				L		IG FIXT	URE S	CHEDUI	_E				
SYMBOL	DESCRIPTION	MANUFACTURER	FIXTURE SERIES	LAMP			FIXTURE		LIGHT CONTROL		ONTROL		
				TYPE	QNTY PER FIXTURE	WATTS	TS VOLTAGE	MOUNTING	LENS	REFLECTOR	LOUVER FINISH	- REMARKS	
<pre><f1< pre=""></f1<></pre>	GENERAL PURPOSE LED 4FT NOMINAL LOW PROFILE ENCLOSED AND GASKETED LIGHTING FIXTURE WITH FIBERGLASS HOUSING AND ACRYLIC FROSTED LENS. FIXTURE DIMENSIONS: 6.8"(W) x 4.2"(D) x 51-3/4"(L). [FIXTURE LUMEN OUTPUT ~ 4000 LUMENS]	LITHONIA LTG	FEM-L48-4000LM-LPAFL-WD-MVOLT- GZ10-40K-80CRI SERIES	LEDS 4000K (60,000 HRS WITH 80% LUMEN MAINTENANCE)	QNTY AS REQUIRED	23.8W (NOMINAL FIXTURE INPUT WATTS)	120V	SURFACE, CEILING	ACRYLIC, LOW PROFILE, FROSTED				
		ORACLE LTG	4-OWS-LED-4000LM-DIM10-MVOLT- 40K-85CRI SERIES									1. PROVIDE FIXTURE WITH VANDAL RESISTANT SHIELDING AND TAMPER PROOF TORX SCREWS.	
		METALUX	4APTVTLD-40L840 SERIES										
< F2>	2" SQUARE LED RECESSED CAN OPEN DOWNLIGHT RATED FOR WET LOCATIONS UNDER A CANOPY. MAXIMUM FIXTURE DEPTH: 8". [FIXTURE LUMEN OUTPUT ~ 2000 LUMENS]	GOTHAM LTG	EVO2SQ-40/20-SMO-WD-MVOLT-UGZ SERIES	LEDS 4000K (60,000 HRS WITH 70% LUMEN MAINTENANCE)	QNTY AS REQUIRED	24.7W (NOMINAL FIXTURE INPUT WATTS)	120V	RECESSED, CEILING				1. PROVIDE FIXTURE WITH VANDAL RESISTANT SHIELDING. COORDINATE FIXTURE COLOR WITH ARCHITECT PRIOR TO ORDERING.	
(<u>S221-3</u>)	22FT(H) SQUARE STEEL POLE WITH ONE LED DARK SKY COMPLIANT LIGHTING FIXTURE. PROVIDE WITH BLACK FINISH ON POLE AND FIXTURE. APPROXIMATE FIXTURE DIMENSIONS: 38.2"(L)x16.6"(W) x10.7"(H). [FIXTURE LUMEN OUTPUT ~ 60,000 LUMENS]	LSI LTG	ZNL-60L-CT-HV-40K-(BLACK FINISH) SERIES	LEDS 4000K (100,000 HRS WITH 90%	QNTY AS (REQUIRED	448W (NOMINAL FIXTURE INPUT WATTS)	240V	POLE (SEE REMARKS)	TYPE III DISTRIBUTION PATTERN (COURT OPTIC)				
		LITHONIA	RSX4LED-P5-40K-R3-XVOLT-SPA- (BLACK FINISH) SERIES									1. SEE SITE POLE BASE DETAIL, THIS SHEET, FOR ADDITIONAL REQUIREMENTS.	
		LUMARK	PRV-M-PA6-C-740-D-T3-SA-(BLACK FINISH) SERIES	MAINTENANCE)									
(<u>S222-3</u>)	SAME AS FIXTURE TYPE "S221-3" EXCEPT PROVIDE POLE WITH TWO LIGHTING FIXTURES INSTALLED AT 180 DEGREES APART. [FIXTURE LUMEN OUTPUT ~ 60,000 LUMENS x QNTY TWO]					448W PER FIXTURE (NOMINAL FIXTURE	448W PER FIXTURE (NOMINAL FIXTURE					1. EACH FIXTURE SHALL BE CONTROLLED SEPARATELY AS INDICATED ON THE SITE	
					WATTS) [896W TOTAL]	J					LLUTNICAL FLAN AND SHE LIGHTING CONTROL FANEL SCHEDULE.		
(EMB2)	HIGH PERFORMANCE LED EMERGENCY LIGHTING FIXTURE WITH DUAL HEADS, INTEGRAL BATTERY BACK-UP, SELF- DIAGNOSTICS AND WHITE HOUSING. [FIXTURE LUMEN OUTPUT ~ 1300 LUMENS]	LITHONIA LTG	EMB- SERIES	LEDS									
		EVENLITE	TEBL6W-SD SERIES	THREE 2W LEDS PER FIXTURE HEAD	EE 2W LEDS R FIXTURE HEAD		120V	SURFACE, WALL				FIXTURE IN EACH BATHROOM. MOUNT AT SAME HEIGHT IN CENTER OF EAST WALL IN MAINTENANCE ROOM. PROVIDE FIXTURE WITH VANDAL RESISTANT SHIELDING.	



<u>LIGHTING POLE BASE DETAIL -</u> FIXTURE & POLE TYPES "S221-3" & "S222-3" NO SCALE

	SITE LIGHTING CONTROL PANEL SCHEDULE					
	C Descri Relay #	SITE LIGHTING CONTROL PANEL SCHEDULE LCP Name: BUILDING EXTERIOR & SITE LIGHTING CONTROL PANEL "SLCP" Location: MECHANICAL ROOM 003 Surface/Flush: SURFACE MOUNT Ctrl Pwr Circuit: PANEL "LP1" CIRCUIT NO. 18 Description of Loads: (BUILDING EXTERIOR & SITE LTG) Relay # Circuit Description				
	1	LP1-9		(SEE NOTES 1 & 2.)		
	2-3	LP1-20		(SEE NOTES 1 & 2.)		
ALTERNATE #1. ALL COSTS ASSOCIATED WITH	4-5	LP1-24	BASKETBALL COURT 1 LIGHTING	(SEE NOTES 1 & 2.)		
PROVIDING THE INSTALLATION SHALL BE INCLUDED	- 6-7	LP1-28	BASKETBALL COURT 2 LIGHTING	(SEE NOTES 1 & 2.)		
	8	SPARE				
	9	SPARE				
	10	SPARE				
	11	SPARE				
	12	SPARE				
	13	SPARE				
	14	SPARE				
	15	SPARE				
	16	SPARE				
	<u>NOTES</u> 1. DUS BUILDIN ILLUMIN 2. TIMI ENERG	K-TO-DAV IG EXTER IATION. ED CONTF IZED AT A	VN CONTROL VIA PHOTOCELL SENSOR. PROVIDE PH IOR (NORTH SIDE) AWAY FROM ALL MAN-MADE SOUF COL VIA INTEGRAL 24-HOUR TIMER. CIRCUIT SHALL B SCHEDULED EVENING TIME AS SPECIFIED BY OWNE	OTOCELL SENSOR ON CES OF DIRECT E CAPABLE OF BEING DE- R.		

- SCHEDULES ARE AN EXAMPLE ONLY. CONTRACTOR SHALL PROVIDE PANEL CAPABLE OF A MINIMUM OF FIVE DIFFERENT CHANNELS. COORDINATE SCHEDULING OF CHANNELS WITH OWNER PRIOR TO ORDERING OF EQUIPMENT.

	LIGHTING CONTROL PANEL AUTOMATION SCHEDULE						
	Channel	Scenario*	Scenario Times	Blink	Timed Override		
	A	(2)	On: 6:30am Off: 10pm M-F	NO	15 min.		
		(2)	On: 8am Off: 9pm Sat & Sun	NO			
	В	(2)	On: 6:30am Off: 10pm M-F	NO	NONE		
			On: 8am Off: 9pm Sat & Sun	NO			
	С	(2)	On: 6:30am Off: 10pm M-F	NO	15 min.		
*Scenario Listings			On: 8am Off: 9pm Sat & Sun	NO			
(1) Manual On / Sched Off (2) Scheduled Op/Off	D	(2)	On: 6:30am Off: 10pm M-F	NO	15 min.		
(3) Manual ON / AS Switch Off			On: 8am Off: 9pm Sat & Sun	NO			
(5) Photo & Sched On/Off	E	(2)	On: 6:30am Off: 10pm M-F	NO	15 min.		
(6) Astronomic On/Off (7) Astro and Sched On/Off			On: 8am Off: 9pm Sat & Sun	NU			

LIGHTING CONTROL PANEL RELAY SCHEDULES









GENERAL NOTES:

FOR ADDITIONAL REQUIREMENTS.

PANEL "LP1" CIRCUIT NO. 6 USING 2#10, 1#10G IN 3/4"C.

G1. THE EXISTING CIRCUITS FEEDING SITE LIGHTING WITHIN THIS PARK CONSISTS OF DIRECT BURIED CABLES. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES PRIOR TO START OF EARTHWORK. CONTRACTOR SHALL USE CAUTION WHEN PERFORMING EARTHWORK. CONTRACTOR SHALL PROVIDE ALL REQUIRED PROTECTION OF EXISTING DIRECT BURIED CABLES TO ENSURE PROPER OPERATION OF EXISTING CIRCUITS AT COMPLETION OF THE PROJECT.

NOTES:

1. UNDERGROUND FEED TO RESTROOM BUILDING. REFER TO ONE-LINE DIAGRAM, SHEET E3.1, FOR ADDITIONAL REQUIREMENTS. 2. REFER TO ENLARGED RESTROOM POWER PLAN AND ENLARGED RESTROOM LIGHTING PLAN, THIS SHEET, FOR ADDITIONAL REQUIREMENTS.

3. APPROXIMATE LOCATION OF NEW UTILITY COMPANY PAD MOUNT TRANSFORMER. SEE ELECTRICAL ONE-LINE DIAGRAM, SHEET E3.1,

4. PROVIDE 30A/1 FUSED SAFETY DISCONNECT SWITCH "DS-EWH-1" NEAR WATER HEATER. PROVIDE DEDICATED 120V, 20A BRANCH CIRCUI TO WATER HEATER FROM PANEL "LP1" CIRCUIT NO. 10 USING 2#12, 1#12G IN 3/4"C.

5. ELECTRIC HEATER WITH INTEGRAL SAFETY DISCONNECT. PROVIDE 20A, 240V SINGLE-PHASE CIRCUIT TO ELECTRIC HEATER "EH-1" FROM PANEL "LP1" CIRCUIT NO. 1 USING 2#12, 1#12G IN 3/4"C.

6. ELECTRIC HEATER WITH INTEGRAL SAFETY DISCONNECT. PROVIDE 20A, 240V SINGLE-PHASE CIRCUIT TO ELECTRIC HEATER "EH-2" FROM PANEL "LP1" CIRCUIT NO. 2 USING 2#12, 1#12G IN 3/4"C. 7. ELECTRIC HEATER WITH INTEGRAL SAFETY DISCONNECT. PROVIDE 30A, 240V SINGLE-PHASE CIRCUIT TO ELECTRIC HEATER "EH-3" FROM

8. EXHAUST FAN WITH A FACTORY INSTALLED SAFETY DISCONNECT. PROVIDE POWER CIRCUIT TO EXHAUST FAN FROM THE SAME BRANCH CIRCUIT WHICH FEEDS THE LIGHTING FIXTURES WITHIN THE ASSOCIATED RESTROOM. CONNECT SUCH THAT WHEN THE LIGHTS ARE ENERGIZED THE EXHAUST FAN IS ALSO ENERGIZED. WHEN THE LIGHTS ARE DE-ENERGIZED, THE EXHAUST FAN SHALL ALSO BE DE-ENERGIZED.

9. PROVIDE DUAL TECHNOLOGY CEILING MOUNT OCCUPANCY SENSOR (AND ALL REQUIRED ACCESSORIES) RATED FOR THE INSTALLED ENVIRONMENT AND INSTALLATION HEIGHT. PROVIDE ALL CIRCUITS AS REQUIRED AND INTERCONNECT WITH THE LIGHTING FIXTURES AND EXHAUST FANS AS REQUIRED TO ALLOW LIGHTING FIXTURES (AND FAN) TO BE ENERGIZED "ON" VIA THE OCCUPANCY SENSOR WHENEVER THE SPACE BECOMES OCCUPIED. THE LIGHTS (AND FAN) SHALL BE AUTOMATICALLY DE-ENERGIZED "OFF" WHENEVER THE SPACE BECOMES UNOCCUPIED FOR A TIME PERIOD OF 20 MINUTES. VERIFY "REMAIN ON" TIME PERIOD WITH THE OWNER PRIOR TO INSTALLATION OF THE OCCUPANCY SENSOR.

10. CONNECT LIGHTING CIRCUIT THROUGH SITE LIGHTING CONTROL PANEL "SLCP" LOCATED IN BUILDING MECHANICAL ROOM 003. PROVIDE "DUSK-TO-DAWN" PHASE CONDUCTOR IN CIRCUIT. SEE SITE LIGHTING CONTROL PANEL SCHEDULE, SHEET E1.1, FOR ADDITIONAL REQUIREMENTS.

11. TRIAD GROUNDING ELECTRODE SYSTEM. SEE TRIAD GROUNDING ELECTRODE SYSTEM DETAIL, SHEET E3.1, FOR ADDITIONAL REQUIREMENTS.

12. POWER HANDHOLE. SEE HANDHOLE DETAILS, THIS SHEET, FOR ADDITIONAL REQUIREMENTS. PROVIDE A QUANTITY OF TWO, 1" SPARE CONDUITS (WITH PULL STRING) FROM HANDHOLE TO PANEL "LP1" [IN ADDITION TO THE CONDUIT(S) REQUIRED FOR THE ELECTRICAL CIRCUIT(S) TO THE PLAYGROUND EQUIPMENT]. CAP CONDUIT END WITHIN THE BUILDING AND PROVIDE LABEL INDICATING SPARE CONDUIT. HANDHOLE SHALL BE LOCATED NEAR THE NEOS INTERFACE PANEL THAT POWERS THE NEOS PLAYGROUND EQUIPMENT.

13. PROVIDE A NEMA 3R ENCLOSURE ON ALUMINUM SQUARE (4" SQUARE) TUBE-STOCK SUPPORT STRUCTURE FOR SUPPORT OF EQUIPMENT. PROVIDE CONCRETE BASE BELOW EACH LEG OF SUPPORT STRUCTURE. PROVIDE WELDED CAPS ON ALL ENDS OF TUBE-STOCK. PROVIDE MOUNTING PLATES AT THE BOTTOM OF EACH LEG SO AS TO ALLOW THE SUPPORT STRUCTURE TO BE SECURED TO THE BASE USING BOLTS SCREWED ON THREADED ROD INSERTS. PROVIDE RECEPTACLE AND OUTLET MOUNTED WITHIN ENCLOSURE AND PROVIDE A POWER CONVERTER (TRIPP LITE PR-25) OR EQUAL TO PROVIDE POWER TO 12-VOLT PLAYGROUND EQUIPMENT PANEL. PROVIDE A 1" CONDUIT FROM THE ENCLOSURE BELOW GRADE TO THE PLAYGROUND EQUIPMENT CONTROL PANEL AND FROM THE CONTROL PANEL TO THE PLAYGROUND EQUIPMENT. PROVIDE POWER AND CONTROLS FROM THE ENCLOSURE TO THE CONTROL PANEL AND TO THE EQUIPMENT PER THE MANUFACTURER'S REQUIREMENTS. REFER TO THE PLAYWORLD NEOS 360 INSTALLATION INSTRUCTIONS FOR ADDITIONAL REQUIREMENTS.

14. JUNCTION BOX FOR BUILDING MOUNT PHOTOCELL. PROVIDE TORK 2100 SERIES PHOTOCELL OR APPROVED EQUAL MANUFACTURED BY PARAGON OR INTERMATIC, AND PROVIDE ALL INTERCONNECTING MATERIALS AND LABOR. INSTALL HIGH ON WALL ON NORTHEAST SIDE OF BUILDING AWAY FROM ALL DIRECT SOURCES OF ILLUMINATION. COORDINATE EXACT INSTALLATION LOCATION IN FIELD WITH ALL OTHER CONSTRUCTION AND FIELD CONDITIONS.

15. SITE LIGHTING CONTROL PANEL "SLCP". LIGHTING CONTROL PANEL SHALL INCLUDE A 24-HOUR/7 DAY TIMER AND AN ON-OFF-AUTO SWITCH FOR MANUAL SWITCHING OF LIGHT CIRCUITS. REFER TO SITE LIGHTING CONTROL PANEL SCHEDULE AND LIGHTING CONTROL PANEL RELAY SCHEDULES, SHEET E1.1, FOR ADDITIONAL REQUIREMENTS. 16. DEDICATED BRANCH CIRCUIT FOR HAND DRYER. COORDINATE EXACT HEIGHT AND LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.

PROVIDE FINAL CONNECTION TO HAND DRYER PER MANUFACTURER'S REQUIREMENTS. 17. PROVIDE ONE-2" UNDERGROUND CONDUIT FOR FUTURE TELECOM FEED. TERMINATE CONDUIT FEED WITHIN ROOM 003 ADJACENT TO THE SOUTH WALL 12" ABOVE FINISHED FLOOR. PROVIDE PULL STRING AND CAP BOTH ENDS OF CONDUIT. LABEL CONDUIT AS SPARE. COORDINATE FINAL BURIED LOCATION OF CONDUIT WITH LOCAL UTILITY PROVIDER SO THAT FINAL CAPPED LOCATION IS WITHIN THE UTILITY EASEMENT ALONG HEIDELBACK ROAD.

18. PROVIDE ONE-1" UNDERGROUND CONDUIT FOR SECURITY CAMERA FEED FOR LIGHT POLE. TERMINATE CONDUIT FEED WITHIN ROOM 003 ADJACENT TO THE SOUTH WALL 12" ABOVE FINISHED FLOOR. PROVIDE PULL STRING AND CAP CONDUIT. LABEL CONDUIT AS SPARE. REFER TO LIGHTING POLE BASE DETAIL, SHEET E1.1, FOR ADDITIONAL REQUIREMENTS.

19. PROVIDE J-BOX IN CEILING CANOPY FOR SECURITY CAMERA. PROVIDE 1" CONDUIT FROM J-BOX TO ROOM 003 AND BUSH CONDUIT ENDS. PROVIDE PULL STRING.

20. PROVIDE TELECOM HANDHOLE AS REQUIRED BY NEC CODE SO THAT CONDUIT BENDS ARE UNDER 360 DEGREES BETWEEN EACH HANDHOLE PULLPOINT. REFER TO HANDHOLE DETAILS, THIS SHEET, FOR ADDITIONAL HANDHOLE REQUIREMENTS. 21. PROVIDE HANDHOLE AT EDGE OF UTILITY EASEMENT. REFER TO HANDHOLE DETAILS, THIS SHEET, FOR ADDITIONAL HANDHOLE REQUIREMENTS.

ALTERNATE #1 NOTES:

ALT1. ALL COSTS ASSOCIATED WITH PROVIDING THE INSTALLATION WITHIN THIS DASHED LINE BOUNDARY SHALL BE INCLUDED IN THE PRICE FOR THIS ALTERNATE BID ITEM. ALT2. CONNECT TO PANEL AND BRANCH CIRCUIT NO AS INDICATED USING 2#6, 1#6G IN 3/4"C.

ALT3. PROVIDE OUTDOOR RATED GFI TYPE NEMA 5-20R RECEPTACLE WITHIN CAST ALUMINUM WEATHER-PROOF-WHILE-IN-USE ENCLOSURE DOWN LOW ON POLE. PAINT ENCLOSURE TO MATCH POLE FINISH COLOR.

ALT4. PROVIDE 2#6, 1#6G IN 3/4"C.

ALT5. PROVIDE ONE-1" UNDERGROUND CONDUIT FOR FUTURE SECURITY CAMERA FEED FOR LIGHT POLE. TERMINATE CONDUIT FEED WITHIN ROOM 003 ADJACENT TO THE SOUTH WALL 12" ABOVE FINISHED FLOOR. PROVIDE PULL STRING AND CAP BOTH ENDS OF CONDUIT. LABEL CONDUIT AS SPARE. REFER TO LIGHTING POLE BASE DETAIL, SHEET E1.1, FOR ADDITIONAL REQUIREMENTS.









GENERAL NOTES:

G1. UNLESS SPECIFICALLY NOTED AS BEING PART OF AN ALTERNATE BID, ALL NEW INSTALLATION SHALL BE INCLUDED IN THE "BASE BID" PRICE.

NOTES:

1. PROVIDE TERMINATIONS ON ENDS OF CABLES PER THE LOCAL UTILITY COMPANY REQUIREMENTS. COORDINATE REQUIREMENTS WITH THE LOCAL UTILITY COMPANY. PROVIDE GROUNDING TERMINATION TO TRANSFORMER PER

2. COORDINATE ALL ELECTRICAL SERVICE REQUIREMENTS WITH THE LOCAL UTILITY COMPANY. PROVIDE ALL INSTALLATION PER UTILITY COMPANY REQUIREMENTS. THE LOCAL UTILITY COMPANY IS:

CENTERPOINT ENERGY P.O.C.: MR. DAVID BYRLEY DAVID.BYRLEY@CENTERPOINTENERGY.COM

3. CONNECT SUCH THAT THE EXISTING UTILITY METERING EQUIPMENT METERS BOTH THE EXISTING LOAD AND THE NEW LOAD FOR THE BASKETBALL COURT AND RESTROOM BUILDING.

4. SEE TRIAD GROUNDING ELECTRODE DETAIL, THIS SHEET, FOR ADDITIONAL REQUIREMENTS.

5. PROVIDE LABEL ON THE MAIN CIRCUIT BREAKER COMPARTMENT (IN ACCORDANCE WITH NEC ARTICLE 110.24) WHICH IDENTIFIES THE MAXIMUM AVAILABLE FAULT CURRENT AND THE DATE THE FAULT-CURRENT WAS CALCULATED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE LOCAL UTILITY COMPANY TO GET THE AVAILABLE FAULT CURRENT INFORMATION FROM THE UTILITY COMPANY.

6. PROVIDE CIRCUIT BREAKER WITH ACCESSORIES AS REQUIRED FOR "LOCK-OUT"/ "TAG-OUT".

7. PROVIDE LABEL ON METERING EQUIPMENT WHICH READS AS FOLLOWS: "THIS METERING EQUIPMENT METERS THE LOADS ASSOCIATED WITH THE PLAYGROUND, BASKETBALL COURT, AND RESTROOM BUILDING"

8. PROVIDE CONNECTION TO EXISTING GROUNDING ELECTRODE SYSTEM PER UTILITY COMPANY REQUIREMENTS.

9. PROVIDE 3/4"(D) X 120" (L) COPPER GROUNDING ELECTRIODE NEAR BUILDING. BOND THE PANEL ÉQUIPMENT GROUND BUS TO THE GROUNDING ELECTRODE AND TO THE STEEL REINFORCEMENT WITHIN THE FOUNDATION AND CONCRETE FLOOR SLAB USING A #2 COPPER CABLE. [NOTE: THE NEUTRAL AND EQUIPMENT GROUND BUSES SHALL NOT BE BONDED TOGETHER IN THE PANEL AS THE NEUTRAL/GROUND BOND IS PROVIDED IN THE UP-STREAM CIRCUIT BREAKER.]

10. PROVIDE CABLE REDUCER/COMPRESSION ADAPTER AT CIRCUIT BREAKER LUGS OR SIMILAR MEANS TO ALLOW TERMINATION OF 350MCM CABLE.

ALTERNATE #1 NOTES:

ALT1. ALL COSTS ASSOCIATED SHALL BE INCLUDED IN THE PRICE FOR THIS ALTERNATE BID ITEM.

-NOTE ALT1

