

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

F.A.I. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1, 2-T-1	ST. CLAIR	7	1
		ILLINOIS	CONTRACT NO. 76H89	

INDEX OF SHEETS

- 1 COVER SHEET
- 2 GENERAL NOTES
- 3 SUMMARY OF QUANTITIES
- 4 PLAN
- 5-7 CONTROL PANEL DETAILS

HIGHWAY STANDARDS

- 000001-06 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
- 701101-04 OFF-ROAD OPERATIONS, MULTILANE, 15' (4.5 M) TO 24' (600 MM) FROM PAVEMENT EDGE
- 701106-02 OFF-ROAD OPERATIONS, MULTILANE, MORE THAN 15' (4.5 M) AWAY
- 701428 TRAFFIC CONTROL, SETUP AND REMOVAL, FREEWAY/EXPRESSWAY
- 701901-04 TRAFFIC CONTROL DEVICES

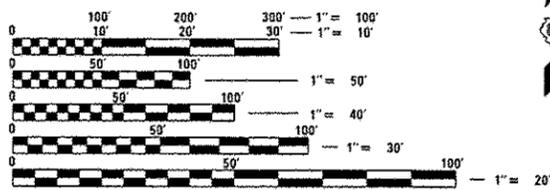
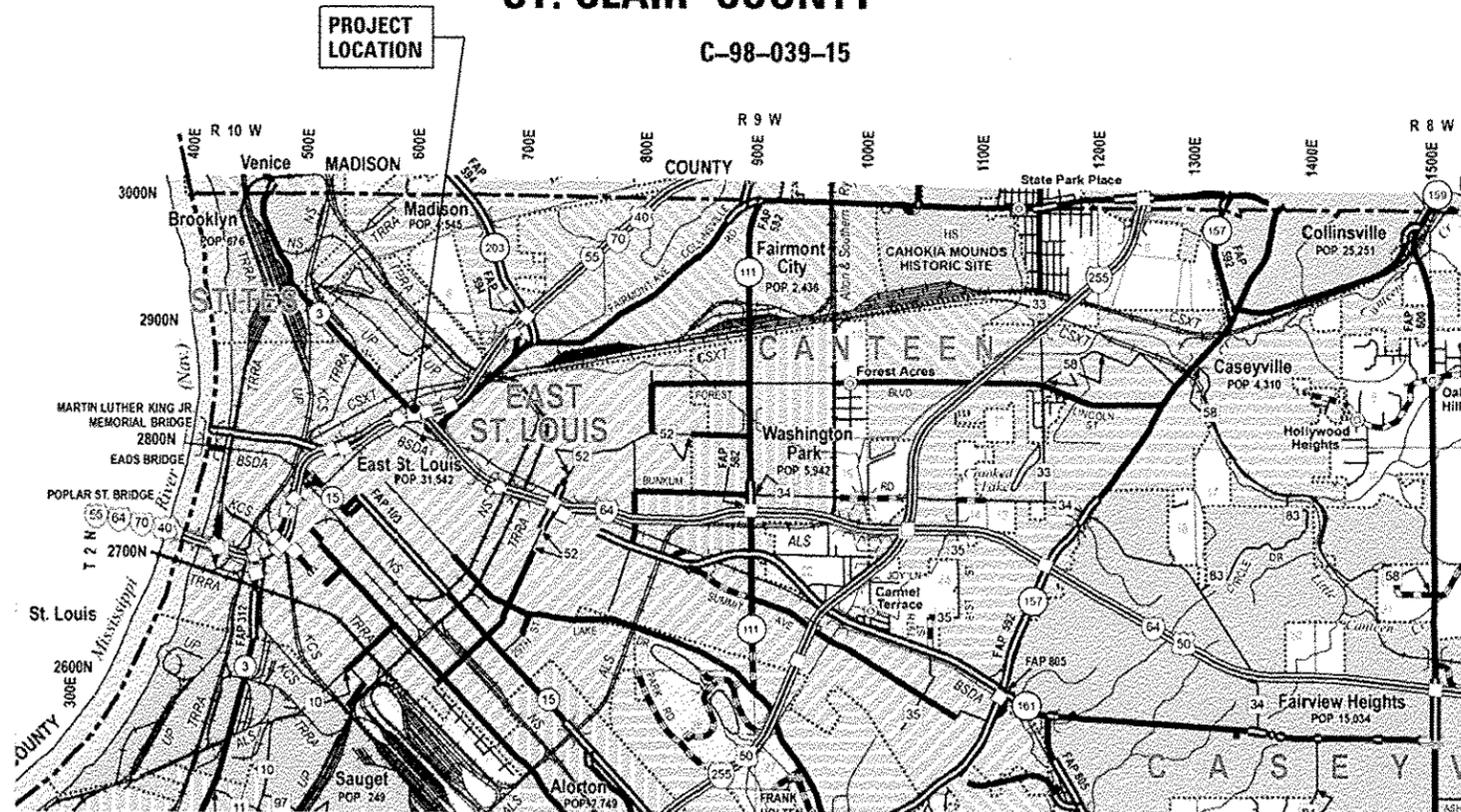
PROPOSED  
HIGHWAY PLANS

FAI ROUTE 70 (I-055/070)  
SECTION 82-1, 2-T-1

TRI LEVEL WELL CONTROL BOX REPLACEMENTS  
ST. CLAIR COUNTY

C-98-039-15

D-98-044-15



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.  
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION  
1-800-892-0123  
OR 811

GROSS LENGTH = NA  
NET LENGTH = NA

PLANS PREPARED BY:  
**KLINGNER & ASSOCIATES, P.C.**  
Engineers • Architects • Surveyors  
816 North 24th Street, Quincy, IL Ph (217)223-3570 • Fax (217)223-3603  
4510 Park Gravel Road, Hannibal, MO Ph (573)221-0920 • Fax (573)221-0012  
610 N. 4th Street, Suite 100, Burlington, IA Ph (319)753-1636 • Fax (319)752-3665  
48 North Prairie Street, Galena, IL Ph (809)342-4642 • Fax (809)341-3781  
Internet Address: www.klingner.com  
STATE OF ILLINOIS DESIGN FIRM # 1842738



JOHN J. NEYENS  
REGISTERED PROFESSIONAL ENGINEER  
STATE OF ILLINOIS NO. 062-063295  
LICENSE EXPIRES NOVEMBER 30, 2015  
DATE 7/24/15

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
SUBMITTED Aug 14 20 15  
Deputy Director of Highways, Region 5 Engineer  
Oct 15 20 15  
John D. Baranzelli, P.E.  
Engineer of Design and Environment  
Oct 2 20 15  
Omer Osman, P.E.  
Director of Highways, Chief Engineer

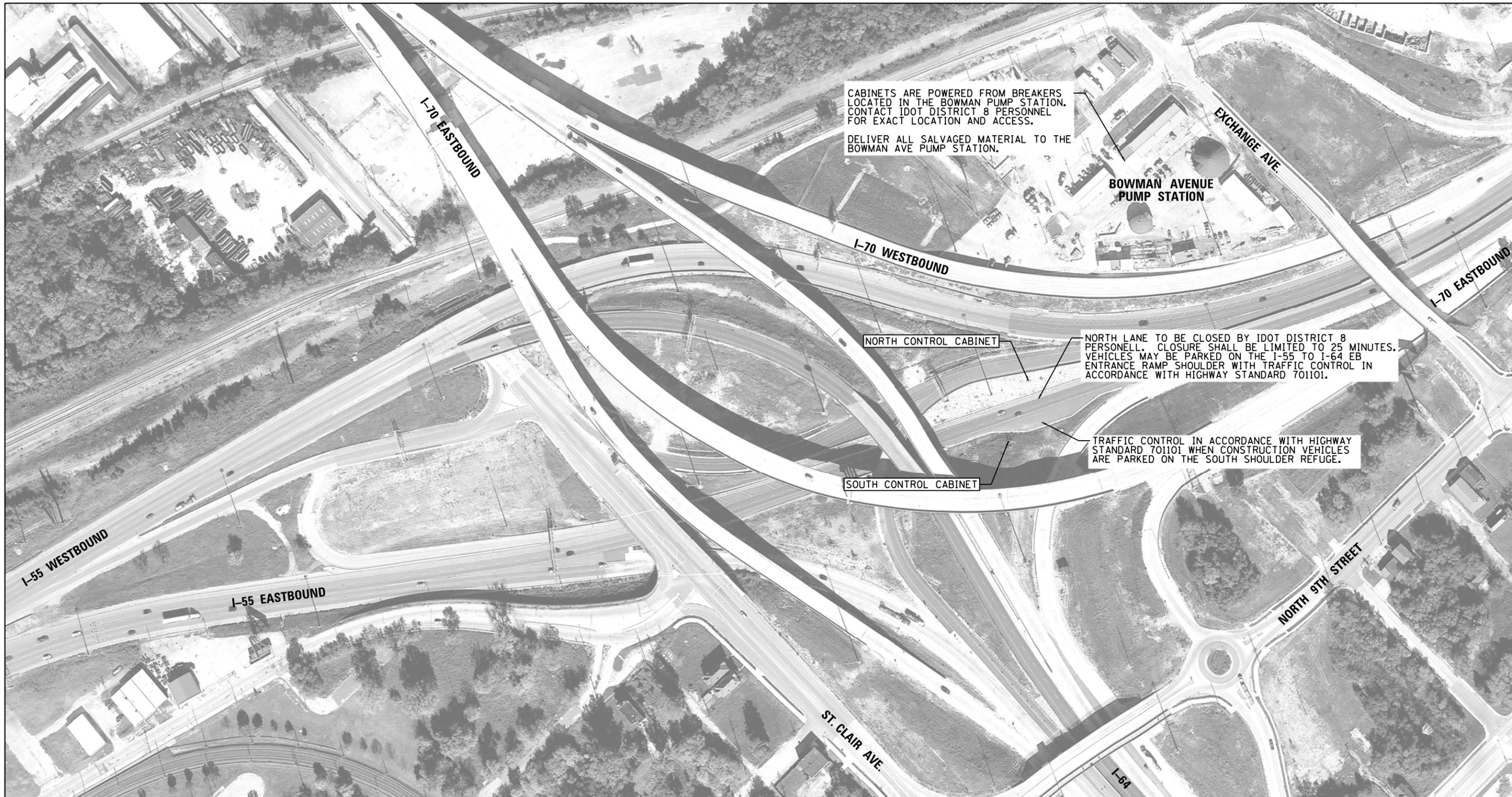
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**GENERAL NOTES**

1. THE STANDARDS AND REVISION NUMBERS SHALL APPLY TO THIS PROJECT.
2. CONTRACTOR SHALL FIELD VERIFY ALL CABLE LENGTHS BEFORE ORDERING EQUIPMENT AND MATERIALS.
3. THE CONTRACTOR SHALL SECURE ANY LOCAL, STATE, COUNTY PERMITS NEEDED FOR THIS PROJECT.
4. THE CONTRACTOR SHALL FOLLOW ALL NEC AND LOCAL ELECTRICAL CODES FOR ALL CONDUIT AND ELECTRICAL WIRES.
5. UTILITIES - LOCATIONS / INFORMATION ON PLANS  
 ILLINOIS STATE LAW REQUIRES A 48-HOUR NOTICE TO BE GIVEN TO UTILITIES BEFORE DIGGING. FIELD MARKING OF FACILITIES MAY BE OBTAINED BY CONTACTING J.U.L.I.E. OR FOR NON-MEMBERS, THE UTILITY COMPANY DIRECTLY. AGENCIES KNOWN TO HAVE FACILITIES WITHIN THE PROJECT AREA ARE AS FOLLOWS:  
  - Ameren Illinois (GAS & ELECTRIC)
  - AT&T Illinois (COMMUNICATIONS)
  - CenturyLink, Inc. (COMMUNICATIONS)
  - City of East St. Louis (LIGHTING)
  - ILLINOIS AMERICAN WATER CO. (WATER)
 MEMBERS OF J.U.L.I.E. CALL TOLL FREE (800) 892-0123 OR 811 AND ARE INDICATED BY \*.  
 NON-J.U.L.I.E. MEMBERS MUST BE NOTIFIED INDIVIDUALLY
6. ALL MATERIALS THAT ARE TO BE SALVAGED SHALL BE THE PROPERTY OF THE STATE OF ILLINOIS AND DELIVERED BY THE CONTRACTOR TO:  
 BOWMAN AVENUE PUMP STATION  
 728 EXCHANGE AVE.  
 EAST ST. LOUIS, IL  
 CONTACT PETE SAWYER AT (618) 304-2082 TO SCHEDULE DELIVERY
7. THE DEPARTMENT RESERVES THE RIGHT TO NOTIFY THE CONTRACTOR TO CHANGE THE CONSTRUCTION SCHEDULE IF NEEDED TO ENSURE PROPER DEWATERING NEEDS FOR THE DEPARTMENT.
8. THE CONTRACTOR SHALL MAKE ARRANGEMENTS WITH THE DISTRICT'S DEPARTMENT OF OPERATIONS TO PROVIDE TRAFFIC CONTROL FOR CLOSURE OF THE LEFT LANE FOR THE NORTH CONTROLLER CABINET. THE CONTRACTOR SHALL HAVE 25 MINUTES TO COMPLETE THE REMOVAL AND SETTING OF THE NEW CABINET BEFORE THE LANE WILL BE REOPENED TO TRAFFIC.
9. THE RESIDENT ENGINEER SHALL VERIFY THE EXISTENCE OF HIGHWAY LIGHTING AND/OR INTELLIGENT TRANSPORTATION SYSTEMS (I.T.S) UTILITIES WITHIN THE PROJECT LIMITS. IF HIGHWAY LIGHTING AND/OR I.T.S. EXISTS WITHIN THE PROJECT LIMITS AND IF THESE ITEMS REQUIRE LOCATING, THE CONTRACTOR SHALL BE DIRECTED TO DO SO ACCORDING TO SECTION 803 OF THE STANDARD SPECIFICATIONS. THIS WORK SHALL BE PAID FOR ACCORDING TO ARTICLE 109.04 OF THE STANDARD SPECIFICATIONS.
10. THE DEPARTMENT STRONGLY ENCOURAGES THE PRIME CONTRACTOR AND THEIR APPROVED SUB-CONTRACTORS TO HIRE MINORITY, WOMEN AND DISADVANTAGED INDIVIDUALS FROM ITS FEDERALLY FUNDED HIGHWAY CONSTRUCTION CAREERS TRAINING PROGRAM (HCCTP) TO HELP MEET WORKFORCE AND TRAINEE GOALS. THIS PROGRAM IS TRAINING MINORITIES, WOMEN AND DISADVANTAGED INDIVIDUALS IN HIGHWAY CONSTRUCTION RELATED SKILLS, E.G., MATH FOR THE TRADES, JOB READINESS, TECHNICAL SKILLS COURSEWORK (CARPENTRY, CONCRETE FLATWORK, BLUEPRINT READING, SITE PLANS, SITE WORK, TOOLS USE, ETC.) AND OSHA 10 HOUR CERTIFICATION TO PREPARE THEM FOR A CAREER IN THE HIGHWAY CONSTRUCTION TRADES. GRADUATES ARE WELL TRAINED AND READY TO BECOME PRODUCTIVE ENTRY LEVEL CONSTRUCTION WORKERS. CONTACT THE DISTRICT 8 EEO OFFICE AT 618-346-3360 AND/OR THE HCCTP COORDINATOR AT 618-874-6528 TO LEARN MORE ABOUT THE PROGRAM AND FOR ASSISTANCE IN MEETING WORKFORCE AND TRAINEE GOALS.

 KLINGNER & ASSOCIATES, P.C. Engineers • Architects • Surveyors	USER NAME: eeb	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>GENERAL NOTES</b>	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE: 20,000 1/4 in.	DRAWN -	REVISED -			70	82-1. 2-T-1	ST. CLAIR	7	2
PLOT DATE: 7/24/2015	CHECKED -	REVISED -	CONTRACT NO. 76H89							
	DATE -	REVISED -	ILLINOIS FED. AID PROJECT							
						SCALE: NONE	SHEET 1 OF 1 SHEETS		STA.	TO STA.





**KLINGNER & ASSOCIATES, P.C.**  
Engineers • Architects • Surveyors

USER NAME = seb  
PLOT SCALE = 1/99.9992" = 1/16"  
PLOT DATE = 7/24/2015

DESIGNED -  
DRAWN -  
CHECKED -  
DATE -

REVISED -  
REVISED -  
REVISED -  
REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PROJECT LOCATION AND  
TRAFFIC CONTROL**

SCALE: NONE SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1, 2-T-1	ST. CLAIR	7	4
CONTRACT NO. 76H89				
ILLINOIS FED. AID PROJECT				

**ELECTRICAL SYMBOLS**

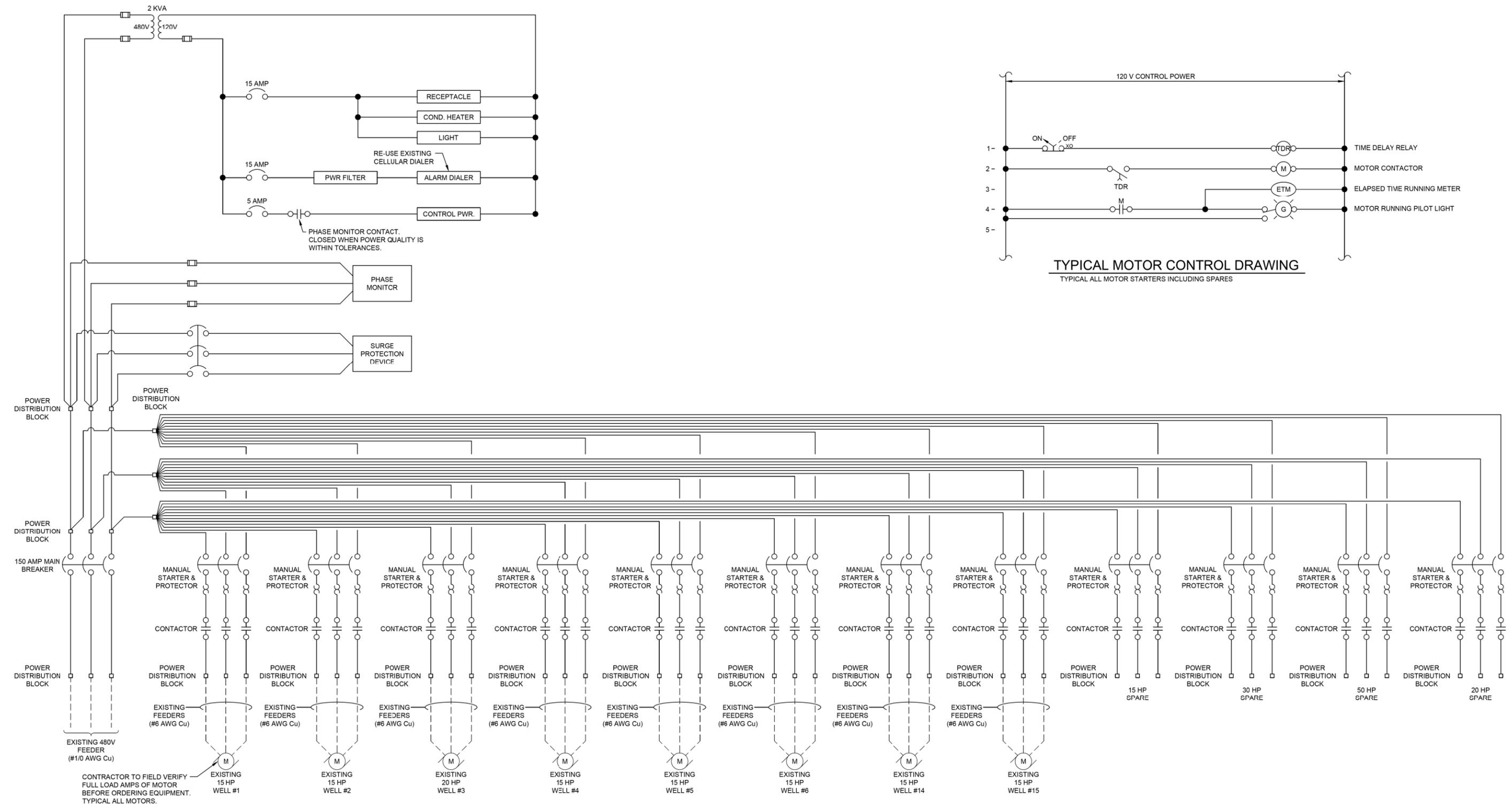
	LOW-VOLTAGE CIRCUIT BREAKER. RATING AND NUMBER OF POLES AS SHOWN
	FUSE. SIZE AND NUMBER OF FUSES AS NOTED
	FUSIBLE SWITCH. CURRENT RATING, FUSE SIZE, AND QUANTITY AS INDICATED
	NON-FUSED SWITCH. CURRENT RATING, AND NUMBER OF POLES INDICATED
	DISCONNECT OR DRAWOUT CONNECTION
	MOTOR STARTER AND SEPARATELY MOUNTED COMBINATION MOTOR STARTER
	MOTOR CONTROLLER AND SEPARATELY MOUNTED MOTOR CONTROLLER WITH SHORT CIRCUIT PROTECTION AND DISCONNECT
<p><b>MOTOR STARTER AND CONTROLLER SUBSCRIPTS:</b>                  A- MOTOR STARTER NEMA SIZE                  B-STARTER TYPE                  FVNR- FULL VOLTAGE NON-REVERSING                  FVR- FULL VOLTAGE REVERSING                  2S- TWO SPEED                  RVAT- REDUCED VOLTAGE AUTO TRANSFORMER                  C- CONTROL DIAGRAM                  D- CONTROLLER TYPE                  VFD- VARIABLE FREQUENCY DRIVE                  SS- SOLID STATE</p>	
	NON-FUSED DISCONNECT OR SAFETY SWITCH. SIZE AND NUMBER OF POLES AS NOTED
	FUSED DISCONNECT OR SAFETY SWITCH. X INDICATES SIZE, Y INDICATES FUSE SIZE, AND NUMBER OF POLES AS NOTED
	SEPARATELY MOUNTED CIRCUIT BREAKER
	MOTOR WITH DESIGN HORSEPOWER
	GENERATOR
	TRANSFORMER Δ 3-PHASE, 3 WIRE DELTA CONNECTION Y 3-PHASE, 4 WIRE WYE CONNECTION
	VOLTAGE TRANSFORMER (VT OR PT)
	CURRENT TRANSFORMER
	GROUND
	SURGE PROTECTION DEVICE
	SELECTOR SWITCH
	PUSH BUTTON
	INSTRUMENTATION/CONTROL DEVICE
	CONTROL PANEL
	JUNCTION BOX
	THERMOSTAT
	PANELBOARD (250V-600V)
	PANELBOARD (LESS THAN 250V)

**ELECTRICAL SYMBOLS**

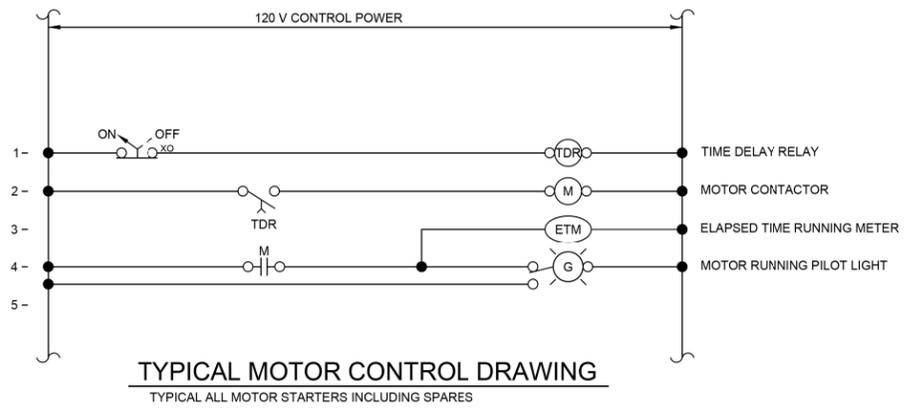
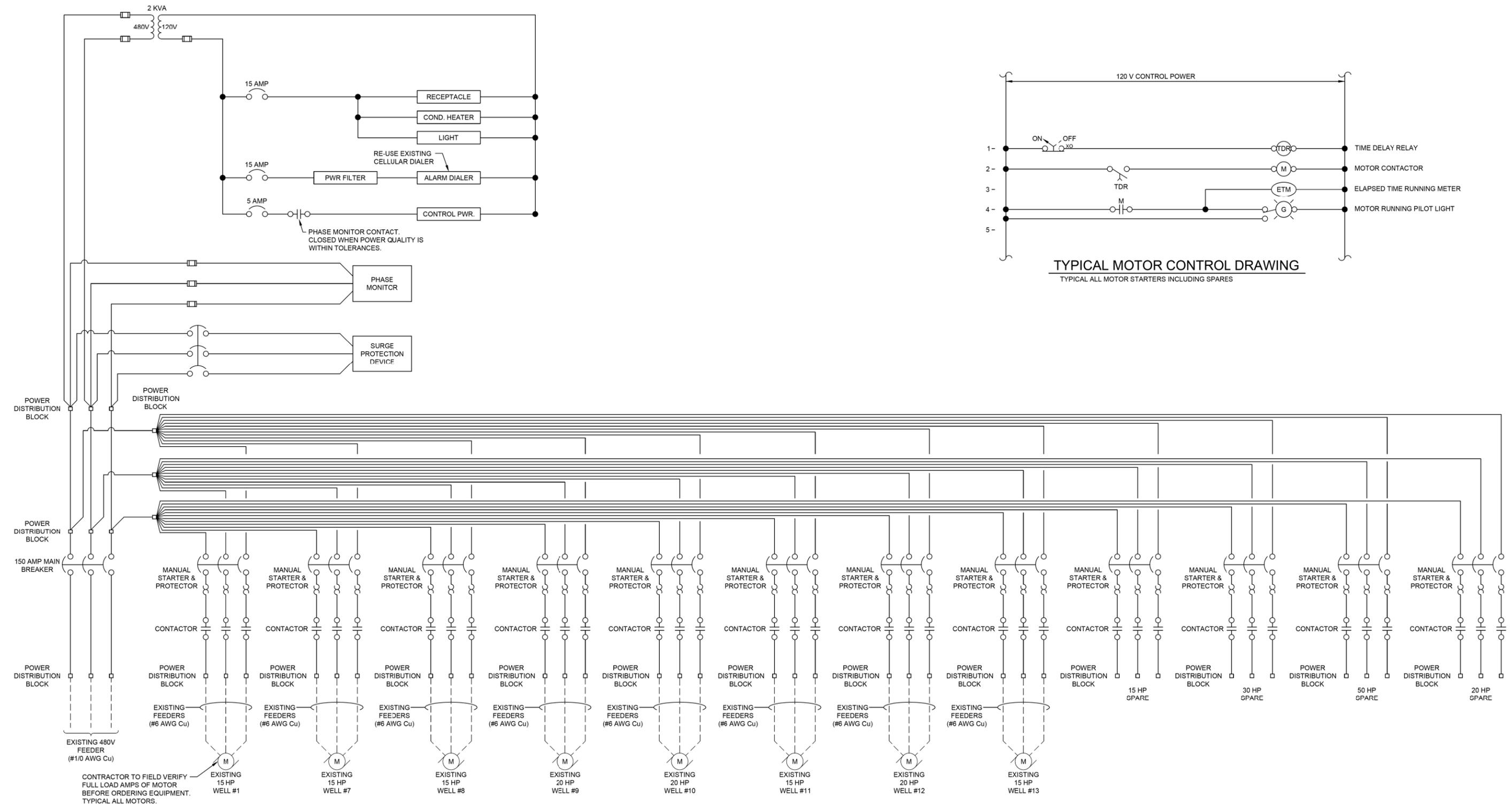
	LIGHT SWITCH
	LIGHT SWITCH, X WAY
	FLOOR BOX WITH DUPLEX RECEPTACLE
	FLOOR BOX FOR DATA/COMMUNICATION
	WALL BOX FOR DATA/COMMUNICATION
	DUPLEX RECEPTACLE OUTLET
	DUPLEX RECEPTACLE OUTLET WITH GROUND FAULT INTERRUPTER
	WEATHERPROOF RECEPTACLE OUTLET WITH GFCI PROTECTION
	QUAD RECEPTACLE OUTLET
	CIRCUITING NOTATION: X DENOTES PANEL AND ## DENOTES CIRCUIT NUMBER
	DENOTES CIRCUITING FOR STANDARD ELECTRICAL DEVICES

**CONTROL SYMBOLS**

	ELECTRICAL CONNECTION
	NO ELECTRICAL CONNECTION
	NORMALLY OPEN CONTACT
	NORMALLY CLOSED CONTACT
	NORMALLY OPEN TIME DELAY RELAY CONTACT. CLOSSES UPON TIME DELAY AFTER ACTIVATING COIL
	NORMALLY CLOSED TIME DELAY RELAY CONTACT. OPENS UPON TIME DELAY AFTER ACTIVATING COIL
	NORMALLY OPEN TIME DELAY RELAY CONTACT. OPENS UPON TIME DELAY AFTER DE-ACTIVATING COIL
	NORMALLY CLOSED TIME DELAY RELAY CONTACT. CLOSSES UPON TIME DELAY AFTER DE-ACTIVATING COIL
	NORMALLY OPEN TEMPERATURE SWITCH: CLOSSES ON RISING TEMPERATURE
	NORMALLY CLOSED TEMPERATURE SWITCH: OPENS ON RISING TEMPERATURE
	NORMALLY OPEN FLOW SWITCH: CLOSSES ON INCREASING FLOW
	NORMALLY CLOSED FLOW SWITCH: OPENS ON INCREASING FLOW
	NORMALLY OPEN LEVEL SWITCH: CLOSSES ON INCREASING LEVEL
	NORMALLY CLOSED LEVEL SWITCH: OPENS ON INCREASING LEVEL
	NORMALLY OPEN PRESSURE SWITCH: CLOSSES ON INCREASING PRESSURE
	NORMALLY CLOSED PRESSURE SWITCH: OPENS ON INCREASING PRESSURE
	NORMALLY OPEN LIMIT SWITCH: CLOSSES UPON REACHING LIMIT
	NORMALLY CLOSED LIMIT SWITCH: OPENS ON REACHING LIMIT
	MICROPROCESSOR INPUT
	MICROPROCESSOR OUTPUT
	FIELD WIRING EXTERNAL TO CONTROL PANEL
	3-POSITION SELECTOR SWITCH, MAINTAINED CONTACTS
	NORMALLY OPEN PUSHBUTTON, MOMENTARY CONTACT
	NORMALLY CLOSED PUSHBUTTON, MOMENTARY CONTACT
	INDICATING LIGHT, X INDICATES COLOR
	PUSH TO TEST INDICATING LIGHT, X INDICATES COLOR LENS COLOR: R- RED                      Y-YELLOW G- GREEN                  W-WHITE B-BLUE                      A- AMBER
	SOLENOID VALVE
	THERMAL OVERLOAD ELEMENT
	THERMAL OVERLOAD ELEMENT RELAY CONTACT
	ELAPSED TIME RUNNING METER
	MOTOR STARTS COUNTER
	INTRINSICALLY SAFE BARRIER
	RELAY COIL- "X" INDICATES TYPE M- MOTOR STARTER TDR- TIME DELAY RELAY



**NORTHBOUND CONTROL PANEL WIRING SCHEMATIC**  
 NTS



**SOUTHBOUND CONTROL PANEL WIRING SCHEMATIC**