76645

FAI ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82–(1,2) T–17	ST. CLAIR	77	1

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4.	G3	SITE PLAN
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7.	DM1	DEMOLITION PLANS
8.	DM2	DEMOLITION PLANS
9.	DM3	DEMOLITION PLAN
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11.	A1	ELECTRICAL CONTROL /GENERATOR BLDG. ELEVATIONS
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20.	S3	STRUCTURAL PLANS (PUMP STATION)
21.	S4	STRUCTURAL SECTIONS (PUMP STATION AND SUPPORTS)
22.	S5	STRUCTURAL SECTIONS (PUMP STATION)
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24.	S7	OVERHEAD CRANE FRAMING PLAN
25.	S8	OVERHEAD CRANE FRAMING
26.	S9	OVERHEAD CRANE FRAMING
27.	S10	HOIST EXTENSION
28.	S11	RETAINING WALL
29.	S12	ELECTRICAL CONTROL /GENERATOR BLDG. PLANS
30.	S13	ELECTRICAL CONTROL /GENERATOR BLDG. SECTIONS
31.	S14	ELECTRICAL CONTROL /GENERATOR BLDG. SECT. & BAR SCHEDULE
32.	S15	ELECTRICAL CONTROL /GENERATOR BLDG., DETAILS
33.	S16	MISCELLANEOUS DETAILS
34.	M1	MECHANICAL PLANS
35.	M2	MECHANICAL PLANS
36.	M3	MECHANICAL PLAN
37.	M4	MECHANICAL SECTIONS
38.	M5	MECHANICAL SECTIONS
39.	M6	MECHANICAL SECTIONS
40.	M7	ELECTRICAL CONTROL /GENERATOR BLDG. PLANS & SECTIONS
41.	M8	MECHANICAL DETAILS
42.	M9	MECHANICAL EQUIPMENT SCHEDULE & PUMPING OPERATION ELEVATIONS
43.	E1	ELECTRICAL SYMBOL LIST
44.	E2	ELECTRICAL SITE PLAN
45.	E3	ELECTRICAL DEMOLITION PLANS SHEET 1
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47.	E5	ELECTRICAL DEMOLITION PLANS SHEET 3
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49.	E7	EXISTING ONE LINE DIAGRAM
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51.	E9	MCC ONE LINE DIAGRAMS
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53.	E11	PANEL BOARD SCHEDULES
54.	E12	MAIN PUMP NO. 1 CONTROL SCHEMATIC
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56.	E14	SUMP PUMP NO. 2 CONTROL SCHEMATIC
57.	E15	SUBMERSIBLE MIXER CONTROL SCHEMATIC
58.	E16	VENTILATION CONTROL SCHEMATIC
59.	E17	CONTROL PANEL SCHEMATIC SHEET 1
60.	E18	CONTROL PANEL SCHEMATIC SHEET 2
61.	E19	SCADA SYSTEM DIAGRAMS
62.	E20	POWER PLANS SHEET 1
63.	E21	POWER PLANS SHEET 2
64.	E22	POWER PLANS SHEET 3
65.	E23	POWER PLANS SHEET 4
66.	E24	LIGHTING PLANS SHEET 1
67.	E25	LIGHTING PLANS SHEET 2
68.	E26	LIGHTING PLANS SHEET 3
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72.	E30	CONTROL PANEL TERMINAL SCHEDULE
73.	E31	CONTROL PANEL EQUIPMENT LAYOUT
74.	E32	SCADA PANEL TERMINAL SCHEDULE
75.	E33	CONDUIT & CABLE SCHEDULE
76.	CP1	CATHODIC PROTECTION FOR PUMP DISCHARGE HEADERS
77.	CP2	CATHODIC PROTECTION DETAILS

CONTRACT NO. 76645

PROJECT ENGINEER: MICHAEL D. PRITCHETT (618) 346–3180

SQUAD LEADER: JOHN A. UEHLE (618) 346–3207

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

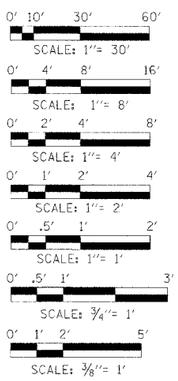
PLANS FOR PROPOSED
FEDERAL AID HIGHWAY
FAI ROUTE 70 (55/70)
SECTION 82–(1,2)T–17

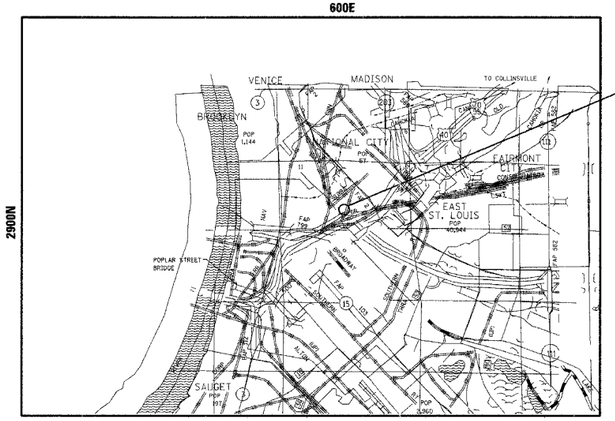
BOWMAN AVENUE
PUMP STATION REHABILITATION
ST. CLAIR COUNTY
C–98–026–03

D–98–020–03

LOCATION OF SECTION INDICATED THUS: –

BAR SCALES:





LOCATION MAP

NATALIN 81-3085 REGISTERED STRUCTURAL ENGINEER OF CHICAGO, ILLINOIS 9/7/05

IDOT STANDARDS

66001 CHAIN LINK FENCE

ADT
NOT APPLICABLE

DESIGN DESIGNATION
INTERSTATE

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 BAR SCALES MAY BE USED.

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

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED Sept 13 20 05
Mary C. Barnes
DISTRICT ENGINEER

October 14, 20 05
Mike Hine
ENGINEER OF DESIGN AND ENVIRONMENT

October 14, 20 05
Eric E. Harm
DEPUTY DIRECTOR, DIVISION OF HIGHWAYS

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS 2005 CHICAGO

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

PLOT DATE: *DATE-TIME*

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2) T-17	ST. CLAIR	77	2
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

SUMMARY OF QUANTITIES

	CODE NO.	ITEM	UNIT	TOTAL QUANTITY URBAN	CONSTRUCTION TYPE CODE Y007	
	50102400	CONCRETE REMOVAL	CU YD	25	25	
	50200100	STRUCTURE EXCAVATION	CU YD	500	500	
	50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	45,000	45,000	
	50800105	REINFORCEMENT BARS	POUND	20,002	20,002	
	50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	23,722	23,722	
	66400570	CHAIN LINK FENCE, 8' (SPECIAL)	FOOT	300	300	
	66411200	CHAIN LINK FENCE, WITH PRIVACY SLATES, 10'	FOOT	600	600	
	66409400	CHAIN LINK GATES, 8'x12' DOUBLE	EACH	1	1	
	X0325162	CHAIN LINK CANTILEVER SLIDE GATE, 8'x20'	EACH	1	1	
	67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	24	24	
	67100100	MOBILIZATION	L SUM	1	1	
	X0301028	PUMP STATION SCADA EQUIPMENT	L SUM	1	1	
	X0335700	PUMP STATION GENERAL WORK	L SUM	1	1	
	X0783300	PUMP STATION ELECTRICAL WORK	L SUM	1	1	
	X0783500	PUMP STATION MECHANICAL WORK	L SUM	1	1	
	X8040305	ELECTRIC SERVICE CONNECTION	L SUM	1	1	
	XX002909	CLASS SI CONCRETE	CU YD	285	285	
*	Z0008224	DRILLED SHAFT IN SOIL 24"	FOOT	28	28	
	~~Z0078600~~	~~TRAINEES~~	~~HOUR~~	~~500~~	~~500~~	
*	X0325156	REMOVAL AND DISPOSAL OF LEAD BASED PAINT	SQ FT	2,580	2,580	
	X0325158	COMPLETE SPARE SUMP PUMP ASSEMBLY	EACH	1	1	
	X0325157	CATHODIC PROTECTION FOR PUMP DISCHARGE HEADERS	L SUM	1	1	
*	66900200	NON-SPECIAL WASTE DISPOSAL	CU YD	130	130	
*	66900450	SPECIAL WASTE PLANS AND REPORTS	L SUM	1	1	
*	X0325160	PCB TRANSFORMER OIL DISPOSAL	GALLONS	300	300	
*	X0325161	TRANSFORMER OIL DISPOSAL	GALLONS	300	300	
*	X0325159	PCB TRANSFORMER OIL ANALYSIS	EACH	5	5	
*	66900530	SOIL DISPOSAL ANALYSIS	EACH	1	1	

* SPECIALTY ITEMS

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

G1

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

SUMMARY OF QUANTITIES

SCALE: NONE DRAWN BY: CM

DATE: 09-12-05 CHECKED BY: KC

Rev.

DATE *DATE-TIME* *SIGN-SPEC* *REF *REF

PLOT DATE: *DATE-TIME*

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2) T-17	ST. CLAIR	77	3
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

GENERAL NOTES

1. THE CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS, SITE ACCESS, POWER SUPPLY AND OTHER ITEMS THAT AFFECT THE CONTRACT AND THE CONSTRUCTION OF THE IMPROVEMENT.

2. PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING STRUCTURE 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 OF MATERIALS, SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION OR A CHANGE IN THE SCOPE OF THE WORK.

   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 FOLLOW:

   - AMERENIP (GAS)
   - AMEREN UE (ELECTRIC)
   - ILLINOIS AMERICAN WATER COMPANY (WATER)
   - McLEOD USA TELECOMMUNICATIONS, INC. (COMMUNICATIONS)
   - QWEST COMMUNICATIONS (COMMUNICATIONS)
   - SBC (COMMUNICATIONS)

   • MEMBERS OF JOINT UTILITY LOCATING INFORMATION FOR EXCAVATORS (J.U.L.I.E.) THE J.U.L.I.E. SYSTEM PHONE NUMBER IS 1800-892-0123. NON-J.U.L.I.E. MEMBERS MUST BE NOTIFIED INDIVIDUALLY.

3. THE LOCATIONS OF UNDERGROUND UTILITIES AS SHOWN ON THESE PLANS HAVE BEEN OBTAINED BY FIELD SURVEYS AND SEARCHES OF AVAILABLE RECORDS. IT IS BELIEVED THAT THIS DATA IS ESSENTIALLY CORRECT, BUT THE DEPARTMENT AND OTHERS ASSOCIATED WITH THESE PLANS DO NOT GUARANTEE THEIR ACCURACY OR COMPLETENESS. THE CONTRACTOR WILL BE REQUIRED TO VERIFY THE EXACT LOCATION OF EACH FACILITY WITH THE UTILITY COMPANY WHEN THE POTENTIAL EXISTS FOR INVOLVEMENT AND SHALL TAKE DUE CARE IN ALL PHASES OF THE CONSTRUCTION TO PROTECT ANY SUCH FACILITIES WHICH MAY BE AFFECTED BY THE WORK. ANY DAMAGES TO THE UTILITIES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

4. ALL MECHANICAL AND ELECTRICAL EQUIPMENT REMOVED, EXCEPT THE SALVAGE ITEMS AS SPECIFIED IN SUBSECTION 2.1.1 OF SECTION 2B, SHALL BECOME THE PROPERTY OF CONTRACTOR. IT SHALL BE THE THE CONTRACTOR'S RESPONSIBILITY TO REMOVE AND DISPOSE OF SAME. CONTRACTOR SHALL COORDINATE WITH DISTRICT 8 FOR ALL EQUIPMENT TO BE REMOVED.

5. IN GENERAL, PRIOR TO CUTTING OPENINGS IN THE EXISTING REINFORCED CONCRETE SLABS AND WALLS, THE CONTRACTOR SHALL IDENTIFY EXACT LOCATIONS OF MAIN REINFORCING BARS (REBAR DETECTOR OR OTHER APPROVED PROCEDURE). THE CONTRACTOR SHALL RECEIVE APPROVAL FROM THE ENGINEER PRIOR TO CUTTING REINFORCED CONCRETE.

6. THE CONTRACTOR SHALL COMPLY WITH APPLICABLE OSHA. REGULATIONS WHILE AT THE CONSTRUCTION SITE.

7. ALL EXPOSED CONCRETE CORNERS SHALL BE CHAMFERED ¾" EXCEPT AT SIDEWALKS AND CURBS WHERE ROUNDED CORNERS ARE REQUIRED.

8. CLASS SI, CONCRETE SHALL BE USED THROUGHOUT.

10. REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31, M-42 OR M322 GRADE 60.

11. FOR BACKFILLING AND COMPACTION SEE STANDARD SPECIFICATIONS.

12. STRUCTURAL DESIGN DATA:

    REINFORCING STEEL fy = 60,000 psi
    CONCRETE f'c = 3,500psi 14 DAYS
    STRUCTURAL STEEL fy = 36.0 ksi

    MINIMUM SLAB AND STAIR LIVE LOADING = 100 psf
    MINIMUM ROOF LIVE LOADING = 25 psf

13. UNLESS OTHERWISE INDICATED ALL ITEMS AND WORK SHOWN ON THESE SHEETS ARE PROPOSED NEW ITEMS AND WORK.

14. THE EXISTING PUMP STATION FACILITY SHALL REMAIN IN CONTINUOUS OPERATION DURING CONSTRUCTION. ONLY ONE PUMP MAY BE REMOVED FROM SERVICE AT A TIME. THE MINIMUM PUMPING CAPACITY OF THE EXISTING STATION MUST BE MAINTAINED AT ALL TIMES IS 68,700 gpm.

15. NOTE THAT DURING CONSTRUCTION THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE PUMPING STATION. SHORT-TERM SHUTDOWN WILL BE PERMMITED WITH SPECIFIC WRITTEN PERMISSION (SEE SPECIFICATIONS).

16. COORDINATE EXACT LOCATION OF ALL MAJOR COMPONENTS, WITH THE ENGINEER, BEFORE INSTALLATION.

17. ANY SITE AREA DISTURBED BY CONSTRUCTION SHALL BE RESTORED TO ITS ORIGINAL CONDITION BY THE CONTRACTOR, TO THE SATISFACTION OF THE ENGINEER, AT NO ADDITIONAL COST TO THE STATE.

18. ALL SHOP DRAWINGS, MATERIAL SAMPLES ETC. MUST BE SUBMITTED AND APPROVED BY THE ENGINEER BEFORE INSTALLATION.

19. ALL CONCRETE CONSTRUCTION JOINTS BETWEEN NEW AND EXISTING CONCRETE SHOWN ON THE PLANS OR ADDED BY THE CONTRACTOR SHALL BE BONDED CONSTRUCTION JOINTS. (SEE SPECIAL PROVISIONS)

20. CRUSHED SLAG SHALL NOT BE USED AS AN AGGREGATE MATERIAL.

21. CONTACT INFORMATION:

    AMEREN-UE
    500 EAST BROADWAY
    MC ES 830
    EAST ST. LOUIS, IL 62201
    ATTN: JOE ROBERTSON, DISTRICT ENGINEER
    (618) 482 2238

THE AUTOMATIC TRANSFER SWITCH, AS SHOWN ON THE PLANS, WAS REPLACED IN SEPT. 2005.

DEMOLITION OF THIS NEW SWITCH WILL BE PAID FOR UNDER THE CONTRACT LUMP SUM PRICE FOR PUMP STATION ELECTRICAL WORK.

THE AUTOMATIC TRANSFER SWITCH SHALL BE INCLUDED IN THE LIST OF ITEMS TO BE SALVAGED AS FOUND IN THE SPECIAL PROVISIONS, SECTION 2B, 2.1.1 SALVAGE ITEMS.

COMMITMENTS

IF ARCHAEOLOGICAL CLEARANCE HAS NOT BEEN OBTAINED FOR THE ENTIRE PROJECT, THE RESIDENT ENGINEER SHALL PROVIDE THE CONTRACTOR THOSE AREAS OF THE PROJECT WHICH HAVE BEEN CLEARED, AND IN WHICH THE CONTRACTOR MAY WORK. THE RESIDENT ENGINEER SHALL ALSO NOTIFY THE CONTRACTOR WHEN ADDITIONAL SITES BECOME AVAILABLE.

SYMBOLS AND ABBREVIATIONS

GENERAL

DWG.	DRAWING
OPN'G	OPENING
TYP.	TYPICAL
T	TOP
EL.	ELEVATION
H.P.	HIGH POINT
L.P.	LOW POINT
CONC.	CONCRETE
RCP	REINFORCED CONCRETE PIPE
HDPE	HIGH DENSITY POLYETHYLENE PIPE

MECHANICAL

SWP	STORM WATER PUMP
SSP	STATION SUMP PUMP
FWP	FLUSH WATER PUMP
DP	DEWATERING PUMP
SM	SUBMERSIBLE MIXER
HM	HOIST MOTOR
TM	TROLLEY MOTOR
SW	STILLING WELL
℄	CENTER LINE
SF	SUPPLY FAN
EF	EXHAUST FAN
EUH	ELECTRIC UNIT HEATER
O.A.I.	OUTSIDE AIR INTAKE
DM	DAMPER MOTOR
DN	DOWN
A.F.F.	ABOVE FINISH FLOOR
B/D	BOTTOM DUCT
SR	SUPPLY DIFFUSER
MAX	MAXIMUM
MIN	MINIMUM
W.L.	WATER LEVEL
AHU	AIR HANDLING UNIT
Ⓣ	THERMOSTAT
	FLAPPER CHECK VALVE
	DOUBLE DOOR CHECK VALVE
	SOLID MASONRY BLOCK OR BRICK INFILL, MATCH EXISTING WALL

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

G2

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

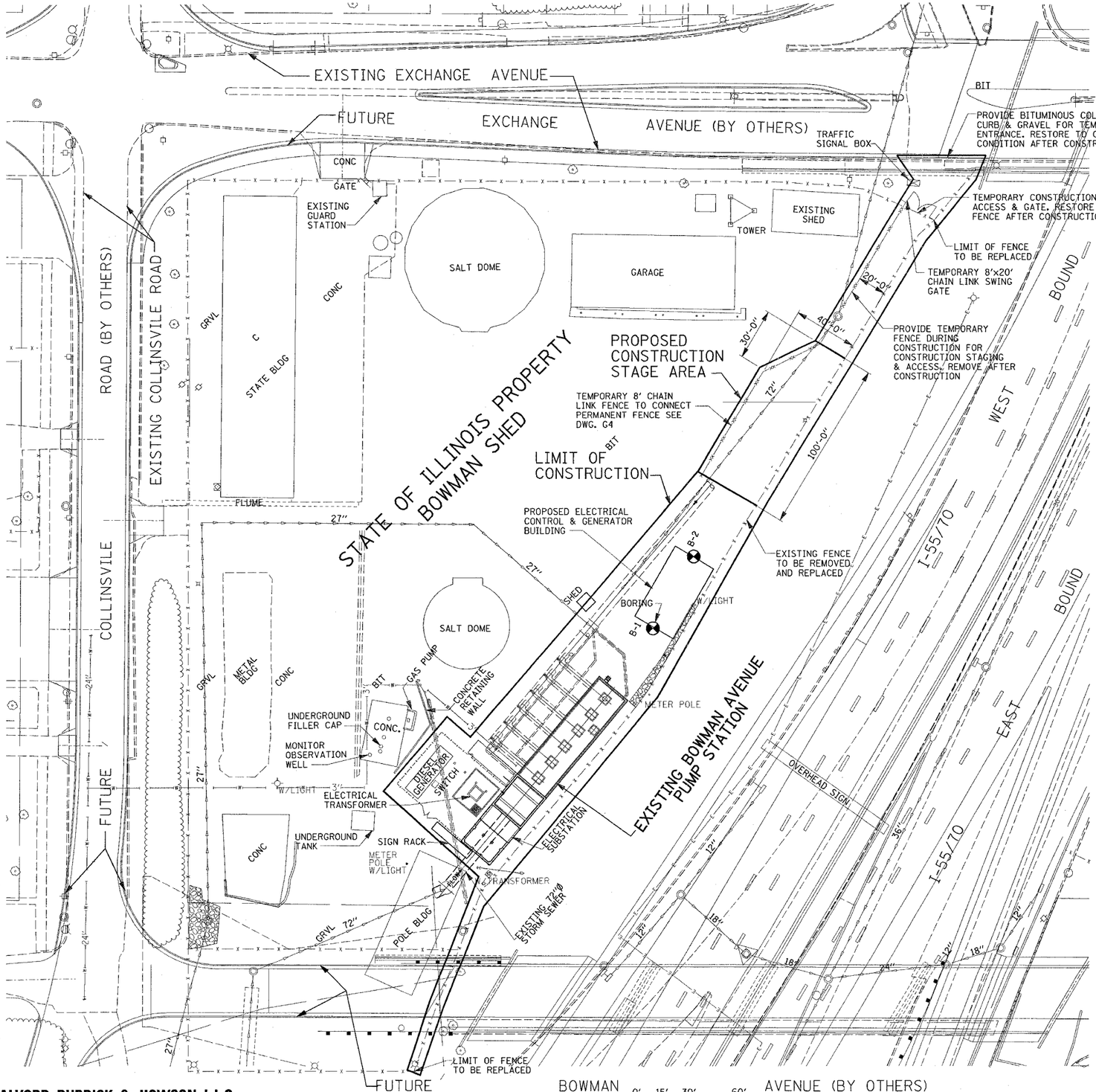
GENERAL NOTES

SCALE: NONE DRAWN BY: CM
DATE: 09-12-05 CHECKED BY: KC

PLOT DATE: •DATE-TIME•

•$DATE$•
•$TIME$•
•NON-SPEC•
•REF
•REF

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	4
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



SITE PLAN

SCALE: 1"= 30'-0"

0' 15' 30' 60'

SOIL BORING LOG

LOG OF BORING B-1

Ground Surface Elev. Ft. 418.5 ft.

	DEPTH (ft.)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Brown Fine to Coarse SAND		5		
		4		4
		4	NC	
Brown Silty LOAM	-5	3		
		5	2.1	23
		6	S/20	
		3		
		3	1.8	20
		5	S/10	
	-10	2		
		3	1.5	18
		5	S/10	
		2		
		3	1.3	19
		5	S/10	
	-15	1		
		1	0.9	34
		2	S/20	
		2		
Brown Silty CLAY		2	1.6	34
		2	S/20	
	-20	2		
		5	1.6	36
		10	S/20	
End of Boring				

LOG OF BORING B-2

Ground Surface Elev. Ft. 418.5 ft.

	DEPTH (ft.)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Brown Silty CLAY		3		
		5	1.8	22
		7	S/10	
Brown Clay LOAM	-5	2		
		3	1.8	19
		4	P	
Brown Coarse to Fine SAND		1		
		1		4
		3	NC	
	-10	1		
		1		3
		1	NC	
		0		
		1		3
		1	NC	
	-15	1		
Brown Silty CLAY		1		
		3	2.1	31
		3	S/20	
		1		
		5	1.8	38
		9	S/20	
Brown Coarse to Fine SAND	-20	5		
		9		7
		10	NC	
End of Boring				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, s-Shear, p-Penetrometer) The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

LEGEND:

- TEMPORARY CHAIN LINK FENCE
- EXISTING CHAIN LINK FENCE
- EXISTING UNDERGROUND ELECTRICAL SERVICE
- EXISTING STORM SEWER
- EXISTING WATER LINE
- LIMIT OF CONSRUCTION

NOTES:

1. FUTURE BOWMAN AVENUE, COLLINSVILLE ROAD AND EXCHANGE AVENUE ROADWAY IMPROVEMENTS BY OTHERS.
2. FOR PROPOSED ENLARGED SITE PLAN, SEE DWG. G4
3. FOR PROPOSED CHAIN LINK FENCE, SEE DWG. G4

PLAN | SURVEYED | DATE | BY | ALIGNMENT CHECKED | ETC. | NOTE BOOK | R/W CHECKED | NO. | CADD FILE NAME

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

G3

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

EXISTING SITE PLAN

SCALE: AS SHOWN DRAWN BY: CTM

DATE: 09-12-05 CHECKED BY: KC

PLOT DATE: •DATE-TIME•

$$DATE$$
•DATE-TIME•
•DGN-SPEC•
•WSE•
•REF•

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	5
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

PLAN	BY	DATE
SURVEYED		
PLOTTED		
DRAWN / CHECKED		
NOTE BOOK		
RT. OF WAY CHECKED		
NO.		
ROAD FILE NAME		

EXISTING UNDERGROUND FILLER CAP
EXISTING MONITOR OBSERVATION WELL
LID
CONC.
EXISTING GAS PUMP
EXISTING SALT DOME
EXISTING CONCRETE RETAINING WALL
EXISTING 3"ø WATER SERVICE LINE
EXISTING 27"ø GROUND WATER WELLS DISCHARGE
8'x12' CHAIN LINK SWING GATE
9'-6"x30'-0" RAMP
83'-8" (EXISTING CONCRETE TRENCH)
9'-0"
℄ EXISTING 72"ø DISCHARGE HEADER ENCASED IN CONCRETE
EXISTING 12"ø VENT (TYP.)
EXISTING CONCRETE BARRIER
EXISTING 21" STORM & SANITARY SEWER
BUILD UP GRADE ON BOTH SIDES OF RAMP WITH GRAVEL SURFACE COURSE TO MATCH EXISTING SURFACE
CONC. RAMP SEE DET. DWG. S13
PIPE BOLLARD (TYP.)
EXISTING ℄ 24"ø DISCHARGE HEADER
EXISTING 10"ø HDPE DEWATERING PUMP DISCHARGE PIPE
EXISTING DISCHARGE CHAMBER
T/CONC. EL. 421.17.
T/EL. VARIES.
SLOPE 10:1
EXISTING BENCH MARK DATUM EL.420.70
EXISTING 36"ø DISCHARGE PIPE (TYP.)
EXISTING 16"ø SUMP PUMP SSP-1 DISCHARGE PIPE.
SIGN RACK TO BE RELOCATED BY DISTRICT 8
TOP OF STOOP ELEV. 4" BELOW PUMP STATION FLOOR
10% SLOPE
EL.421.17±
PIPE BOLLARD (TYP.)
T/SLAB L.P. EL. 420.0
4'x4' ROOF SCUTTLE & OPN'G FOR SUMP PUMP SSP-1
EXISTING CONC. CURB T/EL. 421.17
ROOF STAIR ACCESS
EXISTING 72"ø STORM SEWER
EXISTING PUMP STATION SUPERSTRUCTURE
℄ SWP-1
℄ SWP-2
℄ SWP-3
℄ SWP-4
℄ SWP-5
℄ SWP-6
CONCRETE T/CONC. EL. 421.5
FLOW
8'-0"
1½" DIA. PIPE RAIL, SEE DET. DWG S16
T/SLAB H.P. EL. 420.50
T/CURB EL. 422.0
℄ EXISTING ROOF SCUTTLE & OPENING
REMOVABLE RAILING
T/COPING EL. 438.0
4'x4' ROOF SCUTTLE & OPN'G FOR DEWATERING PUMP
REMOVE & REPLACE EXISTING CHAIN LINK FENCE, TYP. SEE DWG. S7 TO S11
TRANSFORMER
4'-6"
23'-3" (EXISTING SUPERSTRUCTURE)
74'-0" (EXISTING PUMP STATION)
35'-3"
44'-10"
46'-5"
9'-8"
RETAINING WALL w/RAILING
EXISTING OVERHEAD POLE
1 CU. YD., 1' DEEP STONE RIPRAP
10' CHAIN LINK FENCE w/3 STRANDS BARB WIRE REPLACE ENTIRE LENGTH OF FENCE ALONG SOUTH BOUNDARY FROM BOWMAN AV. TO EXCHANGE AV. SEE G3 FOR THE LIMIT OF FENCE REPLACEMENT
EIXISTING CONCRETE WALL OF OLD ELECTRICAL SUBSTATION, FILL AREA WITHIN WALLS WITH COMPACTED CAG TO TOP OF WALLS OR GRAVEL SURFACE COURSE TO MATCH EXISTING SURFACE

ENLARGED SITE PLAN-EL. 422.0

RIM EL.418.0
24"
22¾"
CATCH BASIN FRAME & CONVEX GRATE NEENAH R-2296 & R-2577
7"
8"
2'-6"
4'-0"
6"
RUNGS ø 12" TO 16" O.C.
2" RADIUS
12"ø OUTLET PIPE INV. EL. 415.15
5"
4'-0"
5"
48" DIA. PRECAST CONCRETE SECTION
REINFORCED CONCRETE BASE CAST AS INTEGRAL PARTOF 48" DIA. PRECAST CONCRETE SECTION
6" MIN. CA6 GRANULAR MATERIAL

CATCH BASIN TYPE A

NOT TO SCALE

N

EXISTING SHED TO BE REMOVED BY DISTRICT 8
8'x20' CHAIN LINK CANTILEVER SLIDE GATE
8' CHAIN LINK FENCE
8'x12' CHAIN LINK SWING GATE
TEMPORARY FENCE, SEE SHEET G3
PRECAST CONCRETE PADS, STOCK. NO. 12 06 071 AS MANUF. BY AMEREN UE., 6'-0"x7'-0"x0'-8" COORDINATE WITH ELECT. TRANSFORMER EQUIPMENT, SEE G5
℄ EXISTING 72"ø RCP OUTLET SEWER
FLOW
1½"ø WATER LINE
9'-0"x4'-0" CONC. STOOP SEE DET. DWG S13
4" DIA. STEEL PIPE BOLLARD (TYP.)
YARD HYDRANT
5'-0"x4'-0" CONC. STOOP (4-TYP.)
15'-0"x4'-0" CONC. STOOP
T/CONC. EL. 419.75
ELECTRICAL CONTROL / GENERATOR BUILDING
47'-2"
TRANSFORMERS
5'-0"x4'-0" CONC. STOOP SEE DET. DWG S13
CATCH BASIN TYPE A RIM EL. 418.0
FRAME FOR 3 T OVERHEAD CRANE
EXISTING 20" VENT STACK
EXISTING ROOF OPENINGS
12" DIA. STORM SEWER
12" DIA. STORM SEWER INV. EL.415
EXISTING LIGHT POLE TO BE REMOVED
EXISTING LIGHT POLE TO BE REMOVED
10' CHAIN LINK FENCE w/3 STRANDS BARB WIRE
NEW RETAINING WALL w/RAILING, SEE DWG. S7 TO S11
PIPE BOLLARD SEE DET. DWG. G5 (TYP.)
417.50
410

NOTES;

1. FOR STRUCTURAL & MECHANICAL DEMOLITION PLAN, SEE DM1 THROUGH DM4 DWG.
2. FOR ELECTRICAL DEMOLITION PLANS, SEE DM3 AND E3 THRU E6 DWGS.
3. CONTOUR ELEVATIONS AND NEW BUILDING ELEVATIONS ARE BASED ON BENCH MARK DATUM.
4. EXISTING PUMP STATION AND DISCHARGE CHAMBER ELEVATIONS ARE BASED ON ORIGINAL DESIGN DRAWING ELEVATIONS. SUBTRACT 0.47 FEET FROM PUMP STATION STRUCTURE ELEVATIONS TO CONVERT TO BENCH MARK DATUM ELEVATION. THE PROPOSED ELEVATIONS, SUCH AS CONTOUR LINE AND FINISHED FLOOR ELEVATION OF ELECTRICAL CONTROL GENERATOR BUILDING ARE TAKEN FROM BENCH MARK ELEVATION 420.70.
5. FOR YARD HYDRANT DETAIL, SEE DWG. G5
6. FOR TRANSFORMER FOUNDATION DETAIL, SEE DWG. G5
7. FOR CONCRETE RAMP AND STOOP, SEE DWG S13 AND A2.
8. FOR BOLLARD LOCATION SEE DWG A2 AND S7.

LEGEND:

NEW CHAIN LINK FENCE
TEMPORARY CHAIN LINK FENCE
NEW WATER LINE

0' 4' 8' 16'
SCALE: 1"= 8'

BENCH MARK:

A BRONZE DISK BENCH MARK IS LOCATED 40 FEET EAST OF THE NORTHEAST CORNER OF THE EXISTING PUMP STATION BUILDING ALONG THE NORTH WALL OF THE PUMP STATION. THIS BENCH MARK HAS DATUM ELEVATION OF 420.70.

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ENGINEERS CHICAGO

G4

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

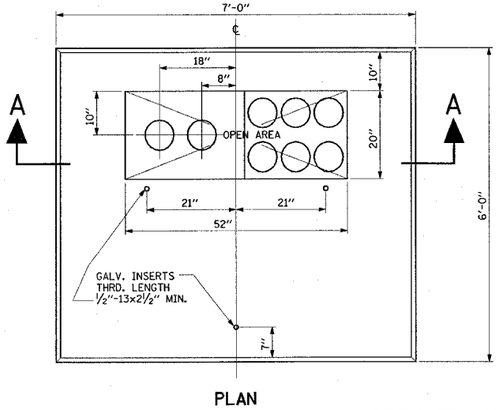
PROPOSED SITE PLAN

SCALE: AS SHOWN
DATE: 09-12-05
DRAWN BY: CTM
CHECKED BY: KC

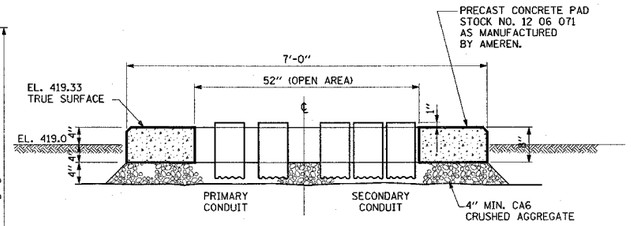
PLOT DATE: *DATE-TIME*

*@@DATE@@
DATE-TIME
DGN-SPEC
REF
REF

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	6
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



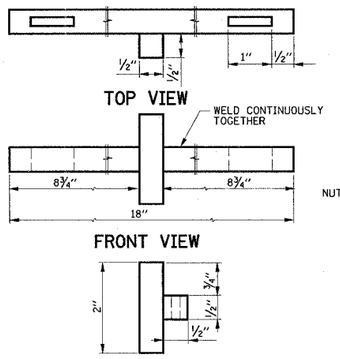
PLAN



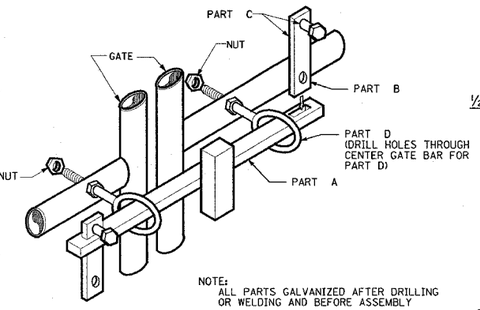
SECTION A-A

AMEREN TRANSFORMER FOUNDATION

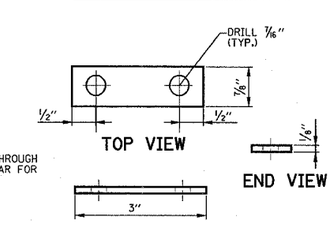
NOT TO SCALE



PART A



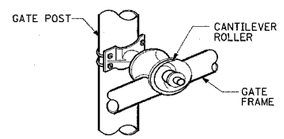
NOTE:
ALL PARTS GALVANIZED AFTER DRILLING OR WELDING AND BEFORE ASSEMBLY



PART B

PART C IS FABRICATED THE SAME WITH A BOLT INTO EACH HOLE

PART C

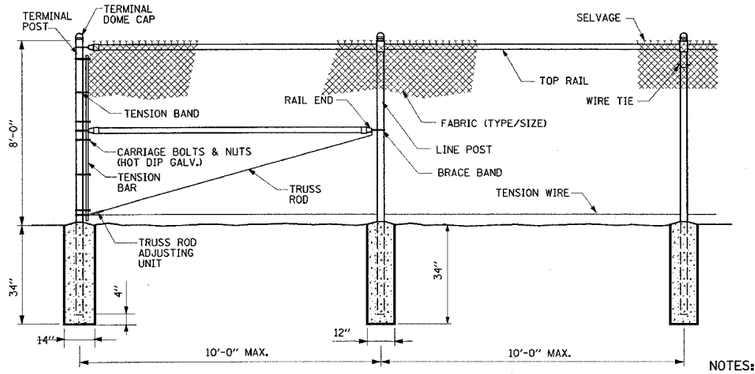


CANTILEVER ROLLER ASSEMBLY (4 REQ'D)

NOT TO SCALE

SWING GATE LOCKING DEVICE

NOT TO SCALE

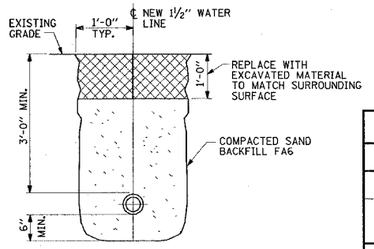


FENCE DETAIL

NOT TO SCALE

NOTES:

1. 10' HIGH FENCE SHALL CONSIST OF 9' HIGH CHAIN LINK FENCE WITH 2" MESH COLORED PVC PRIVACY SLATE PLUS 1' OF THREE STRANDS OF BARB WIRE.
2. FOR SWING GATE DETAIL, SEE IDOT STANDARDS 664001.
3. NO CONCRETE BASE IS REQUIRE FOR TEMPRARY CONSTRUCTION CHAIN LINK FENCE.

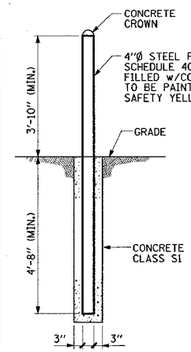


TYPICAL TRENCH DETAIL FOR WATER SERVICE LINE

FENCE SPECIFICATIONS			
FABRIC	MESH	GAUGE	SELVAGE
ALUM.	2"	9	K+B
BARBED WIRE	TYPE 4 PT.	3 STR. ☒	6 STR.. ☐
FRMWRK.	O.D.	WALL	LBS/LF
TOP RAIL	1⅝"	.140	2.27
LINE POSTS	2⅜"	.154	3.65
BRACE RAIL	1⅝"	.140	2.27
CORNER POSTS	2⅞"	.203	5.79
END POSTS	2⅞"	.203	5.79

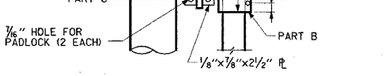
NOTES:

1. ALL MATERIALS SHALL BE HOT DIP GALVANIZED
2. ALL FITTINGS SHALL BE PRESSED STEEL.

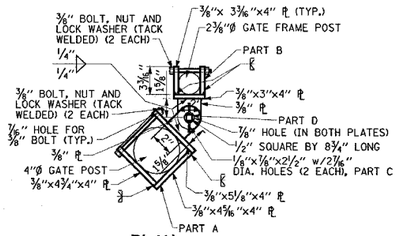


BOLLARD DETAIL

NOT TO SCALE



ELEVATION



PLAN

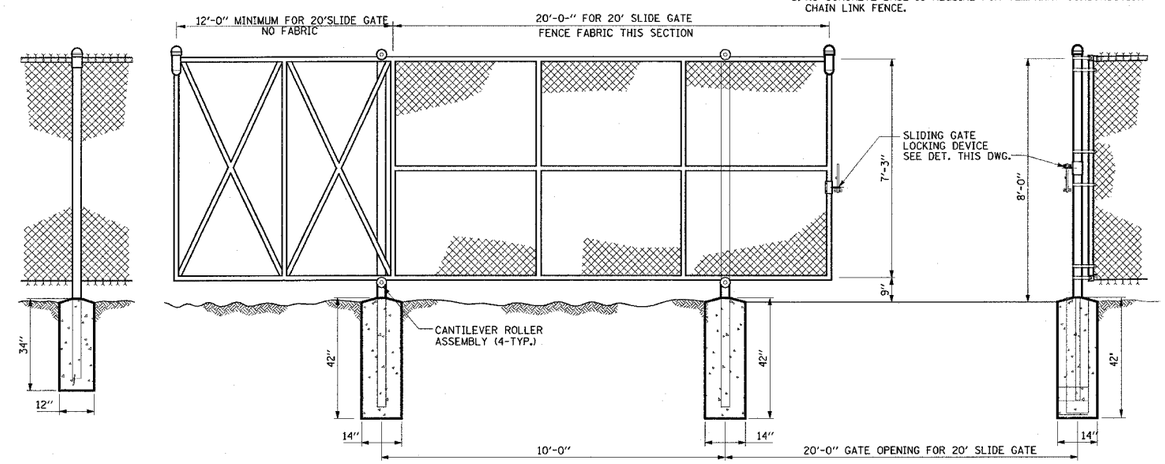
NOT TO SCALE

NOTES:

LOCKING DEVICE SHALL BE GALVANIZED STEEL IN ACCORDANCE WITH ASTM A123-97

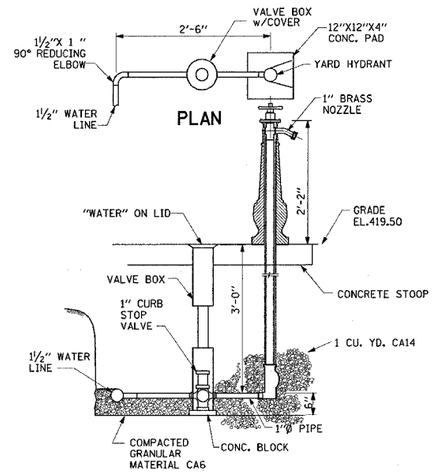
SLIDE GATE LOCKING DEVICE

NOT TO SCALE



CANTILEVER SLIDE GATE

NOT TO SCALE



YARD HYDRANT DETAIL

NOT TO SCALE

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ENGINEERS CHICAGO

G5

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

DETAILS

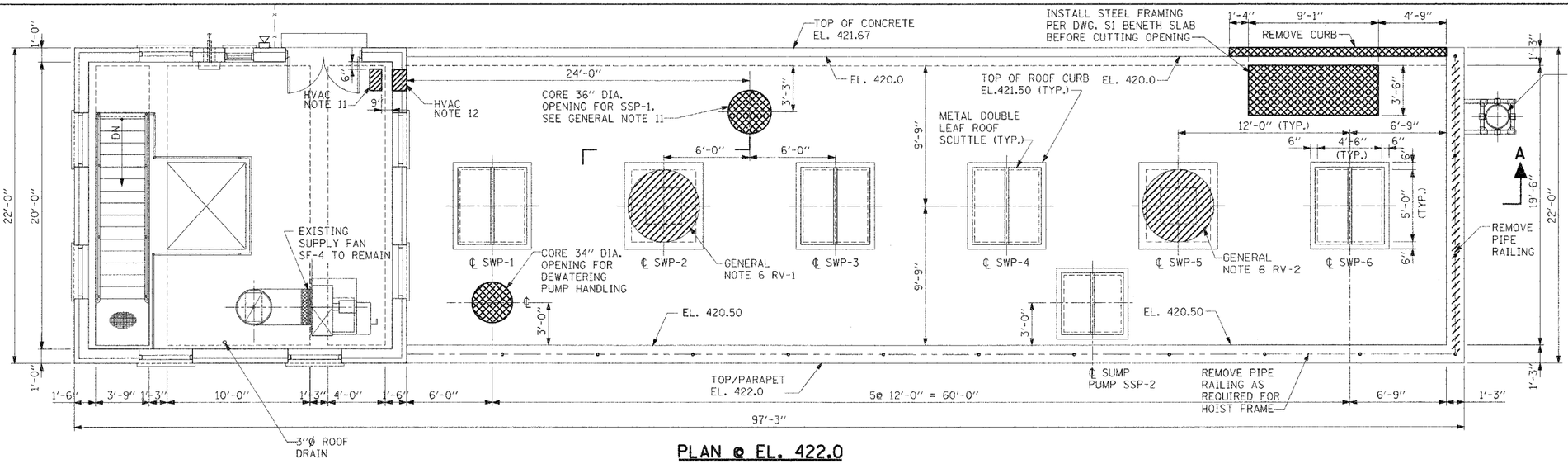
SCALE: AS SHOWN — DRAWN BY: CM
DATE: 09-12-05 — CHECKED BY: KC

PLOT DATE: *DATE-TIME*

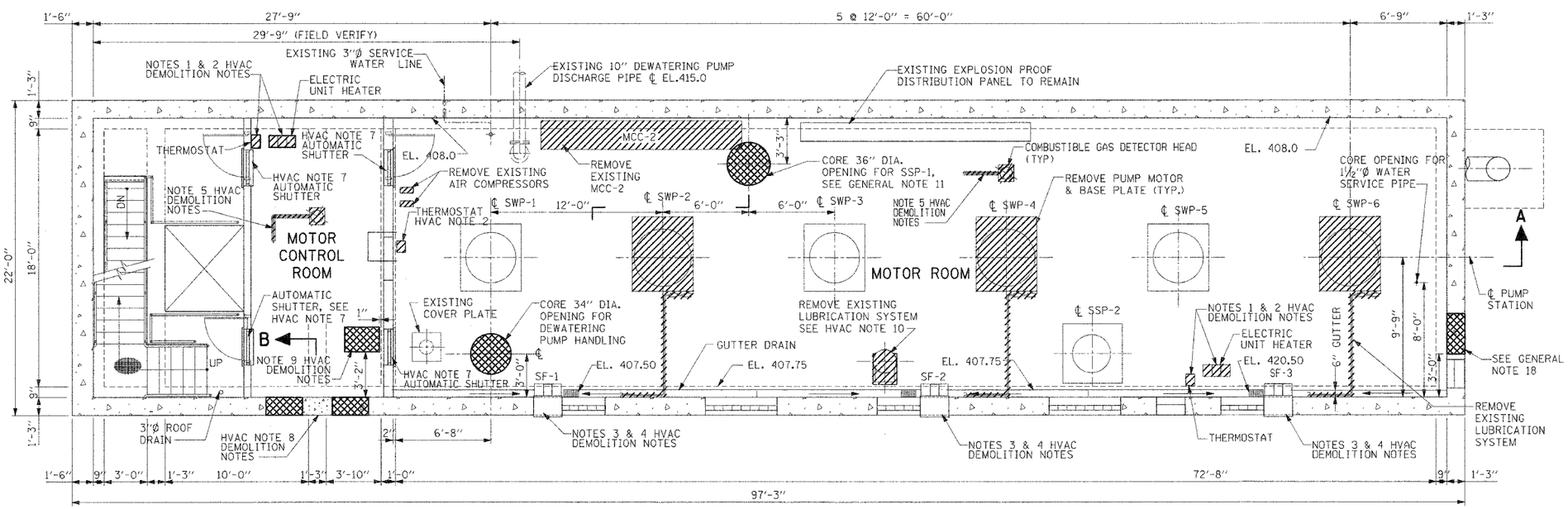
PLAN
SURVEYED BY
DRAWN BY
ALIGNMENT CHECKED BY
NOTE BOOK
STAGE PLANS CHECKED BY
NO.
DATE
BY

*$$DATE$$
DATE-TIME
DGN-SPEC
*REF-
*REF-

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	7
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



PLAN @ EL. 422.0



(SEE SHEET 9) B

PLAN @ EL. 408.0

HVAC DEMOLITION NOTES:

1. DISCONNECT AND REMOVE EXISTING UNIT HEATER, UNIT HEATER SUPPORT, CONDUIT AND WIRE.
2. DISCONNECT AND REMOVE EXISTING THERMOSTAT, CONDUIT AND WIRE.
3. TEST FANS SF-1, SF-2 AND SF-3 BEFORE REMOVAL. IF SF-2 IS PROVEN OPERABLE, PROVIDE WRITTEN STATEMENT THAT SF-2 IS IN SATISFACTORY CONDITION. STORE SF-2 IN A CLEAN, DRY AND PROTECTED AREA UNTIL RE-INSTALLED.
4. DISCONNECT AND REMOVE EXISTING SUPPLY FANS, FAN ACCESSORIES, CONDUIT AND WIRE AND EXISTING MOTORIZED DAMPERS.
5. DISCONNECT AND REMOVE EXISTING COMBUSTIBLE GAS DETECTOR HEAD, CONDUIT AND WIRE TO GAS DETECTOR PANEL TERMINATIONS.
6. DISCONNECT AND REMOVE EXISTING ROOF VENTILATOR, MOTORIZED DAMPER, CONDUIT AND WIRE.
7. REMOVE EXISTING AUTOMATIC SHUTTERS. PATCH AND PAINT MOTOR ROOM WALL AUTOMATIC SHUTTER OPENINGS. PATCH, SEAL AND PAINT AUTOMATIC SHUTTER STAIRS WALL OPENINGS.
8. PROVIDE TWO 30" x 30" WALL OPENINGS. SEE DM3 DWG. FOR DETAILS.
9. PROVIDE 30" x 24" FLOOR OPENING
10. REMOVE ENTIRE LUBRICATION SYSTEM INCLUDING OIL PUMP PIPING POWER SUPPLY AND ALL APPURTENANCES.
11. PROVIDE 10"x18" FLOOR OPENING
12. PROVIDE 12"x18" WALL OPENING.

GENERAL DEMOLITION NOTES:

1. FOR ADDITIONAL ELECTRICAL DEMOLITION PLANS, SEE E2 THRU E6 DWGS.
2. ALL DIMENSIONS SHOWN ARE BASED ON AVIALABLE RECORDS DRAWINGS. CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO ANY CONSTRUCTION OR FABRICATION.
3. COORDINATE DEMOLITION WITH REVIEWED EQUIPMENT SHOP DRAWINGS. ALL OPENINGS SHOWN FOR LOUVERS, WINDOWS AND EQUIPMENT ARE FOR ESTIMATE PURPOSE & SHALL BE COORDINATED WITH REVIEWED SHOP DRAWINGS.
4. DEMOLITION SHALL INCLUDE ALL ITEMS AND APPURTENANCES TO BE REMOVED AS REQUIRED TO COMPLETE THAT WORK WHETHER SPECIFICALLY IDENTIFIED OR NOT, SUCH THAT THE FACILITY IS COMPLETE AND OPERATIONAL.
5. DEMOLITION IS TO BE COORDINATED WTH THE NEW CONSTRUCTION AND MAINTENANCE OF SERVICE AS SPECIFIED, AND APPROVED MANUFACTURER'S SHOP DRAWINGS.
6. REMOVE EXISTING EQUIPMENT, CONCRETE PADS, INCLUDING REINFORCEMENT/DOWELS. PATCH EXISTING FLOOR AS REQUIRED AND AS SPECIFIED.
7. REMOVAL OF ELECTRICAL ITEMS INCLUDES THE REMOVAL OF ALL WIRING AND CONDUITS CONNECTED TO THE ITEM TO BE REMOVED.
8. FOR ADDITIONAL NOTES, SEE DWG. M1
9. FOR LEAD BASED PAINT REMOVAL, SEE SPECIAL PROVISIONS, SECTION 9B REMOVAL AND DISPOSAL OF LEAD BASE PAINT.
10. PLUG UNUSED OPENINGS IN SLABS FROM ELECTRICAL CONDUITS.
11. IF LARGER THAN 25" O.D. TUBE IS PROVIDED FOR SUMP PUMP SSP-1, CORED OPENINGS AT EL. 422.0 AND EL. 408.0 SHALL NOT EXCEED 48"DIA.
12. REFER TO DM3 & E3 THROUGH E5 FOR ELECTRICAL DEMOLITION.
13. EXISTING SWP-2, 4 & 6 PUMPING UNITS REMOVAL INCLUDING PIPING, CHECK VALVES, SUPPORTS, OIL SYSTEM, POWER SUPPLIES AND ALL APPURTENANCES.
14. FIRE PUMP REMOVAL: ENTIRE EXISTING FIRE PROTECTION SYSTEM INCLUDING PUMP, BASE, PIPING, SUPPORT SYSTEM, POWER SUPPLY AND APPURTENANCES.
15. EXISTING DEWATERING PUMP UNIT AND SUMP PUMPING UNIT SSP-1 INCLUDE PIPING, SUPPORTS, POWER SUPPLIES AND ALL APPURTENANCES.
16. FOR LIST OF SALVAGED ITEMS, SEE SPECIAL PROVISIONS, SECTION 2B DEMOLITION.
17. CORNERS OF SAW CUT OPENING SHALL NOT BE OVER CUT.
18. CUT APPROX. 4'-8"H x 2'-10"W OPENING FOR ELECT. CONDUITS, TOP OF OPENING 36" BELOW GRADE, COORDINATE WITH ELECTRICAL CONTRACTOR TO VERIFY ACTUAL DIMENSIONS.

LEGEND:

EQUIPMENT AND OTHER REMOVAL

CONCRETE REMOVAL

0' 2' 4' 8'
SCALE: 1"= 4'

DM1

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

DEMOLITION PLANS

SCALE: AS SHOWN
DATE: 09-12-05
DRAWN BY: CTM
CHECKED BY: KC

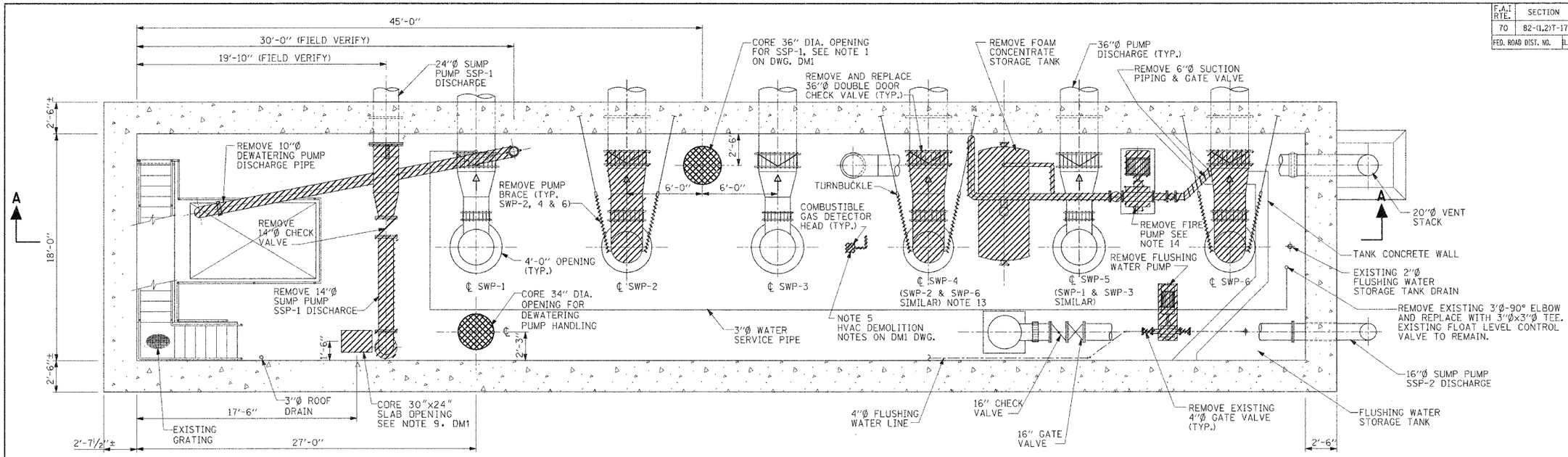
PLOT DATE: *DATE-TIME*

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

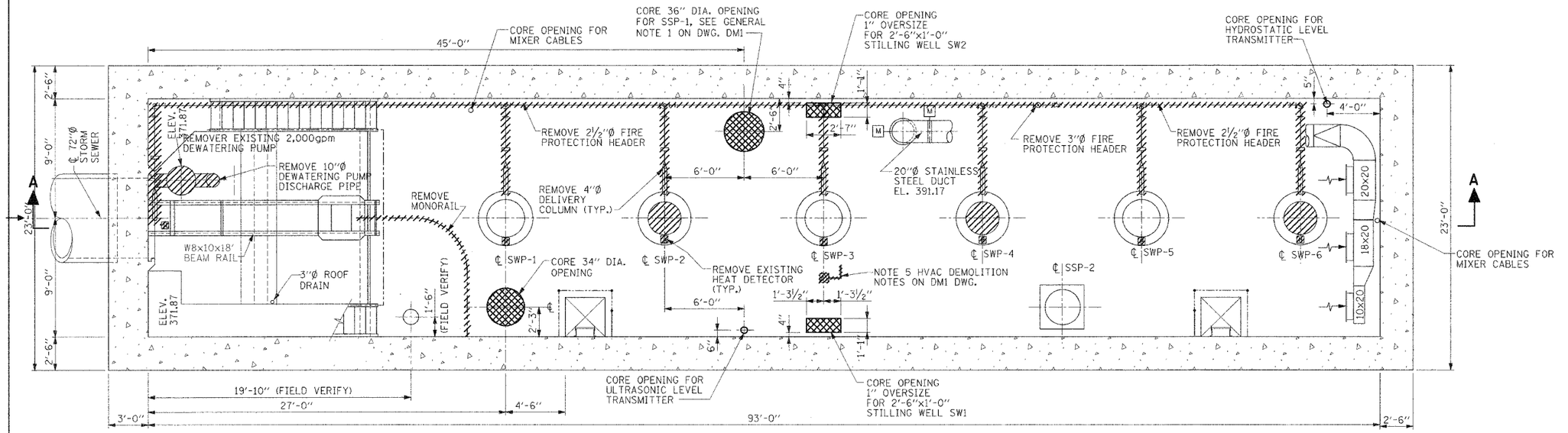
PLAN — NOTE BOOK — NO. — SURVEYED — ALIGNMENT — R.T. OF WAY CHECKED — PLAN TITLE NAME — BY — DATE

$$DATE$$
DATE-TIME
DGN-SPEC
XREF
REF

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	8
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



PLAN @ EL. 393.7



PLAN @ EL. 380.0

LEGEND:

EQUIPMENT AND OTHER REMOVAL

CONCRETE REMOVAL

0' 2' 4' 8'

SCALE: 1"= 4'

DM2

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

DEMOLITION PLAN

SCALE: AS SHOWN — DRAWN BY: CTM

DATE: 09-12-05 — CHECKED BY: KC

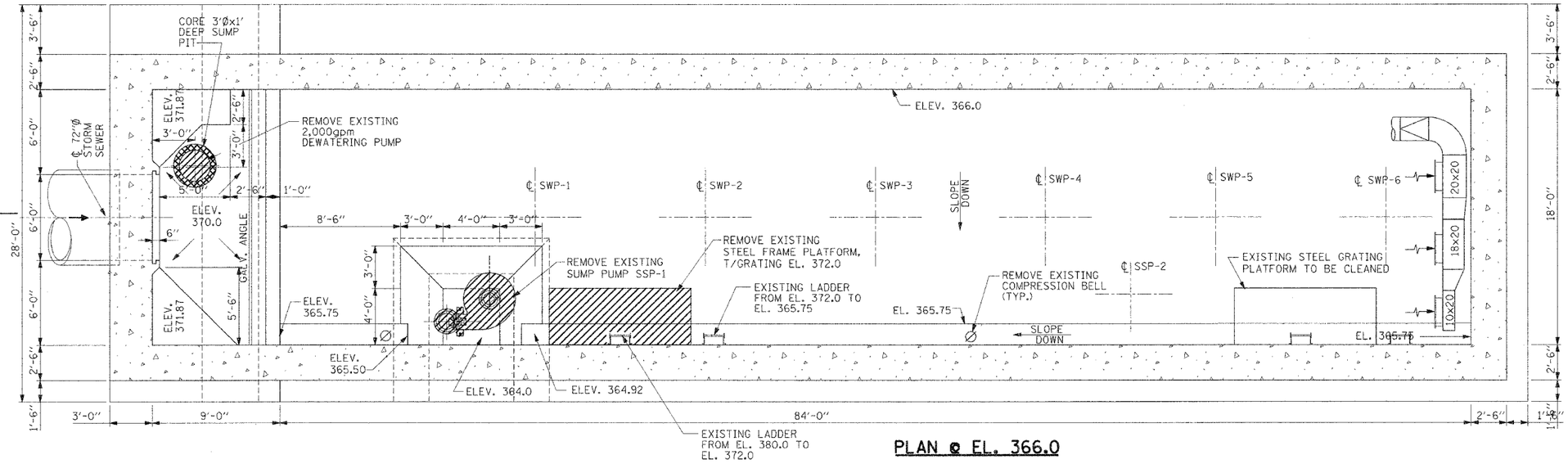
PLOT DATE: *DATE-TIME*

ALVORD, BURDICK & HOWSON, L.L.C.

ENGINEERS CHICAGO

*&DATE&
DATE-TIME
DGN-SPEC
REF
REF

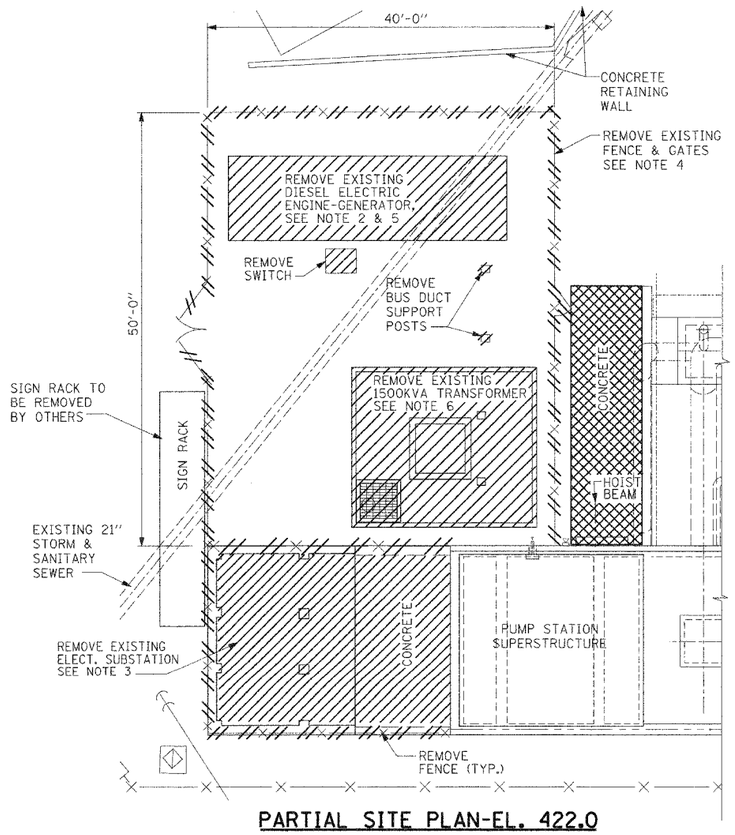
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	9
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



PLAN @ EL. 366.0

0' 2' 4' 8'

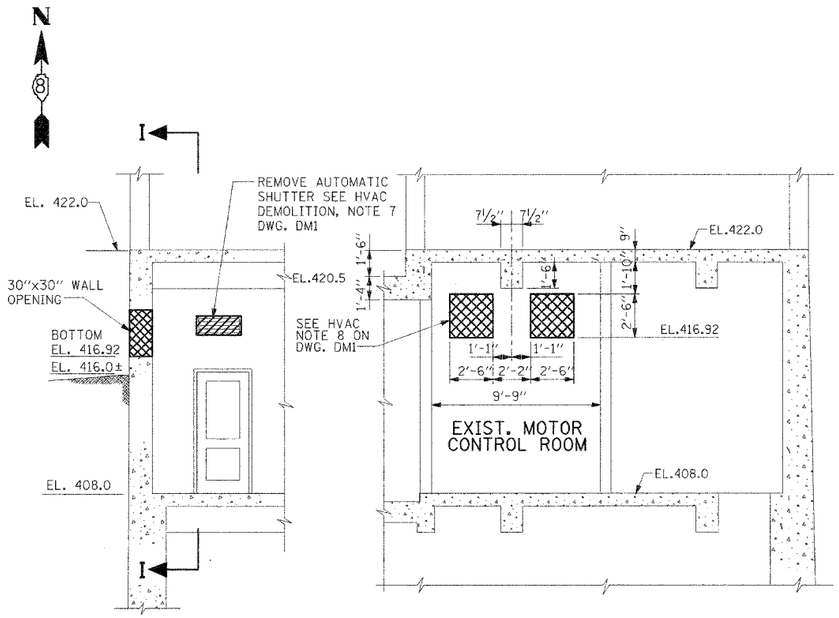
SCALE: 1"= 4'



PARTIAL SITE PLAN-EL. 422.0

0' 4' 8' 16'

SCALE: 1"= 8'



SECTION B-B (FROM SHEET 7)

SECTION I-I

0' 2' 4' 8'

SCALE: 1"= 4'

SITE DEMOLITION NOTES:

1. FOR ADDITIONAL ELECTRICAL DEMOLITION PLANS, SEE DWGS E3 THRU E6.
2. ELECTRICAL ENGINE-GENERATOR UNIT REMOVAL INCLUDES ENTIRE ENGINE-GENERATOR, CABLES, ACCESSORIES, SUPPORTING STRUCTURES, METAL HOUSING, CONCRETE FOUNDATION, OIL PIPING COMPLETE. REMOVE OIL PIPING UP TO THE TANK AND CAP.
3. REMOVAL INCLUDES ALL ELECTRICAL EQUIPMENT, CONDUITS, STEEL FRAMING AND ANCHOR BOLTS AND CHAIN LINK FENCE TO FLUSH WITH TOP OF EXISTING CONCRETE. PATCH CONCRETE, AS REQUIRED AND BACKFILL TO TOP OF EXISTING CONCRETE WITH COMPACTED CA6 GRANULAR FILL.
4. FENCE AND GATES REMOVAL INCLUDES ALL FENCE POSTS AND CONCRETE BASE.
5. REMOVE DIESEL GENERATOR ENCLOSURE, FOOTINGS, AND ALL PIPING, CONDUITS & EQUIPMENT TO A MINIMUM OF 24" BELOW GRADE.
6. REMOVE TRANSFORMER, CONCRETE CURBS, PADS, SUMP AND FOOTINGS, AND ALL PIPING CONDUITS & EQUIPMENT TO A MINIMUM OF 24" BELOW GRADE. BACKFILL TO FINAL GRADE WITH COMPACTED CA6 GRANULAR FILL.

LEGEND:

- EQUIPMENT AND OTHER REMOVAL
- CONCRETE REMOVAL
- EXISTING FENCE & GATE TO BE REMOVED

PLAN
SURVEYED
PLOTTED
PLOTTED - CHECKED
NOTE BOOK
RT. OF WAY CHECKED
PLOT FILE NAME
BY
DATE

DM3

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

DEMOLITION PLANS

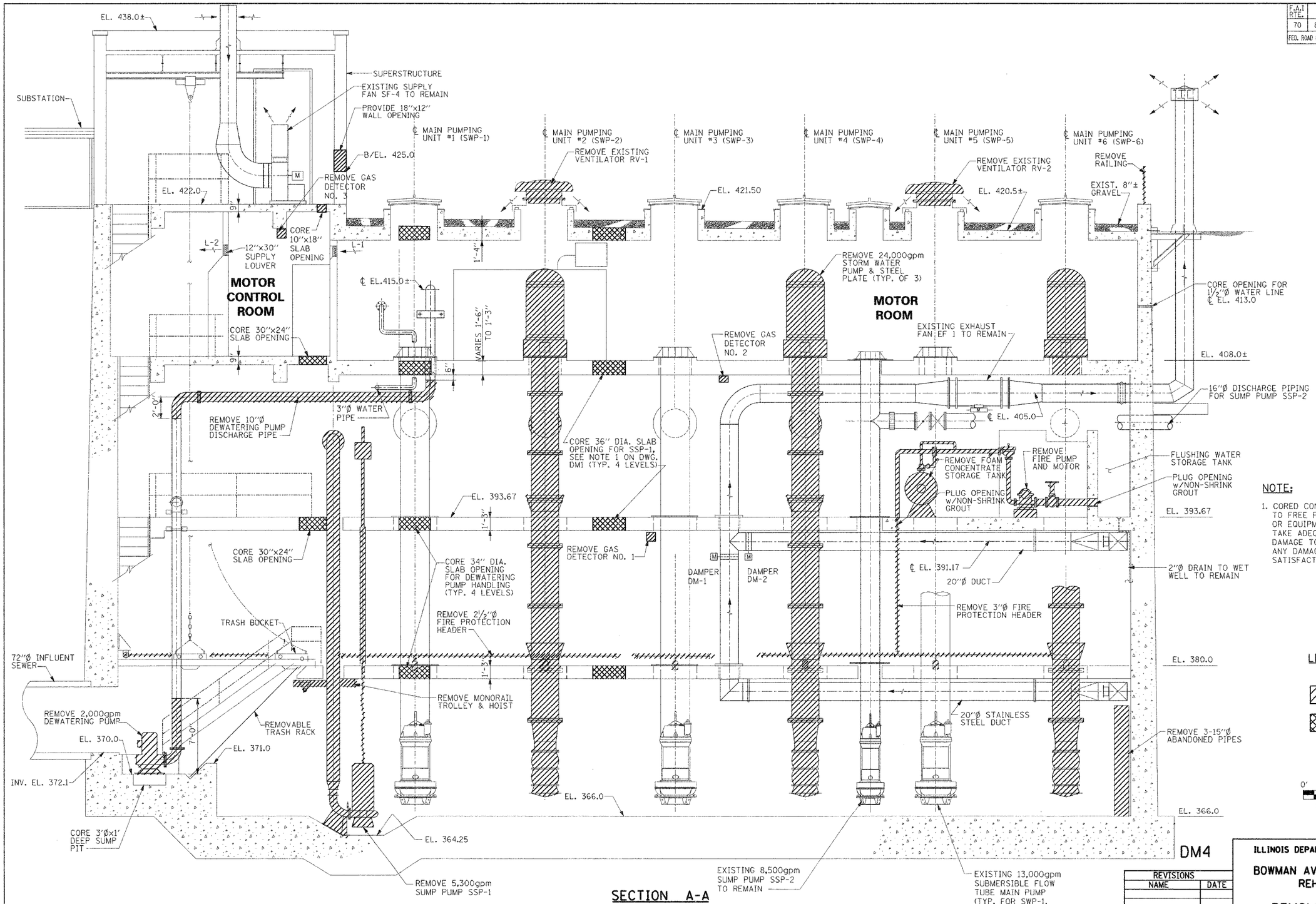
SCALE: AS SHOWN
DRAWN BY: CTM
DATE: 09-12-05
CHECKED BY: KC

PLOT DATE: *DATE-TIME*

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

@@DATE@@
DATE-TIME
DGN-SPEC
XREF
REF

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	10
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



SECTION A-A

NOTE:

1. CORED CONCRETE WILL NOT BE ALLOWED TO FREE FALL ONTO THE FLOOR BENEATH OR EQUIPMENT. THE CONTRACTOR SHALL TAKE ADEQUATE MEASURES TO PREVENT DAMAGE TO FLOOR AND EQUIPMENT AND ANY DAMAGE SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER.

LEGEND:

EQUIPMENT AND OTHER REMOVAL

CONCRETE REMOVAL

0' 2' 4' 8'

SCALE: 1"= 4'

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

DEMOLITION SECTION

SCALE: AS SHOWN
DATE: 09-12-05
DRAWN BY: CTM
CHECKED BY: KC

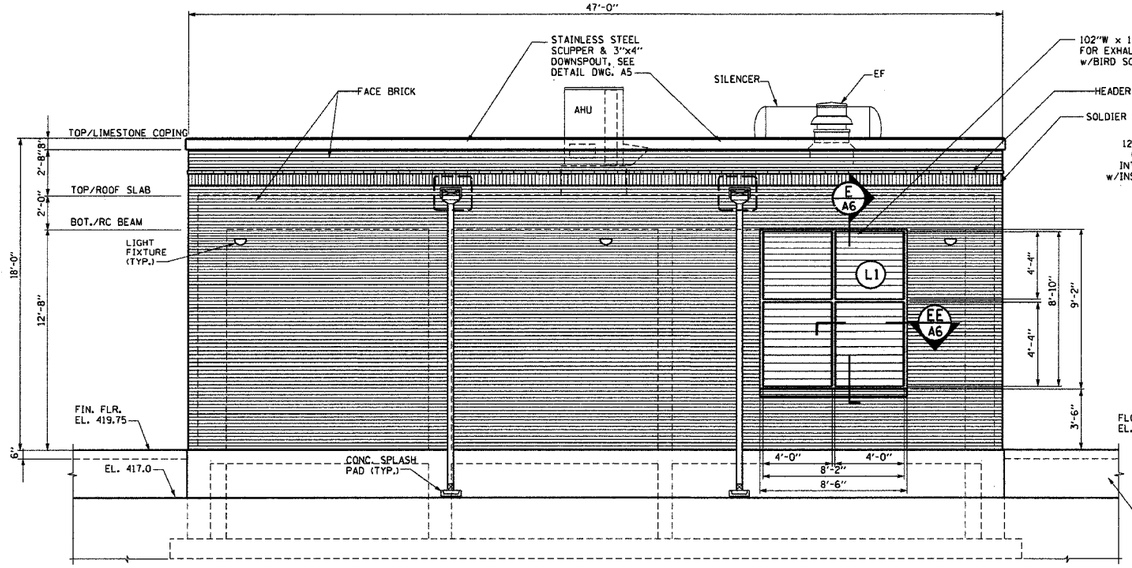
PLOT DATE: *DATE-TIME*

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

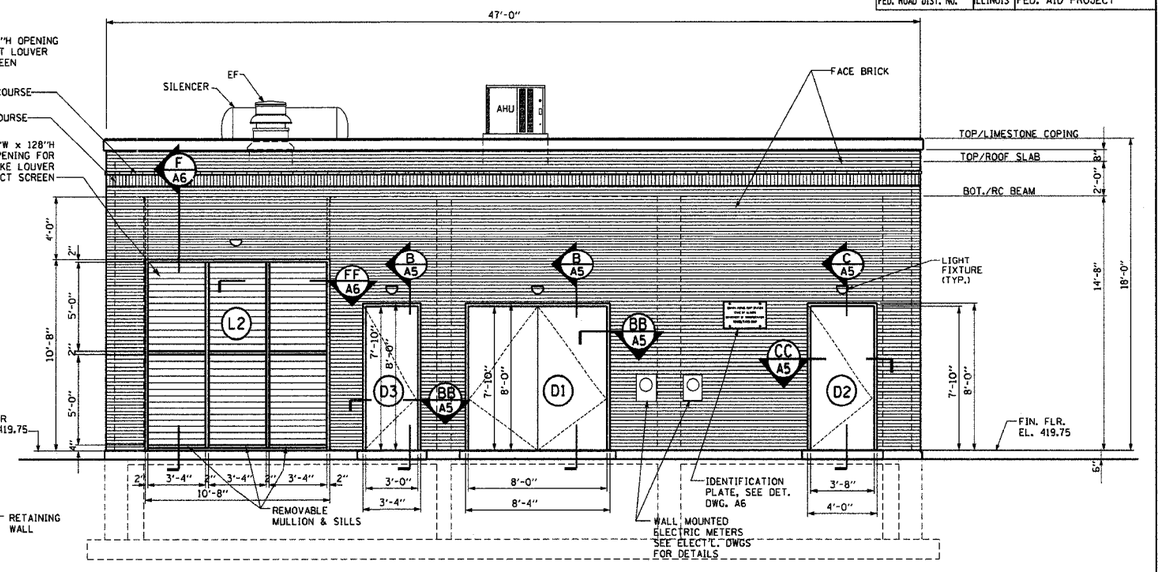
PLAN: SURVEYED, PLOTTED, CONNECTION CHECKED, RTE. OF WAY CHECKED, NOTE BOOK, MD. FILE NAME, BY, DATE

#DATE#
DATE-TIME
DGN-SPEC
*REF-
*REF-

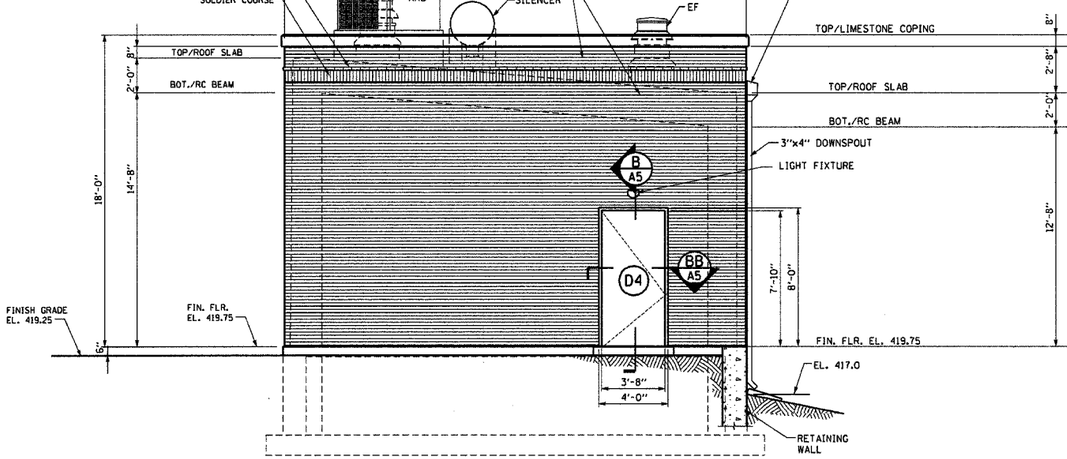
F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	11
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



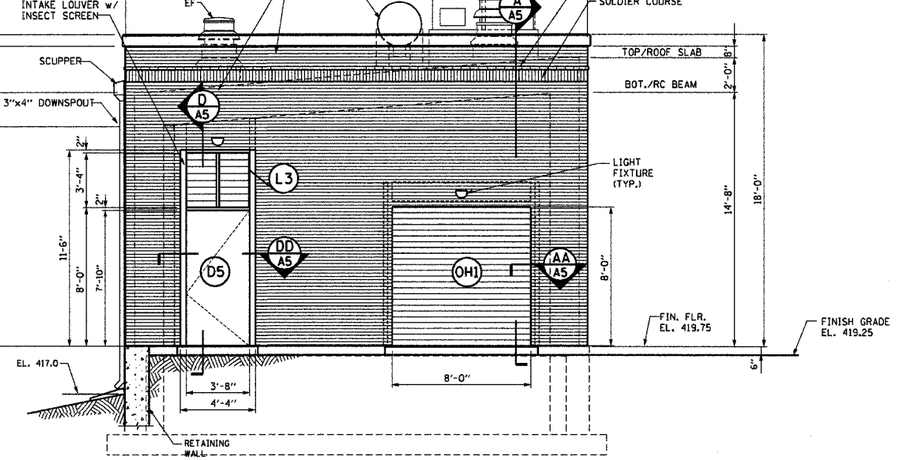
SOUTH ELEVATION



NORTH ELEVATION



WEST ELEVATION



EAST ELEVATION

0' 2' 4' 8'
SCALE: 1"= 4'

NOTES:

1. FULLY GROUT ALL CMU CORES w/#5 REINFORCEMENT BARS @ 24" O.C.
2. PROVIDE FILL INSULATION IN UNGROUTED CMU CORES.
3. COORDINATE w/ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR LIGHTING FIXTURE INFORMATION.

A1

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

ELEC. CNTRL. & GEN. BLDG. ELEVATIONS

SCALE: AS SHOWN — DRAWN BY: CM

DATE: 09-12-05 — CHECKED BY: MW

PLOT DATE: *DATE-TIME*

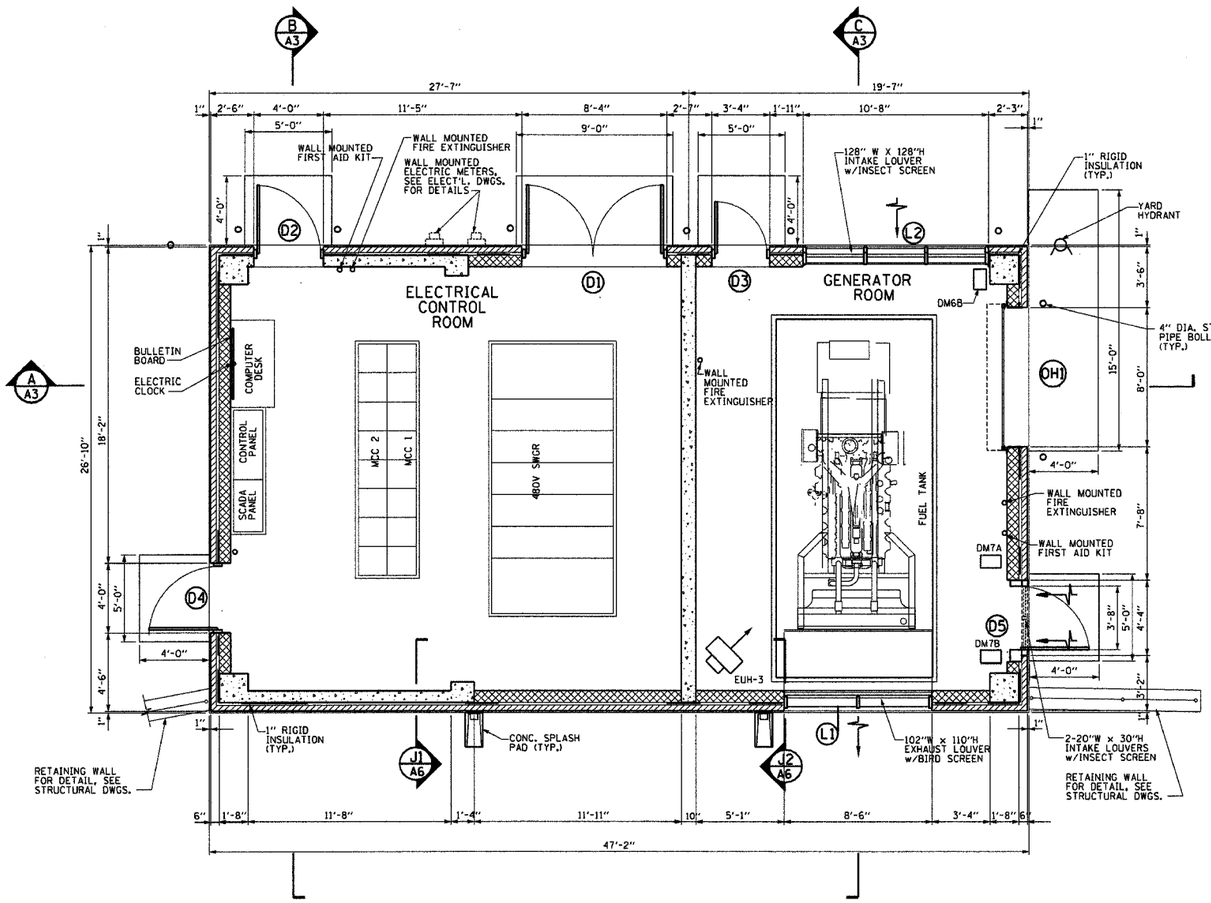
ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

PLAN — SURVEYED, PLOTTED, DRAWN, CHECKED, QUANTITIES, ALIGNMENT, CHECKED, BKT. OF WAY, CHECKED, NOTE BOOK, CADD FILE NAME, DATE, 8"

DATE
DATE-TIME
DGN-SPEC
WDIR
REF
REF

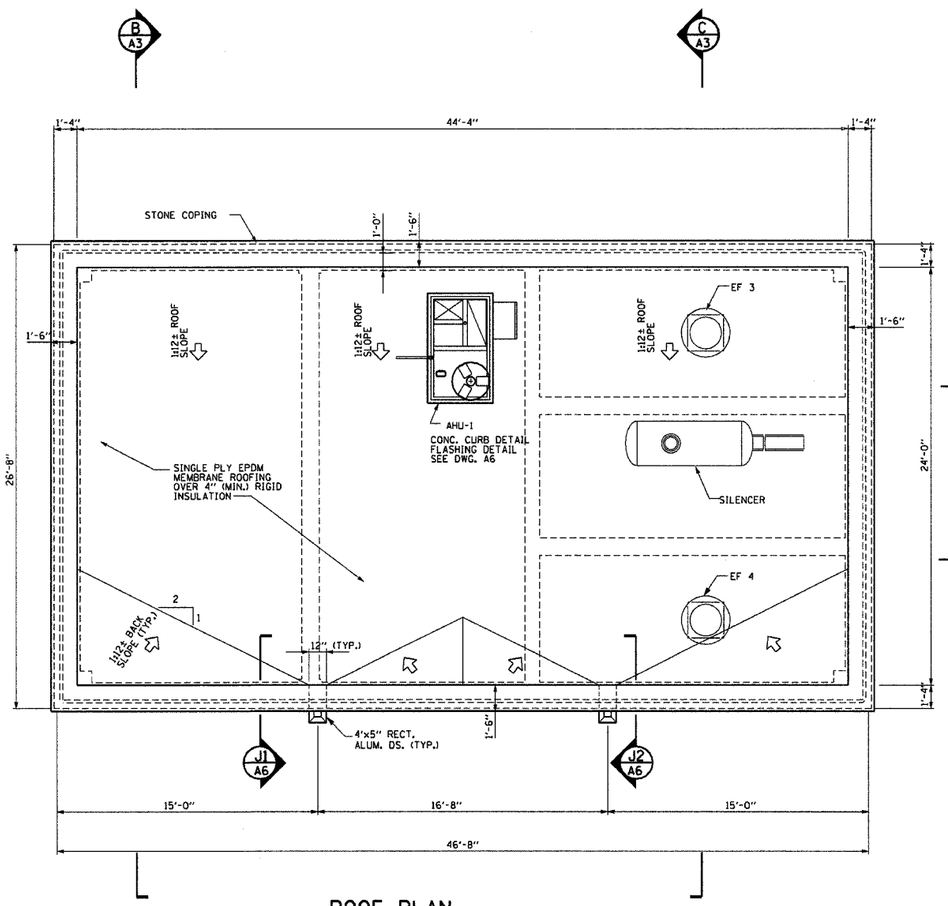
F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	12
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

PLAN
NOTE BOOK
NO.
SURVEYED
DRAWN
ALIGNMENT CHECKED
ELEV. CHECKED
PLAN NAME
BY
DATE



FLOOR PLAN

0' 2' 4' 8'
SCALE: 1"= 4'

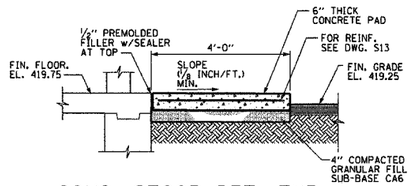


ROOF PLAN

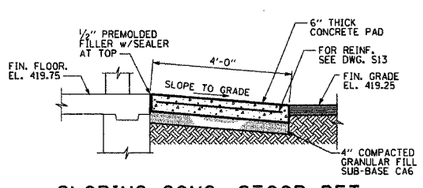
0' 2' 4' 8'
SCALE: 1"= 4'

NOTES:

1. REFER TO ELECTRICAL DRAWINGS FOR LIGHT FIXTURES, RECEPTICLES, EMERGENCY LIGHTING AND ALL OTHER ELECTRICAL ITEMS
2. REFER TO MECHANICAL DRAWINGS FOR UNIT HEATERS, EXHAUST FANS AND ALL OTHER MECHANICAL, PLUMBING AND HVAC EQUIPMENT.
3. REFER TO DRAWINGS G4 AND S13 FOR CONCRETE STOOP DIMENSIONS AND DETAILS.



CONC. STOOP DET. TYP.



SLOPING CONC. STOOP DET.

0' 1' 2' 4'
SCALE: 1"= 2'

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

A2

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

ELEC. CNTRL. / GEN. BLDG. FLOOR & ROOF PLANS

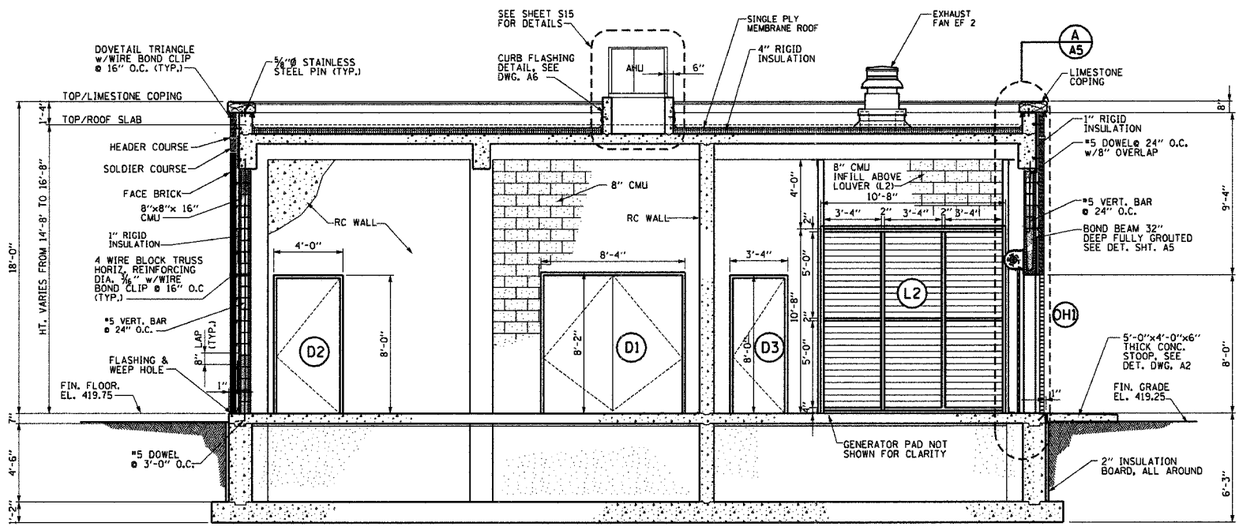
SCALE: AS SHOWN DRAWN BY: CM
DATE: 09-12-05 CHECKED BY: MW

PLOT DATE: *DATE-TIME*

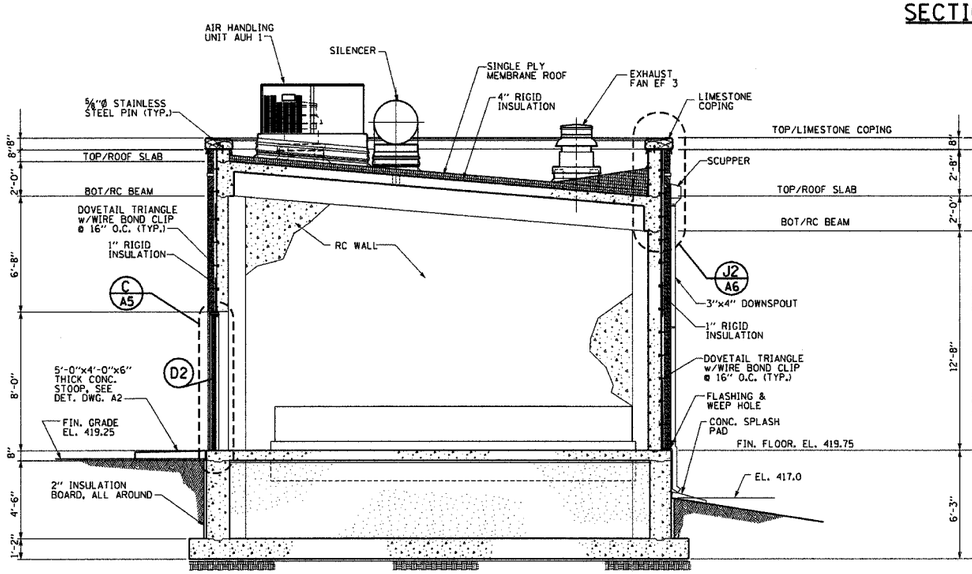
DATE
DATE-TIME
DGN-SPEC
REF
REF

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)1T-17	ST. CLAIR	77	13
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

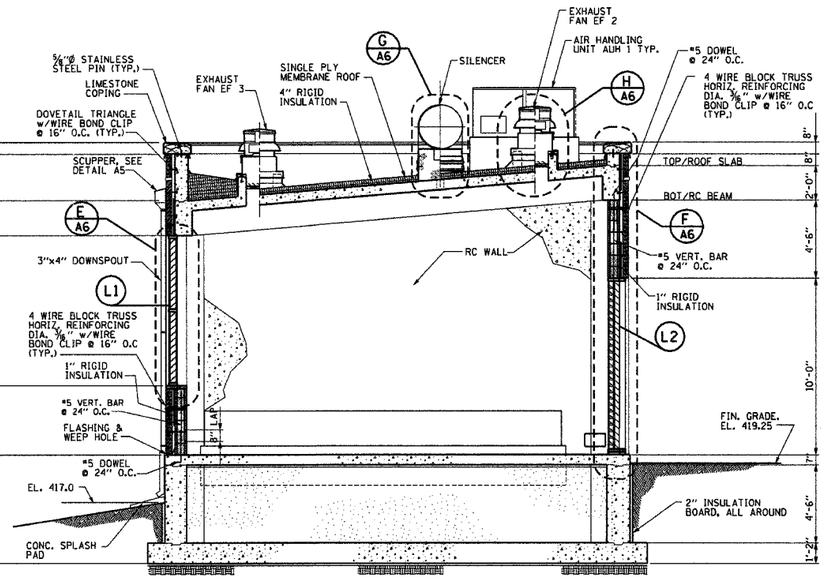
PLAN	BY	DATE
SURVEYED		
PLOTTED		
ALIGNMENT CHECKED		
R.O.W. CHECKED		
NOTE BOOK		
NO.		
CADD FILE NAME		



SECTION A A2



SECTION B A2



SECTION C A2

NOTE

FOR FOUNDATION DESIGN AND STRUCTURAL REINFORCEMENTS, SEE STRUCTURAL DRAWINGS (TYP.)

0' 2' 4' 8'

SCALE: 1"= 4'

A3

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

ELEC. CNTRL. / GEN. BLDG. SECTIONS

SCALE: AS SHOWN — DRAWN BY: CM

DATE: 09-12-05 — CHECKED BY: MW

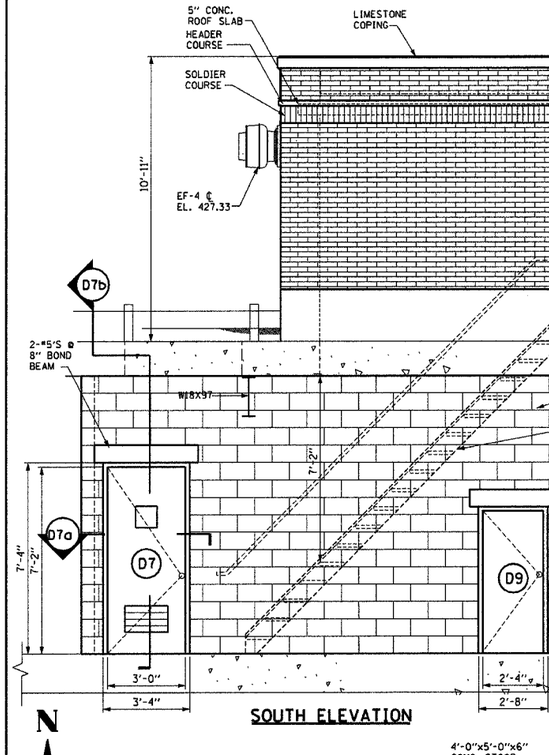
PLOT DATE: *DATE-TIME*

DATE
DATE-TIME
DGN-SPEC
*REF-
*REF-

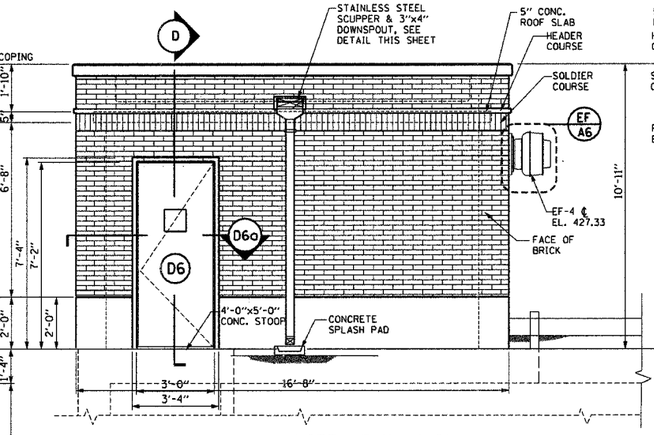
ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,21T-17	ST. CLAIR	77	14
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

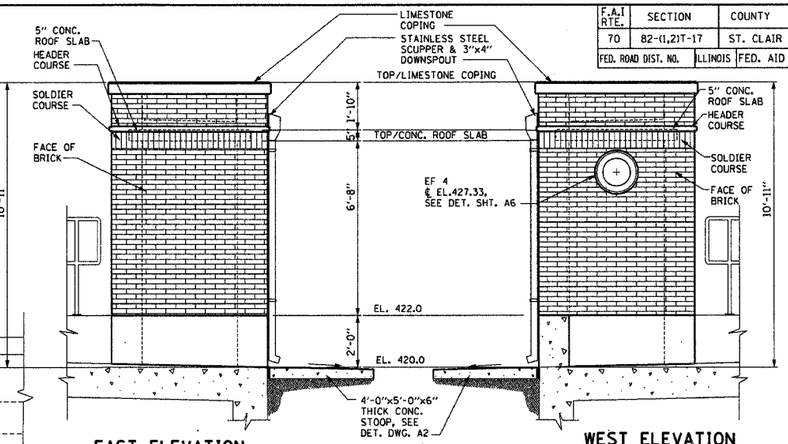
PLAN — SURVEYED / PLOTTED / DRAWN / CHECKED / RT. OF WAY CHECKED / CADD FILE NAME / NOTE BOOK / NO. — BY / DATE



SOUTH ELEVATION

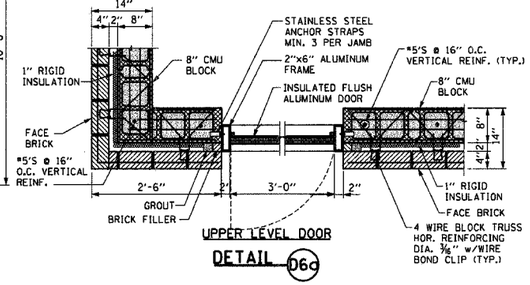


NORTH ELEVATION

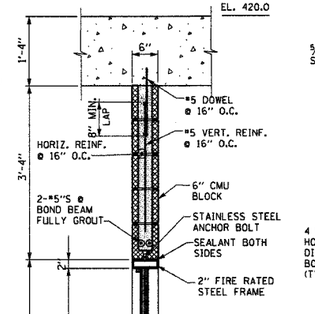


EAST ELEVATION

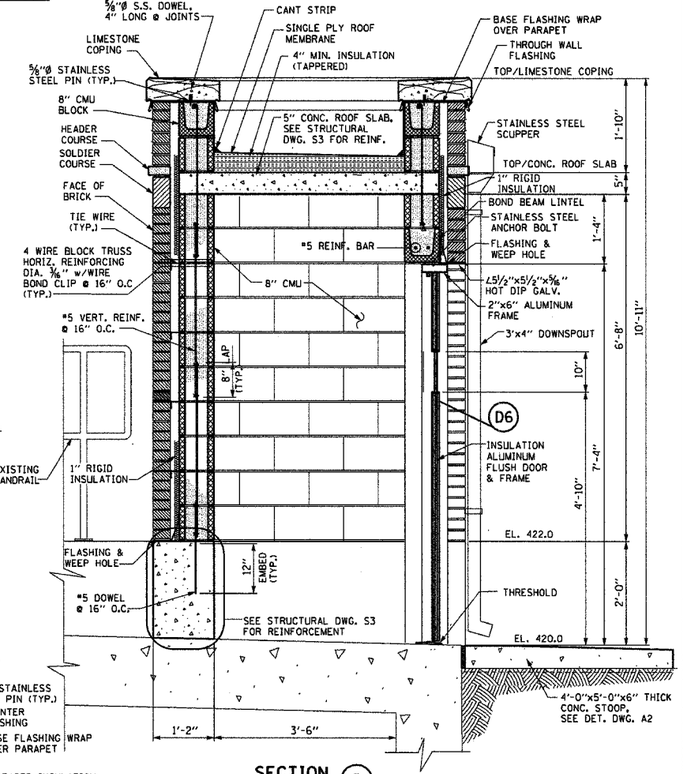
WEST ELEVATION



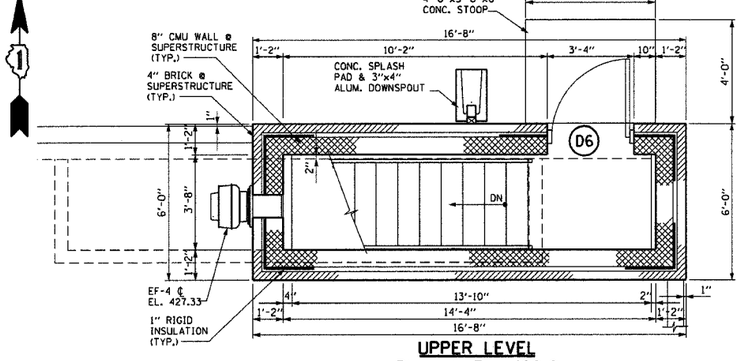
UPPER LEVEL DOOR DETAIL D6a



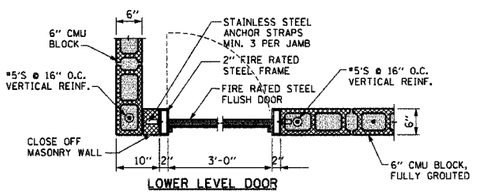
INSIDE STAIRWELL



SECTION D



UPPER LEVEL PLAN @ EL. 422.0

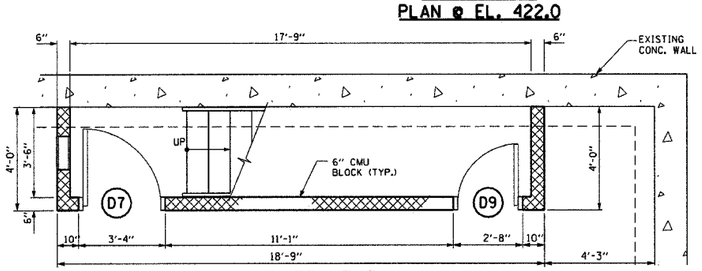


LOWER LEVEL DOOR DETAIL D7c

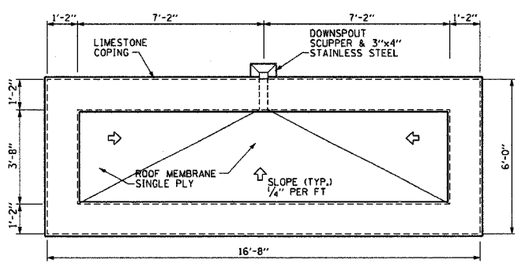
DOOR JAMB DETAILS

0' 1' 2' 4'

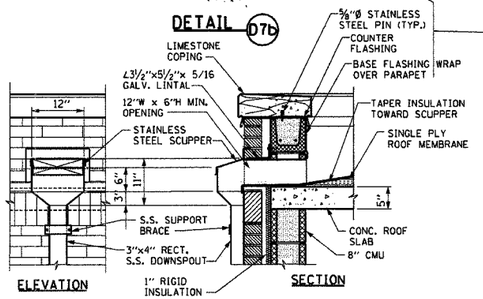
SCALE: 3/4"= 1'-0"



LOWER LEVEL PLAN @ EL. 408.0



ROOF PLAN



DOWNSPOUT & SCUPPER DETAIL

0' 1' 2' 4'

SCALE: 3/4"= 1'-0"

ROOF STAIR ACCESS

0' 2' 4' 8'

SCALE: 3/8"= 1'-0"

NOTES:
1. ALL STRUCTURAL AND MISCELLANEOUS STEEL TO BE HOT DIPPED GALVANIZED.

A4

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

PLANS, ELEV. & DETAILS ROOF STAIR ACCESS

SCALE: AS SHOWN — DRAWN BY: CM

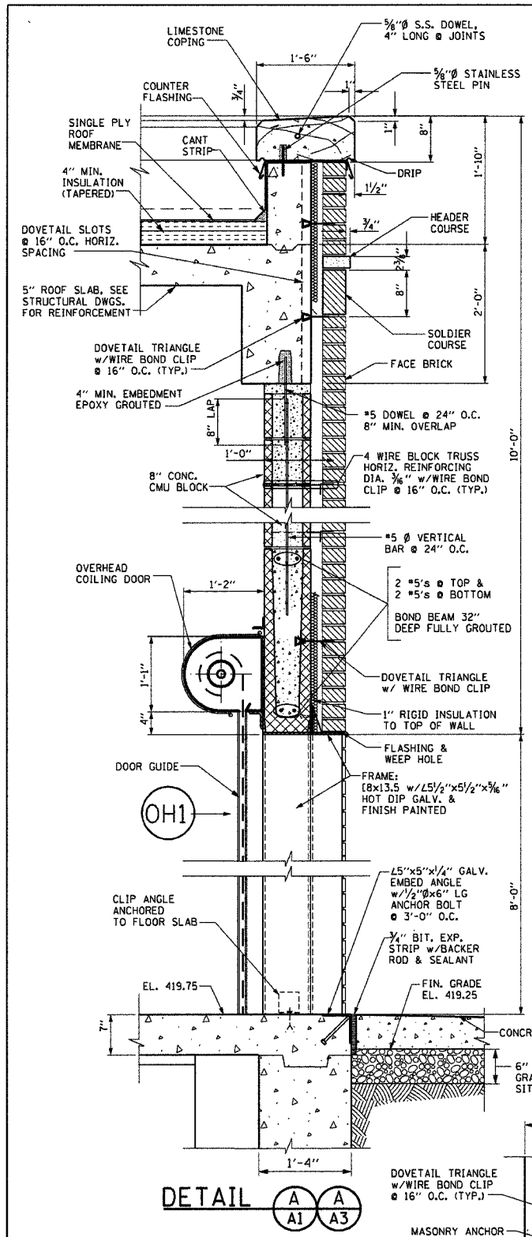
DATE: 09-12-05 — CHECKED BY: MW

PLOT DATE: *DATE-TIME*

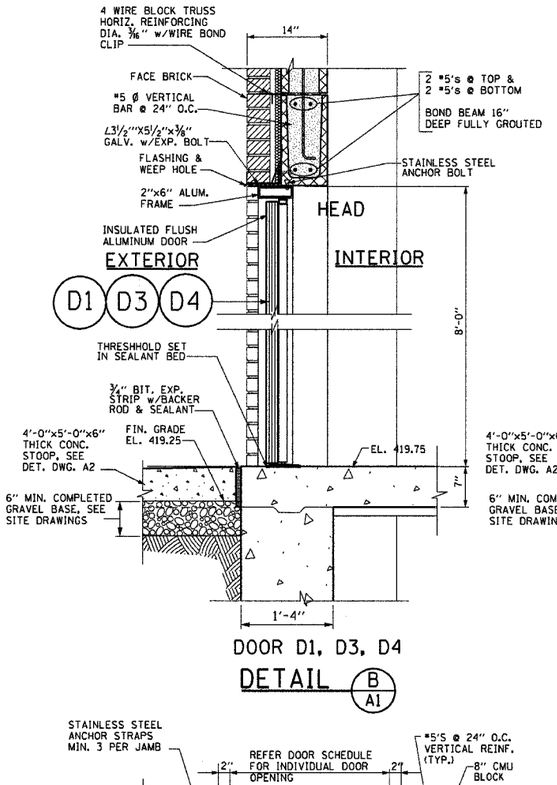
ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

DATE
DATE-TIME
DGN-SPEC
REF
REF

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	15
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

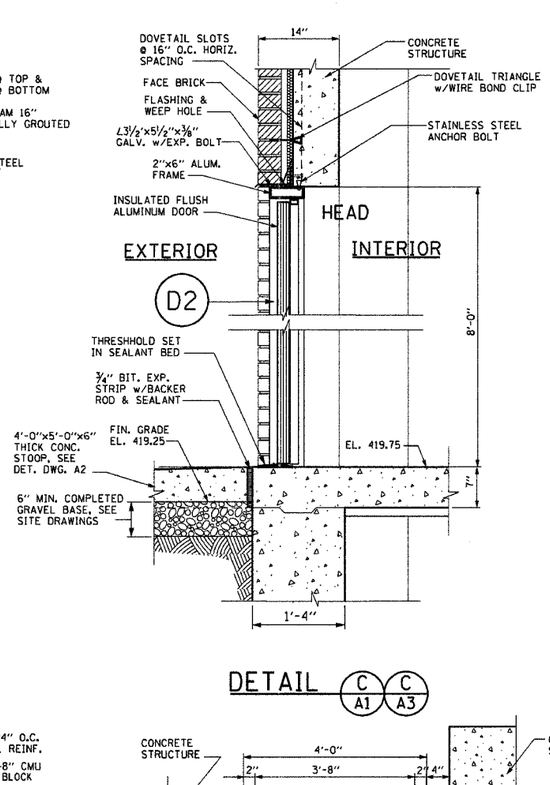


DETAIL A A1 A3

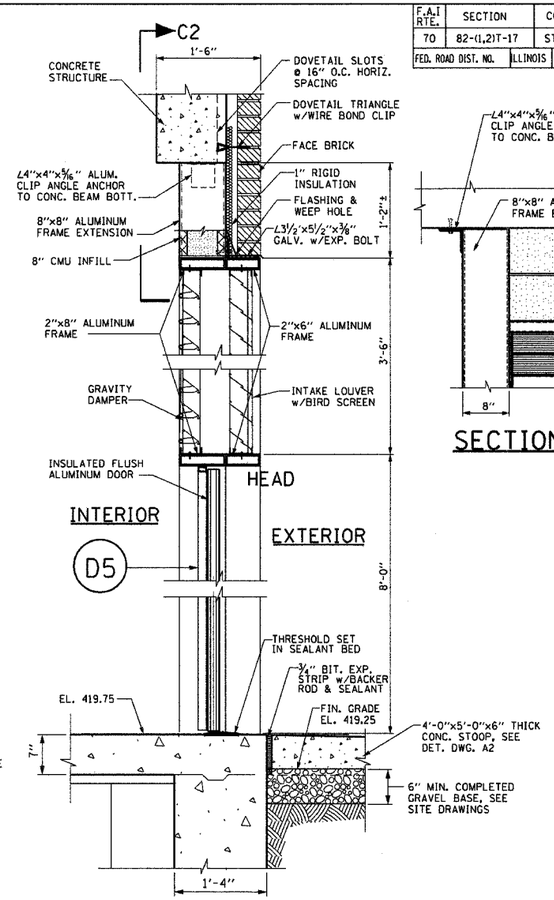


DOOR D1, D3, D4

DETAIL B A1

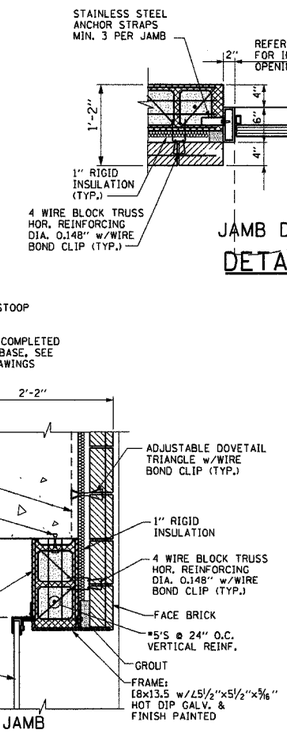


DETAIL C A1 C A3



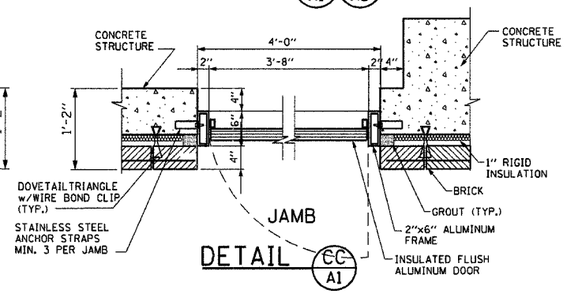
DETAIL D A1

SECTION C2



JAMB D1, D3, D4

DETAIL BB A1

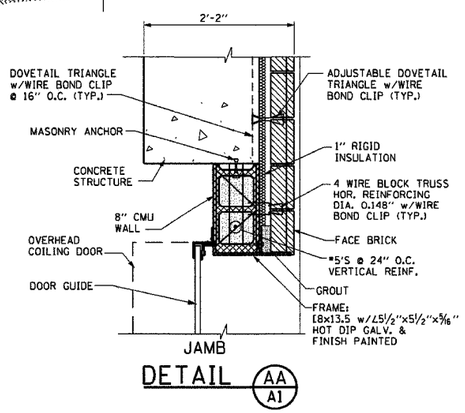


JAMB

DETAIL CC A1

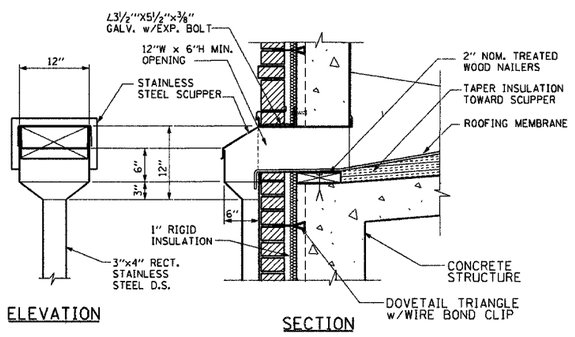
JAMB

DETAIL DD A1



JAMB

DETAIL AA A1



ELEVATION

SECTION

DOWNSPOUT & SCUPPER DETAIL

0' .5' 1' 2'

SCALE: 1"= 1'

A5

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

ARCHITECTURAL DETAILS

SCALE: AS SHOWN — DRAWN BY: CM

DATE: 09-12-05 — CHECKED BY: MW

PLOT DATE: *DATE-TIME*

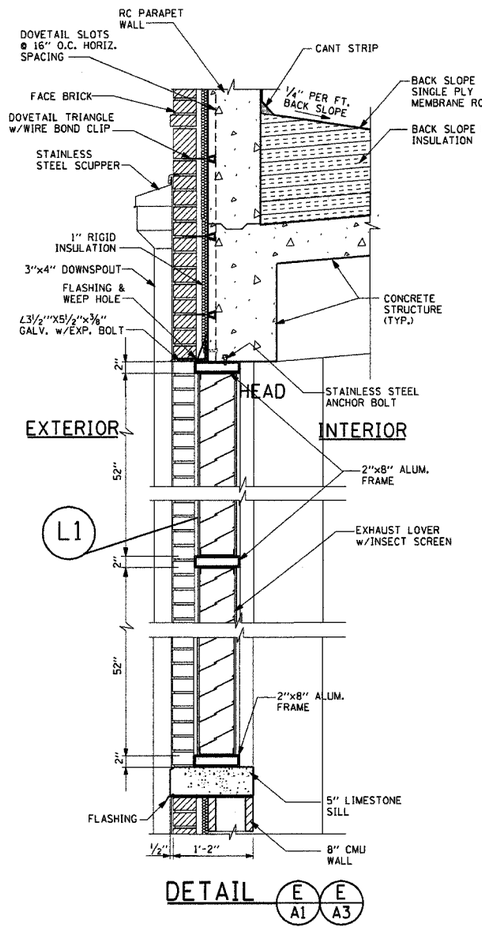
ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS — CHICAGO

PLAN: SURVEYED, PLOTTED, RT. OF WAY CHECKED, CADD FILE NAME, NOTE BOOK, NO. — DATE — 8"

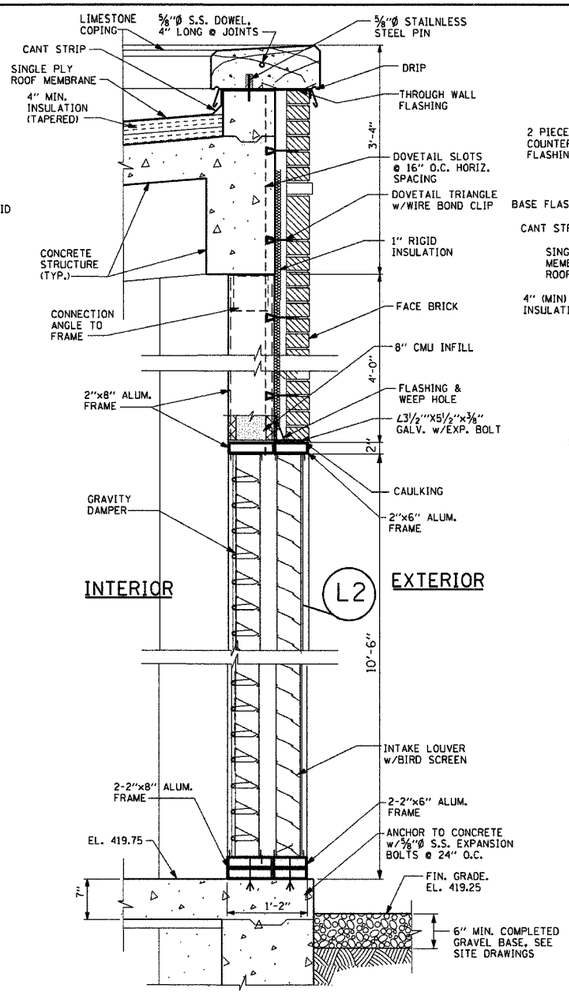
ROUTE
DATE-TIME
DGN-SPEC
DGN-E
*REF-

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)1T-17	ST. CLAIR	73	16
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

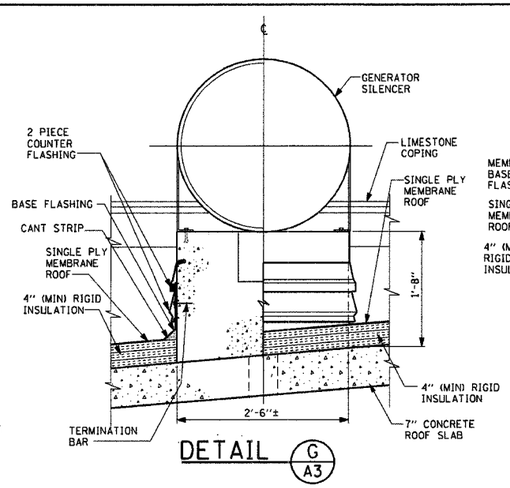
PLAN — SURVEYED / DESIGNED / ALIGNMENT CHECKED / BENCH MARK ADJUSTED / NOTE BOOK / CADD FILE NAME / NO. / BY / DATE



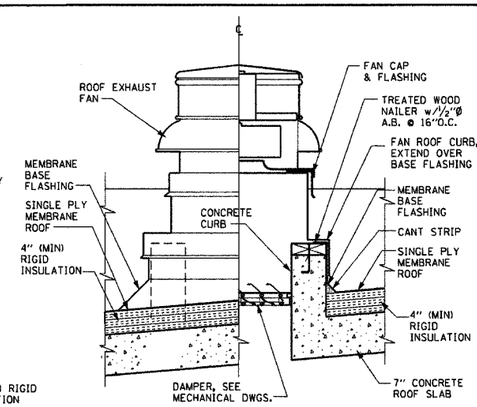
DETAIL E/A1 E/A3



DETAIL F/A1 F/A3

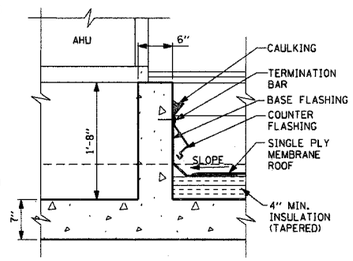


DETAIL G/A3



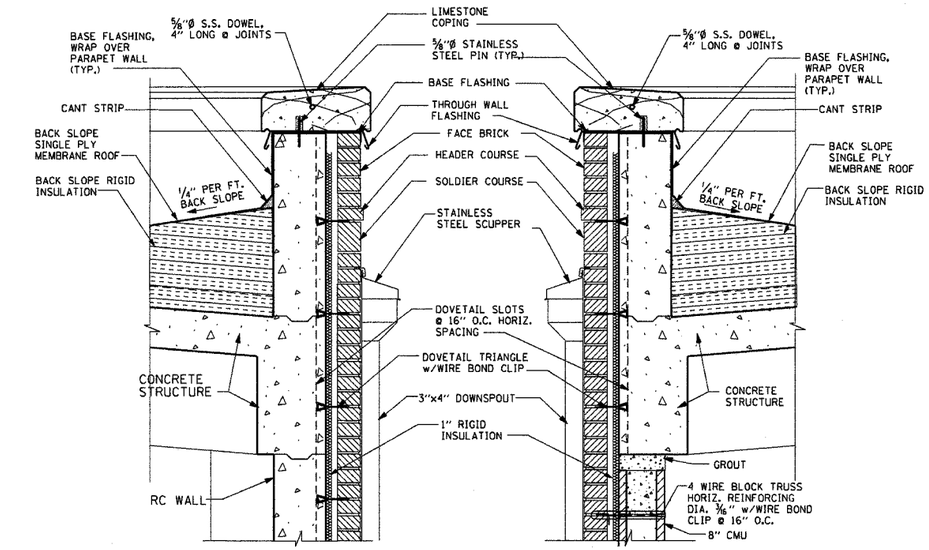
SECTION THRU ROOF CURB

DETAIL H/A3



CURB FLASHING DET.

NOT TO SCALE

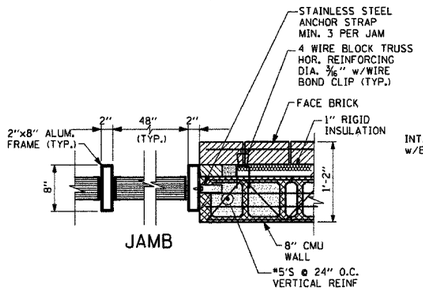


SECTION THRU RC WALL

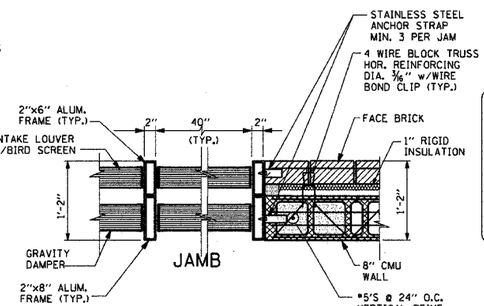
DETAIL J1/A2

SECTION THRU CMU WALL

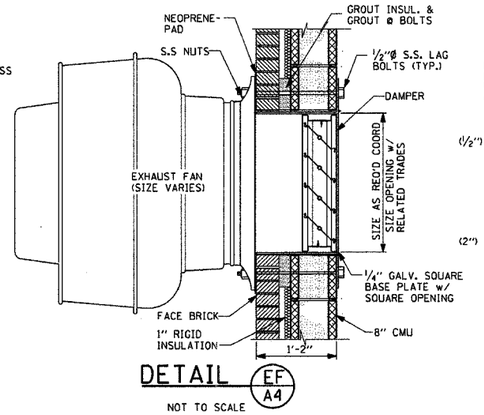
DETAIL J2/A2



DETAIL EE/A1

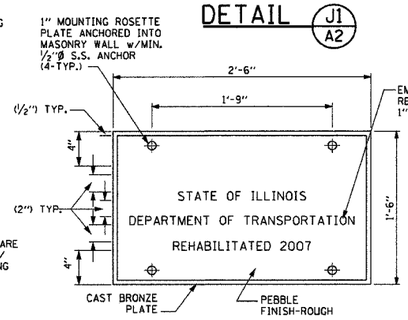


DETAIL FF/A1



DETAIL EF/A4

NOT TO SCALE



IDENTIFICATION PLATE

NO SCALE

0' .5' 1' 2'

SCALE: 1"= 1'

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

A6

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

ARCHITECTURAL DETAILS

SCALE: AS SHOWN — DRAWN BY: WP,CM

DATE: 09-12-05 — CHECKED BY: MW

PLOT DATE: •DATE-TIME•

$$DATE$$ •DATE-TIME• •XREF-SPEC• •REF- •REF-

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	17
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

HARDWARE SCHEDULE

ITEM NO.	DESCRIPTION	MANUFACTURER	MODEL NO.	GENERAL INFORMATION			REMARKS
				TYPE	MATERIAL	FINISH	
1	MORTISE LOCKSET w/ THUMB TURN	CORBIN RUSSWIN	ML-2000 SERIES	6 PIN, BRASS CYLINDER	BRONZE	US32D S.S. STAIN FINISH	MASTER KEY SYSTEM, COORDINATE WITH OWNER FOR FINAL KEYING
2	DOOR CLOSER	CORBIN RUSSWIN	DC2210-A2-M72	SURFACE MOUNTED	ALUMINUM	626 SATIN CHROMIUM PLATED	HEAVY DUTY WITH HOLD OPEN FEATURE
3	HINGE	HAGER/STANLEY	BB1199	HEAVY DUTY	STAINLESS STEEL	US32D S.S. SATIN FINISH	FIVE-KNUCKLE, NON RISING PIN, STAINLESS STEEL BALL BEARING TYPE, FULL MORTISE MOUNT
4	THRESHOLD	NATIONAL GUARD	896	SADDLE	ALUMINUM	CLEAR ANODIZED ALUM. FINISH	SET IN SEALANT, WITH BUMPER GASKET, EXTERIOR DOORS ONLY
5	WEATHERSTRIPPING	NATIONAL GUARD	700N	PER SPECIFICATION	NEOPRENE/VINYL	CLEAR ANODIZED ALUM. FINISH	EXTERIOR DOORS ONLY
6	MORTISE LATCHSET (INTERIOR DOORS)	CORBIN RUSSWIN	ML-2200 SERIES	PASSAGE SET TYPE-NO LOCK	BRONZE	US26D SATIN CHROMIUM PLATED	MODEL TYPE ML2010 3/4" LATCH THROW, NO LOCKING MECHANISM
7	FLUSH BOLTS	CORBIN RUSSWIN	MODEL 2849-NO. 70-1/2M STRIKE	6 PIN, BRASS CYLINDER	BRONZE	US32D S.S. SATIN FINISH	MASTER KEY SYSTEM, COORDINATE WITH OWNER KEY ACCESS TO OPERATE DOOR D2 ONLY
8	ASTRAGAL	NATIONAL GUARD	MODEL NO. 178SA	SURFACE MOUNT	STAINLESS STL	STAINLESS STEEL	SURFACE MOUNTED ON ACTIVE DOOR LEAF, PER MANUFACTURERS INSTRUCTIONS
9	DOOR SWEEP	NATIONAL GUARD	600	NYLON BRASS GASKETING	ALUMINUM	CLEAR ALUMINUM FINISH	PER MANUFACTURERS INSTRUCTIONS

DOOR SCHEDULE

DOOR NO.	SIZE	MATERIAL	FRAME	FINISH	HARDWARE ITEM NO.'S	REMARKS
D1	(PR) 4'-0"W x 7'-10"H x 1'-3/4" 8'-4"W x 8'-0" FRAME	INSULATED FLUSH ALUMINUM	ALUMINUM	CLEAR ANODIZED	1, 2, 3, 4, 5, 7, 8, 9	INSULATED DOOR, PROVIDE CONSTRUCTION KEYING; COORDINATE MASTER KEY SYSTEM WITH OWNER
D2	3'-8" x 7'-10" x 1'-3/4" 4'-0" x 8'-0" FRAME	INSULATED FLUSH ALUMINUM	ALUMINUM	CLEAR ANODIZED	1, 2, 3, 4, 5, 9	INSULATED DOOR, PROVIDE CONSTRUCTION KEYING; COORDINATE MASTER KEY SYSTEM WITH OWNER
D3	3'-0" x 7'-10" x 1'-3/4" 3'-4" x 8'-0" FRAME	INSULATED FLUSH ALUMINUM	ALUMINUM	CLEAR ANODIZED	1, 2, 3, 4, 5, 9	INSULATED DOOR, PROVIDE CONSTRUCTION KEYING; COORDINATE MASTER KEY SYSTEM WITH OWNER
D4	3'-8" x 7'-10" x 1'-3/4" 4'-0" x 8'-0" FRAME	INSULATED FLUSH ALUMINUM	ALUMINUM	CLEAR ANODIZED	1, 2, 3, 4, 5, 9	INSULATED DOOR, PROVIDE CONSTRUCTION KEYING; COORDINATE MASTER KEY SYSTEM WITH OWNER
D5	DR: 3'-8" x 7'-10" x 1'-3/4" 3'-8"W x 3'-4"H OPNG IN TRANSOM 4'-4"W x 11'-4"H FRAME/TRANSOM SEE DETAIL BELOW	INSULATED FLUSH ALUMINUM	ALUMINUM	CLEAR ANODIZED	1, 2, 3, 4, 5, 9	INSULATED DOOR, PROVIDE CONSTRUCTION KEYING; COORDINATE MASTER KEY SYSTEM WITH OWNER
D6	3'-0" x 7'-2" x 1'-3/4" 3'-4" x 7'-4" FRAME	INSULATED FLUSH ALUMINUM	ALUMINUM	CLEAR ANODIZED	1, 2, 3, 4, 5, 9	DOOR WITH WINDOW AT TOP OF ROOF STAIR ACCESS, LOCKSET
D7	3'-0" x 7'-2" x 1'-3/4" 3'-4" x 7'-4" FRAME	HOLLOW METAL	HOLLOW METAL	PRIME AND FINISH PAINT	2, 3, 4, 6	DOOR WITH WINDOW AND LOUVER AT BOTTOM OF STAIRWAY, LATCHSET, C-LABEL FIRE-RATED
D8	EXISTING DOOR	EXISTING HOLLOW METAL	EXISTING HOLLOW METAL	PRIME FINISH PAINT	EXISTING HARDWARE	MODIFY EXISTING DOOR LEAF FOR NEW 10" SQ. WINDOW; GLAZING (INSULATED, DBL PANE, WIRED GLASS), PRIME AS REQUIRED AND FINISHED PAINT ENTIRE DOOR AND FRAME
D9	2'-4" x 5'-6" x 1¾" 2'-8" x 5'-8" FRAME	HOLLOW METAL	HOLLOW METAL	PRIME AND FINISH PAINT	1, 3	CLEANOUT ACCESS, NORMALLY LOCKED
OH1	8'-0"W x 8'-0"H	INSULATED ALUMINUM SLATS	HOT DIP GALV. STEEL	CLEAR ANODIZED ALUMINUM SLATS	N/A	STEEL COMPONENTS FINISH PAINTED TO MATCH ALUMINUM FINISH INSULATED SLATS, MANUALLY OPERATED

*REFER TO DOOR/LOUVER FRAME DETAILS ON ELEVATION DETAILS THIS SHEET

ROOM FINISH SCHEDULE

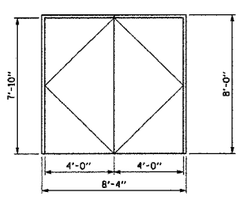
ROOM NAME	STOOP	FLOOR		WALLS		CEILING		REMARKS
	ELEV.	FINISH	COLOR	FINISH	COLOR	FINISH	COLOR	
ELECTRICAL CONTROL ROOM	419.5	NON-SLIP EPOXY COATING	LIGHT GRAY	HI-BUILD EPOXY COATING	TANNERY	HI-BUILD EPOXY COATING	WHITE	
ENGINE GENERATOR ROOM	419.5	NON-SLIP EPOXY COATING	LIGHT GRAY	HI-BUILD EPOXY COATING	TANNERY	HI-BUILD EPOXY COATING	WHITE	
ROOF STAIR ACCESS	420.0	NON-SLIP EPOXY COATING	LIGHT GRAY	HI-BUILD EPOXY COATING	TANNERY	HI-BUILD EPOXY COATING	WHITE	
EXISTING BUILDING MOTOR ROOM	408.0	NON-SLIP EPOXY COATING	LIGHT GRAY	HI-BUILD EPOXY COATING	TANNERY	HI-BUILD EPOXY COATING	WHITE	LEAD ABATEMENT (SEE SPECIFICATIONS) FINISH PAINT INTERIOR
EXISTING BUILDING MCC ROOM	408.0	NON-SLIP EPOXY COATING	LIGHT GRAY	HI-BUILD EPOXY COATING	TANNERY	HI-BUILD EPOXY COATING	WHITE	LEAD ABATEMENT (SEE SPECIFICATIONS) FINISH PAINT INTERIOR
EXISTING BUILDING DISCHARGE FLOORS	393.67	NON-SLIP EPOXY COATING	LIGHT GRAY	HI-BUILD EPOXY COATING	TANNERY	HI-BUILD EPOXY COATING	WHITE	POWER WASHING ALL SURFACES REQUIRING PAINTING FINISH PAINT PER SPECIFICATIONS
EXISTING BUILDING INTERMEDIATE ROOM	380.0	NON-SLIP EPOXY COATING	LIGHT GRAY	HI-BUILD EPOXY COATING	TANNERY	HI-BUILD EPOXY COATING	WHITE	POWER WASHING ALL SURFACES REQUIRING PAINTING FINISH PAINT PER SPECIFICATIONS

LOUVER SCHEDULE (COORDINATE WITH MECHANICAL DRAWINGS AND SPECS)

LOUVERS NO.	SIZE	% FREE AREA	MATERIAL	FINISH	SCREENS	REMARKS
L1	(4) 4'-0"W x 4'-4"H LOUVERS 8'-6"W x 9'-2"H M.O.	50% MIN.	ALUMINUM	CLEAR ANODIZED	INSECT TYPE STAINLESS STEEL	4 LOUVER PANELS TO FIT INTO AN ALUMINUM FRAME w/ CENTER DIVIDERS. CENTER DIVIDERS TO BE FASTENED, AND REMOVABLE. COORDINATE WITH MECHANICAL
L2	(6) 3'-4"W x 5'-0"H LOUVERS 10'-8"W x 10'-8"H M.O. FRAME 1: 2"x6" TUBING (SEE DETAIL) FRAME 2: 2"x8", 4"x4" TUBING (SEE DETAIL)	50% MIN	ALUMINUM	CLEAR ANODIZED	INSECT TYPE STAINLESS STEEL	2 LOUVER PANELS TO FIT INTO AN ALUMINUM FRAME w/ CENTER DIVIDERS. DIVIDERS REMOVABLE.
L3	2 @ 20"W X 40"H LOUVERS SEE DOOR D5 FOR TRANSOM OPENING	50% MIN	ALUMINUM	CLEAR ANODIZED	INSECT TYPE STAINLESS STEEL	FIT LOUVER INTO DOOR TRANSOM FRAME. COORDINATE WITH INSTALLATION OF DAMPER

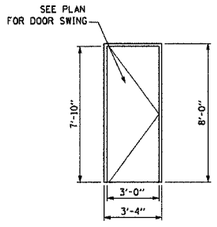
*REFER TO DOOR/LOUVER FRAME DETAILS ON ELEVATION DETAILS THIS SHEET

NOTE: 1. ALL VOUVER FINISH COLORS TO MATCH CLEAR ANODIZED ALUMINUM OR COLOR AS SELECTED BY ENGINEER.



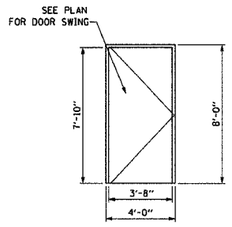
DOUBLE DOOR D1

EXTERIOR DOOR WITH INACTIVE LEAF



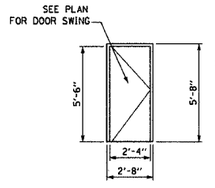
DOOR D3

EXTERIOR DOOR INSULATED

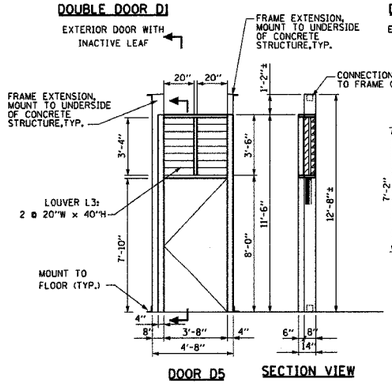


DOORS D2, D4

EXTERIOR DOOR INSULATED



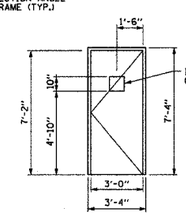
DOOR D9



DOOR D5

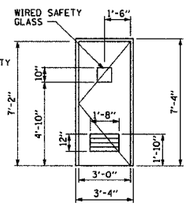
EXTERIOR DOOR & LOUVER

SECTION VIEW



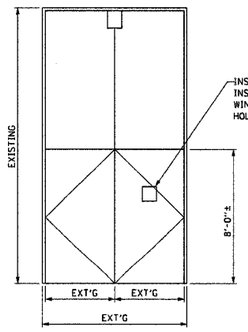
DOOR D6

EXTERIOR DOOR TOP OF STAIRWAY INSULATED



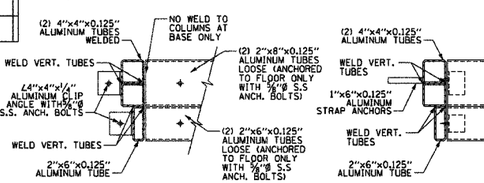
DOOR D7

INTERIOR DOOR BOTTOM OF STAIRWAY C-LABEL DOOR AND FRAME



EXISTING DOUBLE DOOR D8

PRIME AS REQUIRED AND FINISH PAINT ENTIRE DOOR AND FRAME. COLOR AS SELECTED BY ENGINEER

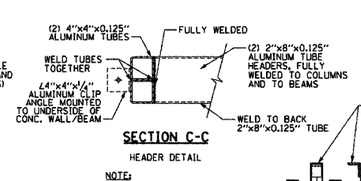


SECTION A-A

BASE SECTION DETAIL

SECTION B-B

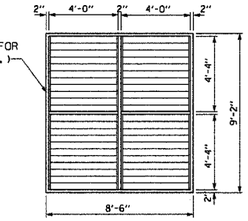
MID-SECTION DETAIL



SECTION C-C

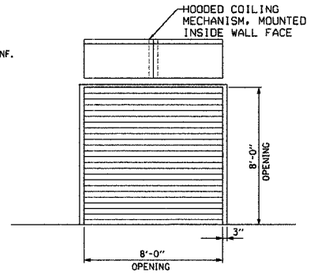
HEADER DETAIL

NOTE:
FULLY WELDED FRAME EXCEPT AT INTERMEDIATE REMOVABLE MEMBERS.



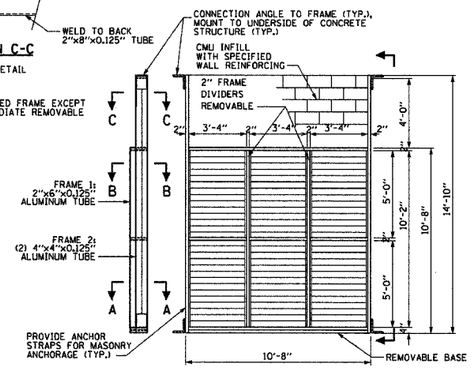
L1

FOUR LOUVERS: 4'-0"W x 4'-4"H
ALUMINUM FRAMING: 2" x 8" TUBING
INTERIOR 2" FRAME DIVIDERS REMOVABLE
(CLEAR ANODIZED ALUMINUM OR COLOR AS SELECTED BY ENGINEER



OH1

INSULATED OVERHEAD DOOR
CHAIN OPERATED
(INTERIOR WALL SURFACE MOUNTED, DOOR ASSEMBLY)
CLEAR ANODIZED ALUMINUM
AS SELECTED BY ENGINEER



SECTION VIEW

L2

TWO LOUVERS: 3'-4"W x 5'-0"H
ALUMINUM FRAMING: 2"x6", 2"x8" AND 4"x4" TUBING
INTERIOR 2" FRAME DIVIDERS REMOVABLE
BOTTOM (2) 2"x6" AND (2) 2"X8" TUBE FRAME BASE REMOVABLE

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

A7

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

ARCHITECTURAL SCHEDULES & DETAILS

SCALE: AS SHOWN DRAWN BY: CM

DATE: 09-12-05 CHECKED BY: MW

PLOT DATE: *DATE-TIME*

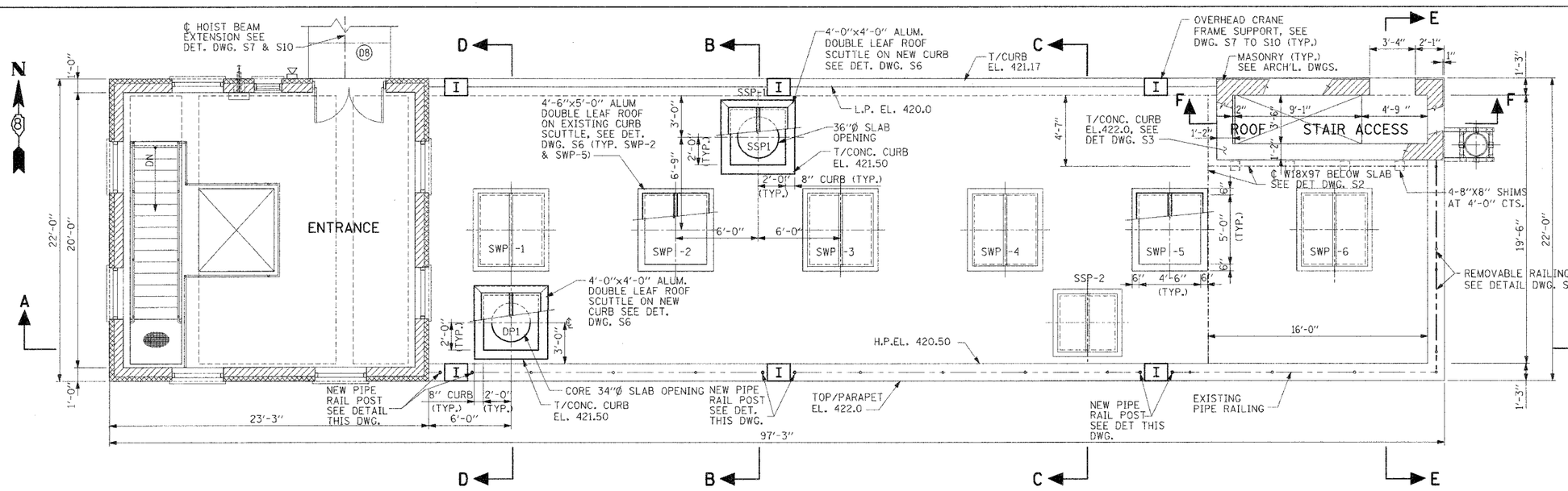
PLAN SURVEYED: ALIGNMENT CHECKED RT. OF WAY CHECKED DATE FILE NAME NOTE BOOK NO.

DATE BY

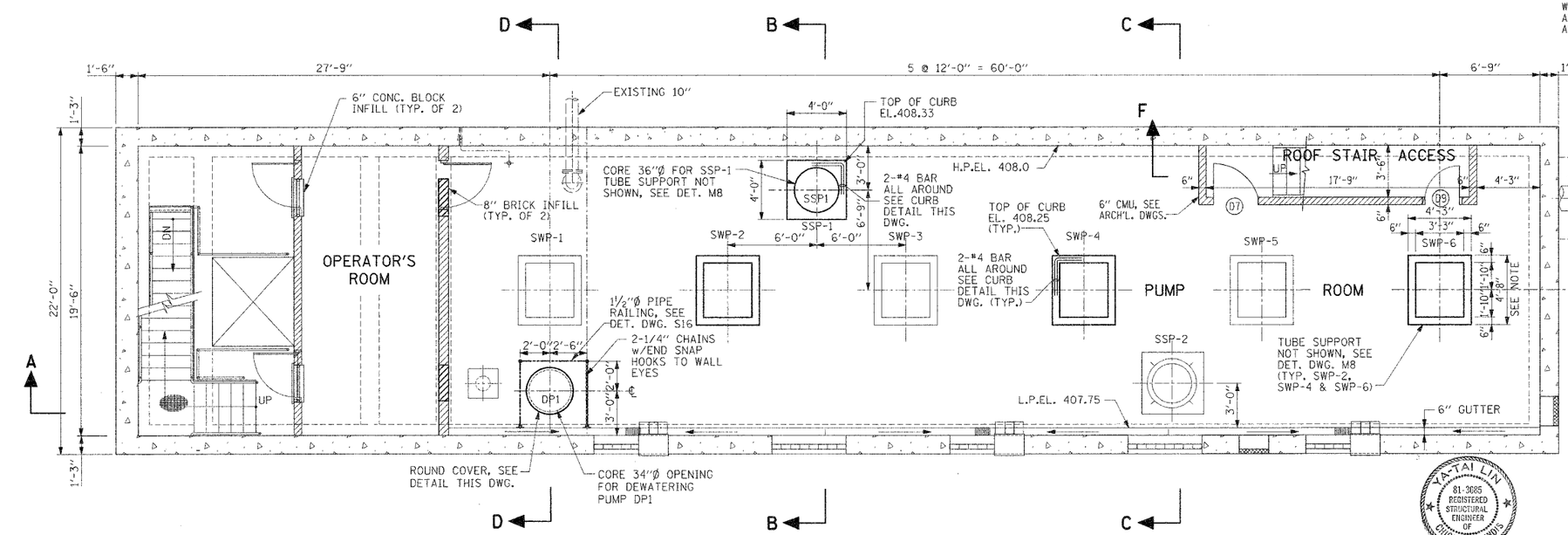
#DATE# *DATE-TIME* *DGN-SPEC* *REF-* *REF-*

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	18
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

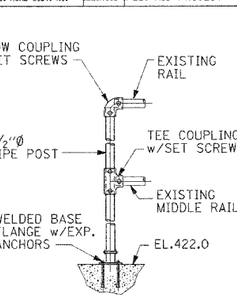
PLAN	DATE
SURVEYED	
PLOTTED	
ALIGNMENT CHECKED	
PLANS CHECKED	
NOTE BOOK	
NO.	
LADD FILE NAME	



PLAN @ EL. 422.0

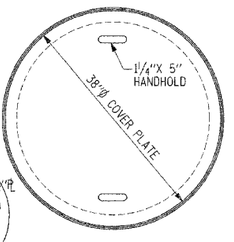


PLAN @ EL. 408.0

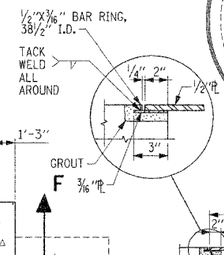


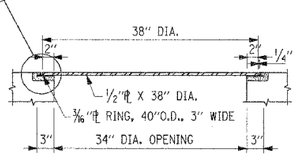
1. ALL RAILING POSTS, FITTINGS & HARDWARE SHALL BE HOT DIP GALVANIZED IRON OR STEEL.
2. EXPOSED CUT EDGES SHALL BE COLD GALVANIZED.

NEW PIPE RAIL POST DETAIL



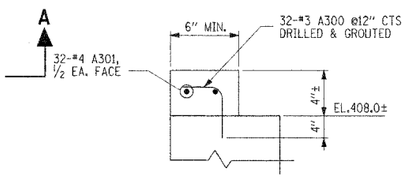
PLAN





SECTION
(ALL STEEL HOT DIP GALVANIZED)

ROUND COVER DETAIL



PUMP ROOM CURB DETAIL

YATAI LIN
81-3085
REGISTERED STRUCTURAL ENGINEER OF
CHICAGO ILLINOIS
4/11/05

NEW CONSTRUCTION DESIGN CODES

IBC 2003
SEI/ASCE 7-02
SEISNIC DESIGN CATEGORY "D"
EXPOSURE CATEGORY "D"
DESIGN WIND SPEED 90mph
DESIGN SNOW LOAD 20psf
ACI 318-02
AISC ASD 9th ED.

NOTE:

1. TUBE PUMP BASE PLATE, COLUMN & DISCHARGE STUB SIZES SHALL BE BASED ON EXISTING FLOOR OPENING DIMENSIONS.

0' 2' 4' 8'
SCALE: 1"= 4'

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

S1

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

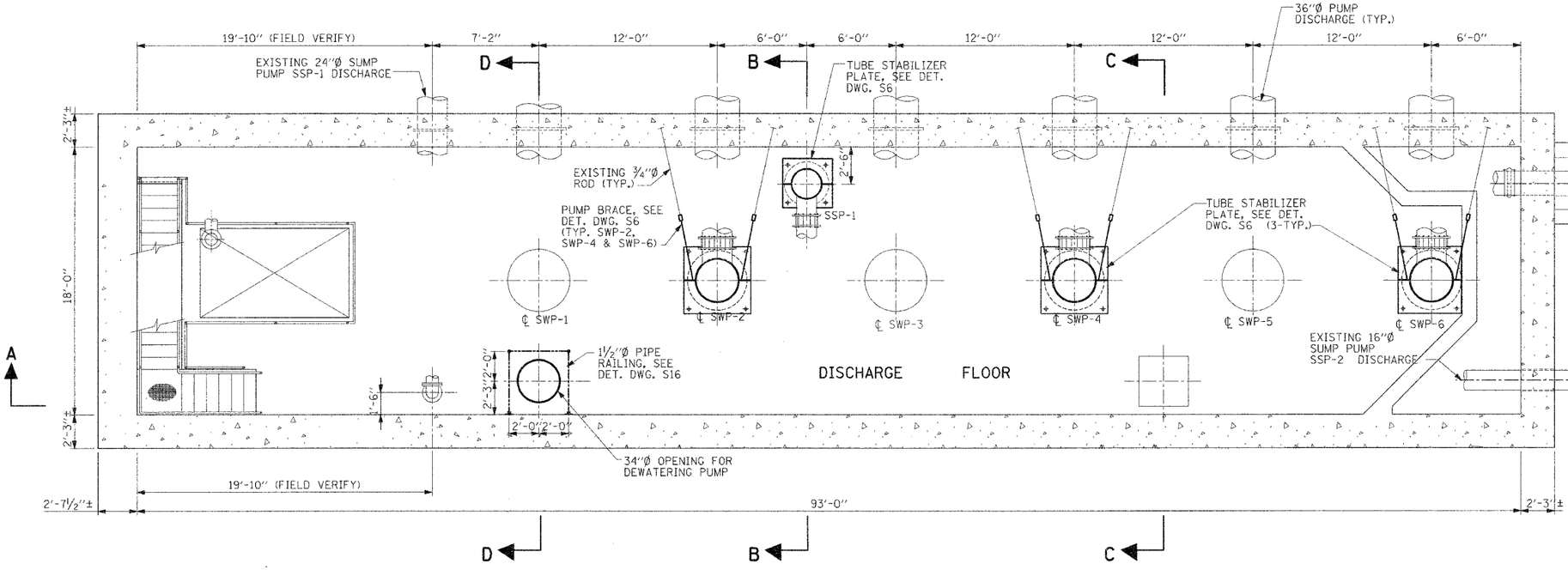
STRUCTURAL PLANS (PUMP STATION)

SCALE: AS SHOWN DRAWN BY: CM
DATE: 09-12-05 CHECKED BY: SP

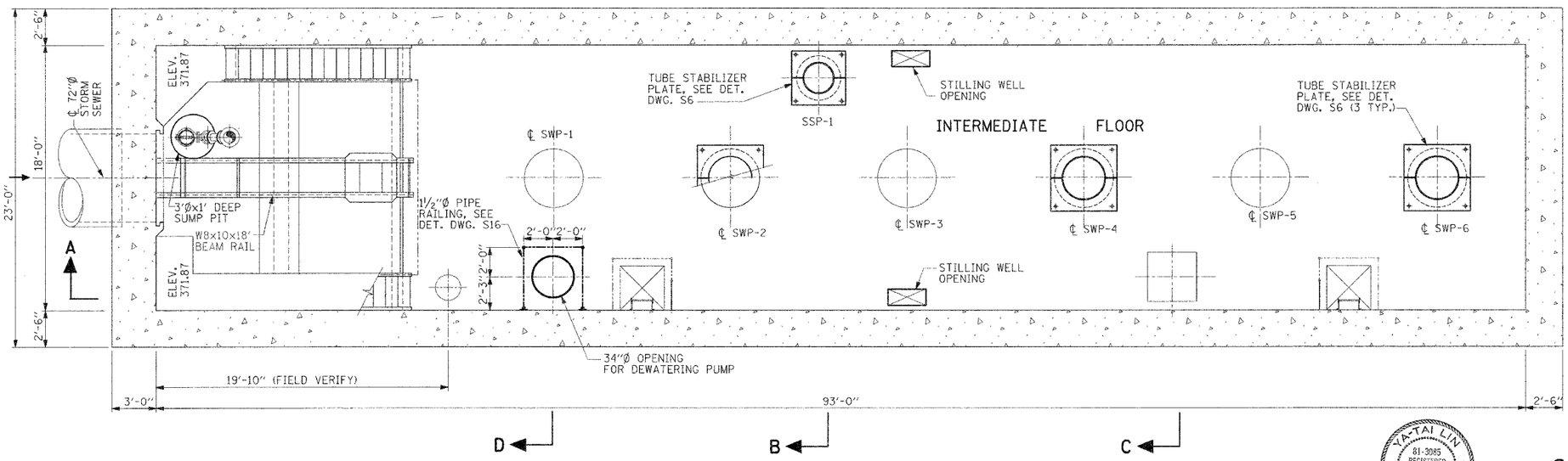
PLOT DATE: •DATE-TIME•

•$STATE•
•$STATE_TIME•
•DGN-SPEC•
•REF•
•REF•

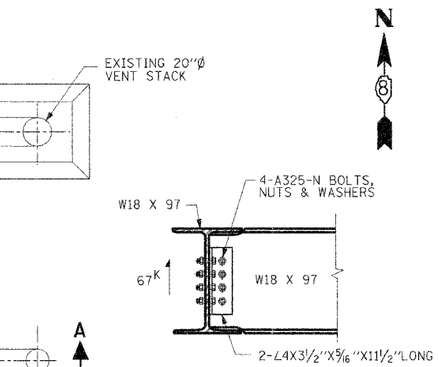
F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	19
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



PLAN @ EL. 393.67

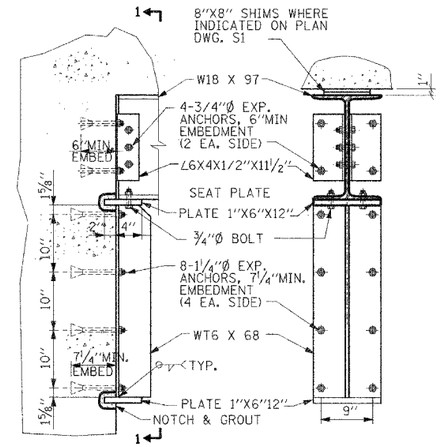


PLAN @ EL. 380.0



W18 TO W18 BEAM CONNECTION

(FOR LOCATION SEE DWG. S1)



BEAM TO WALL SUPPORT DETAIL

(FOR LOCATION SEE DWG. S1)

ALL STEEL HOT DIP GALVANIZED
ALL EXP. ANCHORS STAINLESS STEEL

SCALE: 1"=1'-0"

0' 2' 4' 8'

SCALE: 1"= 4'

YA-TAI LIN
81-3085
REGISTERED STRUCTURAL ENGINEER
OF
CHICAGO, ILLINOIS
9/1/05

S2

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

STRUCTURAL PLANS (PUMP STATION)

SCALE: AS SHOWN
DATE: 09-12-05
DRAWN BY: CTM
CHECKED BY: SP

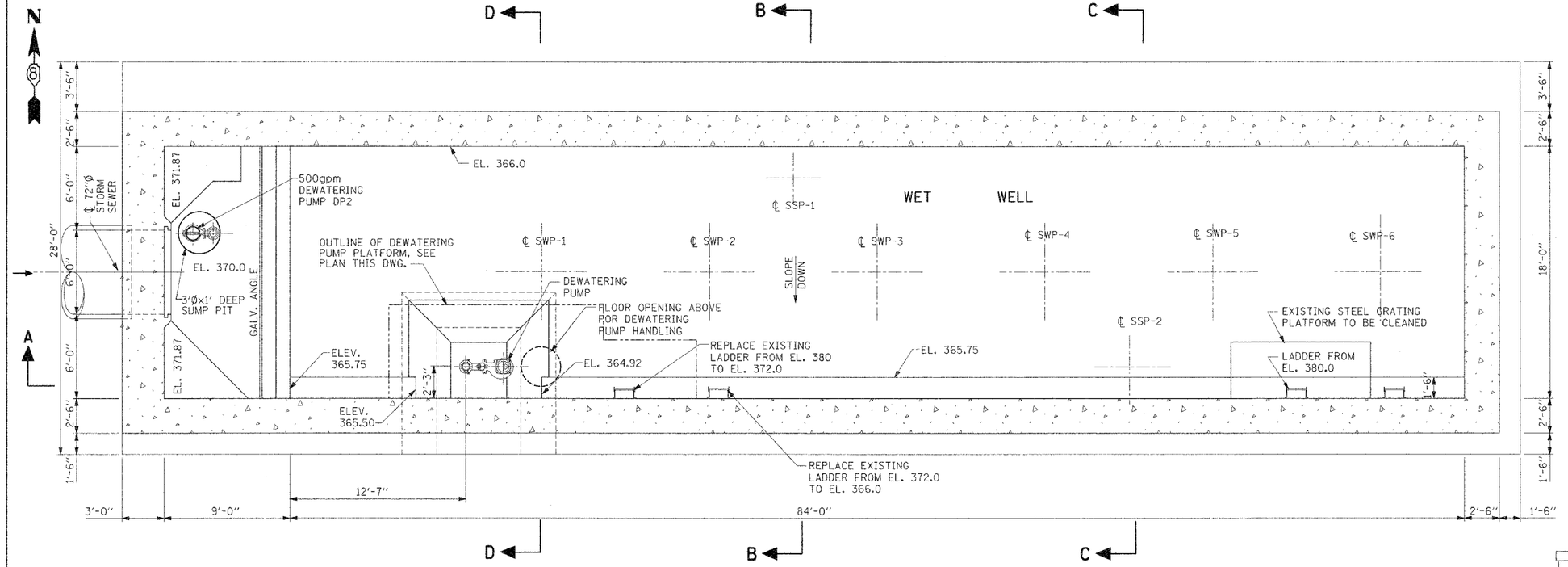
PLOT DATE: *DATE-TIME*

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

PLAN SURVEYED BY: FIELD BOOK NO. ILLINOIS DEPT. OF WAY CHECKED AND FILE NAME DATE

$$DATE$$
DATE-TIME
DGN-SPEC
*REF-
*REF-

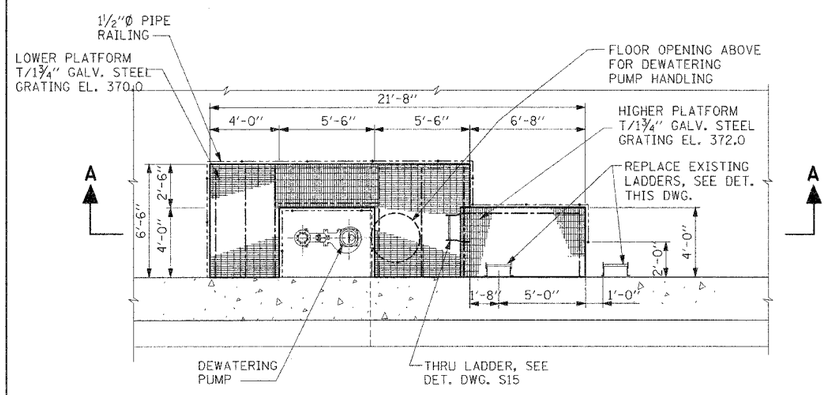
F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	20
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



PLAN

NO.	NOTE BLOCK	BY	DATE
	SURVEYED DESIGNED DRAWN BY CHECKED QUANTITIES CHECKED R.P. OF WAY CHECKED DATE FILE NAME		

PLAN @ EL. 366.0

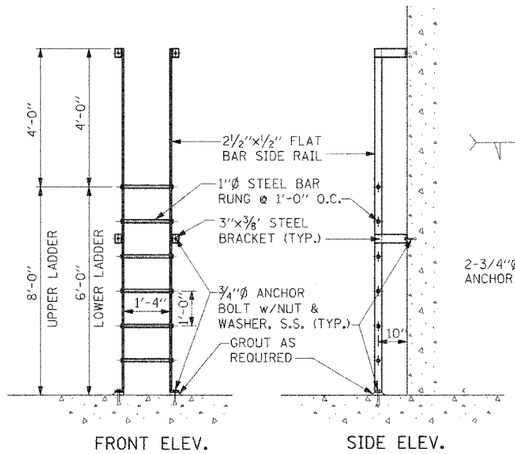


DEWATERING PUMP PLATFORM GRATING PLAN EL. 370.0 & 372.0

FOR PLATFORM FRAME SEE DET. DWG. S4 & S16

0' 2' 4' 8'

SCALE: 1"= 4'

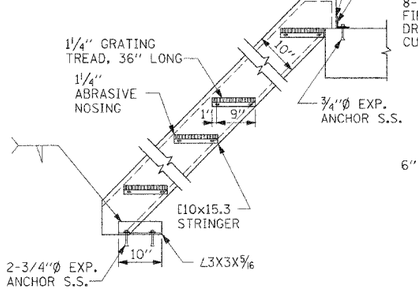


LADDER DETAIL

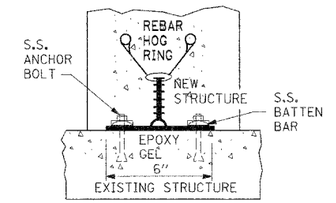
FOR PLATFORM ELEV. SEE DWG. S4

0' 1' 2' 4'

SCALE: 1"= 2'

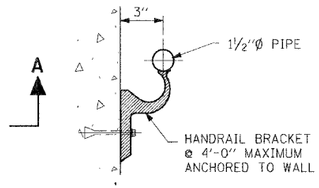


STRINGER DETAIL

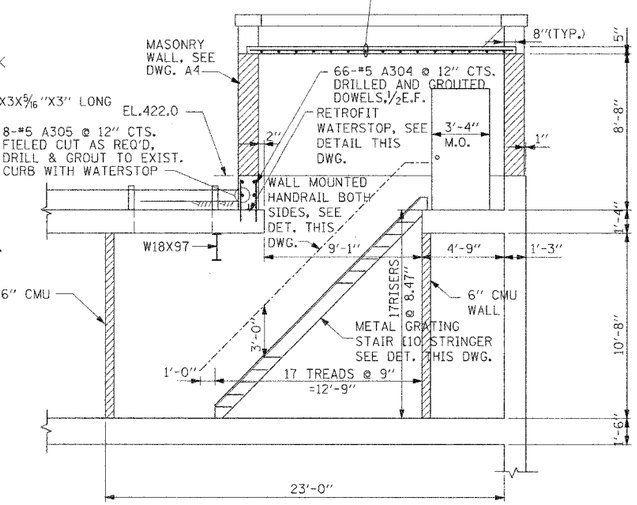


GREENSTREAK SPECIAL SHAPE 609 SYSTEM

RETROFIT WATERSTOP DETAIL



WALL MOUNTED HANDRAIL DETAIL



SECT. F-F

0' 2' 4' 8'

SCALE: 1"= 4'

GENERAL NOTES:
1. ALL STEEL SHAPES, PLATES, GRATINGS AND MEMBERS SHALL BE HOT DIP GALVANIZED AFTER FABRICATION.
2. FOR STAIRWELL ARCHITECTURAL DETAILS, SEE ARCHITECTURAL DRAWINGS.
3. FOR STAIRWELL MECHANICAL HVAC DETAILS, SEE MECHANICAL DRAWINGS.

YA-TAI LIN
81-3085
REGISTERED STRUCTURAL ENGINEER OF
CHICAGO, ILLINOIS
4/7/05

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REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

STRUCTURAL PLANS (PUMP STATION)

SCALE: AS SHOWN — DRAWN BY: CTM

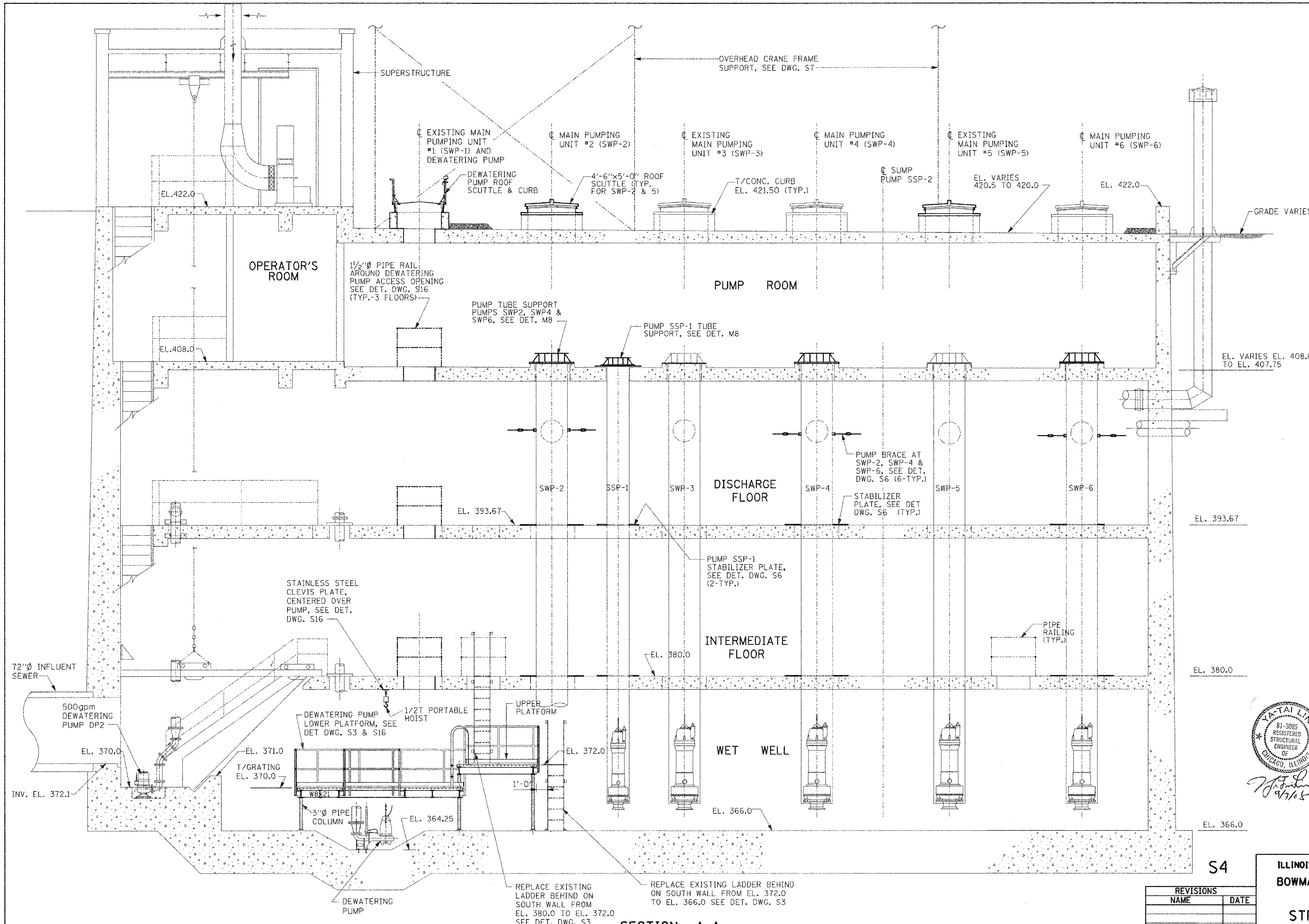
DATE: 09-12-05 — CHECKED BY: SP

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

PLOT DATE: *DATE-TIME*

DATE
DATE-TIME
DGN-SPEC
XREF
REF

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	21
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



SECTION A-A

0' 2' 4' 8'
SCALE: 1"= 4'

YA-TAI LIN 81-3085 REGISTERED STRUCTURAL ENGINEER OF CHICAGO, ILLINOIS

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ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

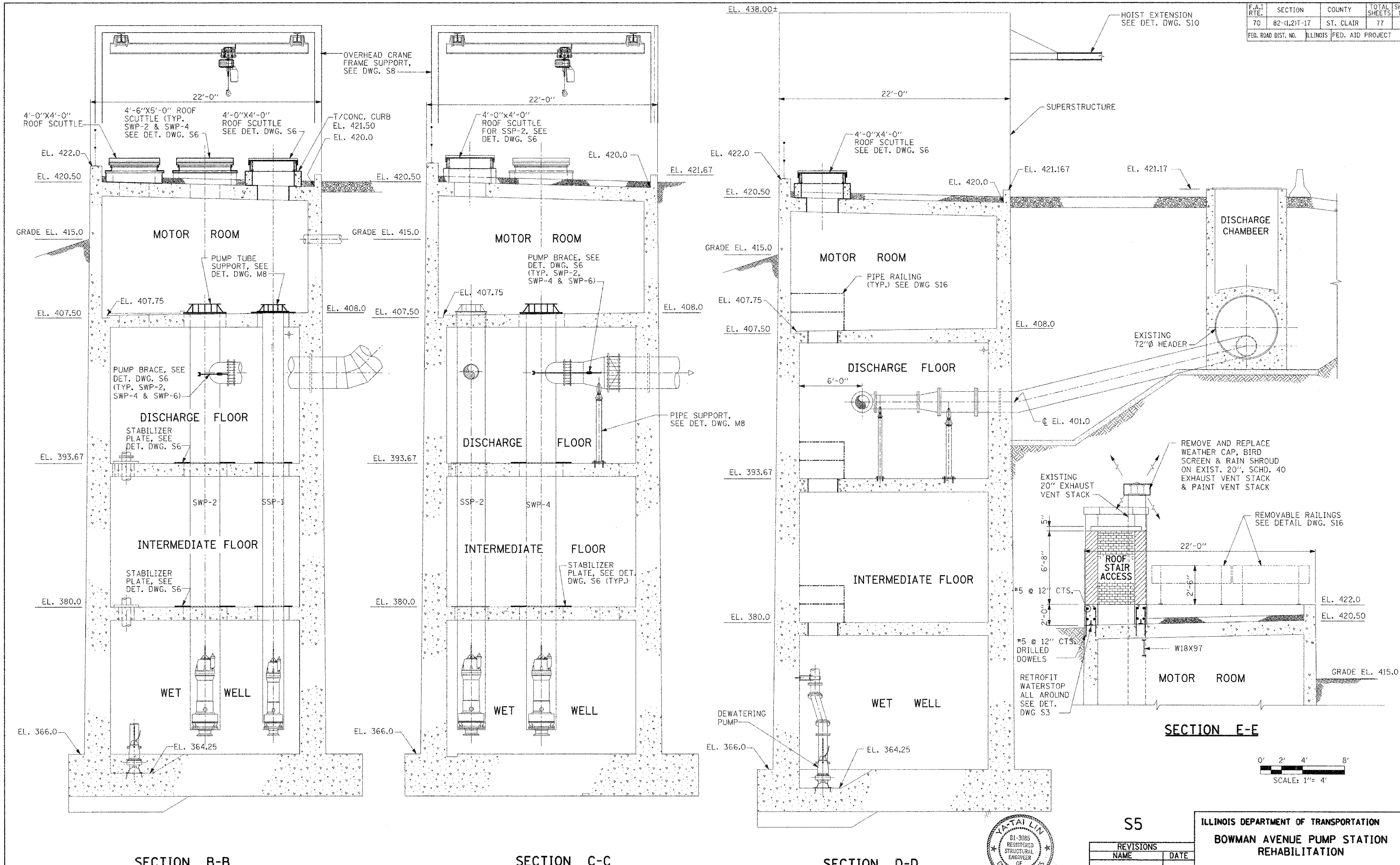
BOWMAN AVENUE PUMP STATION REHABILITATION

STRUCTURAL SECTIONS (PUMP STATION AND SUPPORTS)

SCALE: AS SHOWN DRAWN BY: CTM
DATE: 09-12-05 CHECKED BY: SP

PLOT DATE: *DATE-TIME*

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	22
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



S5

YA-TAI LIN 81-3085 REGISTERED STRUCTURAL ENGINEER OF CHICAGO, ILLINOIS
9/7/05

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

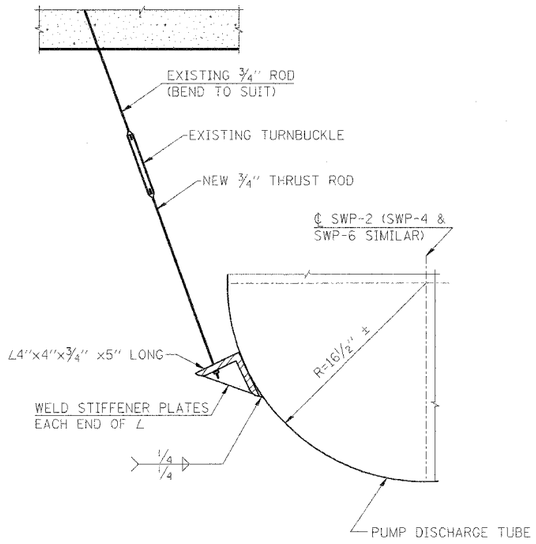
STRUCTURAL SECTIONS (PUMP STATION)

SCALE: AS SHOWN
DATE: 09-12-05
DRAWN BY: CTM
CHECKED BY: SP

PLOT DATE: *DATE-TIME*

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

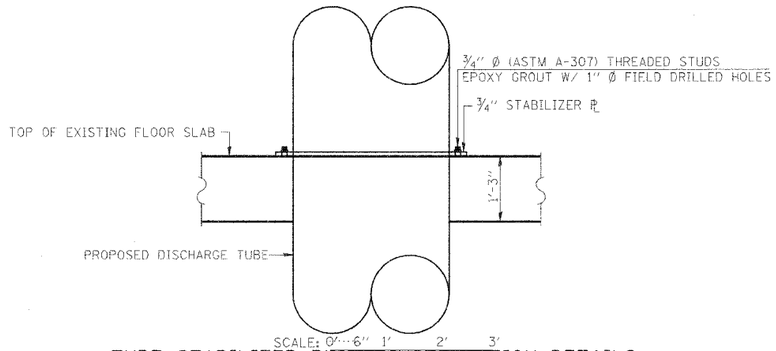
F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	23
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



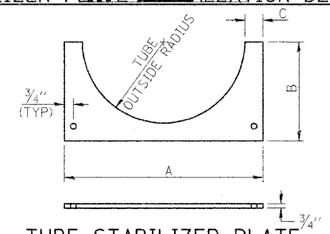
DETAIL A - PUMP BRACE

SCALE: 0' 3" 6" 1'

2 BRACES REQUIRED PER PUMP. TOTAL BRACES REQUIRED 6
TO BE FURNISHED BY PUMP MANUFACTURER.
ALL STEEL SHALL BE HOT DIP GALVANIZED AFTER FABRICATION



TUBE STABILIZER PLATE INSTALLATION DETAILS

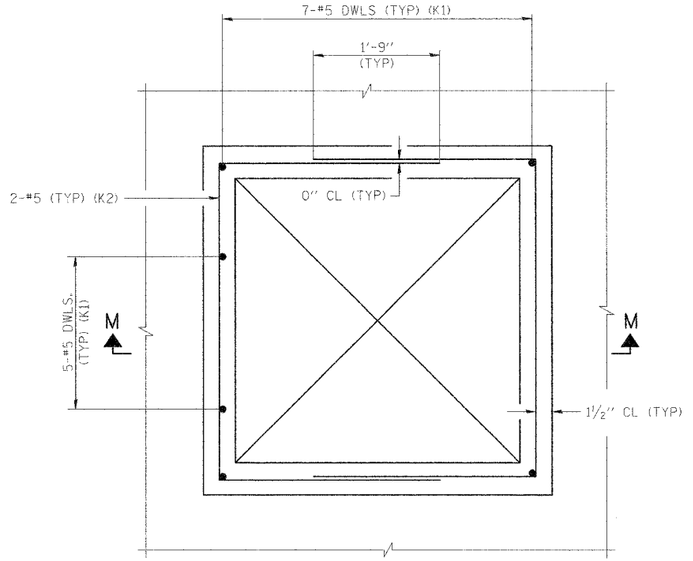


TUBE STABILIZER PLATE

SCALE: 0' 6" 1' 2' 3' (SSP-1 SHOWN)

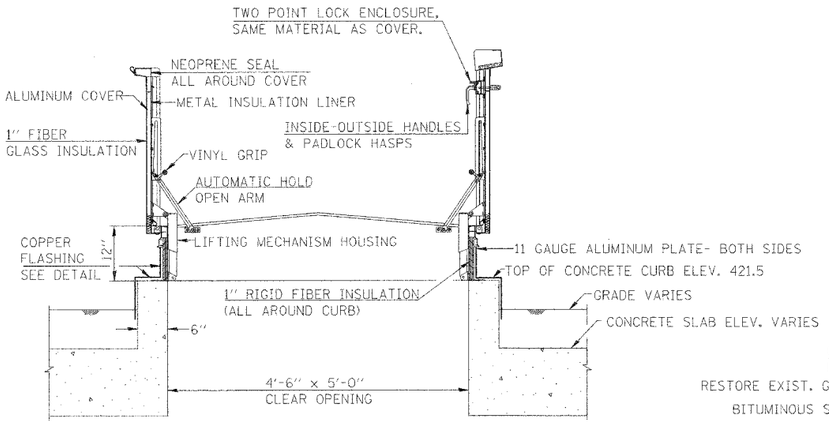
STABILIZER PLATES TO BE FURNISHED BY PUMP MANUFACTURER.
STEEL SHALL BE HOT DIP GALVANIZED AFTER FABRICATION

LOCATION	FLOOR EL.	A	B	C
SSP-1	393.67	3'-8"	1'-10"	9 1/4" ±
SSP-1	380.0	3'-8"	1'-10"	9 1/4" ±
SWP-2	393.67	4'-6"	2'-3"	9 1/4" ±
SWP-2	380.0	4'-6"	2'-3"	9 1/4" ±
SWP-4	393.67	4'-6"	2'-3"	9 1/4" ±
SWP-4	380.0	4'-6"	2'-3"	9 1/4" ±
SWP-6	393.67	4'-0"	2'-1 3/4"	6 1/4" ±
SWP-6	380.0	4'-6"	2'-3"	9 1/4" ±



PLAN

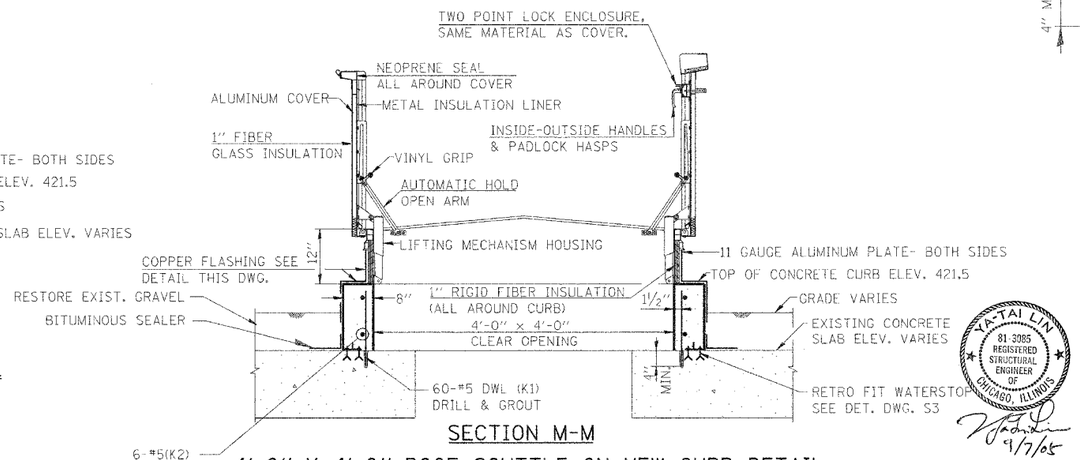
(CURB AROUND ROOF OPENING)
SCALE: 0' 6" 1' 2'



4'-6" X 5'-0" ROOF SCUTTLE OVER EXISTING CURB DETAIL

(AT SWP2 AND SWP5)

SCALE: 0' 6" 1' 2' 3'

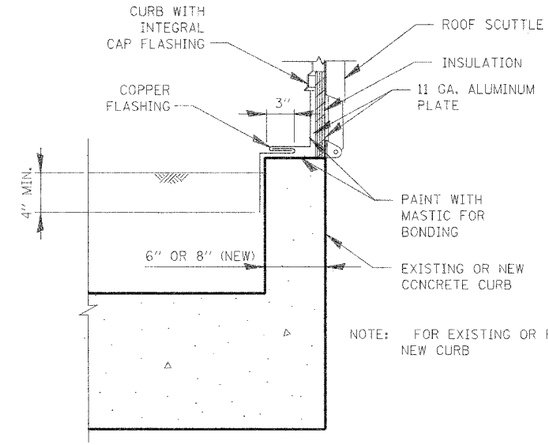


SECTION M-M

4'-0" X 4'-0" ROOF SCUTTLE ON NEW CURB DETAIL

(AT SP1 AND DP1)

SCALE: 0' 6" 1' 2' 3'



COPPER FLASHING DETAIL

NTS

YA-TAI LIN
81-3085
REGISTERED STRUCTURAL ENGINEER OF
CHICAGO, ILLINOIS
9/7/05

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

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REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

MISCELLANEOUS DETAILS

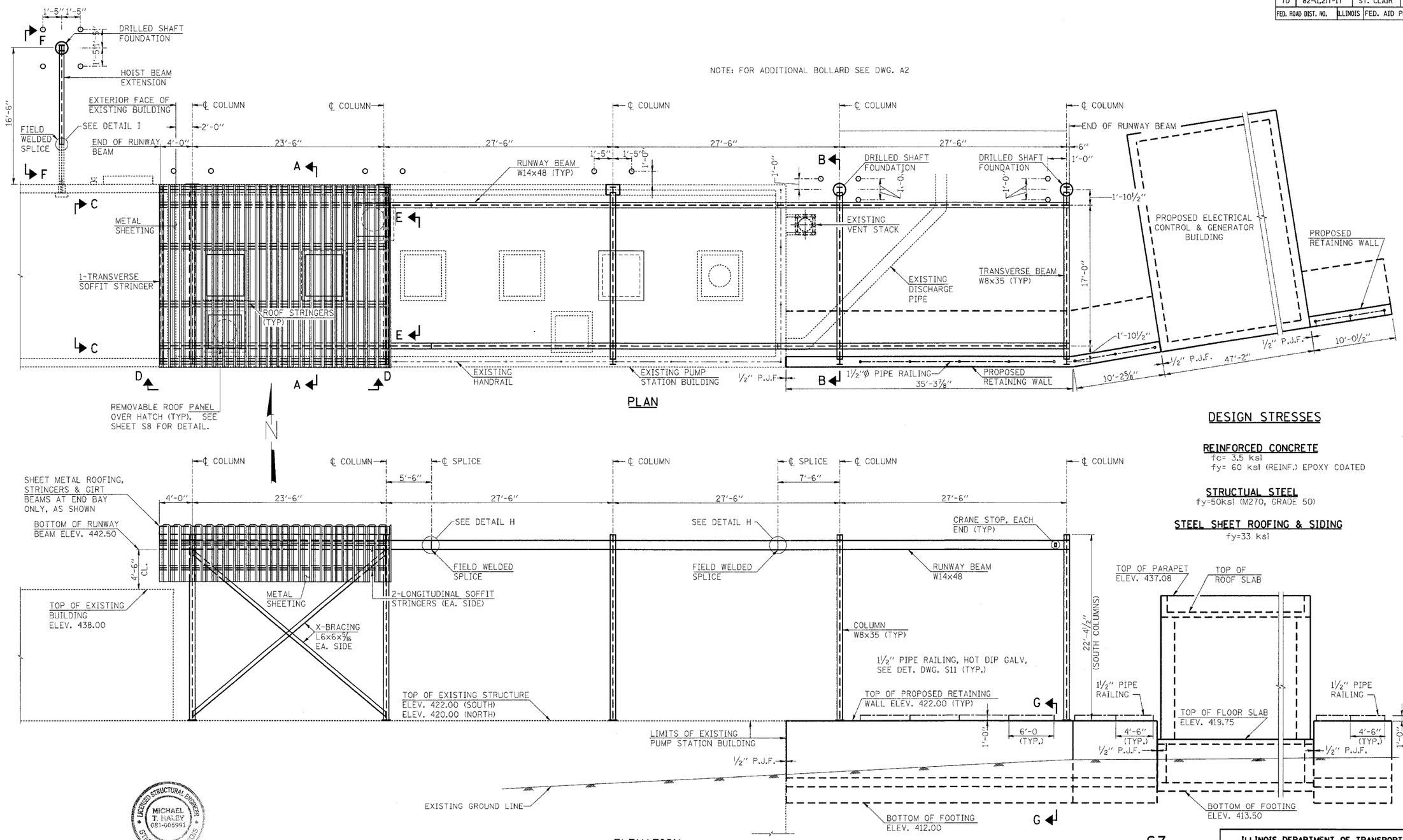
SCALE: AS SHOWN DRAWN BY: JMD
DATE: 09-12-05 CHECKED BY: KC

PLOT DATE: *DATE-TIME*

PLAN
SURVEYED
PLOTTED
ALIGNMENT CHECKED
PLT. OF REV. CHECKED
ROAD FILE NAME
NOTE BOOK
NO.
BY
DATE

$&DATE*&
DATE-TIME
RON-SPEC
*REF-
*REF-

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	24
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



DESIGN STRESSES

REINFORCED CONCRETE
f'c= 3.5 ksi
fy= 60 ksi (REINF.) EPOXY COATED

STRUCTUAL STEEL
fy=50ksi (M270, GRADE 50)

STEEL SHEET ROOFING & SIDING
fy=33 ksi

NOTES:
1. FOR SECTIONS A-A AND B-B SEE SHEET S8
2. FOR VIEWS C-C, D-D, E-E AND F-F SEE SHEET S10
3. FOR SECTION G-G SEE SHEET S11
4. FOR DETAILS H AND I SEE SHEET S10

LICENSED STRUCTURAL ENGINEER — MICHAEL T. HALEY 081-005991 — STATE OF ILLINOIS
9-7-05

LIN ENGINEERING, LTD.

S7

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

OVERHEAD CRANE FRAMING PLAN

SCALE: AS SHOWN — DRAWN BY: JMD
DATE: 09-12-05 — CHECKED BY: KC

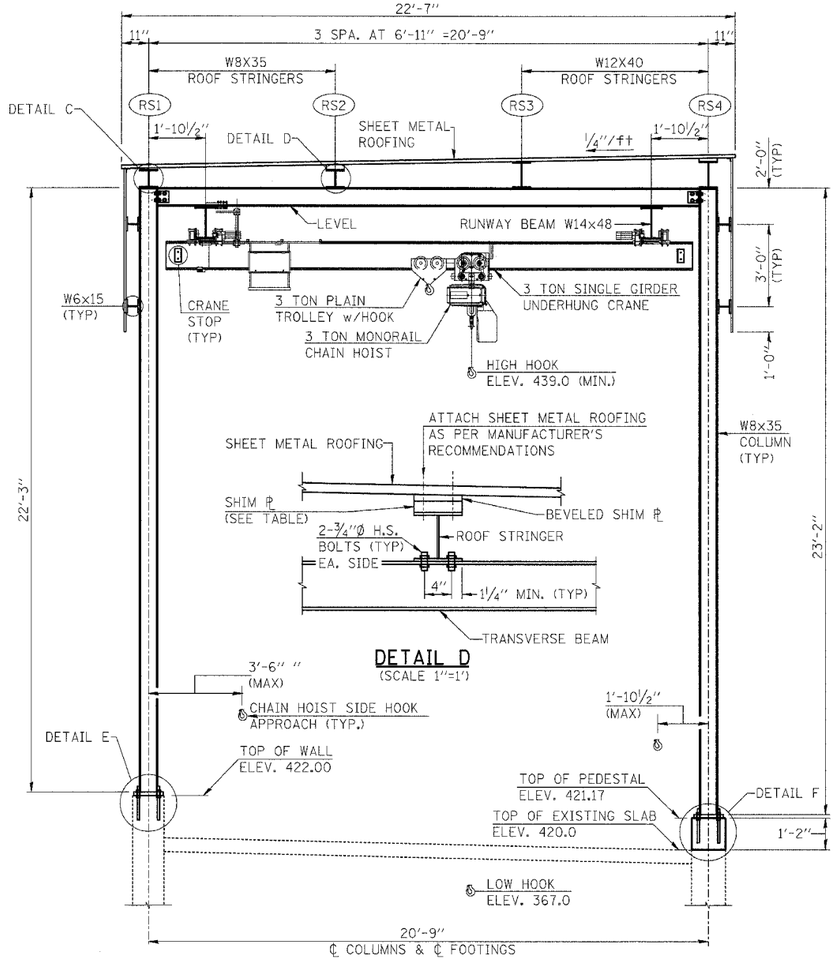
PLOT DATE: *DATE-TIME*

DATE | PLAN | SURVEYED | PLOTTED | ALL DRAWINGS CHECKED | RT. OF WAY CHECKED | CADD FILE NAME | NOTE BOOK NO.

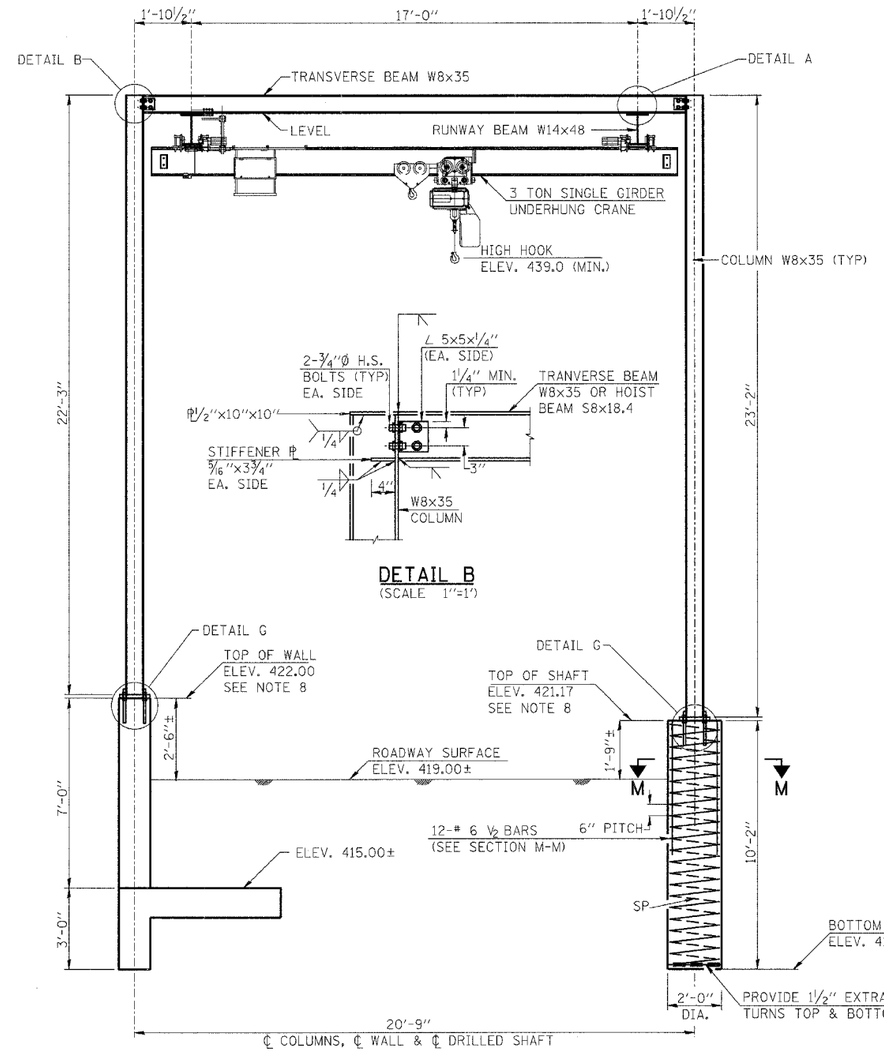
WRITTEN *DATE-TIME* *DGN-SPEC* *REF* *REF*

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	25
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

PLAN — SURVEYED / PLOTTED / ALIGNMENT CHECKED / RT. OF WAY CHECKED / CADD FILE NAME / NOTE BOOK NO. / DATE



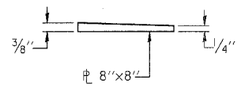
SECTION A-A
SCALE: 0' 1' 2' 4' 6'



SECTION B-B
SCALE: 0' 1' 2' 4' 6'

NOTES:

1. FOR SECTION M-M SEE SHEET S9
2. FOR DETAILS E, F, AND G SEE SHEET S9
3. FOR COLUMN FOOTING BILL OF MATERIALS AND BAR DETAILS SEE SHEET S9.
4. ALL STRUCTUAL STEEL SHALL BE AASHTO M270 GRADE 50
5. FASTENERS SHALL BE HIGH STRENGTH BOLTS (AASHTO M164, TYPE 3) BOLTS ¾"Ø,HOLES 13/16 "Ø.
6. ALL STRUCTUAL STEEL SHALL BE GALVANIZED AFTER SHOP FABRICATION ACCORDING TO AASHTO M111 AND ASTM385, EXCEPT BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED ACCORDING TO AASHTO M-232.
7. ALL FIELD DRILLED HOLES AND ANY DAMAGE TO GALVANIZATION SHALL BE COATED WITH AN APPROVED ZINC RICH PAINT BEFORE ERECTION.
8. TOP OF SHAFT AND WALL ELEVATIONS SHALL BE AT SAME ELEVATION AS FRAME SUPPORT ELEVATIONS ON PUMP STATION.

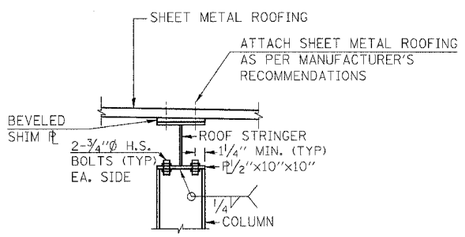


BEVELED SHIM PL
(NOT TO SCALE)

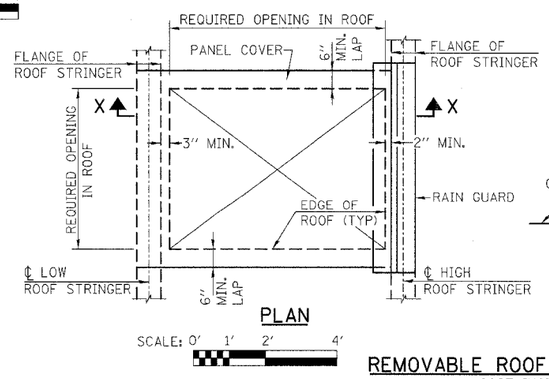
ALL ROOF STRINGERS REQUIRE A BEVELED STEEL SHIM PL TO ACCOUNT FOR ROOF PITCH (10 REQUIRED). ADDITIONAL SHIMS ARE REQUIRED AS SHOWN IN TABLE BELOW.

SHIM PL TABLE

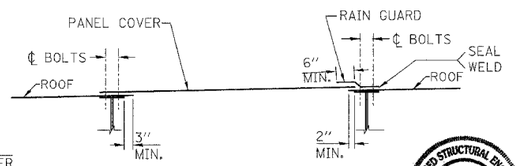
ROOF STRINGER	PL SIZE
RS1	⅜"x8"x8"
RS2	2⅛"x8"x8"
RS3	-
RS4	1¾"x8"x8"



DETAIL C
SCALE: 0' 6" 1' 2'

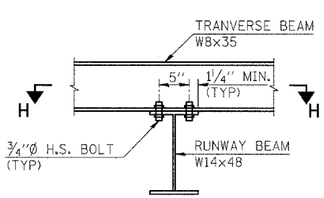


PLAN
SCALE: 0' 1' 2' 4'

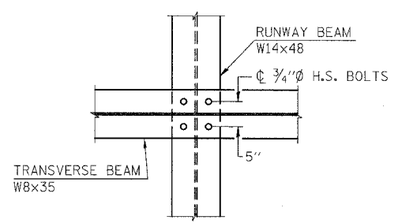


SECTION X-X

REMOVABLE ROOF PANEL DETAILS
COST INCIDENTAL
(4-REQUIRED)



DETAIL A
SCALE: 0' 6" 1' 2'



SECTION H-H
SCALE: 0' 6" 1' 2'

LICENSED STRUCTURAL ENGINEER
MICHAEL T. HALEY
081-005991
STATE OF ILLINOIS
9-7-05

LIN ENGINEERING, LTD.

S8

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

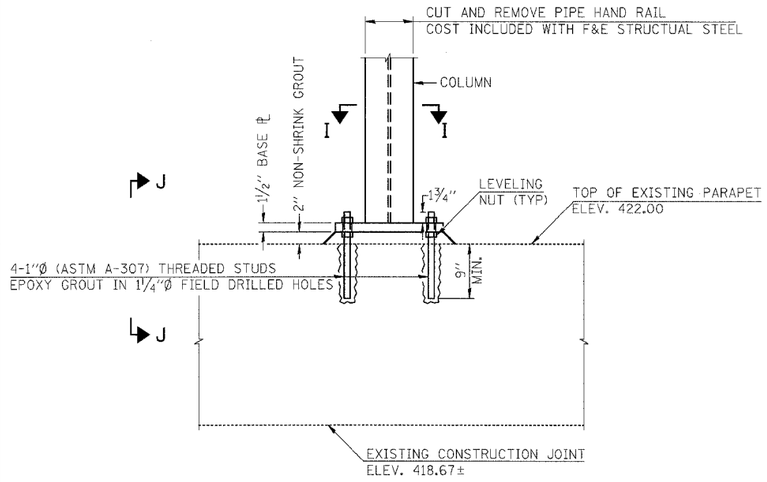
OVERHEAD CRANE FRAMING

SCALE: AS SHOWN
DATE: 09-12-05
DRAWN BY: JMD
CHECKED BY: KC

PLOT DATE: •DATE-TIME•

•DATE•
•DATE-TIME•
•DGN-SPEC•
•REF•
•REF•

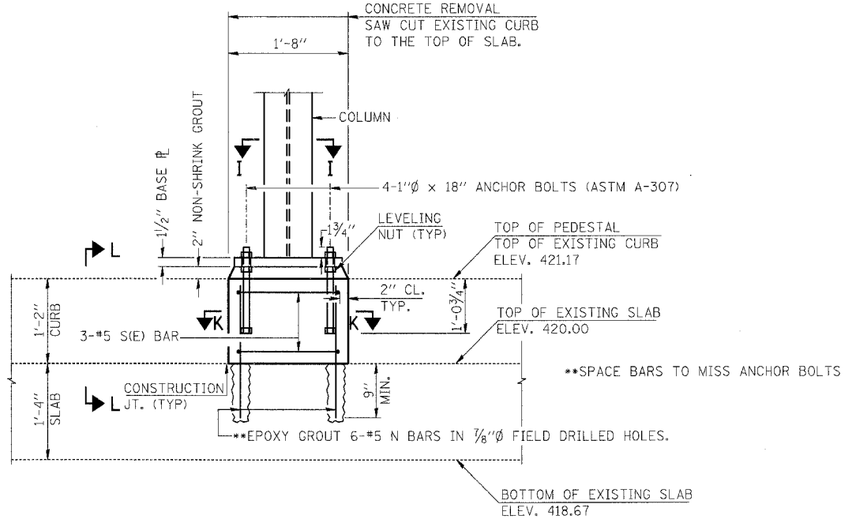
F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	26
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



DETAIL E

(LOOKING SOUTH)

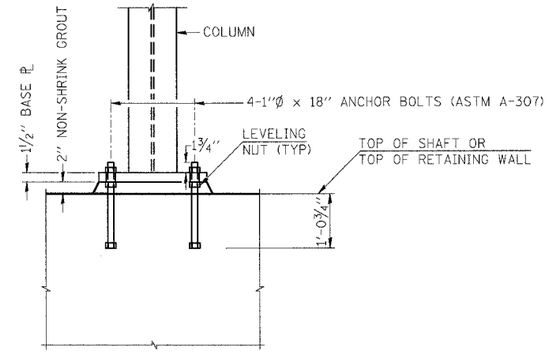
SCALE: 0' 6" 1' 2'



DETAIL F

(LOOKING SOUTH)

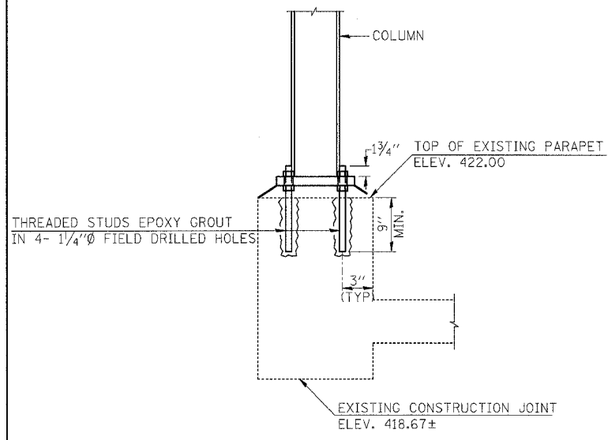
SCALE: 0' 6" 1' 2'



DETAIL G

(LOOKING SOUTH)

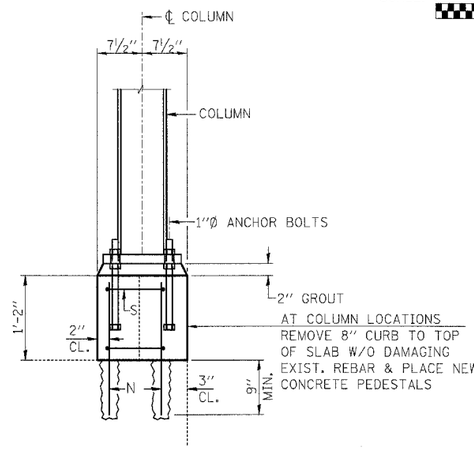
SCALE: 0' 6" 1' 2'



VIEW J-J

(LOOKING WEST)

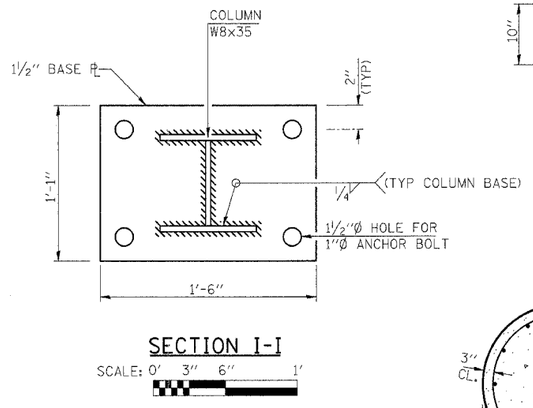
SCALE: 0' 6" 1' 2'



VIEW L-L

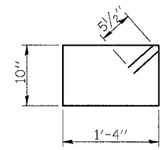
(LOOKING WEST)

SCALE: 0' 6" 1' 2'



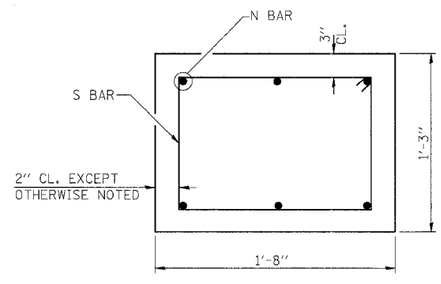
SECTION I-I

SCALE: 0' 3" 6" 1'



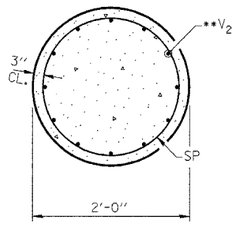
S BAR

(NOT TO SCALE)



SECTION K-K

SCALE: 0' 3" 6" 1'



SECTION M-M

(NOT TO SCALE)

COLUMN FOOTINGS BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
N	18	#5	1'-9"	
S	9	#5	5'-1"	
SP	3	#4	8'-11"	
V2	36	#6	8'-11"	
CONCRETE REMOVAL		CU. YD.	0.2	
REINFORCEMENT BARS EPOXY COATED		POUND	730	
CLASS SI CONCRETE		CU. YD.	0.3	
DRILLED SHAFT IN SOIL, 24"		FT	28	

* LENGTH IS THE HEIGHT OF SPIRAL

NOTES:

1. FOR LOCATIONS OF DETAILS E, F AND G SEE SHEET S8
2. SEE ADDITIONAL NOTES ON SHEET S11
3. ALL ANCHOR BOLTS IN NEW CONCRETE SHALL BE CAST IN PLACE.

LICENSED STRUCTURAL ENGINEER
MICHAEL T. HALEY
081-005991
STATE OF ILLINOIS
Michael T. Haley
9-7-05

LIN ENGINEERING, LTD.

S9

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

OVERHEAD CRANE FRAMING

SCALE: AS SHOWN
DATE: 09-12-05
DRAWN BY: JMD
CHECKED BY: KC

PLOT DATE: •DATE-TIME•

PLAN SURVEYED / PLOTTED / ALL ITEMS CHECKED / ST. OF WAY CHECKED / CADD FILE NAME / NOTE BOOK NO. / DATE

•DATE•
•DATE-TIME•
•DGN-SPEC•
•REF•
•REF•

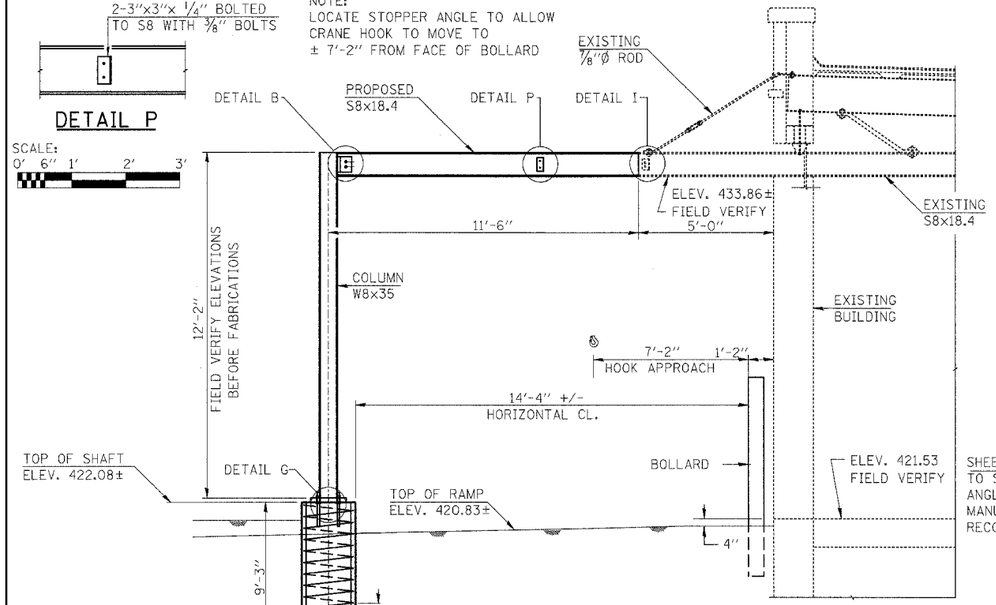
F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	27
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

2-3"x3"x 1/4" BOLTED TO S8 WITH 3/8" BOLTS

DETAIL P

SCALE: 0' 6" 1' 2' 3'

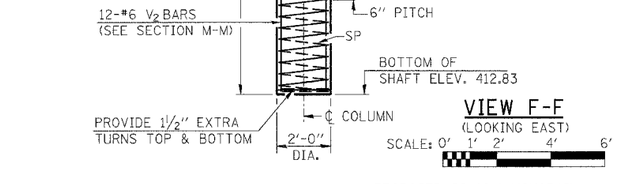
NOTE:
LOCATE STOPPER ANGLE TO ALLOW CRANE HOOK TO MOVE TO ± 7'-2" FROM FACE OF BOLLARD



VIEW F-F

(LOOKING EAST)

SCALE: 0' 1' 2' 4' 6'

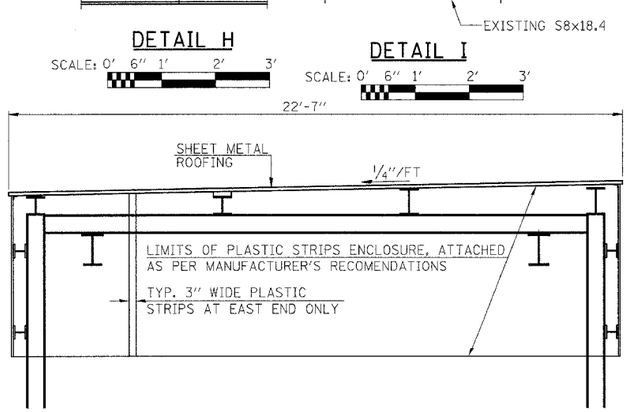


DETAIL H

SCALE: 0' 6" 1' 2' 3'

DETAIL I

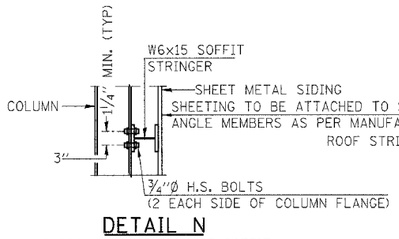
SCALE: 0' 6" 1' 2' 3'



VIEW E-E

(LOOKING WEST)

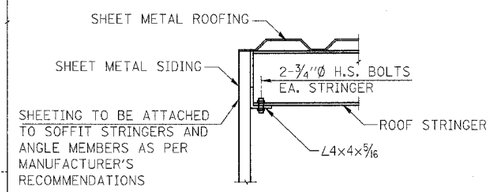
SCALE: 0' 1' 2' 4' 6'



DETAIL N

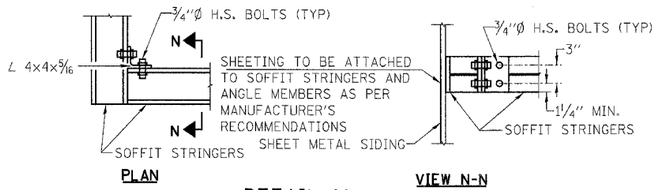
(TYPICAL CONNECTION OF SOFFIT STRINGERS TO COLUMN - 8 LOCATIONS)

SCALE: 0' 6" 1' 2' 3'



DETAIL O

SCALE: 0' 6" 1' 2' 3'



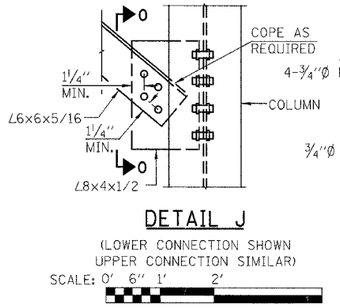
PLAN

VIEW N-N

DETAIL M

(TYPICAL SOFFIT STRINGER TO SOFFIT STRINGER CONNECTION - 2 LOCATIONS)

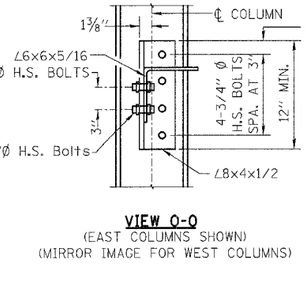
SCALE: 0' 6" 1' 2'



DETAIL J

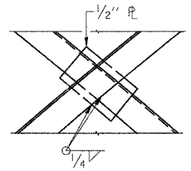
(LOWER CONNECTION SHOWN UPPER CONNECTION SIMILAR)

SCALE: 0' 6" 1' 2'



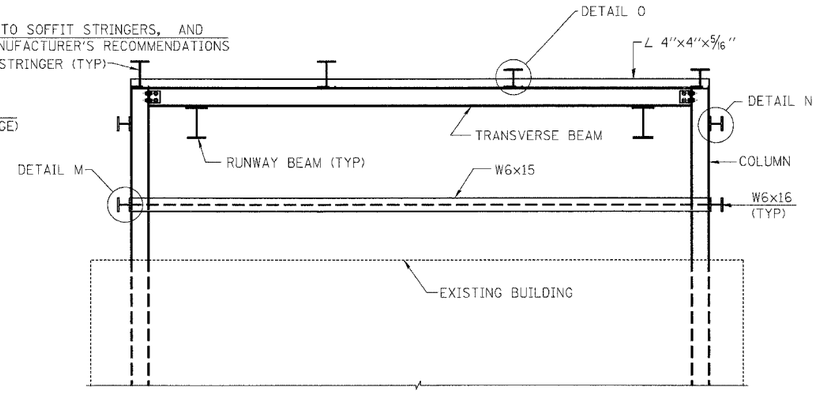
VIEW O-O

(EAST COLUMNS SHOWN)
(MIRROR IMAGE FOR WEST COLUMNS)



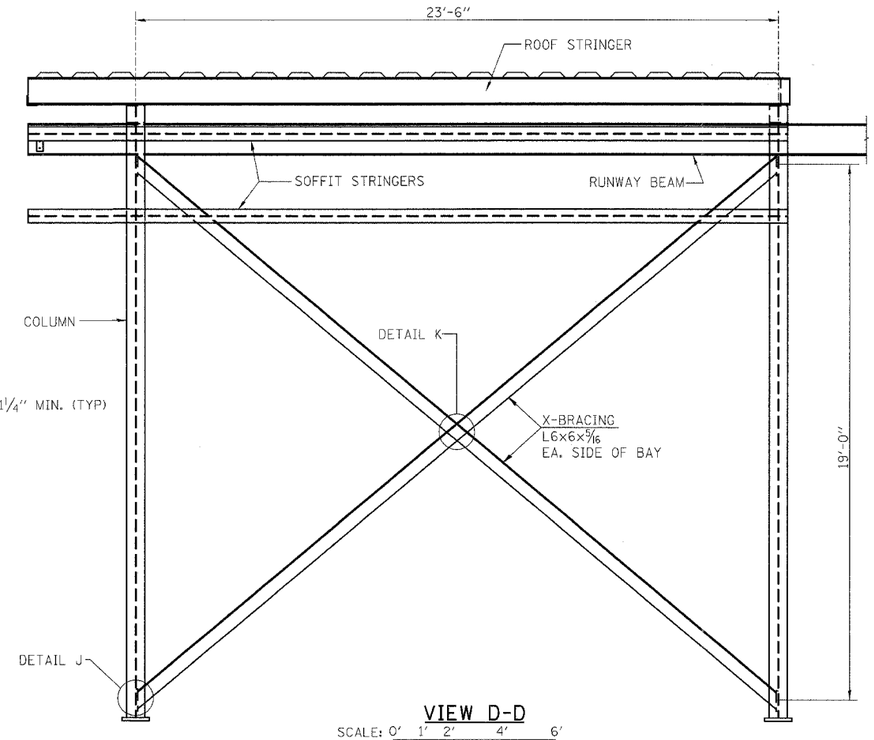
DETAIL K

SCALE: 0' 6" 1' 2' 3'



VIEW C-C

SCALE: 0' 1' 2' 4' 6'



VIEW D-D

SCALE: 0' 1' 2' 4' 6'

NOTES

1. METAL SHEETING NOT SHOWN FOR CLARITY.
2. ALL WELDS SHOWN ARE FIELD WELDS.
3. FOR DETAIL B SEE SHEET S8.
4. FOR DETAIL G SEE SHEET S9.
5. ALL STEEL SHEET ROOFING & SIDING SHALL HAVE MINIMUM SECTION MODULUS OF 0.29 CU. IN./FT AND SHALL BE GALVANIZED ACCORDING TO AASHTO M111 AND ASTM 385.
6. DAMAGE TO GALVANIZATION DURING INSTALLATION SHALL BE COATED WITH AN APPROVED ZINC RICH PAINT BEFORE ERECTION.

LICENSED STRUCTURAL ENGINEER
MICHAEL T. HALEY
081-005991
STATE OF ILLINOIS
Michael T. Haley
9-7-05

LIN ENGINEERING, LTD.

S10

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

OVERHEAD CRANE DETAILS

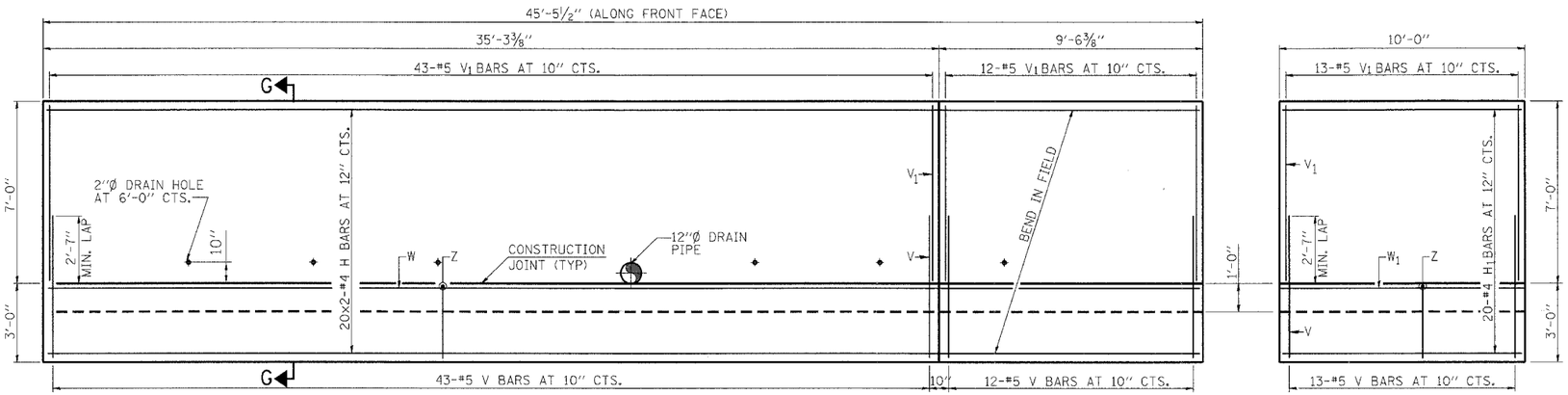
SCALE: AS SHOWN
DATE: 09-12-05
DRAWN BY: JMD
CHECKED BY: KC

PLOT DATE: *DATE-TIME*

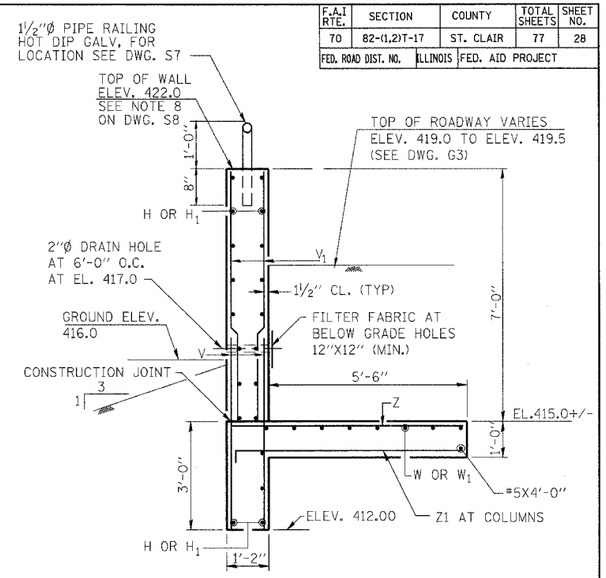
DATE
BY
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
CADD FILE NAME
PLAN
NOTE BOOK
NO.

ROUTE
DATE-TIME
DGN-SPEC
*REF-
*REF-

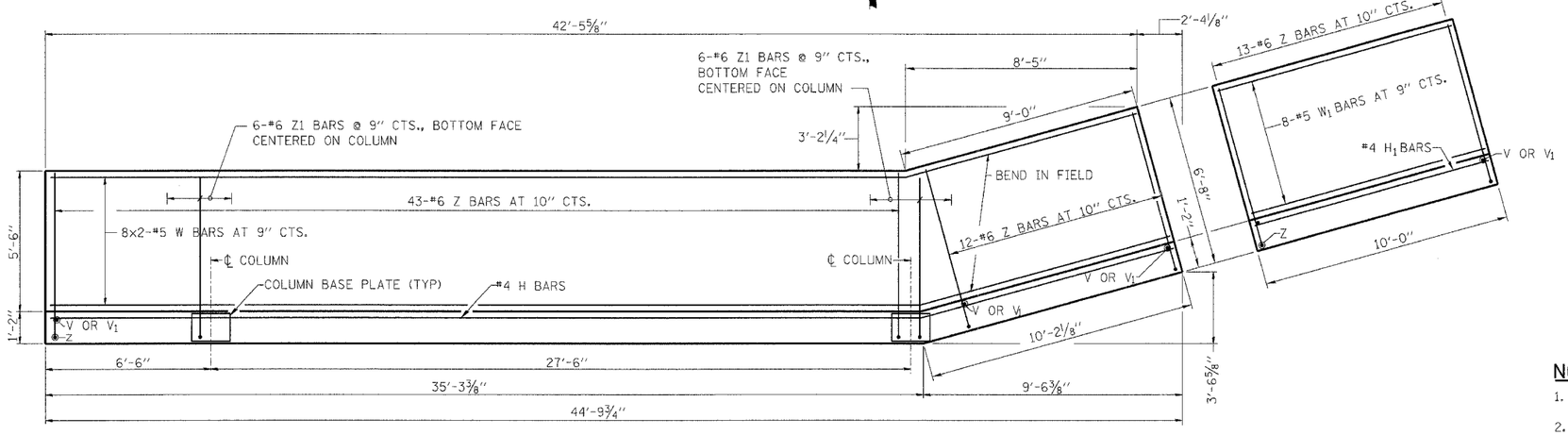
F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	28
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



ELEVATION
(LOOKING NORTH)
SCALE: 0' 1' 2' 4' 6'

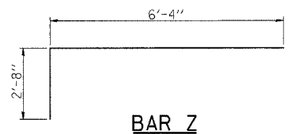


SECTION G-G
SCALE: 0' 1' 2' 4'

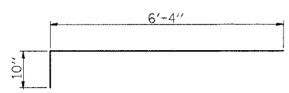


PLAN
SCALE: 0' 1' 2' 4' 6'

MIN. LAP
#4 BARS = 1'-8"
#5 BARS = 2'-2"



BAR Z
(NOT TO SCALE)



BAR Z1
(NOT TO SCALE)

RETAINING WALL BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
H	40	#4	22'-6"	——
H_1	20	#4	9'-8"	——
V	68	#5	5'-5"	——
V_1	68	#5	6'-10"	——
W	16	#5	22'-9"	——
W_1	8	#5	9'-8"	——
Z	68	#6	9'-0"	⌐—
Z1	12	#6	7'-2"	⌐—
CLASS SI CONCRETE			CU. YD.	35.4
REINFORCEMENT BARS, EPOXY COATED			POUND	3210
STRUCTURE EXCAVATION			CU. YD.	70

NOTES
1. REINFORCED BARS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31, OR M322 GRADE 60.
2. BARS INDICATED THUS 12 x 4-#5 ETC. INDICATES 12 LINES OF BARS WITH 4 LENGTHS PER LINE.
3. ALL CONSTRUCTION JOINTS SHALL BE BONDED.
4. ½" P.J.F. SHALL EXTEND FROM TOP OF FOOTING TO THE TOP OF WALL.
5. MAX. SOIL PRESSURE UNDER FOOTING= 5200 P.S.F.

LICENSED STRUCTURAL ENGINEER
MICHAEL T. HALEY
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STATE OF ILLINOIS
Michael J. Haley
9-7-05

LIN ENGINEERING, LTD.

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REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

RETAINING WALL

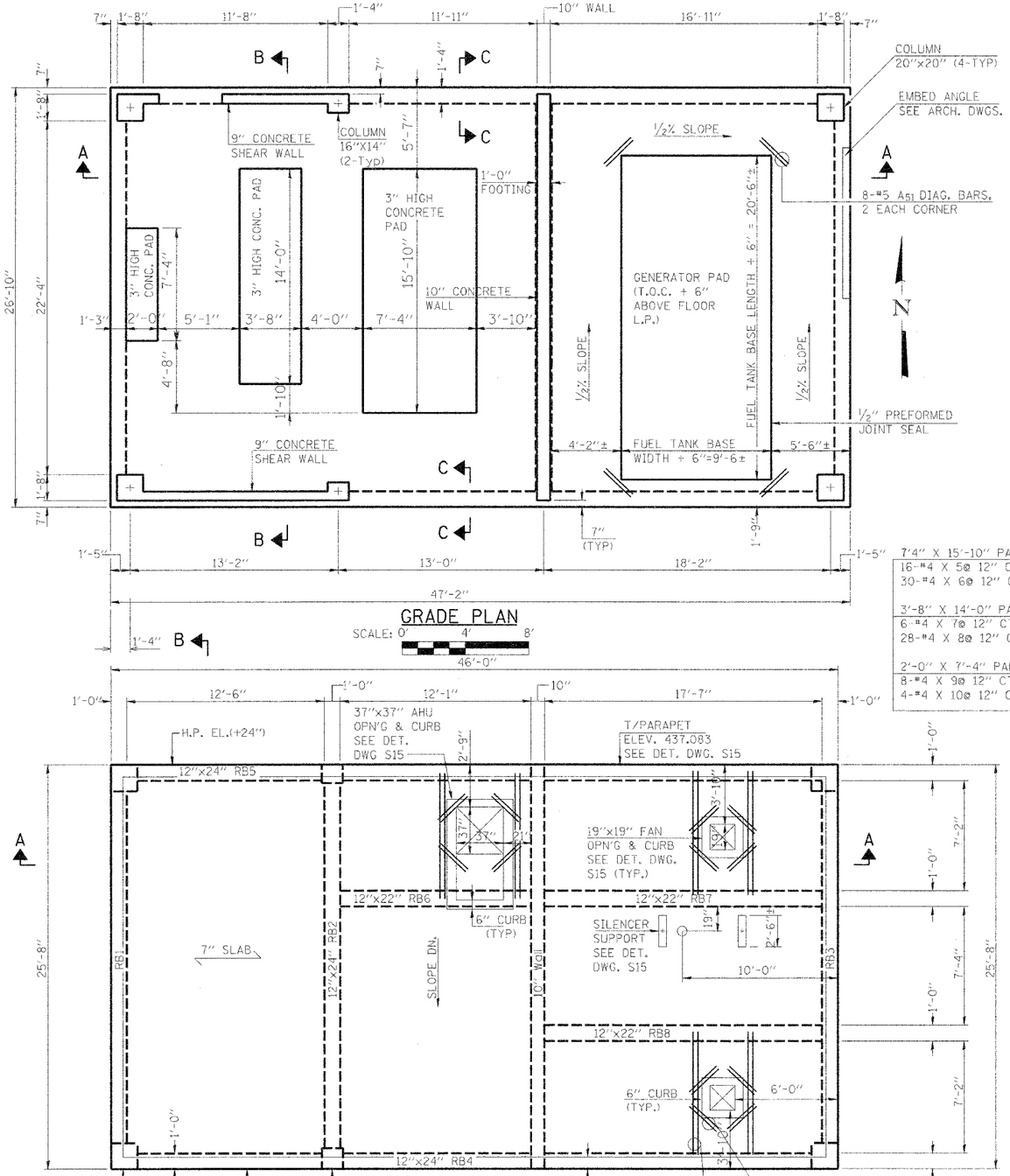
SCALE: AS SHOWN
DATE: 09-12-05
DRAWN BY: JMD
CHECKED BY: KC

PLOT DATE: *DATE-TIME*

PLAN — SURVEYED — DATE
PLOTTED — BY
NOTE BOOK — ALIGNMENT CHECKED
NO. — RT. OF WAY CHECKED
CADD FILE NAME

ROUTE
DATE-TIME
DGN-SPEC
*REF-
*REF-

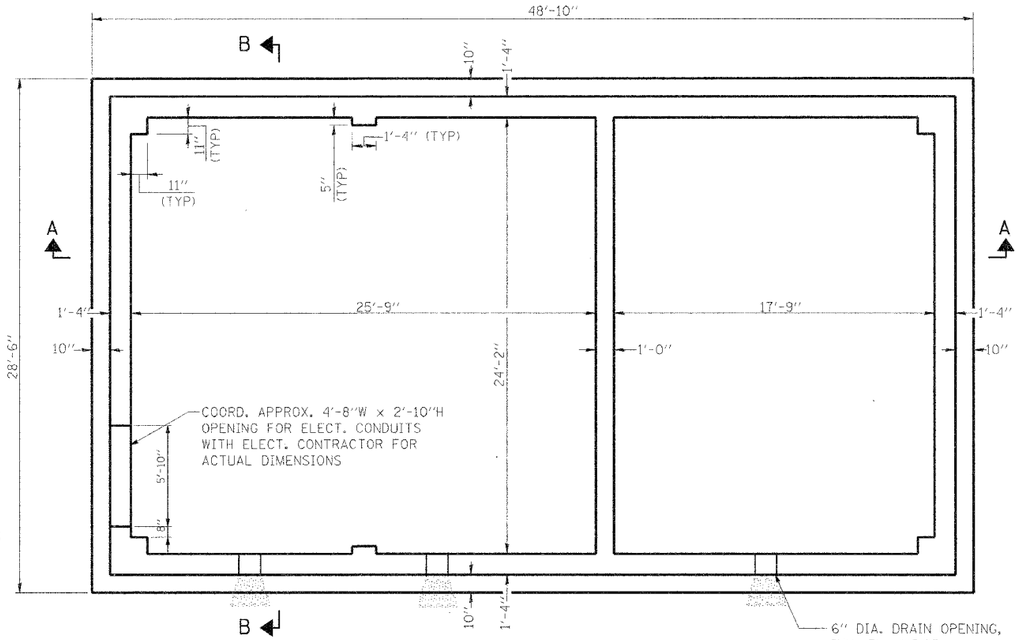
F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	29
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



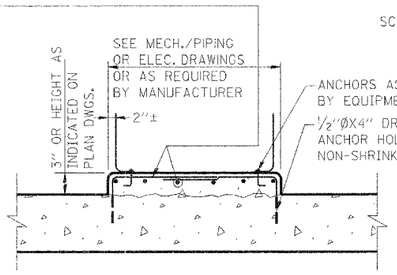
7'-4" X 15'-10" PAD
16-#4 X 5@ 12" CTS
30-#4 X 6@ 12" CTS

3'-8" X 14'-0" PAD
6-#4 X 7@ 12" CTS
28-#4 X 8@ 12" CTS

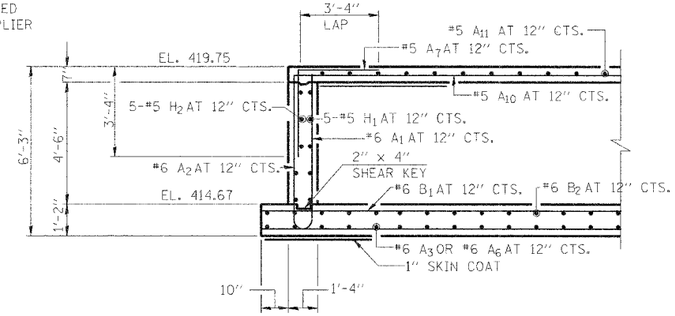
2'-0" X 7'-4" PAD
8-#4 X 9@ 12" CTS
4-#4 X 10@ 12" CTS



FOOTING PLAN
SCALE: 0' 4' 8'



CONCRETE PAD DETAIL
SCALE: 0' 6" 1' 2'



SECTION C-C
SCALE: 0' 1' 2' 4' 6'

NOTES:
1. ALL DIMENSIONS FOR CONCRETE PADS ROOF EQUIPMENT SUPPORTS, OPENINGS & THE GENERATOR PAD ARE FOR BID PURPOSES ONLY AND SHALL BE ADJUSTED AS REQUIRED BASED ON APPROVED EQUIPMENT SHOP DRAWINGS.
2. FOR ROOF EQUIPMENT DETAILS, SEE MECHANICAL DRAWINGS.
3. FOR ELECTRICAL EQUIPMENT DETAILS, SEE ELECTRICAL DRAWINGS.
4. FOR SECTION A-A SEE SHEET S13.
5. FOR SECTION B-B SEE SHEET S14.

YA-TAI LIN
81-3085
REGISTERED STRUCTURAL ENGINEER OF
CHICAGO, ILLINOIS
9/7/05

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

S12

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

ELECTRICAL CONTROL/ GENERATOR BLDG. PLANS

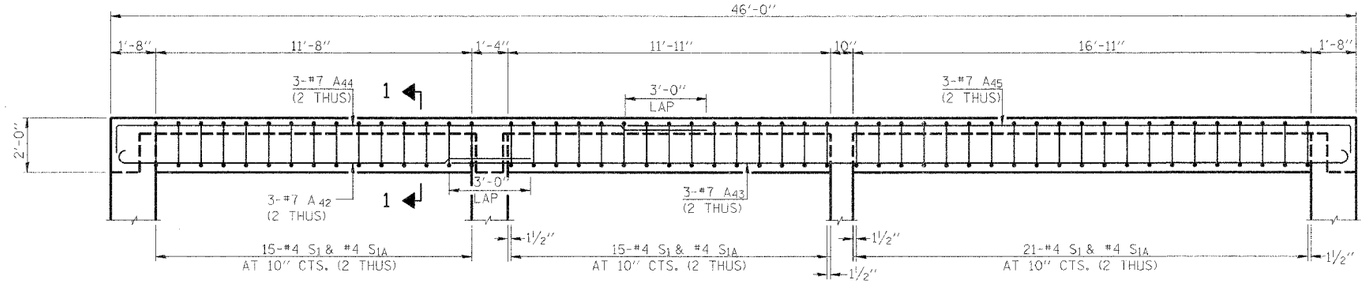
SCALE: AS SHOWN DRAWN BY: JMD
DATE: 09-12-05 CHECKED BY: SP

PLOT DATE: *DATE-TIME*

PLAN SUPPLIED BY / PLOTTED BY / ALIGNMENT CHECKED BY / RT. OF WAY CHECKED BY / ROD FILE NAME / NOTE BOOK NO. / BY / DATE

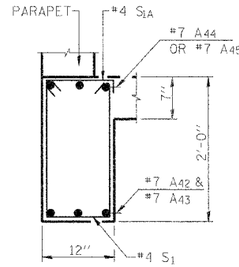
$DATE
DATE-TIME
DGN-SPEC
REF-L
*REF-

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	30
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



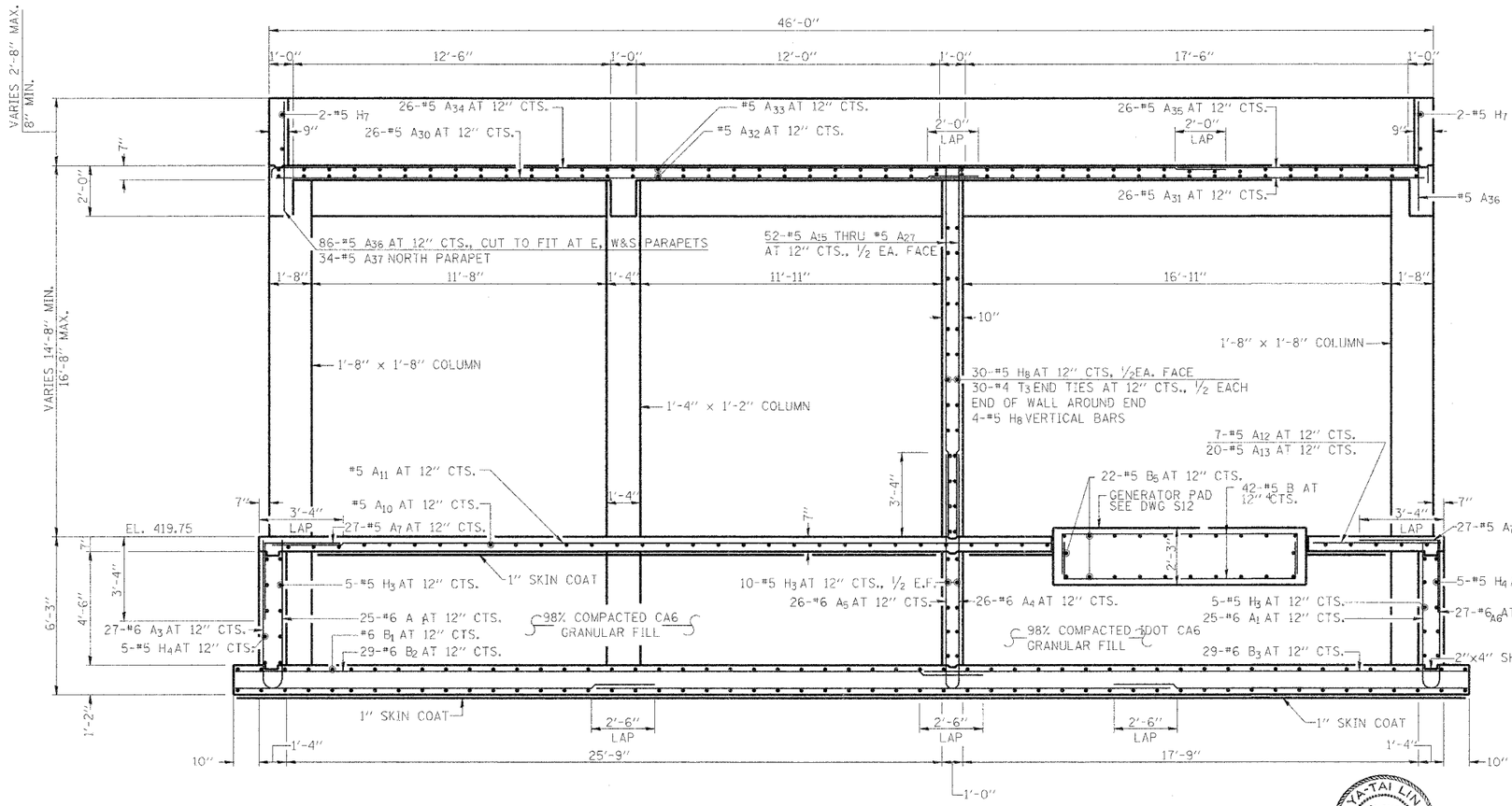
BEAMS RB4 & RB5

SCALE: 0' 1' 2' 4' 6'



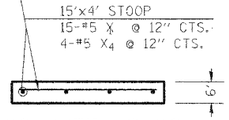
SECTION 1-1

SCALE: 0' 6" 1' 2'



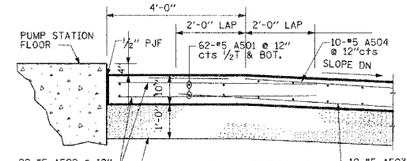
SECTION A-A

SCALE: 0' 1' 2' 4' 6'



CONCRETE STOOP

(FOR LOCATION AND ADDITIONAL DETAILS, SEE DWG. A2, G4)



RAMP DETAIL

FOR LOCATION SEE DWG. G4

NOTE: RAMP CONSTRUCTION SHALL BE SEQUENCED WITH EAST PUMP STATION STAIR ACCESS TO MAINTAIN CONTINUOUS ACCESS INTO PUMP STATION

0' 1' 2' 4'

SCALE: 1"= 2'

YA-TAI LIN
81-3065
REGISTERED STRUCTURAL ENGINEER OF CHICAGO, ILLINOIS
9/7/05

S13

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

ELECTRICAL CONTROL/ GENERATOR BLDG. SECTIONS

SCALE: AS SHOWN — DRAWN BY: JMD

DATE: 09-12-05 — CHECKED BY: SP

PLOT DATE: *DATE-TIME*

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

PLAN — NOTE BOOK — NO. — BY — DATE — SURFACED — PLOTTED — PLOTTED BY — CHECKED — INT. OF "AA" CHECKED — DGN. FILE NAME

*$DATE$@ *DATE-TIME* *DGN-SPEC* *DGN-LIB* *REF*

ELECTRICAL CONTROL / GENERAL BUILDING BAR SCHEDULE

BAR MARK	NO.	SIZE	LENGTH	BEND TYPE	WT. LBS.	A	B	C	D	E	F/R	G	H	J
A1(E)	138	6	7'-9"	17	1606		5'-11"	1'-10"						
A2(E)	94	6	20'-3"	17	2859		5'-11"	14'-4"						
A3(E)	27	6	21'-0"	17	852		5'-11"	15'-1"						
A4(E)	26	6	24'-6"	17	664		9'-5"	15'-1"						
A5(E)	26	6	20'-6"	17	801		9'-5"	11'-1"						
A6(E)	27	6	17'-0"	17	689		5'-11"	11'-1"						
A7(E)	148	5	6'-8"	17	1030		3'-4"	3'-4"						
A8(E)	45	5	6'-8"	17	313		6'-8"							
A9	48	5	17'-2"	17	860		17'-2"							
A10(E)	47	5	26'-4"	17	1283		26'-4"							
A11(E)	27	5	31'-10"	17	892		31'-10"							
A12(E)	7	6	17'-2"	17	124		17'-2"							
A13(E)	20	5	5'-1"	17	102		5'-1"							
A15	4	5	15'-4"	17	64			14'-6"	0'-10"					
A16	4	5	15'-6"	17	65			14'-8"	0'-10"					
A17	4	5	14'-8"	17	61			14'-10"	0'-10"					
A18	4	5	15'-10"	17	66			15'-0"	0'-10"					
A19	4	5	16'-0"	17	67			15'-2"	0'-10"					
A20	4	5	16'-2"	17	68			15'-4"	0'-10"					
A21	4	5	16'-4"	17	68			15'-6"	0'-10"					
A22	4	5	16'-6"	17	69			15'-8"	0'-10"					
A23	4	5	16'-8"	17	70			15'-10"	0'-10"					
A24	4	5	16'-10"	17	70			16'-0"	0'-10"					
A25	4	5	17'-0"	17	71			16'-2"	0'-10"					
A26	4	5	17'-2"	17	72			15'-4"	0'-10"					
A27	4	5	17'-4"	17	72			15'-6"	0'-10"					
A30	26	5	27'-10"	17	755		27'-10							
A31	26	5	19'-10"	17	538		19'-10"							
A32	46	5	25'-5"	17	1220		25'-5"							
A33	46	5	27'-0"	2	1295	0'-10"	25'-4"					0'-10"		
A34	26	5	37'-11"	2	1028	0'-10"	37'-1"							
A35	26	5	11'-5"	2	310	0'-10"	10'-7"							
A36	86	5	4'-2"	17	374		4'-2"							
A37	34	5	2'-4"	17	83		2'-4"							
A40	9	8	27'-2"	1	653	0'-11"	25'-4"					0'-11"	0'-8"	
A41	9	8	28'-0"	2	673	1'-4"	26'-4"					1'-4"		
A42	6	7	18'-2"	1	198	0'-10"	15'-4"						0'-7"	
A43	6	7	34'-2"	1	419	0'-10"	33'-4"						0'-7"	
A44	6	7	23'-2"	2	284	1'-2"	22'-0"							
A45	6	7	27'-10"	2	341	1'-2"	26'-8"							
A46	3	7	33'-10"	1	207	0'-10"	32'-2"					0'-10"	0'-7"	
A47	2	7	34'-6"	2	141	1'-2"	32'-2"					1'-2"		
A48	3	7	20'-9"	1	127	0'-10"	19'-1"					0'-10"	0'-7"	
A49	2	7	21'-5"	2	88	1'-2"	19'-1"					1'-2"		
A50	12	5	8'-10"	17	111		8'-10"							
A51	56	5	4'-0"	17	234		4'-0"							
A52	22	5	3'-0"	2	69	0'-10"	2'-2"							
A53	20	5	3'-4"	2	69	0'-10"	2'-6"							
B1(E)	49	6	28'-2"	17	1380		28'-2"							
B2(E)	29	6	29'-6"	17	1285		29'-6"							
B3(E)	29	6	21'-6"	17	937		21'-6"							
B4	42	5	13'-0"	17	570		1'-11"	9'-2"	1'-11"					
B5	22	5	24'-0"	17	551		1'-11"	20'-2"	1'-11"					
H1(E)	20	5	25'-8"	2	536		24'-8"	1'-0"						
H2(E)	20	5	27'-8"	17	577			24'-10"	3'-0"					
H3(E)	20	5	28'-0"	2	584	1'-0"	26'-0"	1'-0"						
H4(E)	10	5	32'-0"	17	334		3'-0"	26'-4"	3'-0"					
H5	56	5	11'-4"	17	662		11'-4"							
H6	8	5	25'-10"	17	216			23'-10"	2'-0"					
H7	4	5	25'-4"	17	106		25'-4"							
H8	30	5	15'-4"	17	480		16'-4"							
H9	24	5	4'-0"	17	100		2'-0"	2'-0"						
H10	12	5	7'-6"	17	94		3'-0"	4'-6"						
H11	6	5	2'-2"	17	14		2'-2"							
V1(E	28	8	17'-3"	2	1290	1'-4"	5'-11"							
V2	8	10	21'-4"	2	734	1'-10"	19'-6"							
V3	16	10	11'-7"	17	797		11'-7"							
V4	8	10	23'-2"	2	798	1'-10"	21'-4"							
V5	6	9	21'-1"	2	430	1'-7"	19'-6"							
V6	6	9	22'-11"	2	468	1'-7"	21'-4"							
S1	212	4	5'-0"	S3	708	4.5"	1'-9"	0'-9"	1'-9"			4.5"	3"	
S1A	184	4	1'-6"	T9	184	4.5"	0'-9"					4.5"		
S2	73	4	4'-8"	S3	228	4.5"	1'-7"	0'-9"	1'-7"			4.5"	3"	
T1	122	4	6'-5"	T1	523	4.5"	1'-5"	1'-5"	1'-5"	1'-5"		4.5"		
T2	42	4	4'-9"	T1	133	4.5"	1'-1"	0'-11"	1'-1"	0'-11"		4.5"		
T3	30	4	3'-11"	T1	79	4.5"	1'-1"	0'-6"	1'-1"	0'-6"		4.5"	3"	
X1(E)	49	5	3'-8"	17	188		3'-8"							
X2(E)	20	5	4'-8"	17	100		4'-8"							
X3(E)	4	5	8'-8"	17	46		8'-8"							
X4(E)	4	5	14'-8"	17	61		14'-8"							
X5	16	4	10'-0"	17	108		6"	9'-6"						
X6	30	4	5'-8"	17	114		6"	5'-2"						
X7	6	4	9'-0"	17	36		6"	8'-6"						
X8	28	4	3'-10"	17	72		6"	3'-4"						
X9	8	4	2'-0"	17	11		6"	1'-6"						
X10	4	4	5'-8"	17	15		6"	5'-2"						

REINFORCEMENT BARS (E) EPOXY COATED	LB.	18,533
REINFORCEMENT BARS	LB.	18,191
TOTAL	LB.	37,724
CLASS SI CONCRETE 230 CY		

PUMP BUILDING AND RAMP BAR SCHEDULE

BAR MARK	NO.	SIZE	LENGTH	BEND TYPE	WT. LBS.	A	B	C
A300	32	3	6"	17	6		6"	4"
A301	32	4	7'-0"	17	150		3'-6"	3'-6"
A302	16	5	4'-6"	17	92			4'-6"
A303	6	5	15'-0"	17	99			15'-0"
A304	66	5	2'-2"	17	150			2'-2"
A305	8	5	20'-6"	17	171		16'-0"	4'-6"
A501(E)	62	5	9'-0"	17	582			9'-0"
A502(E)	20	5	5'-8"	17	118			
A503(E)	10	5	27'-3"	17	285			27'-3"
A504(E)	10	5	25'-3"	17	264			25'-3"
K1	60	5	1'-8"	17	105			1'-8"
K2	10	5	6'-0"	17	38		3'-0"	3'-0"
REINFORCEMENT BARS (E) EPOXY COATED				LB.	1,249			
REINFORCEMENT BARS				LB.	811			
TOTAL				LB.	2,060			
CLASS SI CONCRETE 15 CY								

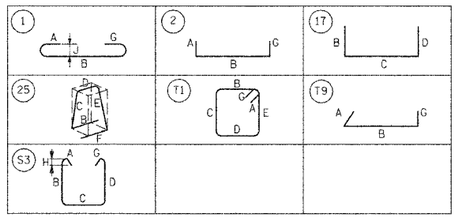
NOTES:

BAR COVER TO BE AS FOLLOWS (UNLESS SHOWN OTHERWISE):

CAST AGAINST GROUND	3"
CAST AGAINST SKIN COAT	2"
FORMED SURFACES EXPOSED TO EARTH OR WEATHER	
#6 & LARGER	2"
#5 & SMALLER	1½"
FORMED SURFACES NOT EXPOSED TO EARTH OR WEATHER	
#11 & SMALLER	¾"
BASE SLAB TOP REINFORCING	2"
COLUMN TIES & BEAM STIRRUPS	1½"
ROOF SLAB, TOP & BOT.	¾"

ABBREVIATIONS:

ALT - ALTERNATE
B - BOT
BM - BEAM
CB - CORNER BAR
CL - CLEAR
COL- COLUMN
DWL- DOWEL
E - EPOXY COATED
EF- EACH FACE
EW- EACH WAY
FF- FAR FACE
FTG- FOOTING
HOR- HORIZONTAL
IF - INSIDE FACE
INC.- INCREMENTS
LONG.- LONGITUDINAL
LW - LONG WAY
NF - NEAR FACE
OF - OUTSIDE FACE
SD - SLAB DOWEL
SW - SHORT WAY
T - TOP
TOS - TOP OF SLAB
TS - THICKENED SLAB
TR - TRANSVERSE
UNO - UNLESS NOTED OTHERWISE

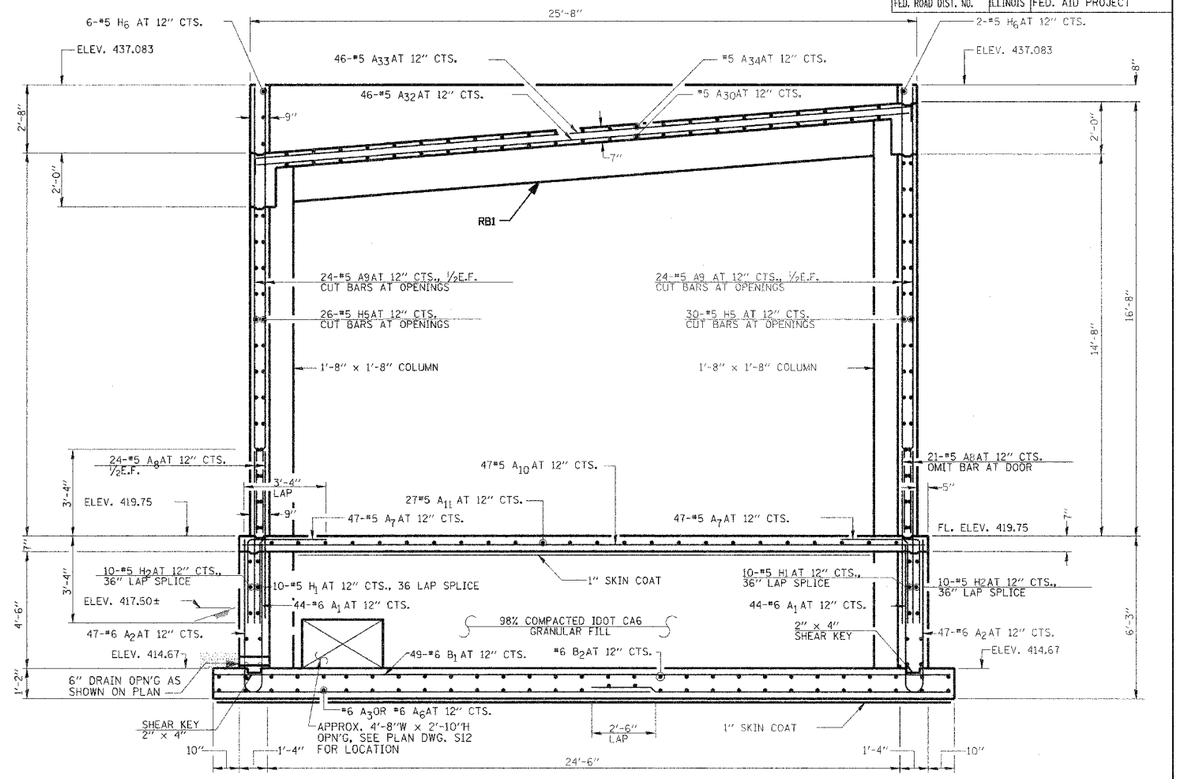


SECTION 2-2

SCALE: 0' 1" 2' 4' 6'

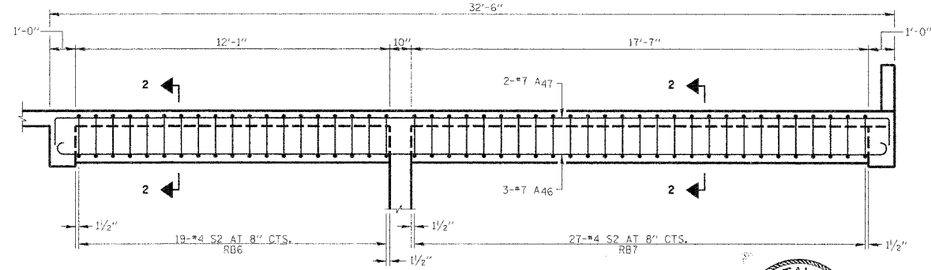
NOTES:

1. ALL DIMENSIONS ARE OUT-TO-OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180° AND 135 HOOKS
2. "J" DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE ACI STANDARDS HOOKS ARE TO BE USED.
3. ALL REINFORCEMENT BARS WITH (E) DESIGNATION IN BAR SCHEDULE SHALL BE EPOXY COATED.
4. BAR LAPS TO BE: ACI 318-02 CLASS B UNLESS NOTED
5. CHAIRS, BOLSTERS & STANDEES ARE NOT INCLUDED IN BAR SCHEDULE & SHALL BE INCIDENTAL TO REINFORCING STEEL PAY ITEM.



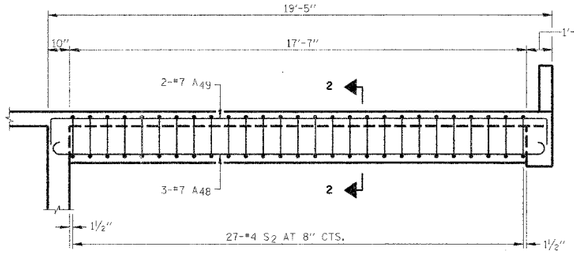
SECTION B-B

SCALE: 0' 1" 2' 4' 6'



BEAMS RB6 & RB7

SCALE: 0' 1" 2' 4' 6'



BEAM RB8

SCALE: 0' 1" 2' 4' 6'

YA-TAI LIN
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REGISTERED STRUCTURAL ENGINEER OF
CHICAGO, ILLINOIS
4/7/05

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	31
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

S14

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

ELECTRICAL CONTROL/ GENERATOR BUILIONG SECTION AND BAR SCHEDULE

SCALE: AS SHOWN
DATE: 09-12-05
DRAWN BY: CTM
CHECKED BY: KC

PLOT DATE: •DATE-TIME•

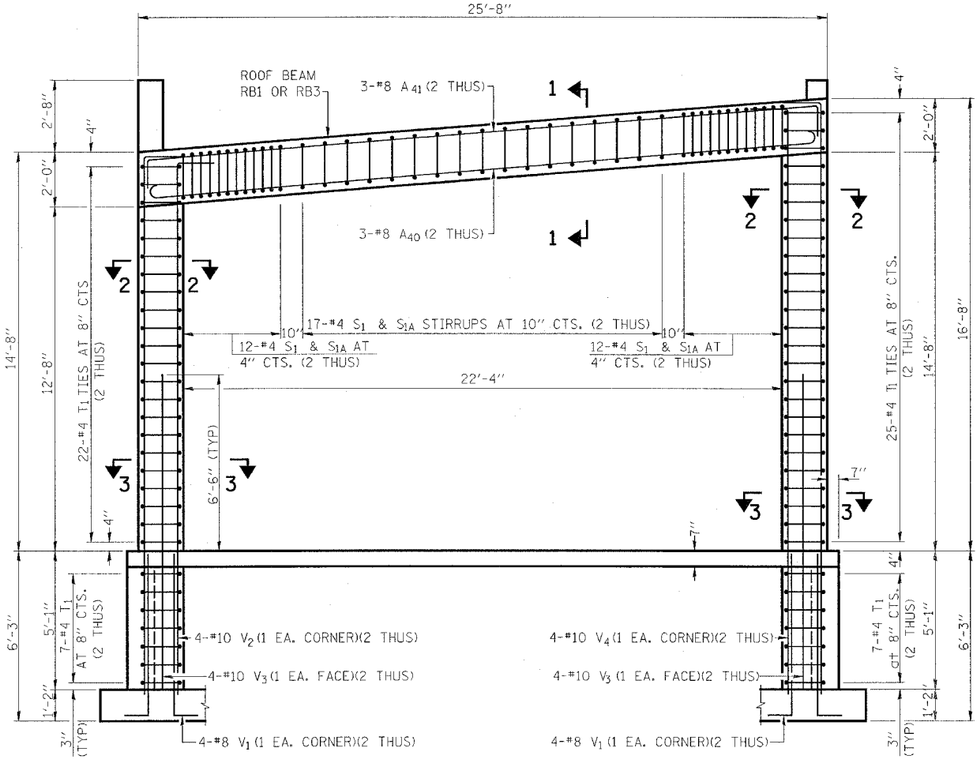
ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

PLAN — SURVEYED / DRAWN / ALIGNMENT CHECKED / ELEV. CHECKED / NOTE BOOK / NO. / PAGE / CAD FILE NAME / DATE / BY

$DATE*$
•DATE-TIME•
•DGN-SPEC•
•REF•
•REF•

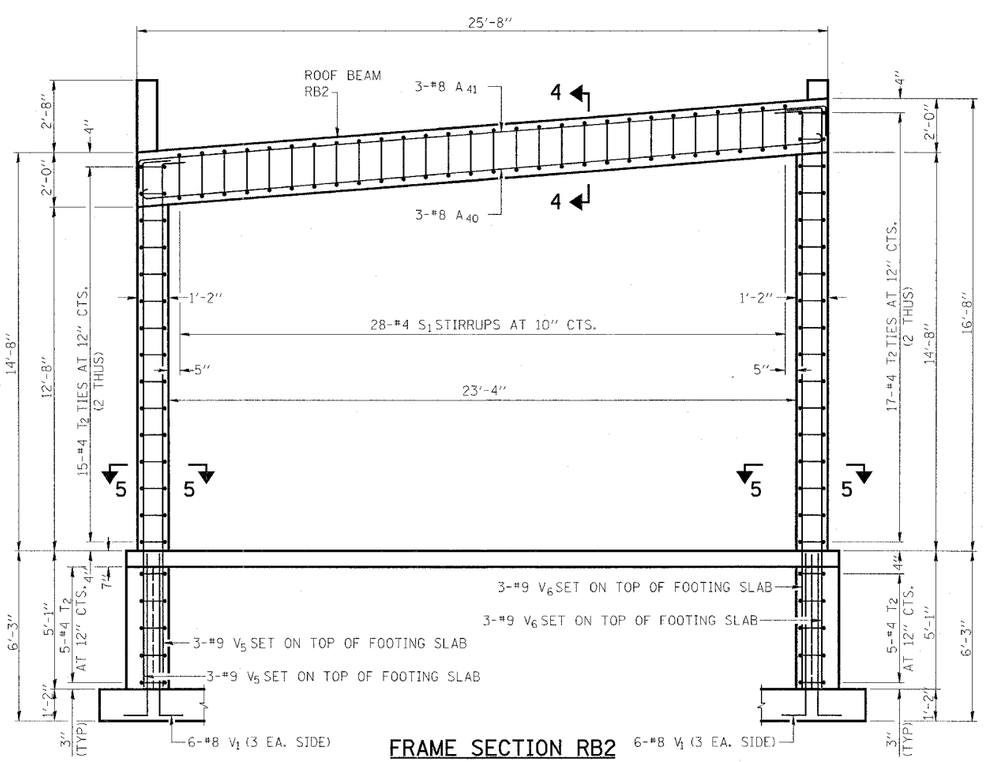
F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	32
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

PLAN — SURVEYED / PLOTTED / ALIGNMENT CHECKED / RT. OF WAY CHECKED / CADD FILE NAME / MATE BOOK NO.s / BY / DATE



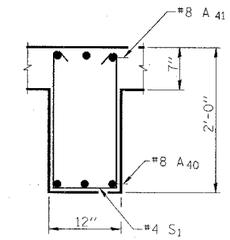
FRAME SECTION RB1 & RB3

(FOR LOCATION SEE ROOF PLAN DWG. S12)
(SCALE 3/8"=1')



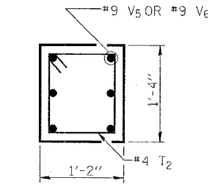
FRAME SECTION RB2

(FOR LOCATION SEE ROOF PLAN DWG. S12)
SCALE: 0' 1' 2' 4' 6'



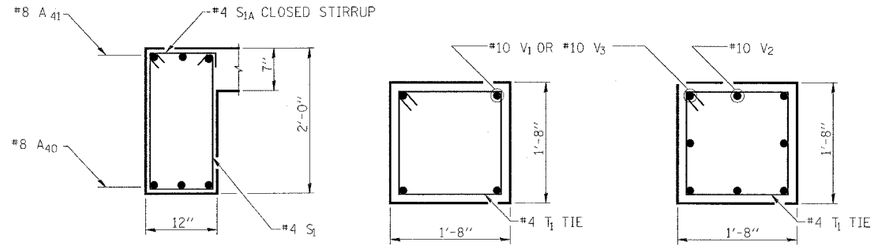
SECTION 4-4

SCALE: 0' 6" 1' 2'



SECTION 5-5

SCALE: 0' 6" 1' 2'



SECTION 1-1

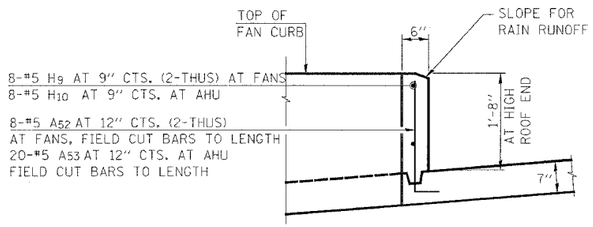
SCALE: 0' 6" 1' 2'

SECTION 2-2

SCALE: 0' 6" 1' 2'

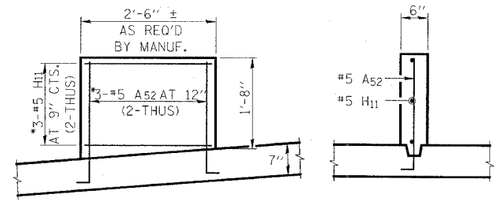
SECTION 3-3

SCALE: 0' 6" 1' 2'



FAN & AHU ROOF CURB DETAIL

SCALE: 0' 6" 1' 2' 3'



*FIELD CUT BARS AS REQUIRED

SILENCER ROOF SUPPORT

SCALE: 0' 6" 1' 2' 3'

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

S15

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

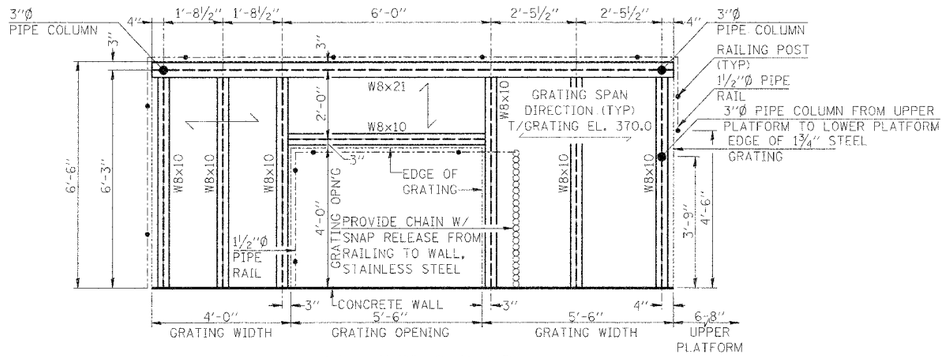
ELECTRICAL CONTROL/ GENERATOR BLDG. DETAILS

SCALE: AS SHOWN
DATE: 09-12-05
DRAWN BY: JMD
CHECKED BY: SP

PLOT DATE: •DATE-TIME•

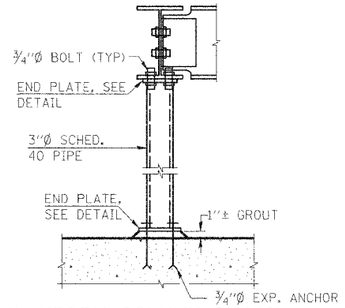
•$DATE$•
•DATE-TIME•
•DGN-SPEC•
•FILE•
•REF•

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	33
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



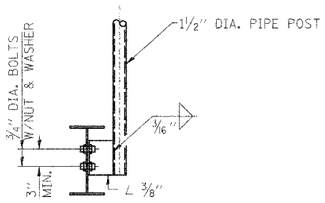
DEWATERING PUMP LOWER PLATFORM FRAMING PLAN

(FOR LOCATION SEE DWG. S3 & S4)(SCALE ½"=1'-0")



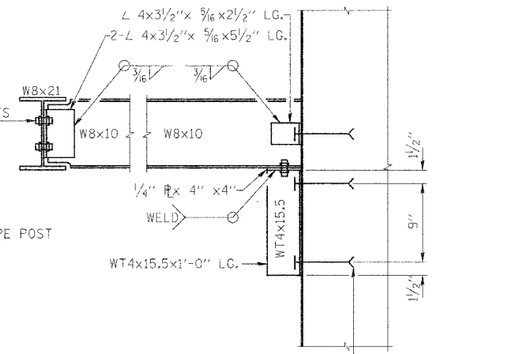
PLATFORM COLUMN DETAIL

(SCALE 1½"=1')

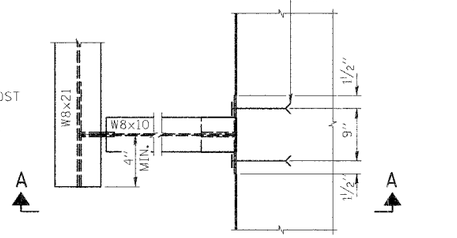


PLATFORM RAILING POST

(SCALE 1½"=1')



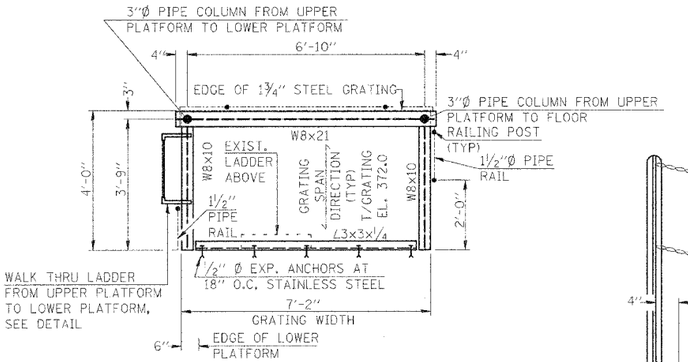
SECTION A-A



PLAN

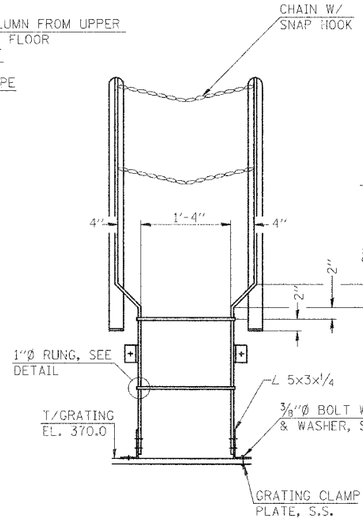
PLATFORM BEAM CONNECTIONS

(SCALE 1½"=1'-0")



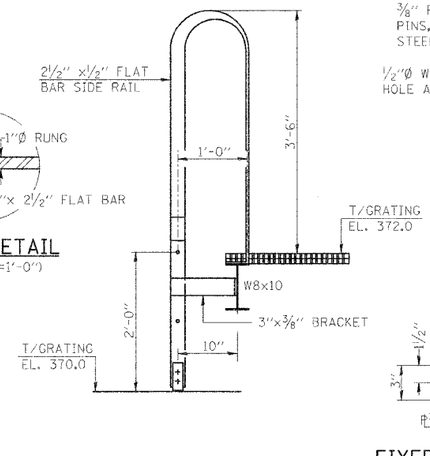
DEWATERING PUMP UPPER PLATFORM FRAMING PLAN

(FOR LOCATION SEE DWG. S3 & S4)(SCALE ½"=1'-0")



WALK THRU LADDER DETAIL

(SCALE ½"=1'-0")

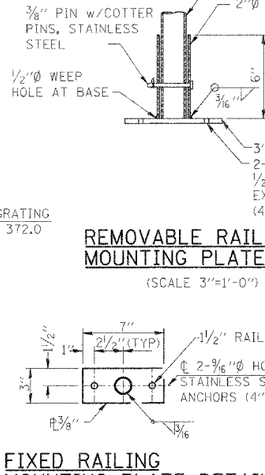


RUNG DETAIL

(SCALE 2"=1'-0")

RAILING CONNECTION TO WALL

(SCALE 1½"=1'-0")



RAILING DETAIL

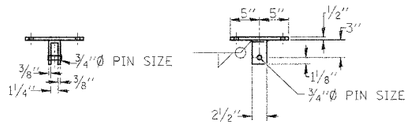
(SCALE ¾"=1')

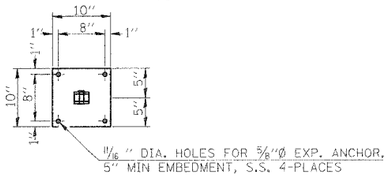
HANDRAIL CORNER

(SCALE 1½"=1')

REMOVABLE RAILING MOUNTING PLATE DETAIL

(SCALE 3"=1'-0")

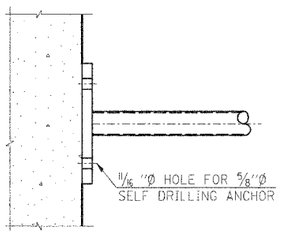


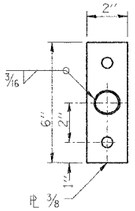


½TON CLEVIS PLATE DETAIL

(SCALE 1"=1')(See DWG. S4 for location)

NOTE:
1. CLEVIS PLATE SHALL BE ALL STAINLESS STEEL TYPE ASTM 304L





FIXED RAILING MOUNTING PLATE DETAIL

(SCALE 2"=1'-0")

BILL OF MATERIAL

ITEM	UNIT	TOTAL
FURNISHING & ERECTING STRUCTUAL STEEL	LB	1,400
GRATING *	SF	105

* GRATING SHALL BE INCLUDED FOR PAYMENT UNDER THE ITEM, PUMP STATION GENERAL WORK.

DRAWING NOTES:

1. ALL STEEL RAILINGS, PLATES, SHAPES, & MEMBERS SHALL BE HOT DIP GALVANIZED AFTER FABRICATION, UNLESS OTHERWISE NOTED.
2. ALL BEAM TO BEAM CONNECTION BOLTS, NUTS & WASHERS SHALL BE HOT DIP GALVANIZED.
3. EXPANSION ANCHORS, NUTS & WASHERS SHALL BE STAINLESS STEEL.
4. GRATING SHALL BE 1¾" HOT DIP GALVANIZED STEEL.
5. GRATING FASTENERS SHALL CLAMP TO THE STRUCTURAL STEEL WITHOUT DRILLING AND SHALL BE ALL STAINLESS STEEL GFI GRATING FASTENERS OR EQUAL AT 18" MAX. SPACING ALONG GRATING PERIMITERS.

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REGISTERED STRUCTURAL ENGINEER OF
CHICAGO, ILLINOIS
9/7/05

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

S16

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

MISCELLANEOUS DETAILS

SCALE: AS SHOWN
DATE: 09-12-05
DRAWN BY: JMD
CHECKED BY: KC

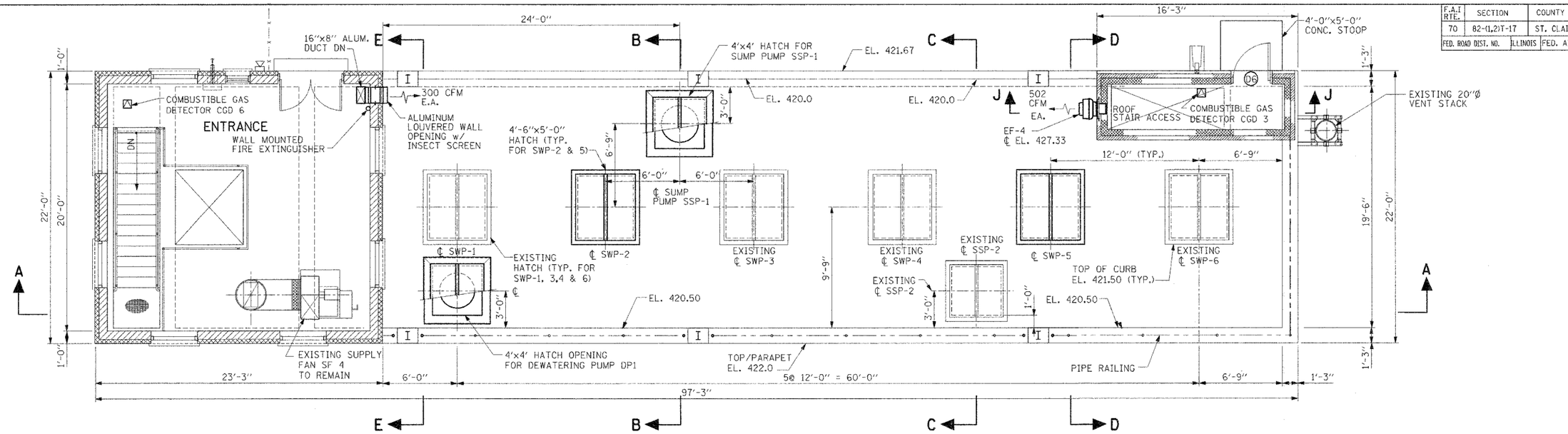
PLOT DATE: *DATE-TIME*

PLAN | NOTE BOOK | NO. | BY | DATE
ISSUED | REVISED | AS-BUILT | CHECKED | CAD FILE NAME

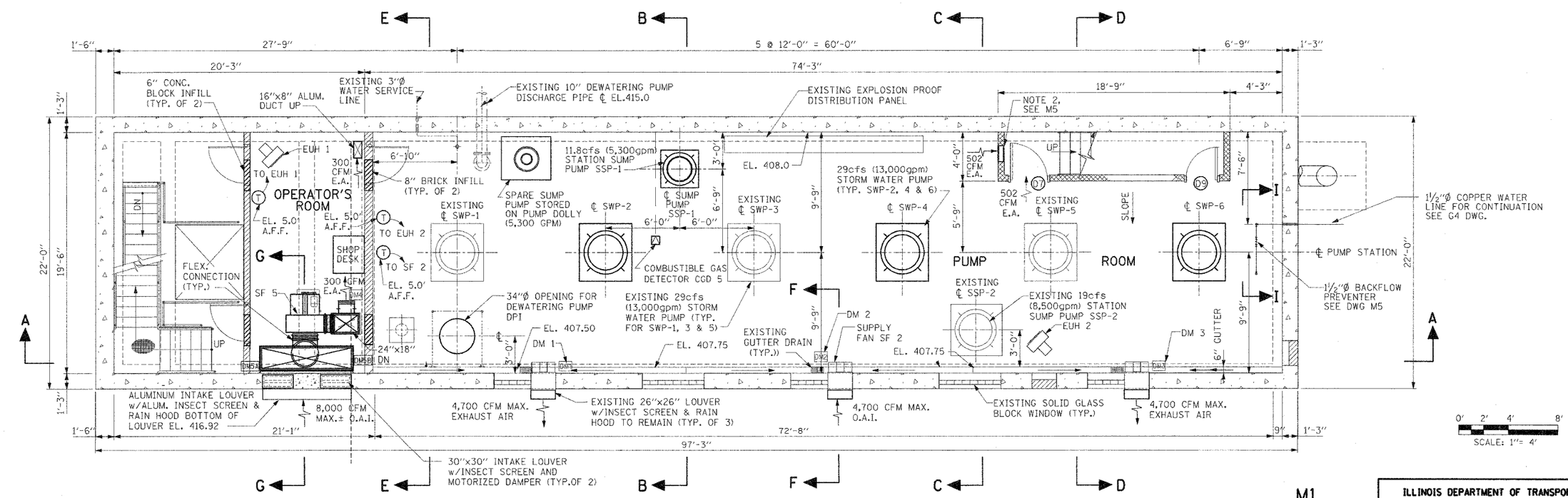
$$DATE$$
DATE-TIME
DESIGNED
DET
REF

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	34
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

PLAN
NOTE BOOK
NO.
SURVEYED
ALIGNMENT CHECKED
P.T. OF WAY CHECKED
PLAN FILE NAME
BY
DATE



PLAN @ EL. 422.0



PLAN @ EL. 408.0

M1

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

MECHANICAL PLANS

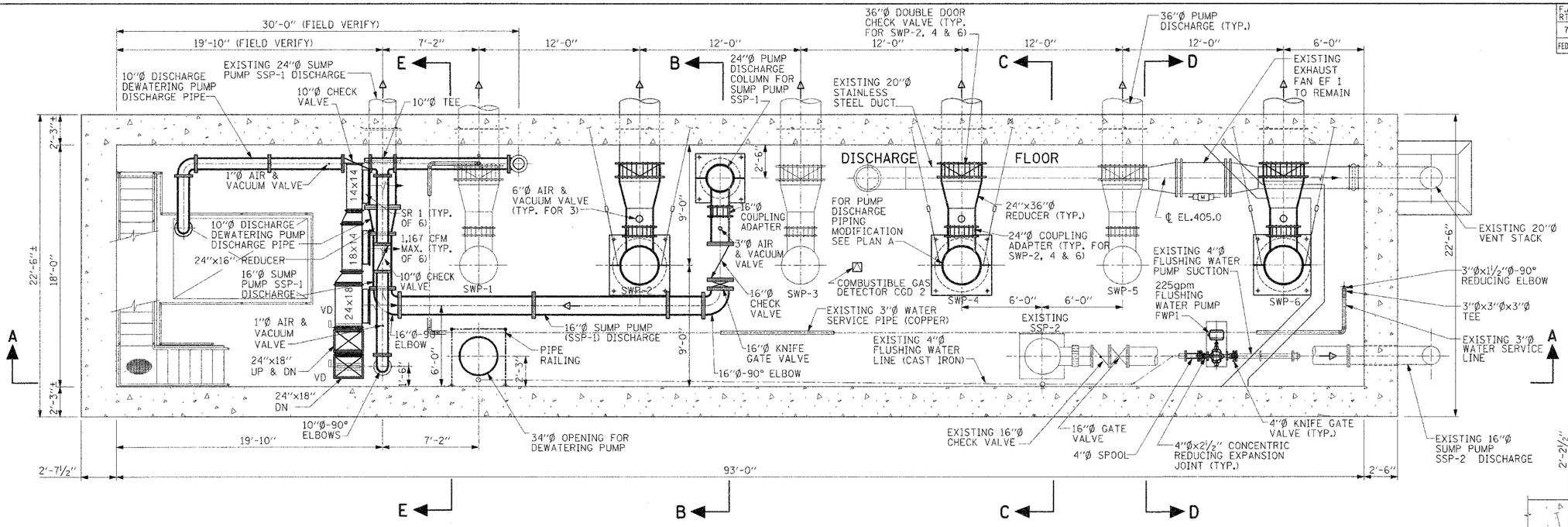
SCALE: AS SHOWN
DRAWN BY: CM
DATE: 09-12-05
CHECKED BY: KC

PLOT DATE: •DATE-TIME•

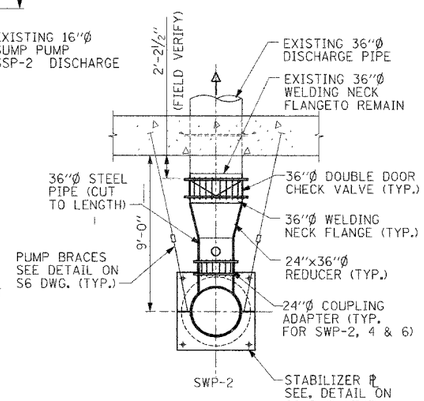
ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

•$DATE#$
•DATE-TIME•
•DGN-SPEC•
•REF-E
•REF-

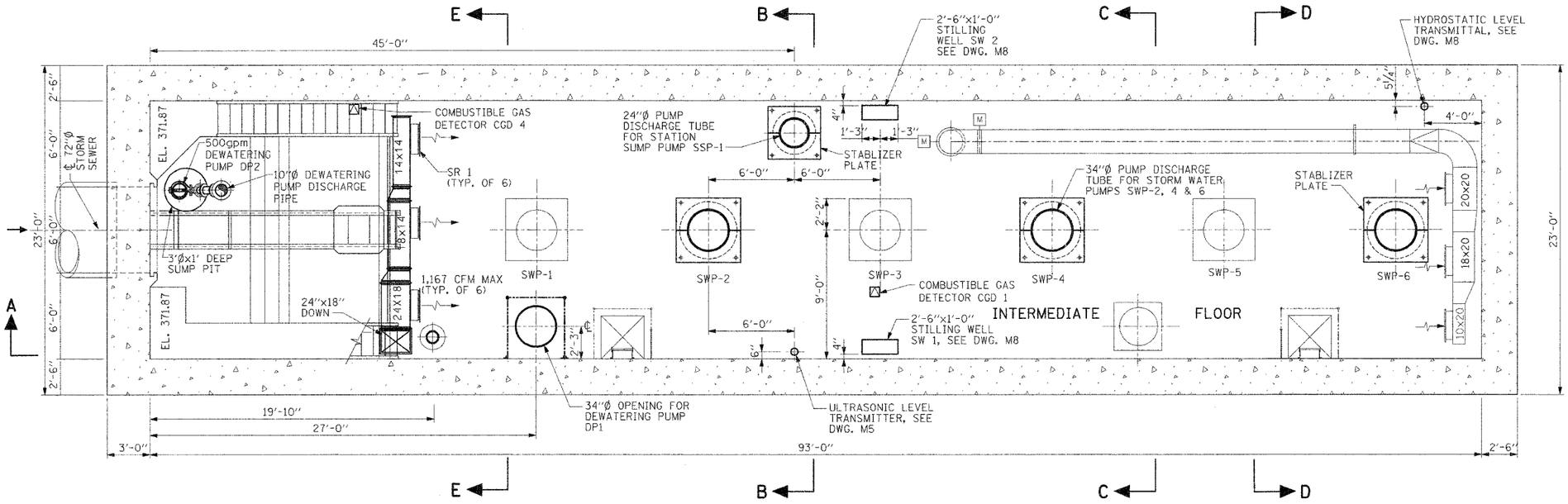
F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	35
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



PLAN @ EL. 393.67



PLAN A



PLAN @ EL. 380.0

NOTE: GENERAL NOTES FOR STILLING WELLS

1. STILLING WELL NO. 1 FOR FLOATS 100A, B C, D, E, F, G, H, I, J & K.
2. STILLING WELL NO. 2 FOR FLOATS 101A, B, C, D, E, F,G, H, I & J.
3. SEE DWG. E19 FOR DETAIL.

NOTE:
1. FOR ELECTRICAL INSULATING FLANGE FITTINGS FOR CATHODIC PROTECTION OF PUMP DISCHARGE HEADERS, SEE CP1 & CP2 DRAWINGS.

0' 2' 4' 8'
SCALE: 1"= 4'

M2

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

MECHANICAL PLANS

SCALE: AS SHOWN — DRAWN BY: CTM
DATE: 09-12-05 — CHECKED BY: KC

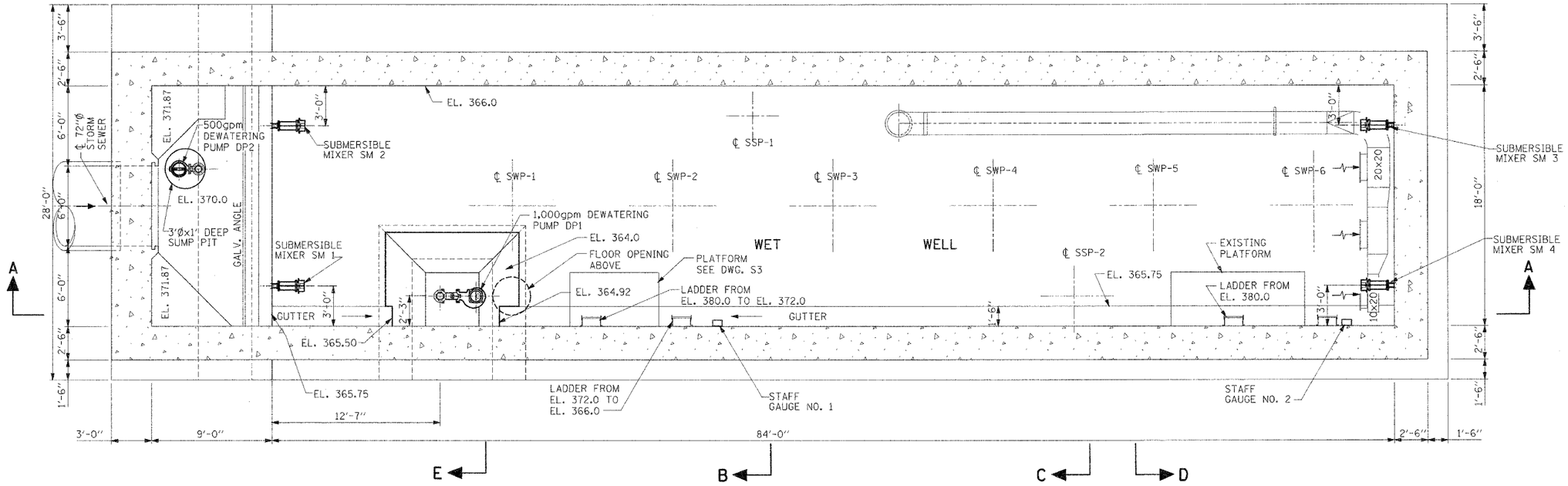
PLOT DATE: •DATE-TIME•

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

PLAN — SURVEYED / ALIGNMENT / BY / DATE / CHECKED / RT. OF WAY CHECKED / NOTE BOOK / DGN FILE NAME / NO.

@DATE@ •DATE-TIME• •DGN-SPEC• •REF- •REF-

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	36
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



PLAN @ EL. 366.0

PUMP STATION HVAC

SUMMER/WINTER VENTILATION SEQUENCE

AUTOMATIC OPERATION

EACH FAN IS ENERGIZED BY WALL THERMOSTAT SETTING OF 85° F (ADJUSTABLE) THAT OPENS AN OUTDOOR MAKEUP AIR DAMPER THRU INTERLOCKING. WHEN THE DAMPER IS IN THE FULL OPEN POSITION AS PROVEN BY AN END SWITCH, THE INTERLOCKED FAN SHALL BE ENERGIZED.

MANUAL OPERATION

AN INDOOR ON-OFF SWITCH LOCATED AT EACH BUILDING/ROOM ENTRANCE OPERATES THE FAN FOR ENTRANCE/EXIT.

SF 2 IS INTERLOCKED WITH DM1, DM2 & DM3
SF 5 IS INTERLOCKED WITH DM4 & DM5A & DM5B

SF 5 SHALL OPERATE AT LOW SPEED UNTIL WALL THERMOSTAT SETTING IS EXCEEDED. WHEN WALL THERMOSTAT SETTING IS EXCEEDED, SF 5 SHALL OPERATE AT HIGH SPEED.

COLD WEATHER STATION HEATING

EACH ELECTRIC UNIT HEATER, EUH, WILL OPERATE FROM AN ADJUSTABLE SETTING REMOTE THERMOSTAT WITH A HAND SWITCH.

EMERGENCY VENTILATION

DETECTION OF COMBUSTIBLE GASES IN AREA DETECTORS WILL AUTOMATICALLY ENERGIZE EXHAUST FAN EF 4, SUPPLY FAN SF 2 AND SUPPLY FAN SF 5 AND OPEN INTERLOCKED DAMPERS. AUDIO AND VISUAL ALARMS WILL BE ENERGIZED.

SUPPLY FAN SF 5 SHALL OPERATE AT HIGH SPEED UPON DETECTION OF COMBUSTIBLE GASES ABOVE THE DETECTOR SETTING.

UPON COMBUSTIBLE GAS CONCENTRATION FALLING BELOW THE DETECTOR SETTING, EXHAUST FAN EF 4, SUPPLY FAN SF 2 AND SUPPLY FAN SF 5 WILL STOP AND INTRLOCKED DAMPERS WILL CLOSE AND ALARMS WILL BE DEENERGIZED.

AIR HANDLING UNIT SCHEDULE

ITEM	DETAIL
UNIT	AHU-1
AIRFLOW	
CFM	2,000
STATIC PRESSURE INCH W.G.(EXTERNAL)	1.0
DISCHARGE	DOWN
SEER	13.0
POWER SUPPLY	
V-PH-Hz	460/3/60
MCA	41.5
MCCP	45
COMPRESSOR INPUT Kw	4.62
COMPRESSOR RLA(EACH)	9
COMPRESSOR LRA(EACH)	62
SUPPLY FAN SF-6	
DRIVE	BELT
RPM	1362
POWER BHP	1.7
MOTOR HP	3.0
DAMPER MOTOR HP	1/12
CONDENSOR	
EAT, °F	98.0
OUTDOOR FAN (2) FLA	8 EACH
EVAPORATOR	
TYPE	DX, R22
ENT DB, °F	80.0
ENT WB, °F	67.0
ENTHRALPHY, BTU/lb	31.73
INDOOR FAN FLA	3.4
INDOOR FAN MOTOR CONTINOUS BHP	29
ITEM	**DETAIL**
UNIT	
DISCHARGE DB, °F	58.5
DISCHARGE WB, °F	57.1
DISCHARGE ENTHALPHY, BTU/lb	24.63
COOLING	
CAPACITY, MBH	62.74
NET CAPACITY, MBH	57.8
SENSIBLE	
CAPACITY, MBH	45.66
NET CAPACITY, MBH	40.72
COIL BYPASS	0.110
ELECTRICAL HEATING COIL	
FULL LOAD AMPS	27.7
ELECTRIC INPUT Kw	23
ENT AIR TEMP., °F	35.0
LVG AIR TEMP., °F	72.0

0' 2' 4' 8'
SCALE: 1"= 4'

M3

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

MECHANICAL PLAN

SCALE: AS SHOWN
DATE: 09-12-05
DRAWN BY: CTM
CHECKED BY: KC

PLOT DATE: *DATE-TIME*

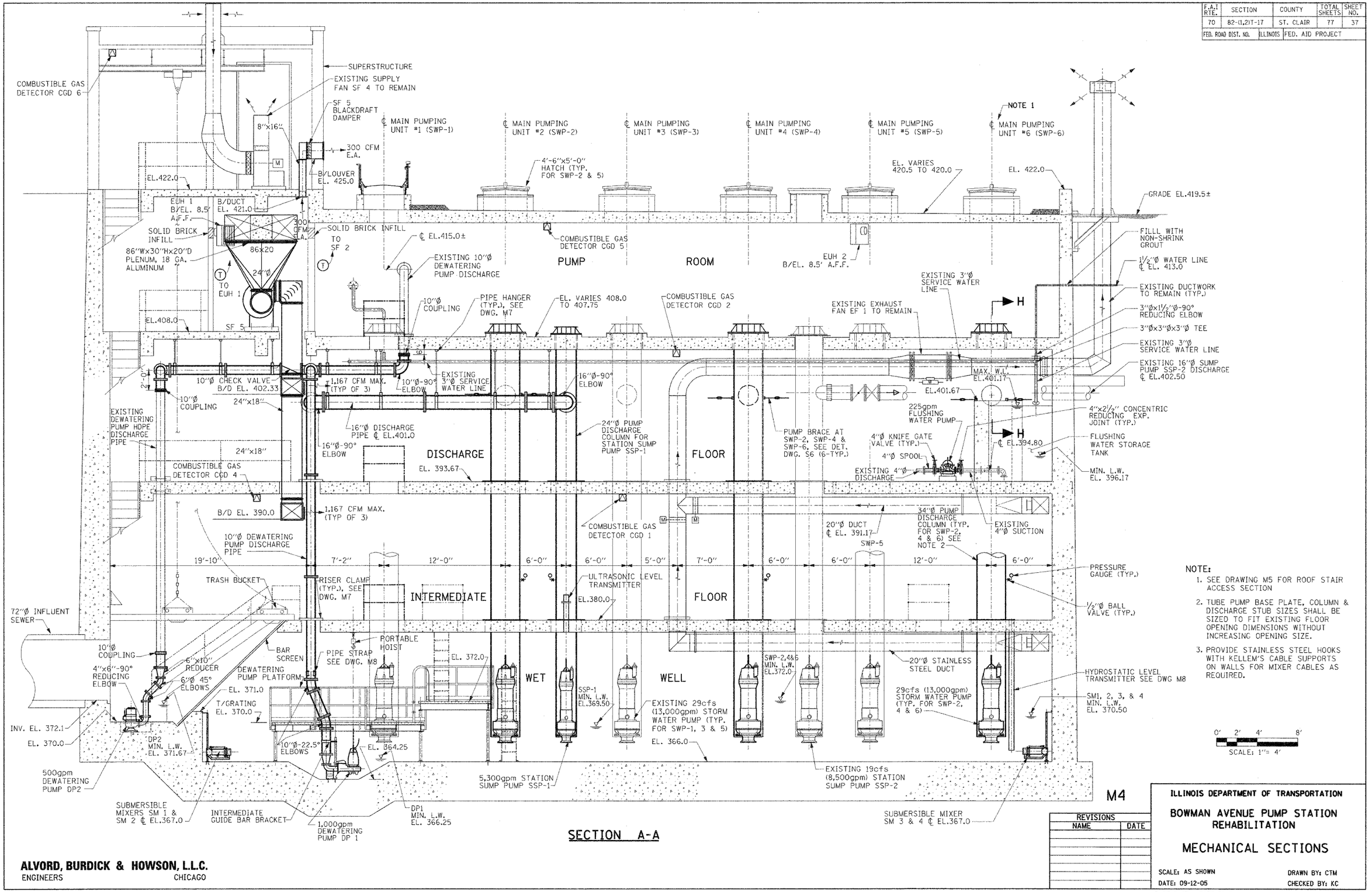
ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

PLAN | SURVEYED | DRAWN | CHECKED | NOTE BOOK | RT. OF WAY CHECKED | ROW FILE NAME | NO. | BY | DATE

*$RDATE$
DATE-TIME
DGN-SPEC
DGN-FILE
REF

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	37
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

PLAN	BY	DATE
SURVEYED		
PLOTTED		
CLOSURE CHECKED		
NOTE BOOK		
RT. OF WAY CHECKED		
NO.		
PROJ FILE NAME		



SECTION A-A

NOTE:

1. SEE DRAWING M5 FOR ROOF STAIR ACCESS SECTION
2. TUBE PUMP BASE PLATE, COLUMN & DISCHARGE STUB SIZES SHALL BE SIZED TO FIT EXISTING FLOOR OPENING DIMENSIONS WITHOUT INCREASING OPENING SIZE.
3. PROVIDE STAINLESS STEEL HOOKS WITH KELLEM'S CABLE SUPPORTS ON WALLS FOR MIXER CABLES AS REQUIRED.

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

M4

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

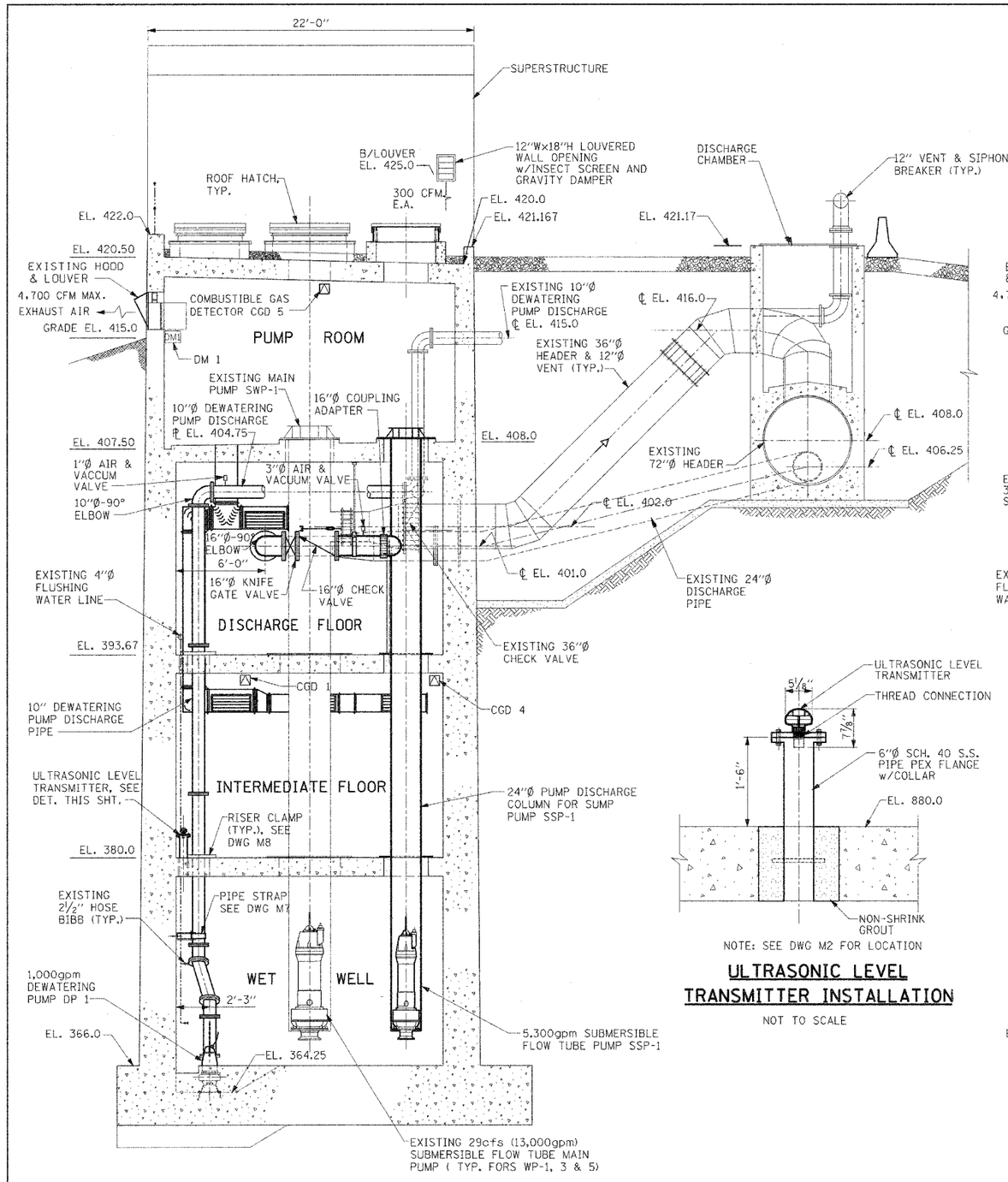
MECHANICAL SECTIONS

SCALE: AS SHOWN
DATE: 09-12-05
DRAWN BY: CTM
CHECKED BY: KC

PLOT DATE: *DATE-TIME*

$$DATE$$
DATE-TIME
CON-SPEC
FILE
REF

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	38
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

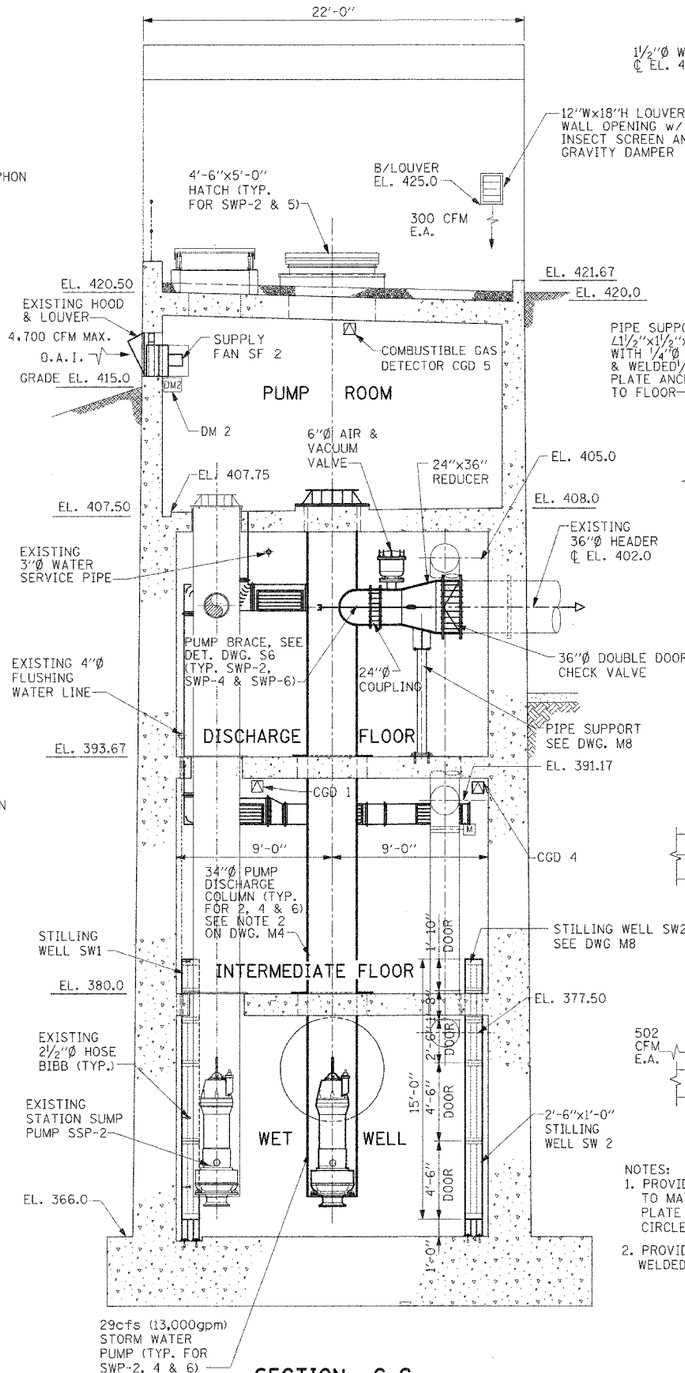


SECTION B-B

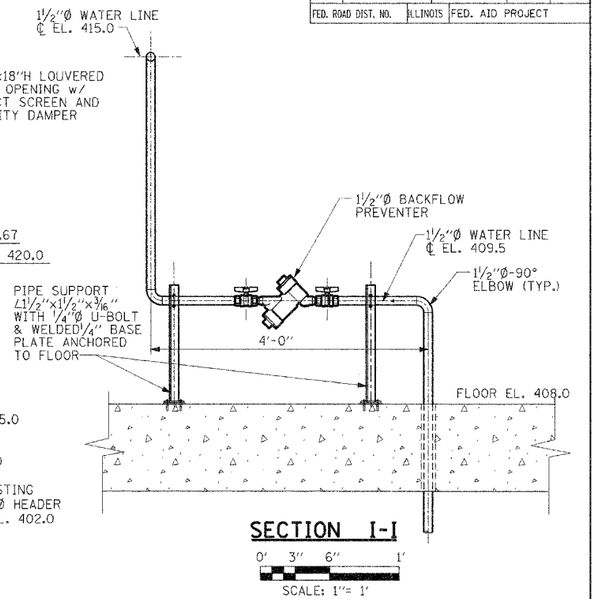
NOTE: SEE DWG M2 FOR LOCATION

ULTRASONIC LEVEL TRANSMITTER INSTALLATION

NOT TO SCALE



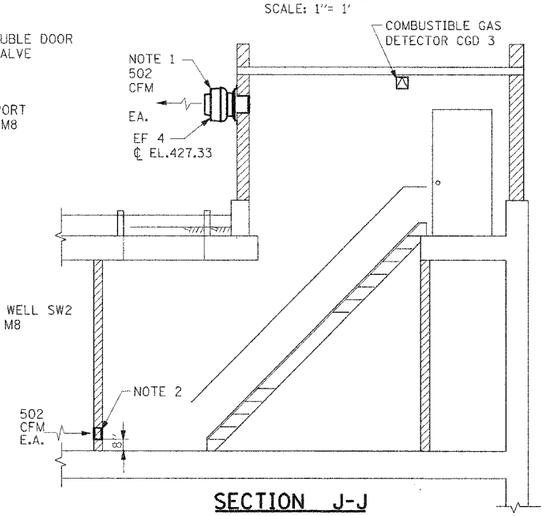
SECTION C-C



SECTION I-I

0' 3" 6" 1'

SCALE: 1"= 1'



SECTION J-J

NOT TO SCALE

NOTES:
1. PROVIDE 10 GA. ALUMINUM MOUNTING PLATE TO MATCH FAN MOUNTING BOLTING PATTERN. PLATE W X H TO BE MINIMUM OF BOLTING CIRCLE DIA. PLUS 4".
2. PROVIDE 16"W×8"H. ½"x½" 10 GA. ALUM. SCREEN WELDED ALUMINUM GRILLE w/FLANGES (BOTH SIDES)

0' 2' 4' 8'

SCALE: 1"= 4'

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

M5

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

MECHANICAL SECTIONS

SCALE: AS SHOWN DRAWN BY: CTM

DATE: 09-12-05 CHECKED BY: KC

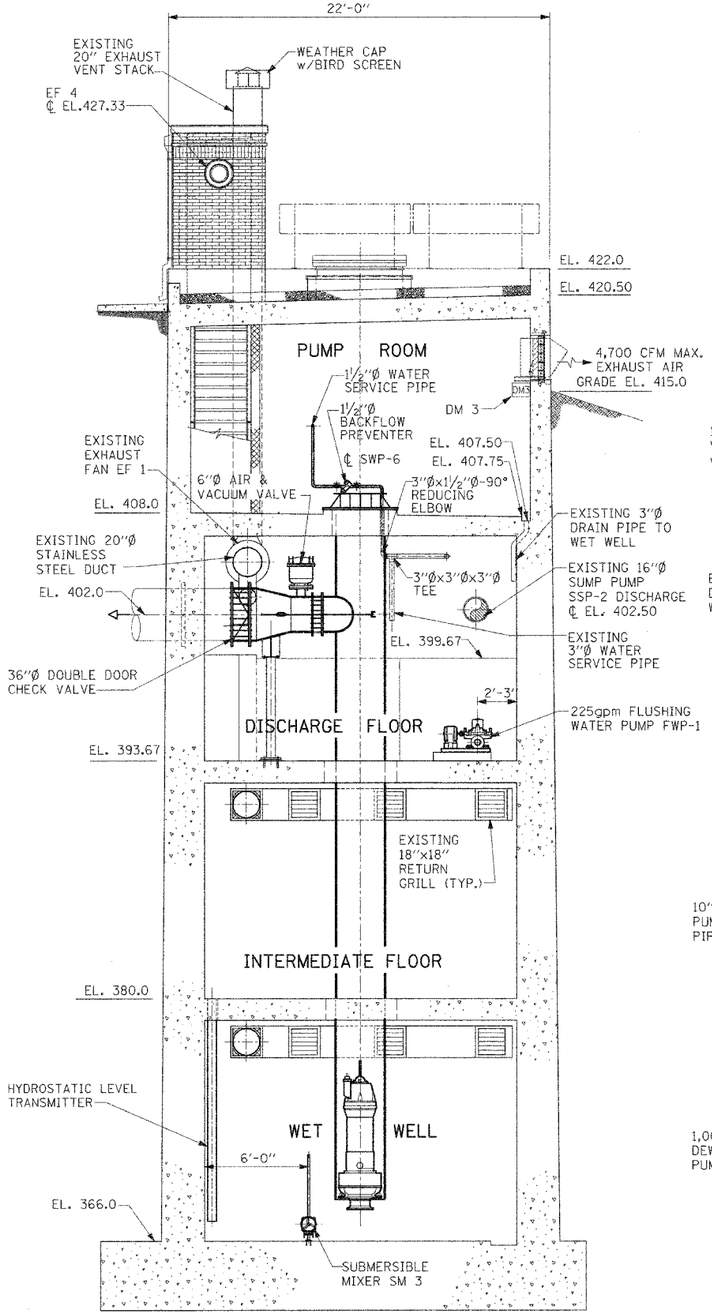
PLOT DATE: *DATE-TIME*

PLAN SURVEYED BY: DRAWN BY: CHECKED BY: NOTE BOOK: EST. OF WAY CHECKED BY: JOB FILE NAME: DATE

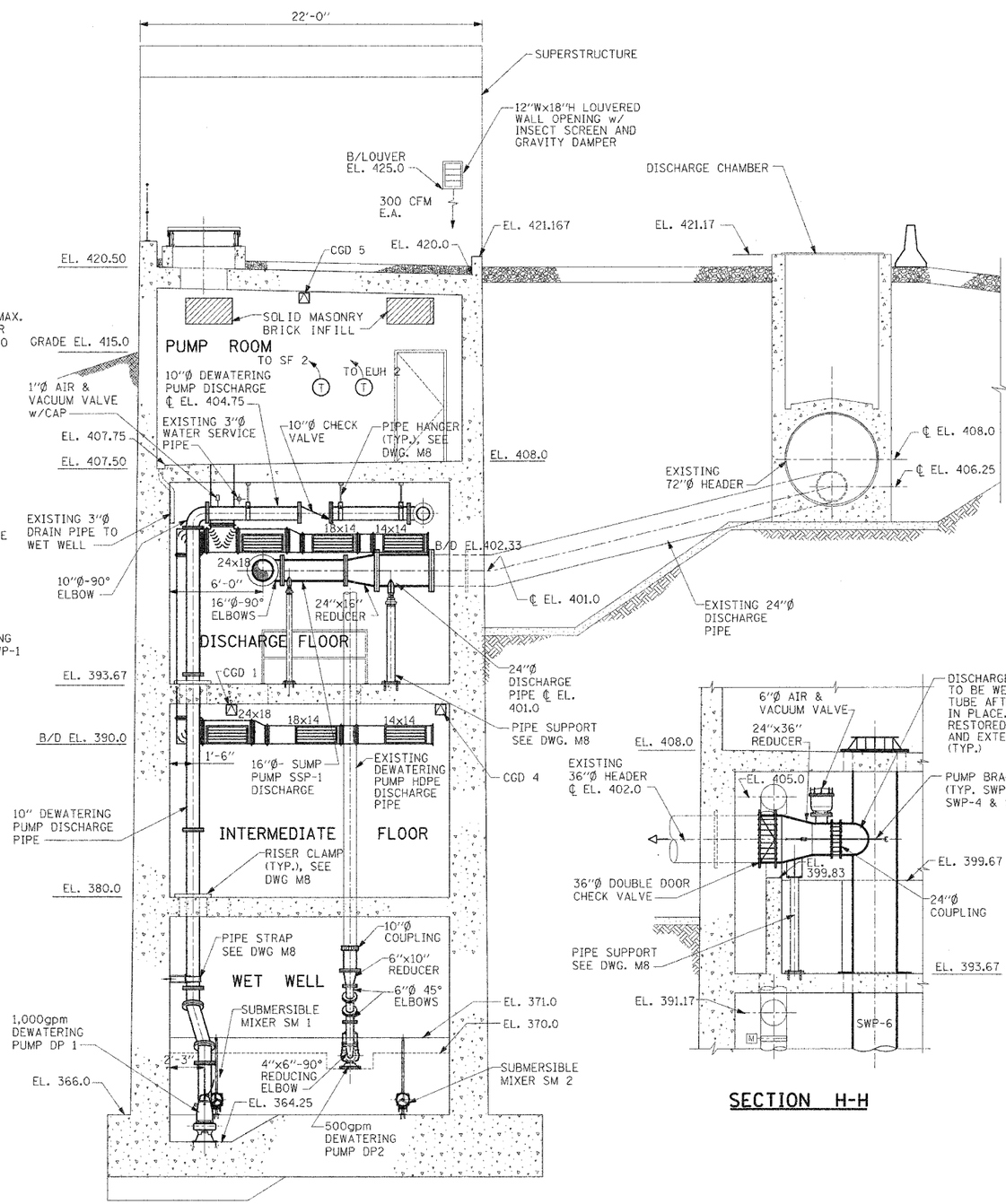
$$DATE$$ *DATE-TIME* *DGN-SPEC* *DES* *REF*

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	39
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

PLAN — SURVEYED / DRAWN / ALIGNMENT CHECKED / RT. OF WAY CHECKED / NOTE BOOK / NO. / PAID FILE NAME / BY / DATE

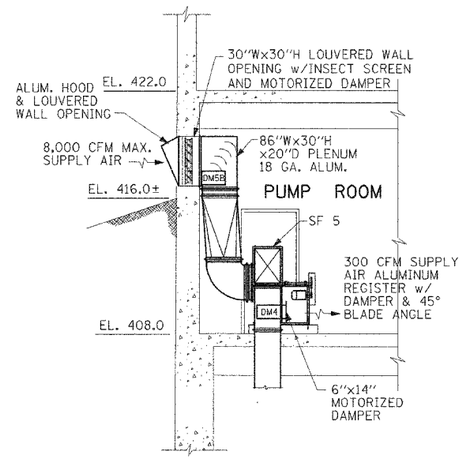


SECTION D-D

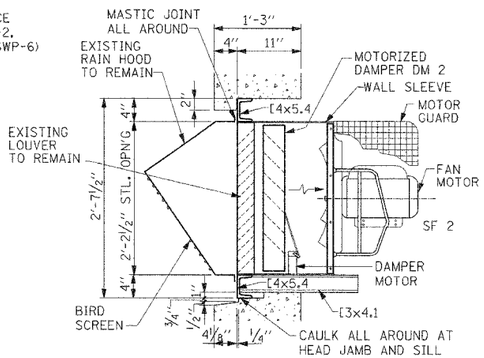


SECTION E-E

SECTION H-H



SECTION G-G



SECTION F-F
N.T.S.

M6

REVISIONS	
NAME	DATE

0' 2' 4' 8'
SCALE: 1"= 4'

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

MECHANICAL SECTIONS

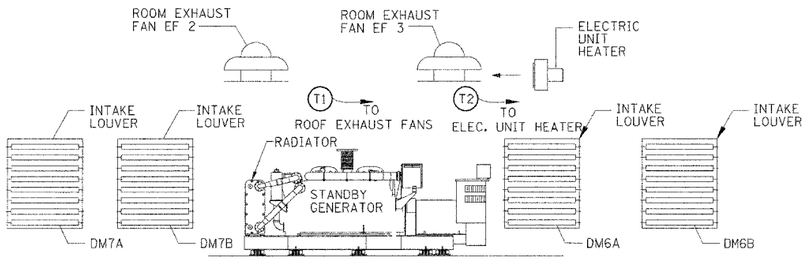
SCALE: AS SHOWN
DATE: 09-12-05
DRAWN BY: CTM
CHECKED BY: KC

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

$$DATE$$
•DATE-TIME•
•DGN-SPEC•
•REF•
•REF•

PLOT DATE: •DATE-TIME•

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-4,2YT-17	ST. CLAIR	77	40
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



1. STANDBY GENERATOR SHALL BE INTERLOCKED WITH DM6A & DM6B. WHEN STANDBY GENERATOR IS ENERGIZED DM6A & DM6B SHALL OPEN. WHEN STANDBY GENERATOR IS DE-ENERGIZED DM6A & DM6B SHALL CLOSE.
2. ROOF EXHAUST FANS SHALL BE INTERLOCKED WITH DM7A AND DM7B AND ROOM THERMOSTAT T1. WHEN ROOM THERMOSTAT RISES ABOVE 85° F ROOF EXHAUST FANS SHALL RUN AND DM7A AND DM7B SHALL OPEN. WHEN ROOM THERMOSTAT DROPS BELOW 80° F ROOF EXHAUST FANS SHALL STOP AND DM7A AND DM7B SHALL CLOSE.
3. ROOF EXHAUST FANS SHALL BE INTERLOCKED WITH DM7A AND DM7B AND CARBON MONOXIDE DETECTOR CO. WHEN ROOM CARBON MONOXIDE CONCENTRATION RISES ABOVE THE CARBON MONOXIDE DETECTOR SETPOINT, ROOF EXHAUST FANS SHALL RUN AND DM7A AND DM7B SHALL OPEN. WHEN ROOM CARBON MONOXIDE CONCENTRATION CONCENTRATION DROPS BELOW THE DETECTOR SETPOINT, FANS SHALL STOP AND DM7A AND DM7B SHALL CLOSE.
4. ELECTRIC UNIT HEATER SHALL BE INTERLOCKED WITH ROOM THERMOSTAT T2 SET AT 45° F. ON A DROP IN ROOM TEMPERATURE BELOW 43° F ELECTRIC UNIT HEATER SHALL BE ENERGIZED AND ON A RISE IN ROOM TEMPERATURE ABOVE 47° F, ELECTRIC UNIT HEATER SHALL BE DE-ENERGIZED
5. PROVIDE EXHAUST FAN, EF 2 INTERLOCK WITH DAMPER DM7A
6. PROVIDE EXHAUST FAN, EF 3 INTERLOCK WITH DAMPER DM7B

GENERATOR ROOM CONTROLS

ELECTRICAL CONTROL ROOM HVAC

SEQUENCE OF OPERATIONS

AHU-1 ROOF TOP UNIT WILL PROVIDE HEATING, AIR CONDITIONING AND VENTILATION OF THE ELECTRICAL CONTROL ROOM.

THE AHU-1 SYSTEM HAS ON-OFF CYCLING FOR HEATING, COOLING AND VENTIALTION AS CONTROLLED BY BOTH OUTSIDE AIR TEMPERATURE SENSOR AND ROOM THERMOSTAT AS REQUIRED.

THE SYSTEM WILL HAVE AN ADJUSTABLE TEMPERATURE THERMOSTAT LOCATED IN THE ELECTRICAL CONTROL ROOM WHICH WILL MODULATE THE ROOF TOP HVAC UNIT ELECTRIC HEATER SECTION. THE ECONOMIZER MOTORS, AND CYCLE MULTIPLE STAGES OF DX COOLING IN SEQUENCE TO MAINTAIN THE DESIRED TEMPERATURE SETPOINT AS SHOWN IN THE HVAC SCHEDULE.

HVAC SCHEDULE

OUTDOOR AIR TEMPERATURE ° F	ROOM AIR TEMPERATURE ° F(ADJ.)
< 50° F	60° F WITH ELECTRIC HEATING
50° F TO 80° F	85° F WITH AHU-1 UNIT FAN
>85° F	80° F WITH DX COIL

THE SYSTEM IS TO HAVE A CONTRACTOR DESIGNED AND CUSTOM FABRICATED MAIN HVAC CONTROL PANEL WITH ALL REQUIRED FUNCTION CONTROLS FOR THE SYSTEM OPERATION PLUS VISUAL AND AUDIBLE ALARMS FOR ALL FUNCTIONS DEFINED IN THIS SEQUENCE OF OPERATION.

A MAIN HVAC CONTROL PANEL MOUNTED HAND-OFF-AUTO SWITCH WILL DETERMINE WHICH MODE THE SYSTEM WILL OPERATE IN. A SYSTEM ON/OFF SWITCH PLACES THE SYSTEM IN OPERATION.

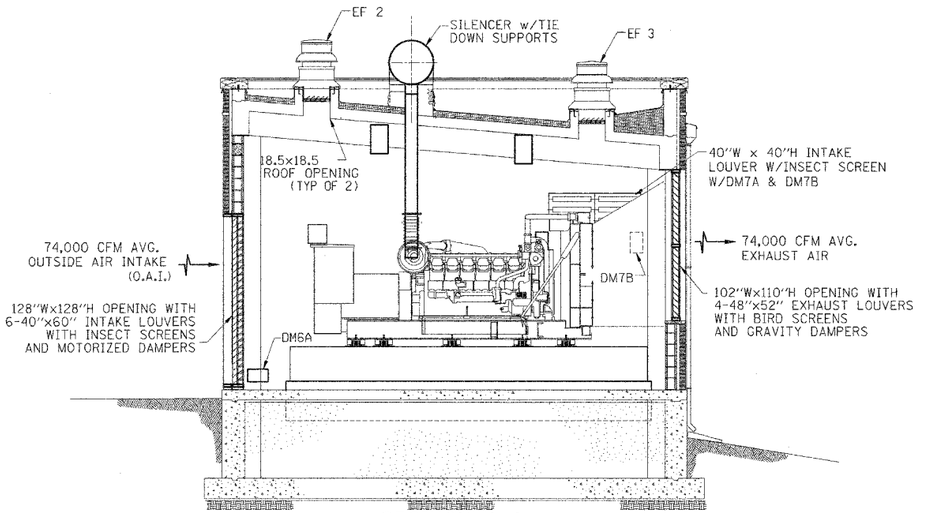
SYSTEM FUNCTIONS NOT PROVIDED BY ROOF TOP HVAC UNIT SUPPLIER MUST BE SUPPLEMENTED BY HVAC CONTROLS CONTRACTOR.

WHEN SYSTEM IS "OFF" OUTSIDE AIR MIXING, OUTSIDE AIR CLOSE-OFF, MINIMUM FRESH AIR AND RELIEF AIR DAMPERS CLOSE AND THE RETURN AIR DAMPERS OPEN.

WHEN AHU-1 THERMOSTAT IS SET"HAND", OUTSIDE AIR DAMPER OPENS TO 100%, RETURN AIR DAMPER OPENS TO 100%, AND ELECTRIC HEATING CYCLES ON TO MAINTAIN ROOM TEMPERATURE AT ° F(ADJ.).

WHEN AHU-1 THERMOSTAT IS SET"AUTO", OUTSIDE AIR DAMPER OPENS TO 20%, OUTSIDE AIR MIXING AND RELIEF AIR DAMPERS MODULATE. AND THERMOSTAT MAINTAINS ROOM TEMPERATURE BASED ON HVAC SCHEDULE.

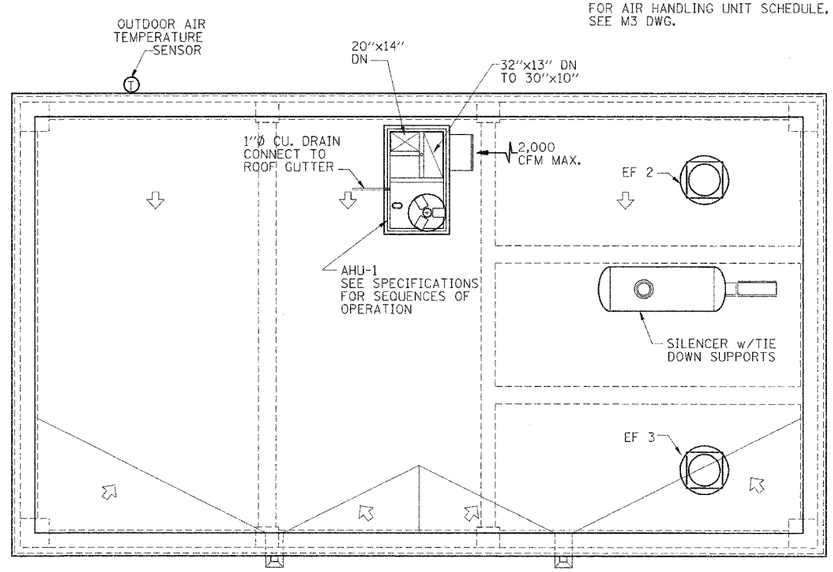
MANUAL VOLUME CONTROL DAMPERS VCD PROVIDED WITH ALL REGISTERS ARE TO BE USE FOR BALANCING THE INDIVIDUAL SUPPLY AIR REGISTERS.



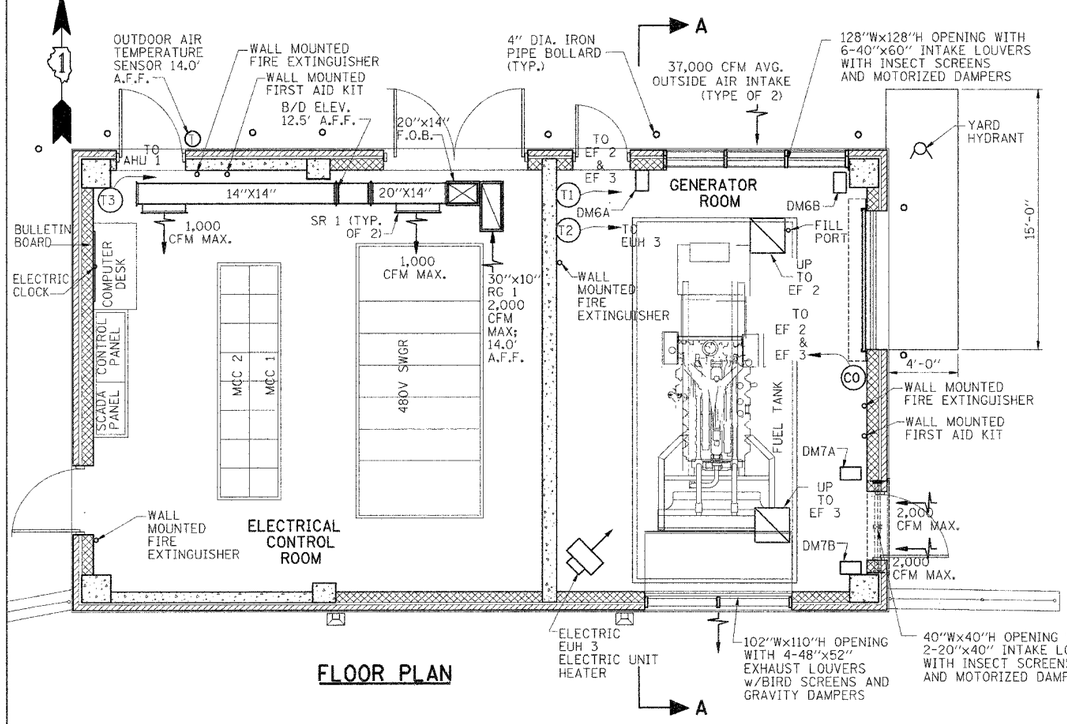
SECTION A-A

NOTE:

FOR AIR HANDLING UNIT SCHEDULE, SEE M3 DWG.



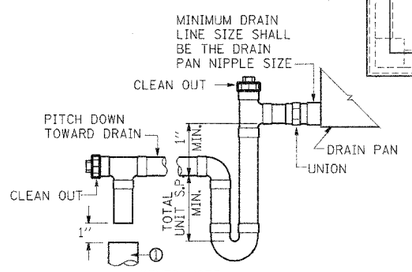
ROOF PLAN



FLOOR PLAN

0' 2' 4' 8'

SCALE: 1"= 4'



KEYED NOTE:

① ROOF DRAIN, COORDINATE LOCATION w/AHU CONDESATE OUTLET

TYPICAL CONDENSATE DRAIN DETAIL

NOT TO SCALE

M7

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

ELEC. CNTRL./GEN. BLDG. FLOOR & ROOF PLANS

SCALE: AS SHOWN
DATE: 09-12-05
DRAWN BY: CM
CHECKED BY: KC

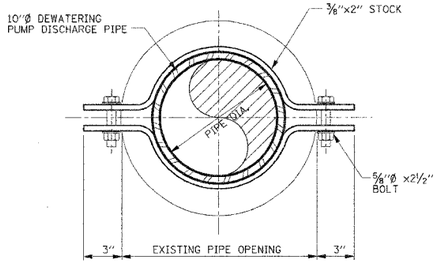
PLOT DATE: *DATE-TIME*

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

ADDITEM
DATE-TIME
DGN-SPEC
REF
RES

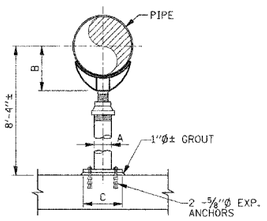
PLAN SURVEYED BY DATE
ADDITIONS CHECKED BY
NOTE BOOK INIT. OF MPW CHECKED
NO. PGD FILE NAME

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	41
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



RISER CLAMP DETAIL

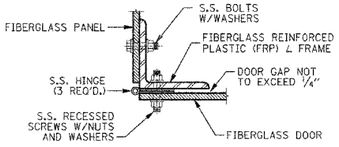
NOT TO SCALE



TYPICAL PIPE SUPPORT

NOT TO SCALE

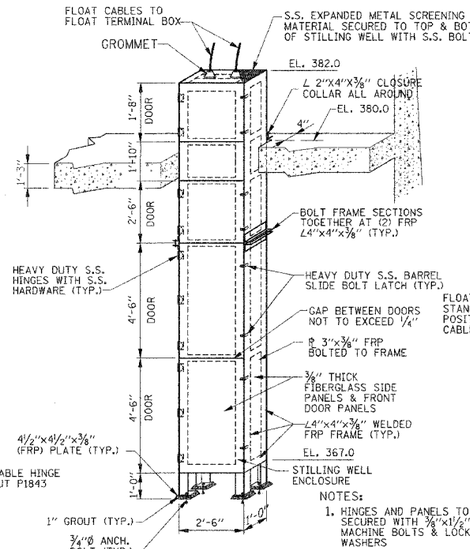
PIPE SIZE	SUPPORT DIMENSION		
	A	B	C
16"	4"	12⅜"	11½"
24""	6"	17⅝"	13½"



STAINLESS STEEL DOOR HINGE DETAIL

0' 3" .5' 1'

SCALE: 3"= 1'



NOTES:

1. HINGES AND PANELS TO BE SECURED WITH 3/8"x1½" S.S. MACHINE BOLTS & LOCKING WASHERS
2. FOR NUMBER OF FLOAT CABLES, SEE ELECTRICAL DWG.

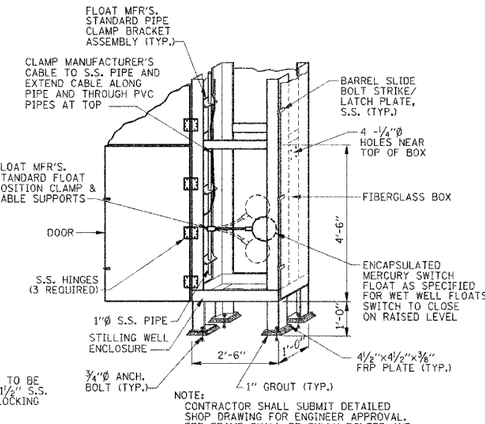
FLOAT STILLING WELL DETAIL FOR PUMP FLOAT CONTROL, SW1 & SW2

(2 REQUIRED)

0' 1' 2' 5'

SCALE: 3/8"= 1'

NOTE: SEE DWG. M2 FOR LOCATION

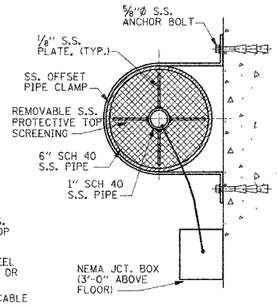


NOTE:
CONTRACTOR SHALL SUBMIT DETAILED SHOP DRAWING FOR ENGINEER APPROVAL. FRP FRAME SHALL BE FULLY BOLTED AND GLUED TO FORM A RIGID SELF SUPPORTED BOX.

FLOAT DETAIL IN STILLING WELL ENCLOSURES

0' 1' 2' 5'

SCALE: 3/8"= 1'



SECTION A-A

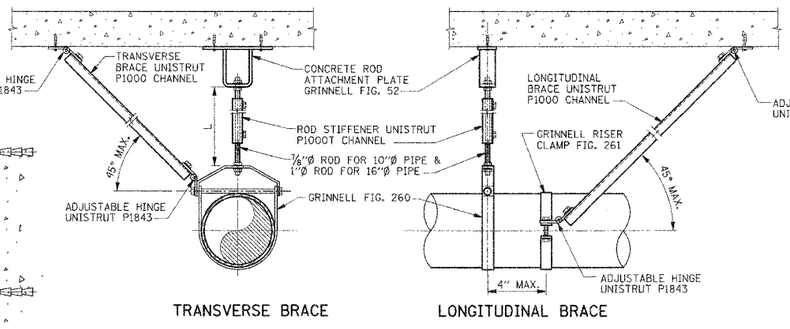
NOT TO SCALE

NOTE: SEE DWG M2 FOR LOCATION

WET PIT HYDROSTATIC LEVEL TRANSMITTER INSTALLATION

NOT TO SCALE

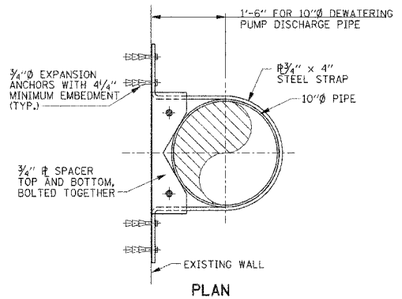
NOTE:
ALL PIPES AND SUPPORT HARDWARES SHALL BE 304 STAINLESS STEEL.



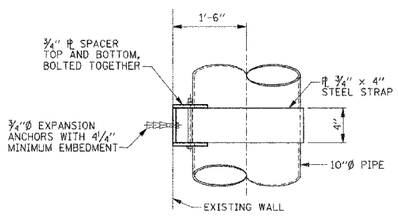
PIPE HANGER DETAIL

NOT TO SCALE

ROD SIZE	MAX. "L" WITHOUT ROD STIFFENER
⅞"	43"
1"	50"



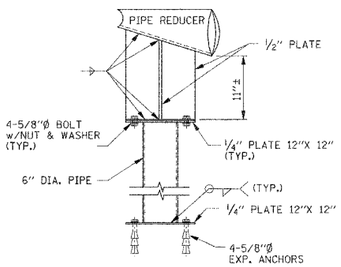
PLAN



ELEVATION

PIPE STRAP DETAIL

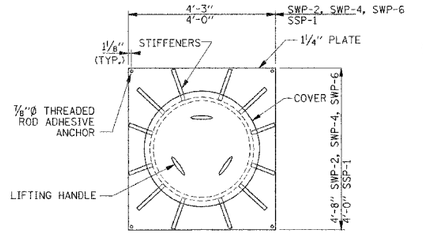
NOT TO SCALE



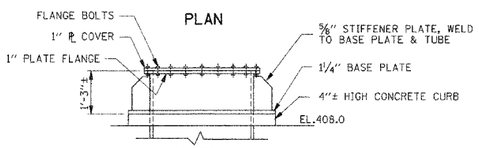
REDUCER PIPE SUPPORT

0' .5' 1' 2'

SCALE: 1"= 1'



PLAN



SECTION

NOTES:

1. TUBE SUPPORT DIMENSIONS & ARRANGEMENT ARE FOR BID PURPOSE ONLY. FINAL DESIGN AND ARRANGEMENT SHALL BE BY PUMP MANUFACTURER.
2. PROVIDE ELECTRICAL PENETRATIONS & ATTACHMENTS SIMILAR TO PRESENT PUMPS SWP-5 & SSP-2 AND AS RECOMMENDED BY PUMP MANUFACTURER.

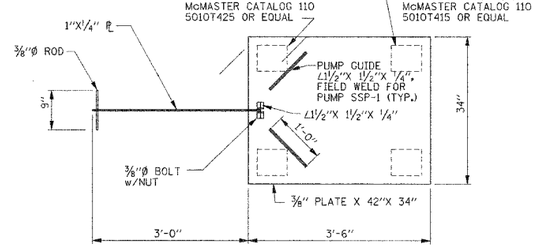
TUBE SUPPORT DETAIL

0' 1' 2' 4'

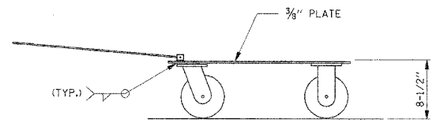
SCALE: 1"= 2'

GENERAL NOTES:

1. ALL STEEL PLATES, BARS, RODS AND STRUCTURAL SHAPES SHALL BE HOT DIP GALVANIZED AFTER FABRICATION.
2. FOR TUBE STABILIZER PLATES DETAIL, SEE DWG. S6. TUBE SUPPORT AND TUBE STABILIZER PLATES SHALL BE PROVIDED BY THE PUMP MANUFACTURER.



PUMP DOLLY PLAN



PUMP DOLLY

0' 6" 1' 2' 3'

SCALE: ¾"= 1'

M8

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

MECHANICAL DETAILS

SCALE: AS SHOWN
DRAWN BY: CTM
DATE: 09-12-05
CHECKED BY: KC

PLOT DATE: *DATE-TIME*

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

PLAN | DATE | BY | SURVEYED | ALIGNMENT CHECKED | RT. OF WAY CHECKED | NOTE BOOK | NO. | PLOT FILE NAME

$DATE$
DATE-TIME
BOX-SPEC
*REF-
*REF-

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	42
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

PUMPING OPERATION RANGES WITH RISING WATER

FUNCTION	SCADA (ULTRASONIC & HYDROSTATIC LEVEL)		FLOAT	
	ELEVATION	LEVEL ABOVE WET PIT FLOOR	ELEVATION	LEVEL ABOVE WET PIT FLOOR
	(FT)	(FT)	(FT)	(FT)
LEAD SUMP PUMP START MIXERS START	371.00	5.0	372.00	6.0
LAG SUMP PUMP START	373.00	7.0	373.50	7.5
LEAD MAIN PUMP START & MIXERS STOP	374.00	8.0	374.50	8.5
LAG 1 MAIN PUMP START	375.00	9.0	375.50	9.5
LAG 2 MAIN PUMP START	376.00	10.0	376.50	10.5
LAG 3 MAIN PUMP START	377.00	11.0	377.50	11.5
LAG 4 MAIN PUMP START	378.00	12.0	378.50	12.5
LAG 5 MAIN PUMP START	379.00	13.0	379.50	13.5
HIGH WATER ALARM	380.00	14.0	380.50	14.5

PUMPING OPERATION RANGES WITH FALLING WATER

FUNCTION	SCADA (ULTRASONIC & HYDROSTATIC LEVEL)		FLOAT	
	ELEVATION	LEVEL ABOVE WET PIT FLOOR	ELEVATION	LEVEL ABOVE WET PIT FLOOR
	(FT)	(FT)	(FT)	(FT)
LAG 5 MAIN PUMP STOP	377.00	11.0	377.00	11.0
LAG 4 MAIN PUMP STOP	376.00	10.0	376.00	10.0
LAG 3 MAIN PUMP STOP	375.00	9.0	375.00	9.0
LAG 2 MAIN PUMP STOP	374.00	8.0	374.00	8.0
LAG 1 MAIN PUMP STOP	373.00	7.0	373.00	7.0
LEAD MAIN PUMP STOP	372.00	6.0	372.00	6.0
MAIN PUMP FAILURE TO STOP ALARM	371.50	5.5	371.50	5.5
LAG SUMP PUMP STOP	371.00	5.0	371.00	5.0
MIXER STOPS	370.50	4.5	370.50	4.5
LEAD SUMP PUMP STOP	369.50	3.5	369.50	3.5
LOW WATER ALARM	368.50	2.5	368.50	2.5

DAMPERS SCHEDULE

ITEM	SIZE	ACTUATOR TYPE	ACTUATOR VOLTAGE	ACTUATOR PH	CONFIGURATION	REMARKS
DM 1, 2 & 3	26.5"x26.5"	ELECTRIC MOTOR	120	1	SUPPLY	MOTORIZED * DAMPER/LOUVER
DM 4	14"x6"	ELECTRIC MOTOR	120	1	SUPPLY	MOTORIZED * DAMPER/LOUVER
DM 5A & 5B	2 @ 30"x30" E.A.	ELECTRIC MOTOR	120	1	SUPPLY	MOTORIZED * DAMPER/LOUVER
DM 6A & 6B	6 @ 40"x60" EA.	ELECTRIC MOTOR	120	1	SUPPLY	MOTORIZED DAMPER/LOUVER
DM 7A & 7B	2 @ 20"x40" EA.	ELECTRIC MOTOR	120	1	SUPPLY	MOTORIZED DAMPER/LOUVER
EF 2	16"x16"	GRAVITY			EXHAUST	GRAVITY DAMPER/LOUVER
EF 3	16"x16"	GRAVITY			EXHAUST	GRAVITY DAMPER/LOUVER
EF 4	11.25"x11.25"	GRAVITY			EXHAUST	GRAVITY DAMPER/LOUVER
GEN. ROOM	4 @ 48"x52" EA.	GRAVITY			EXHAUST	GRAVITY DAMPER/LOUVER
SF 5	18"x12"	GRAVITY			EXHAUST	GRAVITY DAMPER/LOUVER

* EXPLOSION PROOF EQUIPMENT

EQUIPMENT SCHEDULE

ITEM	DESCRIPTION	LOCATION	ELECTRICAL MOTOR CHARACTERISTICS KW	HP	RPM	VOLTS	PHASE	HZ	PUMP CAPACITY (GPM)	PUMP HEAD (FT)	FAN TYPE	FAN CAPACITY (CFM)	FAN SP (IN)	FAN DRIVE	FAN MOUNTING	REMARKS
SWP-1	EXISTING MAIN PUMP #1	WET WELL	149	200	880	460	3	60	13,000	46						
SWP-2	MAIN PUMP #2	WET WELL	149	200	880	460	3	60	13,000	46						SEE NOTES 1 AND 2
SWP-3	EXISTING MAIN PUMP #3	WET WELL	149	200	880	460	3	60	13,000	46						
SWP-4	MAIN PUMP #4	WET WELL	149	200	880	460	3	60	13,000	46						SEE NOTES 1 AND 2
SWP-5	EXISTING MAIN PUMP #5	WET WELL	149	200	880	460	3	60	13,000	46						
SWP-6	MAIN PUMP #6	WET WELL	149	200	880	460	3	60	13,000	46						SEE NOTES 1 AND 2
SSP-1	SUMP PUMP #1	WET WELL	75	120	1185	460	3	60	5,300	50						SEE NOTES 1 AND 2
SSP-2	EXISTING SUMP PUMP #2	WET WELL	127	170	1185	460	3	60	8,500	57.5						
DP 1	DEWATERING PUMP#1	WET WELL	18.5	25	1750	460	3	60	1,000	54						SEE NOTES 1 AND 2
DP 2	DEWATERING PUMP#2	WET WELL	11	15	1750	460	3	60	500	48						SEE NOTES 1 AND 2
FWP1	FLUSHING WATER PUMP	FLOOR AT EL. 393.67	7.5	10	1800	460	3	60	225	90						SEE NOTE 2
SM 1 & 2	SUBMERSIBLE MIXER	WET WELL	3	4	880	460	3	60								SEE NOTE 2
SM 3 & 4	SUBMERSIBLE MIXER	WET WELL	3	4	880	460	3	60								SEE NOTE 2
SF 2	EXISTING SUPPLY FAN	PUMP ROOM	1.2	1.5	1750	460	3	60			SIDEWALL PROPELLER FAN	4,700	0.5	DIRECT	WALL	SEE NOTE 2
SF 5	SUPPLY FAN	OPERATOR'S ROOM	3.8	5	1100/ 1725	460	3	60			UTILITY CENTRIFUGAL FAN	6,900/ 8,000	1.2/1.5	BELT	DUCT	SEE NOTES 2, 3 AND 4
EF 1	EXISTING EXHAUST FAN	DISCHARGE FLOOR AT EL. 393.67	3.8	5	1750	460	3	60			IN-LINE CENTRIFUGAL FAN	6,100	7.5	BELT	DUCT	SEE NOTE 6
SF 4	EXISTING SUPPLY FAN	ENTRANCE AT EL. 422.0	1.2	1.5	1750	460	3	60			IN-LINE CENTRIFUGAL FAN	7,700	0.25	BELT	DUCT	SEE NOTE 6
EF 2	EXHAUST FAN	GENERATOR BUILDING ROOF	0.37	0.5	1725	460	3	60			ROOF MT'D CENTRIFUGAL	1,800	0.75	DIRECT	ROOF	
EF 3	EXHAUST FAN	GENERATOR BUILDING ROOF	0.37	0.5	1725	460	3	60			ROOF MT'D CENTRIFUGAL	1,800	0.75	DIRECT	ROOF	
EF 4	EXHAUST FAN	ROOF STAIR ACCESS	0.11	1/4	1550	120	1	60			SIDEWALL CENTRIFUGAL	502	0.375	DIRECT	WALL	SEE NOTE 2
EUH 1 & 2	ELECTRIC UNIT HEATER	OPERATOR'S ROOM & PUMP ROOM	5.0			480	3	60			FAN FORCED ELECTRIC HEATER					SEE NOTE 2
EUH 3	ELECTRIC UNIT HEATER	GENERATOR ROOM	5.0			480	3	60			FAN FORCED ELECTRIC HEATER					
HM 1	EXISTING 2T HOIST MOTOR	ENTRANCE	2.2	3		460	3	60								
HM 2	3T CRANE HOIST MOTOR	PUMP ROOM ROOF AT EL.422.0	4.66	6.25		460	3	60								
TM 1	EXISTING 2T TROLLEY MOTOR	ENTRANCE	0.37	0.5		460	3	60								
TM 2	3T CRANE TROLLEY MOTOR	PUMP ROOM ROOF AT EL.422.0	0.37	0.5		460	3	60								
TM 2A	3T CRANE TROLLEY MOTOR	PUMP ROOM ROOF AT EL.422.0	0.56	0.75		460	3	60								

NOTES:

1. THE DESIGN OF THE PUMP STATION HAS BEEN BASED ON A SPECIFIC PUMP. OTHER PUMPS PRODUCING THE SAME HYDRAULIC CHARACTERISTIC ARE ACCEPTABLE. IT SHALL BE THE CONTRACTOR'S RESPONSIBLITY TO MAKE ALL ADJUSTMENTS TO THE STATION DESIGN REQUIRED TO ADOPT HIS FINAL SELECTED PUMPS AT NO ADDITIONAL COST.
2. EQUIPMENT SHALL MEET THE REQUIREMENTS OF NEC CLASS 1, DIV. 2 GROUP D HAZARDOUS LOCATION EXCEPT HM2, TM2 AND TM2A WHICH SHALL MEET THE REQUIREMENTS OF ANSI MH2.1, CLASS C (MODERATE SERVICE) AND OUTDOOR OPERATION.
3. TWO SPEED FAN IS REQUIRED.
4. CENTRIFUGAL FAN ARRANGEMENT 9.
5. FOR PUMP STATION HVAC AND AIR HANDLING UNIT SCHEDULE, SEE M3 DWG.
6. FOR INFORMATION ONLY. EXISTING FAN TO REMAIN.

PLAN: SURVEYED / DRAWN / ALIGNMENT CHECKED / RT. OF WAY CHECKED / NOTE BOOK / NO. / LOAD FILE NAME / BY / DATE

$DATE$
•DATE-TIME•
•DGN_SPEC•
•REF•
•REF•

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

M9

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

EQUIPMENT SCHEDULE & PUMPING OPERATING ELEV.

SCALE: NO SCALE DRAWN BY: WP,CM

DATE: 09-12-05 CHECKED BY: KC

PLOT DATE: •DATE-TIME•

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	43
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

BUILDING PLANS

SYMBOL	DESCRIPTION
F1-2a	FLUORESCENT FIXTURE (F1 INDICATES FIXTURE TYPE-REFER TO FIXTURE SCHEDULE - 2a INDICATES CIRCUIT No.2 ON SWITCH a.)(TYP).
	FLUORESCENT FIXTURE, WALL MOUNTED
	INCANDESCENT, COMPACT FLUORESCENT OR HID FIXTURE
	WALL MOUNTED INCANDESCENT, COMPACT FLUORESCENT OR HID FIXTURE
	FLUORESCENT FIXTURE ON EMERGENCY CIRCUIT
	INCANDESCENT, COMPACT FLUORESCENT OR HID FIXTURE ON EMERGENCY CIRCUIT
	EXIT SIGN SINGLE SIDED (ABOVE DOOR)
	DIRECTIONAL EXIT SIGN - DOUBLE SIDED (DIRECTION AS INDICATED - TYP.)
	DIRECTIONAL EXIT SIGN - SINGLE SIDED
	BATTERY UNIT FOR EMERGENCY LIGHT
	BATTERY OPERATED EMERGENCY LIGHT
	EMERGENCY LIGHT, REMOTE HEAD
P	ELECTRIC PULLBOX
J / ■	ELECTRIC JUNCTION BOX
	BARE GROUND CABLE
	EXPOSED CONDUIT
	CONCEALED CONDUIT IN FLOOR OR UNDERGROUND
	CONCEALED CONDUIT IN CEILING OR WALLS
LP-1-6	CONDUIT HOME-RUN TO PANEL AS INDICATED (LP-1-6 DENOTES PANEL DESIGNATION. SLASH LINES INDICATE QUANTITY OF WIRE. GROUND WIRE INDICATED AS LONG LINE WITH DOT, NEUTRAL WIRE INDICATED AS LONG LINE, PHASE WIRE AND SWITCH LEGS INDICATED AS SHORT LINES.)
	CABLE TRAY
	CONDUIT TURNED UP OR DOWN
	CONDUIT TERMINATED OR CAPPED
$	SINGLE POLE TOGGLE SWITCH
$2	DOUBLE POLE TOGGLE SWITCH
$3	THREE-WAY TOGGLE SWITCH
$4	FOUR-WAY TOGGLE SWITCH
$K	KEY OPERATED SWITCH
$T	MANUAL MOTOR STARTER SWITCH WITH THERMAL OVERLOAD PROTECTION
$P	TOGGLE SWITCH WITH PILOT LIGHT
$D	DIMMER SWITCH
	SINGLE RECEPTACLE
	DUPLEX RECEPTACLE
	QUADRUPLEX RECEPTACLE
GFCI	DUPLEX RECEPTACLE WITH GROUND FAULT CIRCUIT INTERRUPTER
IG	DUPLEX RECEPTACLE WITH ISOLATED GROUND

BUILDING PLANS

SYMBOL	DESCRIPTION
	SPECIAL PURPOSE RECEPTACLE
	TELEPHONE OUTLET
	DATA OUTLET
LP-1	FLUSH MOUNTED PANELBOARD — PANEL TYPE (LIGHTING PANEL) — UNIT NUMBER
	SURFACE MOUNTED PANELBOARD
	MANUAL DISCONNECT SWITCH NONFUSED (RATING AS INDICATED)
	MANUAL DISCONNECT SWITCH FUSED (RATING AS INDICATED)
	MAGNETIC MOTOR STARTER (RATING AS INDICATED)
	COMBINATION MAGNETIC MOTOR & FUSED DISCONNECT SWITCH (RATING AS INDICATED)
	PUSHBUTTON STATION (1, 2 & 3 BUTTONS SHOWN)
50HP	SINGLE SPEED ELECTRIC MOTOR (KW OR HP RATING AS INDICATED)
50HP	DOUBLE SPEED ELECTRIC MOTOR (KW OR HP RATING AS INDICATED)
250 KW	ELECTRIC GENERATOR SET (KW RATING AS INDICATED)
L	LIMIT SWITCH
FS	FLOAT SWITCH
P	PRESSURE SWITCH
FW	FLOW SWITCH
EP	ELECTRIC - PNEUMATIC SWITCH
PE	PNEUMATIC - ELECTRIC SWITCH
TQ	TORQUE SWITCH
T	TRANSFORMER
F	FIRE ALARM PULL STATION
AV	AUDIO VISUAL ALARM
F	FIREALARM STROBE
S	SMOKE DETECTOR
H	HEAT DETECTOR
G	COMBUSTIBLE GAS DETECTOR
T	THERMOSTAT
	UNIT HEATER - HORIZONTAL TYPE
UH	UNIT HEATER - DOWNBLAST TYPE OR CENTRIFUGAL FAN TYPE
CUH	CABINET UNIT HEATER
	ALARM HORN

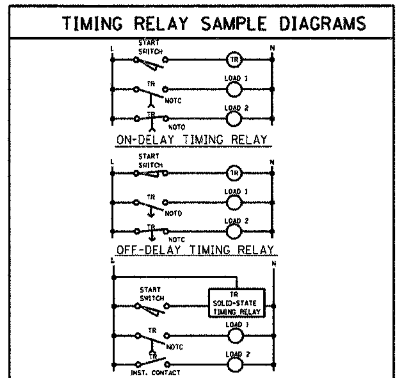
SCHEMATIC SYMBOLS

SYMBOL	DESCRIPTION
	CONDUCTOR CONNECTION
	NO CONNECTION
	TERMINAL ON A DEVICE
	NORMALLY OPEN CONTACT
	NORMALLY CLOSED CONTACT
	SINGLE POLE, SINGLE THROW SWITCH
	SINGLE POLE, DOUBLE THROW SWITCH
	DOUBLE POLE, SINGLE THROW SWITCH
	DOUBLE POLE, DOUBLE THROW SWITCH
	THREE WAY ROTARY SWITCH
	NORMALLY CLOSED MOMENTARY PUSH BUTTON SWITCH
	NORMALLY OPEN MOMENTARY PUSH BUTTON SWITCH
	2 POSITION PUSH BUTTON (EXTRA CONTACT BLOCK)
	NORMALLY OPEN DOUBLE BREAK SINGLE THROW CONTACT BLOCK
	NORMALLY CLOSE DOUBLE BREAK SINGLE THROW CONTACT BLOCK
	DOUBLE BREAK DOUBLE THROW CONTACT BLOCK
	MUSHROOM HEAD PUSH BUTTON
	MAINTAINED CONTACT PUSHBUTTON
	2 OR 3 POSITIONS SELECTOR SWITCH (CLOSED CONTACTS INDICATED BY " X")
	MULTI-POSITION, MULTI-CONTACT SELECTOR SWITCH (CLOSED CONTACTS INDICATED BY " X")
	TEMPERATURE SWITCH - CLOSES ON RISING TEMPERATURE
	TEMPERATURE SWITCH - OPENS ON RISING TEMPERATURE
	PRESSURE SWITCH - CLOSES ON RISING PRESSURE
	PRESSURE SWITCH - OPENS ON RISING PRESSURE
	DIFFERENTIAL PRESSURE SWITCH - CLOSES WHEN THE DIFFERENTIAL IN PRESSURE BETWEEN TWO DIAPHRAGMS EXCEEDS A SET POINT
	DIFFERENTIAL PRESSURE SWITCH - OPENS WHEN THE DIFFERENTIAL IN PRESSURE BETWEEN TWO DIAPHRAGMS EXCEEDS A SET POINT
	TIME DELAY RELAY SWITCH - CLOSES ON TIME DELAY AFTER ENERGIZATION OF RELAY COIL.
	TIME DELAY RELAY SWITCH - OPENS ON TIME DELAY AFTER ENERGIZATION OF RELAY COIL.
	TIME DELAY RELAY SWITCH - CLOSES ON TIME DELAY AFTER DE-ENERGIZATION OF RELAY COIL.
	TIME DELAY RELAY SWITCH - OPENS ON TIME DELAY AFTER DE-ENERGIZATION OF RELAY COIL.
	LIMIT SWITCH - NORMALLY OPEN
	LIMIT SWITCH - NORMALLY CLOSED
	LIMIT SWITCH - NORMALLY OPEN HELD CLOSED

SCHEMATIC SYMBOLS

SYMBOL	DESCRIPTION
	LIMIT SWITCH - NORMALLY CLOSED HELD OPEN
	LEVEL SWITCH - CLOSES ON RISING LEVEL
	LEVEL SWITCH - OPENS ON RISING LEVEL
	FLOW SWITCH - CLOSES ON FLOW
	FLOW SWITCH - OPENS ON FLOW
	TRANSFORMER - (TYPE AND RATING AS INDICATED)
	CONNECTION TO GROUND
	LIGHTNING OR SURGE ARRESTER
	THERMAL OVERLOAD ELEMENT
	FUSE
	CIRCUIT BREAKER
	HEATING ELEMENT
SV	SOLENOID VALVE
M	COIL C - CLOSE CR - CONTROL RELAY F - FAST OR FORWARD M - MOTOR STARTER MX - MOTOR STARTER AUXILIARY RELAY N - NORMAL O - OPEN OL - OVERLOAD RELAY R - REVERSE S - SLOW TD - TIME DELAY RELAY TDAE - TIME DELAY AFTER ENERGIZATION TDAD - TIME DELAY AFTER DE-ENERGIZATION
R	INDICATOR LIGHT (SEE SCHEMATIC DIAGRAM DEVICE TABLE FOR COLOR SYMBOLS)
R	INDICATOR LIGHT (PUSH TO TEST TYPE)
	DEVICE ENCLOSURE
ANN	ANNUNCIATOR
COUNT	COUNTER
ETM	ELAPSED TIME METER
TMR	ELECTRONIC TIMER
TOT	TOTALIZER

TIMING RELAY SAMPLE DIAGRAMS



ONE-LINE DIAGRAMS

SYMBOL	DESCRIPTION
	POWER CIRCUIT
	EQUIPMENT ENCLOSURE
	CONTROL OR INTERLOCK CIRCUIT
	BUS (RATING AS INDICATED)
	CONDUCTOR CONNECTION
	DRAWOUT DEVICE
500AT 600AF	DRAWOUT MOLDED CASE CIRCUIT BREAKER (600V, THERMAL-MAGNETIC TYPE, UNLESS NOTED OTHERWISE) — TRIP SETTING (TYP.) — FRAME SIZE (TYP.)
M	MOLDED CASE CIRCUIT BREAKER (600V, THERMAL-MAGNETIC TYPE, UNLESS NOTED OTHERWISE)
AIR TRIP FUNCTION	AIR CIRCUIT BREAKER
IC TRIP FUNCTION	INSULATED CASE CIRCUIT BREAKER
	FUSE (RATING AS INDICATED)
	DRAWOUT FUSE (RATING AS INDICATED)
	FUSE - SWITCH (RATING AS INDICATED)
	NON-FUSIBLE DISCONNECT SWITCH
	THERMAL OVERLOAD ELEMENT
	INSTANTANEOUS CONTACT
	CONNECTION TO GROUND
	LIGHTNING OR SURGE ARRESTER
	CURRENT TRANSFORMER-DOUGHNUT TYPE (QUANTITY, RATIO AND RATING AS INDICATED)
	CURRENT TRANSFORMER-WINDOW TYPE (RATIO AND RATING AS INDICATED)
	POTENTIAL TRANSFORMER (QUANTITY, RATIO AND RATING AS INDICATED)
	CAPACITOR
	BATTERY
AS	AMMETER SWITCH
VS	VOLTMETER SWITCH
SS	SELECTOR SWITCH
A	AMMETER (RANGE AS INDICATED)
V	VOLTMETER (RANGE AS INDICATED)
KWH	KILOWATTHOUR METER
K----K	KIRK-KEY INTERLOCK
GFR	GROUND FAULT RELAY

ONE-LINE DIAGRAMS

SYMBOL	DESCRIPTION
50HP M	SINGLE SPEED ELECTRIC MOTOR (KW OR HP RATING AS INDICATED)
50HP M	DOUBLE SPEED ELECTRIC MOTOR (KW OR HP RATING AS INDICATED)
250 KW G	ELECTRIC GENERATOR SET (TYPE & KW RATING AS INDICATED)
	TRANSFER SWITCH (TYPE AND RATING AS INDICATED)
	SINGLE SPEED NON-REVERSING MANUAL STARTER (NEMA OR IEC DESIGNATION AS SPECIFIED OR SHOWN)
	SINGLE SPEED NON-REVERSING MAGNETIC STARTER (NEMA OR IEC DESIGNATION AS SPECIFIED OR SHOWN)
	COMBINATION CIRCUIT BREAKER & SINGLE SPEED NON-REVERSING MAGNETIC STARTER (NEMA OR IEC DESIGNATION AS SPECIFIED OR SHOWN)
	COMBINATION DISCONNECT SWITCH & SINGLE SPEED NON-REVERSING STARTER (NEMA OR IEC DESIGNATION AS SPECIFIED OR SHOWN)
	COMBINATION CIRCUIT BREAKER & SINGLE SPEED REVERSING MAGNETIC STARTER (NEMA OR IEC DESIGNATION AS SPECIFIED OR SHOWN)
	COMBINATION CIRCUIT BREAKER & TWO SPEED NON-REVERSING MAGNETIC STARTER (NEMA OR IEC DESIGNATION AS SPECIFIED OR SHOWN)
	REDUCED VOLTAGE STARTER, AUTO TRANSFORMER TYPE (NEMA OR IEC DESIGNATIONS AS SPECIFIED OR SHOWN)
	REDUCED VOLTAGE STARTER, WYE-DELTA TYPE (NEMA OR IEC DESIGNATIONS AS SPECIFIED OR SHOWN)
	REDUCED VOLTAGE STARTER, PRIMARY-RESISTOR TYPE (NEMA OR IEC DESIGNATIONS AS SPECIFIED OR SHOWN)
S.S.	SOLID STATE REDUCED VOLTAGE STARTER

SCHEMATIC DIAGRAM DEVICE DESIGNATIONS

SYMBOL	DESCRIPTION
	DESIGNATION DESCRIBING DEVICE OPERATION OR FUNCTION
A, AUTO	AUTOMATIC
ACK	ACKNOWLEDGE
CL	CLOSE
F	FAST
FWD	FORWARD
HI	HIGH
H	HAND
INST	INSTANTANEOUS
L	LOW
LOS	LOCKOUT-STOP
LOC	LOCAL
HR	HAND RESET
HS	HIGH SPEED
LSP	LOW SPEED
N	NORMAL
NC	NORMALLY CLOSED
NCTC	NORMALLY CLOSED TIMED CLOSED
NCTO	NORMALLY CLOSED TIMED OPEN
NO	NORMALLY OPEN
NOTC	NORMALLY OPEN TIMED CLOSED
NOTO	NORMALLY OPEN TIMED OPEN
O	OFF
OP	OPEN
REM	REMOTE
REV	REVERSE
S	SLOW
A	AMBER
BL	BLUE
C	CLEAR
G	GREEN
R	RED
W	WHITE
Y	YELLOW

ABBREVIATIONS

SYMBOL	DESCRIPTION
AC	ALTERNATING CURRENT
ACK	ACKNOWLEDGE
A/C	AERIAL CABLE
AFG	ABOVE FINISHED GRADE
AFF	ABOVE FINISHED FLOOR
ANN	ANNUNCIATOR
ATS	AUTOMATIC TRANSFER SWITCH
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CM	CENTIMETER
CT	CURRENT TRANSFORMER
CP	CONTROL PANEL
DC	DIRECT CURRENT
DIA	DIAMETER
DP	DISTRIBUTION PANEL
EF	EXHAUST FAN
EMER	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
FT	FEET OR FOOT
FND CON	FOUNDATION CONCRETE
FU	FUSE
FVNR	FULL VOLTAGE NON-REVERSING
FVR	FULL VOLTAGE REVERSING
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFR	GROUND FAULT RELAY
GND	GROUND
HID	HIGH INTENSITY DISCHARGE
HP	HORSEPOWER
IG	ISOLATED GROUND
JB	JUNCTION BOX
KVA	KILOVOLT AMPERE
KW	KILOWATTS
LP	LIGHTING PANEL
M	METER
MCC	MOTOR CONTROL CENTER
MM	MILLIMETER
MTG HT	MOUNTING HEIGHT
MTS	MANUAL TRANSFER SWITCH
NL	NIGHT LIGHT
NO, #	NUMBER
PB	PUSH BUTTON
PLC	PROGRAMMABLE LOGIC CONTROLLER
PNL	PANEL
PT	POTENTIAL TRANSFORMER
RECP	RECEPTACLE
RGC	RIGID GALVANIZED CONDUIT
RVS	REDUCED VOLTAGE STARTER
SCADA	SUPERVISORY CONTROL AND DATA AQUISITION
SEL SW	SELECTOR SWITCH
SF	SUPPLY FAN
SPARE	SPARE
SPACE	SPACE
SS	STAINLESS STEEL
STA	STATION
SWGR	SWITCHGEAR
TMP	TEMPORARY
TEMP	TEMPERATURE
T' STAT	THERMOSTAT
TEFC	FULLY ENCLOSED FAN COOLED
UH	UNIT HEATER
VFD	VARIABLE FREQUENCY DRIVE
WP	WEATHERPROOF
XFER	TRANSFER
XFMR	TRANSFORMER
XP	EXPLOSION-PROOF (CLASS 1, DIV 1, GROUP C & D UNLESS NOTED OTHERWISE)

E1

REVISIONS	
NAME	DATE

PLAN		
NOTE BOOK		
NO.		
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	BY	DATE

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

ELECTRICAL

SYMBOL LIST

SCALE: AS SHOWN DRAWN BY: LMJ
DATE: 09-12-05 CHECKED BY: KCC

PLOT DATE: •DATE-TIME•

$$DATE$$ •DATE-TIME• •DGN-SPEC• •REF- •REF-

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	44
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

PLAN	SURVEYED	BY	DATE
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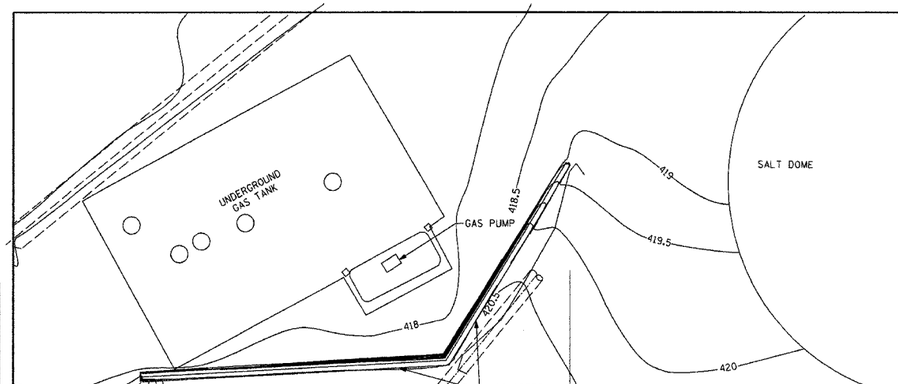
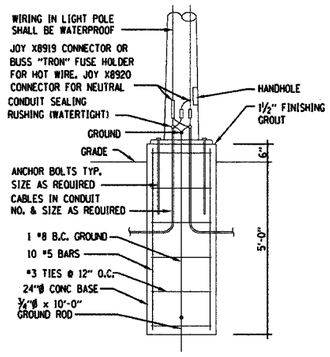
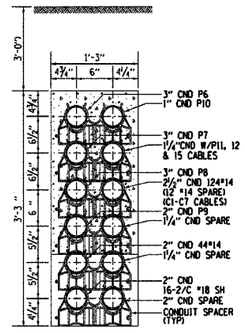
	CADD FILE NAME		

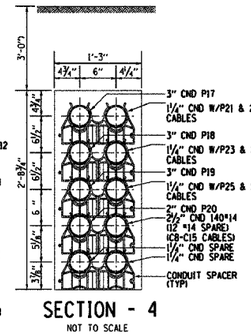




LIGHT FIXTURE TYPE M BASE DETAIL
NOT TO SCALE



SECTION - 6
NOT TO SCALE



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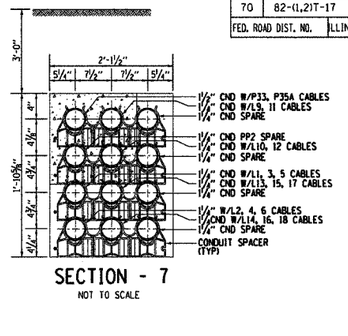
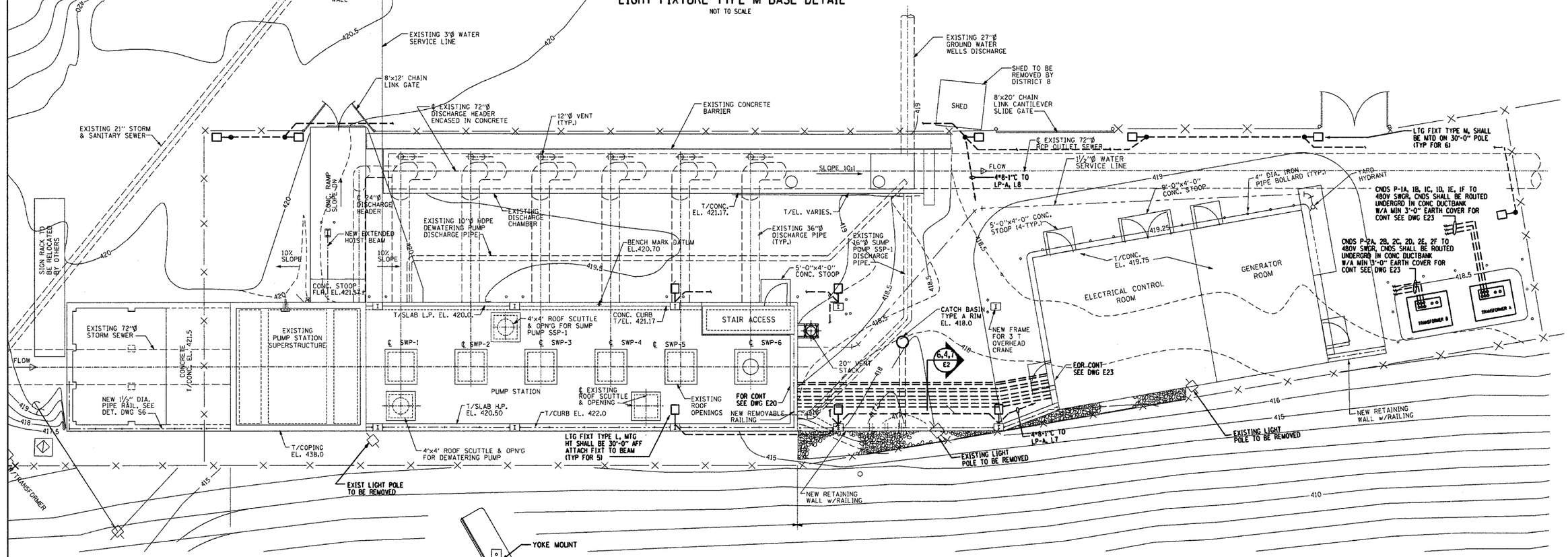
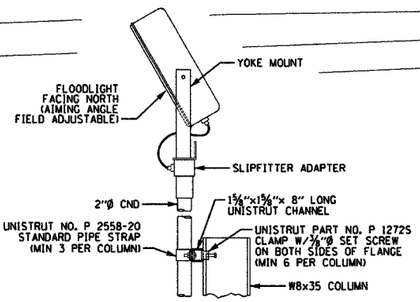
NOT TO SCALE



SECTION - 7
NOT TO SCALE





LIGHT FIXTURE TYPE L DETAIL
NOT TO SCALE

PARTIAL SITE PLAN-EL. 422.0

NOTE:
1. FOR ELECTRICAL DEMOLITION PLANS, SEE DWGS E3 THRU E6.
2. ALL AREAS INSIDE THE PUMP STATION, INCLUDING SUPERSTRUCTURE, SUBSTRUCTURE AND STAIRWAY, SHALL BE CLASSIFIED AS NEC HAZARDOUS LOCATIONS CLASS I, DIVISION 2, GROUP D.

LEGEND:
- CONCEALED CONDUIT IN FLOOR OR UNDERGROUND
- EXPOSED CONDUIT

0' 4' 8' 16'
SCALE: 1"= 8'

E2

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

ELECTRICAL SITE PLAN

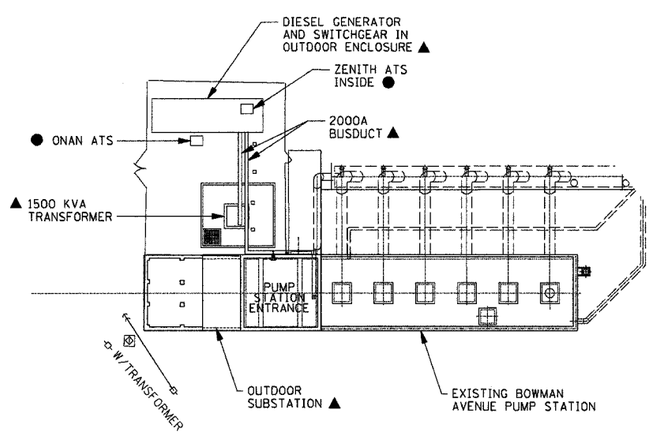
SCALE: AS SHOWN
DRAWN BY: CTM
DATE: 09-12-05
CHECKED BY: KC

PLOT DATE: *DATE-TIME*

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

$DATE$
DATE-TIME
DGN-SPEC
DES
REF

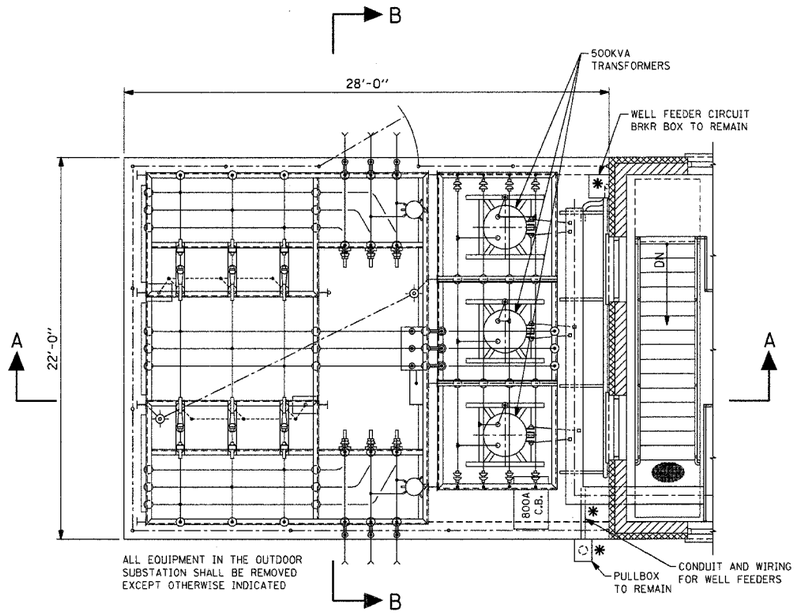
F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	45
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



DEMOLITION SITE PLAN

0′ 10′ 20′ 40′

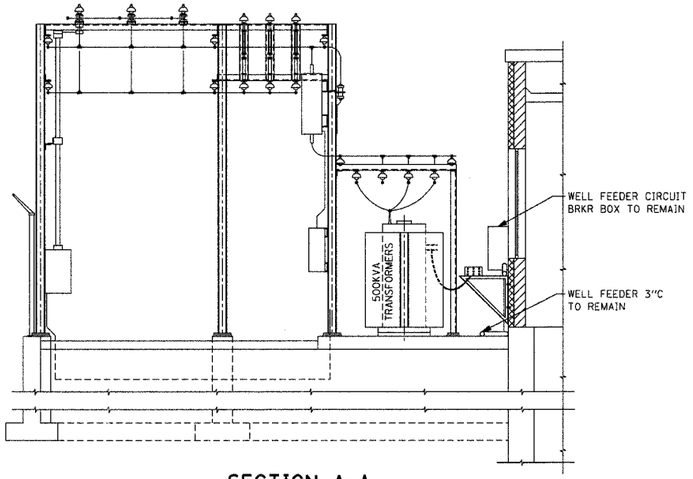
SCALE: 1″= 20′-0″



OUTDOOR SUBSTATION PLAN @ EL. 422.0

0′ 2′ 4′ 8′

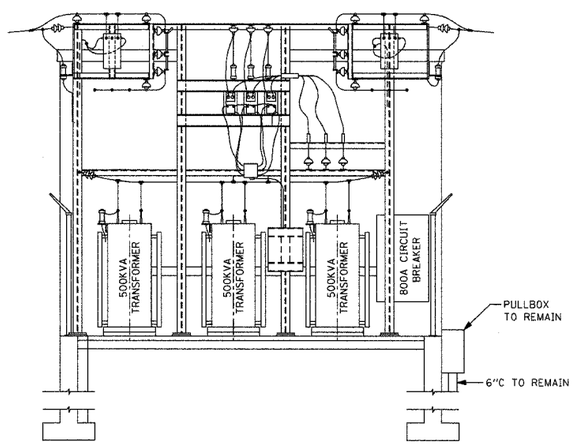
SCALE: 1″= 4′



SECTION A-A

0′ 2′ 4′ 8′

SCALE: 1″= 4′



SECTION B-B

0′ 2′ 4′ 8′

SCALE: 1″= 4′

GENERAL NOTES:

1. THE CONTRACTOR SHALL VISIT THE SITE IN ORDER TO FAMILIARIZE THEMSELVES WITH THE CONDITIONS UNDER WHICH THEY WILL PERFORM THE WORK.
2. THE CONTRACTOR SHALL INCLUDE DISCONNECTION AND REMOVAL OF ALL RELATED ELECTRICAL EQUIUPMENT, CABLE, CONDUIT AND APPURTENENANCES AS PART OF THEIR DEMOLITION WORK.
3. ALL MATERIALS, EQUIPMENT & APPURTENANCES NOT SPECIFICALLY IDENTIFIED BUT WHICH REQUIRE REMOVAL FOR COMPLETION OF THE REQUIRED WORK SHALL BE REMOVED AT NO ADDITIONAL COST TO THE OWNER.
4. EXISTING ELECTRICAL SERVICE FEEDERS SHALL BE REMOVED BY THE CONTRACTOR, ALL OTHER ELECTRIC SERVICE EQUIPMENT OWNED BY AMEREN UE SHALL BE REMOVED BY THEM. THE CONTRACTOR SHALL COORDINATE WITH AMEREN UE.
5. ALL CONDUIT OPENINGS SHALL BE SEALED, FOR PATCHING REQUIREMENTS SEE SPECIFICATION SECTION 1A.
6. ALL SOLID STATE REDUCED VOLTAGE STARTERS FOR SWP-1 THROUGH SWP-6, SSP-1 & SSP-2 SHALL BE REMOVED AND REINSTALLED IN THE NEW MCC'S.
7. THE FOLLOWING EQUIPMENT SHALL BE SALVAGED:
   - A. HEALY-RUFF PUMP CONTROL PANEL
   - B. SOLID STATE MOTOR STARTERS AND THERMAL/ SEAL PROTECTION MODULES AS NOTED ON SH. 46.
   - C. SUMP PUMP NO. 1
   - D. ONAN ATS AND ZENITH ATS.

✱ - DENOTES EXISTING ELECTRICAL TO REMAIN.

■ - DENOTES EXISTING ELECTRICAL TO BE RELOCATED.

▲ - DENOTES EXISTING ELECTRICAL TO BE REMOVED.

● - DENOTES EXISTING ELECTRICAL TO BE SALVAGED.

PLAN | SURVEYED AS NOTED | ALIGNMENT CHECKED AT CURVES | RT. OF WAY CHECKED | NOTE BOOK NO. ____ | CADD FILE NAME | BY | DATE

DATE
DATE-TIME
DGN-SPEC
XREF
REF

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

E3

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

ELECTRICAL

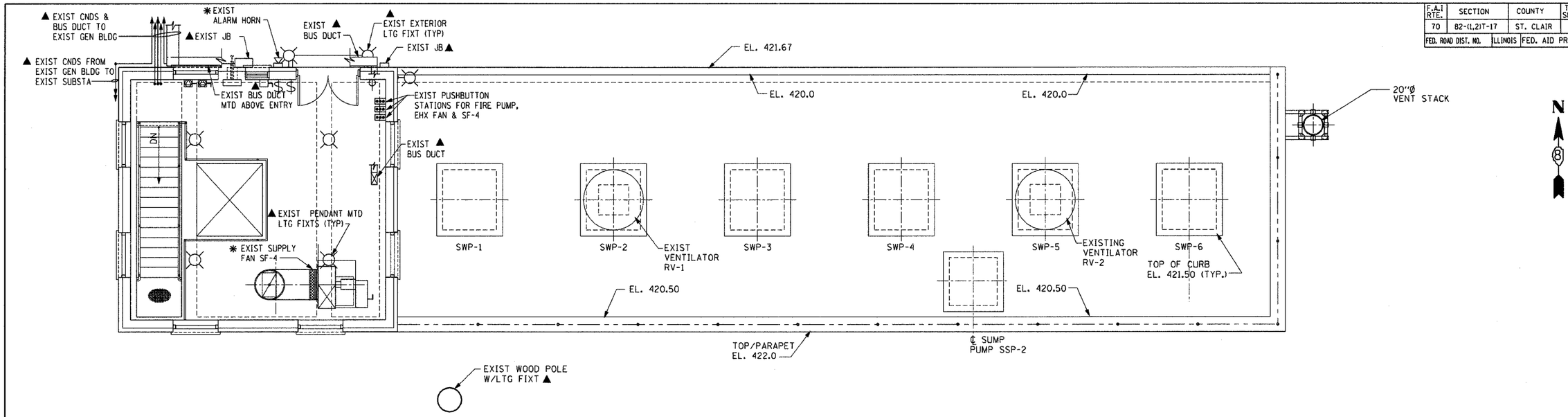
DEMOLITION PLANS SH. 1

SCALE: AS SHOWN DRAWN BY: LMJ

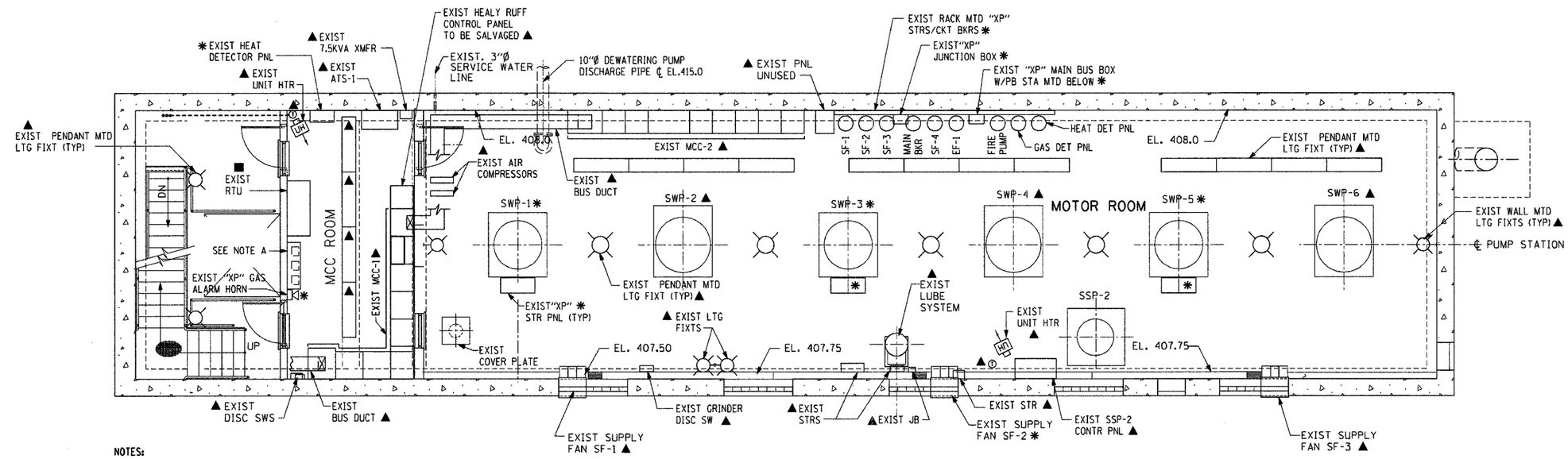
DATE: 09-12-05 CHECKED BY: KCC

PLOT DATE: *DATE -TIME*

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	46
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



PLAN @ EL. 422.0



NOTES:

A. EXIST "XP" RELAY PANEL (TO REMAIN, W/3 EXIST GAS DETECTORS MTD BELOW (TO REMAIN)

MOTOR ROOM PLAN @ EL. 408.0

NOTES:

1. SEE GENERAL NOTES ON SHEET NO. 45.
2. THE EXISTING BENSHAW MODEL RMB6 SOLID STATE STARTERS FOR MAIN PUMPS NO. 1 THROUGH NO. 6 AND SUBMERSIBLE SUMP PUMPS NO. 2; AND THE THERMAL/ SEAL PROTECTION MODULES FOR MAIN PUMPS NO. 1, NO. 3 AND NO. 5 AND SUBMERSIBLE SUMP PUMPS NO. 2 ARE EXISTING AND SHALL BE RELOCATED TO THE NEW MCC'S.

0' 2' 4' 8'
SCALE: 1"= 4'

PLAN — SURVEYED / PLOTTED / ALIGNMENT CHECKED / RT. OF WAY CHECKED / CADD FILE NAME / NOTE BOOK / NO. / DATE / BY

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

E4

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

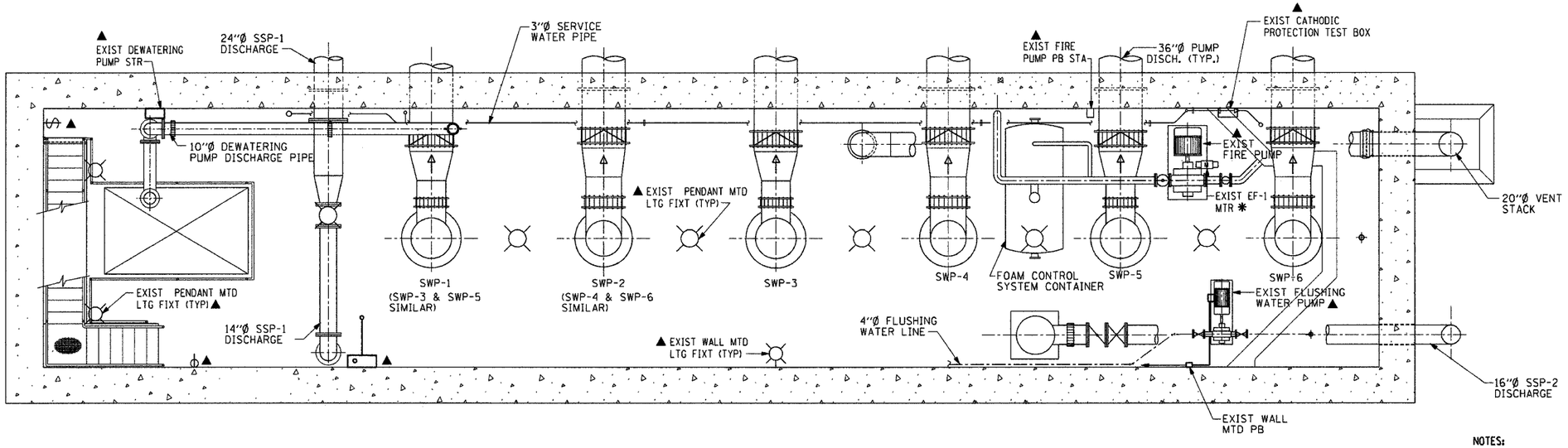
ELECTRICAL DEMOLITION PLANS SH. 2

SCALE: AS SHOWN — DRAWN BY: RRA
DATE: 09-12-05 — CHECKED BY: KCC

PLOT DATE: •DATE-TIME•

•$DATE$
•DATE-TIME•
•DGN-SPEC•
•PWIDTH•
•REF•
•REF-

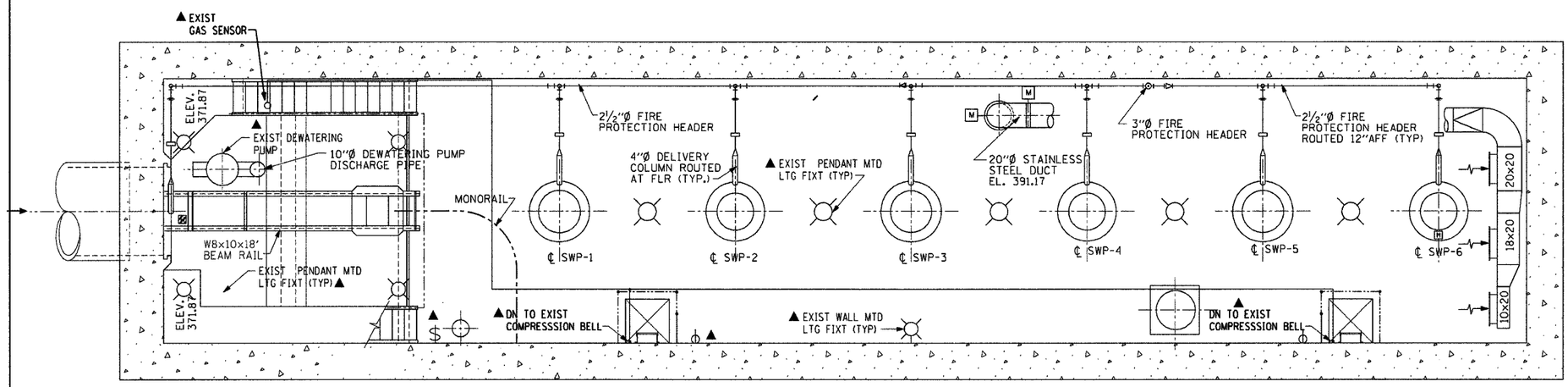
F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	47
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



NOTES:

1. SEE GENERAL NOTES ON SHEET NO. 45.

DISCHARGE FLOOR PLAN @ EL. 393.7



INTERMEDIATE FLOOR PLAN @ EL. 380.0

0' 2' 4' 8'
SCALE: 1"= 4'

E5

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

ELECTRICAL DEMOLITION PLANS SH. 3

SCALE: AS SHOWN
DATE: 09-12-05
DRAWN BY: RRA
CHECKED BY: KCC

PLOT DATE: *DATE-TIME*

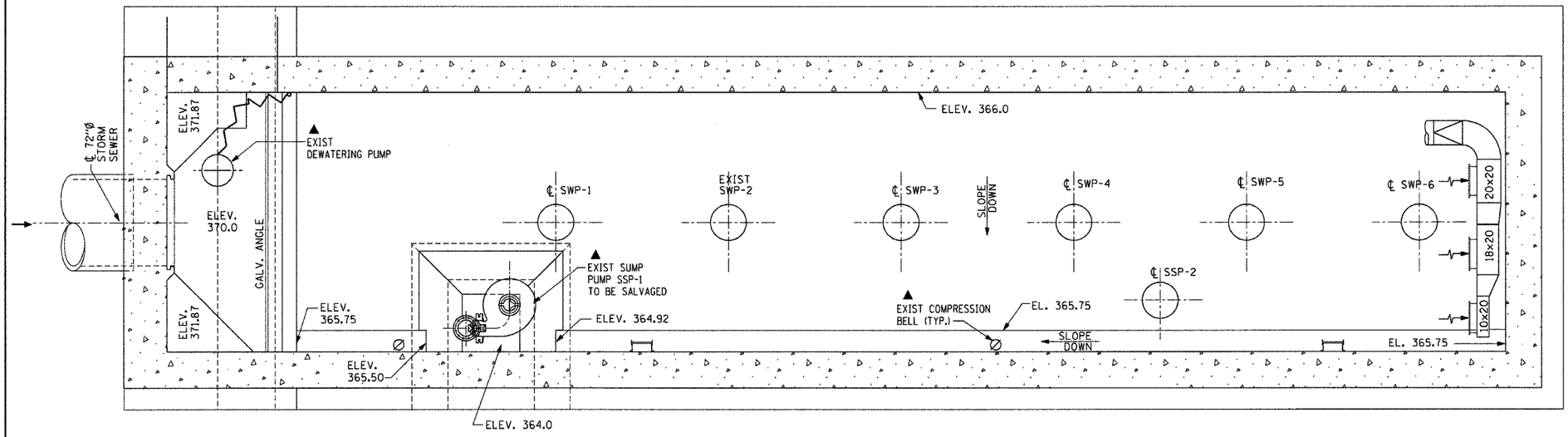
ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

PLAN — SURVEYED / PLOTTED / ALIGNMENT CHECKED / RT. OF WAY CHECKED / CADD FILE NAME / NOTE BOOK NO. ____ / BY / DATE

&DATE&
DATE-TIME
DGN-SPEC
REF
REF
REF

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	48
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

PLAN | NOTE BOOK NO. | SURVEYED | PLOTTED | ALIGNMENT CHECKED | PT. OF BEG. CHECKED | CADD FILE NAME | BY | DATE



PLAN @ EL. 366.0

NOTES:

1. SEE GENERAL NOTES ON SHEET NO. 45.

0' 2' 4' 8'
SCALE: 1"= 4'

E6

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

ELECTRICAL DEMOLITION PLANS SH. 4

SCALE: AS SHOWN | DRAWN BY: RRA
DATE: 09-12-05 | CHECKED BY: KCC

PLOT DATE: *DATE-TIME*

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

$NDATE$
DATE-TIME
DGN-SPEC
DWG-SPEC
REF

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	49
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

PLAN	BY	DATE
NOTE BOOK NO. ____	SURVEYED PLOTTED ALIGNMENT CHECKED RT. OF WAY CHECKED CADD FILE NAME	

4.16KV OUTDOOR SUBSTATION

4.16KV INC LINE NO 1 (PREFERRED)

4.16KV INC LINE NO 2 (EMERGENCY)

3-500KVA, 1Ø 2.4/4.16KV-480V XMFR NOS. 1, 2 & 3

225A 225A

2000AF 1600AT

TO WELLS

2-750M/Ø

1-1500KVA, 3Ø 2.4/4.16KV-480V XMFR NO 4

2000A BUS DUCT

GENERATOR ENCLOSURE

GEN 1225KW

SWITCHBOARD

150A

2000AF 1800AT

2000AF 1800AT

150A

100AF 100AT

150A ATS #3

2000A BUS DUCT

100AF 20AT

ENG-GEN SET AUX LOADS

ATS #2

100AF 15AT

TO FUEL TRANSFER PUMP

DC PANEL

24VDC BATT CHARGER

24VDC BATT RACK EMERG PWR SUPPLY

MCC NO 1

1600A

480V, 3Ø

600A 600A 600A 175A 150A 20A 20A

SEE NOTE 2 (TYP.)

200 200 200 100 64

MAIN PUMPING UNIT NO 1 (SWP-1)

MAIN PUMPING UNIT NO 3 (SWP-3)

MAIN PUMPING UNIT NO 5 (SWP-5)

STATION SUMP PUMP-1 (SSP-1)

DEWATERING PUMP

LIGHTING OANEL NO 1 (LP-1)

ATS #1

PUMP CONTROL CABINET

MCC NO 2

2000AF 1800AT

100AF 100AT

480V, 3Ø

225AF 20AT

800AF 800AT

800AF 800AT

800AF 800AT

100AF 20AT

7.5KVA, 1Ø 480-120/240V (TYP FOR LP-1)

400 400 400 170

MAIN PUMPING UNIT NO 2 (SWP-2)

MAIN PUMPING UNIT NO 4 (SWP-4)

MAIN PUMPING UNIT NO 6 (SWP-6)

STATION SUMP PUMP-2 (SSP-2)

LIGHTING OANEL NO 2 (LP-2)

EXPLOSION PROOF POWER DISTRIBUTION PANEL *

100AF 100AT

480V, 3Ø

100AF 20AT

100AF 70AT

100AF 15AT

100AF 20AT

100AF 15AT

100AF 15AT

100AF 15AT

100AF 20AT

HEAT DETECTOR PANEL *

30

1.5 *

5 *

3/4

3/4 *

3/4

GAS DETECTOR PANEL *

FIRE PUMP

SUPPLY FAN NO 4 (SF-4)

EXHAUST FAN NO 1 (EF-1)

SUPPLY FAN NO 3 (SF-3)

SUPPLY FAN NO 2 (SF-2)

SUPPLY FAN NO 1 (SF-1)

NOTES:

1. ALL EQUIPMENT SHALL BE REMOVED UNLESS OTHERWISE NOTED.

* - DENOTES EXISTING EQUIPMENT TO REMAIN

■ - DENOTES EXISTING EQUIPMENT TO BE RELOCATED

● - DENOTES EXISTING EQUIPMENT TO BE SALVAGED

2. ALL BENSHAW SOLID STATE MOTOR STARTERS SHALL BE RELOCATED TO NEW MCC'S.

E7

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

EXISTING ONE LINE DIAGRAM

SCALE: AS SHOWN

DRAWN BY: CM

DATE: 09-12-05

CHECKED BY: KCC

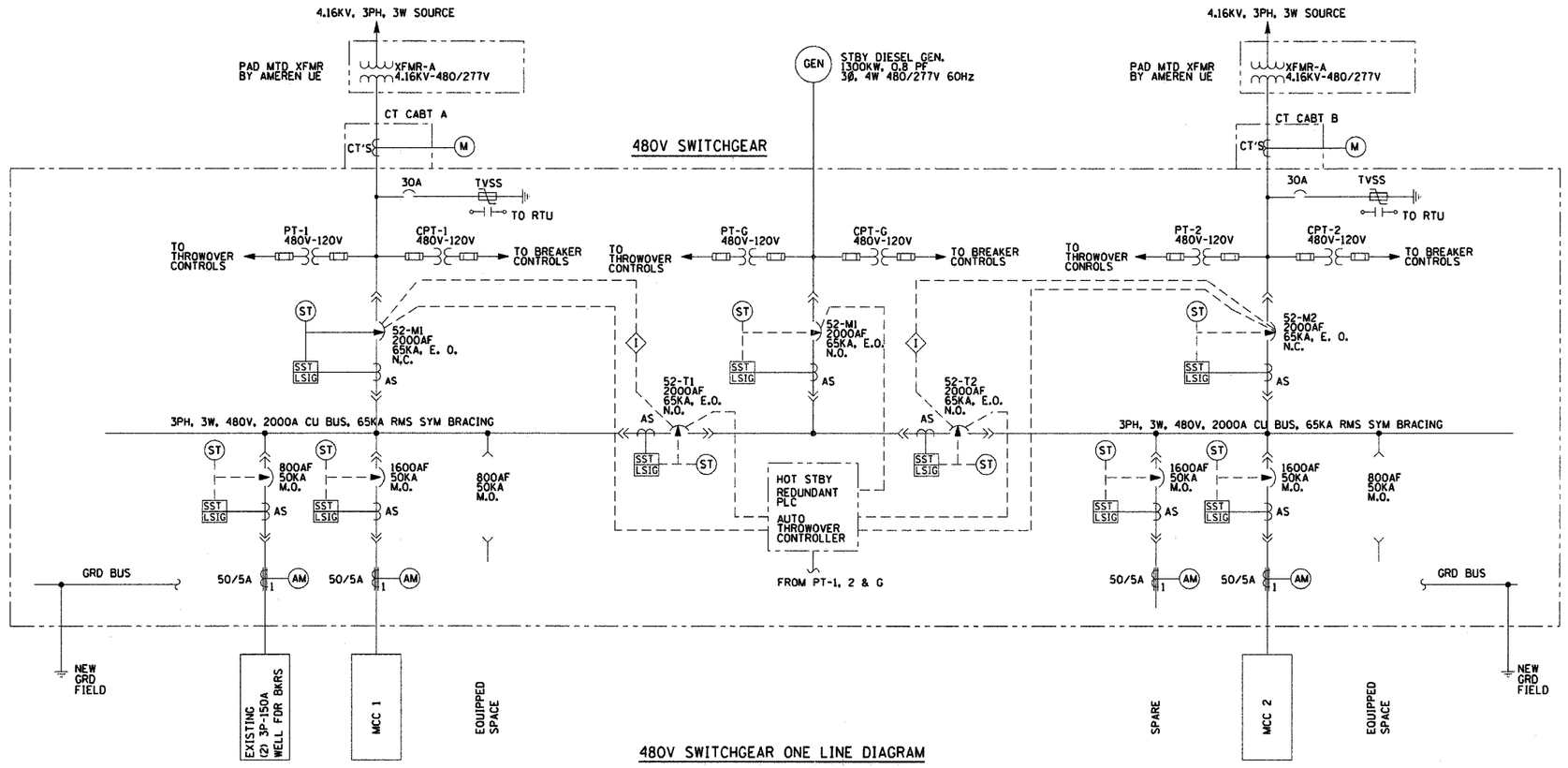
PLOT DATE: •DATE-TIME•

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

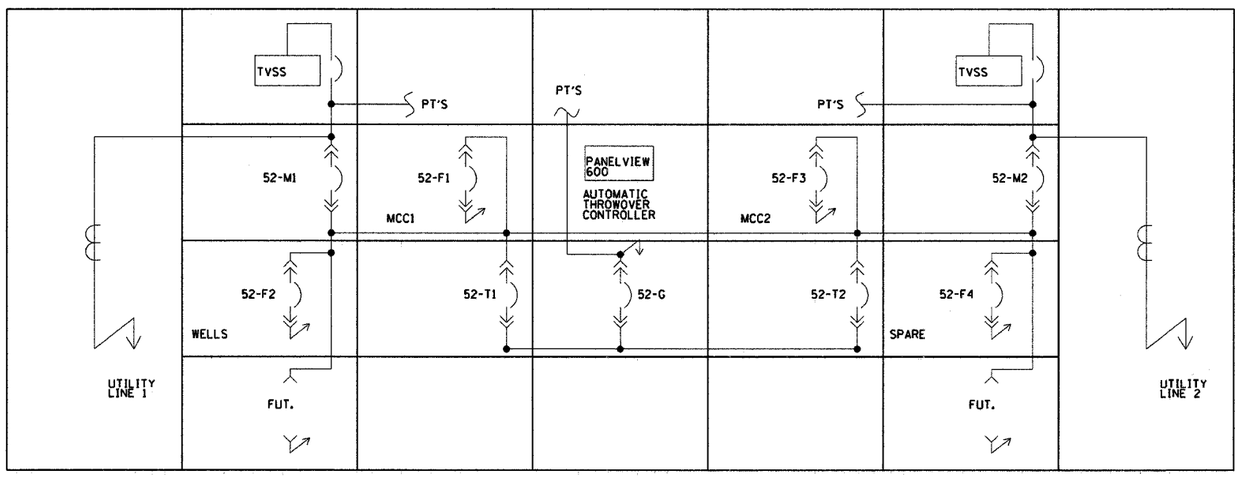
•DATE•
•DATE-TIME•
•DGN-SPEC•
•REF-
•REF-
•REF-

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	50
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

PLAN — SURVEYED / PLOTTED / NOTE BOOK / RT. OF WAY CHECKED / ROAD FILE NAME / BY / DATE



480V SWITCHGEAR ONE LINE DIAGRAM



480V SWITCHGEAR FRONT ELEVATION

LEGEND:

AS	CURRENT SENSOR
CT	CURRENT TRANSFORMER
EO	ELECTRIC OPERATOR
MO	MANUALLY OPERATED
MCCB	MOLDED CASE CIRCUIT BREAKER
PT	POTENTIAL TRANSFORMER
CPT	CONTROL POWER TRANSFORMER
CLF	INDICATES CURRENT LIMITING TYPE
	HIGH VOLTAGE CABLE LOAD BREAK CONNECTOR
	FUSE
AS	DRAW OUT TYPE LOW VOLTAGE POWER CIRCUIT BREAKER WITH BUILT-IN CURRENT SENSOR
SST LSIG	SOLID STATE TRIP DEVICE LOWER LETTERS: L - LONG TIME DELAY S - SHORT TIME DELAY I - INSTANTANEOUS G - GROUND FAULT
ST	SHUNT TRIP
AM	AMMETER
I	INTERLOCK

NOTES:

1. SPACE SHALL BE PREPARED TO ACCEPT A FUTURE BREAKER.
2. ALL BREAKERS SHALL HAVE DIGITRIP DT-1150, WITH SYSTEM COMMUNICATION.

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

E8

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

SWITCHGEAR ONE LINE DIAGRAM & ELEVATION

SCALE: AS SHOWN — DRAWN BY: SL

DATE: 09-12-05 — CHECKED BY: KCC

PLOT DATE: *DATE-TIME*

$&DATE$ *DATE-TIME* *DGN-SPEC* *REF-1* *REF-2*

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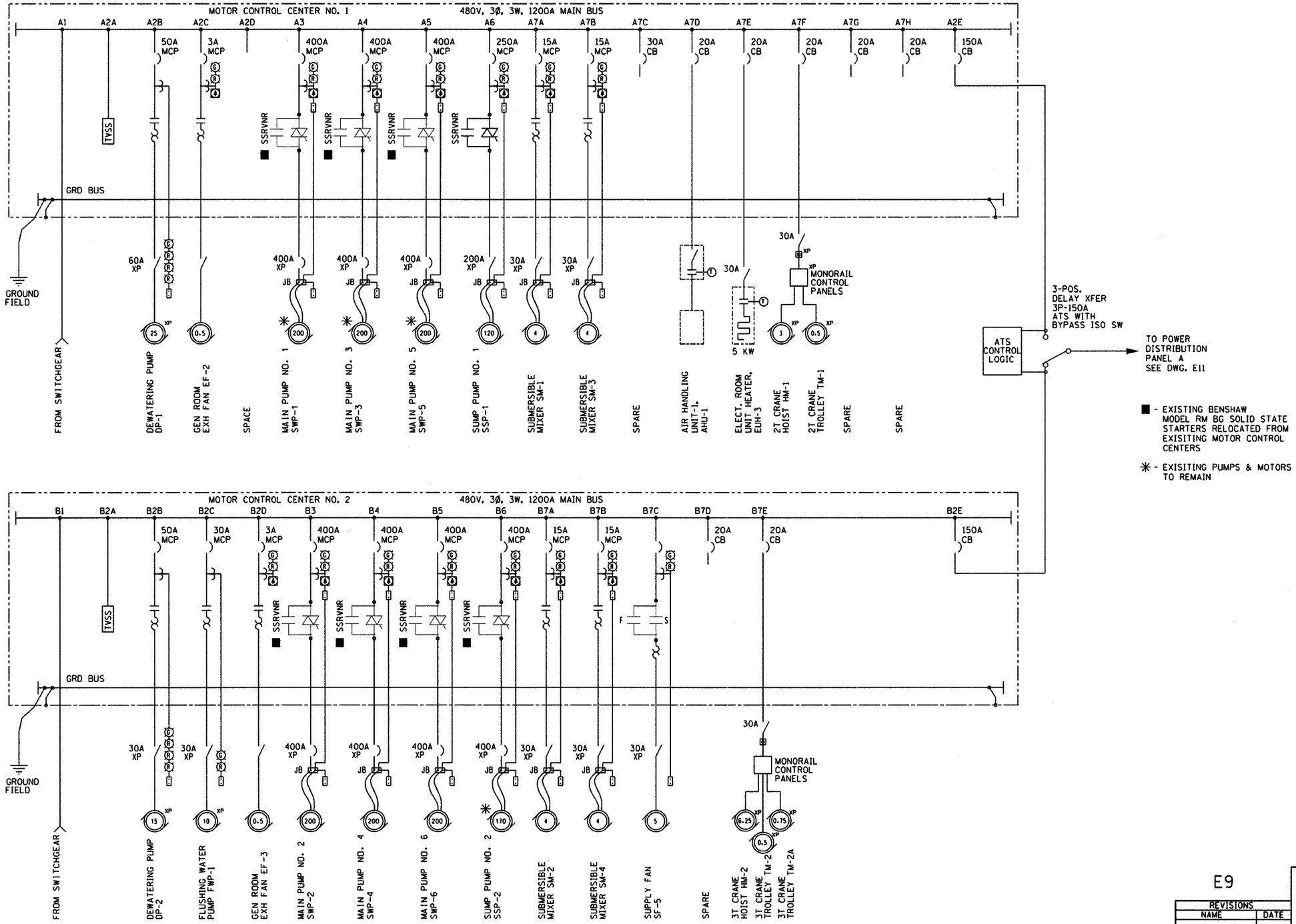
F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,21T-17	ST. CLAIR	77	51
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

PLAN	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	ALIGNMENT CHECKED		
	R.T. OF WAY CHECKED		
	CADD FILE NAME		



ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

E9

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

MCC ONE LINE DIAGRAMS

SCALE: AS SHOWN DRAWN BY: LMJ

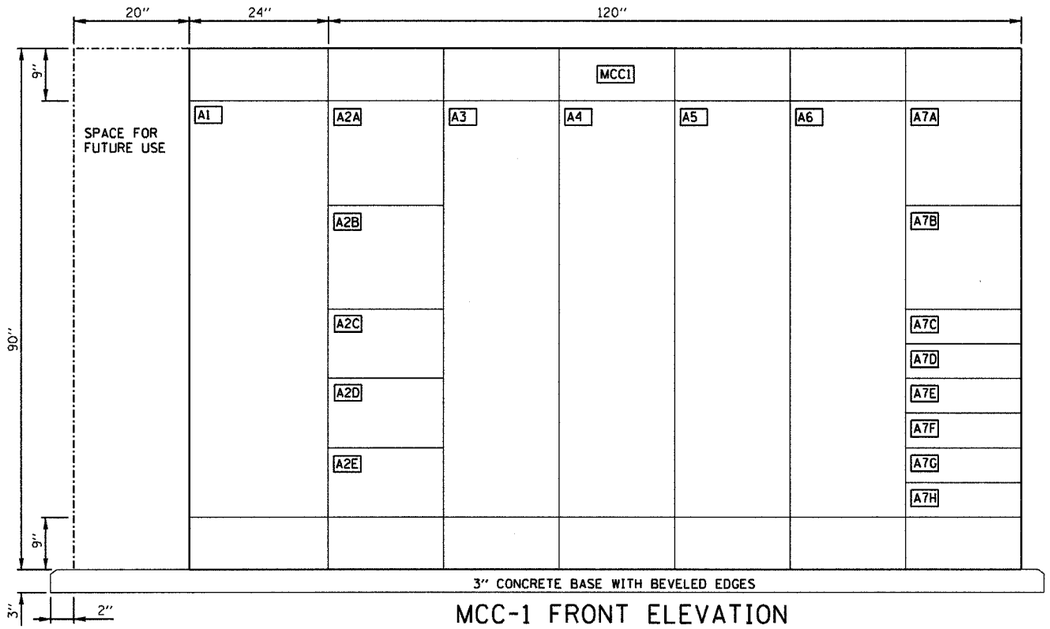
DATE: 09-12-05 CHECKED BY: KCC

PLOT DATE: *DATE-TIME*

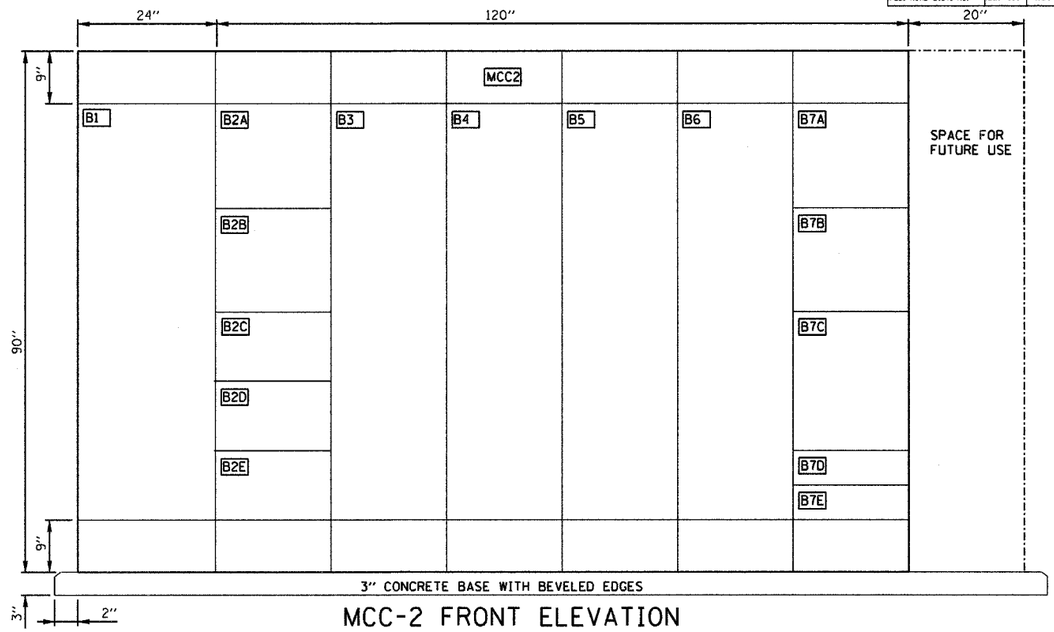
$BOATE$
DATE-TIME
DGN-SPEC
*REF-
*REF-

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	52
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

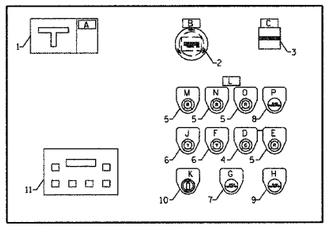
PLAN — SURVEYED / PLOTTED / ALIGNMENT CHECKED / PT. OF BEG. CHECKED / NOTE BOOK / NO. / CADD FILE NAME — BY — DATE



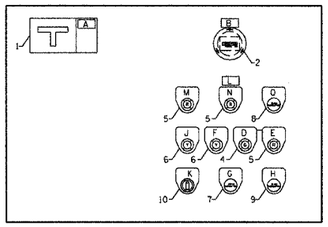
MCC-1 FRONT ELEVATION



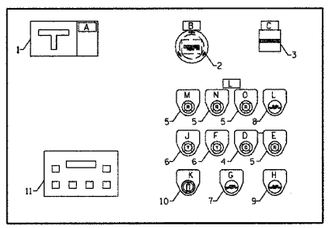
MCC-2 FRONT ELEVATION



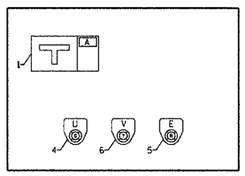
MAIN PUMP NO. 1 STARTER DOOR
(TYPICAL FOR MAIN PUMPS NO. 2 - NO. 6)



SUBMERSIBLE MIXER SM1
(TYPICAL FOR SUBMERSIBLE MIXERS SM2 - SM4)



SUMP PUMP NO. 1
(TYPICAL FOR SUMP PUMP NO. 2)



SUPPLY FAN SF5

ITEM	NAMEPLATE SCHEDULE
A	POWER DISCONNECT
B	ELAPSED RUN TIME
C	PUMP STARTS
D	RUN
E	OFF
F	CALL
G	START
H	STOP
J	MANUAL OPERATION
K	MANUAL - OFF - AUTO
L	MOTOR MOISTURE/TEMPERATURE DETECTOR
M	MOTOR HIGH MOISTURE
N	MOTOR WINDING HIGH TEMPERATURE
O	BEARING HIGH TEMPERATURE
P	MOTOR BEARING LEAK
Q	RESET
R	ON-OFF-AUTO
S	ON
T	
U	HIGH SPEED
V	LOW SPEED

DEVICE LEGEND		
ITEM	DEVICE DESCRIPTION	DEVICE COLOR
1	MOTOR CIRCUIT PROTECTOR	
2	ELAPSED TIME METER	BLACK
3	ELECTROMECHANICAL COUNTER	BLACK
4	INDICATING LIGHT	GREEN
5	INDICATING LIGHT	RED
6	INDICATING LIGHT	YELLOW
7	PUSHBUTTON	GREEN
8	PUSHBUTTON	BLACK

DEVICE LEGEND		
ITEM	DEVICE DESCRIPTION	DEVICE COLOR
9	PUSHBUTTON	RED
10	3 - POSITION SELECTOR SWITCH	BLACK
11	DISPLAY/KEYPAD	

NAMEPLATE SCHEDULE 1" x 3"	
ITEM	ENGRAVING
MCC1	MOTOR CONTROL CENTER NO. 1
A1	A1-INCOMING LINE
A2A	A2A-TVSS
A2B	A2B-DEWATERING PUMP NO. 1
A2C	A2C-EXHAUST FAN EF-2
A2D	A2D-SPACE
A2E	A2E-PDP-A VIA ATS
A3	A3-MAIN PUMP NO. 1
A4	A4-MAIN PUMP NO. 3
A5	A5-MAIN PUMP NO. 5
A6	A6-SUMP PUMP NO. 1
A7A	A7A-SUBMERSIBLE MIXER NO. 1
A7B	A7B-SUBMERSIBLE MIXER NO 3
A7C	A7C-SPARE 3P-30A
A7D	A7D-AIR HANDLING UNIT - 1
A7E	A7E-GEN. ROOM UNIT HEATER EUH-3
A7F	A7F-2T CRANE
A7G	A7G-SPARE 3P-20A
A7H	A7H-SPARE 3P-20A

NAMEPLATE SCHEDULE 1" x 3"	
ITEM	ENGRAVING
MCC2	MOTOR CONTROL CENTER NO. 2
B1	B1-INCOMING LINE
B2A	B2A-TVSS
B2B	B2B-DEWATERING PUMP NO. 2
B2C	B2C-FLUSHING WATER PUMP - 1
B2D	B2D-EXHAUST FAN EF-3
B2E	B2E-PDP-A VIA ATS
B3	B3-MAIN PUMP NO. 2
B4	B4-MAIN PUMP NO. 4
B5	B5-MAIN PUMP NO. 6
B6	B6-SUMP PUMP NO. 2
B7A	B7A-SUBMERSIBLE MIXER NO. 2
B7B	B7B-SUBMERSIBLE MIXER NO. 4
B7C	B7C-SUPPLY FAN NO. 5
B7D	B7D-SPARE 3P-20A
B7E	B7E-3T CRANE

E10

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

MCC ELEVATIONS

SCALE: AS SHOWN — DRAWN BY: KCC

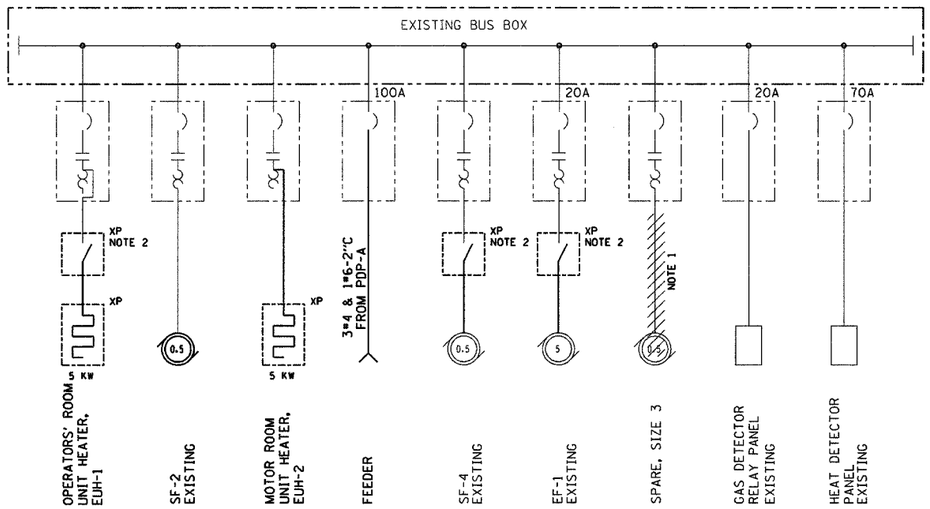
DATE: 09-12-05 — CHECKED BY: KCC

PLOT DATE: *DATE-TIME*

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS — CHICAGO

*$DATE$#
DATE-TIME
DGN-SPEC
REF
RES

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)1T-17	ST. CLAIR	77	53
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



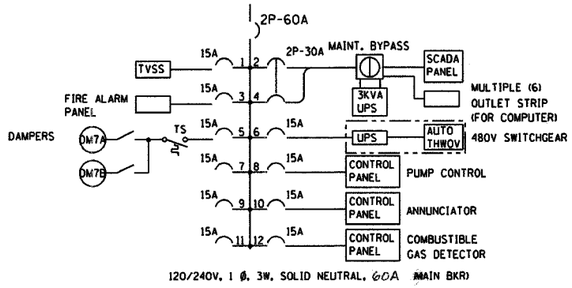
EXISTING
EXP. PROOF
CKT. BKR AND
MOTOR STARTERS

MODIFICATION OF EXISTING "XP" POWER PANEL-2 (PP-2)

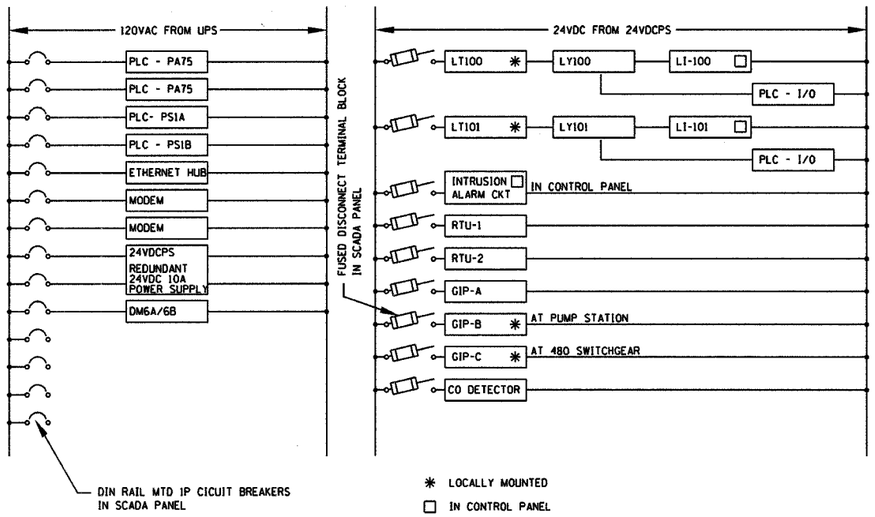
PUMP ROOM

NOTES:

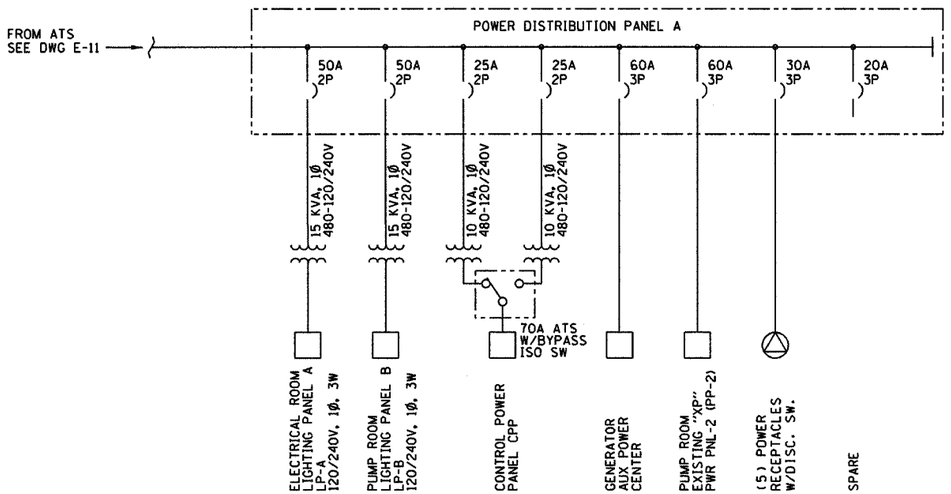
1. REMOVE FIRE PUMP MOTOR, CONDUIT & WIRING. PLUG CONDUIT OPENING AT STARTER.
2. ADD DISCONNECT SW. EXISTING CONDUIT AND CABLE MAY BE REUSED.
3. REMOTE MOTOR, CONDUITS & WIRING PLUG CONDUIT OPENING AT STARTER.



CONTROL POWER PANEL CPP



POWER DISTRIBUTION IN SCADA PANEL



POWER DISTRIBUTION PANEL A

ELECTRICAL CONTROL ROOM

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

E11

REVISIONS	
NAME	DATE

Rev.

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

PANEL BOARD SCHEDULES

SCALE: AS SHOWN DRAWN BY: KCC

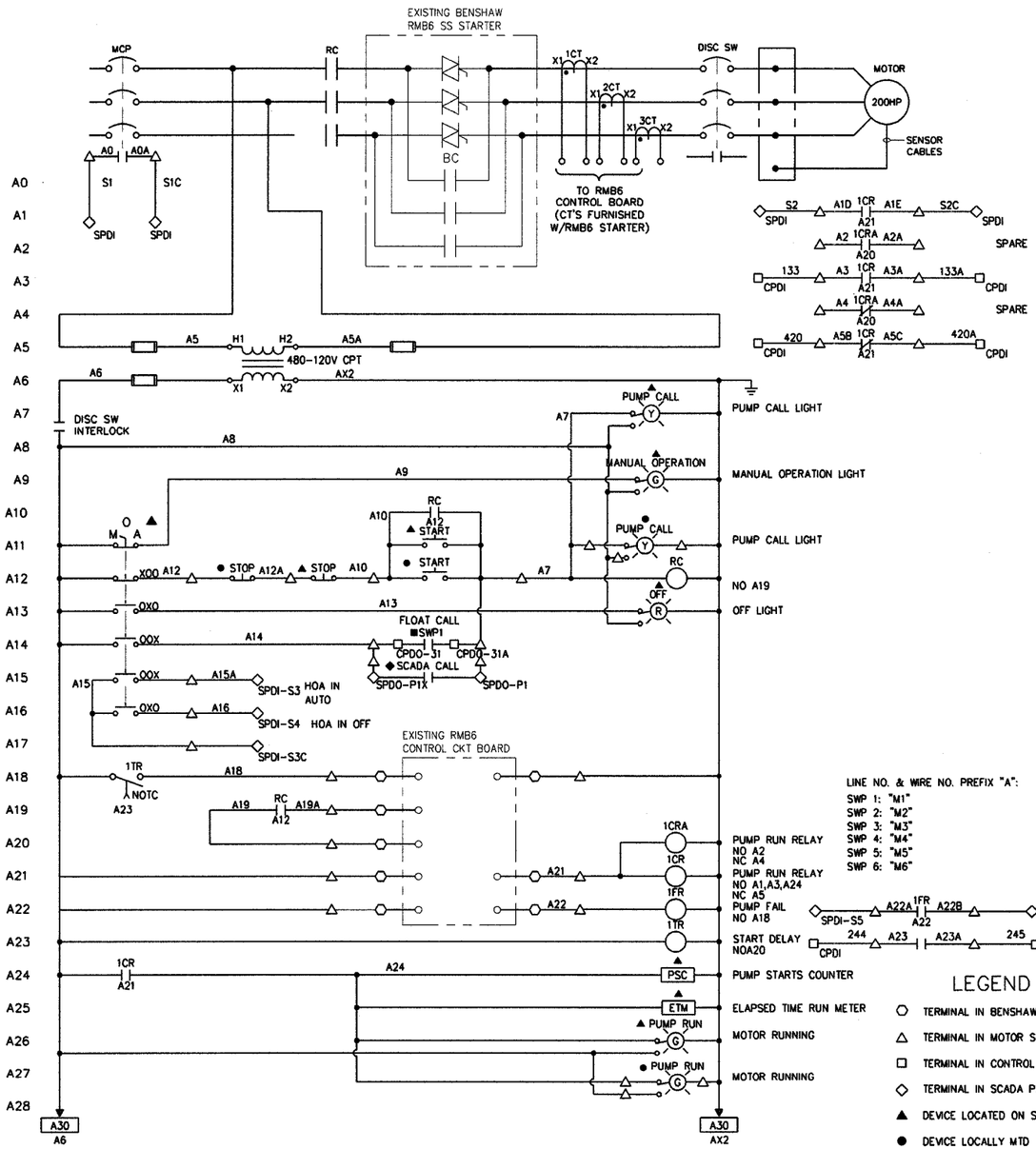
DATE: 09-12-05 CHECKED BY: KCC

PLOT DATE: *DATE-TIME*

PLAN | SURVEYED | PLOTTED | ALIGNMENT CHECKED | RT.-OF-WAY CHECKED | CADD FILE NAME | NOTE BOOK NO. | BY | DATE

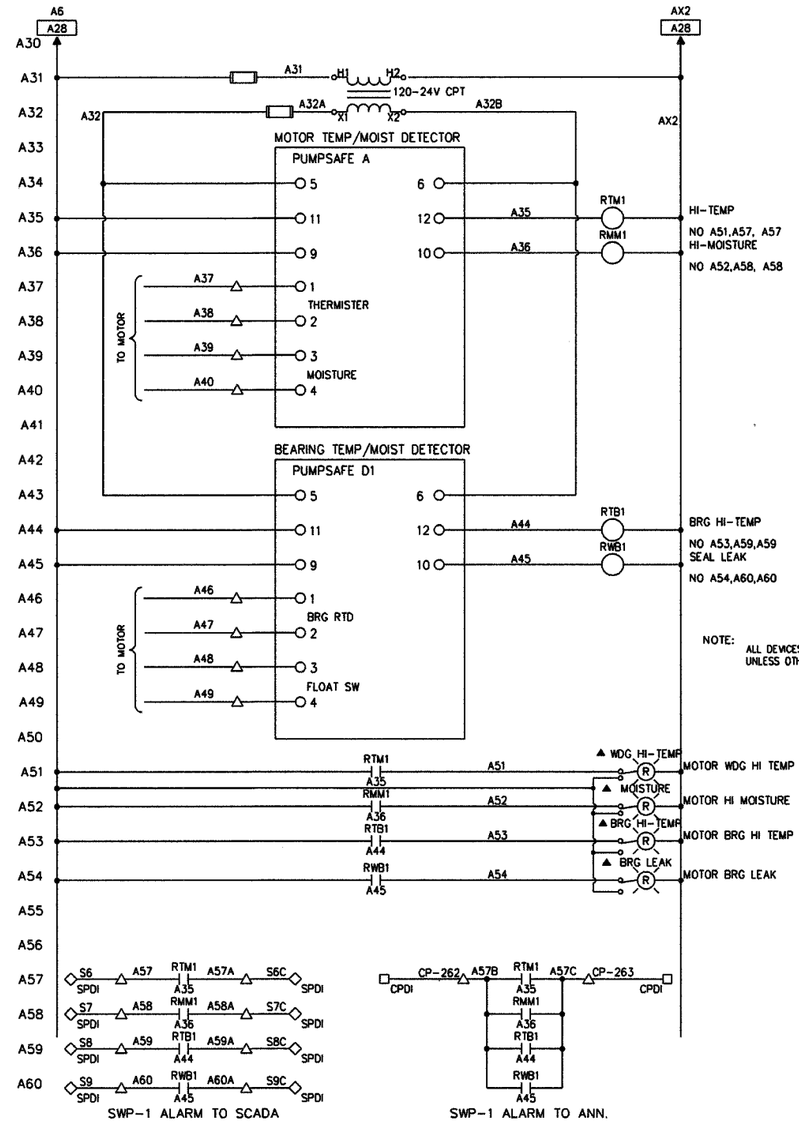
$DATE$
DATE-TIME
DGN-SPEC
*REF-
*REF-

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,21T-17	ST. CLAIR	77	54
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



LINE NO. & WIRE NO. PREFIX "A":
SWP 1: "M1"
SWP 2: "M2"
SWP 3: "M3"
SWP 4: "M4"
SWP 5: "M5"
SWP 6: "M6"

LEGEND
- TERMINAL IN BENSHAW RMB6
- TERMINAL IN MOTOR STARTER
- TERMINAL IN CONTROL PANEL
- TERMINAL IN SCADA PANEL
- DEVICE LOCATED ON STARTER DOOR
- DEVICE LOCALLY MTD
- DEVICE IN CONTROL PANEL
- DEVICE IN SCADA PANEL



NOTE: TEMP/MOISTURE DETECTORS ARE BASED ON ONE PUMP MANUFACTURER. WIRING MAY BE CHANGED AS PER ACTUAL DETECTORS FURNISHED.

MAIN PUMP 1 CONTROL SCHEMATIC

(TYPICAL FOR MAIN PUMPS 2, 3, 4, 5 & 6)

E12

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

MAIN PUMP NO. 1 CONTROL SCHEMATIC

SCALE: AS SHOWN — DRAWN BY: KCC

DATE: 09-12-05 — CHECKED BY: KCC

PLOT DATE: •DATE-TIME•

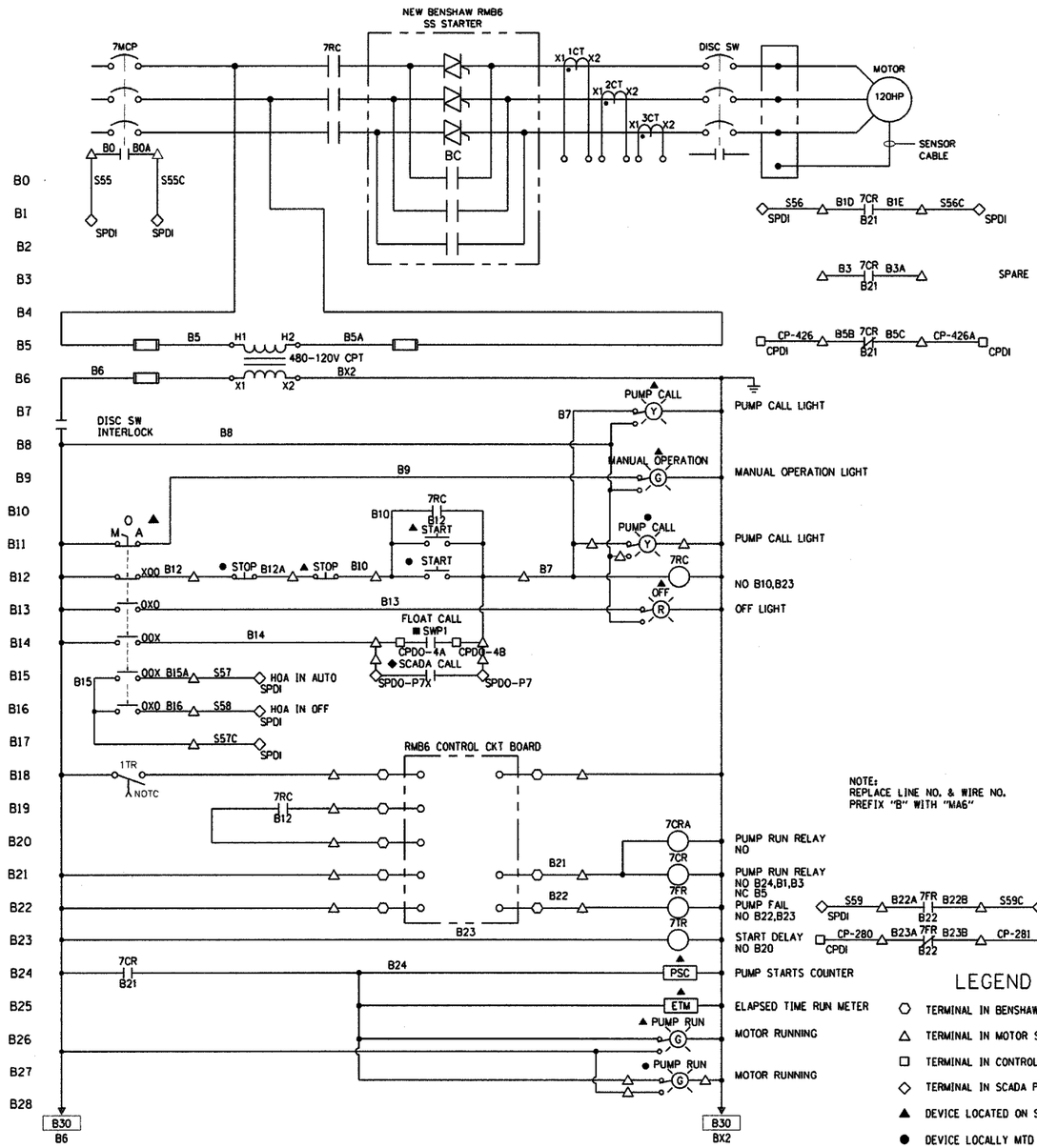
ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS — CHICAGO

PLAN — SURVEYED — PLOTTED — RT.-OF-WAY CHECKED — CADD FILE NAME — NOTE BOOK — NO. — BY — DATE

•NOTICE•
•DATE-TIME•
•DGN-SPEC•
•REF•
•REF•

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,21T-17	ST. CLAIR	77	55
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

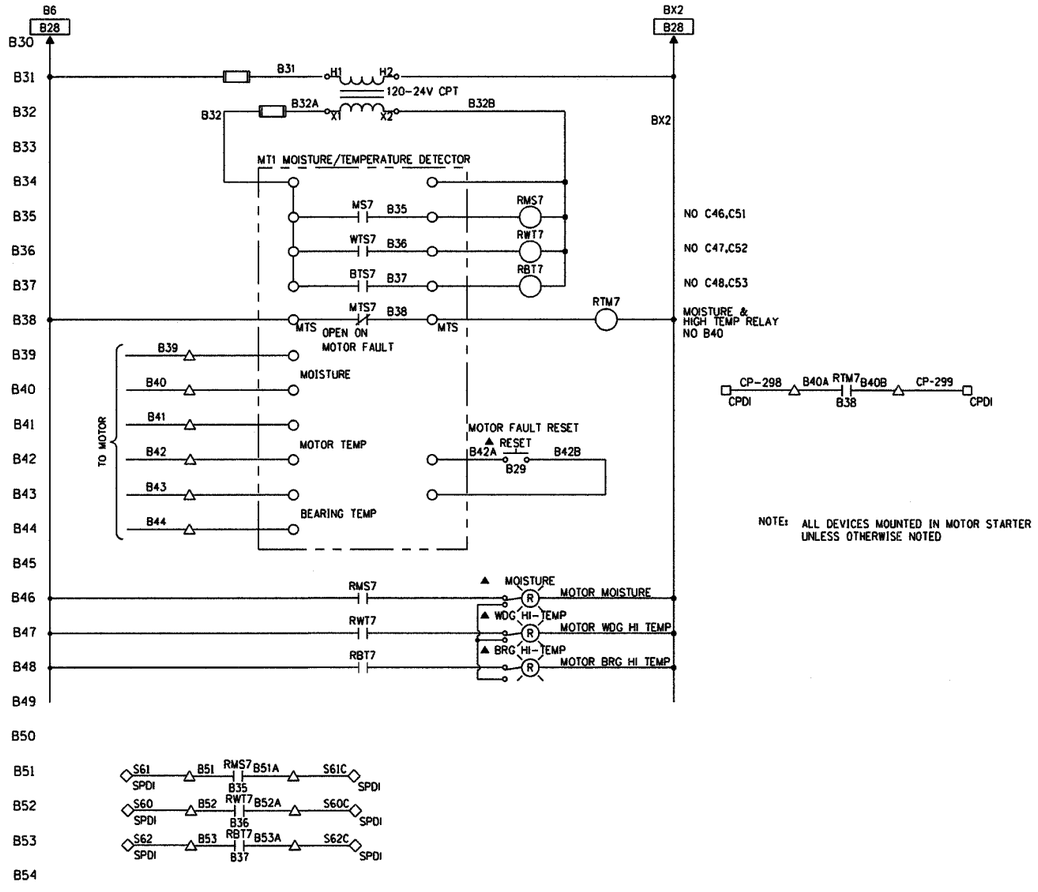
PLAN — SURVEYED / PLOTTED / ALIGNMENT CHECKED / RT. OF WAY CHECKED / NOTE BOOK / NO. / CADD FILE NAME / BY / DATE



NOTE: REPLACE LINE NO. & WIRE NO. PREFIX "B" WITH "MA6"

LEGEND

- ○ TERMINAL IN BENSHAW RMB6
- △ TERMINAL IN MOTOR STARTER
- □ TERMINAL IN CONTROL PANEL
- ◇ TERMINAL IN SCADA PANEL
- ▲ DEVICE LOCATED ON STARTER DOOR
- ● DEVICE LOCALLY MTD
- ■ DEVICE IN CONTROL PANEL
- ◆ DEVICE IN SCADA PANEL



SUMP PUMP 1 CONTROL SCHEMATIC

NOTE: TEMP/MOISTURE DETECTORS ARE BASED ON ONE PUMP MANUFACTURER. WIRING MAY BE CHANGED AS PER ACTUAL DETECTORS FURNISHED.

E13

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

SUMP PUMP NO. 1 CONTROL SCHEMATIC

SCALE: AS SHOWN — DRAWN BY: KCC

DATE: 09-12-05 — CHECKED BY: KCC

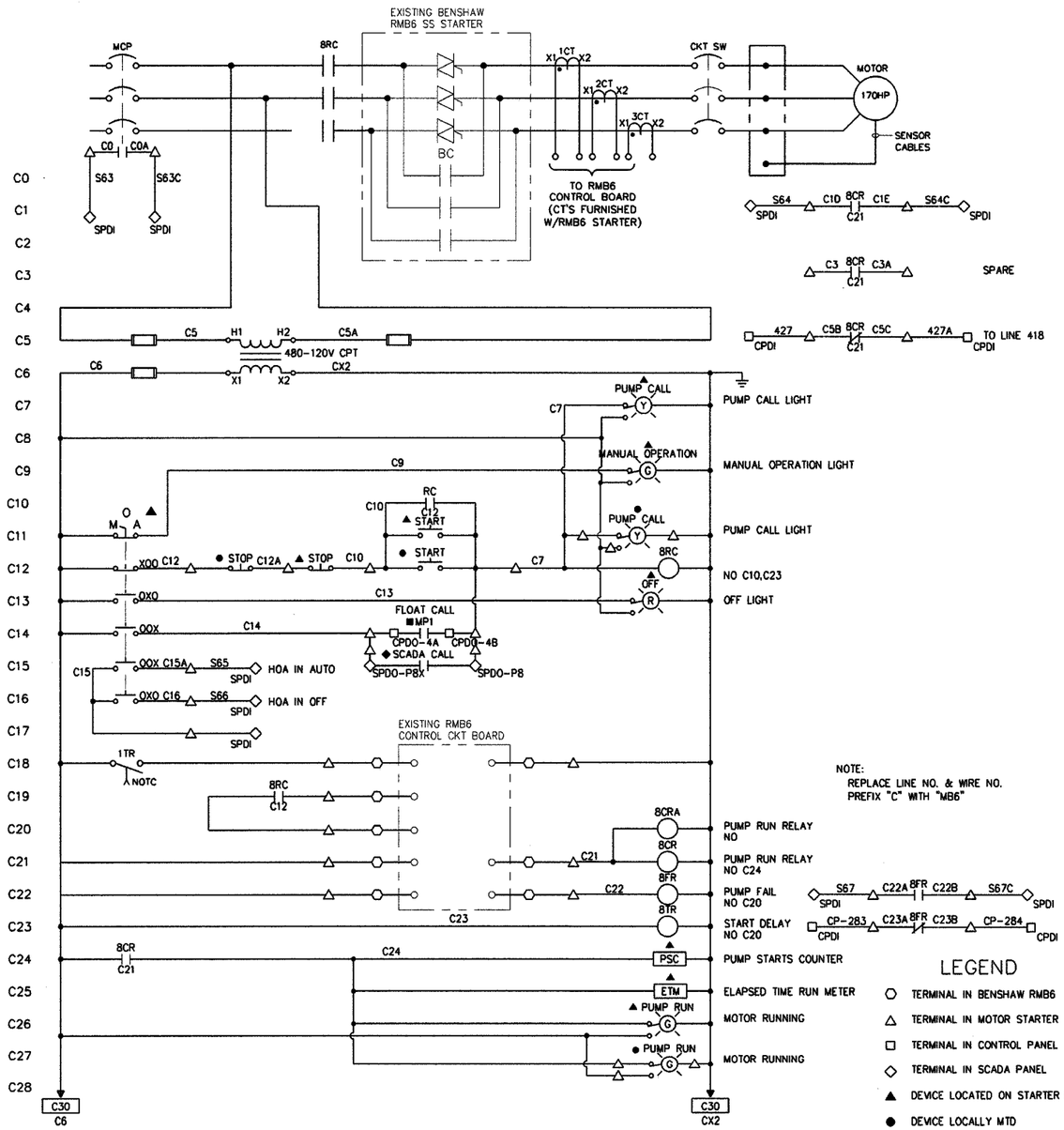
PLOT DATE: *DATE-TIME*

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

$$DATE$$
DATE-TIME
DGN-SPEC
REF
REF

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,21T-17	ST. CLAIR	77	56
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

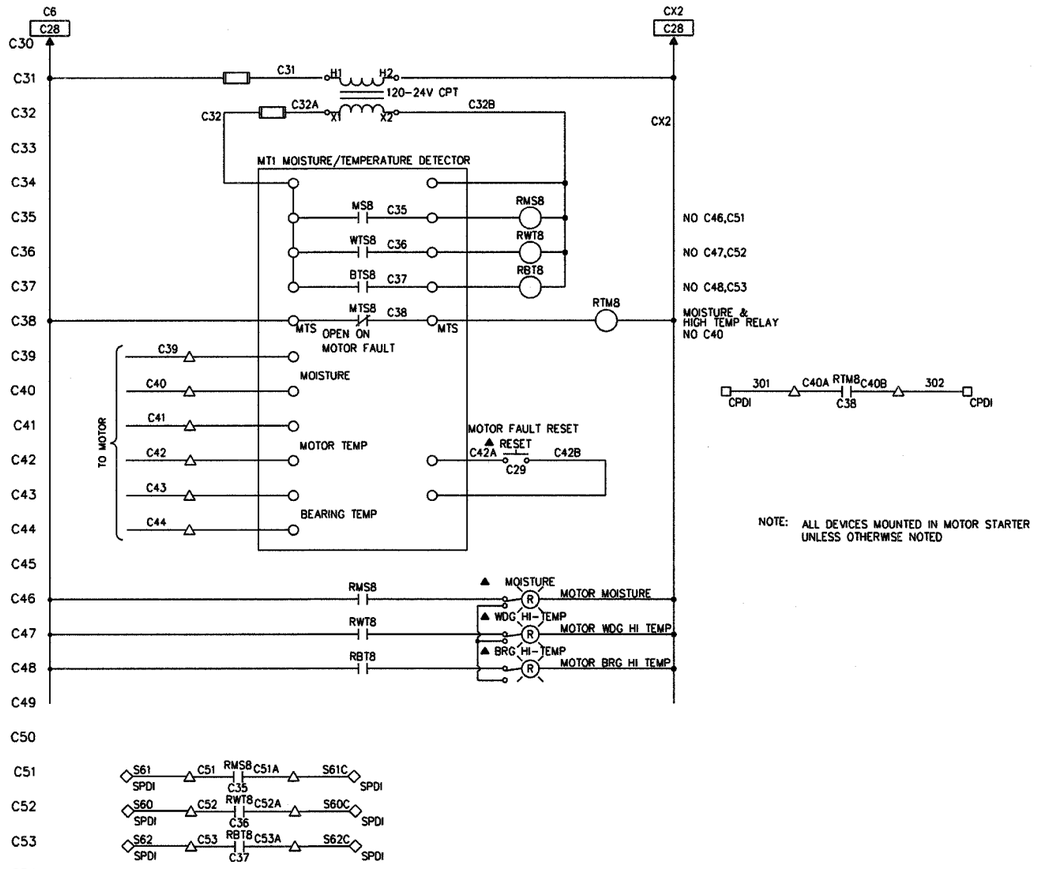
PLAN — SURVEYED / PLOTTED / INPUT / CHECKED / RT. OF WAY CHECKED / CADD FILE NAME / NOTE BOOK / NO. — BY / DATE



NOTE:
REPLACE LINE NO. & WIRE NO.
PREFIX "C" WITH "MB6"

LEGEND

- ○ TERMINAL IN BENSHAW RMB6
- △ TERMINAL IN MOTOR STARTER
- □ TERMINAL IN CONTROL PANEL
- ◇ TERMINAL IN SCADA PANEL
- ▲ DEVICE LOCATED ON STARTER DOOR
- ● DEVICE LOCALLY MTD
- ■ DEVICE IN CONTROL PANEL
- ◆ DEVICE IN SCADA PANEL



NOTE: ALL DEVICES MOUNTED IN MOTOR STARTER UNLESS OTHERWISE NOTED

SUMP PUMP 2 CONTROL SCHEMATIC

NOTE: TEMP/MOISTURE DETECTORS ARE BASED ON ONE MANUFACTURER. WIRING MAY BE CHANGED AS PER ACTUAL DETECTORS FURNISHED.

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

E14

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

SUMP PUMP NO. 2 CONTROL SCHEMATIC

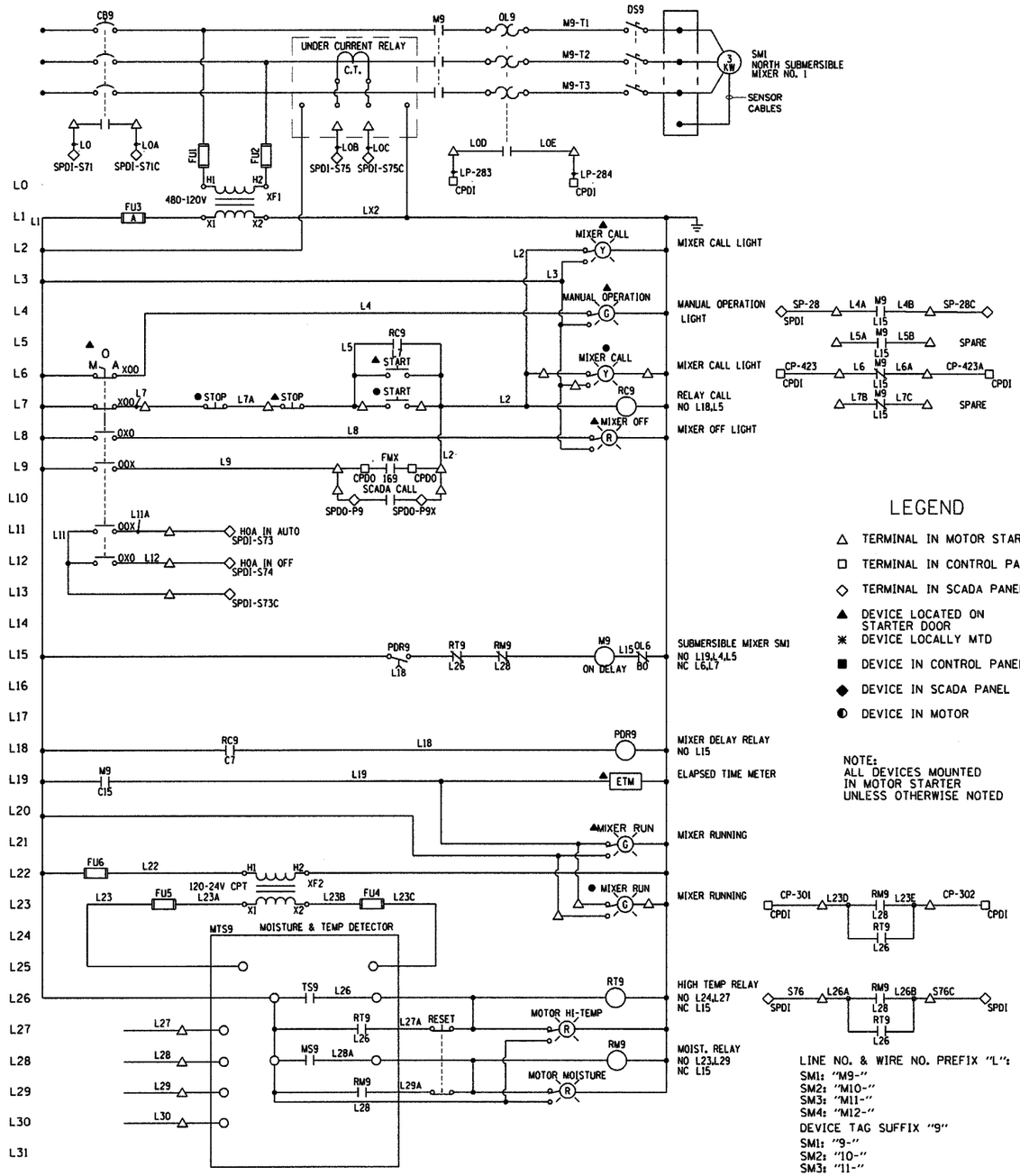
SCALE: AS SHOWN — DRAWN BY: KCC

DATE: 09-12-05 — CHECKED BY: KCC

PLOT DATE: •DATE-TIME•

•$•DATE•$
•DATE-TIME•
•DGN-SPEC•
•REF-
•REF-

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	57
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



LEGEND

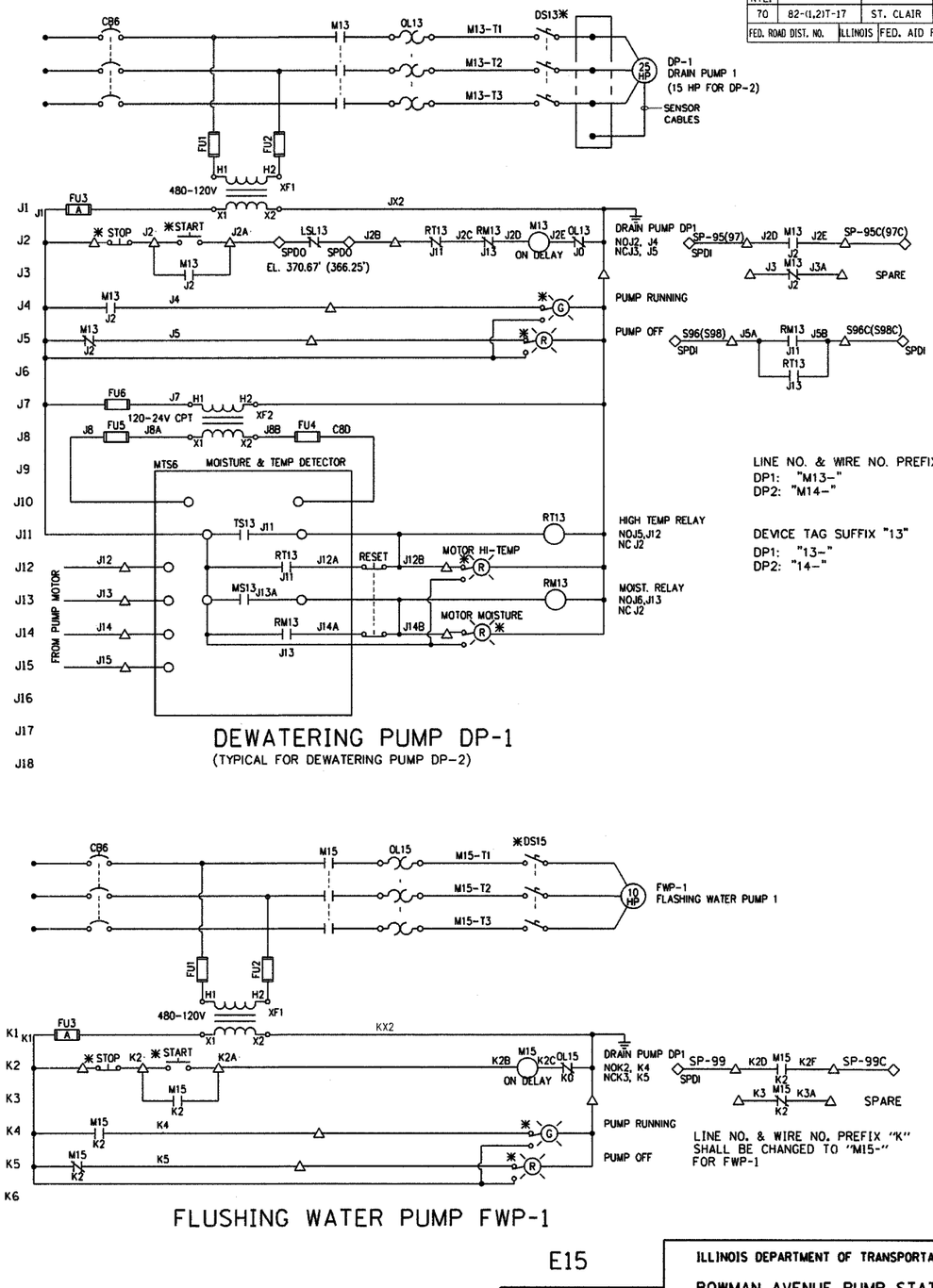
- △ TERMINAL IN MOTOR STARTER
- □ TERMINAL IN CONTROL PANEL
- ◇ TERMINAL IN SCADA PANEL
- ▲ DEVICE LOCATED ON STARTER DOOR
- ✱ DEVICE LOCALLY MTD
- ■ DEVICE IN CONTROL PANEL
- ◆ DEVICE IN SCADA PANEL
- ◐ DEVICE IN MOTOR

NOTE:
ALL DEVICES MOUNTED IN MOTOR STARTER UNLESS OTHERWISE NOTED

LINE NO. & WIRE NO. PREFIX "L":
SM1: "M9-"
SM2: "M10-"
SM3: "M11-"
SM4: "M12-"

DEVICE TAG SUFFIX "9"
SM1: "9-"
SM2: "10-"
SM3: "11-"
SM4: "12-"

SUBMERSIBLE MIXER SM1
(TYPICAL FOR SUBMERSIBLE MIXER SM2, SM3 & SM4)



LINE NO. & WIRE NO. PREFIX "J":
DP1: "M13-"
DP2: "M14-"

DEVICE TAG SUFFIX "13"
DP1: "13-"
DP2: "14-"

DEWATERING PUMP DP-1
(TYPICAL FOR DEWATERING PUMP DP-2)

LINE NO. & WIRE NO. PREFIX "K" SHALL BE CHANGED TO "M15-" FOR FWP-1

FLUSHING WATER PUMP FWP-1

NOTE: TEMP/MOISTURE DETECTORS ARE BASED ON ONE MANUFACTURER. WIRING MAY BE CHANGED AS PER ACTUAL DETECTORS FURNISHED.

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

E15

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

SUBMERSIBLE MIXER CONTROL SCHEMATIC

SCALE: AS SHOWN DRAWN BY: KCC

DATE: 09-12-05 CHECKED BY: KCC

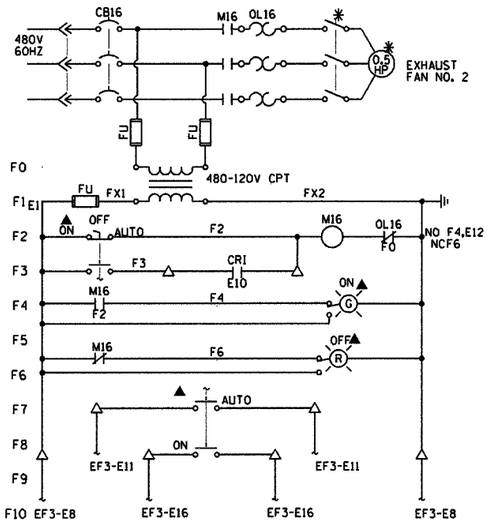
PLOT DATE: *DATE-TIME*

PLAN SURVEYED PLOTTED ALIGNMENT CHECKED ET. OF WAY CHECKED CADD FILE NAME NOTE BOOK NO.

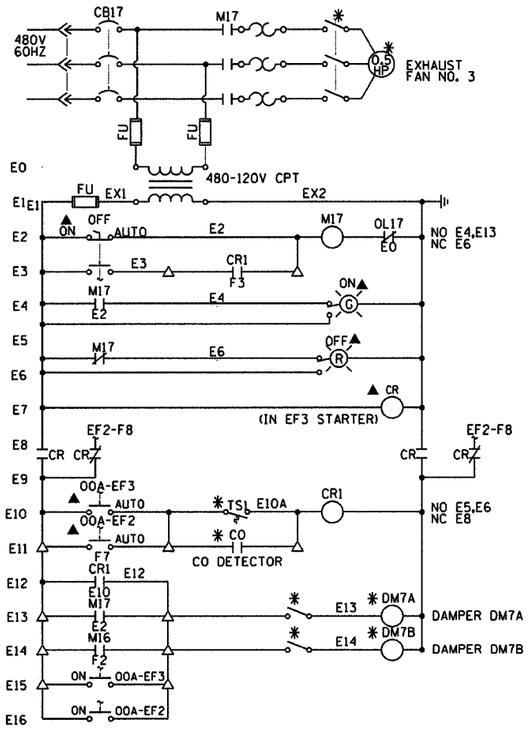
BY DATE

REVISION
DATE-TIME
DGN-SPEC
REF
REF

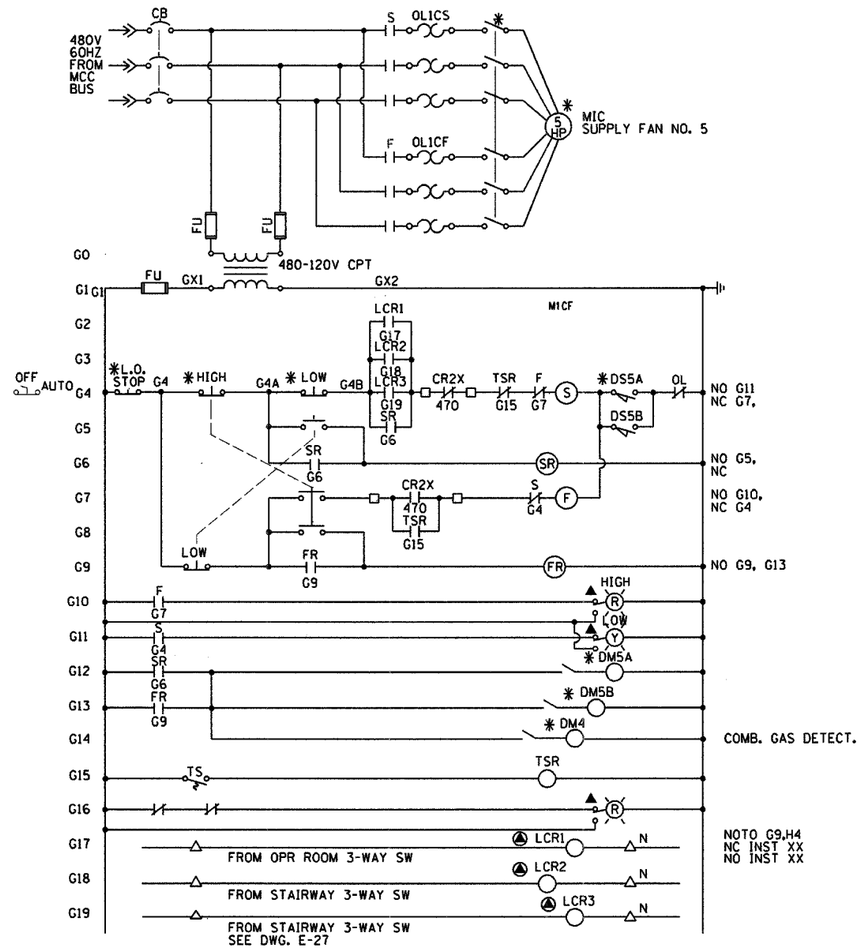
F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,21T-17	ST. CLAIR	77	58
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



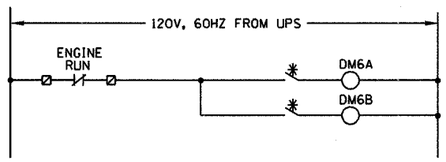
GEN. ROOM EXH. FAN EF2



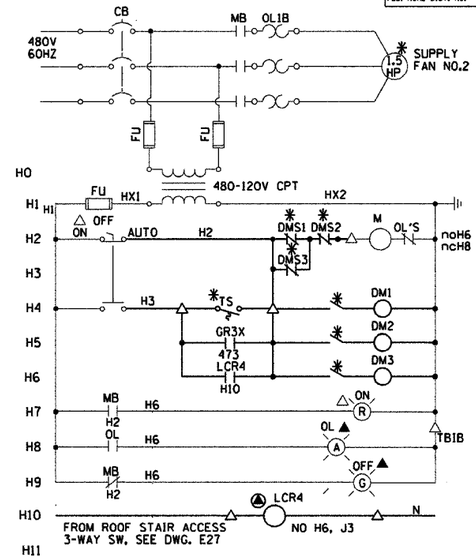
GEN. ROOM EXH. FAN EF3



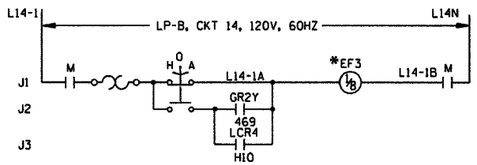
PUMP ROOM SUPPLY FAN SF5



GEN. ROOM DAMPER DM6A/6B



MODIFICATION OF EXISTING STARTER WIRING FOR SUPPLY FAN SF2



ROOF STAIR ACCESS EXHAUST FAN EF4

LEGEND:

- △ : TERMINAL LOCATED IN MOTOR STARTER
- □ : TERMINAL LOCATED IN CONTROL PANEL
- ◇ : TERMINAL LOCATED IN SCADA PANEL
- ▲ : DEVICE LOCATED ON MOTOR STARTER DOOR
- ⓐ : ADD RELAY IN EXIST COMBUSTIBLE GAS DETECTOR PANEL
- ✱ : LOCALLY MOUNTED
- ▨ : TERMINAL LOCATED IN E/G CONTROL PANEL

E16

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

VENTILATION CONTROL SCHEMATIC

SCALE: AS SHOWN — DRAWN BY: LMJ

DATE: 09-12-05 — CHECKED BY: KCC

PLOT DATE: *DATE-TIME*

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

PLAN — SURFACED — ALIGNMENT CHECKED — INT. OF WAY CHECKED — CADD FILE NAME — NOTE BOOK — NO. — BY — DATE

DATE: *DATE-TIME* *NON-SPEC* *REF:* *REF:*

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,21T-17	ST. CLAIR	77	59
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CPP, CKT 8, 120V, 60HZ

CONT. CKT. PWR. FAIL — NO / NC 2 — PFR

RTU-1 FLEXLOGIX

RTU-1 OUTPUT ENABLE

HIGH WATER ALARM — NO151 NC201 EL. 380.5'

START LAG 5 PUMP — NO152 NC202 EL.379.5'

START LAG 4 PUMP — NO154 NC203 378.5'

START LAG 3 PUMP — NO156 NC204 EL. 377.5'

STOP LAG 5 PUMP — NO152 NC205 EL. 377.0'

START LAG 2 PUMP — NO158 NC206 EL. 376.5'

STOP LAG 4 PUMP — NO154 NC207 EL.376.0'

START LAG 1 PUMP — NO125 NC208 EL. 375.5'

START SSP-1 NO 7, 17

START SSP-2 NO 4,411

START MP1 NO 31

START MP2 NO 36

START MP3 NO 41

START MP4 NO 46

START MP5 NO 51

START MP6 NO 56

STOP LAG 3 PUMP — NO156 NC209 EL. 375.0'

START LEAD PUMP & STOP MIXERS — NO127 NC210 EL. 374.5'

STOP LAG 2 PUMP — NO158 NC211 EL. 374.0'

START LAG SUMP PUMP — NO164 NC212 EL. 373.5'

STOP LAG 1 PUMP — NO160 NC213 EL.373.0'

START MIXER & LEAD SUMP PUMP — NO129 NC214 EL. 372.0'

MAIN PUMP FAIL TO STOP — NO131 NC215 EL. 371.5'

STOP LAG SUMP PUMP — NO164 NC216 EL. 371.0'

STOP MIXERS — NO168 NC217 EL. 370.5'

STOP LEAD SUMP PUMP — NO166 NC218 EL. 369.5'

LOW WATER ALARM — NO350 NC219 EL. 368.5'

START LAG 1 PUMP & CLOSE EF1 DAMPER DI — NO 160,221 NC

START LEAD PUMP & STOP MIXERS — NO 162 NC 168

START MIXER & LEAD SUMP PUMP — NO 166,168 NC 162

MAIN PUMP STOP ALARM LEVEL — NO NC 174 MPFS — MAIN PUMF FAIL TO STOP NO147

FLOAT HIGH WATER ALARM — NO 332 NC

FLOAT LAG 5 — NO27 NC

FLOAT LAG 4 — NO25 NC

FLOAT LAG 3 — NO 23

FLOAT LAG 2 — NO 21

FLOAT LAG 1 — NO 17

FLOAT LEAD — NO 15

FLOAT LAG S.P. — NO 7

FLOAT LEAD S.P. — NO 5

FLOAT MIXERS — NO 419

NO L9, L9, L9, L9

FLOAT LEAD CALL

FLOAT LAG 1 CALL

FLOAT LAG 2 CALL

FLOAT LAG 3 CALL

FLOAT LAG 4 CALL

FLOAT LAG 5 CALL

FLOAT LEAD SUMP PUMP CALL

FLOAT LAG SUMP PUMP CALL

FLOAT MIXER CALL

LEAD CALL

LAG 1 CALL

LAG 2 CALL

LAG 3 CALL

LAG 4 CALL

LAG 5 CALL

LEAD SUMP PUMP CALL

LAG SUMP PUMP CALL

MIXER CALL

SCADA LEAD CALL

SCADA LAG 1 CALL

SCADA LAG 2 CALL

SCADA LAG 3 CALL

SCADA LAG 4 CALL

SCADA LAG 5 CALL

SCADA LEAD S.P. CALL

SCADA LAG S.P. CALL

SCADA MIXER CALL

TO EF1 STARTER

E17

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

CONTROL PANEL SCHEMATIC SHEET 1

SCALE: AS SHOWN — DRAWN BY: LMJ

DATE: 09-12-05 — CHECKED BY: KCC

PLOT DATE: *DATE-TIME*

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

PLAN — SURVEYED / PLOTTED / ALIGNMENT CHECKED / R.T. OF WAY CHECKED / NOTE BOOK / NO. / CADD FILE NAME / BY / DATE

$DATE$
DATE-TIME
DGN-SPEC
REF
REF

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)1T-17	ST. CLAIR	77	60
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

PLAN — SURVEYED / PLOTTED / ASSIGNMENT CHECKED / RT. OF WAY CHECKED / NOTE BOOK / NO. / C-ADD FILE NAME — BY / DATE

CPP, CKT 10, 120V 60 HZ

ANNUNCIATOR

AN-1	MAIN PUMP 1 FAILURE	AN-2	MAIN PUMP 2 FAILURE
AN-3	MAIN PUMP 3 FAILURE	AN-4	MAIN PUMP 4 FAILURE
AN-5	MAIN PUMP 5 FAILURE	AN-6	MAIN PUMP 6 FAILURE
AN-8	MAIN PUMP 1 OVER TEMP/MOIST.	AN-9	MAIN PUMP 2 OVER TEMP/MOIST.
AN-10	MAIN PUMP 3 OVER TEMP/MOIST.	AN-11	MAIN PUMP 4 OVER TEMP/MOIST.
AN-12	MAIN PUMP 5 OVER TEMP/MOIST.	AN-13	MAIN PUMP 6 OVER TEMP/MOIST.
AN-15	SUMP PUMP 1 FAILURE	AN-16	SUMP PUMP 2 FAILURE
AN-17	SUBMERSIBLE MIXER 1 FAILURE	AN-18	SUBMERSIBLE MIXER 2 FAILURE
AN-19	SUBMERSIBLE MIXER 3 FAILURE	AN-20	SUBMERSIBLE MIXER 4 FAILURE
AN-22	SUMP PUMP 1 OVER TEMP/MOIST.	AN-23	SUMP PUMP2 OVER TEMP/MOIST.
AN-24	SUBMERSIBLE MIXER 1 TEMP/MOIST.	AN-25	SUBMERSIBLE MIXER 2 TEMP/MOIST.
AN-26	SUBMERSIBLE MIXER 3 TEMP/MOIST.	AN-27	SUBMERSIBLE MIXER 4 TEMP/MOIST.
AN-29	HIGH WATER LEVEL	AN-30	INC LINE 1 NORMAL SOURCE POWER FAILURE
AN-31	INC LINE 2 EMERGENCY SOURCE POWER FAILURE	AN-32	GENERATOR ALARM
AN-33	SCADA PNL POWER FAILURE	AN-34	SCADA PANEL ALARM
AN-36	LOW WATER LEVEL	AN-37	COMBUSTIBLE GAS ALARM
AN-38	COMBUSTIBLE GAS WARNING	AN-39	COMBUSTIBLE GAS DET. TROUBLE
AN-40	FIRE ALARM	AN-41	INTRUSION ALARM
AN-14	CARBON MONOXIDE ALARM	AN-21	CO DETECTOR FAILURE
AN-35	DISPATCHER'S PANEL COMM. FAILURE		

RELAY ALARM ACK NO 382,384,391

TIME DELAY ALARM ACK NO 382

ALARM ACKNOWLEDGED

INTRUSION ALARM

TDF1	TIME DELAY FAIL 1 NO420
TDF2	TIME DELAY FAIL 2 NO421
TDF3	TIME DELAY FAIL 3 NO422
TDF4	TIME DELAY FAIL 4 NO423
TDF5	TIME DELAY FAIL 5 NO424
TDF6	TIME DELAY FAIL 6 NO425
TDF7	TIME DELAY FAIL 7 NO426
TDF8	TIME DELAY FAIL 8 NO427
TDF9	TIME DELAY FAIL 9 NO428

PUMP 1 FAILURE	NO 245
PUMP 2 FAILURE	NO 248
PUMP 3 FAILURE	NO 251
PUMP 4 FAILURE	NO 254
PUMP 5 FAILURE	NO 257
PUMP 6 FAILURE	NO 260
SPP1 FAILURE	NO 263
SPP2 FAILURE	NO 263
MIXER 1 FAILURE	NO 287
MIXER 2 FAILURE	NO 290
MIXER 3 FAILURE	NO 293
MIXER 4 FAILURE	NO 296

CPP, CKT 3, 120V, 60 HZ

ELEC CONT/ GEN BLDG EOL | PUMP ROOM EL. 408.0 EOL | DISCH. FLOOR EL. 393.0 EOL | INTM. FLOOR EL. 380.0 EOL

FIRE ALARM PANEL

ELEC CONT GEN BLDG STROBE | PUMP ROOM STROBE | DISCHARGE LEVEL STROBE | INTERMEDIATE LEVEL STROBES

CPDI-349 FAR CPDI-351

FIRE ALARM CIRCUIT

CPP, CKT 12, 120V 60 HZ

COMBUSTIBLE GAS MONITOR

CGD1 GAS SENSOR	
INTERMEDIATE FLR EL. 380	
CGD2 GAS SENSOR	
DISCHARGE FLR EL. 393.67	
CGD3 GAS SENSOR	
ROOF STAIR ACCESS EL. 422	
CGD4 GAS SENSOR	
INLET CHAMBER EL. 380	
CGD5 GAS SENSOR	
PUMP ROOM EL. 408	
CGD6 GAS SENSOR	
ENTRANCE EL. 422	

GR1	CAUTION
GR2	WARNING
GR3	ALARM
GR4	TROUBLE
HR	HORN RELAY

NO356,481 — NOG10,482,484 NCG4 — NO353,H5,EF1,SF4 — NO359,483

LEGEND:

● : NON LOCK-IN TYPE ANNUNCIATOR POINT

ALL ANNUNCIATOR POINTS SHALL BE SET AS LOCK-IN TYPE UNLESS OTHERWISE INDICATED AS NON LOCK-IN TYPE.

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

E18

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

CONTROL PANEL SCHEMATIC SHEET 2

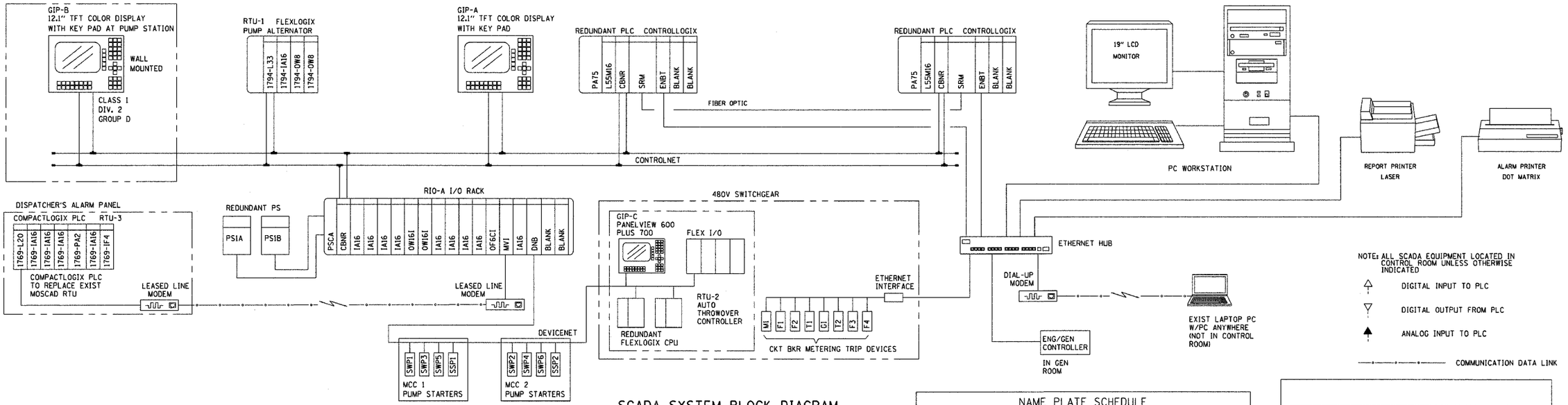
SCALE: AS SHOWN — DRAWN BY: LMJ

DATE: 09-12-05 — CHECKED BY: KCC

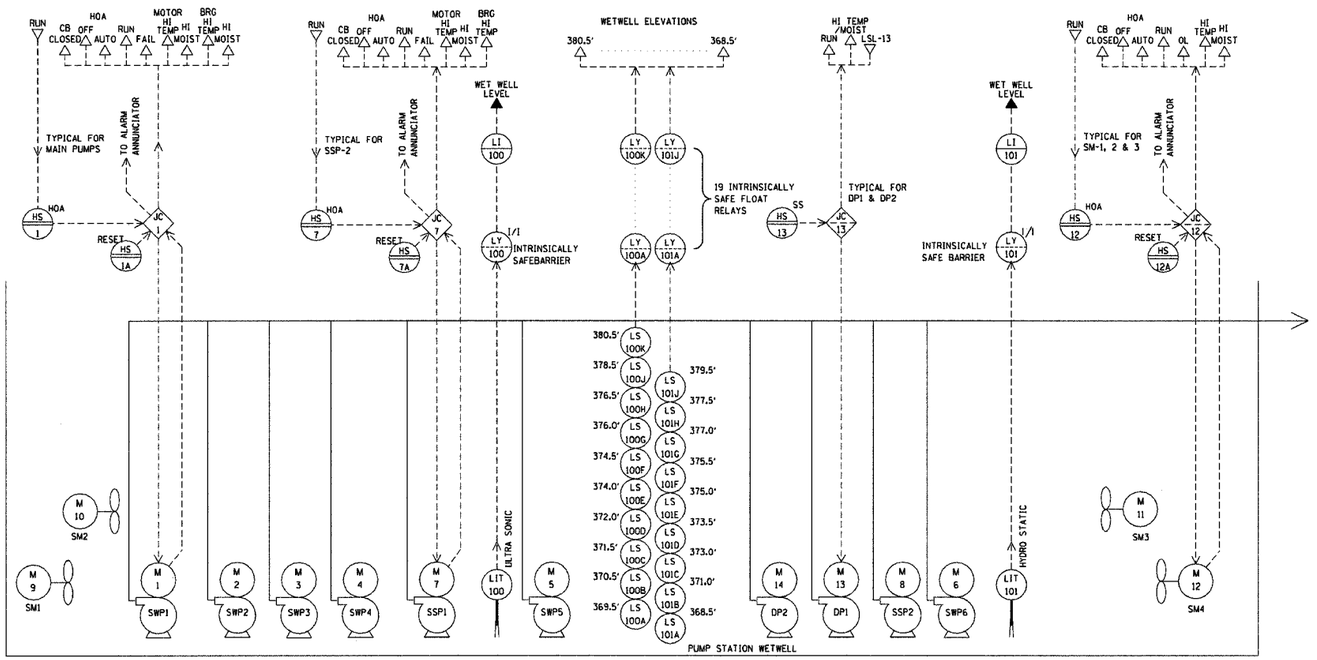
PLOT DATE: *DATE-TIME*

$$DATE$$
DATE-TIME
DGN-SPEC
REF
RED

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	61
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



SCADA SYSTEM BLOCK DIAGRAM



PROCESS & INSTRUMENT DIAGRAM

NOTE: FLOATS 100A THRU 100K ARE MOUNTED IN STILLING WELL SW1
FLOATS 101A THRU 101J ARE MOUNTED IN STILLING WELL SW2

NAME PLATE SCHEDULE

	EXISTING	NEW (NOTE 2)
1	SP 1	
2	SP 2	
3	SWP 1	
4	SWP 2	
5	SWP 3	
6	SWP 4	
7	SWP 5	
8	SWP 6	
9	STANDBY	
10	RUNNING	
11	FAIL TO RUN	
12	UTILITY 1 POWER FAIL	
13	UTILITY 2 POWER FAIL	
14	MCC 1 POWER FAIL	
15	MCC 2 POWER FAIL	
16	SYS MANAGER SITE PWR FAIL	BOWMAN PS UPS ALARM
17	PUMP CONTROL POWER FAIL	
18	LOW WATER LEVEL	
19	HIGH WATER LEVEL	
20	CTRL SYS A LOW PRESSURE	ULTRASONIC LVL XMTR FAIL
21	CTRL SYS B LOW PRESSURE	HYDROSTATIC LVL XMTR FAIL
22	CONTROL SYS PLC FAIL	
23	CTRL SYS DIFFERENTIAL	PUMP ALT RTU-1 FAIL
24	RTU POWER FAIL	BOWMAN PS UPS ALARM
25	COMB GAS LOCK OUT	COMB GAS WARNING
26	COMB GAS MOTOR ROOM	COMB GAS ALARM
27	COMB GAS CONTROL ROOM	COMB GAS TROUBLE
28	COMB GAS SUMP	BLANK
29	PUMP LUBRICATION FAIL	BOWMAN PS UPS INPT PWR FAIL
30	GENERATOR RUNNING	
31	GENERATOR FAIL	
32	GENERATOR DC POWER FAIL	
33	FIRE SYS HEAT DETECTION	FIRE ALARM
34	FIRE SYS VALVE CLOSE	BLANK
35	FIRE SYS POWER FAIL	BLANK
36	DISPATCH PANEL POWER FAIL	
37	COMM FAIL TO GEN BLD RTU	BLANK
38	COMM FAIL TO BOWMAN PUMP RTU FAIL	COMM FAIL TO BOWMAN PS
39	BLANK	
40	BLANK	
41	BLANK	
42	BLANK	WETWELL LEVEL - ULTRASONIC
43	ACK	
44	DISPATCH PNL PWR FAIL	
45	LAMP TEST	
46	HORN	
47	BLANK	WETWELL LEVEL - HYDROSTATIC

NOTES:

1 ALL DEVICES ON DISPATCHER'S ALARM PANEL ARE EXISTING.
2 PROVIDE NEW NAME PLATES AS NOTED.

DISPATCHER'S ALARM PANEL PARTIAL FRONT VIEW

DEVICE LEGEND

- (A) AMBER LED LIGHT
- (B) RED LED LIGHT
- (C) GREEN LED LIGHT
- (D) AMBER PILOT LIGHT
- (E) PUSH BUTTONS
- (F) ALARM BUZZER
- (G) PRECISION DIGITAL INDICATOR
- (H) NEWPORT DIGITAL INDICATOR

E19

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

SCADA SYSTEM DIAGRAMS

SCALE: AS SHOWN
DRAWN BY: LMJ
DATE: 09-12-05
CHECKED BY: KCC

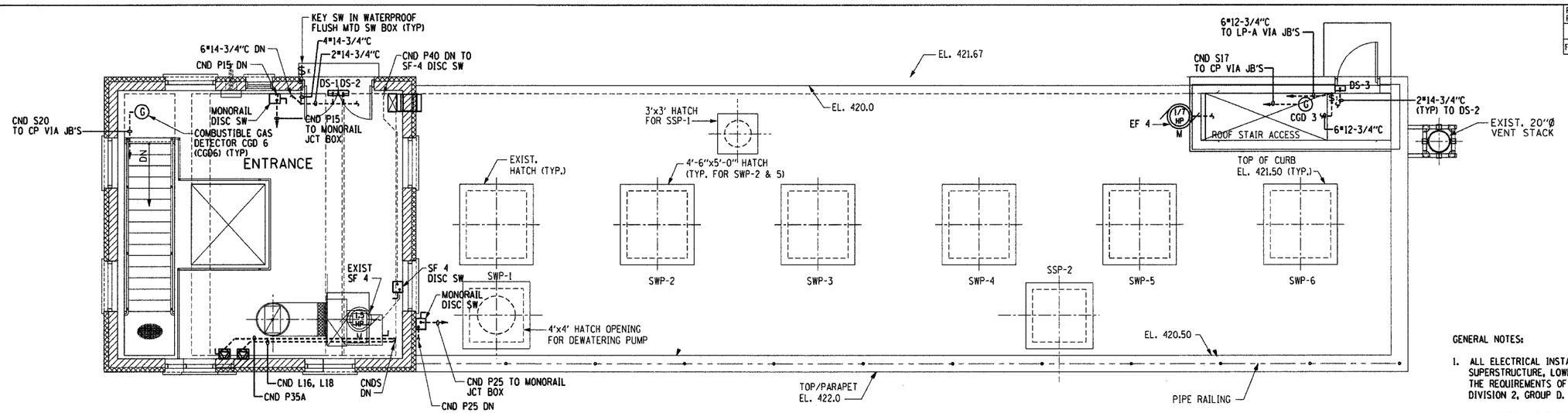
PLOT DATE: *DATE-TIME*

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

DATE
BY
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
CADD FILE NAME
PLAN
NOTE BOOK
NO.

DATE
DATE-TIME
DGN-SPEC
*REF-
*REF-

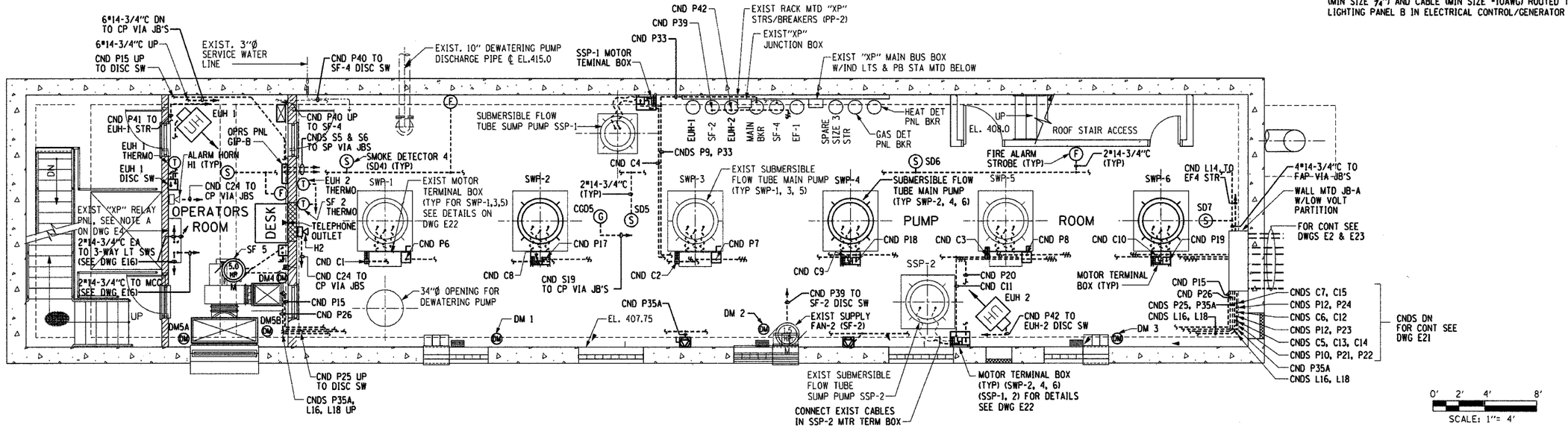
F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,21T-17	ST. CLAIR	77	62
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



PLAN @ EL. 422.0

GENERAL NOTES:

1. ALL ELECTRICAL INSTALLATION IN THE PUMP STATION INCLUDING SUPERSTRUCTURE, LOWER LEVELS AND STAIRWAYS, SHALL MEET THE REQUIREMENTS OF NEC HAZARDOUS LOCATION CLASS 1, DIVISION 2, GROUP D.
2. ALL CONTROL CABLES SHALL BE AWG NO. 14 STRANDED, UNLESS OTHERWISE NOTED.
3. ALL CONDUIT AND PIPE PENETRATIONS, THROUGH WALL AND/OR FLOOR SLAB, BETWEEN HAZARDOUS AND/OR NON-HAZARDOUS AREAS SHALL BE GROUTED GAS TIGHT.
4. ALL FLOOR & WALL PENETRATIONS SHALL BE CORE DRILLED & SEALED WITH NON-SHRINK GROUT.
5. "2/C"18SH" REPRESENTS "2 CONDUCTOR "18 SHIELDED CABLE".
6. THE L PREFIX AS IN L14, L16, L18 ETC. DESIGNATES CONDUIT (MIN SIZE ¾") AND CABLE (MIN SIZE "10AWG) ROUTED TO LIGHTING PANEL B IN ELECTRICAL CONTROL/GENERATOR BUILDING



PUMP ROOM PLAN @ EL. 408.0

E20

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

POWER PLANS SHEET 1

SCALE: AS SHOWN — DRAWN BY: RRA

DATE: 09-12-05 — CHECKED BY: KCC

PLOT DATE: *DATE-TIME*

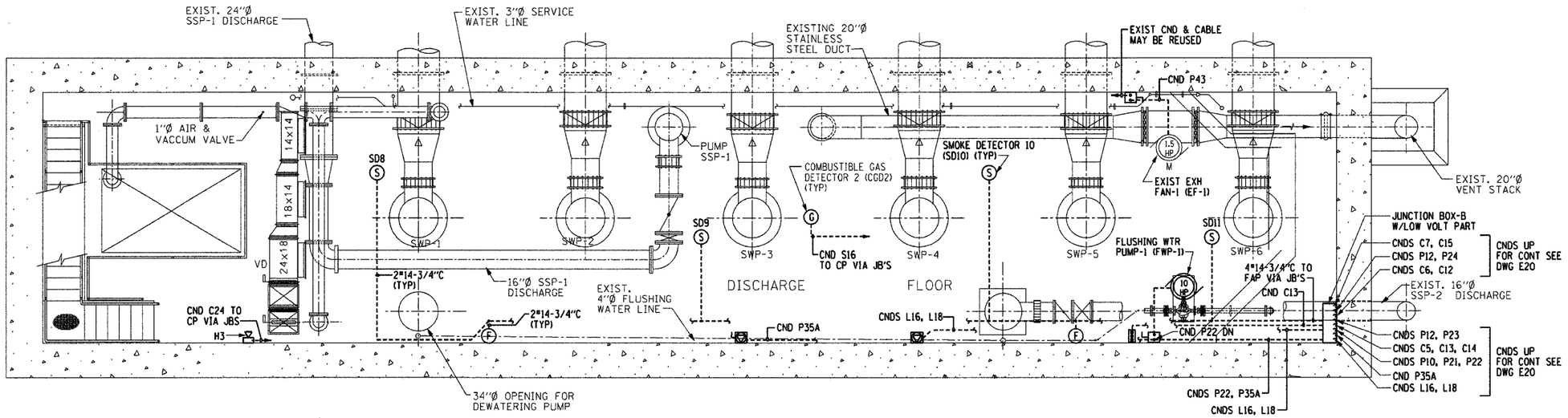
ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

PLAN — SURVEYED / PLOTTED / ALIGNMENT CHECKED / R.O.W. CHECKED / CADD FILE NAME — NOTE BOOK NO. — BY — DATE

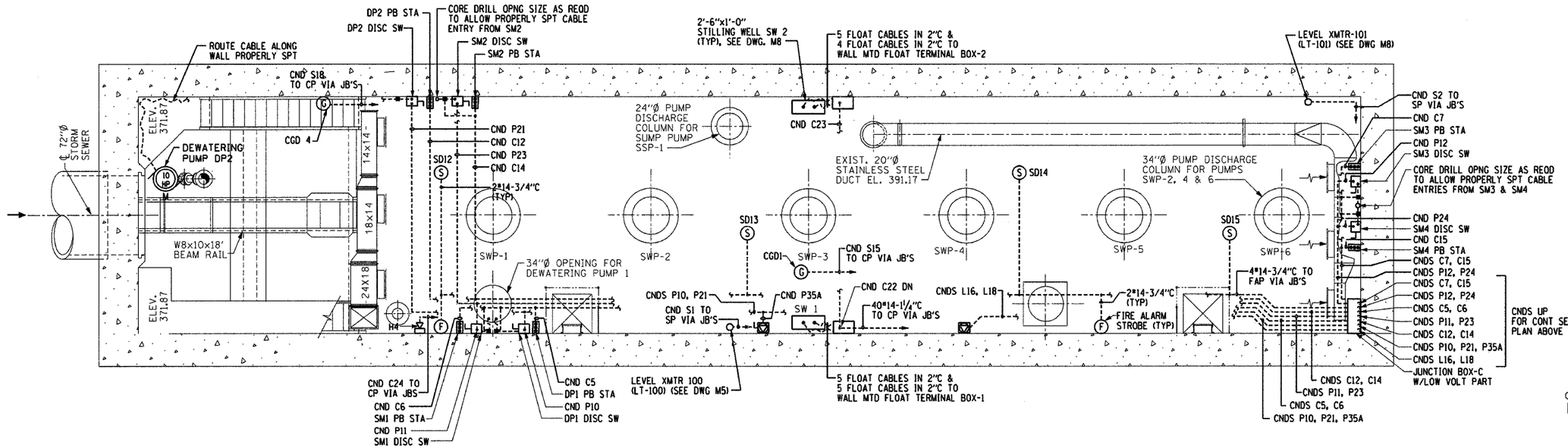
DATE
DATE-TIME
DGN-SPEC
REF-C
*REF-

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	63
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

PLAN — SURVEYED / PLOTTED / NOTE BOOK / R.O.W. CHECKED / R.T. OF WAY. CHECKED / NO. ____ / CADD FILE NAME — BY — DATE



DISCHARGE FLOOR PLAN @ EL. 393.67



INTERMEDIATE FLOOR PLAN @ EL. 380.0

NOTES:

1. SEE GENERAL NOTES ON DWG E20

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

E21

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

POWER PLANS SHEET 2

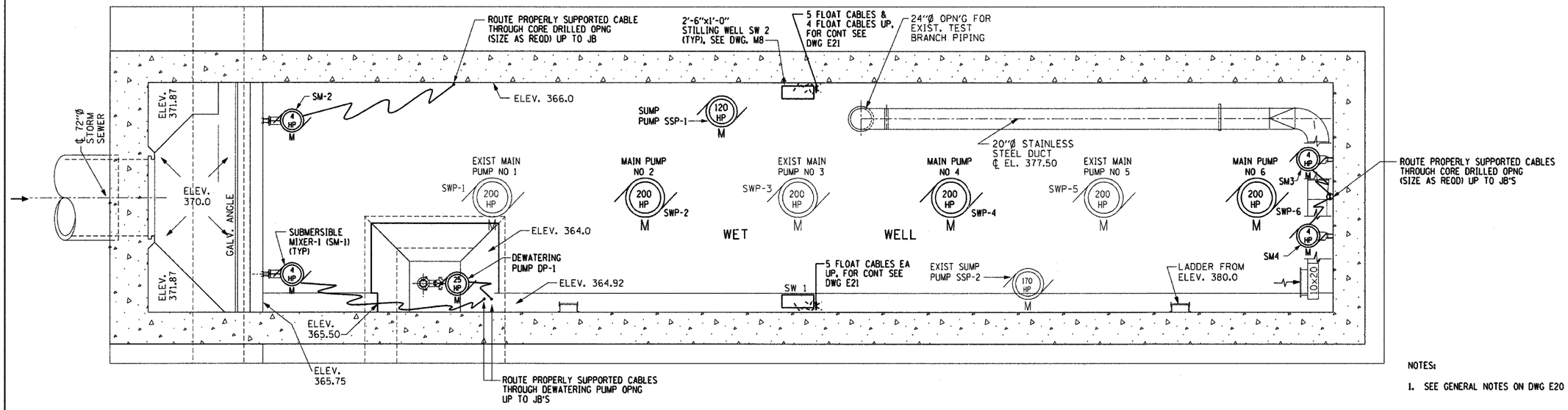
SCALE: AS SHOWN — DRAWN BY: RRA
DATE: 09-12-05 — CHECKED BY: KCC

PLOT DATE: *DATE-TIME*

*DATE#8
DATE-TIME
DGN-SPEC
DWG
REF

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	64
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

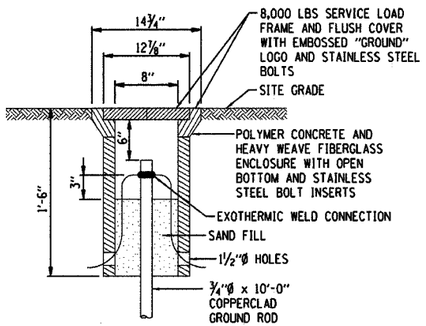
DATE	BY	
		SURVEYED
		PLOTTED
		ALIGNMENT CHECKED
		RT. OF WAY CHECKED
		CADD FILE NAME
PLAN	NOTE BOOK	
	NO.	



PLAN @ EL. 366.0

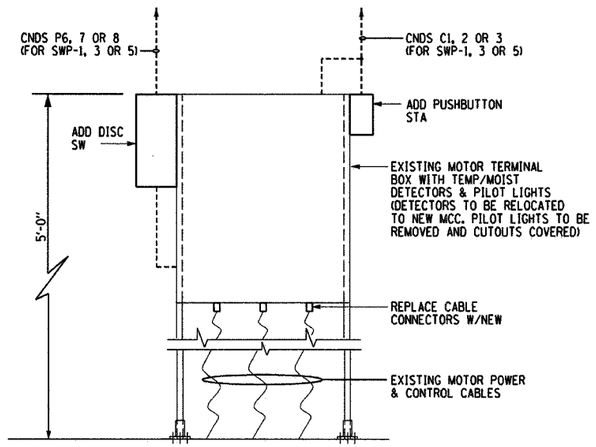
NOTES:

1. SEE GENERAL NOTES ON DWG E20



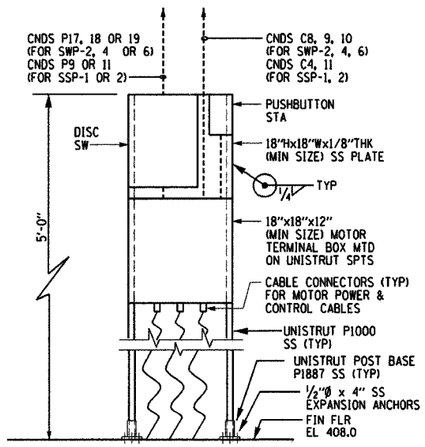
GROUND ROD & GROUND WELL DETAILS

NOT TO SCALE



EXISTING SWP-1, 3, 5 MOTOR TERMINAL BOX MODIFICATIONS

NOT TO SCALE



MOTOR TERMINAL BOX (TYP FOR SWP-2, 4, 6 & SSP-1, 2)

NOT TO SCALE

0' 2' 4' 8'

SCALE: 1"= 4'

E22

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

POWER PLANS SHEET 3

SCALE: AS SHOWN — DRAWN BY: RRA

DATE: 09-12-05 — CHECKED BY: KCC

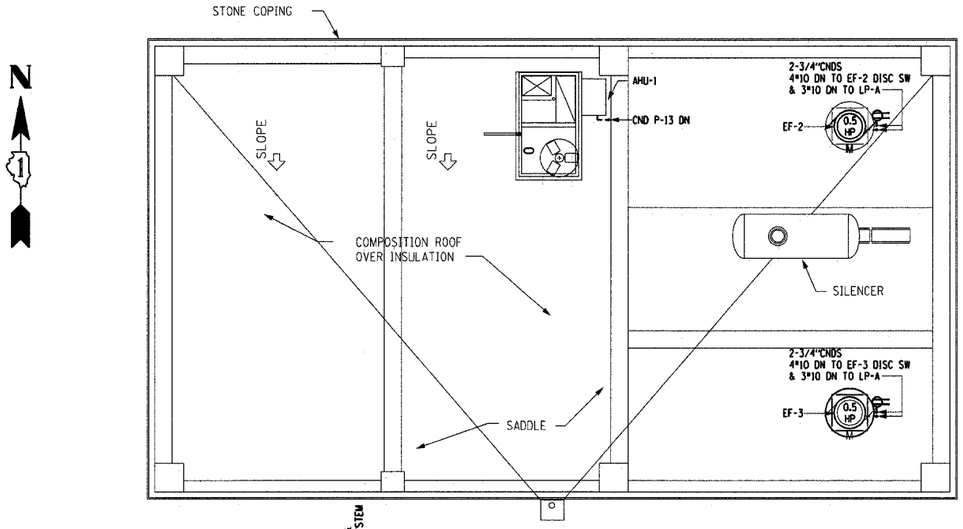
PLOT DATE: *DATE-TIME*

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

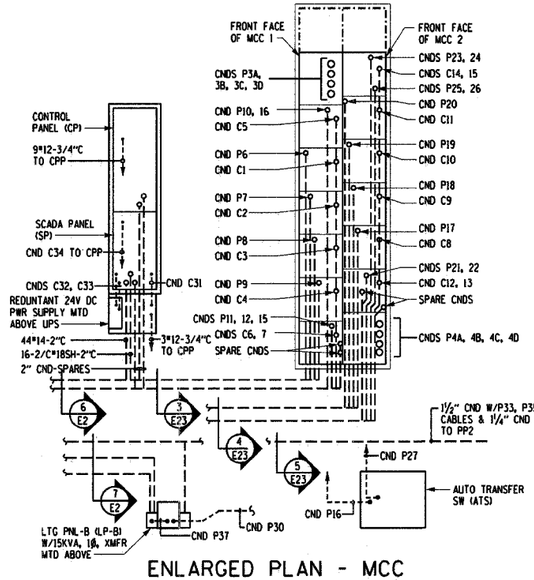
$DATE$
DATE-TIME
DGN-SPEC
XREF-SPEC
*XREF-

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	65
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

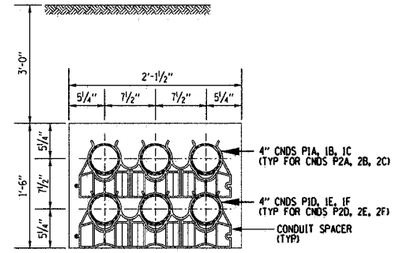
PLAN
SURVEYED
DATUM
RT. OF WAY CHECKED
PLAN FILE NAME
NOTE BOOK
NO.
BY
DATE



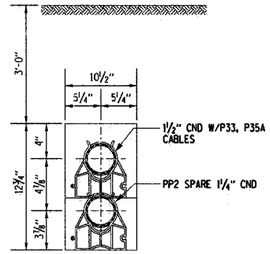
ROOF PLAN



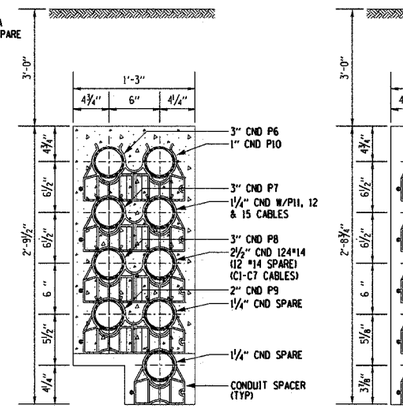
ENLARGED PLAN - MCC
NOT TO SCALE



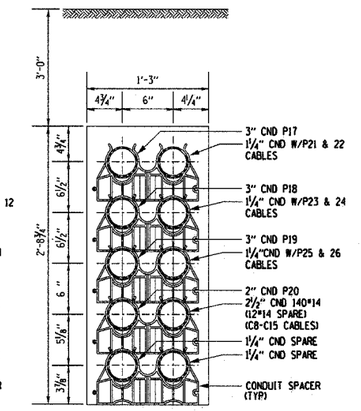
SECTION - 1
(TYP FOR SECTION - 2)
NOT TO SCALE



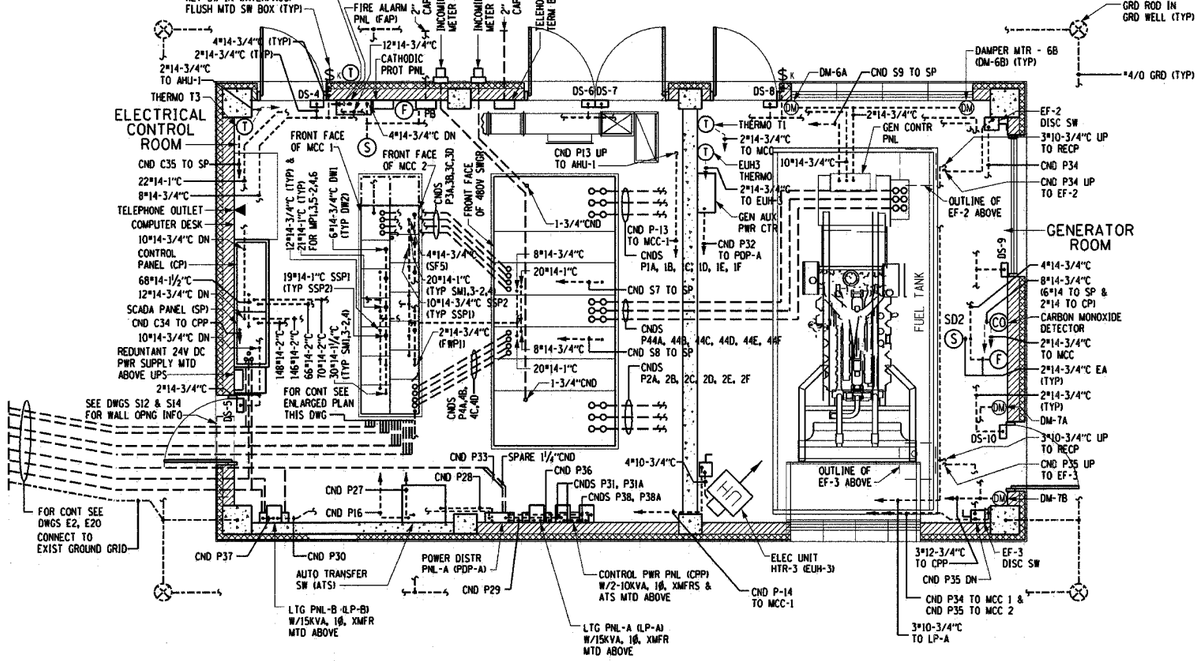
SECTION - 5
NOT TO SCALE



SECTION - 3
NOT TO SCALE

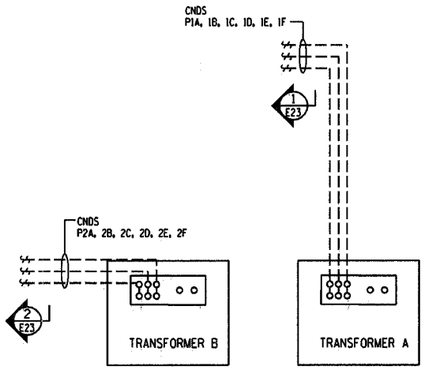


SECTION - 4
NOT TO SCALE
(ALSO SHOWN ON DWG E2)



POWER PLAN

ELECTRICAL CONTROL/GENERATOR BUILDING



GENERAL NOTES:

1. ALL ELECTRICAL INSTALLATION IN THE ELECTRICAL CONTROL/ GENERATOR BUILDING ROOM SHALL BE NON-HAZARDOUS.
2. ALL CONTROL CABLES SHALL BE AWG NO. 14 STRANDED, UNLESS OTHERWISE NOTED.
3. ALL CONDUIT AND PIPE PENETRATIONS, THROUGH WALL AND/OR FLOOR SLAB, BETWEEN HAZARDOUS AND/OR NON-HAZARDOUS AREAS SHALL BE GROUTED GAS TIGHT.
4. ALL FLOOR & WALL PENETRATIONS SHALL BE CORE DRILLED & SEALED WITH NON-SHRINK GROUT.
5. "2/C#18SH" REPRESENTS "2 CONDUCTOR #18 SHIELDED CABLE".

NOTES:

A. SEE DWG E33 FOR CONDUIT & CABLE SCHEDULE

0' 2' 4' 8'
SCALE: 1"= 4'

E23

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

POWER PLANS SHEET 4

SCALE: AS SHOWN
DRAWN BY: RRA
DATE: 09-12-05
CHECKED BY: KCC

PLOT DATE: *DATE-TIME*

$$DATE$$
DATE-TIME
DGN-SPEC
REF
REF

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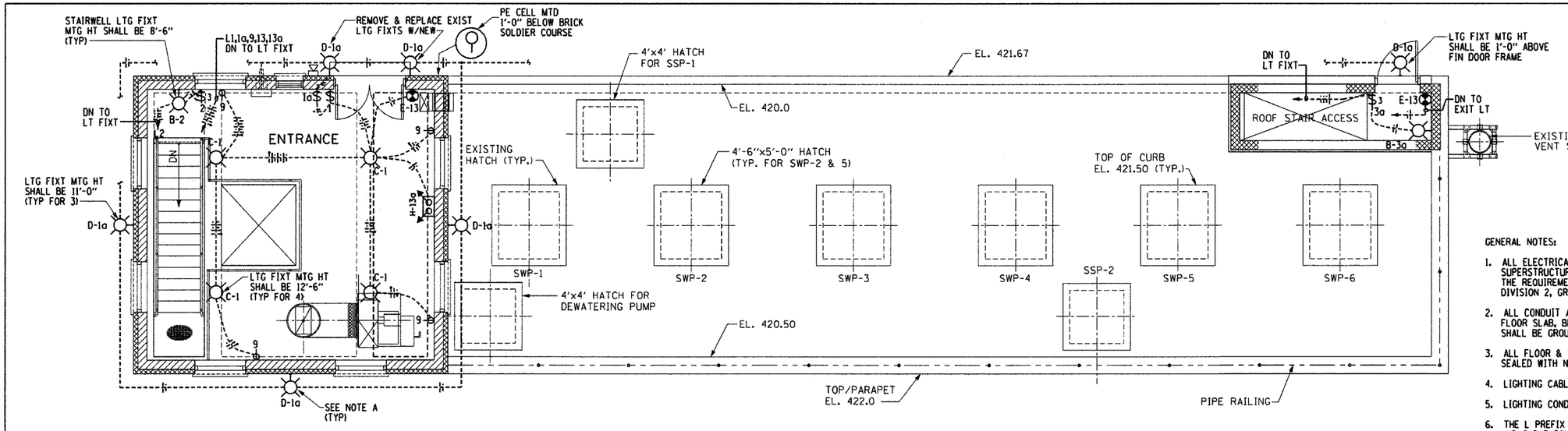
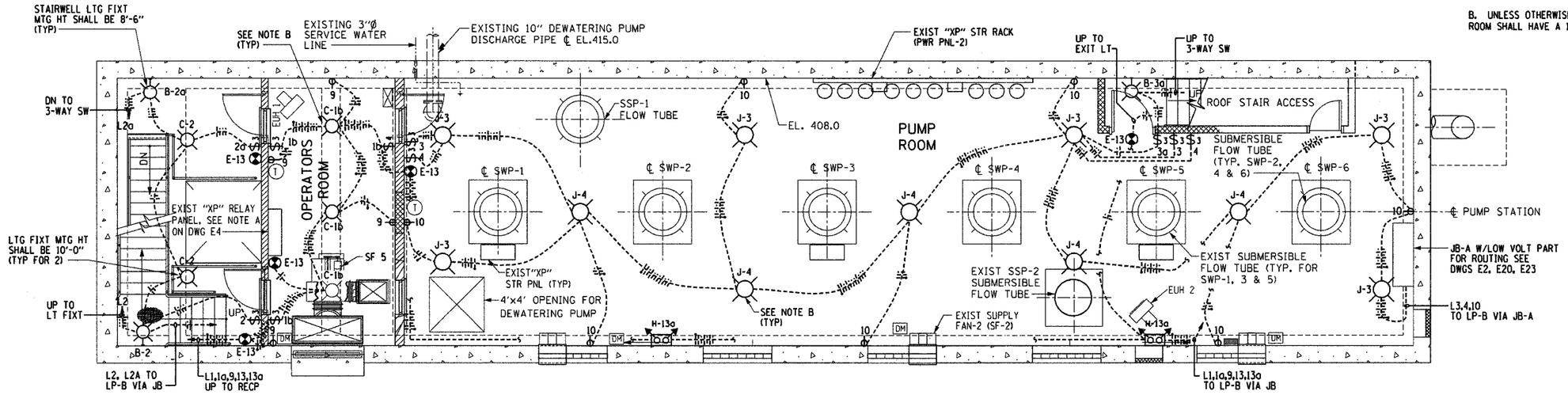
F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	66
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



PLAN @ EL. 422.0

GENERAL NOTES:

1. ALL ELECTRICAL INSTALLATION IN THE PUMP STATION INCLUDING SUPERSTRUCTURE, LOWER LEVELS AND STAIRWELLS, SHALL MEET THE REQUIREMENTS OF NEC HAZARDOUS LOCATION-CLASS 1, DIVISION 2, GROUP D.
2. ALL CONDUIT AND PIPE PENETRATIONS, THROUGH WALL AND/OR FLOOR SLAB, BETWEEN HAZARDOUS AND/OR NON-HAZARDOUS AREAS SHALL BE GROUTED GAS TIGHT.
3. ALL FLOOR & WALL PENETRATIONS SHALL BE CORE DRILLED & SEALED WITH NON-SHRINK GROUT.
4. LIGHTING CABLES MINIMUM SIZE SHALLL BE #12 AWG, SOLID.
5. LIGHTING CONDUIT MINIMUM SIZE SHALL BE ¾".
6. THE L PREFIX AS IN L3, L4, ETC. DESIGNATES CONDUIT AND CABLE ROUTED TO LIGHTING PANEL B IN ELECTRICAL CONTROL/GENERATOR BUILDING



PLAN @ EL. 408.0

NOTES:

A. CONDUIT SHOWN ON BUILDING EXTERIOR FOR CKT 1a SHALL BE ROUTED AS CONCEALED TYPE. THE WALL MOUNTED LIGHTING FIXTURES SHALL HAVE RECESSED TYPE JUNCTION BOXES

B. UNLESS OTHERWISE NOTED LTG FIXTS IN OPERATORS ROOM & PUMP ROOM SHALL HAVE A 10'-0" MOUNTING HEIGHT

0' 2' 4' 8'
SCALE: 1"= 4'

E24

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

LIGHTING PLANS SHEET 1

SCALE: AS SHOWN — DRAWN BY: RRA

DATE: 09-12-05 — CHECKED BY: KCC

PLOT DATE: •DATE-TIME•

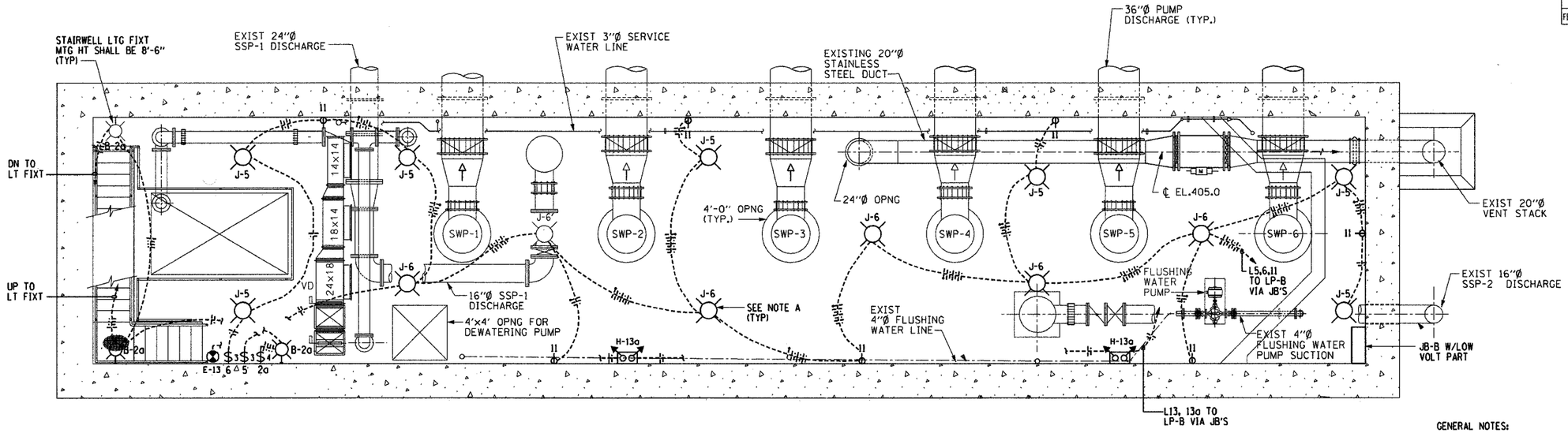
ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

PLAN — SURVEYED — DRAWN — ALIGNMENT CHECKED — QUANT. CHECKED — NOTE BOOK — CADD FILE NAME — DATE — BY

$RDATE$
•DATE-TIME•
•DGN-SPEC•
•XREF•
•REF•

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	67
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

PLAN — SURVEYED ____ DATE ____ NOTE BOOK ____ AS COMMENT CHECKED BY OF MAN. CHECKED NO. ____ ROAD FILE NAME ____ DATE BY



DISCHARGE FLOOR PLAN @ EL. 393.7

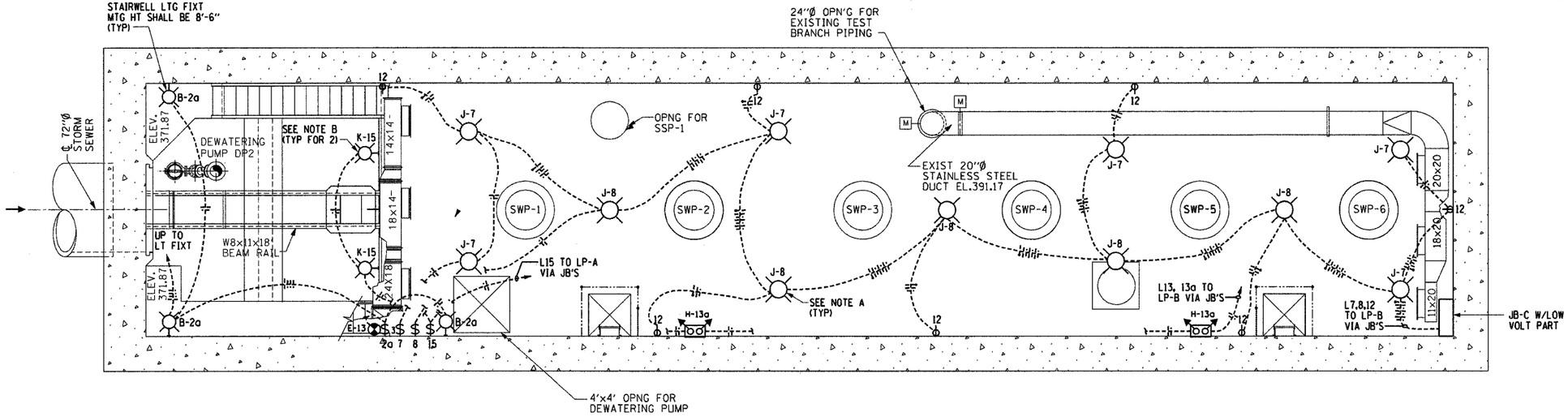
GENERAL NOTES:

1. SEE GENERAL NOTES ON DWG E24

NOTES:

A. UNLESS OTHERWISE NOTED LTG FIXTS IN DISCHARGE FLOOR & INTERMEDIATE FLOOR SHALL HAVE A 10'-0" MOUNTING HEIGHT

B. LIGHTING FIXTURES SHALL BE MTD ADJACENT TO EXISTING HANDRAIL ON A UNISTRUT FRAMING SYSTEM



INTERMEDIATE FLOOR PLAN @ EL. 380.0

0' 2' 4' 8'
SCALE: 1"= 4'

E25

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

LIGHTING PLANS SHEET 2

SCALE: AS SHOWN — DRAWN BY: RRA

DATE: 09-12-05 — CHECKED BY: KCC

PLOT DATE: •DATE-TIME•

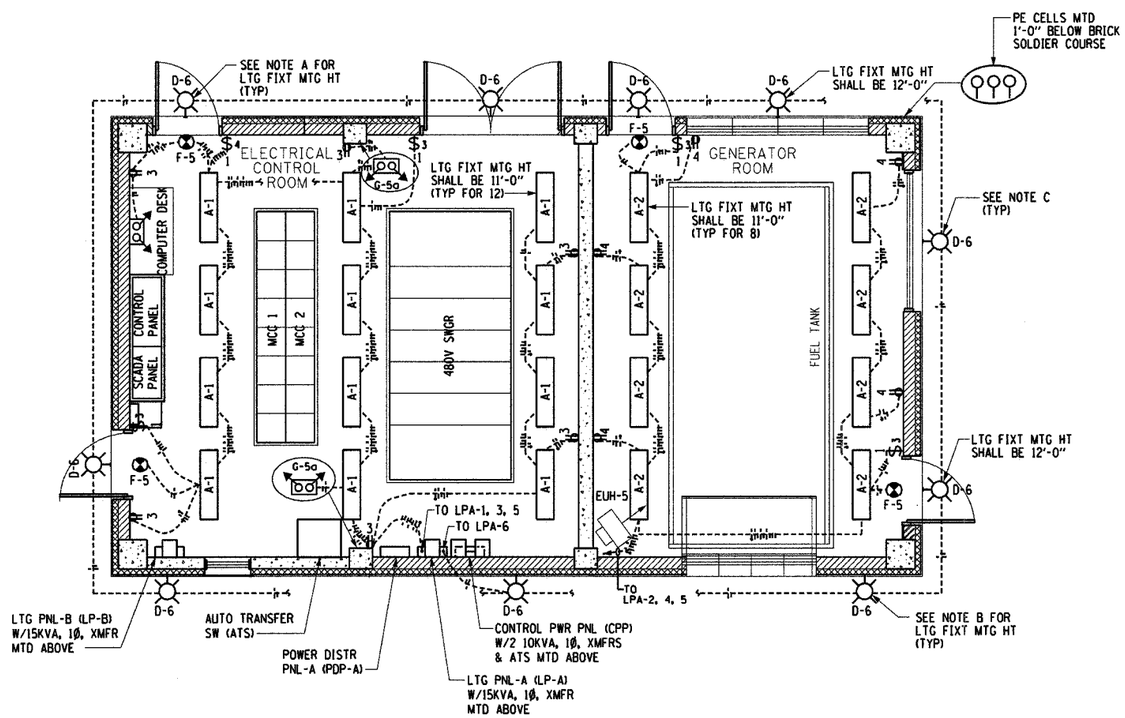
ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

$$DATE:#$$
•DATE-TIME•
•DGN-SPEC•
•DGN•
•REF•

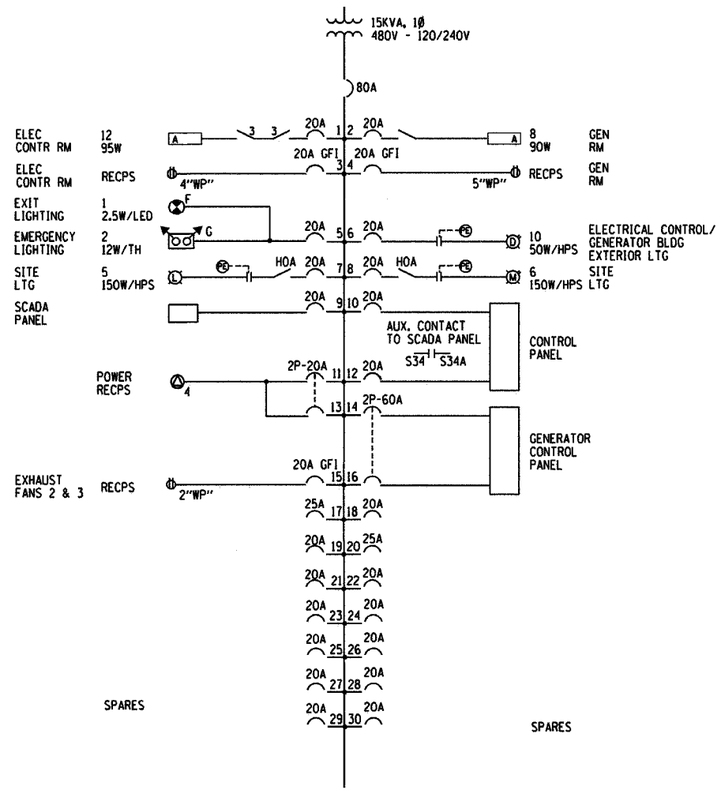
F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	68
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

PLAN — SURVEYED — BY — DATE
PLOTTED
ALIGNMENT CHECKED
R.T. OF WAY CHECKED
NOTE BOOK
NO.____
CAD FILE NAME

N



ELECTRICAL CONTROL/GENERATOR BUILDING LIGHTING PLAN



LIGHTING PANEL A (LP-A)

120/240V, 1Ø, 3W, 80A MB, S/N
ELECTRICAL CONTROL ROOM

GENERAL NOTES:

1. ALL ELECTRICAL INSTALLATION IN THE ELECTRICAL CONTROL/ GENERATOR BUILDING SHALL BE NON-HAZARDOUS.
2. ALL FLOOR & WALL PENETRATIONS SHALL BE CORE DRILLED & SEALED WITH NON-SHRINK GROUT.
3. LIGHTING CABLES MINIMUM SIZE SHALLL BE #12 AWG, SOLID.
4. LIGHTING CONDUIT MINIMUM SIZE SHALL BE ¾".

NOTES:

A. LIGHTING FIXTURE MOUNTING HEIGHT ON NORTH, EAST AND WEST BUILDING FACES SHALL BE 9'-0" UNLESS OTHERWISE NOTED

B. LIGHTING FIXTURE MOUNTING HEIGHT ON SOUTH BUILDING FACE SHALL BE 12'-0" UNLESS OTHERWISE NOTED

C. CONDUIT SHOWN ON BUILDING EXTERIOR FOR CKT 6 SHALL BE ROUTED AS CONCEALED TYPE. THE WALL MOUNTED LIGHTING FIXTURES SHALL HAVE RECESSED TYPE JUNCTION BOXES

0' 2' 3' 8'
SCALE: 1"= 3'

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

E26

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

LIGHTING PLANS SHEET 3

SCALE: AS SHOWN — DRAWN BY: RRA
DATE: 09-12-05 — CHECKED BY: KCC

PLOT DATE: *DATE-TIME*

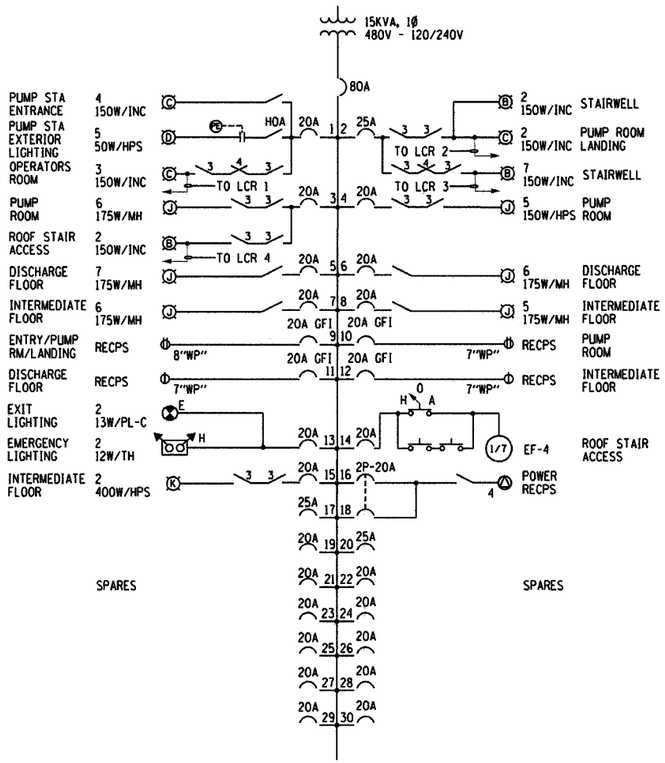
*$DATE$
DATE-TIME
DGN-SPEC
RES
REF

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	69
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

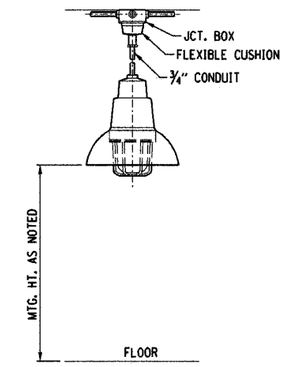
PLAN — SURVEYED / PLOTTED / ALIGNMENT CHECKED / P.I. OF R/W CHECKED / CADD FILE NAME / NOTE BOOK / NO. ____ / BY / DATE

LIGHTING FIXTURE SCHEDULE

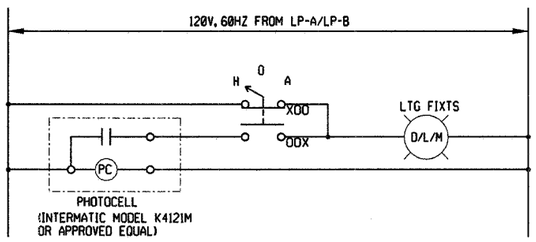
TYPE	LAMPS	MOUNTING	DESCRIPTION
A	3 F32CW/RS	PENDANT	COLUMBIA PREMIUM INDUSTRIAL LTG. FIXT. W/PORCELAIN REFLECTOR CAT. NO. KL4-332-PR-3EB8120 OR APPROVED EQUAL
B	1 150W/A21	WALL	APPLETON LTG. FIXT. V-51 SERIES W/GUARD CAT. NO. JBW10-G OR APPROVED EQUAL
C	1 150W/A21	PENDANT	APPLETON LTG. FIXT. V-51 SERIES CAT. NO. VA1075G W/ALUMINUM GUARD CAT. NO. VGU-1 AND DOME CAT. NO. VRW-1 OR APPROVED EQUAL
D	1 50W/HPS/B-17	WALL	KIM SW SERIES WALL MOUNTED DOWNLIGHT W/LEXAN LENS CAT. NO. SWI-50HPS120-DB-P OR APPROVED EQUAL
E	2 13W/PL-C	WALL	APPLETON MERCMASTER III EMERGENCY BATTERY PACK LTG. FIXT. CAT. NO. KPWF26C2G2N12L W/3 WAY EXIT SIGN CAT. NO. CJEXRN OR APPROVED EQUAL
F	1 2.5W/LED	WALL	HOLOPHANE MAGELLAN LD LED EXIT SIGN W/NI-CAD BATTERY CAT. NO. MOTELNCWSRSC OR APPROVED EQUAL
G	2 PAR-36/12W/T	WALL	HOLOPHANE DE SOTO M5O INDUSTRIAL EMERGENCY LTG. FIXT. W/NI-CAD BATTERY CAT. NO. DM5N5OTNO2 OR APPROVED EQUAL
H	2 PAR-36/12W/T	WALL	HOLOPHANE DE SOTO M7O HAZARDOUS AREA EMERGENCY LTG. FIXT. W/NI-CAD BATTERY CAT. NO. DM7N5OTNE2 OR APPROVED EQUAL
J	1 175W/MH/ED28	PENDANT	APPLETON MERCMASTER III SERIES LTG. FIXT. WITH ENCLOSED GLOBE, GUARD AND SMART HOT RESTRIKE CAT NO. KPAH1775G-MT-SR WITH STANDARD DOME CAT. NO. KR2ST OR APPROVED EQUAL
K	1 400W/HPS/S51	WALL	COOPER CROUSE-HINDS YOKE MOUNTED FMV CHAMP FLOODLIGHT CAT. NO. FMVSY400/MT-76 W/SLIPFITTER CAT. NO. SFA6, WALL BRACKET CAT. NO. SWB6 & 30" FLEXIBLE CONNECTION TYPE CGB
L	1 400W/HPS/S51	WALL	COOPER CROUSE-HINDS YOKE MOUNTED FMV CHAMP FLOODLIGHT CAT. NO. FMVSY400/MT-76 W/SLIPFITTER CAT. NO. SFA6
M	1 400W/HPS/S51	4" SQUARE POLE	RUUD WEDGE LIGHT WAC SERIES W/TYPE IV OPTICS, PE CELL, BZ COLORED CAT. NO. WAC-2594-1P W/STL POLE CAT. NO. PS4S30S-1-BZ



LIGHTING PANEL B (LP-B)
120/240V, 1Ø, 3W, 80A MB, S/N
ELECTRICAL CONTROL ROOM



TYPICAL PENDANT FIXTURE MOUNTING
(NOT TO SCALE)



EXTERIOR/SITE LIGHTING CONTROL SCHEMATIC

E27

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

LIGHTING PANEL & DETAILS

SCALE: AS SHOWN — DRAWN BY: RRA
DATE: 09-12-05 — CHECKED BY: KCC

PLOT DATE: *DATE-TIME*

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

*SCALE:1:1
DATE-TIME
DGN-SPEC
*REF-
*REF-

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)1T-17	ST. CLAIR	77	70
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

MCC UNIT A3 STORM WATER PUMP 1 STARTER TERMINAL CONNECTIONS

TERMINAL NO.	WIRE NO.	INPUT ORIGINATION	DESCRIPTION OF INPUT
MA3-39	MA3-39	SWP1 CONTROL TERM. BOX	MOTOR MOISTURE SENSOR
MA3-40	MA3-40	SWP1 CONTROL TERM. BOX	MOTOR MOISTURE SENSOR
MA3-41	MA3-41	SWP1 CONTROL TERM. BOX	MOTOR TEMP SENSOR
MA3-42	MA3-42	SWP1 CONTROL TERM. BOX	MOTOR TEMP SENSOR
MA3-43	MA3-46	SWP1 CONTROL TERM. BOX	BEARING TEMP RTD
MA3-44	MA3-47	SWP1 CONTROL TERM. BOX	BEARING TEMP RTD
MA3-43	MA3-48	SWP1 CONTROL TERM. BOX	FLOAT SWITCH
MA3-44	MA3-49	SWP1 CONTROL TERM. BOX	FLOAT SWITCH
MA3-6	MA3-6	SWP1 DISCONNECT SWITCH	SAFETY INTERLOCK
MA3-8	MA3-8	SWP1 DISCONNECT SWITCH	SAFETY INTERLOCK
MA3-7	MA3-7	SWP1 LOCAL PB STATION	START PUSH BUTTON
MA3-10	MA3-10	SWP1 LOCAL PB STATION	START PUSH BUTTON
MA3-12	MA3-12	SWP1 LOCAL PB STATION	STOP PUSH BUTTON
MA3-12A	MA3-12A	SWP1 LOCAL PB STATION	STOP PUSH BUTTON
MA3-7	MA3-7	CP-DO-4B	FLOAT PUMP CALL
MA3-14	MA3-14	CP-DO-4A	FLOAT PUMP CALL
MA3-7	MA3-7	SP-DO-P1	SCADA PUMP CALL
MA3-14	MA3-14	SP-DO-P1X	SCADA PUMP CALL

TERMINAL NO.	WIRE NO.	OUTPUT DESTINATION	DESCRIPTION OF OUTPUT
MA3-7	MA3-7	SWP1 LOCAL PB STATION	PUMP CALL LIGHT
MA3-X2	MA3-X2	SWP1 LOCAL PB STATION	PUMP CALL LIGHT
MA3-8	MA3-6	SWP1 LOCAL PB STATION	PUMP CALL LIGHT
MA3-24	MA3-24	SWP1 LOCAL PB STATION	PUMP RUN LIGHT
MA3-X2	MA3-X2	SWP1 LOCAL PB STATION	PUMP RUN LIGHT
MA3-8	MA3-6	SWP1 LOCAL PB STATION	PUMP RUN LIGHT
MA3-2	MA3-2	MA3-2	STARTER CONTACT NO
MA3-2A	MA3-2A	MA3-2A	STARTER CONTACT NO
MA3-3	CP-181	CP-DI-181	STARTER CONTACT NO
MA3-3A	CP-181A	CP-DI-181A	STARTER CONTACT NO
MA3-4	CP-1	CP-DI-1	STARTER CONTACT NC
MA3-4A	CP-49	CP-DI-49	STARTER CONTACT NC
MA3-5B	CP-418	CP-DI-418	STARTER CONTACT NC
MA3-5C	CP-418A	CP-DI-418A	STARTER CONTACT NC
MA3-22A	CP-1	CP-DI-1	MOTOR OVERLOAD
MA3-22B	CP-262A	CP-DI-262A	MOTOR OVERLOAD
MA3-57	CP-280	CP-DI-280	STORM WATER PUMP 1 ALARM
MA3-57A	CP-281	CP-DI-281	STORM WATER PUMP 1 ALARM
MA3-O	SP-S16	SP-DI-S16	BREAKER OPEN
MA3-OA	SP-S16C	SP-DI-S16C	BREAKER OPEN
MA3-1D	SP-S6	SP-DI-S6	STARTER CONTACT NO
MA3-1E	SP-S6C	SP-DI-S6C	STARTER CONTACT NO
MA3-15	SP-S1	SP-DI-S1	S. W. PUMP 1 NOT IN AUTO
MA3-15A	SP-S1C	SP-DI-S1C	S. W. PUMP 1 NOT IN AUTO
MA3-57	SP-S71	SP-DI-S71	S. W. PUMP 1 MOTOR HIGH TEMP
MA3-57A	SP-S71C	SP-DI-S71C	S. W. PUMP 1 MOTOR HIGH TEMP
MA3-58	SP-S71	SP-DI-S71	S. W. PUMP 1 MOTOR HI-MOIST
MA3-58A	SP-S71C	SP-DI-S71C	S. W. PUMP 1 MOTOR HI-MOIST
MA3-59	SP-S71	SP-DI-S71	S. W. PUMP 1 BRG HI TEMP
MA3-59A	SP-S71C	SP-DI-S71C	S. W. PUMP 1 BRG HI TEMP
MA3-60	SP-S71	SP-DI-S71	STORM WATER PUMP 1 BRG LEAK
MA3-60A	SP-S71C	SP-DI-S71C	STORM WATER PUMP 1 BRG LEAK

MCC UNIT B3 STORM WATER PUMP 2 STARTER TERMINAL CONNECTIONS

TERMINAL NO.	WIRE NO.	INPUT ORIGINATION	DESCRIPTION OF INPUT
MB3-39	MB3-39	SWP2 CONTROL TERM. BOX	MOTOR MOISTURE SENSOR
MB3-40	MB3-40	SWP2 CONTROL TERM. BOX	MOTOR MOISTURE SENSOR
MB3-41	MB3-41	SWP2 CONTROL TERM. BOX	MOTOR TEMP SENSOR
MB3-42	MB3-42	SWP2 CONTROL TERM. BOX	MOTOR TEMP SENSOR
MB3-43	MB3-46	SWP2 CONTROL TERM. BOX	BEARING TEMP RTD
MB3-44	MB3-47	SWP2 CONTROL TERM. BOX	BEARING TEMP RTD
MB3-43	MB3-48	SWP2 CONTROL TERM. BOX	FLOAT SWITCH
MB3-44	MB3-49	SWP2 CONTROL TERM. BOX	FLOAT SWITCH
MB3-6	MB3-6	SWP2 DISCONNECT SWITCH	SAFETY INTERLOCK
MB3-8	MB3-8	SWP2 DISCONNECT SWITCH	SAFETY INTERLOCK
MB3-7	MB3-7	SWP2 LOCAL PB STATION	START PUSH BUTTON
MB3-10	MB3-10	SWP2 LOCAL PB STATION	START PUSH BUTTON
MB3-12	MB3-12	SWP2 LOCAL PB STATION	STOP PUSH BUTTON
MB3-12A	MB3-12A	SWP2 LOCAL PB STATION	STOP PUSH BUTTON
MB3-7	MB3-7	CP-DO-4B	FLOAT PUMP CALL
MB3-14	MB3-14	CP-DO-4A	FLOAT PUMP CALL
MB3-7	MB3-7	SP-DO-P1	SCADA PUMP CALL
MB3-14	MB3-14	SP-DO-P1X	SCADA PUMP CALL

TERMINAL NO.	WIRE NO.	OUTPUT DESTINATION	DESCRIPTION OF OUTPUT
MB3-7	MB3-7	SWP2 LOCAL PB STATION	PUMP CALL LIGHT
MB3-X2	MB3-X2	SWP2 LOCAL PB STATION	PUMP CALL LIGHT
MB3-8	MB3-6	SWP2 LOCAL PB STATION	PUMP CALL LIGHT
MB3-24	MB3-24	SWP2 LOCAL PB STATION	PUMP RUN LIGHT
MB3-X2	MB3-X2	SWP2 LOCAL PB STATION	PUMP RUN LIGHT
MB3-8	MB3-6	SWP2 LOCAL PB STATION	PUMP RUN LIGHT
MB3-2	MB3-2	MB3-2	STARTER CONTACT NO
MB3-2A	MB3-2A	MB3-2A	STARTER CONTACT NO
MB3-3	CP-181	CP-DI-181	STARTER CONTACT NO
MB3-3A	CP-181A	CP-DI-181A	STARTER CONTACT NO
MB3-4	CP-1	CP-DI-1	STARTER CONTACT NC
MB3-4A	CP-49	CP-DI-49	STARTER CONTACT NC
MB3-5B	CP-418	CP-DI-418	STARTER CONTACT NC
MB3-5C	CP-418A	CP-DI-418A	STARTER CONTACT NC
MB3-22A	CP-1	CP-DI-1	MOTOR OVERLOAD
MB3-22B	CP-262A	CP-DI-262A	MOTOR OVERLOAD
MB3-57	CP-280	CP-DI-280	STORM WATER PUMP 2 ALARM
MB3-57A	CP-281	CP-DI-281	STORM WATER PUMP 2 ALARM
MB3-O	SP-S16	SP-DI-S16	BREAKER OPEN
MB3-OA	SP-S16C	SP-DI-S16C	BREAKER OPEN
MB3-1D	SP-S6	SP-DI-S6	STARTER CONTACT NO
MB3-1E	SP-S6C	SP-DI-S6C	STARTER CONTACT NO
MB3-15	SP-S1	SP-DI-S1	S. W. PUMP 2 NOT IN AUTO
MB3-15A	SP-S1C	SP-DI-S1C	S. W. PUMP 2 NOT IN AUTO
MB3-57	SP-S71	SP-DI-S71	S. W. PUMP 2 MOTOR HIGH TEMP
MB3-57A	SP-S71C	SP-DI-S71C	S. W. PUMP 2 MOTOR HIGH TEMP
MB3-58	SP-S71	SP-DI-S71	S. W. PUMP 2 MOTOR HI-MOIST
MB3-58A	SP-S71C	SP-DI-S71C	S. W. PUMP 2 MOTOR HI-MOIST
MB3-59	SP-S71	SP-DI-S71	S. W. PUMP 2 BRG HI TEMP
MB3-59A	SP-S71C	SP-DI-S71C	S. W. PUMP 2 BRG HI TEMP
MB3-60	SP-S71	SP-DI-S71	STORM WATER PUMP 2 BRG LEAK
MB3-60A	SP-S71C	SP-DI-S71C	STORM WATER PUMP 2 BRG LEAK

MCC UNIT A4 STORM WATER PUMP 3 STARTER TERMINAL CONNECTIONS

TERMINAL NO.	WIRE NO.	INPUT ORIGINATION	DESCRIPTION OF INPUT
MA4-39	MA4-39	SWP3 CONTROL TERM. BOX	MOTOR MOISTURE SENSOR
MA4-40	MA4-40	SWP3 CONTROL TERM. BOX	MOTOR MOISTURE SENSOR
MA4-41	MA4-41	SWP3 CONTROL TERM. BOX	MOTOR TEMP SENSOR
MA4-42	MA4-42	SWP3 CONTROL TERM. BOX	MOTOR TEMP SENSOR
MA4-43	MA4-46	SWP3 CONTROL TERM. BOX	BEARING TEMP RTD
MA4-44	MA4-47	SWP3 CONTROL TERM. BOX	BEARING TEMP RTD
MA4-43	MA4-48	SWP3 CONTROL TERM. BOX	FLOAT SWITCH
MA4-44	MA4-49	SWP3 CONTROL TERM. BOX	FLOAT SWITCH
MA4-6	MA4-6	SWP3 DISCONNECT SWITCH	SAFETY INTERLOCK
MA4-8	MA4-8	SWP3 DISCONNECT SWITCH	SAFETY INTERLOCK
MA4-7	MA4-7	SWP3 LOCAL PB STATION	START PUSH BUTTON
MA4-10	MA4-10	SWP3 LOCAL PB STATION	START PUSH BUTTON
MA4-12	MA4-12	SWP3 LOCAL PB STATION	STOP PUSH BUTTON
MA4-12A	MA4-12A	SWP3 LOCAL PB STATION	STOP PUSH BUTTON
MA4-7	MA4-7	CP-DO-4B	FLOAT PUMP CALL
MA4-14	MA4-14	CP-DO-4A	FLOAT PUMP CALL
MA4-7	MA4-7	SP-DO-P1	SCADA PUMP CALL
MA4-14	MA4-14	SP-DO-P1X	SCADA PUMP CALL

TERMINAL NO.	WIRE NO.	OUTPUT DESTINATION	DESCRIPTION OF OUTPUT
MA4-7	MA4-7	SWP3 LOCAL PB STATION	PUMP CALL LIGHT
MA4-X2	MA4-X2	SWP3 LOCAL PB STATION	PUMP CALL LIGHT
MA4-8	MA4-6	SWP3 LOCAL PB STATION	PUMP CALL LIGHT
MA4-24	MA4-24	SWP3 LOCAL PB STATION	PUMP RUN LIGHT
MA4-X2	MA4-X2	SWP3 LOCAL PB STATION	PUMP RUN LIGHT
MA4-8	MA4-6	SWP3 LOCAL PB STATION	PUMP RUN LIGHT
MA4-2	MA4-2	MA4-2	STARTER CONTACT NO
MA4-2A	MA4-2A	MA4-2A	STARTER CONTACT NO
MA4-3	CP-181	CP-DI-181	STARTER CONTACT NO
MA4-3A	CP-181A	CP-DI-181A	STARTER CONTACT NO
MA4-4	CP-1	CP-DI-1	STARTER CONTACT NC
MA4-4A	CP-49	CP-DI-49	STARTER CONTACT NC
MA4-5B	CP-418	CP-DI-418	STARTER CONTACT NC
MA4-5C	CP-418A	CP-DI-418A	STARTER CONTACT NC
MA4-22A	CP-1	CP-DI-1	MOTOR OVERLOAD
MA4-22B	CP-262A	CP-DI-262A	MOTOR OVERLOAD
MA4-57	CP-280	CP-DI-280	STORM WATER PUMP 3 ALARM
MA4-57A	CP-281	CP-DI-281	STORM WATER PUMP 3 ALARM
MA4-O	SP-S16	SP-DI-S16	BREAKER OPEN
MA4-OA	SP-S16C	SP-DI-S16C	BREAKER OPEN
MA4-1D	SP-S6	SP-DI-S6	STARTER CONTACT NO
MA4-1E	SP-S6C	SP-DI-S6C	STARTER CONTACT NO
MA4-15	SP-S1	SP-DI-S1	S. W. PUMP 3 NOT IN AUTO
MA4-15A	SP-S1C	SP-DI-S1C	S. W. PUMP 3 NOT IN AUTO
MA4-57	SP-S71	SP-DI-S71	S. W. PUMP 3 MOTOR HIGH TEMP
MA4-57A	SP-S71C	SP-DI-S71C	S. W. PUMP 3 MOTOR HIGH TEMP
MA4-58	SP-S71	SP-DI-S71	S. W. PUMP 3 MOTOR HI-MOIST
MA4-58A	SP-S71C	SP-DI-S71C	S. W. PUMP 3 MOTOR HI-MOIST
MA4-59	SP-S71	SP-DI-S71	S. W. PUMP 3 BRG HI TEMP
MA4-59A	SP-S71C	SP-DI-S71C	S. W. PUMP 3 BRG HI TEMP
MA4-60	SP-S71	SP-DI-S71	STORM WATER PUMP 3 BRG LEAK
MA4-60A	SP-S71C	SP-DI-S71C	STORM WATER PUMP 3 BRG LEAK

MCC UNIT B4 STORM WATER PUMP 4 STARTER TERMINAL CONNECTIONS

TERMINAL NO.	WIRE NO.	INPUT ORIGINATION	DESCRIPTION OF INPUT
MB4-39	MB4-39	SWP4 CONTROL TERM. BOX	MOTOR MOISTURE SENSOR
MB4-40	MB4-40	SWP4 CONTROL TERM. BOX	MOTOR MOISTURE SENSOR
MB4-41	MB4-41	SWP4 CONTROL TERM. BOX	MOTOR TEMP SENSOR
MB4-42	MB4-42	SWP4 CONTROL TERM. BOX	MOTOR TEMP SENSOR
MB4-43	MB4-46	SWP4 CONTROL TERM. BOX	BEARING TEMP RTD
MB4-44	MB4-47	SWP4 CONTROL TERM. BOX	BEARING TEMP RTD
MB4-43	MB4-48	SWP4 CONTROL TERM. BOX	FLOAT SWITCH
MB4-44	MB4-49	SWP4 CONTROL TERM. BOX	FLOAT SWITCH
MB4-6	MB4-6	SWP4 DISCONNECT SWITCH	SAFETY INTERLOCK
MB4-8	MB4-8	SWP4 DISCONNECT SWITCH	SAFETY INTERLOCK
MB4-7	MB4-7	SWP4 LOCAL PB STATION	START PUSH BUTTON
MB4-10	MB4-10	SWP4 LOCAL PB STATION	START PUSH BUTTON
MB4-12	MB4-12	SWP4 LOCAL PB STATION	STOP PUSH BUTTON
MB4-12A	MB4-12A	SWP4 LOCAL PB STATION	STOP PUSH BUTTON
MB4-7	MB4-7	CP-DO-4B	FLOAT PUMP CALL
MB4-14	MB4-14	CP-DO-4A	FLOAT PUMP CALL
MB4-7	MB4-7	SP-DO-P1	SCADA PUMP CALL
MB4-14	MB4-14	SP-DO-P1X	SCADA PUMP CALL

TERMINAL NO.	WIRE NO.	OUTPUT DESTINATION	DESCRIPTION OF OUTPUT
MB4-7	MB4-7	SWP4 LOCAL PB STATION	PUMP CALL LIGHT
MB4-X2	MB4-X2	SWP4 LOCAL PB STATION	PUMP CALL LIGHT
MB4-8	MB4-6	SWP4 LOCAL PB STATION	PUMP CALL LIGHT
MB4-24	MB4-24	SWP4 LOCAL PB STATION	PUMP RUN LIGHT
MB4-X2	MB4-X2	SWP4 LOCAL PB STATION	PUMP RUN LIGHT
MB4-8	MB4-6	SWP4 LOCAL PB STATION	PUMP RUN LIGHT
MB4-2	MB4-2	MB4-2	STARTER CONTACT NO
MB4-2A	MB4-2A	MB4-2A	STARTER CONTACT NO
MB4-3	CP-181	CP-DI-181	STARTER CONTACT NO
MB4-3A	CP-181A	CP-DI-181A	STARTER CONTACT NO
MB4-4	CP-1	CP-DI-1	STARTER CONTACT NC
MB4-4A	CP-49	CP-DI-49	STARTER CONTACT NC
MB4-5B	CP-418	CP-DI-418	STARTER CONTACT NC
MB4-5C	CP-418A	CP-DI-418A	STARTER CONTACT NC
MB4-22A	CP-1	CP-DI-1	MOTOR OVERLOAD
MB4-22B	CP-262A	CP-DI-262A	MOTOR OVERLOAD
MB4-57	CP-280	CP-DI-280	STORM WATER PUMP 4 ALARM
MB4-57A	CP-281	CP-DI-281	STORM WATER PUMP 4 ALARM
MB4-O	SP-S16	SP-DI-S16	BREAKER OPEN
MB4-OA	SP-S16C	SP-DI-S16C	BREAKER OPEN
MB4-1D	SP-S6	SP-DI-S6	STARTER CONTACT NO
MB4-1E	SP-S6C	SP-DI-S6C	STARTER CONTACT NO
MB4-15	SP-S1	SP-DI-S1	S. W. PUMP 4 NOT IN AUTO
MB4-15A	SP-S1C	SP-DI-S1C	S. W. PUMP 4 NOT IN AUTO
MB4-57	SP-S71	SP-DI-S71	S. W. PUMP 4 MOTOR HIGH TEMP
MB4-57A	SP-S71C	SP-DI-S71C	S. W. PUMP 4 MOTOR HIGH TEMP
MB4-58	SP-S71	SP-DI-S71	S. W. PUMP 4 MOTOR HI-MOIST
MB4-58A	SP-S71C	SP-DI-S71C	S. W. PUMP 4 MOTOR HI-MOIST
MB4-59	SP-S71	SP-DI-S71	S. W. PUMP 4 BRG HI TEMP
MB4-59A	SP-S71C	SP-DI-S71C	S. W. PUMP 4 BRG HI TEMP
MB4-60	SP-S71	SP-DI-S71	STORM WATER PUMP 4 BRG LEAK
MB4-60A	SP-S71C	SP-DI-S71C	STORM WATER PUMP 4 BRG LEAK

PLAN | SURVEYED | PLOTTED | AUTHORIZED | NOTE BOOK | R.T. OF WAY CHECKED | NO. | CADD FILE NAME | BY | DATE

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

E28

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

MCC TERMINAL SCHEDULE SHEET 1

SCALE: AS SHOWN DRAWN BY: LMJ

DATE: 09-12-05 CHECKED BY: KCC

PLOT DATE: *DATE-TIME*

BOATER *DATE-TIME* *DGN-SPEC* *DGN* *REF* *REF*

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)1T-17	ST. CLAIR	77	71
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

MCC UNIT A5 STORM WATER PUMP 5 STARTER TERMINAL CONNECTIONS

TERMINAL NO.	WIRE NO.	INPUT ORIGINATION	DESCRIPTION OF INPUT
MA5-39	MA5-39	SWP5 CONTROL TERM. BOX	MOTOR MOISTURE SENSOR
MA5-40	MA5-40	SWP5 CONTROL TERM. BOX	MOTOR MOISTURE SENSOR
MA5-41	MA5-41	SWP5 CONTROL TERM. BOX	MOTOR TEMP SENSOR
MA5-42	MA5-42	SWP5 CONTROL TERM. BOX	MOTOR TEMP SENSOR
MA5-43	MA5-46	SWP5 CONTROL TERM. BOX	BEARING TEMP RTD
MA5-44	MA5-47	SWP5 CONTROL TERM. BOX	BEARING TEMP RTD
MA5-43	MA5-48	SWP5 CONTROL TERM. BOX	FLOAT SWITCH
MA5-44	MA5-49	SWP5 CONTROL TERM. BOX	FLOAT SWITCH
MA5-6	MA5-6	SWP5 DISCONNECT SWITCH	SAFETY INTERLOCK
MA5-8	MA5-8	SWP5 DISCONNECT SWITCH	SAFETY INTERLOCK
MA5-7	MA5-7	SWP5 LOCAL PB STATION	START PUSH BUTTON
MA5-10	MA5-10	SWP5 LOCAL PB STATION	START PUSH BUTTON
MA5-12	MA5-12	SWP5 LOCAL PB STATION	STOP PUSH BUTTON
MA5-12A	MA5-12A	SWP5 LOCAL PB STATION	STOP PUSH BUTTON
MA5-7	MA5-7	CP-DO-4B	FLOAT PUMP CALL
MA5-14	MA5-14	CP-DO-4A	FLOAT PUMP CALL
MA5-7	MA5-7	SP-DO-P1	SCADA PUMP CALL
MA5-14	MA5-14	SP-DO-P1X	SCADA PUMP CALL

TERMINAL NO.	WIRE NO.	OUTPUT DESTINATION	DESCRIPTION OF OUTPUT
MA5-7	MA5-7	SWP5 LOCAL PB STATION	PUMP CALL LIGHT
MA5-X2	MA5-X2	SWP5 LOCAL PB STATION	PUMP CALL LIGHT
MA5-8	MA5-6	SWP5 LOCAL PB STATION	PUMP CALL LIGHT
MA5-24	MA5-24	SWP5 LOCAL PB STATION	PUMP RUN LIGHT
MA5-X2	MA5-X2	SWP5 LOCAL PB STATION	PUMP RUN LIGHT
MA5-8	MA5-6	SWP5 LOCAL PB STATION	PUMP RUN LIGHT
MA5-2	MA5-2	MA5-2	STARTER CONTACT NO
MA5-2A	MA5-2A	MA5-2A	STARTER CONTACT NO
MA5-3	CP-181	CP-DI-181	STARTER CONTACT NO
MA5-3A	CP-181A	CP-DI-181A	STARTER CONTACT NO
MA5-4	CP-1	CP-DI-1	STARTER CONTACT NC
MA5-4A	CP-49	CP-DI-49	STARTER CONTACT NC
MA5-5B	CP-418	CP-DI-418	STARTER CONTACT NC
MA5-5C	CP-418A	CP-DI-418A	STARTER CONTACT NC
MA5-22A	CP-1	CP-DI-1	MOTOR OVERLOAD
MA5-22B	CP-262A	CP-DI-262A	MOTOR OVERLOAD
MA5-57	CP-280	CP-DI-280	STORM WATER PUMP 5 ALARM
MA5-57A	CP-281	CP-DI-281	STORM WATER PUMP 5 ALARM
MA5-0	SP-S16	SP-DI-S16	BREAKER OPEN
MA5-0A	SP-S16C	SP-DI-S16C	BREAKER OPEN
MA5-1D	SP-S6	SP-DI-S6	STARTER CONTACT NO
MA5-1E	SP-S6C	SP-DI-S6C	STARTER CONTACT NO
MA5-15	SP-S1	SP-DI-S1	S. W. PUMP 5 NOT IN AUTO
MA5-15A	SP-S1C	SP-DI-S1C	S. W. PUMP 5 NOT IN AUTO
MA5-57	SP-S71	SP-DI-S71	S. W. PUMP 5 MOTOR HIGH TEMP
MA5-57A	SP-S71C	SP-DI-S71C	S. W. PUMP 5 MOTOR HIGH TEMP
MA5-58	SP-S71	SP-DI-S71	S. W. PUMP 5 MOTOR HI-MOIST
MA5-58A	SP-S71C	SP-DI-S71C	S. W. PUMP 5 MOTOR HI-MOIST
MA5-59	SP-S71	SP-DI-S71	S. W. PUMP 5 BRG HI TEMP
MA5-59A	SP-S71C	SP-DI-S71C	S. W. PUMP 5 BRG HI TEMP
MA5-60	SP-S71	SP-DI-S71	STORM WATER PUMP 5 BRG LEAK
MA5-60A	SP-S71C	SP-DI-S71C	STORM WATER PUMP 5 BRG LEAK

MCC UNIT B5 STORM WATER PUMP 6 STARTER TERMINAL CONNECTIONS

TERMINAL NO.	WIRE NO.	INPUT ORIGINATION	DESCRIPTION OF INPUT
MB5-39	MB5-39	SWP6 CONTROL TERM. BOX	MOTOR MOISTURE SENSOR
MB5-40	MB5-40	SWP6 CONTROL TERM. BOX	MOTOR MOISTURE SENSOR
MB5-41	MB5-41	SWP6 CONTROL TERM. BOX	MOTOR TEMP SENSOR
MB5-42	MB5-42	SWP6 CONTROL TERM. BOX	MOTOR TEMP SENSOR
MB5-43	MB5-46	SWP6 CONTROL TERM. BOX	BEARING TEMP SENSOR
MB5-44	MB5-47	SWP6 CONTROL TERM. BOX	BEARING TEMP SENSOR
MB5-6	MB5-6	SWP6 DISCONNECT SWITCH	SAFETY INTERLOCK
MB5-8	MB5-8	SWP6 DISCONNECT SWITCH	SAFETY INTERLOCK
MB5-7	MB5-7	SWP6 LOCAL PB STATION	START PUSH BUTTON
MB5-10	MB5-10	SWP6 LOCAL PB STATION	START PUSH BUTTON
MB5-12	MB5-12	SWP6 LOCAL PB STATION	STOP PUSH BUTTON
MB5-12A	MB5-12A	SWP6 LOCAL PB STATION	STOP PUSH BUTTON
MB5-7	MB5-7	CP-DO-4B	FLOAT PUMP CALL
MB5-14	MB5-14	CP-DO-4A	FLOAT PUMP CALL
MB5-7	MB5-7	SP-DO-P1	SCADA PUMP CALL
MB5-14	MB5-14	SP-DO-P1X	SCADA PUMP CALL

TERMINAL NO.	WIRE NO.	OUTPUT DESTINATION	DESCRIPTION OF OUTPUT
MB5-7	MB5-7	SWP6 LOCAL PB STATION	PUMP CALL LIGHT
MB5-X2	MB5-X2	SWP6 LOCAL PB STATION	PUMP CALL LIGHT
MB5-8	MB5-8	SWP6 LOCAL PB STATION	PUMP CALL LIGHT
MB5-24	MB5-24	SWP6 LOCAL PB STATION	PUMP RUN LIGHT
MB5-X2	MB5-X2	SWP6 LOCAL PB STATION	PUMP RUN LIGHT
MB5-8	MB5-8	SWP6 LOCAL PB STATION	PUMP RUN LIGHT
MB5-2	MB5-2	MB5-2	STARTER CONTACT NO
MB5-2A	MB5-2A	MB5-2A	STARTER CONTACT NO
MB5-3	CP-181	CP-DI-181	STARTER CONTACT NO
MB5-3A	CP-181A	CP-DI-181A	STARTER CONTACT NO
MB5-4	CP-1	CP-DI-1	STARTER CONTACT NC
MB5-4A	CP-49	CP-DI-49	STARTER CONTACT NC
MB5-5B	CP-418	CP-DI-418	STARTER CONTACT NC
MB5-5C	CP-418A	CP-DI-418A	STARTER CONTACT NC
MB5-22A	CP-1	CP-DI-1	MOTOR OVERLOAD
MB5-22B	CP-262A	CP-DI-262A	MOTOR OVERLOAD
MB5-40A	CP-280	CP-DI-280	STORM WATER PUMP 6 ALARM
MB5-40B	CP-281	CP-DI-281	STORM WATER PUMP 6 ALARM
MB5-0	SP-S16	SP-DI-S16	BREAKER OPEN
MB5-0A	SP-S16C	SP-DI-S16C	BREAKER OPEN
MB5-1D	SP-S6	SP-DI-S6	STARTER CONTACT NO
MB5-1E	SP-S6C	SP-DI-S6C	STARTER CONTACT NO
MB5-15	SP-S1	SP-DI-S1	S. W. PUMP 6 NOT IN AUTO
MB5-15A	SP-S1C	SP-DI-S1C	S. W. PUMP 6 NOT IN AUTO
MB5-44A	SP-S71	SP-DI-S71	STORM WATER PUMP 6 ALARM
MB5-44B	SP-S71C	SP-DI-S71C	STORM WATER PUMP 6 ALARM

MCC UNIT A6 STATION SUMP PUMP 1 STARTER TERMINAL CONNECTIONS

TERMINAL NO.	WIRE NO.	INPUT ORIGINATION	DESCRIPTION OF INPUT
MA6-39	MA6-39	SSP1 CONTROL TERM. BOX	MOTOR MOISTURE SENSOR
MA6-40	MA6-40	SSP1 CONTROL TERM. BOX	MOTOR MOISTURE SENSOR
MA6-41	MA6-41	SSP1 CONTROL TERM. BOX	MOTOR TEMP SENSOR
MA6-42	MA6-42	SSP1 CONTROL TERM. BOX	MOTOR TEMP SENSOR
MA6-43	MA6-46	SSP1 CONTROL TERM. BOX	BEARING TEMP SENSOR
MA6-44	MA6-47	SSP1 CONTROL TERM. BOX	BEARING TEMP SENSOR
MA6-6	MA6-6	SSP1 DISCONNECT SWITCH	SAFETY INTERLOCK
MA6-8	MA6-8	SSP1 DISCONNECT SWITCH	SAFETY INTERLOCK
MA6-7	MA6-7	SSP1 LOCAL PB STATION	START PUSH BUTTON
MA6-10	MA6-10	SSP1 LOCAL PB STATION	START PUSH BUTTON
MA6-12	MA6-12	SSP1 LOCAL PB STATION	STOP PUSH BUTTON
MA6-12A	MA6-12A	SSP1 LOCAL PB STATION	STOP PUSH BUTTON
MA6-7	MA6-7	CP-DO-4B	FLOAT PUMP CALL
MA6-14	MA6-14	CP-DO-4A	FLOAT PUMP CALL
MA6-7	MA6-7	SP-DO-P1	SCADA PUMP CALL
MA6-14	MA6-14	SP-DO-P1X	SCADA PUMP CALL

TERMINAL NO.	WIRE NO.	OUTPUT DESTINATION	DESCRIPTION OF OUTPUT
MA6-7	MA6-7	SSP1 LOCAL PB STATION	PUMP CALL LIGHT
MA6-X2	MA6-X2	SSP1 LOCAL PB STATION	PUMP CALL LIGHT
MA6-8	MA6-8	SSP1 LOCAL PB STATION	PUMP CALL LIGHT
MA6-24	MA6-24	SSP1 LOCAL PB STATION	PUMP RUN LIGHT
MA6-X2	MA6-X2	SSP1 LOCAL PB STATION	PUMP RUN LIGHT
MA6-8	MA6-8	SSP1 LOCAL PB STATION	PUMP RUN LIGHT
MA6-2	MA6-2	MA6-2	STARTER CONTACT NO
MA6-2A	MA6-2A	MA6-2A	STARTER CONTACT NO
MA6-3	CP-181	CP-DI-181	STARTER CONTACT NO
MA6-3A	CP-181A	CP-DI-181A	STARTER CONTACT NO
MA6-4	CP-1	CP-DI-1	STARTER CONTACT NC
MA6-4A	CP-49	CP-DI-49	STARTER CONTACT NC
MA6-5B	CP-418	CP-DI-418	STARTER CONTACT NC
MA6-5C	CP-418A	CP-DI-418A	STARTER CONTACT NC
MA6-22A	CP-1	CP-DI-1	MOTOR OVERLOAD
MA6-22B	CP-262A	CP-DI-262A	MOTOR OVERLOAD
MA6-40A	CP-280	CP-DI-280	STATION SUMP PUMP 1 ALARM
MA6-40B	CP-281	CP-DI-281	STATION SUMP PUMP 1 ALARM
MA6-0	SP-S16	SP-DI-S16	BREAKER OPEN
MA6-0A	SP-S16C	SP-DI-S16C	BREAKER OPEN
MA6-1D	SP-S6	SP-DI-S6	STARTER CONTACT NO
MA6-1E	SP-S6C	SP-DI-S6C	STARTER CONTACT NO
MA6-15	SP-S1	SP-DI-S1	S. S. PUMP 1 NOT IN AUTO
MA6-15A	SP-S1C	SP-DI-S1C	S. S. PUMP 1 NOT IN AUTO
MA6-44A	SP-S71	SP-DI-S71	STATION SUMP PUMP 1 ALARM
MA6-44B	SP-S71C	SP-DI-S71C	STATION SUMP PUMP 1 ALARM

MCC UNIT B6 STATION SUMP PUMP 2 STARTER TERMINAL CONNECTIONS

TERMINAL NO.	WIRE NO.	INPUT ORIGINATION	DESCRIPTION OF INPUT
MB6-39	MB6-39	SSP2 CONTROL TERM. BOX	MOTOR MOISTURE SENSOR
MB6-40	MB6-40	SSP2 CONTROL TERM. BOX	MOTOR MOISTURE SENSOR
MB6-41	MB6-41	SSP2 CONTROL TERM. BOX	MOTOR TEMP SENSOR
MB6-42	MB6-42	SSP2 CONTROL TERM. BOX	MOTOR TEMP SENSOR
MB6-43	MB6-46	SSP2 CONTROL TERM. BOX	BEARING TEMP SENSOR
MB6-44	MB6-47	SSP2 CONTROL TERM. BOX	BEARING TEMP SENSOR
MB6-6	MB6-6	SSP2 DISCONNECT SWITCH	SAFETY INTERLOCK
MB6-8	MB6-8	SSP2 DISCONNECT SWITCH	SAFETY INTERLOCK
MB6-7	MB6-7	SSP2 LOCAL PB STATION	START PUSH BUTTON
MB6-10	MB6-10	SSP2 LOCAL PB STATION	START PUSH BUTTON
MB6-12	MB6-12	SSP2 LOCAL PB STATION	STOP PUSH BUTTON
MB6-12A	MB6-12A	SSP2 LOCAL PB STATION	STOP PUSH BUTTON
MB6-7	MB6-7	CP-DO-4B	FLOAT PUMP CALL
MB6-14	MB6-14	CP-DO-4A	FLOAT PUMP CALL
MB6-7	MB6-7	SP-DO-P1	SCADA PUMP CALL
MB6-14	MB6-14	SP-DO-P1X	SCADA PUMP CALL

TERMINAL NO.	WIRE NO.	OUTPUT DESTINATION	DESCRIPTION OF OUTPUT
MB6-7	MB6-7	SSP2 LOCAL PB STATION	PUMP CALL LIGHT
MB6-X2	MB6-X2	SSP2 LOCAL PB STATION	PUMP CALL LIGHT
MB6-8	MB6-8	SSP2 LOCAL PB STATION	PUMP CALL LIGHT
MB6-24	MB6-24	SSP2 LOCAL PB STATION	PUMP RUN LIGHT
MB6-X2	MB6-X2	SSP2 LOCAL PB STATION	PUMP RUN LIGHT
MB6-8	MB6-8	SSP2 LOCAL PB STATION	PUMP RUN LIGHT
MB6-2	MB6-2	MA6-2	STARTER CONTACT NO
MB6-2A	MB6-2A	MA6-2A	STARTER CONTACT NO
MB6-3	CP-181	CP-DI-181	STARTER CONTACT NO
MB6-3A	CP-181A	CP-DI-181A	STARTER CONTACT NO
MB6-4	CP-1	CP-DI-1	STARTER CONTACT NC
MB6-4A	CP-49	CP-DI-49	STARTER CONTACT NC
MB6-5B	CP-418	CP-DI-418	STARTER CONTACT NC
MB6-5C	CP-418A	CP-DI-418A	STARTER CONTACT NC
MB6-22A	CP-1	CP-DI-1	MOTOR OVERLOAD
MB6-22B	CP-262A	CP-DI-262A	MOTOR OVERLOAD
MB6-40A	CP-280	CP-DI-280	STATION SUMP PUMP 2 ALARM
MB6-40B	CP-281	CP-DI-281	STATION SUMP PUMP 2 ALARM
MB6-0	SP-S16	SP-DI-S16	BREAKER OPEN
MB6-0A	SP-S16C	SP-DI-S16C	BREAKER OPEN
MB6-1D	SP-S6	SP-DI-S6	STARTER CONTACT NO
MB6-1E	SP-S6C	SP-DI-S6C	STARTER CONTACT NO
MB6-15	SP-S1	SP-DI-S1	S. S. PUMP 2 NOT IN AUTO
MB6-15A	SP-S1C	SP-DI-S1C	S. S. PUMP 2 NOT IN AUTO
MB6-44A	SP-S71	SP-DI-S71	STATION SUMP PUMP 2 ALARM
MB6-44B	SP-S71C	SP-DI-S71C	STATION SUMP PUMP 2 ALARM

PLAN
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PLT. OF R/W CHECKED
CADD FILE NAME
BY
DATE

E29

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

MCC TERMINAL SCHEDULE SHEET 2

SCALE: AS SHOWN — DRAWN BY: LMJ

DATE: 09-12-05 — CHECKED BY: KCC

PLOT DATE: *DATE-TIME*

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

$DATE$
DATE-TIME
DGN-SPEC
*REF-
*REF-

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)1T-17	ST. CLAIR	77	72
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTROL PANEL DIGITAL INPUTS(TBDI)			
TERM #	WIRE #	ORIGINATIION	DESCRIPTION OF INPUTS
32	CP-32	FLOAT 1	HIGH WATER ALARM
32A	CP-32A	FLOAT 1	HIGH WATER ALARM
37	CP-37	FLOAT 2	START LAG 5 MAIN PUMP
37A	CP-37A	FLOAT 2	START LAG 5 MAIN PUMP
42	CP-42	FLOAT 3	START LAG 4 MAIN PUMP
42A	CP-42A	FLOAT 3	START LAG 4 MAIN PUMP
47	CP-47	FLOAT 4	START LAG 3 MAIN PUMP
47A	CP-47A	FLOAT 4	START LAG 3 MAIN PUMP
52	CP-52	FLOAT 5	STOP LAG 5 MAIN PUMP
52A	CP-92A	FLOAT 5	STOP LAG 5 MAIN PUMP
57	CP-57	FLOAT 6	START LAG 2 MAIN PUMP
57A	CP-57A	FLOAT 6	START LAG 2 MAIN PUMP
62	CP-62	FLOAT 7	STOP LAG 4 MAIN PUMP
62A	CP-62A	FLOAT 7	STOP LAG 4 MAIN PUMP
67	CP-67	FLOAT 8	START LAG 1 MAIN PUMP
67A	CP-67A	FLOAT 8	START LAG 1 MAIN PUMP
72	CP-72	FLOAT 9	STOP LAG 3 MAIN PUMP
72A	CP-72A	FLOAT 9	STOP LAG 3 MAIN PUMP
77	CP-77	FLOAT 10	START LEAD MAIN PUMP, STOP MIXERS
77A	CP-77A	FLOAT 10	START LEAD MAIN PUMP, STOP MIXERS
82	CP-82	FLOAT 11	STOP LAG 2 PUMP
82A	CP-82A	FLOAT 11	STOP LAG 2 PUMP
87	CP-87	FLOAT 12	START LAG SUMP PUMP
87A	CP-87A	FLOAT 12	START LAG SUMP PUMP
92	CP-92	FLOAT 13	STOP LAG 1 MAIN PUMP
92A	CP-92A	FLOAT 13	STOP LAG 1 MAIN PUMP
97	CP-97	FLOAT 14	START MIXERS
97A	CP-97A	FLOAT 14	START MIXERS
102	CP-102	FLOAT 15	START LEAD SUMP PUMP
102A	CP-102A	FLOAT 15	START LEAD SUMP PUMP
107	CP-107	FLOAT 16	MAIN PUMPS FAIL TO STOP
107A	CP-107A	FLOAT 16	MAIN PUMPS FAIL TO STOP
112	CP-112	FLOAT 17	STOP LAG SUMP PUMP
112A	CP-112A	FLOAT 17	STOP LAG SUMP PUMP
117	CP-117	FLOAT 18	STOP LEAD SUMP PUMP
117A	CP-117A	FLOAT 18	STOP LEAD SUMP PUMP
122	CP-122	FLOAT 19	LOW WATER ALARM
122A	CP-122A	FLOAT 19	LOW WATER ALARM
5	CP-5	SP-DO-P26	ENABLE RTU-1 OUTPUT
11	CP-166	SP-DO-P26X	ENABLE RTU-1 OUTPUT
1	CP-1	SP-DO-P15	SCADA LEAD CALL
166	CP-11	SP-DO-P15X	SCADA LEAD CALL
1	CP-1	SP-DO-P16	SCADA LAG 1 CALL
167	CP-167	SP-DO-P16X	SCADA LAG 1 CALL
1	CP-1	SP-DO-P17	SCADA LAG 2 CALL
168	CP-168	SP-DO-P17X	SCADA LAG 2 CALL
1	CP-1	SP-DO-P18	SCADA LAG 3 CALL
169	CP-169	SP-DO-P18X	SCADA LAG 3 CALL
1	CP-1	SP-DO-P19	SCADA LAG 4 CALL
168	CP-168	SP-DO-P19X	SCADA LAG 4 CALL
1	CP-1	SP-DO-P20	SCADA LAG 5 CALL
169	CP-169	SP-DO-P20X	SCADA LAG 5 CALL
1	CP-1	SP-DO-P21	SCADA LEAD SUMP PUMP CALL
170	CP-170	SP-DO-P21X	SCADA LEAD SUMP PUMP CALL
1	CP-1	SP-DO-P22	SCADA LAG SUMP PUMP CALL
171	CP-171	SP-DO-P22X	SCADA LAG SUMP PUMP CALL
1	CP-1	SP-DO-P23	SCADA MIXER CALL
189	CP-189	SP-DO-P23X	SCADA MIXER CALL
244	CP-244	M1-22A	MAIN PUMP 1 FAIL
246	CP-246	M1-22B	MAIN PUMP 1 FAIL
247	CP-247	M2-22A	MAIN PUMP 2 FAIL
249	CP-249	M2-22B	MAIN PUMP 2 FAIL
250	CP-250	M3-22A	MAIN PUMP 3 FAIL
252	CP-252	M3-22B	MAIN PUMP 3 FAIL
253	CP-253	M4-22A	MAIN PUMP 4 FAIL
255	CP-255	M4-22B	MAIN PUMP 4 FAIL
256	CP-256	M5-22A	MAIN PUMP 5 FAIL
258	CP-258	M5-22B	MAIN PUMP 5 FAIL
259	CP-259	M6-22A	MAIN PUMP 6 FAIL
261	CP-261	M6-22B	MAIN PUMP 6 FAIL
262	CP-262	M1-57	MAIN PUMP 1 OVER TEMP/MOIST
264	CP-264	M1-57A	MAIN PUMP 1 OVER TEMP/MOIST
265	CP-265	M2-57	MAIN PUMP 2 OVER TEMP/MOIST
267	CP-267	M2-57A	MAIN PUMP 2 OVER TEMP/MOIST
268	CP-268	M3-57	MAIN PUMP 3 OVER TEMP/MOIST
270	CP-270	M3-57A	MAIN PUMP 3 OVER TEMP/MOIST
271	CP-271	M4-57	MAIN PUMP 4 OVER TEMP/MOIST
273	CP-273	M4-57A	MAIN PUMP 4 OVER TEMP/MOIST
274	CP-274	M5-57	MAIN PUMP 5 OVER TEMP/MOIST
276	CP-276	M5-57A	MAIN PUMP 5 OVER TEMP/MOIST
277	CP-277	M6-30A	MAIN PUMP 6 OVER TEMP/MOIST
279	CP-279	M6-30B	MAIN PUMP 6 OVER TEMP/MOIST
280	CP-280	M7-22A	SUMP PUMP 1 FAIL
282	CP-282	M7-22B	SUMP PUMP 1 FAIL
283	CP-283	M8-22A	SUMP PUMP 2 FAIL
285	CP-285	M8-22B	SUMP PUMP 2 FAIL
286	CP-286	M9-23D	SUBMERSIBLE MIXER 1 FAIL
288	CP-288	M9-23E	SUBMERSIBLE MIXER 1 FAIL
289	CP-289	M9-23D	SUBMERSIBLE MIXER 2 FAIL
291	CP-291	M9-23E	SUBMERSIBLE MIXER 2 FAIL
292	CP-292	M9-23D	SUBMERSIBLE MIXER 3 FAIL
294	CP-294	M9-23E	SUBMERSIBLE MIXER 3 FAIL
295	CP-295	M9-23D	SUBMERSIBLE MIXER 4 FAIL
297	CP-297	M9-23E	SUBMERSIBLE MIXER 4 FAIL

CONTROL PANEL DIGITAL INPUTS(TBDI)			DESCRIPTION OF INPUTS
TERM #	WIRE #	ORIGINATION	
298	CP-292	M7-57	SUMP PUMP 1 OVER TEMP/MOIST
300	CP-293	M7-57A	SUMP PUMP 1 OVER TEMP/MOIST
301	CP-341	M8-57	SUMP PUMP 2 OVER TEMP/MOIST
302	CP-342	M8-57A	SUMP PUMP 2 OVER TEMP/MOIST
304	CP-343	M9-23D	MIXER 1 OVER TEMP/MOIST
306	CP-344	M9-23E	MIXER 1 OVER TEMP/MOIST
307	CP-346	M10-23D	MIXER 2 OVER TEMP/MOIST
309	CP-347	M10-23E	MIXER 2 OVER TEMP/MOIST
310	CP-343	M11-23D	MIXER 3 OVER TEMP/MOIST
312	CP-344	M11-23E	MIXER 3 OVER TEMP/MOIST
313	CP-346	M12-23D	MIXER 4 OVER TEMP/MOIST
315	CP-347	M12-23E	MIXER 4 OVER TEMP/MOIST
334	CP-349	SWGR-19	INC. LINE 1 NORM SOURCE POWER FAIL
336	CP-350	SWGR-20	INC. LINE 1 NORM SOURCE POWER FAIL
337	CP-292	SWGR-21	INC. LINE 2 EMER SOURCE POWER FAIL
339	CP-293	SWGR-22	INC. LINE 2 EMER SOURCE POWER FAIL
340	CP-292	GEN-7	GENERATOR ALARM
342	CP-293	GEN-8	GENERATOR ALARM
343	CP-341	SP-DO-P28	SCADA PANEL AC POWER FAILURE
345	CP-342	SP-DO-P28X	SCADA PANEL AC POWER FAILURE
343	CP-343	SP-DO-P27	SCADA PANEL ALARM
344	CP-344	SP-DO-P27X	SCADA PANEL ALARM
361	CP-346	FIRE ALARM PANEL	FIRE ALARM
363	CP-347	FIRE ALARM PANEL	FIRE ALARM
367	CP-344	CO-5	CARBONMONOXIDE ALARM
369	CP-346	CO-6	CARBONMONOXIDE ALARM
370	CP-347	CO-7	CO DETECTOR FAIL
372	CP-347	CO-8	CO DETECTOR FAIL
376	CP-343	SP-DO-P24	ALARM ACKNOWLEDGE
376A	CP-344	SP-DO-P24X	ALARM ACKNOWLEDGE
391	CP-346	SPDI-120	ALARM ACKNOWLEDGED
391A	CP-347	SPDI-120C	ALARM ACKNOWLEDGED
420	CP-349	M1-5B	MAIN PUMP 1 FAILURE
420A	CP-350	M1-5C	MAIN PUMP 1 FAILURE
421	CP-349	M2-5B	MAIN PUMP 2 FAILURE
421A	CP-350	M2-5C	MAIN PUMP 2 FAILURE
422	CP-349	M3-5B	MAIN PUMP 3 FAILURE
422A	CP-350	M3-5C	MAIN PUMP 3 FAILURE
423	CP-349	M4-5B	MAIN PUMP 4 FAILURE
423A	CP-350	M4-5C	MAIN PUMP 4 FAILURE
424	CP-349	M5-5B	MAIN PUMP 5 FAILURE
424A	CP-350	M5-5C	MAIN PUMP 5 FAILURE
425	CP-349	M6-5B	MAIN PUMP 6 FAILURE
425A	CP-350	M6-5C	MAIN PUMP 6 FAILURE
426	CP-349	M7-5B	SUMP PUMP 1 FAILURE
426A	CP-350	M7-5C	SUMP PUMP 1 FAILURE
427	CP-349	M8-5B	SUMP PUMP 2 FAILURE
427A	CP-350	M8-5C	SUMP PUMP 2 FAILURE
428	CP-349	M9-6	MIXER 1 FAILURE
428A	CP-350	M9-6A	MIXER 1 FAILURE
428	CP-349	M10-6	MIXER 2 FAILURE
429	CP-350	M10-6A	MIXER 2 FAILURE
428	CP-349	M11-6	MIXER 3 FAILURE
430	CP-350	M11-6A	MIXER 3 FAILURE
428	CP-349	M12-6	MIXER 4 FAILURE
431	CP-350	M12-6A	MIXER 4 FAILURE
463	CP-463	GSD1 +	COMBUSTIBLE GAS SENSOR 1
463A	CP-463	GSD1 -	COMBUSTIBLE GAS SENSOR 1
464	CP-463	GSD1 S	COMBUSTIBLE GAS SENSOR 1
466	CP-463	GSD2 +	COMBUSTIBLE GAS SENSOR 2
466A	CP-463	GSD2 -	COMBUSTIBLE GAS SENSOR 2
467	CP-463	GSD2 S	COMBUSTIBLE GAS SENSOR 2
469	CP-463	GSD3 +	COMBUSTIBLE GAS SENSOR 3
469A	CP-463	GSD3 -	COMBUSTIBLE GAS SENSOR 3
470	CP-463	GSD3 S	COMBUSTIBLE GAS SENSOR 3
472	CP-463	GSD4 +	COMBUSTIBLE GAS SENSOR 4
472A	CP-463	GSD4 -	COMBUSTIBLE GAS SENSOR 4
473	CP-463	GSD4 S	COMBUSTIBLE GAS SENSOR 4
475	CP-463	GSD5 +	COMBUSTIBLE GAS SENSOR 5
475A	CP-463	GSD5 -	COMBUSTIBLE GAS SENSOR 5
476	CP-463	GSD5 S	COMBUSTIBLE GAS SENSOR 5
478	CP-463	GSD6 +	COMBUSTIBLE GAS SENSOR 6
478A	CP-463	GSD6 -	COMBUSTIBLE GAS SENSOR 6
479	CP-463	GSD6 S	COMBUSTIBLE GAS SENSOR 6
484	CP-484	FAP-3	FIRE ALARM
484A	CP-484A	FAP-4	FIRE ALARM

CONTROL PANEL DIGITAL OUTPUTS(TBDO)			DESCRIPTION OF OUTPUTS
TERM #	WIRE #	DESTINATION	
2	SP-119	SPDI-119	PUMP CONTROL CKT POWER FAIL
2A	SP-119C	SPDI-119C	PUMP CONTROL CKT POWER FAIL
9	M7-7	M7-7	START SUMP PUMP 1
9A	M7-14	M7-14	START SUMP PUMP 1
12	M8-7	M8-7	START SUMP PUMP 1
12A	M8-14	M8-14	START SUMP PUMP 1
31	M1-7	M1-7	START MAIN PUMP 1
31A	M1-14	M1-14	START MAIN PUMP 1
36	M2-7	M2-7	START MAIN PUMP 2
36A	M2-14	M2-14	START MAIN PUMP 2
41	M3-7	M3-7	START MAIN PUMP 3
41A	M3-14	M3-14	START MAIN PUMP 3
46	M4-7	M4-7	START MAIN PUMP 4
46A	M4-14	M4-14	START MAIN PUMP 4
51	M5-7	M5-7	START MAIN PUMP 5
51A	M5-14	M5-14	START MAIN PUMP 5
56	M6-7	M6-7	START MAIN PUMP 6
56A	M6-14	M6-14	START MAIN PUMP 6
145	SP-XXX	SPDI-XXX	MAIN PUMP FAIL TO START
145A	SP-XXX	SPDI-XXX	MAIN PUMP FAIL TO START
201	SP-100	SPDI-100	WETWELL LVL BELOW FLOAT EL. 380.5'
201A	SP-100C	SPDI-100C	WETWELL LVL BELOW FLOAT EL. 380.5'
202	SP-101	SPDI-101	WETWELL LVL BELOW FLOAT EL. 379.5'
202A	SP-101C	SPDI-101C	WETWELL LVL BELOW FLOAT EL. 379.5'
203	SP-102	SPDI-102	WETWELL LVL BELOW FLOAT EL. 378.5'
203A	SP-102C	SPDI-102C	WETWELL LVL BELOW FLOAT EL. 378.5'
204	SP-103	SPDI-103	WETWELL LVL BELOW FLOAT EL. 377.5'
204A	SP-103C	SPDI-103C	WETWELL LVL BELOW FLOAT EL. 377.5'
205	SP-104	SPDI-104	WETWELL LVL BELOW FLOAT EL. 377.0'
205A	SP-104C	SPDI-104C	WETWELL LVL BELOW FLOAT EL. 377.0'
206	SP-105	SPDI-105	WETWELL LVL BELOW FLOAT EL. 376.5'
206A	SP-105C	SPDI-105C	WETWELL LVL BELOW FLOAT EL. 376.5'
207	SP-106	SPDI-106	WETWELL LVL BELOW FLOAT EL. 376.0'
207A	SP-106C	SPDI-106C	WETWELL LVL BELOW FLOAT EL. 376.0'
208	SP-107	SPDI-107	WETWELL LVL BELOW FLOAT EL. 375.5'
208A	SP-107C	SPDI-107C	WETWELL LVL BELOW FLOAT EL. 375.5'
209	SP-108	SPDI-108	WETWELL LVL BELOW FLOAT EL. 375.0'
209A	SP-108C	SPDI-108C	WETWELL LVL BELOW FLOAT EL. 375.0'
210	SP-109	SPDI-109	WETWELL LVL BELOW FLOAT EL. 374.5'
210A	SP-109C	SPDI-109C	WETWELL LVL BELOW FLOAT EL. 374.5'
211	SP-110	SPDI-110	WETWELL LVL BELOW FLOAT EL. 374.0'
211A	SP-110C	SPDI-110C	WETWELL LVL BELOW FLOAT EL. 374.0'
212	SP-111	SPDI-111	WETWELL LVL BELOW FLOAT EL. 373.5'
212A	SP-111C	SPDI-111C	WETWELL LVL BELOW FLOAT EL. 373.5'
213	SP-112	SPDI-112	WETWELL LVL BELOW FLOAT EL. 373.0'
213A	SP-112C	SPDI-112C	WETWELL LVL BELOW FLOAT EL. 373.0'
214	SP-113	SPDI-113	WETWELL LVL BELOW FLOAT EL. 372.0'
214A	SP-113C	SPDI-113C	WETWELL LVL BELOW FLOAT EL. 372.0'
215	SP-114	SPDI-114	WETWELL LVL BELOW FLOAT EL. 371.5'
215A	SP-114C	SPDI-114C	WETWELL LVL BELOW FLOAT EL. 371.5'
216	SP-115	SPDI-115	WETWELL LVL BELOW FLOAT EL. 371.0'
216A	SP-115C	SPDI-115C	WETWELL LVL BELOW FLOAT EL. 371.0'
217	SP-116	SPDI-116	WETWELL LVL BELOW FLOAT EL. 370.5'
217A	SP-116C	SPDI-116C	WETWELL LVL BELOW FLOAT EL. 370.5'
218	SP-117	SPDI-117	WETWELL LVL BELOW FLOAT EL. 369.5'
218A	SP-117C	SPDI-117C	WETWELL LVL BELOW FLOAT EL. 369.5'
219	SP-118	SPDI-118	WETWELL LVL BELOW FLOAT EL. 368.5'
219A	SP-118C	SPDI-118C	WETWELL LVL BELOW FLOAT EL. 368.5'
221	M13-3	M13-3	STOP EF1 AT WETWELL EL.375.5'
221A	M13-4	M13-4	STOP EF1 AT WETWELL EL.375.5'
391	SP-120	SPDI-120	ALARM ACKNOWLEDGED
391A	SP-120C	SPDI-120C	ALARM ACKNOWLEDGED
481	SP-121	SPDI-121	COMBUSTIBLE GAS WARNING
481A	SP-121C	SPDI-121C	COMBUSTIBLE GAS WARNING
482	SP-122	SPDI-122	COMBUSTIBLE GAS ALARM
482A	SP-122C	SPDI-122C	COMBUSTIBLE GAS ALARM
483	SP-123	SPDI-123	COMBUSTIBLE GAS DETECTOR FAIL
483A	SP-123C	SPDI-123C	COMBUSTIBLE GAS DETECTOR FAIL
484A	HORN1-1	HORN-1	ALARM HORN, OPERATOR'S ROOM
484B	HORN1-2	HORN-2	ALARM HORN, OPERATOR'S ROOM
484A	HORN2-1	HORN-1	ALARM HORN, PUMP ROOM
484B	HORN2-2	HORN-2	ALARM HORN, PUMP ROOM
484A	HORN3-1	HORN-1	ALARM HORN, INTERMEDIATE LEVEL
484B	HORN3-2	HORN-2	ALARM HORN, INTERMEDIATE LEVEL
484A	HORN4-1	HORN-1	ALARM HORN DIDCHARGE LEVEL
484B	HORN4-2	HORN-2	ALARM HORN DIDCHARGE LEVEL

PLAN SURVEYED / PLOTTED / ALIGNMENT CHECKED / R.O.W. CHECKED / CADD FILE NAME
NOTE BOOK NO.
BY DATE

E30

REVISIONS	
NAME	DATE

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

CONTROL PANEL TERMINAL SCHEDULE

SCALE: AS SHOWN DRAWN BY: LMJ
DATE: 09-12-05 CHECKED BY: KCC

PLOT DATE: *DATE-TIME*

DATE
DATE-TIME
DGN-SPEC
*REF-
*REF-
*REF-

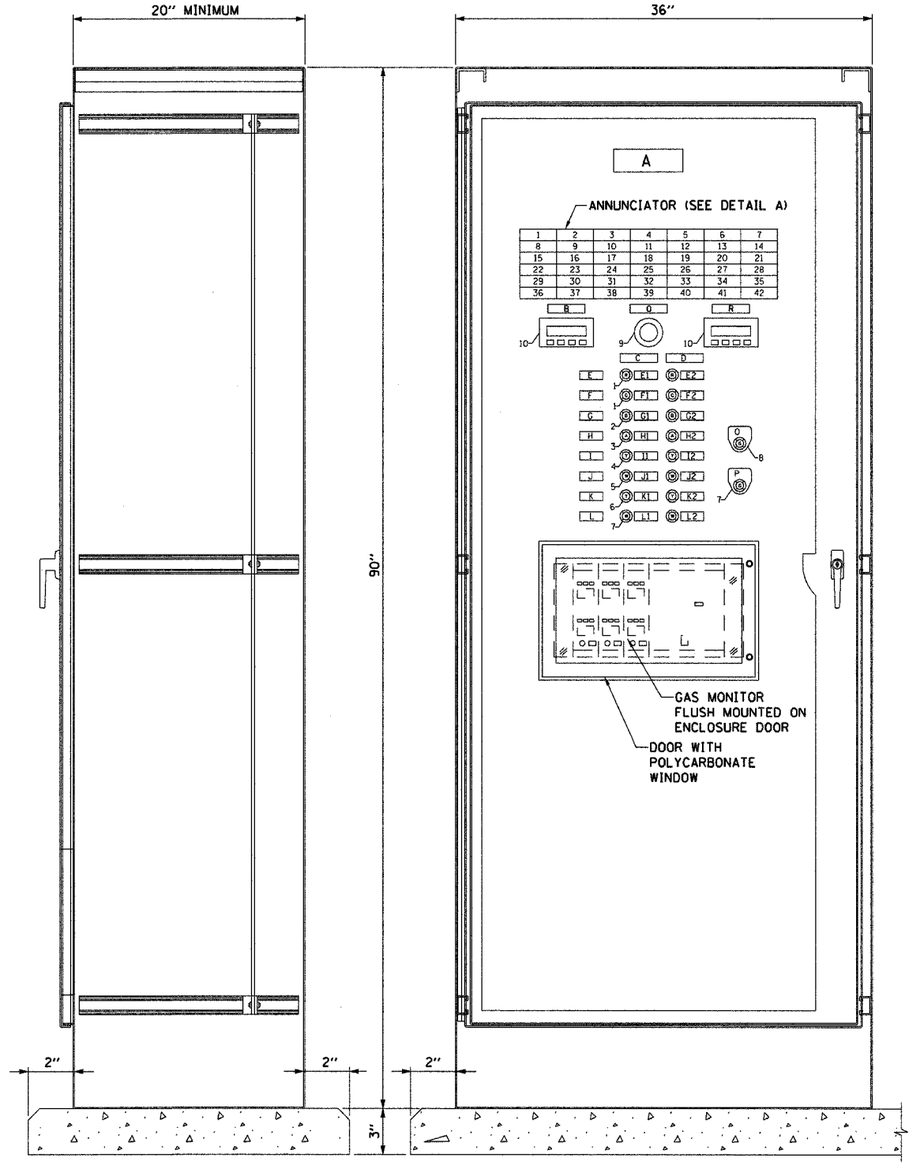
F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	73
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

1	MAIN PUMP 1 FAILURE	MAIN PUMP 2 FAILURE	MAIN PUMP 3 FAILURE	MAIN PUMP 4 FAILURE	MAIN PUMP 5 FAILURE	MAIN PUMP 6 FAILURE	SPARE 7
8	MAIN PUMP 1 OVER TEMP/ MOISTURE	MAIN PUMP 2 OVER TEMP/ MOISTURE	MAIN PUMP 3 OVER TEMP/ MOISTURE	MAIN PUMP 4 OVER TEMP/ MOISTURE	MAIN PUMP 5 OVER TEMP/ MOISTURE	MAIN PUMP 6 OVER TEMP/ MOISTURE	CARBON MONOXIDE ALARM 14
15	SUMP PUMP 1 FAILURE	SUMP PUMP 2 FAILURE	SUBMERSIBLE MIXER 1 FAILURE	SUBMERSIBLE MIXER 2 FAILURE	SUBMERSIBLE MIXER 3 FAILURE	SUBMERSIBLE MIXER 4 FAILURE	CO DETECTOR FAILURE 21
22	SUMP PUMP 1 OVER TEMP/ MOISTURE	SUMP PUMP 2 OVER TEMP/ MOISTURE	SUBMERSIBLE MIXER 1 TEMP/MOIST.	SUBMERSIBLE MIXER 2 TEMP/MOIST.	SUBMERSIBLE MIXER 3 TEMP/MOIST.	SUBMERSIBLE MIXER 4 TEMP/MOIST.	SPARE 28
29	HIGH WATER LEVEL	INC LINE 1 NORM SOURCE PWR FAILURE	INC LINE 2 EMER SOURCE PWR FAILURE	GENERATOR ALARM	SCADA PANEL POWER FAILURE	SCADA PANEL ALARM	DISPATCHER'S PANEL COMM. FAIL. 35
36	LOW WATER LEVEL	COMBUSTIBLE GAS ALARM	COMBUSTIBLE GAS WARNING	COMBUSTIBLE GAS DET. TROUBLE	FIRE ALARM	INTRUSION ALARM	SPARE 42

DETAIL A

ITEM	NAMEPLATE SCHEDULE
A	CONTROL PANEL
B	ULTRASONIC WET WELL LVL, LI-100 FT ABOVE WET PIT FLR
C	SCADA PUMP CALL, FEET ABOVE WET PIT FLOOR
D	FLOAT PUMP CALL, FEET ABOVE WET PIT FLOOR
E	LAG 5 MAIN PUMP CALL
F	LAG 4 MAIN PUMP CALL
G	LAG 3 MAIN PUMP CALL
H	LAG 2 MAIN PUMP CALL
I	LAG 1 MAIN PUMP CALL
J	LEAD MAIN PUMP CALL
K	LAG SUMP PUMP CALL
L	LEAD SUMP PUMP CALL
M	
N	
O	ALARM ACKNOWLEDGE
P	LAMP TEST
Q	ALARM BUZZER
R	HYDDROSTATIC WET WELL LVL, LI-101 FT ABOVE WET PIT FLR
E1	13.0 FEET
E2	13.5 FEET
F1	12.0 FEET
F2	12.5 FEET
G1	11.0 FEET
G2	11.5 FEET
H1	10.0 FEET
H2	10.5 FEET
I1	9.0 FEET
I2	9.5 FEET
J1	8.0 FEET
J2	8.5 FEET
K1	5.5 FEET
K2	6.5 FEET
L1	5.0 FEET
L2	6.0 FEET

DEVICE LEGEND		
ITEM	DEVICE DESCRIPTION	DEVICE COLOR
1	INDICATING LIGHT	RED
2	INDICATING LIGHT	CLEAR
3	INDICATING LIGHT	BLUE
4	INDICATING LIGHT	AMBER
5	INDICATING LIGHT	YELLOW
6	INDICATING LIGHT	WHITE
7	PUSH BUTTON	YELLOW
8	PUSH BUTTON	GREEN
9	ALARM BUZZER	
10	DIGITAL METER	



SIDE VIEW - PANEL REMOVED

CONTROL PANEL - FRONT VIEW

NOTE:
THE CONTROL PANEL SHALL BE OF SUFFICIENT DEPTH TO ACCOMODATE THE GAS MONITOR, ANNUNCIATOR AND OTHER DEVICES. PROPER CLEARANCE SHALL BE PROVIDED BETWEEN DOOR MOUNTED DEVICES AND PANEL MOUNTED DEVICES.

E31

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

CONTROL PANEL EQUIPMENT LAYOUT

SCALE: AS SHOWN DRAWN BY: LMJ

DATE: 09-12-05 CHECKED BY: KCC

PLOT DATE: *DATE-TIME*

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

PLAN
SURVEYED
PLOTTED
ALIGNMENT CHECKED
QTY. OF WAY CHECKED
CADD FILE NAME
NOTE BOOK
NO.
BY
DATE

$$DATE$$
DATE-TIME
DGN-SPEC
*REF-
*REF-

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	74
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

PLAN	SURVEYED	BY	DATE
	PLOTTED		
	ILLINOIS WORK		
	RT. OF WAY CHECKED		
NOTE BOOK	PLOT FILE NAME		
NO.			

SCADA PANEL DIGITAL INPUTS
TERMINAL BLOCK TBDI

TERM #	WIRE #	ORIGINATIION	DESCRIPTION OF INPUTS
S0	S0	CP-DO-398	ALARM ACKNOWLEDGE
S0C	S0C	CP-DO-398A	ALARM ACKNOWLEDGE
S1	S1	M1-0	MAIN PUMP 1 BREAKER OPEN
S1C	S1C	M1-0A	MAIN PUMP 1 BREAKER OPEN
S2	S2	M1-1D	MAIN PUMP 1 RUNNING
S2C	S2C	M1-1E	MAIN PUMP 1 RUNNING
S3	S3	M1-15A	MAIN PUMP 1 HOA IN AUTO
S3C	S3C	M1-15	MAIN PUMP 1 HOA IN AUTO
S4	S4	M1-16	MAIN PUMP 1 HOA IN OFF
S4C	S4C	M1-15	MAIN PUMP 1 HOA IN OFF
S5	S5	M1-22A	MAIN PUMP 1 FAIL
S5C	S5C	M1-22B	MAIN PUMP 1 FAIL
S6	S6	M1-57	MAIN PUMP 1 MOTOR WDG HI-TEMP
S6C	S6C	M1-57A	MAIN PUMP 1 MOTOR WDG HI-TEMP
S7	S7	M1-58	MAIN PUMP 1 MOTOR HI-MOISTURE
S7C	S7C	M1-58A	MAIN PUMP 1 MOTOR HI-MOISTURE
S8	S8	M1-59	MAIN PUMP 1 BEARING HI-TEMP
S8C	S8C	M1-59A	MAIN PUMP 1 BEARING HI-TEMP
S9	S9	M1-60	MAIN PUMP 1 SEAL LEAK
S9C	S9C	M1-60A	MAIN PUMP 1 SEAL LEAK
S10	S10	M2-0	MAIN PUMP 2 BREAKER OPEN
S10C	S10C	M2-0A	MAIN PUMP 2 BREAKER OPEN
S11	S11	M2-1D	MAIN PUMP 2 RUNNING
S11C	S11C	M2-1E	MAIN PUMP 2 RUNNING
S12	S12	M2-15A	MAIN PUMP 2 HOA IN AUTO
S12C	S12C	M2-15	MAIN PUMP 2 HOA IN AUTO
S13	S13	M2-16	MAIN PUMP 2 HOA IN OFF
S13C	S13C	M2-15	MAIN PUMP 2 HOA IN OFF
S14	S14	M2-22A	MAIN PUMP 2 FAIL
S14C	S14C	M2-22B	MAIN PUMP 2 FAIL
S15	S15	M2-57	MAIN PUMP 2 MOTOR WDG HI-TEMP
S15C	S15C	M2-57A	MAIN PUMP 2 MOTOR WDG HI-TEMP
S16	S16	M2-58	MAIN PUMP 2 MOTOR HI-MOISTURE
S16C	S16C	M2-58A	MAIN PUMP 2 MOTOR HI-MOISTURE
S17	S17	M2-59	MAIN PUMP 2 BEARING HI-TEMP
S17C	S17C	M2-59A	MAIN PUMP 2 BEARING HI-TEMP
S18	S18	M2-60	MAIN PUMP 2 SEAL LEAK
S18C	S18C	M2-60A	MAIN PUMP 2 SEAL LEAK
S19	S19	M3-0	MAIN PUMP 3 BREAKER OPEN
S19C	S19C	M3-0A	MAIN PUMP 3 BREAKER OPEN
S20	S20	M3-1D	MAIN PUMP 3 RUNNING
S20C	S20C	M3-1E	MAIN PUMP 3 RUNNING
S21	S21	M3-15A	MAIN PUMP 3 HOA IN AUTO
S21C	S21C	M3-15	MAIN PUMP 3 HOA IN AUTO
S22	S22	M3-16	MAIN PUMP 3 HOA IN OFF
S22C	S22C	M3-15	MAIN PUMP 3 HOA IN OFF
S23	S23	M3-22A	MAIN PUMP 3 FAIL
S23C	S23C	M3-22B	MAIN PUMP 3 FAIL
S24	S24	M3-57	MAIN PUMP 3 MOTOR WDG HI-TEMP
S24C	S24C	M3-57A	MAIN PUMP 3 MOTOR WDG HI-TEMP
S25	S25	M3-58	MAIN PUMP 3 MOTOR HI-MOISTURE
S25C	S25C	M3-58A	MAIN PUMP 3 MOTOR HI-MOISTURE
S26	S26	M3-59	MAIN PUMP 3 BEARING HI-TEMP
S26C	S26C	M3-59A	MAIN PUMP 3 BEARING HI-TEMP
S27	S27	M3-60	MAIN PUMP 3 SEAL LEAK
S27C	S27C	M3-60A	MAIN PUMP 3 SEAL LEAK
S28	S28	M4-0	MAIN PUMP 4 BREAKER OPEN
S28C	S28C	M4-0A	MAIN PUMP 4 BREAKER OPEN
S29	S29	M4-1D	MAIN PUMP 4 RUNNING
S29C	S29C	M4-1E	MAIN PUMP 4 RUNNING
S30	S30	M4-35A	MAIN PUMP 4 HOA IN AUTO
S30C	S30C	M4-35	MAIN PUMP 4 HOA IN AUTO
S31	S31	M4-36A	MAIN PUMP 4 HOA IN OFF
S31C	S31C	M4-35	MAIN PUMP 4 HOA IN OFF
S32	S32	M4-22A	MAIN PUMP 4 FAIL
S32C	S32C	M4-22B	MAIN PUMP 4 FAIL
S33	S33	M4-57	MAIN PUMP 4 MOTOR WDG HI-TEMP
S33C	S33C	M4-57A	MAIN PUMP 4 MOTOR WDG HI-TEMP
S34	S34	M4-58	MAIN PUMP 4 MOTOR HI-MOISTURE
S34C	S34C	M4-58A	MAIN PUMP 4 MOTOR HI-MOISTURE
S35	S35	M4-59	MAIN PUMP 4 BEARING HI-TEMP
S35C	S35C	M4-59A	MAIN PUMP 4 BEARING HI-TEMP
S36	S36	M4-60	MAIN PUMP 4 SEAL LEAK
S36C	S36C	M4-60A	MAIN PUMP 4 SEAL LEAK
S37	S37	M5-0	MAIN PUMP 5 BREAKER OPEN
S37C	S37C	M5-0A	MAIN PUMP 5 BREAKER OPEN
S38	S38	M5-1E	MAIN PUMP 5 RUNNING
S38C	S38C	M5-1D	MAIN PUMP 5 RUNNING
S39	S39	M5-15A	MAIN PUMP 5 HOA IN AUTO
S39C	S39C	M5-15	MAIN PUMP 5 HOA IN AUTO
S40	S40	M5-16	MAIN PUMP 5 HOA IN OFF
S40C	S40C	M5-15	MAIN PUMP 5 HOA IN OFF
S41	S41	M5-22A	MAIN PUMP 5 FAIL
S41C	S41C	M5-22B	MAIN PUMP 5 FAIL
S42	S42	M5-57	MAIN PUMP 5 MOTOR WDG HI-TEMP
S42C	S42C	M5-57A	MAIN PUMP 5 MOTOR WDG HI-TEMP
S43	S43	M5-58	MAIN PUMP 5 MOTOR HI-MOISTURE
S43C	S43C	M5-58A	MAIN PUMP 5 MOTOR HI-MOISTURE
S44	S44	M5-59	MAIN PUMP 5 BEARING HI-TEMP
S44C	S44C	M5-59A	MAIN PUMP 5 BEARING HI-TEMP
S45	S45	M5-60	MAIN PUMP 5 SEAL LEAK
S45C	S45C	M5-60A	MAIN PUMP 5 SEAL LEAK
S46	S46	M6-0	MAIN PUMP 6 BREAKER OPEN
S46C	S46C	M6-0A	MAIN PUMP 6 BREAKER OPEN
S47	S47	M6-1D	MAIN PUMP 6 RUNNING
S47C	S47C	M6-1E	MAIN PUMP 6 RUNNING

SCADA PANEL DIGITAL INPUTS
TERMINAL BLOCK TBDI

TERM #	WIRE #	ORIGINATIION	DESCRIPTION OF INPUTS
S48	S48	M6-15A	MAIN PUMP 6 HOA IN AUTO
S48C	S48C	M6-15	MAIN PUMP 6 HOA IN AUTO
S49	S49	M6-16	MAIN PUMP 6 HOA IN OFF
S49C	S49C	M6-15	MAIN PUMP 6 HOA IN OFF
S50	S50	M6-22A	MAIN PUMP 6 FAIL
S50C	S50C	M6-22B	MAIN PUMP 6 FAIL
S51	S51	M6-57	MAIN PUMP 6 MOTOR WDG HI-TEMP
S51C	S51C	M6-57A	MAIN PUMP 6 MOTOR WDG HI-TEMP
S52	S52	M6-58	MAIN PUMP 6 MOTOR HI-MOISTURE
S52C	S52C	M6-58A	MAIN PUMP 6 MOTOR HI-MOISTURE
S53	S53	M6-59	MAIN PUMP 6 BEARING HI-TEMP
S53C	S53C	M6-59A	MAIN PUMP 6 BEARING HI-TEMP
S54	S54	M6-60	MAIN PUMP 6 SEAL LEAK
S54C	S54C	M6-60A	MAIN PUMP 6 SEAL LEAK
S55	S55	M7-0	SUMP PUMP 1 BREAKER OPEN
S55C	S55C	M7-0A	SUMP PUMP 1 BREAKER OPEN
S56	S56	M7-1D	SUMP PUMP 1 RUNNING
S56C	S56C	M7-1E	SUMP PUMP 1 RUNNING
S57	S57	M7-15A	SUMP PUMP 1 HOA IN AUTO
S57C	S57C	M7-15	SUMP PUMP 1 HOA IN AUTO
S58	S58	M7-16	SUMP PUMP 1 HOA IN OFF
S58C	S58C	M7-15	SUMP PUMP 1 HOA IN OFF
S59	S59	M7-22A	SUMP PUMP 1 FAIL
S59C	S59C	M7-22B	SUMP PUMP 1 FAIL
S60	S60	M7-50	SUMP PUMP 1 MOTOR WDG HI-TEMP
S60C	S60C	M7-50A	SUMP PUMP 1 MOTOR WDG HI-TEMP
S61	S61	M7-51	SUMP PUMP 1 MOTOR HI-MOISTURE
S61C	S61C	M7-51A	SUMP PUMP 1 MOTOR HI-MOISTURE
S62	S62	M7-52	SUMP PUMP 1 BEARING HI-TEMP
S62C	S62C	M7-52A	SUMP PUMP 1 BEARING HI-TEMP
S63	S63	M8-0	SUMP PUMP 1 BREAKER OPEN
S63C	S63C	M8-0A	SUMP PUMP 1 BREAKER OPEN
S64	S64	M8-1D	SUMP PUMP 1 RUNNING
S64C	S64C	M8-1E	SUMP PUMP 1 RUNNING
S65	S65	M8-15A	SUMP PUMP 1 HOA IN AUTO
S65C	S65C	M8-15	SUMP PUMP 1 HOA IN AUTO
S66	S66	M8-16	SUMP PUMP 1 HOA IN OFF
S66C	S66C	M8-15	SUMP PUMP 1 HOA IN OFF
S67	S67	M8-22A	SUMP PUMP 2 FAIL
S67C	S67C	M8-22B	SUMP PUMP 2 FAIL
S68	S68	M8-50	SUMP PUMP 2 MOTOR WDG HI-TEMP
S68C	S68C	M8-50A	SUMP PUMP 2 MOTOR WDG HI-TEMP
S69	S69	M8-51	SUMP PUMP 2 MOTOR HI-MOISTURE
S69C	S69C	M8-51A	SUMP PUMP 2 MOTOR HI-MOISTURE
S70	S70	M8-52	SUMP PUMP 2 BEARING HI-TEMP
S70C	S70C	M8-52A	SUMP PUMP 2 BEARING HI-TEMP
S71	S71	M9-0	MIXER 1 BREAKER OPEN
S71C	S71C	M9-0A	MIXER 1 BREAKER OPEN
S72	S72	M9-4A	MIXER 1 RUNNING
S72C	S72C	M9-4B	MIXER 1 RUNNING
S73	S73	M9-11A	MIXER 1 HOA IN AUTO
S73C	S73C	M9-11	MIXER 1 HOA IN AUTO
S74	S74	M9-12	MIXER 1 HOA IN OFF
S74C	S74C	M9-11	MIXER 1 HOA IN OFF
S75	S75	M9-0B	MIXER 1 UNDERLOAD
S75C	S75C	M9-0C	MIXER 1 UNDERLOAD
S76	S76	M9-26A	MIXER 1 HI TEMP/MOIST.
S76C	S76C	M9-26B	MIXER 2 HI TEMP/MOIST.
S77	S77	M10-0	MIXER 2 BREAKER OPEN
S77C	S77C	M10-0A	MIXER 2 BREAKER OPEN
S78	S78	M10-4A	MIXER 2 RUNNING
S78C	S78C	M10-4B	MIXER 2 RUNNING
S79	S79	M10-11A	MIXER 2 HOA IN AUTO
S79C	S79C	M10-11	MIXER 2 HOA IN AUTO
S80	S80	M10-12	MIXER 2 HOA IN OFF
S80C	S80C	M10-11	MIXER 2 HOA IN OFF
S81	S81	M10-0B	MIXER 2 UNDERLOAD
S81C	S81C	M10-0C	MIXER 2 UNDERLOAD
S82	S82	M10-26A	MIXER 2 HI TEMP/MOIST.
S82C	S82C	M10-26B	MIXER 2 HI TEMP/MOIST.
S81	S81	M11-0	MIXER 3 BREAKER OPEN
S81C	S81C	M11-0A	MIXER 3 BREAKER OPEN
S82	S82	M11-4A	MIXER 3 RUNNING
S82C	S82C	M11-4B	MIXER 3 RUNNING
S83	S83	M11-11A	MIXER 3 HOA IN AUTO
S83C	S83C	M11-11	MIXER 3 HOA IN AUTO
S84	S84	M11-12	MIXER 3 HOA IN OFF
S84C	S84C	M11-11	MIXER 3 HOA IN OFF
S85	S85	M11-0B	MIXER 3 UNDERLOAD
S85C	S85C	M11-0C	MIXER 3 UNDERLOAD
S86	S86	M11-26A	MIXER 3 HI TEMP/MOIST.
S86C	S86C	M11-26B	MIXER 3 HI TEMP/MOIST.
S81	S81	M12-0	MIXER 4 BREAKER OPEN
S81C	S81C	M12-0A	MIXER 4 BREAKER OPEN
S82	S82	M12-4A	MIXER 4 RUNNING
S82C	S82C	M12-4B	MIXER 4 RUNNING
S83	S83	M12-11A	MIXER 4 HOA IN AUTO
S83C	S83C	M12-11	MIXER 4 HOA IN AUTO
S84	S84	M12-12	MIXER 4 HOA IN OFF
S84C	S84C	M12-11	MIXER 4 HOA IN OFF
S85	S85	M12-0B	MIXER 4 UNDERLOAD
S85C	S85C	M12-0C	MIXER 4 UNDERLOAD
S86	S86	M12-26A	MIXER 4 HI TEMP/MOIST.
S94C	S86C	M12-26B	MIXER 4 HI TEMP/MOIST.
S95	S82	M13-2D	DRAIN PUMP 1 RUNNING
S95C	S82C	M13-2E	DRAIN PUMP 1 RUNNING
S96	S86	M13-5A	DRAIN PUMP 1 HI TEMP/MOIST.
S96C	S86C	M13-5B	DRAIN PUMP 1 HI TEMP/MOIST.

SCADA PANEL DIGITAL INPUTS
TERMINAL BLOCK TBDI

TERM #	WIRE #	ORIGINATIION	DESCRIPTION OF INPUTS
S97	S82	M14-2D	DRAIN PUMP 2 RUNNING
S97C	S82C	M14-2E	DRAIN PUMP 2 RUNNING
S98	S86	M14-5A	DRAIN PUMP 2 HI TEMP/MOIST.
S98C	S86C	M14-5B	DRAIN PUMP 2 HI TEMP/MOIST.
S99	S82	M14-2D	FLASHING WATER PUMP RUNNING
S99C	S82C	M14-2E	FLASHING WATER PUMP RUNNING
S100	CP-201	CPDO-201	WETWELL LVL BELOW FLOAT EL. 380.5'
S100C	CP-201A	CPDO-201A	WETWELL LVL BELOW FLOAT EL. 380.5'
S101	CP-202	CPDO-202	WETWELL LVL BELOW FLOAT EL. 379.5'
S101C	CP-202A	CPDO-202A	WETWELL LVL BELOW FLOAT EL. 379.5'
S102	CP-203	CPDO-203	WETWELL LVL BELOW FLOAT EL. 378.5'
S102C	CP-203A	CPDO-203A	WETWELL LVL BELOW FLOAT EL. 378.5'
S103	CP-204	CPDO-204	WETWELL LVL BELOW FLOAT EL. 377.5'
S103C	CP-204A	CPDO-204A	WETWELL LVL BELOW FLOAT EL. 377.5'
S104	CP-205	CPDO-205	WETWELL LVL BELOW FLOAT EL. 377.0'
S104C	CP-205A	CPDO-205A	WETWELL LVL BELOW FLOAT EL. 377.0'
S105	CP-206	CPDO-206	WETWELL LVL BELOW FLOAT EL. 376.5'
S105C	CP-206A	CPDO-206A	WETWELL LVL BELOW FLOAT EL. 376.5'
S106	CP-207	CPDO-207	WETWELL LVL BELOW FLOAT EL. 376.0'
S106C	CP-207A	CPDO-207A	WETWELL LVL BELOW FLOAT EL. 376.0'
S107	CP-208	CPDO-208	WETWELL LVL BELOW FLOAT EL. 375.5'
S107C	CP-208A	CPDO-208A	WETWELL LVL BELOW FLOAT EL. 375.5'
S108	CP-209	CPDO-209	WETWELL LVL BELOW FLOAT EL. 375.0'
S108C	CP-209A	CPDO-209A	WETWELL LVL BELOW FLOAT EL. 375.0'
S109	CP-210	CPDO-210	WETWELL LVL BELOW FLOAT EL. 374.5'
S109C	CP-210A	CPDO-210A	WETWELL LVL BELOW FLOAT EL. 374.5'
S110	CP-211	CPDO-211	WETWELL LVL BELOW FLOAT EL. 374.0'
S110C	CP-211A	CPDO-211A	WETWELL LVL BELOW FLOAT EL. 374.0'
S111	CP-212	CPDO-212	WETWELL LVL BELOW FLOAT EL. 373.5'
S111C	CP-212A	CPDO-212A	WETWELL LVL BELOW FLOAT EL. 373.5'
S112	CP-213	CPDO-213	WETWELL LVL BELOW FLOAT EL. 373.0'
S112C	CP-213A	CPDO-213A	WETWELL LVL BELOW FLOAT EL. 373.0'
S113	CP-214	CPDO-214	WETWELL LVL BELOW FLOAT EL. 372.0'
S113C	CP-214A	CPDO-214A	WETWELL LVL BELOW FLOAT EL. 372.0'
S114	CP-215	CPDO-215	WETWELL LVL BELOW FLOAT EL. 371.5'
S114C	CP-215A	CPDO-215A	WETWELL LVL BELOW FLOAT EL. 371.5'
S115	CP-216	CPDO-216	WETWELL LVL BELOW FLOAT EL. 371.0'
S115C	CP-216A	CPDO-216A	WETWELL LVL BELOW FLOAT EL. 371.0'
S116	CP-217	CPDO-217	WETWELL LVL BELOW FLOAT EL. 370.5'
S116C	CP-217A	CPDO-217A	WETWELL LVL BELOW FLOAT EL. 370.5'
S117	CP-218	CPDO-218	WETWELL LVL BELOW FLOAT EL. 369.5'
S117C	CP-218A	CPDO-218A	WETWELL LVL BELOW FLOAT EL. 369.5'
S118	CP-219	CPDO-219	WETWELL LVL BELOW FLOAT EL. 368.5'
S118C	CP-219A	CPDO-219A	WETWELL LVL BELOW FLOAT EL. 368.5'
S119	S119	CPDO-2	PUMP CONTROL CKT POWER FAIL
S119C	S119C	CPDO-2A	PUMP CONTROL CKT POWER FAIL
S120	S120	CPDO-145	MAIN PUMP FAIL TO STOP
S120C	S120C	CPDO-145A	MAIN PUMP FAIL TO STOP
S121	S121	CPDO-391	ALARM ACKNOWLEDGED
S121C	S121C	CPDO-391A	ALARM ACKNOWLEDGED
S122	S122	CPDO-481	COMBUSTIBLE GAS WARNING
S122C	S122C	CPDO-481A	COMBUSTIBLE GAS WARNING
S123	S123	CPDO-482	COMBUSTIBLE GAS ALARM
S123C	S123C	CPDO-482A	COMBUSTIBLE GAS ALARM
S124	S124	CPDO-483	COMBUSTIBLE GAS DETECTOR FAIL
S124C	S124C	CPDO-483A	COMBUSTIBLE GAS DETECTOR FAIL
S125	S125	SWGR-1	UTILITY LINE 1 POWER FAIL
S125C	S125C	SWGR-1C	UTILITY LINE 1 POWER FAIL
S126	S126	SWGR-2	UTILITY LINE 1 TVSS ALARM
S126C	S126C	SWGR-2C	UTILITY LINE 1 TVSS ALARM
S127	S127	SWGR-3	UTILITY LINE 1 BREAKER CLOSED
S127C	S127C	SWGR-3C	UTILITY LINE 1 BREAKER CLOSED
S128	S128	SWGR-4	UTILITY LINE 2 POWER FAIL
S128C	S128C	SWGR-4C	UTILITY LINE 2 POWER FAIL
S129	S129	SWGR-5	UTILITY LINE 2 TVSS ALARM
S129C	S129C	SWGR-5C	UTILITY LINE 2 TVSS ALARM
S130	S130	SWGR-6	UTILITY LINE 2 BREAKER CLOSED
S130C	S130C	SWGR-6C	UTILITY LINE 2 BREAKER CLOSED
S131	S131	SWGR-7	BUS TIE 1 BREAKER CLOSED
S131C	S131C	SWGR-7C	BUS TIE 1 BREAKER CLOSED
S131	S131	SWGR-8	BUS TIE 2 BREAKER CLOSED
S131C	S131C	SWGR-8C	BUS TIE 2 BREAKER CLOSED
S132	S132	SWGR-9	GENERATOR BREAKER CLOSED
S132C	S132C	SWGR-9C	GENERATOR BREAKER CLOSED
S133	S133	GEN-1	GENERATOR RUNNING
S133C	S133C	GEN-1C	GENERATOR RUNNING
S132	S132	GEN-2	GENERATOR ALARM
S132C	S132C	GEN-2C	GENERATOR ALARM
S133	S133	GEN-3	GENERATOR DC POWER FAILURE
S133C	S133C	GEN-3C	GENERATOR DC POWER FAILURE
S134	S134	CO-1	GENERATOR ROOM CO ALARM
S134C	S134C	CO-1C	GENERATOR ROOM CO ALARM
S135	S135	CO-2	GENERATOR ROOM CO DETECTOR FAIL
S135C	S135C	CO-2C	GENERATOR ROOM CO DETECTOR FAIL
S136	S136	MCC1-1	MCC 1 POWER FAILURE
S136C	S136C	MCC1-1C	MCC 1 POWER FAILURE
S137	S137	MCC1-2	MCC 1 TVSS ALARM
S137C	S137C	MCC1-2C	MCC 1 TVSS ALARM
S138	S138	MCC2-1	MCC 2 POWER FAILURE
S138C	S138C	MCC2-1C	MCC 2 POWER FAILURE
S139	S139	MCC2-2	MCC 2 TVSS ALARM
S139C	S139C	MCC2-2C	MCC 2 TVSS ALARM
S140	S140	FAP-1	FIRE ALARM
S140C	S140C	FAP-1A	FIRE ALARM
S141	S141	PS-1	PUMP STATION INTRUSION
S141C	S141C	PS-1A	PUMP STATION INTRUSION
S142	S142	PS-2	PUMP STATION KEY SWITCH BYPASS
S142C	S142C	PS-2A	PUMP STATION KEY SWITCH BYPASS

SCADA PANEL DIGITAL INPUTS
TERMINAL BLOCK TBDI

TERM #	WIRE #	ORIGINATIION	DESCRIPTION OF INPUTS
S143	S143	CB-1	CONTROL BLDG INTRUSION
S143C	S143C	CB-1A	CONTROL BLDG INTRUSION
S144	S144	CB-2	CONTROL BLDG KEY SWITCH BYPASS
S144C	S144C	CB-2A	CONTROL BLDG KEY SWITCH BYPASS
S145	S145	UPS-1	UPS POWER FEEDER FAIL
S145C	S145C	UPS-2	UPS POWER FEEDER FAIL
S146	S146	UPS-3	UPS ALARM
S146C	S146C	UPS-4	UPS ALARM
S147	S147	DCPS-1	24VDC POWER SUPPLY ALARM
S147C	S147C	DCPS-2	24VDC POWER SUPPLY ALARM
S148	S148	TSH-1	CONTROL BUILDING HIGH TEMP ALARM
S148C	S148C	TSH-2	CONTROL BUILDING HIGH TEMP ALARM
S149	S149	CPP-1	CONTROL POWER PANEL TVSS ALARM
S149C	S149C	CPP-2	CONTROL POWER PANEL TVSS ALARM

SCADA PANEL DIGITAL OUTPUTS
TERMINAL BLOCK TBDO

TERM #	WIRE #	DESTINATION	DESCRIPTION OF OUTPUTS
S149	S86	M13-5A	
S149C	S86C	M13-5B	
P1	M1-7	M1-7	MAIN PUMP 1 CALL
P1X	M1-14	M1-14	MAIN PUMP 1 CALL
P2	M2-7	M2-7	MAIN PUMP 2 CALL
P2X	M2-14	M2-14	MAIN PUMP 2 CALL
P3	M3-7	M3-7	MAIN PUMP 3 CALL
P3X	M3-14	M3-14	MAIN PUMP 3 CALL
P4	M4-7	M4-7	MAIN PUMP 4 CALL
P4X	M4-14	M4-14	MAIN PUMP 4 CALL
P5	M5-7	M5-7	MAIN PUMP 5 CALL
P5X	M5-14	M5-14	MAIN PUMP 5 CALL
P6	M6-7	M6-7	MAIN PUMP 6 CALL
P6X	M6-14	M6-14	MAIN PUMP 6 CALL
P7	M7-7	M7-7	SUMP PUMP 1 CALL
P7X	M7-14	M7-14	SUMP PUMP 1 CALL
P8	M8-7	M8-7	SUMP PUMP 2 CALL
P8X	M8-84	M8-84	SUMP PUMP 2 CALL
P9	M9-2	M9-2	MIXER 1 CALL
P9X	M9-9	M9-9	MIXER 1 CALL
P10	M10-2	M10-2	MIXER 2 CALL
P10X	M10-9	M10-9	MIXER 2 CALL
P11	M11-2	M11-2	MIXER 3 CALL
P11X	M11-9	M11-9	MIXER 3 CALL
P12	M12-2	M12-2	MIXER 4 CALL
P12X	M12-9	M12-9	MIXER 4 CALL
P13	M13-2	M13-2	DRAIN PUMP 1 LOW LEVEL SHUNDOWN
P13X	M13-9	M13-9	DRAIN PUMP 1 LOW LEVEL SHUNDOWN
P14	M14-2	M14-2	DRAIN PUMP 2 LOW LEVEL SHUNDOWN
P14X	M14-9	M14-9	DRAIN PUMP 2 LOW LEVEL SHUNDOWN
P15	CP-1	CPDI-1	LEAD PUMP CALL
P15X	CP-181	CPDI-181	LEAD PUMP CALL
P16	CP-1	CPDI-1	LAG 1 PUMP CALL
P16X	CP-182	CPDI-182	LAG 1 PUMP CALL
P17	CP-1	CPDI-1	LAG 2 PUMP CALL
P17X	CP-183	CPDI-183	LAG 2 PUMP CALL
P18	CP-1	CPDI-1	LAG 3 PUMP CALL
P18X	CP-184	CPDI-184	LAG 3 PUMP CALL
P19	CP-1	CPDI-1	LAG 4 PUMP CALL
P19X	CP-185	CPDI-185	LAG 4 PUMP CALL
P20	CP-1	CPDI-1	LAG 5 PUMP CALL
P20X	CP-186	CPDI-186	LAG 5 PUMP CALL
P21	CP-1	CPDI-1	LAED SUMP PUMP CALL
P21X	CP-187	CPDI-187	LAED SUMP PUMP CALL
P22	CP-1	CPDI-1	LAG SUMP PUMP CALL
P22X	CP-188	CPDI-188	LAG SUMP PUMP CALL
P23	CP-1	CPDI-1	MIXER CALL
P23X	CP-189	CPDI-189	MIXER CALL
P24	CP-376	CPDI-376	ALARM ACKNOWLEDGE
P24X	CP-376A	CPDI-376A	ALARM ACKNOWLEDGE
P25	CP-373	CPDI-373	DISPATCHER'S PANEL COMMUNICATION FAIL
P25X	CP-375	CPDI-375	DISPATCHER'S PANEL COMMUNICATION FAIL
P26	CP-5	CPDI-5	ENABLE RTU-1 OURPUT
P26X	CP-11	CPDI-11	ENABLE RTU-1 OURPUT

SCADA PANEL ANALOG INPUTS
TERMINAL BLOCK TBAI

TERM #	WIRE #	ORIGINATIION	DESCRIPTION OF INPUTS
L1	CP-100	CPDO-100	WETWELL LEVEL, ULTRASONIC
L1C	CP-100C	CPDO-100C	WETWELL LEVEL, ULTRASONIC
L1S	SHIELD	CPDO-100S	
L2	CP-101	CPDO-101	WETWELL LEVEL, HYDROSTATIC
L2C	CP-101C	CPDO-101C	WETWELL LEVEL, HYDROSTATIC
L2S	SHIELD	CPDO-101S	

E32

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

SCADA PANEL TERMINAL SCHEDULE

SCALE: AS SHOWN | DRAWN BY: LMJ

DATE: 09-12-05 | CHECKED BY: KCC

PLOT DATE: *DATE-TIME*

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

#DATE#
DATE-TIME
DGN-SPEC
REF
RES

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)1T-17	ST. CLAIR	77	75
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

PLAN
NOTE BOOK
NO.
SURVEYED
PLOTTED
ALIGNMENT
R/W CHECKED
PLT. OF WAY CHECKED
ROAD FILE NAME
BY
DATE

CONDUIT AND CABLE SCHEDULE

CONDUIT NO.	CONDUIT SIZE(")	CABLE Q'TY	CABLE SIZE	FROM	TO	REMARKS
P-1A	4	3	750MCM	UTILITY XFMR A	480V SWGR	
		1	250MCMG			
P-1B	4	3	750MCM	UTILITY XFMR A	480V SWGR	
		1	250MCMG			
P-1C	4	3	750MCM	UTILITY XFMR A	480V SWGR	
		1	250MCMG			
P-1D	4	3	750MCM	UTILITY XFMR A	480V SWGR	
		1	250MCMG			
P-1E	4	3	750MCM	UTILITY XFMR A	480V SWGR	
		1	250MCMG			
P-1F	4	3	750MCM	UTILITY XFMR A	480V SWGR	
		1	250MCMG			
P-2A	4	3	750MCM	UTILITY XFMR B	480V SWGR	
		1	250MCMG			
P-2B	4	3	750MCM	UTILITY XFMR B	480V SWGR	
		1	250MCMG			
P-2C	4	3	750MCM	UTILITY XFMR B	480V SWGR	
		1	250MCMG			
P-2D	4	3	750MCM	UTILITY XFMR B	480V SWGR	
		1	250MCMG			
P-2E	4	3	750MCM	UTILITY XFMR B	480V SWGR	
		1	250MCMG			
P-2F	4	3	750MCM	UTILITY XFMR B	480V SWGR	
		1	250MCMG			
P-3A	4	3	500MCM	480V SWGR	MCC-1	
		1	4/0G			
P-3B	4	3	500MCM	480V SWGR	MCC-1	
		1	4/0G			
P-3C	4	3	500MCM	480V SWGR	MCC-1	
		1	4/0G			
P-3D	4	3	500MCM	480V SWGR	MCC-1	
		1	4/0G			
P-4A	4	3	500MCM	480V SWGR	MCC-2	
		1	4/0G			
P-4B	4	3	500MCM	480V SWGR	MCC-2	
		1	4/0G			
P-4C	4	3	500MCM	480V SWGR	MCC-2	
		1	4/0G			
P-4D	4	3	500MCM	480V SWGR	MCC-2	
		1	4/0G			
P-5A	4	3	500MCM	480V SWGR	WELLS	
		1	4/0G			
P-5B	4			480V SWGR	WELLS (FUTURE FDR)	
P-6	3	3	500MCM	MCC-1	SWP-1 JB VIA DISC SW	
		1	4/0G			
P-7	3	3	500MCM	MCC-1	SWP-3 JB VIA DISC SW	
		1	4/0G			
P-8	3	3	500MCM	MCC-1	SWP-5 JB VIA DISC SW	
		1	4/0G			
P-9	2	3	4/0	MCC-1	SSP-1 JB VIA DISC SW	
		1	4G			
P-10	1	4	8	MCC-1	DP-1 VIA DS	
P-11	3/4	4	10	MCC-1	SM-1 JB	
P-12	3/4	4	10	MCC-1	SM-3 JB	
P-13	3/4	4	10	MCC-1	AHU-1	
P-14	3/4	4	10	MCC-1	EUH-3 VIA DISC	
P-15	3/4	4	10	MCC-1	MONORAIL 1 JB VIA DS	
P-16	2	3	4/0	MCC-1	ATS	
		1	4G			
P-17	3	3	500MCM	MCC-2	SWP-2 JB VIA DISC SW	
		1	4/0G			
P-18	3	3	500MCM	MCC-2	SWP-4 JB VIA DISC SW	
		1	4/0G			
P-19	3	3	500MCM	MCC-2	SWP-6 JB VIA DISC SW	
		1	4/0G			
P-20	2	3	4/0	MCC-2	SSP-2 JB VIA DISC SW	
		1	4G			
P-21	3/4	4	10	MCC-2	DP-2 VIA JB	
P-22	3/4	4	10	MCC-2	FWP-1 VIA DS	
P-23	3/4	4	10	MCC-2	SM-2 JB	
P-24	3/4	4	10	MCC-2	SM-4 JB	

CONDUIT AND CABLE SCHEDULE

CONDUIT NO.	CONDUIT SIZE(")	CABLE Q'TY	CABLE SIZE	FROM	TO	REMARKS
P-25	3/4	7	10	MCC-2	SF-5	
P-26	3/4	4	10	MCC-2	MONORAIL 2 JB VIA DS	
P-27	2	3	4/0	MCC-2	ATS	
		1	4G			
P-28	2	3	4/0	ATS	PDP-A	
		1	4G			
P-29	3/4	4	10	PDP-A	LTG XFMR A	
P-30	3/4	4	10	PDP-A	LTG XFMR B	
P-31	3/4	4	10	PDP-A	CPP XFMR	
P-31A	3/4	4	10	CPP XFMR	CPP	
P-32	1	4	6	PDP-A	GENERATOR AUX PWR CTR	
P-33	1	4	6	PDP-A	PP-2	
P-34	3/4	4	10	MCC-1	EF-2 VIA DS	
P-35	3/4	4	10	MCC-2	EF-3 VIA DS	
P-35A	3/4	4	10	PDP-A	POWER RECPS	
P-36	1	4	6	LTG XFMR A	LP-A	
P-37	1	4	6	LTG XFMR B	LP-B	
P-38	1	4	6	PDP-A	CPP XMFR	
P-38A	3/4	4	10	CPP XFMR	CPP	
P-39	3/4	4	10	PP-2	SF-2	
P-40	3/4	4	10	PP-2	SF-4	
P-41	3/4	4	10	PP-2	EUH-1	
P-42	3/4	4	10	PP-2	EUH-2	
P-43	3/4	4	10	PP-2	EF-1 DISC SW	EXISTING
C-1	3/4	16	14	MCC-1	SWP-1 JB	
C-2	3/4	16	14	MCC-1	SWP-3 JB	
C-3	3/4	16	14	MCC-1	SWP-5 JB	
C-4	3/4	16	14	MCC-1	SSP-1 JB	
C-5	3/4	16	14	MCC-1	DP-1 JB	
C-6	3/4	16	14	MCC-1	SM-1 JB	
C-7	3/4	16	14	MCC-1	SM-3 JB	
C-8	3/4	16	14	MCC-2	SWP-2 JB	
C-9	3/4	16	14	MCC-2	SWP-4 JB	
C-10	3/4	16	14	MCC-2	SWP-6 JB	
C-11	3/4	16	14	MCC-2	SSP-2 JB	
C-12	3/4	16	14	MCC-2	DP-2,	
C-13	3/4	16	14	MCC-2	FWP-1	
C-14	3/4	16	14	MCC-2	SM-2 JB	
C-15	3/4	16	14	MCC-2	SM-4 JB	
C-16	2	60	14	CONTROL PANEL	MCC NO. 1	
C-17	2	60	14	CONTROL PANEL	MCC NO. 2	
C-18	3/4	12	14	CONTROL PANEL	480V SWGR	
C-19	2	6	14	CONTROL PANEL	GEN CONT PANEL	
C-20	1	64	14	CONTROL PANEL	SCADA PANEL	
C-21	1	4	14	CONTROL PANEL	FAP	
C-22	1	20	14	CONTROL PANEL	FLOAT TB1	
C-23	1	20	14	CONTROL PANEL	FLOAT TB2	
C-24	1	2	14	CONTROL PANEL	PS ALARM HORNS	
C-25	1	4	14	CONTROL PANEL	CO DETECTOR	
C-26	1	6	14	SCADA PANEL	CO DETECTOR	
C-27	2	100	14	SCADA PANEL	MCC NO. 1	
C-28	2	100	14	SCADA PANEL	MCC NO. 2	
C-29	2	12	14	SCADA PANEL	480V SWGR	
C-30	2	6	14	SCADA PANEL	GEN CONTROL PANEL	
C-31	1	4	14	SCADA PANEL	UPS	
C-32	1	2	12	SCADA PANEL	24V DC POWER SUPPLY	
C-33	1	4	14	SCADA PANEL	24V DC POWER SUPPLY	
C-34	1	2	14	SCADA PANEL	CPP	
C-35	1	2	14	SCADA PANEL	CONT. ROOM TEMP. SW.	

CONDUIT AND CABLE SCHEDULE

CONDUIT NO.	CONDUIT SIZE(")	CABLE QTY	CABLE SIZE	FROM	TO	REMARKS
S-1	3/4	1	2/C#18SH	SCADA PANEL	LEVEL XMTR LT-100	
S-2	3/4	1	2/C#18SH	SCADA PANEL	LEVEL XMTR LT-101	
S-3	3/4	2	2/C#18SH	SCADA PANEL	CONTROL PANEL	
S-4	3/4	10	14	SCADA PANEL	CONTROL PANEL	
S-5	3/4	1	NOTE A	SCADA PANEL	PUMP STA. OPR PNL GIP-B	
S-6	3/4	1	NOTE A	SCADA PANEL	PUMP STA. OPR PNL GIP-B	
S-7	3/4	1	NOTE B	SCADA PANEL	480V SWGR	
S-8	3/4	1	NOTE C	SCADA PANEL	480V SWGR	
S-9	3/4	1	NOTE C	SCADA PANEL	GENERATOR CONTRO PANEL	
S-10	1	3	NOTE C	SCADA PANEL	COMPUTER & PRINTERS	
S-11	3/4	1	NOTE D	480V SWGR	MCC-2	
S-12	3/4	1	NOTE D	MCC-2	MCC-1	
S-13	3/4	6	14	CONTROL PANEL	PUMP STA DOOR SW	
S-14	3/4	6	14	CONTROL PANEL	E/G BLDG DOOR SW	
S-15	3/4	1	3/C#18SH	CONTROL PANEL	GAS SENSOR CGD1	
S-16	3/4	1	3/C#18SH	CONTROL PANEL	GAS SENSOR CGD2	
S-17	3/4	1	3/C#18SH	CONTROL PANEL	GAS SENSOR CGD3	
S-18	3/4	1	3/C#18SH	CONTROL PANEL	GAS SENSOR CGD4	
S-19	3/4	1	3/C#18SH	CONTROL PANEL	GAS SENSOR CGD5	
S-20	3/4	1	3/C#18SH	CONTROL PANEL	GAS SENSOR CGD6	
S-21	3/4	2	14	FAP	E/G BLDG SD1,2	
S-22	3/4	2	14	FAP	E/G BLDG STROBES	
S-23	3/4	6	14	FAP	PUMP STA SD3-15	
S-24	3/4	6	14	FAP	PUMP STA STROBES	
S-25	3/4	2	14	FAP	E/G BLDG SD1,2	
S-26	3/4	2	14	FAP	E/G BLDG STROBES	
P-44A	4	3	750MCM	GEN TERMINAL BOX	480V SWGR	
		1	250MCMG			
P-44B	4	3	750MCM	GEN TERMINAL BOX	480V SWGR	
		1	250MCMG			
P-44C	4	3	750MCM	GEN TERMINAL BOX	480V SWGR	
		1	250MCMG			
P-44D	4	3	750MCM	GEN TERMINAL BOX	480V SWGR	
		1	250MCMG			
P-44E	4	3	750MCM	GEN TERMINAL BOX	480V SWGR	
		1	250MCMG			
P-44F	4	3	750MCM	GEN TERMINAL BOX	480V SWGR	
		1	250MCMG			

NOTES
A: CONTROLNET CABLES
B: 24VDC(2#12) & DEVICENET CABLES
C: ETHERNET CABLE
D: DEVICENET CABLE

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

E33

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

CONDUIT & CABLE SCHEDULE

SCALE: AS SHOWN DRAWN BY: LMJ
DATE: 09-12-05 CHECKED BY: KCC

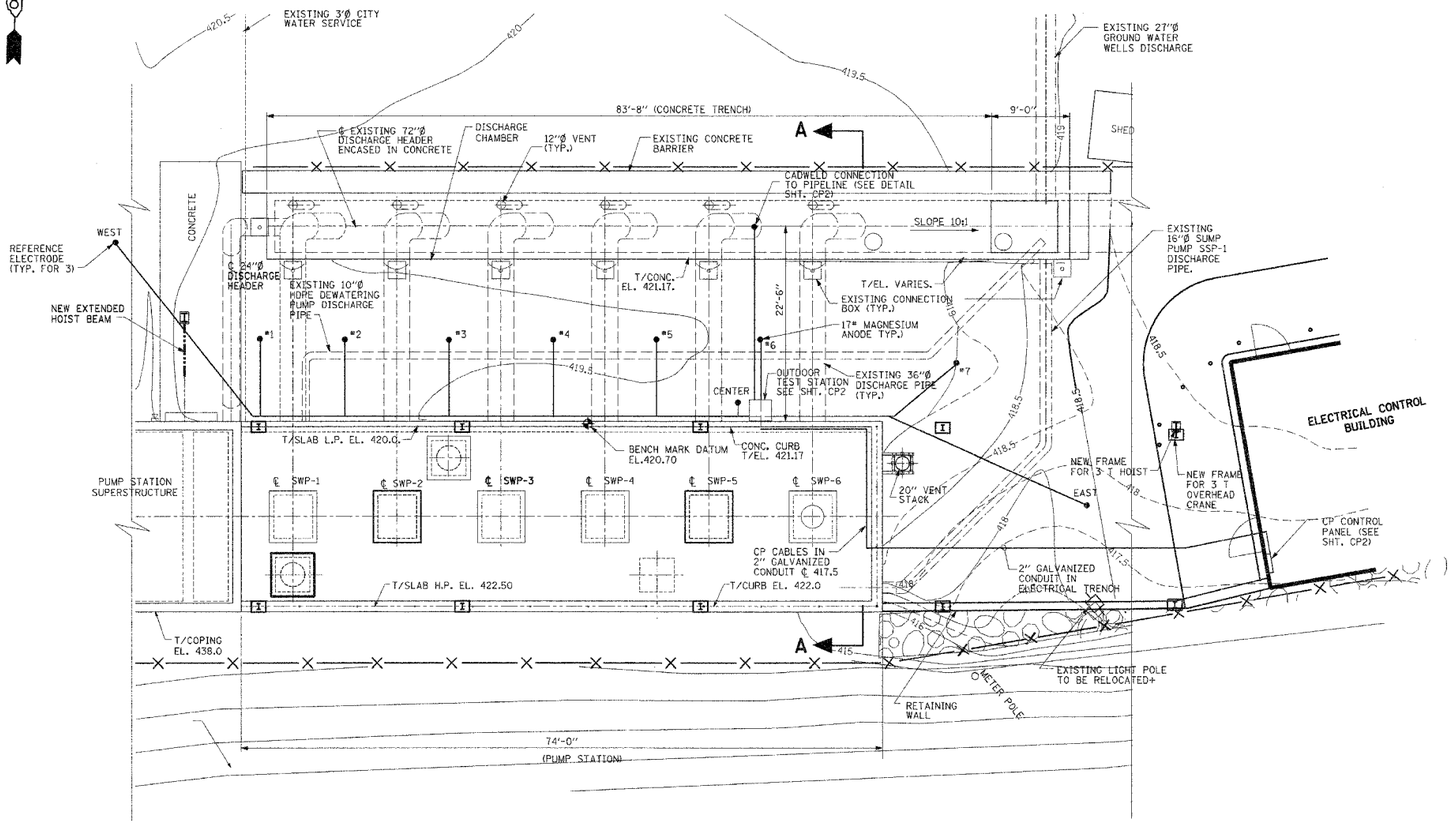
PLOT DATE: *DATE-TIME*

$&DATE&$
DATE-TIME
DGN-SPEC
DES-C
REF

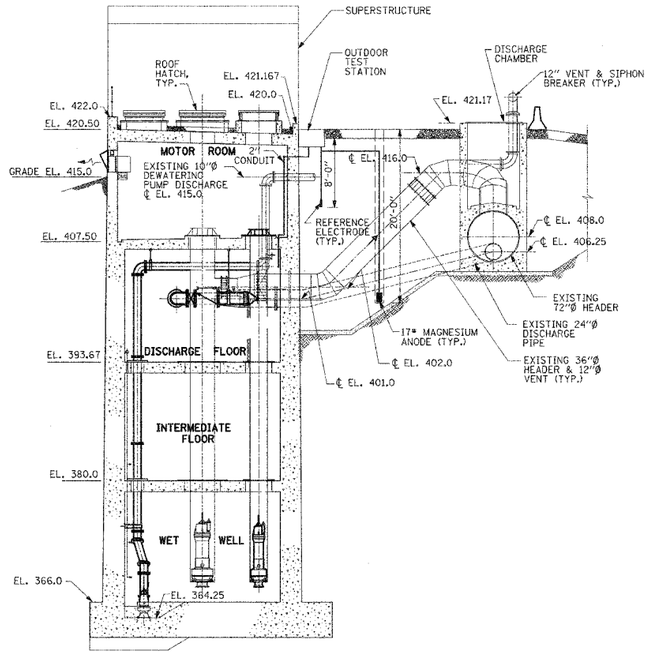
C:\D\DOT0421\Design\E33.dgn 10/18/2005 2:08:22 PM

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	76
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

PLAN	DATE	BY
SURVEYED		
PLOTTED		
ALIGNMENT CHECKED		
RT. OF WAY CHECKED		
NOTE BOOK		
BOND ROLL NAME		
NO.		

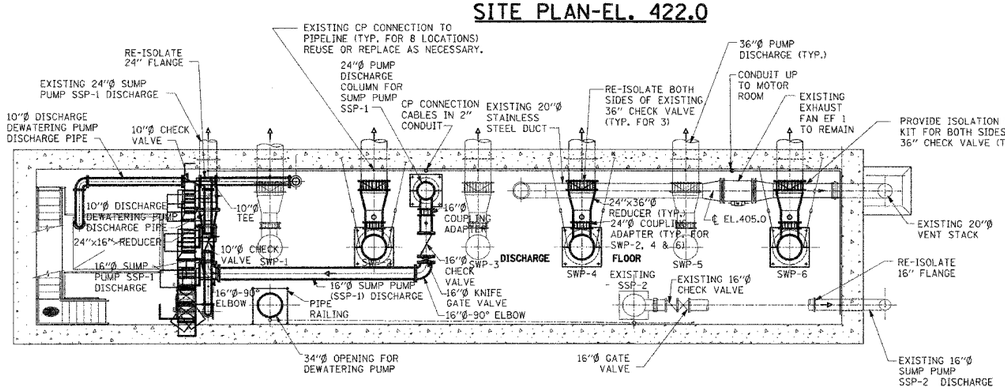


SITE PLAN-EL. 422.0

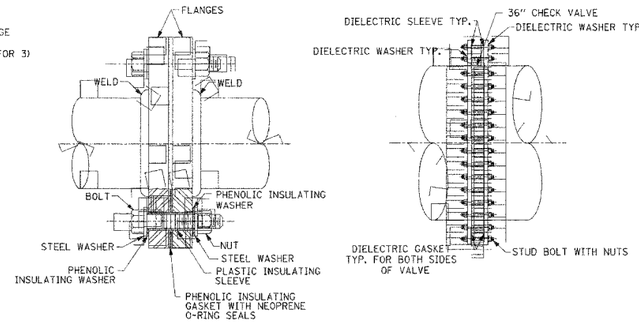


SECTION A-A

NOTE: LOCATE AND EXCAVATE TO TOP OF EXISTING CONNECTION BOXES. DISCONNECT ALL LEADS AND CUT OFF ANY EXPOSED COPPER. SEAL ALL WIRE END. RETURN ALL LEADS TO BOX, CLOSE AND REBURY.

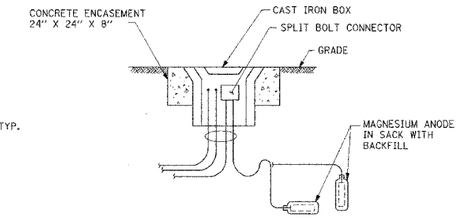


PLAN @ EL. 393.67



METALLIC PIPE INSULATING FLANGES

NO SCALE



EXISTING CONNECTION BOX DETAIL

NO SCALE

0' 4' 8' 16'

SCALE: 1"= 8'

CP1

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

CATHODIC PROTECTION FOR PUMP DISCHARGE HEADERS

SCALE: AS SHOWN
DATE: 09-12-05
DRAWN BY: CTM
CHECKED BY: KC

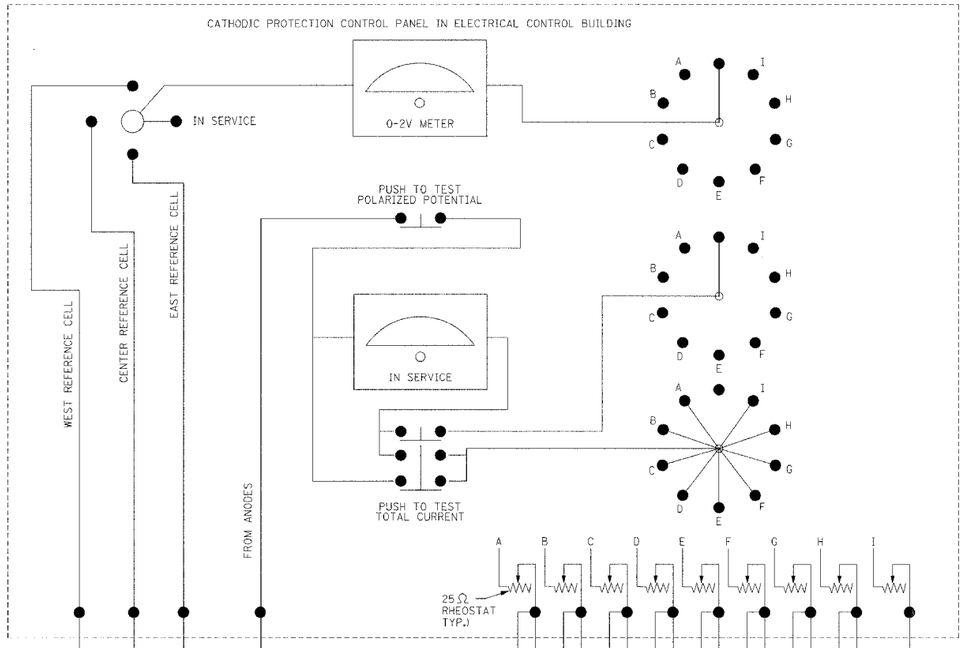
PLOT DATE: *DATE-TIME*

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

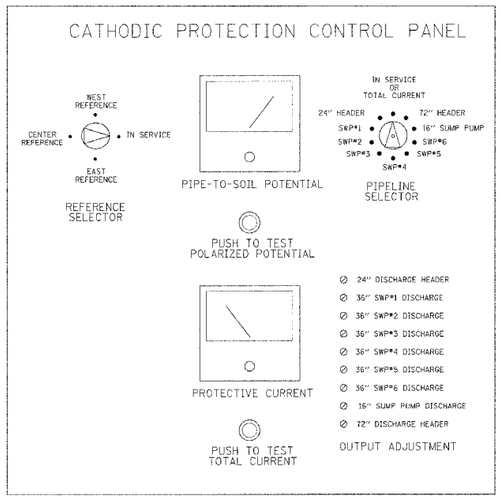
*#DATE#$
DATE-TIME
DGN-SPEC
SET
REF

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-(1,2)T-17	ST. CLAIR	77	77
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

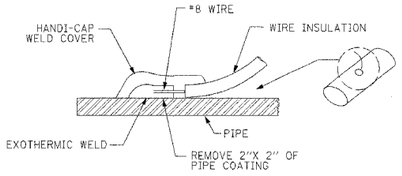
CATHODIC PROTECTION CIRCUIT DIAGRAM



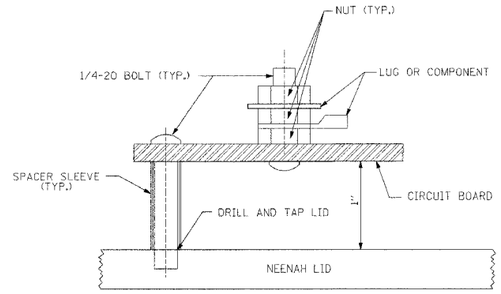
CATHODIC PROTECTION CONTROL PANEL



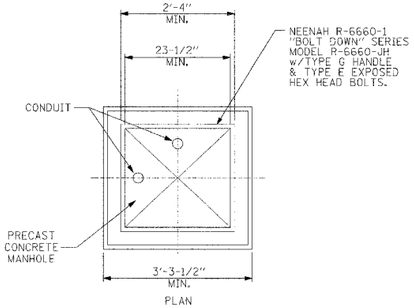
SUGGESTED CONTROL PANEL LAYOUT



#8 CABLE CONNECTION TO STEEL MAIN

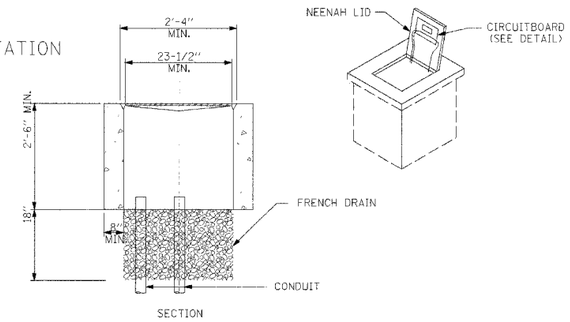


PARTIAL SECTION

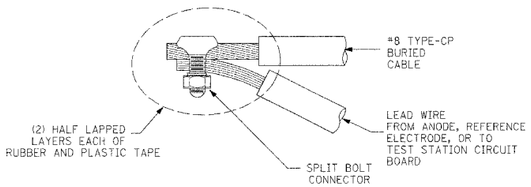


PLAN

OUTDOOR TEST STATION
NO SCALE



SECTION



SPLICE DETAIL
NO SCALE

ALVORD, BURDICK & HOWSON, L.L.C.
ENGINEERS CHICAGO

CP2

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BOWMAN AVENUE PUMP STATION REHABILITATION

CATHODIC PROTECTION DETAILS

SCALE: AS SHOWN
DATE: 09-12-05
DRAWN BY: CTM
CHECKED BY: KC

PLOT DATE: •DATE-TIME•

PLAN SUBMITTED / REVISED / AS-BUILT ALIGNMENT CHECKED / AS-BUILT MARKED / FIELD BOOK NO. / FILE NAME / BY / DATE

•FILE NAME• •USER NAME• •DESIGNED• •DRAWN• •CHECKED• •DATE/TIME• •SCALE• •REF• •REF•