

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
**PROPOSED
HIGHWAY PLANS**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	DIST 8 PS 2018-1	ST. CLAIR/MADISON	9	1
		ILLINOIS	CONTRACT NO. 76K58	

D-98-087-17

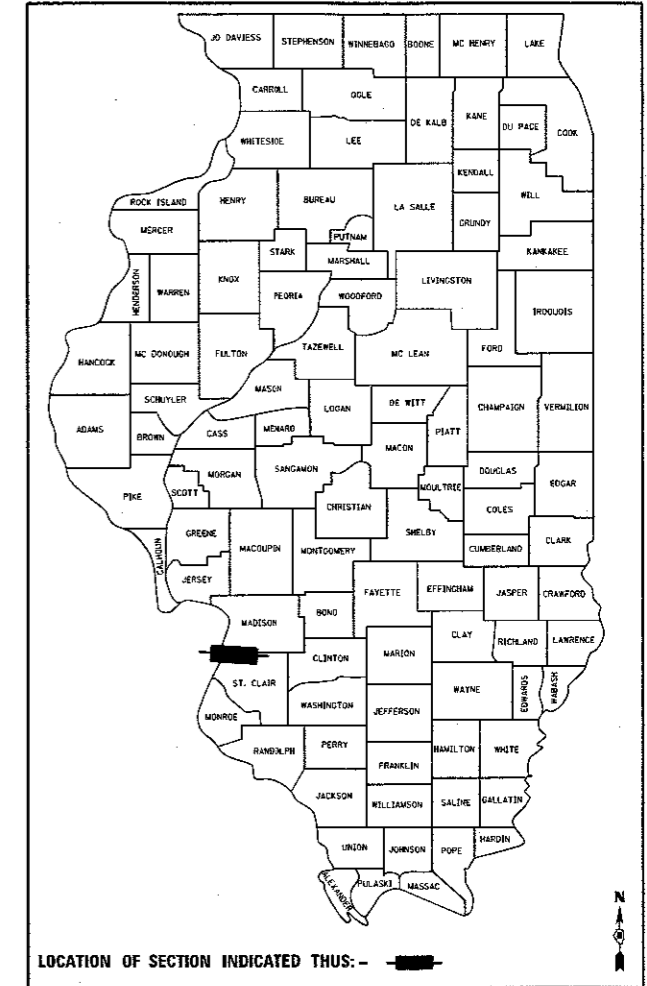
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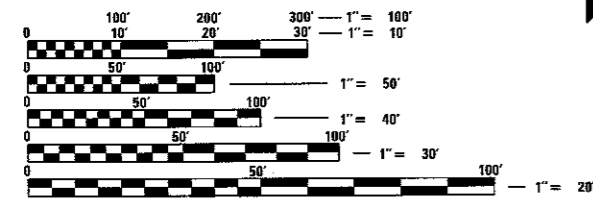
**VARIOUS ROUTES
SECTION DIST 8 PS 2018-1
PUMP STATIONS DIALER ALARM &
TRANSFER SWITCH REPLACEMENTS
ST. CLAIR & MADISON COUNTIES**



PLANS PREPARED BY:

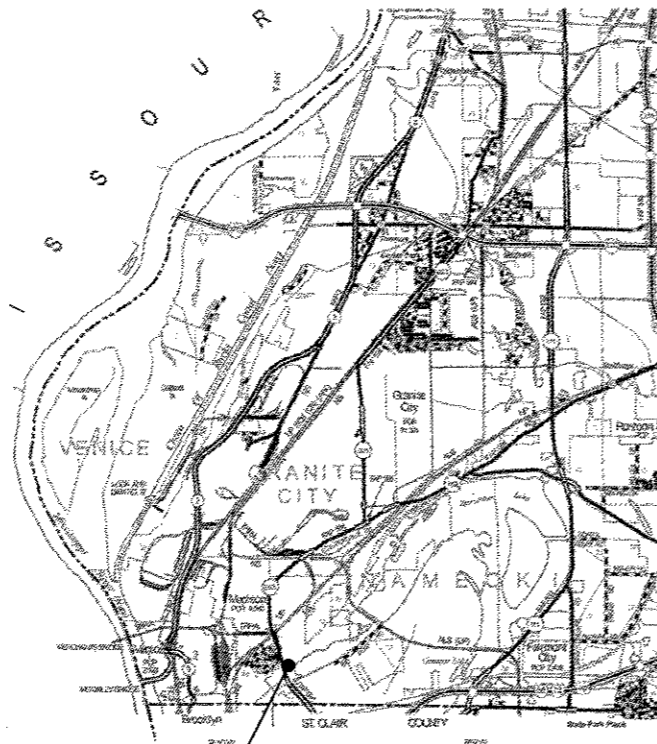
KLINGNER & ASSOCIATES, P.C.
Engineers • Architects • Surveyors

616 North 24th Street, Quincy, IL Ph (217)223-3670 - Fax (217)223-3603
 4510 Paris Gravel Road, Hannibal, MO Ph (519)221-0020 - Fax (519)221-0012
 610 N. 4th Street, Suite 109, Burlington, IA Ph (319)753-1630 - Fax (319)752-9806
 48 North Prairie Street, Galesburg, IL Ph (309)242-4042 - Fax (309)241-5781
 604 Liberty Street, Suite 125, Pella, IA Ph (515)812-7402
 807 East Ash Street, Columbia, MO Ph (573)365-6986
 Internet Address: www.klingner.com
 STATE OF ILLINOIS DESIGN FIRM # 1842738



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



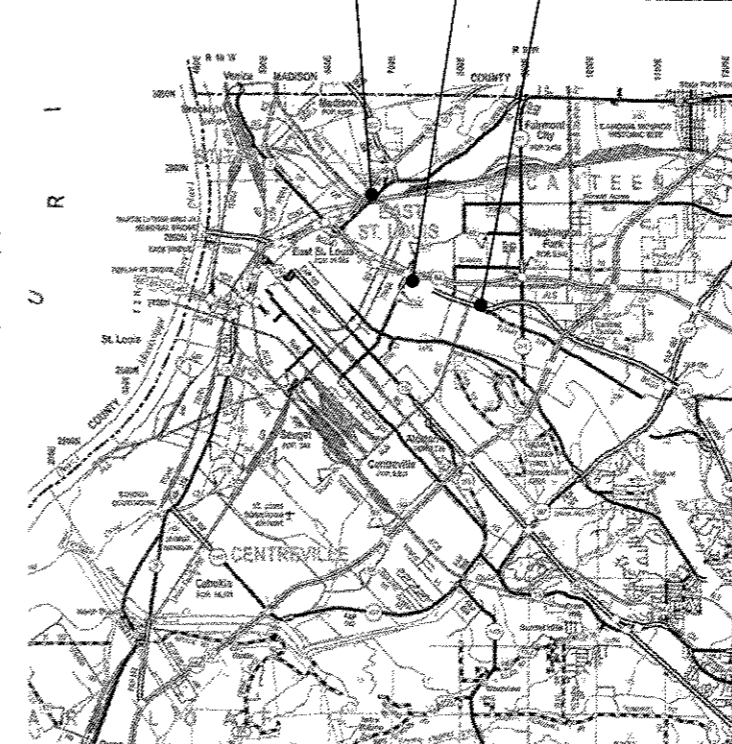
McCAMBRIDGE AVE.
PUMP STATION

MADISON COUNTY



AARON M. SCHAFER
LICENSED STRUCTURAL ENGINEER
STATE OF ILLINOIS NO. 081-007926
LICENSE EXPIRES NOVEMBER 30, 2018

5/9/2017
DATE



9TH STREET
PUMP STATION

25TH STREET
PUMP STATION

42ND STREET
PUMP STATION

ST. CLAIR COUNTY



JOHN J. NEVENS
REGISTERED PROFESSIONAL ENGINEER
STATE OF ILLINOIS NO. 062-063295
LICENSE EXPIRES NOVEMBER 30, 2017

5/9/2017
DATE

PROJECT ENGINEER: HERVE GELIN 618-346-3175
 PROJECT MANAGER: PHILLIP SAWYER 618-346-3275
 SQUAD LEADER: JEYCEA BOBO 618-346-3190
 CONTRACT NO. 76K58

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED May 12 20 17

Jeffrey J. Kam
REGIONAL ENGINEER

June 30 20 17
Maureen M. Addis PE, IA
ENGINEER OF DESIGN AND ENVIRONMENT

June 30 20 17
[Signature]
DIRECTOR OF PROGRAM DEVELOPMENT

**PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS**

DESIGN CRITERIA

1. DESIGN LOADS: (PER IBC 2015)
 - A. SPIRAL STAIRCASE LIVE LOAD = 100PSF OR 300 LBS CONCENTRATED

GENERAL NOTES

1. THE STANDARDS AND REVISION NUMBERS SHALL APPLY TO THIS PROJECT.
2. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS.
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 ELECTRICAL WORK.
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. PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING STRUCTURES HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD, AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING MATERIALS.
7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENFORCE ALL APPLICABLE SAFETY CODES AND REGULATIONS DURING ALL PHASES OF CONSTRUCTION.
8. ALL CONTRACTORS ARE REQUIRED TO EXAMINE THE DRAWINGS AND SPECIAL PROVISIONS CAREFULLY, VISIT THE SITE AND FULLY INFORM THEMSELVES AS TO ALL EXISTING CONDITIONS AND LIMITATIONS, PRIOR TO AGREEING TO PERFORM THE WORK. FAILURE TO VISIT THE SITE AND FAMILIARIZE THEMSELVES WITH THE EXISTING CONDITIONS AND LIMITATIONS WILL IN NO WAY RELIEVE THE CONTRACTOR FROM FURNISHING ANY MATERIALS OR PERFORMING ANY WORK IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS WITHOUT ADDITIONAL COST TO THE OWNER.
9. DURING CONSTRUCTION THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE EXISTING PUMP STATION BUILDINGS.
10. DRAWINGS ARE NOT TO SCALE.
11. THE DEPARTMENT RESERVES THE RIGHT TO NOTIFY THE CONTRACTOR TO CHANGE THE CONSTRUCTION SCHEDULE IF NEEDED TO ENSURE PROPER DEWATERING NEEDS FOR THE DEPARTMENT.
12. 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.
13. 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.
14. THE EXISTING PUMP STATION SUMPS ARE CONSIDERED TO BE CONFINED SPACE. THE CONTRACTOR SHALL COMPLY WITH ALL O.S.H.A. REQUIREMENTS RELATIVE TO CONFINED SPACE ENTRY. AN OXYGEN-DEFICIENT, TOXIC, EXPLOSIVE OR FLAMMABLE ATMOSPHERE MAY EXIST WITHIN THESE CONFINED SPACES. ATMOSPHERE TESTING SHALL BE CONDUCTED PRIOR TO ENTRY AND CONTINUOUSLY WHILE EMPLOYEES ARE WORKING WITHIN A CONFINED SPACE. THE CONTRACTOR SHALL INFORM THE ENGINEER OF WHO WILL SERVE AS THE RESCUE RESPONDER IN AN EMERGENCY AND WHAT SYSTEM WILL BE USED TO NOTIFY THE RESPONDER THAT AN EMERGENCY EXISTS. COMPLIANCE WITH THIS PROVISION SHALL BE CONSIDERED INCLUDED IN THE COST OF THE CONTRACT, AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

STRUCTURAL STEEL

1. SPIRAL STEEL STAIRCASE, HANDRAIL AND POSTS, AND TREADS SHALL BE HOT DIPPED GALVANIZED.
2. THE SPIRAL STEEL STAIRCASE SHALL BE FURNISHED IN ACCORDANCE WITH THE SPECIAL PROVISION "FURNISHING AND ERECTING STRUCTURAL STEEL, SPECIAL"
3. CONTRACTOR SHALL FIELD VERIFY AND COORDINATE ALL DIMENSIONS WITH STAIRCASE MANUFACTURER, PRIOR TO ORDERING SPIRAL STAIRCASE.



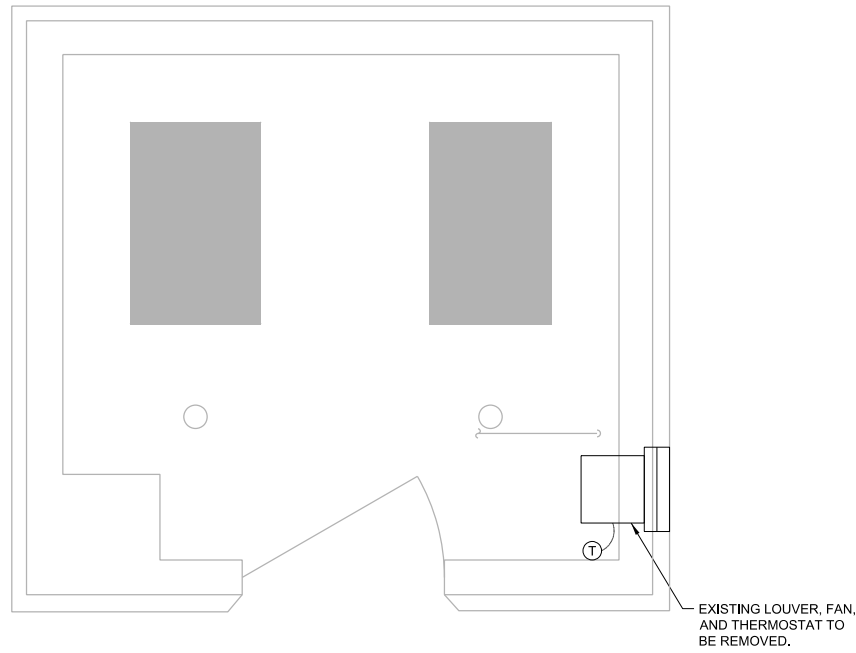
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PLOT DATE = 5/9/2017	CHECKED - ADL	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

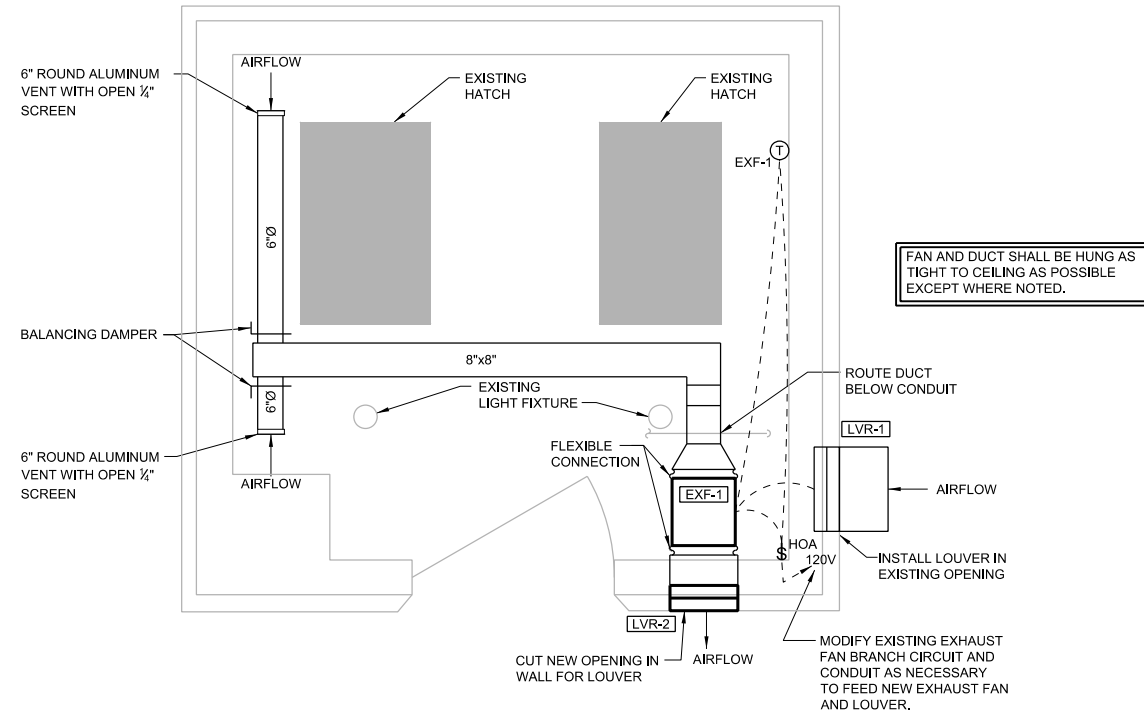
GENERAL NOTES

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	DIST 8 PS 2018-1	ST. CLAIR/MADISON	9	2
			CONTRACT NO. 76K58	
ILLINOIS FED. AID PROJECT				



DEMOLITION PLAN



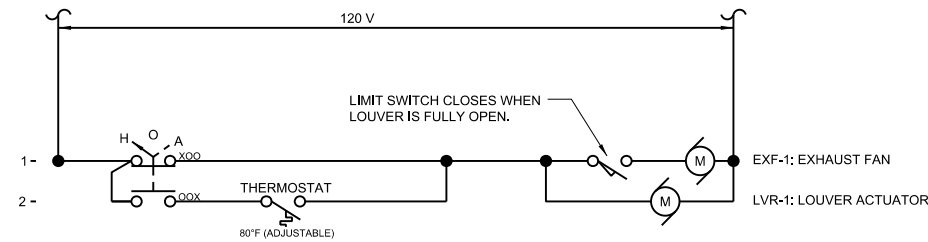
MECHANICAL/ELECTRICAL PLAN

EXHAUST FAN SCHEDULE							
MARK	DESCRIPTION	AIRFLOW	STATIC PRESSURE	MOTOR	VOLTAGE	PHASE	REMARKS
		(CFM)	DROP (w.g.)	(HP)			
EXF-1	CENTRIFUGAL INLINE DIRECT DRIVE FAN	641	0.5	1/4	120	1	1,2,3,4

- REMARKS:
- 1 PROVIDE WITH FACTORY MOUNTED DISCONNECT SWITCH
 - 2 PROVIDE WITH GRAVITY BACKDRAFT DAMPER
 - 3 PROVIDE WITH HANGING NEOPRENE VIBRATION ISOLATORS
 - 4 PROVIDE WITH LINE VOLTAGE THERMOSTAT (MIN. CONTROL RANGE 40F-105F) SUITABLE FOR ON/OFF CONTROL OF FAN.

LOUVER SCHEDULE							
MARK	DESCRIPTION	HEIGHT	WIDTH	FREE AREA	PRESSURE DROP	AIRFLOW	REMARKS
		(in)	(in)	(sq. ft)	(w.g.)	(cfm)	
LVR-01	COMBINATION INTAKE LOUVER/DAMPER DRAINABLE BLADE	20	18	0.825	0.04	600	1,2,3,4,5,6,7,8
LVR-02	EXHAUST LOUVER, STATIONARY TYPE	16	16	0.62	0.19	600	3,4,5,6

- REMARKS:
- 1 CONTRACTOR SHALL FIELD VERIFY ROUGH OPENING SIZE PRIOR TO ORDERING LOUVER.
 - 2 120V POWER OPEN, SPRING CLOSE
 - 3 PROVIDE WITH INSECT SCREEN
 - 4 GALVANIZED FINISH
 - 5 PROVIDE WITH EXTENDED SILL
 - 6 PROVIDE WITH FLANGED FRAME
 - 7 PROVIDE WITH 2" FILTER FRAME AND 2" MERV 7 FILTERS
 - 8 PROVIDE WITH 45 DEGREE WEATHERHOOD



- SEQUENCE OF OPERATION:
1. OFF: LOUVER SHALL BE CLOSED AND FAN SHALL BE OFF.
 2. HAND: LOUVER SHALL OPEN, ONCE LOUVER IS FULLY OPEN, FAN SHALL OPERATE.
 3. AUTO:
 - 3.1. TEMPERATURE ABOVE SET POINT: LOUVER SHALL OPEN, ONCE LOUVER IS FULLY OPEN, FAN SHALL OPERATE.
 - 3.2. TEMPERATURE BELOW SET POINT: LOUVER SHALL BE CLOSED AND FAN SHALL BE OFF.

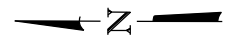
EXHAUST FAN CONTROL DRAWING

MECHANICAL/ELECTRICAL SYMBOLS

- LOW-VOLTAGE CIRCUIT BREAKER.
- ELECTRIC MOTOR
- THERMOSTAT
- 3-POSITION, HAND-OFF-AUTO MOTOR CONTROL SWITCH
- ELECTRICAL CIRCUITING

CONTROL SYMBOLS

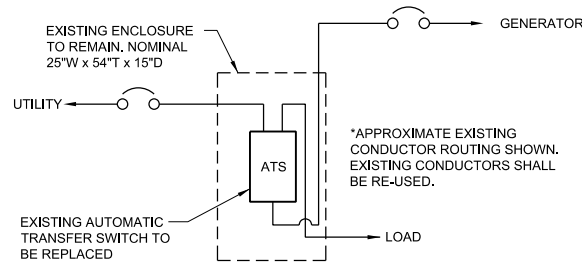
- ELECTRICAL CONNECTION
- NO ELECTRICAL CONNECTION
- NORMALLY OPEN CONTACT
- NORMALLY CLOSED CONTACT
- NORMALLY OPEN TEMPERATURE SWITCH: CLOSES ON RISING TEMPERATURE
- NORMALLY CLOSED TEMPERATURE SWITCH: OPENS ON RISING TEMPERATURE
- NORMALLY OPEN LEVEL SWITCH: CLOSES ON INCREASING LEVEL
- NORMALLY CLOSED LEVEL SWITCH: OPENS ON INCREASING LEVEL
- NORMALLY OPEN LIMIT SWITCH: CLOSES UPON REACHING LIMIT
- NORMALLY CLOSED LIMIT SWITCH: OPENS ON REACHING LIMIT
- RELAY COIL
- 3-POSITION SELECTOR SWITCH, MAINTAINED CONTACTS



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	CHECKED -	REVISED -
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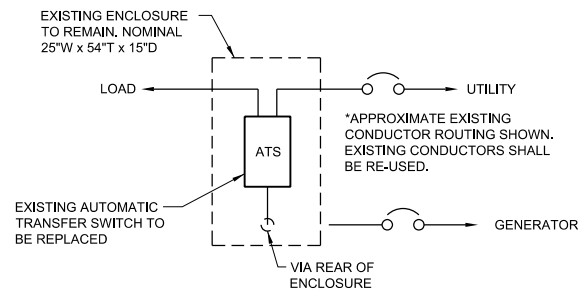
McCAMBRIDGE AVENUE PUMP STATION MECHANICAL AND ELECTRICAL PLAN			
SCALE: NONE	SHEET 1 OF 1 SHEET	STA.	TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	DIST 8 PS 2018-1	ST. CLAIR/MADISON	9	4
CONTRACT NO. 76K58				
ILLINOIS FED. AID PROJECT				



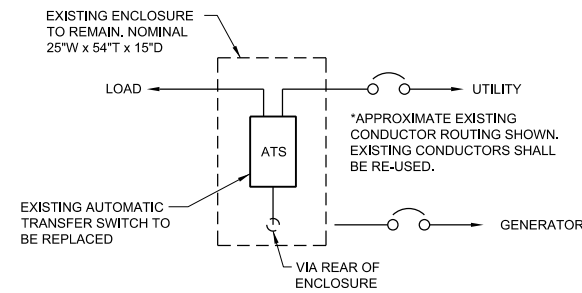
9th STREET PUMP STATION

NTS



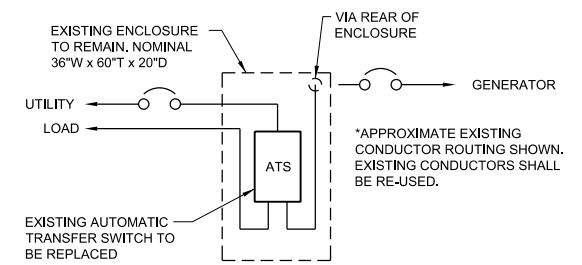
McCAMBRIDGE PUMP STATION

NTS



42nd STREET PUMP STATION

NTS

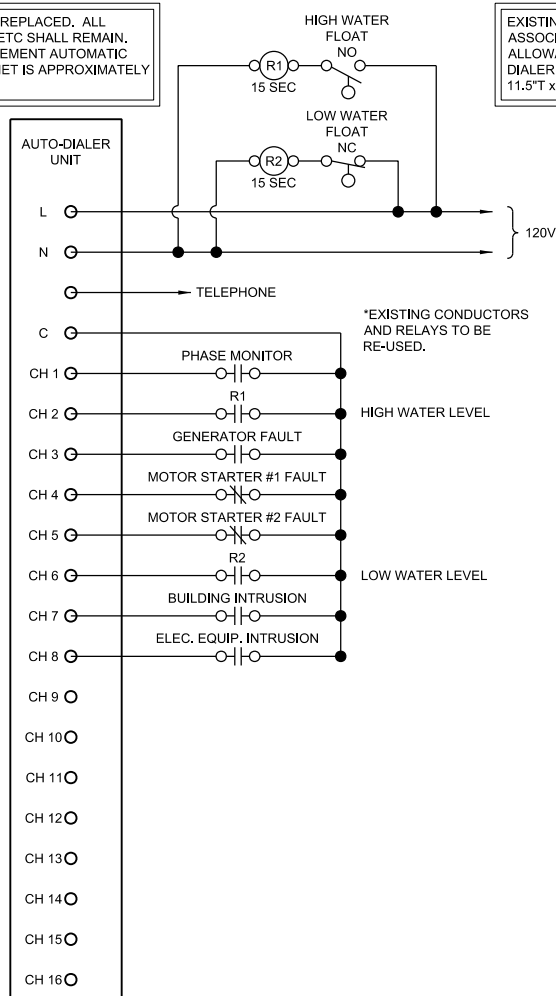


25th STREET PUMP STATION

NTS

AUTOMATIC TRANSFER SWITCH SUMMARY						
LOCATION	VOLTAGE	PHASE	ATS AMPERAGE RATING	NUMBER OF POLES	NEUTRAL	MINIMUM FAULT CURRENT RATING
9th STREET PUMP STATION	480/277	3	400	3	SOLID	20,000
McCAMBRIDGE PUMP STATION	480/277	3	400	3	SOLID	20,000
42nd STREET PUMP STATION	480	3	400	3	NONE	20,000
25th STREET PUMP STATION	480	3	400	3	NONE	20,000

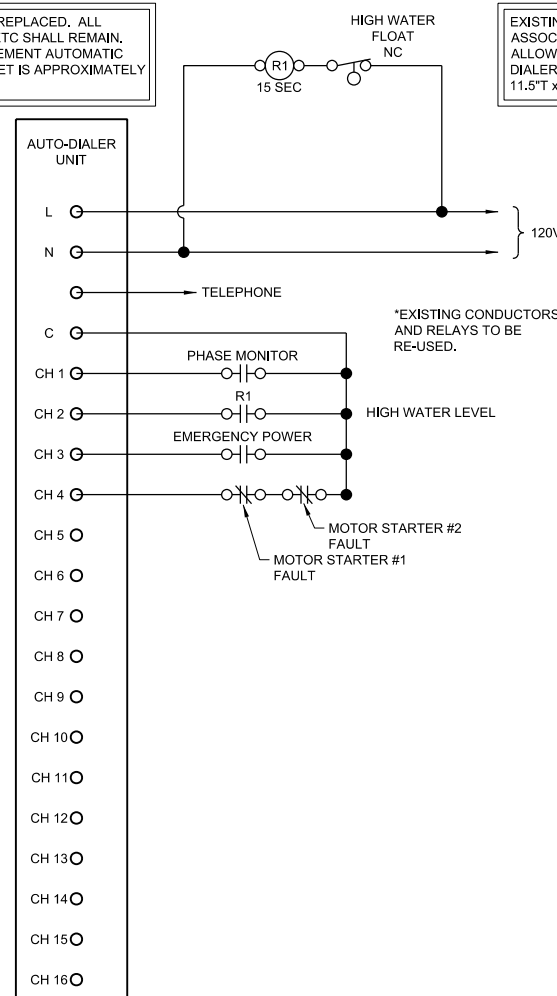
EXISTING ALARM DIALER TO BE REPLACED. ALL ASSOCIATED WIRING, RELAYS, ETC SHALL REMAIN. ALLOWABLE AREA FOR REPLACEMENT AUTOMATIC DIALER WITHIN CONTROL CABINET IS APPROXIMATELY 11.5" T x 9.5" W.



9th STREET PUMP STATION

NTS

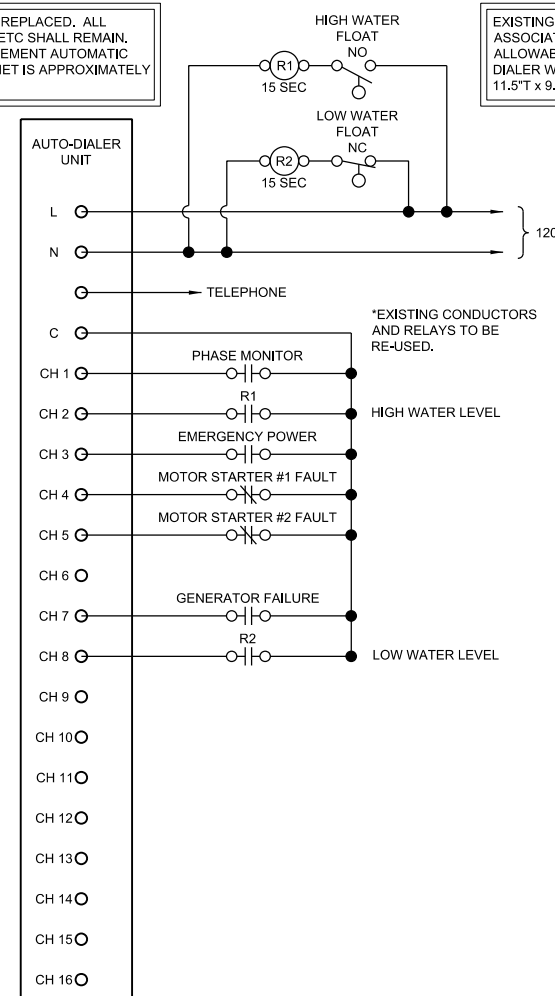
EXISTING ALARM DIALER TO BE REPLACED. ALL ASSOCIATED WIRING, RELAYS, ETC SHALL REMAIN. ALLOWABLE AREA FOR REPLACEMENT AUTOMATIC DIALER WITHIN CONTROL CABINET IS APPROXIMATELY 11.5" T x 9.5" W.



McCAMBRIDGE PUMP STATION

NTS

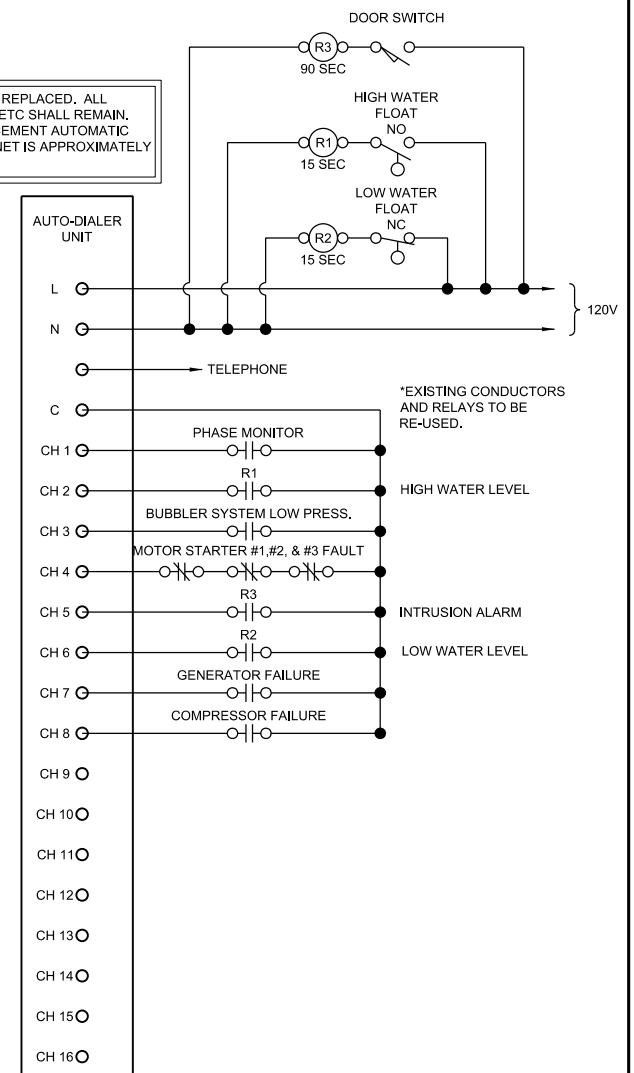
EXISTING ALARM DIALER TO BE REPLACED. ALL ASSOCIATED WIRING, RELAYS, ETC SHALL REMAIN. ALLOWABLE AREA FOR REPLACEMENT AUTOMATIC DIALER WITHIN CONTROL CABINET IS APPROXIMATELY 11.5" T x 9.5" W.



42nd STREET PUMP STATION

NTS

EXISTING ALARM DIALER TO BE REPLACED. ALL ASSOCIATED WIRING, RELAYS, ETC SHALL REMAIN. ALLOWABLE AREA FOR REPLACEMENT AUTOMATIC DIALER WITHIN CONTROL CABINET IS APPROXIMATELY 11.5" T x 9.5" W.

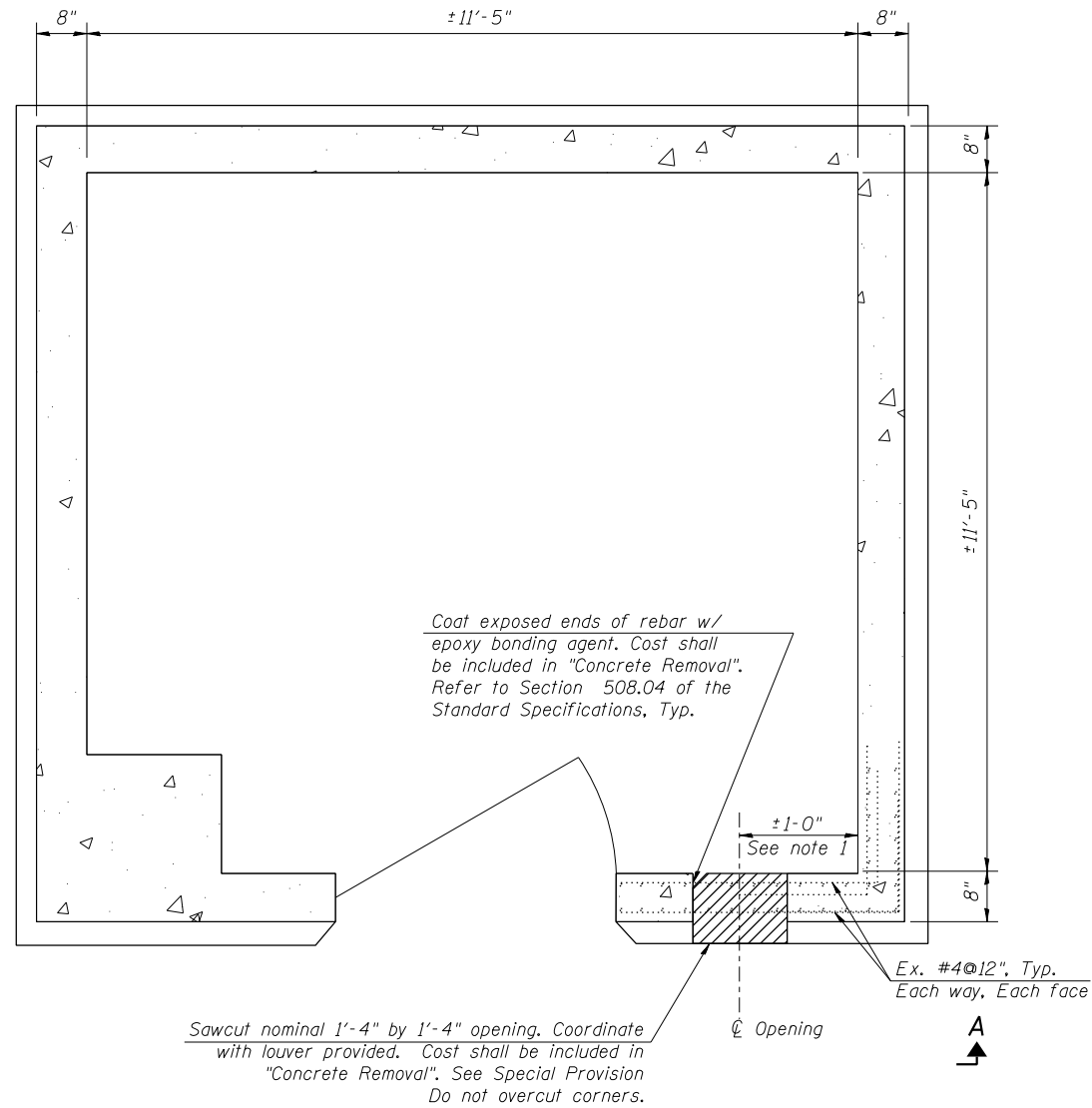


25th STREET PUMP STATION

NTS

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PLOT DATE = 5/9/2017	DRAWN - JJN	REVISED -
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CONTRACT NO. 76K58				
ILLINOIS FED. AID PROJECT				

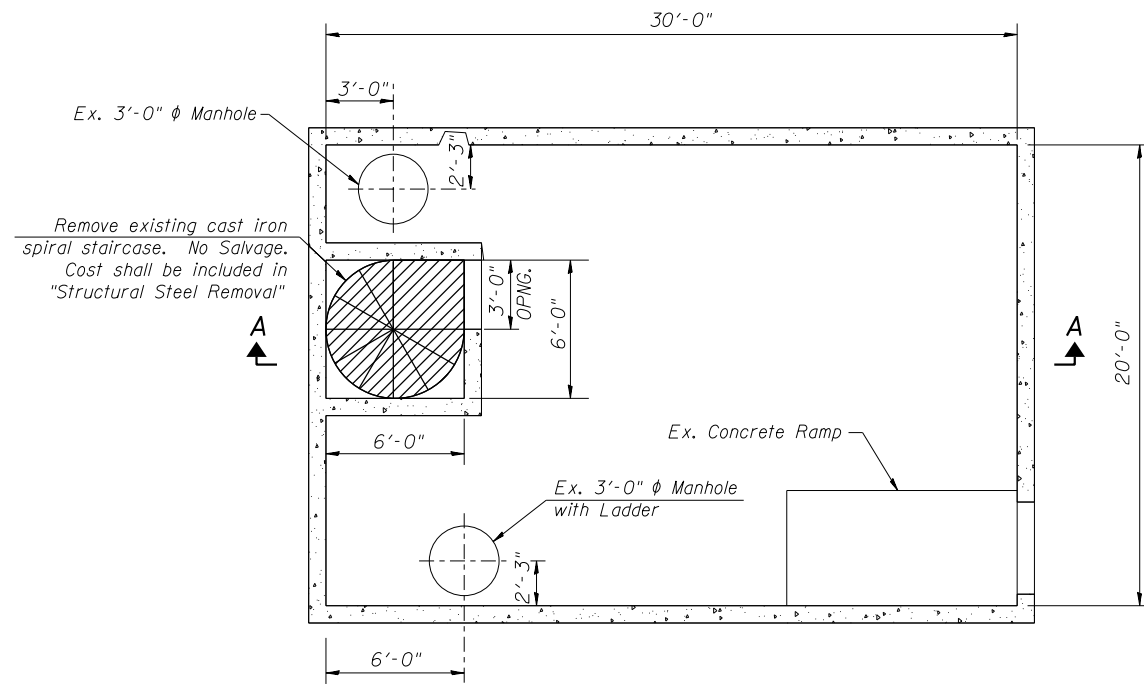


NOTE:

1. Coordinate opening size with louver and exhaust fan provided.
2. Elevation is for reference only

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PLOT SCALE = 2:1 (1" = 2')	DRAWN - AMS	REVISED -
PLOT DATE = 5/9/2017	CHECKED - ADL	REVISED -

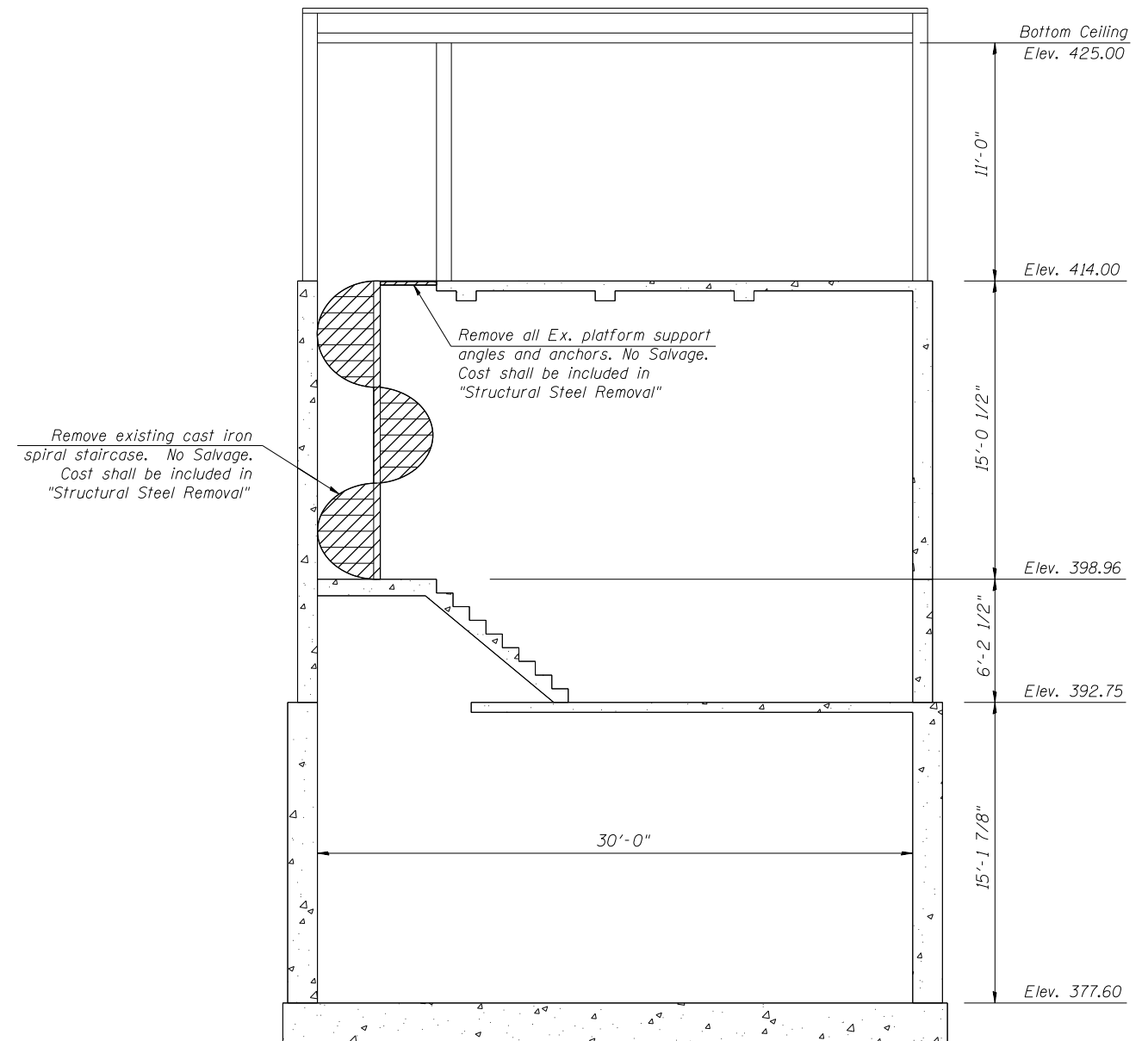
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	DIST 8 PS 2018-1	ST. CLAIR/MADISON	9	6
CONTRACT NO. 76K58				
ILLINOIS FED. AID PROJECT				



DEMO PLAN - ELEV. 414.00

NOTE:

1. Elevation is for reference only
2. Contractor shall patch all concrete surfaces affected by the removal of existing platform anchor bolts.

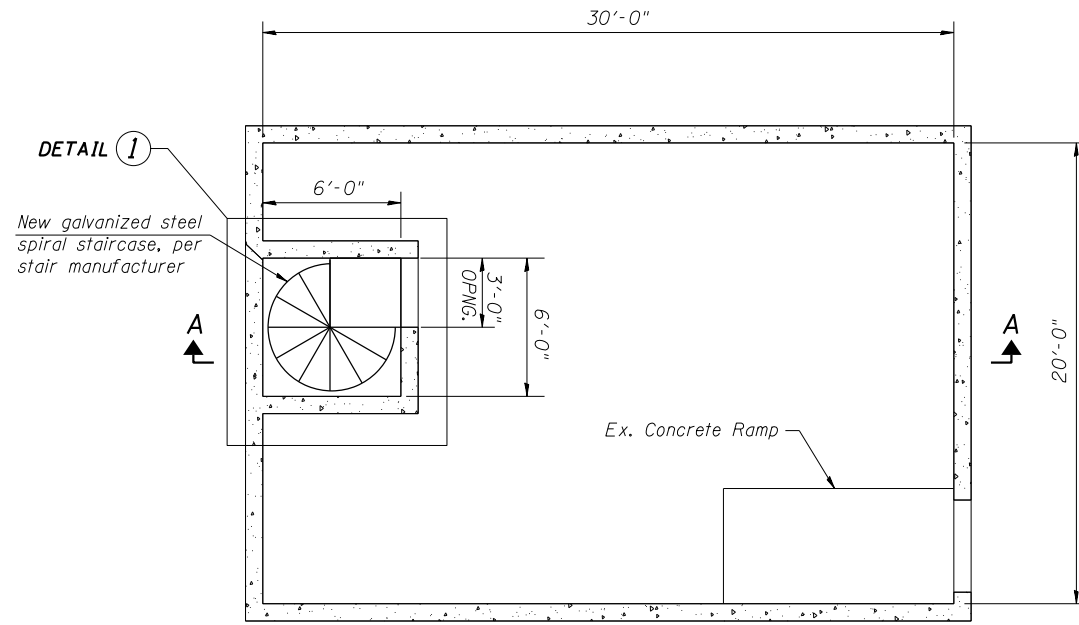


SECTION A-A

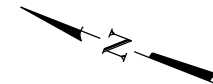
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25TH STREET PUMP STATION DEMOLITION PLAN AND ELEVATION	
SCALE: NONE	SHEET 1 OF 1 SHEET
STA.	TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	DIST 8 PS 2018-1	ST. CLAIR/MADISON	9	7
CONTRACT NO. 76K58				
ILLINOIS FED. AID PROJECT				

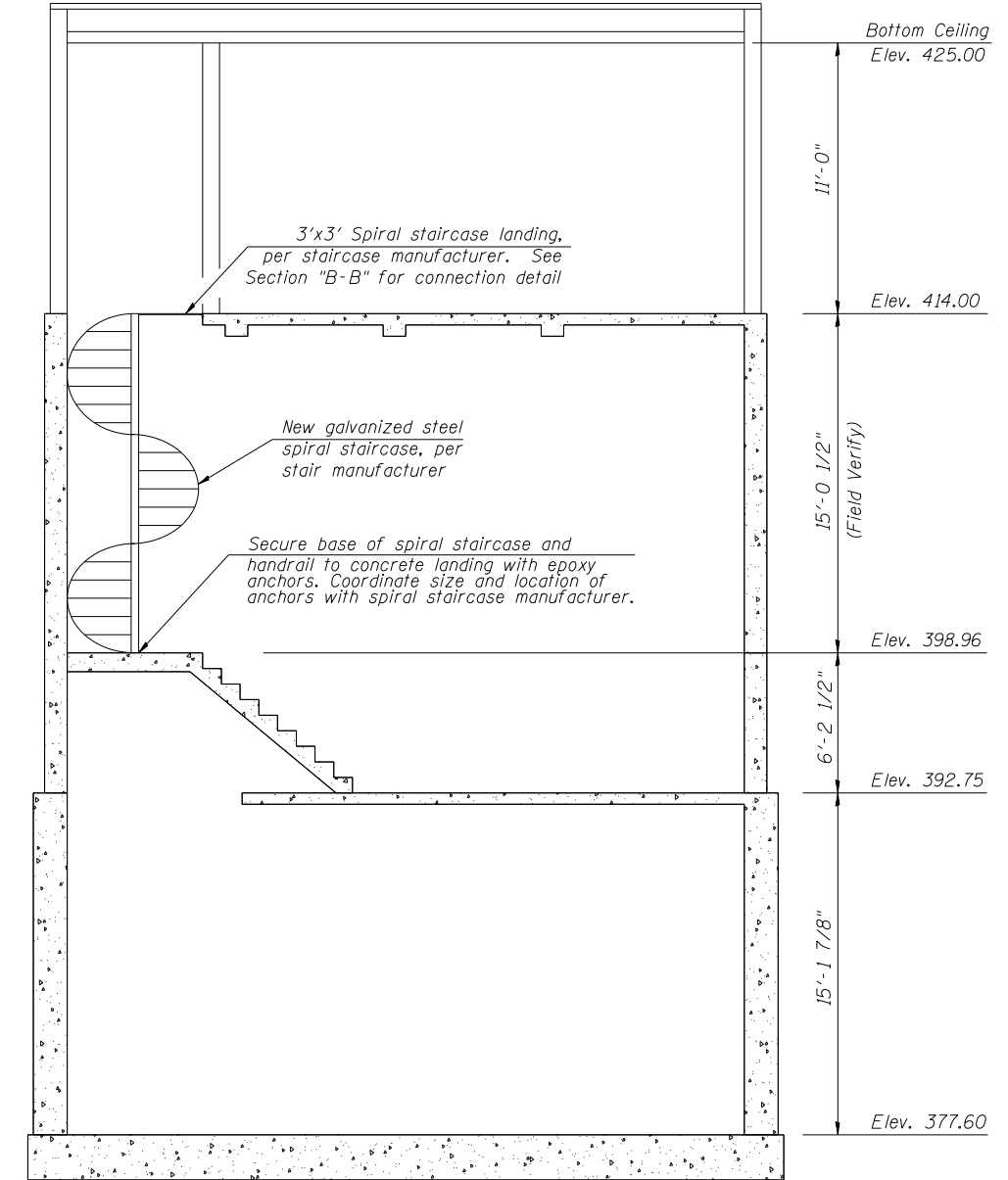


PLAN - ELEV. 414.00



NOTE:

1. The cost of the new spiral staircase shall be included in "Furnishing and Erecting Structural Steel, Special", see special provision.
2. New spiral staircase shall be hot dipped galvanized. see special provision.
3. Epoxy anchors shall follow Section 584 of the standard specifications.
4. See sheet 9 of 9 for Detail 1.
5. Contractor shall field verify 3' x 3' platform size at top of stairs to ensure proper fit.

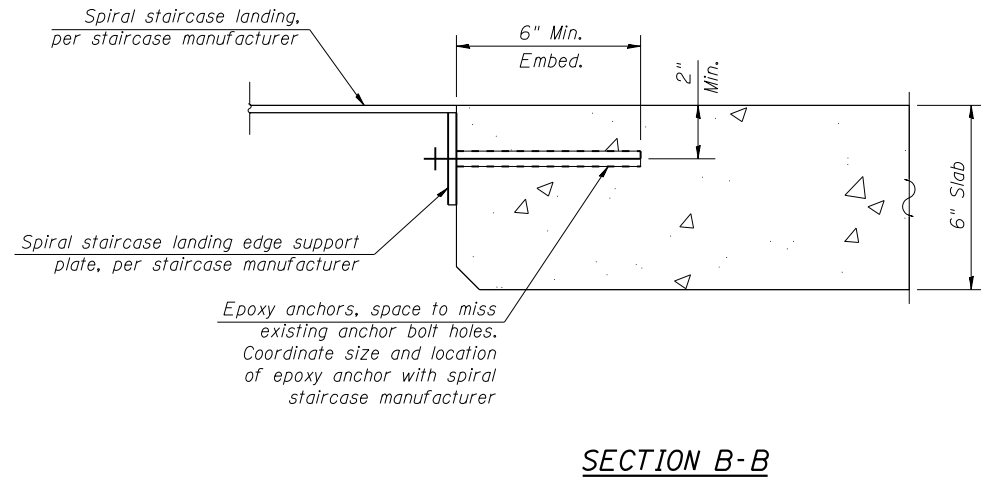
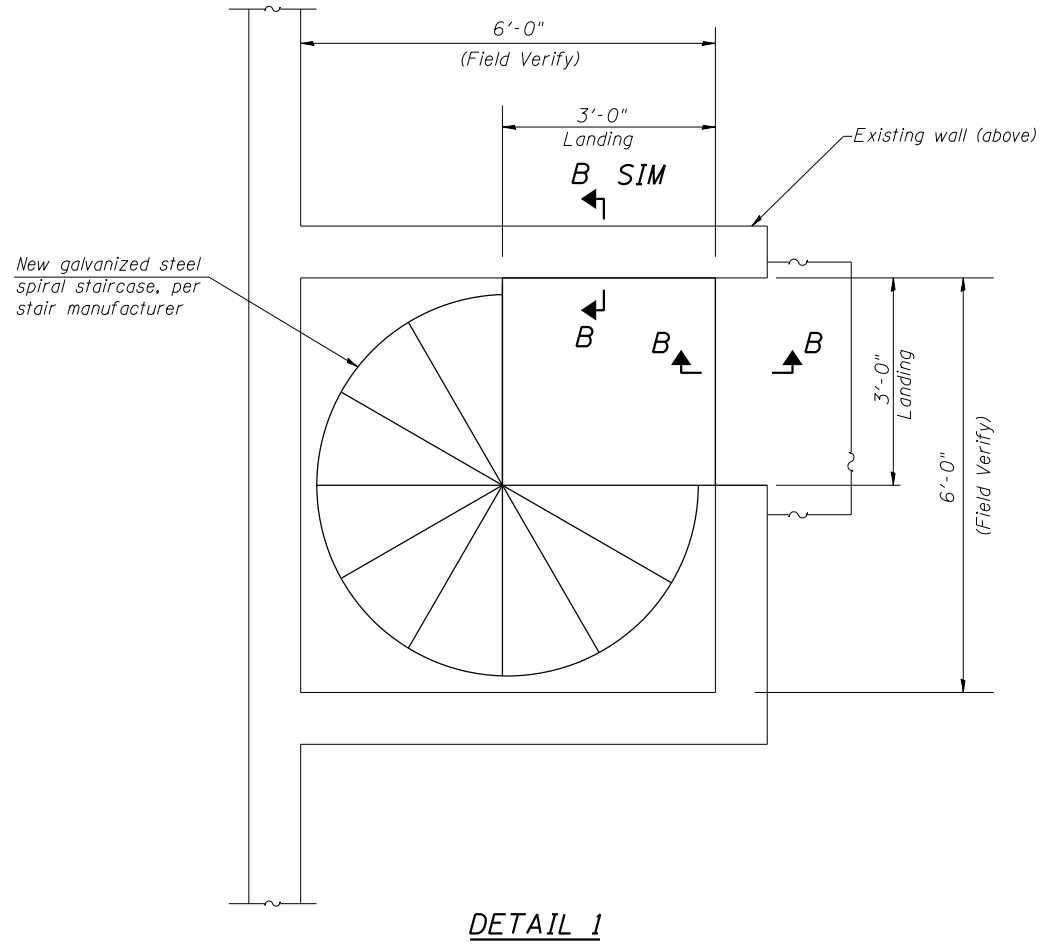


SECTION A-A

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PLOT DATE = 5/9/2017	CHECKED - ADL	REVISED -

25TH STREET PUMP STATION REHABILITATION PLAN AND ELEVATION	
SCALE: NONE	SHEET 1 OF 1 SHEET
STA.	TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	DIST 8 PS 2018-1	ST. CLAIR/MADISON	9	8
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ILLINOIS FED. AID PROJECT				



SECTION B-B

- NOTE:**
1. The cost of the new spiral staircase shall be included in "Furnishing and Erecting Structural Steel, Special", see special provision.
 2. New spiral staircase shall be hot dipped galvanized, see special provision.
 3. Epoxy anchors shall follow Section 584 of the standard specifications.
 4. Contractor shall field verify 3' x 3' platform size at top of stairs to ensure proper fit.
 5. Contractor shall verify the condition of the existing concrete at new anchor bolt locations and repair the concrete as required, prior to installing the new anchor bolts.

USER NAME = oms	DESIGNED - AMS	REVISED -
	CHECKED - ADL	REVISED -
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PLOT DATE = 5/9/2017	CHECKED - ADL	REVISED -