

	ELECTROLIER
	TYPE 1A JUNCTION BOX
	TYPE 2 JUNCTION BOX
	LOAD CENTER
	CIRCUIT BREAKER
	WATTHOUR METER

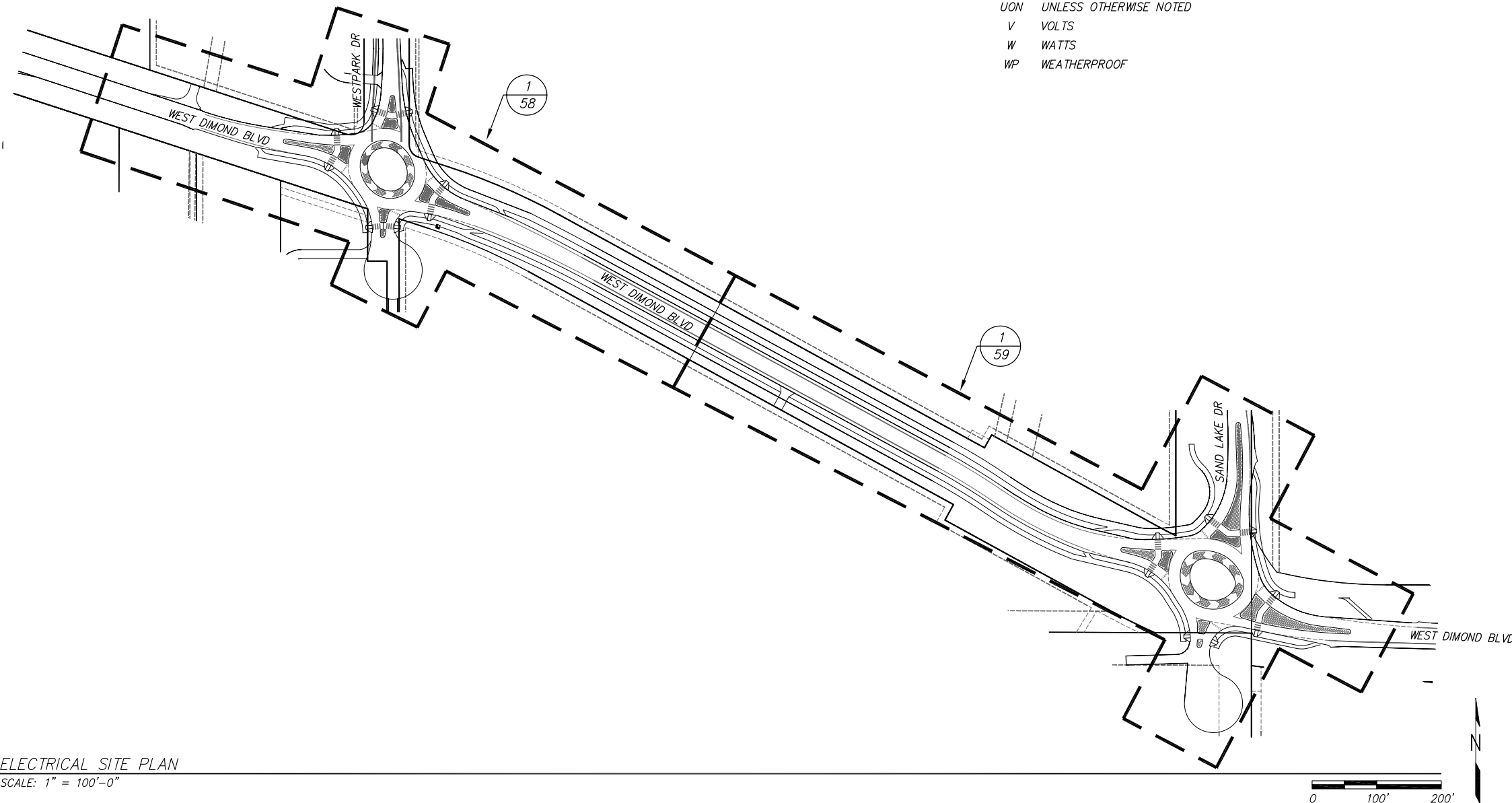
A-1 GROUP OR EQUIPMENT IDENTIFICATION.
"A" DENOTES PANEL NAME
"1" DENOTES CIRCUIT NUMBER

WIRING SCHEDULE		
TAG	CONDUIT	WIRE
1	2 IN	1-3c#8
2	2 IN	2-3c#8
3	2 IN	2-3c#8
	2 IN	1-3c#8

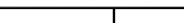
A	AMPERE
AFF	ABOVE FINISH FLOOR
BCU	BARE COPPER
C	CONDUIT
CEA	CHUGACH ELECTRIC ASSOCIATION
CU	COPPER
DOT	(ALASKA) DEPARTMENT OF TRANSPORTATION
G	GROUND CONDUCTOR
HDPE	HIGH DENSITY POLYETHYLENE CONDUIT
KVA	KILO-VOLT-AMPERES
LED	LIGHT-EMITTING DIODE
LU	LIGHTING UTILITY
MOA	MUNICIPALITY OF ANCHORAGE
NEC	NATIONAL ELECTRICAL CODE
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
RMC	(GALVANIZED) RIGID METAL CONDUIT
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
V	VOLTS
W	WATTS
WP	WEATHERPROOF

1. CALL BEFORE YOU DIG. HAVE ALL UTILITIES LOCATED PRIOR TO STARTING WORK. IMMEDIATELY NOTIFY THE ENGINEER IN THE EVENT OF CONFLICTS.
2. ELECTRICAL IMPROVEMENTS ARE NOT PERMITTED TO BE INSTALLED OUTSIDE OF THE RIGHT-OF-WAY OR WITHIN A UTILITY EASEMENT. IMMEDIATELY NOTIFY THE ENGINEER IN THE EVENT OF CONFLICTS.
3. COORDINATE LOAD CENTER INSTALLATIONS WITH CEA PRIOR TO INSTALLATION. INSTALLATIONS DEVIATING FROM THE PLANS SHALL BE APPROVED BY CEA AND THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.
4. HDPE CONDUIT IS PERMITTED TO BE USED EXCEPT UNDER PAVED AREAS. INSTALL HDPE ACCORDING TO MASS 80.07 AND THE SPECIAL PROVISIONS. RMC SHALL BE INSTALLED UNDER ALL PAVED AREAS.
5. COORDINATE WITH CEA FOR THE REMOVAL OF EXISTING ELECTROLIERS ON SOUTH SIDE OF WEST DIMOND. WORK TO BE PAID FOR BY OTHERS.
6. COORDINATE SALVAGE OF EXISTING ELECTROLIERS AND LOAD CENTER AT INTERSECTION OF WEST DIMOND AND SAND LAKE WITH DOT. WORK SHALL BE PAID FOR UNDER SECTION 80.28.
7. PROVIDE SCOTCH CAL 220 DECALS ON EXTERIOR OF NEW LOAD CENTER DENOTING OWNER (MOA) AND PURPOSE (LU).
8. PROVIDE ARC FLASH WARNING LABELS WITH INCIDENT ENERGY LEVEL VALUES AND PERSONNEL PROTECTIVE EQUIPMENT (PPE) REQUIREMENTS ON EACH PIECE OF EQUIPMENT IN ACCORDANCE WITH NEC ARTICLE 110.16 AND NFPA 70E.
9. PROVIDE LABELS INDICATING MAXIMUM AVAILABLE FAULT CURRENT ON EACH PIECE OF SERVICE EQUIPMENT IN ACCORDANCE WITH NEC ARTICLE 110.24.
10. DELIVER THE FOLLOWING ADDITIONAL EQUIPMENT TO MOA STREET LIGHT MAINTENANCE (343-8242):
 - 5EA 27FT LUMINAIRE POLES
 - 5EA 12FT LUMINAIRE POLE ARMS
 - 5EA 60-LED LUMINAIRES

(RNP SIGNATURE)



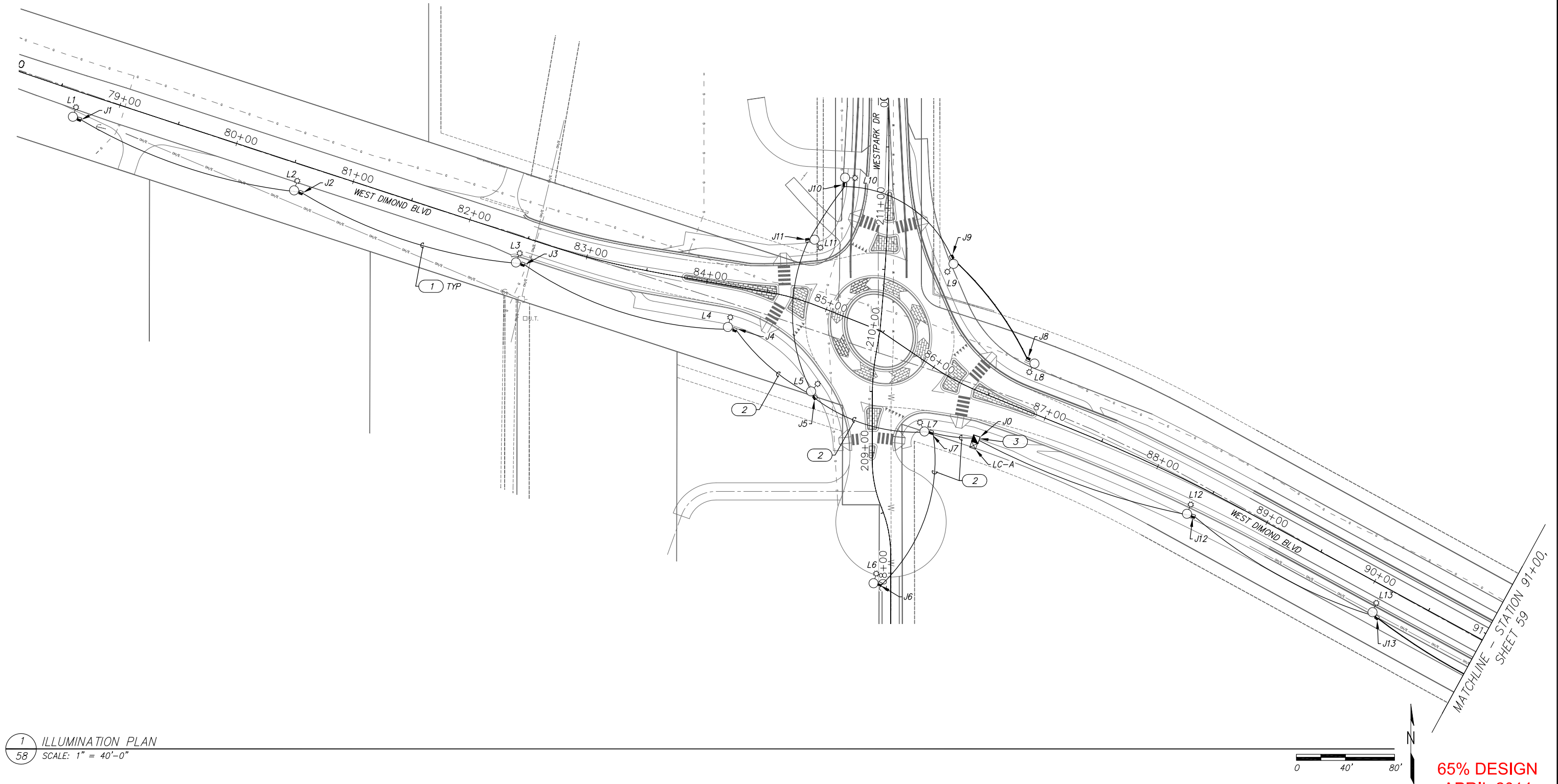
1 ELECTRICAL SITE PLAN
57 SCALE: 1" = 100'-0"

																		 EDC, Inc. 213 W. FIREWEED LANE ANCHORAGE, AK 99503 (907) 276-7933	 49th Roy N. Pace EE 12053 REGISTERED PROFESSIONAL ENGINEER	 MUNICIPALITY OF ANCHORAGE	PROJECT MANAGEMENT AND ENGINEERING DIVISION								
FIELD BOOKS		BM NO.	LOCATION	ELEV.	DATA	DRAWN BY	CHECKED BY	DATA	DRAWN BY	CHECKED BY	REV	DATE	DESCRIPTION	BY	REV	DATE	DESCRIPTION				BY	05-05 WEST DIMOND BOULEVARD UPGRADE PHASE I: WESTPARK DRIVE TO SAND LAKE ROAD ELECTRICAL LEGEND, ABBREVIATIONS, AND SITE PLAN							
DESIGN					BASE			TELEPHONE																					
STAKING					TOPOGRAPHY			ELECTRIC																					
					PROFILE			CABLE TV																					
ASBUILT					SANITARY SEWER			DESIGN																					
					STORM SEWER			QUANTITIES																					
CONTRACTOR		BASIS OF THIS DATUM			WATER			MUN. FINAL CHK.																					
INSPECTOR					GAS																								
CONSTRUCTION RECORD					VERTICAL DATUM					PLAN CHECK					REVISIONS					CONSULTANT		SEAL		SCALE		DATE 4/3/14 GRID 2323 2324 ACCT. NO. 2423 2424		SHEET 57 of 76	

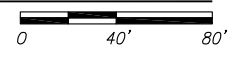
Plotted: 4/3/2014 4:46 PM
File Location: P:\Projects\RAM\west dimond lighting\Draws\Elec\61 LOAD CENTER SCHEDULE.dwg

File Location: P:\Projects\RAM\west dimond lighting\Drawings\Elec\61 LOAD CENTER SCHEDULE.dwg

Plotted: 4/3/2014 4:46 PM



1 ILLUMINATION PLAN
58 SCALE: 1" = 40'-0"



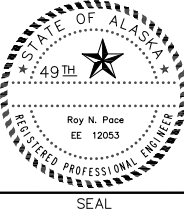
65% DESIGN
APRIL 2014

FIELD BOOKS		BM NO.	LOCATION	ELEV.	DATA	DRAWN BY	CHECKED BY	DATA	DRAWN BY	CHECKED BY	REV	DATE	DESCRIPTION	BY	REV	DATE	DESCRIPTION	BY
DESIGN					BASE			TELEPHONE										
STAKING					TOPOGRAPHY			ELECTRIC										
					PROFILE			CABLE TV										
					SANITARY SEWER			DESIGN										
ASBUILT					STORM SEWER			QUANTITIES										
CONTRACTOR		BASIS OF THIS DATUM			WATER			MUN. FINAL CHK.										
INSPECTOR					GAS													
CONSTRUCTION RECORD		VERTICAL DATUM			PLAN CHECK			REVISIONS										



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PROJECT MANAGEMENT AND
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05-05 WEST DIMOND BOULEVARD UPGRADE
PHASE I: WESTPARK DRIVE TO SAND LAKE ROAD

ILLUMINATION PLAN

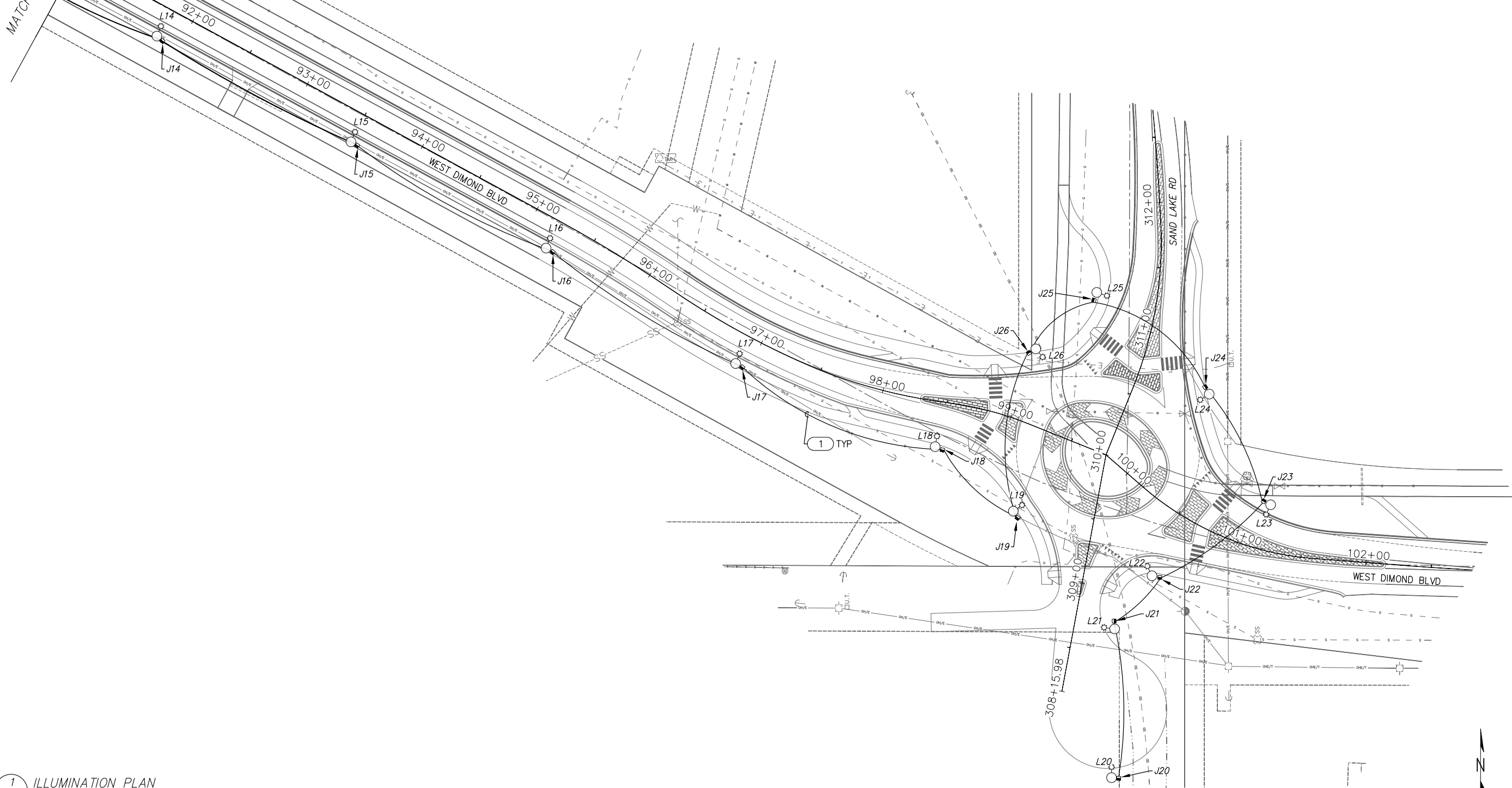
SCALE

DATE 4/3/14 GRID 2323 2324
ACCT. NO. 2423 2424

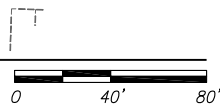
SHEET 58 of 76

Plotted: 4/3/2014 4:47 PM File Location: P:\Projects\RAM\west dimond lighting\Drawings\Elec\61 LOAD CENTER SCHEDULE.dwg

MATCHLINE - STATION 91+00,
SHEET 58



1 ILLUMINATION PLAN
59 SCALE: 1" = 40'-0"



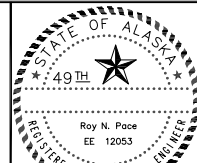
65% DESIGN
APRIL 2014

FIELD BOOKS		BM NO.	LOCATION	ELEV.	DATA	DRAWN BY	CHECKED BY	DATA	DRAWN BY	CHECKED BY	REV	DATE	DESCRIPTION	BY	REV	DATE	DESCRIPTION	BY
DESIGN					BASE			TELEPHONE										
STAKING					TOPOGRAPHY			ELECTRIC										
					PROFILE			CABLE TV										
					SANITARY SEWER			DESIGN										
ASBUILT					STORM SEWER			QUANTITIES										
CONTRACTOR		BASIS OF THIS DATUM			WATER			MUN. FINAL CHK.										
INSPECTOR					GAS													
CONSTRUCTION RECORD		VERTICAL DATUM			PLAN CHECK			REVISIONS										



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05-05 WEST DIMOND BOULEVARD UPGRADE
PHASE I: WESTPARK DRIVE TO SAND LAKE ROAD

ILLUMINATION PLAN

SCALE

DATE 4/3/14 GRID 2323 2324
ACCT. NO. 2423 2424

SHEET 59 of 76

File Location: P:\Projects\RAM\West Dimond Lighting\Draws\Elec\61 LOAD CENTER SCHEDULE.dwg

Plotted: 4/11/2014 9:15 AM

ELECTROLIER SCHEDULE											
POLE	STATIONING	OFFSET	WATTS	VOLTS	POLE HEIGHT	ARM LENGTH	LIGHTING DISTRIBUTION	BASE TYPE	CIRCUIT	SHEET NO.	NOTES
L1			134W	480V	27FT	12.0	M-C-3	FIXED	A-5,7	58	
L2			134W	480V	27FT	12.0	M-C-3	FIXED	A-5,7	58	
L3			134W	480V	27FT	12.0	M-C-3	FIXED	A-5,7	58	
L4			229W	480V	27FT	12.0	M-C-3	FIXED	A-6,8	58	
L5			229W	480V	27FT	12.0	M-C-3	FIXED	A-6,8	58	
L6			134W	480V	27FT	12.0	M-C-3	FIXED	A-6,8	58	
L7			229W	480V	27FT	12.0	M-C-3	FIXED	A-6,8	58	
L8			229W	480V	27FT	12.0	M-C-3	FIXED	A-6,8	58	
L9			229W	480V	27FT	12.0	M-C-3	FIXED	A-6,8	58	
L10			229W	480V	27FT	12.0	M-C-3	FIXED	A-6,8	58	
L11			229W	480V	27FT	12.0	M-C-3	FIXED	A-6,8	58	
L12			134W	480V	27FT	12.0	M-C-3	FIXED	A-2,4	58	
L13			134W	480V	27FT	12.0	M-C-3	FIXED	A-2,4	58	
L14			134W	480V	27FT	12.0	M-C-3	FIXED	A-2,4	59	
L15			134W	480V	27FT	12.0	M-C-3	FIXED	A-2,4	59	
L16			134W	480V	27FT	12.0	M-C-3	FIXED	A-2,4	59	
L17			134W	480V	27FT	12.0	M-C-3	FIXED	A-2,4	59	
L18			274W	480V	27FT	12.0	M-C-3	FIXED	A-2,4	59	
L19			274W	480V	27FT	12.0	M-C-3	FIXED	A-2,4	59	
L20			183W	480V	27FT	12.0	M-C-3	FIXED	A-2,4	59	
L21			274W	480V	27FT	12.0	M-C-3	FIXED	A-2,4	59	
L22			274W	480V	27FT	12.0	M-C-3	FIXED	A-2,4	59	
L23			274W	480V	30FT	-	M-C-3	FIXED	A-2,4	59	45° POLE
L24			274W	480V	27FT	12.0	M-C-3	FIXED	A-2,4	59	
L25			274W	480V	27FT	12.0	M-C-3	FIXED	A-2,4	59	
L26			274W	480V	27FT	12.0	M-C-3	FIXED	A-2,4	59	
STATIONING IS APPROXIMATE, POSITION SHOULD BE VERIFIED BY FIELD ENGINEER.											
MAST ARM SHALL BE PERPENDICULAR TO ROADWAY CENTERLINE UNLESS OTHERWISE NOTED.											

LOAD CENTER SCHEDULE					
LC#	STATIONING	OFFSET	TYPE	VOLTAGE	SHEET NO.
A			1A	480/240V	58
STATIONING IS APPROXIMATE, POSITION SHOULD BE VERIFIED BY FIELD ENGINEER					

INTERSECTION ILLUMINANCE – WEST DIMOND BLVD				
CROSS STREET	AVERAGE ILLUMINANCE	UNIFORMITY (AVE/MIN)	IESNA INTERSECTION TYPE	PEDESTRIAN CONFLICT
SAND LAKE	2.61	2.80:1	MAJOR/MAJOR	MEDIUM
WESTPARK	2.25	2.41:1	MAJOR/COLLECTOR	MEDIUM

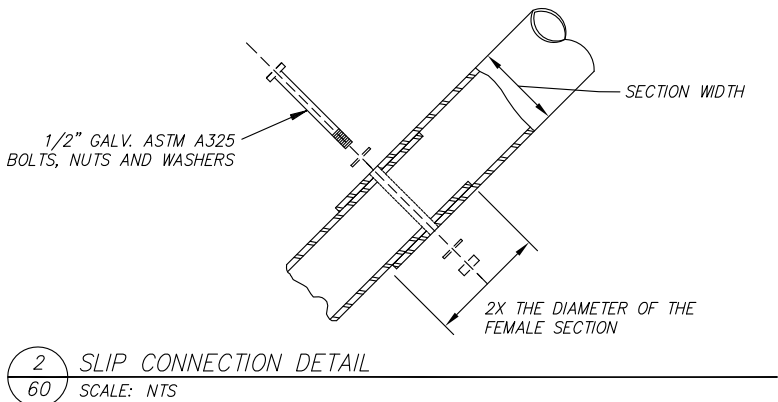
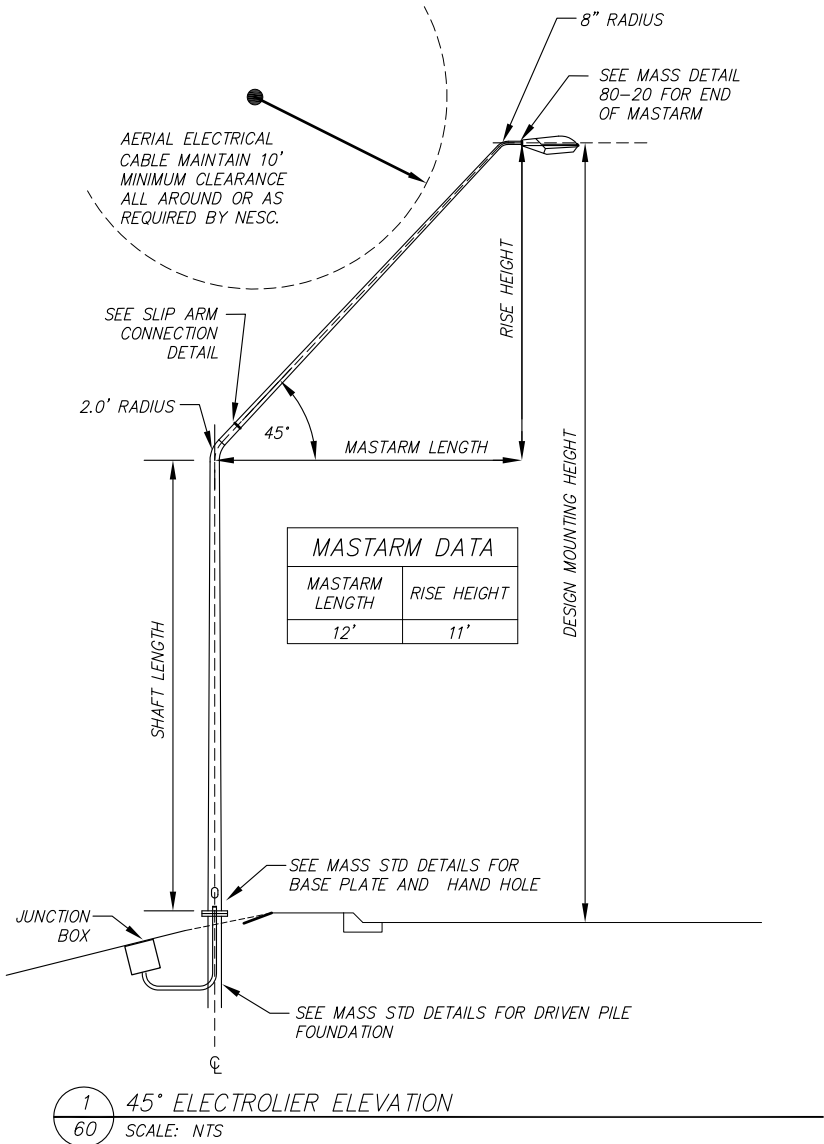
LUMINAIRE PERFORMANCE CRITERIA	
POLE TYPE	MAST ARM
LAMP	LED
LED COUNT	60
LIGHT LOSS FACTOR	0.80
AIMING ANGLE	0
NUMBER OF LANES	2
ROAD WIDTH	22 FT
MEDIAN WIDTH	0 FT
MOUNTING HEIGHT	30 FT
ARM LENGTH	12 FT
SETBACK	12 FT
SPACING	170 FT
AVERAGE LUMINANCE	0.53 CD/M²
UNIFORMITY (AVE/MIN)	1.77:1
UNIFORMITY (MAX/MIN)	3.67:1
VEILING LUMINANCE	0.27

JUNCTION BOX SCHEDULE			
J-BOX#	STATIONING	OFFSET	TYPE
J0			2
J1			1A
J2			1A
J3			1A
J4			1A
J5			1A
J6			1A
J7			1A
J8			1A
J9			1A
J10			1A
J11			1A
J12			1A
J13			1A
J14			1A
J15			1A
J16			1A
J17			1A
J18			1A
J19			1A
J20			1A
J21			1A
J22			1A
J23			1A
STATIONING IS APPROXIMATE, POSITION SHOULD BE VERIFIED BY FIELD ENGINEER			

LUMINAIRE SCHEDULE	
MANUFACTURER	BETALED OR APPROVED EQUAL
MODEL	LEDWAY, GENERATION E
LIGHT SOURCE	LED
WATTAGE	134W
LED COUNT	60
COLOR TEMP	4,000K
MINIMUM CRI	70
INITIAL OUTPUT	10,666 LUM
DRIVE CURRENT	700MA
VOLTAGE	480V
PHOTOCELL	NO
LENS TYPE	CUT OFF
IES DISTRIBUTION	M-C-3
UL LISTED	YES
SHIELDED	YES
WARRANTY	10 YEARS

LUMINAIRE SCHEDULE	
MANUFACTURER	BETALED OR APPROVED EQUAL
MODEL	LEDWAY, GENERATION E
LIGHT SOURCE	LED
WATTAGE	229W
LED COUNT	100
COLOR TEMP	4,000K
MINIMUM CRI	70
INITIAL OUTPUT	17,769 LUM
DRIVE CURRENT	700MA
VOLTAGE	480V
PHOTOCELL	NO
LENS TYPE	CUT OFF
IES DISTRIBUTION	M-C-3
UL LISTED	YES
SHIELDED	NO
WARRANTY	10 YEARS

LUMINAIRE SCHEDULE	
MANUFACTURER	BETALED OR APPROVED EQUAL
MODEL	LEDWAY, GENERATION E
LIGHT SOURCE	LED
WATTAGE	274W
LED COUNT	120
COLOR TEMP	4,000K
MINIMUM CRI	70
INITIAL OUTPUT	21,190 LUM
DRIVE CURRENT	700MA
VOLTAGE	480V
PHOTOCELL	NO
LENS TYPE	CUT OFF
IES DISTRIBUTION	M-C-3
UL LISTED	YES
SHIELDED	NO
WARRANTY	10 YEARS



65% DESIGN
APRIL 2014

FIELD BOOKS													
BM NO.	LOCATION	ELEV.	DATA	DRAWN BY	CHECKED BY	DATA	DRAWN BY	CHECKED BY	REV	DATE	DESCRIPTION	BY	DATE
DESIGN			BASE			TELEPHONE							
STAKING			TOPOGRAPHY			ELECTRIC							
ASBUILT			PROFILE			CABLE TV							
CONTRACTOR			SANITARY SEWER			DESIGN							
INSPECTOR			STORM SEWER			QUANTITIES							
CONSTRUCTION RECORD			WATER			MUN. FINAL CHK.							
			GAS										
BASIS OF THIS DATUM				PLAN CHECK				REVISIONS					
VERTICAL DATUM													

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PROJECT MANAGEMENT AND ENGINEERING DIVISION

05-05 WEST DIMOND BOULEVARD UPGRADE
PHASE I: WESTPARK DRIVE TO SAND LAKE ROAD

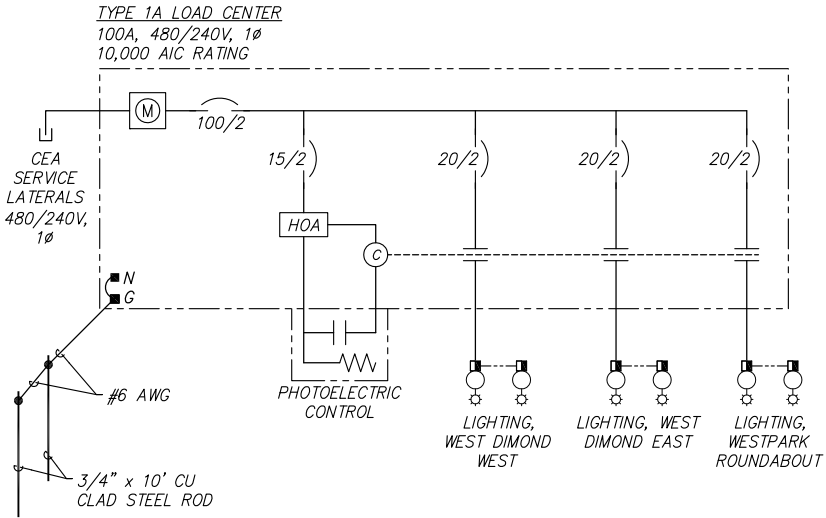
LIGHTING SCHEDULES

SCALE	DATE 4/11/14	GRID 2323 2324 2423 2424	SHEET 60 of 76
ACCT. NO.			

SUMMARY OF LOAD CENTER LC-A										
LOAD CENTER TYPE:			1A							
SERVING UTILITY:			CEA							
SERVICE CONDUIT TYPE:			RIGID METAL CONDUIT							
LOCATION DATA										
LOAD CENTER:			SEE SHEET 60 FOR STATIONING							
POWER SOURCE:			NEW LINE EXTENSION							
PHOTOELECTRIC CONTROL:			AT LOAD CENTER							
SERVICE VOLTAGE			1 PHASE, 3 WIRE, 480/240 VOLTS AC WITH GROUNDED NEUTRAL							
PROVIDE METER SOCKET?			YES							
MAIN BREAKER A:			480 VOLT, 2 POLE, 100 AMPERES							
CONTACTOR:			600V, 12-POLE							
PANEL A										
POLE	AMP TRIP	DESCRIPTION	POLE KVA	A Ø	B Ø	POLE KVA	DESCRIPTION	AMP TRIP	POLE	
1	15/2	PHOTOCELL	0.1	1.3		1.2	LIGHTING, WEST DIMOND EAST*	20/2	2	
3			0.0		1.2	1.2			4	
5	20/2	LIGHTING, WEST DIMOND WEST*	0.2	0.8		0.6	LIGHTING, WESTPARK ROUNDABOUT*	20/2	6	
7			0.2		0.8	0.6			8	
9			0.0	0.0		0.0			10	
11			0.0		0.0	0.0			12	
13			0.0	0.0		0.0			14	
* CIRCUIT THROUGH CONTACTOR			2.1	2.0					TOTAL KVA	4.1
							AMPS	8.5		

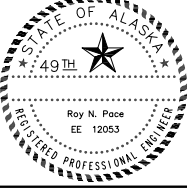
VOLTAGE DROP CALCULATION - LC-A					
480V AC IN A 1-PH, 3 WIRE CONFIGURATION WITH A POWER-FACTOR OF 0.8, 1 COPPER CONDUCTOR PER PHASE IN A RMC. TEMPERATURE RATING 75°C.					
CKT #	SEGMENT SIZE (AWG)	SEGMENT LENGTH (FT)	LOAD (KVA)	TOTAL (AMPS)	SEG. (%VD)
5,7	#8	800	2.30	4.79	2.65
2,4	#8	560	2.40	5.00	2.72
6,8	#8	560	0.58	1.21	0.19

SHORT CIRCUIT CALCULATION - LC-A	
480V AC IN A 1-PH, 3 WIRE CONFIGURATION, 1 COPPER CONDUCTOR PER PHASE IN A RMC. TEMPERATURE RATING 75°C.	
ANTICIPATED TRANSFORMER RATING	50KVA
VOLTAGE	480/240V
TRANSFORMER IMPEDANCE	1.2%
LET-THRU SHORT CIRCUIT CURRENT	8,681A
LENGTH TO FAULT	40FT
SERVICE CONDUCTOR SIZE	1/0 AL
CONDUIT	NON-MAGNETIC
"C" CONSTANT	5,838
LINE-LINE FAULT	6,957A
LINE-NEUTRAL FAULT	7,468A



1 LOAD CENTER "A" POWER ONE-LINE
61 SCALE: NTS

65% DESIGN
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																		05-05 WEST DIMOND BOULEVARD UPGRADE PHASE I: WESTPARK DRIVE TO SAND LAKE ROAD			
																		LOAD CENTER SCHEDULE			
														SCALE		DATE 4/3/14 GRID 2323 2324 2423 2424		SHEET 61 of 76			
														ACCT. NO.							
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														REVISIONS		PLAN CHECK		VERTICAL DATUM			
														CONSTRUCTION RECORD		BASIS OF THIS DATUM		INSPECTOR			
														CONTRACTOR		STORM SEWER		WATER			
														DESIGN		SANITARY SEWER		PROFILE			
														TOPOGRAPHY		TELEPHONE		DATA			
														BASE		ELEV.		LOCATION			
														FIELD BOOKS		BM NO.					