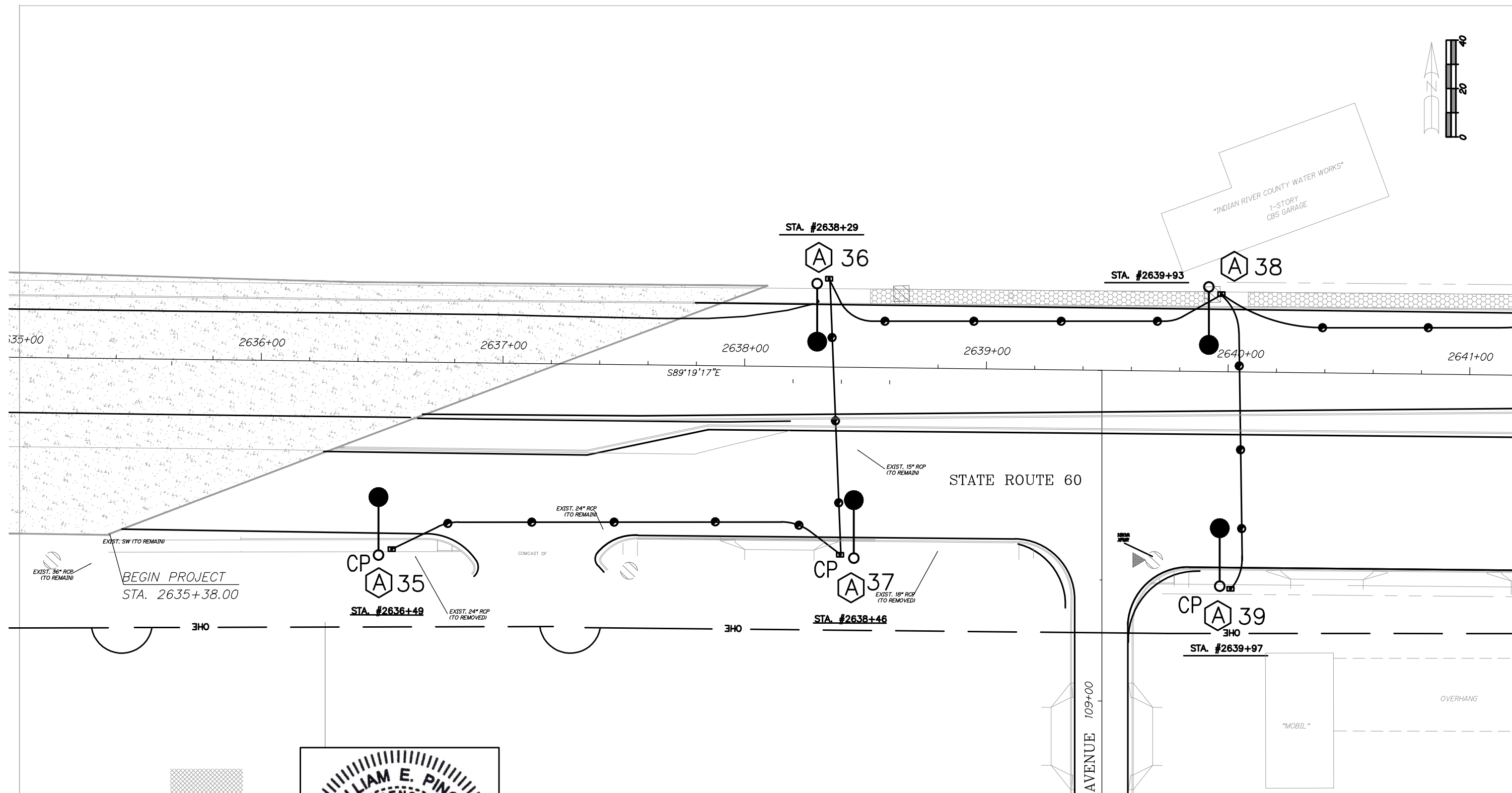
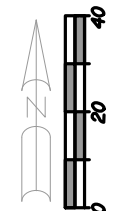
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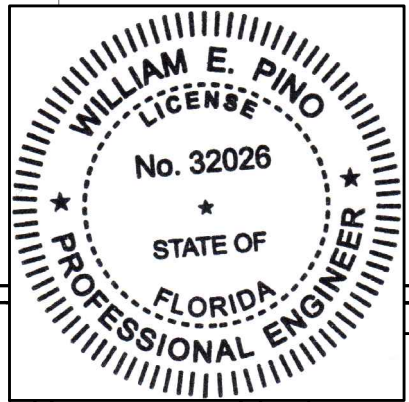
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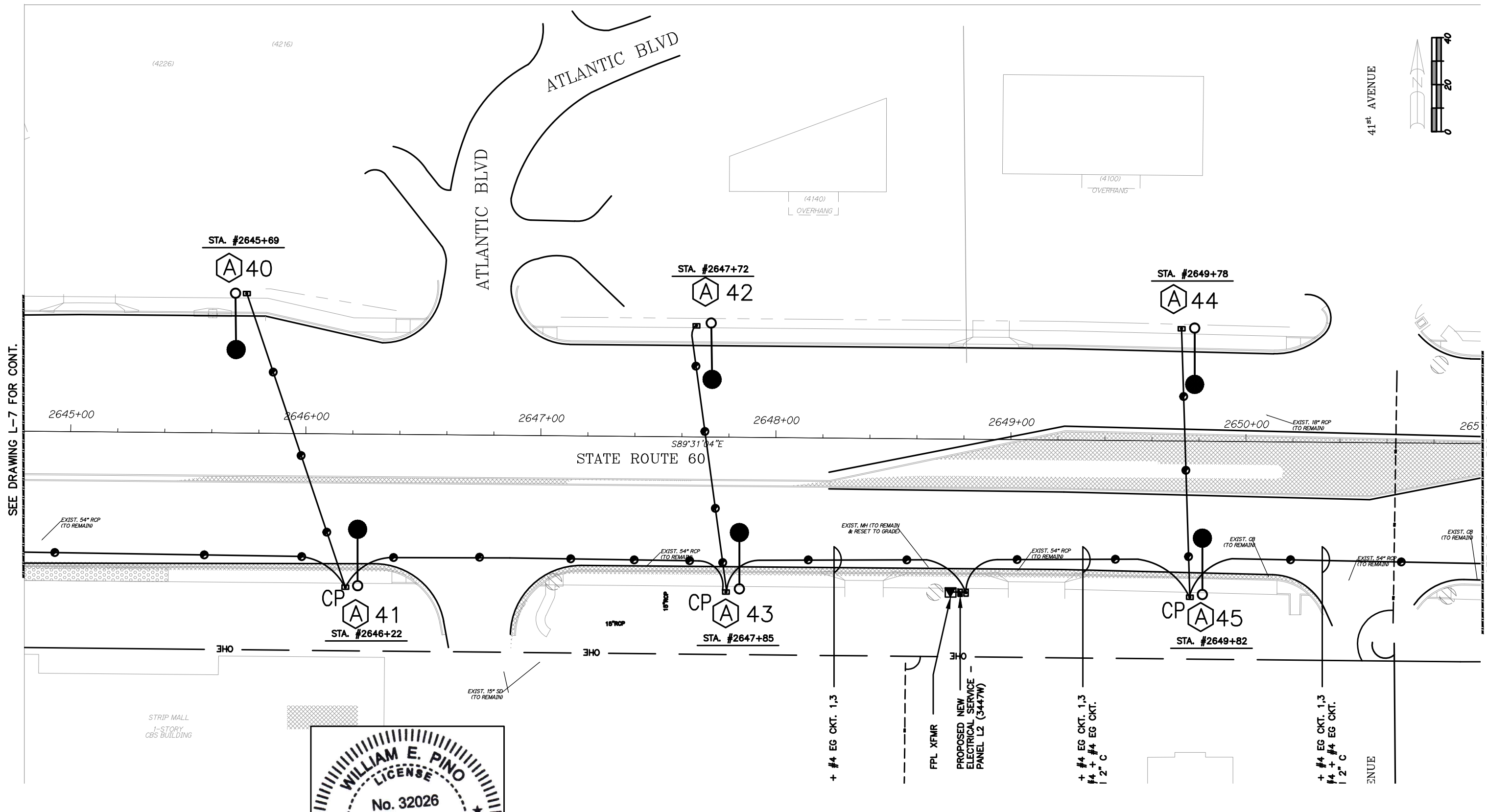
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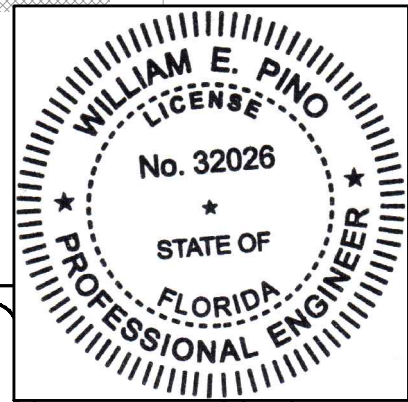
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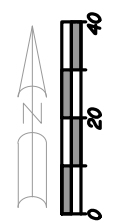
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1-STY
CBS
BLDG



"KFC"
1-STORY
CBS BUILDING
(4040)

1-STORY CBS
BUILDING
(4000)

40th AVENUE

(3900)
"WASHINGTON MUTUAL"
1 STORY
CBS BUILDING

STA. #2651+50
A46

2 #4 + #4 EG IN
2" C - CKT. 2,4

STA. #2653+17
A48

EXIST. 18" SD

STA. #2654+94
A50

STA. #2656+75
A52

SEE DRAWING L-13 FOR CONT.

2652+00 2653+00 2654+00 2655+00 2656+00 2657+00

S89°31'04"E

SEE DRAWING L-15 FOR CONT.

2 #4 + #4
EG CKT. 1,3
& 2 #4 +
#4 EG CKT.
2,4 IN 2" C

CP A47
STA. #2651+59

EXIST. 54" RCP
(TO REMAIN)

EXIST. MH (TO REMAIN
& RESET TO GRADE)

CP A49
STA. #2653+33

STATE ROUTE 60

EXIST. 54" RCP
(TO REMAIN)

CP A51
STA. #2655+35

EXIST. 54" RCP
(TO REMAIN)

EXIST. MH (TO REMAIN
& RESET TO GRADE)

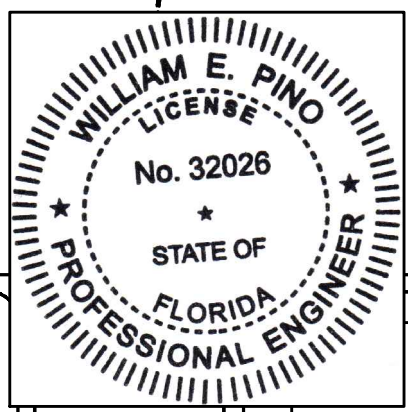
CP A53
STA. #2656+94

EXIST. 54" RCP
(TO REMAIN)

EXIST. 18" SD

EXIST. 15" SD

JE



LIGHTING PLAN

Main Street ENGINEERING
 70358 SW 47th Street . Miami, Florida 33155
 Tel.: (305) 666-7450 . Fax: (305) 666-2450
 FL PE Certificate No.: 00008731

DATE: _____

Revision:	By:	Date:



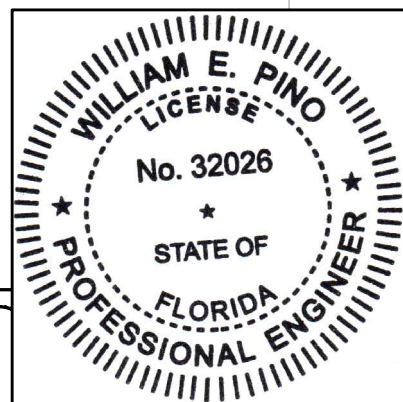
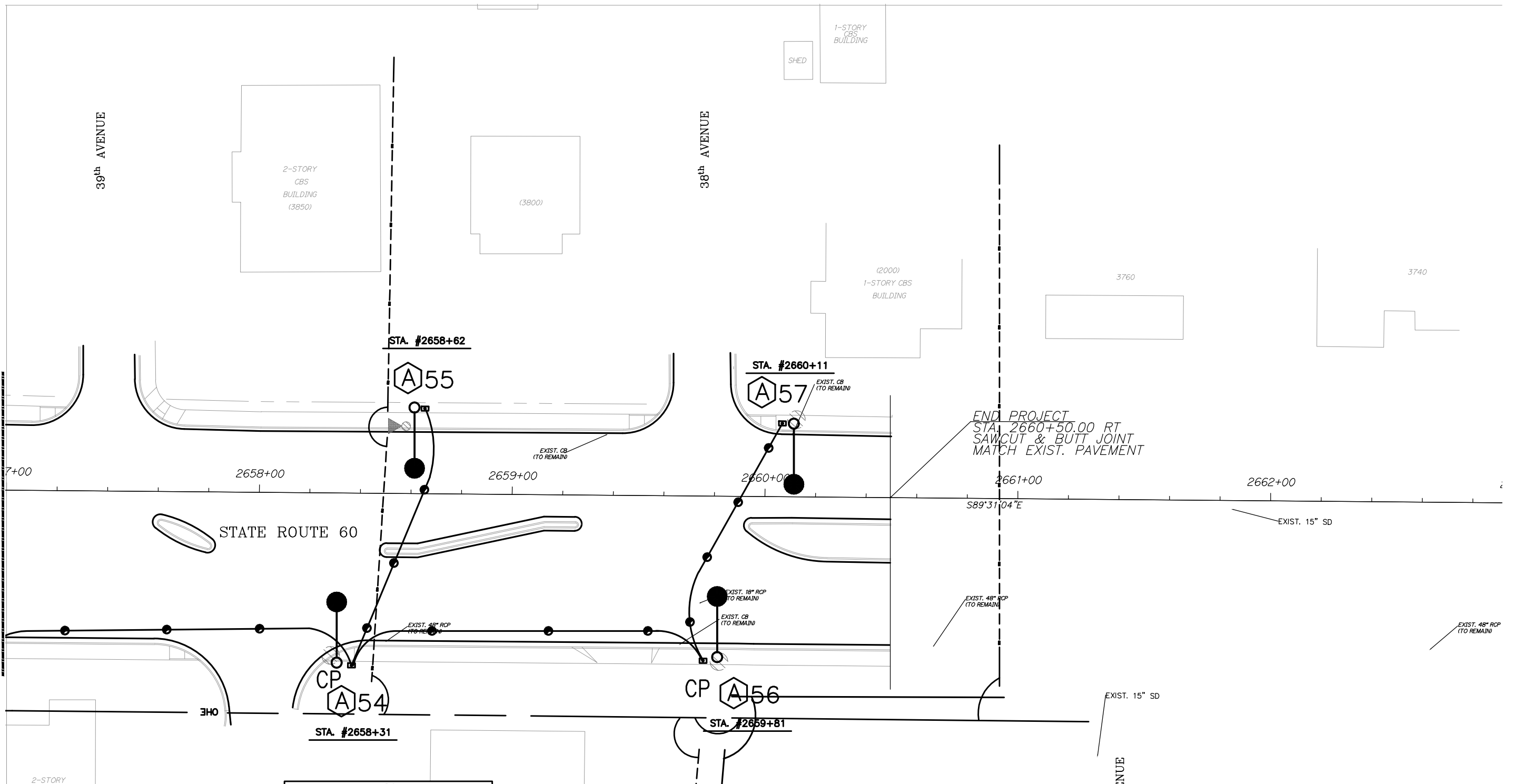
Department of Public Works
Engineering Division

Scale: 1" = 40'
 Approved: WP
 Drawn: JS
 Checked: WP
 Date: 12/17/2018
 Field Book No:

Project:
 ROADWAY LIGHTING PLANS
 FOR
 SR 60 & 43RD AVENUE

Sheet: L-14
 Of: 24
 Project No.
 LNW# WP1027

SEE DRAWING L-14 FOR CONT.



DATE: _____

Revision:	By:	Date:



Department of Public Works
Engineering Division

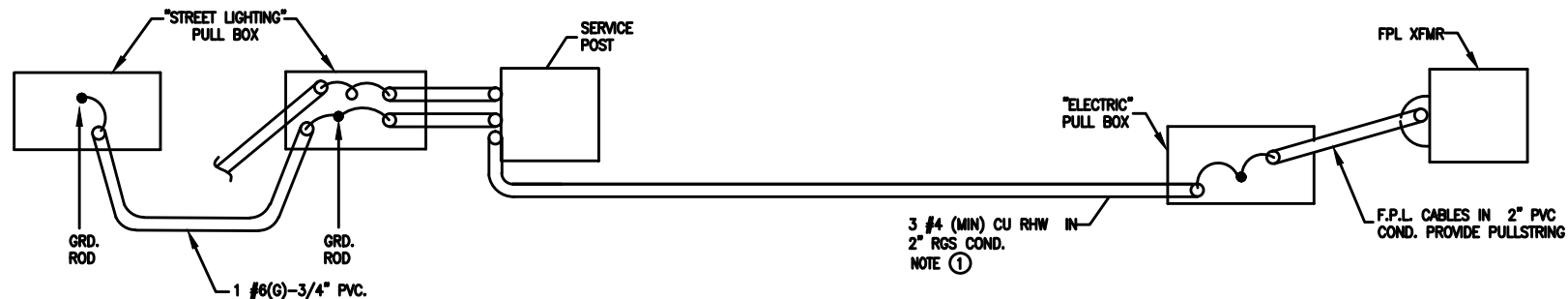
Scale: 1" = 40'
Approved: WP
Drawn: JS
Checked: WP
Date: 12/17/2018
Field Book No:

Project:
ROADWAY LIGHTING PLANS
FOR
SR 60 & 43RD AVENUE

Sheet: L-15
Of: 24
Project No.
LNW# WP1027

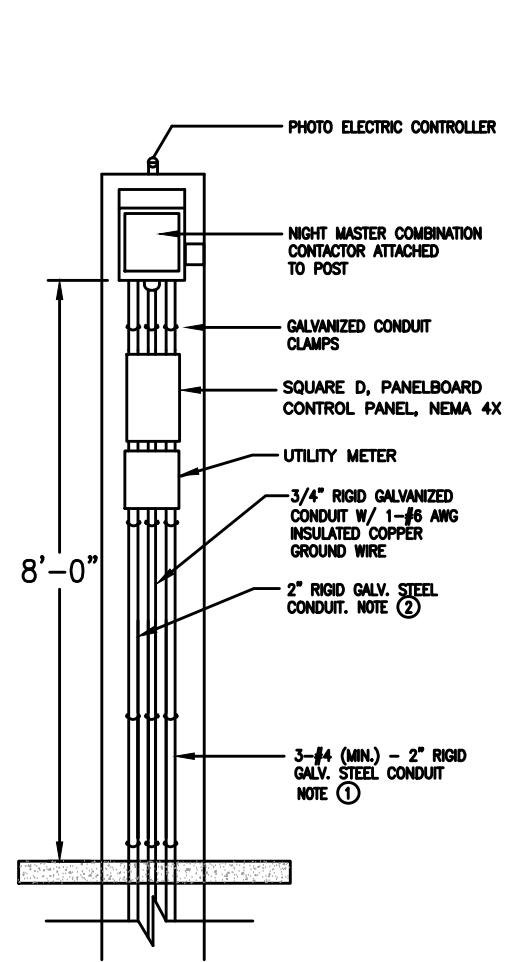
LIGHTING PLAN

Main Street ENGINEERING
70358 SW 47th Street . Miami, Florida 33155
Tel.: (305) 666-7450 . Fax: (305) 666-2450
FL PE Certificate No.: 00008731



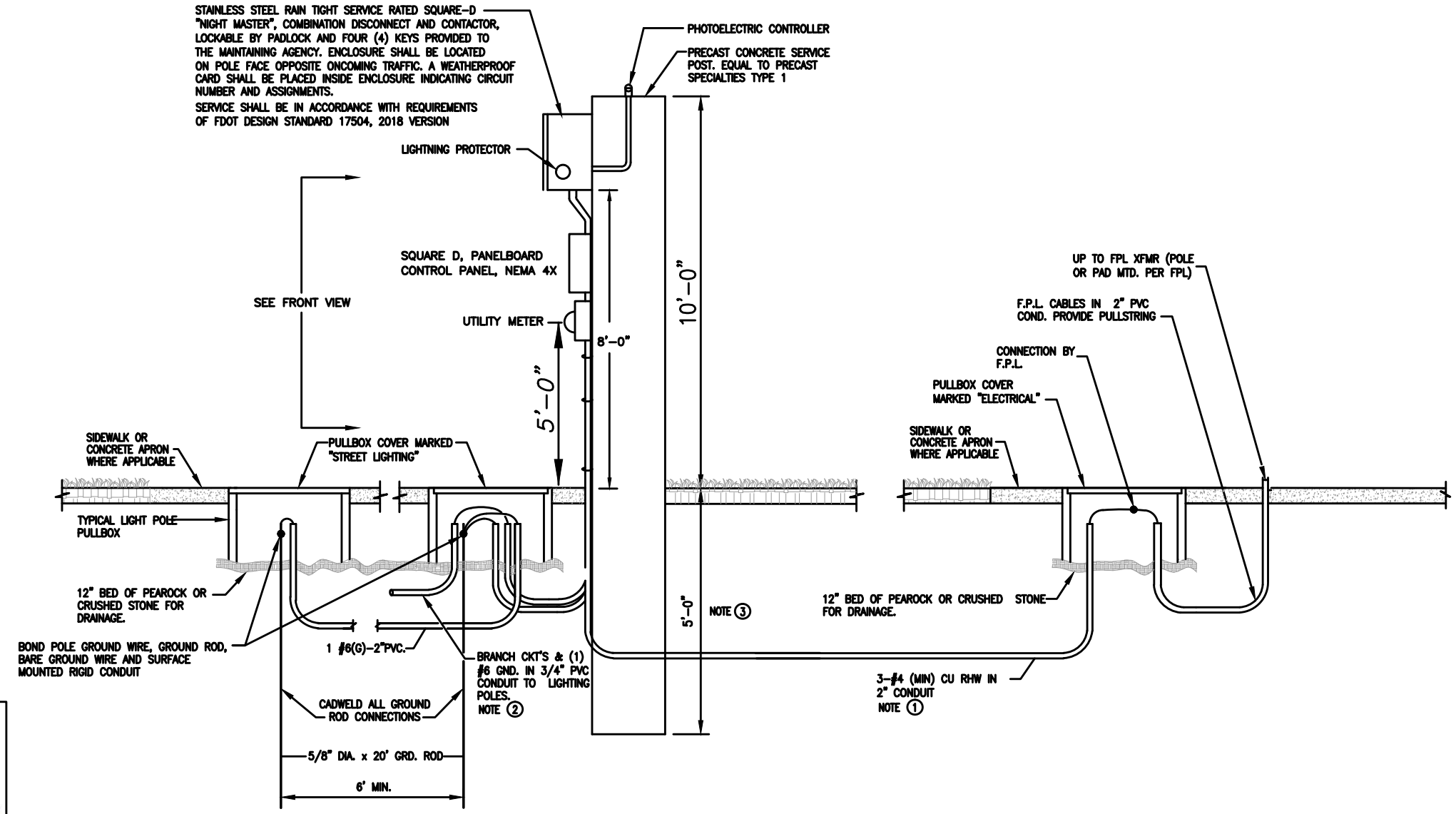
- NOTES:**
- ① PROVIDE OVERSIZED NEUTRAL IF REQUIRED BY LOAD.
 - ② NUMBER & SIZE OF BRANCH CIRCUITS SHALL BE BASED ON ACTUAL JOB CONDITIONS.
 - ③ MODIFY EMBEDMENT DEPTH AS REQUIRED BY FIELD CONDITIONS.
 - ④ CONTRACTOR SHALL INCLUDE ADDRESS AND AIC RATING OF THE PROPOSED FPL SERVICE IN THE SHOP DRAWING SUBMITTAL FOR ENGINEER REVIEW PER NEC 110.24.

N.T.S.



N.T.S.

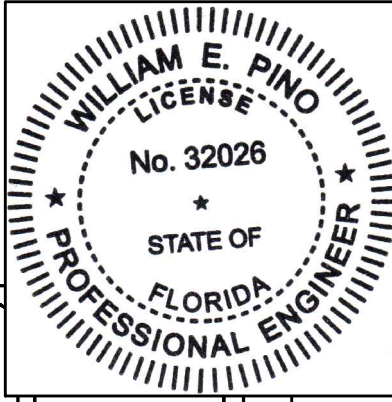
STAINLESS STEEL RAIN TIGHT SERVICE RATED SQUARE-D "NIGHT MASTER", COMBINATION DISCONNECT AND CONTACTOR, LOCKABLE BY PADLOCK AND FOUR (4) KEYS PROVIDED TO THE MAINTAINING AGENCY. ENCLOSURE SHALL BE LOCATED ON POLE FACE OPPOSITE ONCOMING TRAFFIC. A WEATHERPROOF CARD SHALL BE PLACED INSIDE ENCLOSURE INDICATING CIRCUIT NUMBER AND ASSIGNMENTS.
 SERVICE SHALL BE IN ACCORDANCE WITH REQUIREMENTS OF FDOT DESIGN STANDARD 17504, 2018 VERSION



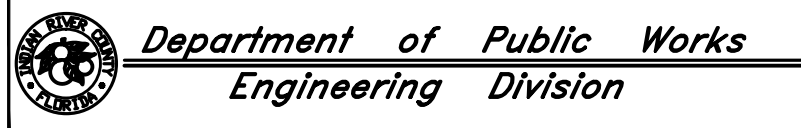
N.T.S.

N.T.S.

SERVICE POINT DETAILS



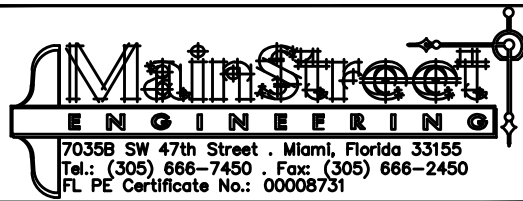
Revision:	By:	Date:



Scale:	NONE
Approved:	WP
Drawn:	JS
Checked:	WP
Date:	12/17/2018
Field Book No:	

Project:	ROADWAY LIGHTING PLANS FOR SR 60 & 43RD AVENUE
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Of:	24
Project No.	LNN# WP1027



CONTRACTOR SHALL INCLUDE ADDRESS AND AIC RATING OF THE PROPOSED FPL SERVICE IN THE SHOP DRAWING SUBMITTAL FOR ENGINEER REVIEW PER NEC 110.24.

STATE ROAD 60 & 43RD AVENUE

VOLTAGE DROP CALCULATION										PANEL L1		
43RD AVE. SOUTH												
POLE No	Ckt. No	Distance	LAMP WATT	Amp(I)	Voltage(v)	D X I	Wire Size	R	VD	%V		
A15	1,3	364	155	0.896990741	240	326.5046296	#4	0.308	0.20	0.08		
A13	1,3	137	155	0.896990741	240	122.8877315	#4	0.308	0.08	0.03		
A14	1,3	272	155	0.896990741	240	243.9814815	#4	0.308	0.15	0.06		
A12	1,3	255	155	0.896990741	240	228.7326389	#4	0.308	0.14	0.06		
A11	1,3	140	155	0.896990741	240	125.5787037	#4	0.308	0.08	0.03		
A9	1,3	380	155	0.896990741	240	340.8564815	#4	0.308	0.21	0.09		
A10	1,3	523	155	0.896990741	240	469.1261574	#4	0.308	0.29	0.12		
A8	1,3	534	155	0.896990741	240	478.9930556	#4	0.308	0.30	0.12		
A6	1,3	774	155	0.896990741	240	694.2708333	#4	0.308	0.43	0.18		
A7	1,3	647	155	0.896990741	240	580.3530093	#4	0.308	0.36	0.15		
A4	1,3	1012	155	0.896990741	240	907.7546296	#4	0.308	0.56	0.23		
A5	1,3	885	155	0.896990741	240	793.8368056	#4	0.308	0.49	0.20		
A3	1,3	1097	155	0.896990741	240	983.9988426	#4	0.308	0.61	0.25		
A2	1,3	1255	155	0.896990741	240	1125.72338	#4	0.308	0.69	0.29		
A1	1,3	1400	155	0.896990741	240	1255.787037	#4	0.308	0.77	0.32		
SUB-TOTAL AMPS			2325.00									
										Σ(%V)= 2.23		

VOLTAGE DROP CALCULATION										PANEL L1		
SR 60 WEST												
POLE No	Ckt. No	Distance	LAMP WATT	Amp(I)	Voltage(v)	D X I	Wire Size	R	VD	%V		
C2	2,4	557	144	0.833333333	240	464.1666667	#4	0.308	0.29	0.12		
B3	2,4	514	166	0.960648148	240	493.7731481	#4	0.308	0.30	0.13		
C1	2,4	649	144	0.833333333	240	540.8333333	#4	0.308	0.33	0.14		
B2	2,4	727	166	0.960648148	240	698.3912037	#4	0.308	0.43	0.18		
B1	2,4	865	166	0.960648148	240	830.9606481	#4	0.308	0.51	0.21		
B7	2,4	978	166	0.960648148	240	939.5138889	#4	0.308	0.58	0.24		
A39	2,4	1033	155	0.896990741	240	926.5914352	#4	0.308	0.57	0.24		
A38	2,4	1170	155	0.896990741	240	1049.479167	#4	0.308	0.65	0.27		
A36	2,4	1215	155	0.896990741	240	1089.84375	#4	0.308	0.67	0.28		
A37	2,4	1341	155	0.896990741	240	1202.864583	#4	0.308	0.74	0.31		
A35	2,4	1552	155	0.896990741	240	1392.12963	#4	0.308	0.86	0.36		
SUB-TOTAL AMPS			1727.00									
										Σ(%V)= 1.91		
TOTAL AMPS			4052.00									

- GROUND TEST NOTES**
- USE CALIBRATED GROUND TESTER, AIC RATING NO. 3711, 3731 OR APPROVED EQUAL, CALIBRATED WITHIN THE PAST 180 DAYS. RESISTANCE-TO-GROUND MEASUREMENT OF MORE THAN 5 OHMS SHALL BE CONSIDERED INADEQUATE.
 - TEST FOR CONTINUITY OF GROUNDING CONDUCTOR USING A MEGGER OR EQUAL LOW RESISTANCE/ HIGH CAPACITY OHMMETER, CALIBRATED WITHIN THE PAST 180 DAYS. A NEUTRAL/GROUND LOOP RESISTANCE OF MORE THAN 0.5 OHMS-PER THOUSAND FEET SHALL BE CONSIDERED INADEQUATE.

SR60 & 43RD AVE PANEL L1 SCHEDULE

VOLTAGE: 120/240V, 1PHASE, 3W
 BUS (AMPS): 125
 MAINS: 2P, 60A
 AIC RATING: 22,000

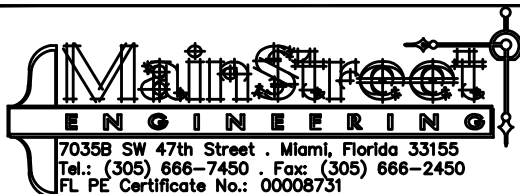
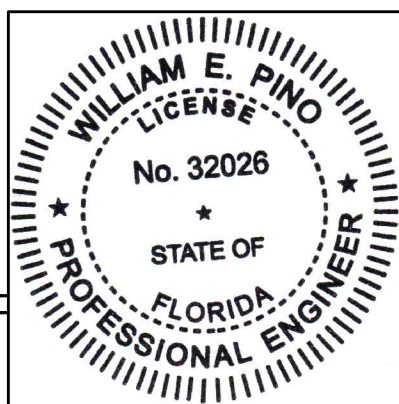
MOUNTING: SURFACE
 ENCLOSURE: NEMA 4X
 BUS TYPE: COPPER
 LOCATION: SERVICE POLE

1=CONTINUOUS LOAD

CKT NO.	CODE	BREAKER		LOAD DESCRIPTION	LOAD VA	PHASE		LOAD VA	LOAD DESCRIPTION	BREAKER		CKT	
		TRIP	POLE			A	B			TRIP	POLE	CODE	NO.
1	1	20	2	POLE LIGHTS	1163	2027	---	864	POLE LIGHTS	20	2	1	2
3	1			43RD AVE - SOUTH	1163	---	2027	864	SR 60 WEST	20		1	4
5				PROVISION ONLY		0	---		PROVISION ONLY				6
7				PROVISION ONLY		---	0		PROVISION ONLY				8
9				PROVISION ONLY		0	---		PROVISION ONLY				10
11				PROVISION ONLY		---	0		PROVISION ONLY				12
2			1										

2027	2027	CONNECTED KVA	4.1
NOTES:		CODE 1 KVA	4.1
			0.0
			0.0
			0.0
			0.0
			0.0
DATE: 8/28/2018		DEMAND LOAD (KVA)	5.1
		DEMAND LOAD (A)	21.1
2533	2534	PHASE BALANCE (%)	100

SERVICE PANEL L1 SCHEDULE, VOLTAGE DROP CALCULATIONS



Revision: _____ By: _____ Date: _____



Department of Public Works
Engineering Division

Scale: NONE
 Approved: WP
 Drawn: JS
 Checked: WP
 Date: 12/17/2018
 Field Book No: _____

Project:
ROADWAY LIGHTING PLANS
FOR
SR 60 & 43RD AVENUE

Sheet: L-17
Of: 24
Project No.
LN# WP1027

CONTRACTOR SHALL INCLUDE ADDRESS AND AIC RATING OF THE PROPOSED FPL SERVICE IN THE SHOP DRAWING SUBMITTAL FOR ENGINEER REVIEW PER NEC 110.24.

GROUND TEST NOTES

- ① USE CLAMP-ON GROUND TESTER, AEMC CAT. NO. 3711, 3731 OR APPROVED EQUAL, CALIBRATED WITHIN THE PAST 180 DAYS. RESISTANCE-TO-GROUND MEASUREMENT OF MORE THAN 5 OHMS SHALL BE CONSIDERED INADEQUATE.
- ② TEST FOR CONTINUITY OF GROUNDING CONDUCTOR USING A MEGGER OR EQUAL LOW RESISTANCE/ HIGH CAPACITY OHMMETER, CALIBRATED WITHIN THE PAST 180 DAYS. A NEUTRAL/GROUND LOOP RESISTANCE OF MORE THAN 0.5 OHMS-PER THOUSAND FEET SHALL BE CONSIDERED INADEQUATE.

STATE ROAD 60 & 43RD AVENUE

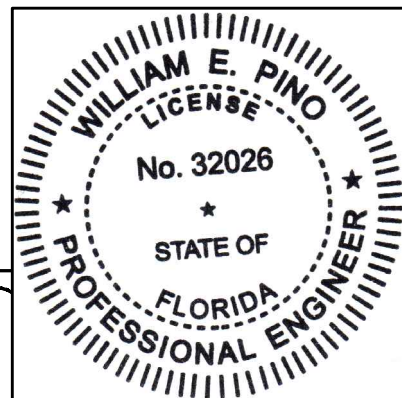
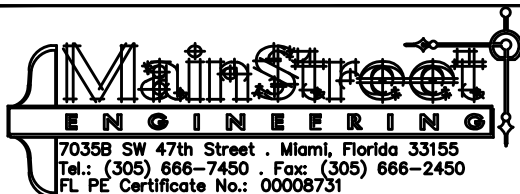
VOLTAGE DROP CALCULATION										PANEL L2			
SR 60 EAST										VD	%V		
POLE No	Ckt. No	Distance	LAMP WATT	Amp(I)	Voltage(v)	DX I	Wire Size	R					
A45	1,3	127	155	0.896990741	240	113.9178241	#4	0.308		0.07	0.03		
A44	1,3	253	155	0.896990741	240	226.9386574	#4	0.308		0.14	0.06		
A47	1,3	334	155	0.896990741	240	299.5949074	#4	0.308		0.18	0.08		
A46	1,3	460	155	0.896990741	240	412.6157407	#4	0.308		0.25	0.11		
A43	1,3	124	155	0.896990741	240	111.2288519	#4	0.308		0.07	0.03		
A42	1,3	251	155	0.896990741	240	225.1446759	#4	0.308		0.14	0.06		
A41	1,3	441	155	0.896990741	240	395.5729167	#4	0.308		0.24	0.10		
A40	1,3	586	155	0.896990741	240	525.6365741	#4	0.308		0.32	0.13		
B7	1,3	640	166	0.960648148	240	614.8148148	#4	0.308		0.38	0.16		
B4	1,3	800	166	0.960648148	240	768.5185185	#4	0.308		0.47	0.20		
B5	1,3	950	166	0.960648148	240	912.6157407	#4	0.308		0.56	0.23		
D1	1,3	1072	148	0.856481481	240	918.1481481	#4	0.308		0.57	0.24		
SUB-TOTAL AMPS			1886.00										
										Σ(%V)= 1.42			

VOLTAGE DROP CALCULATION										PANEL L2			
SR 60 EAST										VD	%V		
POLE No	Ckt. No	Distance	LAMP WATT	Amp(I)	Voltage(v)	DX I	Wire Size	R					
A48	2,4	668	155	0.896990741	240	599.1898148	#4	0.308		0.37	0.15		
A49	2,4	785	155	0.896990741	240	704.1377315	#4	0.308		0.43	0.18		
A50	2,4	873	155	0.896990741	240	783.0729167	#4	0.308		0.48	0.20		
A51	2,4	1004	155	0.896990741	240	900.5787037	#4	0.308		0.55	0.23		
A53	2,4	1195	155	0.896990741	240	1071.903935	#4	0.308		0.66	0.28		
A52	2,4	1312	155	0.896990741	240	1176.851852	#4	0.308		0.72	0.30		
A54	2,4	1377	155	0.896990741	240	1235.15625	#4	0.308		0.76	0.32		
A55	2,4	1501	155	0.896990741	240	1346.383102	#4	0.308		0.83	0.35		
A56	2,4	1550	155	0.896990741	240	1390.335648	#4	0.308		0.86	0.36		
A57	2,4	1668	155	0.896990741	240	1496.180556	#4	0.308		0.92	0.38		
SUB-TOTAL AMPS			1550.00										
										Σ(%V)= 2.59			
TOTAL AMPS			3436.00										

SR60 & 43RD AVE PANEL L2 SCHEDULE

VOLTAGE: 120/240V, 1PHASE, 3W				MOUNTING: SURFACE				1=CONTINUOUS LOAD					
BUS (AMPS): 125				ENCLOSURE: NEMA 4X									
MAINS: 2P, 60A				BUS TYPE: COPPER									
AIC RATING: 22,000				LOCATION: SERVICE POLE									
CKT	BREAKER	LOAD	LOAD	PHASE	LOAD	LOAD	BREAKER	CKT					
NO.	CODE	TRIP	POLE	DESCRIPTION	VA	A	B	VA	DESCRIPTION	TRIP	POLE	CODE	NO.
1	1	20	2	POLE LIGHTS	949	1724	--	775	POLE LIGHTS	20	2	1	2
3	1			SR 60 - EAST	949	--	1724	775	SR 60 - EAST			1	4
5				PROVISION ONLY		0	--		PROVISION ONLY				6
7				PROVISION ONLY		--	0		PROVISION ONLY				8
9				PROVISION ONLY		0	--		PROVISION ONLY				10
11				PROVISION ONLY		--	0		PROVISION ONLY				12
										2		1	
					1724	1724	CONNECTED KVA		3.4				
NOTES:					CODE 1 KVA					3.4			
										0.0			
										0.0			
										0.0			
										0.0			
DATE: 8/28/2018					DEMAND LOAD (KVA)					4.3			
					DEMAND LOAD (A)					18.0			
					2155	2155	PHASE BALANCE (%)		100				

SERVICE PANEL L2 SCHEDULE, VOLTAGE DROP CALCULATIONS



Revision:	By:	Date:



Department of Public Works
Engineering Division

Scale: NONE
Approved: WP
Drawn: JS
Checked: WP
Date: 12/17/2018
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Project:
ROADWAY LIGHTING PLANS
FOR
SR 60 & 43RD AVENUE

Sheet: L-18
Of: 24
Project No.
LN# WP1027

CONTRACTOR SHALL INCLUDE ADDRESS AND AIC RATING OF THE PROPOSED FPL SERVICE IN THE SHOP DRAWING SUBMITTAL FOR ENGINEER REVIEW PER NEC 110.24.

GROUND TEST NOTES

- 1 USE CLAMP-ON GROUND TESTER, AEMC CAT. NO. 3711, 3731 OR APPROVED EQUAL, CALIBRATED WITHIN THE PAST 180 DAYS. RESISTANCE-TO-GROUND MEASUREMENT OF MORE THAN 5 OHMS SHALL BE CONSIDERED INADEQUATE.
- 2 TEST FOR CONTINUITY OF GROUNDING CONDUCTOR USING A MEGGER OR EQUAL LOW RESISTANCE/ HIGH CAPACITY OHMMETER, CALIBRATED WITHIN THE PAST 180 DAYS. A NEUTRAL/GROUND LOOP RESISTANCE OF MORE THAN 0.5 OHMS-PER THOUSAND FEET SHALL BE CONSIDERED INADEQUATE.

STATE ROAD 60 & 43RD AVENUE

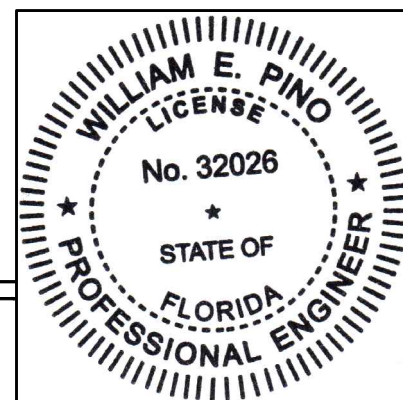
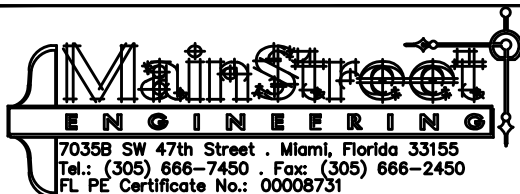
VOLTAGE DROP CALCULATION										PANEL L3	
43RD AVE. NORTH										VD	%V
POLE No	Ckt. No	Distance	LAMP WATT	Amp(I)	Voltage(v)	D X I	Wire Size	R			
A24	1.3	261	155	0.896990741	240	234.1145833	#4	0.308		0.14	0.06
A23	1.3	411	155	0.896990741	240	368.6631944	#4	0.308		0.23	0.09
A22	1.3	446	155	0.896990741	240	400.0578704	#4	0.308		0.25	0.10
A20	1.3	700	155	0.896990741	240	627.8935185	#4	0.308		0.39	0.16
A21	1.3	817	155	0.896990741	240	732.8414352	#4	0.308		0.45	0.19
A19	1.3	802	155	0.896990741	240	719.3865741	#4	0.308		0.44	0.18
A18	1.3	816	155	0.896990741	240	731.9444444	#4	0.308		0.45	0.19
A17	1.3	1094	155	0.896990741	240	981.3078704	#4	0.308		0.60	0.25
A16	1.3	1249	155	0.896990741	240	1120.341435	#4	0.308		0.69	0.29
D2	1.3	1317	148	0.856481481	240	1127.986111	#4	0.308		0.69	0.29
SUB-TOTAL AMPS											
TOTAL AMPS											
										Σ(%V)= 1.81	

VOLTAGE DROP CALCULATION										PANEL L3	
43RD AVE. NORTH										VD	%V
POLE No	Ckt. No	Distance	LAMP WATT	Amp(I)	Voltage(v)	D X I	Wire Size	R			
A26	2.4	54	155	0.896990741	240	48.4375	#4	0.308		0.03	0.01
A25	2.4	222	155	0.896990741	240	199.1319444	#4	0.308		0.12	0.05
A27	2.4	184	155	0.896990741	240	165.0462963	#4	0.308		0.10	0.04
A28	2.4	281	155	0.896990741	240	252.0543981	#4	0.308		0.16	0.06
A29	2.4	471	155	0.896990741	240	422.4826389	#4	0.308		0.26	0.11
A30	2.4	613	155	0.896990741	240	549.8553241	#4	0.308		0.34	0.14
A31	2.4	785	155	0.896990741	240	704.1377315	#4	0.308		0.43	0.18
A32	2.4	932	155	0.896990741	240	835.9953704	#4	0.308		0.51	0.21
A33	2.4	1081	155	0.896990741	240	969.6469907	#4	0.308		0.60	0.25
A34	2.4	1280	155	0.896990741	240	1148.148148	#4	0.308		0.71	0.29
C3	2.4	1311	144	0.833333333	240	1092.5	#4	0.308		0.67	0.28
C4	2.4	1401	144	0.833333333	240	1167.5	#4	0.308		0.72	0.30
SUB-TOTAL AMPS											
TOTAL AMPS											
										Σ(%V)= 1.94	

SR60 & 43RD AVE PANEL L3 SCHEDULE

VOLTAGE: 120/240V, 1PHASE, 3W				MOUNTING: SURFACE				1=CONTINUOUS LOAD					
BUS (AMPS): 125				ENCLOSURE: NEMA 4X									
MAINS: 2P, 60A				BUS TYPE: COPPER									
AIC RATING: 22,000				LOCATION: SERVICE POLE									
CKT NO.	CODE	BREAKER TRIP	POLE	LOAD DESCRIPTION	LOAD VA	PHASE A	PHASE B	LOAD VA	LOAD DESCRIPTION	BREAKER TRIP	POLE	CKT CODE	CKT NO.
1	1	20	2	POLE LIGHTS	772	1691	--	919	POLE LIGHTS	20	2	1	2
3	1			43RD AVE. NORTH	772	---	1691	919	43RD AVE. NORTH				4
5				PROVISION ONLY		0	---		PROVISION ONLY				6
7				PROVISION ONLY		---	0		PROVISION ONLY				8
9				PROVISION ONLY		0	---		PROVISION ONLY				10
11				PROVISION ONLY		---	0		PROVISION ONLY				12
2			1										
						1691	1691	CONNECTED KVA		3.4			
NOTES:						CODE 1 KVA						3.4	
												0.0	
												0.0	
												0.0	
												0.0	
DATE: 8/28/2018						DEMAND LOAD (KVA)						4.2	
						DEMAND LOAD (A)						17.6	
						2114	2114	PHASE BALANCE (%)		100			

**SERVICE PANEL L3 SCHEDULE,
VOLTAGE DROP CALCULATIONS**



Revision:	By:	Date:

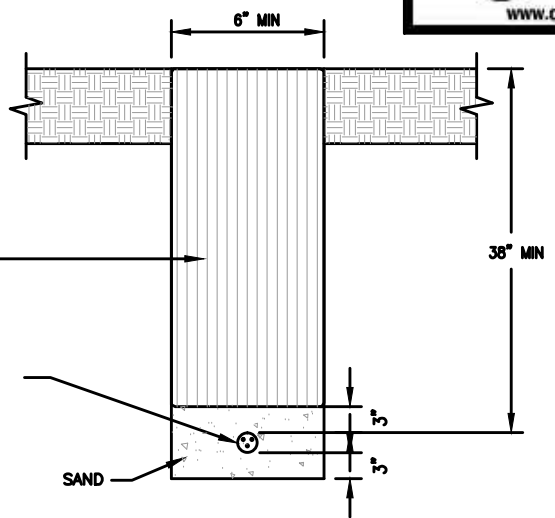
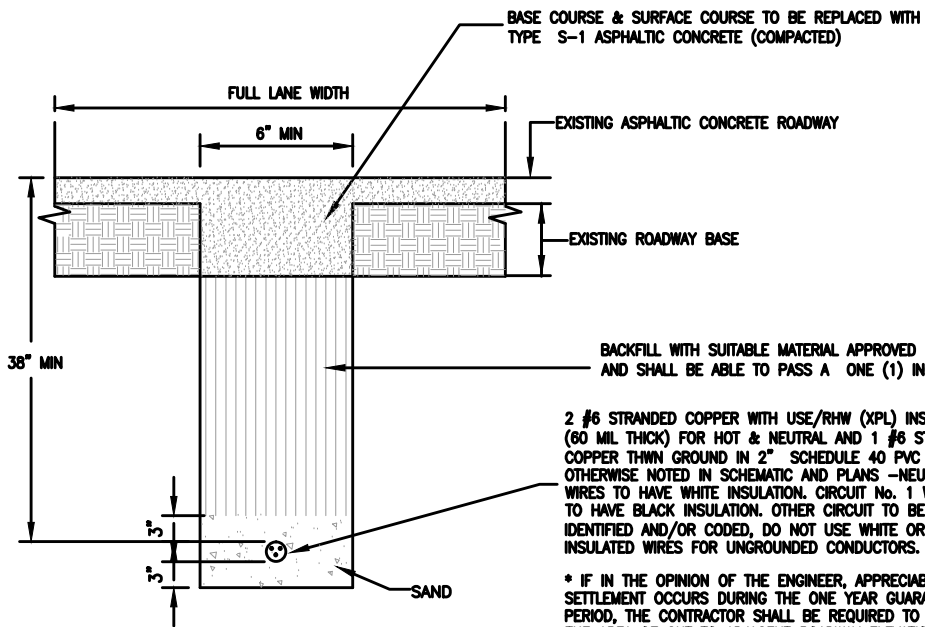


Department of Public Works
Engineering Division

Scale: NONE
Approved: WP
Drawn: JS
Checked: WP
Date: 12/17/2018
Field Book No:

Project:
ROADWAY LIGHTING PLANS
FOR
SR 60 & 43RD AVENUE

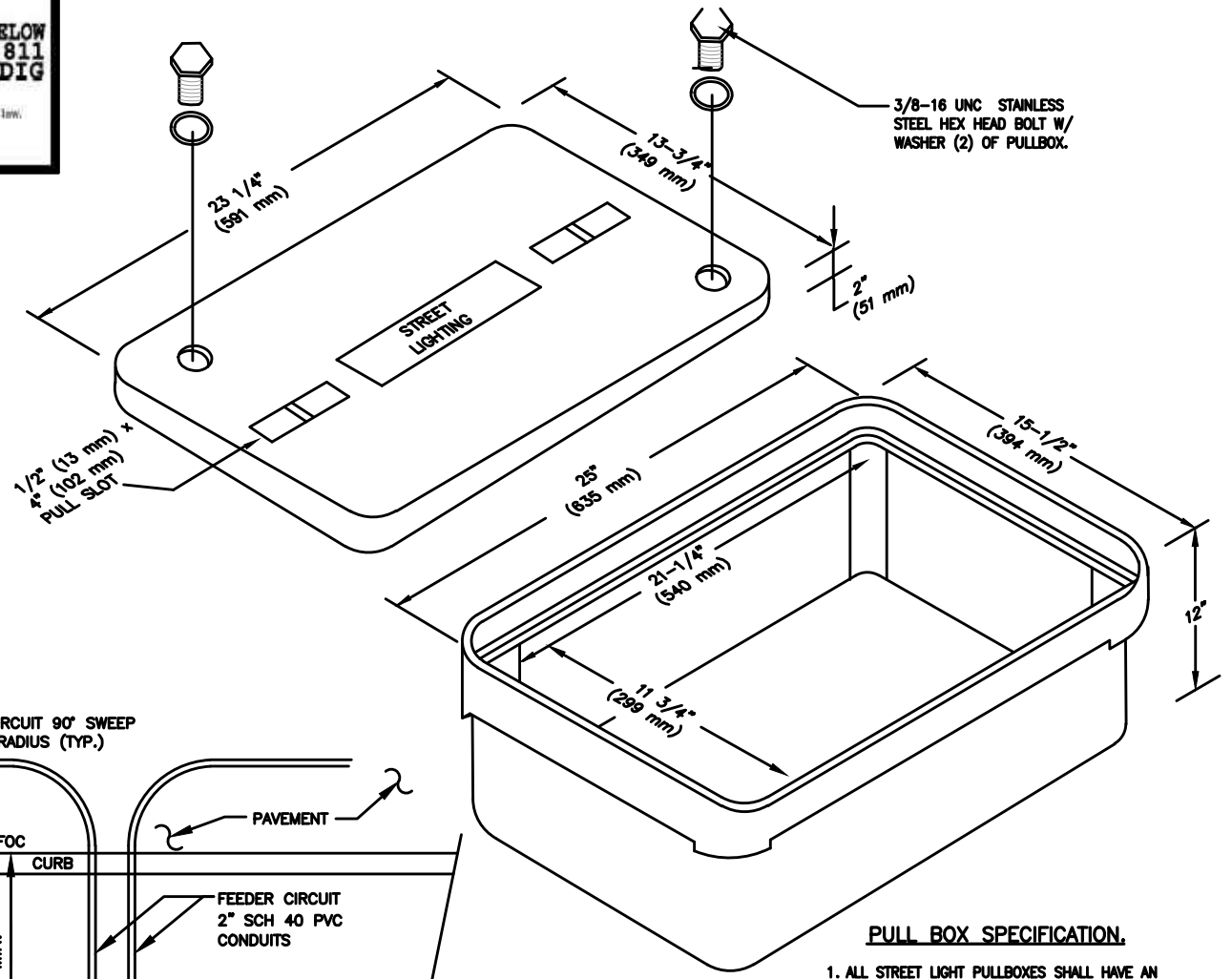
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BACKFILL WITH SUITABLE MATERIAL APPROVED BY ENGINEER, AND SHALL BE ABLE TO PASS A ONE (1) INCH SIEVE.

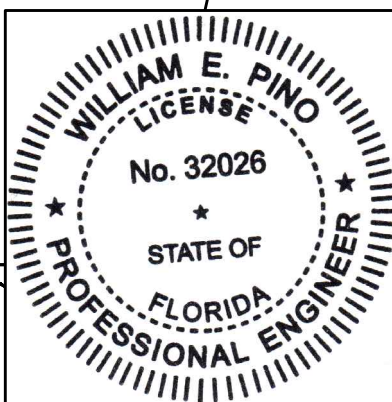
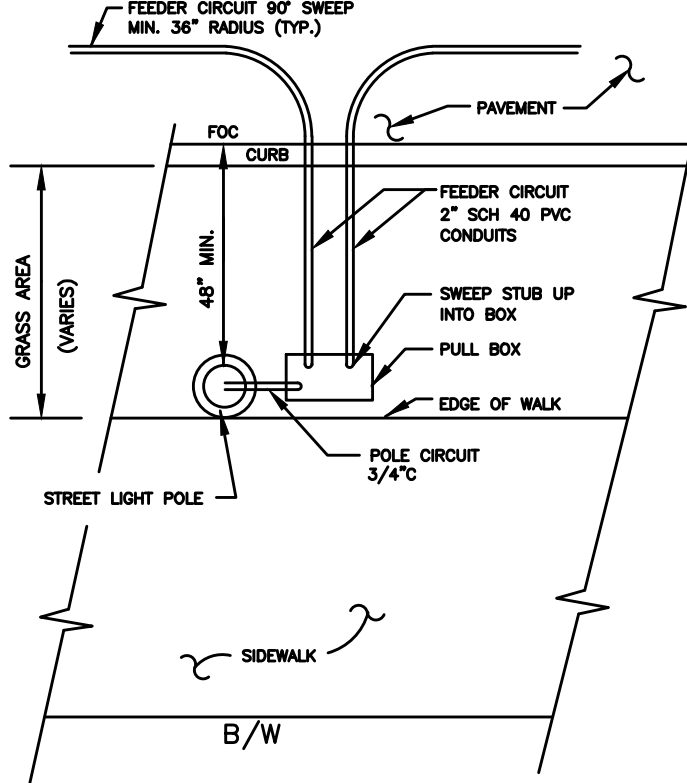
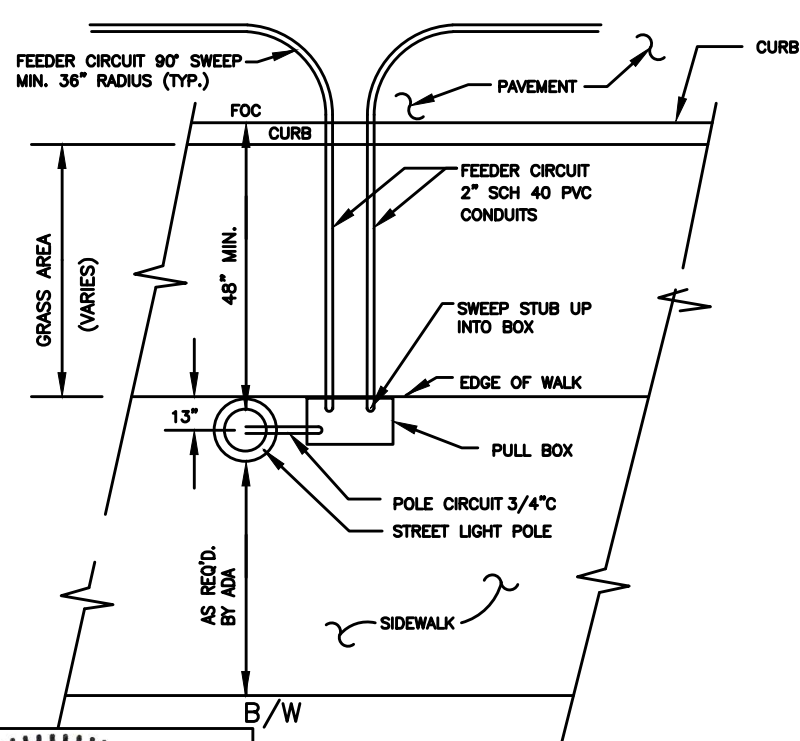
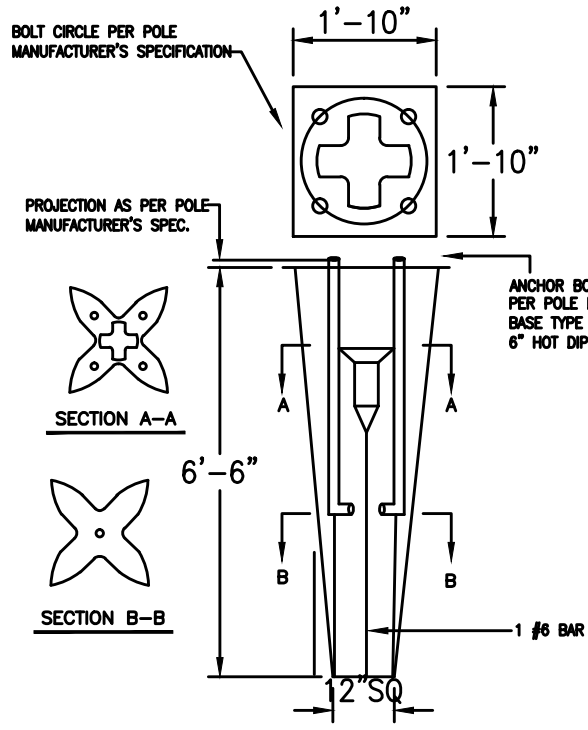
2 #6 STRANDED COPPER WITH USE/RHW (XPL) INSULATION (80 MIL THICK) FOR HOT & NEUTRAL AND 1 #6 STR. COPPER THIN GROUND IN 2" SCHEDULE 40 PVC UNLESS OTHERWISE NOTED IN SCHEMATIC AND PLANS - NEUTRAL WIRES TO HAVE WHITE INSULATION. CIRCUIT No. 1 WIRES TO HAVE BLACK INSULATION. OTHER CIRCUIT TO BE IDENTIFIED AND/OR CODED, DO NOT USE WHITE OR GREEN INSULATED WIRES FOR UNGROUNDED CONDUCTORS.

* IF IN THE OPINION OF THE ENGINEER, APPRECIABLE SETTLEMENT OCCURS DURING THE ONE YEAR GUARANTEE PERIOD, THE CONTRACTOR SHALL BE REQUIRED TO RESTORE THE AREA OF CUT TO ADJACENT ROADWAY ELEVATION. SEE "TRAFFIC CONTROL EQUIPMENT SPECIFICATIONS AND STANDARDS FOR THE MTCSDC".



PULL BOX SPECIFICATION.

1. ALL STREET LIGHT PULLBOXES SHALL HAVE AN OPEN-BOTTOM, TRAFFIC RATED, QUARTZITE POLYMER CONCRETE DESIGN OR PRECAST CONCRETE DESIGN CONSTRUCTED OF CLASS I CONCRETE HAVING A MINIMUM COMPRESSIVE STRENGTH OF 2,500 PSI AT TWENTY-EIGHT (28) DAYS. POLYMER CONCRETE PULLBOX SHALL BE QUARTZITE PRODUCT NO. PG1324BA12 OR APPROVED EQUIVALENT. CONCRETE PULLBOX SHALL BE BROOKS 38 SERIES OR APPROVED EQUIVALENT. IN EITHER CASE, BOTH PULLBOXES SHALL BE CONSTRUCTED PER ABOVE SPECIFIED MANUFACTURERS SIZE, MATERIALS AND PERFORMANCE SPECIFICATIONS. THEREFORE, BELOW SPECIFIED PULLBOX COVER SHALL BE FULLY INTER-CHANGEABLE WITH EITHER PULLBOX. ALL PULLBOX COVERS FURNISHED AND INSTALLED SHALL BE POLYMER CONCRETE QUARTZITE PRODUCT NO. PG1324HA40 OR APPROVED EQUIVALENT. NO OTHER DESIGN, SIZE, MODIFICATION OR MATERIALS SHALL BE ACCEPTABLE. PULLBOX COVERS SHALL BE MARKED "STREET LIGHTING" OR "ELECTRIC".
2. WHERE PULLBOX IS LOCATED OUTSIDE OF SIDEWALK, I.E. SWALE AREA, THE PULLBOX SHALL HAVE A 3" CONCRETE APRON (6" THICK) AROUND IT. COST OF CONCRETE APRON SHALL BE INCLUDED IN PULLBOX INSTALLATION COST.



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Department of Public Works
Engineering Division

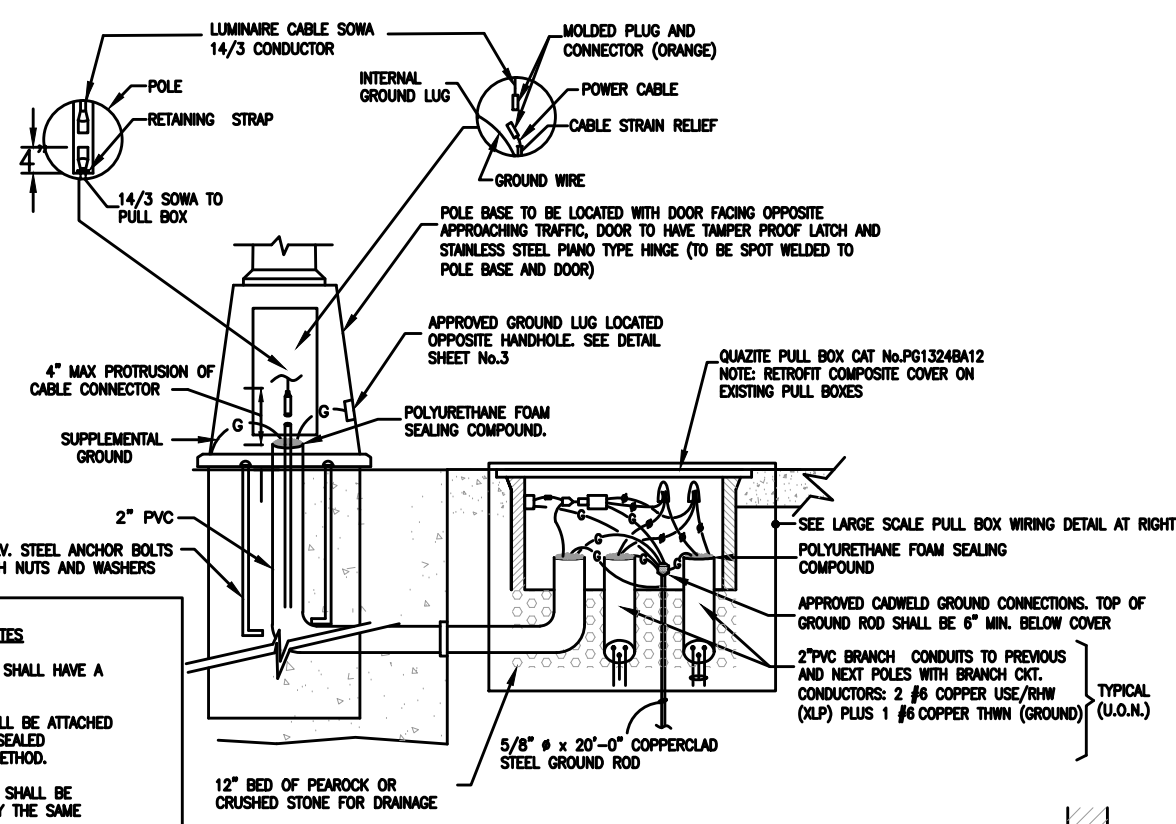
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Approved:	WP
Drawn:	JS
Checked:	WP
Date:	12/17/2018
Field Book No:	

Project:
ROADWAY LIGHTING PLANS
FOR
SR 60 & 43RD AVENUE

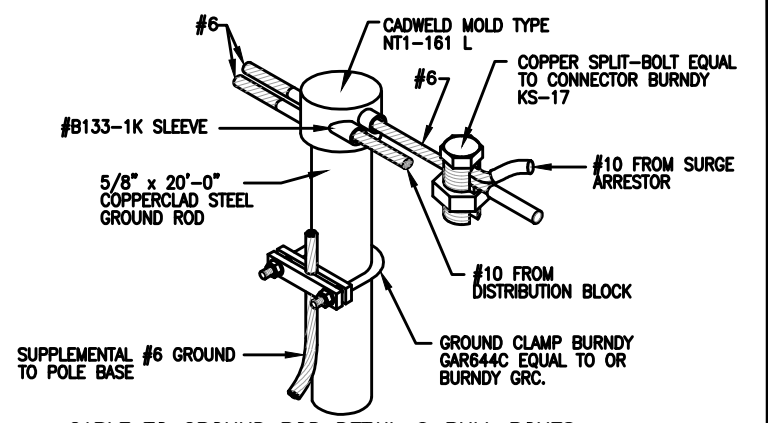
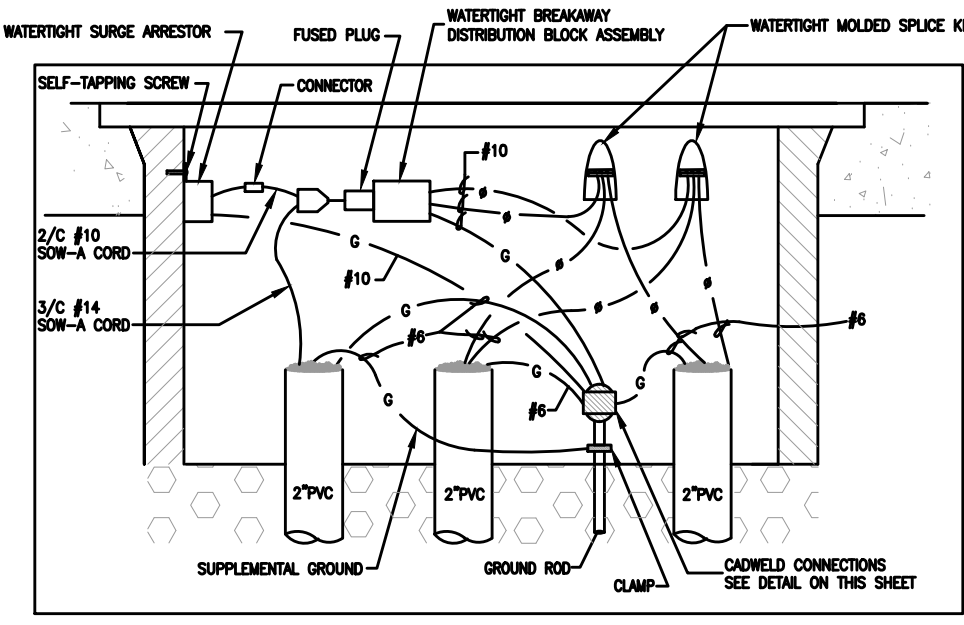
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LIGHT POLE DETAILS



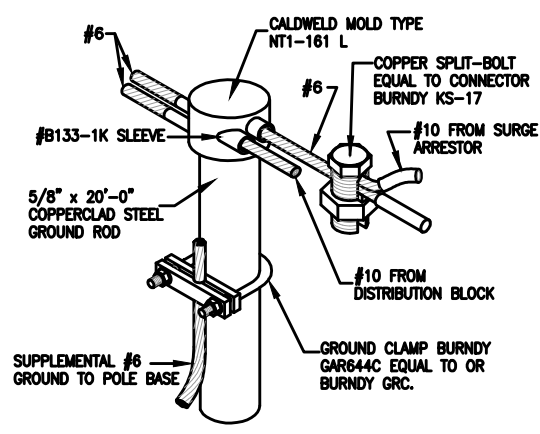
- PCDS NOTES**
1. ALL CONDUCTORS SHALL HAVE A SOWA INSULATION.
 2. CONNECTORS SHALL BE ATTACHED BY MEANS OF A SEALED THERMOPLASTIC METHOD.
 3. ALL COMPONENTS SHALL BE MANUFACTURED BY THE SAME MANUFACTURER
 4. PULLBOXES ARE SUBJECT TO FLOODING. THE POLE CABLE DISTRIBUTION SYSTEM SHALL BE IP-68 LISTED AS A WHOLE (NOT ONLY COMPONENTS) AND ITS WIRING DIAGRAM SHALL STRICTLY CONFORM TO THE WIRING DIAGRAM SHOWN ON THIS SHEET. PCDS SHALL BE NRTL AS A WHOLE COMPONENT.



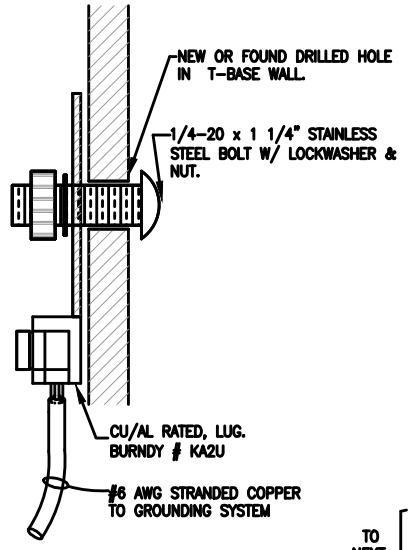
POLE WIRING DETAIL WITH PULL BOX NTS

PULL BOX WIRING DETAIL NTS

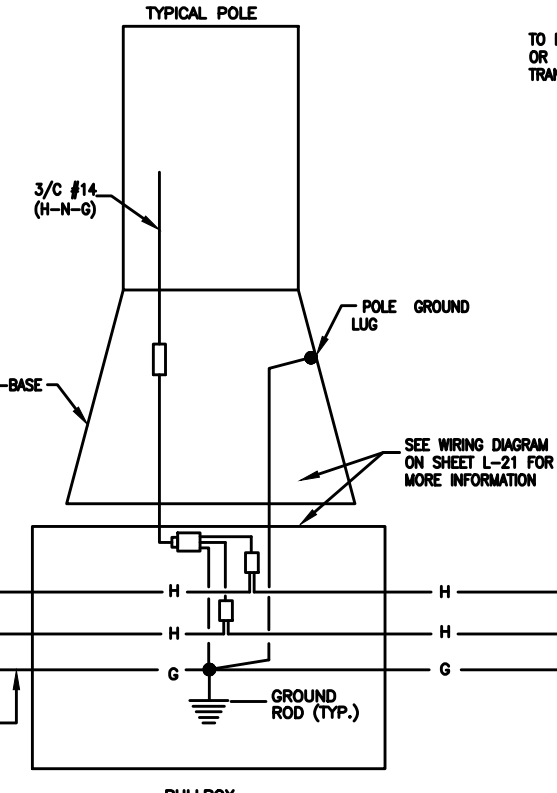
CABLE TO GROUND ROD DETAIL PULL BOXES N.T.S.



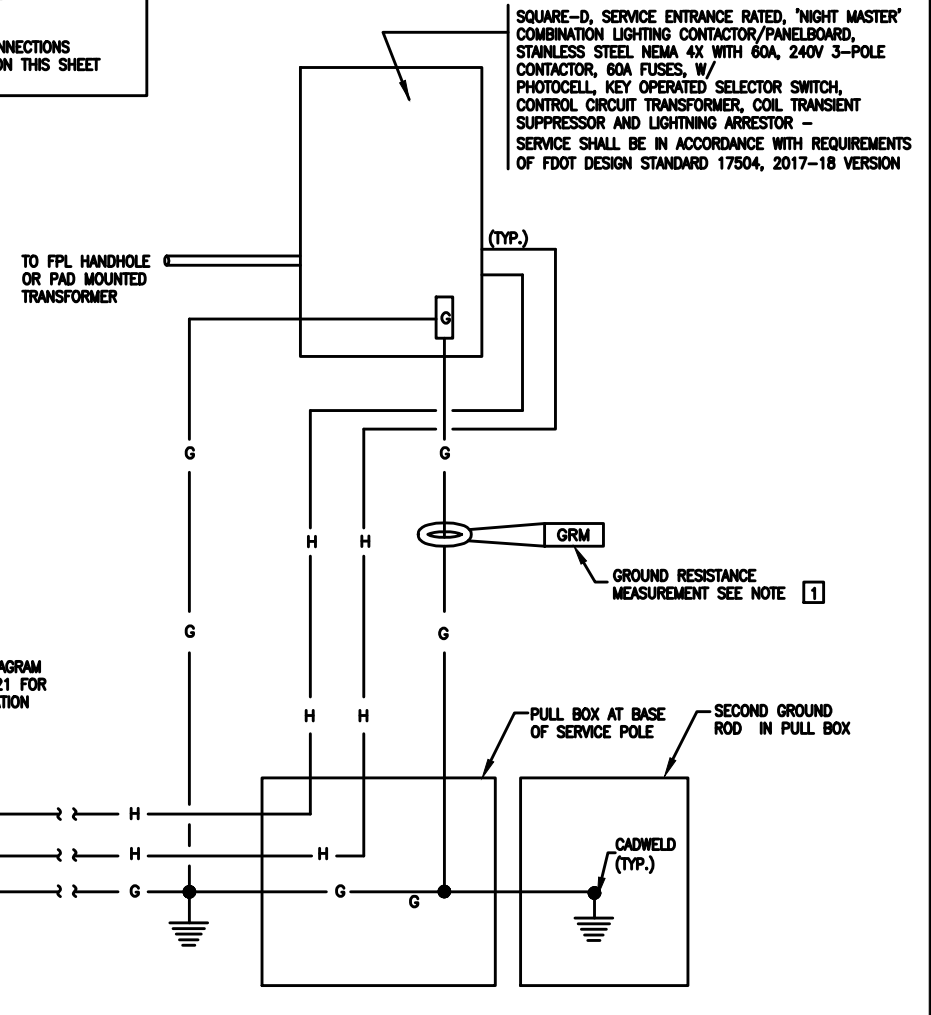
CABLE TO GROUND ROD DETAIL N.T.S.



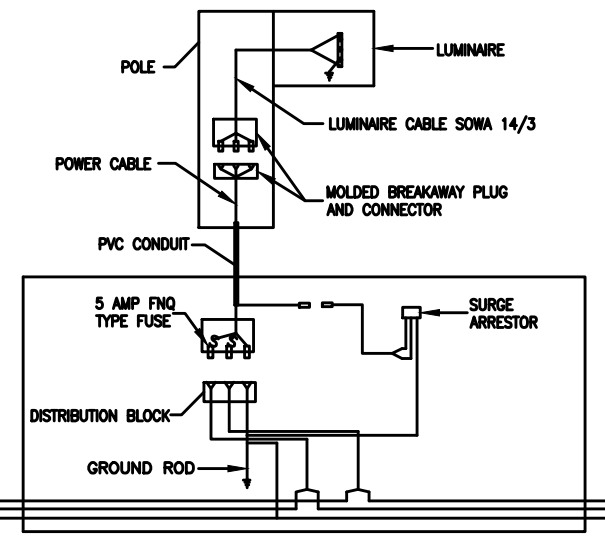
GROUND LUG DETAIL N.T.S.



PULLBOX.



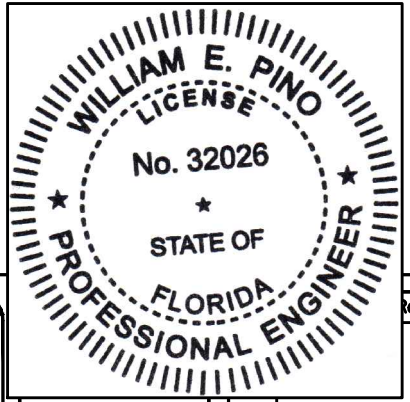
GROUNDING SYSTEM SCHEMATIC N.T.S.



WIRING DIAGRAM N.T.S.

STREET LIGHTING WIRING AND GROUNDING SHALL CONFORM TO FDOT FY 2017-18 DESIGN STANDARDS 17515.

LIGHT POLE DETAILS



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 Engineering Division

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 ROADWAY LIGHTING PLANS

 FOR

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Main Street Engineering

 7035B SW 47th Street . Miami, Florida 33155

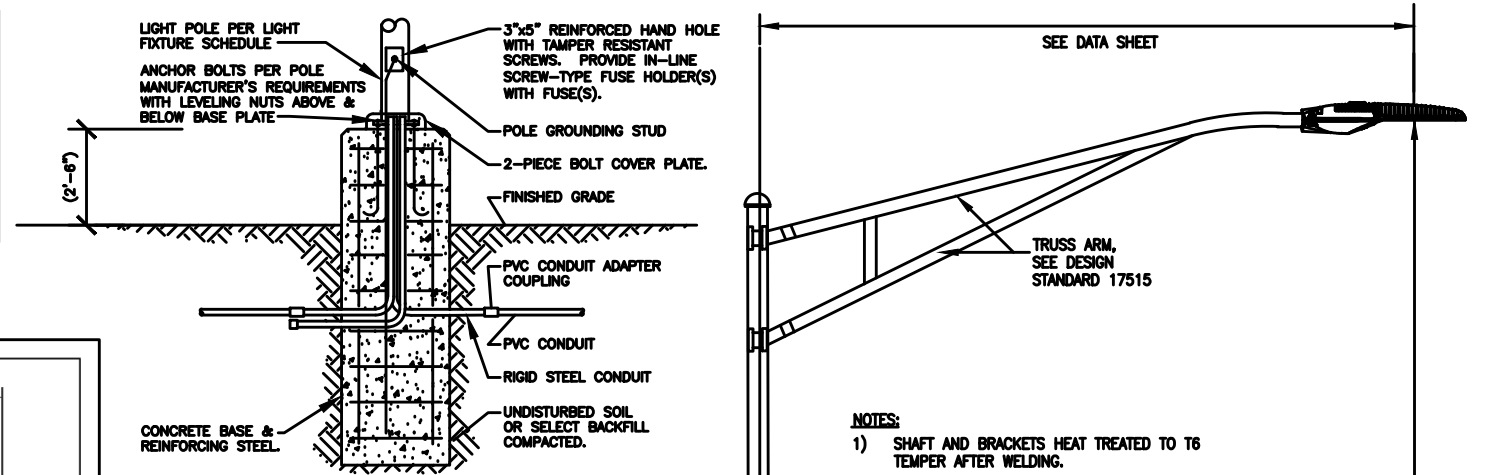
 Tel.: (305) 666-7450 . Fax: (305) 666-2450

 FL PE Certificate No.: 00008731

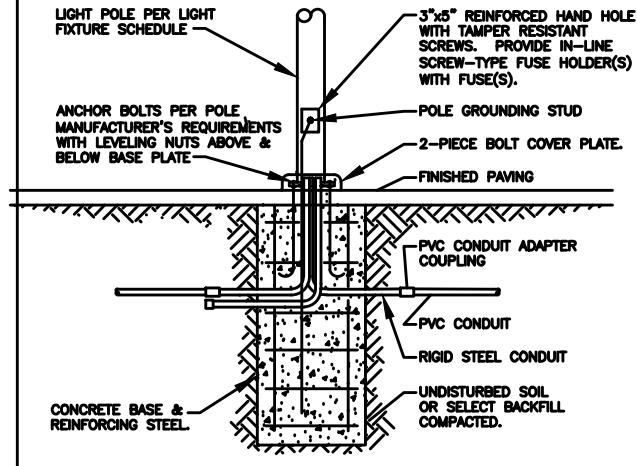
NOTES

- LUMINAIRE SHALL BE A HEAVY DUTY, OUTDOOR LED LIGHTING SOLUTION WITH DIE-CAST ALUMINUM HOUSING WITH POWDER COAT FINISH. WATTAGE AND VOLTAGE AS INDICATED OR REQUIRED. DESIGNED FOR IES DISTRIBUTION
- POLES AND BRACKET ARMS SHALL BE DESIGNED IN ACCORDANCE WITH LOCAL DESIGN CRITERIA USING THE APPLICABLE EQUATIONS FOUND IN "STANDARD SPECIFICATIONS FOR HIGHWAY SIGNS, LUMINAIRE AND TRAFFIC SIGNALS" PUBLISHED BY A.A.S.H.T.O. THE CONTRACTOR (SUPPLIER) SHALL SUBMIT EVIDENCE OF COMPLIANCE WITH THE REQUIREMENTS OF THIS SPECIFICATION IN ADDITION TO THE DOT UTILITY ACCOMMODATION MANUAL AND FDOT DESIGN STANDARDS, INCLUDED IN THE EQUIPMENT SUBMITTAL DATA. NO POLES ARE TO BE INSTALLED PRIOR TO DEPARTMENT APPROVAL.
- CONTRACTOR SHALL APPLY WHITE GREASE ON ALL THREADED SCREWS, NUTS AND BOLT SURFACES

STREET LIGHTING INSTALLATION INCLUDING LIGHT POLES, LIGHT FIXTURES, CONCRETE POLE BASES, WIRING AND GROUNDING SHALL CONFORM TO FDOT FY 2017-18 DESIGN STANDARDS 17515 AND THE LATEST ACCEPTED VERSION OF THE "FLORIDA GREENBOOK".



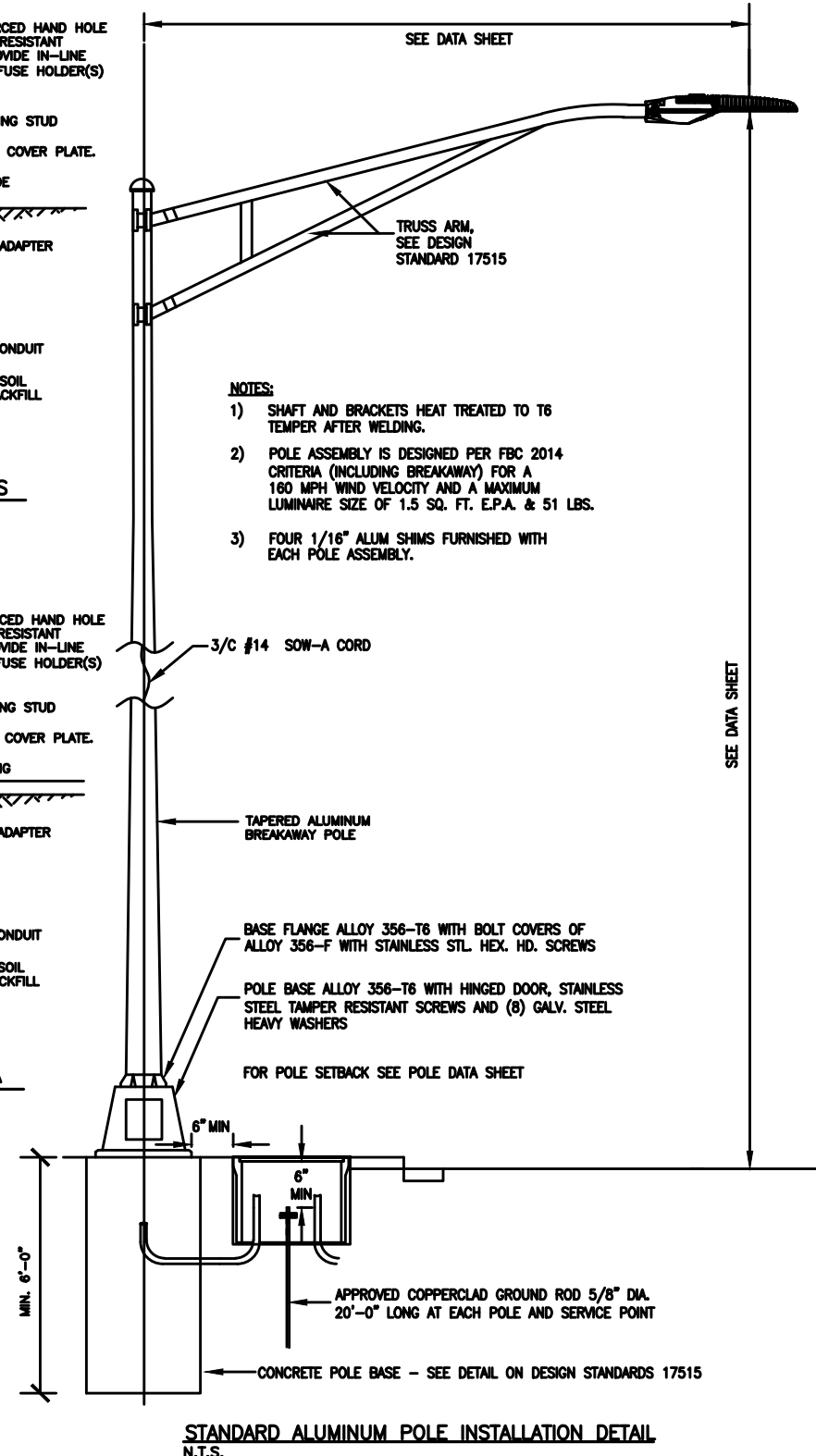
POLE BASE DETAIL - TURF AREAS NTS



POLE BASE DETAIL - PAVED AREA NTS

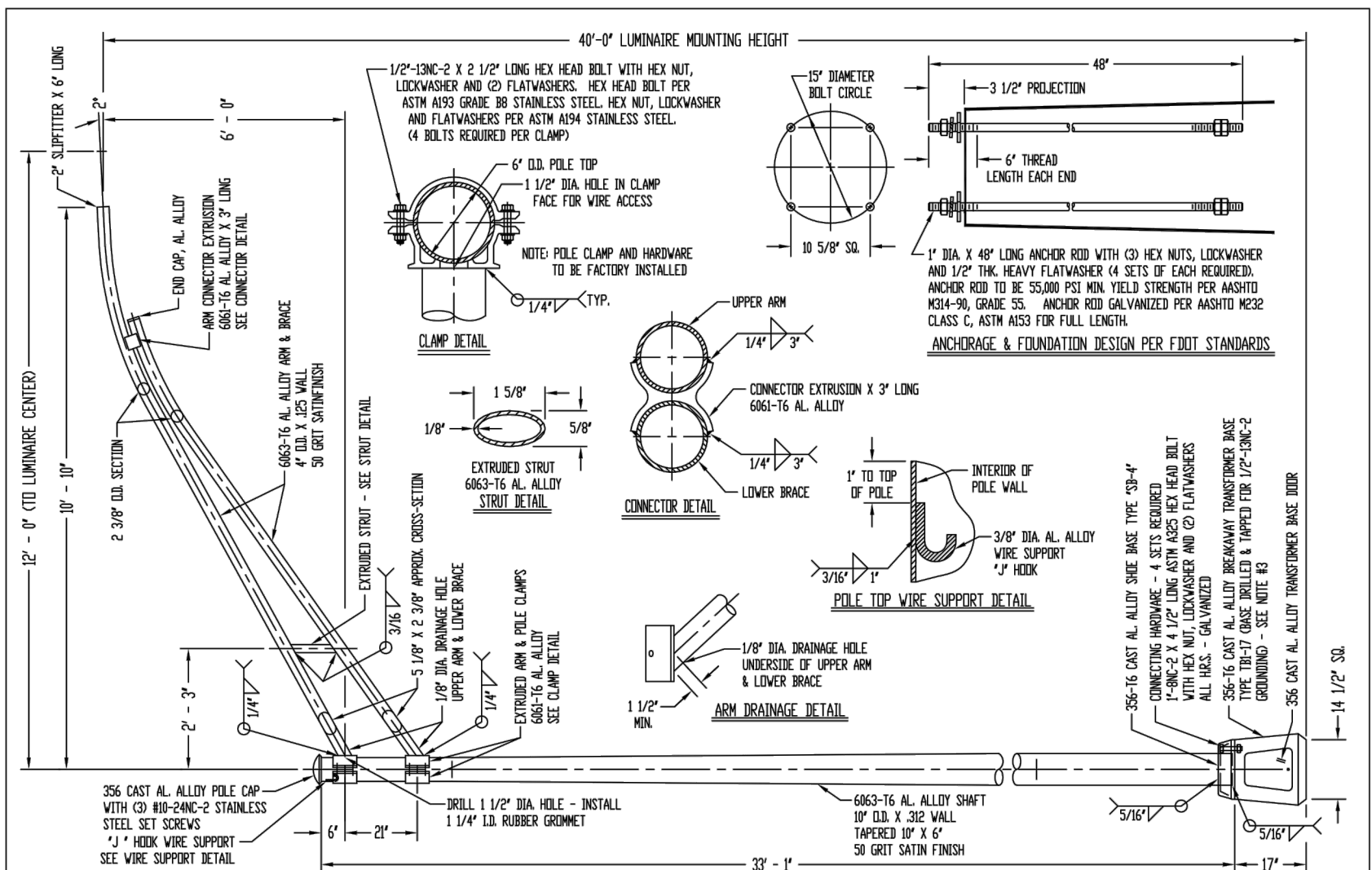
LIGHT POLE NOTES

- ALL LIGHT POLE INSTALLATIONS SHALL BE SUITABLE FOR WIND RESISTANCE AS PER FLORIDA BUILDING CODE, YEAR 2014 REVISION. THE CONTRACTOR SHALL INCLUDE WITH SHOP DRAWING SUBMITTAL, A POLE WIND LOADING CALCULATION FOR LUMINAIRE, POLE AND EMBEDMENT SEALED BY A FLORIDA REGISTERED STRUCTURAL ENGINEER ILLUSTRATING THAT THE PROPOSED INSTALLATION SHALL MEET THE GIVEN WIND LOADING REQUIREMENTS.
- ALL POLES SHALL BE LEVELED PLUM, WITHIN 1/2".

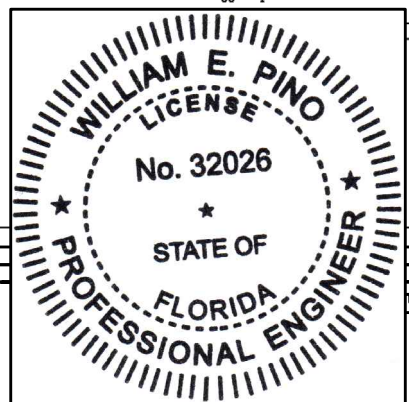


STANDARD ALUMINUM POLE INSTALLATION DETAIL N.T.S.

LIGHT POLE DETAILS



- NOTE:
- USE 4043 WELD WIRE.
 - 6063-T4 ASSEMBLY .375" WALL OR LESS TO BE HEAT-TREATED TO T6 TEMPER AFTER WELDING.
 - TRANSFORMER BASE IS A FHWA APPROVED BREAKAWAY DEVICE MEETING THE REQUIREMENTS OF THE 2015 LRFD AASHTO SPECIFICATION - SECTION 12.
 - THIS STANDARD WHEN PROPERLY INSTALLED IS DESIGNED TO SUPPORT A FIXED LUMINAIRE AT THE END OF THE ARM HAVING AN EFFECTIVE PROJECTED AREA OF 1.55 SQ. FT. THE WEIGHT OF THE LUMINAIRE IS 75 LBS. DESIGN IS IN ACCORDANCE WITH THE 2015 LRFD AASHTO SPECIFICATION FOR A 160 MPH 3-SECOND GUSTED WIND SPEED.
 - AFTER INSTALLATION, WARRANTY APPLIES ONLY IF THE ASSEMBLY IS COMPLETE INCLUDING LUMINAIRE AND WIRING.

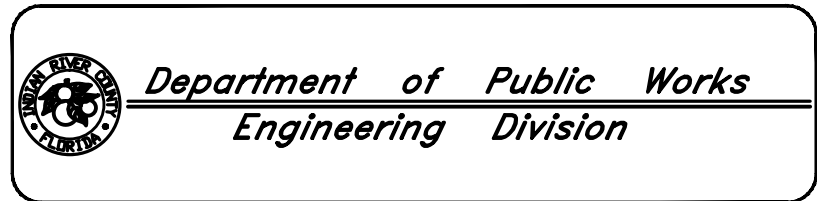


MATERIAL	STOCK SIZE	FINISH OR TEMPER	DR. S.F. SAF.	CHK. SAF.	APP. SAF.	SCALE	NONE
MIAMI-DADE COUNTY, FL.		S. R. 5 AND 56TH STREET		FINAN PROJECT 200506-9-52-01		CUSTOMER: FLORIDA DEPT. OF TRANSPORTATION	
TITLE: RTBOY404AW12J-160		ITEM 715-4-13, QTY=2		STANDARD GROUND MOUNT POLE		DWG. NO. 15090	



DATE: _____

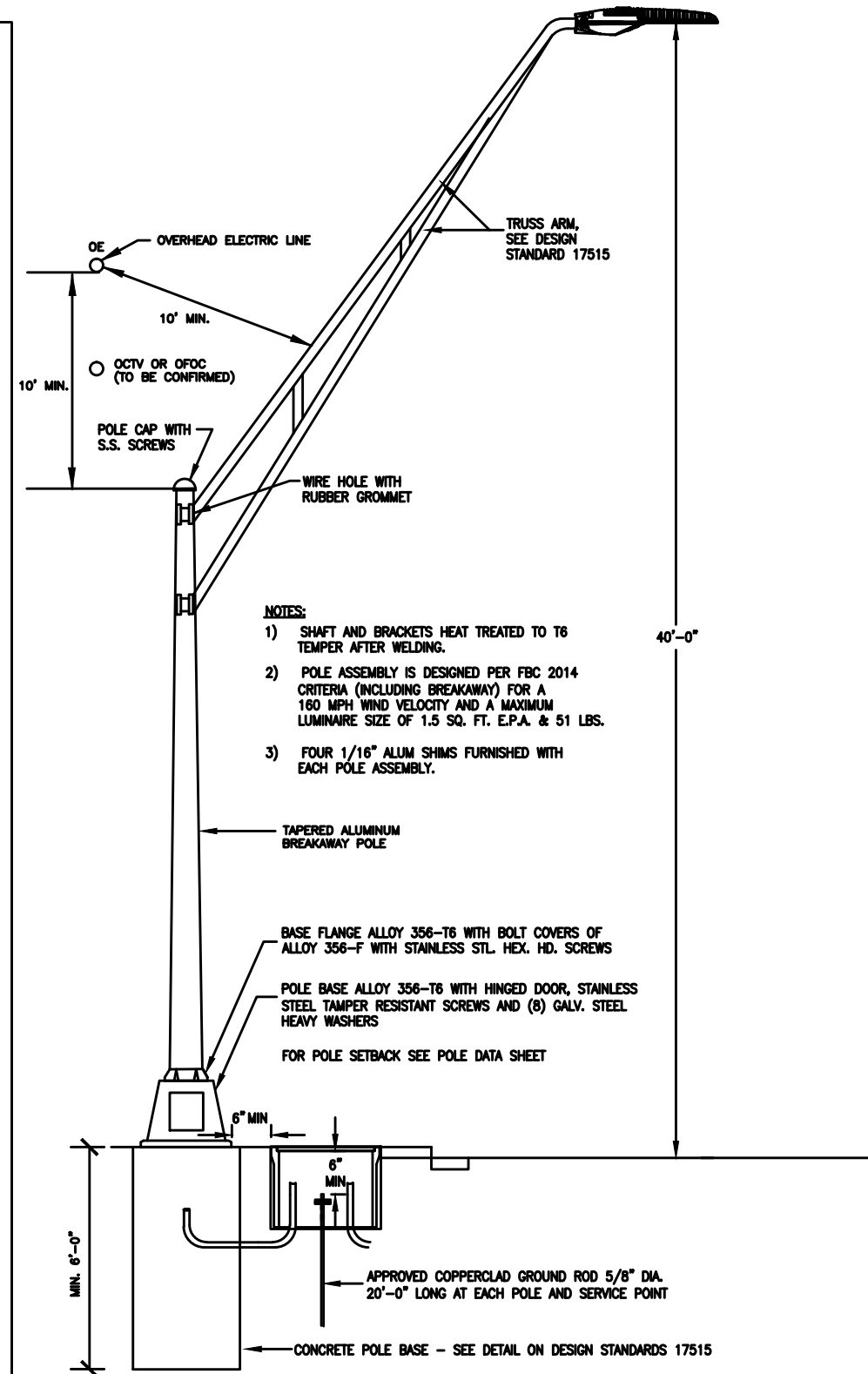
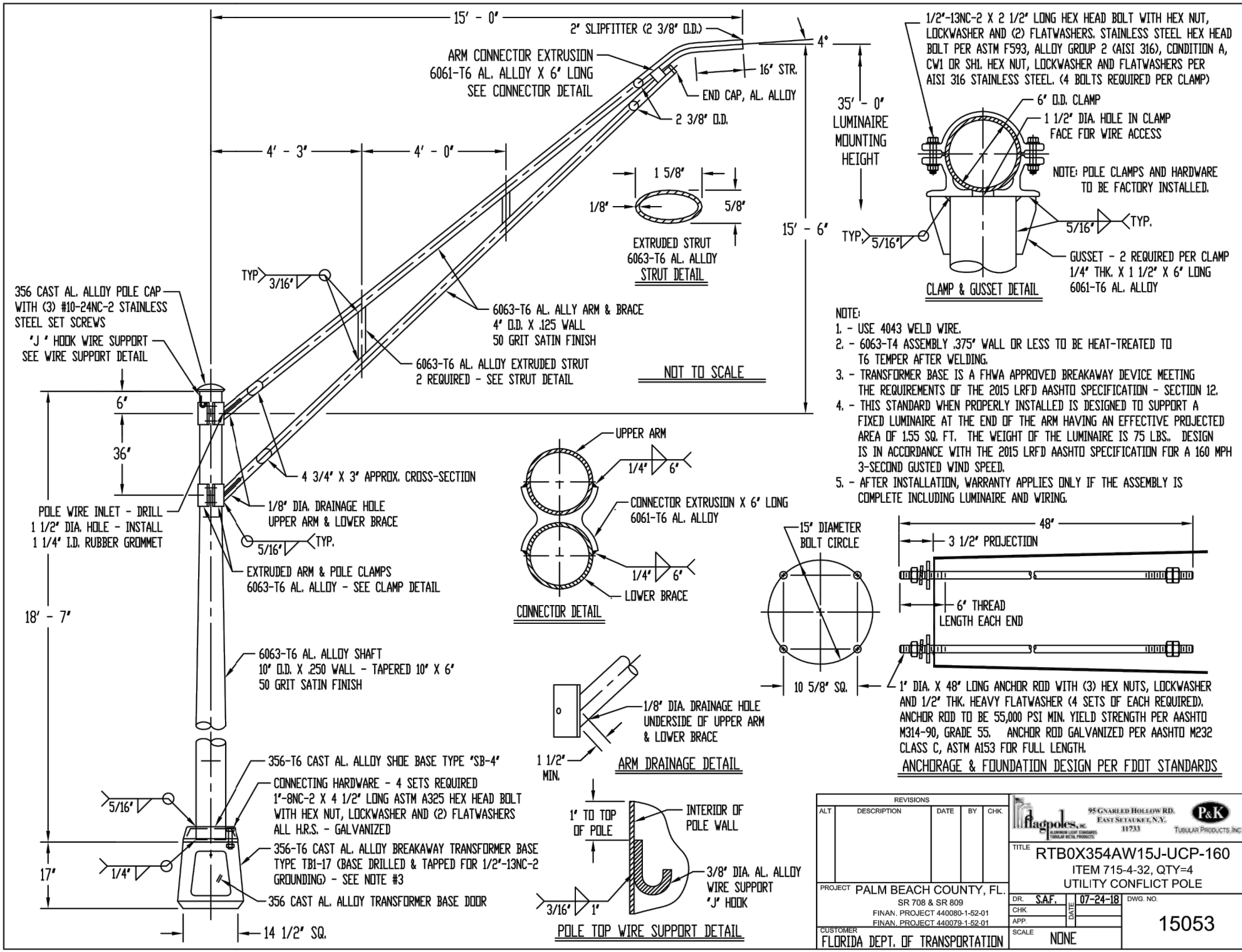
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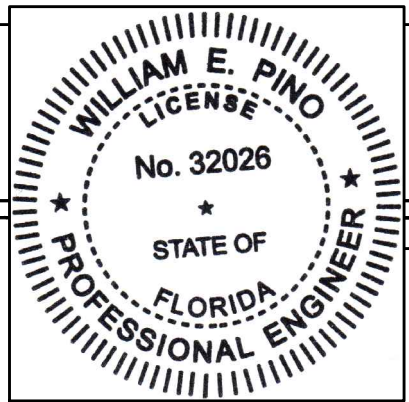
Project: ROADWAY LIGHTING PLANS FOR SR 60 & 43RD AVENUE

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REVISIONS				
ALT	DESCRIPTION	DATE	BY	CHK.

95 GNAREED HOLLOW RD. EAST SUTHERLAND, N.Y. 11733
flagpoles, inc. P&K TUBULAR PRODUCTS, INC.
 TITLE: RTBOX354AW15J-UCP-160
 ITEM 715-4-32, QTY=4
 UTILITY CONFLICT POLE
 DR. SAF. 07-24-18 DWG. NO. 15053
 CHK. DATE
 APP. SCALE NONE
 PROJECT: PALM BEACH COUNTY, FL. SR 708 & SR 809
 FINAN. PROJECT 440080-1-52-01
 FINAN. PROJECT 440079-1-52-01
 CUSTOMER: FLORIDA DEPT. OF TRANSPORTATION

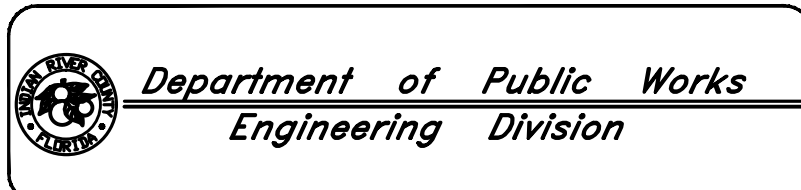


CONTRACTOR SHALL COORDINATE WITH FPL AND VERO BEACH UTILITY REGARDING LOCATION OF OVERHEAD POWER LINES AND INSTALL CONFLICT POLES ACCORDINGLY. DO NOT USE CRANES TO INSTALL CONFLICT POLES.

UTILITY CONFLICT ALUMINUM POLE
N.T.S.
LIGHT POLE DETAILS



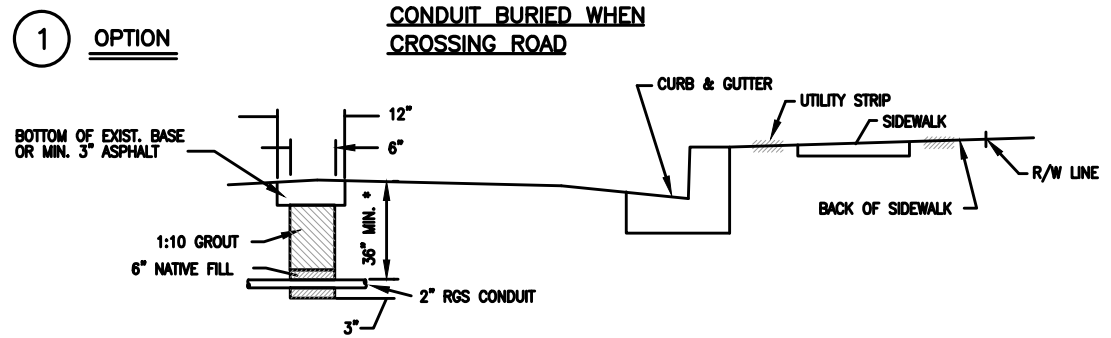
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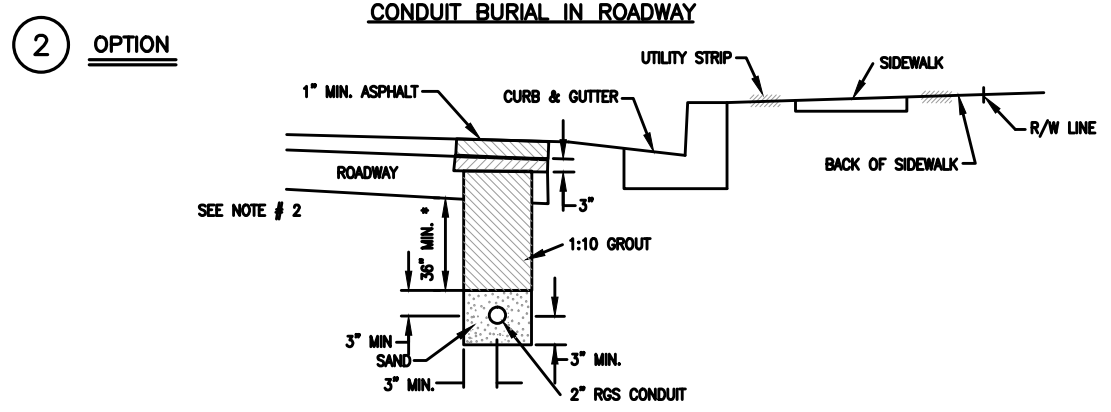
Project:
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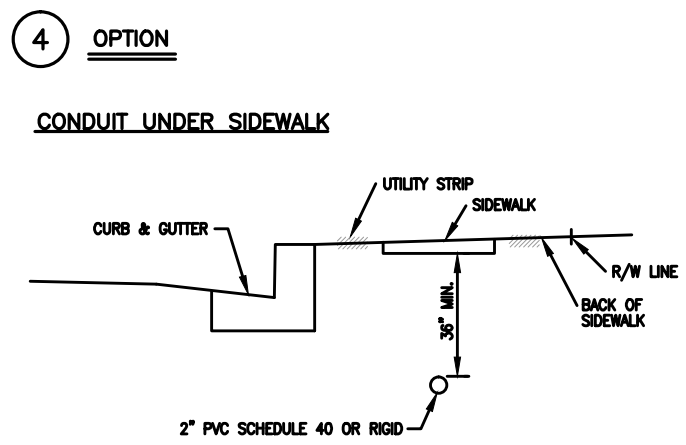
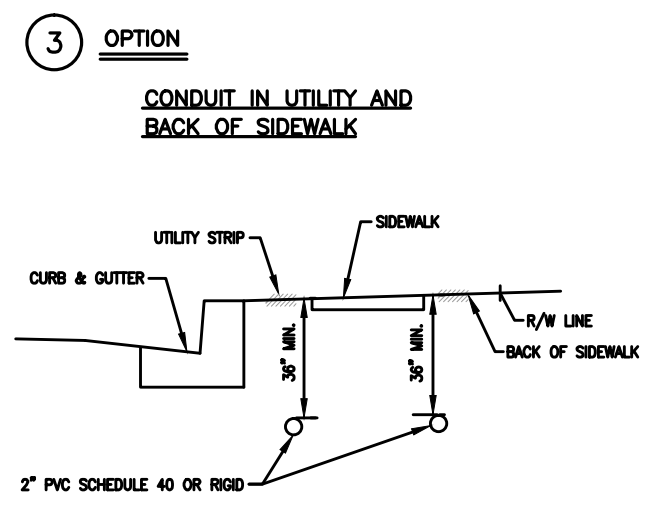
NOTE:
TRENCH NOT TO BE OPENED MORE THAN 250' AT A TIME

* MAY BE ADJUSTED IN FIELD DUE TO FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

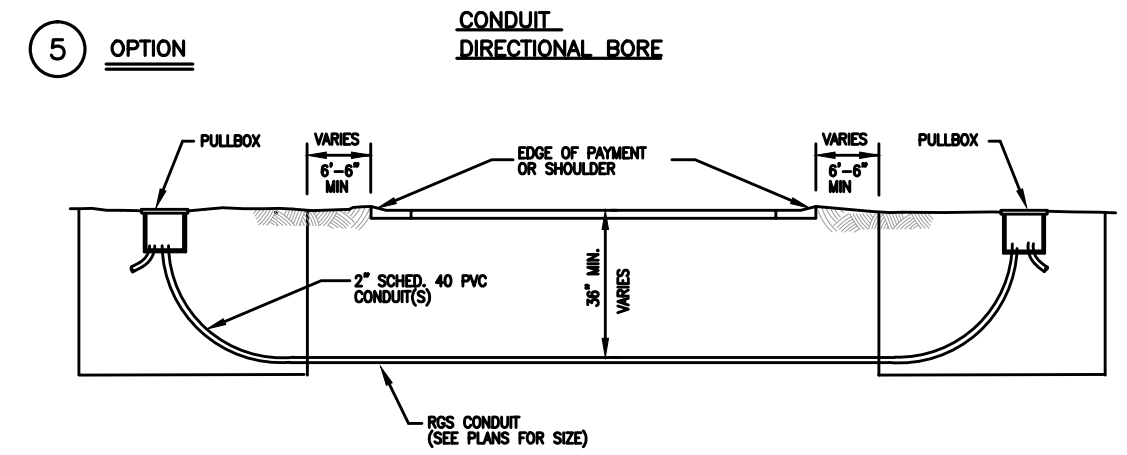


NOTE:
1. TRENCH NOT TO BE OPENED MORE THAN 250' AT A TIME.
2. THIS AREA SHALL BE BACKFILLED WITH TYPE S-1 ASPHALTIC CONCRETE TO WITHIN 1 INCH OF FINISHED GRADE.

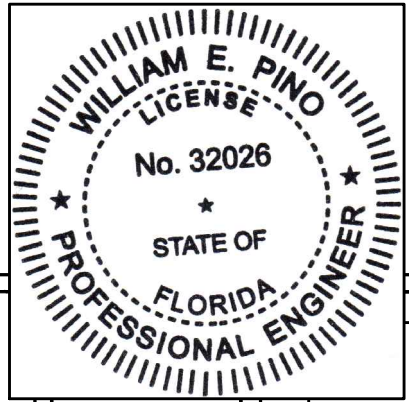
* MAY BE ADJUSTED IN FIELD DUE TO FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.



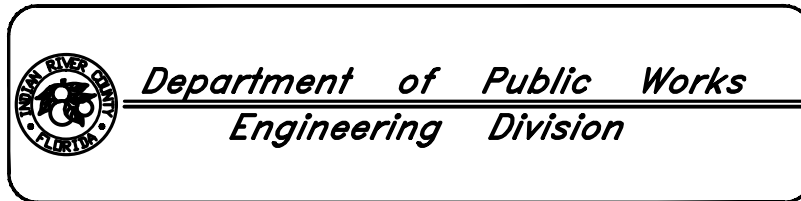
NOTE:
IN PLACING CONDUIT UNDER SIDEWALK REPLACEMENT OF ENTIRE SIDEWALK SECTION SHALL BE NECESSARY.



NOTES:
1. DIRECTIONAL BORING OPERATIONS SHALL BE DONE IN ACCORDANCE WITH THE F.D.O.T. UTILITY ACCOMODATION MANUAL.



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CONDUIT INSTALLATION DETAILS



A ● SCHREDER 376381-36L177-NW-T2M
 RTECH (Ambient temperature: 25deg C (77deg F) -
 lumen tolerance: +- 7% - power tolerance: +- 5% test report no. 376381
 lamp(s): 36 Cree XPL HD
 candela file 'SMART2-US-36L177-NW-T2M-SV-GY.ies'
 1 lamp(s) per luminaire, photometry is absolute
 Light Loss Factor = 1.000, watts per luminaire = 155
 Outreach (from mounting axis to photometric center)= 144 in
 mounting height= 40 ft
 number locations= 58, number luminaires= 57
 kw all locations= 9.0

43rd AVE
 5655 points at z=0, sp 5ft by 10ft
 A
 Average 1.5
 Maximum 3.9
 Minimum 0.4
 Avg:Min 3.84
 Max:Min 9.75
 Coef Var 0.45
 UnifGrad 1.70
 Ratio (Max veiling luminance /
 Avg road luminance) = 0.28

SIDEWALK - SR60
 904 points at z=0, sp 7ft by 3.5ft
 HORIZONTAL FOOTCANDLES
 Average 1.0
 Maximum 2.0
 Minimum 0.3
 Avg:Min 3.39
 Max:Min 6.67
 Coef Var 0.49
 UnifGrad 1.67

CROSSWALK # 1
 47 points
 VERTICAL FOOTCANDLES,
 observer facing East
 Average 1.6
 Maximum 2.1
 Minimum 1.0
 Avg:Min 1.56
 Max:Min 2.10
 Coef Var 0.17

CROSSWALK # 4
 37 points
 VERTICAL FOOTCANDLES,
 observer facing South
 Average 1.9
 Maximum 2.2
 Minimum 1.5
 Avg:Min 1.28
 Max:Min 1.47
 Coef Var 0.08

B ● SCHREDER 376371 - 48L200-NW-T3M-SV-GY
 RTECH (Ambient temperature: 25deg C (77deg F) -
 lumen tolerance: +- 7% - power tolerance: +- 5% test report no. 376371
 lamp(s): 48 Cree XPL HD
 candela file 'SMART3-US-48L200-NW-T3M-SV-GY.ies'
 1 lamp(s) per luminaire, photometry is absolute
 Light Loss Factor = 1.000, watts per luminaire = 166
 Outreach (from mounting axis to photometric center)= 144 in
 mounting height= 40 ft
 number locations= 7, number luminaires= 7
 kw all locations= 1.2

SR 60
 4204 points at z=0, sp 10ft by 5ft
 A
 Average 1.6
 Maximum 3.2
 Minimum 0.4
 Avg:Min 4.00
 Max:Min 8.00
 Coef Var 0.38
 UnifGrad 1.57

SIDEWALK - INETRSECTION
 126 points at z=0, sp 5ft by 5ft
 HORIZONTAL FOOTCANDLES
 Average 1.0
 Maximum 2.0
 Minimum 0.3
 Avg:Min 3.19
 Max:Min 6.67
 Coef Var 0.50
 UnifGrad 1.60

CROSSWALK # 2
 40 points
 VERTICAL FOOTCANDLES,
 observer facing West
 Average 1.8
 Maximum 2.2
 Minimum 1.4
 Avg:Min 1.30
 Max:Min 1.57
 Coef Var 0.11

CROSSWALK # 5 - NORTH B
 19 points
 VERTICAL FOOTCANDLES,
 observer facing North
 Average 1.7
 Maximum 1.9
 Minimum 1.5
 Avg:Min 1.14
 Max:Min 1.27
 Coef Var 0.09

C ● SCHREDER 376371-36L168-NW-T3M-SV-GY
 RTECH (Ambient temperature: 25deg C (77deg F) -
 lumen tolerance: +- 7% - power tolerance: +- 5% test report no. 376371
 lamp(s): 36 Cree XPL HD
 candela file 'SMART2-US-36L168-NW-T3M-SV-GY.ies'
 1 lamp(s) per luminaire, photometry is absolute
 Light Loss Factor = 1.000, watts per luminaire = 144
 Outreach (from mounting axis to photometric center)= 144 in
 mounting height= 40 ft
 number locations= 3, number luminaires= 3
 kw all locations= 0.4

INTERSECTION SR60 & 43rd AVE
 1151 points at z=0, sp 2.5ft by 2.5ft
 A
 Average 1.6
 Maximum 3.6
 Minimum 0.4
 Avg:Min 3.99
 Max:Min 9.00
 Coef Var 0.35
 UnifGrad 0.00

SIDEWALK - 43rd AVE
 1990 points at z=0, sp 3.5ft by 7ft
 HORIZONTAL FOOTCANDLES
 Average 0.8
 Maximum 2.6
 Minimum 0.1
 Avg:Min 8.07
 Max:Min 26.00
 Coef Var 0.72
 UnifGrad 2.00

CROSSWALK # 3
 38 points
 VERTICAL FOOTCANDLES,
 observer facing North
 Average 1.6
 Maximum 2.3
 Minimum 0.8
 Avg:Min 1.94
 Max:Min 2.88
 Coef Var 0.31

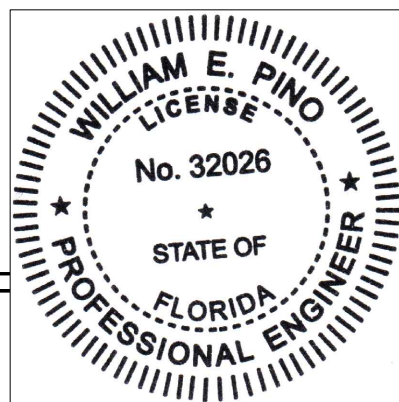
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 2018-0810

D ● SCHREDER 376381-48L185-NW-T2M-SV-GY
 RTECH (Ambient temperature: 25deg C (77deg F) -
 lumen tolerance: +- 7% - power tolerance: +- 5% test report no. 376381
 lamp(s): 48 Cree XPL HD
 candela file 'SMART3-US-48L185-NW-T2M-SV-GY.ies'
 1 lamp(s) per luminaire, photometry is absolute
 Light Loss Factor = 1.000, watts per luminaire = 148
 Outreach (from mounting axis to photometric center)= 144 in
 tilt angle= 10 deg
 mounting height= 40 ft
 number locations= 2,
 kw all locations= 0.3
 number luminaires= 2


Ratio (Max veiling luminance /
 Avg road luminance) = 0.27

LUMINAIRE DESCRIPTIONS,
PHOTOMETRIC STATISTICS

CONTRACTOR SHALL VERIFY VOLTAGES PRIOR TO ORDERING FIXTURES



Revision:	By:	Date:


Department of Public Works
Engineering Division

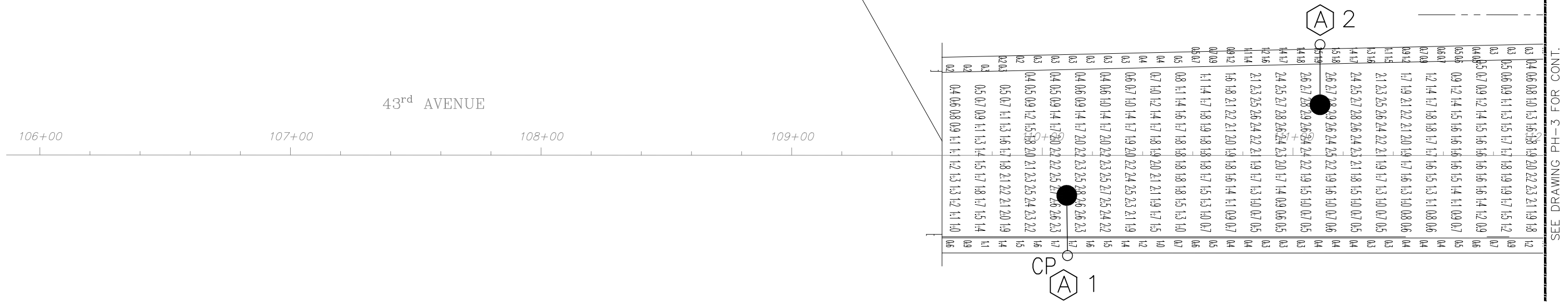
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 Checked: WP
 Date: 12/17/2018
 Field Book No:

Project:
 ROADWAY LIGHTING
 PHOTOMETRIC PLANS

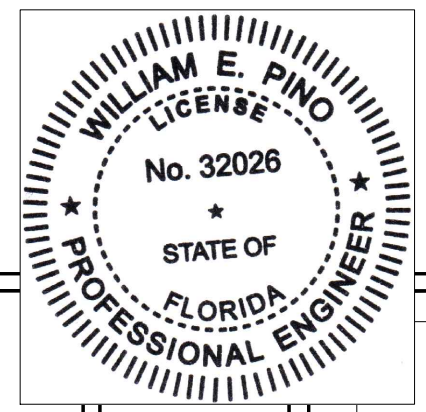
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Main Street
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 7035B SW 47th Street . Miami, Florida 33155
 Tel.: (305) 666-7450 . Fax: (305) 666-2450
 FL PE Certificate No.: 00008731

BEGIN PROJECT STA. 109+60.00
SAWCUT & BUTT JOINT. MATCH
EXIST. PAVEMENT



SEE DRAWING PH-3 FOR CONT.




ROADWAY PHOTOMETRIC PLAN

Main Street
ENGINEERING
7035B SW 47th Street . Miami, Florida 33155
Tel.: (305) 666-7450 . Fax: (305) 666-2450
FL PE Certificate No.: 00008731

Revision:	By:	Date:

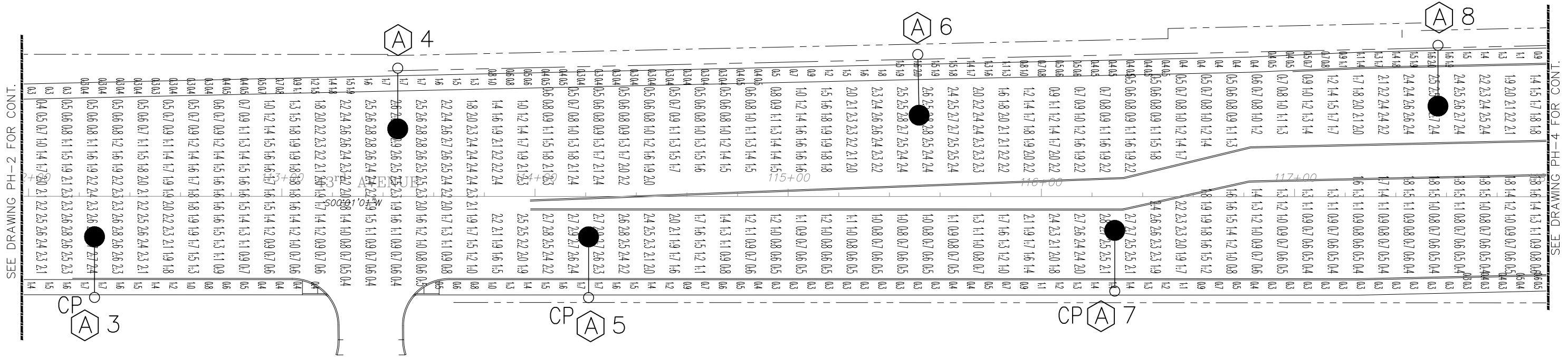
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 **Department of Public Works**
Engineering Division

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Drawn: JS
Checked: WP
Date: 12/17/2018
Field Book No:

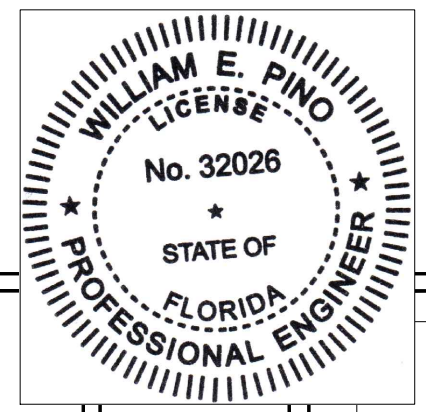
Project:
ROADWAY LIGHTING
PHOTOMETRIC PLANS

Sheet: PH-2
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SEE DRAWING PH-2 FOR CONT.

SEE DRAWING PH-4 FOR CONT.



ROADWAY PHOTOMETRIC PLAN

Main Street ENGINEERING
 7035B SW 47th Street . Miami, Florida 33155
 Tel.: (305) 666-7450 . Fax: (305) 666-2450
 FL PE Certificate No.: 00008731

DATE: _____

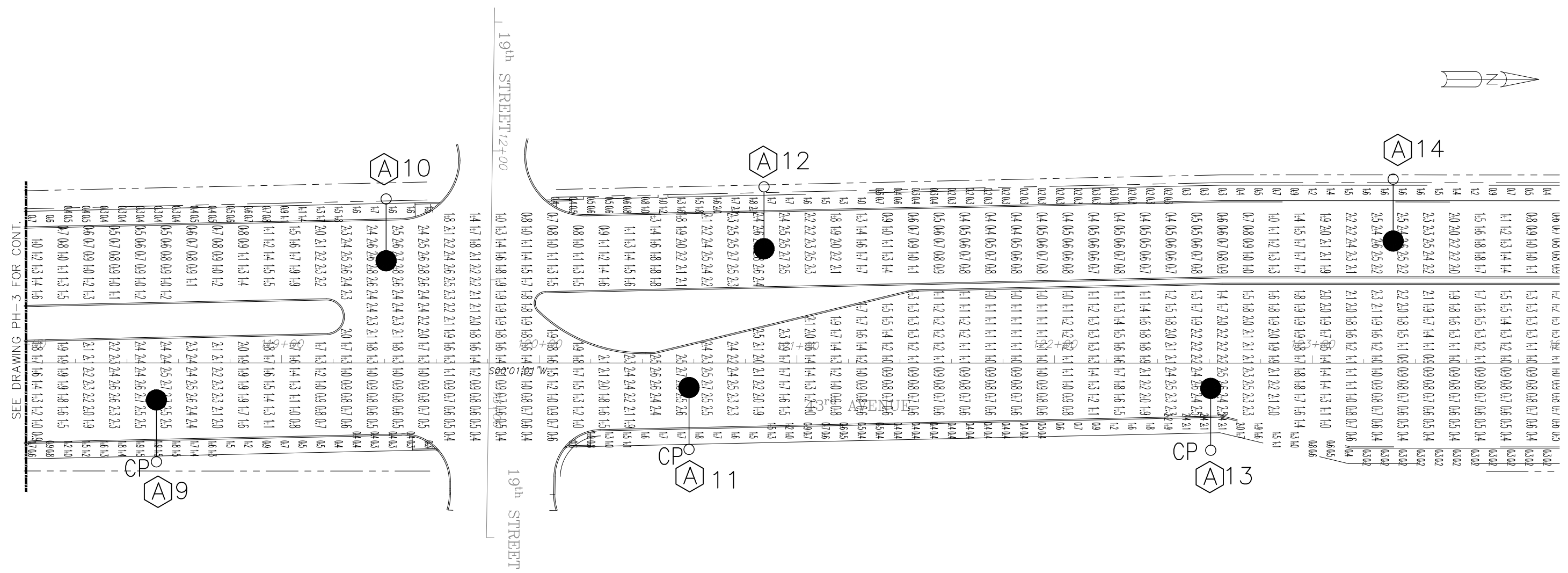
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UNION RIVER COUNTY
 Department of Public Works
 Engineering Division

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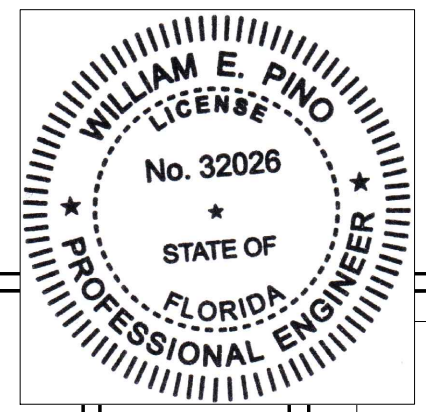
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SEE DRAWING PH-3 FOR CONT.

SEE DRAWING PH-5 FOR CONT.



DATE: _____

Revision:	By:	Date:



Department of Public Works
Engineering Division

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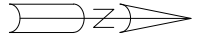
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PHOTOMETRIC PLANS

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ROADWAY PHOTOMETRIC PLAN

SEE DRAWING PH-11 FOR CONT.



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SEE DRAWING PH-6 FOR CONT.

CROSSWALK #1
SEE PH-13

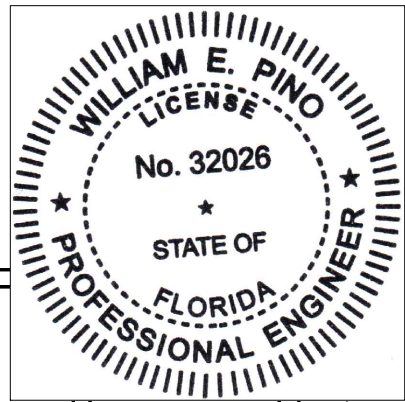
CROSSWALK #3
SEE PH-15
SIGNAL POLE (TYP.)

CROSSWALK #4
SEE PH-16

SIGNAL POLE (TYP.)

CROSSWALK #2
SEE PH-14

ROADWAY PHOTOMETRIC PLAN



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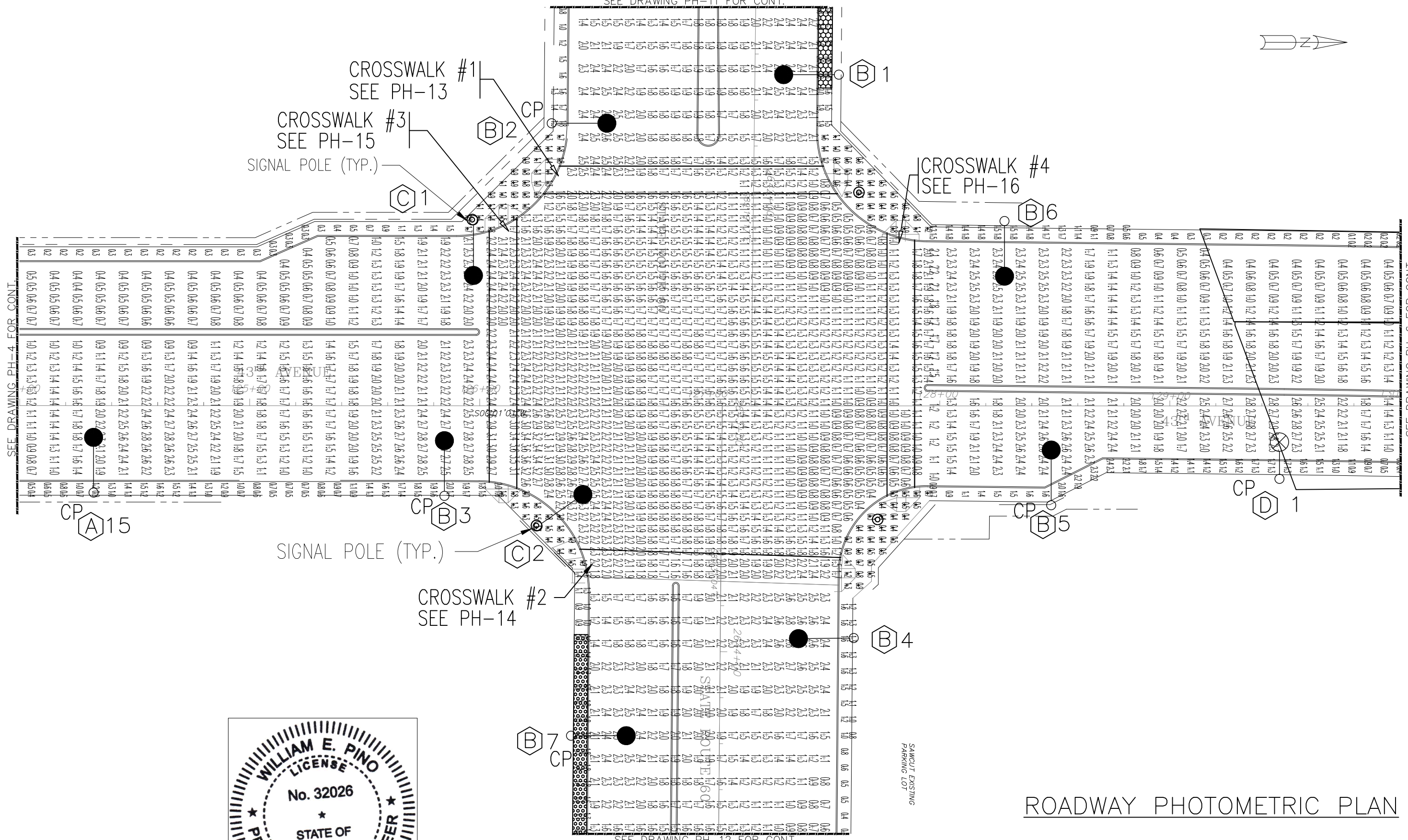
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Project: ROADWAY LIGHTING PHOTOMETRIC PLANS

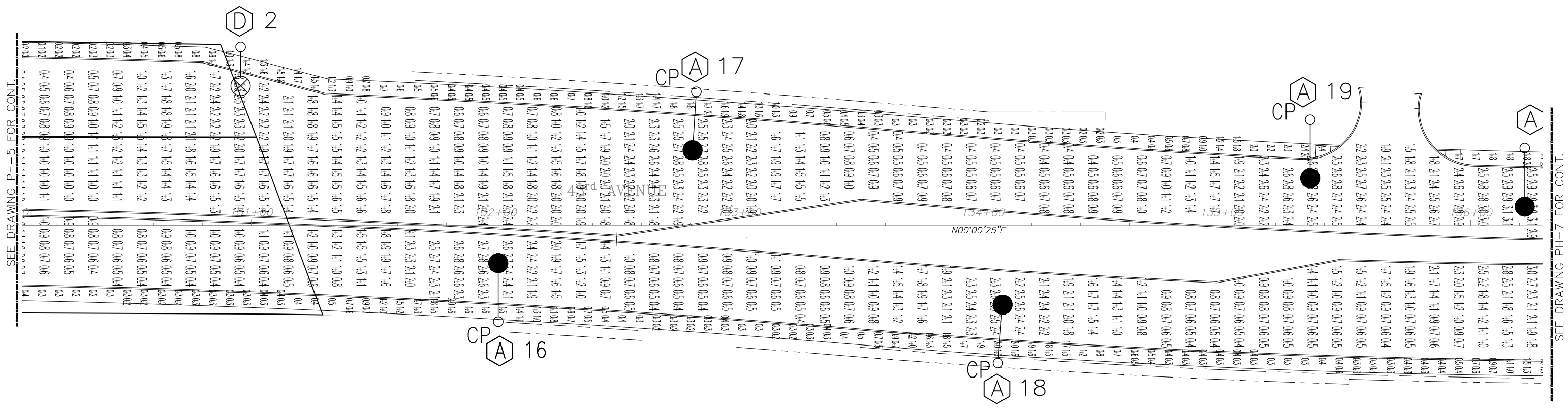
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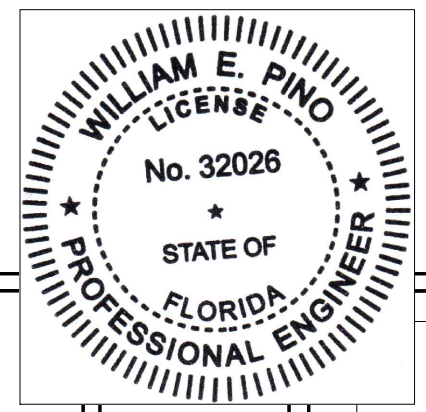


21st PLACE



SEE DRAWING PH-5 FOR CONT.

SEE DRAWING PH-7 FOR CONT.



ROADWAY PHOTOMETRIC PLAN



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Scale:	1" = 40'
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Checked:	WP
Date:	12/17/2018
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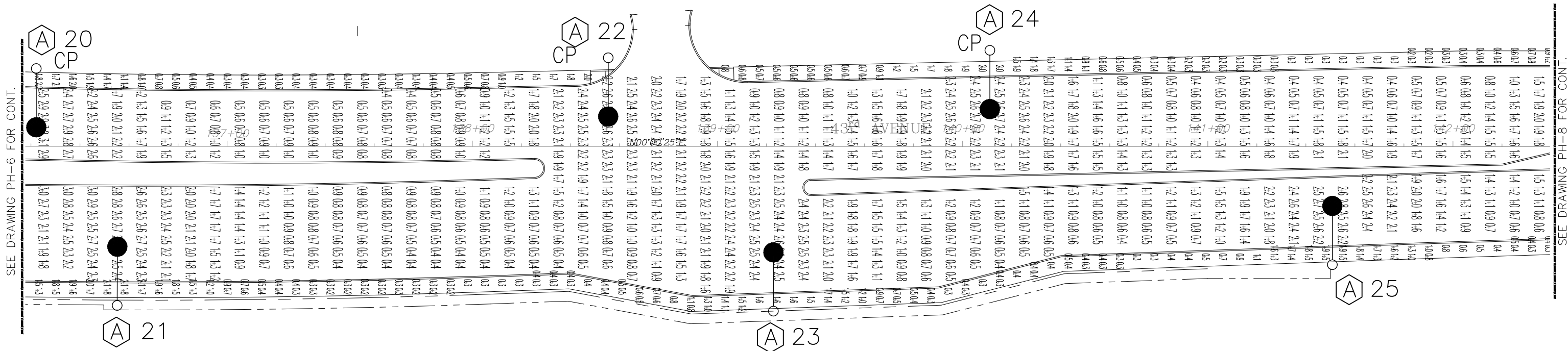
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DATE: _____

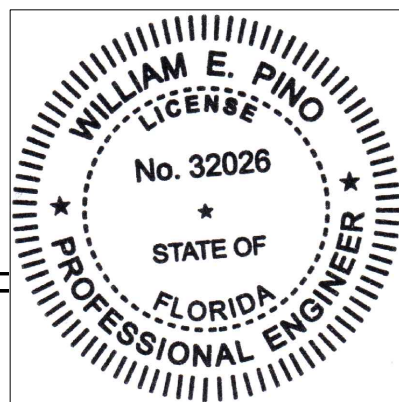


21st LANE



SEE DRAWING PH-6 FOR CONT.

SEE DRAWING PH-8 FOR CONT.



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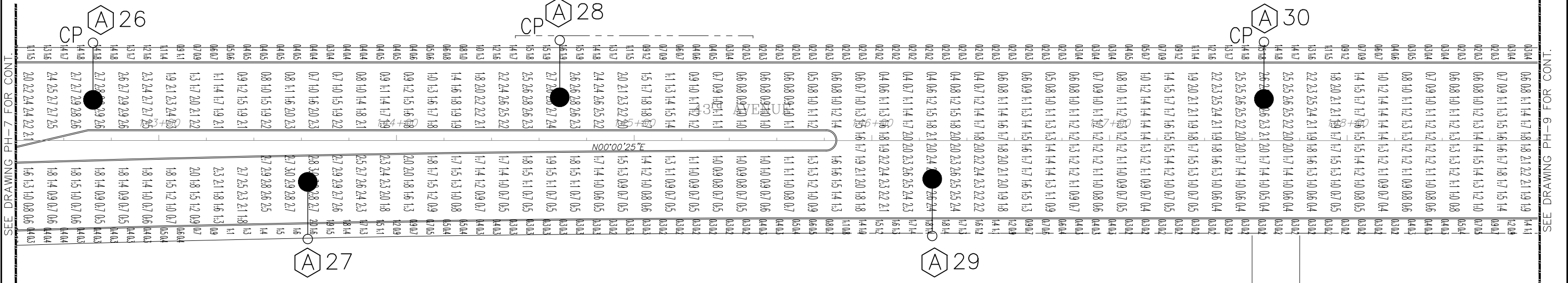
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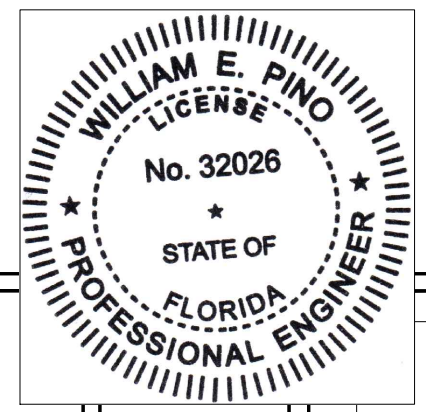
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SEE DRAWING PH-9 FOR CONT.




ROADWAY PHOTOMETRIC PLAN



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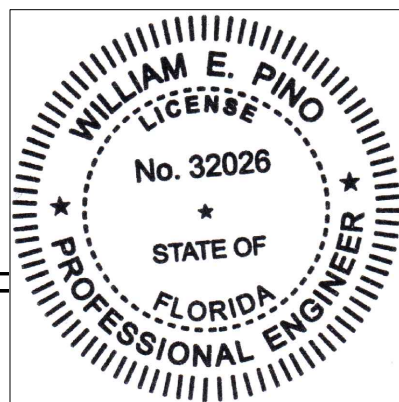
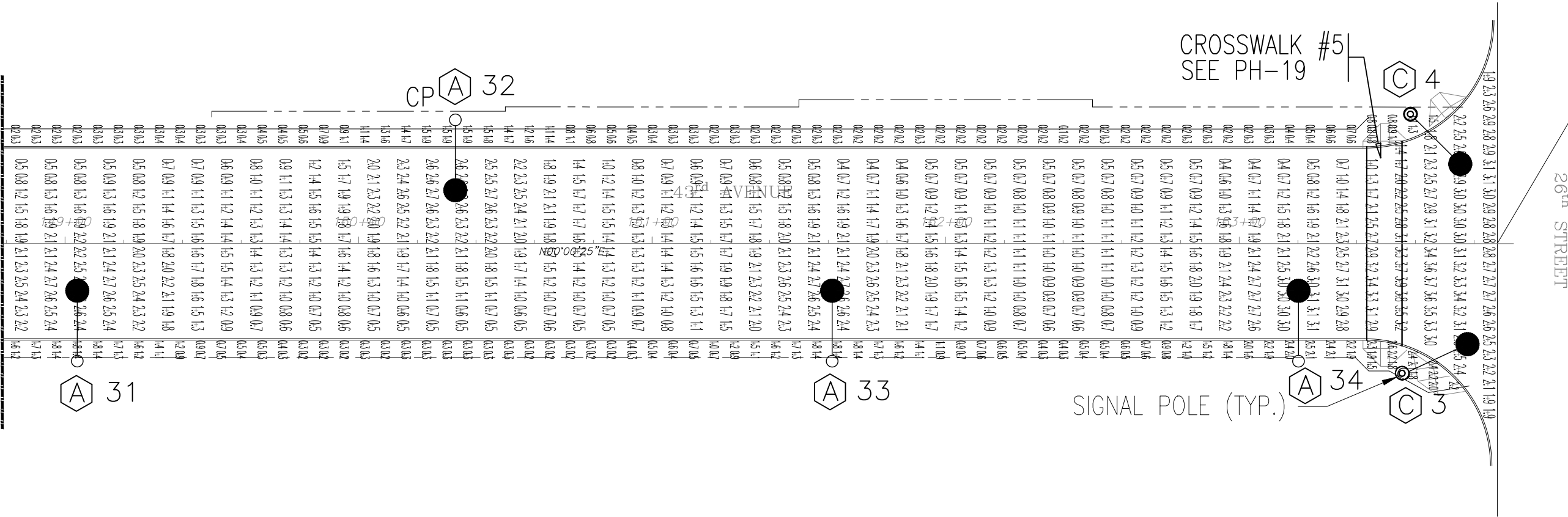
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 PHOTOMETRIC PLANS

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END PROJECT
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 MATCH EXIST. GRADE

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ROADWAY PHOTOMETRIC PLAN

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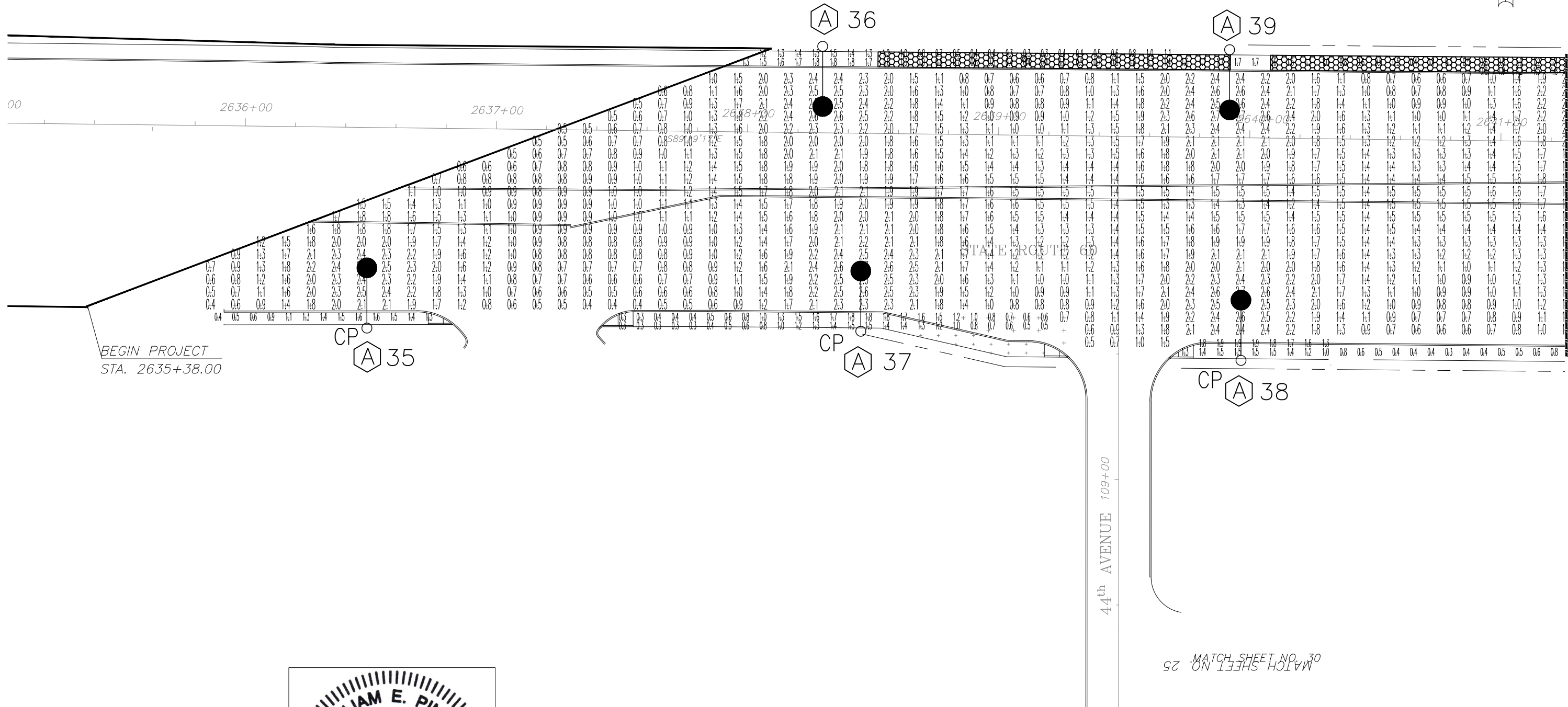
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 Engineering Division

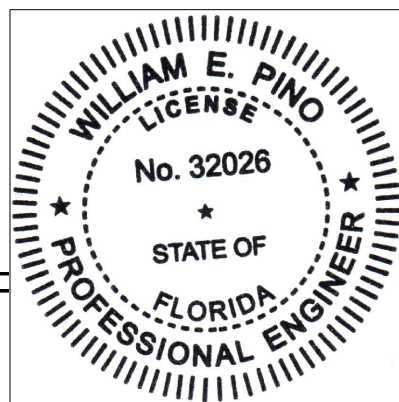
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 PHOTOMETRIC PLANS

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 LNW# WP1027



SEE DRAWING PH-5 FOR CONT.



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Field Book No:

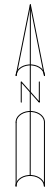
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PHOTOMETRIC PLANS

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ROADWAY PHOTOMETRIC PLAN

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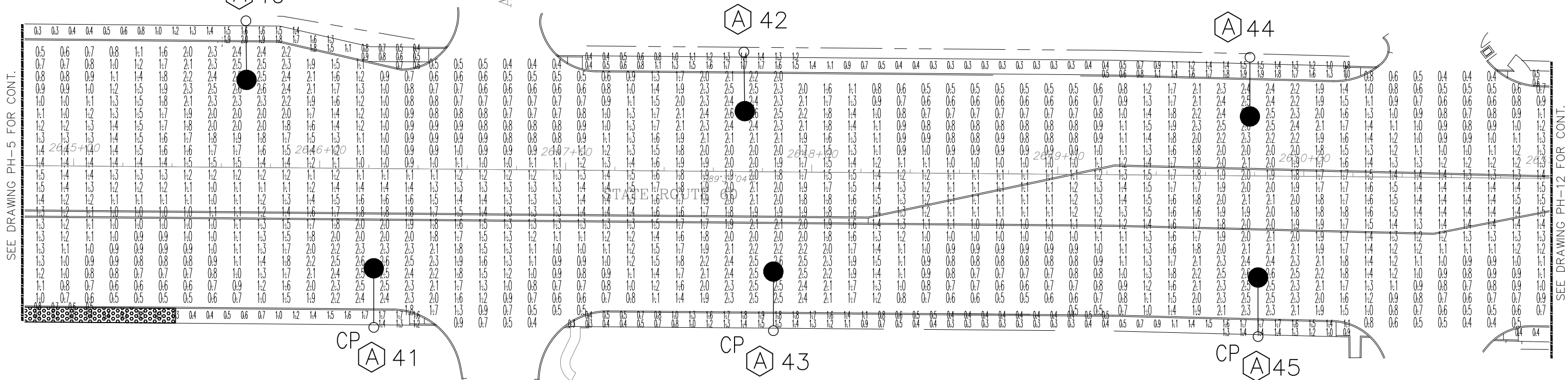


ATLANTIC BLVD

41st AVENUE

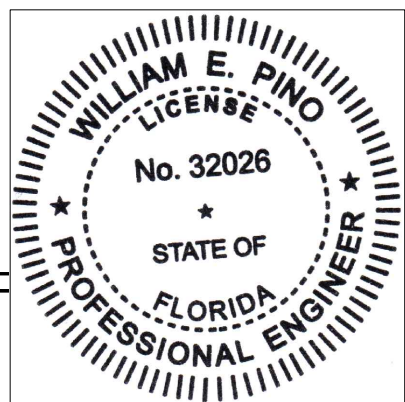
42nd AVENUE

41st AVENUE



SEE DRAWING PH-5 FOR CONT.

SEE DRAWING PH-12 FOR CONT.



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ROADWAY PHOTOMETRIC PLAN

Main Street
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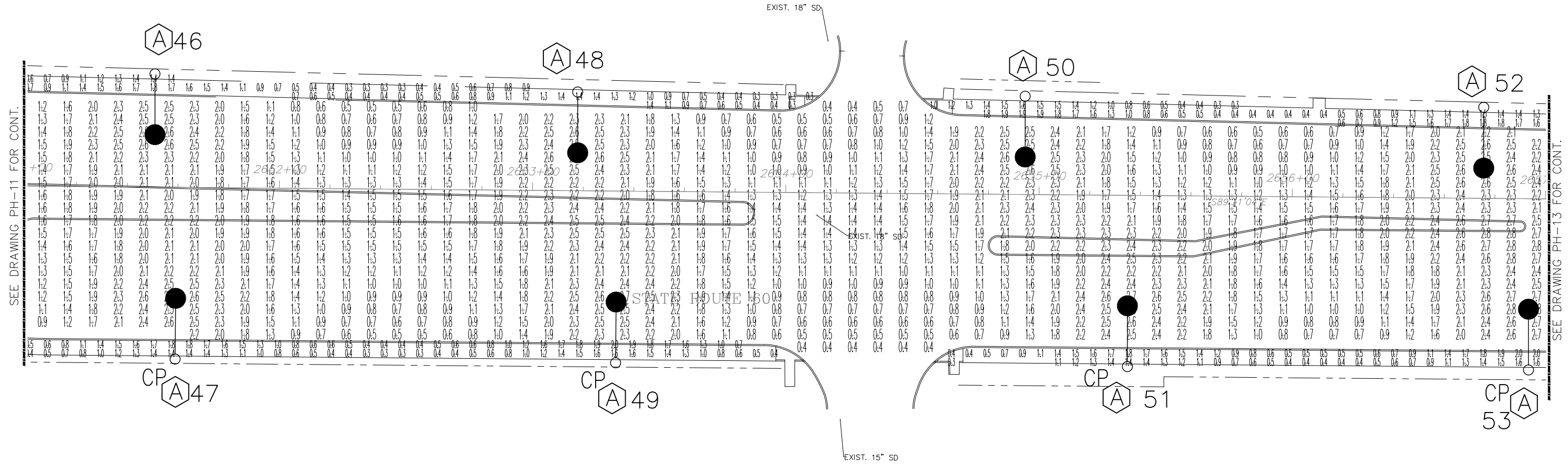
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ROADWAY LIGHTING
PHOTOMETRIC PLANS

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Project No.
LNW# WP1027

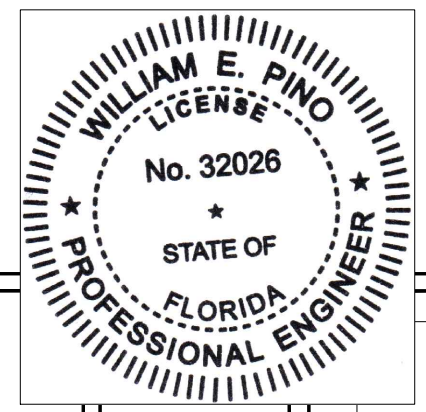


40th AVENUE



SEE DRAWING PH-11 FOR CONT.

SEE DRAWING PH-13 FOR CONT.



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Department of Public Works
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ROADWAY PHOTOMETRIC PLAN

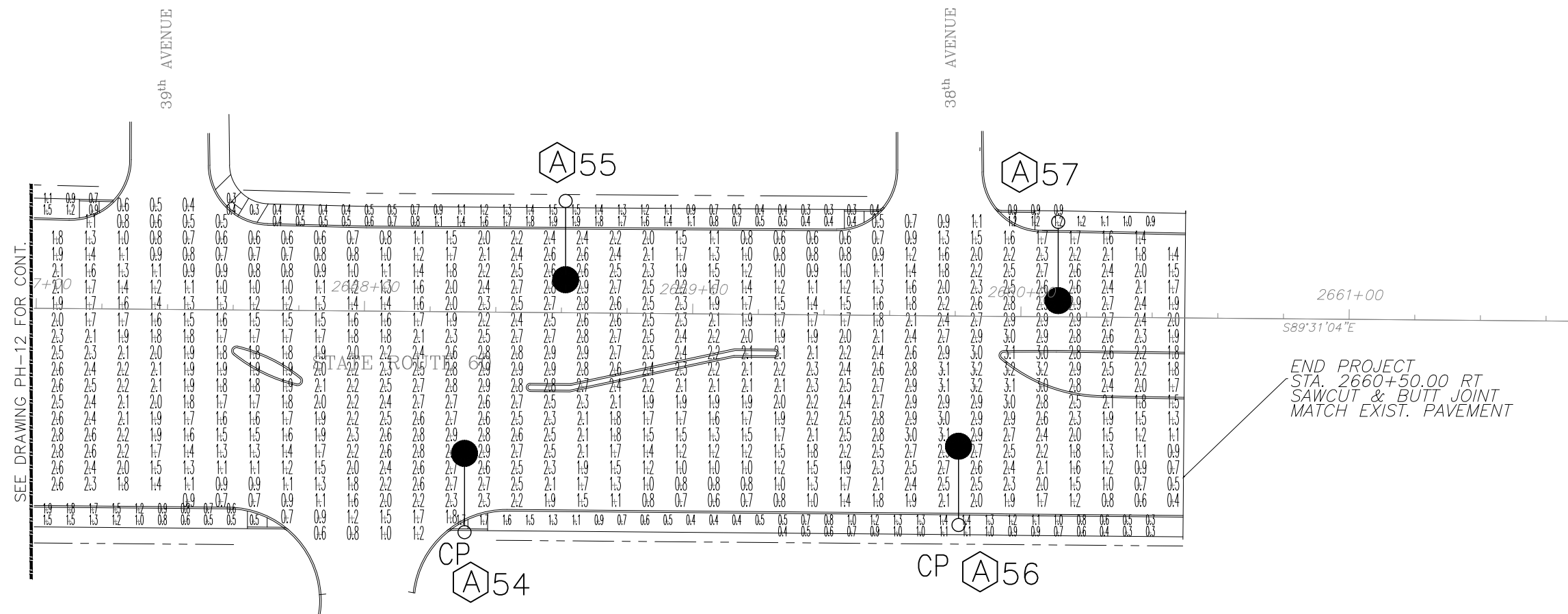
Main Street
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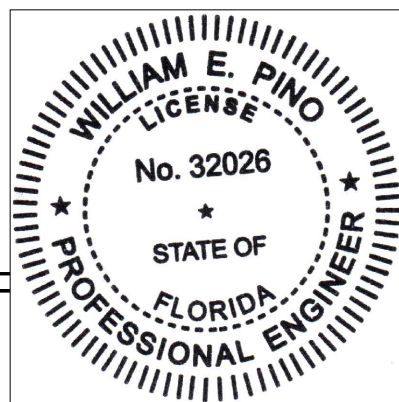
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SEE DRAWING PH-12 FOR CONT.

END PROJECT
 STA. 2660+50.00 RT
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 MATCH EXIST. PAVEMENT




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 Engineering Division

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Checked:	WP
Date:	12/17/2018
Field Book No:	

Project:
 ROADWAY LIGHTING
 PHOTOMETRIC PLANS

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INDIAN RIVER COUNTY BOARD OF COUNTY COMMISSIONERS



STATE ROUTE 60 & 43RD AVENUE PROJECT C.P.#0512

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DT-1 – DT-7	DEMOLITION AND TRANSPLANT PLAN
LH-1 – LH-7	HARDSCAPE LAYOUT PLAN
LP-1 – LP-7	LANDSCAPE PLAN

THESE PLANS HAVE BEEN PREPARED IN ACCORDANCE WITH AND ARE GOVERNED BY THE FLORIDA DEPARTMENT OF TRANSPORTATION, DESIGN STANDARDS (2017-2018) AND SUPPLEMENTS THERETO.

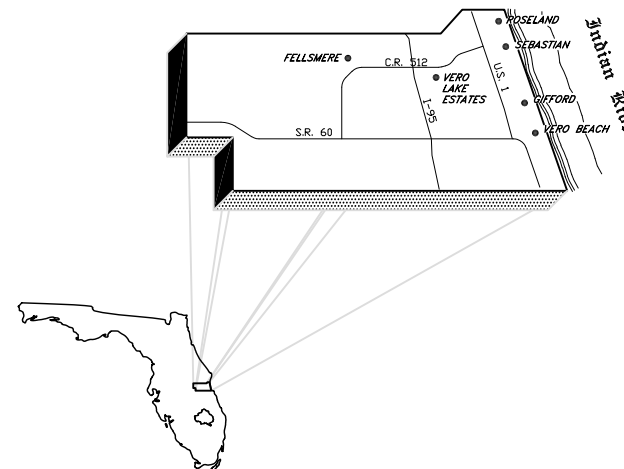
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PUBLIC WORKS DIRECTOR:
RICHARD B. SZPYRKA, P.E.

COUNTY ENGINEER:
JAMES W. ENNIS, P.E.

PROJECT MANAGER:
WILLIAM JOHNSON, P.E.

ATTENTION IS DIRECTED TO THE FACT THAT THESE PLANS MAY HAVE BEEN ALTERED IN SIZE BY REPRODUCTION. THIS MUST BE CONSIDERED WHEN OBTAINING SCALED DATA.



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Engineering Division

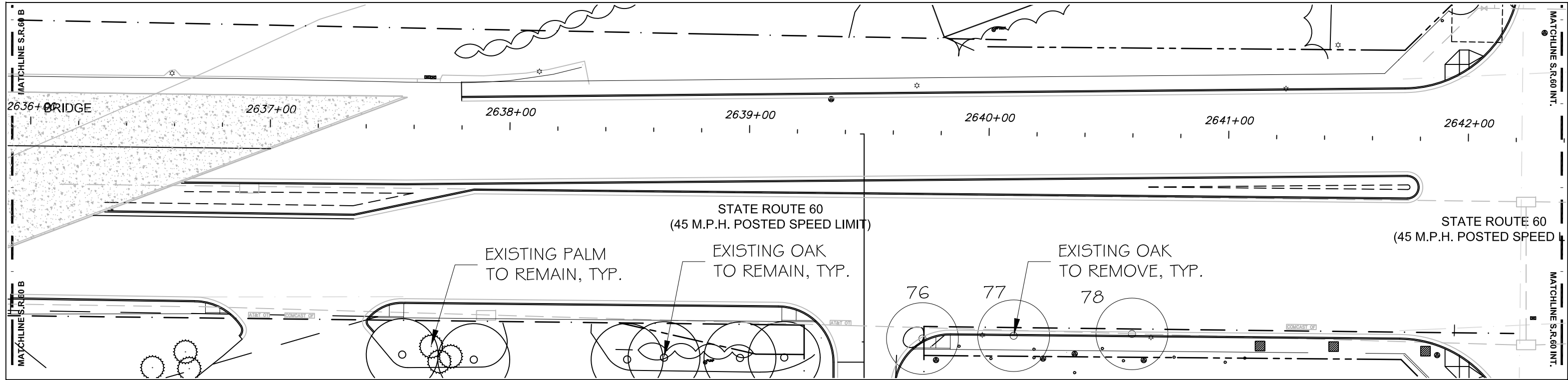


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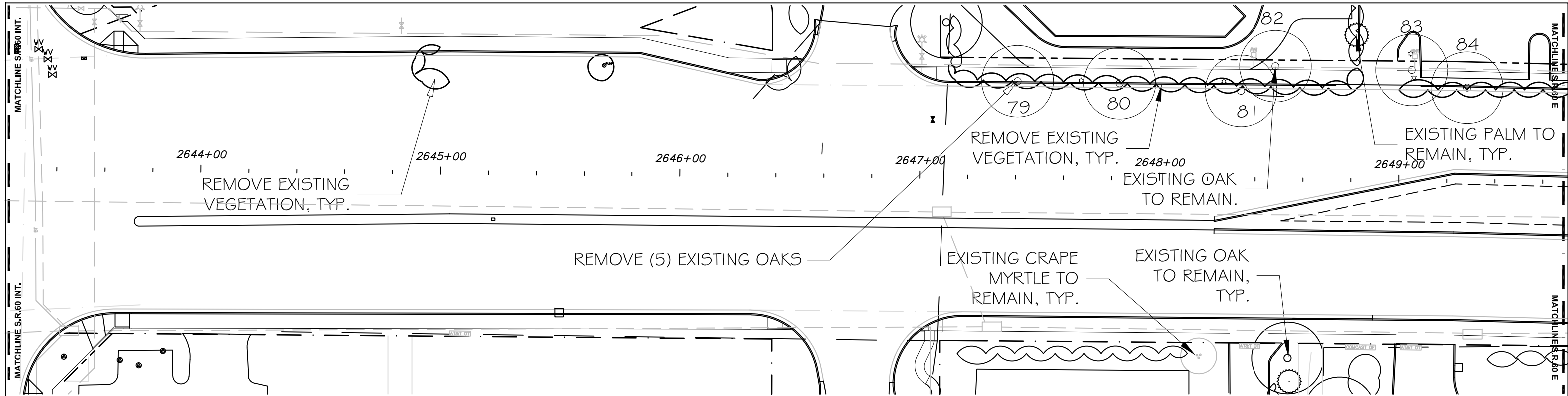
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Date: 06/2017

SIGNING & PAVEMENT MARKING PLANS
FOR
SR 60 & 43RD AVENUE

Sheet: KEY
Of: 1 OF 1
Project No. WP1027




SHEET C




SHEET D


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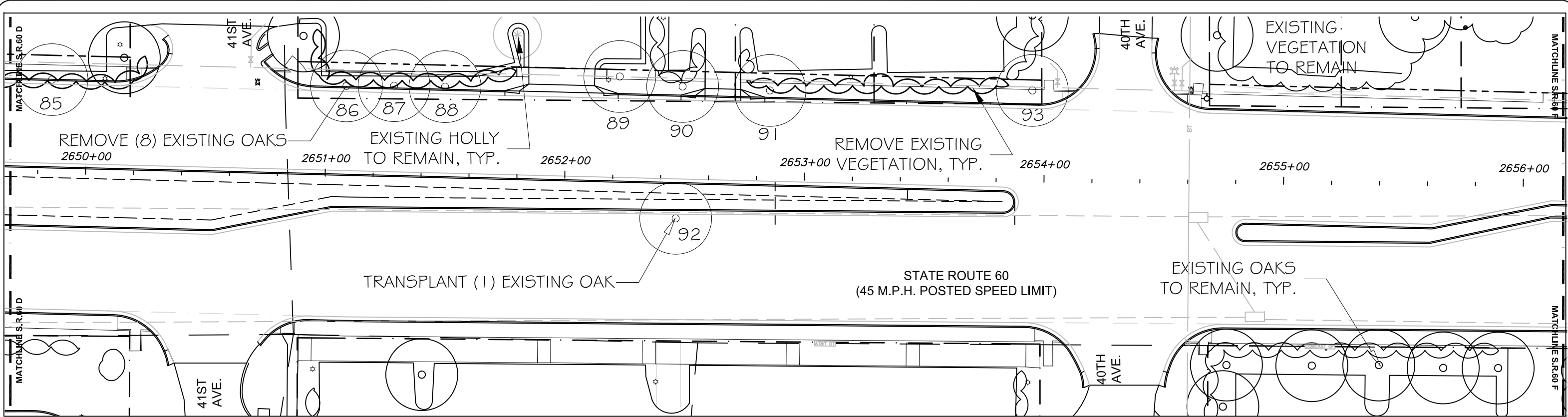
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02	Revisions	CRF	12.13.18


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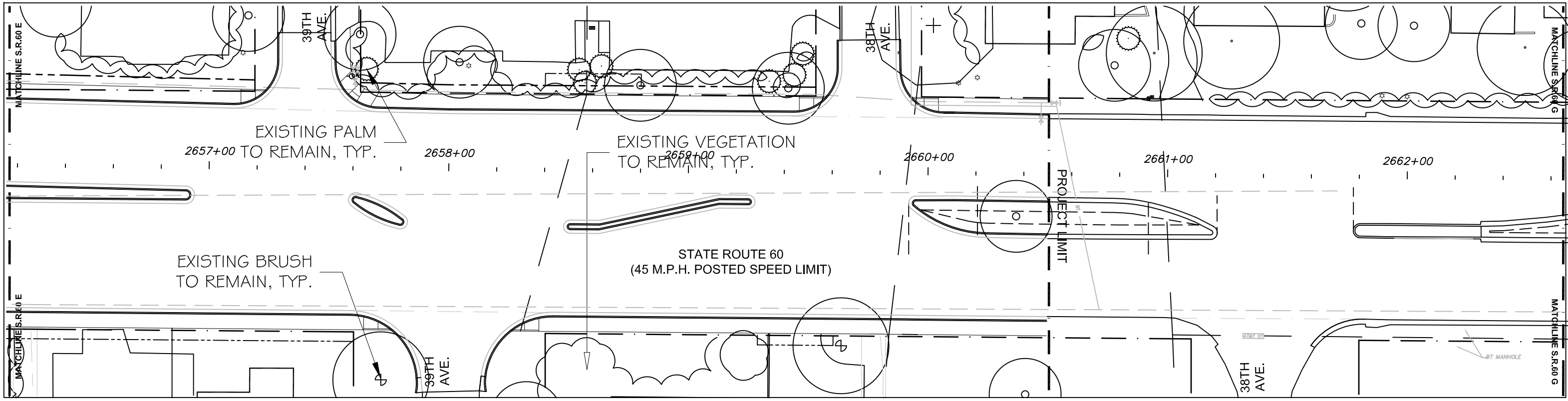
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Project: 100%
 DEMOLITION & TRANSPLANT PLAN
 FOR
 STATE ROUTE 60
 &
 43RD AVENUE

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 FDOT FIN:
 431759-2-54-01
 Project No.
 IRC# 0512
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SHEET E



SHEET F

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01	Revisions	CRF	03.02.18
02	Revisions	CRF	12.13.18

UNION RIVER COUNTY
FLORIDA

Department of Public Works
Engineering Division

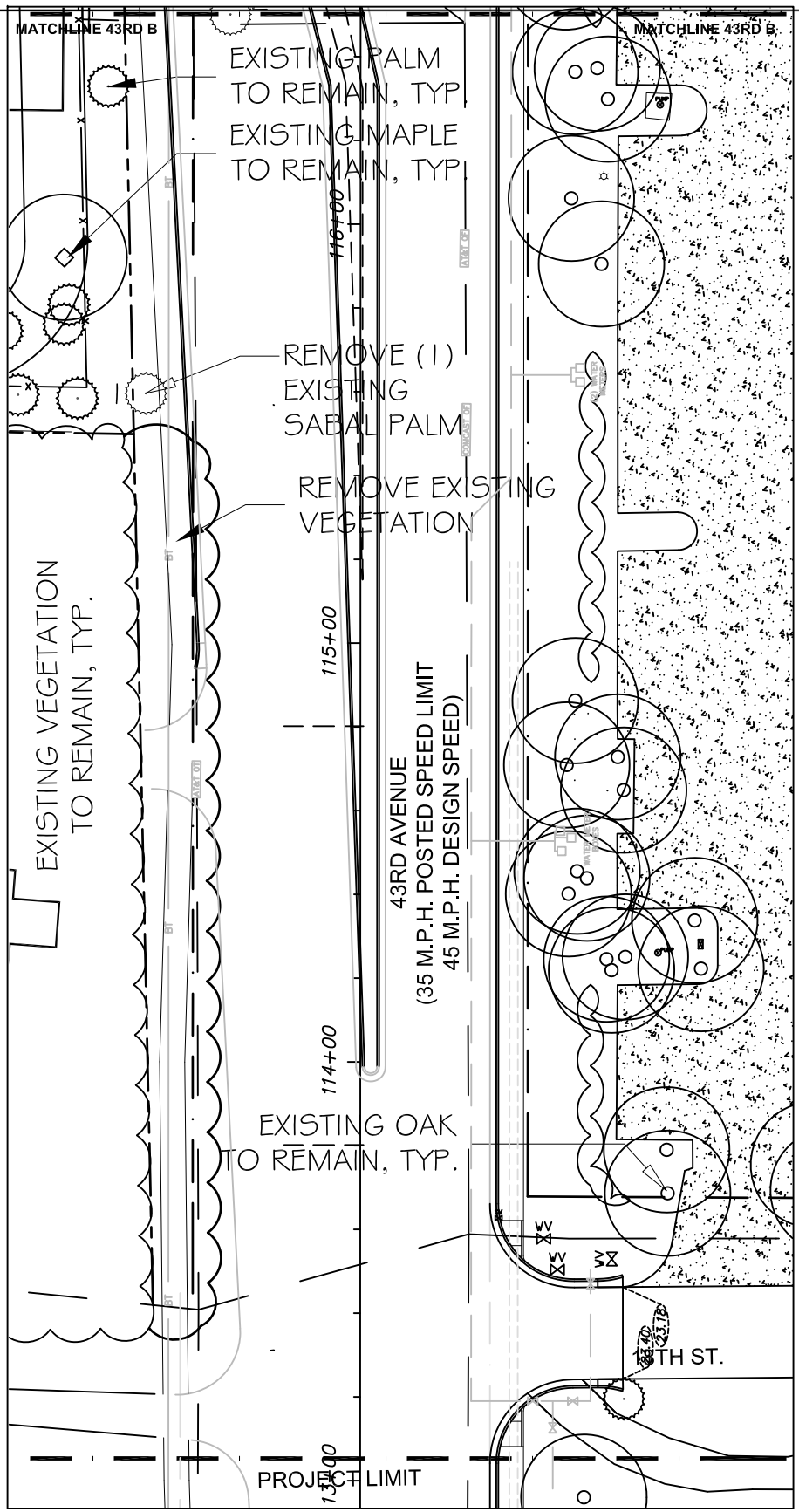
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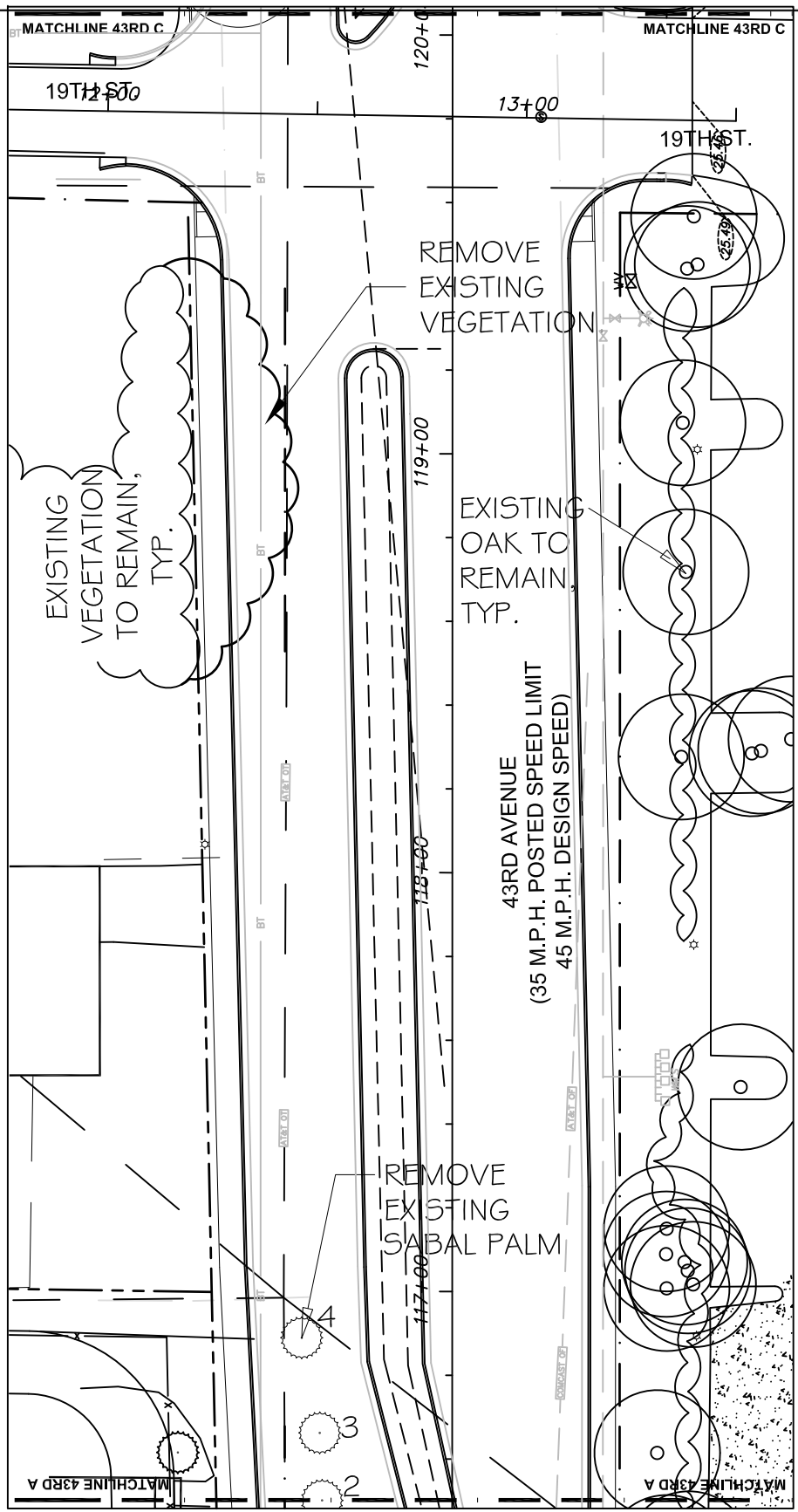
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STATE ROUTE 60
&
43RD AVENUE

Sheet: DT-2

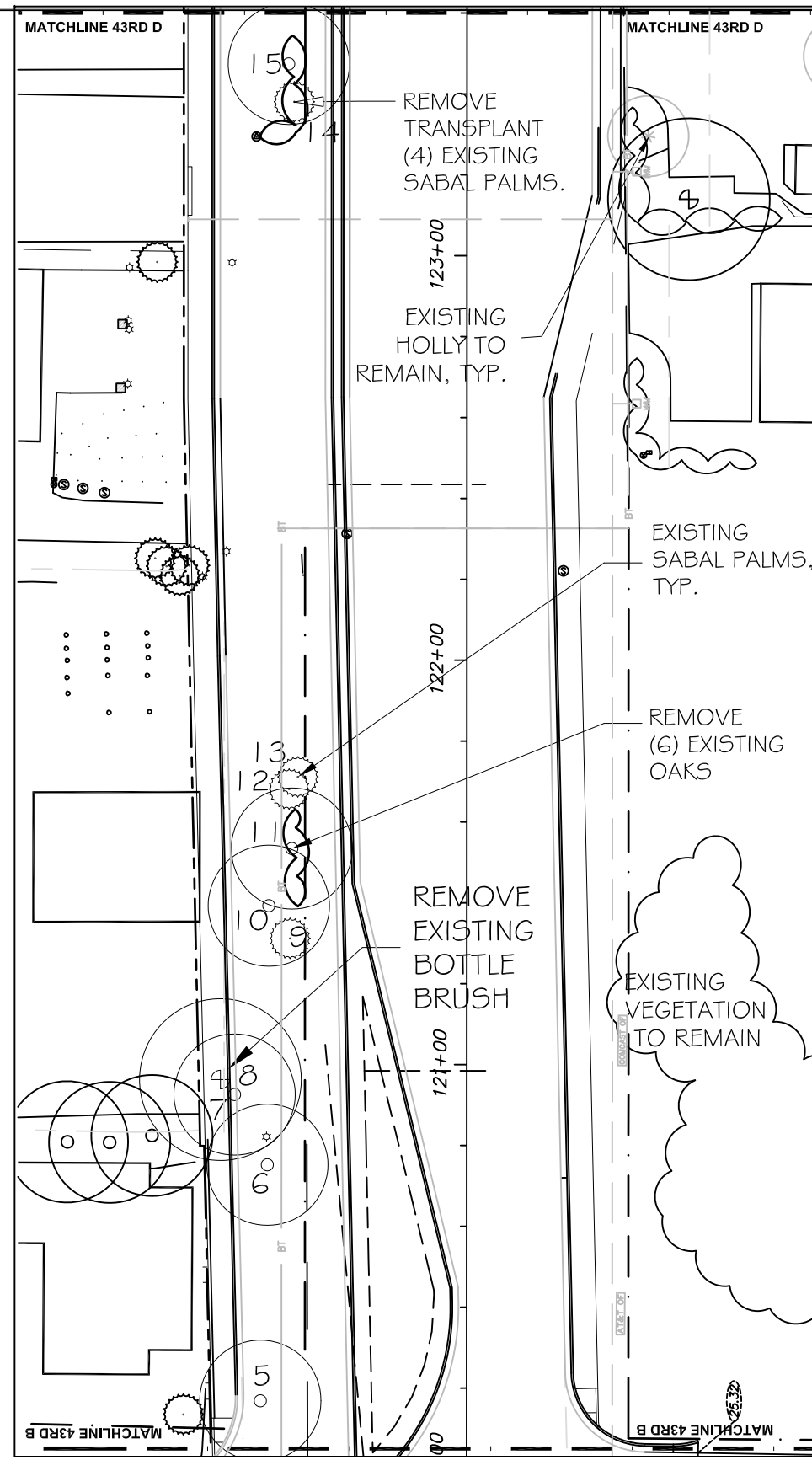
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IRC# 0512
LNW# WP1027



SHEET A



SHEET B



SHEET C

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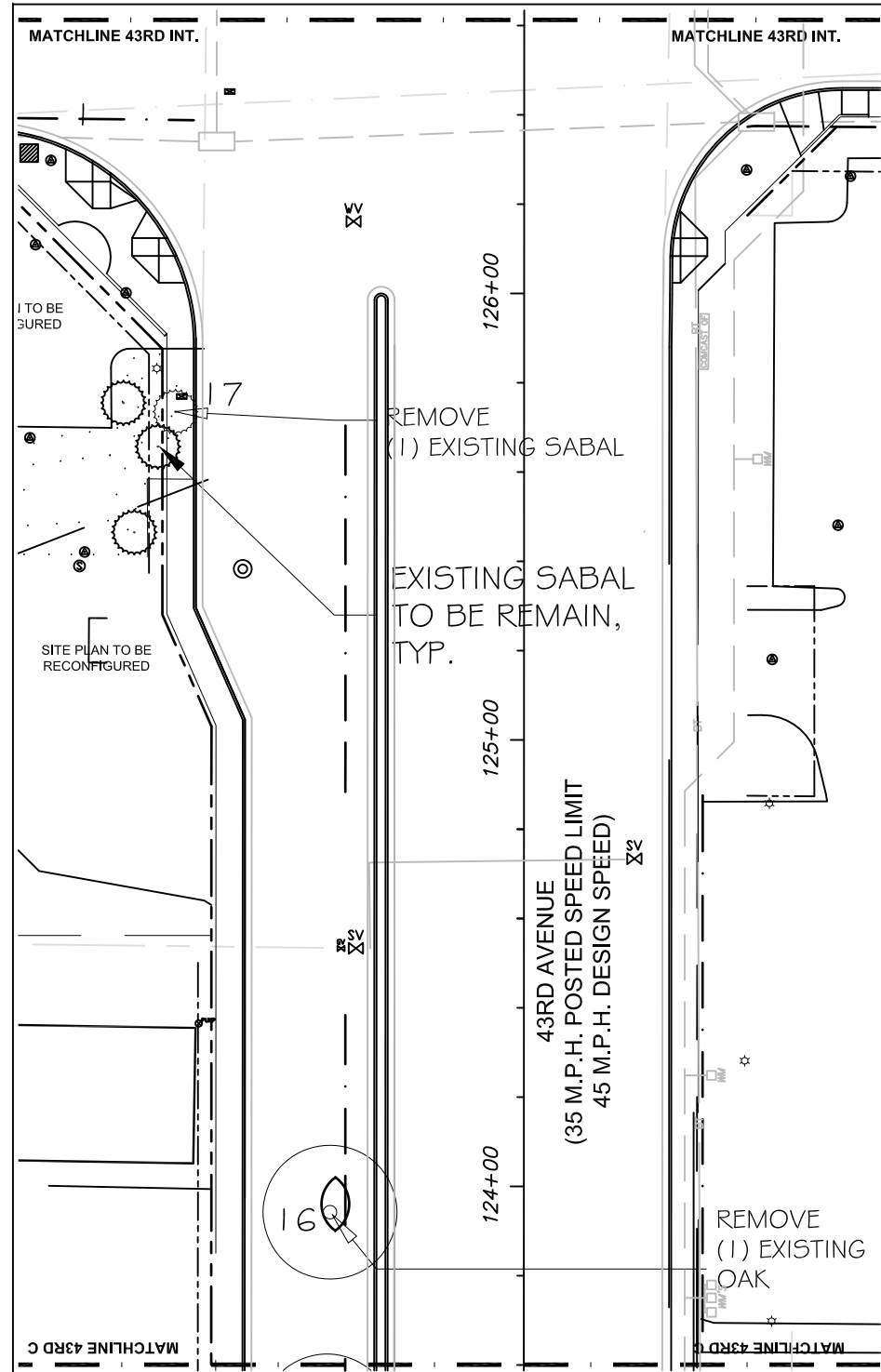
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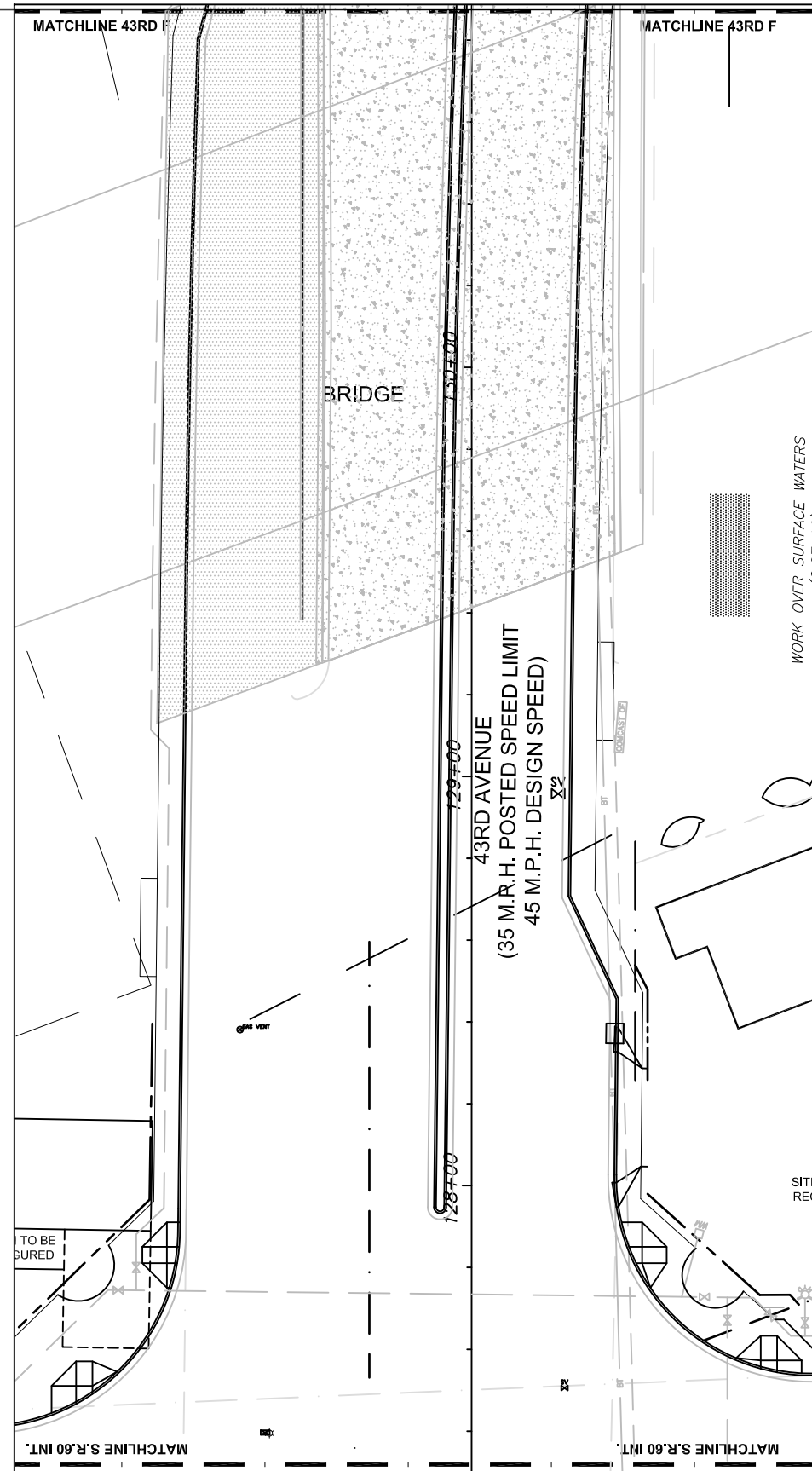
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 DEMOLITION & TRANSPLANT PLAN
 FOR
 STATE ROUTE 60
 &
 43RD AVENUE

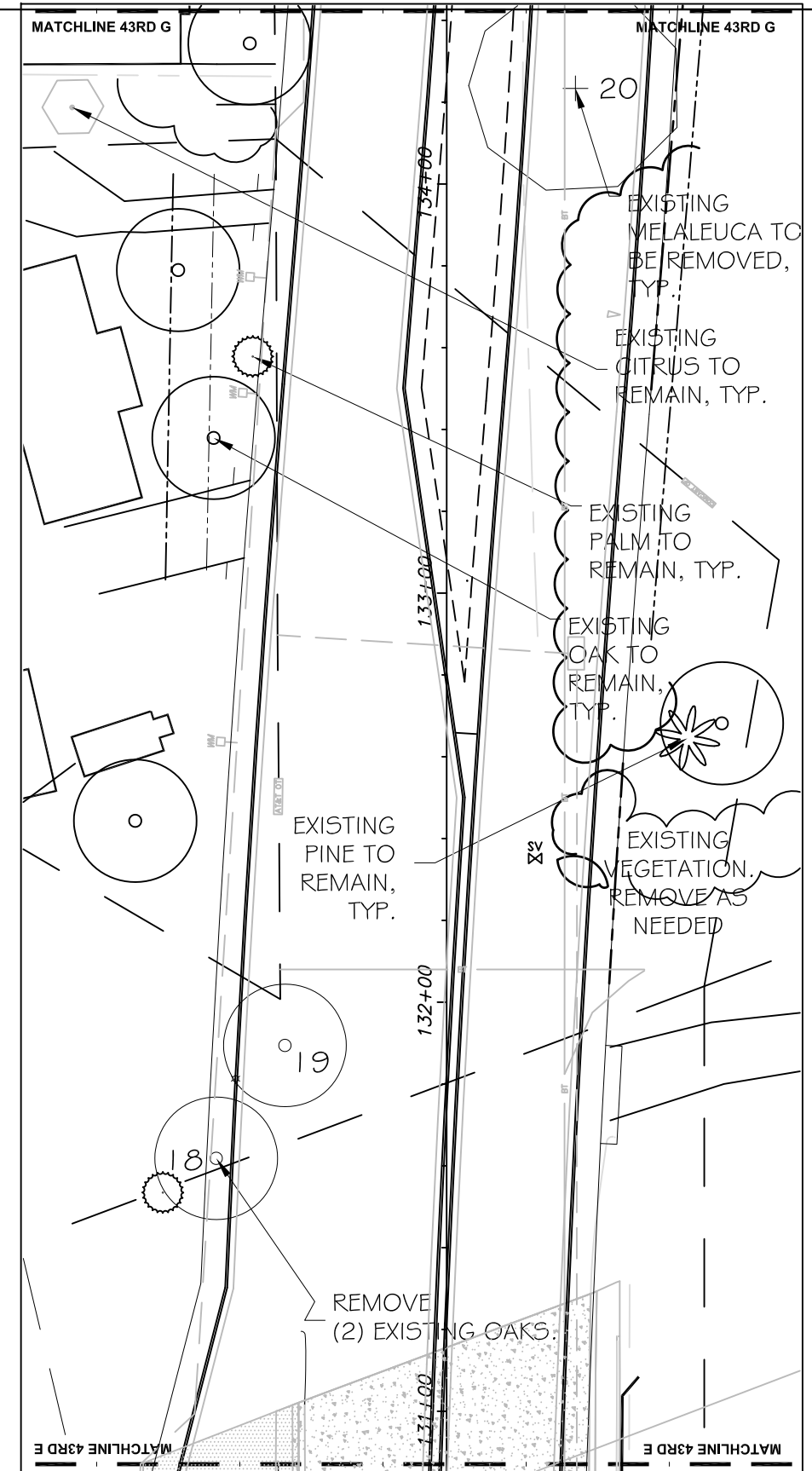
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 Project No.
 IRC# 0512
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SHEET D



SHEET E




SHEET F


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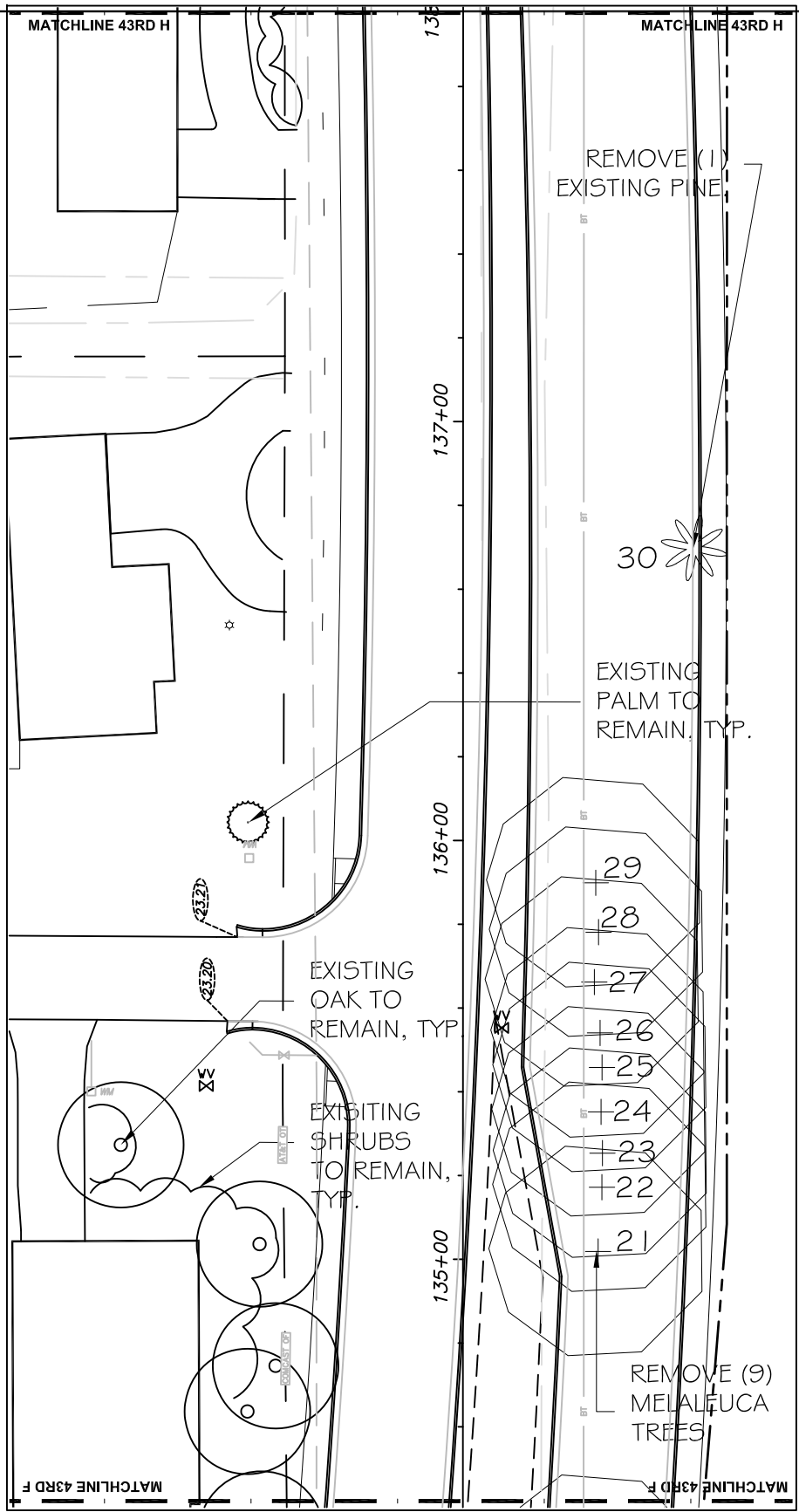

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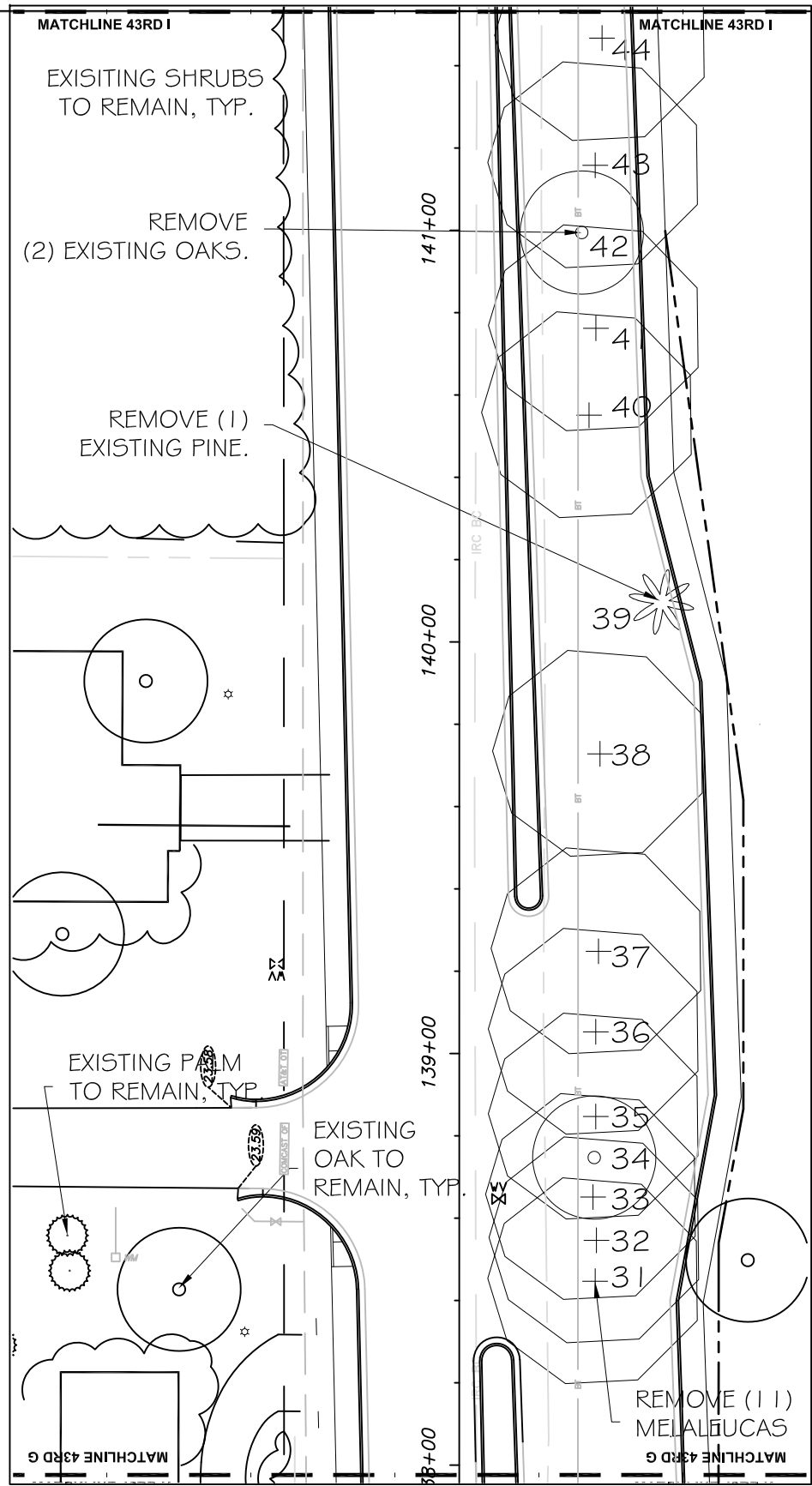
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 &
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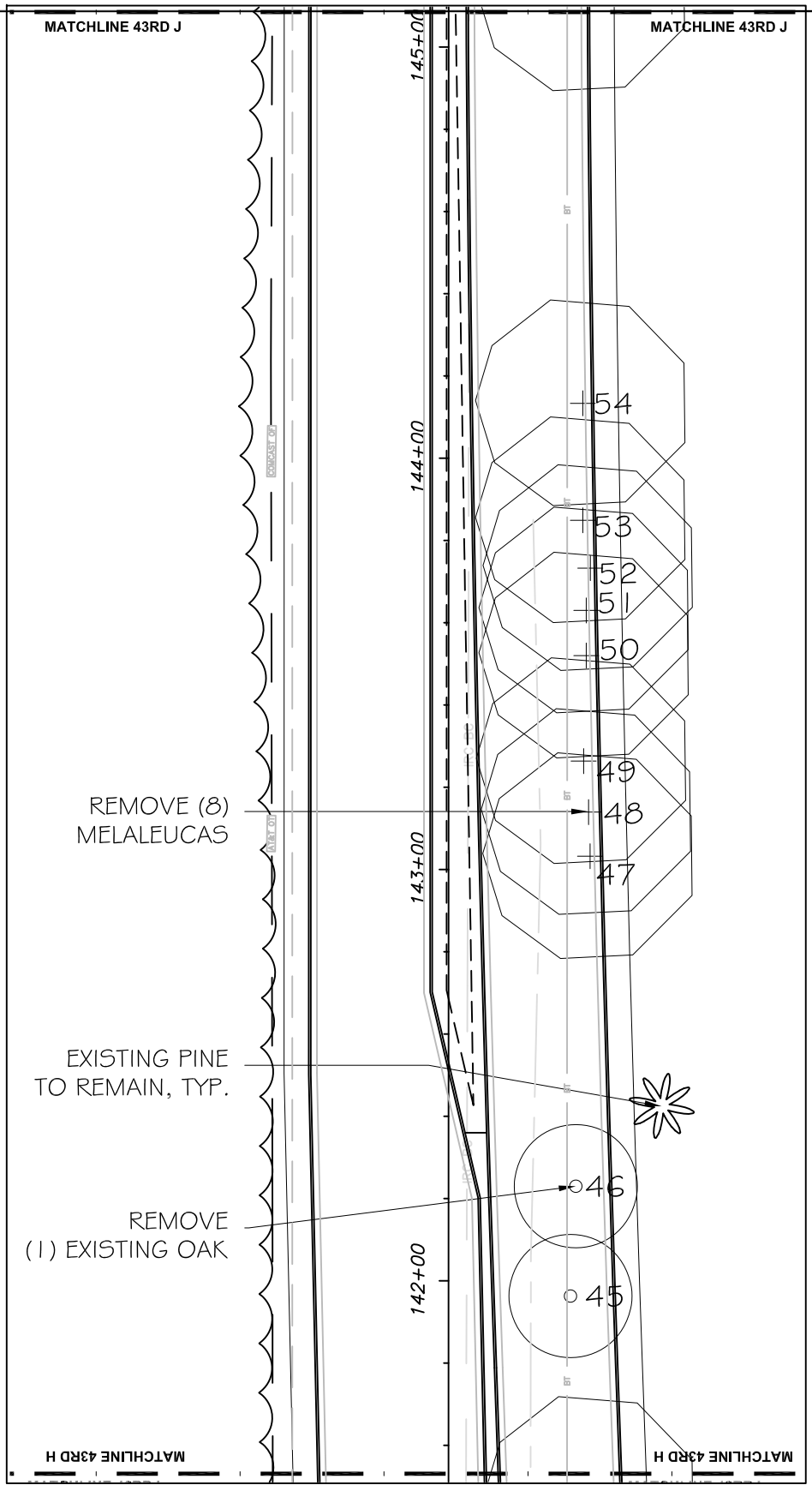
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SHEET G



SHEET H



SHEET I

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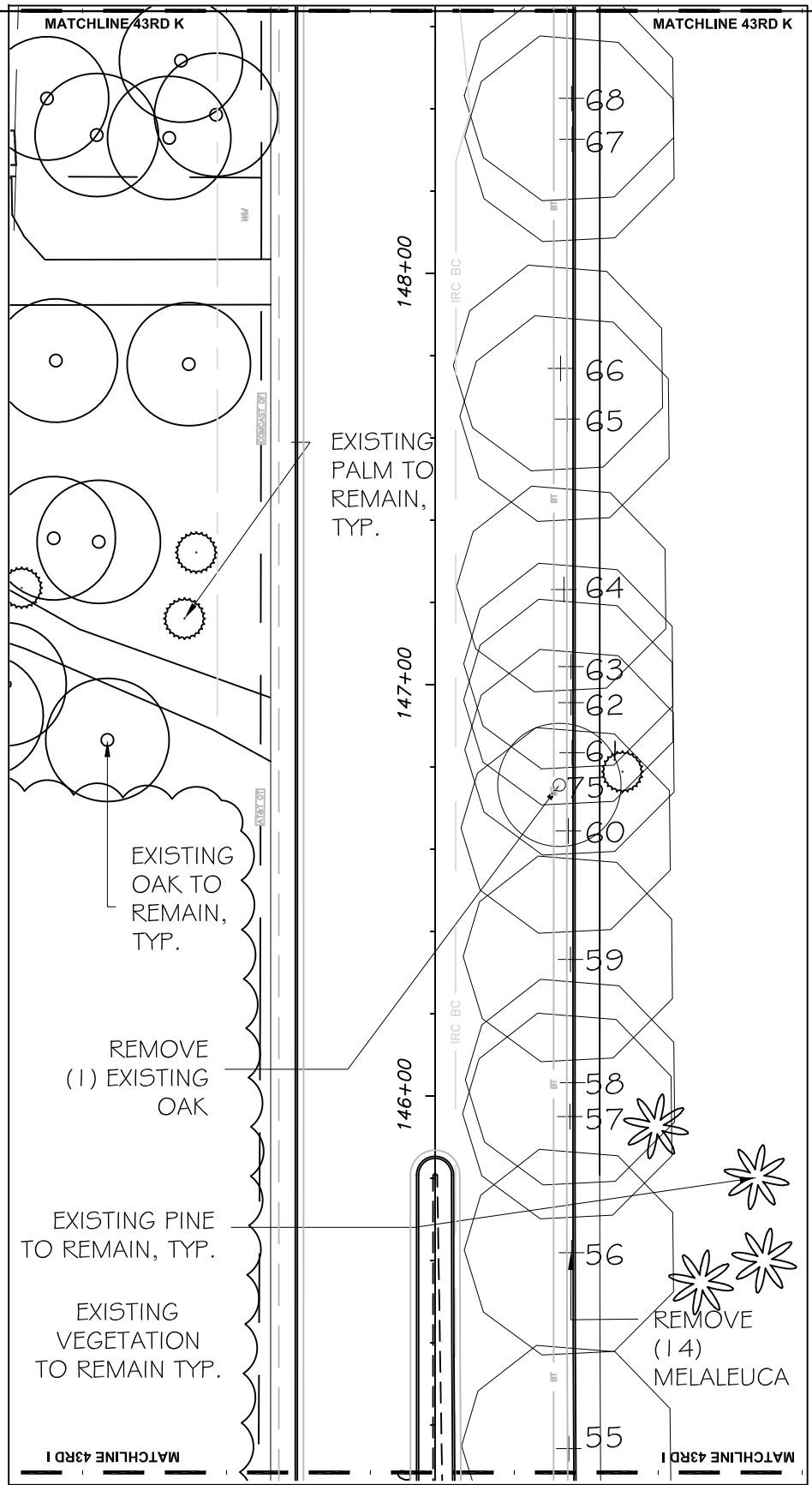
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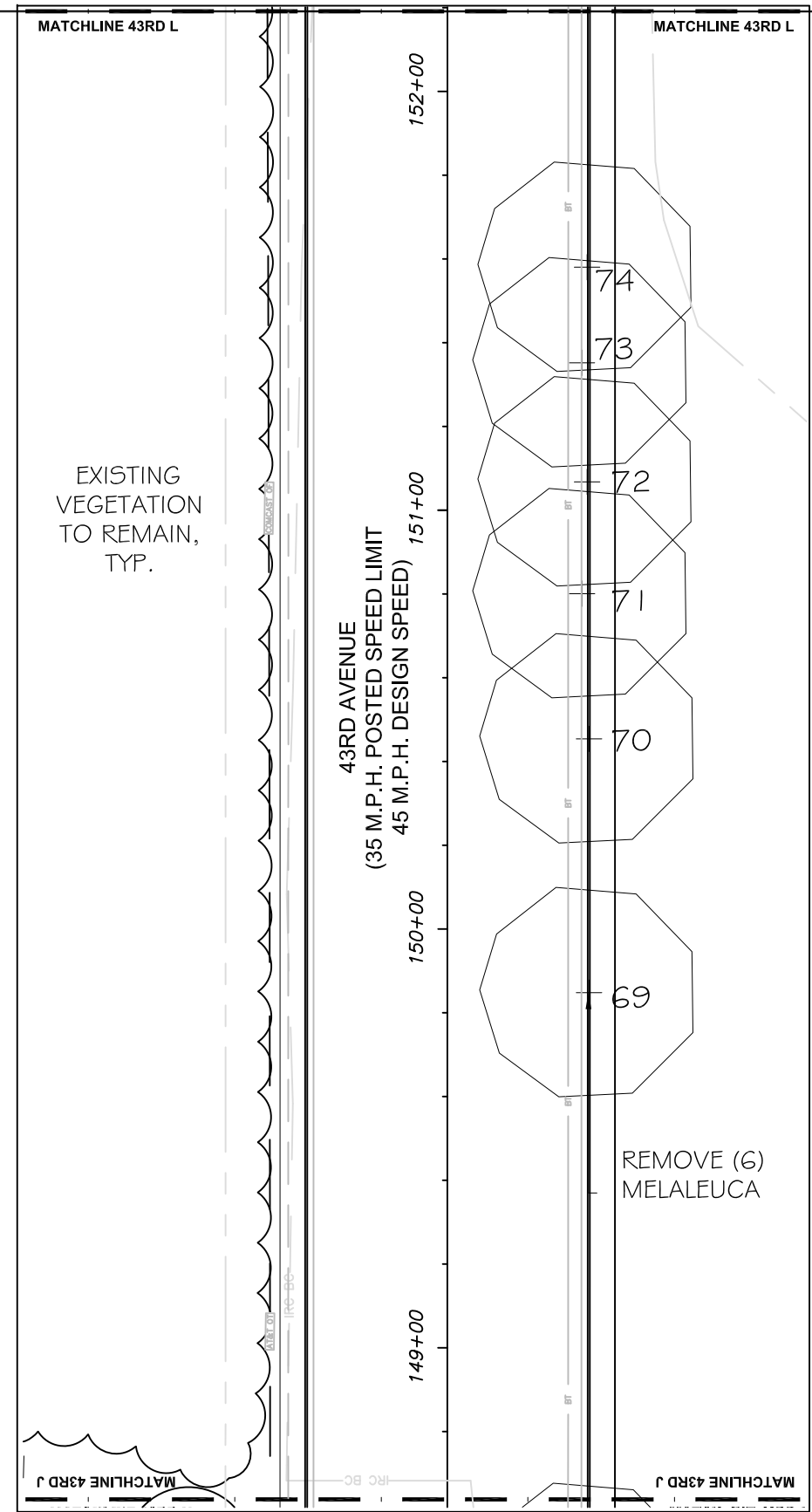
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 43RD AVENUE

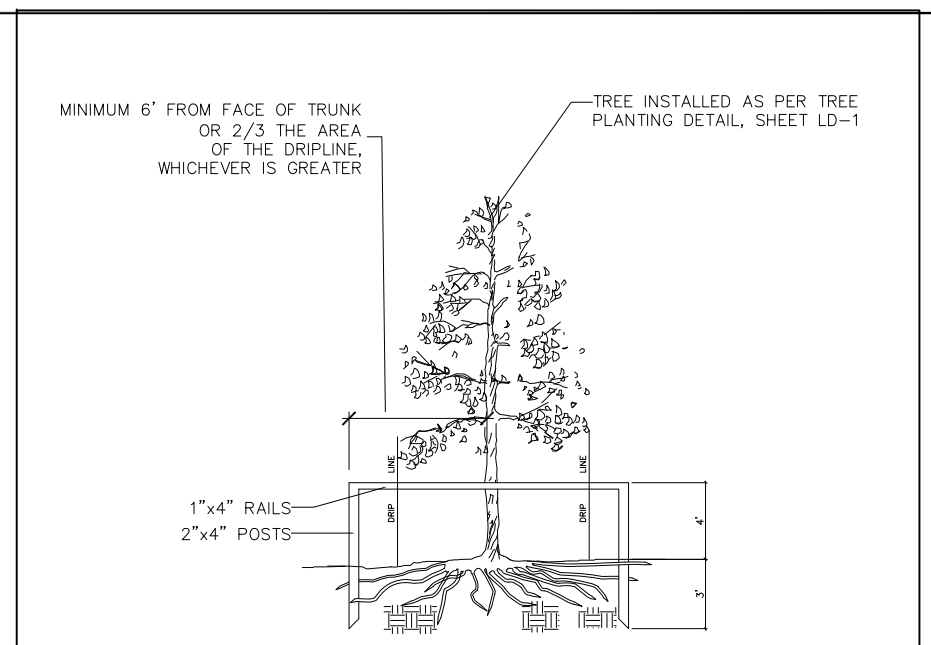
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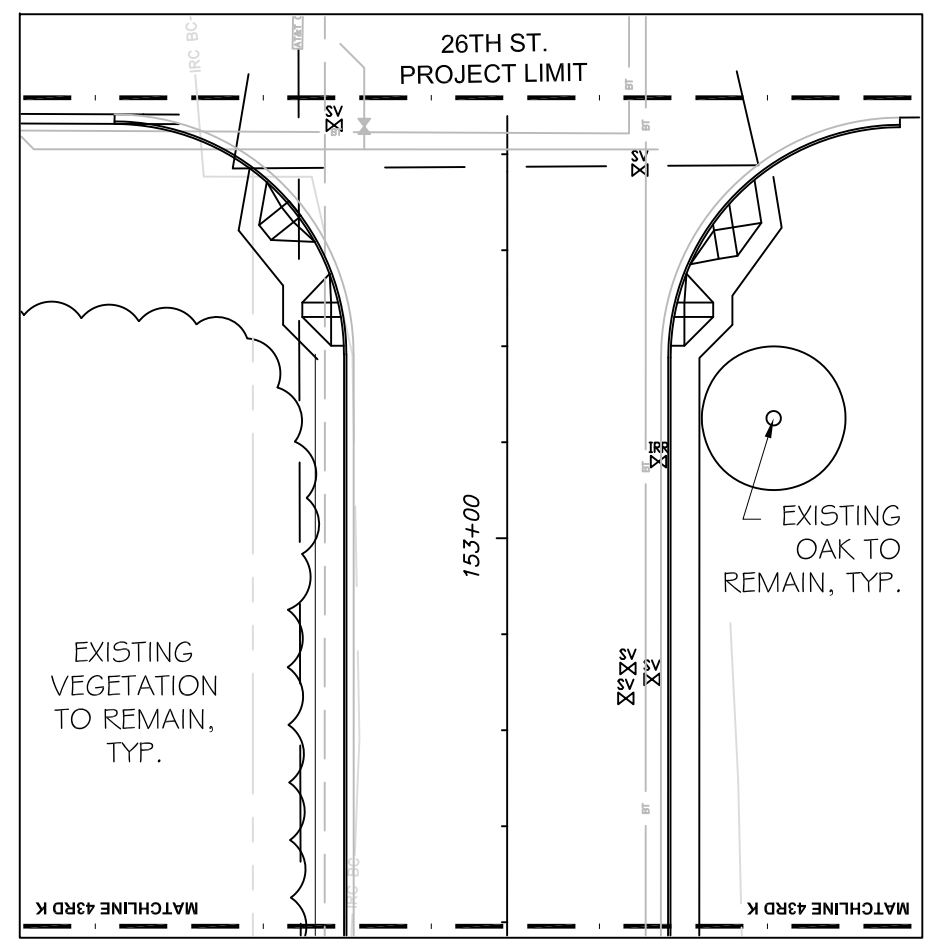
SHEET J



SHEET K



TREE PROTECTION DETAIL (NOT TO SCALE)



SHEET L

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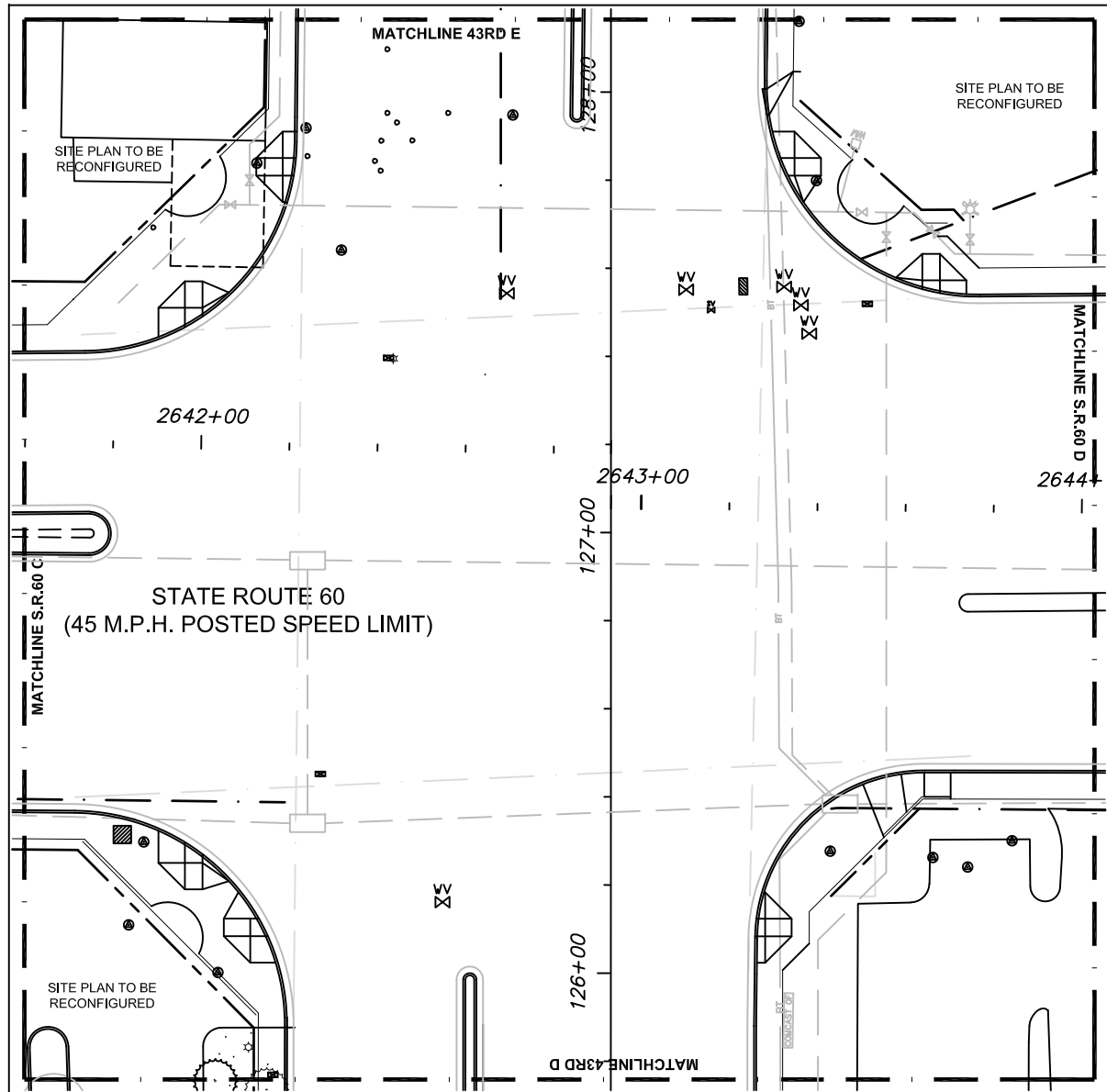
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 Engineering Division

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 Approved: CRF
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 Field Book No:

Project: 100%
 DEMOLITION & TRANSPLANT PLAN
 FOR
 STATE ROUTE 60
 &
 43RD AVENUE

Sheet: DT-6
 Of: DT-7
 FDOT FIN:
 431759-2-54-01
 Project No.
 IRC# 0512
 LNW# WP1027

NO REMOVALS THIS SHEET



SHEET INT.

43RD AVENUE EXISTING TREE SCHEDULE*

NO.	D.B.H.	BOTANICAL NAME	COMMON NAME	ACTION	EXISTING LOCATION	NOTES
1	12"	SABAL PALMETTO	SABAL PALM	REMOVE	DT-3; SHEET A	
2	10"	SABAL PALMETTO	SABAL PALM	REMOVE	DT-3; SHEET B	
3	14"	SABAL PALMETTO	SABAL PALM	REMOVE	DT-3; SHEET B	
4	22"	SABAL PALMETTO	SABAL PALM	REMOVE	DT-3; SHEET B	
5	8"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-3; SHEET C	
6	18"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-3; SHEET C	
7	4"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-3; SHEET C	
8	4"	UNKNOWN	BRUSH	REMOVE	DT-3; SHEET C	
9	10"	SABAL PALMETTO	SABAL PALM	REMOVE	DT-3; SHEET C	
10	4"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-3; SHEET C	
11	4"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-3; SHEET C	
12	12"	SABAL PALMETTO	SABAL PALM	REMOVE	DT-3; SHEET C	
13	12"	SABAL PALMETTO	SABAL PALM	REMOVE	DT-3; SHEET C	
14	18"	SABAL PALMETTO	SABAL PALM	REMOVE	DT-3; SHEET C	
15	8"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-3; SHEET C	
16	6"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-4; SHEET D	
17	22"	SABAL PALMETTO	SABAL PALM	REMOVE	DT-4; SHEET D	
18	18"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-4; SHEET F	
19	32"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-4; SHEET F	
20	24"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET G	INVASIVE EXOCTIC
21	24"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET G	INVASIVE EXOCTIC
22	24"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET G	INVASIVE EXOCTIC
23	24"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET G	INVASIVE EXOCTIC
24	24"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET G	INVASIVE EXOCTIC
25	24"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET G	INVASIVE EXOCTIC
26	24"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET G	INVASIVE EXOCTIC
27	24"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET G	INVASIVE EXOCTIC
28	24"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET G	INVASIVE EXOCTIC
29	24"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET G	INVASIVE EXOCTIC
30	30"	PINUS ELLIOTTII	SLASH PINE	REMOVE	DT-5; SHEET G	
31	24"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET H	INVASIVE EXOCTIC
32	24"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET H	INVASIVE EXOCTIC
33	16"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET H	INVASIVE EXOCTIC
34	30"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-5; SHEET H	
35	24"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET H	INVASIVE EXOCTIC
36	30"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET H	INVASIVE EXOCTIC
37	30"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET H	INVASIVE EXOCTIC
38	16"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET H	INVASIVE EXOCTIC
39	24"	PINUS ELLIOTTII	SLASH PINE	REMOVE	DT-5; SHEET H	
40	28"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET H	INVASIVE EXOCTIC
41	32"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET H	INVASIVE EXOCTIC
42	32"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-5; SHEET H	
43	22"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET H	INVASIVE EXOCTIC
44	38"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET H	INVASIVE EXOCTIC
45	26"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-5; SHEET I	
46	28"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-5; SHEET I	
47	26"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET I	INVASIVE EXOCTIC
48	18"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET I	INVASIVE EXOCTIC
49	24"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET I	INVASIVE EXOCTIC
50	30"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET I	INVASIVE EXOCTIC
51	30"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET I	INVASIVE EXOCTIC
52	30"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET I	INVASIVE EXOCTIC
53	30"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET I	INVASIVE EXOCTIC
54	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-5; SHEET I	INVASIVE EXOCTIC	
55	24"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-6; SHEET J	INVASIVE EXOCTIC
56	36"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-6; SHEET J	INVASIVE EXOCTIC
57	36"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-6; SHEET J	INVASIVE EXOCTIC
58	36"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-6; SHEET J	INVASIVE EXOCTIC
59	36"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-6; SHEET J	INVASIVE EXOCTIC
60	32"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-6; SHEET J	INVASIVE EXOCTIC
61	28"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-6; SHEET J	INVASIVE EXOCTIC
62	24"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-6; SHEET J	INVASIVE EXOCTIC
63	24"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-6; SHEET J	INVASIVE EXOCTIC
64	24"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-6; SHEET J	INVASIVE EXOCTIC
65	36"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-6; SHEET J	INVASIVE EXOCTIC
66	36"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-6; SHEET J	INVASIVE EXOCTIC
67	36"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-6; SHEET J	INVASIVE EXOCTIC
68	36"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-6; SHEET J	INVASIVE EXOCTIC
69	36"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-6; SHEET K	INVASIVE EXOCTIC
70	36"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-6; SHEET K	INVASIVE EXOCTIC
71	36"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-6; SHEET K	INVASIVE EXOCTIC
72	36"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-6; SHEET K	INVASIVE EXOCTIC
73	36"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-6; SHEET K	INVASIVE EXOCTIC
74	36"	MELALEUCA QUINQUENERVIA	MELALEUCA	REMOVE	DT-6; SHEET K	INVASIVE EXOCTIC
75	24"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-6; SHEET I	

STATE ROAD 60 EXISTING TREE SCHEDULE*

PAY ITEM #	NO.	D.B.H.	BOTANICAL NAME	COMMON NAME	ACTION	EXISTING LOCATION	NEW LOCATION	NOTES
	76		QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-1; SHEET C		
	77		QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-1; SHEET C		
	78		QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-1; SHEET C		
	79	6"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-1; SHEET D		
	80	8"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-1; SHEET D		
	81	8"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-1; SHEET D		
	82	12"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-1; SHEET D	N/A	
	83	16"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-1; SHEET D		
	84	18"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-1; SHEET D		
	85	18"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-2; SHEET E		
	86	3"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-2; SHEET E		SMALL NEW
	87	3"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-2; SHEET E		SMALL NEW
	88	3"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-2; SHEET E		SMALL NEW
	89	2"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-2; SHEET E		SMALL NEW
	90	36"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-2; SHEET E		HUGE, V CROCH
	91	24"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-2; SHEET E		HUGE, V CROCH
580-24	92	18"	QUERCUS VIRGINIANA	LIVE OAK	TRANSPLANT	DT-2; SHEET E		
	93	24"	QUERCUS VIRGINIANA	LIVE OAK	REMOVE	DT-2; SHEET E		BIG (VINES)

* NOTE: ONLY EXISTING TREES TO BE REMOVED/TRANSPLANTED WERE LISTED ON THE EXISTING TREE SCHEDULES. SEE PLANS FOR EXISTING TREES TO REMAIN.

CONTRACTOR SHALL REVIEW TREES TO BE REMOVED WITH ADJACENT PROPERTY OWNER IN ADEQUATE TIME TO DETERMINE IF ADJACENT PROPERTY OWNER WOULD LIKE TO MOVE TREE INDICATED TO BE REMOVED ELSEWHERE ON THEIR PROPERTY AT THEIR EXPENSE.

AT TIME OF BID, CONTRACTORS SHALL COORDINATE WITH CITY ON LOCATION OF TRANSPLANTED TREE TO CHARLES PARK OFF 24TH AVE AND 15TH STREET.

SEE SPECIFICATIONS FOR TRANSPLANT INFORMATION.

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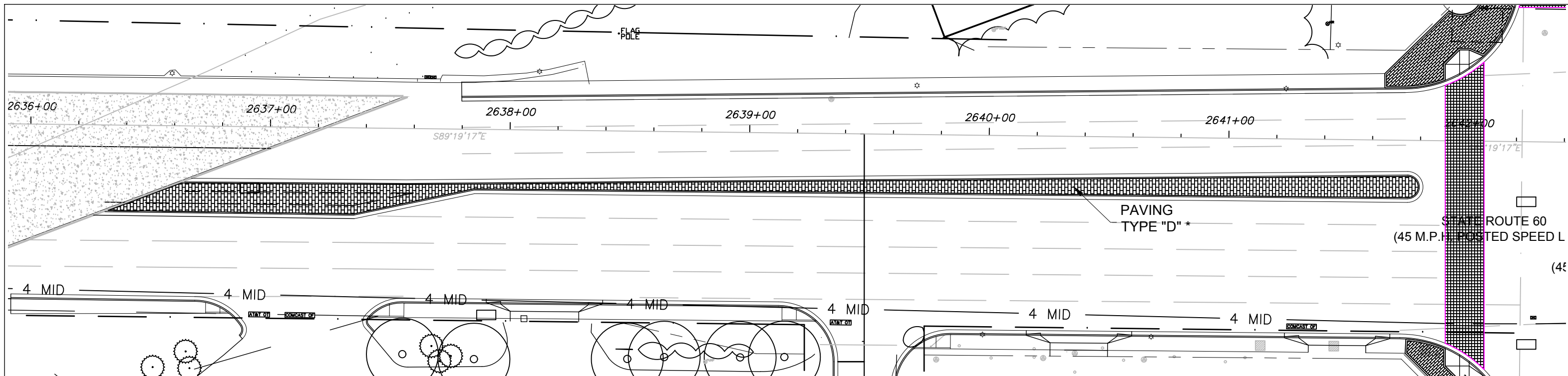
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01	Revisions	CRF	03.02.18
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FLORIDA
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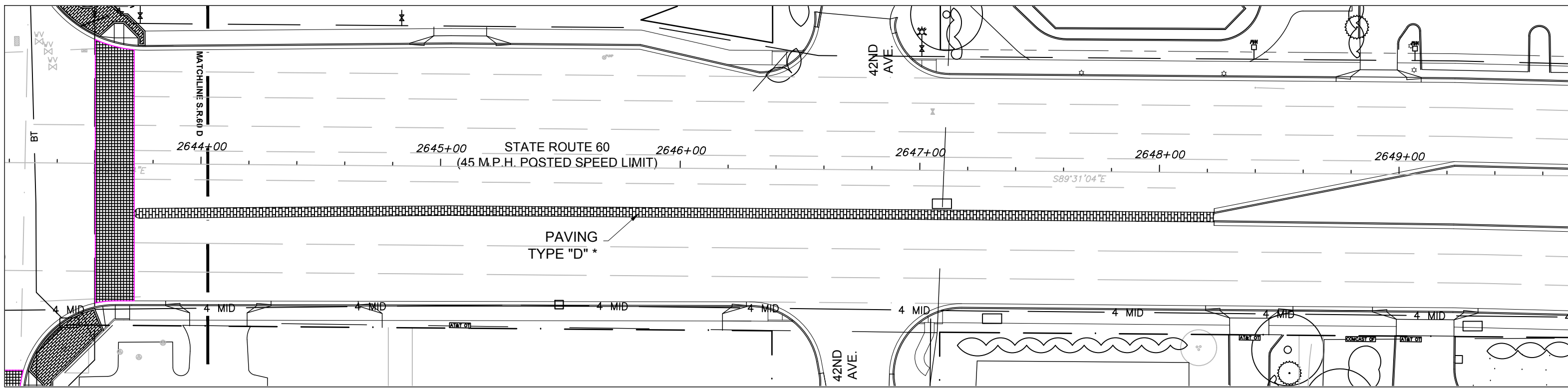
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Field Book No:

Project: 100%
DEMOLITION & TRANSPLANT PLAN
FOR
STATE ROUTE 60
&
43RD AVENUE

Sheet: DT-7
Of: DT-7
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431759-2-54-01
Project No.
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LNW# WP1027



SHEET C




SHEET D

*SEE SHEET LH-7 FOR PAVING MATERIALS SCHEDULE


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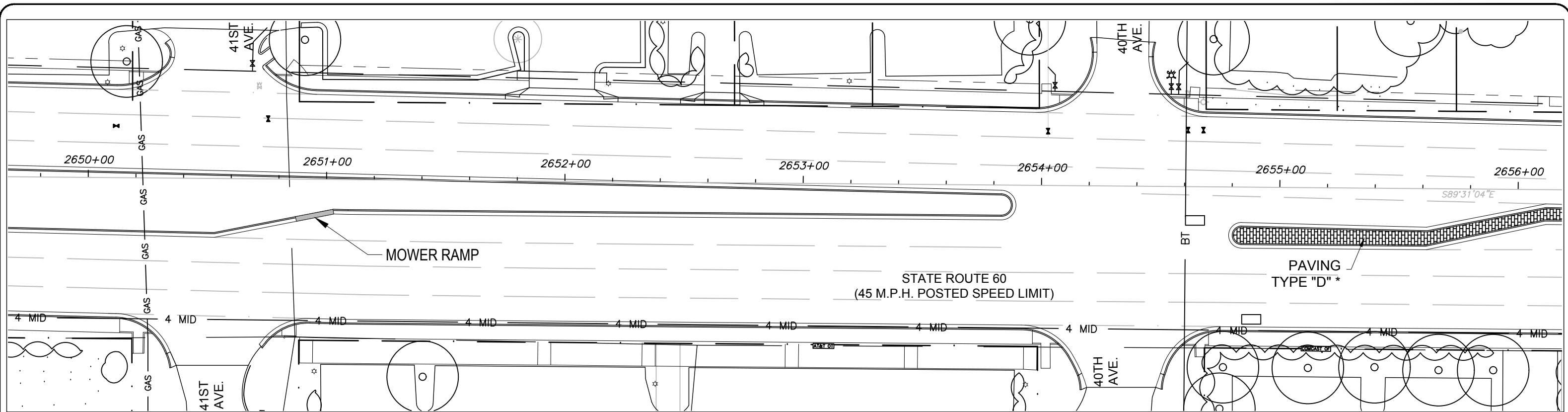

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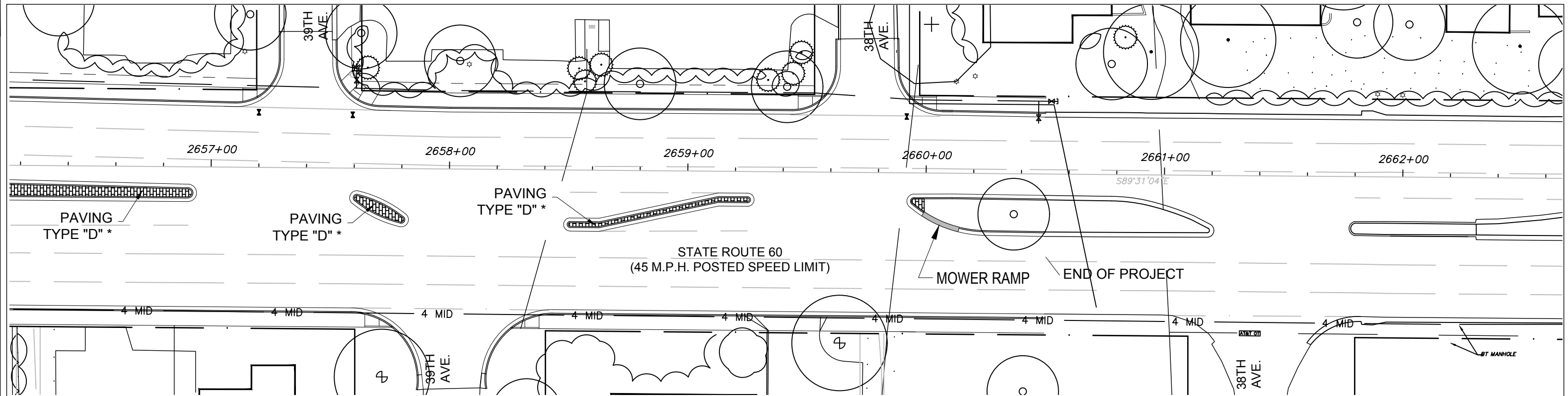
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 HARDSCAPE LAYOUT PLAN
 FOR
 STATE ROUTE 60
 &
 43RD AVENUE

Sheet: LH-1
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SHEET E




SHEET F

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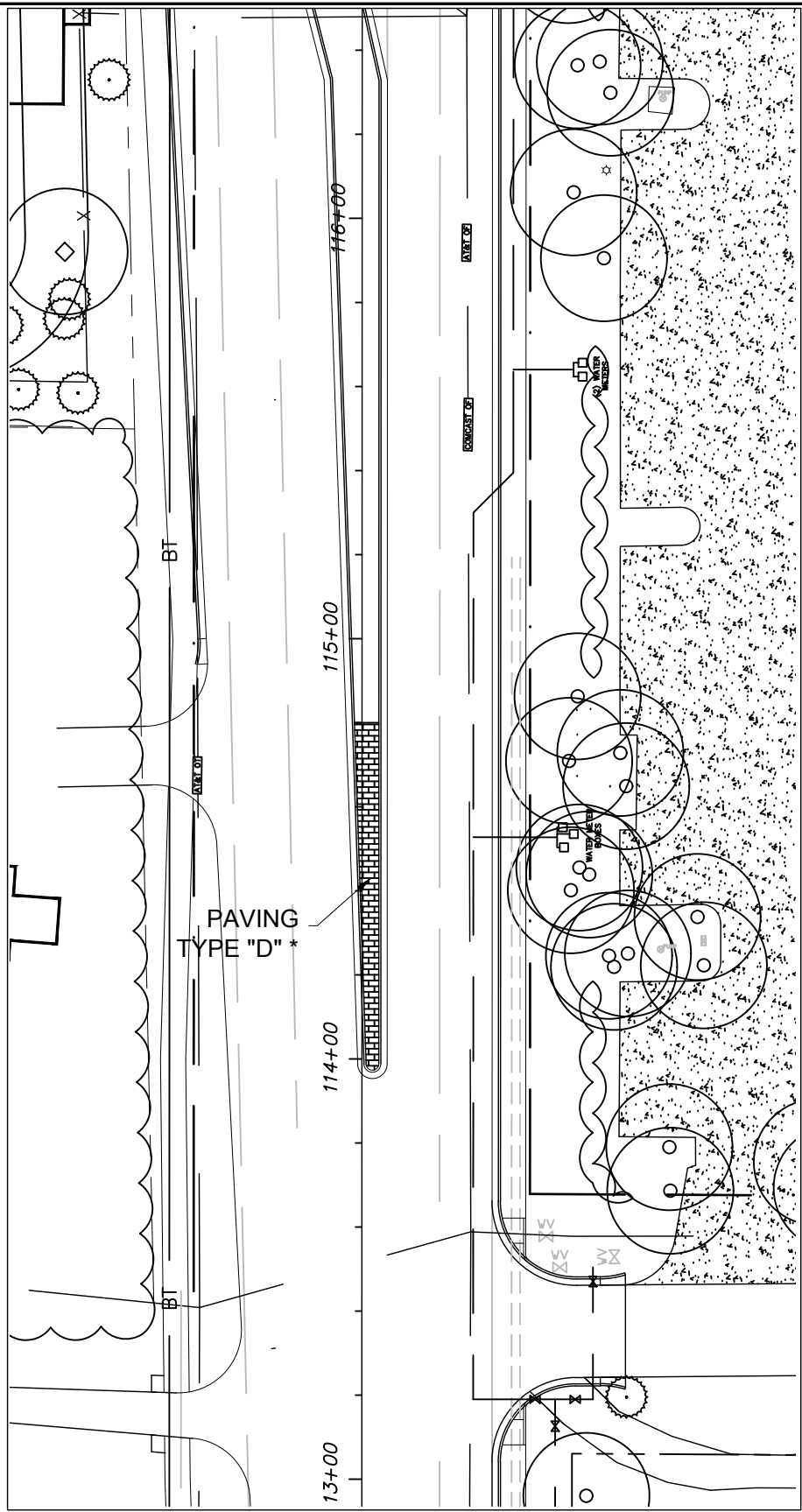

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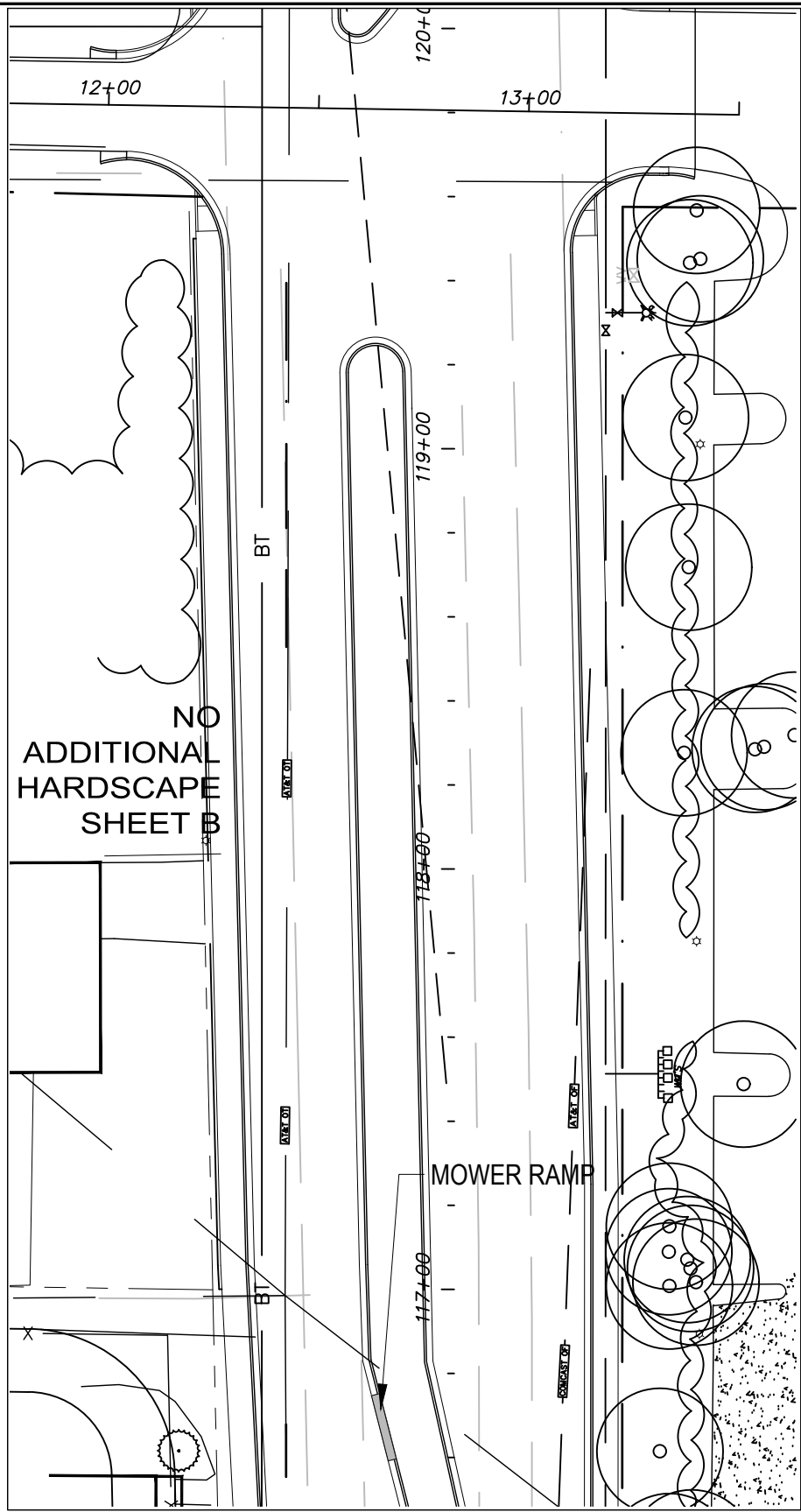
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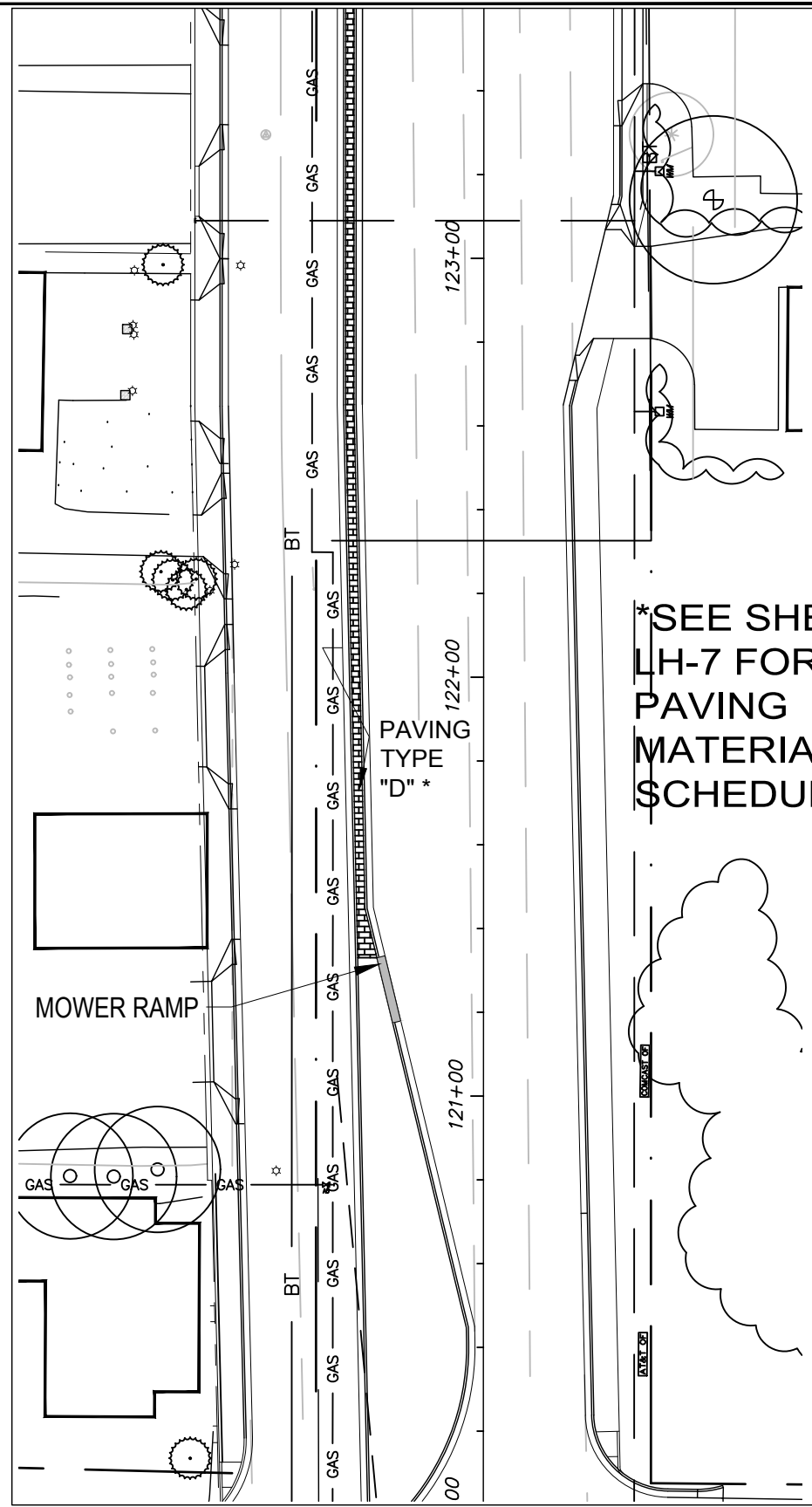
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SHEET A



SHEET B



SHEET C

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HARDSCAPE LAYOUT PLAN

FOR
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&
43RD AVENUE

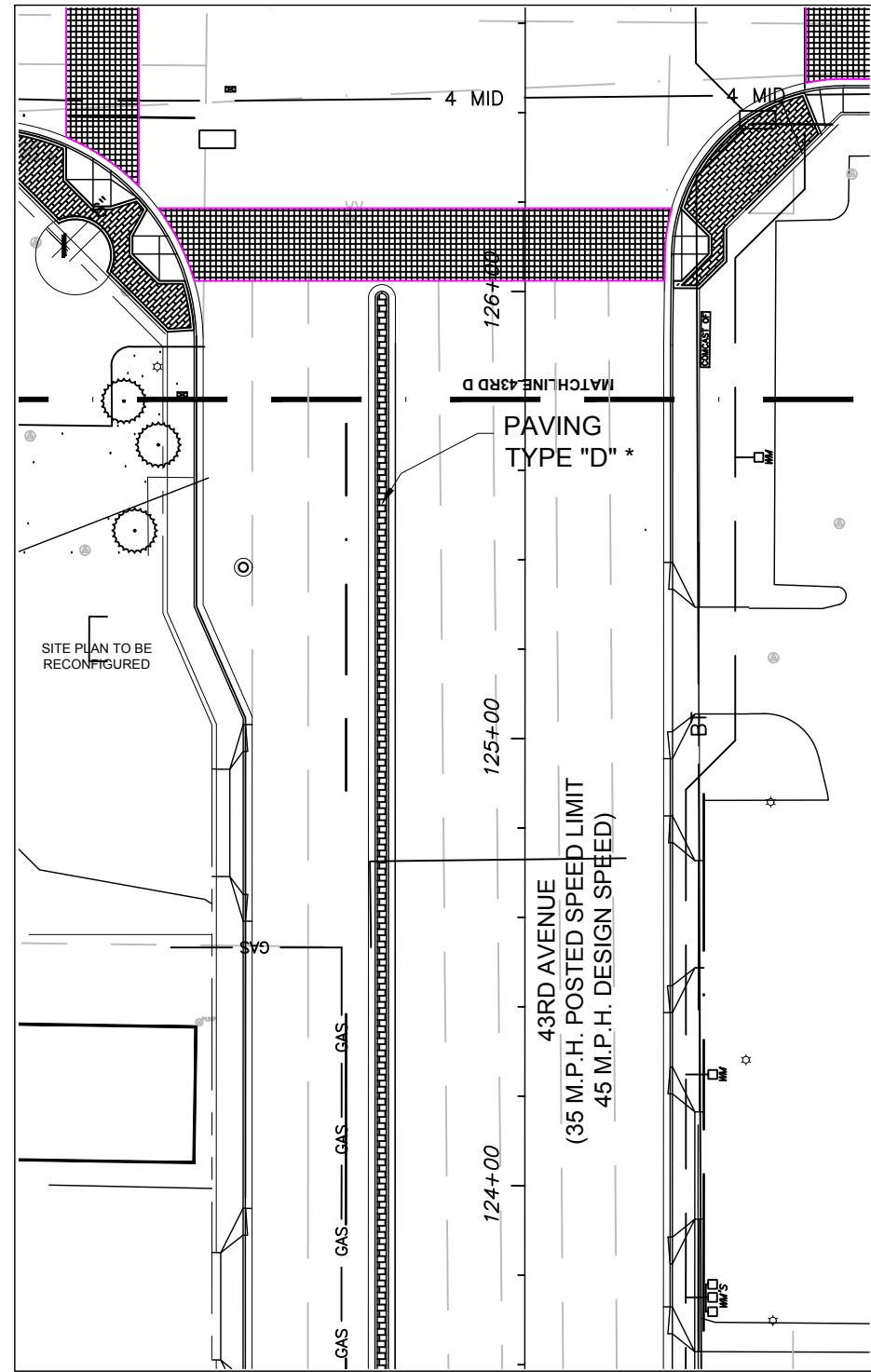
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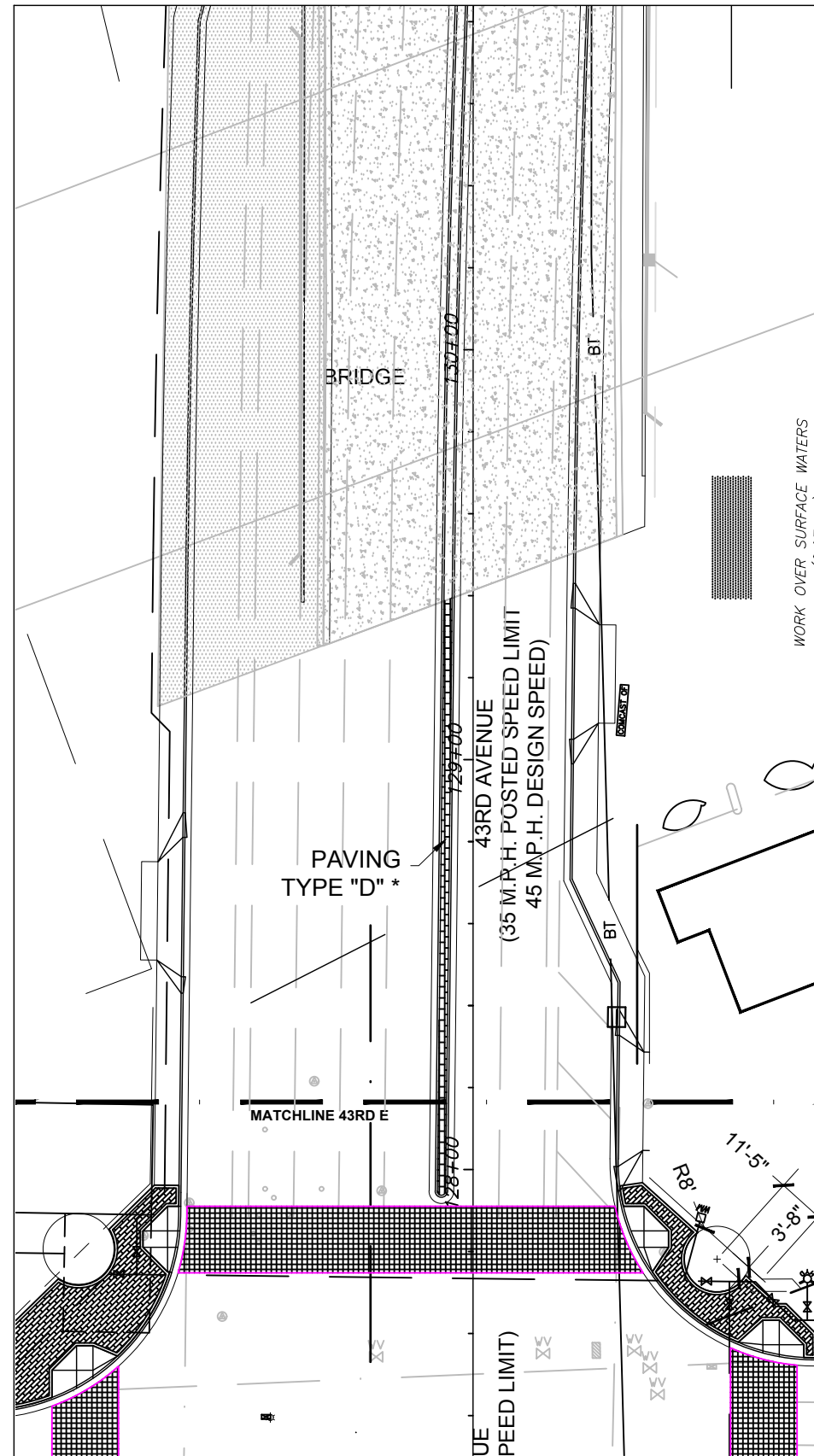
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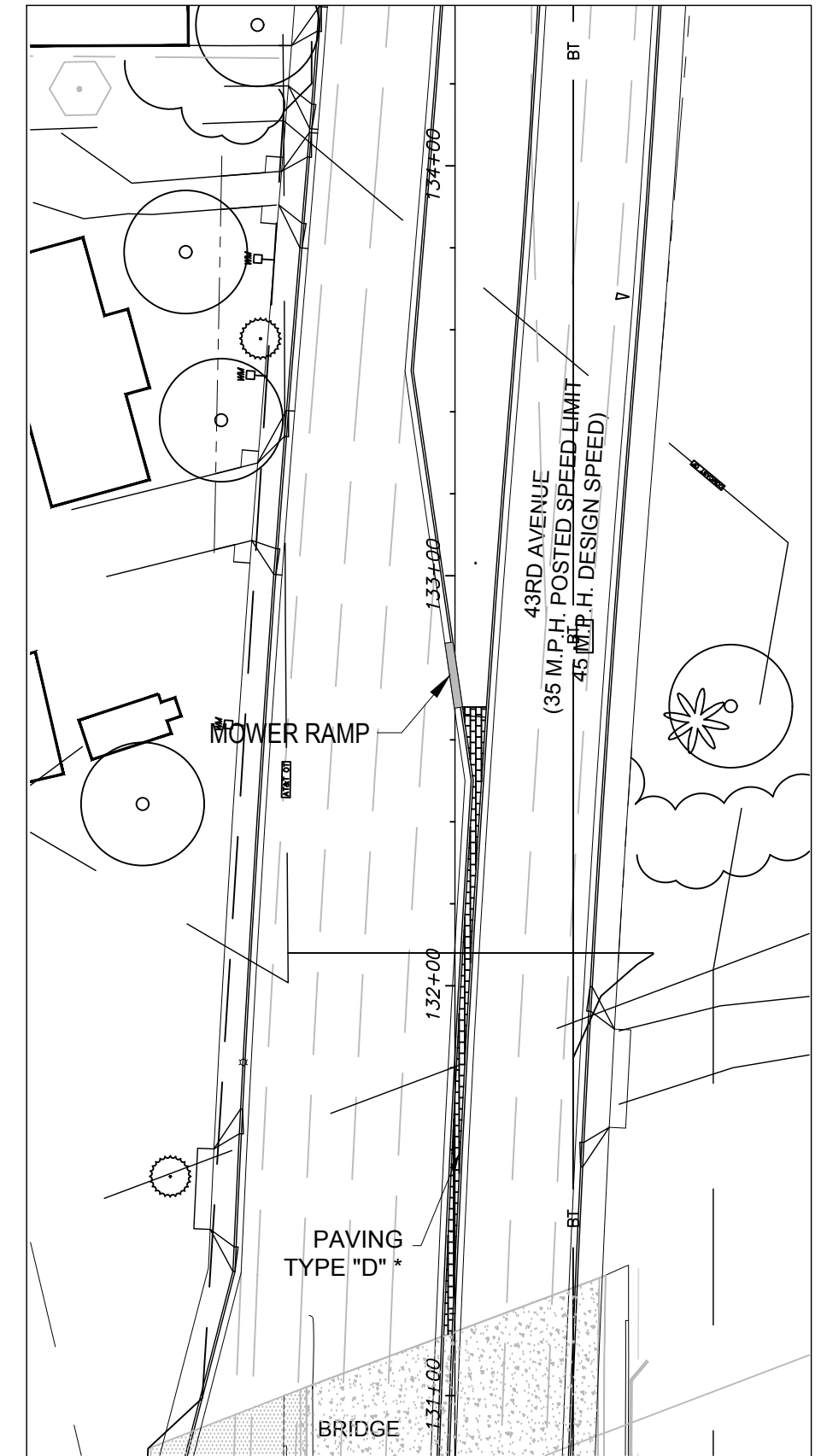
***SEE SHEET LH-7 FOR PAVING MATERIALS SCHEDULE**



SHEET D



SHEET E




SHEET F


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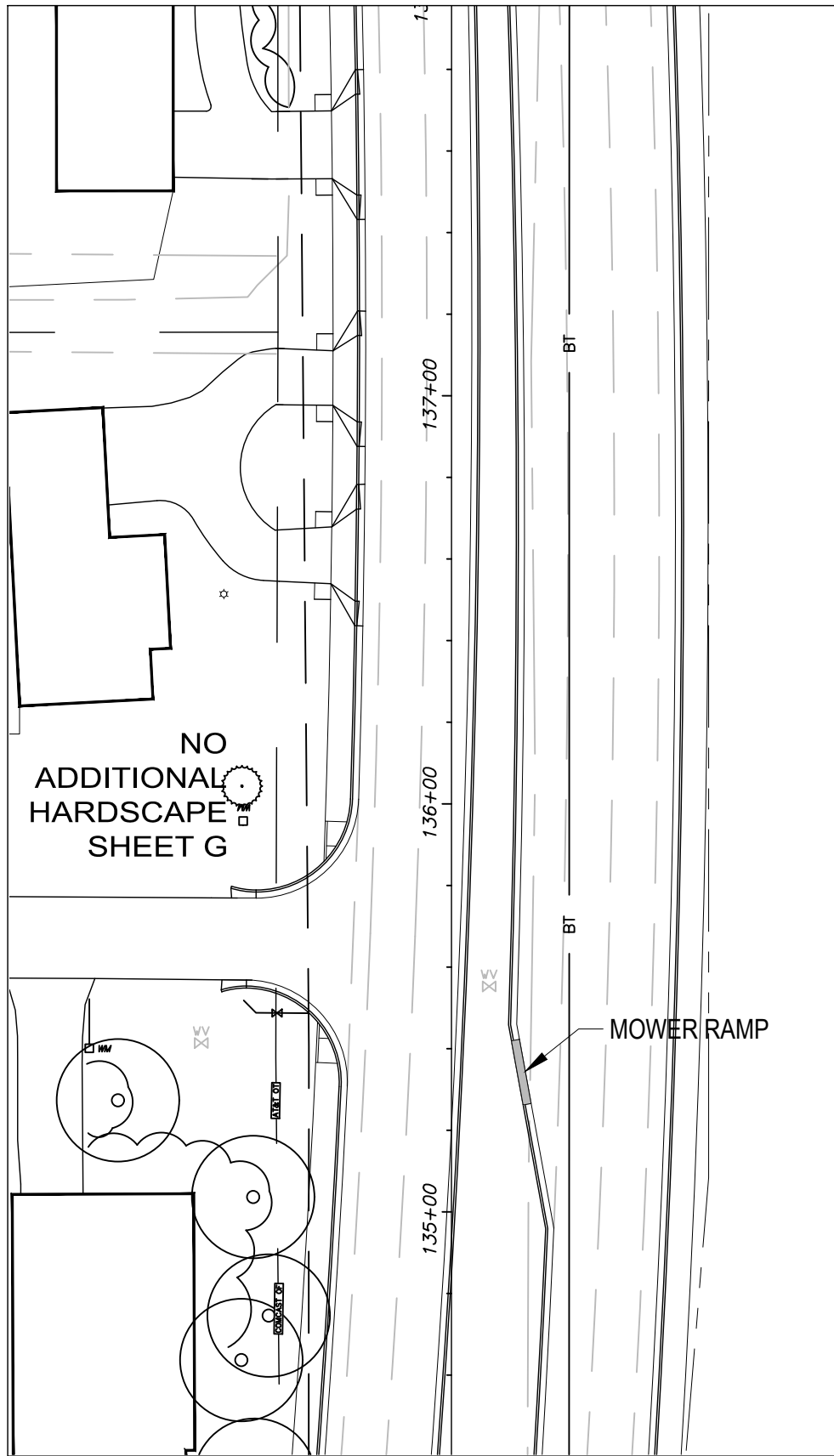

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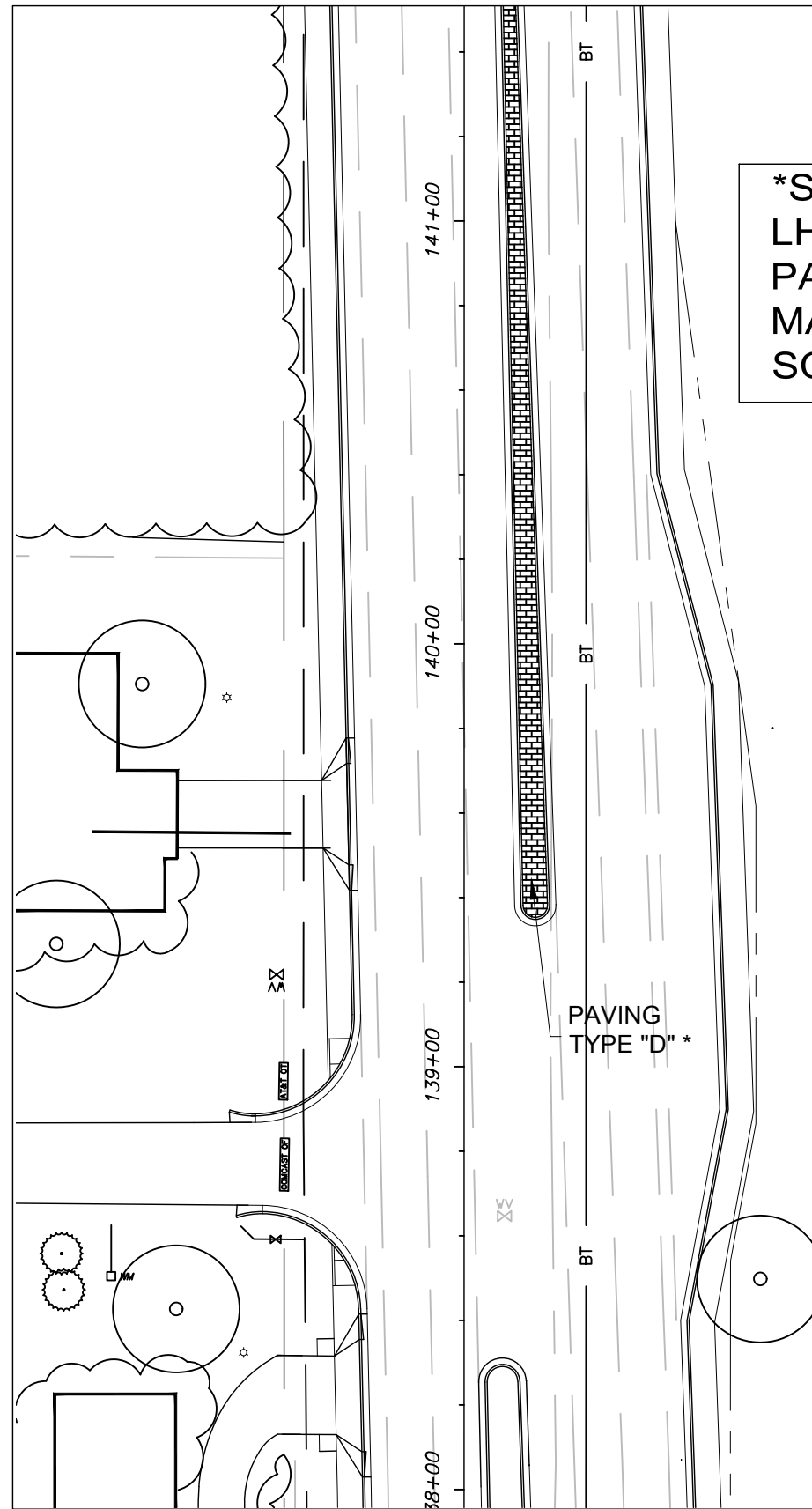
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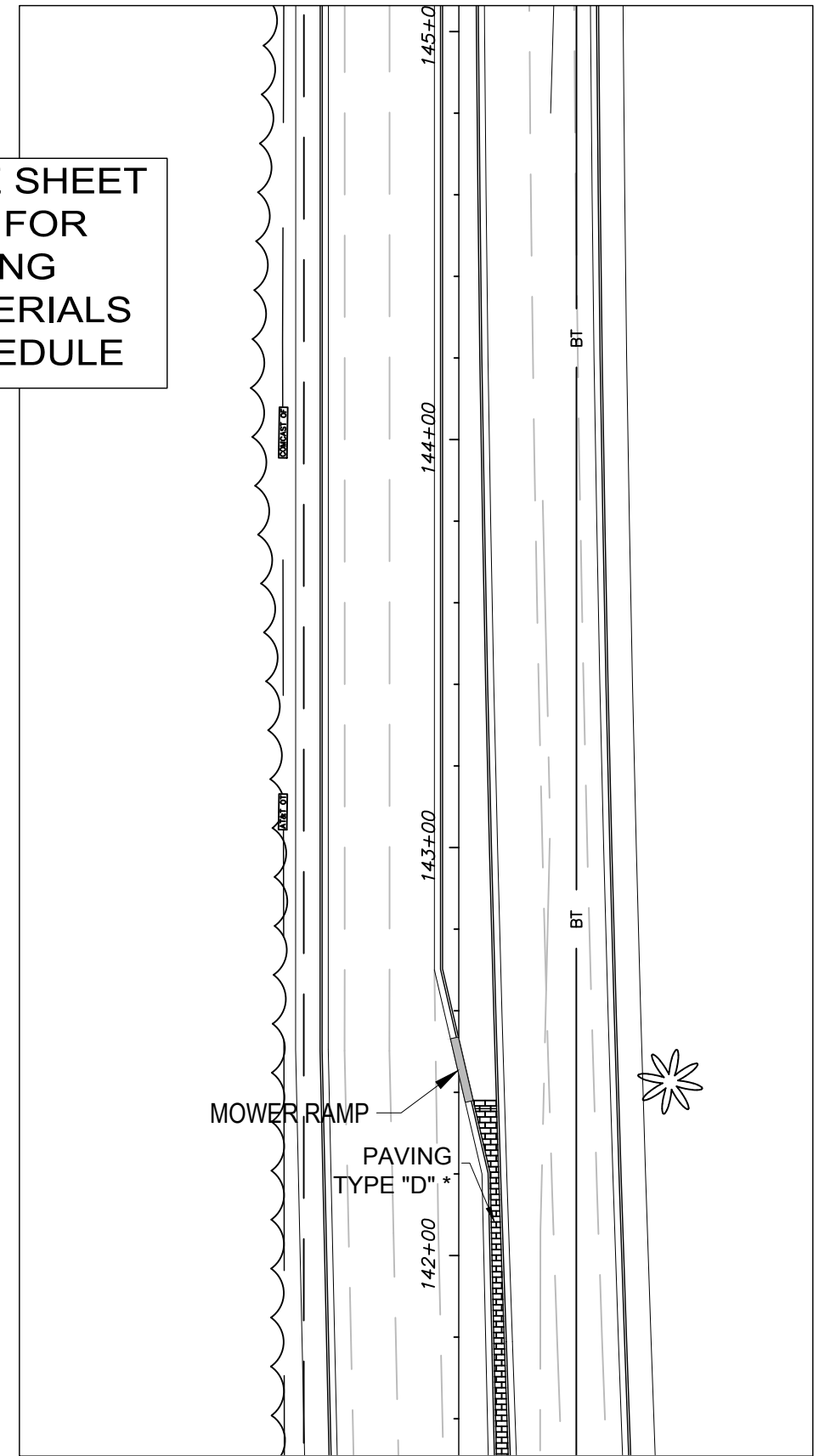
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SHEET G



SHEET H



SHEET I

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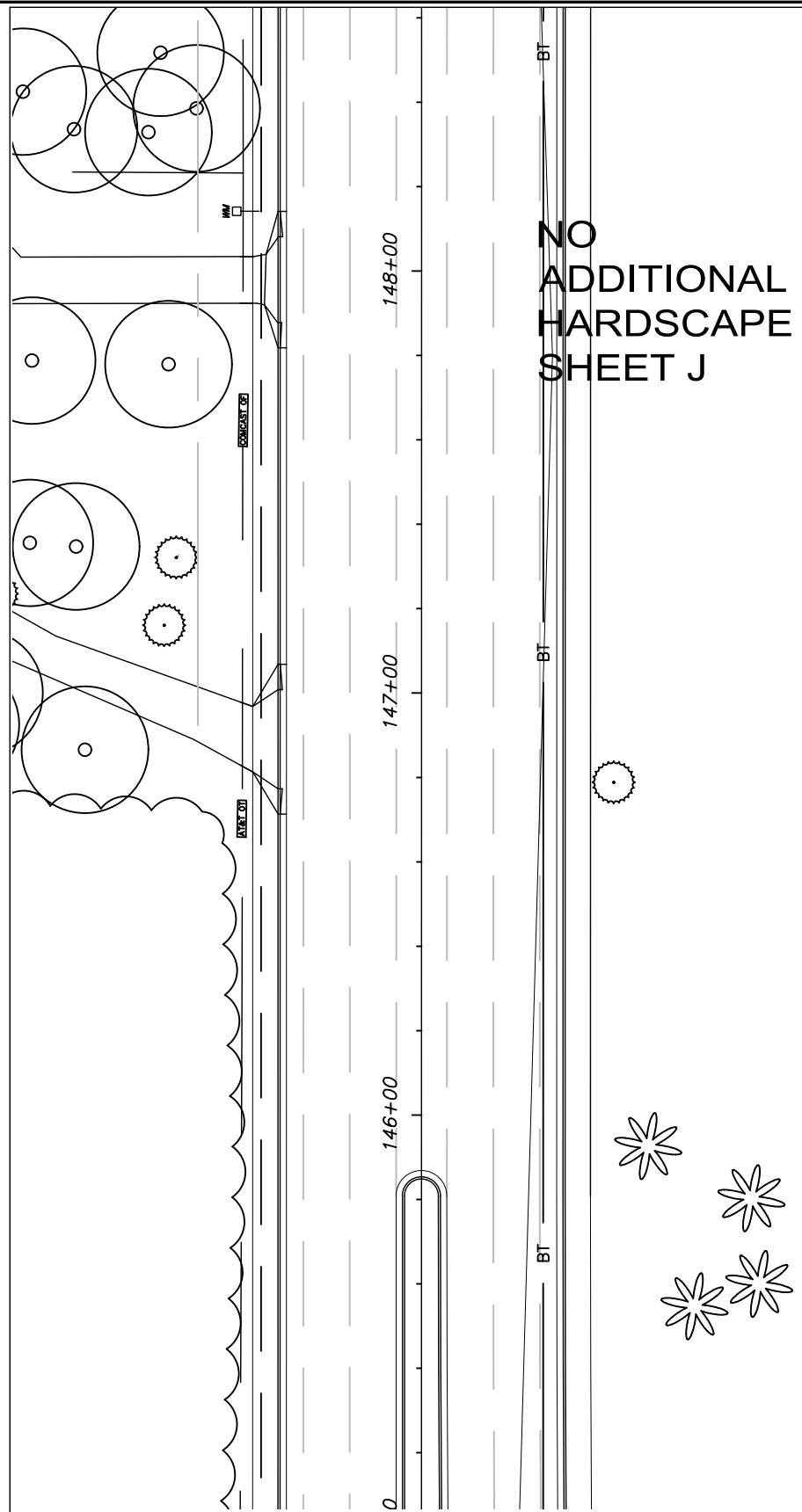
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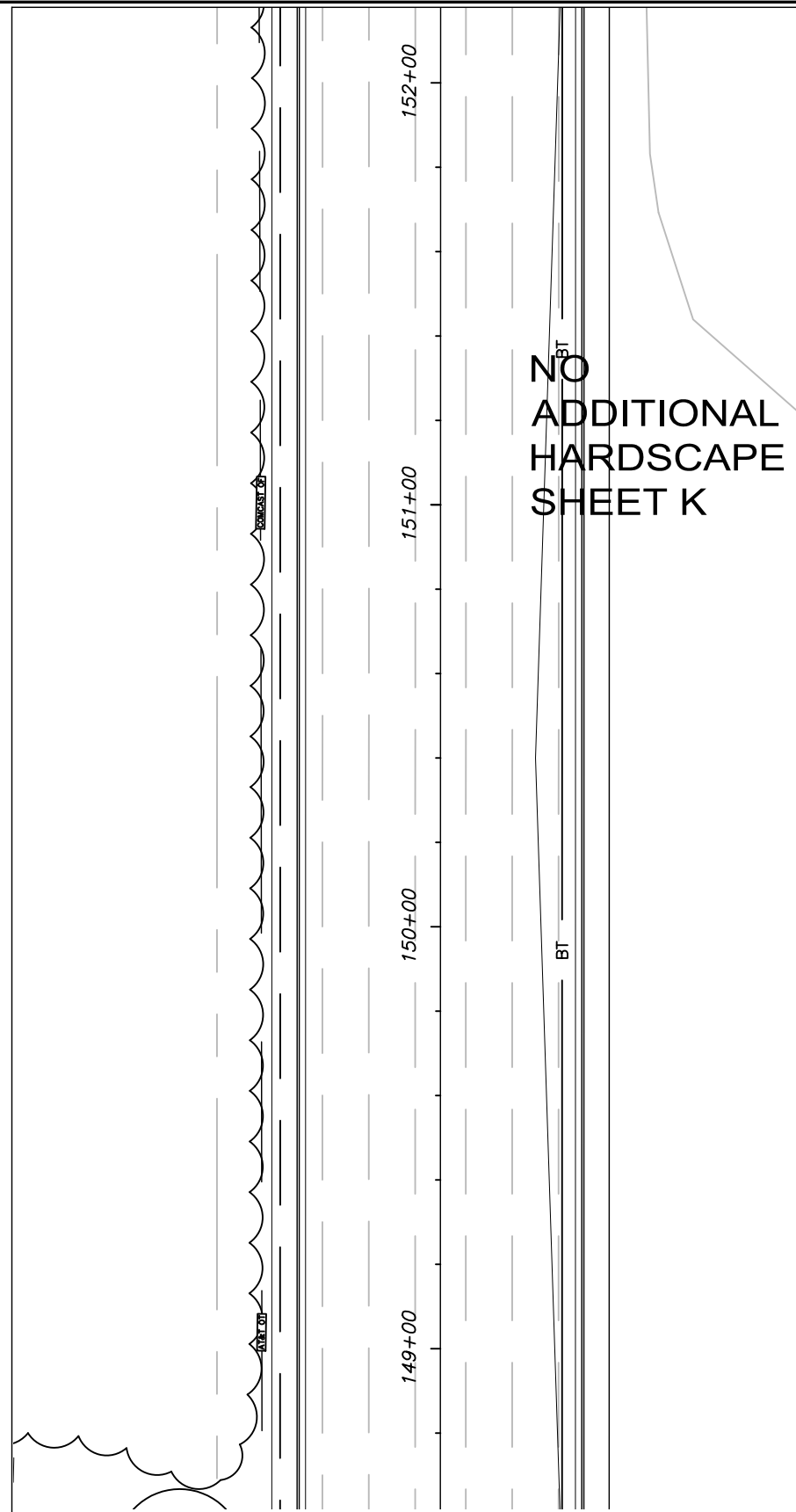
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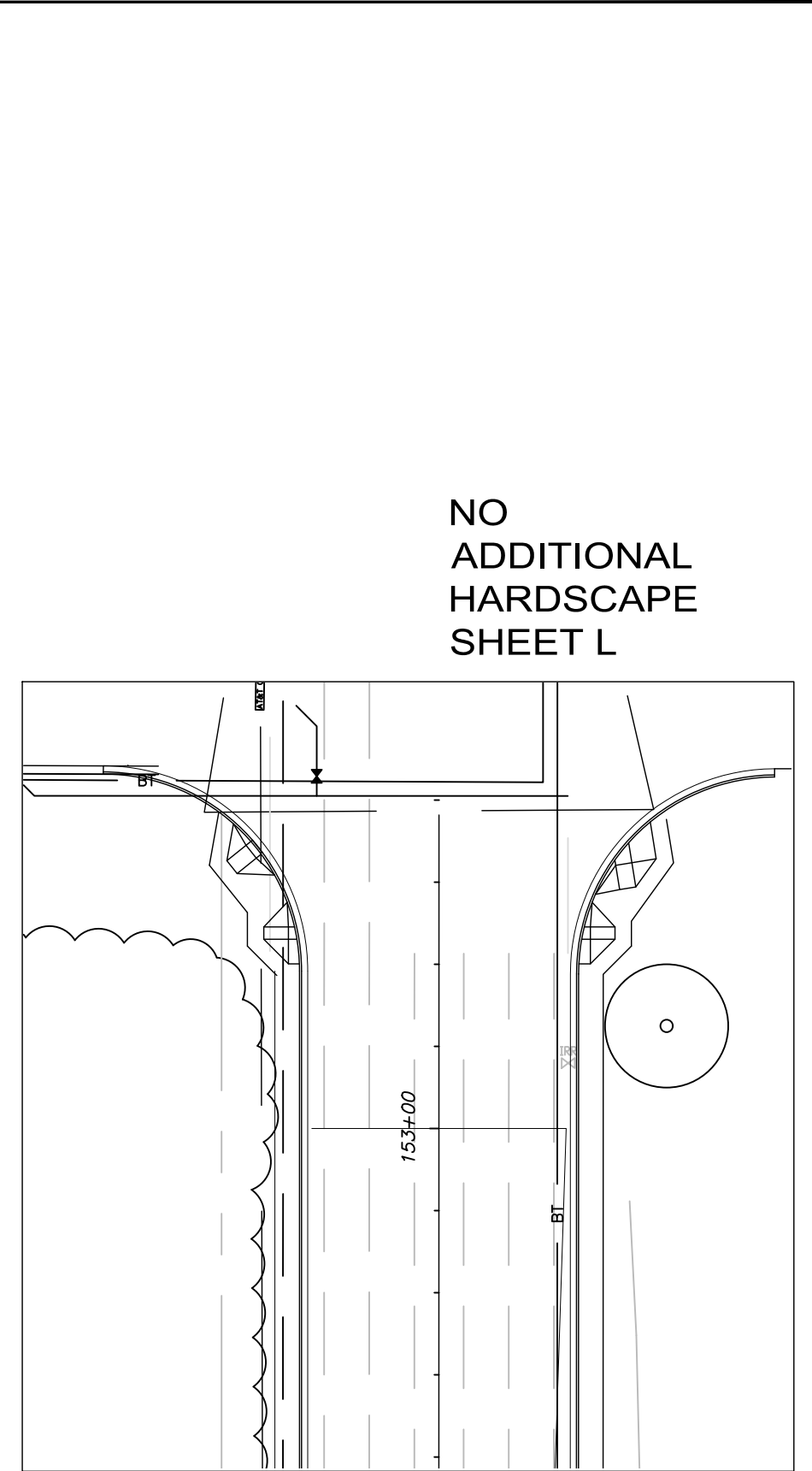
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SHEET J



SHEET K




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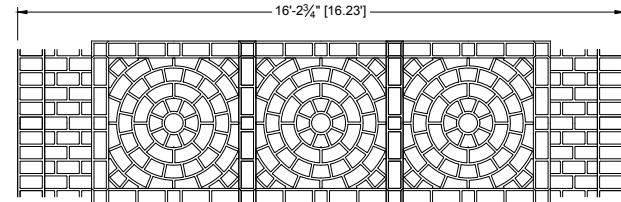
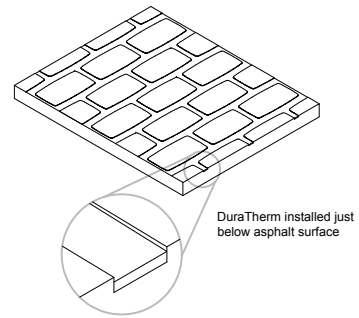
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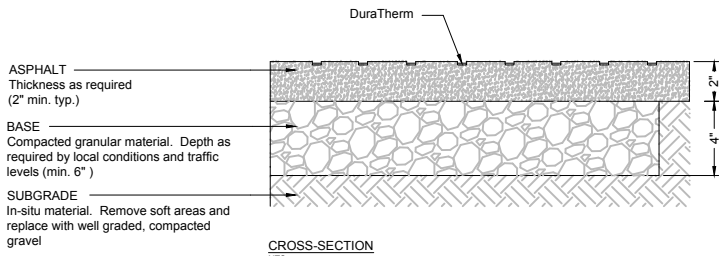
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 LNW# WP1027

PAY ITEM	KEY	QTY	MANUFACTURER	TYPE	COLOR	PATTERN
526-1-2	A	290 SY	BELGARD	HOLLAND 4" X 8" 80 MM	RED, CHESNUT, CHARCOAL	45 DEGREE HERRINGBONE
523-1	C	800 SY	DURATHERM	INTEGRATED PAVING CONCEPTS	CINNAMON	WAGON WHEEL
520-70	D	SEE ENGINEER'S DWG	SCOFIELD SYSTEMS	COLOR TREATED STAMPED CONCRETE	SCOFIELD A-26 BRICK RED	RUNNING BOND BRICK PERPENDICULAR TO ROAD
520-2-13	E	632 LF		HEADER CURB - DETAIL BELOW		

632 LINEAR FT OF HEADER CURB SEE DETAIL BELOW



Paving C Duratherm
no scale



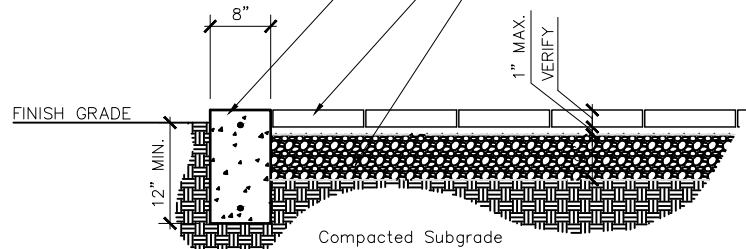
NOTE:
These are typical details only - actual pavement layer thickness should be properly designed by a qualified professional

Paving C Duratherm
no scale

3000 P.S.I. CONCRETE PERIMETER RIBBON WITH TWO NO. 4 REBARS (CONTINUOUS, 2" CLEAR MIN.) AND EXPANSION JOINTS 15' O.C. COLOR AND FINISH TO MATCH SIDEWALKS HEADER CURB SHALL BE INSTALLED ON ALL EDGES OF PAVERS

4"x8" SAND SWEPT CONCRETE PAVER INFIELD LAID AT 45° ON 1" (MAX.) COMPACTED SAND SETTING BED

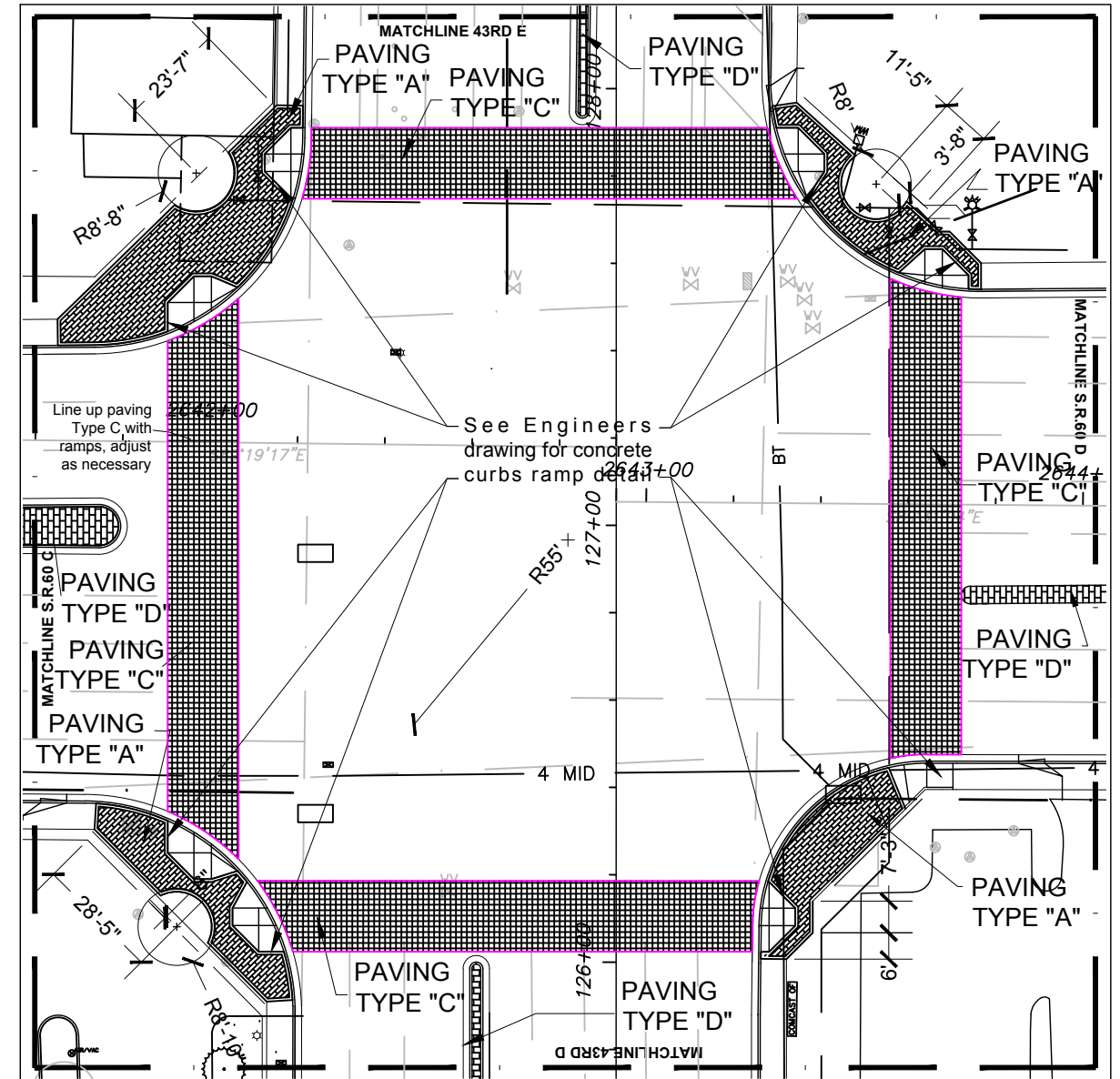
6" COMPACTED ROAD ROCK BASE TO 95% AASHTO



Paving A Pavers with header curb
no scale

NOTES

- See engineer's drawings for overall sidewalk and stamped concrete dimensions.
- Unless otherwise specified, radii are on ROW line
- See engineer's specifications for stamped concrete.



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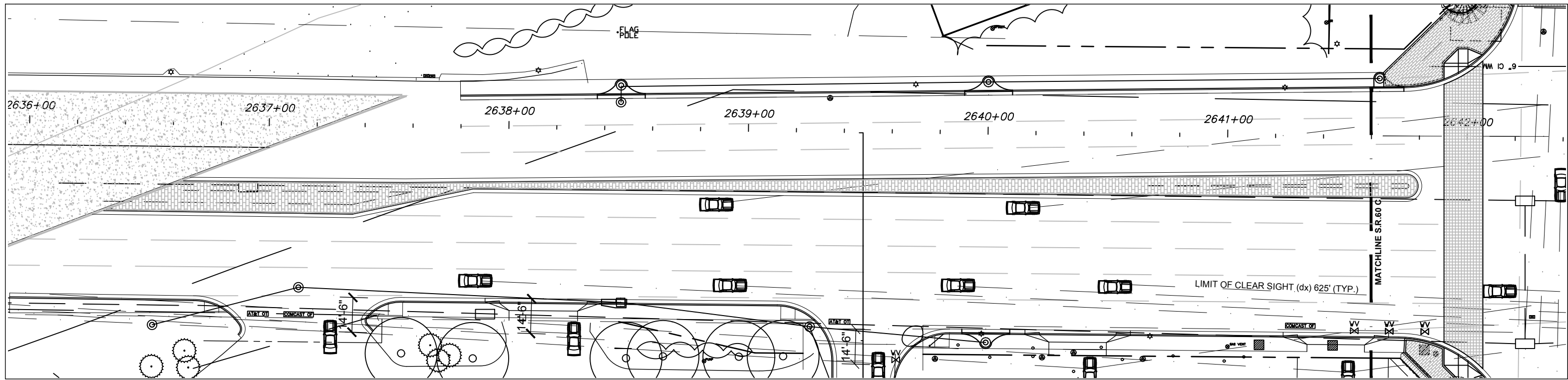
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02	Revisions	CRF	12.13.18

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Department of Public Works
Engineering Division

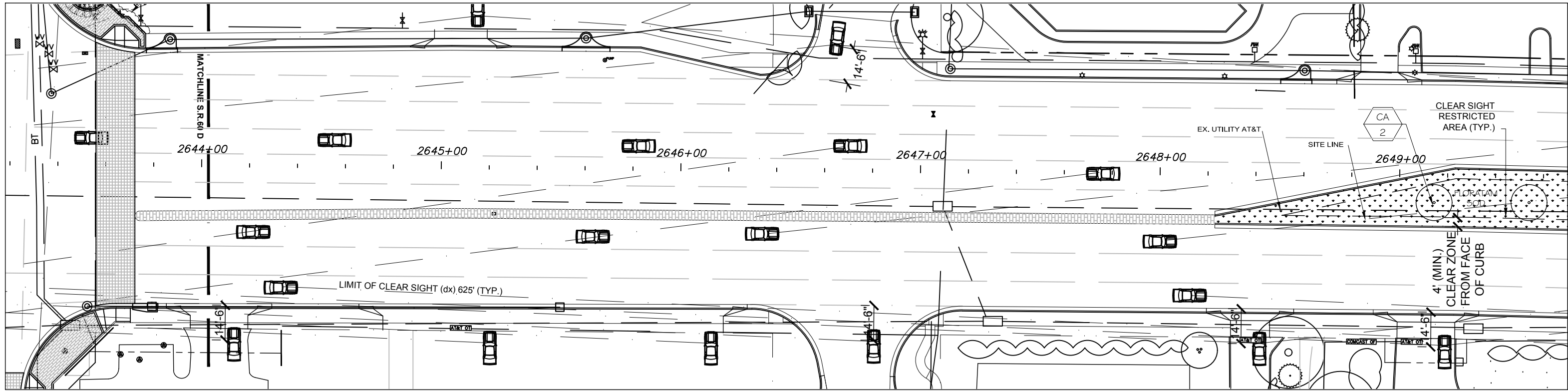
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Drawn: JLD
Checked: CRF
Date: 11/11/17
Field Book No:

Project: 100%
HARDSCAPE LAYOUT PLAN
FOR
STATE ROUTE 60
&
43RD AVENUE

Sheet: LH-7
Of: LH-7
FDOT FIN: 431759-2-54-01
Project No. IRC# 0512 LNW# WP1027



SHEET C




SHEET D


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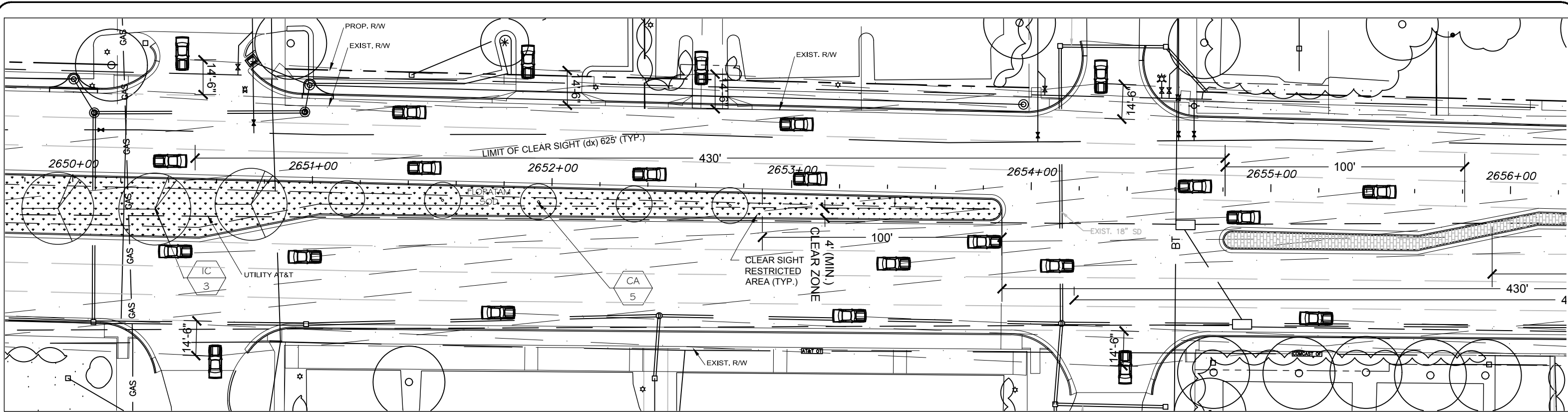
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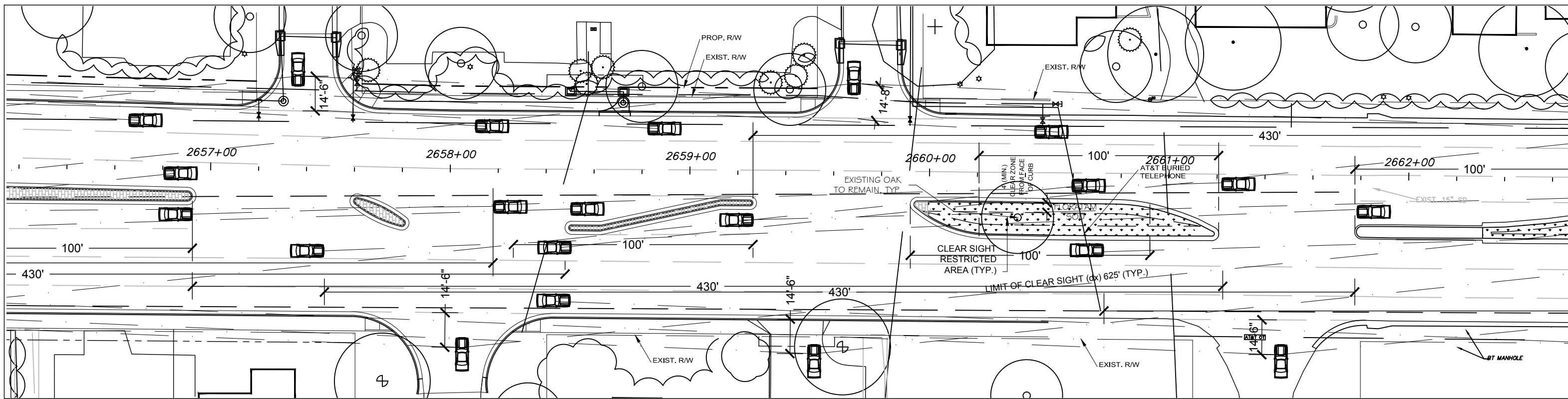
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 Field Book No:

Project: 100% LANDSCAPE PLAN
 FOR STATE ROUTE 60 & 43RD AVENUE


Sheet: LP-1
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SHEET E



SHEET F



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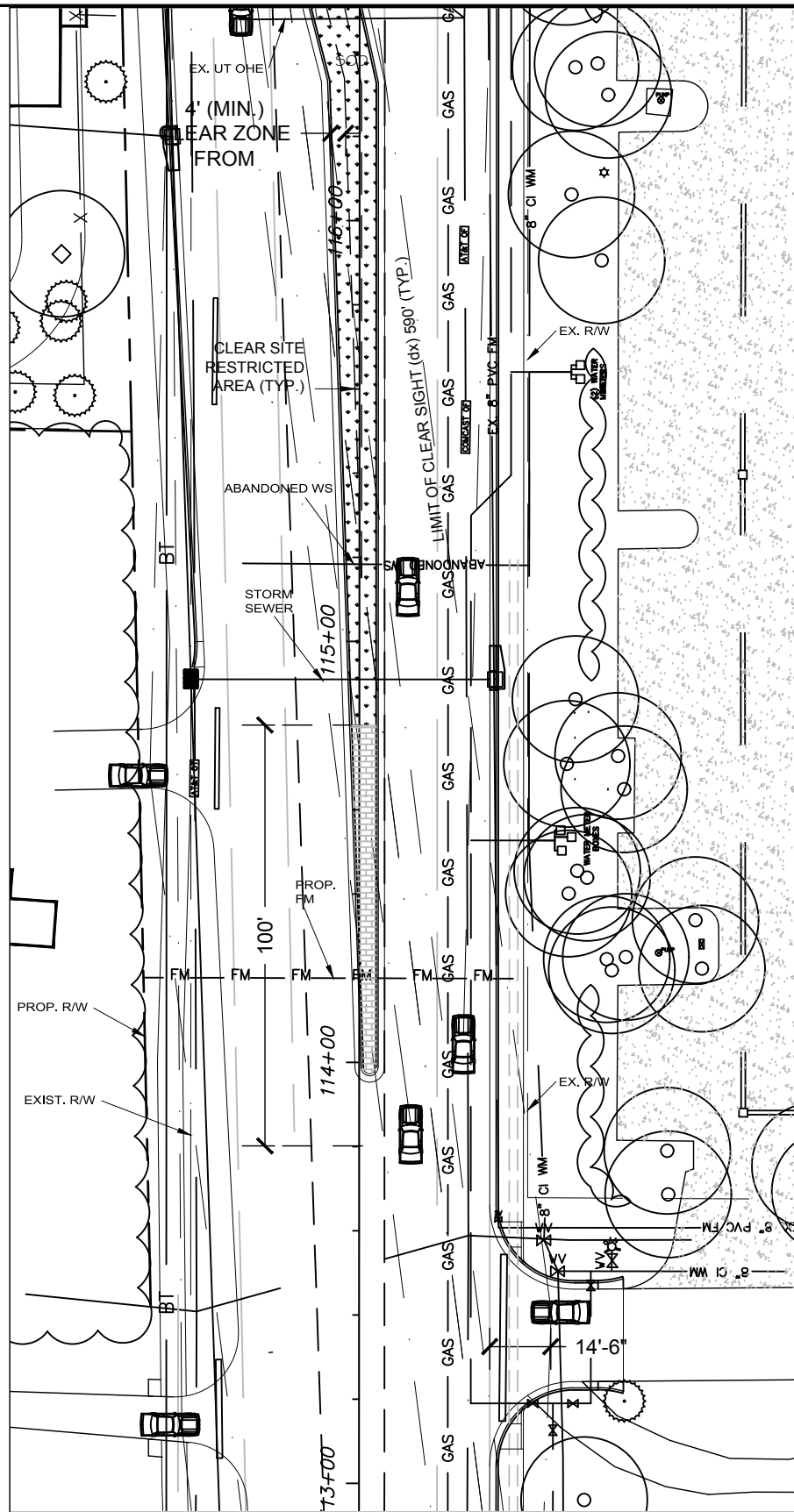

 FOR STATE ROUTE 60 & 43RD AVENUE

Sheet: LP-2

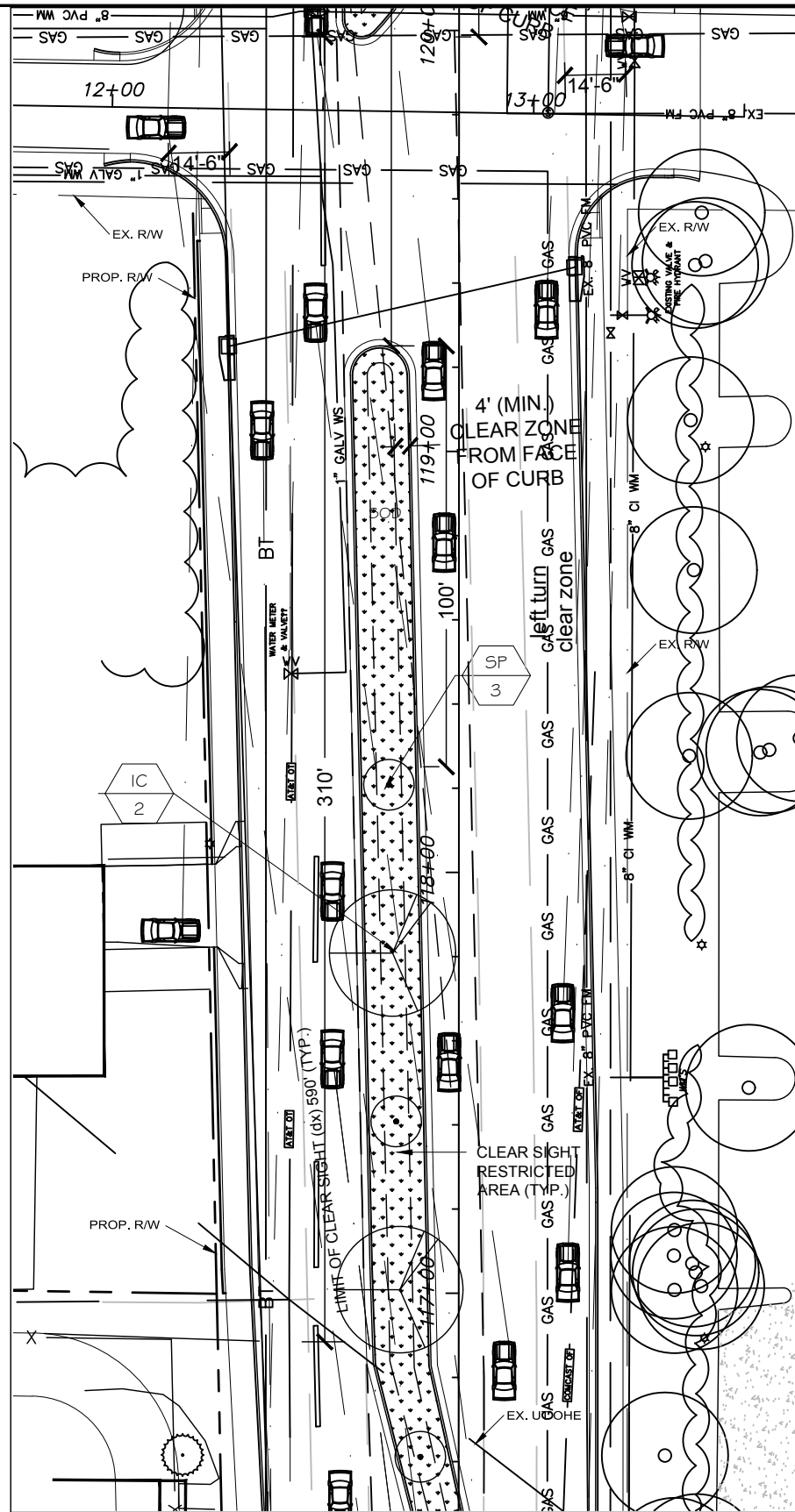
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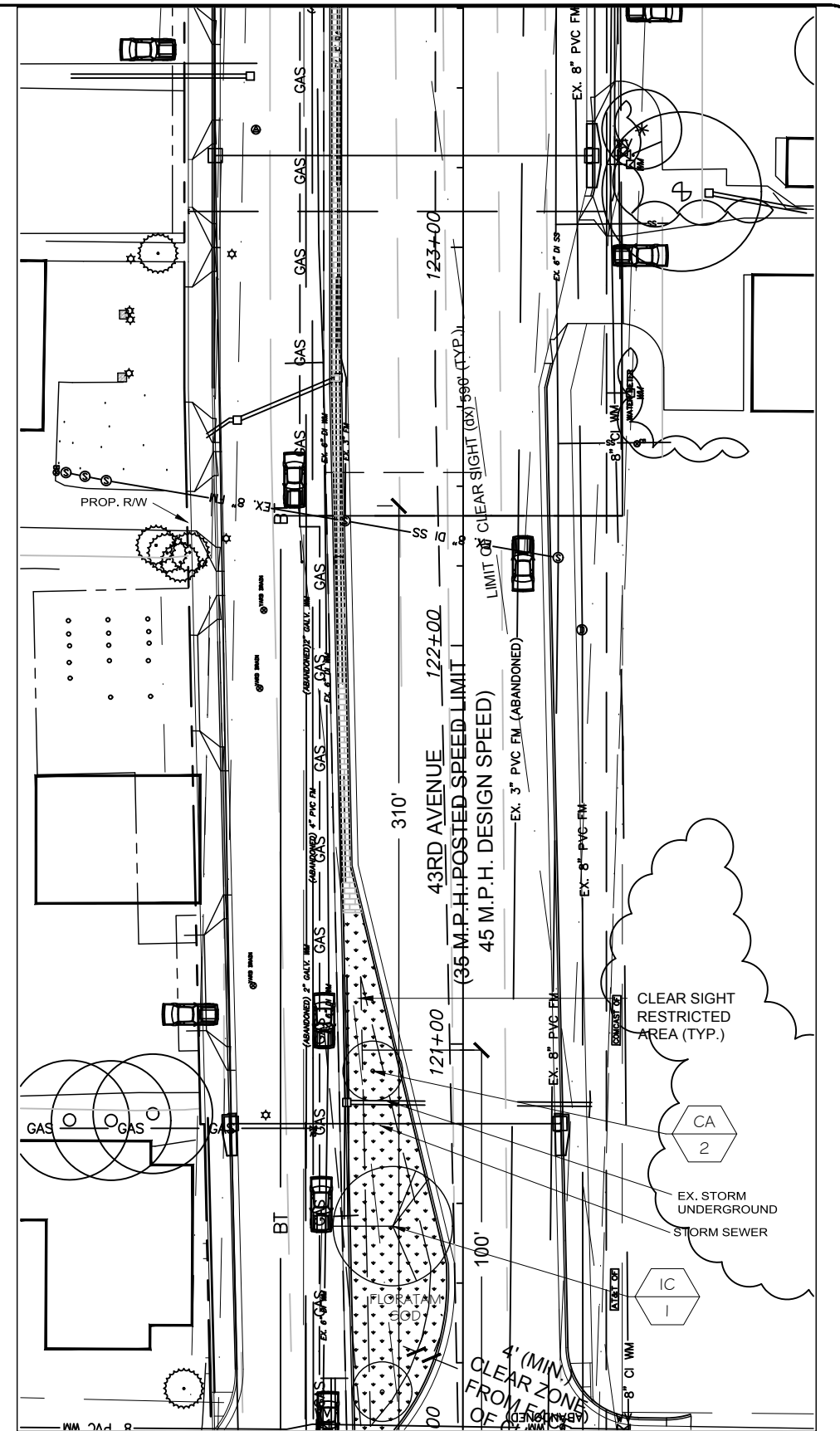
 Project No. IRC# 0512 LNW# WP1027



SHEET A



SHEET B



SHEET C


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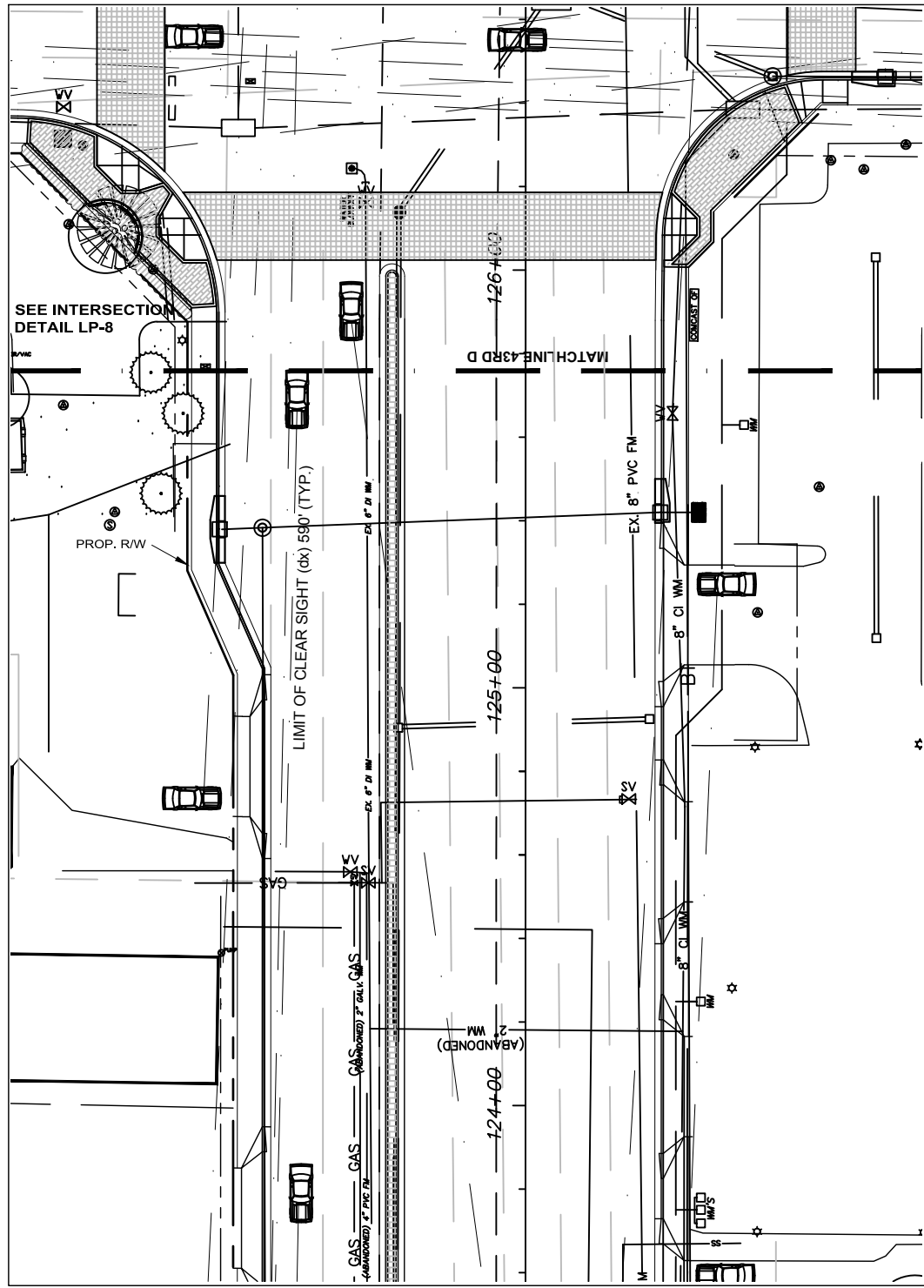
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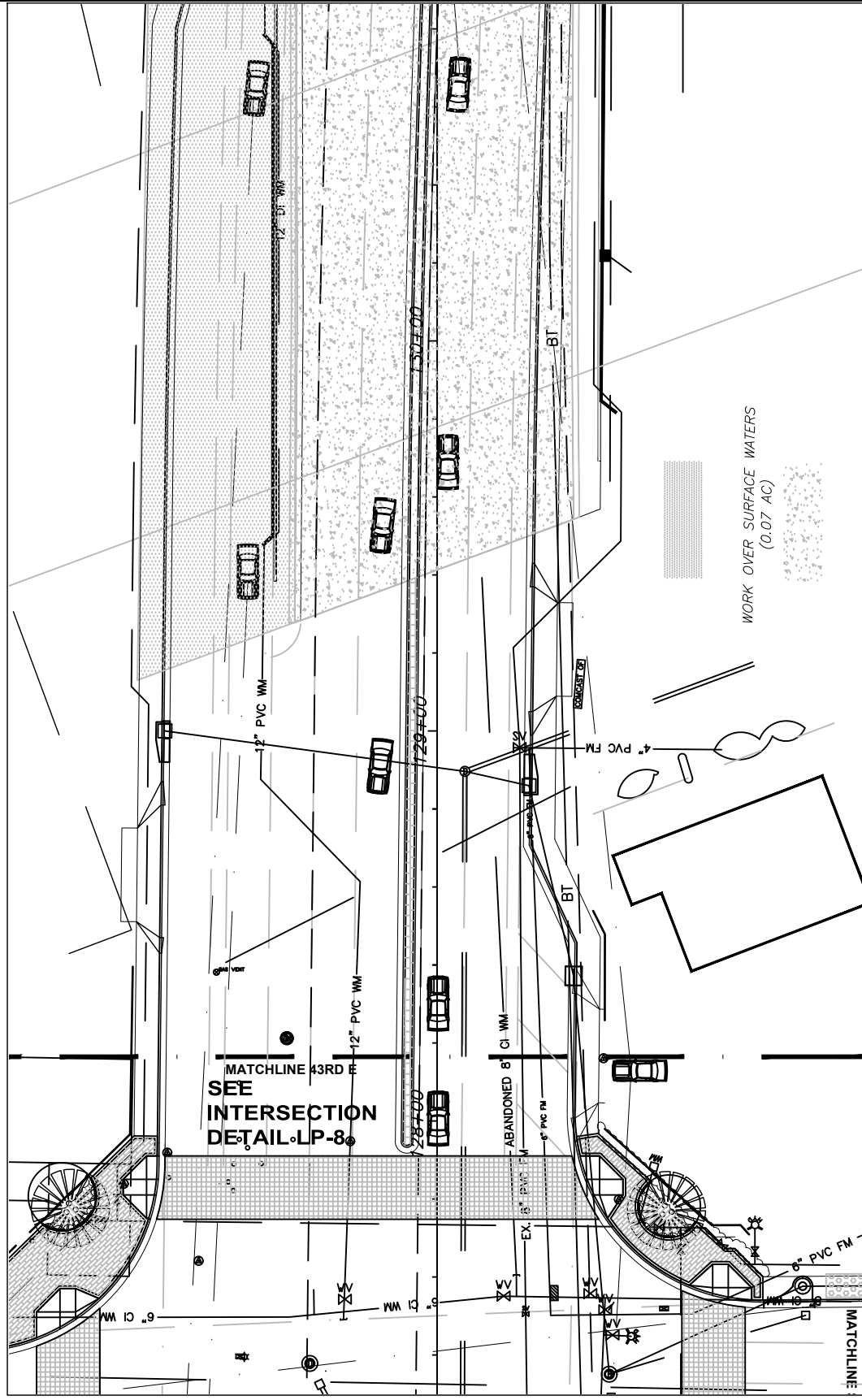
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 FOR
 STATE ROUTE 60
 &
 43RD AVENUE



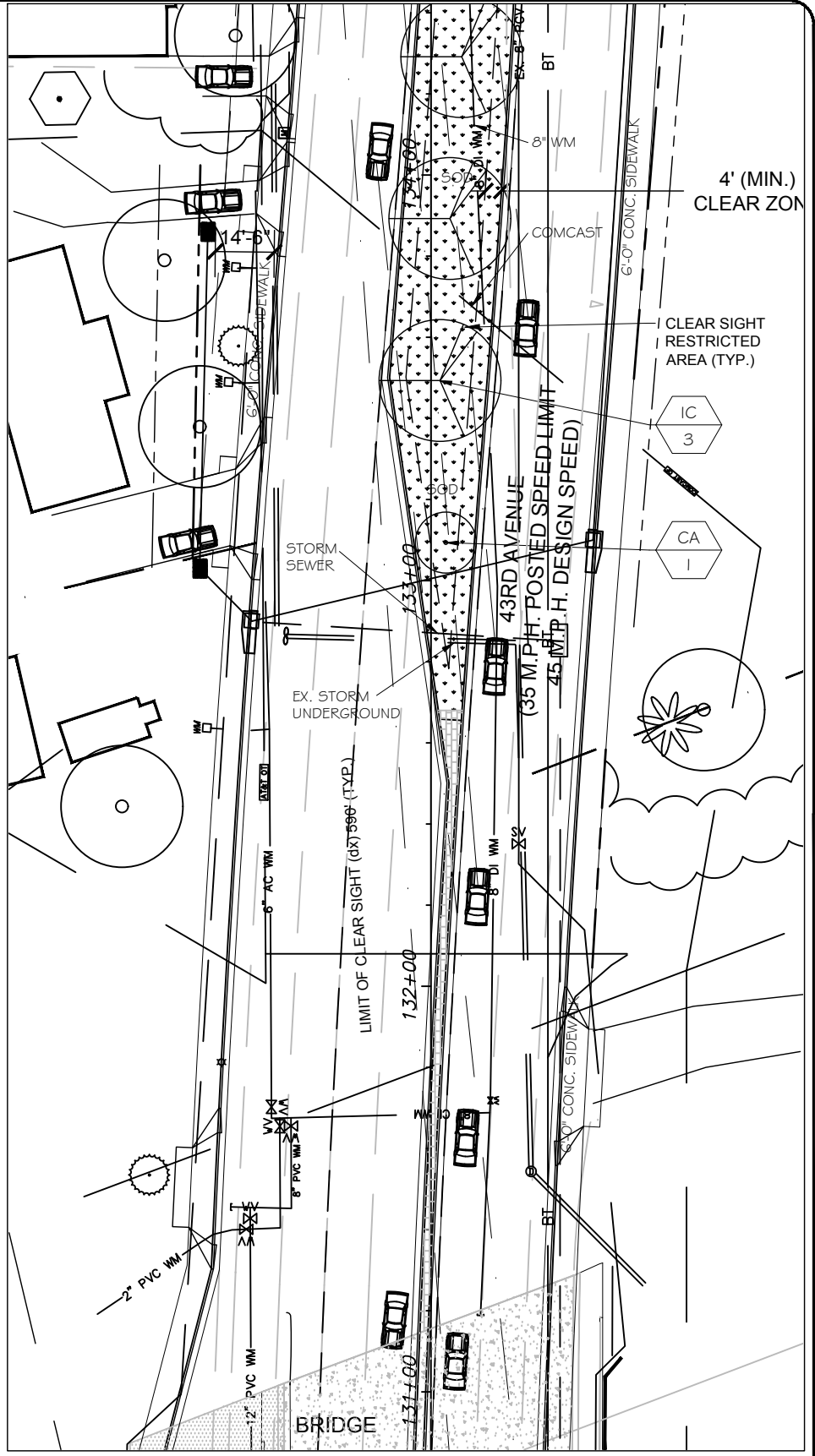
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SHEET D



SHEET E



SHEET F



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 FOR STATE ROUTE 60 & 43RD AVENUE

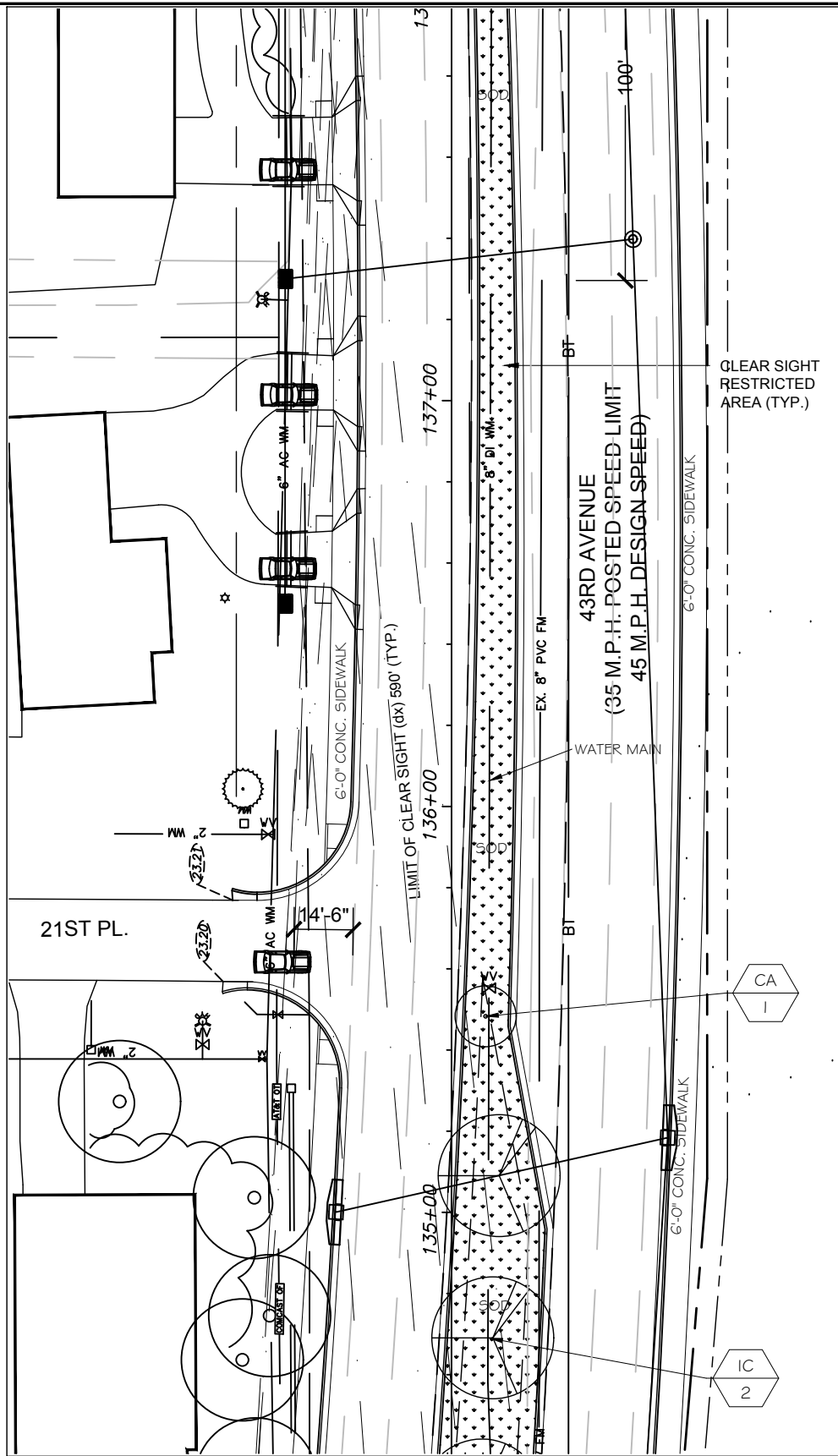


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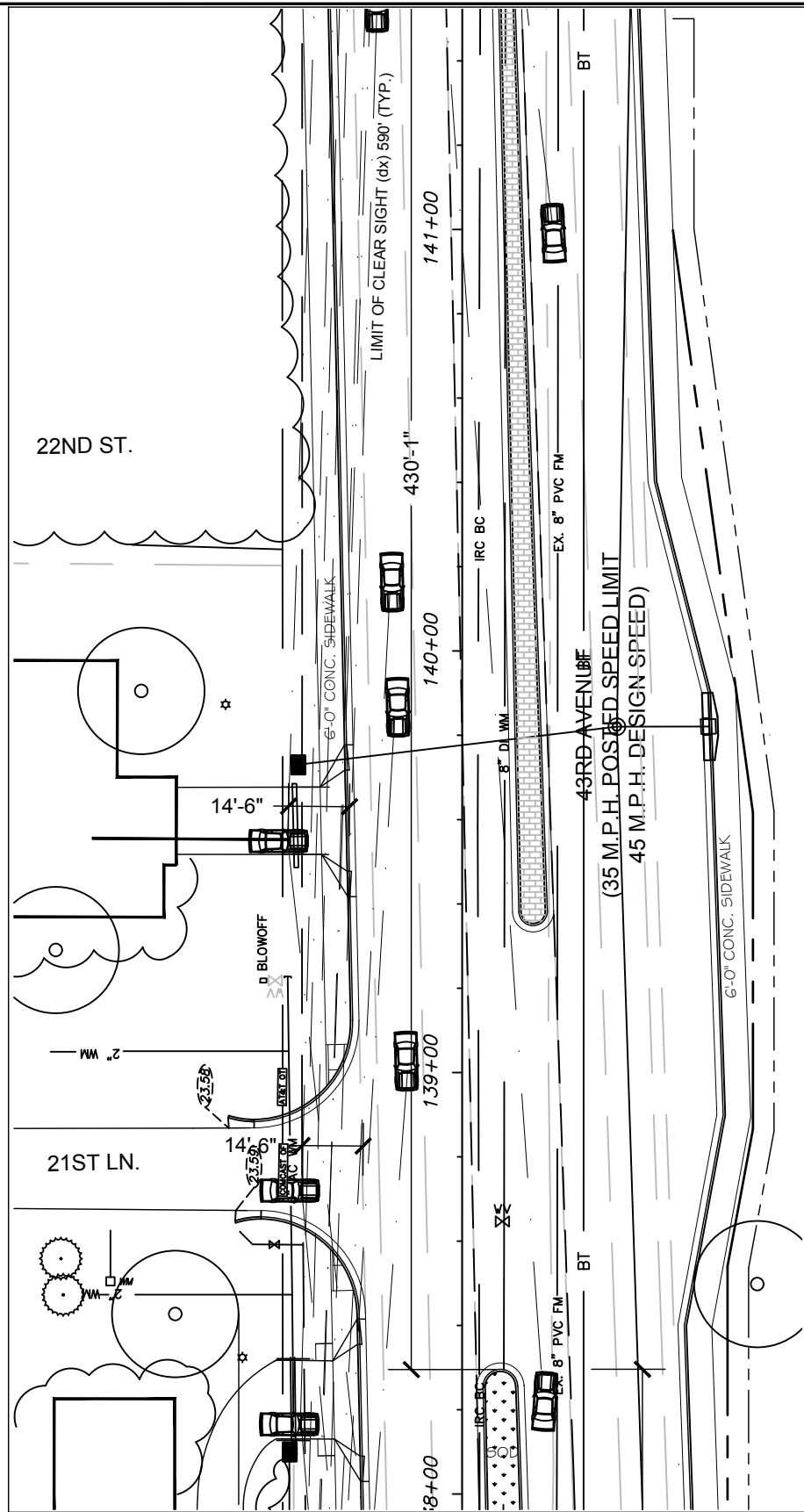
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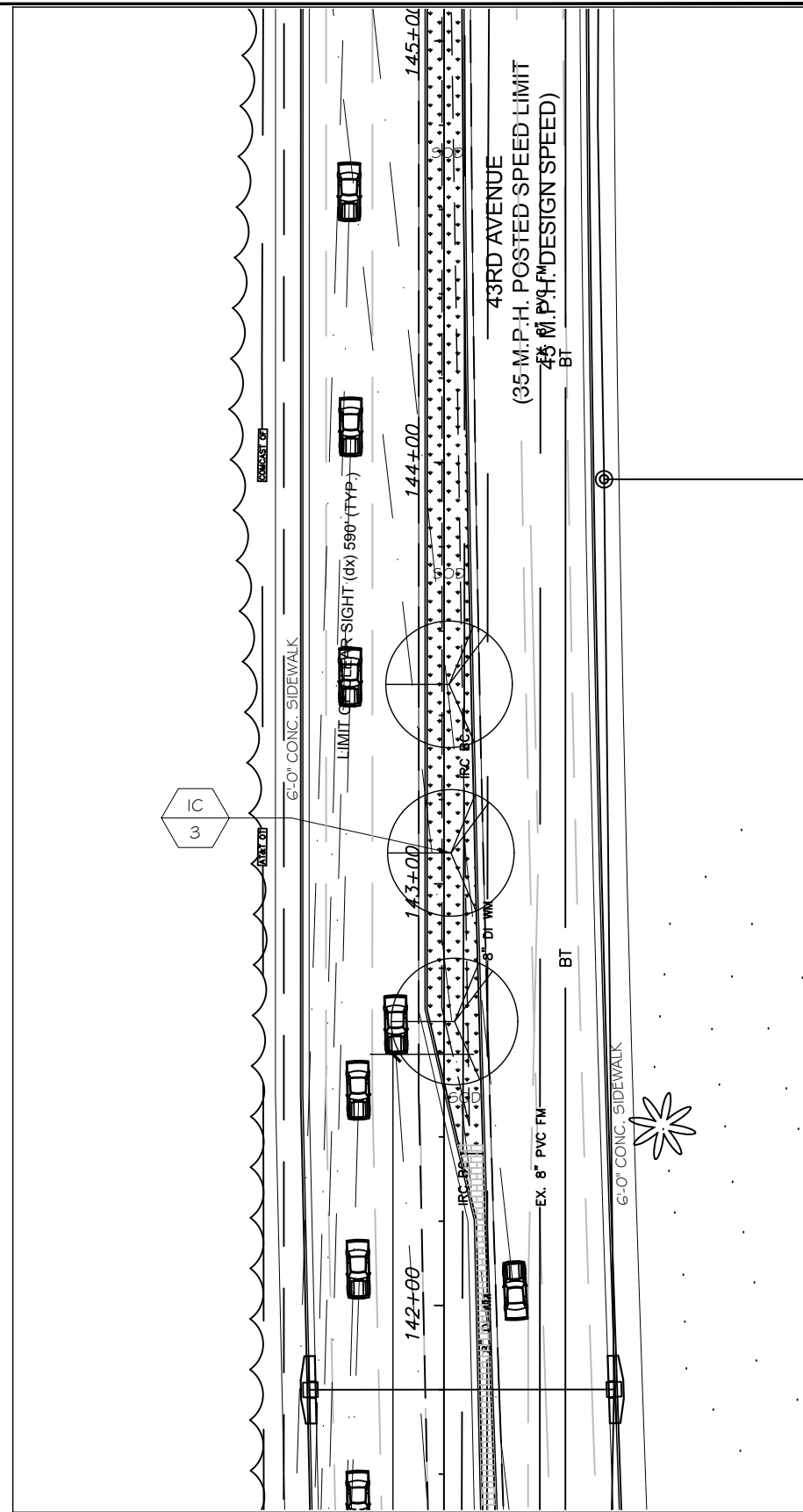
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SHEET G



SHEET H




SHEET I


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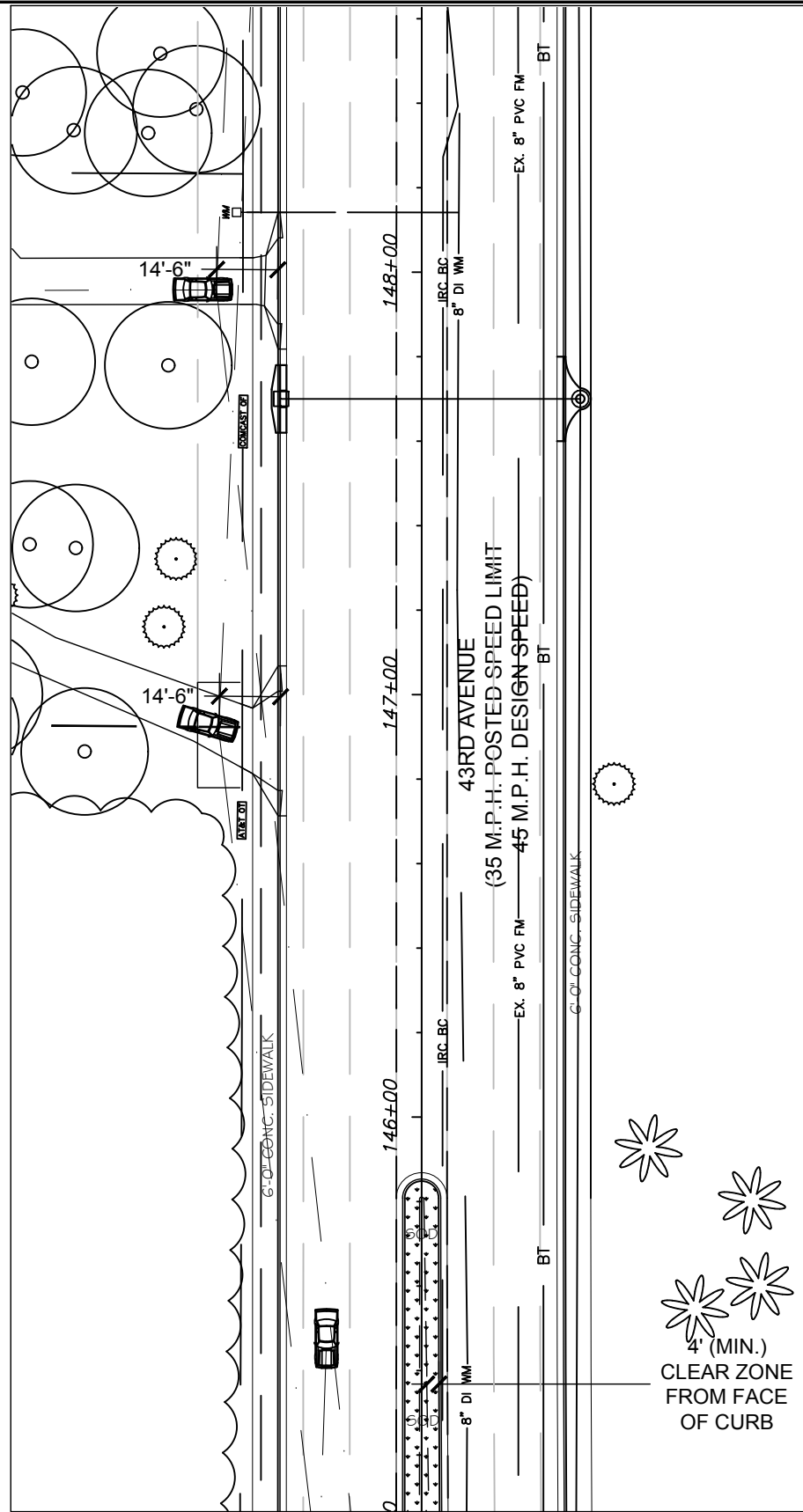

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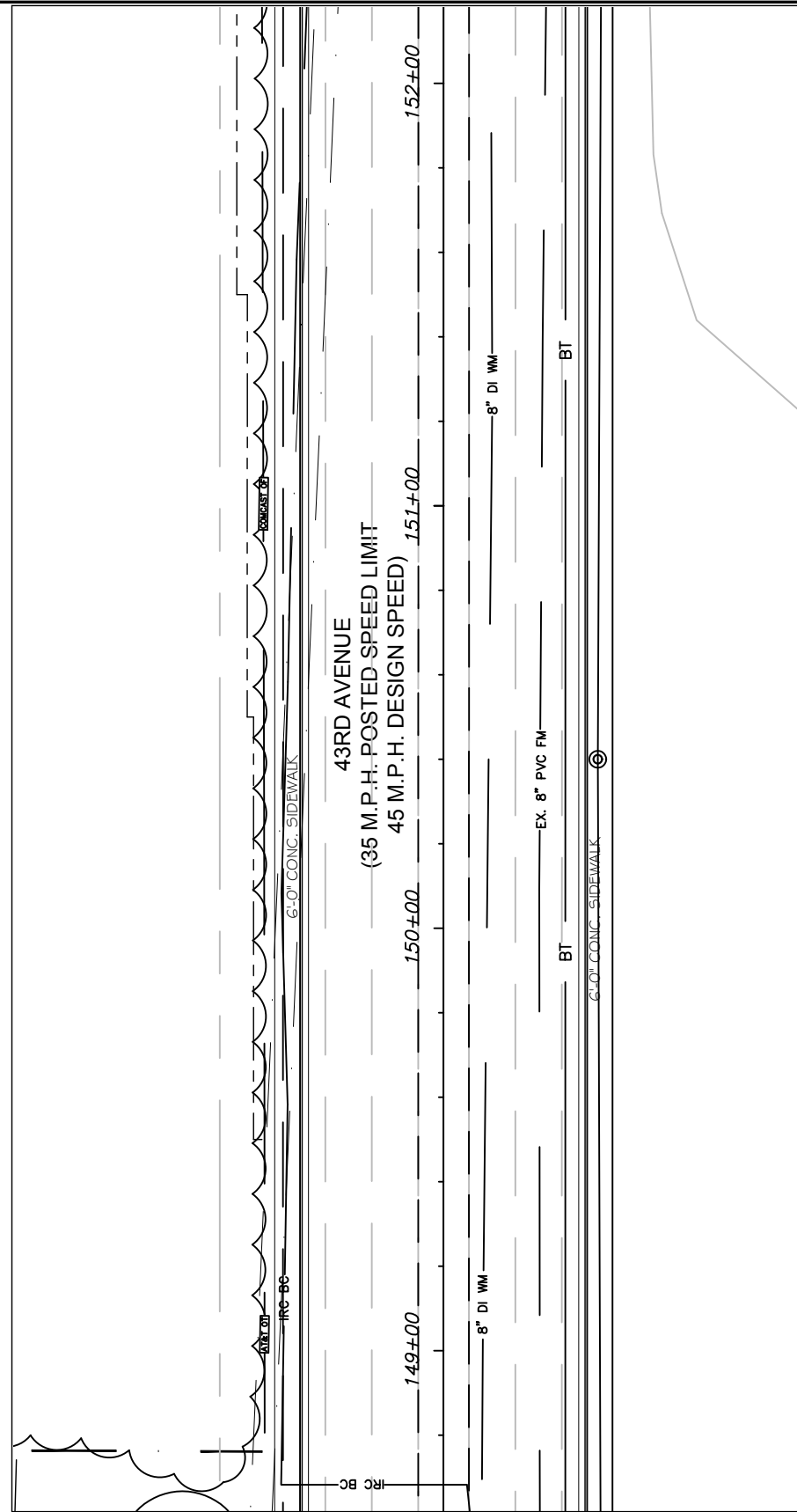
Project: 100% LANDSCAPE PLAN

 FOR STATE ROUTE 60 & 43RD AVENUE

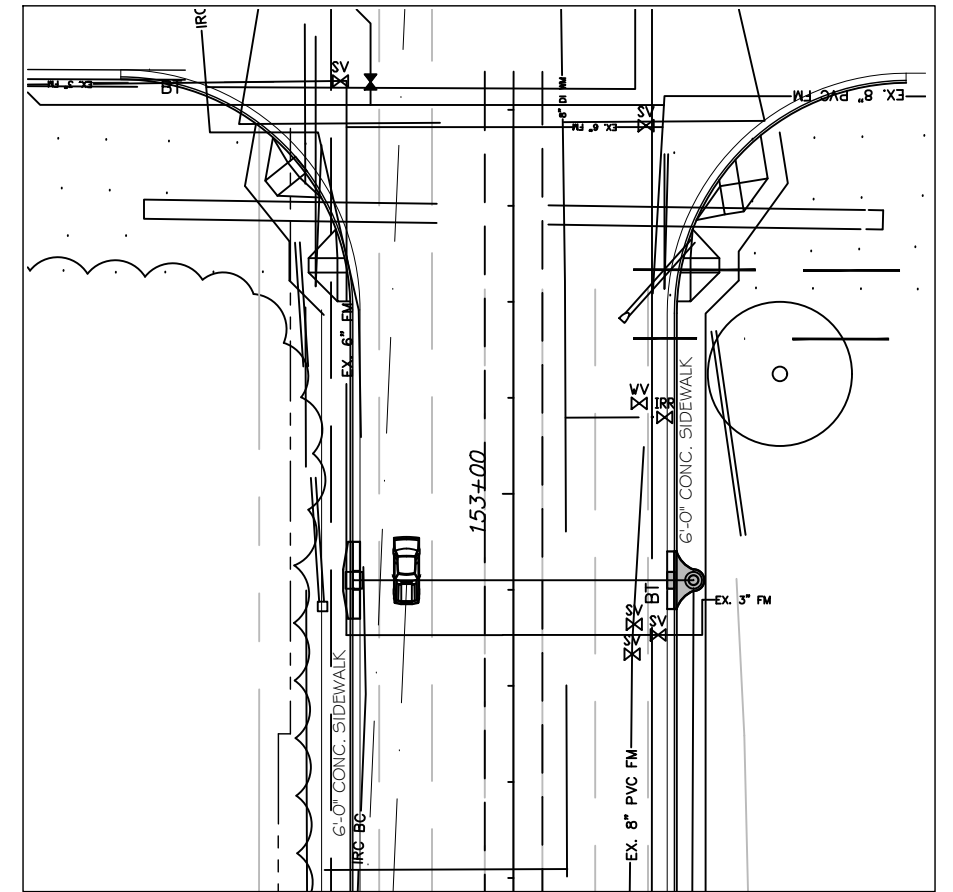
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SHEET J



SHEET K



SHEET L

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OVERALL PLANT SCHEDULE FOR STATE ROUTE 60 & 43RD AVENUE

Item	SYM	QTY	BOTANICAL	COMMON	SIZE	SPACING
TREES						
580 5-5532	CA	9	GORDONIA IASIANTHUS	LOBLOLLY BAY	8-10' X 4-5' 2.75" CAL	AS SHOWN
580 5-572	IC	14	LIGUSTRUM JAPONICUM	JAPANESE PRIVET	8-10' OA MULTISTEM	AS SHOWN
580 4-235	PS	3	PHOENIX SYLVESTRIS	SYLVESTER DATE PALM	16' CT	AS SHOWN
580 4-345	SP	5	SABAL PALMETTO	SABAL PALM	16-20' CT	AS SHOWN
SHRUBS						
580 - 7-177	DIT	48	ILEX VOMITORIA 'Schillings'	DWARF YAUPON HOLLY	#7 FULL	24" OC
580 - 7-337	VOD	59	MYRCIANTHES FRAGRANS	SIMPSON'S STOPPER	#7	24" O.C.
E575 1		5,450	PASPALUM NOTATUM	BAHIA SOD	SQUARE YARDS - VERIFY QTY	
E575 1 4		3,400	STENOTAPHRUM SECUNDATUM	ST. AUGUSTINE SOD	SQUARE YARDS - VERIFY QTY	
		145	ROOT BARRIER	24" DEEPROOT	LINEAR FEET	
		16	FLORIMULCH	VERIFY QUANTITY	CUBIC YARDS	

NOTES

Items 580 5-5532, 580 5-572, 580 4-235, 580 4-345, 580 7-177, 580 7-337 shall include price of Florimulch per specifications in price of each plant (approximately 16 yards, verify quantity). Separate payment will not be made for mulch

Item 589 4-235, Phoenix Sylvestris shall include price of 145 linear feet of 24" Deeproot root barrier. Separate payment will not be made for root barrier.

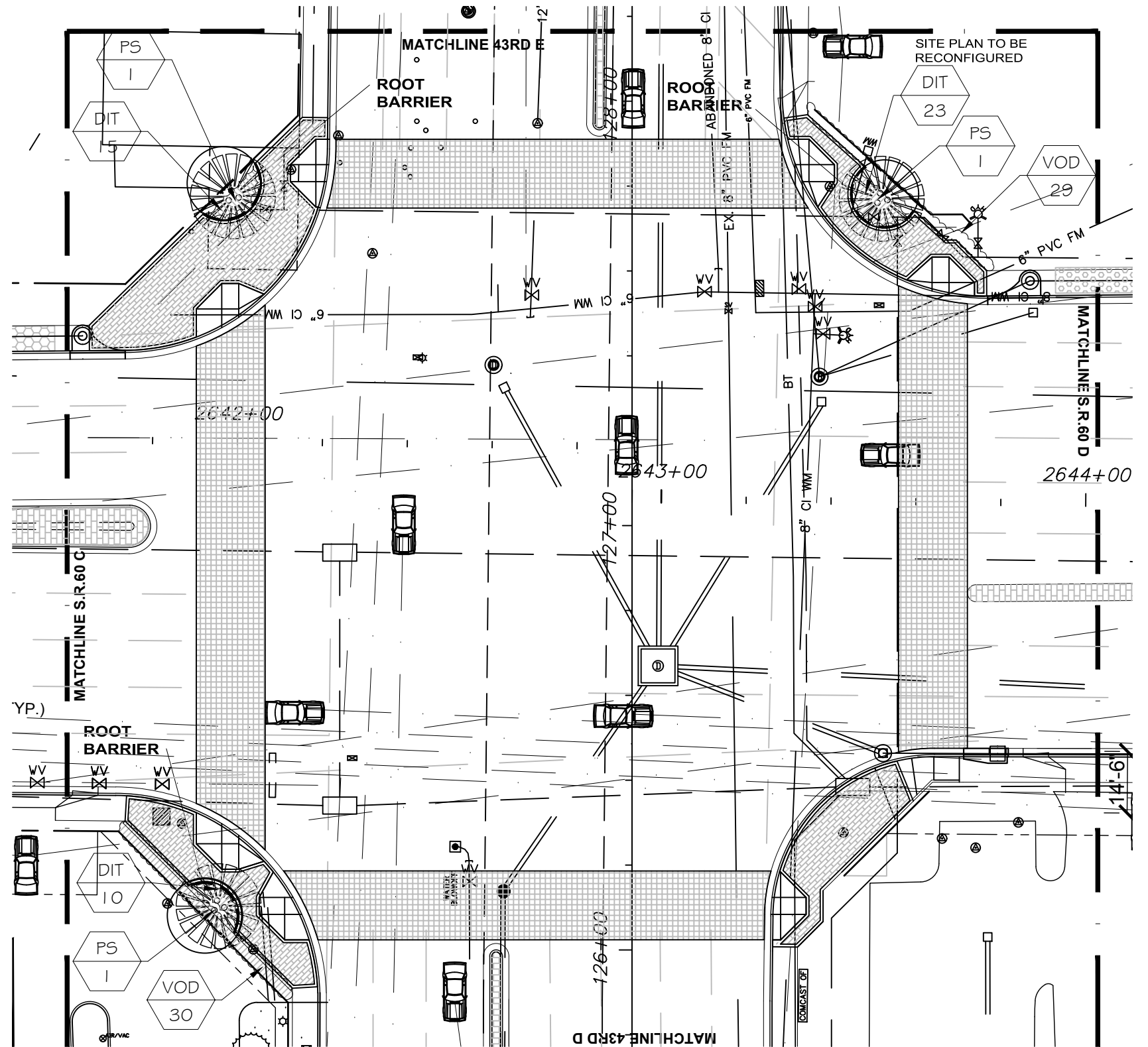
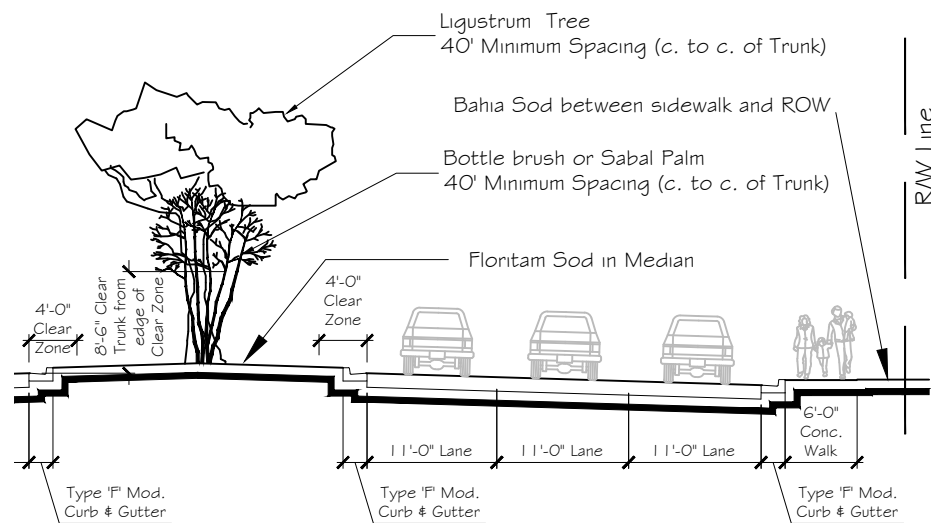
Medians shall receive floritam sod.

Use bahia sod between row and sidewalk in disturbed areas. Quantity reflects ROW area only. Contractor shall repair all disturbed areas, including temporary construction easements. It is the responsibility of the Contractor to determine how much sod will be required to repair temporary easements.

Verify all Utility locations. Do not plant trees closer than 10' from Utility unless root barrier is installed. No trees shall be planted closer than 7.5' from utility. If a proposed tree location is closer than 7.5' to a utility contact Landscape Architect so that adjustment can be made.

Typical Restricted Section B SR 60 & 43rd Ave (not to scale)

DESIGN SPEED = 45MPH POSTED SPEED = 45MPH



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 FOR STATE ROUTE 60 & 43RD AVENUE

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JOB CONDITIONS:

Any building construction material or foreign material shall be removed from planting areas and replaced with acceptable top soil.

Care shall be taken not to disturb or damage any underground construction or utilities. Any damage to these facilities during the planting operations will be repaired at the expense of the Landscape Contractor in a manner approved by the Owner. Where underground obstructions will not permit the planting materials in accordance with the plans, new locations shall be approved by the Landscape Architect.

Landscape work shall be coordinated with the landscape irrigation work. Landscape Contractor shall ensure that no plantings will interfere with the proper coverage. Landscape Contractor shall point out situations where minor adjustments or relocation or addition of sprinklers heads may be most beneficial for the landscape work as a whole.

PLANT MATERIAL:

Plant species and size shall conform to those indicated on the drawings. Nomenclature shall conform to STANDARDIZED PLANT NAMES, LATEST EDITION. All plant material shall be in accordance with GRADES AND STANDARDS FOR NURSERY PLANTS, latest edition published by the Florida Department of Agriculture and Consumer Services. All plants not otherwise specified as Florida Fancy, or Specimen, shall be Florida Grade Number 1 or better as determined by the Florida Grade Plant Industry. Specimen means an exceptionally heavy, symmetrical, tightly-knit plant, so trained or favored in its development that its appearance is unquestionable and outstandingly superior in form, number of branches, compactness and symmetry. All plants shall be sound, healthy, vigorous, well branched and free of disease and insect eggs and larvae and shall have adequate root systems. Trees and shrubs for planting rows shall be uniform in size and shape. All materials shall be subject to approval by the Landscape Architect. Where any requirements are omitted from the Plant List, the plants furnished shall be normal for the variety.

All container grown material shall be healthy, vigorous, well-rooted plants and established in the container. The plants shall have tops which are good quality and are in a healthy growing condition. An established container grown plant shall be transplanted into a container and grown in that container long enough for the new fibrous roots to have developed enough to hold the root mass together when removed from the container. Root bound plants will not be accepted.

Water for planting shall be available at the site and will be provided by the Owner. Site water shall be verified by Contractor prior to submission of bids.

The use of natural material is strongly encouraged for balled and burlapped plants. All synthetic material shall be completely removed from root ball PRIOR to planting.

At time of bid, Contractor shall submit a written schedule of all sources for coconut palms as well as seed sources for coconuts. Coconuts shall be certified Malayan Green with a certified seed source from Jamaica.

TREES:

The most critical factor for selecting a healthy Florida Number 1 tree is the structure. This consists of one central main trunk and leader. Branches are considered competing if they are 2/3 the diameter of the leader or greater. Competing branches may be acceptable if they occur above 50% of the overall height of the tree. Caliper of tree should meet specifications. Leader (center trunk) may have slight (<15 degree) bow (Tabebuia caraba excluded), but must be intact with apical (leading) bid.

Branches should be spread evenly (staggered, alternating) through the tree branches spaced no closer than 4".

Canopy should be full to specifications with little or no openings or holes. A thinning canopy will be taken into consideration with field dug plant material.

Trees should have no open wounds or damage, flush cuts, chlorosis, shorter or taller than specified height, girdling roots, undersize loose root ball, crossing branches, smaller than normal leaves.

All trees shall be installed slightly above grade (1 to 2") and securely staked in such a manner as not to damage the tree. Mulched with 3-4" inches quality mulch, stem will be free of mulch within the first 4". Root ball tying ropes removed from trunk and top of root ball.

MULTIPLE TRUNK TREES:

Trees having no distinct leader. Trunks on these trees should not be touching and free of damage and similar in size. Canopy should be full and uniform.

MATERIALS LIST:

Landscape Contractor shall be responsible for verifying all quantities for material shown on drawings prior to submitting a bid. Planting plan shall take precedence over the plant list. Final quantity of sod and mulch shall be verified.

SUBSTITUTIONS:

No substitutions shall be made without the approval from the Landscape Architect and/or the Owner. Intended substitutions shall be indicated on the bid.

MEASUREMENTS:

Canopy Trees- Height shall be measured from the ground to the average height of canopy. Spread shall be measured to the end of branching equally around the crown from the center of the trunk. Caliper (d.b.h.) will be measured 4'-6" above grade.

Overall height (O.A.) shall be measured from the ground to the tip of the unopened bud.

IRRIGATION:

100% irrigation coverage shall be provided.

GUARANTEE:

All new plant materials shall be guaranteed for one year from the time of acceptance and shall be alive and in satisfactory growth for each specific kind of plant at the end of the guarantee period. The Landscape Contractor shall not be responsible for damage caused by vandalism, violent wind storms or other acts of God beyond control. Replacement shall occur within two weeks of rejection and guaranteed six months from date of installation. Landscape Contractor shall repair damage to other plants or lawns during plant replacements at no additional cost.

MULCH:

Mulch shall not contain sticks 1/4" in diameter or stones. Trees shall be mulched within 24 hours with 3" of mulch covering entire root ball.

SOD:

All sod shall be installed in such a manner that there is an even surface, staggered pattern. Sod will be green in color and in good health. NO overlap, gaps, damage, insects, disease and less than 10% chlorosis will be permitted. All gaps will be filled with clean native soil.

STAKING:

Landscape Contractor to suggest alternate means of staking for approval with Landscape Architect if staking methods shown are not feasible due to site conditions.

FERTILIZER:

Manufacturer's Specification: Submit manufacturer's specification sheet(s) for approval of product. Submit tags from bags of fertilizer used on site to the Architect. Submit copies of the manufacturer's specifications or analysis of all fertilizer for approval.

New Trees, Transplanted Trees, Palms, Shrubs and Ground Cover (Container): Unless otherwise specified on the plans, fertilize with Agriform planting tablets, 20-10-5 formula, 21 gram or equal per manufacturer's recommendation.

Fertilizer for Existing Trees to be Transplanted: Shall be a water soluble fertilizer having a 20-20-20 analysis such as "Peters' Professional" or equal.

Composition and Quality: All fertilizer shall be uniform in composition and dry. Granular fertilizer shall be free flowing and delivered in unopened bags. Tablet fertilizer shall be delivered in unopened containers or boxes. All bags, containers or boxes shall be fully labeled with the manufacturer's analysis.

All shall comply with the State of Florida fertilizer laws.

CLEANUP:

Landscape Contractor shall at all times keep job site clean and free from accumulation of waste material, debris and rubbish.

INSPECTION:

Upon written request from the Contractor, Owner and/or Landscape Architect shall perform inspection to determine completion of Contract.

ACCEPTANCE:

Following inspection, Contractor will be notified, in writing, by Owner and/or Landscape Architect of acceptance of completion with regards to plant material and workmanship according to Contract.

GENERAL NOTES

- All dimensions 6" and less are exaggerated for illustrative purposes only.
- Plant containers shall be removed prior to planting. If plants are not container grown, remove a minimum of the top 1/3 of burlap, fabric, or wire mesh. Never lift or handle the tree by the trunk.
- The uppermost root on all trees shall be covered by less than 1" of soil. Use hand tools to carefully remove all excess soil. The top of root ball shall be set 1-2" above finish grade and set plumb to the horizon. If planting pit is too deep remove the tree and firmly pack additional soil in the bottom of the planting pit to raise the rootball. After positioning the tree in the planting pit, slice through rootballs with 3 and 4 vertical slices (top to bottom) equally distributed around the tree.
- Backfill shall be loosened existing soil. Remove rocks, sticks or other deleterious material greater than 1" in any direction prior to backfilling. Water and tamp to remove air pockets. If existing soils contain excessive sand, clay or other material not conducive to proper plant growth, contact Engineer prior to planting.
- Soil rings shall be constructed of existing soil at the outer edge of the planting pit, with a height of 3" and gently sloping sides. Do not pile soil on top of rootball.
- Mulch shall be 3" deep layer placed to the edge of the trunk flare, around the base of shrub, or solidly around groundcover. Never pile mulch against the tree trunk.
- Straps shall be minimum 1" wide nylon or polypropylene. All wood stakes or anchors shall be located beyond the edge of soil ring and located below finished grade, unless otherwise specified.
- Sabal palms may be hurricane cut. All other palms must have fronds tied with biodegradable twine. Palm trunks shall have no burn marks, scars, or sanding.
- All dimensions provided for wood materials are nominal.



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FAX: (415) 781-0191
www.deeproot.com

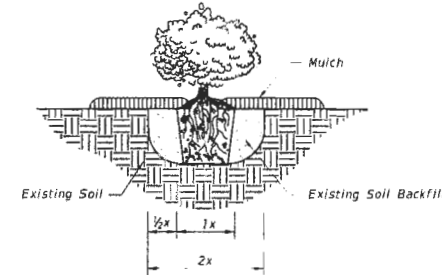
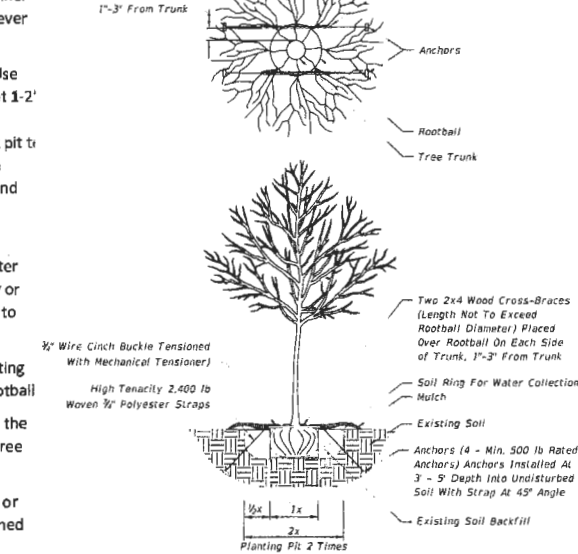
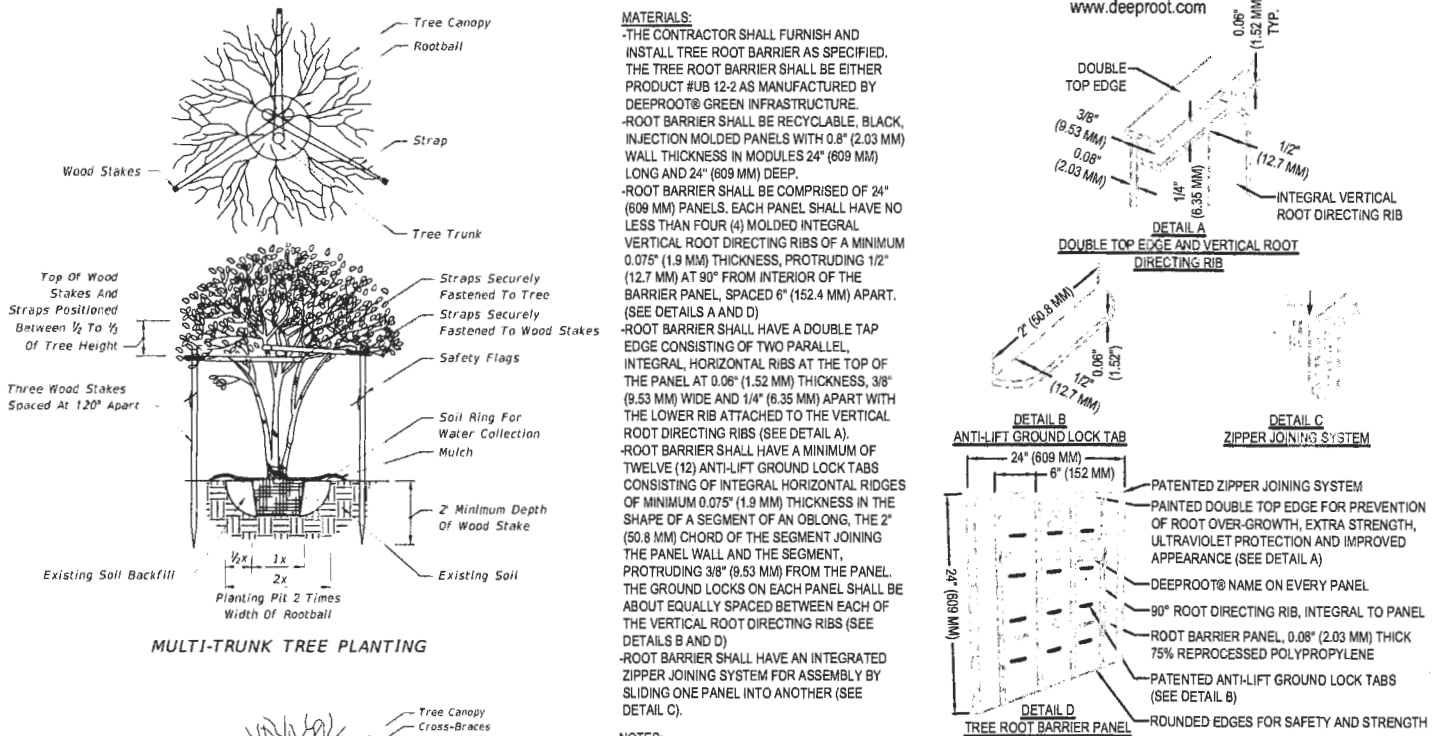
MATERIALS:

-THE CONTRACTOR SHALL FURNISH AND INSTALL TREE ROOT BARRIER AS SPECIFIED. THE TREE ROOT BARRIER SHALL BE EITHER PRODUCT #JG 12-2 AS MANUFACTURED BY DEEPROOT® GREEN INFRASTRUCTURE.
-ROOT BARRIER SHALL BE RECYCLABLE, BLACK, INJECTION MOLDED PANELS WITH 0.8" (2.03 MM) WALL THICKNESS IN MODULES 24" (609 MM) LONG AND 24" (609 MM) DEEP.
-ROOT BARRIER SHALL BE COMPRISED OF 24" (609 MM) PANELS. EACH PANEL SHALL HAVE NO LESS THAN FOUR (4) MOLDED INTEGRAL VERTICAL ROOT DIRECTING RIBS OF A MINIMUM 0.075" (1.9 MM) THICKNESS, PROTRUDING 1/2" (12.7 MM) AT 90° FROM INTERIOR OF THE BARRIER PANEL, SPACED 6" (152.4 MM) APART. (SEE DETAILS A AND D)
-ROOT BARRIER SHALL HAVE A DOUBLE TAP EDGE CONSISTING OF TWO PARALLEL INTEGRAL HORIZONTAL RIBS AT THE TOP OF THE PANEL AT 0.06" (1.52 MM) THICKNESS, 3/8" (9.53 MM) WIDE AND 1/4" (6.35 MM) APART WITH THE LOWER RIB ATTACHED TO THE VERTICAL ROOT DIRECTING RIBS (SEE DETAIL A).
-ROOT BARRIER SHALL HAVE A MINIMUM OF TWELVE (12) ANTI-LIFT GROUND LOCK TABS CONSISTING OF INTEGRAL HORIZONTAL RIDGES OF MINIMUM 0.075" (1.9 MM) THICKNESS IN THE SHAPE OF A SEGMENT OF AN OBLONG, THE 2" (50.8 MM) CHORD OF THE SEGMENT JOINING THE PANEL WALL AND THE SEGMENT, PROTRUDING 3/8" (9.53 MM) FROM THE PANEL.
-THE GROUND LOCKS ON EACH PANEL SHALL BE ABOUT EQUALLY SPACED BETWEEN EACH OF THE VERTICAL ROOT DIRECTING RIBS (SEE DETAILS B AND D)
-ROOT BARRIER SHALL HAVE AN INTEGRATED ZIPPER JOINING SYSTEM FOR ASSEMBLY BY SLIDING ONE PANEL INTO ANOTHER (SEE DETAIL C).
-ROOT BARRIER SHALL HAVE AN INTEGRATED ZIPPER JOINING SYSTEM FOR ASSEMBLY BY SLIDING ONE PANEL INTO ANOTHER (SEE DETAIL C).

NOTES:

- US PATENT NO. 5,305,549 AND 5,528,857 AND OTHER PATENTS PENDING.
- INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
- DO NOT SCALE DRAWING.
- THIS DRAWING IS INTENDED FOR USE BY ARCHITECTS, ENGINEERS, CONTRACTORS, CONSULTANTS AND DESIGN PROFESSIONALS FOR PLANNING PURPOSES ONLY. THIS DRAWING MAY NOT BE USED FOR CONSTRUCTION.
- ALL INFORMATION CONTAINED HEREIN WAS CURRENT AT THE TIME OF DEVELOPMENT BUT MUST BE REVIEWED AND APPROVED BY THE PRODUCT MANUFACTURER TO BE CONSIDERED ACCURATE.
- CONTRACTOR'S NOTE: FOR PRODUCT AND COMPANY INFORMATION VISIT www.CADetails.com/info AND ENTER REFERENCE NUMBER 095-011.

ROOT BARRIER DETAIL



ARCADIS G&M, INC.
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www.studio-sprout.com
LA 0000907
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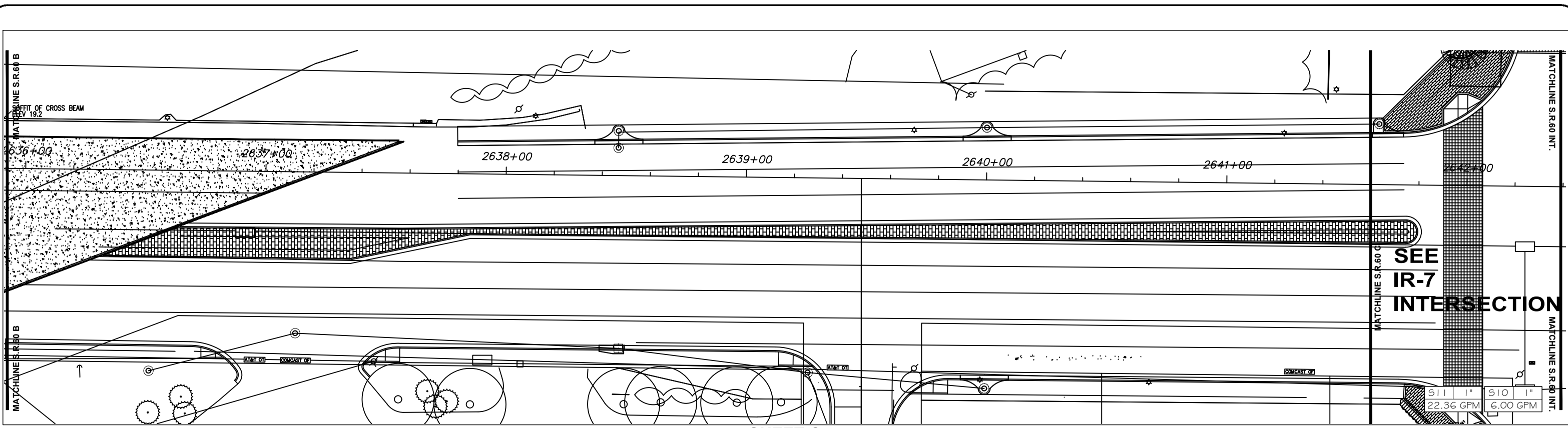
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01	Revisions	CRF	03.02.18
02	Revisions	CRF	12.13.18

Department of Public Works
Engineering Division

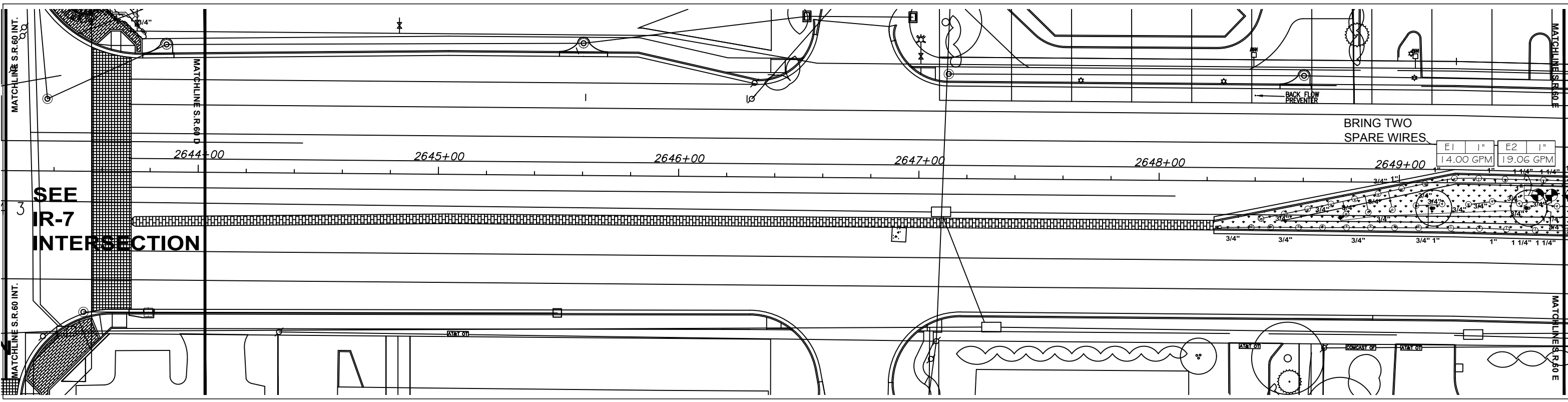
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Checked: CRF
Date: 11/11/17
Field Book No:

Project: 100% LANDSCAPE DETAILS
FOR STATE ROUTE 60 & 43RD AVENUE

Sheet: LP-8
Of: LP-8
FDOT FIN: 431759-2-54-01
Project No. IRC# 0512 LNW# WP1027



SHEET C



SHEET D

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 Checked: CRF

 Date: 11/11/17

 Field Book No:

Project: 100%

 IRRIGATION PLAN

 FOR

 STATE ROUTE 60

 &

 43RD AVENUE

Sheet: IR-1

 Of: IR-8

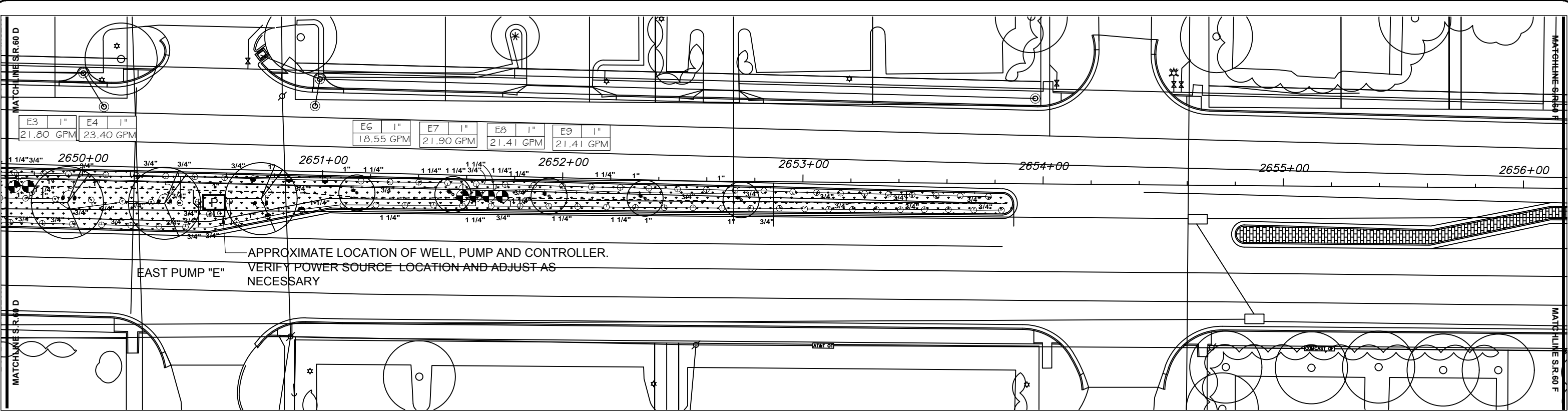
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 431759-2-54-01

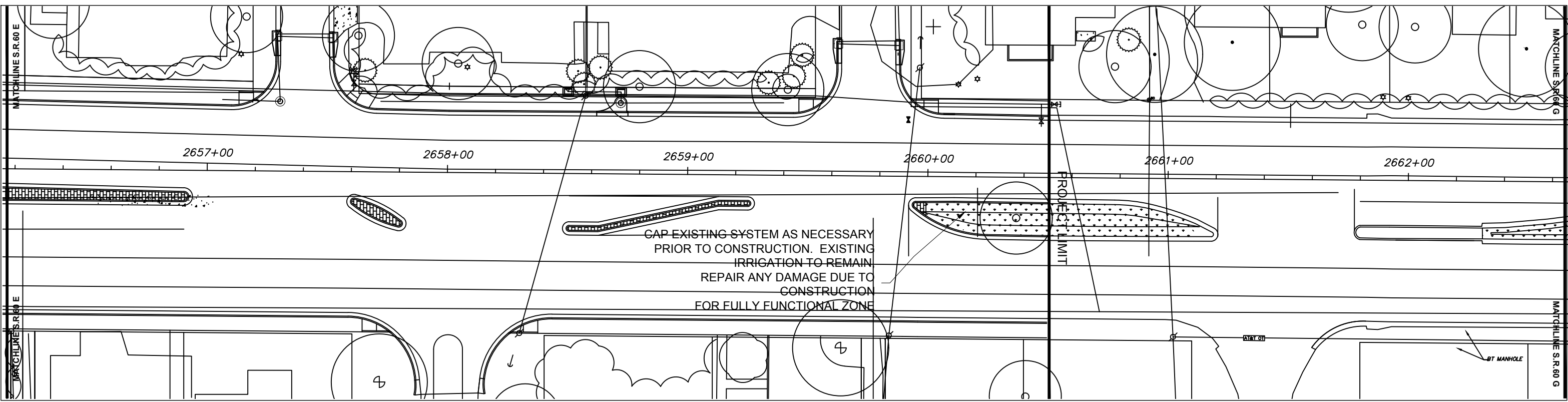
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 IRC# 0512

 LNW# WP1027



SHEET E




SHEET F

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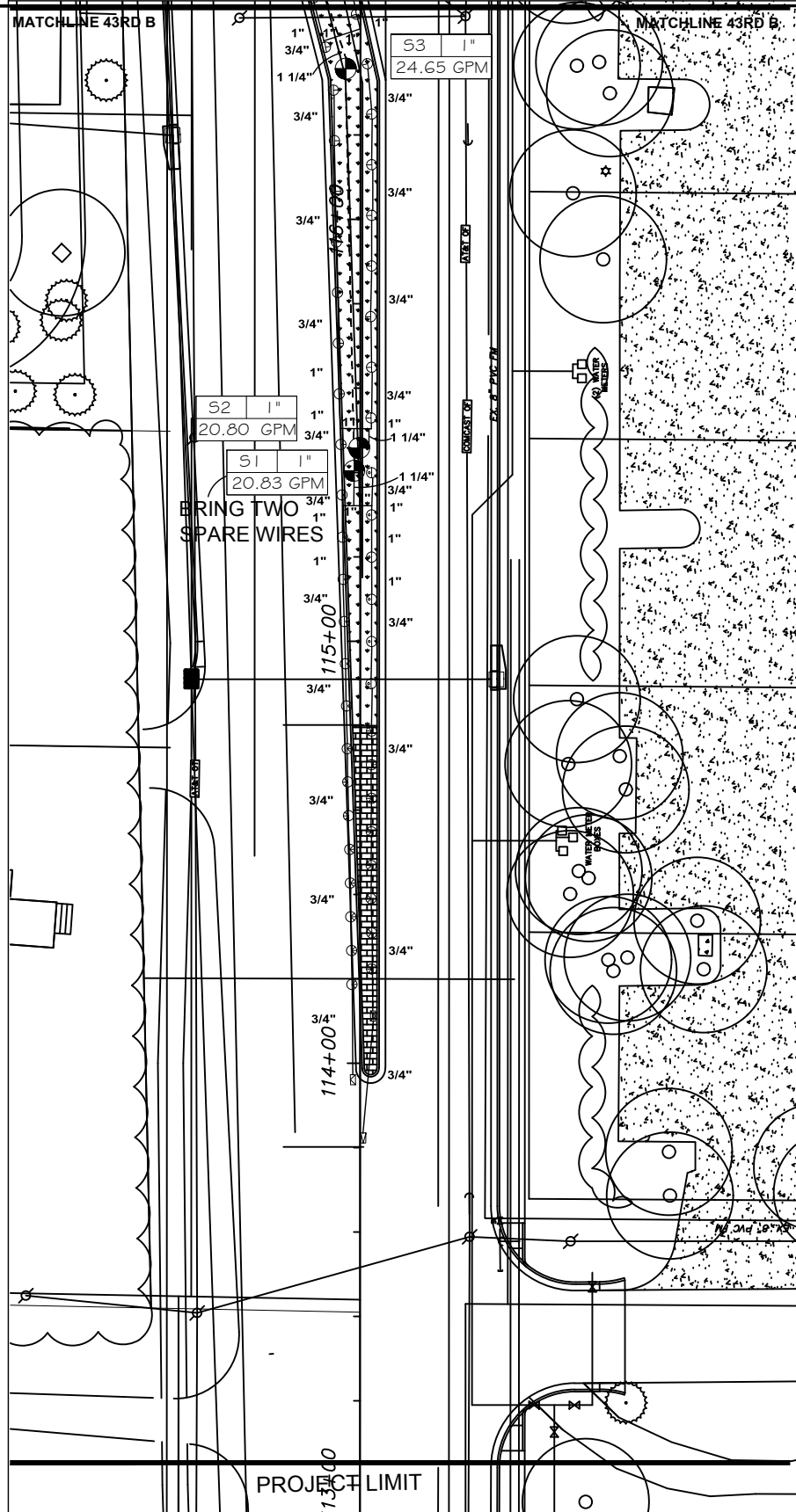

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 **Department of Public Works**
 Engineering Division

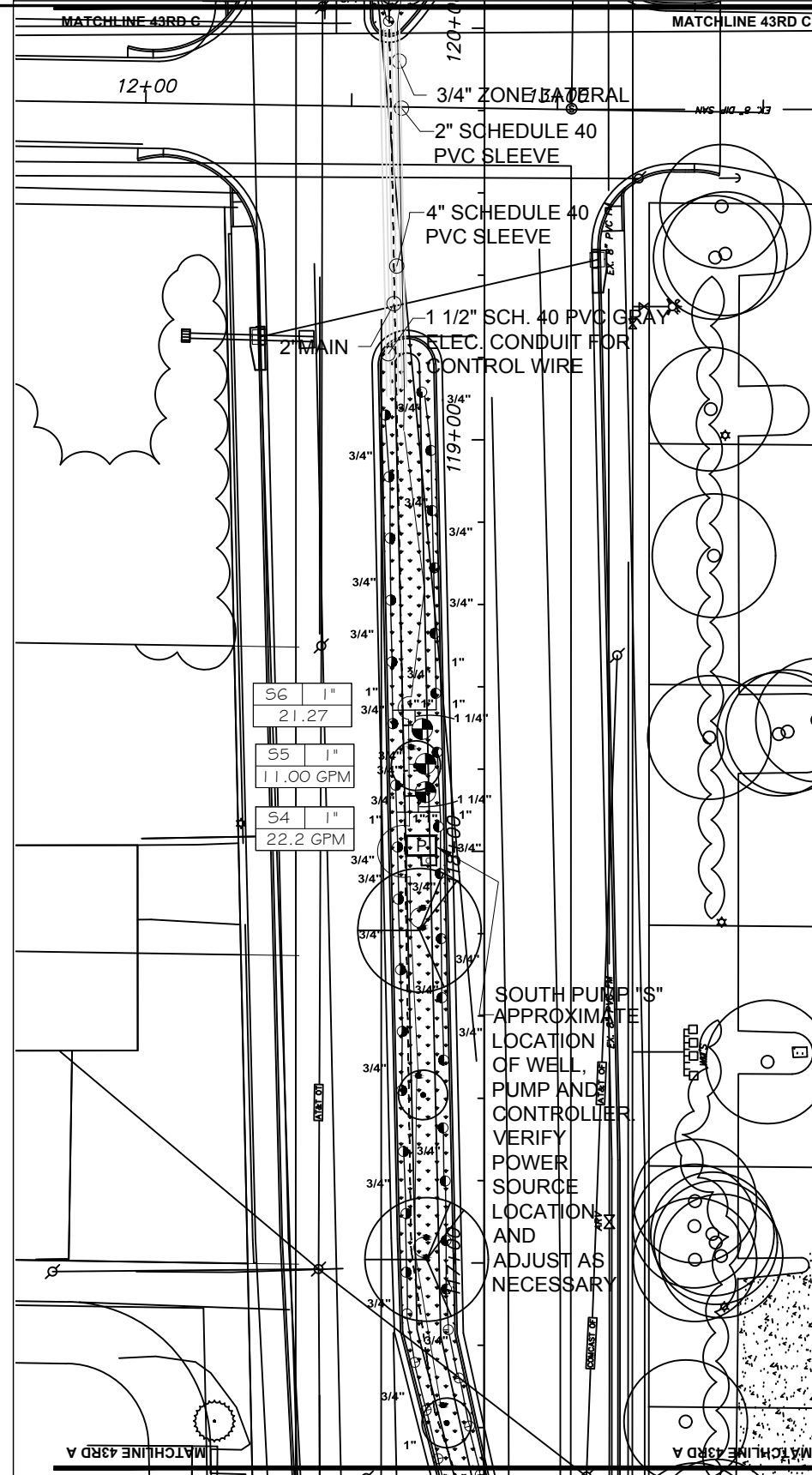
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 IRRIGATION PLAN
 FOR
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 &
 43RD AVENUE

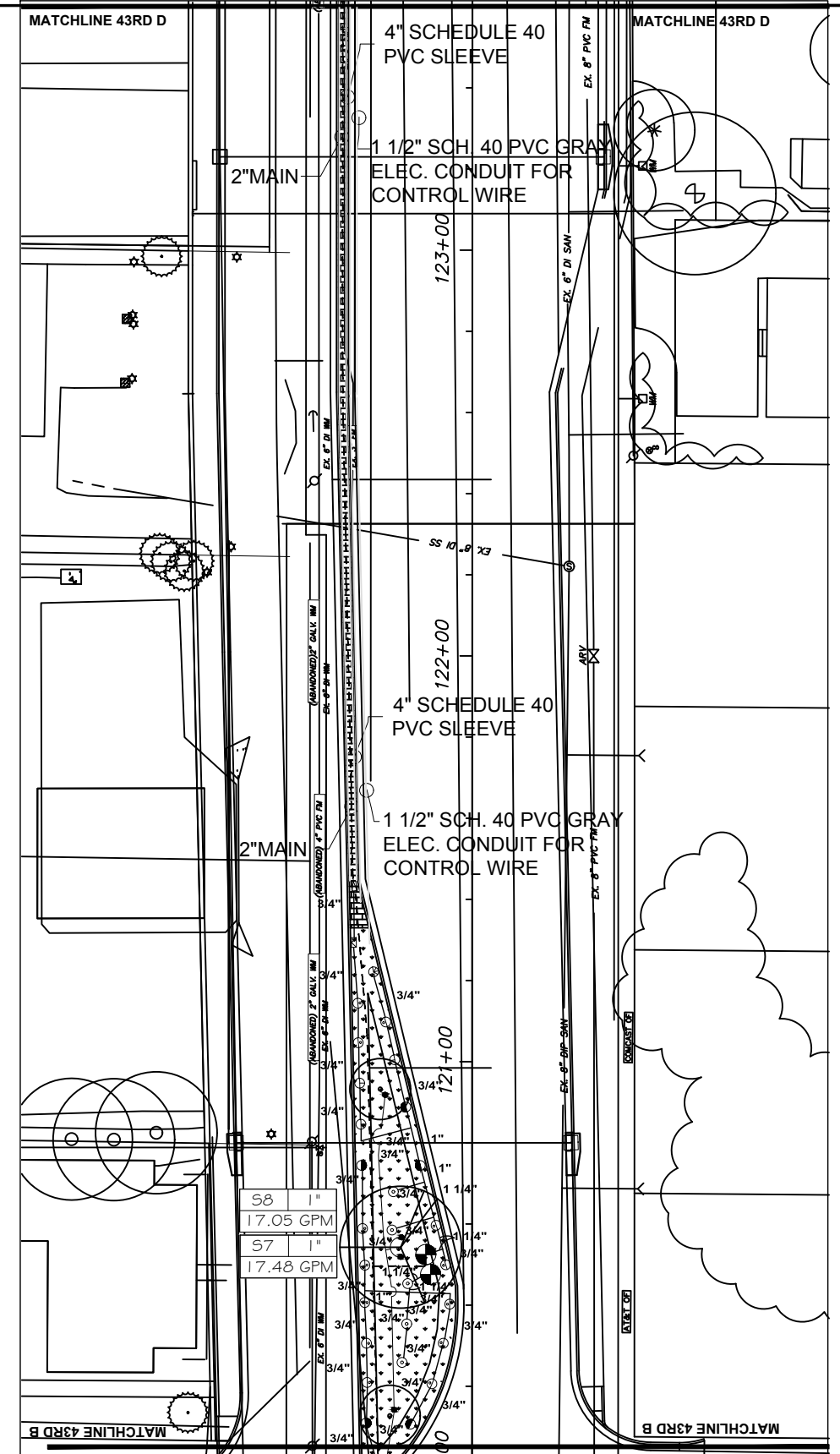
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SHEET A



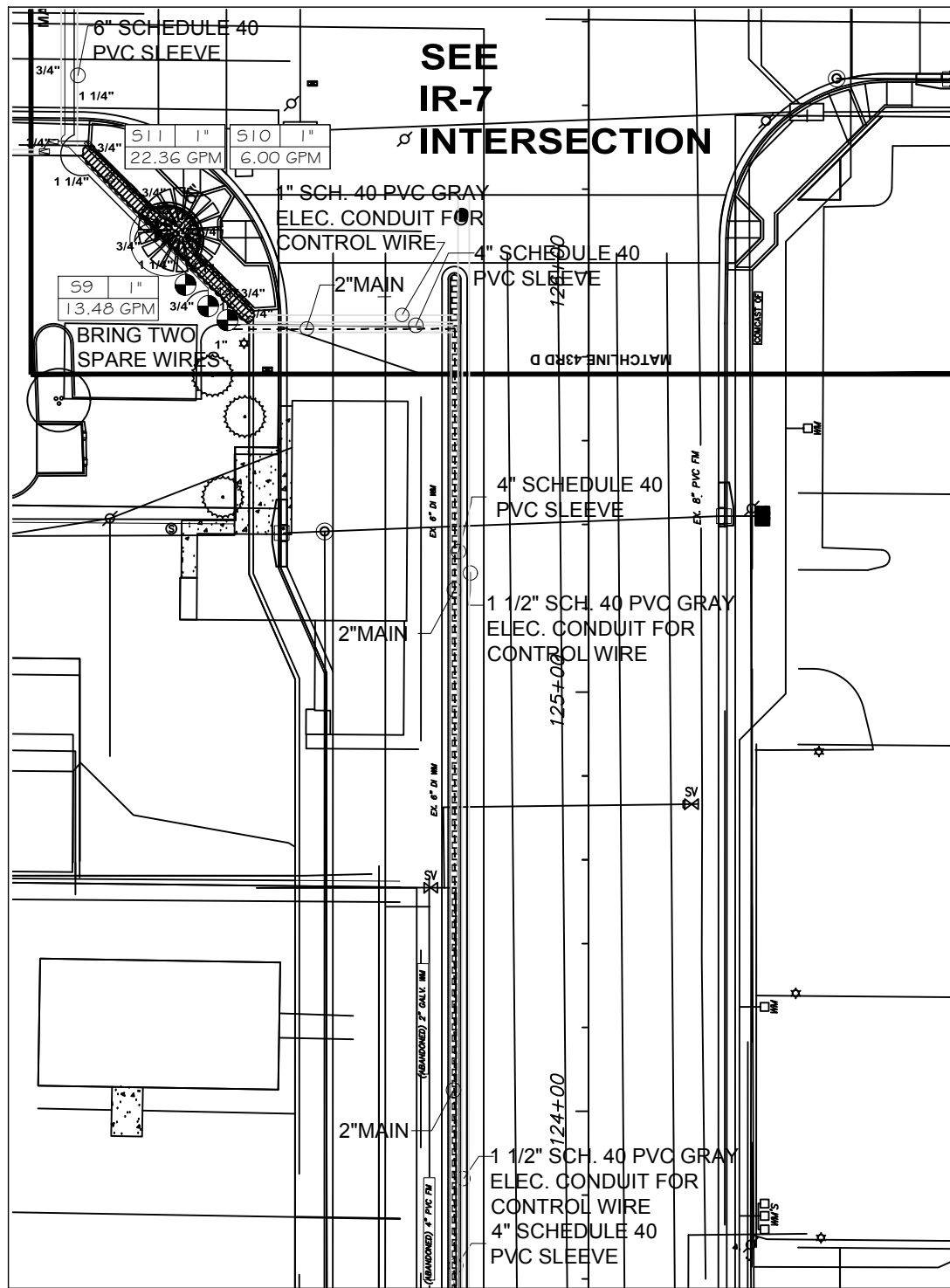
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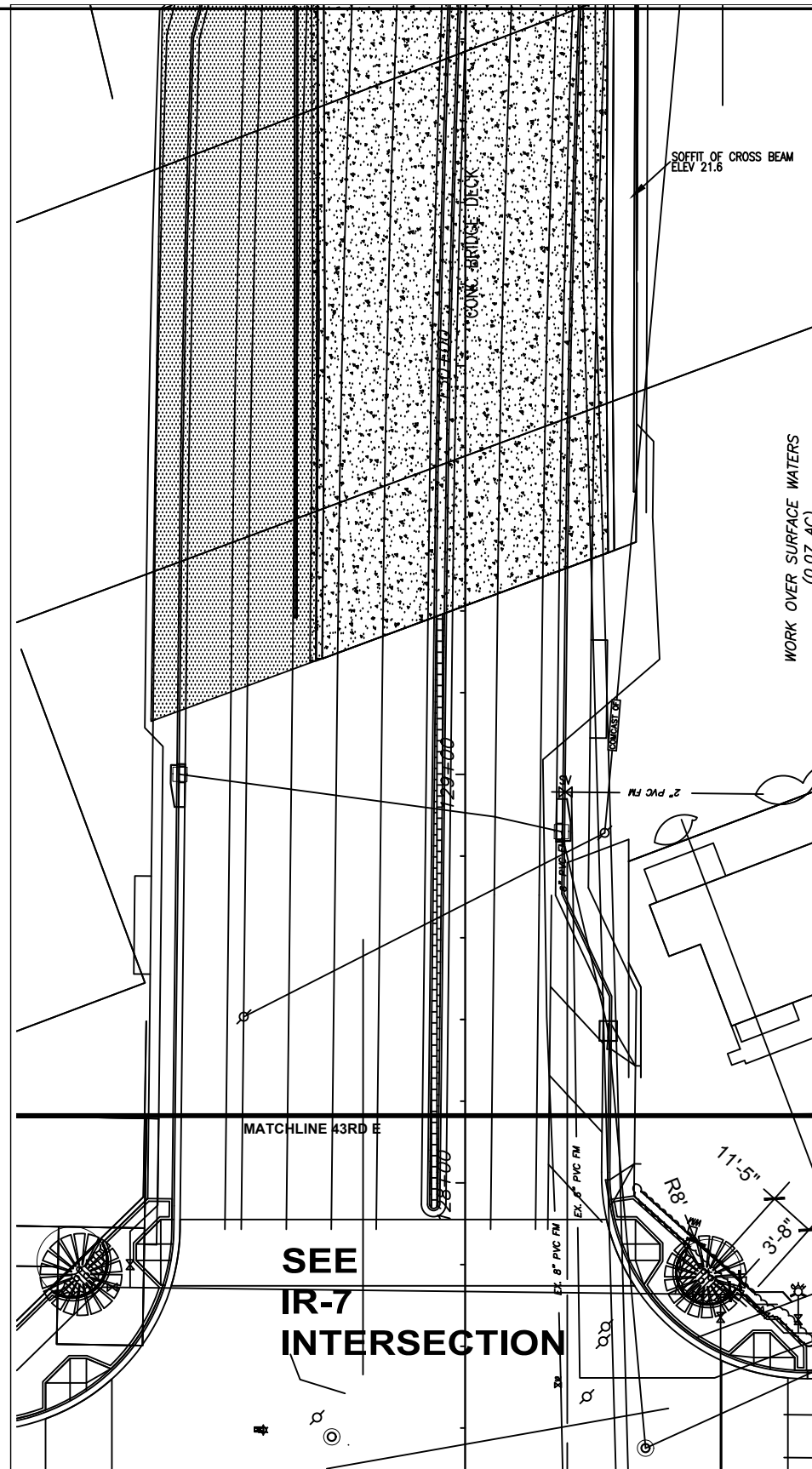
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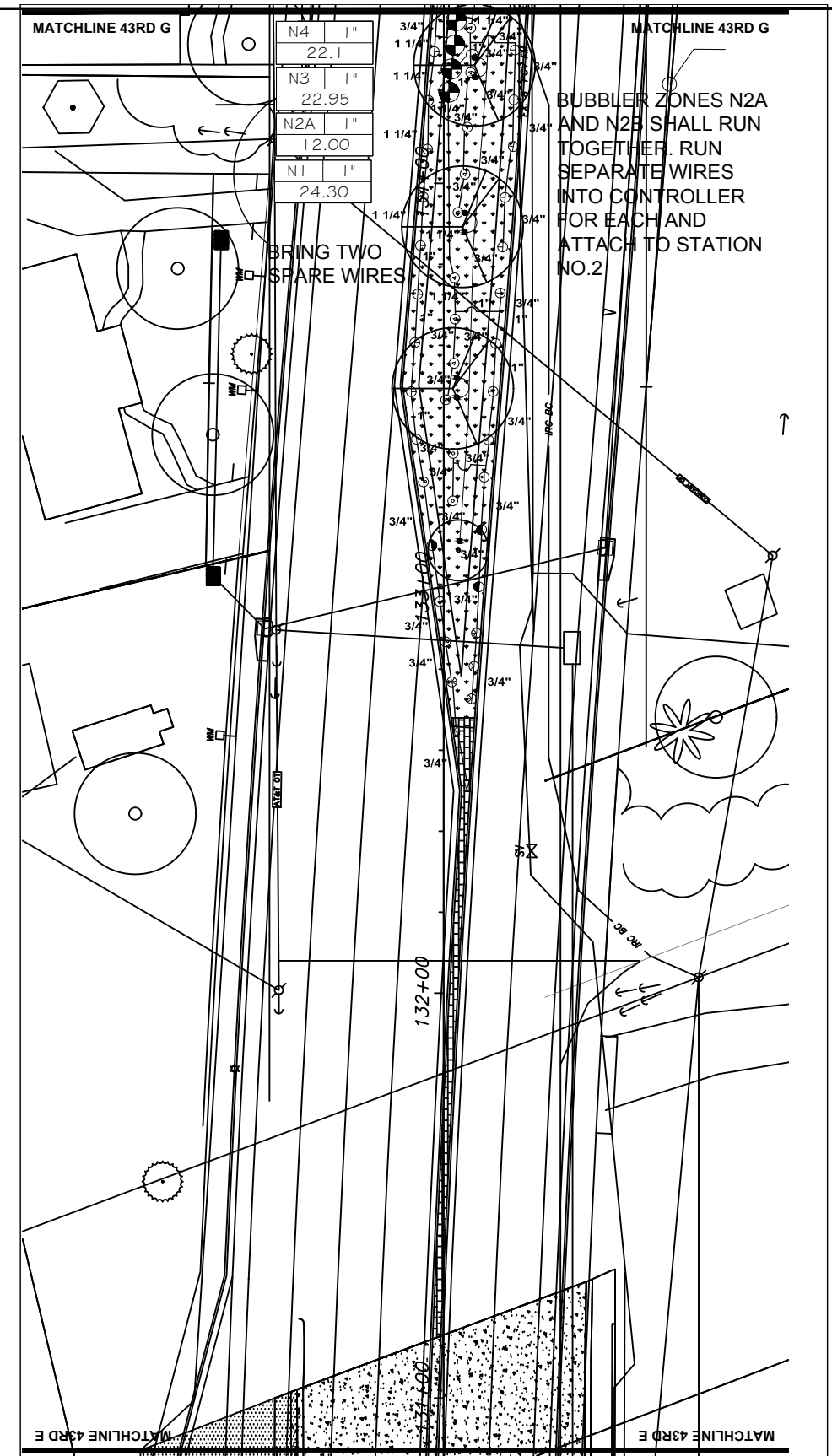




SHEET D



SHEET E




SHEET F


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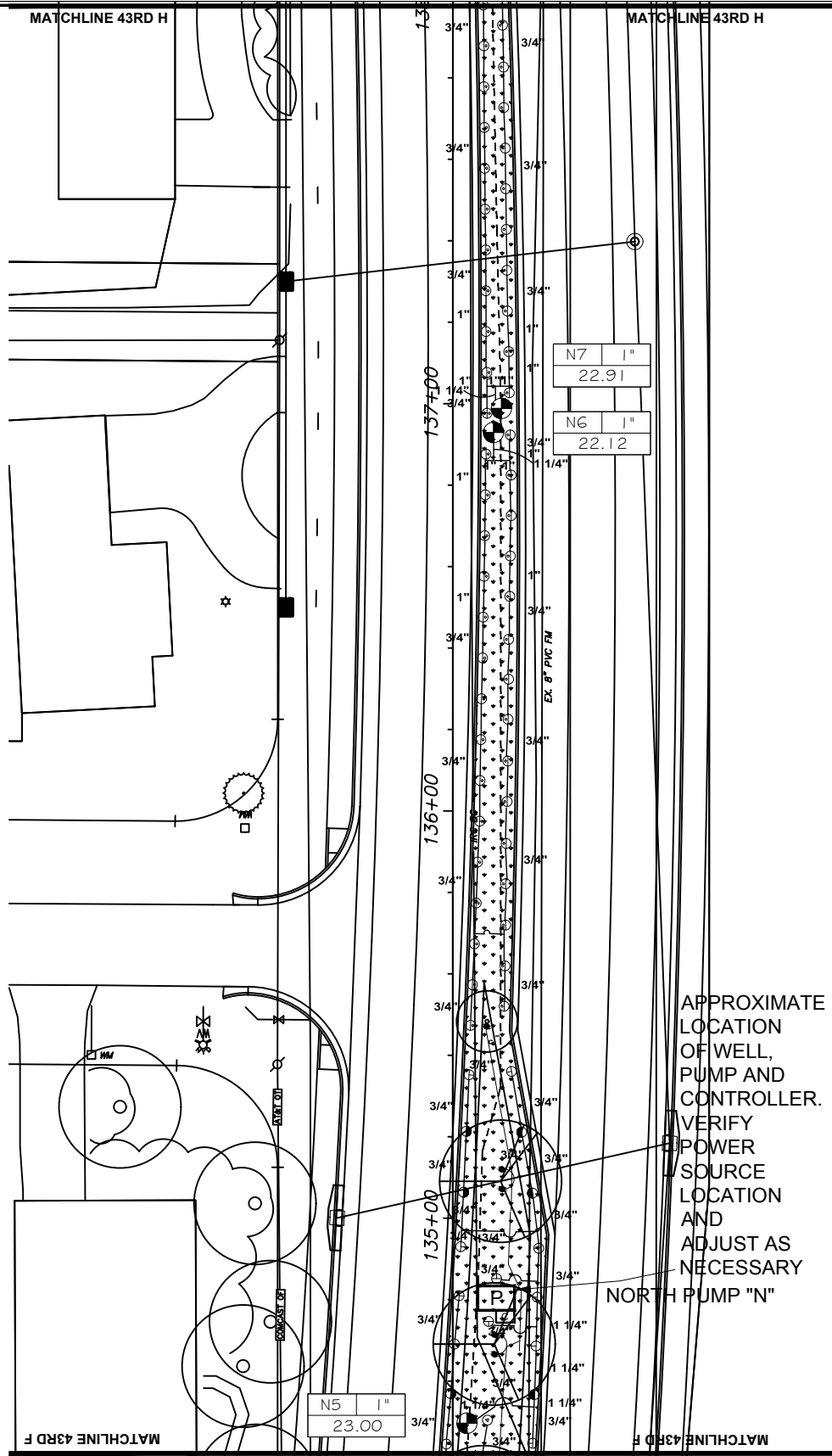

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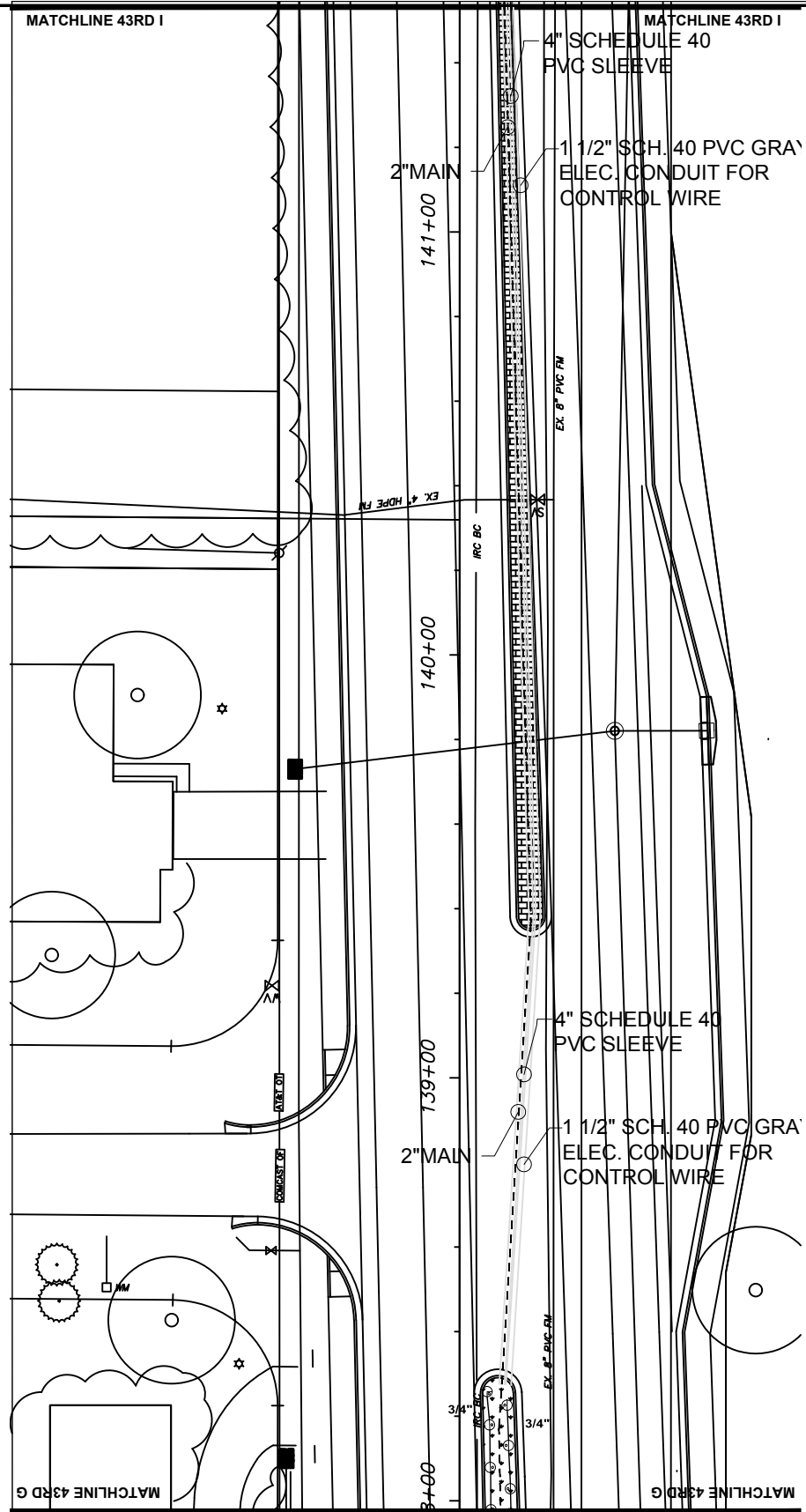
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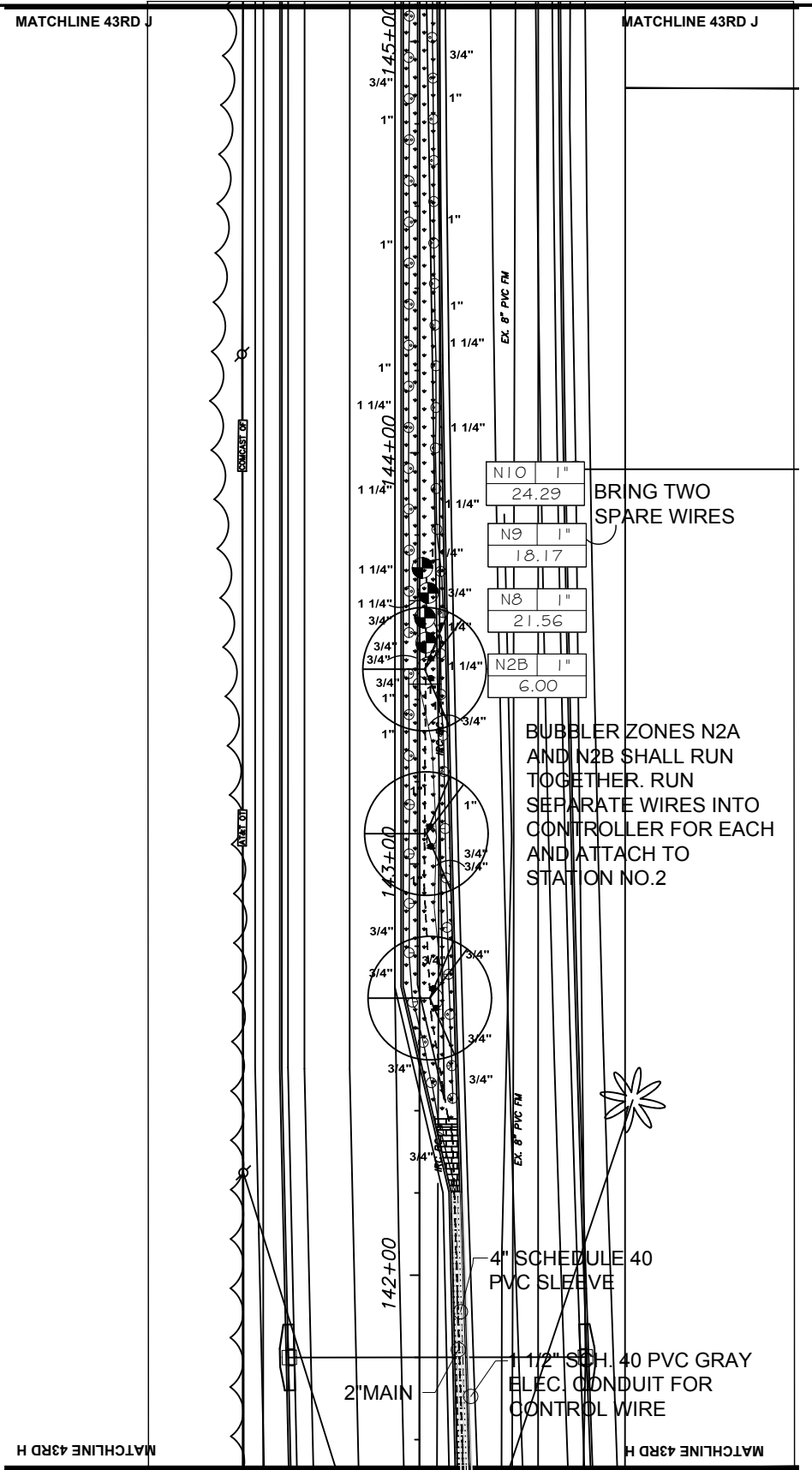
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SHEET G



SHEET H



SHEET I

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Of: IR-8

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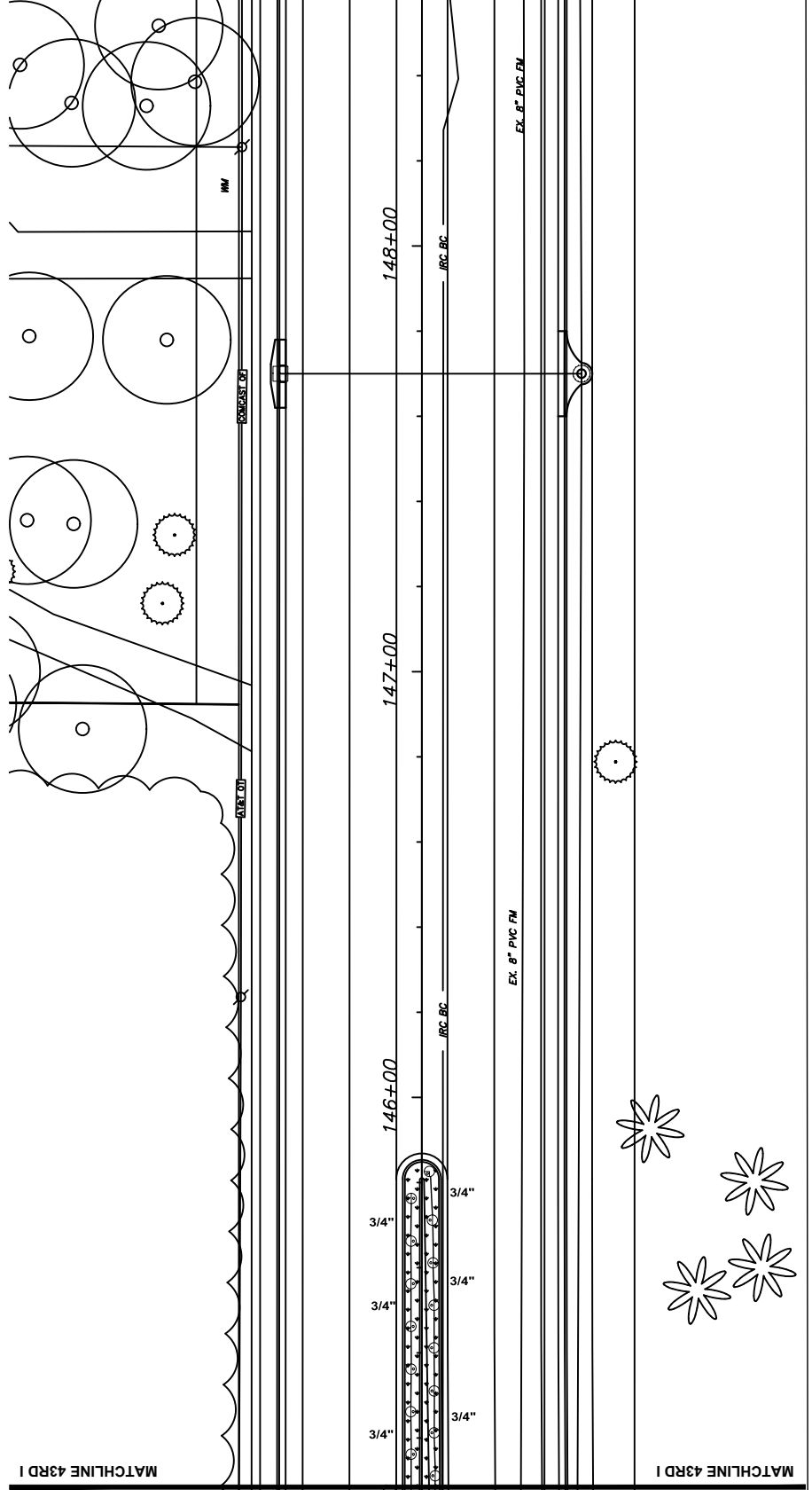
Project No. IRC# 0512 LNW# WP1027

MATCHLINE 43RD K

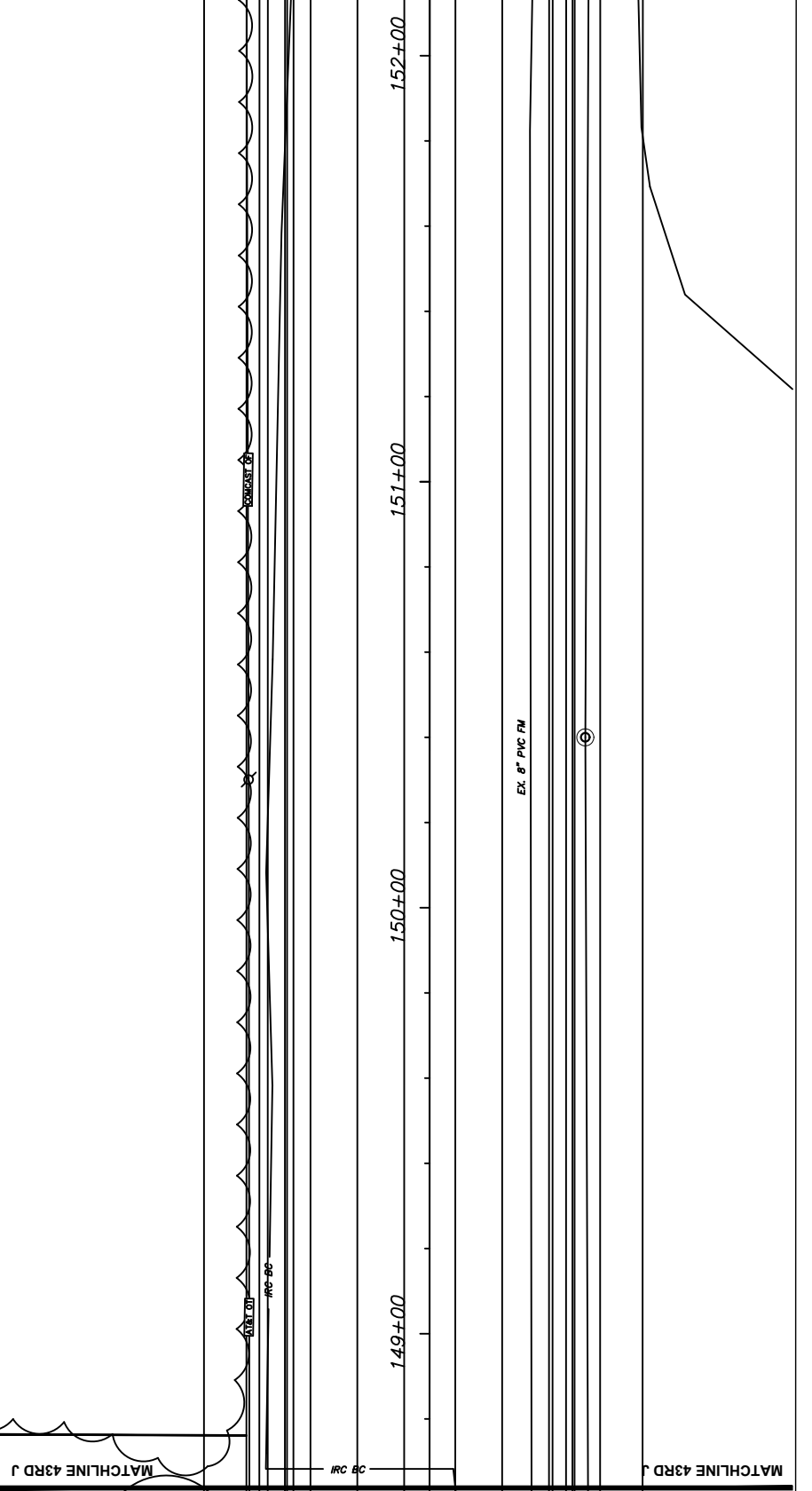
MATCHLINE 43RD K

MATCHLINE 43RD L

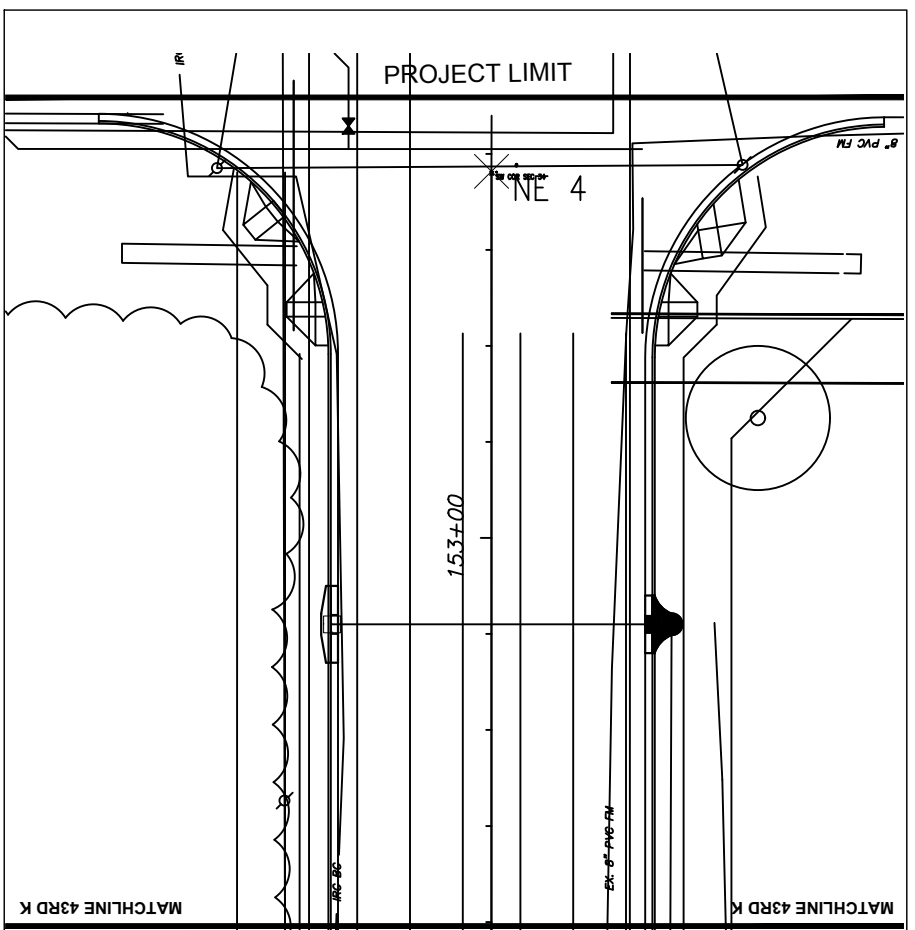
MATCHLINE 43RD L



SHEET J



SHEET K



SHEET L

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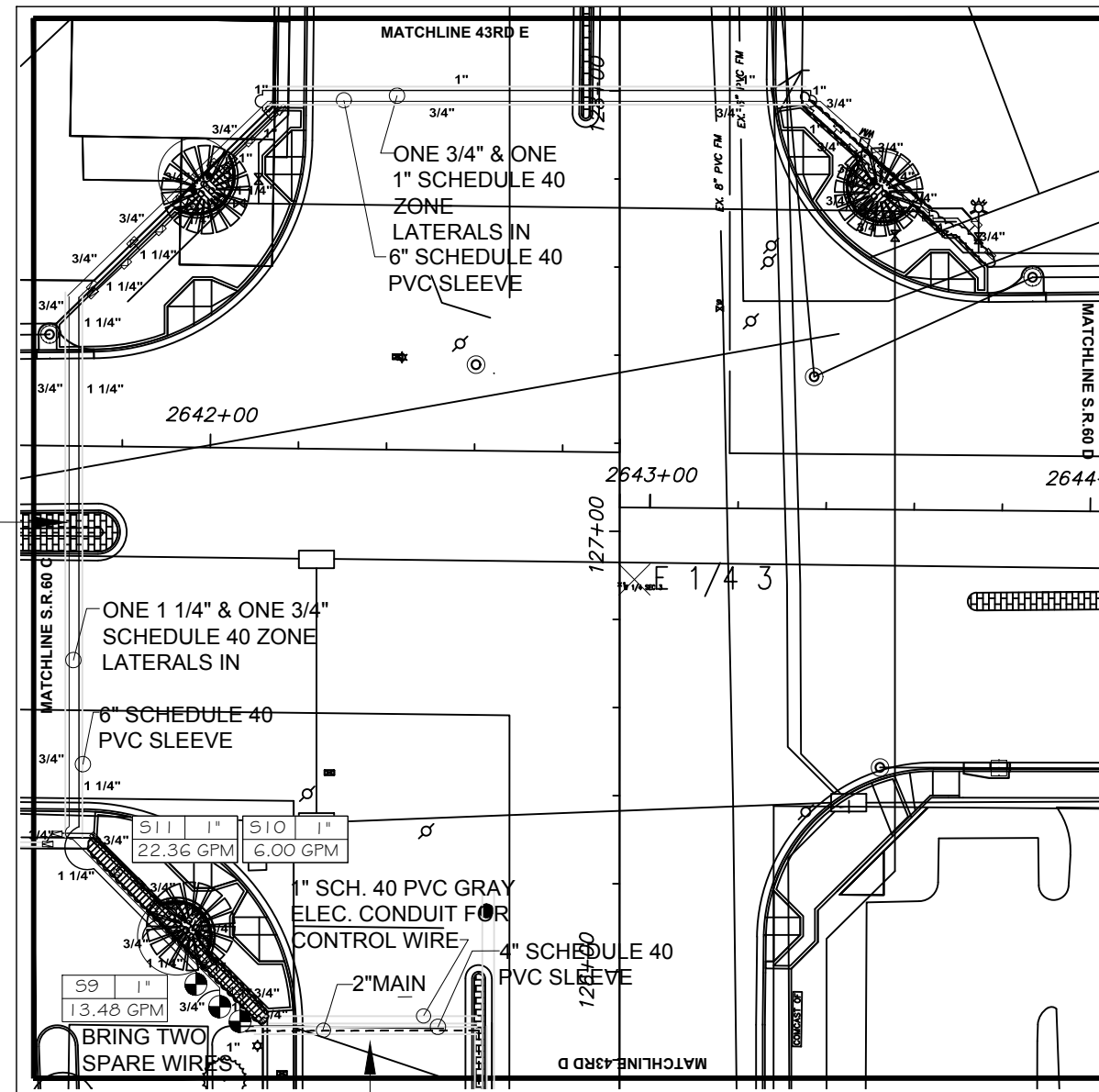
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 IRRIGATION PLAN
 FOR
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 43RD AVENUE

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 431759-2-54-01
 Project No.
 IRC# 0512
 LNW# WP1027

PROVIDE SLEEVE FOR IRRIGATION.



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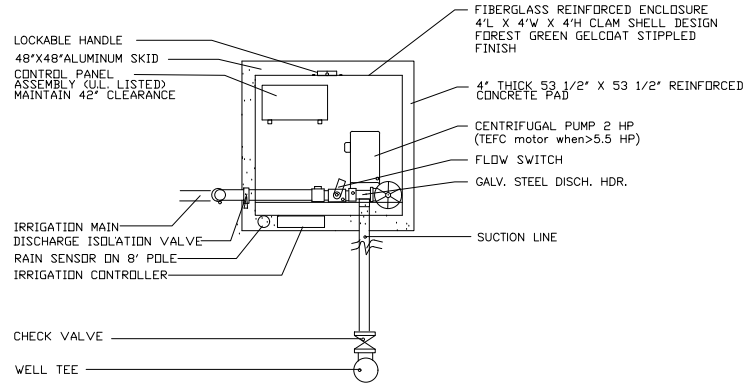
PROVIDE SLEEVES FOR IRRIGATION.

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NOTE: SUCTION PIPE SHALL BE SCHED 40 GALVANIZED STEEL WITH GALVANIZED ROLL GROOVE FITTINGS FROM THE PUMP TO THE WELL TEE. CHECK VALVES 3" AND LARGER SHALL BE SWING TYPE, 2" AND SMALLER SHALL BE POPPET STYLE PROVIDE MINIMUM OF 4' CLEARANCE ON ALL SIDES OF PUMP SYSTEM

- * OPTIONAL FEATURES ARE INCLUDED IF MARKED WITH AN "X"
- ___ PRESSURE CONTROL VALVE
- X IRRIGATION CONTROLLER RAIN BIRD ESP-LX MODULAR 12 STATIONS, WITH RAIN SENSOR
- ___ PRESSURE TANK FOR PRESSURE DEMAND SYSTEMS

SAFETY FEATURES:
-CLOCK START
-TRANSIENT SURGE
-LOSS OF PRIME
-NO FLOW



PLAN VIEW NTS
PUMP PERFORMANCE
25 GPM @ 120 TDH

HOOVER PUMPING MODEL: HCF-2CS-230/3-E-12,W
Pompano Beach, Florida, Tel: 954-971-7350

FILE PN11475.DWG 09/10

INDIAN RIVER COUNTY SR60 & 43RD
MEDIANS EAST, NORTH & SOUTH
CENTRIFUGAL PUMP SYSTEM DETAIL
FIBERGLASS ENCLOSED SINGLE WELL SUCTION
CLOCK START

ALTERNATE BID: QTY. THREE: CENTRIFUGAL
PUMP STATIONS AND 2" WELLS

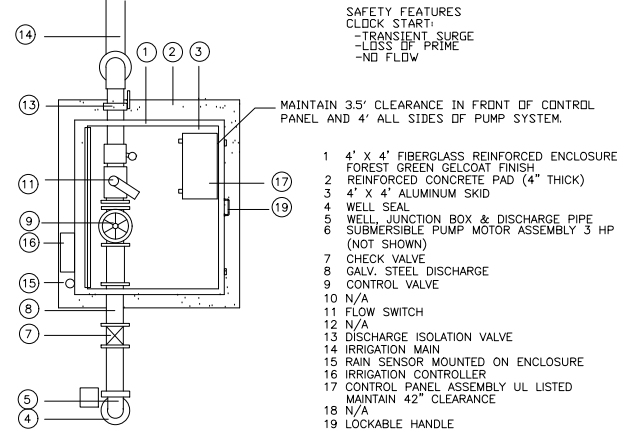
NOTE: DISCHARGE PIPES & HEADER TO IRRIGATION MAIN SHALL BE SCHED 40 GALVANIZED STEEL PIPE WITH GALV. ROLL GROOVE FITTINGS. PUMP DROP PIPE SHALL BE HDPE HEAT FUSED. SET PUMP 60" ON 2" PIPE. INSTALL MOTOR CABLE SPLICE BETWEEN MOTOR AND CONTROL PANEL IN NEMA 4X JUNCTION BOX ADJACENT TO WELL IN ACCORDANCE WITH ELECTRICAL CODES.

WELL DRILLER SHALL NOTIFY THE PUMP SYSTEM MANUFACTURER IN WRITING WITHIN 24 HOURS OF DEVELOPING THE WELL IF THE WELL PUMPING LEVEL IS GREATER THAN 30' BELOW FINISHED GRADE AFTER 8 HOURS OF CONTINUOUS PUMPING AT 125% OF THE DESIGN FLOW BELOW.

NOTE: PROVIDE MINIMUM OF 4' CLEARANCE ON ALL SIDES OF PUMP SYSTEM

- * OPTIONAL FEATURES ARE INCLUDED IF MARKED WITH AN "X"
- X PRESSURE CONTROL VALVE
- X IRRIGATION CONTROLLER RAIN BIRD ESP-LX MODULAR 12 STATIONS, WITH RAIN SENSOR
- ___ PRESSURE TANK FOR PRESSURE DEMAND SYSTEMS

SAFETY FEATURES:
-CLOCK START
-TRANSIENT SURGE
-LOSS OF PRIME
-NO FLOW



PLAN VIEW NTS

PUMP PERFORMANCE
25 GPM @ 158 TDH

HOOVER PUMPING MODEL: HSF-3CS-230/3-A,E-12,W
Pompano Beach, Florida, Tel: 954-971-7350

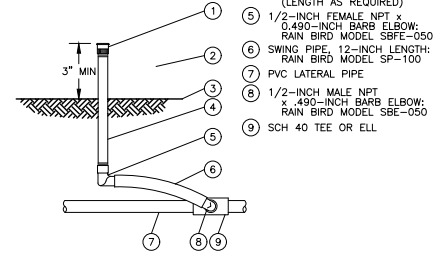
INDIAN RIVER COUNTY SR60 & 43RD
MEDIANS EAST, NORTH & SOUTH
SUBMERSIBLE PUMP SYSTEM DETAIL
FIBERGLASS ENCLOSED SINGLE WELL SUCTION
CLOCK START

BASE BID: QTY. THREE: SUBMERSIBLE
PUMP STATIONS AND 4" WELLS

PAY ITEM #05090 1 IRRIGATION SYSTEM

HEAD SCHEDULE

SYM	QTY	MODEL	NOZZLE	THEORETICAL (GPM)
⊙		RAINBIRD 1806-8F 6" POP UP	8'-0" FULL CIRCLE	1.05
⊙		RAINBIRD 1806-8H 6" POP UP	8'-0" HALF CIRCLE	0.52
⊙		RAINBIRD 1806-8T 6" POP UP	8'-0" ONE-THIRD CIRCLE	0.35
⊙		RAINBIRD 1806-8Q 6" POP UP	8'-0" QUARTER CIRCLE	0.26
⊙		RAINBIRD 1806-10F 6" POP UP	10'-0" FULL CIRCLE	1.58
⊙		RAINBIRD 1806-10H 6" POP UP	10'-0" HALF CIRCLE	0.79
⊙		RAINBIRD 1806-10T 6" POP UP	10'-0" ONE-THIRD CIRCLE	0.53
⊙		RAINBIRD 1806-10Q 6" PO UP	10'-0" QUARTER CIRCLE	0.39
⊙		RAINBIRD 1806-12F 6" POP UP	12'-0" FULL CIRCLE	2.60
⊙		RAINBIRD 1806-12TQ 6" POP UP	12'-0" THREE-QUARTER CIRCLE	1.95
⊙		RAINBIRD 1806-12H 6" POP UP	12'-0" HALF CIRCLE	1.30
⊙		RAINBIRD 1806-12T 6" POP UP	12'-0" ONE-THIRD CIRCLE	0.87
⊙		RAINBIRD 1806-12Q 6" POP UP	12'-0" QUARTER CIRCLE	0.65
⊙		RAINBIRD 1806-15F 6" POP UP	15'-0" FULL CIRCLE	3.70
⊙		RAINBIRD 1806-15TQ 6" POP UP	15'-0" THREE-QUARTER CIRCLE	2.78
⊙		RAINBIRD 1806-15H 6" POP UP	15'-0" HALF CIRCLE	1.85
⊙		RAINBIRD 1806-15T 6" POP UP	15'-0" ONE-THIRD CIRCLE	1.23
⊙		RAINBIRD 1806-15Q 6" POP UP	15'-0" QUARTER CIRCLE	0.92
⊙		RAINBIRD 1806-15SST 6" POP UP	15'-0" SST	1.21
⊙		RAINBIRD 1806-9SST 6" POP UP	9'-0" SST	1.73
⊙		RAINBIRD 1806-15EST 6" POP UP	15'-0" EST	0.61
⊙		RAINBIRD 1812-8H 12" POP UP	8'0" HALF CIRCLE	.52
⊙		RAINBIRD 1812-10H 12" POP UP	10'0" HALF CIRCLE	0.7900
⊙		RAIN BIRD 1404 BUBBLER	PRESSURE COMPENSATING	1.0000



RAINBIRD PRESSURE COMPENSATING FLOOD BUBBLER

NOT TO SCALE

IRRIGATION NOTES

THE CONTRACTOR SHALL MAKE ALL ADJUSTMENTS TO THE PROPOSED IRRIGATION SYSTEM TO ENSURE 100% COVERAGE.

THE CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT OF ANY MAJOR DISCREPANCIES IMMEDIATELY.

THE CONTRACTOR SHALL PROVIDE FULL SIZE 'AS BUILT' DRAWINGS AND A REDUCED SIZE COPY WITH COLOR CODED ZONES SHOWING EACH ZONE AND ITS LIMITS, IN A WATERPROOF CLEAR SHEET PROTECTOR TO BE STORED IN CONTROLLER ENCLOSURE.

ALL SPRAY HEADS SHALL BE RAINBIRD 1800 SERIES (OR APPROVED EQUAL) AND MUST BE INSTALLED WITH THE RECOMMENDED RAINBIRD FILTER/SCREENS INSERTED BELOW NOZZLES.

ALL ROTOR HEADS SHALL BE THE RAINBIRD 5000 SERIES (OR APPROVED EQUAL) AND MUST BE INSTALLED WITH THE MANUFACTURER'S NOZZLES TO PROVIDE 100% COVERAGE.

ALL BUBBLER HEADS ARE TO BE RAINBIRD PRESSURE COMPENSATING FLOOD BUBBLERS MODEL NO. 1404 (OR APPROVED EQUAL).

WHEN LOCATING ONE VALVE BOX NEXT TO ANOTHER, THERE SHALL BE A MIN. OF 24" SEPARATION FOR SOO TO GROW BETWEEN. VALVE BOXES SHALL BE ARRANGED IN A NEAT, ORDERLY STRAIGHT FASHION.

MAIN LINE PIPES ARE TO BE SCHEDULE 40 SOLVENT WELD WITH SCHEDULE 80 SOLVENT WELD PVC FITTINGS. SEE SPECS SECTION 02810 FOR BURIAL DEPTH DETAILS.

ZONE LATERAL PIPES ARE TO BE SCHEDULE 40 SOLVENT WELD PVC PIPE PER CODE AND SHALL NOT EXCEED A VELOCITY 5 F.P.S. SEE SPECS SECTION 02810 FOR BURIAL DEPTH DETAILS.

THE CONTROLLER IS TO BE THE RAINBIRD ESP-LX MODULAR MOUNTED ON THE PUMP STATION ENCLOSURE. PROVIDE ALTERNATE BID/QUOTE FOR 'RAINBIRD ET MANAGEMENT' CARTRIDGE INSTALLATION AND SETUP.

ALL CONTROL WIRING SHALL BE A (MIN.) AWG SIZE 14 WIRE, AND ALL GROUND WIRES SHALL BE A (MIN.) AWG SIZE 12 WIRE. SEPARATE WIRING SHALL BE PROVIDED TO EACH VALVE AND LABELED AS STATED ABOVE (SEE SPECS SECTION 02810 FOR SPARE DETAILS).

THE PUMP STATION IS TO INCLUDE A 3 HP SUBMERSIBLE PUMP W/ ENCLOSURE BY HOOVER PUMP SYSTEMS, A CONCRETE PAD, ALUMINUM SKID, CONTROL PANEL, CONTROLLER, RAIN SENSOR AND ALL OTHER EQUIPMENT PER THE DETAILS SHALL BE INSTALLED CONNECTED TO A 4" SCREENED WELL TO APPROXIMATELY 100' WITH A MIN. OF 20' OF SCREEN.

PROVIDE ALTERNATE BID/QUOTE FOR THE 2 HP CENTRIFUGAL HOOVER PUMPING SYSTEMS PUMP STATION CONNECTED TO A 2" WELL TO APPROXIMATELY 100' WITH A MIN. OF 20' OF SCREEN.

PROVIDE LIGHTNING RODS PER MANUFACTURERS RECOMMENDATIONS.

ALL WORK WITHIN THE SCOPE OF THESE PLANS SHALL BE IN ACCORDANCE WITH ALL GOVERNING LAWS, CODES, AND AGENCIES. (ROY-FISHER ASSOCIATES, INC. IS NOT RESPONSIBLE FOR ACQUISITION OF WATER USE PERMITTING OR ANY OTHER PERMITTING REQUIREMENTS REGARDING THE INSTALLATION OF THIS SYSTEM.)

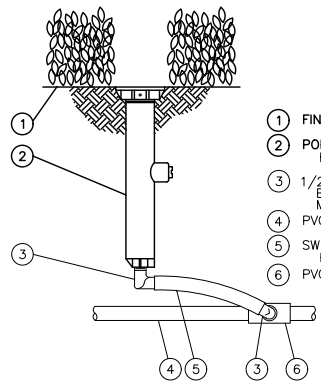
THESE DRAWINGS ARE NOT COMPLETE UNLESS ACCOMPANIED BY WRITTEN SPECIFICATIONS SECTION NO. 02810 'UNDERGROUND IRRIGATION SYSTEM' AND SECTION 0213 'IRRIGATION WELL.'

IRRIGATION LEGEND

- 2" SCHEDULE 40 SPLVENT WELD PVC MAIN WITH SCHEDULE 80 SOLVENT WELD PVC FITTINGS
- SCHEDULE 40 SOLVENT WELD SPRAY ZONE LATERALS WITH SCHEDULE 40 SOLVENT WELD FITTINGS
- SCHEDULE 40 SOLVENT WELD BUBBLER ZONE LATERALS WITH SCHEDULE 40 SOLVENT WELD FITTINGS
- SCHEDULE 40 SOLVENT WELD PVC SLEEVES
- 1" RAINBIRD PESB 24V ELECTRIC REMOTE CONTROL VALVE INSTALLED PER THE DETAILS
- PUMP / STATION NUMBER ZONE VALVE SIZE ZONE DEMAND
- QTY. THREE PRE-FAB HOOVER PUMPING MODEL HSF-3CS-230/3-A,E-12,W 3 H.P. SUBMERSIBLE PUMP STATION BY HOOVER PUMPING SYSTEMS, INC. WITH CONCRETE PADS, ALUMINUM SKIDS, FIBERGLASS ENCLOSURES AND ALL OTHER EQUIPMENT PER THE DETAIL INCLUDING RAINBIRD ESP-LX MODULAR IRRIGATION CONTROLLERS AND RAIN SENSORS TO CODE.

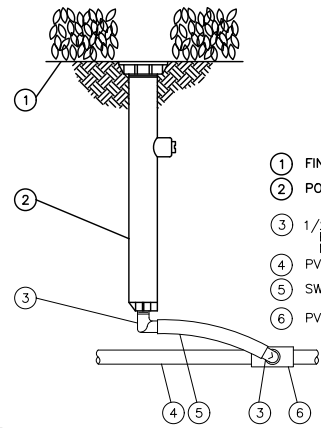
PROVIDE ALTERNATE BID: TO PROVIDE, INSTALL, AND SETUP RAINBIRD 'ET MANAGER' CARTRIDGES FOR EACH CONTROLLER TO CONVERT THEM TO SMART/ET WEATHER BASED CONTROLLERS.

DETERMINE, COORDINATE AND PROVIDE ELECTRICAL POWER SERVICES FOR EACH PUMP STATION WITH ALL NECESSARY ROAD CROSSINGS, SLEEVES, METER CANS, DISCONNECTS AND ALL NECESSARY EQUIPMENT TO CODE PERFORMED BY A LICENSED ELECTRICAL CONTRACTOR. VERIFY VOLTAGE AND PHASE. IF THREE PHASE POWER IS NOT AVAILABLE USE SINGLE PHASE PUMP MOTORS.



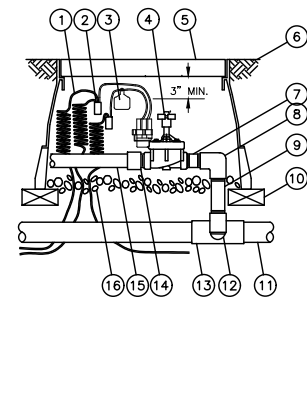
RAINBIRD 1806 SERIES 6" POP-UP SPRAY HEAD

NOT TO SCALE



RAINBIRD 1812 SERIES 12" POP-UP SPRAY HEAD

NOT TO SCALE



RAINBIRD PESB ELECTRIC REMOTE CONTROL ZONE VALVE

NOT TO SCALE

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