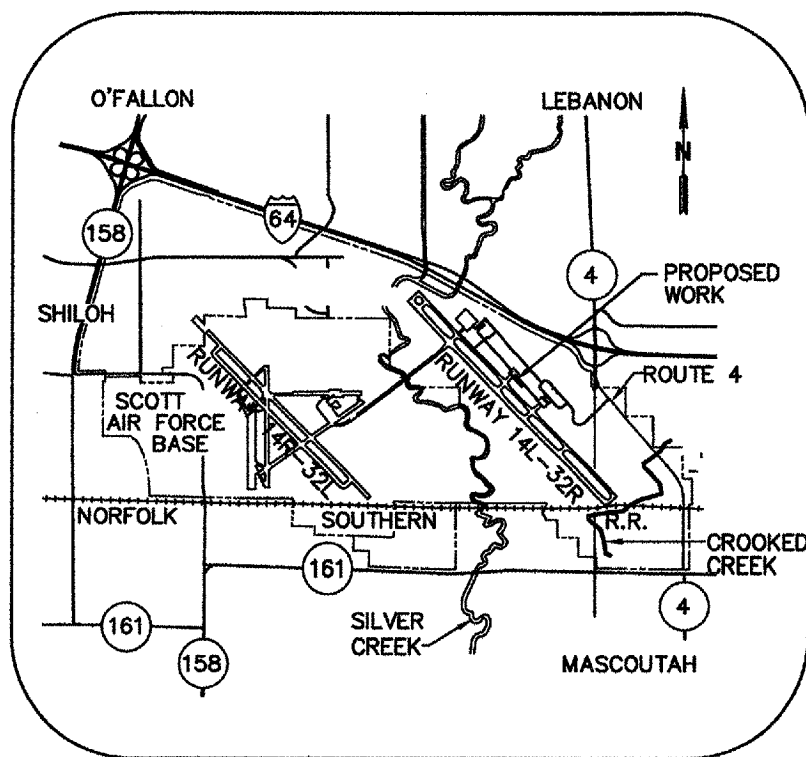


# ST. CLAIR COUNTY, ILLINOIS CONSTRUCTION PLANS

FOR



## ACTIVATE GLYCOL COLLECTION SYSTEM

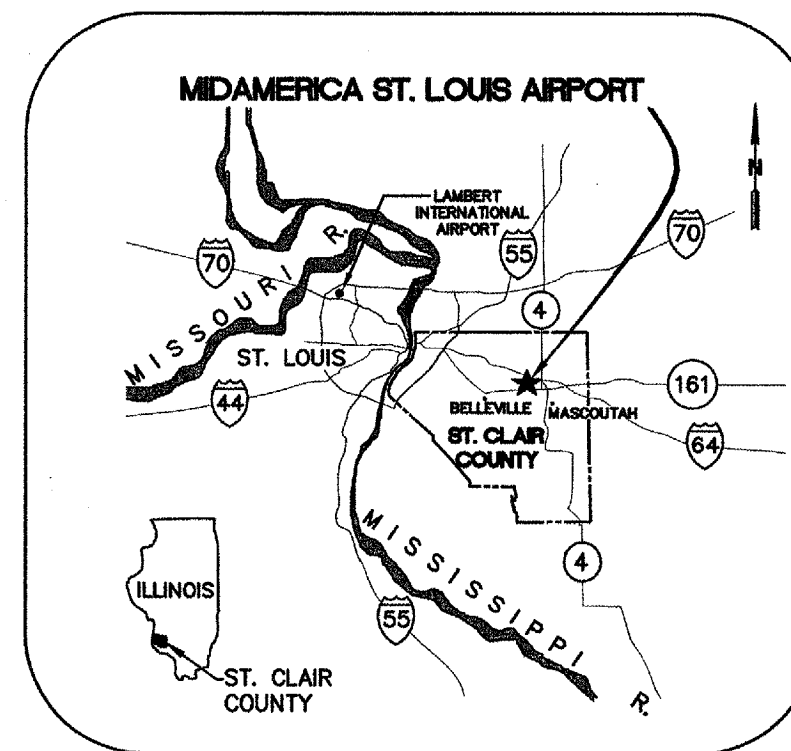


**VICINITY MAP**

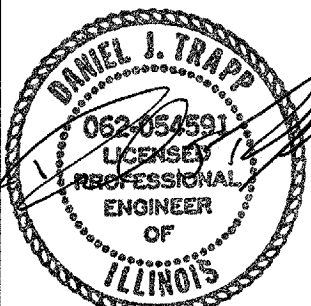
**JUNE 10, 2005**



1075 Eastgate Drive  
O'Fallon, Illinois 62269  
PH 618-624-2628  
FAX 618-624-2730



**LOCATION MAP**



EXT 11/30/05

**EARTH TECH, INC.**

SUBMITTED: *[Signature]*  
DATE: 6/10/05

**ST CLAIR COUNTY  
PUBLIC BUILDING COMMISSION  
AIRPORT SPONSOR**

APPROVED: *[Signature]*  
DATE: 6/10/05

IDOT PROJECT NO.	<u>BLV-3500</u>
AIP PROJECT NO.	<u>3-17-0146-xx</u>
EARTHTECH NO.	<u>84723</u>

**SUMMARY OF QUANTITIES**

ITEM NO.	ITEM	UNIT	QUANTITY	
			BASE BID	ALTERNATE 1
AR108092	1/C #12 XLP-USE	L.F.	300	0
AR110501	1-WAY CONC. ENCASED DUCT	L.F.	40	0
AR751530	MANHOLE	EACH	2	0
AR801808	CIPP - 21"	L.F.	575	0
AR801809	8" VALVE & ACTUATOR	EACH	2	0
AR801810	CABLE TC 2#12 WITH GND-THHW-2	L.F.	2,000	0
AR801811	CABLE TC 7#14-THHW-2	L.F.	2,000	0
AR801812	1 INCH GRS EXPOSED CONDUIT	L.F.	100	0
AR801813	REMOVE POC PAD	S.F.	15	0
AR801815	15A, 2POLE CB	EACH	1	0
AR801816	CONTROL STATION	EACH	2	0
AR801817	16X8X6 NEMA 4 JB	EACH	1	0
AS751530	MANHOLE	EACH	0	1
AS801807	CIPP - 18"	L.F.	0	274

**INDEX TO SHEETS**

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	INDEX TO SHEETS, QUANTITIES, ABBREVIATIONS, AND LEGENDS
3	CONSTRUCTION SAFETY PLAN (1 OF 2)
4	CONSTRUCTION SAFETY PLAN (2 OF 2)
5	SITE PLAN
6	DETAILS
7	GLYCOL PIPE PROFILES
8	ELECTRICAL GENERAL NOTES, LEGEND, ABBREVIATIONS, ELECTRICAL DETAILS, AND DIAGRAMS
9	ELECTRICAL SITE PLAN

**LEGEND**

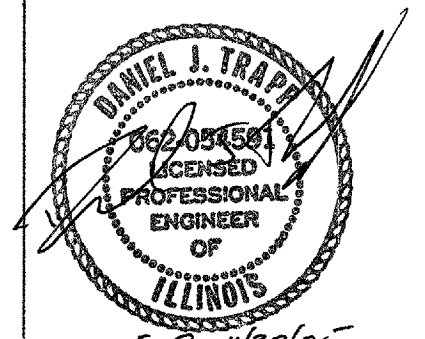
EXISTING	DESCRIPTION	PROPOSED
	FIRE HYDRANT AND VALVE	
	STRUCTURE	
	STORM CULVERT WITH FLARED END SECTION	
	STORM SEWER	
	SUBDRAIN	
	EXISTING GLYCOL PIPE LINE	
	EXISTING FORCE MAIN	
	GLYCOL PIPE LINE TO BE REHABILITATED	
	UTILITY POLE	
	SOIL BORING	
	TEST PIT	
	WATER LINE	
	GAS LINE	
	SANITARY SEWER LINE	
	FENCE	
	CENTERLINE	
	SHOULDER	
	436 CONTOUR	
	SIGN	
	RIPRAP	
	COMMUNICATIONS MH	
	ELECTRICAL MH	
	STRAW BALE	
	MANHOLE	
	VALVE	
	JUNCTION BOX	
	LIGHT	

**ABBREVIATIONS**

AASHTO	= AMERICAN ASSOCIATION OF STATE HIGHWAY TRANSPORTATION OFFICIALS	MAINT	= MAINTENANCE
AC	= ADVISORY CIRCULAR	MAX	= MAXIMUM
APPROX	= APPROXIMATE	MH	= MANHOLE
ARFF	= AIRPORT RESCUE AND FIREFIGHTING FACILITY	MIN	= MINIMUM
ATCT	= AIR TRAFFIC CONTROL TOWER	MSDS	= MATERIAL SAFETY DATA SHEETS
BLDG	= BUILDING	N	= NORTH
CL, Q	= CENTERLINE	NO	= NUMBER
C.O.	= CLEAN OUT	NTS	= NOT TO SCALE
CP	= CONNECTION POINT	OD	= OUTSIDE DIAMETER
CY	= CUBIC YARD	OL	= OUTLET
DIA	= DIAMETER	OSHA	= OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
DWG	= DRAWING	PAPI	= PRECISION APPROACH PATH INDICATOR
E	= EAST	PROP	= PROPOSED
EA	= EACH	PVC	= POLYVINYL CHLORIDE, POINT OF VERTICAL CURVATURE
EL	= ELEVATION		= RADIUS
ELEC	= ELECTRIC	RE	= RESIDENT ENGINEER
ELEV	= ELEVATION	REL	= RELOCATE
EXIST	= EXISTING	REV	= REVISION
EXT	= EXTENSION	RMV	= REMOVE
φ	= DIAMETER	RR	= RAILROAD
FAA	= FEDERAL AVIATION ADMINISTRATION	RT	= RIGHT
FAR	= FEDERAL AVIATION REGULATION	RVR	= RUNWAY VISUAL RANGE
FES	= FLARED END SECTION	SAN	= SANITARY
FL, E	= FLOWLINE	SF	= SQUARE FEET
HP	= HIGH POINT	SPA	= SPACING
	= INTERSTATE	SPECS	= SPECIFICATIONS
IDOT	= ILLINOIS DEPARTMENT OF TRANSPORTATION	STA	= STATION
INV	= INVERT	STD	= STANDARD
L	= LENGTH	SY	= SQUARE YARDS
LAT	= LATITUDE	T/W	= TAXIWAY
LBS	= POUNDS	TP	= TEST PIT
LF	= LINEAR FEET	TYP	= TYPICAL
LONG	= LONGITUDE	UE	= UNCLASSIFIED EXCAVATION
LP	= LOW POINT	UIP	= USE IN PLACE
LT	= LEFT	WT	= WEIGHT

**GENERAL NOTES:**

- UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS; AND, THEREFORE, THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. IT IS POSSIBLE THERE MAY BE OTHERS, THE EXISTENCE OF WHICH IS PRESENTLY NOT KNOWN OR SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THEIR EXISTENCE AND EXACT LOCATION AND TO AVOID DAMAGE THERETO.
- REFER TO SHEET 8 FOR ELECTRICAL NOTES, LEGENDS, AND ABBREVIATIONS.
- CALCULATED QUANTITIES ARE BASED ON DESIGN CONDITIONS. ACTUAL CONSTRUCTION QUANTITIES WILL BE MEASURED USING THE METHODS DEPICTED IN THE SPECIFICATIONS.



REV.	DATE	BY	APPR.	DESCRIPTION	PLOT FILE	REV.	DATE	BY	APPR.	DESCRIPTION	PLOT FILE

DESIGNED BY: JRK  
DRAWN BY: JRK  
CHECKED BY: DJT  
DATE: 6/10/05

**MidAmerica**  
ST. LOUIS AIRPORT

**EarthTech**  
A Tyco International Inc. Company

ACTIVATE GLYCOL COLLECTION SYSTEM

1075 Eastgate Drive  
O'Fallon, Illinois 62269  
PH 618-624-2628  
FAX 618-624-2730



**INDEX TO SHEETS, QUANTITIES, ABBREVIATIONS, AND LEGENDS**

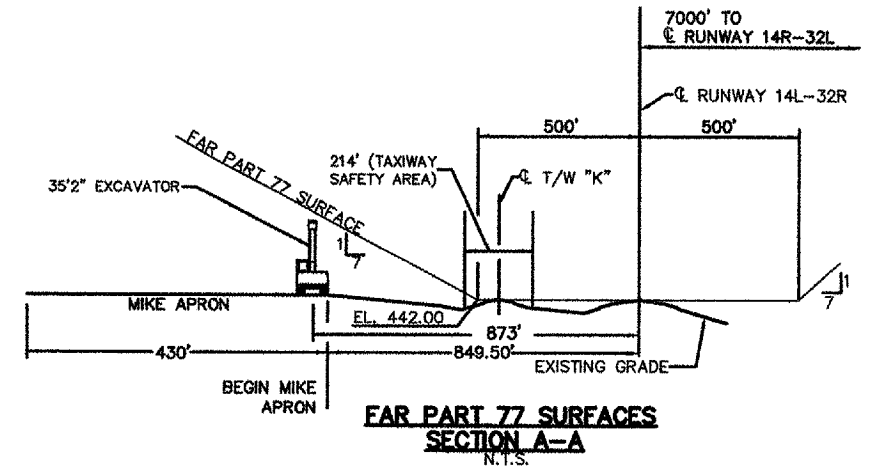
DWG. FILE NAME  
84723-C-02

SHEET NO.  
2

**NOTES:**

- GENERAL OPERATIONAL SAFETY SHALL BE GOVERNED BY FAA AC 150/5370-2E. CONTRACTOR FACILITIES/EQUIPMENT SHALL NOT PENETRATE FAR PART 77 SURFACES (SEE SECTION A-A).
- CONSTRUCTION ACTIVITIES IN CLASSIFIED AREA. CLASSIFIED AREAS ARE ALL AREAS WITHIN 200 FEET AND 107 FEET OF RUNWAY AND TAXIWAY CENTERLINES, RESPECTIVELY. NO CONSTRUCTION ACTIVITIES SHALL OCCUR WITHIN CLASSIFIED AREAS OR AREAS BOUNDED BY CLASSIFIED AREAS OF OPEN RUNWAYS/TAXIWAYS, EXCEPT AS PERMITTED BY THE AIRPORT OPERATIONS MANAGER AND THE RESIDENT ENGINEER. TEMPORARY RUNWAY/TAXIWAY DEACTIVATION, PREDICATED ON WIND CONDITIONS, WILL BE ACCOMPLISHED BY ATCT CONTROL PROCEDURES. REACTIVATION WILL OCCUR ON SHORT NOTICE WHEREUPON THE CONTRACTOR WILL VACATE SUCH CLASSIFIED AREAS AND AREAS BOUNDED THEREBY. VACATING SHALL INCLUDE REMOVAL OF ALL CONSTRUCTION EQUIPMENT, MATERIALS, WORKERS AND THE COVERING OF ALL OPEN MANHOLES.
- CONSTRUCTION IN UNCLASSIFIED AREAS. UNCLASSIFIED AREAS ARE ALL AREAS NOT LOCATED IN CLASSIFIED AREAS. UNRESTRICTED CONSTRUCTION WILL BE PERMITTED IN UNCLASSIFIED AREAS EXCEPT AS REQUIRED HEREIN, IN THE SPECIFICATIONS, AND AS ESTABLISHED IN THE PRE-CONSTRUCTION CONFERENCE.
- CONSTRUCTION IN NAVIGATIONAL AID CRITICAL AREAS. NO CONSTRUCTION ACTIVITIES ARE SCHEDULED NEAR ANY ILS, GLIDE SLOPE OR LOCALIZER CRITICAL AREAS. SHOULD CONSTRUCTION ACTIVITY WITHIN THESE AREAS BE NECESSARY, THESE AREAS WILL BE RESTRICTED WHEN THE RESPECTIVE FACILITIES ARE IN USE. ACCESS TO THESE AREAS WILL BE SUBJECT TO THE SAME OPERATIONAL CONTROL PROCEDURES AS DESCRIBED IN ABOVE FOR CLASSIFIED AREAS.
- LIMITATION ON CONSTRUCTION.
  - ALL VEHICLES ARE TO BE PARKED AND SERVICED IN AN AREA DESIGNATED BY THE AIRPORT OPERATOR.
  - OPEN TRENCHES, EXCAVATIONS AND STOCKPILED MATERIAL AT THE CONSTRUCTION SITE SHOULD BE PROMINENTLY MARKED WITH RED OR ORANGE FLAGS AND EQUIPPED WITH FLASHING RED LIGHT UNITS (ACCEPTABLE TO THE AIRPORT OPERATOR AND THE FAA) DURING HOURS OF RESTRICTED VISIBILITY AND/OR DARKNESS.
  - STOCKPILED MATERIAL SHOULD BE CONSTRAINED IN A MANNER TO PREVENT MOVEMENT AS A RESULT OF AIRCRAFT BLAST OR WIND. MATERIAL SHOULD NOT BE STORED NEAR AIRCRAFT TURNING AREAS OR MOVEMENT AREAS.
  - THE TALLEST PIECE OF CONSTRUCTION EQUIPMENT USED WITHIN THE CONSTRUCTION LIMITS (OUTSIDE CLASSIFIED AREAS) WILL BE NO MORE THAN 50' TALL WITHOUT PRIOR APPROVAL OF RESIDENT ENGINEER AND AIRPORT DIRECTOR.
- MARKING AND LIGHTING OF CLOSED OR HAZARDOUS AREAS ON AIRPORTS. ONCE THE CONTRACTOR BEGINS CONSTRUCTION WITHIN THE AIRFIELD OPERATIONS AREA, THE CONSTRUCTION CONTRACTOR SHALL HAVE A MAN ON CALL 24 HOURS PER DAY FOR EMERGENCY MAINTENANCE OF AIRPORT HAZARD LIGHTING AND BARRICADES. THIS WILL BE DISCUSSED AT THE PRE-CONSTRUCTION CONFERENCE AS AN AGENDA ITEM.
- EXCAVATION AND TRENCHES. EXCAVATIONS AND OPEN TRENCHES MAY BE PERMITTED WITHIN THE CONSTRUCTION LIMITS OF THIS CONTRACT, PROVIDED THAT THEY ARE ADEQUATELY SIGNED, LIGHTED AND MARKED, EXCEPT THOSE AREAS WHICH SPECIFICALLY REQUIRE WORK DURING SHORT-TERM TAXIWAY SHUTDOWN.
- CONSTRUCTION VEHICLE TRAFFIC. CONSTRUCTION VEHICLES SHALL NOT CROSS ANY ACTIVE OR INACTIVE RUNWAY WITHOUT ATCT CLEARANCE. ACCESS TO CONSTRUCTION SITES SHALL FOLLOW ROUTES UTILIZING TAXIWAYS, ACCESS AND PERIMETER ROADS, AS SHOWN ON THIS DRAWING AND/OR AS ESTABLISHED IN THE PRE-CONSTRUCTION CONFERENCE. ALL CONSTRUCTION EQUIPMENT AND VEHICLES SHALL BE PARKED OUTSIDE OF ALL CLASSIFIED AREAS, CRITICAL AREAS, RUNWAY APPROACH SURFACES AND WHERE DIRECTED DURING THE PRE-CONSTRUCTION CONFERENCE. ALL CONSTRUCTION EQUIPMENT SHALL BE FLAGGED AND LIGHTED IN ACCORDANCE WITH AC 150/5210-5. CONSTRUCTION ACCESS TO ALL SECURED AREAS WILL BE THROUGH LOCKED GATES OR THOSE MANNED BY SECURITY GUARDS (NORMAL WORKING HOURS AND AS ESTABLISHED DURING THE PRE-CONSTRUCTION CONFERENCE).
- AIRPORT AND AIRCRAFT SURFACE MAINTENANCE. SOIL, DEBRIS, AND LOOSE MATERIAL DROPPED OR TRUCKED ONTO AIRPORT ROADS, TAXIWAYS, AND SOD SURFACE OR WHICH CAN BE BLOWN ONTO SUCH SURFACES SHALL BE IMMEDIATELY SWEEPED OR PICKED UP AND REMOVED OR PLACED INTO CLOSED CONTAINERS AS REQUIRED IN THE SPECIFICATIONS. ANY MATERIALS TRACKED ONTO AIRPORT ROADS SHALL BE SWEEPED OFF AT THE END OF THE DAY.
- CONTRACTOR'S SECURITY CLEARANCE. THE CONTRACTOR AND HIS EMPLOYEES SHALL SUBMIT TO ALL SECURITY CLEARANCE REQUIREMENTS LISTED IN THE GENERAL PROVISIONS OF THE CONSTRUCTION CONTRACT. HE IS ALSO REQUIRED TO ADHERE TO ALL AIRPORT SECURITY REQUIREMENTS (I.E. SECURITY BADGES). THIS WILL INCLUDE AN EMPLOYMENT HISTORY SUMMARY, FINGERPRINTING, ETC OF ALL EMPLOYEES WITH ACCESS TO THE JOB SITE.
- CONSTRUCTION SAFETY PLAN APPLICABILITY AND RESPONSIBILITIES. THIS PLAN, WHEN SIGNED BY ALL PARTICIPANTS AT THE PRE-CONSTRUCTION CONFERENCE, BECOMES PART OF THE CONTRACT.

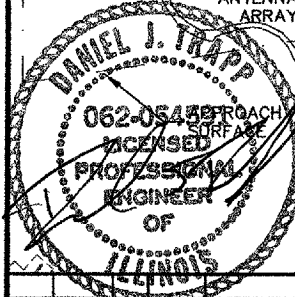
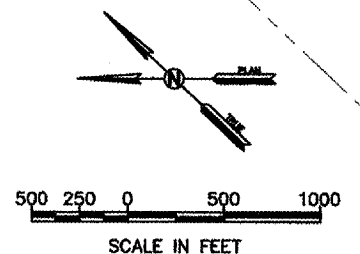
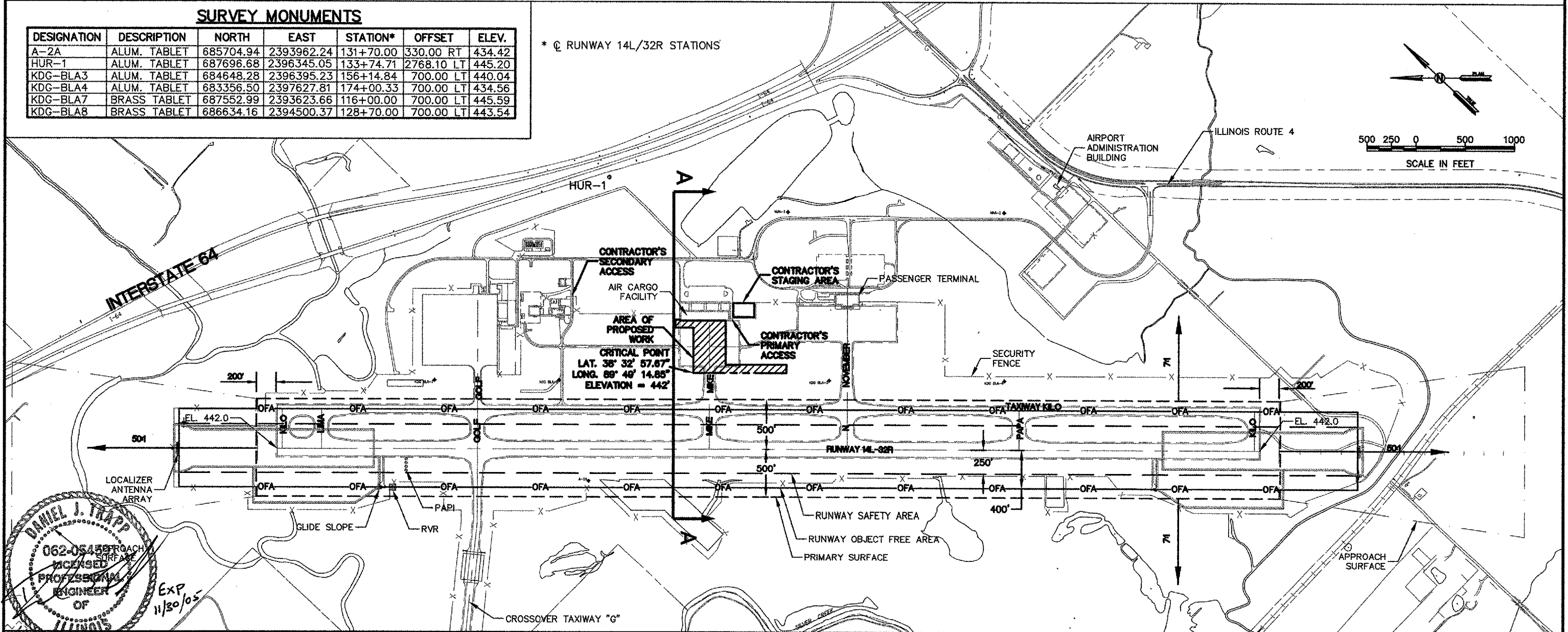
CONTRACT NO.  
SC061



**SURVEY MONUMENTS**

DESIGNATION	DESCRIPTION	NORTH	EAST	STATION*	OFFSET	ELEV.
A-2A	ALUM. TABLET	685704.94	2393962.24	131+70.00	330.00 RT	434.42
HUR-1	ALUM. TABLET	687696.68	2396345.05	133+74.71	2768.10 LT	445.20
KDG-BLA3	ALUM. TABLET	684648.28	2396395.23	156+14.84	700.00 LT	440.04
KDG-BLA4	ALUM. TABLET	683356.50	2397627.81	174+00.33	700.00 LT	434.56
KDG-BLA7	BRASS TABLET	687552.99	2393623.66	116+00.00	700.00 LT	445.59
KDG-BLA8	BRASS TABLET	686634.16	2394500.37	128+70.00	700.00 LT	443.54

\* @ RUNWAY 14L/32R STATIONS

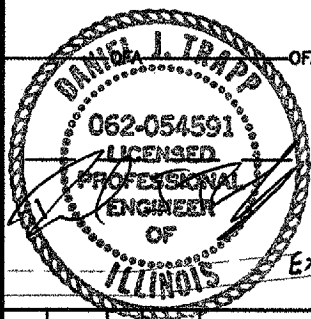
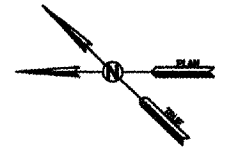
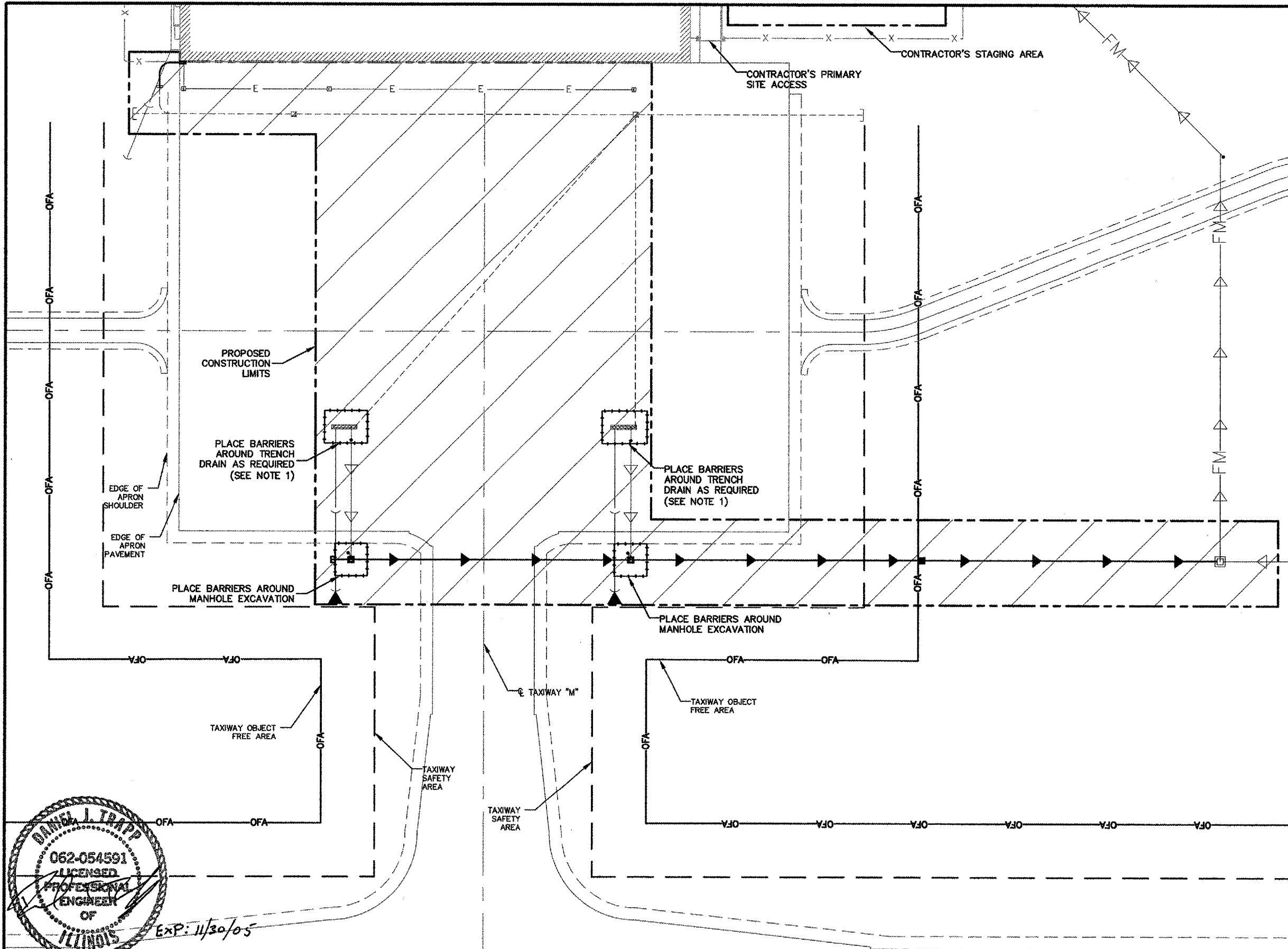


DESIGNED BY: JRK		ACTIVATE GLYCOL COLLECTION SYSTEM 		<b>CONSTRUCTION SAFETY PLAN (1 OF 2)</b>	DWG. FILE NAME 84723-C-03	
DRAWN BY: JRK					1075 Eastgate Drive O'Fallon, Illinois 62269 PH 618-624-2628 FAX 618-624-2730	SHEET NO. 3
CHECKED BY: DJT						DATE: 6/10/05

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**NOTES:**

1. ACCESS TO ONLY ONE OF THE TWO TRENCH DRAINS WILL BE ALLOWED AT ANY GIVEN TIME. TRENCH DRAINS SHALL BE MARKED APPROPRIATELY WHILE GRATES ARE REMOVED (SEE SHEET 3 AND CONTRACT SPECIFICATIONS). TRENCH DRAIN GRATES NOT TO BE LEFT OFF OVERNIGHT UNLESS PREVIOUSLY APPROVED BY RE AND OWNER.
2. PRIMARY SITE ACCESS SHALL BE THROUGH ELECTRONIC GATE JUST SOUTH OF AIR CARGO FACILITY. HOWEVER, SECURITY REQUIREMENTS MAY REQUIRE THE CONTRACTOR OCCASIONALLY ACCESS SITE VIA GATE AT ARFF FACILITY.
3. SITE SUPERINTENDENT MUST RECEIVE SECURITY CLEARANCE PRIOR TO BEING ALLOWED ACCESS THROUGH ELECTRONIC GATE DISCUSSED ABOVE. SITE SUPERINTENDENT MUST BE WITH CREW AT ALL TIMES WHILE IN THE AOA (AIRPORT OPERATING AREA).
4. BARRIERS SHOWN ON THIS SHEET MUST MEET MARKING AND LIGHTING REQUIREMENTS AS DISCUSSED ON SHEET 3 AND IN THE CONTRACT SPECIFICATIONS.



EXP: 11/30/05

REV.	DATE	BY	APPR.	DESCRIPTION	PLOT FILE	REV.	DATE	BY	APPR.	DESCRIPTION	PLOT FILE	DATE:
												6/10/05

DESIGNED BY: JRK  
DRAWN BY: JRK  
CHECKED BY: DJT



ACTIVATE GLYCOL  
COLLECTION SYSTEM

1075 Eastgate Drive  
O'Fallon, Illinois 62269  
PH 618-624-2628  
FAX 618-624-2730



**CONSTRUCTION  
SAFETY  
PLAN  
(2 OF 2)**

DWG. FILE NAME  
84723-C-04

SHEET NO.  
4

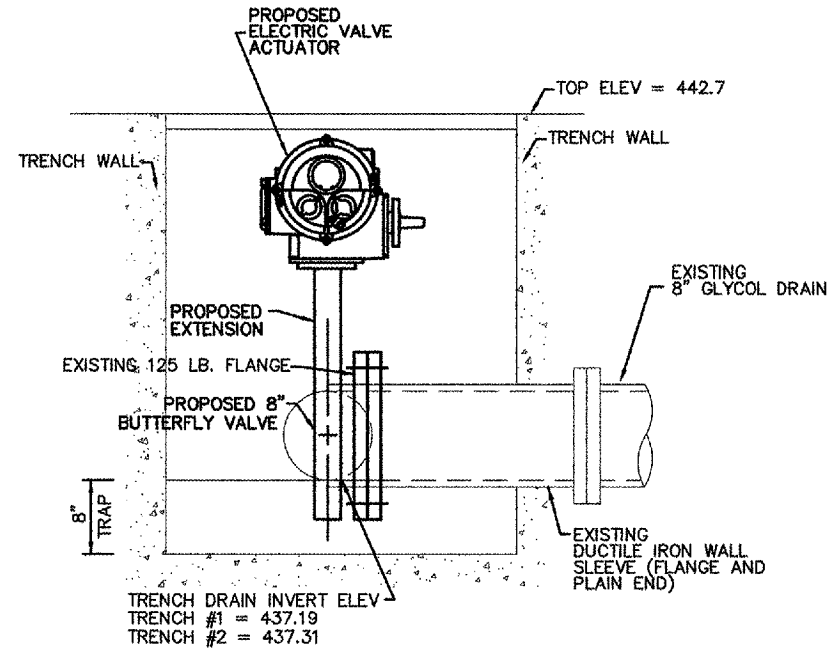
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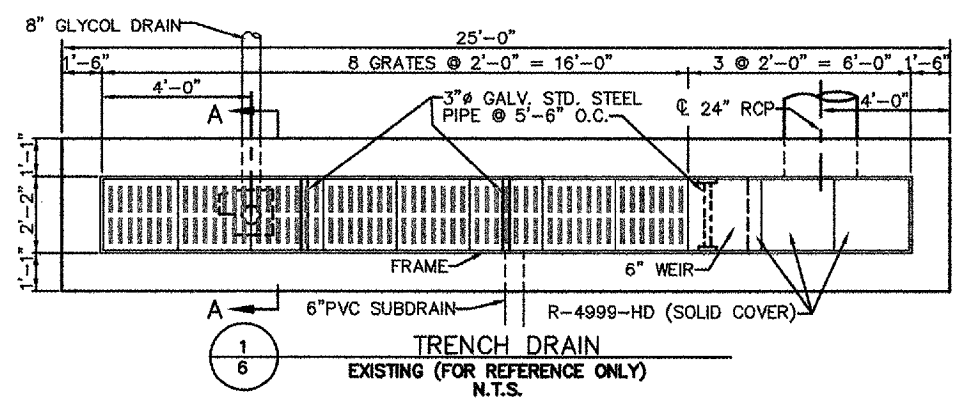


**NOTES:**

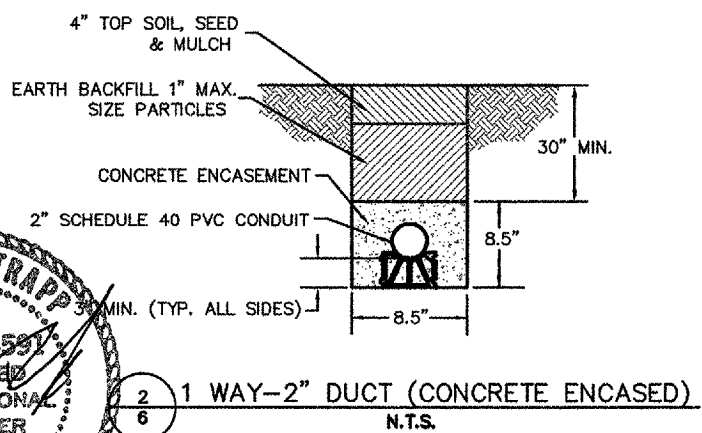
1. FRAME WITH COVER SHALL BE NEENAH R-3492-A WITH LEGEND "ADF.W." SHALL BE GASKET SEALED FOR WATERTIGHT APPLICATION.
2. ALL MANHOLE COVERS SHALL BE BOLTED TO THE FRAME.
3. OPENINGS IN THE WALLS FOR THE PIPE SHALL BE CAST-IN OR CUT CLEANLY WITHOUT PERCUSSION TO A MAXIMUM DIAMETER OF O.D. ±3". THE SPACE BETWEEN PIPE AND WALL SHALL THEN BE FILLED WITH NON SHRINK GROUT, OR APPROVED JOINT INSERT ASSEMBLY.
4. WHERE A PIPE PASSES THROUGH A WALL 2 ADDITIONAL "A" BARS SHALL BE PLACED ABOVE, BELOW, AND TO EACH SIDE OF THE OPENING VERTICAL "A" BARS SHALL EXTEND A MINIMUM OF 2'-0" ABOVE AND BELOW THE EDGES OF THE OPENING. THE ADDITIONAL REINFORCING SHALL BE PLACED AT BOTH THE INSIDE AND OUTSIDE LAYER OF REINFORCING.
5. WHEN LIFTING THE PRE-CAST MANHOLE, A BAR SHALL BE PLACED HORIZONTALLY THROUGH THE LIFTING HOLES, PROVIDED AT THE TIME OF MANUFACTURE THE LIFTING DEVICES SHALL BE PLACED ONLY ON THAT BAR. THE BAR AND HOLES SHALL BE APPROVED BY THE ENGINEER. THE LIFTING HOLES SHALL BE FILLED WITH GROUT AFTER THE MANHOLE IS IN POSITION.
6. SPLICE LENGTHS REQUIRED FOR REINFORCING BARS: #4 BAR, 1'-4"; #5 BAR, 1'-8"; #6 BAR, 2'-0"; #7 BAR, 2'-6".
7. JOINT AND WATERSTOP ARE AN OPTION FOR CAST-IN PLACE MANHOLES ONLY. PRE-CAST MANHOLES SHALL NOT BE JOINTED AT THIS LOCATION.
8. CONCRETE STRENGTH AT 28 DAYS SHALL BE A MINIMUM OF 4,000 PSI FOR CAST-IN PLACE MANHOLES, 5,000 PSI FOR PRECAST MANHOLES.
9. REINFORCING SHALL CONFORM TO ASTM A615, GRADE 60.
10. REINFORCING "A" BARS SHALL BE #5 @ 12".
11. PLASTIC MAGNETIC 3" WIDE DETECTABLE TAPE REQUIRED ABOVE ALL CONDUITS, DUCTS AND DUCTBANKS NOT INSTALLED UNDER PAVEMENT.
12. THE BACKFILL ABOVE THE CONDUIT SHALL BE AS DEFINED IN SPECIFICATION SECTION 110.
13. CAST IRON STEPS SHALL BE NEENAH R-1982-1 FOR STRAIGHT WALLS, OR APPROVED EQUAL.
14. MANHOLE TO BE CONSTRUCTED OF STRUCTURAL P.C. CONCRETE. THE CONTRACT UNIT PRICE PER INLET SHALL INCLUDE THE FRAME, GRATES, AND STEPS IN PLACE AND COMPLETE PER UNIT.
15. THE CONTRACTOR IS REQUIRED TO SUBMIT MANUFACTURER'S SHOP DRAWING SHOWING DETAILS AND DESIGN CALCULATIONS FOR APPROVAL PRIOR TO INSTALLATION. (SEE SPECS - ITEM 752) SHOP DRAWINGS SHALL BE SEALED BY A REGISTERED PROFESSIONAL STRUCTURAL ENGINEER.
16. THIS MANHOLE FRAME AND GRATE REQUIRES AIRPORT LOADING TO CONFORM WITH AC 150/5320-6D. THIS IS 50,000 LBS SINGLE WHEEL LOAD OR 90,000 LBS FOR DUAL WHEEL LOADING. ALL OTHER INLETS, FRAMES, AND GRATES SHALL BE DESIGNED TO WITHSTAND AASHTO HS20-44 HIGHWAY LOADING.
17. TESTING OF MANHOLES. ALL MANHOLES IN THE SYSTEM SHALL BE TESTED FOR WATERTIGHTNESS BY PLUGGING THE INLET AND OUTLET SEWERS WITH TIGHT PLUGS, FILLING THE MANHOLE WITH WATER AND ALLOWING ONE HOUR FOR SATURATION OF MANHOLE MATERIAL. AFTER ONE HOUR THE MANHOLE SHALL BE REFILLED TO THE ORIGINAL LEVEL. AFTER TWO HOURS, THE DIFFERENCE IN WATER SURFACE ELEVATION FROM ORIGINAL TO FINAL LEVEL SHALL BE MEASURED AND CONVERTED INTO GALLONS PER HOUR LOST THROUGH MANHOLE LEAKAGE. THE ALLOWABLE LEAKAGE IN SYSTEM MANHOLES SHALL NOT EXCEED 3.0 GALLONS PER HOUR.



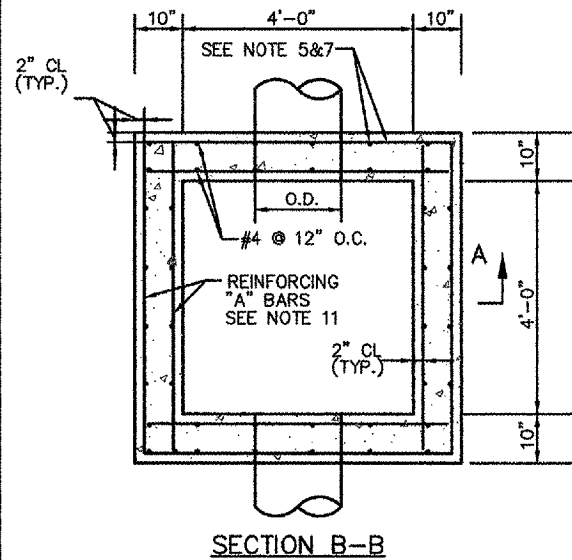
SECTION A-A  
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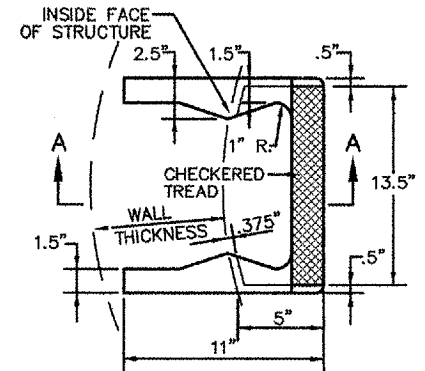
TRENCH DRAIN  
EXISTING (FOR REFERENCE ONLY)  
N.T.S.



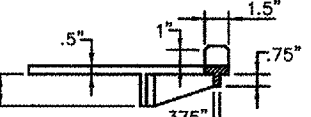
1 WAY-2" DUCT (CONCRETE ENCASED)  
N.T.S.



SECTION B-B

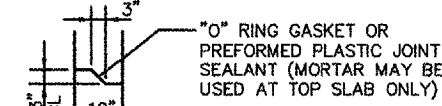


PLAN



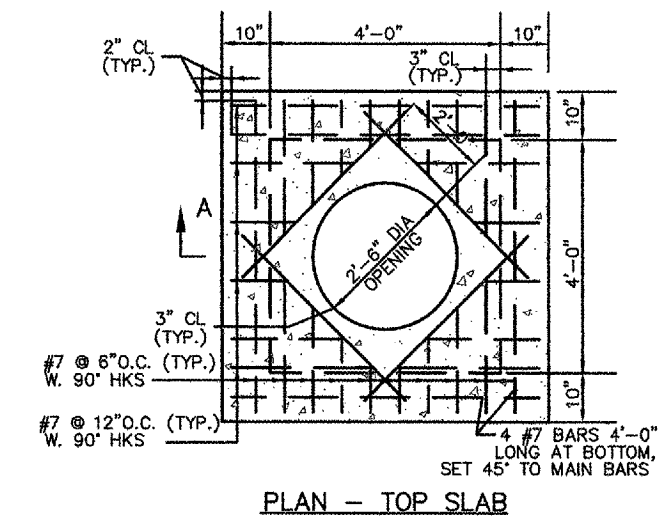
SECTION A-A  
CAST IRON STEPS  
N.T.S.

SECTION A-A  
CAST IRON STEPS  
N.T.S.

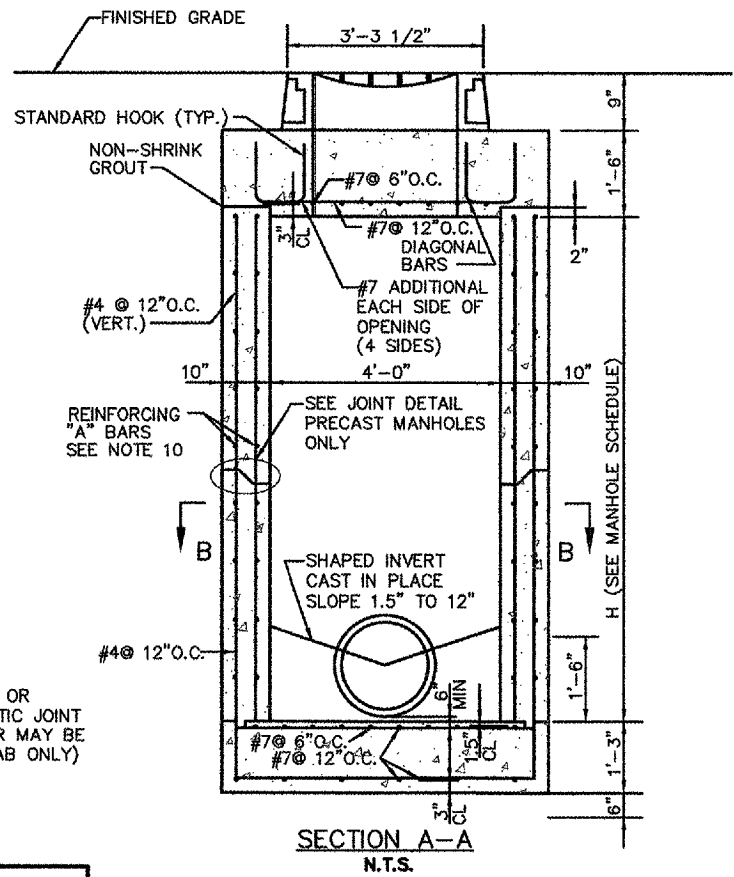


JOINT DETAIL

MANHOLE SCHEDULE					
MANHOLE	NORTHING	EASTING	H	TOP ELEV.	INVERT ELEV.
A	685299.08	2395942.20	10.84'	444.00	430.91
B	685506.55	2395747.00	8.67'	442.69	431.77
C	685705.51	2395554.40	7.84'	442.84	432.75

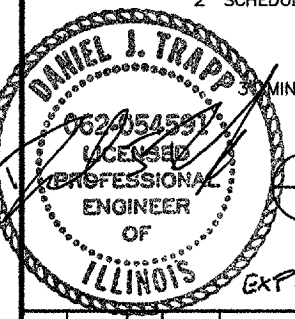


PLAN - TOP SLAB



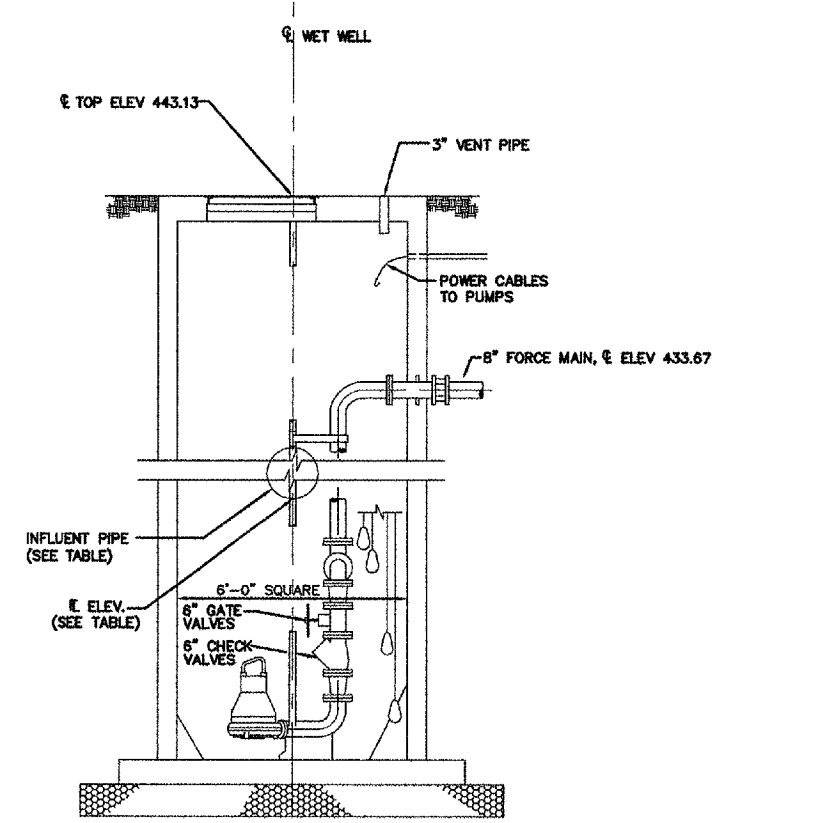
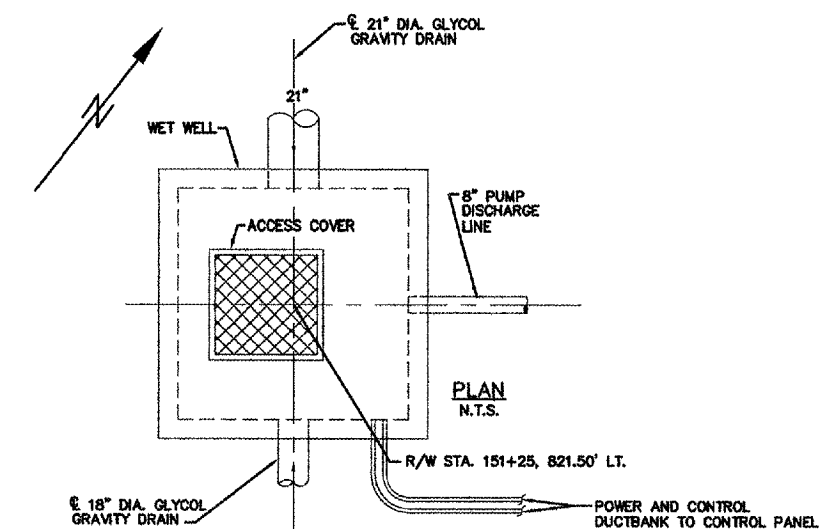
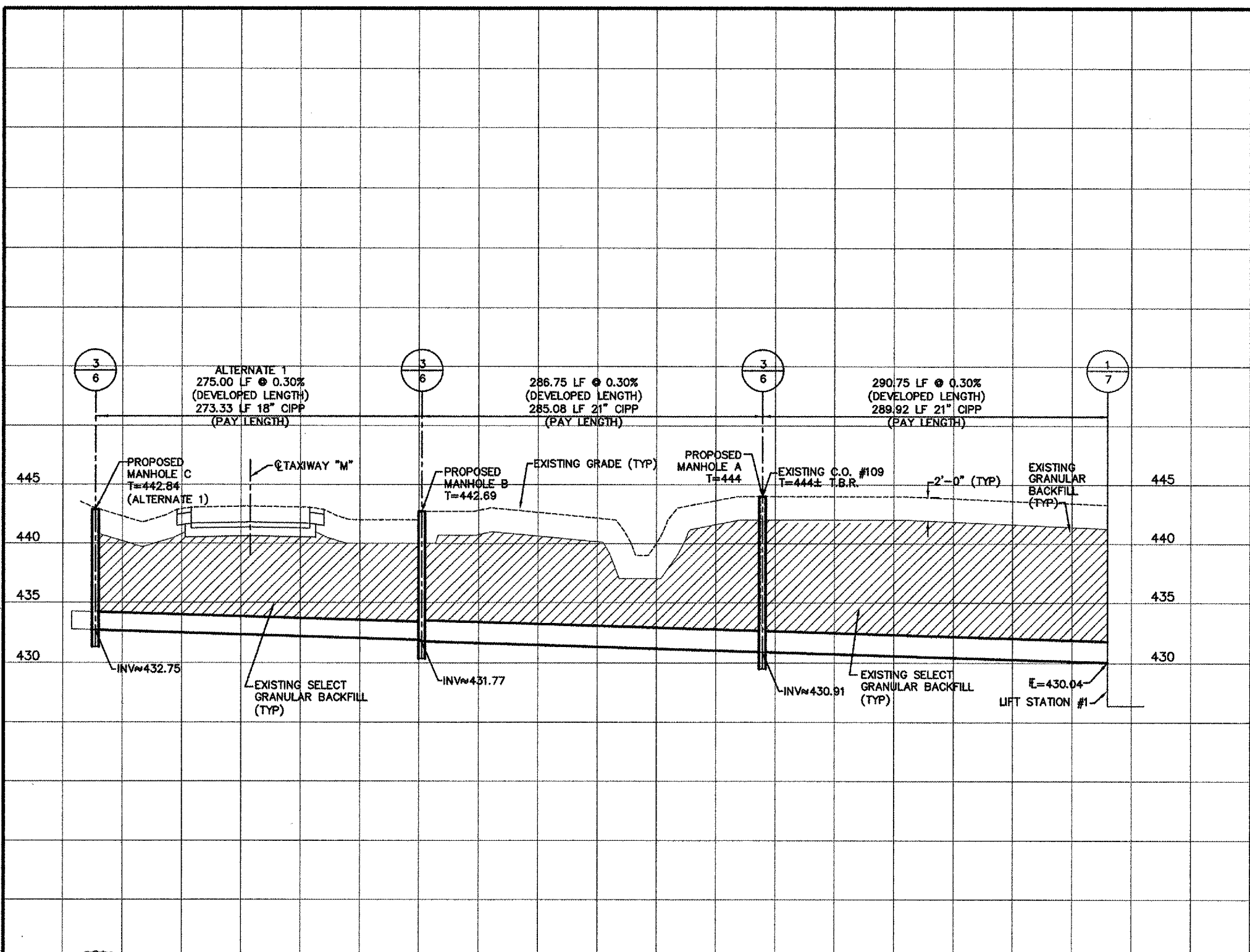
SECTION A-A  
N.T.S.

3 MANHOLE  
6 N.T.S.



REV.	DATE	BY	APPR.	DESCRIPTION	PLOT FILE	REV.	DATE	BY	APPR.	DESCRIPTION	PLOT FILE	DATE:
												6/10/05

DESIGNED BY: JRK		ACTIVATE GLYCOL COLLECTION SYSTEM		1075 Eastgate Drive O'Fallon, Illinois 62269 PH 618-624-2628 FAX 618-624-2730		DWG. FILE NAME
DRAWN BY: JRK						84723-C-06
CHECKED BY: DJT						SHEET NO.
						6

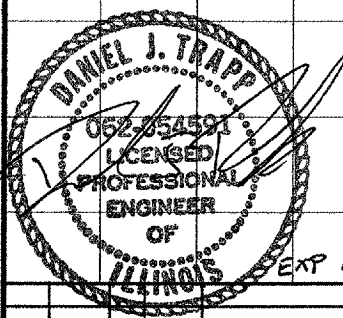


1  
7

LIFT STATION  
EXISTING (FOR REFERENCE ONLY)  
N.T.S.

WET WELL INFLUENT PIPES	
DIA.	INV. ELEV.
21"	430.09
18"	427.95

- NOTES:
- ALL DRAINAGE STRUCTURES NOTED ARE BASED ON EARTHTECH CONSTRUCTION DESIGNS. ELEVATION, LOCATIONS AND PIPE SIZES MUST BE VERIFIED IN THE FIELD.
  - ANY TEMPORARY STRUCTURES, ETC. REQUIRED TO ALLOW INSTALLATION OF CIPP THROUGH LIFT STATION SHALL BE INCIDENTAL TO CIPP.



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DESIGNED BY: JRK  
 DRAWN BY: JRK  
 CHECKED BY: DJT  
 DATE: 6/10/05

MidAmerica  
ST. LOUIS AIRPORT

EarthTech  
A Tyco International Ltd. Company

ACTIVATE GLYCOL  
COLLECTION SYSTEM

1075 Eastgate Drive  
O'Fallon, Illinois 62269  
PH 618-624-2628  
FAX 618-624-2730



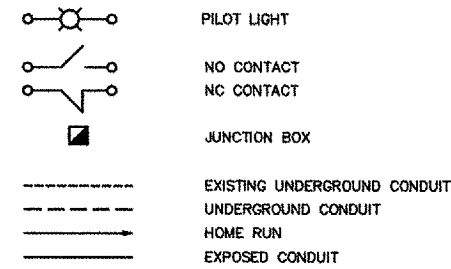
GLYCOL PIPE  
PROFILES

DWG. FILE NAME  
84723-C-07

SHEET NO.  
7

**ELECTRICAL LEGEND**

**SYMBOLS**

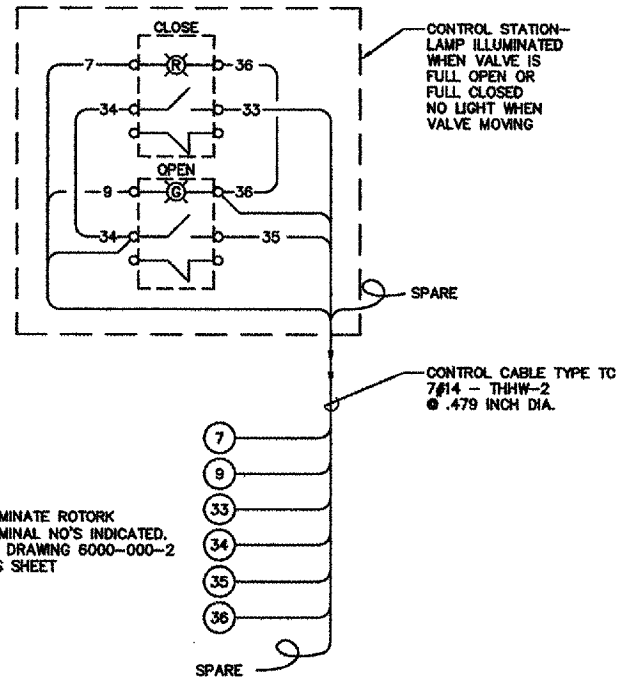


**ABBREVIATIONS**

CKT, CCT	CIRCUIT
CP	CONTROL PANEL
DWG	DRAWING
GRD, G	GROUND
GRS	GALVANIZED RIGID STEEL
HH	HAND HOLE
J	JUNCTION BOX
KVA	KILOVOLT AMPERE
KW	KILOWATT
NO	NORMALLY OPEN
NC	NORMALLY CLOSED
PNL	PANEL
PVC	POLY VINYL CHLORIDE
SW	SWITCH
U.N.O.	UNLESS NOTED OTHERWISE
V	VOLT
XMFR	TRANSFORMER
WP	WATER PROOF

**GENERAL NOTES**

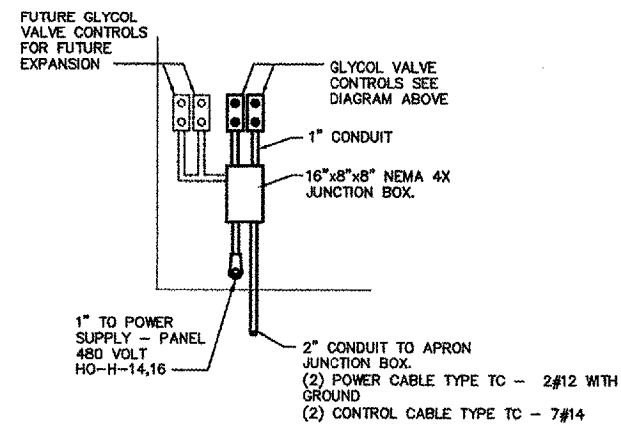
- THE CONTRACTORS SHALL CAREFULLY EXAMINE THE DRAWINGS AND SPECIFICATIONS, VISIT THE SITE OF THE WORK, AND BECOME FULLY ACQUAINTED AS TO ALL CONDITIONS AND MATTERS THAT CAN IN ANY WAY, AFFECT THE WORK OR THE COST. SHOULD CONTRACTOR FIND DISCREPANCIES IN, OR OMISSIONS FROM THE DRAWINGS, SPECIFICATIONS, OR OTHER DOCUMENTS OR BE IN DOUBT AS TO THEIR MEANING, HE IS TO NOTIFY THE VILLAGE AT ONCE, IN WRITING, OF ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND NEW WORK OR BETWEEN ANY CONTRACT WORK AND THE WORK OF OTHER TRADES PRIOR TO BID, AND OBTAIN CLARIFICATION AS WELL, PRIOR TO SUBMITTING ANY BID. LACK OF SUCH NOTIFICATION SHALL BE CONSTRUED TO INDICATE NO DISCREPANCIES OR CONFLICTS EXIST. ADDITIONAL COMPENSATION WILL NOT BE GRANTED AFTER AWARD OF CONTRACT FOR ANY WORK REQUIRED TO COMPLY WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.
- THE CONTRACTORS ARE RESPONSIBLE FOR FURNISHING AND INSTALLING A COMPLETE ELECTRICAL SYSTEM WHERE THERE IS NO MENTION OF THE RESPONSIBLE PARTY FOR A SPECIFIC ITEM TO BE FURNISHED, INSTALLED OR WIRED ON THE ELECTRICAL DRAWINGS, THE ELECTRICAL CONTRACTOR WILL BE RESPONSIBLE COMPLETELY FOR ALL PURCHASES AND LABOR, FOR A COMPLETE OPERATING SYSTEM FOR THIS ITEM.
- THE DRAWINGS INDICATE THE DIAGRAMATIC INTENT, GENERAL CHARACTER, AS WELL AS LOCATIONS OF MATERIALS AND EQUIPMENT. THE WORK IS SHOWN WITH MINOR DETAILS OMITTED FOR THE SAKE OF CLARITY. THE WORK SHALL INCLUDE THESE NECESSARY ITEMS AND THEIR INSTALLATION AT NO ADDITIONAL COST TO THE OWNER.
- ALL CONDUITS THAT ARE INSTALLED BELOW CONCRETE SLABS WITHIN THE PERIMETERS OF THE FOUNDATION WALL SHALL BE P.V.C., SCHEDULE 40 OR SCHEDULE 80.
- OUTSIDE FOUNDATION WALLS, PVC TUBING, SCHEDULE 40 OR SCHEDULE 80 MAY BE PERMITTED FOR USE, IN LIEU OF RIGID HEAVY-WALL GALVANIZED STEEL CONDUIT AND/OR INTERMEDIATE METALLIC CONDUIT ONLY IN AREAS SUCH AS UNDER CONCRETE SLABS AT FINISHED GRADE LEVEL OR BELOW, OR IN LOCATIONS WHERE A CONDUIT SYSTEM IS REQUIRED AND WILL BE IN CONTACT WITH THE EARTH.
- ALL CONNECTORS AND/OR COUPLINGS THAT ARE USED WITH THE INSTALLATION OF RIGID HEAVY-WALL GALVANIZED STEEL CONDUIT OR INTERMEDIATE METALLIC CONDUIT THAT ARE SUBJECT TO ANY TYPE OF WEATHER CONDITIONS OR MOISTURE, OR IN CONTACT WITH THE EARTH, ETC., SHALL BE OF THE COMPRESSION TYPE OR THREAD-ON TYPE.
- ELECTRICAL METALLIC TUBING (EMT) SHALL ONLY BE PERMITTED FOR INSTALLATION WITHIN THE BUILDING PROPER AND IN DRY LOCATIONS AND WHEN CONCEALED BELOW TEN FEET ABOVE FLOOR. EMT SHALL NOT BE INSTALLED IN EXPOSED AREAS WITHIN TEN FEET ABOVE GRADE IN VEHICLE STORAGE AREAS, SHOPS AND THE LIKE WHERE SUSCEPTIBLE TO DAMAGE.
- ALL CIRCUIT BREAKERS SHALL BE OF THE BOLT-ON TYPE.
- ALL OVER-CURRENT PROTECTION DEVICES, SUCH AS CIRCUIT BREAKERS OR FUSE DEVICES.
- ALL CONDUITS ENTERING THE BUILDING SHALL BE SEALED ON THE OUTSIDE TO ELIMINATE TEMPERATURE CHANGE AND CONDENSATION.



TERMINATE ROTORK TERMINAL NO'S INDICATED. SEE DRAWING 6000-000-2 THIS SHEET

**CONTROL STATION WIRING DIAGRAM (TYP. OF TWO)**

NOT TO SCALE

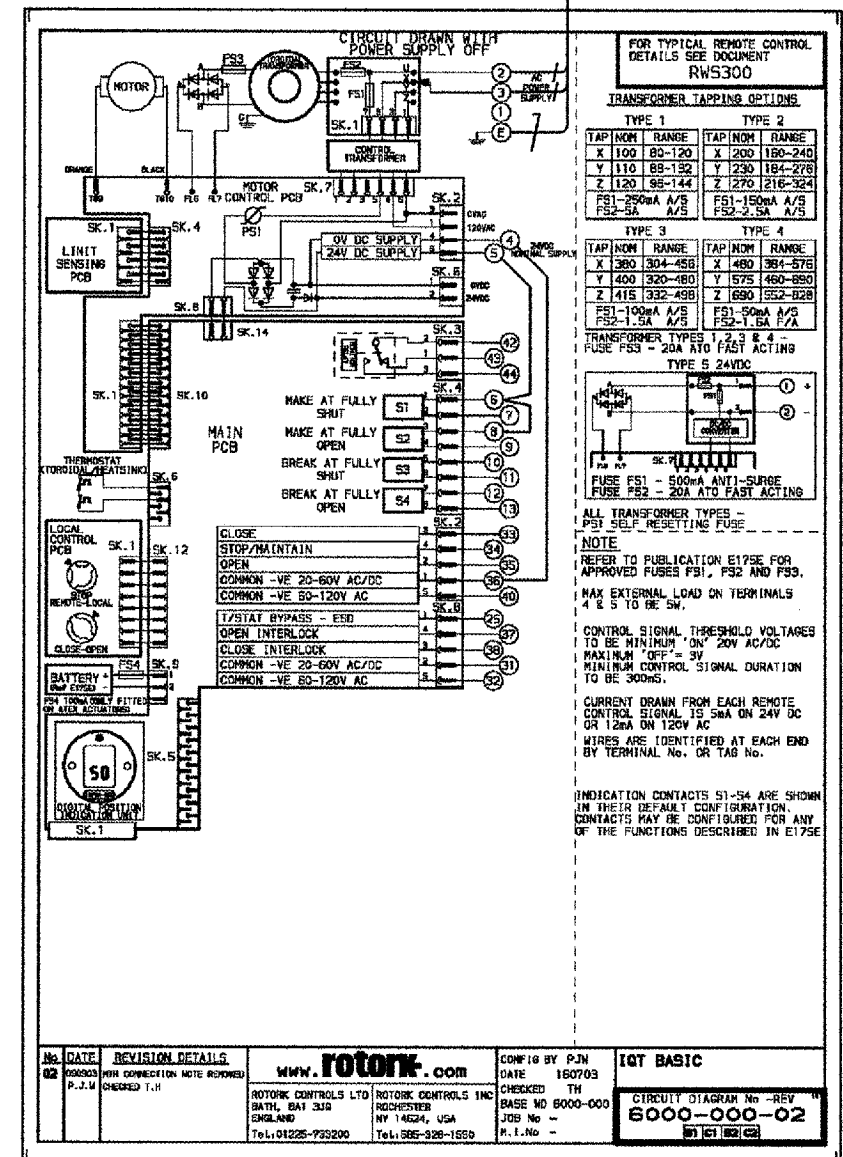
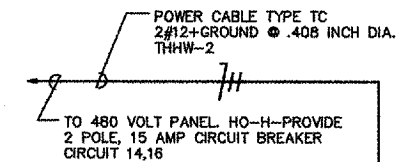


**CONTROL PANEL DETAIL**

NOT TO SCALE

**CONTROL STATION BILL OF MATERIALS**

ITEM NO.	QTY	UNIT	DESCRIPTION	PART NUMBER
1	1	EA	DIECAST NEMA 4/13 BOX	AB-800T-2TZ
2	1	EA	MOMENTARY PUSHBUTTON GREEN ILLUMINATED - GUARDED	AB-800T-QAH24G
3	1	EA	MOMENTARY PUSHBUTTON RED ILLUMINATED - GUARDED	AB-800T-QAH24R
4	1	EA	LEGEND PLATE "OPEN"	AB-800T-X531
5	1	EA	LEGEND PLATE "CLOSE"	AB-800T-X502



FOR TYPICAL REMOTE CONTROL DETAILS SEE DOCUMENT RWS300

TRANSFORMER TAPPING OPTIONS

TYPE 1		TYPE 2	
TAP/NO	RANGE	TAP/NO	RANGE
X 100	80-120	X 200	180-240
Y 110	88-132	Y 230	184-276
Z 120	96-144	Z 270	216-324

TRANSFORMER TYPES 1, 2, 3 & 4

TYPE 3		TYPE 4	
TAP/NO	RANGE	TAP/NO	RANGE
X 380	304-456	X 480	384-576
Y 400	320-480	Y 575	460-690
Z 415	332-498	Z 690	552-828

FUSE F53 - 20A ATO FAST ACTING  
TYPE 5 24VDC

FUSE F51 - 500mA ANTI-SURGE  
FUSE F52 - 20A ATO FAST ACTING

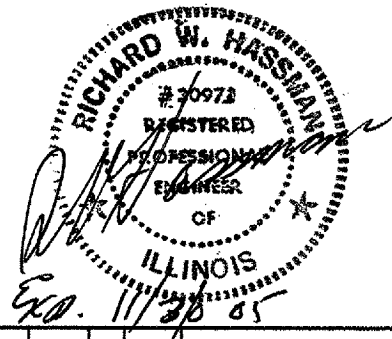
ALL TRANSFORMER TYPES - F51 SELF-RESETTING FUSE

NOTE  
REFER TO PUBLICATION E175E FOR APPROVED FUSES F51, F52 AND F53.  
MAX EXTERNAL LOAD ON TERMINALS 4 & 5 TO BE 5W.

CONTROL SIGNAL THRESHOLD VOLTAGES TO BE MINIMUM "ON" 24V AC/DC  
MAXIMUM "OFF" = 3V  
MINIMUM CONTROL SIGNAL DURATION TO BE 300ms.

CURRENT DRAWN FROM EACH REMOTE CONTROL SIGNAL IS 5mA ON 24V DC OR 125mA ON 120V AC  
WIRES ARE IDENTIFIED AT EACH END BY TERMINAL NO. OR TAG NO.

INDICATION CONTACTS S1-S4 ARE SHOWN IN THEIR DEFAULT CONFIGURATION CONTACTS MAY BE CONFIGURED FOR ANY OF THE FUNCTIONS DESCRIBED IN E175E



DESIGNED BY:	RWH
DRAWN BY:	CS
CHECKED BY:	RWH
DATE:	6/10/05



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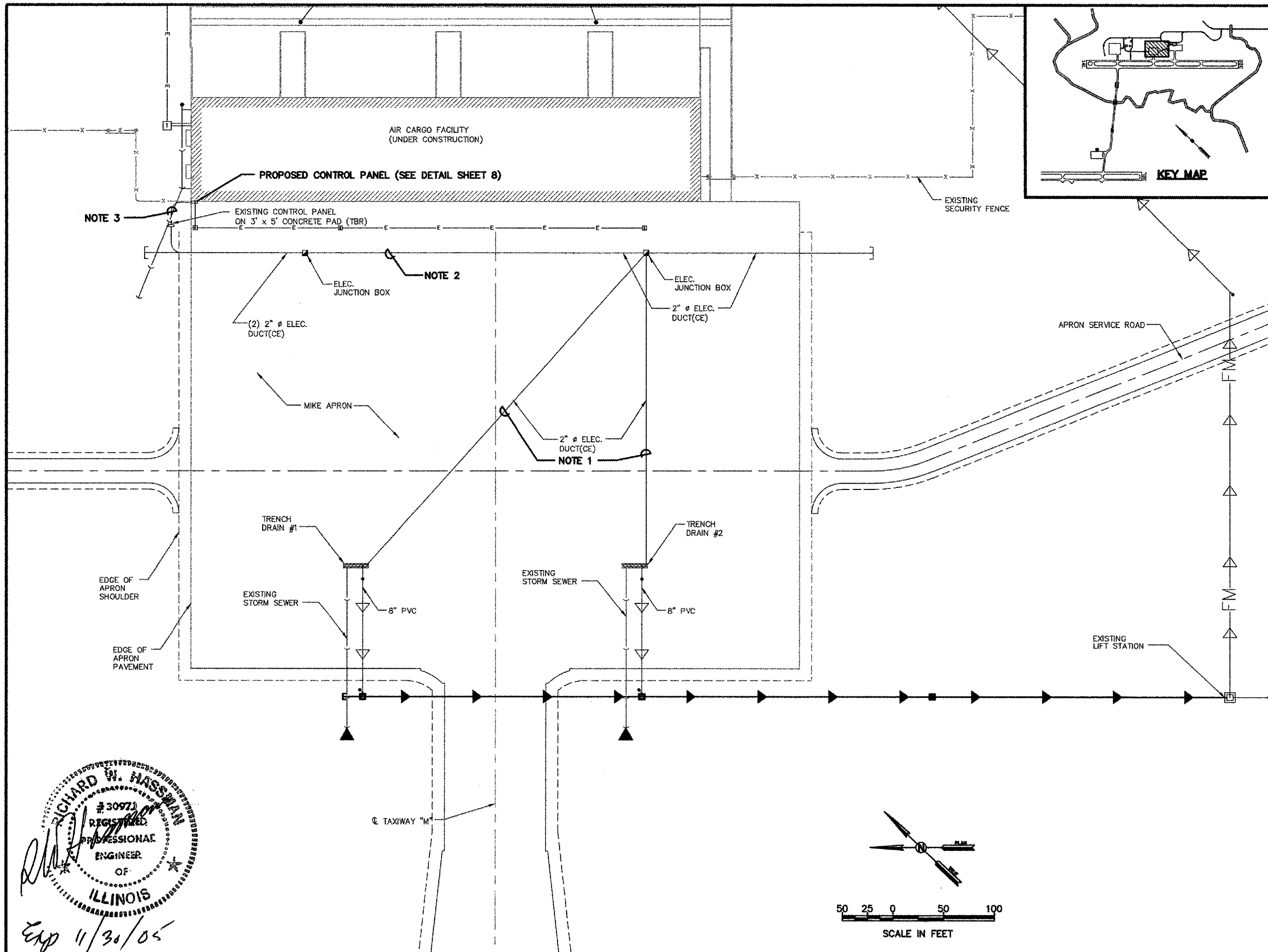


**GENERAL NOTES, LEGEND, ABBREVIATIONS, ELECTRICAL DETAILS, AND DIAGRAMS**

DWG. FILE NAME	84723-E-08
SHEET NO.	8

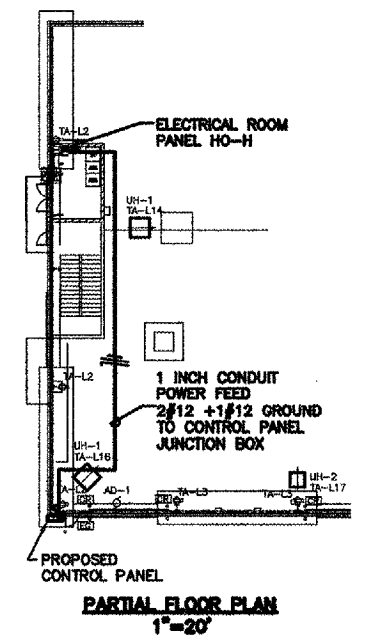
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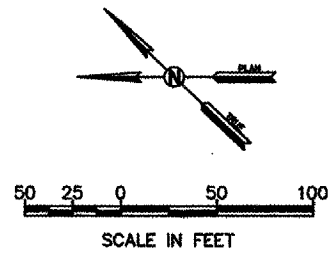
**NOTES:**

1. INSTALL IN EXISTING 2" CONDUIT 1 EA POWER AND CONTROL CABLE TYPE TC. SEE WIRING DIAGRAM SHEET 8.
2. INSTALL IN EXISTING 2" CONDUIT 2 EA POWER AND CONTROL CABLE TYPE TC. SEE WIRING DIAGRAM SHEET 8.
3. EXTEND 2" CONDUIT TO NEW CONTROL PANEL LOCATION.



**RICHARD W. HASSMAN**  
#30973  
REGISTERED  
PROFESSIONAL  
ENGINEER  
OF  
ILLINOIS

*Exp 11/30/05*



REV.	DATE	BY	APPR.	DESCRIPTION	PLOT FILE	REV.	DATE	BY	APPR.	DESCRIPTION	PLOT FILE	DATE:
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DESIGNED BY: RWH  
DRAWN BY: CS  
CHECKED BY: RWH



ACTIVATE GLYCOL  
COLLECTION SYSTEM

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O'Fallon, Illinois 62269  
PH 618-624-2525  
FAX 618-624-2730



**ELECTRICAL SITE PLAN**

DWG. FILE NAME  
84723-E-09

SHEET NO.  
9