

ABBREVIATIONS

A	AMPERES	NF	NON-FUSED
ACK	ACKNOWLEDGE	NC	NORMALLY CLOSED
AFR	AMPERES FRAME RATING	NO	NORMALLY OPEN
ALC	ALUMINUM CONDUIT		
ALT	ALTERNATOR	OL(S)	OVERLOAD RELAY CONTACT(S)
AM	AMMETER	OP	OPERATOR
ANN	ANNUNCIATOR		
AS	AMMETER SWITCH	PF	POWER FACTOR
ATR	AMPERES TRIP RATING	PT(S)	POTENTIAL TRANSFORMER(S)
AWG	AMERICAN WIRE GAGE	PRS	PLASTIC COATED RIGID STEEL CONDUIT
		PU	PICK UP OR PER UNIT
BKR	BREAKER	PUR	PER UNIT RESISTANCE
BLDG	BUILDING	PUX	PER UNIT REACTANCE
		PVZ	PER UNIT IMPEDANCE
		PVC	POLYVINYLCHLORIDE CONDUIT
CKT	CIRCUIT	REQ'D	REQUIRED
Q	CENTER LINE	RM	ROOM
CO	CONVENIENCE OUTLET	RS	RIGID STEEL CONDUIT
CONN	CONNECTIONS	RTD	RESISTANCE TEMPERATURE DEVICE
CONTR	CONTRACTOR	RTM	RUNNING TIME METER
CP	CONTROL PANEL		
CPT	CONTROL POWER TRANSFORMER	SDS	SPECIFIED IN OTHER DIVISION OF SPECIFICATIONS
CS	CONTROL STATION	SE	SERVICE ENTRANCE
CT	CURRENT TRANSFORMER	SEC	SECOND OR SECONDARY
CU	COPPER	SIG	SIGNAL
		SOL Vv	SOLENOID VALVE
DE	DUAL ELEMENT	SP	SINGLE POLE
DIA	DIAMETER	SPECS	SPECIFICATIONS
DISC	DISCONNECT	SW	SWITCH
DP	DISTRIBUTION PANEL	TD	TIME DELAY
DPS	DIFFERENTIAL PRESSURE SWITCH	TEMP	TEMPERATURE
		TYP	TYPICAL
ELECT	ELECTRICAL	UH	UNIT HEATER
EMT	ELECTRICAL METALLIC TUBING		
EO	ELECTRICAL OPERATOR	V	VOLTS
EP	EXPLOSION PROOF	VAR	VOLT-AMPERES REACTIVE
EQUIP	EQUIPMENT	VARM	VOLT-AMPERES REACTIVE METER
		VFD	VARIABLE FREQUENCY DRIVE
FA	FIRE ALARM	VM	VOLTMETER
FACP	FIRE ALARM CONTROL PANEL	VS	VOLTMETER SWITCH
F & I	FURNISH AND INSTALL	Vv	VALVE
FU	FUSE OR FUSIBLE		
		W	WATTS OR WIRE
GFI	GROUND FAULT INTERRUPTER	W//	WITH
GRD	GROUND	WHM	WATT-HOUR METER
GRS	GALVANIZED RIGID STEEL CONDUIT	WM	WATT METER
		WW	WIREFRAY
HD	HEAVY DUTY	WP	WEATHERPROOF
HP	HORSEPOWER		
HPS	HIGH PRESSURE SODIUM	XFMR	TRANSFORMER
HTR	HEATER	XMTR	TRANSMITTER
HZ	HERTZ (CYCLES/SECOND)	Y	WYE
		Z	IMPEDANCE
IMC	INTERMEDIATE METAL CONDUIT		
INCAN	INCANDESCENT		
IND	INDICATING OR INDICATOR		
INST	INSTANTANEOUS		
I & C	INSTRUMENTATION AND CONTROL		
JB	JUNCTION BOX		
KV	KILOVOLTS		
KVA	KILOVOLT-AMPERES		
KVAR	KILOVOLT-AMPERES REACTIVE		
KW	KILOWATTS		
LT	LIGHT		
LMF	LIQUID-TIGHT METALLIC CORE FLEXIBLE CONDUIT		
M	MOTOR STARTER OPERATING COIL		
MAX	MAXIMUM		
MCM	THOUSAND CIRCULAR MILS		
MCP	MOTOR CIRCUIT PROTECTOR		
MECH	MECHANICAL		
MFR	MANUFACTURER		
MH	METAL HALIDE		
MIN	MINUTE OR MINIMUM		
MTD	MOUNTED		
MV	MERCURY VAPOR		

COLORS

A	AMBER	O	ORANGE
BK	BLACK	R	RED
BR	BROWN	V	VIOLET
BU	BLUE	W	WHITE
GRN	GREEN	Y	YELLOW
GY	GRAY		

DEVICE SYMBOLS

	WALL MOUNTED/CEILING EXIT LIGHT - LETTER & NUMBER SIMILAR TO HID OR INCANDESCENT FIXTURE, SLASH(ES) DENOTE FACE(S) AND ARROW(S) IF REQUIRED
	WALL MOUNTED/CEILING INCANDESCENT OR HID FIXTURE - CAPITAL LETTER DENOTES TYPE, NUMBER DENOTES CIRCUIT, SMALL LETTER DENOTES SWITCH LEG
	WALL MOUNTED/CEILING FLUORESCENT FIXTURES - LETTERS & NUMBERS SIMILAR TO INCANDESCENT FIXTURES
	DUPLEX CONVENIENCE OUTLET - NUMBER DENOTES CIRCUIT, INCHES DENOTE MOUNTING HEIGHT IF OTHER THAN NORMAL, LETTERS SPECIFY OTHER CONDITIONS IE. WP OR GFI
	JUNCTION BOX - CEILING/WALL MOUNTED
	THERMOSTAT
	SPECIAL PURPOSE OUTLET
	SWITCH-NO MARKING IS SINGLE POLE, 2 IS DOUBLE POLE, 3 IS 3-WAY, 4 IS 4-WAY
	MOTOR
	PUSHBUTTON STATION
	TELEPHONE
	CONTROL STATION
	BRANCH CIRCUIT - EXPOSED
	BRANCH CIRCUIT CONCEALED
	SLASHES INDICATE NUMBER OF #12 AWG WIRES IN CONDUIT, g SUBSCRIPT DENOTES AN INSULATED GROUND CONDUCTOR
	DOUBLE DUPLEX CONVENIENCE OUTLET

SCHEMATIC SYMBOLS

	PRESS TO TEST LAMP - LETTER DENOTES COLOR
	SELECTOR SWITCH
	TORQUE SWITCH - NC, NO
	SHEAR PIN SWITCH - NC, NO
	CIRCUIT BREAKER
	MAGNETIC TRIP
	THERMAL TRIP
	RUNNING TIME METER
	CONTACT - NC, NO
	OPERATING COIL, LETTER OR NUMBER DENOTES DEVICE
	PLUG AND RECEPTACLE
	PUSHBUTTON CONTACT - NC, NO
	PUSHBUTTON SWITCH, MUSHROOM HEAD - NC, NO
	DOUBLE CIRCUIT PUSHBUTTON SWITCH
	MAINTAINED CONTACT PUSHBUTTON SWITCH
	ENERGIZED TIMER CONTROL - NC, NO
	DE-ENERGIZED TIMER CONTROL - NC, NO
	FLOW SWITCH - NC, NO
	LIQUID LEVEL SWITCH - NC, NO
	TEMPERATURE SWITCH - NC, NO
	PRESSURE SWITCH - NC, NO
	LIMIT SWITCH - NC, NO
	FUSE
	DISCONNECT SWITCH
	FUSED SWITCH
	GROUND CONNECTION
	INDICATING LIGHT - LETTER DENOTES COLOR
	CONTROL TRANSFORMER
	THERMAL OVERLOAD TRIP UNITS
	STABS

ONE-LINE DIAGRAM SYMBOLS

	AIR CIRCUIT BREAKER - DRAW OUT TYPE WITH OPERATING MECHANISM
	DISCONNECT SWITCH
	FUSED SWITCH
	LIGHTNING ARRESTER - GENERAL
	FUSE - NUMBER DENOTES RATING
	GROUND CONNECTION
	CONTROL OR INSTRUMENT SWITCH - LETTERS DENOTES FUNCTION
	RELAY OR CONTROL DEVICE - NUMBER DENOTES FUNCTION, AMERICAN NATIONAL STANDARD (ANSI)
	POTENTIAL TRANSFORMER - DRAW OUT TYPE WITH PRIMARY FUSES
	CURRENT TRANSFORMER
	CONTROL STATION
	INSTRUMENT - LETTER DENOTES TYPE
	INDICATING LIGHT - LETTER DENOTES COLOR
	MOTOR - NUMBER DENOTES HORSEPOWER
	MOTOR CIRCUIT PROTECTOR (MCP)
	MOLDED CASE CIRCUIT BREAKER
	CONTROL TRANSFORMER
	RUNNING TIME METER
	GROUND CONNECTION
	THERMAL OVERLOAD TRIP UNITS
	STABS
	POWER TRANSFORMER
	POWER FACTOR CAPACITORS WITH FUSING AND INDICATING LIGHTS
	SURGE CAPACITORS
	RELAY WITH SHORTING CONTACTS

LIGHT FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER	CATALOG NUMBER	LAMPS	VOLTS	REMARKS
A	FLUORESCENT	LITHONIA	EJA240-CW	2-40W-T12-CW	120	1,5
B	OUTDOOR HPS	HI-TEK	TWH70S-120-PE-VG	1-70W-E17-CLEAR	120	2
C	OUTDOOR INCANDESCENT	CROUSE-HINDS	VXHA45GPRA	1-100W-A21-IF	120	3,6
D	FLUORESCENT	LITHONIA	LB240A-ES	2-34W-T12-CW	120	
E	NOT USED					
F	FLUORESCENT	LITHONIA	DM296HO-AR-CW	2-110W-T12-CW	120	
G	WALL BRACKET	LITHONIA	WC240-ES	2-34W-T12-CW	120	4

- STEM MOUNT W/ 6" STEM, UNLESS NOTED OTHERWISE. COORDINATE EXACT HEIGHT.
- MOUNT AT 96".
- STANCHION MOUNT ON 1" CONDUIT AT 84", FURNISH & INSTALL REDUCER. SEE MOUNTING DETAIL.
- MOUNT AT 84".
- OF BALLAST
- ROUGH SERVICE LAMP

This drawing was prepared by:
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REVISIONS	DATE	DESCRIPTION	DESIGNED	PFK
			CHECKED	PFK
			DRAWN	CPM
			GRAPHIC SCALE	
			0 HORIZ.	
			0 VERT.	

CITY OF ELK RIVER
 WASTEWATER TREATMENT FACILITIES
 SYMBOLS & ABBREVIATIONS

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