



ADDENDUM NO. 2

Date: April 23, 2015

Project Name: Alberta Revitalization Infrastructure Project Phase 1B

for the City of Tuscaloosa

City Project Number: A12-1324 WA Project Number: 12-100

This addendum to original drawings and specifications dated March 30, 2015 and any previous addenda for the above referenced project supersedes all contrary and conflicting information contained in said drawings, specifications and addenda. Said drawings, specifications and addenda are hereby amended in the following particulars that are in full force as part of this contract.

Bidders shall acknowledge receipt of this addendum on their bid.

ITEM NO. 1 – CONTRACTOR QUESTIONS:

- 1. Are the truncated dome pavers for the project required to be clay or concrete? The City has approved the pavers to be either brick clay pavers or concrete pavers of the type specified in the details or an approved equal.
- 2. The permeable concrete paver detail notes Belgard pavers or approved equal. Can you please clarify the particular type/style Belgard paver required for the project? Concrete Pavers shall be as manufactured by Belgard, Aqua-Bric style pavers, or an approved equal. It is critical that the brick dimensions, specifically thickness and drainage area provided between pavers, be equal to ensure durability and drainage ability.
- 3. <u>Is the AquaPave permeable paver as manufactured by Red River Hardscapes approved as an alternate to the permeable paver noted in the plans?</u> Yes, the submitted AquaPave paver may be used as an alternative permeable concrete paver.
- 4. The bid schedule list a quantity of 1,500 c.y. of Removal/Disposal/Replacement of Unsuitable
 Material but the Geotechnical Report references a total undercut quantity of 5,500 c.y. Please
 clarify. The total quantity reflected in the geotechnical report is for all phases of the project, not
 just 1B. The quantity for undercut should be as shown on the bid proposal form for Phase 1B.
- 5. Does the trench backfill detail for paved surfaces on C11.8 that shows stone backfill apply to the utilities under the permeable paver portions of the project? Or is this detail only required for utilities under asphalt and concrete paving. Select stone backfill of utility trenches shall be required in any area where proposed utilities (storm, sanitary, water, conduit, etc.) crosses an existing asphalt or concrete paved area. In areas outside of existing paved areas but under proposed pavement (concrete, asphalt, pavers), the Contractor may use standard backfill (this includes suitable on-site native material or approved borrow material) compacted in the required lifts to 98% compaction as indicated in the plans. If the Contractor elects, select stone backfill



mechanical consolidated could be used, in lieu of, standard backfill in these areas but would be done at no additional cost to the project.

- 6. Drawing E1.1, General Notes #1, reads that light poles and fixtures....and all associated appurtenances are supplied by the City. Based on previous similar City projects there are several items shown on the detail that did NOT come with the poles when ordered and therefore are NOT supplied by the City. Can you please clarify the following items on these poles as being provided by the City or provided by the Contractor: GFI receptacles, Wireless Access Points, Cameras, Outlet Boxes for Cameras, IT/Comm Boxes and whether the boxes come with the GFI Receptacle as detailed.
 - GFI Receptacles Upper and Lower (All GFI Receptacles shall be provided and installed by the Contractor)
 - Dedicated Circuit and Receptacles for the IT-Cabinet Comm. Boxes & WAP Locations (Provided and installed by the Contractor)
 - Wireless Access Points (Provided and Installed under a separate contract)
 - Cameras (N.I.C. Provided and Installed under a separate contract)
 - NEMA 4X- 5"x5"x3" Boxes for Cameras (N.I.C. Provided and Installed under a separate contract)
 - NEMA 4X- 5"x5"x3" Boxes for Wireless Access Points (Provided and installed by the Contractor)
 - IT-Cabinet Comm. Boxes (Provided by the City, Contractor to install. The IT-Cabinets do not come with a receptacle in them. The circuit and the receptacle in the IT-Cabinet shall be provided and installed by the Contractor).
- 7. Not every light pole will receive every item that is indicated on the pole details on drawing E1.1. Is there any way to quantify which poles receive which details. The reason this needs to be clarified is that the poles will be ordered to have openings on every pole for a device in every possible location. Knowing that not all of the poles will get a camera, IT Comm box, etc., there needs to be enough blank plates and bolts delivered from the pole manufacturer to blank off the openings that will not get used on certain poles. All poles will be ordered with the same openings, therefore, blank plates will be needed for each opening that does not receive any attached equipment. The Electrical Drawings in the construction documents indicate the poles that will have equipment installed such as IT-Cabinets, Cameras and WAP's. Also, a pole schedule has been provided as part of this Addendum to further clarify the pole type and whether they will include Cameras and WAP's.
- 8. Can we clarify the size of the MC cables that need to be installed inside the poles for power and wireless access? Also, if a particular pole does NOT receive a certain device, please advise if a MC Cable for that device will still be required. The MC Cable size can be 3/8", 1/2" and 3/4" as required for the electrical circuit connections. MC Cables will be used for all electrical circuits as indicated in the documents. If Seal Tight Conduit are used between the openings for technology connections (i.e. security cameras, wireless access points, and IT-Cabinet Box), the Seal Tight Conduit "MUST BE" attached to the low voltage NEMA 4X 5"x5"x3" Boxes in an appropriate manner.
- 9. Have the poles and arms already been ordered and received for this phase of the project? Poles and arms have been bid under a separate contract but have not been ordered at this time. Upon contract agreement with low bid contractor for this project, the City will coordinate with the Contractor on their project schedule for ordering and delivery of poles, arms, mounting hardware, etc.



10. Per Civil Drawings C8.1 through C8.4, are the coordination drawings for APCO, AT&T, and Comcast available for review prior to this project's bid? The highlighted conduit plans from each private utility company can be downloaded via the link below. Some of these were provided as hand sketches and highlighted drawings only. These were used to complete the bid conduit plans provided in the plans. Each utility company was met with and the bid conduit plans reviewed and approved. The bid conduit plans also include the conduit runs for the future technology improvements and the required lighting system. This information is being provided for reference only, but will have no bearing on the final plans. The final plans are the bid documents.

Phase 1B Private Utility Company Info PDF

- 11. Please clarify if and when expansion joint material is required for curb & gutter? If curb and gutter is being hand formed, expansion joint material will be required on 50' intervals, at all radii points at concrete entrances and curb returns, at inlets, at end of work day locations, and/or all cold joints. Where curb and gutter is machined formed, expansion joint material is only required at end of work day locations and/or all cold joints.
- 12. The irrigation controller specified for the project is a 12 Station Controller. There are 20 valves in the irrigation system. Should a 24 Station Controller be priced and the project controller specifications be revised? The required irrigation controller for the project shall be revised to a Toro Sentinel Controller containing 48 stations. This is to accommodate the current phases of the project and also future phases.
- 13. There are 2 different wage rate scales listed in the specs (AL-2 and AL-148). AL-2 lists the construction type as "highway" and AL-148 lists the construction type as "heavy". The wage rates are different between the two scales. For example, an electrician's wage rate for AL-2 "highway" is \$19.73 with no fringe benefits and the wage for an electrician under AL-148 "heavy" is \$23.50 with 13%+\$6.93 fringe benefits. Please clarify which wage scale applies. The Wage Rate Scale for "Heavy" AL-148 shall be disregarded for this project and only the "Highway" AL-2 shall be used for the project.

ITEM NO. 2 – ELECTRICAL PLAN SHEETS & LIGHT POLE SCHEDULE:

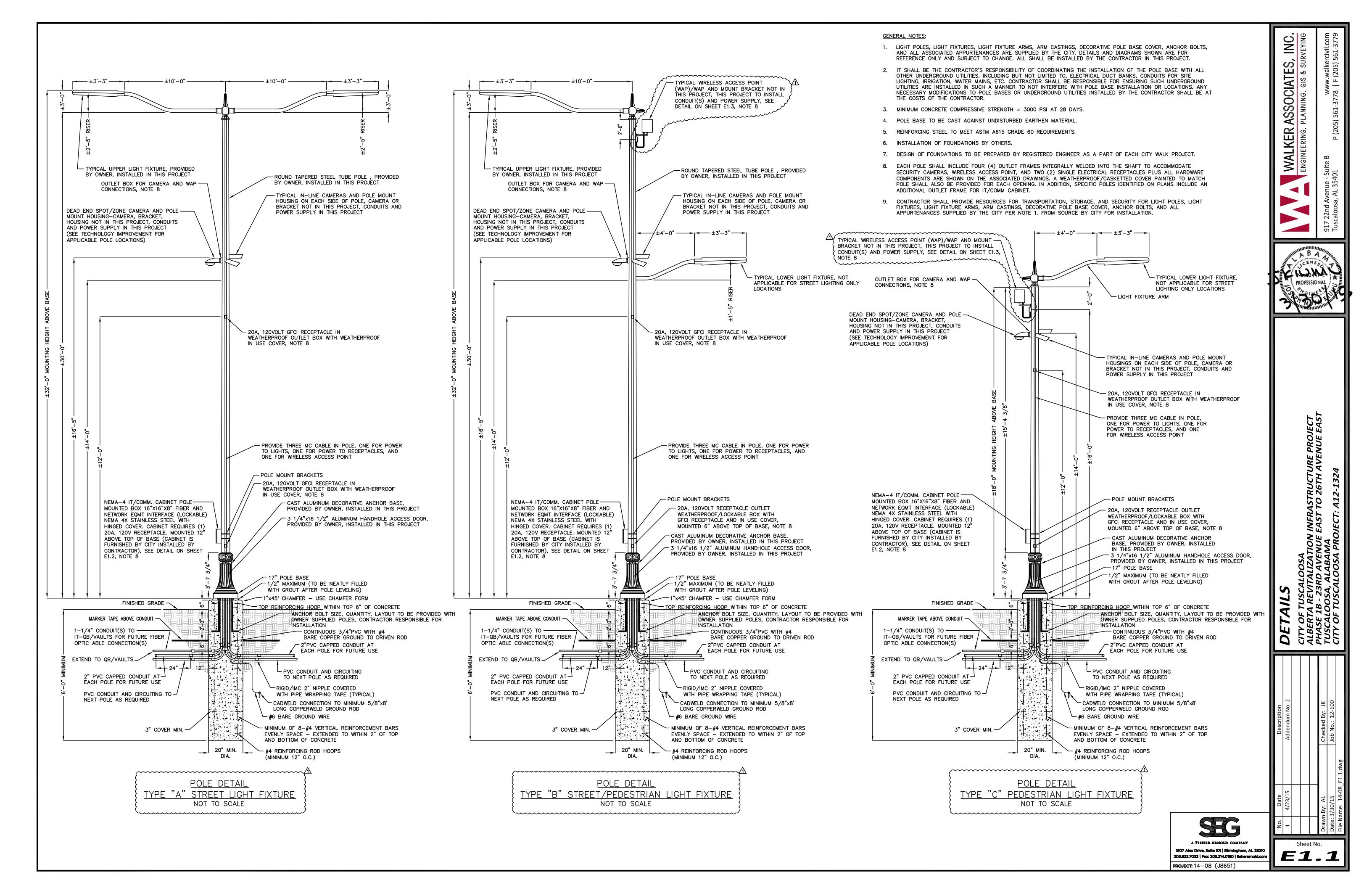
The following plans sheets have been revised to provide clarification to the above questions and shall replace the original plan sheets found in the contract documents in their entirety. Also, a light pole scheduled has been added to clarify the pole types and whether the various poles include cameras and WAP's.

Sheets E1.1, E1.2, E1.3, E2.0, E2.1, & E2.2 Light Pole Schedule

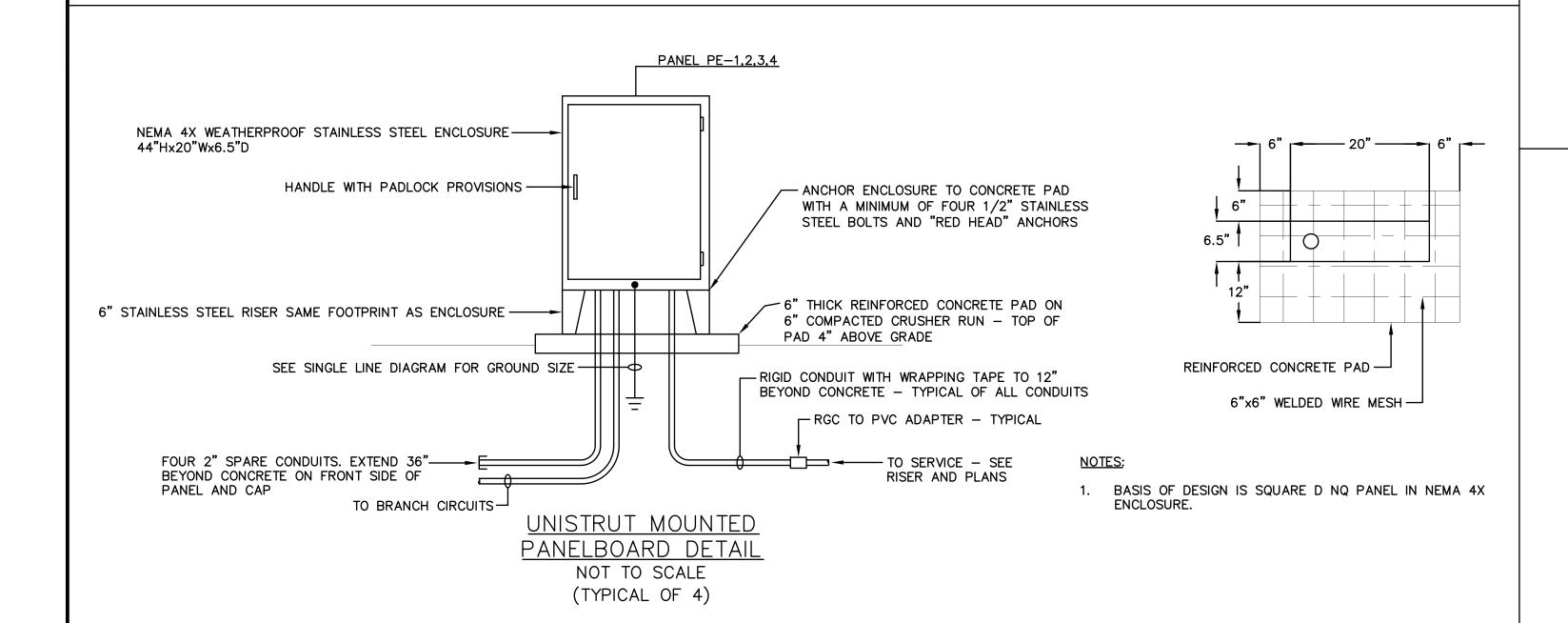
END OF ADDENDUM NO. 2

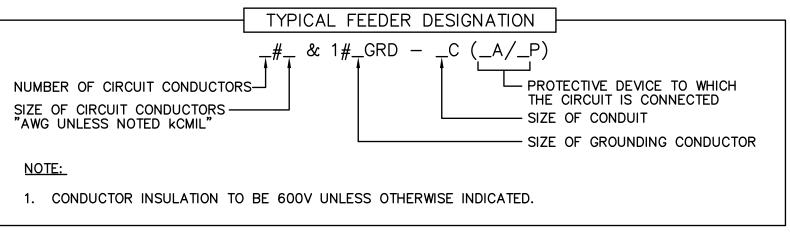
Michael Bradley Porter, P.E. Alabama Registration No. 30442





TYPICAL FIXTURE, RECEPTACLE, WIRELESS ACCESS POINT WIRING DIAGRAM NOT TO SCALE



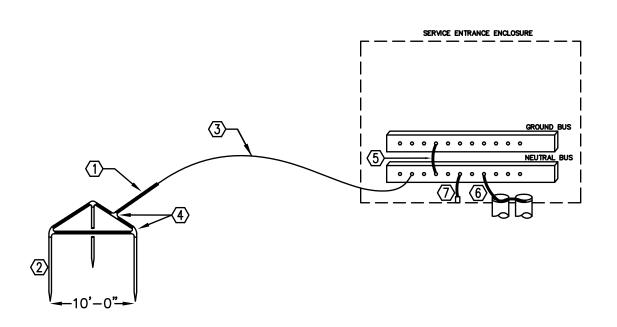


TYPICAL LUMINAIRE, DEVICE AND CIRCUIT DESIGNATIONS LUMINAIRE TYPE 'R', CIRCUIT NO. 1, CONTROLLED BY SWITCH "a" FLUORESCENT LUMINAIRE TYPE 'A', CIRCUIT NO. 2, CONTROLLED BY SWITCH "b" WALL OUTLET WITH RECEPTACLE NOTED, CONNECT TO CIRCUIT NO. 2 EQUIPMENT CONNECTION - CONNECT TO CIRCUIT NO. 1

<u>DETAIL</u> WIRING DESIGNATION NOT TO SCALE

<u>GROUNDING SYSTEM DETAIL - KEY NOTES</u>

- (1) BARE GROUNDING ELECTRODE CONDUCTOR, SEE SINGLE LINE DIAGRAM FOR WIRE SIZE.
- ② 3/4"x10'-0" CLAD STEEL GROUND ROD, DRIVEN 24" BELOW GRADE, MINIMUM.
- 3 BARE GROUNDING ELECTRODE CONDUCTOR IN 2"PVC-40, SEE SINGLE LINE DIAGRAM FOR WIRE SIZE.
- (4) EXOTHERMIC WELD CONNECTOR:
 TWO CABLES TO GROUND ROD, CADWELD #GT OR #GY
 CABLE TO CABLE TEE, CADWELD #TA
 ONE CABLE TO GROUND ROD, CADWELD #GR
- (5) BONDING JUMPER, SIZED BY EQUIPMENT MANUFACTURER PER NEC 250-66.
- (6) BONDING JUMPER TO GROUNDING BUSHING. AND BONDING JUMPERS FROM CONDUIT TO CONDUIT. ALL CONDUIT CONNECTED TO THE SERVICE ENTRANCE ENCLOSURE SHALL BE BONDED, SIZED PER NEC 250.
- (7) MAIN BONDING JUMPER, SIZED BY MANUFACTURER PER 250-66.

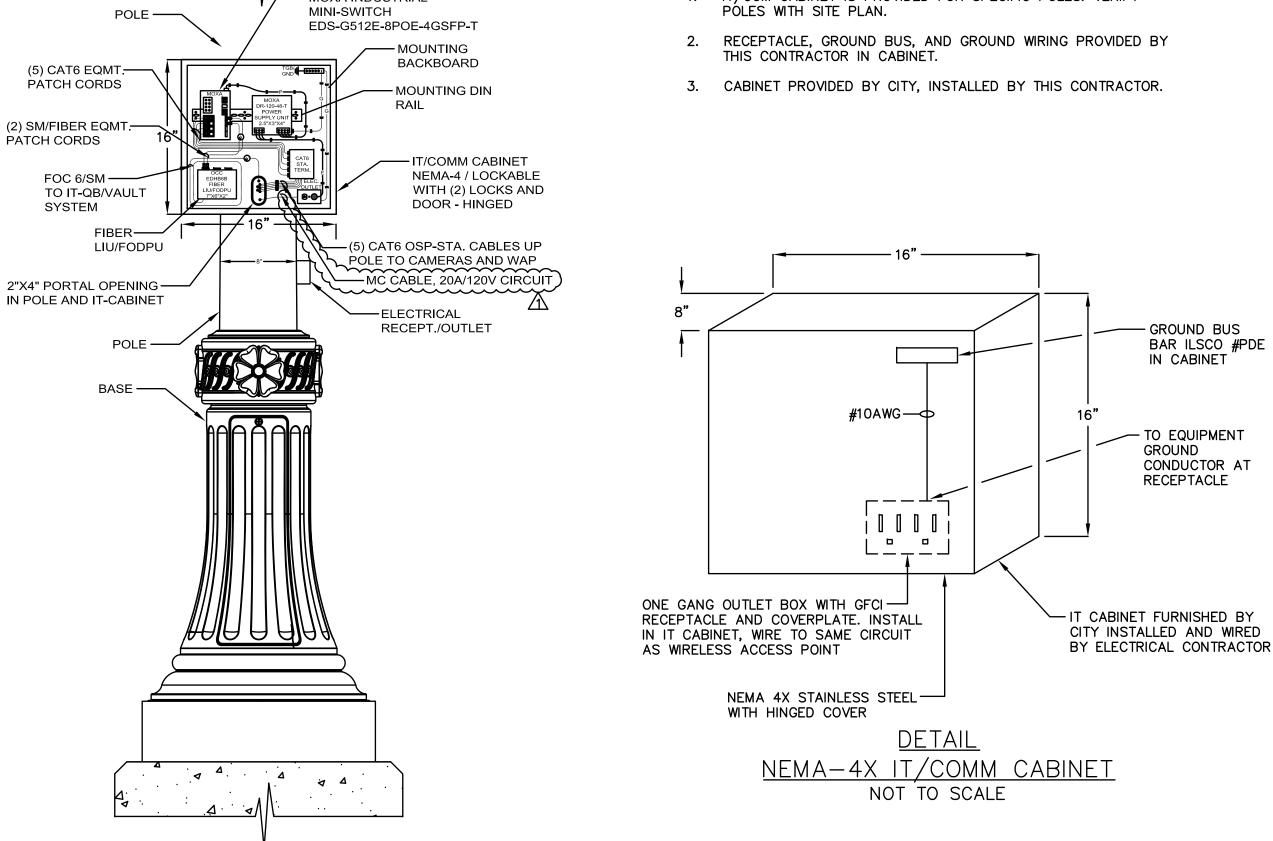


GROUNDING SYSTEM DETAIL

/______

NOT TO SCALE

POLES WITH IT/COMM CABINET (VERIFY EXACT COUNT AND LOCATION WITH CITY) LPA2, LPA4, LPA6, LPC1, LPC3, LPD2, LPF1, LPF4, LPF7, LPF9, LPM2, LPM4, LPG4, LPG3, LPG2, LPG1 IT/COM CABINET IS PROVIDED FOR SPECIFIC POLES. VERIFY — MOXA INDUSTRIAL POLES WITH SITE PLAN. MINI-SWITCH POLE -EDS-G512E-8POE-4GSFP-T RECEPTACLE, GROUND BUS, AND GROUND WIRING PROVIDED BY — MOUNTING THIS CONTRACTOR IN CABINET.



INSIDE VIEW

(FRONT)

SEG 1507 Alex Drive, Suite 101 | Birmingham, AL 35210 205.833.7033 | Fax: 205.314.0180 | fisherarnoid.co **PROJECT:** 14-08 (J8651)

- GROUND BUS BAR ILSCO #PDE IN CABINET

- TO EQUIPMENT

RECEPTACLE

CONDUCTOR AT

GROUND

ASSOCIATES

WALKER,

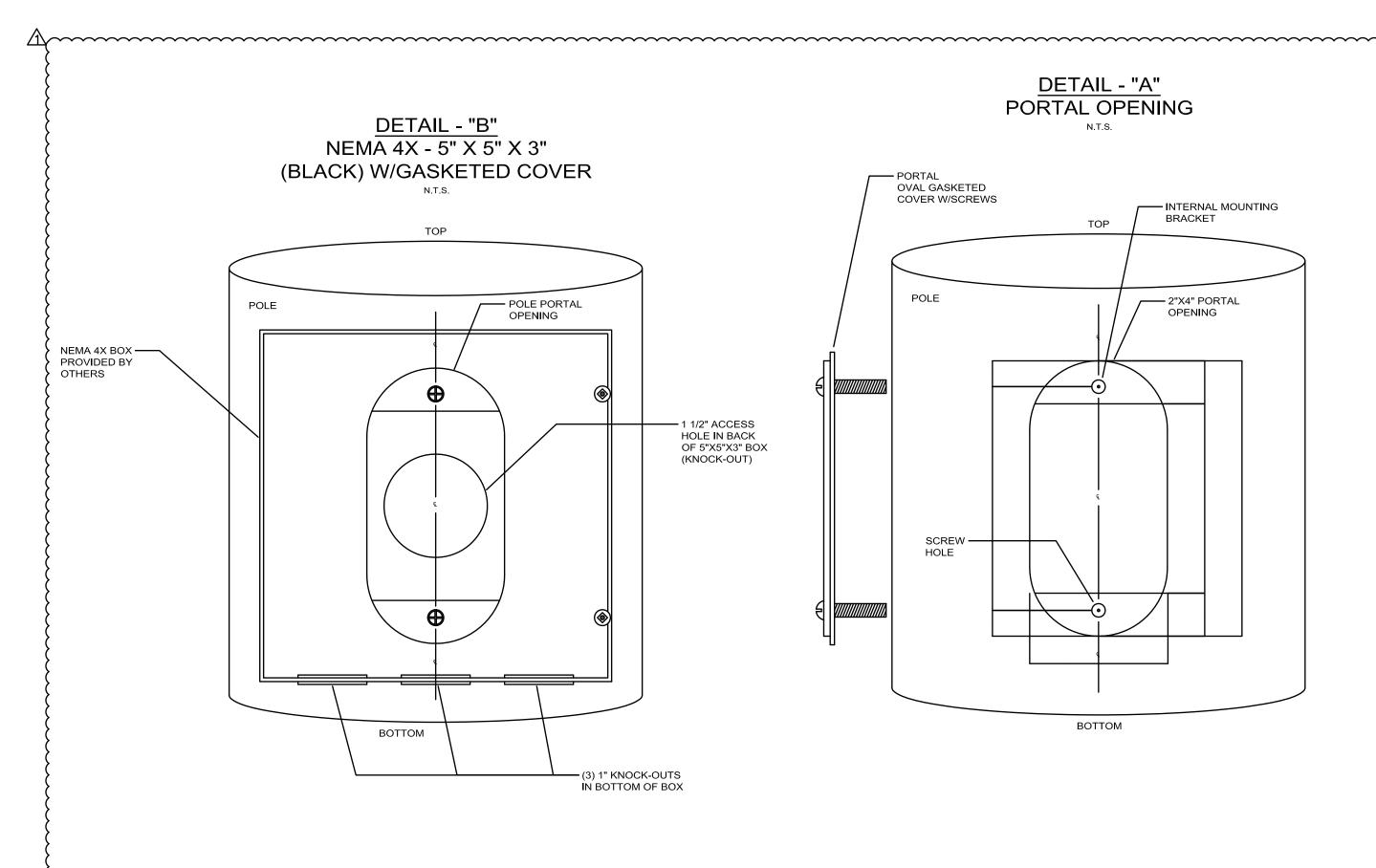


STRUCTURE PROJECT O 26TH AVENUE EAS

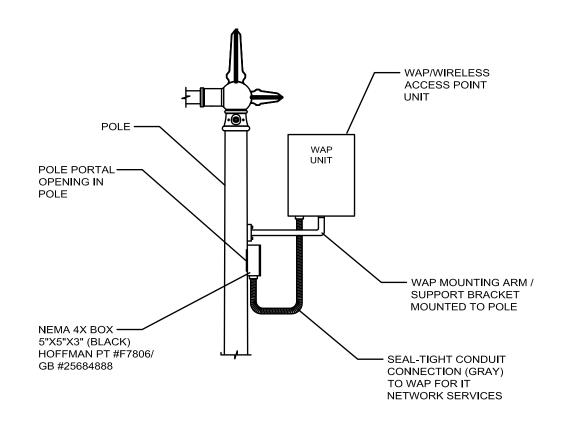
Sheet No.

					ı	PANEL LOA	DSUMMARY	<u> </u>						
Panel: PE-1		,												
Equipment	LIGHT	RCPT	O/M	CB SIZE	CIRCUIT #	PHASEA	PHASEC	CIRCUIT #	CB SIZE	LIGHT	RCPT	O/M	Equipment	
POLE LIGHTS	490			20/2	1	1690		13	20/1		1200		POLE MOUNTED RECEPTACLE	
102220113	490				2		2090	14	20/1		1600		POLE MOUNTED RECEPTACLE	
POLE LIGHTS	1500			- 20/2	3	1700		15	20/1			200	IRRIGATION CONTROLLER	
FOLELIGHIS	1500				4		1500	16	20/1				SPARE	
	280			20/2	5	280		17	20/1				SPARE	
POLELIGHTS	280				6		280	18	20/1				SPARE	
WIRELESS ACCESS POINT			560	20/1	7	560		19	20/1				SPARE	
WIRELESS ACCESS POINT			480	20/1	8		480	20	50/1				SPACE	
WIRELESS ACCESS POINT			320	20/1	9	320		21	50/1				SPACE	
OLE MOUNTED RECEPTACLE		1600		20/1	10		1600	22	50/1				SPACE	
OLE MOUNTED RECEPTACLE		1200		20/1	11	1200		23	50/1				SPACE	
OLE MOUNTED RECEPTACLE		1200		20/1	12		1200	24	50/1				SPACE	
Sub-Total	4540	4000	1360			5750	7150			О	2800	200	Sub-Total	
	TOTAL CONNECTED LOAD PER PHASE		PHASE		DEMAND LOAD (VA)		WIRE SIZE CALCULATION			NS ENCLOSURE		NEMA 4X (OUTDOOR STAINLESS STEEL)		
	†			DEMAND		T	LARGEST PHASE DEMAND 7.15		KVA MO		TING	FREE STANDING		
LÓAD TYPE	Phase A	Phase C		FACTOR	Phase A	Phase C	NO. OF PHA	SES	2.00		MAIN TYPE		MB	
LIGHTING	2270.00	2270.00		1.00	2270.00	2270.00	DEMAND L	OAD	14.30	KVA	SIZE		125A	
RECEPTACLES	2400.00	4400.00		*	2400.00	4400.00	SPARE CAPA	CITY @25%	3.58	KVA	FEED THRU		NO	
MOTORS/OTHER	1080.00	480.00		1.00	1080.00	480.00	TOTAL DEN	MAND LOAD	17.88	KVA	FEED		воттом	
TOTAL	5750.00	7150.00			5750.00	7150.00	SUPPLY VO	DLTAGE	240.00	v	BUS R	ATING	125A	
							1				SERVICE	RATED	YES	
TOTAL CONNECTED LIGHTING LOAD		4.54	KVA		l	DEM AND A	MPS	74.48	AMPS	MIN FULL EQUI	P KAIC RATING	22		
TOTAL CONNECTED RECEPTACLE LOAD 6.80			KVA							TY	PE	NQOD		
TOTAL CONNECTED MOTOR/OTHER LOAD			1.56	KVA			MINIMUM	CT AMPS	74.48	AMPS	MANUFA	CTURER	SQUARE D	
TOTAL CONNECTED LOAD 12.90										ОТН	HER	TVSS		
* Diversified per NEC Table 220.13.							VOLTS 120/ 240 V 1 P			V 1 Phase.	Phase, 3 Wire & Grd Bus Bar			
					J									

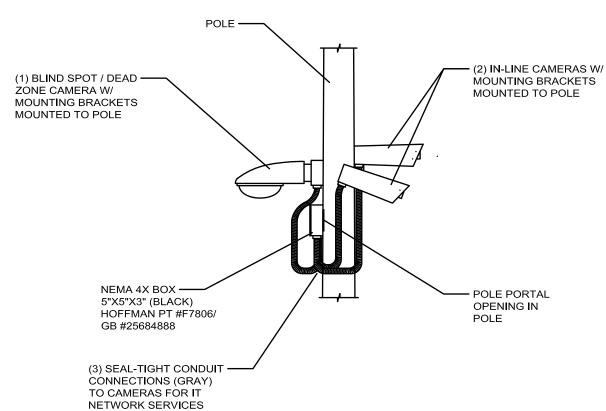
						FAINEL LUA	DSUMMARY						
Panel: PE-2										_			
Equipment	LIGHT	RCPT	O/M	CB SIZE	CIRCUIT #	PHASEA	PHASEB	CIRCUIT #	CB SIZE	LIGHT	RCPT	O/M	Equipment
POLELIGHTS	280			20/2	1	1480		13	20/1		1200		POLE MOUNTED RECEPTACL
	280				2		1480	14	20/1		1200		POLE MOUNTED RECEPTACE
POLELIGHTS	1500			20/2	3	2700		15	20/1		1200		POLE MOUNTED RECEPTACE
	1500				4		1700	16	20/1			200	IRRIGATION CONTROLLE
POLELIGHTS	990			20/2	5	1480		17	20/2	490			POLE LIGHTS
	990				6		1480	18		490			
WIRELESS ACCESS POINT			320	20/1	7	1520		19	20/1		1200		POLE MOUNTED RECEPTACE
WIRELESS ACCESS POINT			480	20/1	8		960	20	20/1			480	WIRELESS ACCESS POIN
WIRELESS ACCESS POINT			720	20/1	9	720		21	20/1				SPARE
POLE MOUNTED RECEPTACLE		1600		20/1	10		1600	22	20/1				SPARE
OLE MOUNTED RECEPTACLE		1200		20/1	11	1200		23	20/1				SPARE
POLE MOUNTED RECEPTACLE		1200		20/1	12		1200	24	20/1				SPARE
Sub-Total	5540	4000	1520			9100	8420			980	4800	680	Sub-Total
TOTAL CONNECTED LOAD PER PHASE		PHASE		DEMAND LOAD (VA)		WIRE SIZE CALCULATIONS			NS	ENCLOSURE		NEMA 4X (OUTDOOR STAINLESS STEE	
	Phase A	Phase B		DEMAND	Phase A	Phase B	LARGEST PH	ASE DEMAND	9.10	KVA	MOUNTING		FREE STANDING
LÖAD TYPE	i nase A	Thase B		FACTOR	I liase A	I mase B	NO. OF PHA	SES	2.00		MAIN	TYPE	МВ
LIGHTING	3260.00	3260.00		1.00	3260.00	3260.00	DEMAND LO	DAD	18.20	KVA	SIZE		125A
RECEPTACLES	4800.00	4000.00		*	4800.00	4000.00	SPARE CAPA	CITY @25%	4.55	KVA	FEED THRU		NO
MOTORS/OTHER	1040.00	1160.00		1.00	1040.00	1160.00	TOTAL DEN	IAND LOAD	22.75	KVA	FEED		воттом
TOTAL	9100.00	8420.00			9100.00	8420.00	SUPPLY VO	DLTAGE	240.00	V	BUS R	ATING	125A
							1				SERVIC	ERATED	YES
TOTAL CONNECTED LIGHTING LOAD		6.52	KVA			DEMAND AMPS		94.79	AMPS	MIN FULL EQUIP KAIC RATING		22	
TOTAL CONNECTED RECEPTACLE LOAD			8.80	KVA	1						TY	PE	NQOD
TOTAL CONNECTED MOTOR/OTHER LOAD			2.20	KVA	1		MINIMUM CCT AMPS		94.79	AMPS	MANUFACTURER		SQUARE D
TOTAL CONNECTED LOAD			17.52	KVA	1						ОТ	HER	TVSS
* Diversified per NEC Table 220.13.				1		VOLTS 120/ 240 V 1 Phase, 3 Wire & Grd Bus Bar							



DETAIL - "C" NEMA 4X - 5"X5"X3" BOX W/ SEAL-TIGHT (GRAY) CONDUITS FOR CONNECTIONS TO WAP N.T.S.



<u>DETAIL - "D"</u> NEMA 4X - 5"X5"X3" BOX W/ SEAL-TIGHT (GRAY) CONDUITS FOR CONNECTIONS TO CAMERAS



FIBER INFRASTURCTURE PROJECT

- **CONTRACTOR NOTE:**
- 1. The data concerning the IT-Cabinet w/all hardware, Network Data Switches and Power Supplies, Fiber Patch Cords, CAT-6 Patch Cords in the IT-Cabinet, Seal-tight conduit connections from Camera Housings/WAP Housings to the NEMA J-Boxes and the Electrical Receptacle/Outlet and Ground Bar that are provided on this
- drawing are for information purposes only. 2. The placement of all these items are being installed under a separate contract.
- 3. The Installation of all NEMA J-Boxes, Fiber and LIU/FODPU, CAT-6 Station Cable and Termination Box, with all Mounting Hardware are the Fiber Infrastructure-Vendor/Contractor's Responsibility.
- 4. All Fiber and CAT-6 Patch Cords shall be provided by the Fiber Infrastructure-Vendor/Contractor. All Patch Cords will be provided to the City of Tuscaloosa, stored in the Main IT-Comm. Center for each of the CityWalk Project Sections. The installation of the Patch Cords will be completed by the Data Network, Security/Camera Network and Wireless Network Vendors/Contractors for installation.

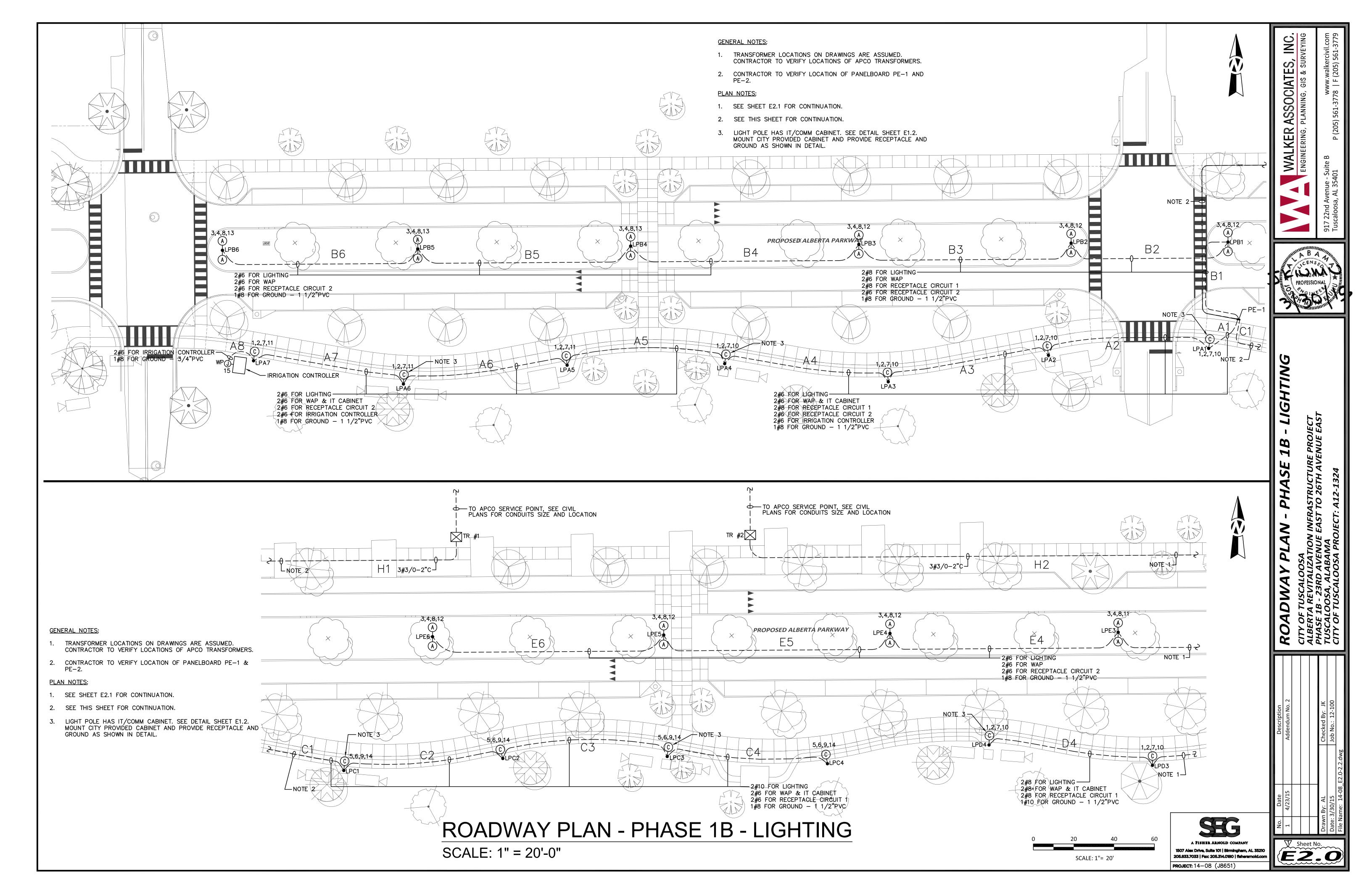
A FISHER ARNOLD COMPANY 1507 Alex Drive, Suite 101 | Birmingham, AL 35210 205.833.7033 | Fax: 205.314.0180 | fisherarnoid.co **PROJECT:** 14-08 (J8651)

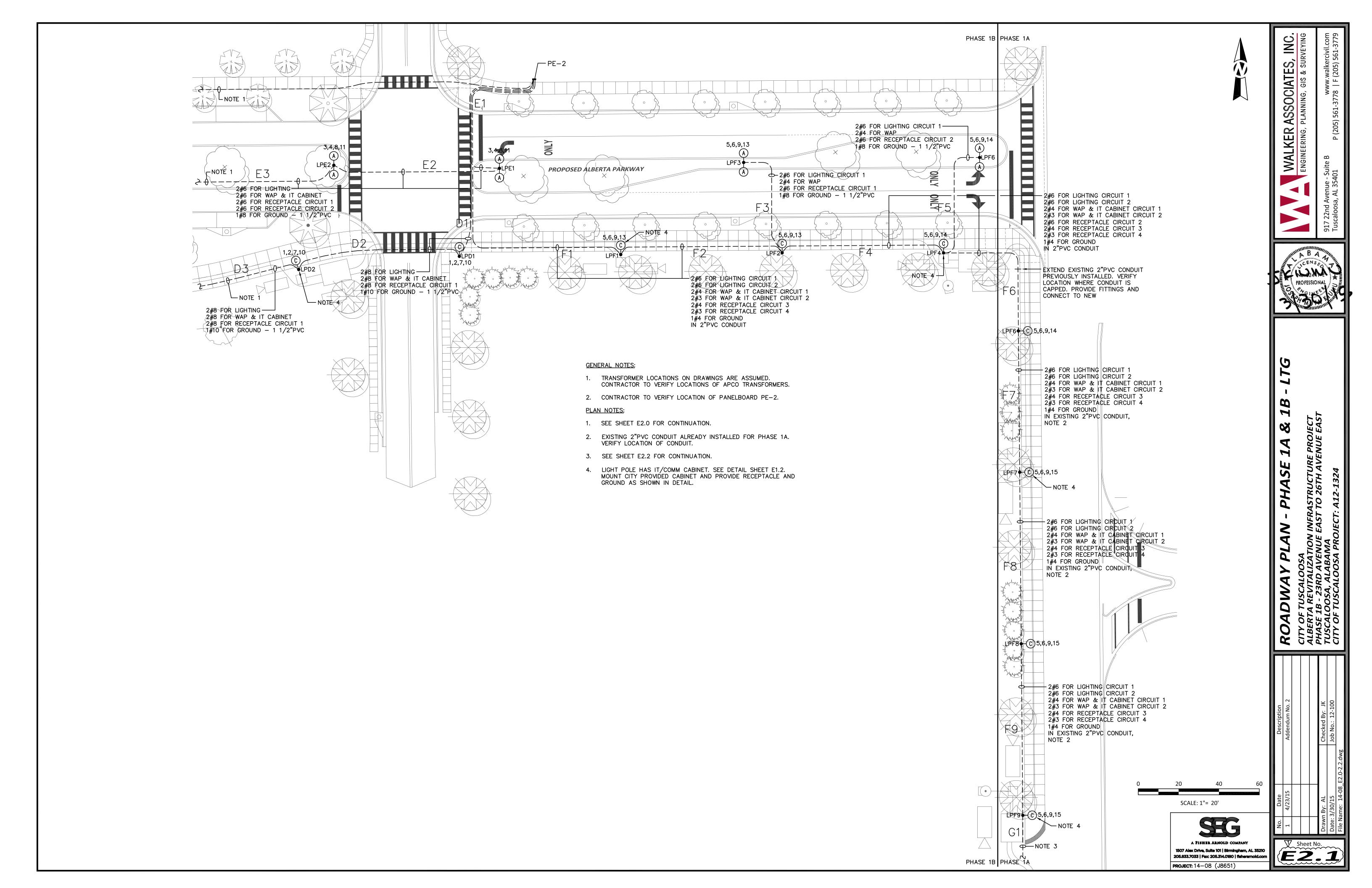


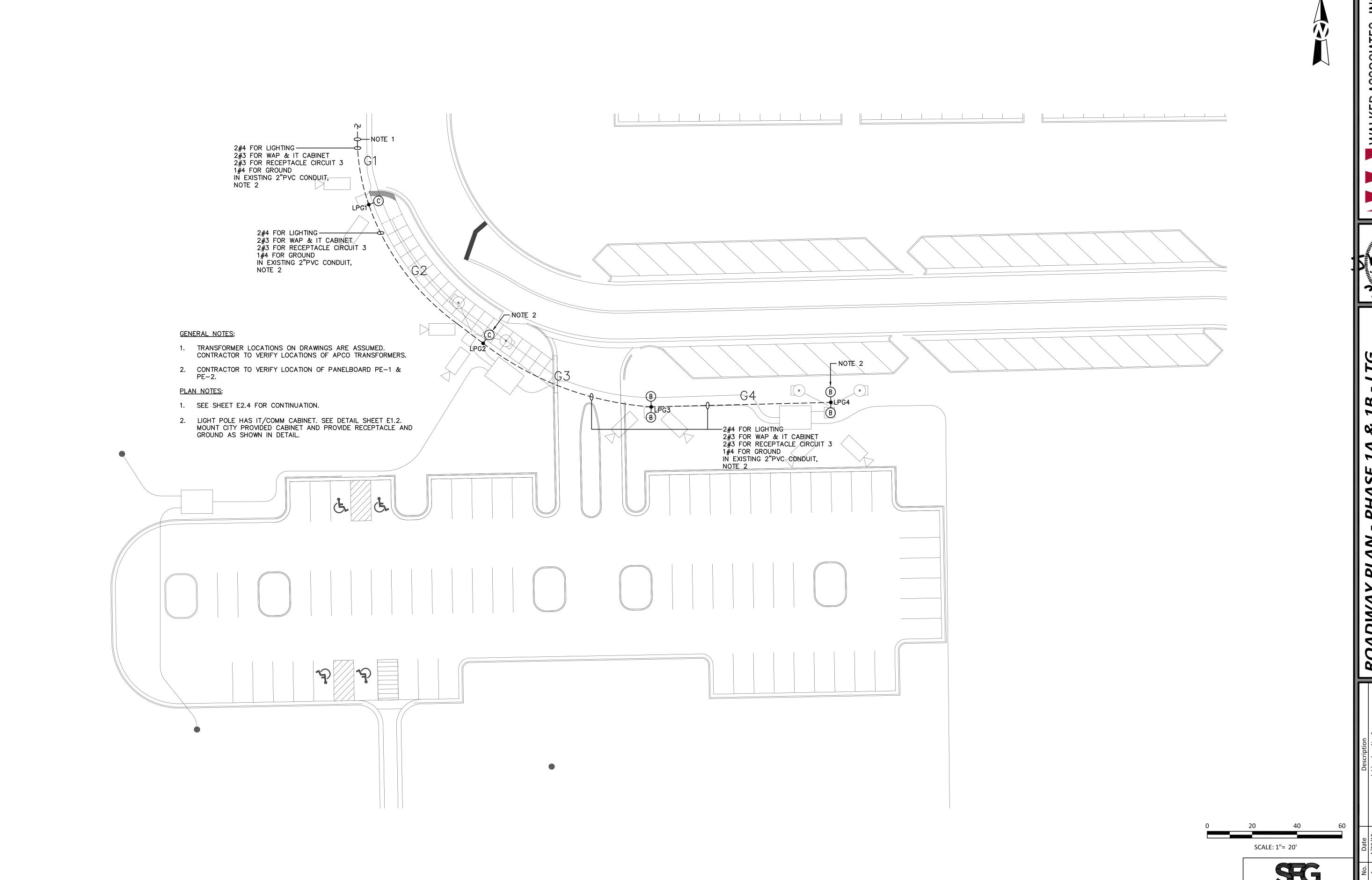
DE

DULE

STRUCTURE PROJECT O 26TH AVENUE EAS







WALKER ASSOCIATES, ENGINEERING, PLANNING, GIS & SUI



STRUCTURE PROJECT O 26TH AVENUE EAS PHASE

205.833.7033 | Fax: 205.314.0180 | fisherarnoid.co

PROJECT: 14-08 (J8651)

POLE SCHEDULE									
POLE	TYPE "A"	TYPE "B"	TYPE "C"	CAMERA	WAP				
LPA1			-						
LPA2			-	-					
LPA3			-						
LPA4			-	-	-				
LPA5			1						
LPA6			1	-					
LPA7			1						
LPB1	-								
LPB2	-								
LPB3	-								
LPB4	-								
LPB5	-								
LPB6	-								
LPC1			1	1					
LPC2			-						
LPC3			-	-	-				
LPC4			1						
LPD1			-						
LPD2			-	1					
LPD3			-						
LPD4			-	-					
LPE1	-								
LPE2	-								
LPE3	-								
LPE4	-								
LPE5	-								
LPE6	-								
LPF1			-	-	-				
LPF2			-						
LPF3	-								
LPF4			-	-					
LPF5	-								
LPF6			-						
LPF7			-	-					
LPF8			-						
LPF9			-	-	-				
LPG1			-	-					
LPG2			-	-	-				
LPG3		-		-					
LPG4		-		-	-				