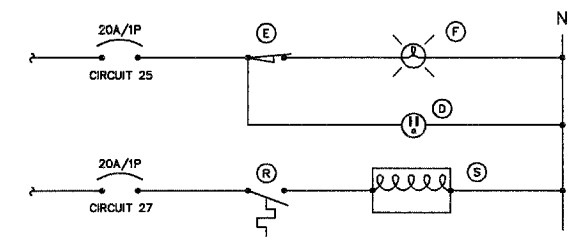


CONTROLLER ELECTRICAL NOTES:

- ALL CONTROL CABINET ITEMS SHALL HAVE SUITABLE IDENTIFICATION. OPEN CIRCUIT BREAKERS, CONTACTORS AND OTHER OPEN DEVICES SHALL HAVE PERMANENT SELF STICKING TAGS. DEVICES IN ENCLOSURES SHALL HAVE ENGRAVED 2-COLOR LAMINATED PLASTIC NAMEPLATES ATTACHED TO ENCLOSURES WITH SCREWS. NAMEPLATES SHALL BE ENGRAVED TO CORRESPOND TO DESIGNATIONS ON THE DRAWINGS. INTERNAL CABINET WIRING SHALL BE IDENTIFIED AS INDICATED OR AS DIRECTED BY THE ENGINEER BY MEANS OF SELF-STICKING TAGS APPLIED AT EACH CONNECTED END. IDENTIFICATION SHALL BE MADE BY THE CABINET MANUFACTURER.
- CABINET SHALL BE FABRICATED FROM 3.175 (0.125-INCH) SHEET ALUMINUM # 3003H14, FORMED AND ARC WELDED ASSEMBLY.
- ALL SCREWS AND HARDWARE SHALL BE PLATED, GALVANIZED, OR MADE OF BRASS, ALUMINUM OR STAINLESS STEEL.
- ONE INCH THICK POLYISOCYANURATE INSULATION SHALL BE INSTALLED AND PERMANENTLY CEMENTED ON ALL SIDES OF THE CABINET AND DOORS.
- ELECTRIC UTILITY METER BOX SHALL BE MOUNTED ON THE SIDE OF CONTROL CABINET AS SHOWN ON THE PANEL LAYOUT DIAGRAM.
- THE CONTROLLER SHALL BE CONSTRUCTED TO U.L. STD. 508 AND BEAR THE U.L. LABEL "ENCLOSED INDUSTRIAL CONTROL PANEL". ASSEMBLED PANEL SHALL BE IDOT APPROVED.
- METAL MOUNTING PANEL SHALL BE #10 GAUGE GALVANIZED SHEET STEEL FLANGED BACK 0.75-INCHES I.D. ON 4 SIDES.
- CIRCUIT BREAKERS AND CONTACTORS AND OTHER COMPONENTS SHALL BE MOUNTED ON 3.175 (0.125-INCH) THICK GLASTIC INSULATION BACK PANEL.
- ALL DEVICES SHALL BE FRONT REMOVEABLE.
- BUS BARS SHALL HAVE 22 LUG TERMINALS SIZED TO ACCOMMODATE REQUIRED WIRE SIZES. NEUTRAL BUS SHALL BE PAINTED WHITE. GROUND BUS SHALL BE PAINTED GREEN.
- ALL LUGS SHALL BE OF COPPER SCREWS AND CONNECTORS, SPRING HELD.
- ALL WIRING TERMINATIONS SHALL BE RATED NOT LESS THAN 75 DEGREE CENTIGRADE.
- ALL CONTROL WIRING SHALL BE 600V MACHINE TOOL WIRE TYPE MTW.
- ALL POWER WIRING SHALL BE 600V TYPE RHH/RHW.
- ALL WIRING WITHIN THE CABINET SHALL BE COLOR CODED USING THESE ABBREVIATIONS:
 R - RED Y - YELLOW
 B - BLACK W - WHITE
 BL - BLUE G - GREEN
- ELEMENTARY DIAGRAMS SHOWN WITH BREAKER OPEN, CONTACTOR OPEN, CABINET DOOR CLOSED.
- A LAMINATED COPY OF THE CIRCUIT SCHEMATIC DIAGRAM SHALL BE ATTACHED TO THE INSIDE OF THE CONTROLLER.
- PROVIDE SEALING GROMMETS FOR ALL OPEN WIRING EXTENDED FROM DEVICES IN BOXES OR CABINETS WITHIN THE CONTROL CABINET.
- ALL WIRING SHALL BE NEATLY DRESSED AND SUPPORTED.



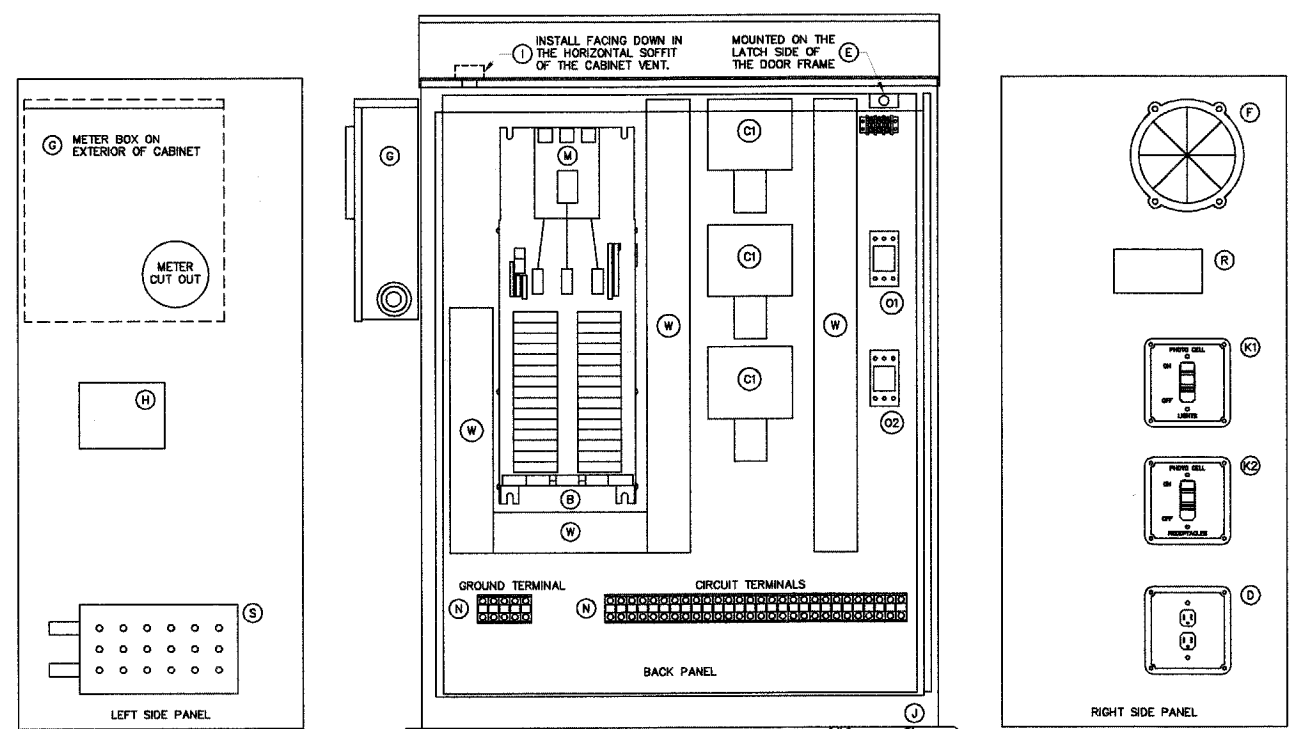
2 CABINET ELEMENTARY DIAGRAM
 NO SCALE

PANEL NAME: TOUHY AVE CONNECTED 44.5 KVA

TYPE: BOLT-ON MAIN: 200A MCB (M)
 MOUNTING: SURFACE - INTERIOR ONLY VOLTS: 240/120
 FED FROM: UTILITY PHASE: 1
 AIC RATING: 14,000 GROUND BUS WIRE: 3

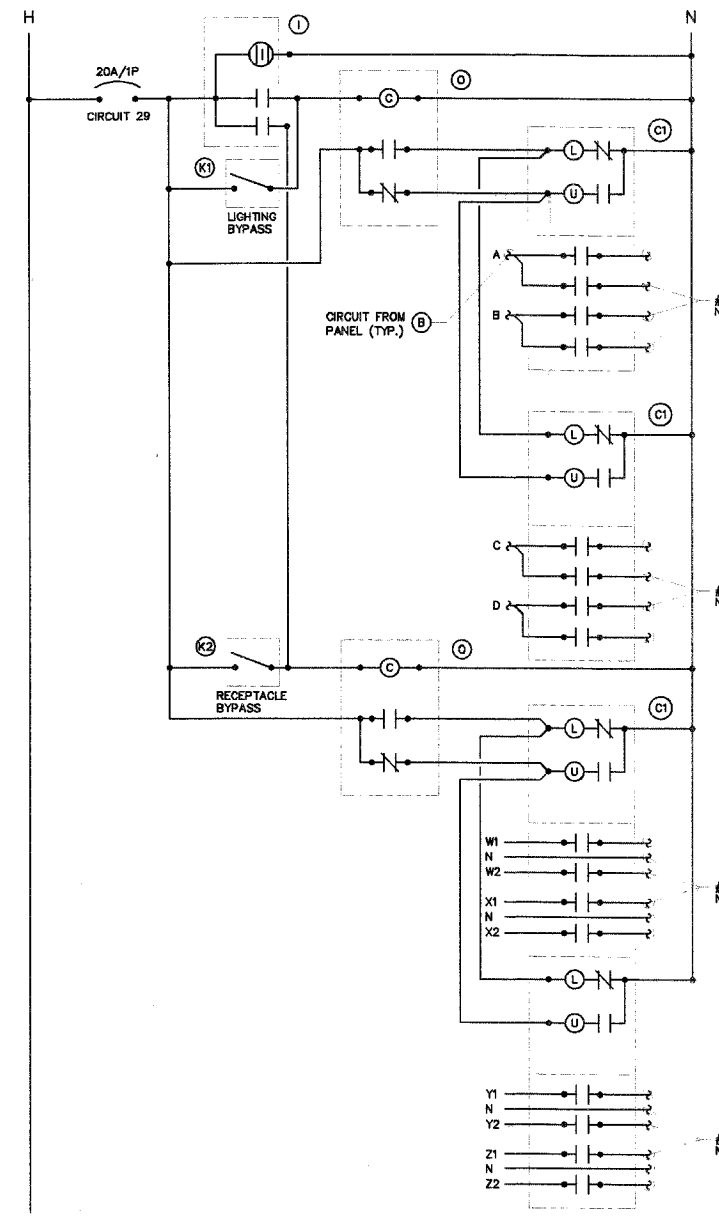
CKT NO.	LOAD DESCRIPTION	WIRE SIZE	LOAD KVA	BREAKER AMP	BREAKER P	LOAD AMP	LOAD P	LOAD KVA	WIRE SIZE	LOAD DESCRIPTION	CKT NO.
1	A NORTH SIDE, 10-250W, 4-50W, 4-400W	*S	5.3	35	2	40	2	6.5	*S	W1 7 RECEPTACLES NW POLES	2
3										W2 6 RECEPTACLES NE POLES	4
5	B SOUTH SIDE, 10-250W, 4-50W, 1-400W	*S	3.8	25	2	25	2	3.5	*S	Y1 4 RECEPTACLES NE POLES	6
7										Y2 3 RECEPTACLES NE POLES	8
9	C NORTH SIDE, 10-250W, 4-50W, 1-400W	*S	3.5	25	2	40	2	8.5	*S	X1 7 RECEPTACLES SE POLES	10
11										X2 6 RECEPTACLES SE POLES	12
13	D SOUTH SIDE, 10-250W, 4-50W, 2-400W	*S	4.2	30	2	25	2	3.5	*S	Z1 4 RECEPTACLES SW POLES	14
15										Z2 3 RECEPTACLES SW POLES	16
17	SPARE			30	2	25	2			SPARE	18
19											20
21	SPARE (FUTURE IRR PUMP)		6.5	35	2	40	2			SPARE	22
23											24
25	LTG. RECEPTACLES	12	0.3	20	1	20	1	0.1	10	IRRIGATION CONTROL	26
27	CABINET HEATER	12	0.4	20	1	20	1			SPARE	28
29	LTG CONTROL	12	0.1	20	1	20	1			SPARE	30

NOTES: *S = REFER TO DRAWING 19 FOR WIRE SIZE.



1 LIGHTING CONTROL CABINET LAYOUT
 NO SCALE

IDOT PAY ITEM #82500505
 (WITH SERVICE INSTALLATION)



3 LIGHTING CONTROL ELEMENTARY DIAGRAM
 NO SCALE

- NOTES:
- ALL CABINET INTERIOR WIRING SHALL BE STRANDED COPPER #12 AWG THIN UNLESS NOTED OTHERWISE.
 - ROUTE TO STREET LIGHTING LUMINAIRES VIA TERMINAL BLOCK (N).
 - ROUTE TO POLE MOUNTED RECEPTACLES VIA TERMINAL BLOCK (N).

BILL OF MATERIALS FOR LIGHTING CONTROLLER "T"

ITEM #	QUANTITY	DESCRIPTION
B	1	BRANCH CIRCUIT PANEL INTERIOR, 200A COPPER BUS, 240/120VOLT, MOLDED CASE THERMAL MAGNETIC CIRCUIT BREAKERS, BOLT ON TYPE, AIC RATING OF 10,000 AMPS AT 240 VOLTS, SQUARE D 1630-N00020L 100C4 OR APPROVED EQUAL
C1	4	MECHANICAL CONTACTOR 4 POLE 30 AMP 120V COIL, SQUARE D 8903-LG40V02 OR APPROVED EQUAL
D	1	GFI RECEPTACLE 120V 20A PREMIUM SPEC. GRADE, NEMA REFERENCE 5-20R IN WEATHER-PROOF BOX WITH FLAP-TYPE COVER, HUBBELL GF5382A, WP28 COVER, OR APPROVED EQUAL
E	1	20A SPDT MICRO SWITCH (MOUNT WITH ACTUATOR TO SWITCH WHEN DOOR OPENED), 120 VOLT, 15 AMP CONTACTS, SQUARE D XCKL110, OR APPROVED EQUAL
F	1	60 WATT LIGHT FIXTURE, VAPOR TIGHT WITH GLOBE AND GUARD AND MOUNTING BOX
G	1	METER FITTING, 1 PHASE, 3 WIRE, 200 AMP
H	1	SURGE ARRESTOR, BRACKET MOUNTED, 120/240 VOLT SERVICE, G.E. TRANQUILL SLISEBOL OR APPROVED EQUAL
I	1	PHOTOCELL, 120V, 1500 VA RATED, DOUBLE POLE, SINGLE THROW CONTACT, WEATHERPROOF AND CORROSION PROOF ENCLOSURE, U.L. LISTED, TORQ 3000 OR APPROVED EQUAL
J	1	ENCLOSURE PAD MOUNTED, STAINLESS STEEL, N.E.M.A. 4 CONSTRUCTION WITH KEY LOCKING DOOR, KEY CYLINDER SHALL MATCH EXISTING VILLAGE LIGHTING CONTROLLER LOCKS, HOFFMAN, OR APPROVED EQUAL
K1	2	TOGGLE SWITCH, SPST, 20 AMP, 240 VOLT, SPECIFICATION GRADE MOUNTED IN SURFACE BOX, HUBBELL HBL1221 OR APPROVED EQUAL
M	1	MAIN CIRCUIT BREAKER, MOLDED CASE THERMAL MAGNETIC, SERVICE ENTRANCE DUTY RATED 240 VOLT, 200 AMP, 2 POLE, AIC RATING OF 14,000 AMPS AT 240 VOLTS, INTEGRAL TO BRANCH PANEL
N	1	COPPER LOAD TERMINAL BLOCK FOR AWG#6 AND AWG#12
O1	2	FORM TYPE C RELAY, ELECTRICALLY HELD, ONE NORMALLY OPEN (N.O.) AND ONE NORMALLY CLOSED (N.C.) CONTACTS, 600V CONTINUOUS DUTY COIL, 30 AMP CONTACT RATING, SQUARE D CLASS 8501 OR APPROVED EQUAL
R	1	THERMOSTAT, 40-80 DEGREE RANGE, CHROMALUX WR80 OR APPROVED EQUAL
S	1	HEATER, 120 VOLT, 375 WATT, PERFORATED METAL HOUSING, CHROMALUX 278-10 OR APPROVED EQUAL
W	1	WIRE MANAGEMENT RACE WAY

KJ ENGINEERING CONSULTANTS
 1771 W. BIRNEN ROAD, SUITE 300
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 (630) 708-7222 FAX: (630) 708-7222
 WWW.KJEC.COM PROJECT #160150-03

PLANS PREPARED BY:
GEWALT HAMILTON
 1200 W. BIRNEN ROAD, SUITE 300
 NAPERVILLE, IL 60563
 (630) 708-7222 FAX: (630) 708-7222

REVISIONS

NO.	DATE	DESCRIPTION

ILLINOIS DEPARTMENT OF TRANSPORTATION
CONTROLLER "T" DETAILS
 BUSINESS DISTRICT IMPROVEMENTS
 TOUHY AVE. AND CRAWFORD AVE.
 SECTION # 06 - 00048 - 00 - RS

SCALE: N.T.S.
 DATE: 11-2-06

DRAWN BY: JFF
 DESIGNED BY: JWK
 CHECKED BY: JDR