System Requirements: Control System Summary

Project Information

Control System

Control System ID:	1 of 2
Control System Type:	Control-Link® Control and Monitoring System
Communication Type:	PowerLine-ST

Power Requirements

Control cabinet(s):	
Control voltage (phase to neutral)	120/60
VA loading - Inrush	5473.0
VA loading - Sealed	596.0
Lighting Circuits:	
Voltage/Hertz/Phase	480/60/3

Project Notes:

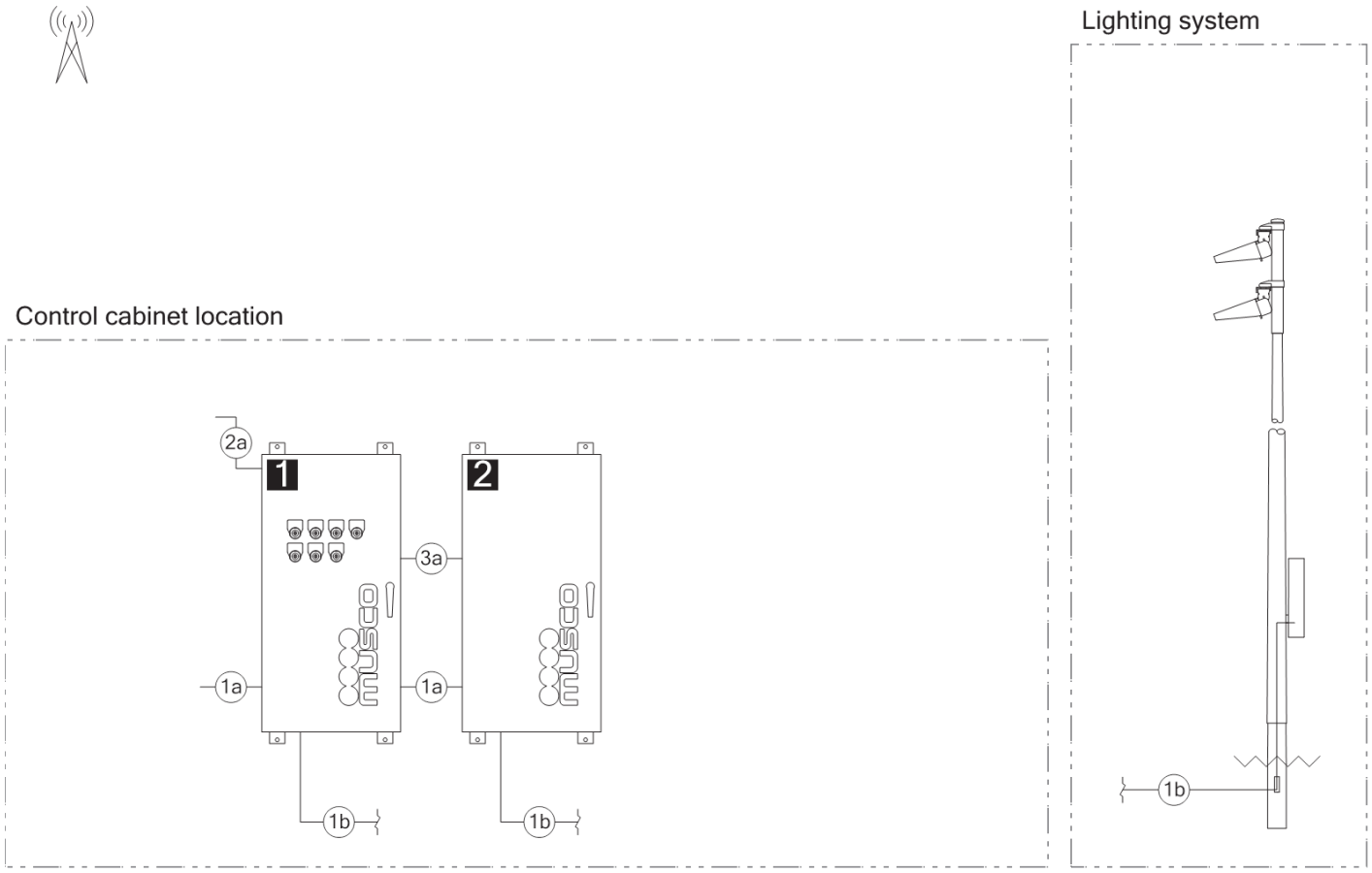
Equipment Listing

Description	Qty	Size (in)
Control and monitoring cabinet - primary	1	24 X 72
Control and monitoring cabinet - secondary	1	24 X 48
Contactors, 30 amperes	20	-
Off/On/Auto switches	4	-

Important Notes:

1. Please confirm that the lighting circuit voltage listed above is accurate for this facility. This is the voltage/phase being connected and utilized at each lighting pole's electrical components enclosure disconnect. Inaccurate voltage/phase can result in additional costs and delays. Contact your Musco sales representative to confirm this item.
2. In a 3 phase design, all 3 phases are to be run to each pole location. Musco's single phase luminaires come pre-wired to utilize all 3 phases across the entire facility.
3. One contactor is required for each circuit at each pole location. Contactors are 3 pole and 100% rated for the published continuous load.
4. If the lighting system will be fed from more than one distribution location, additional equipment may be required. Contact your Musco sales representative.
5. Size overcurrent devices using the full load amps column of the Circuit Summary by Switch chart (Minimum power factor is 0.9). Size conduit per code unless otherwise specified as larger to allow for harness connectors.
6. Avoid use of in-ground junction/pull boxes when possible. If used, all wire connectors must be UL listed for Wet Locations to prevent leakage current.
7. Control power wiring must be in separate conduit from line or load power wiring. Communication cables must be in separate conduit from any power wiring.
8. Refer to Installation Instructions for more details on equipment information and the installation requirements.

Equipment Layout and Connection Details



Connection Details	
ID	**Description**
1a	Line power to contactors, and equipment grounding conductor. Requires one circuit per contactor, size wiring per load and voltage drop.
1b	Load power from contactors, and equipment grounding conductor. Requires one circuit per contactor, size wiring per load and voltage drop.
2a	Control power with equipment ground to control cabinet. Requires dedicated 20 A circuit. Provide transformer if control voltage not present.
3a	Control harnesses - Secondary cabinet to primary cabinet. Harness is provided by Musco in 8-foot length. Use minimum 2 inch diameter conduit for harness connector.

Equipment	
ID	**Description**
1	Control and monitoring cabinet - primary
2	Control and monitoring cabinet - secondary

Circuit Summary

Switching Schedule	
Field/Switch Description	**Switches**
Field 2	**2**
Field 1	**1**
Field 4	**4**
Field 3	**3**

Control Module ID: 1

Lighting Circuit Voltage: 480/60/3

Circuit Summary by Switch							
Switch	**Zone Description**	**Pole ID**	**Qty of Fixtures**	**Full load amperes**	**Contactor Size (Amps)**	**Cabinet #**	**Contactor ID**
1	Field 1	A2	3	3.91	30	1	C1
	Field 1	A3	3	3.91	30	1	C2
	Field 1	B2	6	9.6	30	1	C3
	Field 1	B3	6	9.6	30	1	C4
	Field 1	C2	5	7.71	30	1	C5
2	Field 2	A1	3	3.91	30	1	C6
	Field 2	A2	3	3.91	30	1	C7
	Field 2	B1	6	10.3	30	1	C8
	Field 2	B2	6	9.6	30	1	C9
	Field 2	C1	5	7.71	30	1	C10
3	Field 3	A1	3	3.91	30	1	C11
	Field 3	A4	3	3.91	30	1	C12
	Field 3	B1	6	10.3	30	2	C13
	Field 3	B4	6	10.3	30	2	C14
	Field 3	C4	5	7.71	30	2	C15
4	Field 4	A3	3	3.91	30	2	C16
	Field 4	A4	3	3.91	30	2	C17
	Field 4	B3	6	9.6	30	2	C18
	Field 4	B4	6	10.3	30	2	C19
	Field 4	C3	5	7.71	30	2	C20

System Requirements: Control System Summary

Project Information

Control System

Control System ID:	2 of 2
Control System Type:	Control-Link® Control and Monitoring System
Communication Type:	PowerLine-ST

Power Requirements

Control cabinet(s):	
Control voltage (phase to neutral)	120/60
VA loading - Inrush	5686.0
VA loading - Sealed	669.0
Lighting Circuits:	
Voltage/Hertz/Phase	480/60/3

Project Notes:

Equipment Listing		
Description	**Qty**	**Size (in)**
Control and monitoring cabinet - primary	2	24 X 72
Contactors, 30 amperes	20	-
Off/On/Auto switches	9	-

Important Notes:

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2. In a 3 phase design, all 3 phases are to be run to each pole location. Musco's single phase luminaires come pre-wired to utilize all 3 phases across the entire facility.
3. One contactor is required for each circuit at each pole location. Contactors are 3 pole and 100% rated for the published continuous load.
4. If the lighting system will be fed from more than one distribution location, additional equipment may be required. Contact your Musco sales representative.
5. Size overcurrent devices using the full load amps column of the Circuit Summary by Switch chart (Minimum power factor is 0.9). Size conduit per code unless otherwise specified as larger to allow for harness connectors.
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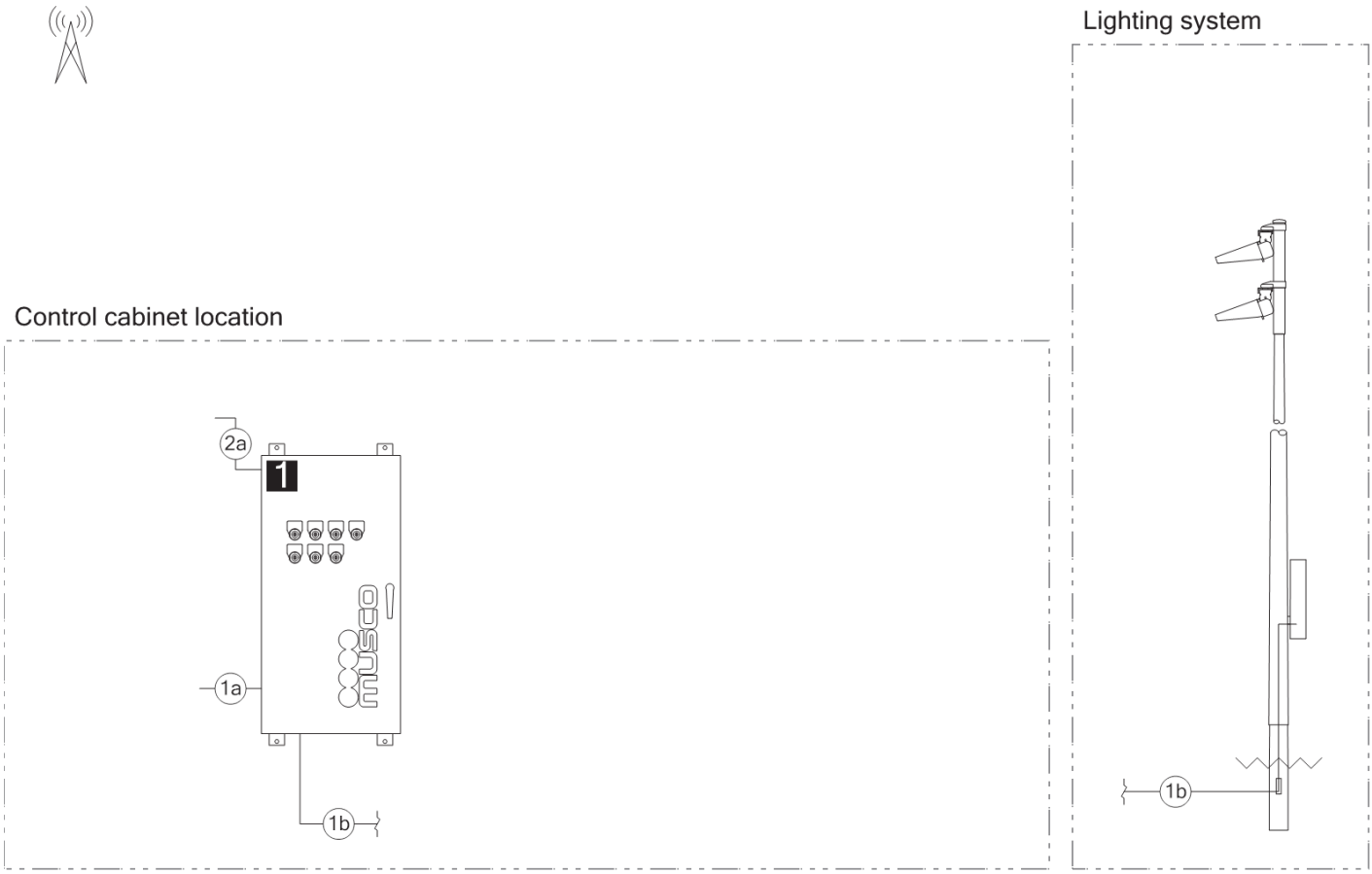
7. Control power wiring must be in separate conduit from line or load power wiring. Communication cables must be in separate conduit from any power wiring.
8. Refer to Installation Instructions for more details on equipment information and the installation requirements.

Equipment Layout and Connection Details



Connection Details	
ID	**Description**
1a	Line power to contactors, and equipment grounding conductor. Requires one circuit per contactor, size wiring per load and voltage drop.
1b	Load power from contactors, and equipment grounding conductor. Requires one circuit per contactor, size wiring per load and voltage drop.
2a	Control power with equipment ground to control cabinet. Requires dedicated 20 A circuit. Provide transformer if control voltage not present.

Equipment	
ID	**Description**
1	Control and monitoring cabinet - primary

Circuit Summary

Switching Schedule	
Field/Switch Description	**Switches**
Field 5	**1,3**
Field 5 / Soccer A	1
Field 5	3
Field 6	**2,4**
Field 6 / Soccer A	2
Field 6	4
Field 8	**7,8**
Field 8 / Soccer B	7
Field 8	8
Field 7	**5,6**
Field 7 / Soccer B	5
Field 7	6
Soccer A	**1,2**
Field 5 / Soccer A	1
Field 6 / Soccer A	2
Soccer B	**5,7**
Field 7 / Soccer B	5
Field 8 / Soccer B	7

Control Module ID: 3

Lighting Circuit Voltage: 480/60/3

Circuit Summary by Switch							
Switch	**Zone Description**	**Pole ID**	**Qty of Fixtures**	**Full load amperes**	**Contactor Size (Amps)**	**Cabinet #**	**Contactor ID**
5	Field 7 / Soccer B	B8	7	13.28	30	4	C13
	Field 7 / Soccer B	C6	4	6.29	30	4	C14
6	Field 7	A8	4	5.81	30	4	C15
7	Field 8 / Soccer B	A10	4	5.81	30	4	C16
	Field 8 / Soccer B	B8	7	12.03	30	4	C17
	Field 8 / Soccer B	B9	7	13.28	30	4	C18
	Field 8 / Soccer B	C6	4	7.54	30	4	C19
8	Field 8	A11	4	5.81	30	4	C20

System Requirements: Control System Summary

Project Name: Jack Allen Softball Complex | Project #: 223169
Control System ID: 2 of 2
Distribution Panel Location/ID: Jack Allen 2

Control Module ID: 2

Lighting Circuit Voltage: 480/60/3

Circuit Summary by Switch

Switch	Zone Description	Pole ID	Qty of Fixtures	Full load amperes	Contactor Size (Amps)	Cabinet #	Contactor ID
1	Field 5 / Soccer A	A6	4	5.81	30	3	C1
	Field 5 / Soccer A	B5	7	11.48	30	3	C2
	Field 5 / Soccer A	B6	7	12.74	30	3	C3
	Field 5 / Soccer A	C5	4	6.29	30	3	C4
2	Field 6 / Soccer A	A7	4	5.81	30	3	C5
	Field 6 / Soccer A	B6	7	12.57	30	3	C6
	Field 6 / Soccer A	B7	7	13.83	30	3	C7
	Field 6 / Soccer A	C5	4	7.54	30	3	C8
3	Field 5	A5	4	5.81	30	3	C9
4	Field 6	A8	4	5.81	30	3	C10
5	Field 7 / Soccer B	A9	4	5.81	30	3	C11
	Field 7 / Soccer B	B7	7	13.83	30	3	C12