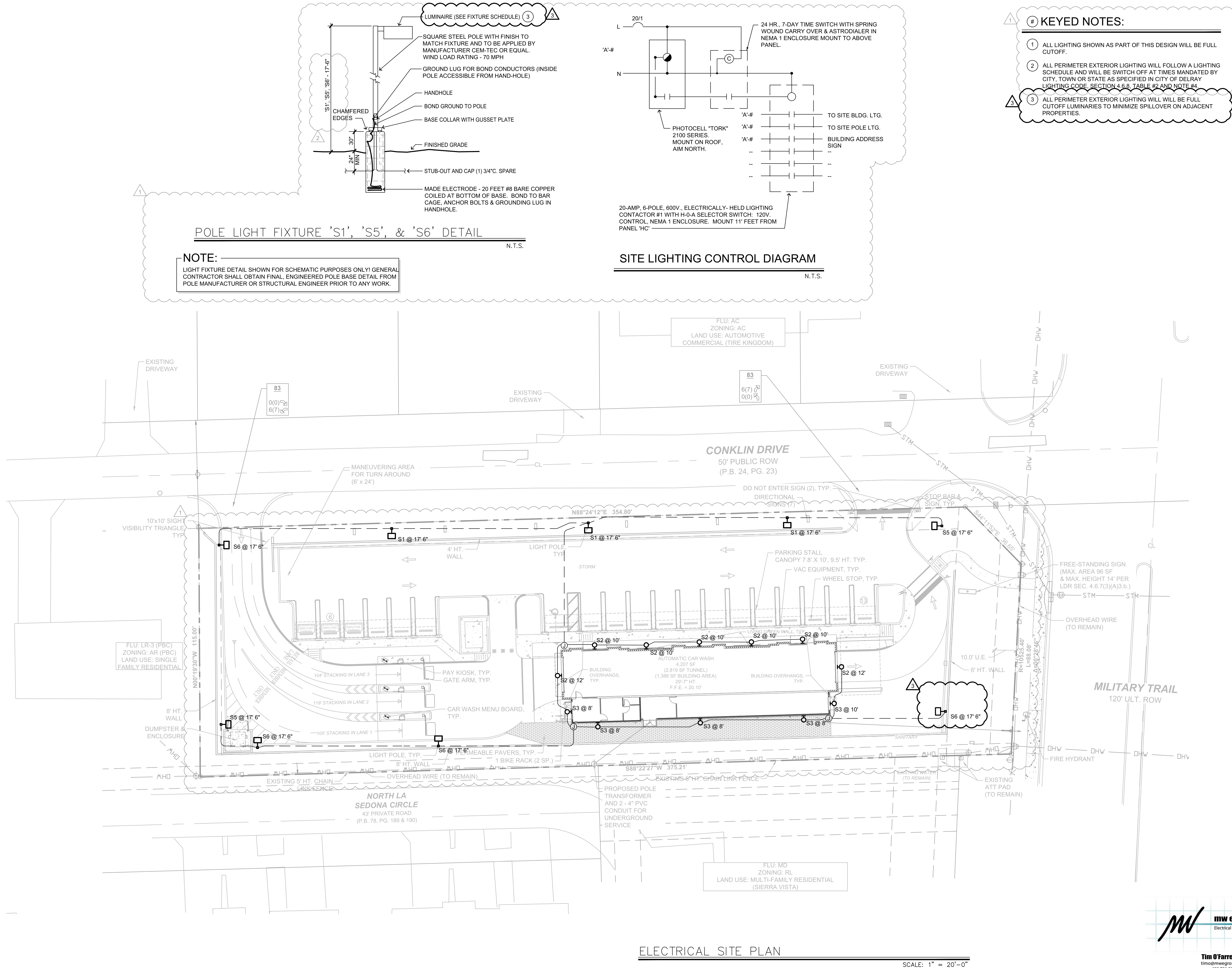


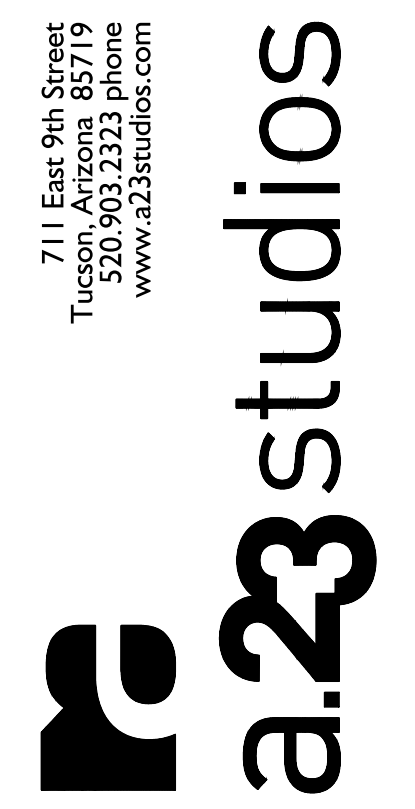
NOTE:  
THESE DOCUMENTS ESTABLISH THE GENERAL  
STANDARDS OF QUALITY AND DETAIL FOR  
DEVELOPING A NEGOTIATED CONSTRUCTION  
CONTRACT.



Revisions	
1	CITY OF DELRAY BEACH 04/08/25
3	CITY COMMENTS 09/15/25

ELECTRICAL SITE  
PLAN

Car Wash  
14145 S. MILITARY TRAIL  
Delray, FL 33484



Project	24099
Date	01.15.25
Scale	Noted
Sheet	

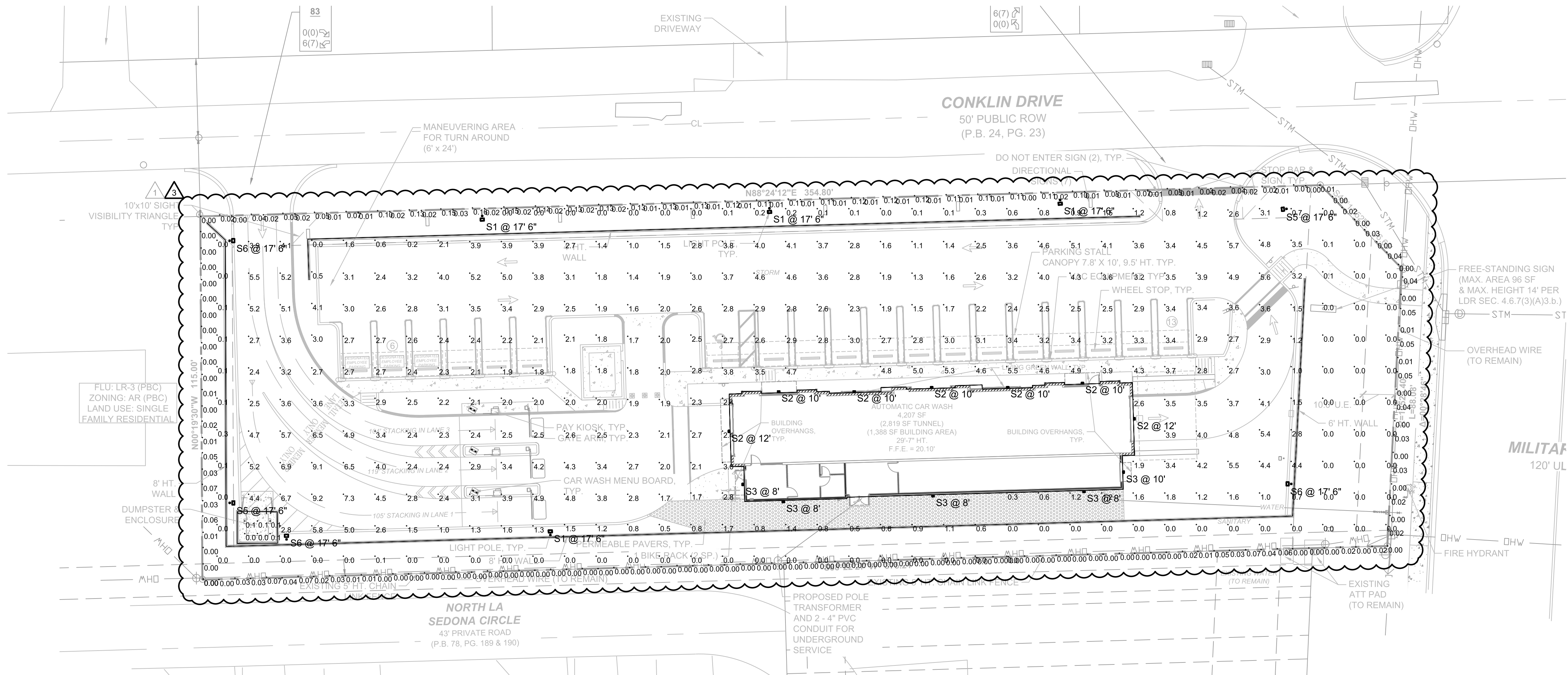
E1.0



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timo@mwgroup.com  
480.731.5050  
www.mwengineeringllc.com  
2001 W. Alameda Dr., Suite 102 Tempe, AZ 85282



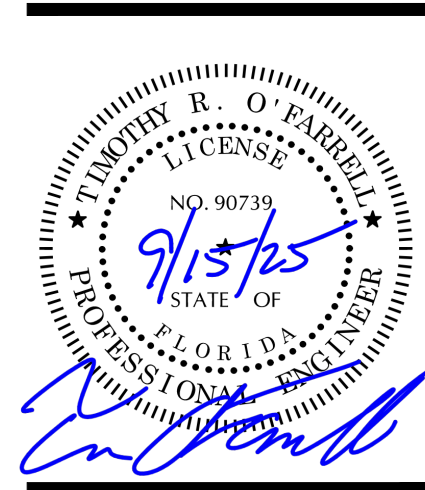
NOTE:  
THESE DOCUMENTS ESTABLISH THE GENERAL  
STANDARDS OF QUALITY AND DETAIL FOR  
DEVELOPING A NEGOTIATED CONSTRUCTION  
CONTRACT.



Schedule									
Symbol	Label	QTY	Manufacturer	Catalog	Description	Number Lamps	Lamp Output	LLF	Input Power
	S1	4	LITHONIA	DSX0 LED P6 30K 70CRI BLC4 VOLTAGE MOUNTING FINISH	POLE MOUNT WITH TYPE 4 EXTREAM BACKLIGHT CONTROL OPTICS	1	12352	0.9	137
	S2	7	LITHONIA	WDGE2 LED P2 30K 70CRI T2M VOLTAGE SRM FINISH	WALL MOUNT WITH TYPE 2 MEDIUM OPTICS	1	2160	0.9	18.9815
	S3	5	LITHONIA	WDGE2 LED P0 30K 70CRI T2M VOLTAGE FINISH	WALL MOUNT WITH TYPE 2 MEDIUM OPTICS	1	762	0.9	6.8946
	S5	2	LITHONIA	DSX0 LED P4 30K 70CRI RCC0 VOLTAGE MOUNTING FINISH	POLE MOUNT WITH RIGHT CORNER CUTOFF OPTICS	1	7838	0.9	93.04
	S6	3	LITHONIA	DSX0 LED P4 30K 70CRI LCC0 VOLTAGE MOUNTING FINISH	POLE MOUNT WITH LEFT CORNER CUTOFF OPTICS	1	7838	0.9	93.04

Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
DRIVE SURFACE @ 0' AFG	+	3.2 fc	9.2 fc	1.0 fc	9.2:1	3.2:1
PROPERTY LINE HORIZONTAL @ 6' AFG	+	0.01 fc	0.04 fc	0.00 fc	N/A	N/A
PROPERTY LINE VERTICAL - EAST @ 6' AFG	+	0.03 fc	0.05 fc	0.01 fc	5.0:1	3.0:1
PROPERTY LINE VERTICAL - NORTH @ 6' AFG	+	0.10 fc	0.16 fc	0.01 fc	16.0:1	10.0:1
PROPERTY LINE VERTICAL - SOUTH @ 6' AFG	+	0.01 fc	0.07 fc	0.00 fc	N/A	N/A
PROPERTY LINE VERTICAL - WEST @ 6' AFG	+	0.02 fc	0.07 fc	0.00 fc	N/A	N/A
SITE @ 0' AFG	+	1.1 fc	5.5 fc	0.0 fc	N/A	N/A
TRASH ENCLOSURE @ 0' AFG	+	0.1 fc	0.1 fc	0.0 fc	N/A	N/A

- NOTE
1. ALTERNATE LUMINAIRES REQUIRE PROJECT SPECIFIC POINT BY POINT PHOTOMETRY FOR REVIEW.
  2. EXTERIOR LIGHT LEVELS MAY BE AFFECTED BY NEW OR EXISTING FOLIAGE OBSTRUCTION.
  3. LUMINAIRE MOUNTING HEIGHT AS INDICATED.
  4. LUMINAIRE MOUNTING COMPONENTS AS REQUIRED FOR INSTALLATION.



- Revisions
1. CITY OF DELRAY BEACH  
04/08/25
  2. CITY COMMENTS 09/15/25

## SITE LIGHTING PHOTOMETRICS

Car Wash  
14145 S. MILITARY TRAIL  
Delray, FL 33484

711 East 9th Street  
Tucson, AZ 85710  
Phone: 520.903.2323  
www.a23studios.com

a.23studios

Project 24099  
Date 01.15.25  
Scale Noted  
Sheet

EI.1





**Specifications**

EPA: 0.44 ft<sup>2</sup> (0.04 m<sup>2</sup>)

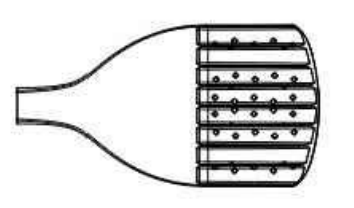
Length: 26.18" (66.5 cm)

Width: 14.06" (35.7 cm)

Height H1: 2.26" (5.7 cm)

Height H2: 7.46" (18.9 cm)

Weight: 23 lbs (10.4 kg)



## Introduction

The modern styling of the D-Series features a highly refined aesthetic that blends seamlessly with its environment. The D-Series offers the benefits of the latest in LED technology into a high performance, high efficiency, long-life luminaire.

The photometric performance results in sites with excellent uniformity, greater pole spacing and lower power density. D-Series outstanding photometry aids in reducing the number of poles required in area lighting applications, with typical energy savings of 70% and expected service life of over 100,000 hours.



Items marked by a **shaded background** qualify for the Design Select program and ship in 15 days or less. To learn more about Design Select, visit [www.acuitybrands.com/designselect](http://www.acuitybrands.com/designselect). \*See ordering tree for details.

## Ordering Information

EXAMPLE: DSX0 LED P6 40K 70CRI T3M MVOLT SPA NLTAIR2 PIRHN DBBDO

Series	LEDs	Color temperature <sup>1</sup>	Color Rendering Index <sup>2</sup>	Distribution	Mounting	Shipped included
DSX0 LED	<b>Forward optics</b>	(this section 70CRI only)				
	P1 P5	30K 3000K	70CRI	AFR Asymmetric front		SPA Square pole mounting (18" drilling, 1.5" min. 50 pole)
	P2 P6	40K 4000K	70CRI	T15 Type I short		XLVOL 277V-480V <sup>10</sup>
	P3 P7	50K 5000K	70CRI	T3M Type II medium		SPA Round pole mounting (18" drilling, 3" min. 50 pole)
	PR	70K 7000K	90CRI	T3M Type II medium		SPAS Square pole mounting (18" drilling, 3" min. 50 pole)
	PI0 <sup>11</sup> PI2 <sup>11</sup>	30K 3000K	80CRI	T3M Type II low glare <sup>12</sup>		SPAS Square pole mounting (18" drilling, 3" min. 50 pole)
	PI1 <sup>11</sup> PI3 <sup>11</sup>	30K 3000K	80CRI	T3M Type II low glare <sup>12</sup>		SPAS Square pole mounting (18" drilling, 3" min. 50 pole)
	PI4 <sup>11</sup> PI5 <sup>11</sup>	30K 3000K	80CRI	T3M Type II low glare <sup>12</sup>		SPAS Square pole mounting (18" drilling, 3" min. 50 pole)
	PI6 <sup>11</sup> PI7 <sup>11</sup>	30K 3000K	80CRI	T3M Type II low glare <sup>12</sup>		SPAS Square pole mounting (18" drilling, 3" min. 50 pole)
	PI8 <sup>11</sup> PI9 <sup>11</sup>	30K 3000K	80CRI	T3M Type II low glare <sup>12</sup>		SPAS Square pole mounting (18" drilling, 3" min. 50 pole)
DSX0 LED	<b>Retarded optics</b>	(this section 70CRI only)				
	P1 P5	30K 3000K	70CRI	AFR Asymmetric front		SPA Square pole mounting (18" drilling, 1.5" min. 50 pole)
	P2 P6	40K 4000K	70CRI	T15 Type I short		XLVOL 277V-480V <sup>10</sup>
	P3 P7	50K 5000K	70CRI	T3M Type II medium		SPA Round pole mounting (18" drilling, 3" min. 50 pole)
	PR	70K 7000K	90CRI	T3M Type II medium		SPAS Square pole mounting (18" drilling, 3" min. 50 pole)
	PI0 <sup>11</sup> PI2 <sup>11</sup>	30K 3000K	80CRI	T3M Type II low glare <sup>12</sup>		SPAS Square pole mounting (18" drilling, 3" min. 50 pole)
	PI1 <sup>11</sup> PI3 <sup>11</sup>	30K 3000K	80CRI	T3M Type II low glare <sup>12</sup>		SPAS Square pole mounting (18" drilling, 3" min. 50 pole)
	PI4 <sup>11</sup> PI5 <sup>11</sup>	30K 3000K	80CRI	T3M Type II low glare <sup>12</sup>		SPAS Square pole mounting (18" drilling, 3" min. 50 pole)
	PI6 <sup>11</sup> PI7 <sup>11</sup>	30K 3000K	80CRI	T3M Type II low glare <sup>12</sup>		SPAS Square pole mounting (18" drilling, 3" min. 50 pole)
	PI8 <sup>11</sup> PI9 <sup>11</sup>	30K 3000K	80CRI	T3M Type II low glare <sup>12</sup>		SPAS Square pole mounting (18" drilling, 3" min. 50 pole)

Control options	Other options		Finish options
<b>Shipped installed</b>	<b>Shipped installed</b>		
NLTAR2 PIR	Light ARB gas 2 installed with 2-level motion / ambient sensor, 8-40" mounting height, ambient sensor enabled at 26" (1.1 m).	DBBDO Dark bronze	
PIR	High-light, motion/ambient sensor, 8-40" mounting height, ambient sensor enabled at 26" (1.1 m).	DBBDO Dark bronze	
PER	80K heat lock (retrofit only) (control ordered separately) <sup>13</sup>	DBBDO Dark bronze	
PERS	Five-pin retractable only (control ordered separately) <sup>14</sup>	DBBDO Dark bronze	
	<b>Other options</b>	<b>Other options</b>	
	PER7 Seven-pin retractable only (control ordered separately) <sup>15</sup>	DBBDO Dark bronze	
	PER8 Eight-pin retractable only (control ordered separately) <sup>16</sup>	DBBDO Dark bronze	
	PER9 Nine-pin retractable only (control ordered separately) <sup>17</sup>	DBBDO Dark bronze	
	PER10 Ten-pin retractable only (control ordered separately) <sup>18</sup>	DBBDO Dark bronze	
	PER11 Eleven-pin retractable only (control ordered separately) <sup>19</sup>	DBBDO Dark bronze	
	PER12 Twelve-pin retractable only (control ordered separately) <sup>20</sup>	DBBDO Dark bronze	
	PER13 Thirteen-pin retractable only (control ordered separately) <sup>21</sup>	DBBDO Dark bronze	
	PER14 Fourteen-pin retractable only (control ordered separately) <sup>22</sup>	DBBDO Dark bronze	
	PER15 Fifteen-pin retractable only (control ordered separately) <sup>23</sup>	DBBDO Dark bronze	
	PER16 Sixteen-pin retractable only (control ordered separately) <sup>24</sup>	DBBDO Dark bronze	
	PER17 Seventeen-pin retractable only (control ordered separately) <sup>25</sup>	DBBDO Dark bronze	
	PER18 Eighteen-pin retractable only (control ordered separately) <sup>26</sup>	DBBDO Dark bronze	
	PER19 Nineteen-pin retractable only (control ordered separately) <sup>27</sup>	DBBDO Dark bronze	
	PER20 Twenty-pin retractable only (control ordered separately) <sup>28</sup>	DBBDO Dark bronze	
	PER21 Twenty-one-pin retractable only (control ordered separately) <sup>29</sup>	DBBDO Dark bronze	
	PER22 Twenty-two-pin retractable only (control ordered separately) <sup>30</sup>	DBBDO Dark bronze	
	PER23 Twenty-three-pin retractable only (control ordered separately) <sup>31</sup>	DBBDO Dark bronze	
	PER24 Twenty-four-pin retractable only (control ordered separately) <sup>32</sup>	DBBDO Dark bronze	
	PER25 Twenty-five-pin retractable only (control ordered separately) <sup>33</sup>	DBBDO Dark bronze	
	PER26 Twenty-six-pin retractable only (control ordered separately) <sup>34</sup>	DBBDO Dark bronze	
	PER27 Twenty-seven-pin retractable only (control ordered separately) <sup>35</sup>	DBBDO Dark bronze	
	PER28 Twenty-eight-pin retractable only (control ordered separately) <sup>36</sup>	DBBDO Dark bronze	
	PER29 Twenty-nine-pin retractable only (control ordered separately) <sup>37</sup>	DBBDO Dark bronze	
	PER30 Thirty-pin retractable only (control ordered separately) <sup>38</sup>	DBBDO Dark bronze	
	PER31 Thirty-one-pin retractable only (control ordered separately) <sup>39</sup>	DBBDO Dark bronze	
	PER32 Thirty-two-pin retractable only (control ordered separately) <sup>40</sup>	DBBDO Dark bronze	
	PER33 Thirty-three-pin retractable only (control ordered separately) <sup>41</sup>	DBBDO Dark bronze	
	PER34 Thirty-four-pin retractable only (control ordered separately) <sup>42</sup>	DBBDO Dark bronze	
	PER35 Thirty-five-pin retractable only (control ordered separately) <sup>43</sup>	DBBDO Dark bronze	
	PER36 Thirty-six-pin retractable only (control ordered separately) <sup>44</sup>	DBBDO Dark bronze	
	PER37 Thirty-seven-pin retractable only (control ordered separately) <sup>45</sup>	DBBDO Dark bronze	
	PER38 Thirty-eight-pin retractable only (control ordered separately) <sup>46</sup>	DBBDO Dark bronze	
	PER39 Thirty-nine-pin retractable only (control ordered separately) <sup>47</sup>	DBBDO Dark bronze	
	PER40 Forty-pin retractable only (control ordered separately) <sup>48</sup>	DBBDO Dark bronze	
	PER41 Forty-one-pin retractable only (control ordered separately) <sup>49</sup>	DBBDO Dark bronze	
	PER42 Forty-two-pin retractable only (control ordered separately) <sup>50</sup>	DBBDO Dark bronze	
	PER43 Forty-three-pin retractable only (control ordered separately) <sup>51</sup>	DBBDO Dark bronze	
	PER44 Forty-four-pin retractable only (control ordered separately) <sup>52</sup>	DBBDO Dark bronze	
	PER45 Forty-five-pin retractable only (control ordered separately) <sup>53</sup>	DBBDO Dark bronze	
	PER46 Forty-six-pin retractable only (control ordered separately) <sup>54</sup>	DBBDO Dark bronze	
	PER47 Forty-seven-pin retractable only (control ordered separately) <sup>55</sup>	DBBDO Dark bronze	
	PER48 Forty-eight-pin retractable only (control ordered separately) <sup>56</sup>	DBBDO Dark bronze	
	PER49 Forty-nine-pin retractable only (control ordered separately) <sup>57</sup>	DBBDO Dark bronze	
	PER50 Fifty-pin retractable only (control ordered separately) <sup>58</sup>	DBBDO Dark bronze	
	PER51 Fifty-one-pin retractable only (control ordered separately) <sup>59</sup>	DBBDO Dark bronze	
	PER52 Fifty-two-pin retractable only (control ordered separately) <sup>60</sup>	DBBDO Dark bronze	
	PER53 Fifty-three-pin retractable only (control ordered separately) <sup>61</sup>	DBBDO Dark bronze	
	PER54 Fifty-four-pin retractable only (control ordered separately) <sup>62</sup>	DBBDO Dark bronze	
	PER55 Fifty-five-pin retractable only (control ordered separately) <sup>63</sup>	DBBDO Dark bronze	
	PER56 Fifty-six-pin retractable only (control ordered separately) <sup>64</sup>	DBBDO Dark bronze	
	PER57 Fifty-seven-pin retractable only (control ordered separately) <sup>65</sup>	DBBDO Dark bronze	
	PER58 Fifty-eight-pin retractable only (control ordered separately) <sup>66</sup>	DBBDO Dark bronze	
	PER59 Fifty-nine-pin retractable only (control ordered separately) <sup>67</sup>	DBBDO Dark bronze	
	PER60 Sixty-pin retractable only (control ordered separately) <sup>68</sup>	DBBDO Dark bronze	
	PER61 Sixty-one-pin retractable only (control ordered separately) <sup>69</sup>	DBBDO Dark bronze	
	PER62 Sixty-two-pin retractable only (control ordered separately) <sup>70</sup>	DBBDO Dark bronze	
	PER63 Sixty-three-pin retractable only (control ordered separately) <sup>71</sup>	DBBDO Dark bronze	
	PER64 Sixty-four-pin retractable only (control ordered separately) <sup>72</sup>	DBBDO Dark bronze	
	PER65 Sixty-five-pin retractable only (control ordered separately) <sup>73</sup>	DBBDO Dark bronze	
	PER66 Sixty-six-pin retractable only (control ordered separately) <sup>74</sup>	DBBDO Dark bronze	
	PER67 Sixty-seven-pin retractable only (control ordered separately) <sup>75</sup>	DBBDO Dark bronze	
	PER68 Sixty-eight-pin retractable only (control ordered separately) <sup>76</sup>	DBBDO Dark bronze	
	PER69 Sixty-nine-pin retractable only (control ordered separately) <sup>77</sup>	DBBDO Dark bronze	
	PER70 Seventy-pin retractable only (control ordered separately) <sup>78</sup>	DBBDO Dark bronze	
	PER71 Seventy-one-pin retractable only (control ordered separately) <sup>79</sup>	DBBDO Dark bronze	
	PER72 Seventy-two-pin retractable only (control ordered separately) <sup>80</sup>	DBBDO Dark bronze	
	PER73 Seventy-three-pin retractable only (control ordered separately) <sup>81</sup>	DBBDO Dark bronze	
	PER74 Seventy-four-pin retractable only (control ordered separately) <sup>82</sup>	DBBDO Dark bronze	
	PER75 Seventy-five-pin retractable only (control ordered separately) <sup>83</sup>	DBBDO Dark bronze	
	PER76 Seventy-six-pin retractable only (control ordered separately) <sup>84</sup>	DBBDO Dark bronze	
	PER77 Seventy-seven-pin retractable only (control ordered separately) <sup>85</sup>	DBBDO Dark bronze	
	PER78 Seventy-eight-pin retractable only (control ordered separately) <sup>86</sup>	DBBDO Dark bronze	
	PER79 Seventy-nine-pin retractable only (control ordered separately) <sup>87</sup>	DBBDO Dark bronze	
	PER80 Eighty-pin retractable only (control ordered separately) <sup>88</sup>	DBBDO Dark bronze	
	PER81 Eighty-one-pin retractable only (control ordered separately) <sup>89</sup>	DBBDO Dark bronze	
	PER82 Eighty-two-pin retractable only (control ordered separately) <sup>90</sup>	DBBDO Dark bronze	
	PER83 Eighty-three-pin retractable only (control ordered separately) <sup>91</sup>	DBBDO Dark bronze	
	PER84 Eighty-four-pin retractable only (control ordered separately) <sup>92</sup>	DBBDO Dark bronze	
	PER85 Eighty-five-pin retractable only (control ordered separately) <sup>93</sup>	DBBDO Dark bronze	
	PER86 Eighty-six-pin retractable only (control ordered separately) <sup>94</sup>	DBBDO Dark bronze	
	PER87 Eighty-seven-pin retractable only (control ordered separately) <sup>95</sup>	DBBDO Dark bronze	
	PER88 Eighty-eight-pin retractable only (control ordered separately) <sup>96</sup>	DBBDO Dark bronze	
	PER89 Eighty-nine-pin retractable only (control ordered separately) <sup>97</sup>	DBBDO Dark bronze	
	PER90 Ninety-pin retractable only (control ordered separately) <sup>98</sup>	DBBDO Dark bronze	
	PER91 Ninety-one-pin retractable only (control ordered separately) <sup>99</sup>	DBBDO Dark bronze	
	PER92 Ninety-two-pin retractable only (control ordered separately) <sup>100</sup>	DBBDO Dark bronze	
	PER93 Ninety-three-pin retractable only (control ordered separately) <sup>101</sup>	DBBDO Dark bronze	
	PER94 Ninety-four-pin retractable only (control ordered separately) <sup>102</sup>	DBBDO Dark bronze	
	PER95 Ninety-five-pin retractable only (control ordered separately) <sup>103</sup>	DBBDO Dark bronze	
	PER96 Ninety-six-pin retractable only (control ordered separately) <sup>104</sup>	DBBDO Dark bronze	
	PER97 Ninety-seven-pin retractable only (control ordered separately) <sup>105</sup>	DBBDO Dark bronze	
	PER98 Ninety-eight-pin retractable only (control ordered separately) <sup>106</sup>	DBBDO Dark bronze	
	PER99 Ninety-nine-pin retractable only (control ordered separately) <sup>107</sup>	DBBDO Dark bronze	
	PER100 One hundred-pin retractable only (control ordered separately) <sup>108</sup>	DBBDO Dark bronze	
	PER101 One hundred and one-pin retractable only (control ordered separately) <sup>109</sup>	DBBDO Dark bronze	
	PER102 One hundred and two-pin retractable only (control ordered separately) <sup>110</sup>	DBBDO Dark bronze	
	PER103 One hundred and three-pin retractable only (control ordered separately) <sup>111</sup>	DBBDO Dark bronze	
	PER104 One hundred and four-pin retractable only (control ordered separately) <sup>112</sup>	DBBDO Dark bronze	
	PER105 One hundred and five-pin retractable only (control ordered separately) <sup>113</sup>	DBBDO Dark bronze	
	PER106 One hundred and six-pin retractable only (control ordered separately) <sup>114</sup>	DBBDO Dark bronze	
	PER107 One hundred and seven-pin retractable only (control ordered separately) <sup>115</sup>	DBBDO Dark bronze	
	PER108 One hundred and eight-pin retractable only (control ordered separately) <sup>116</sup>	DBBDO Dark bronze	
	PER109 One hundred and nine-pin retractable only (control ordered separately) <sup>117</sup>	DBBDO Dark bronze	
	PER110 One hundred and ten-pin retractable only (control ordered separately) <sup>118</sup>	DBBDO Dark bronze	
	PER111 One hundred and eleven-pin retractable only (control ordered separately) <sup>119</sup>	DBBDO Dark bronze	
	PER112 One hundred and twelve-pin retractable only (control ordered separately) <sup>120</sup>	DBBDO Dark bronze	
	PER113 One hundred and thirteen-pin retractable only (control ordered separately) <sup>121</sup>	DBBDO Dark bronze	
	PER114 One hundred and fourteen-pin retractable only (control ordered separately) <sup>122</sup>	DBBDO Dark bronze	
	PER115 One hundred and fifteen-pin retractable only (control ordered separately) <sup>123</sup>	DBBDO Dark bronze	
	PER116 One hundred and sixteen-pin retractable only (control ordered separately) <sup>124</sup>	DBBDO Dark bronze	
	PER117 One hundred and seventeen-pin retractable only (control ordered separately) <sup>125</sup>	DBBDO Dark bronze	
	PER118 One hundred and eighteen-pin retractable only (control ordered separately) <sup>126</sup>	DBBDO Dark bronze	
	PER119 One hundred and nineteen-pin retractable only (control ordered separately) <sup>127</sup>	DBBDO Dark bronze	
	PER120 One hundred and twenty-pin retractable only (control ordered separately) <sup>128</sup>	DBBDO Dark bronze	
	PER121 One hundred and twenty-one-pin retractable only (control ordered separately) <sup>129</sup>	DBBDO Dark bronze	
	PER122 One hundred and twenty-two-pin retractable only (control ordered separately) <sup>130</sup>	DBBDO Dark bronze	
	PER123 One hundred and twenty-three-pin retractable only (control ordered separately) <sup>131</sup>	DBBDO Dark bronze	
	PER124 One hundred and twenty-four-pin retractable only (control ordered separately) <sup>132</sup>	DBBDO Dark bronze	
	PER125 One hundred and twenty-five-pin retractable only (control ordered separately) <sup>133</sup>	DBBDO Dark bronze	
	PER126 One hundred and twenty-six-pin retractable only (control ordered separately) <sup>134</sup>	DBBDO Dark bronze	
	PER127 One hundred and twenty-seven-pin retractable only (control ordered separately) <sup>135</sup>	DBBDO Dark bronze	
	PER128 One hundred and twenty-eight-pin retractable only (control ordered separately) <sup>136</sup>	DBBDO Dark bronze	
	PER129 One hundred and twenty-nine-pin retractable only (control ordered separately) <sup>137</sup>	DBBDO Dark bronze	
	PER130 One hundred and thirty-pin retractable only (control ordered separately) <sup>138</sup>	DBBDO Dark bronze	
	PER131 One hundred and thirty-one-pin retractable only (control ordered separately) <sup>139</sup>	DBBDO Dark bronze	
	PER132 One hundred and thirty-two-pin retractable only (control ordered separately) <sup>140</sup>	DBBDO Dark bronze	
	PER133 One hundred and thirty-three-pin retractable only (control ordered separately) <sup>141</sup>	DBBDO Dark bronze	
	PER134 One hundred and thirty-four-pin retractable only (control ordered separately) <sup>142</sup>	DBBDO Dark bronze	
	PER135 One hundred and thirty-five-pin retractable only (control ordered separately) <sup>143</sup>	DBBDO Dark bronze	
	PER136 One hundred and thirty-six-pin retractable only (control ordered separately) <sup>144</sup>	DBBDO Dark bronze	
	PER137 One hundred and thirty-seven-pin retractable only (control ordered separately) <sup>145</sup>	DBBDO Dark bronze	
	PER138 One hundred and thirty-eight-pin retractable only (control ordered separately) <sup>146</sup>	DBBDO Dark bronze	
	PER139 One hundred and thirty-nine-pin retractable only (control ordered separately) <sup>147</sup>	DBBDO Dark bronze	
	PER140 One hundred and forty-pin retractable only (control ordered separately) <sup>148</sup>	DBBDO Dark bronze	
	PER141 One hundred and forty-one-pin retractable only (control ordered separately) <sup>149</sup>	DBBDO Dark bronze	
	PER142 One hundred and forty-two-pin retractable only (control ordered separately) <sup>150</sup>	DBBDO Dark bronze	
	PER143 One hundred and forty-three-pin retractable only (control ordered separately) <sup>151</sup>	DBBDO Dark bronze	
	PER144 One hundred and forty-four-pin retractable only (control ordered separately) <sup>152</sup>	DBBDO Dark bronze	
	PER145 One hundred and forty-five-pin retractable only (control ordered separately) <sup>153</sup>	DBBDO Dark bronze	
	PER146 One hundred and forty-six-pin retractable only (control ordered separately) <sup>154</sup>	DBBDO Dark bronze	
	PER147 One hundred and forty-seven-pin retractable only (control ordered separately) <sup>155</sup>	DBBDO Dark bronze	
	PER148 One hundred and forty-eight-pin retractable only (control ordered separately) <sup>156</sup>	DBBDO Dark bronze	
	PER149 One hundred and forty-nine-pin retractable only (control ordered separately) <sup>157</sup>	DBBDO Dark bronze	
	PER150 One hundred and fifty-pin retractable only (control ordered separately) <sup>158</sup>	DBBDO Dark bronze	
	PER151 One hundred and fifty-one-pin retractable only (control ordered separately) <sup>159</sup>	DBBDO Dark bronze	
	PER152 One hundred and fifty-two-pin retractable only (control ordered separately) <sup>160</sup>	DBBDO Dark bronze	
	PER153 One hundred and fifty-three-pin retractable only (control ordered separately) <sup>161</sup>	DBBDO Dark bronze	
	PER154 One hundred and fifty-four-pin retractable only (control ordered separately) <sup>162</sup>	DBBDO Dark bronze	
	PER155 One hundred and fifty-five-pin retractable only (control ordered separately) <sup>163</sup>	DBBDO Dark bronze	
	PER156 One hundred and fifty-six-pin retractable only (control ordered separately) <sup>164</sup>	DBBDO Dark bronze	
	PER157 One hundred and fifty-seven-pin retractable only (control ordered separately) <sup>165</sup>	DBBDO Dark bronze	
	PER158 One hundred and fifty-eight-pin retractable only (control ordered separately) <sup>166</sup>	DBBDO Dark bronze	
	PER159 One hundred and fifty-nine-pin retractable only (control ordered separately) <sup>167</sup>	DBBDO Dark bronze	
	PER160 One hundred and sixty-pin retractable only (control ordered separately) <sup>168</sup>	DBBDO Dark bronze	
	PER161 One hundred and sixty-one-pin retractable only (control ordered separately) <sup>169</sup>	DBBDO Dark bronze	
	PER162 One hundred and sixty-two-pin retractable only (control ordered separately) <sup>170</sup>	DBBDO Dark bronze	
	PER163 One hundred and sixty-three-pin retractable only (control ordered separately) <sup>171</sup>	DBBDO Dark bronze	
	PER164 One hundred and sixty-four-pin retractable only (control ordered separately) <sup>172</sup>	DBBDO Dark bronze	
	PER165 One hundred and sixty-five-pin retractable only (control ordered separately) <sup>173</sup>	DBBDO Dark bronze	
	PER166 One hundred and sixty-six-pin retractable only (control ordered separately) <sup>174</sup>	DBBDO Dark bronze	
	PER167 One hundred and sixty-seven-pin retractable only (control ordered separately) <sup>175</sup>	DBBDO Dark bronze	
	PER168 One hundred and sixty-eight-pin retractable only (control ordered separately) <sup>176</sup>	DBBDO Dark bronze	
	PER169 One hundred and sixty-nine-pin retractable only (control ordered separately) <sup>177</sup>	DBBDO Dark bronze	
	PER170 One hundred and seventy-pin retractable only (control ordered separately) <sup>178</sup>	DBBDO Dark bronze	
	PER171 One hundred and seventy-one-pin retractable only (control ordered separately) <sup>179</sup>	DBBDO Dark bronze	
	PER172 One hundred and seventy-two-pin retractable only (control ordered separately) <sup>180</sup>	DBBDO Dark bronze	
	PER173 One hundred and seventy-three-pin retractable only (control ordered separately) <sup>181</sup>	DBBDO Dark bronze	
	PER174 One hundred and seventy-four-pin retractable only (control ordered separately) <sup>182</sup>	DBBDO Dark bronze	
	PER175 One hundred and seventy-five-pin retractable only (control ordered separately) <sup>183</sup>	DBBDO Dark bronze	
	PER176 One hundred and seventy-six-pin retractable only (control ordered separately) <sup>184</sup>	DBBDO Dark bronze	
	PER177 One hundred and seventy-seven-pin retractable only (control ordered separately) <sup>185</sup>	DBBDO Dark bronze	
	PER178 One hundred and seventy-eight-pin retractable only (control ordered separately) <sup>186</sup>	DBBDO Dark bronze	
	PER179 One hundred and seventy-nine-pin retractable only (control ordered separately) <sup>187</sup>	DBBDO Dark bronze	
	PER180 One hundred and eighty-pin retractable only (control ordered separately) <sup>188</sup>	DBBDO Dark bronze	
	PER181 One hundred and eighty-one-pin retractable only (control ordered separately) <sup>189</sup>	DBBDO Dark bronze	
	PER182 One hundred and eighty-two-pin retractable only (control ordered separately) <sup>190</sup>	DBBDO Dark bronze	
	PER183 One hundred and eighty-three-pin retractable only (control ordered separately) <sup>191</sup>	DBBDO Dark bronze	
	PER184 One hundred and eighty-four-pin retractable only (control ordered separately) <sup>192</sup>	DBBDO Dark bronze	
	PER185 One hundred and eighty-five-pin retractable only (control ordered separately) <sup>193</sup>	DBBDO Dark bronze	
	PER186 One hundred and eighty-six-pin retractable only (control ordered separately) <sup>194</sup>	DBBDO Dark bronze	
	PER187 One hundred and eighty-seven-pin retractable only (control ordered separately) <sup>195</sup>	DBBDO Dark bronze	
	PER188 One hundred and eighty-eight-pin retractable only (control ordered separately) <sup>196</sup>	DBBDO Dark bronze	
	PER189 One hundred and eighty-nine-pin retractable only (control ordered separately) <sup>197</sup>	DBBDO Dark bronze	
	PER190 One hundred and ninety-pin retractable only (control ordered separately) <sup>198</sup>	DBBDO Dark bronze	
	PER191 One hundred and ninety-one-pin retractable only (control ordered separately) <sup>199</sup>	DBBDO Dark bronze	
	PER192 One hundred and ninety-two-pin retractable only (control ordered separately) <sup>200</sup>	DBBDO Dark bronze	
	PER193 One hundred and ninety-three-pin retractable only (control ordered separately) <sup>201</sup>	DBBDO Dark bronze	
	PER194 One hundred and ninety-four-pin retractable only (control ordered separately) <sup>202</sup>	DBBDO Dark bronze	
	PER195 One hundred and ninety-five-pin retractable only (control ordered separately) <sup>203</sup>	DBBDO Dark bronze	
	PER196 One hundred and ninety-six-pin retractable only (control ordered separately) <sup>204</sup>	DBBDO Dark bronze	
	PER197 One hundred and ninety-seven-pin retractable only (control ordered separately) <sup>205</sup>	DBBDO Dark bronze	
	PER198 One hundred and ninety-eight-pin retractable only (control ordered separately) <sup>206</sup>	DBBDO Dark bronze	
	PER199 One hundred and ninety-nine-pin retractable only (control ordered separately) <sup>207</sup>	DBBDO Dark bronze	
	PER200 Two hundred-pin retractable only (control ordered separately) <sup>208</sup>	DBBDO Dark bronze	
	PER201 Two hundred and one-pin retractable only (control ordered separately) <sup>209</sup>	DBBDO Dark bronze	
	PER202 Two hundred and two-pin retractable only (control ordered separately) <sup>210</sup>	DBBDO Dark bronze	
	PER203 Two hundred and three-pin retractable only (control ordered separately) <sup>211</sup>	DBBDO Dark bronze	
	PER204 Two hundred and four-pin retractable only (control ordered separately) <sup>212</sup>	DBBDO Dark bronze	
	PER205 Two hundred and five-pin retractable only (control ordered separately) <sup>213</sup>	DBBDO Dark bronze	
	PER206 Two hundred and six-pin retractable only (control ordered separately) <sup>214</sup>	DBBDO Dark bronze	
	PER207 Two hundred and seven-pin retractable only (control ordered separately) <sup>215</sup>	DBBDO Dark bronze	
	PER208 Two hundred and eight-pin retractable only (control ordered separately) <sup>216</sup>	DBBDO Dark bronze	
	PER209 Two hundred and nine-pin retractable only (control ordered separately) <sup>217</sup>	DBBDO Dark bronze	
	PER210 Two hundred and ten-pin retractable only (control ordered separately) <sup>218</sup>	DBBDO Dark bronze	
	PER211 Two hundred and eleven-pin retractable only (control ordered separately) <sup>219</sup>	DBBDO Dark bronze	
	PER212 Two hundred and twelve-pin retractable only (control ordered separately) <sup>220</sup>	DBBDO Dark bronze	
	PER213 Two hundred and thirteen-pin retractable only (control ordered separately) <sup>221</sup>	DBBDO Dark bronze	
	PER214 Two hundred and fourteen-pin retractable only (control ordered separately) <sup>222</sup>	DBBDO Dark bronze	
	PER215 Two hundred and fifteen-pin retractable only (control ordered separately) <sup>223</sup>	DBBDO Dark bronze	
	PER216 Two hundred and sixteen-pin retractable only (control ordered separately) <sup>224</sup>	DBBDO Dark bronze	
	PER217 Two hundred and seventeen-pin retractable only (control ordered separately) <sup>225</sup>	DBBDO Dark bronze	
	PER218 Two hundred and eighteen-pin retractable only (control ordered separately) <sup>226</sup>	DBBDO Dark bronze	
	PER219 Two hundred and nineteen-pin retractable only (control ordered separately) <sup>227</sup>	DBBDO Dark bronze	
	PER220 Two hundred and twenty-pin retractable only (control ordered separately) <sup>228</sup>	DBBDO Dark bronze	
	PER221 Two hundred and twenty-one-pin retractable only (control ordered separately) <sup>229</sup>	DBBDO Dark bronze	
	PER222 Two hundred and twenty-two-pin retractable only (control ordered separately) <sup>230</sup>	DBBDO Dark bronze	
	PER223 Two hundred and twenty-three-pin retractable only (control ordered separately) <sup>231</sup>	DBBDO Dark bronze	
	PER224 Two hundred and twenty-four-pin retractable only (control ordered separately) <sup>232</sup>	DBBDO Dark bronze	
	PER225 Two hundred and twenty-five-pin retractable only (control ordered separately) <sup>233</sup>	DBBDO Dark bronze	
	PER226 Two hundred and twenty-six-pin retractable only (control ordered separately) <sup>234</sup>	DBBDO Dark bronze	
	PER227 Two hundred and twenty-seven-pin retractable only (control ordered separately) <sup>235</sup>	DBBDO Dark bronze	
	PER228 Two hundred and twenty-eight-pin retractable only (control ordered separately) <sup>236</sup>	DBBDO Dark bronze	
	PER229 Two hundred and twenty-nine-pin retractable only (control ordered separately) <sup>237</sup>	DBBDO Dark bronze	
	PER230 Two hundred and thirty-pin retractable only (control ordered separately) <sup>238</sup>	DBBDO Dark bronze	
	PER231 Two hundred and thirty-one-pin retractable only (control ordered separately) <sup>239</sup>	DBBDO Dark bronze	
	PER232 Two hundred and thirty-two-pin retractable only (control ordered separately) <sup>240</sup>	DBBDO Dark bronze	
	PER233 Two hundred and thirty-three-pin retractable only (control ordered separately) <sup>241</sup>	DBBDO Dark bronze	
	PER234 Two hundred and thirty-four-pin retractable only (control ordered separately) <sup>242</sup>	DBBDO Dark bronze	
	PER235 Two hundred and thirty-five-pin retractable only (control ordered separately) <sup>243</sup>	DBBDO Dark bronze	
	PER236 Two hundred and thirty-six-pin retractable only (control ordered separately) <sup>244</sup>	DBBDO Dark bronze	
	PER237 Two hundred and thirty-seven-pin retractable only (control ordered separately) <sup>245</sup>	DBBDO Dark bronze	
	PER238 Two hundred and thirty-eight-pin retractable only (control ordered separately) <sup>246</sup>	DBBDO Dark bronze	
	PER239 Two hundred and thirty-nine-pin retractable only (control ordered separately) <sup>247</sup>	DBBDO Dark bronze	
	PER240 Two hundred and forty-pin retractable only (control ordered separately) <sup>248</sup>	DBBDO Dark bronze	
	PER241 Two hundred and forty-one-pin retractable only (control ordered separately) <sup>249</sup>	DBBDO Dark bronze	
	PER242 Two hundred and forty-two-pin retractable only (control ordered separately) <sup>250</sup>	DBBDO Dark bronze	
	PER243 Two hundred and forty-three-pin retractable only (control ordered separately) <sup>251</sup>	DBBDO Dark bronze	
	PER244 Two hundred and forty-four-pin retractable only (control ordered separately) <sup>252</sup>	DBBDO Dark bronze	
	PER245 Two hundred and forty-five-pin retractable only (control ordered separately) <sup>253</sup>	DBBDO Dark bronze	
	PER246 Two hundred and forty-six-pin retractable only (control ordered separately) <sup>254</sup>	DBBDO Dark bronze	
	PER247 Two hundred and forty-seven-pin retractable only (control ordered separately) <sup>255</sup>	DBBDO Dark bronze	
	PER248 Two hundred and forty-eight-pin retractable only (control ordered separately) <sup>256</sup>	DBBDO Dark bronze	
	PER249 Two hundred and forty-nine-pin retractable only (control ordered separately) <sup>257</sup>	DBBDO Dark bronze	
	PER250 Two hundred and fifty-pin retractable only (control ordered separately) <sup>258</sup>	DBBDO Dark bronze	
	PER251 Two hundred and fifty-one-pin retractable only (control ordered separately) <sup>259</sup>	DBBDO Dark bronze	
	PER252 Two hundred and fifty-two-pin retractable only (control ordered separately) <sup>260</sup>	DBBDO Dark bronze	
	PER253 Two hundred and fifty-three-pin retractable only (control ordered separately) <sup>261</sup>	DBBDO Dark bronze	
	PER254 Two hundred and fifty-four-pin retractable only (control ordered separately) <sup>262</sup>	DBBDO Dark bronze	
	PER255 Two hundred and fifty-five-pin retractable only (control ordered separately) <sup>263</sup>	DBBDO Dark bronze	
	PER256 Two hundred and fifty-six-pin retractable only (control ordered separately) <sup>264</sup>	DBBDO Dark bronze	
	PER257 Two hundred and fifty-seven-pin retractable only (control ordered separately) <sup>265</sup>	DBBDO Dark bronze	
	PER258 Two hundred and fifty-eight-pin retractable only (control ordered separately) <sup>266</sup>	DBBDO Dark bronze	
	PER259 Two hundred and fifty-nine-pin retractable only (control ordered separately) <sup>267</sup>	DBBDO Dark bronze	
	PER260 Two hundred and sixty-pin retractable only (control ordered separately) <sup>268</sup>	DBBDO Dark bronze	
	PER261 Two hundred and sixty-one-pin retractable only (control ordered separately) <sup>269</sup>	DBBDO Dark bronze	
	PER262 Two hundred and sixty-two-pin retractable only (control ordered separately) <sup>270</sup>	DBBDO Dark bronze	
	PER263 Two hundred and sixty-three-pin retractable only (control ordered separately) <sup>271</sup>	DBBDO Dark bronze	
	PER264 Two hundred and sixty-four-pin retractable only (control ordered separately) <sup>272</sup>	DBBDO Dark bronze	
	PER265 Two hundred and sixty-five-pin retractable only (control ordered separately) <sup>273</sup>	DBBDO Dark bronze	
	PER266 Two hundred and sixty-six-pin retractable only (control ordered separately) <sup>274</sup>	DBBDO Dark bronze	
	PER267 Two hundred and sixty-seven-pin retractable only (control ordered separately) <sup>275</sup>	DBBDO Dark bronze	
	PER268 Two hundred and sixty-eight-pin retractable only (control ordered separately) <sup>276</sup>	DBB	



NOTE:  
THESE DOCUMENTS ESTABLISH THE GENERAL  
STANDARDS OF QUALITY AND DETAIL FOR  
DEVELOPING A NEGOTIATED CONSTRUCTION  
CONTRACT.

ELECTRICAL SYMBOLS (NOTE: ALL SYMBOLS MAY NOT APPLY TO THIS PROJECT)

	LED LIGHT FIXTURE
	LED LIGHT FIXTURE WITH EMERGENCY BATTERY PACK, 1100 LUMENS NL = NIGHT LIGHT = UNSWITCHED EM = LINE SENSITIVE OPERATES ONLY ON POWER OUTAGE = SWITCHED
	CEILING MOUNTED LIGHT FIXTURE
	WALL MOUNTED LIGHT FIXTURE
	LED LIGHT FIXTURE
	EXIT SIGN – SEE LIGHT FIXTURE SCHEDULE
	SURFACE–MOUNT EMERGENCY LIGHTING BATTERY PACK–SINGLE OR DOUBLE HEAD– SEE LIGHT FIXTURE SCHEDULE
	RECESSED EMERGENCY LIGHTING BATTERY PACK–SINGLE OR DOUBLE HEAD– SEE LIGHT FIXTURE SCHEDULE
	JUNCTION BOX IN ACCESSIBLE LOCATION ABOVE REMOVABLE CEILING W/ FLEXIBLE CONDUIT CONNECTION TO LIGHT FIXTURE
	FLEXIBLE CONDUIT CONNECTION TO EQUIPMENT
	JUNCTION BOX IN ACCESSIBLE LOCATION
	DUPLEX CONVENIENCE RECEPTACLE AT +15" A.F.F. TO BOTTOM OR AS NOTED
	FOUR–PLEX CONVENIENCE RECEPTACLE AT +15" A.F.F. TO BOTTOM OR AS NOTED
	ISOLATED GROUND RECEPTACLE AT + 15" A.F.F. TO BOTTOM OR AS NOTED
	RECEPTACLE (TYPE AS SHOWN) AT + 42" A.F.F.
	SPECIAL USE RECEPTACLE. VERIFY NEMA NUMBER AND MOUNTING HEIGHT WITH EQUIPMENT
	TOGGLE SWITCH – SINGLE POLE, 3–WAY, 4–WAY AT +42" OR AS NOTED ON PLANS.
	SINGLE–POLE, ILLUMINATED HANDEL OR PILOT LIGHT TOGGLE SWITCH AT +42" OR AS NOTED ON PLANS
	MOTOR RATED SWITCH WITH THERMAL PROTECTION
	MOTOR SPEED CONTROL SWITCH. FURNISHED BY ELECTRICAL CONTRACTOR.
	PHOTOCELL – TORK #2100 – MOUNT ON ROOF AND AIM NORTH
	TIMESWITCH: TORK 'W' SERIES OR EQUAL
	CIRCUIT IN CONDUIT CONCEALED IN FLOOR
	CIRCUIT IN CONDUIT CONCEALED IN WALLS OR ABOVE CEILING
	HOMERUN TO PANELBOARD OR AS NOTED
	PANELBOARD, MOUNT TOP OF PANEL AT + 6"–8". STUB (2) 3/4" E.C. INTO ACCESSIBLE CEILING SPACE ON FLUSH MOUNTED PANELS.
	MOTOR: SIZE AND RATING AS SHOWN. EF INDICATES 55–WATT, 120V. EXHAUST FAN
	A.C. MAGNETIC STARTER BY ELECTRICAL CONTRACTOR. HORSEPOWER, VOLTAGE AND PHASE RATED, NUMBER OF POLES REQUIRED. FURNISH WITH (1) N.O. AUXILIARY CONTACT (120 V. CONTROL) SINGLE SPEED NON–REVERSING UNLESS OTHERWISE SHOWN ON PLAN
	DISCONNECT SWITCH – HORSEPOWER RATED, FUSED, NEMA 3R WHERE OUTSIDE. N.F. INDICATES NON–FUSED. (FUSE PER EQUIPMENT MANUFACTURERS' SPECIFICATIONS.)
	MOTOR CONTROLLER – FURNISHED WITH EQUIPMENT
	TELEPHONE OUTLET AT +15" TO BOTTOM OR AS NOTED WITH 3/4"C. UP INTO ACCESSIBLE CEILING SPACE UNLESS OTHERWISE
	DATA OUTLET AT + 15" A.F.F. TO BOTTOM OR AS NOTED. STUB 3/4"C. INTO ACCESSIBLE CEILING SPACE
	DATA/TELEPHONE OUTLET AT + 15" A.F.F. TO BOTTOM OR AS NOTED. STUB 3/4"C. INTO ACCESSIBLE CEILING SPACE
	APPROVED TEMPERATURE SEAL–OFF AND EXPANSION JOINTS AS REQ'D BY N.E.C. ART. #300–7
	FLUSH FLOOR FOURPLEX OUTLET AND DATA/TELPHONE OUTLET COMBO WITH BRASS DEVICE PLATE
	FLUSH FLOOR DATA RECEPTACLE WITH BRASS COVER PLATE AND 3/4"C. STUBBED TO ABOVE ACCESSIBLE CEILING LOCATION
	FLUSH FLOOR TELEPHONE RECEPTACLE WITH BRASS COVER PLATE AND 3/4"C. STUBBED TO ABOVE ACCESSIBLE CEILING LOCATION
	FLUSH FLOOR DUPLEX OUTLET WITH BRASS DEVICE PLATE
	FLUSH FLOOR FOURPLEX OUTLET WITH BRASS DEVICE PLATE
	ISOLATED GROUND RECEPTACLE "HUBBELL" # 10S263 20A, 125V. FLUSH FLOOR WITH BRASS DEVICE PLATE
	TELEVISION OUTLET AT + 15" TO BOTTOM OR AS NOTED. STUB 3/4"C INTO ACCESSIBLE CEILING SPACE
	DIMMER SWITCH AT + 42" A.F.F. "LUTRON" NP SERIES. SIZE DIMMER FOR LOAD. TRACK LIGHTING SHALL HAVE "LUTRON" NP2000 DIMMER
	A.D.A.–APPROVED FIRE ALARM STROBE
	A.D.A.–APPROVED FIRE ALARM HORN/STROBE
	A.D.A.–APPROVED FIRE ALARM PULL STATION
	A.D.A.–APPROVED SMOKE DETECTOR MOUNTED IN CEILING OR AS INDICATED
	CEILING MOUNTED OCCUPANCY SENSOR. LUTRON OR EQUAL.
	WEATHER PROOF
	ELECTRIC DRINKING FOUNTAIN
	SERVICE ENTRANCE SECTION
	TELEPHONE MOUNTING BOARD: 4' X 8' X 3/4" PLYWOOD WITH #6 CU. BOND WIRE TO GROUNDING ELECTRODE SYSTEM
	TELEPHONE TERMINAL CABINET: 36" W X 36" H X 6" D 16 GA. WEATHERPROOF HINGED LOCKABLE COVER. 5/8" PLYWOOD BACKBOARD. PROVIDE A #6 CU BOND TO GROUNDING ELECTRODE SYSTEM

ELECTRICAL SYSTEM SPECIFICATIONS– DIVISION 16000

1.	GENERAL CONDITIONS
	The General Provisions of the Contract, including the Conditions of the Contract (General, Supplementary and other Conditions) and Division 1 – General Requirements as appropriate, apply to the work specified in this Section.
2.	SCOPE OF WORK
	The work included under this section consists of furnishing all materials, equipment, and labor and the performing of all functions, except as otherwise specified herein or shown on the drawings to be performed by others, for the installation and placing into operation of a complete electrical system as specified and shown on the drawings.
3.	GENERAL DESCRIPTION
3.1	The work in general shall consist of, but is not necessarily limited to the following.
3.1.1	Furnishing and installing all fixtures with lamps as indicated on the drawings and as specified herein unless noted.
3.1.2	Furnishing and installing all electrical work, panels, service, conduit, wiring, etc., for all outlets and equipment.
3.1.3	Furnishing and installing all telephone outlets, conduits with pull strings and telephone mounting boards including conduit from telephone mounting board to the building entrance as indicated on the plan.
3.1.4	Furnishing and installing a complete Fire Alarm system as indicated on plans.
3.1.5	Include \$ _____ (hundred dollars) allowance for power and telephone company utility service charges. Difference between actual cost and allowance to be credited or billed to the Owner.
3.1.6	Furnishing and installing all motor starters and control components, not specifically specified to be furnished in accordance with other sections of the specifications.
3.1.7	Furnishing and installing all power and wiring except that which is pre–wired in factory assembled equipment.
3.1.8	Installing all LINE VOLTAGE mechanical control wiring and associated controls which are furnished by the Mechanical Contractor (low voltage control wiring and controls shall be furnished and installed by the Mechanical Contractor).
3.1.9	Painting work as described under other sections of these specifications. Clean and prepare all surfaces ready for painting.
3.1.10	Provide temporary construction power as outlined below. This service shall be maintained throughout the entire job as the work progresses. Provide outlets at convenient points and in sufficient numbers so that no extension cord over 50 feet in length is required to reach any work point. Maintain general lighting in corridors, stairs, basement and other areas not receiving sufficient daylight required for safety. Remove temporary work as rapidly as required for or allowed by installation of permanent work.
3.1.11	Certain items of work by other trades will be necessary for the completion of work under this division. Cooperate with other trades and arrange for these items to be performed in orderly course.
3.1.12	This Contractor shall review the mechanical control requirements as specified on plans. Transformers shall be rated for full load operation at a maximum 150 degree centigrade rise above a 40 degree centigrade ambient or as otherwise noted on drawings. Provide at least (4) 2 1/2 percent taps, two above normal and two below normal and have a sound rating not to exceed NEMA standards. Special "K" factor ratings as noted.
3.1.13	Review all drawings and all specifications for each section of work. Unless specifically noted otherwise, herein or elsewhere, furnish and install items of any electrical nature required for completion of work for other trades, whether or not same is shown or noted in this or other sections.
4.	REGULATIONS AND CODES
	The Contractor must comply with all state, municipal and federal safety laws, construction codes, ordinances and regulations relating to building and public health and safety. In addition, comply with rules and regulations of the State Fire Protection Code. Fire protection material must bear the Fire Underwriters Laboratories label.
5.	GENERAL REQUIREMENTS
5.1	The Contractor shall examine the premises and satisfy himself of existing conditions under which he will be obligated to operate in performing his part of the work or that will in any manner affect the work under the contract. The Contractor shall cooperate with other trades so that the installations of all equipment may be properly coordinated.
5.2	All equipment furnished shall fit the space available, with connection, etc., in the required locations and with adequate space for operating and servicing. The drawings are generally diagrammatic and indicate the manner and method of the installation, while the specifications and fixture list denote the type and quality of material and workmanship to be used. Where a conflict exists between the drawings and the specifications, the Contractor shall promptly notify the Architect/Engineer whose decision shall be final. No allowance will be made subsequently in this connection in behalf of the Contractor after oward of the contract.
6.	EQUIPMENT AND MATERIAL
6.1	All materials furnished under this contract shall be new (except as noted), free from defects of any character, shall conform with the standards of the Underwriters Laboratories, Inc. (U.L.) (or other nationally recognized Laboratory), in every case where such a standard has been established and shall be so labeled. It is the intention of these specifications to indicate a standard of quality for all materials incorporated in this work, and where materials are not specified herein and are required to complete the electrical installation, these materials shall be of first quality for use intended. Manufacturers of similar quality products will be considered unless the specifications or drawings indicate otherwise.
6.2	Materials shall be suitable for intended use and location. Unless otherwise shown use NEMA–1 for interior areas and NEMA–3R for exterior areas.
6.3	The Architect/Engineer decision as to equal in grade and quality shall rule and be final for all electrical materials incorporated in this work. Where two or more similar type items are furnished, all shall be of the same manufacturer (e.g., all disconnect switches shall be of the same manufacturer) unless otherwise noted herein or shown on the drawings. All material and installation methods used shall be in accordance with the latest and approved electrical and mechanical engineering practices.
7.	SERVICE ENTRANCE EQUIPMENT
7.1	Service entrance equipment shall be in accordance with the requirements of the municipal governing body and serving utility. Shop drawings shall be submitted to the serving utility for written approval before ordering equipment.
7.2	Label equipment and each individual overcurrent device per Section 16000.22.
7.3	Approved manufacturers are: Sun Valley, Square D, Cutler–Hammer, Siemens/ITE, General Electric
8.	PANELBOARDS
8.1	Each panel shall be provided with door lock and two keys, all keyed alike. Each panel shall be provided with typewritten sheet installed on door identifying the use of each branch circuit. Panels shall have bussing as indicated on the drawings.
8.2	Label equipment per Section 16000.22
8.3	Approved manufacturers are: Square D, Cutler–Hammer, Siemens/ITE, General Electric
9.	STARTERS
9.1	All motor starters shall be furnished under this section of the specifications unless an integral part of equipment or noted as furnished with equipment specified under other sections of these specifications.
9.2	Separately mounted motor starters shall be across–the–line combination magnetic with 120V coils, fused disconnect contactors, additional auxiliary contact for interlocking of controls. Provide pushbutton or selector switch in cover. Switchboard mounted starters shall be magnetic with 120V coils and additional auxiliary contacts as required for interlocking of controls. Starters shall have an integral control circuit transformer or separate 120V control with control circuit disconnect switch in cover.
9.3	Manual starters shall be horsepower, voltage and phase rated with overload protection and green "on" pilot light. Surface mounted unless noted otherwise.
9.4	All starters shall have overload protection in all phase lines. Furnish and install the proper size overload heater elements determined from full load nameplate readings on motors and compensation for ambient temperature in all starters whether they be furnished under this Section or other Sections.
9.5	Label per Section 16000.22
9.6	Approved manufacturers are: Square D
10.	TRANSFORMERS
10.1	Transformers shall be dry type, with voltage ratings as indicated on plans. Transformers shall be rated for full load operation at a maximum 150 degree centigrade rise above a 40 degree centigrade ambient or as otherwise noted on drawings. Provide at least (4) 2 1/2 percent taps, two above normal and two below normal and have a sound rating not to exceed NEMA standards. Special "K" factor ratings as noted.
10.2	Submit complete transformer data with shop drawings for approval. The data shall include efficiencies, core and copper losses, impedance, regulation and sound level.
10.3	Installation of transformers shall be on vibration isolators and all wiring connections with flexible conduit.
10.4	Label per Section 16000.22
10.5	Approved manufacturers are: ACME, Square D, Jefferson, Cutler–Hammer, Westinghouse, General Electric, or same manufacturer as distribution equipment.
11.	CONDUIT
11.1	Metallic conduits shall be hot dipped galvanized equal to LTV Steel.
11.2	Electric metallic tubing (EMT) is permitted for exposed work above 6"–0" A.F.F. or concealed work only. EMT is NOT permitted in the following: (1) in or under concrete, (2) in earth, (3) in grouted walls, (4) exterior of building, (5) with dissimilar metals, (6) where it will be subject to severe physical damage (either during or after installation), (7) in any hazardous (classified location) except as permitted by 502.10, 503.10 and 504.20, (8) without an equipment grounding conductor. Size and provide equipment grounding conductor per Article 250 and increase conduit size if required.
11.3	Rigid PVC conduit is permitted only underground or as noted on drawings. Provide rigid steel elbows and risers (NO MINIMUM SIZE). Size and provide equipment grounding conductor per Article 250 and increase conduit size if required.
11.4	Rigid galvanized or sheradized steel shall be used for all exposed conduit below 6"–0" A.F.F. or as noted on drawings. Where used in or under concrete or in earth, shall be code approved PVC coated or half lap wrapped with Polyken #900 tape or equal.
11.5	Install exposed raceways parallel and perpendicular to nearby surfaces or structural members and follow the surface contours as much as practical.
11.6	Run exposed, parallel, or banked raceways together. Make bends in parallel or banked runs from the same center line so that the bends are parallel. Factory elbows may be used in banked runs only where they can be installed parallel. This requires that there be a change in the plane of the run such as from wall to ceiling and that the raceways be of the same size. In other cases provide field bends for parallel raceways.

(SOME SECTIONS MAY NOT APPLY)

12.	WIRE
12.1	Soft drawn annealed copper (unless otherwise noted or plans) having conductivity of not less than 98% of that of pure copper, uniform in cross section, free from flaws, scales, and other imperfections. All wire larger than #10 shall be stranded.
12.2	Insulation: Type THHN/THWN, or XHHW for all branch circuit and feeder wiring.
12.3	Sizes: No wire smaller than #12 unless otherwise noted on drawings.
12.4	Feeder conductors #2 awg and larger may be copper or AA–8000 series aluminum alloy. Alluminum conductors shall be equal or larger ampacity to copper. Conduit fill shall not exceed 40% factor as described in NEC, annex C, table C1 (copper) or C1A (aluminum).
13.	MISCELLANEOUS MATERIALS:
13.1	Safety switches: Heavy duty, fused rejection type, minimum 200,000 A.I.C. rated. "NF" indicates not fused.
13.1.1	Label per Section 16000.22
13.1.2	Approved manufacturers are: Square D, Cutler–Hammer, Westinghouse, General Electric or same manufacturers as distribution equipment.
13.2	Fuses: "Bussmann" or "Gould Shawmut" mfg. No substitutions unless by prior written approval from Engineer, or as noted on drawings.
13.3	Conduit strap: Heavy gauge steel snap–on type.
13.4	Electrical metallic tubing fittings: Equal to T&B compression type. Connectors shall have insulated bushings.
13.5	Rigid conduit locknuts and bushings: Equal to T&B.
13.6	Flexible conduit and fittings: Equal to California Conduit and Cable Company, Inc.
13.7	Liquid tight conduit and fittings for all exterior and equipment connections.
13.8	Outlet boxes, plaster rings, pull, and junction boxes, etc: Equal to RACO. Zinc coated or Cadmium plated sheet steel for indoor locations, cast aluminum for outdoor locations.
13.8.1	For all light fixtures: Octagon or 4" square boxes.
13.8.2	For switches and receptacles: 4" or 4–11/16" square boxes.
13.8.3	Junction and pull boxes: 4" square minimum size. Provide with screwfastened covers located in accessible locations.
13.9	Condulets: Equal to Crouse–Hinds.
13.10	Wire and Cable: Equal to General Cable and/or Simplex.
13.11	Devices: "Hubbell", "Leviton", or approved equal. Receptacles: Duplex–20 amp #5362, isolated ground – 20 amp #IG–5362, GFCI– 20 amp #GF–5362. Switches: 20 amp #1221 single pole, 1222 double pole, 1223 three way, 1224 four way. Colors to be specified by Architect/Owner/Tenant.
13.12	Device plates: "Hubbell", "Leviton", or equal. Ivory nylon in interior areas or as noted on drawings. Zinc die cast flip lid mounted horizontally for exterior or weatherproof locations.
13.13	Lighting fixtures: Equal to as shown on fixture schedule or described on drawings, complete with lamps in original cartons and all cones, stems, hangers and accessories including all structural members required for proper mounting. All fluorescent fixture ballasts shall be energy saving type. Submit shop drawings to Architect/Engineer for approval by the same. Must be C.E.C. approved in Calif.
13.14	Lamps: G.E. or equal and shall be for the maximum rated wattage of fixture unless otherwise shown on drawings.
14.	SLEEVES, INSERTS, OPENINGS
14.1	Contractor shall layout and install his work in advance of pouring concrete floors or walls. Provide all sleeves and/or openings through floors or walls required for electrical conduits or ducts.
14.2	Sleeves shall be of rigid conduit or galvanized sheet steel rigidly supported and suitably packed to prevent entrance of wet concrete.
15.	EXCAVATION/CUTTING/FITTING/REPAIRING/FINISHING
15.1	The Contractor shall include in his bid all excavation, compaction, fill, backfill, cutting, fitting, repairing and finishing of all work necessary for the installation of all equipment under this specification but no cutting of the work of other Contractors shall be done without the consent of the General Contractor.
15.2	Earthwork shall be done in accordance with latest industry standards.
16.	CLEANUP OF PREMISES
	Contractor shall at all times keep the premises clear of waste materials and debris caused by his employees and operation. Equipment not required in the work shall be removed prior to the termination of the contract.
17.	TESTS AND INSPECTIONS
17.1	Contractor shall test wiring and devices as sections are completed and shall correct all defects immediately at his own expense, including any damage to walls, ceilings, floor or other portions of the building which may result from replacing defective equipment.
17.2	Furnish all meters, cable, connections and apparatus necessary for making tests.
17.3	Test system for shorts and grounds. Faulty wiring shall be removed and replaced. Any device, apparatus or fixture installed showing substandard performance shall be removed and replaced as directed by the Architect/Engineer.
17.4	Megger all systems neutrals to insure the neutral is not grounded within the system.
17.5	All equipment rated at 1,000 amps or more , or 480 volts shall be tested for insulation breakdown prior to its being energized. Such equipment shall withstand for a period of one minute without breakdown, the application of a 60HZ alternating potential of 1,000V plus twice the rated voltage of the device.
17.6	After the electrical wiring system installation is completed and at such time as the Architect/Engineer or his authorized representative may direct, the Contractor shall conduct an operating test for approval. Equipment shall be demonstrated to operate in accordance with requirements of specifications. Test shall be performed in presence of Architect/Engineer or his representative.
18.	SHOP DRAWINGS
18.1	All data shall be submitted at one time, bound and indexed in an orderly manner. Prior to starting the work, submit to the Architect/Engineer for approval, six (6) sets of shop drawings of service (S.E.S.), panels, distribution sections, light fixtures, motor control centers, fire alarm system, dimmers, sound system, emergency generator, devices, transformers, labels as required by 16000.22, and all other equipment to be fabricated.
18.2	Procure shop drawings, wiring diagrams, etc., from other trades involved where such drawings may facilitate and expedite the work. Air conditioning and mechanical equipment shall be wired complete as per manufacturer's wiring diagrams furnished by the air conditioning and mechanical contractors.
19.	DRAWINGS OF RECORD (AS–BUILT)
	As–built drawings shall be submitted in accordance with and if required by Division 1 – General Requirements.
20.	GUARANTEE
	The Contractor shall guarantee all material and equipment to be free from defect of material and workmanship and shall replace or repair without cost to the owner all defective material and workmanship for a period of one year after final acceptance.
21.	INSTRUCTIONS
21.1	Contractor shall instruct the Owner in the proper operating and maintenance of the equipment.
21.2	Contractor shall provide two (2) sets of operating and maintenance manuals for each piece of equipment provided by this discipline, only when such manuals are available from the manufacturer.
21.2.1	All manuals to be bound in a 3–ring binder and tabulated in an orderly manner.
22.	LABELING
22.1	Labels shall be engraved, black on white melamine plastic laminate, 1/16" minimum thickness for signs up to 20 square inches or 8 inches long; 1/8" thick for larger sizes. Engraved legend shall be in white letters on black face with minimum 3/16" high letters. Labels shall be punched and fastened to equipment with aluminum rivets or self tapping stainless steel screws or number 10/32 stainless steel machine screws with nuts, flat and lock washers.
22.2	Label equipment with name, amperage, voltage, phase, and wires (i.e. Panel "A", 400A., 120/208V,30,4W). Submit list of all labels with wording for review as per 16000.18.
22.3	Equipment to be labeled shall include service (S.E.S.) and all overcurrent devices, distribution sections and all overcurrent devices, motor control centers (M.C.C.) and all overcurrent devices, fusible panelboards and all overcurrent devices, panels, starters and transformers. Label other equipment as noted on plans.



Revisions

- 1

CITY OF DELRAY BEACH

04/08/25
- 3

CITY COMMENTS 09/15/25

ELECTRICAL SYMBOLS & SPECIFICATIONS

Car Wash  
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Project	24099
Date	01.15.25
Scale	Noted
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