LETTING ITEM NO. 03A IDOT LETTING: SEPTEMBER 22, 2023

CONSTRUCTION PLANS

INSTALL AIRPORT SECURITY FENCING

JOLIET REGIONAL PORT DISTRICT LEWIS UNIVERSITY AIRPORT (LOT) ROMEOVILLE, WILL COUNTY, ILLINOIS

SBG PROJECT NO. 3-17-SBGP-TBD IDA PROJECT NO. LOT-4536 BCM PROJECT NO. LE056

100% SUBMITTAL JULY 28, 2023

SPECIAL NOTICE

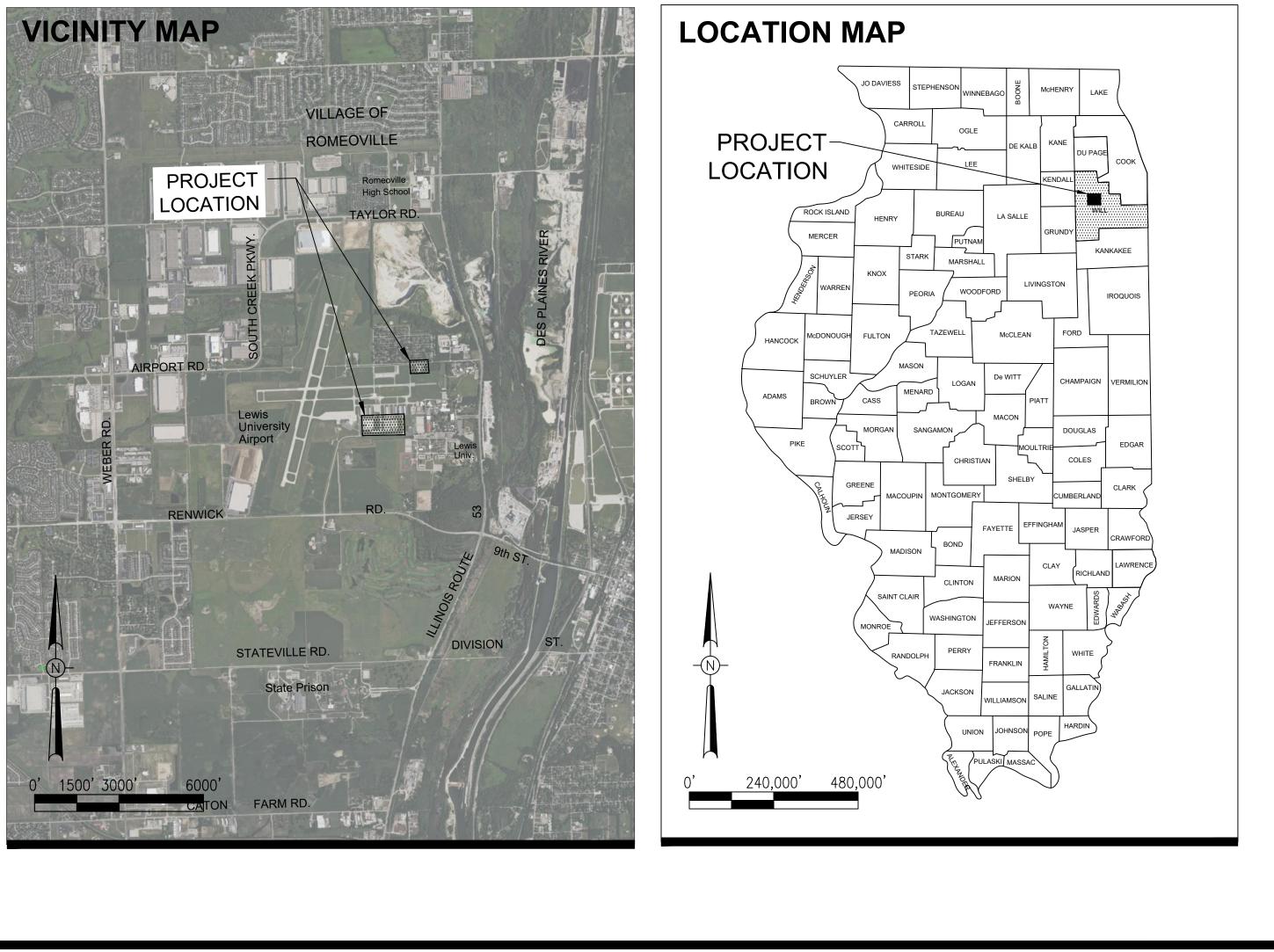
THIS PROJECT IS GOVERNED BY FAA REQUIRED BUY AMERICAN PREFERENCE REQUIREMENTS. ALL BIDS MUST INCLUDE COMPLETED FAA REQUIRED CERTIFICATIONS AT THE TIME OF BID. SEE THE BID PROPOSAL AND ANY SOLICITATION ADDENDA REGARDING THIS MATTER.

NOTICE TO CONTRACTORS AND BIDDERS

THESE CONSTRUCTION PLANS RELY UPON THE SPECIAL PROVISIONS AND THE SPECIFICATIONS TO PROVIDE FOR A COMPLETE DESCRIPTION OF THE WORK AND CONSTRUCTION REQUIREMENTS. THE PLANS SHALL ONLY BE USED IN COMBINATION WITH ALL CONTRACT DOCUMENTS.

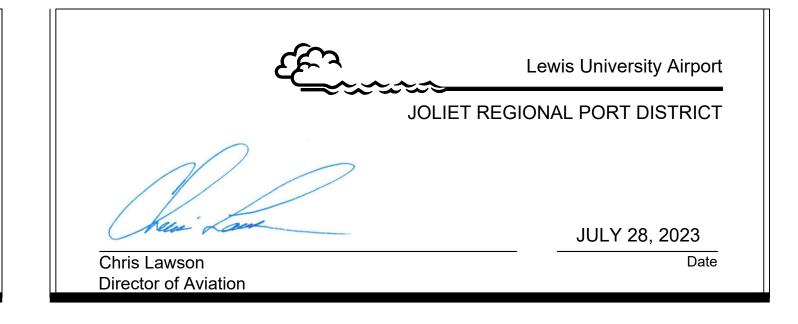
No.	Issue/Description	Sheets Changed	Date	Ву

Seal	annuur.
	PROFESSIONAL ENGINEER W. SALLER DESCRIPTION ENGINEER COF ILLING MILLIN
	THE OF ILL NUMBER
	Date: 7/28/2 Exp: 11/30/2
Kris Salva Project En	•





LE056 TOTAL SHEETS = 31



	INDEX OF SHEETS
SHEET NO.	TITLE
1	COVER SHEET
2	INDEX OF SHEETS AND SUMMARY OF QUANTITIES
3	SITE PLAN / PROJECT CONTROL / GENERAL NOTES
4	CONSTRUCTION SAFETY PLAN
5	CONSTRUCTION SAFETY NOTES AND DETAILS
6	EXISTING CONDITIONS AND PROPOSED REMOVALS
7	PROPOSED FENCING PLAN - 1
8	PROPOSED FENCING PLAN - 2
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10	PROPOSED FENCING PLAN - 4
11	PROPOSED FENCING PLAN - 5
12	FENCE DETAILS - 1
13	FENCE DETAILS - 2
14	FENCE DETAILS - 3
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16	PAVEMENT DETAILS
17	PROPOSED GRADING AND DRAINAGE PLAN
18	PROPOSED DRAINAGE DETAILS - 1
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20	SOIL EROSION, SEDIMENT CONTROL AND LANDSCAPING PLAN
21	SOIL EROSION, SEDIMENT CONTROL AND LANDSCAPING NOTES AND DETAILS
22	ELECTRICAL SITE PLAN
23	ELECTRICAL LEGEND AND ABBREVIATIONS
24	ELECTRICAL GATE DETAILS -1
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26	ELECTRICAL GATE DETAILS -3
27	ELECTRICAL GATE DETAILS -4
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29	ELECTRICAL NOTES
30	GROUNDING DETAILS AND LEGEND PLATE SCHEDULE
31	GROUNDING NOTES

3



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	SUMMARY OF QUAN	1111125		
	- INSTALL SECURITY FENCING		PLAN	RECORD
ITEM NO.	DESCRIPTION	UNITS	QUANTITY	QUANTITY
AR108051	POWER CABLE IN UNIT DUCT	FOOT	420.0	
AR108052		FOOT	245.0	
AR150510	ENGINEER'S FIELD OFFICE	L SUM	1.0	
AR150520	MOBILIZATION	L SUM	1.0	
AR150530	TRAFFIC MAINTENANCE	LSUM	1.0	
AR152411	UNCLASSIFIED EXCAVATION	LSUM	1.0	
AR156511	DITCH CHECK	EACH	10.0	
AR156520	INLET PROTECTION	EACH	4.0	
AR156540	RIPRAP	SQ YD	33.0	
AR162230	CLASS E MANUAL SLIDE GATE - 30'	EACH	5.0	
AR162506	CLASS E FENCE 6'	FOOT	3,100.0	
AR162530	WALKWAY GATES, CLASS E (5')	EACH	3.0	
AR162630	CLASS E GATE-30'	EACH	3.0	
AR162900	REMOVE CLASS E FENCE	FOOT	930.0	
AR162905	REMOVE GATE	EACH	3.0	
AR208606	6" AGGREGATE BASE COURSE	SQ YD	60.0	
AR501606	6" PCC SIDEWALK	SQ FT	520.0	
AR701524	24" RCP, CLASS N	FOOT	25.0	
AR701530	30" RCP, CLASS N	FOOT	90.0	
AR701536	36" RCP, CLASS N	FOOT	90.0	
AR751567	MANHOLE 7'	EACH	1.0	
AR752430	PRECAST REINFORCED CONC. FES 30"	EACH	1.0	
AR752436	PRECAST REINFORCED CONC. FES 36'	EACH	1.0	
AR752530	GRATING FOR CONC. FES 30"	EACH	1.0	
AR752536	GRATING FOR CONC. FES 36"	EACH	1.0	
AR752900	REMOVE END SECTION	EACH	1.0	
AR801006	INFILTRATION BASIN	SQ YD	140.0	
AR801013	PROTECTION BOLLARD	EACH	4.0	
AR801036	ELECTRIC GATE OPERATOR - COMPLETE	EACH	1.0	
AR901510	SEEDING	ACRE	1.0	
AR905530	TOPSOILING	SQ YD	4,695.0	
AR908516	MULCHING	SQ YD	4,695.0	

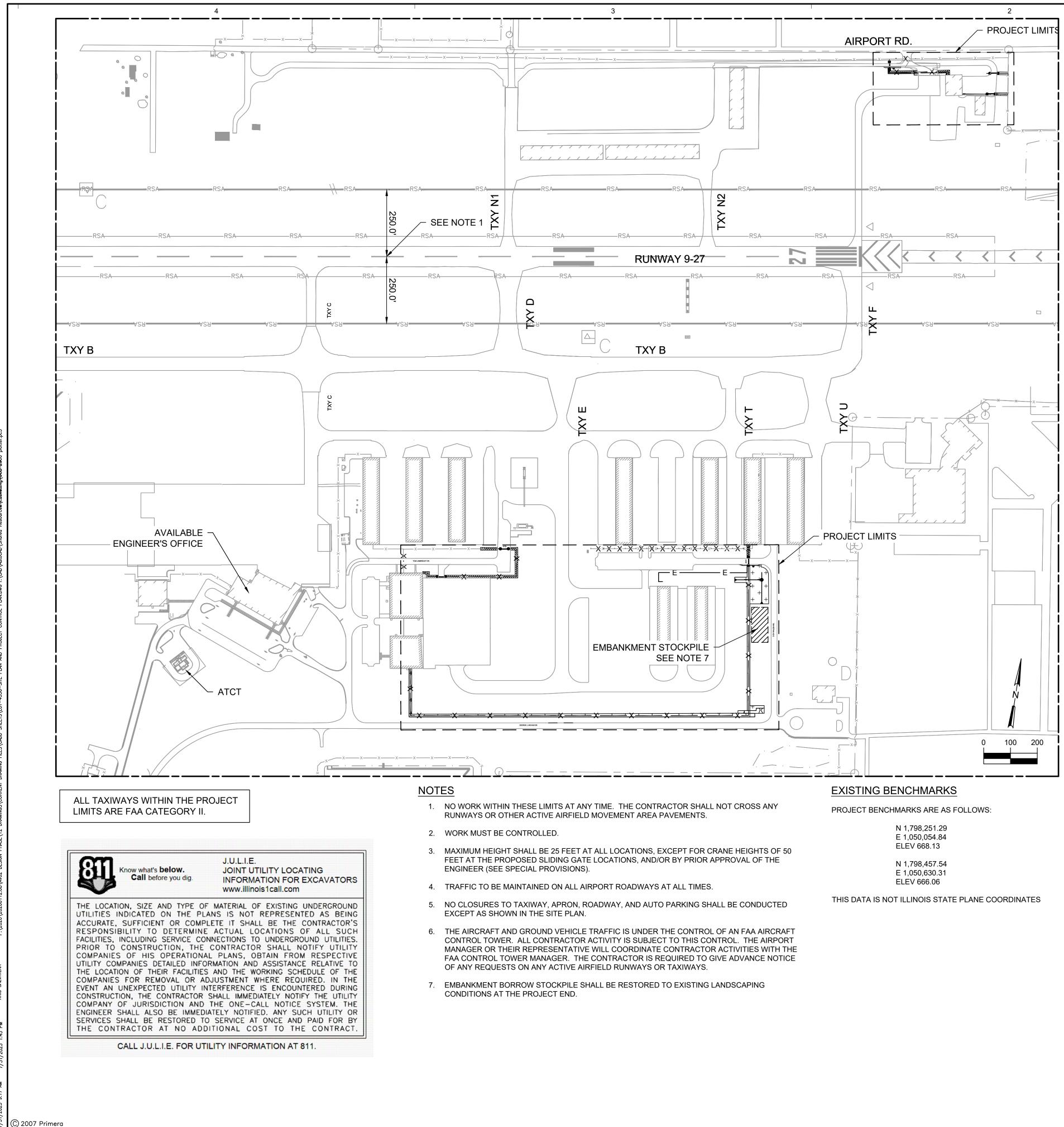
ADDITIVE ALTERNATE NO. 1 - SECOND ELECTRIC GATE OPERATOR						
ITEM NO.	DESCRIPTION	UNITS	PLAN QUANTITY	RECORD QUANTITY		
AS801036	ELECTRIC GATE OPERATOR - COMPLETE	L SUM	1.0			
AS801013	PROTECTION BOLLARD	EACH	4.0			

ADDITIVE ALTERNATE NO. 2 - FENCE COATING VINYL UPGRADE

ITEM NO.	DESCRIPTION	UNITS	PLAN QUANTITY	RECORD QUANTITY
AT801037	FENCE COATING UPGRADE TO VINYL	L SUM	1.0	
AT801038	GATE COATING UPGRADE TO VINYL	L SUM	1.0	

PAYMENT WILL BE MADE UNDER THE ITEM NUMBERS, DESCRIPTIONS AND UNITS NOTED IN THE SUMMARY OF QUANTITIES TABLE IN ACCORDANCE WITH THE BASIS OF PAYMENT FOR EACH RESPECTIVE WORK ITEM NOTED IN THE SPECIAL PROVISIONS, COMPLETED AND ACCEPTED BY THE ENGINEER.

1	
	50 WEST JACKSON BLVD, SUITE 600, CHCAGO, LLINOIS 60661
	Lewis University Airport JOLIET REGIONAL PORT DISTRICT
A	
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В	
	No. Description By Chk. App. Date Issues INSTALL AIRPORT SECURITY FENCING
	IDA No: LOT-4536 BCM NO. LE056 SBG No: 3-17-SBGP-TBD 100% PREFINAL
_	KEY PLAN
c	DRAWING TITLE INDEX OF SHEETS AND SUMMARY OF QUANTITIES
	APPROVED SHEET NO. RMH CHECKED KWS DRAWN BY JVJ
_	OF 31



GENERAL NOTES

PROJECT DESCRIPTION

INCLUDING, AMONG OTHER INCIDENTAL WORK, THE FOLLOWING BASE BID ITEMS:

- PLACEMENT OF TEMPORARY EROSION CONTROL MEASURES.
- PROVIDE SELECT GRADING OF EARTH TO ACCOMMODATE FENCE LINE AND DRAINAGE FLOW.
- INSTALL DRAINAGE PIPE, MANHOLES AND FLARED END SECTIONS.
- CONSTRUCT PC CONCRETE SIDEWALK.
- INSTALL CLASS E CHAIN -LINK FENCING.
- INSTALL ELECTRIC GATES, MANUAL GATES, AND MANUAL PEDESTRIAN SWINGING GATES.
- CONSTRUCT ELECTRICAL POWER AND CONTROL CABLING AND EQUIPMENT.
- TOPSOIL, SEED, AND MULCH FENCE LINE AND DISTURBED AREAS.

AS ADDITIVE ALTERNATE NO. 1, AN ADDITIONAL ELECTRIC GATE OPERATOR AND PROTECTIVE BOLLARS ARE TO BE INSTALLED.

AS ADDITIVE ALTERNATIVE NO. 2, ALL FENCE AND GATES ARE TO BE VINYL COATED GREEN.

PROTECTION OF EXISTING AIRPORT FACILITIES

THE CONTRACTOR IS TO BE RESPONSIBLE FOR THE PROTECTION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES AND LIGHTING EQUIPMENT; DRIVEWAY AND ROAD PAVEMENT AND SHOULDERS; RUNWAY, TAXIWAY AND APRON PAVEMENTS AND SHOULDERS; RUNWAY, TAXIWAY AND AIRPORT LIGHTING EQUIPMENT; AND SEEDED AND TURFED AREAS THAT ARE UTILIZED IN OR AFFECTED BY THE CONTRACTOR'S ACTIVITIES. ITEMS DAMAGED BY THE CONTRACTOR ARE TO BE REPAIRED AT CONTRACTOR'S EXPENSE AND TO THE SATISFACTION OF AIRPORT MANAGER AND THE OWNER'S REPRESENTATIVE.

IN ADDITION, WHEN CONDITIONS DICTATE OR AS DETERMINED BY THE AIRPORT MANAGER OR THE OWNER'S REPRESENTATIVE, THE CONTRACTOR SHALL BE REQUIRED TO USE A PICK-UP TYPE SWEEPER IN ALL ACTIVE CONSTRUCTION AIRFIELD PAVEMENT AREAS. THE CONTRACTOR WILL BE REQUIRED TO HAVE A SWEEPER AVAILABLE FOR USE AT ALL TIMES. THE COST OF SWEEPING SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE FAA (SMO) THROUGH THE RESIDENT ENGINEER TO LOCATE ALL FAA CABLES ON THE PROJECT SITE. ALL FAA CABLES SHALL BE PROTECTED AT ALL TIMES. NO FAA CABLING HAS BEEN IDENTIFIED WITHIN THE PROJECT LIMITS.

CONTRACTOR'S ACCESS AND TEMPORARY FACILITIES

CONTRACTOR'S ACCESS TO THE PROJECT WHEN ON AIRPORT PROPERTY IS SHOWN ON THIS SHEET. CONTRACTOR'S ACCESS TO THE AIRPORT ITSELF IS TO BE PROVIDED BY PUBLIC RIGHTS-OF-WAY. THE CONTRACTOR IS TO SECURE ALL NECESSARY PERMITS FOR THE USE OF ANY PUBLIC RIGHTS-OF-WAY AND IS TO MAINTAIN TRAFFIC ON THESE PUBLIC ROADS AT ALL TIMES, WITH THE COSTS OF PERMITTING, CLEANING AND REPAIRING OF PAVEMENT DAMAGED BY CONTRACTOR'S ACTIVITIES INCIDENTAL TO THE CONTRACT. USE OF AND REPAIRS TO ANY PUBLIC FACILITIES ARE TO BE COMPLETED TO THE SATISFACTION OF THE FACILITY'S OWNER.

HEAVY VEHICLES SHALL NOT CROSS EXISTING PAVEMENT SURFACES EXCEPT AS APPROVED BY THE AIRPORT MANAGER AND THE OWNER'S REPRESENTATIVE. ANY DAMAGE TO PAVEMENTS THAT MAY OCCUR BY THE CONTRACTOR'S ACTIVITIES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE AND TO THE SATISFACTION OF THE AIRPORT MANAGER AND THE OWNER'S REPRESENTATIVE.

THE CONTRACTOR IS TO PROVIDE AN EQUIPMENT, STORAGE AND PARKING AREA AT THE LOCATION SHOWN ON THIS SHEET. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE ACCESS ROADS AND THE STORAGE AREA DURING CONSTRUCTION AND TO RESTORE THE AREAS AT PROJECT COMPLETION TO CONDITIONS SUITABLE TO THE AIRPORT MANAGER AND THE OWNER'S REPRESENTATIVE. AT THE AIRPORT MANAGER'S DISCRETION. THE TEMPORARY FACILITIES MAY REMAIN. BUT THEY MUST BE LEFT IN CONDITIONS SUITABLE TO THE AIRPORT MANAGER. THE COST OF PROVIDING, MAINTAINING AND RESTORING THE TEMPORARY FACILITIES IS INCIDENTAL TO THE CONTRACT.

RESPONSIBILITY FOR EXISTING UTILITIES

THE LOCATION. SIZE AND/OR TYPE OF MATERIAL OF EXISTING UNDERGROUND OR OVERHEAD UTILITIES AS MAY BE INDICATED ON THESE CONSTRUCTION PLANS IS NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. NEITHER THE OWNER NOR THE PROJECT ENGINEER HAVE INDEPENDENTLY VERIFIED THIS INFORMATION AND NEITHER ASSUMES ANY RESPONSIBILITY WHATSOEVER IN RESPECT TO THE ACCURACY, SUFFICIENCY OR COMPLETENESS OF THE INFORMATION AND GIVE NO EXPRESSED OR IMPLIED GUARANTEE THAT ANY CONDITIONS INDICATED ARE REPRESENTATIVE OF ACTUAL CONDITIONS TO BE ENCOUNTERED

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH FACILITIES, INCLUDING SERVICE CONNECTIONS TO UNDERGROUND UTILITIES. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES AND AGENCIES OF HIS CONSTRUCTION PLANS AND SHALL OBTAIN FROM EACH PARTY DETAILED INFORMATION AND ASSISTANCE RELATIVE TO THE LOCATION OF ALL UTILITIES AND THE WORKING SCHEDULE OF ANY REMOVALS OR ADJUSTMENTS REQUIRED OF THE UTILITY. THE CONTRACTOR SHALL CONTACT J.U.L.I.E. (PHONE 800-892-0123) TO ASSIST IN THE ABOVE.

CONTACT THE FAA (FEDERAL AVIATION ADMINISTRATION) FOR ASSISTANCE IN LOCATING FAA CABLES AND UTILITIES. LOCATION OF FAA POWER, CONTROL, AND COMMUNICATION CABLES SHALL BE COORDINATED WITH AND/OR LOCATED BY THE FAA.

THE CONTRACTOR SHALL PROTECT ANY FACILITIES TO THE SATISFACTION OF THE UTILITY OR OWNING-AGENCY WITH THE COST OF ANY REQUIRED PROTECTION TO BE INCIDENTAL TO THE CONTRACT. IN THE EVENT A UTILITY LINE OR SERVICE IS UNEXPECTEDLY ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER'S REPRESENTATIVE AND THE UTILITY COMPANY OR AGENCY OF JURISDICTION. ANY SUCH UTILITIES DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED TO SERVICE IMMEDIATELY.

AIRPORT SECURITY

THE CONTRACTOR IS TO COORDINATE GATE SECURITY, THROUGH THE RESIDENT ENGINEER, WITH THE AIRPORT MANAGEMENT. AIRPORT SECURITY SHALL BE MAINTAINED AT ALL TIMES.

THIS PROJECT IS TO EXTEND THE CHAIN-LINK FENCING AND INSTALL GATES AT CHICAGO-ROMEOVILLE AIRPORT,



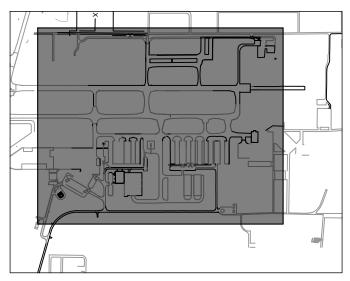
Lewis University Airport JOLIET REGIONAL PORT DISTRICT No. Description By Chk. App. Date Issues **INSTALL AIRPORT SECURITY** FENCING

IDA No: LOT-4536 BCM NO. LE056

SBG No: 3-17-SBGP-TBD

100% PREFINAL

KEY PLAN



DRAWING TITLE

SITE PLAN, **PROJECT CONTROL** PLAN, AND **GENERAL NOTES**

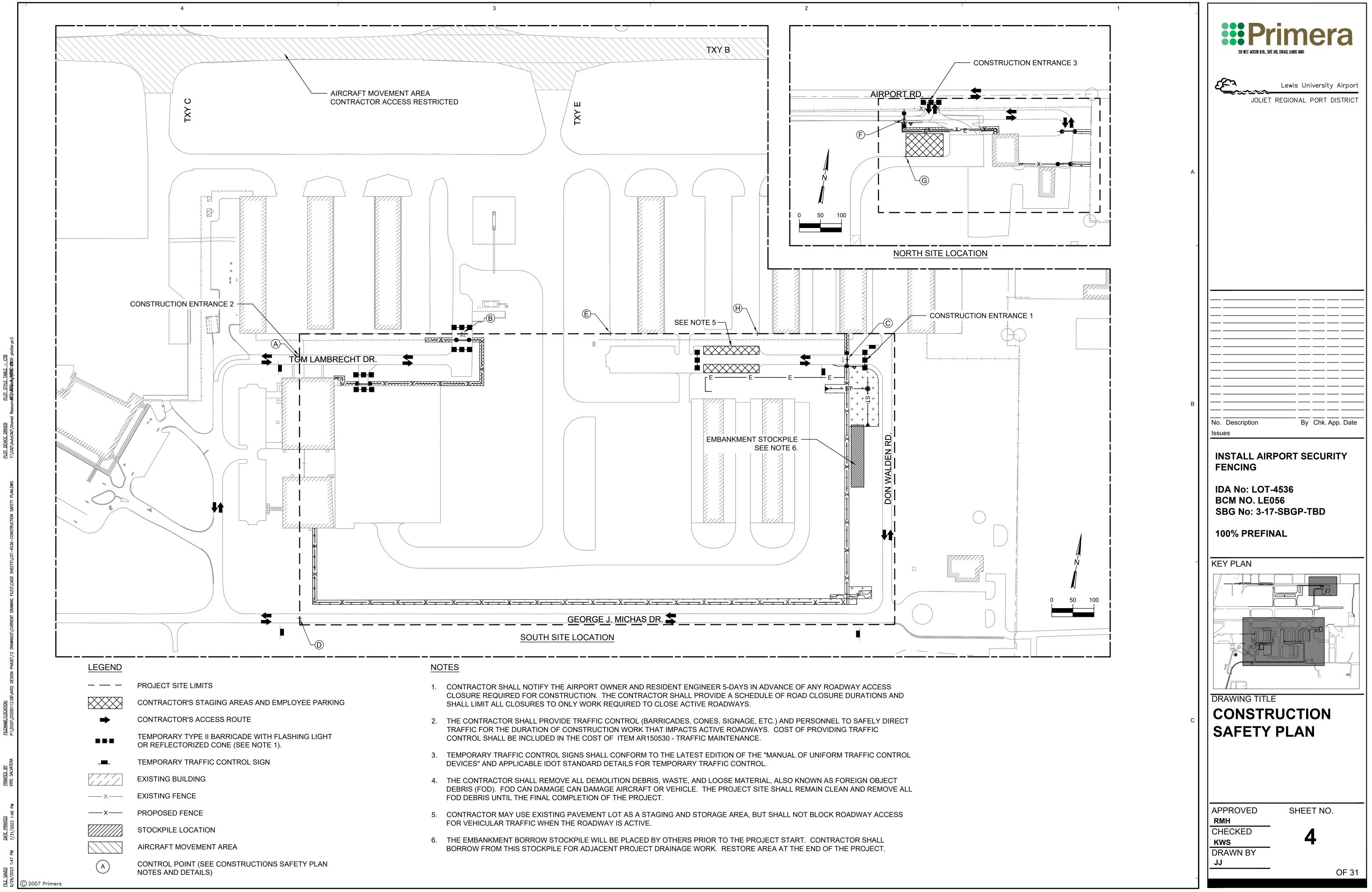
APPROVED

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KWS DRAWN BY JVJ

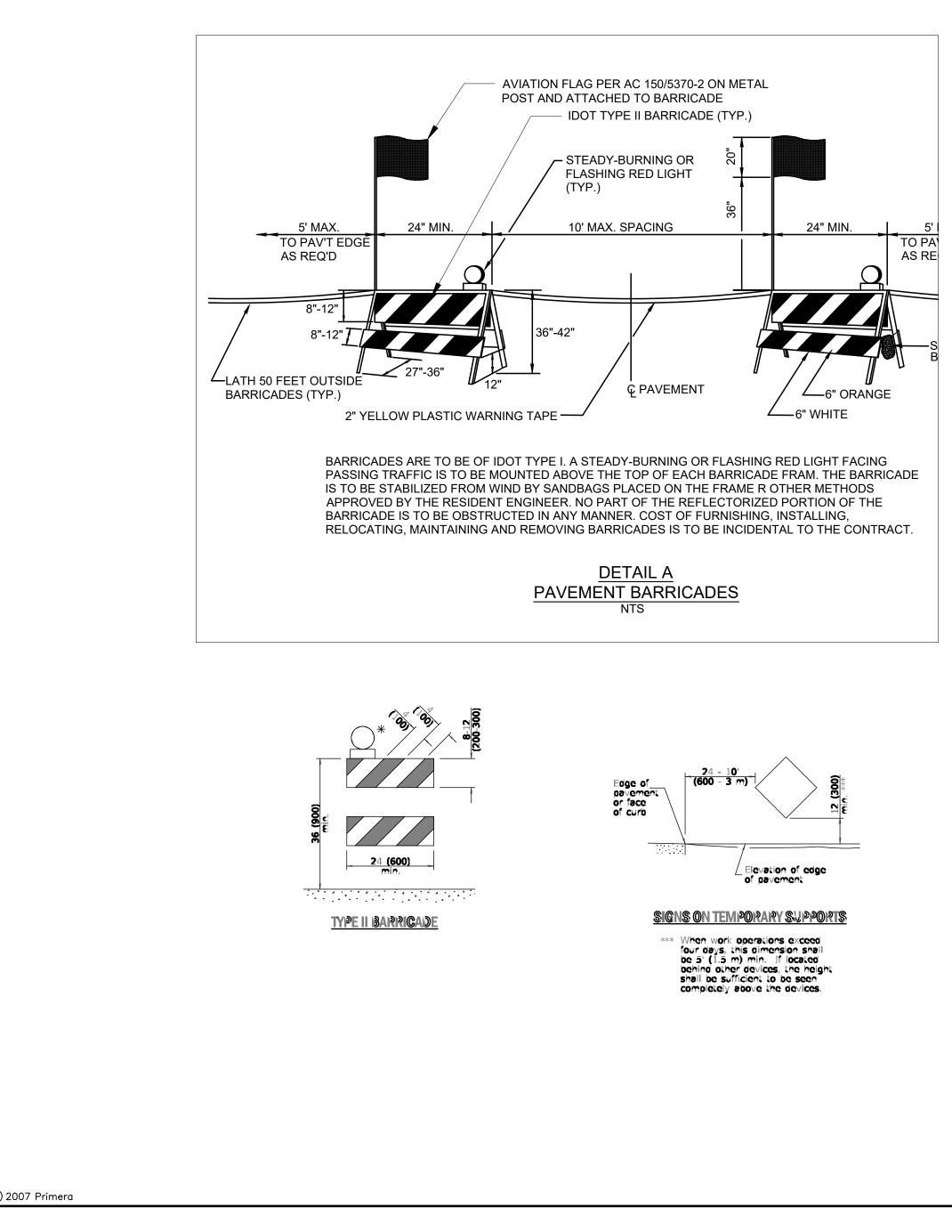
SHEET NO.



	CRITICAL POINT (SEE SHEET 4 FOR LOCATIONS)								
CRITICAL POINT	APPROX. ELEVATION (FT)	CONSTRUCTION EQUIPMENT	EQUIPMENT HEIGHT (FT)	EQUIPMENT ELEVATION (FT)	NORTHING	EASTING	LATITUDE	LONGITUDE	
А	665.8	SEMI/DUMP TRUCK	25	690.8	1798868.4376'	1050668.9611'	N041° 36' 19.18"	W088° 05' 25.70"	
В	665.0	CRANE	50	715.0	1798946.4150'	1051050.8535'	N041° 36' 19.94"	W088° 05' 20.67"	
С	664.0	CRANE	50	714.0	1798924.1264'	1051966.6070'	N041° 36' 19.69"	W088° 05' 08.62"	
D	665.0	SEMI/DUMP TRUCK	25	690.0	1798256.2987'	1050695.1058'	N041° 36' 13.13"	W088° 05' 25.38"	
E	665.3	SEMI/DUMP TRUCK	25	690.3	1798961.6706'	1051403.1938'	N041° 36' 20.08"	W088° 05' 16.03"	
F	671.5	CRANE	50	721.5	1800793.4897'	1052411.8603'	N041° 36' 38.15"	W088° 05' 02.69"	
G	671.5	SEMI/DUMP TRUCK	25	696.5	1800706.0295'	1052421.2586'	N041° 36' 37.29"	W088° 05' 02.57"	
Н	664.9	SEMI/DUMP TRUCK	25	689.9	1798976.3954'	1051751.2040'	N041° 36' 20.22"	W088° 05' 11.45"	

RUNWAY END COORDINATES

DESCRIPTION	LATITUDE	LONGITUDE	RUNWAY STATION
RUNWAY 2 END	41°36'28.9758" N	88°06'15.9913" W	23+85.38
	41°36'31.1949" N	88°05'01.0708" W	80+81.15
	41°35'57.2760" N	88°06'03.2207" W	100+00.40
	41°36'59.6552" N	88°05'42.9106" W	165+00.00



SAFETY REQUIRED

CONSTRUCTION OF THE PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH THE GUIDELINES SPECIFIED IN FAA ADVISORY (THE AIRPORT RULES AND REGULATIONS (AS PUBLISHED ON LEWIS UNIVERSITY AIRORT'S WEBSITE AT WWW.FLYLOT.COM, UNDE FEES FOR VEHICLE DRIVING PERMITS SHALL NOT BE PAID)). ANY ACTIVITIES REQUIRED FOR PROJECT SAFETY SHALL BE INCIDE

SAFETY PLAN COMPLIANCE DOCUMENT

PRIOR TO THE ISSUANCE OF A CONSTRUCTION NOTICE-TO-PROCEED (NTP) BY THE ILLINOIS DIVISION OF AERONAUTICS, THE C SAFETY PLAN COMPLIANCE DOCUMENT (SPCD) IN ACCORDANCE WITH FAA ADVISORY CIRCULAR 150/5370-2 (CURRENT ISSUE), I SUBSEQUENT/CURRENT ISSUE. THE SPCD SHALL BE REVIEWED AND APPROVED BY THE AIRPORT MANAGER, WHO WILL THEN S DIVISION OF AERONAUTICS FOR THEIR APPROVAL PRIOR TO NOTICE TO PROCEED.

SEQUENCE OF CONSTRUCTION

TO MINIMIZE DISRUPTIONS TO AIRPORT OPERATIONS, CONSTRUCTION OPERATIONS MUST BE CONTROLLED THROUGHOUT THE COMPLETED EXPEDITIOUSLY. A CONSTRUCTION SAFETY AND PLAN DETAILING THE SEQUENCING OF THE CONTRACTOR'S WOR THE CONSTRUCTION PLANS. THE CONTRACTOR SHALL PROVIDE HIS WRITTEN ACCEPTANCE OF THE PROJECT CONSTRUCTION PRE-CONSTRUCTION CONFERENCE. ANY AND ALL CHANGES TO THE CONSTRUCTION SAFETY AND PHASING PLAN THAT MAY BE APPROVED BY THE PROJECT ENGINEER AND THE AIRPORT OWNER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PRO PROPOSED PHASING CHANGE TO PERMIT CONSIDERATION AND APPROVAL BY THE PROJECT ENGINEER AND THE AIRPORT OWNER. THE CONTRACT TIME BECAUSE OF A PHASING CHANGE REQUES RECEIVING THE REQUIRED APPROVALS. THE CONTRACTOR SHALL EXPEDITE WORK AT THOSE STAGES WHERE ACTIVE TAXIWA PARKING LOTS MUST BE CLOSED, TO MINIMIZE THE LENGTH OF TIME THAT AIRPORT OPERATIONS ARE RESTRICTED. AT THE PRE-CONSTRUCTION CONFERENCE, THE CONTRACTOR SHALL PROVIDE A CONTRACTOR COORDINATION PLAN THAT COMPARISON FOR THE PROVIDE AND STRUCTION SAFE RESTRICTED.

CONSTRUCTION LIMITS

THE CONTRACTOR SHALL REMAIN WITHIN THE CONSTRUCTION LIMITS SHOWN ON THE CONSTRUCTION PLANS. THE CONTRACT EQUIPMENT AND PERSONNEL FROM OPERATING OUTSIDE THESE LIMITS. SEE DETAIL A, SHEET C2.2.

SUBCONTRACTORS AND THE WORK OF OTHER CONTRACTORS OF OTHER ON-GOING AIRPORT PROJECTS.

VEHICULAR TRAFFIC CONTROL

THE CONTRACTOR SHALL ERECT AND MAINTAIN, AT NO COST TO THE CONTRACT, DIRECTIONAL AND INFORMATIONAL SIGNS FOR THE EXISTING CONSTRUCTION ENTRANCES AND FOR THE CONTRACTOR'S ROUTE WITHIN THE AIRPORT OPERATIONS AREA, AS THE RESIDENT ENGINEER. WHERE CONTRACTOR EQUIPMENT IS OPERATING WITHIN ACTIVE AIRCRAFT OPERATIONS AREAS, R FURNISHED BY THE CONTRACTOR. CONTINUOUS PAVEMENT SWEEPING SHALL BE FURNISHED TO REMOVE DEBRIS FROM ACTI TRAFFIC CONTROL/FLAGGERS AND PAVEMENT SWEEPING SHALL BE INCIDENTAL TO THE CONTRACT.

AIRFIELD OPERATIONAL SAFETY DURING CONSTRUCTION

THE CONTRACTOR SHALL NOT HAVE ACCESS TO ANY PART OF THE ACTIVE AIRFIELD (RUNWAYS, TAXIWAYS OR APRONS) FOR A APPROVAL OF THE RESIDENT ENGINEER AND THE AIRPORT OWNER. ACTIVITIES WITHIN THE AIRPORT OPERATIONS AREA (AOA AND THE ON-SITE TRAFFIC CONTROL TOWER (ATCT). BECAUSE OF THE HIGH REQUIREMENTS FOR AIRPORT SECURITY AND SA BE ADHERED TO:

- ALL EMPLOYEES OF THE CONTRACTOR SHALL PARK THEIR PERSONAL VEHICLES IN THE DESIGNATED EQUIPMENT PARKIN VEHICLE ENTERING THE CONTRACTOR AREA SHALL DO SO IN ACCORDANCE WITH THE POLICIES AND PROCEDURES OF THE TRANSPORT THE WORKERS FROM THE PARKING AREAS TO THE WORK AREA. ONLY CONTRACTOR VEHICLES WILL BE ALLO STORAGE AND PARKING AREAS.
- SHOULD ANY CONTRACTOR PERSONNEL BE IDENTIFIED AS NONCOMPLIANT WITH ANY VEHICLE DRIVING SAFETY REQUIRED AIRPORT VEHICLE OPERATIONS REGULATIONS, SUCH DRIVERS SHALL BE PENALIZED BY RESCISSION OF THEIR ON-AIRPOR THE CONSTRUCTION LIMIT AREA WHEN OPERATING VEHICLES SHALL BE REVOKED.
- THE CONTRACTOR WILL BE REQUIRED TO BE IN CONTACT WITH THE RESIDENT ENGINEER AND ATCT AT ALL TIMES. THIS W AIRPORT PERSONNEL, WITH ATCT PERSONNEL, AND ENABLE THE AIRPORT PERSONNEL TO IMMEDIATELY CONTACT THE CO EMERGENCY THAT WOULD REQUIRE ACTION BY THE CONTRACTOR AND/OR HIS PERSONNEL.

RUNWAY CLOSURES

NO CLOSING OF EITHER RUNWAY 2-20 OR RUNWAY 9-27 WILL BE PERMITTED DURING THIS PROJECT.

CONTRACTOR USE OF SITE

THE CONTRACTOR SHALL FURNISH, PLACE, MAINTAIN, RELOCATE, AND REMOVE TRAFFIC SAFETY DEVICES ON ACTIVE PAVEME SHOWN AND DETAILED IN THE CONSTRUCTION PLANS, OR AS DIRECTED BY THE RESIDENT ENGINEER. THE COST OF THIS WOF MAINTENANCE.

THE CONTRACTOR SHALL NOT OPERATE WITHIN, ENCROACH UPON OR OBSTRUCT AIRPORT OPERATIONAL AREAS, INCLUDING AREAS, OBJECT AND OBSTACLE FREE ZONES, RUNWAY PROTECTION ZONES AND AIRPORT IMAGINARY SURFACES AS DEFINED "OBJECTS AFFECTING NAVIGABLE AIRSPACE".

WHEN NOT IN USE AND DURING NON-WORKING HOURS, CONTRACTORS EQUIPMENT SHALL BE PARKED WITHIN THE CONTRACT EQUIPMENT STORAGE AND PARKING AREAS ARE TO BE LOCATED AS SHOWN ON THE CONSTRUCTION SAFETY AND PHASING PI MAINTAINING THE CONSTRUCTION ENTRANCES AND CONTRACTOR AREAS IN GOOD CONDITION. THE COST OF MAINTAINING TH AREAS IS TO BE INCIDENTAL TO THE CONTRACT. THE CONTRACTOR SHALL PROTECT ALL EXISTING PAVEMENT EDGES FROM D VEHICLES.

AT NO TIME SHALL THE CONTRACTOR OPERATE OR PARK EQUIPMENT SO AS TO OBSTRUCT AN ACTIVE PART 77 AIRPORT IMAG EXTEND NO HIGHER THAN 25 FEET. CRANES SHALL NOT BE USED DURING INSTRUMENT WEATHER CONDITIONS OR AT NIGHT.

BEFORE REOPENING TEMPORARILY CLOSED PAVEMENTS, THE CONTRACTOR SHALL INSPECT AND CLEAN, AS NECESSARY, THE OBJECTS THAT MAY DAMAGE AIRCRAFT OR VEHICLES REMAIN. ANY REQUIRED CLEANING SHALL BE TO THE SATISFACTION OF INCIDENTAL TO THE CONTRACT.

ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE APPROVED PROJECT SAFETY PLAN, ISSUED BY THE ILLINOIS DIVI PRESCRIBED PROCEDURES OR ADHERE TO THE SAFETY REQUIREMENTS WILL RESULT IN THE SUSPENSION OF WORK.

ALL NOTES AND DETAILS SHOWN ON THE PHASING PLAN ARE APPLICABLE TO THIS PROJECT.

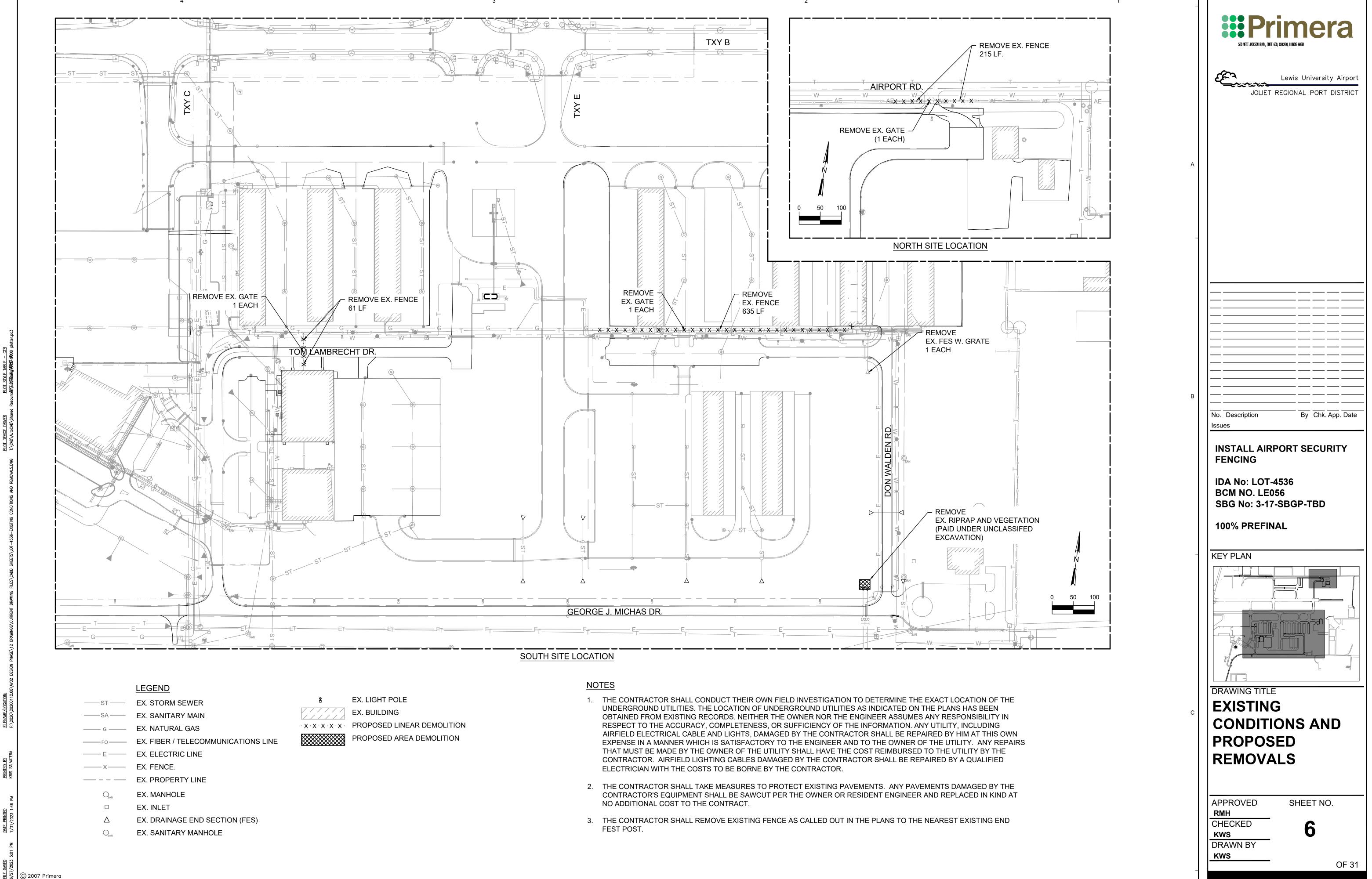
NOTIFICATIONS BY CONTRACTOR

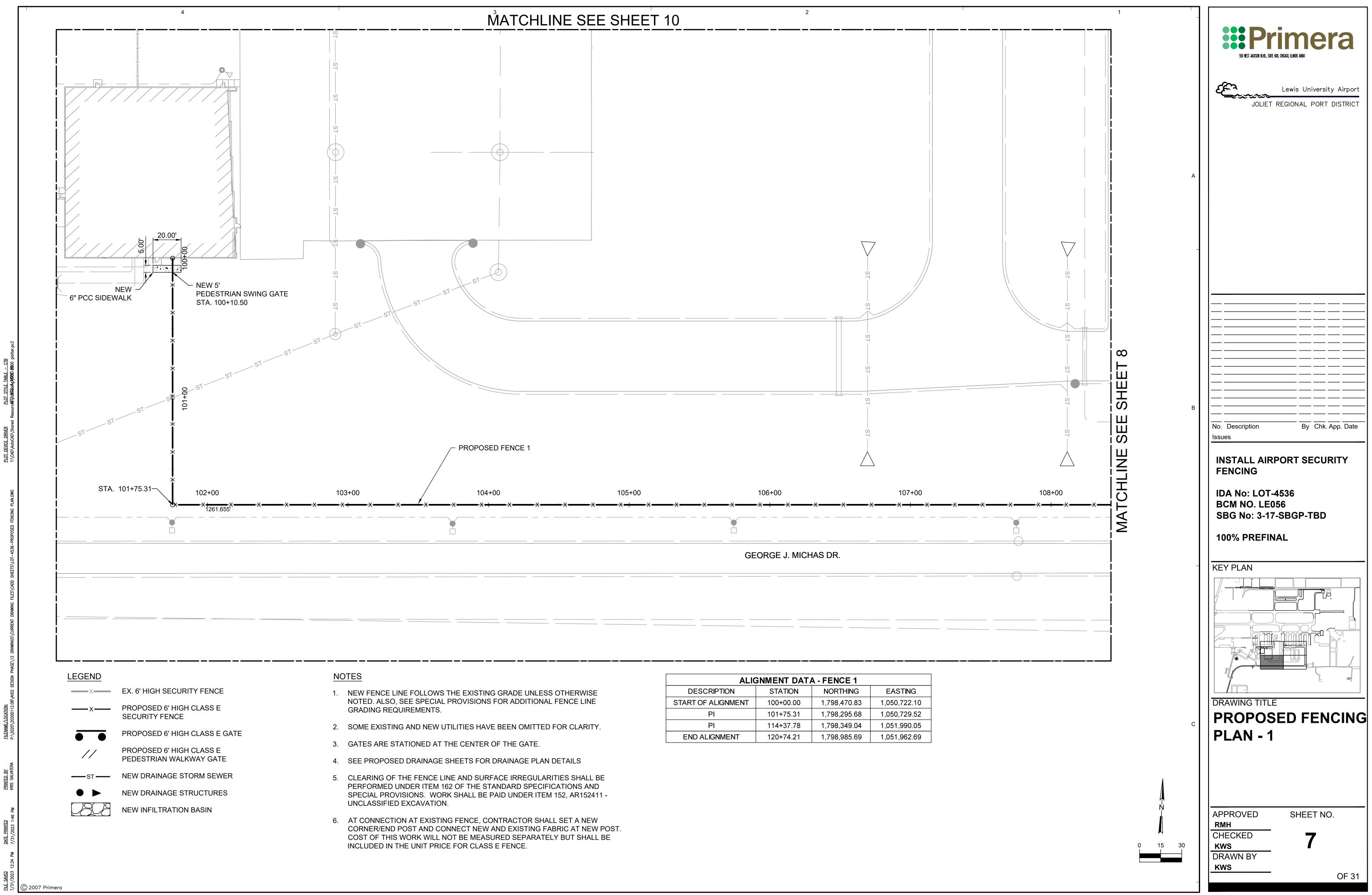
THE CONTRACTOR MUST NOTIFY THE RESIDENT ENGINEER AND THE AIRPORT OWNER THREE (3) DAYS IN ADVANCE OF ANY RE TAXIWAY OR APRON, OR AIRFIELD LIGHTING CIRCUIT. THE DATE, TIME AND SCHEDULED DURATION OF THE CLOSING MUST BE A AIRPORT OWNER. THE CONTRACTOR SHALL NOTIFY THE RESIDENT ENGINEER AND AIRPORT OWNER THREE (3) DAYS IN ADVAN ROADWAYS, ROADWAY LIGHTING CIRCUITS, OR OTHER AIRPORT FACILITIES.

UTILITY OUTAGES AND SHUTDOWNS

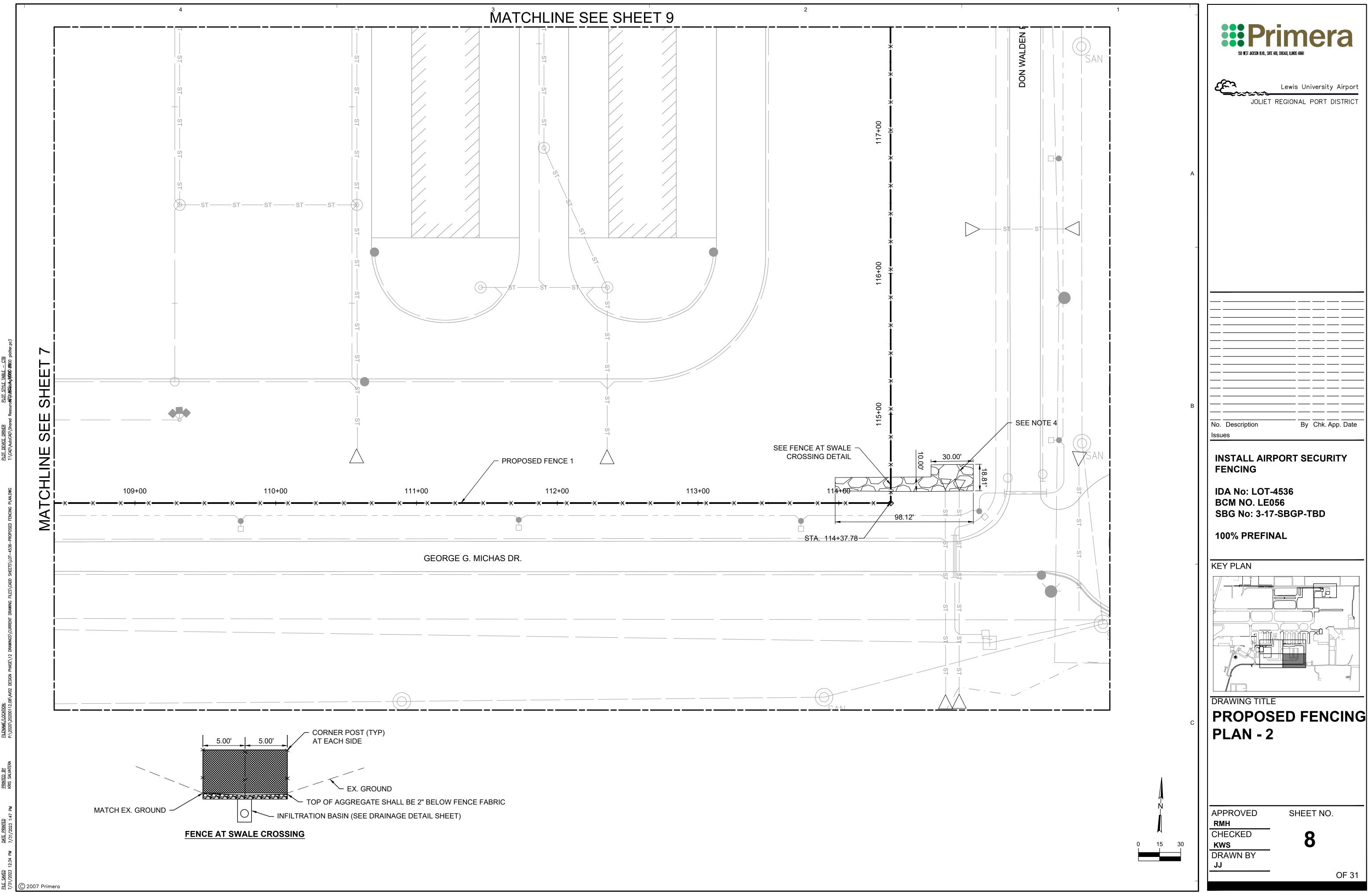
THE CONTRACTOR SHALL PROVIDE THREE (3) DAYS PRIOR NOTICE OF ANY OUTAGES OR SHUTDOWNS TO THE OWNER AND THE CONTRACTOR SHALL PROVIDE ANY TEMPORARY CONNECTIONS OR OTHER MEASURES AS MAY BE REQUIRED TO MAINTAIN SEF AT NO COST TO THE OWNER.

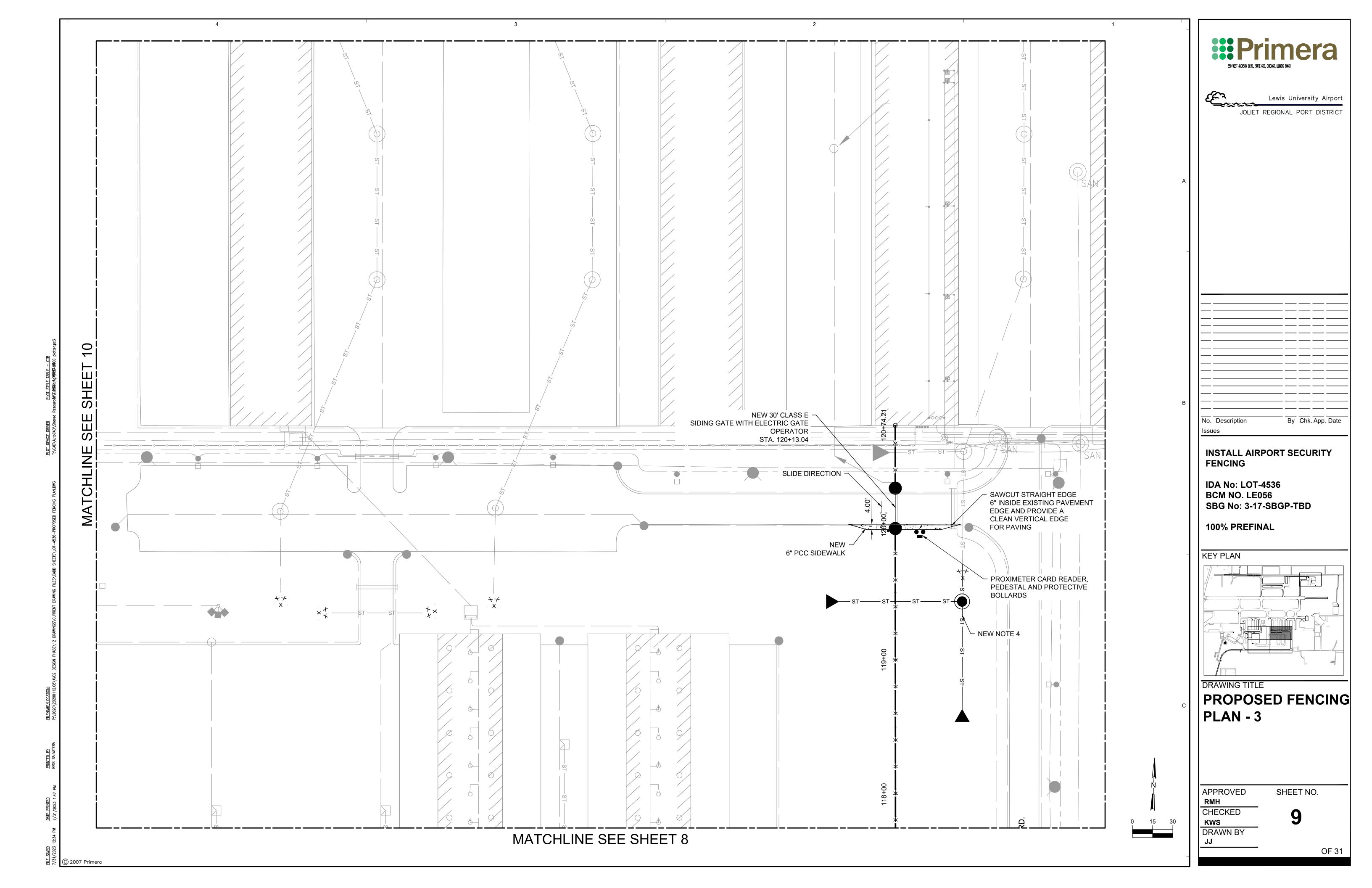
	1
1 RY CIRCULAR 150/5370-2 (CURRENT ISSUE) AND NDER JRPD ORDINANCES AND MINUTES (EXCEPT	SO HEST JACKSON BLVD, SUITE 600, CHICAGO, ILLINOS 60661
IDENTAL TO THE CONTRACT.	Lewis University Airport
CONTRACTOR SHALL PREPARE AND SUBMIT A), PARAGRAPH 204b, OR EQUIVALENT SECTION IN N SUBMIT THE DOCUMENT TO THE ILLINOIS	JOLIET REGIONAL PORT DISTRICT
HE PROJECT'S DURATION, AND WORK MUST BE ORK THROUGHOUT THE PROJECT IS INCLUDED IN ON SAFETY AND PLAN AT THE BE REQUESTED BY THE CONTRACTOR MUST BE ROVIDE SUFFICIENT ADVANCE NOTICE OF ANY WNER. THE CONTRACTOR SHALL NOT BE EST NOR FOR ANY TIME NECESSARY IN WAYS, HANGAR ACCESS, APRONS, ROADWAYS OR COORDINATES HIS WORK WITH THE WORK OF HIS	
CTOR SHALL FURNISH MEASURES TO PREVENT	
FOR THE CONTRACTOR'S ACCESS ROUTES AT AS NOTED ON THE PLANS OR AS DIRECTED BY RADIO-EQUIPPED FLAGGERS SHALL BE CTIVE AIRCRAFT MOVEMENT PATHS. THE COST OF	
R ANY EQUIPMENT OR PERSONNEL WITHOUT THE OA) ARE SUBJECT TO FEDERAL ACCESS CONTROL SAFETY, THE FOLLOWING REQUIREMENTS MUST	
ING AND STORAGE AREA. EACH PERSON OR THE AIRPORT OWNER. THE CONTRACTOR WILL LOWED OUTSIDE OF THE PROPOSED EQUIPMENT B	
REMENTS IN THIS SAFETY PLAN OR IN THE ORT DRIVING PRIVILEGES, AND THEIR ACCESS TO	No. Description By Chk. App. Date Issues
WILL KEEP THE CONTRACTOR IN CONTACT WITH CONTRACTOR IN CASE OF AN AERONAUTICAL	INSTALL AIRPORT SECURITY FENCING
	IDA No: LOT-4536 BCM NO. LE056 SBG No: 3-17-SBGP-TBD
MENTS AS SPECIFIED IN IDOT TRAFFIC STANDARDS ORK SHALL BE INCLUDED IN ITEM AR150530, TRAFFIC	100% PREFINAL
G ACTIVE RUNWAY, TAXIWAYS AND APRON SAFETY ED IN FEDERAL AVIATION REGULATIONS (FAR) PART 77, CTOR'S EQUIPMENT STORAGE AND PARKING AREAS. THE PLAN. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE CONSTRUCTION ENTRANCE AND CONTRACTOR DAMAGE FROM CONSTRUCTION EQUIPMENT AND HAUL	
GINARY SURFACES. CONTRACTOR'S EQUIPMENT SHALL C CRANES SHALL BE LOWERED WHEN NOT IN USE.	
HE PAVEMENT TO ASSURE THAT NO MATERIALS OR OF THE RESIDENT ENGINEER AND AIRPORT OWNER AND IS	
VISION OF AERONAUTICS. FAILURE TO USE THESE	DRAWING TITLE CONSTRUCTION SAFETY NOTES AND DETAILS
REQUIRED PARTIAL OR COMPLETE CLOSING OF ANY E APPROVED BY THE RESIDENT ENGINEER AND THE 'ANCE OF THE CONTRACTOR'S CLOSING OF OTHER ACTIVE	
THE AGENCY OWNING THE AFFECTED UTILITY. THE SERVICE AS MAY BE REQUIRED BY THE OWNING AGENCY	APPROVED SHEET NO. RMH CHECKED KWS DRAWN BY
-	JJ OF 31

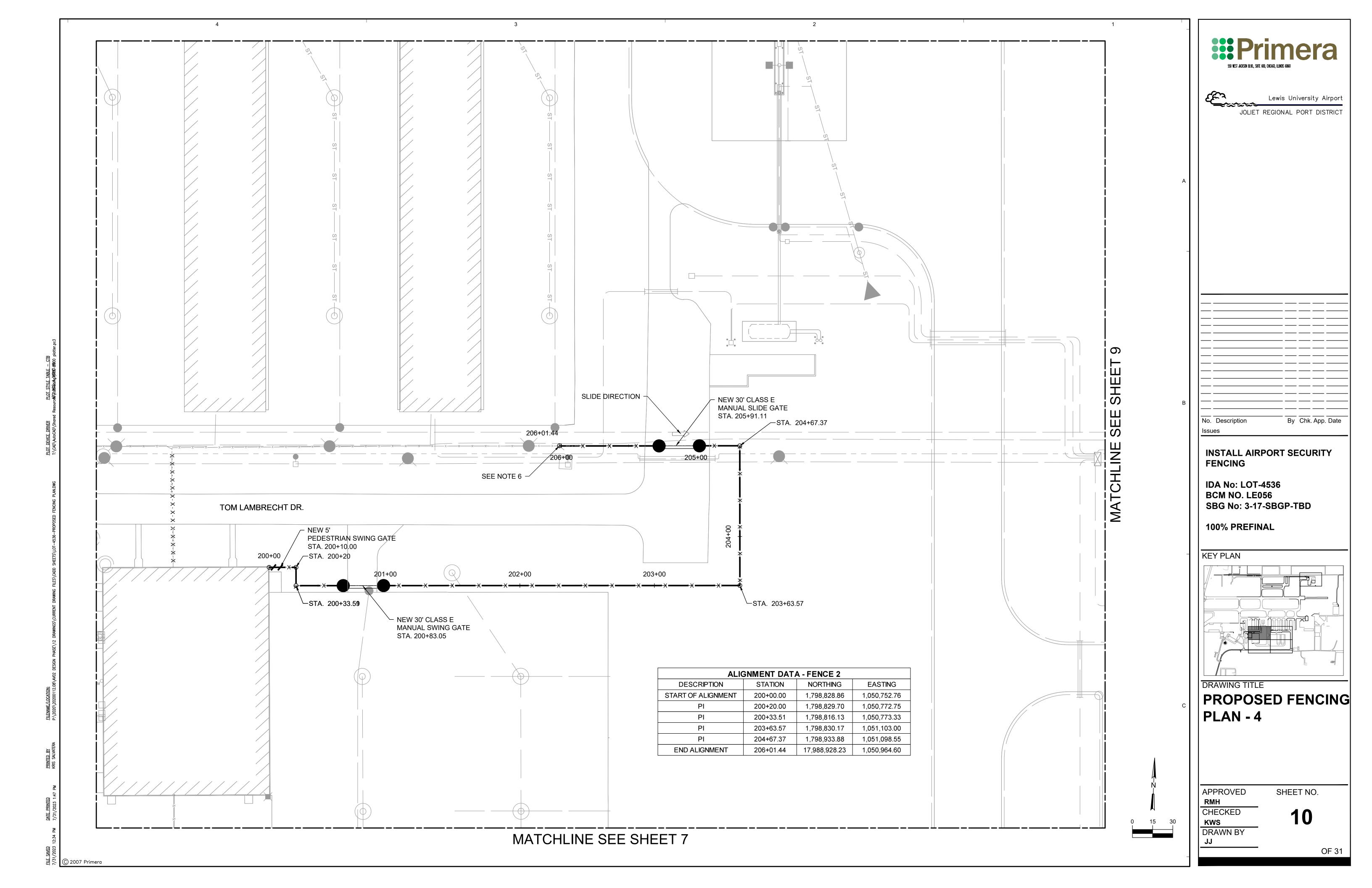


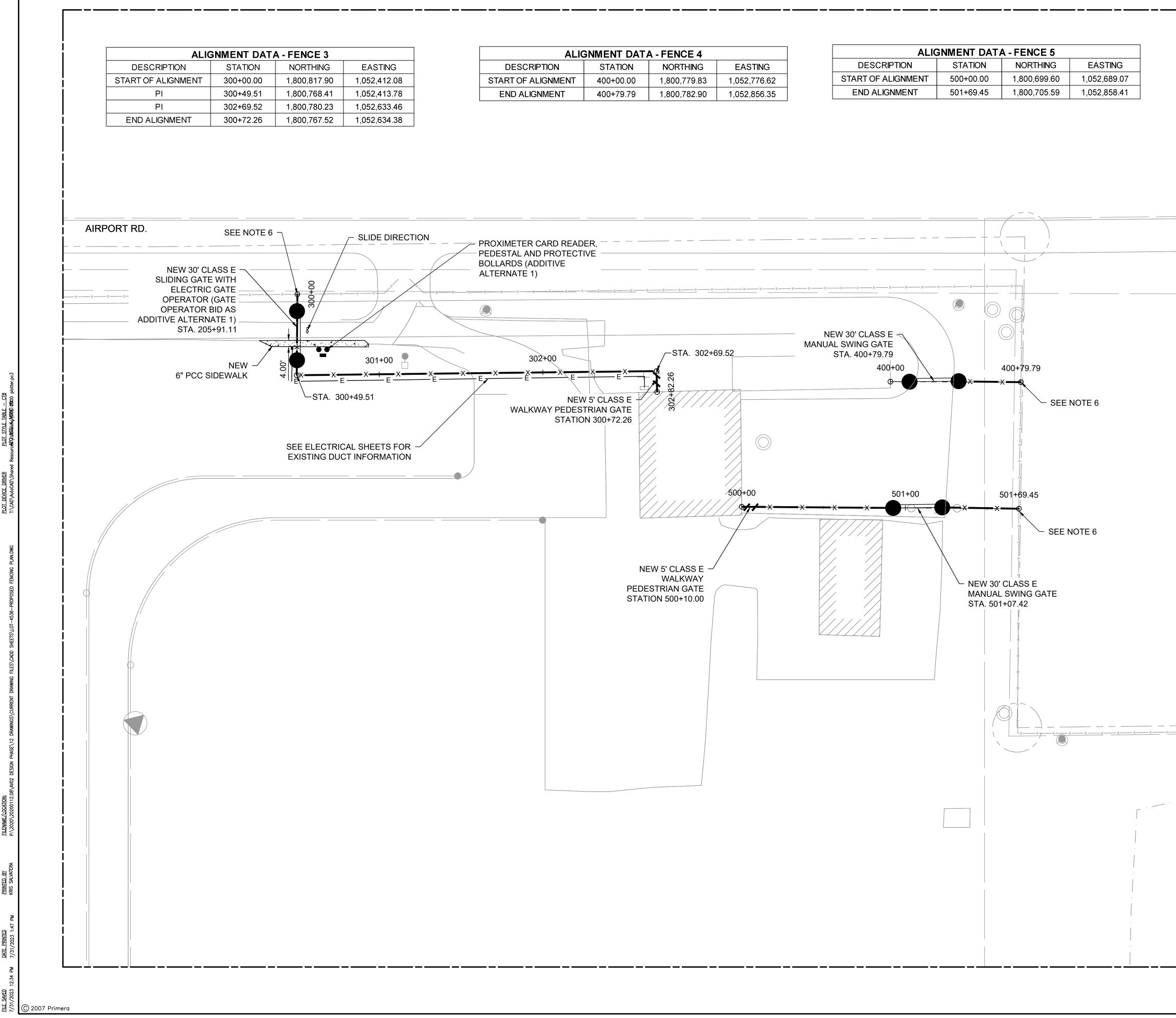


ALIGNMENT DATA - FENCE 1							
DESCRIPTION	STATION	NORTHING	EASTING				
START OF ALIGNMENT	100+00.00	1,798,470.83	1,050,722.10				
PI	101+75.31	1,798,295.68	1,050,729.52				
PI	114+37.78	1,798,349.04	1,051,990.05				
END ALIGNMENT	120+74.21	1,798,985.69	1,051,962.69				



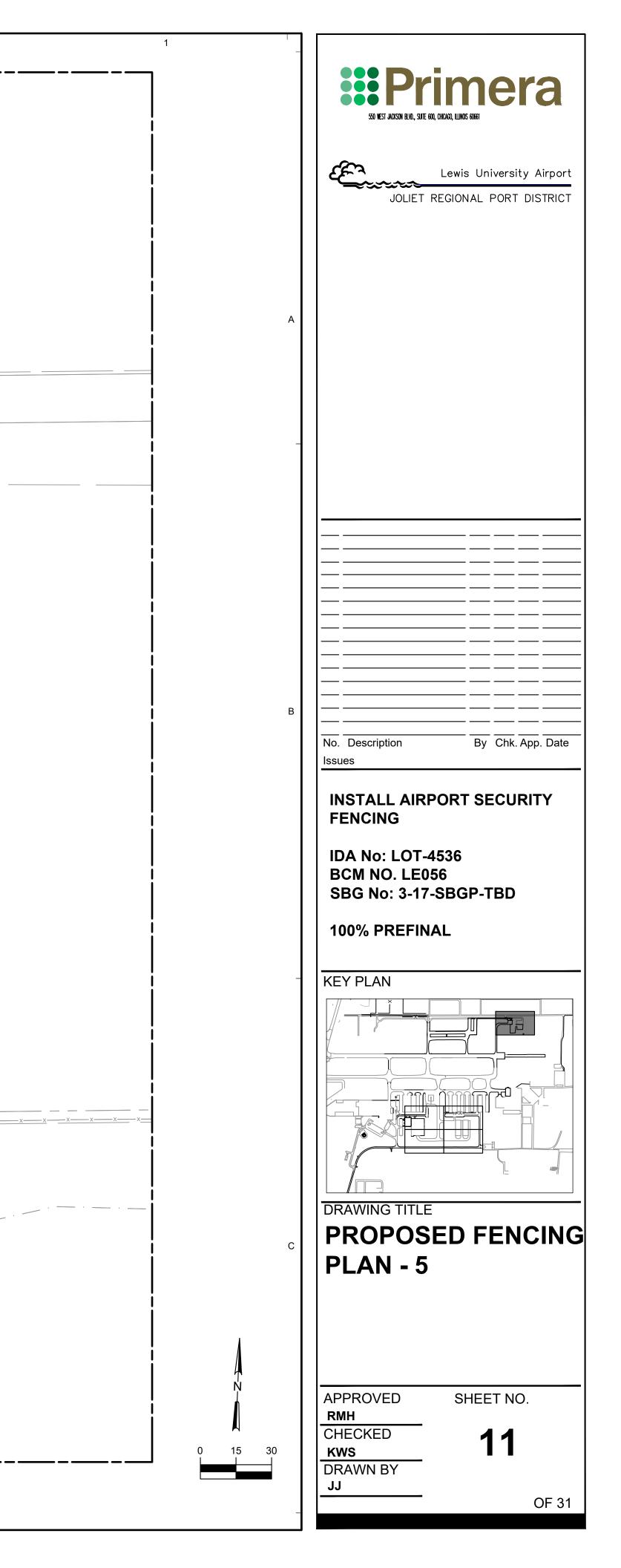


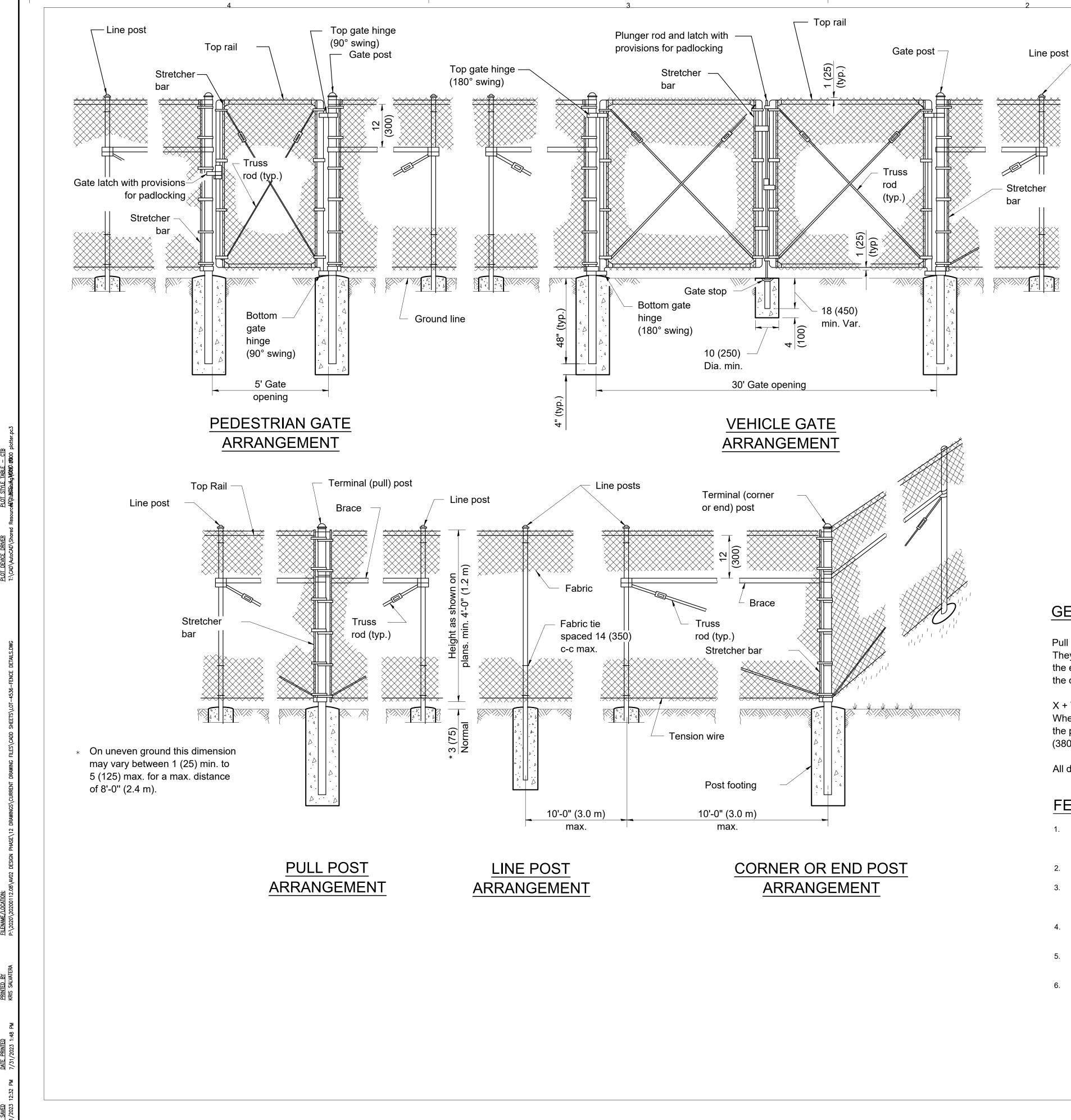




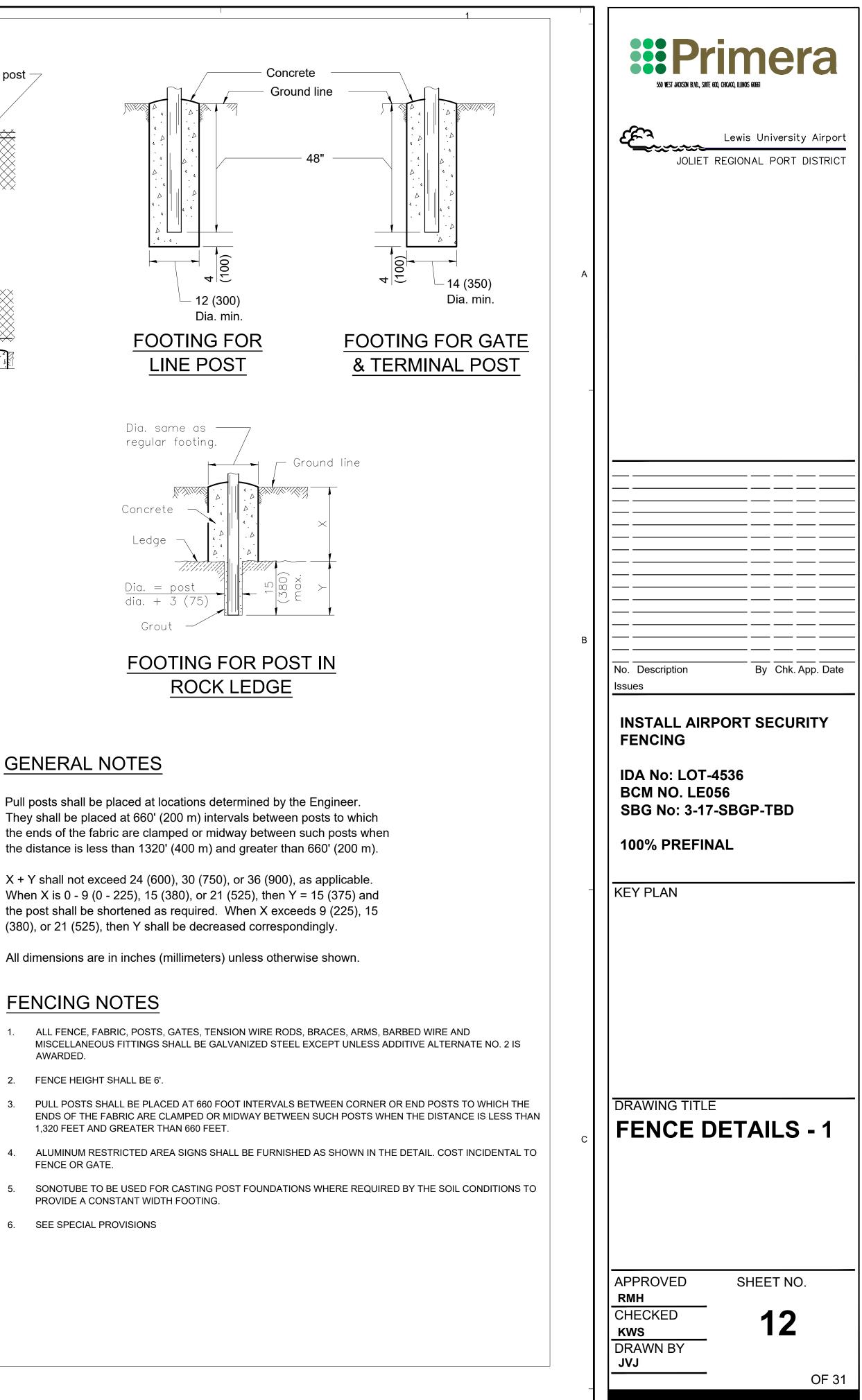
ALIC	GNMENT DAT	A - FENCE 4		A
PTION	STATION	NORTHING	EASTING	DESCRIPTION
LIGNMENT	400+00.00	1,800,779.83	1,052,776.62	START OF ALIGNMEN
NMENT	400+79.79	1,800,782.90	1,052,856.35	END ALIGNMENT

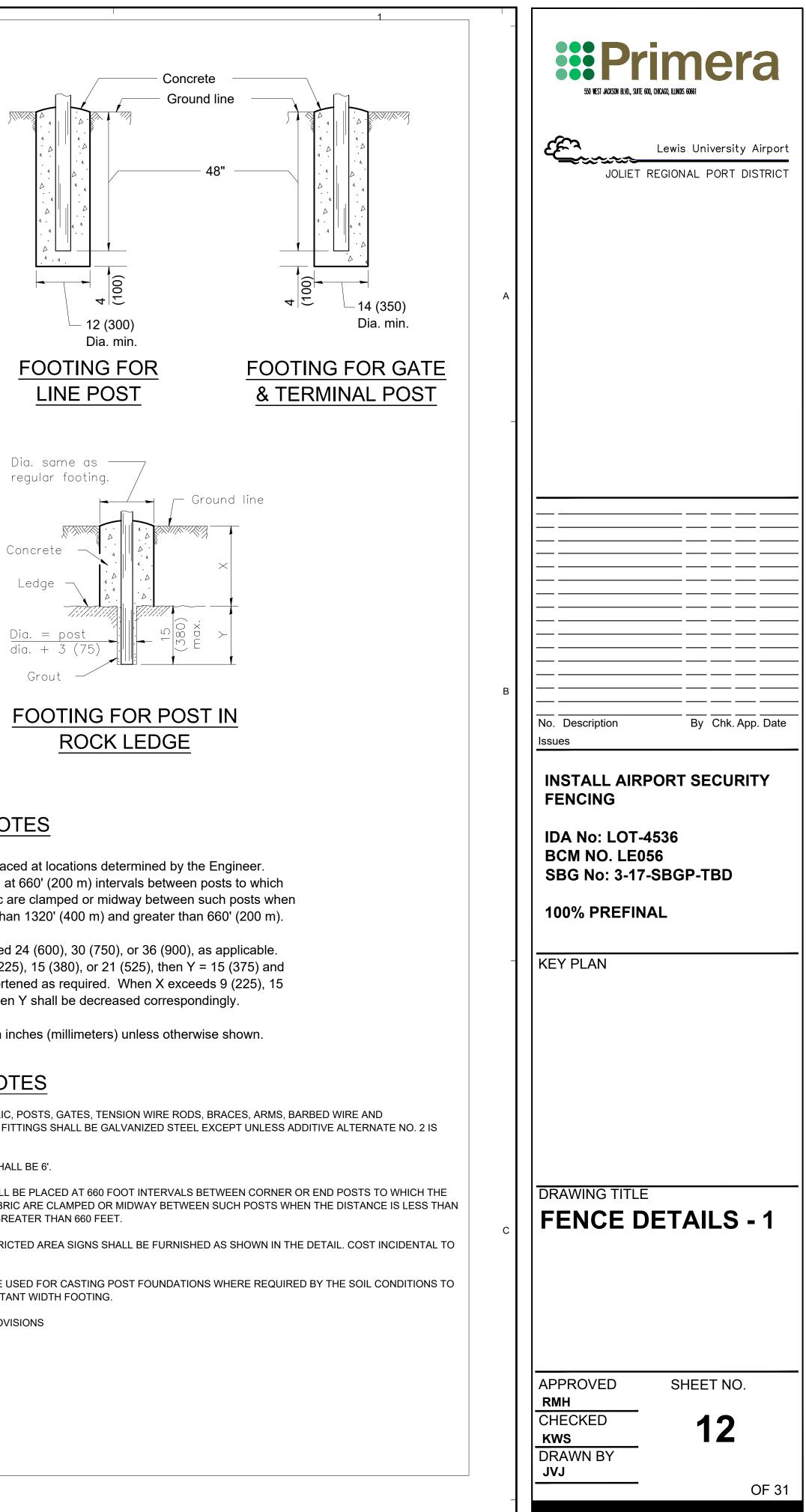
ALIGNMENT DATA - FENCE 5						
DESCRIPTION STATION NORTHING EASTING						
START OF ALIGNMENT 500+00.00		1,800,699.60	1,052,689.07			
END ALIGNMENT 501+69.45		1,800,705.59	1,052,858.41			





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GENERAL NOTES

Pull posts shall be placed at locations determined by the Engineer They shall be placed at 660' (200 m) intervals between posts to which the ends of the fabric are clamped or midway between such posts when the distance is less than 1320' (400 m) and greater than 660' (200 m).

X + Y shall not exceed 24 (600), 30 (750), or 36 (900), as applicable. When X is 0 - 9 (0 - 225), 15 (380), or 21 (525), then Y = 15 (375) and the post shall be shortened as required. When X exceeds 9 (225), 15 (380), or 21 (525), then Y shall be decreased correspondingly.

All dimensions are in inches (millimeters) unless otherwise shown.

FENCING NOTES

- AWARDED.
- 2. FENCE HEIGHT SHALL BE 6'.
- 1,320 FEET AND GREATER THAN 660 FEET.
- 4. FENCE OR GATE.
- 5. PROVIDE A CONSTANT WIDTH FOOTING.
- 6. SEE SPECIAL PROVISIONS

0.0747 (2) Thick

ROLL FORMED SECTION OF BRACE

LINE POST		
Section	lbs./ft.	
Section	(kg/m)	TERMINAL
$B_{inc} = T_{inc} = A + 1 + 00 + (A + 2) + 0 = D$	2.72	Section
Pipe Type A 1.90 (48.3) O.D.	(4.05)	Section
	2.28	
Pipe Type B 1.90 (48.3) O.D.	(3.39)	Pipe Type A 2.375 (60.3) O
$Dime T_{1}(m_{0}, C, 1, 00, (40, 2), O, D)$	2.26	
Pipe Type C 1.90 (48.3) O.D.	(3.36)	Pipe Type B 2.375 (60.3) O
	2.72	
H 1.875x1.625 (47.6x41.3)	(4.05)	Pipe Type C 2.375 (60.3) O
	1.60	Dell Fermed 21/221/ (00.020
	(2.38)	Roll Formed 31/2x31/2 (89.0x8
т	2.30	
<u>⊥</u>	(3.42)	Sq. Tubing 2½x2½ (63.5x63

GATE POSTS *								
Gate Opening * ft. (m)		Pipe Type A		Sq. Tubing		Pipe Type B		
		Size (O.D.)	lbs./ft.	Size	lbs./ft.		kg/m	
Single	Double	Size (0.D.)	(kg/m)	Size	(kg/m)	Size (O.D.)	(lbs./ft.)	
Up to 4 (1.2) Up to 8 (2.5)	$l \ln to 9 (2.5)$	2.375	3.65	21/2	4.32	2.375	3.11	
	Op to 8 (2.5)	(60.3)	(5.43)	(63.5)	(6.43)	(60.3)	(4.63)	
Over 4 (1.2) to 8 (2.5) Over 8 (2.5) to 16 (5.0)	2.875	5.79	3	5.78	2.875	4.64		
	Over 8 (2.5) to 16 (5.0)	(73.0)	(8.62)	(76.2)	(8.60)	(73.0)	(6.91)	
Over 8 (2.5) to 12 (3.6)	Over 16 (5.0) to 24 (7.4)	3.5	7.58	3	8.80	3.5	5.707	
	Over 16 (5.0) to 24 (7.4)	(89.0)	(11.28)	(76.2)	(13.10)	(89)	(8.49)	

* The 3½ x 3½ (89.0 x 89.0) roll formed section as detailed may be used as gate posts for single gate up to 6' (1.8 m) and double gate up to 12' (3.6 m).

<u>PLOT STYLE TABLE - CTB</u> rcestorungshimg Mondo. 2000 pl

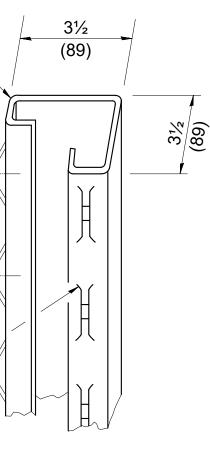
 Wire fabric to be woven into the lock loops for the entire length of post.

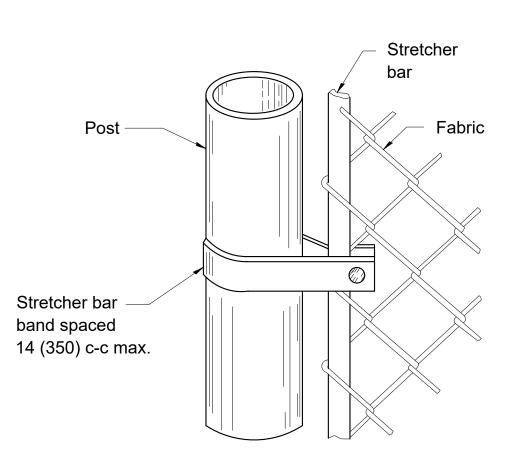
 Image: state of the entire length of post in the entinet length of post in the entire length of post in the

ROLL FORMED SECTION OF TERMINAL & GATE POST

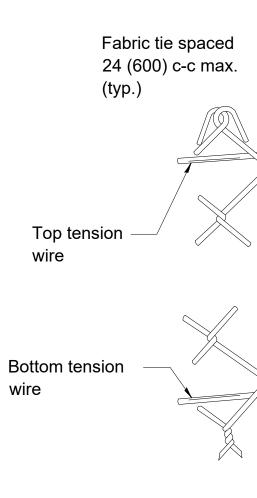
0.1040 (0.0)

0.1345 (3.5) Thick









METH FABRIC TC

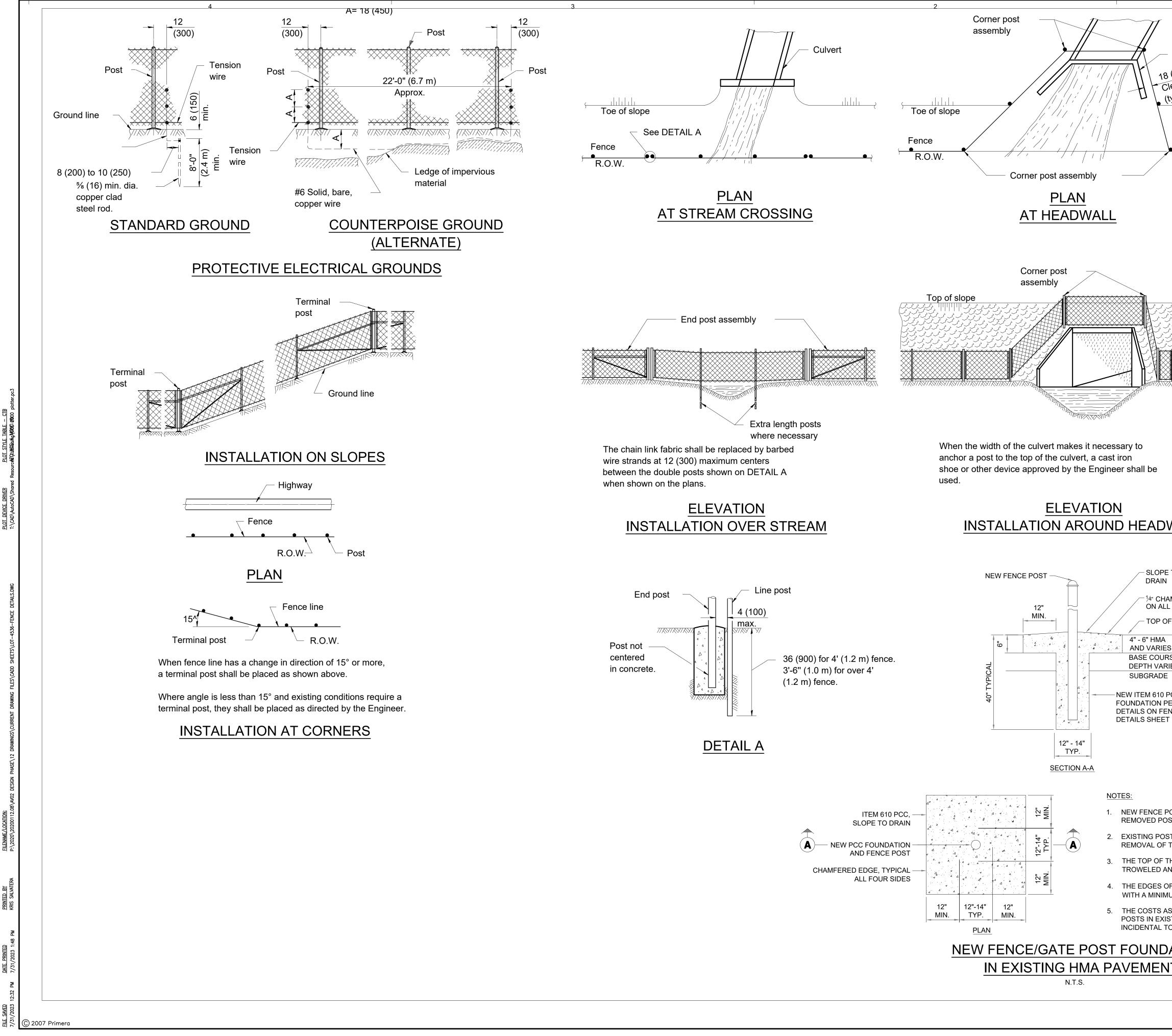
VAL POST	
	lbs./ft.
	(kg/m)
	3.65
3) O.D.	(5.43)
	3.11
3) O.D.	(4.63)
	3.09
3) O.D.	(4.60)
.0x89.0)	See detail
	4.32
5x63.5)	(6.43)

TOP RAIL AND HORIZONTAL BRACES				
Section	lbs./ft.			
Section	(kg/m)			
	2.27			
Pipe Type A 1.66 (42.2) O.D.	(3.38)			
	1.83			
Pipe Type B 1.66 (42.2) O.D.	(2.72)			
	1.82			
Pipe Type C 1.66 (42.2) O.D.	(2.71)			
	2.25			
H 1.31x1.5 (33.3x38.1)	(3.35)			
Roll Formed 1⁵sx1¼ (41.3x31.8)	See detail			

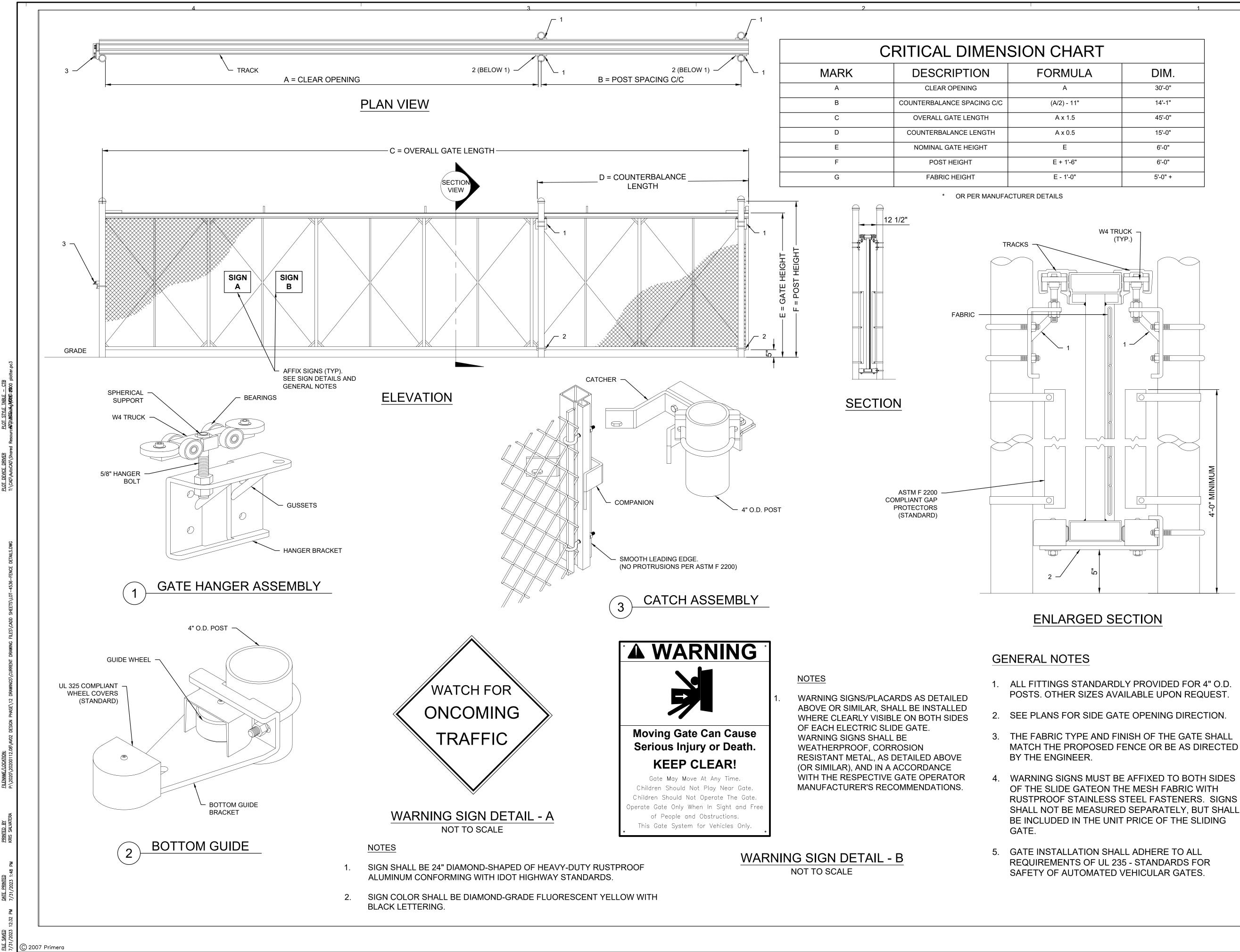
Fabric tie spaced — 24 (600) c-c max. (typ.)
Pipe
METHO FABR

GATE FRAMES				
Section	lbs./ft.			
Section	(kg/m)			
Pine Type A 166 (42.2) O D	2.27			
Pipe Type A 1.66 (42.2) O.D.	(3.38)			
	1.83			
Pipe Type B 1.66 (42.2) O.D.	(2.72)			
	1.82			
Pipe Type C 1.66 (42.2) O.D.	(2.71)			

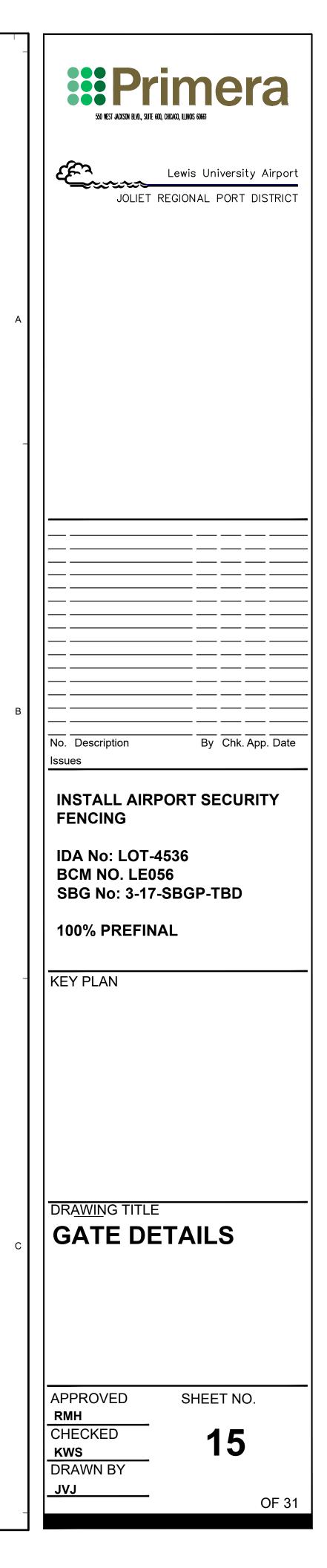
1		
Knuckled selvage		SO WEST JACKSON BLVD, SATE 600, CHCAGO, ILLINOIS 60661
		Lewis University Airport JOLIET REGIONAL PORT DISTRICT
Fabric		
	A	
(20)		
 Barbed or knuckled selvage 	-	
IOD OF TYING D TENSION WIRES		
— Knuckled selvage		
(20)	В	
		No. Description By Chk. App. Date
		INSTALL AIRPORT SECURITY FENCING
IOD OF TYING RIC TO PIPE		IDA No: LOT-4536 BCM NO. LE056 SBG No: 3-17-SBGP-TBD
		100% PREFINAL
	_	KEY PLAN
		DRAWING TITLE
	С	FENCE DETAILS - 2
		APPROVED SHEET NO.
		RMH CHECKED kws DRAWN BY
		JVJ OF 31

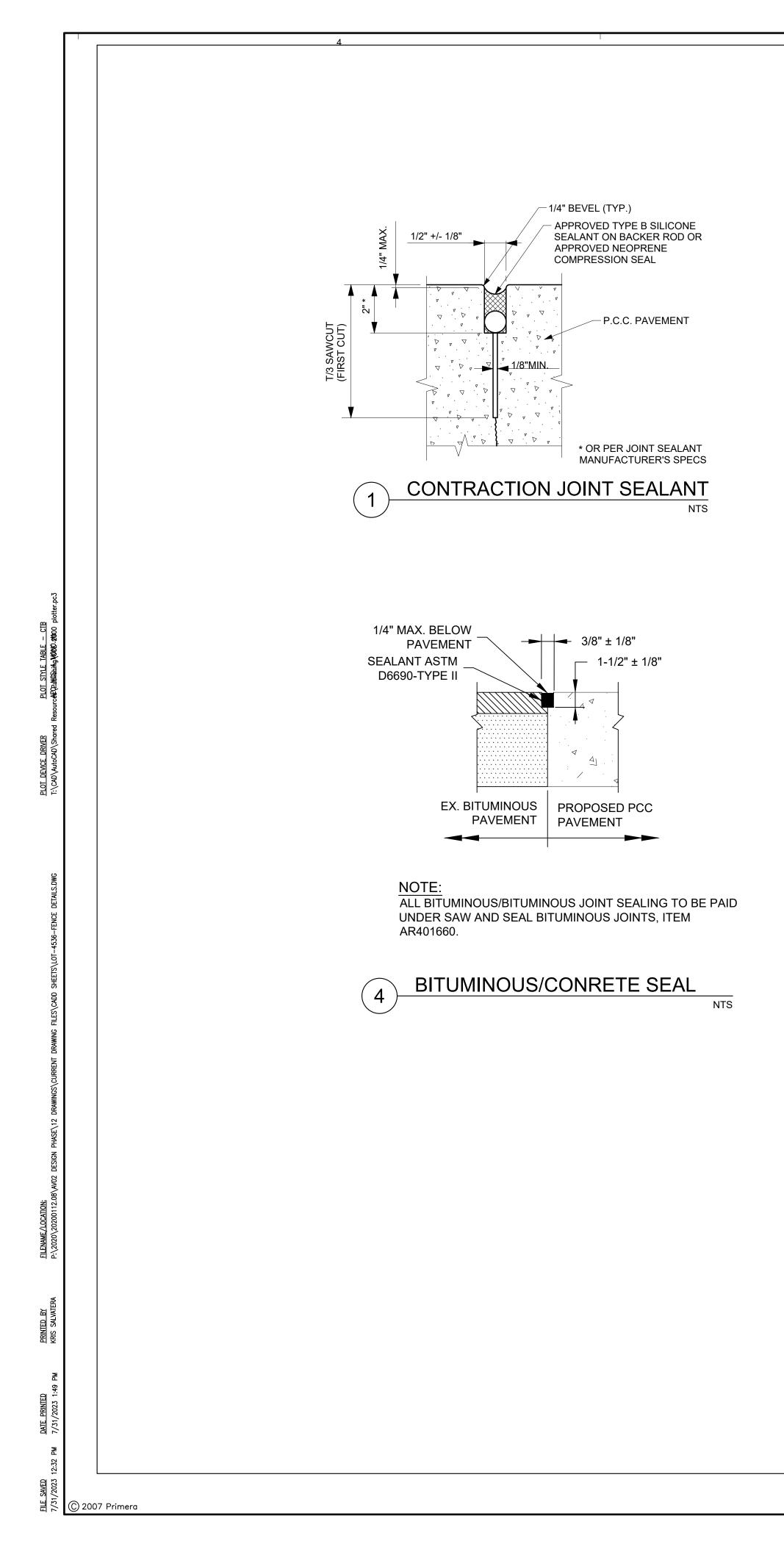


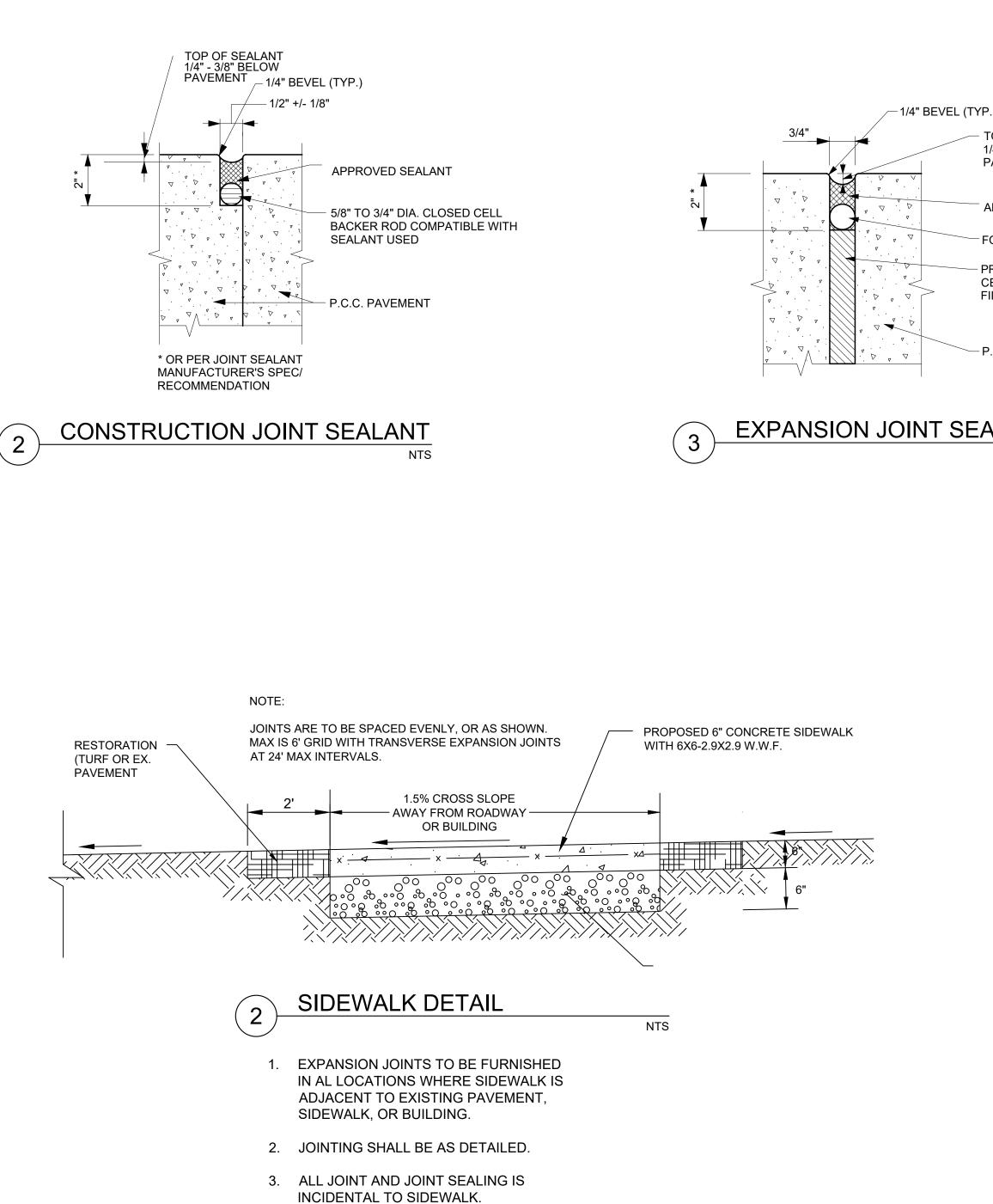
Culvert (450) Jearance typ.)		EVALUATION BLUD, SUTE GOD, CHICAGO, LUNXIS GOG KEST JACKSON BLUD, SUTE GOD, CHICAGO, LUNXIS GOG Lewis University Airport JOLIET REGIONAL PORT DISTRICT
	A	
VALL TO MFER OR RADIUS FOUR SIDES = HMA PAVEMENT	В	INSTALL AIRPORT SECURITY INSTALL AIRPORT SECURITY ISSUES IDA No: LOT-4536 BCM NO. LE056 SBG No: 3-17-SBGP-TBD 100% PREFINAL KEY PLAN
OSTS SHALL BE LOCATED AT THE LOCATION OF STS. THOLES SHALL BE AUGURED CLEAN AFTER THE EXISTING FOUNDATION. THE NEW FOUNDATION SHALL BE SLOPED TO DRAIN, ND BROOMED. THE NEW FOUNDATION SHALL BE CHAMFERED UM SSOCIATED WITH INSTALLATION OF NEW FENCE STING HMA PAVEMENT SHALL BE CONSIDERED O THE NEW FENCE/GATE PAY ITEM. T	С	DRAWING TITLE FENCE DETAILS - 3 APPROVED SHEET NO. RMH CHECKED KWS DRAWN BY JVJ OF 31



RT	
A	DIM.
	30'-0"
	14'-1"
	45'-0"
	15'-0"
	6'-0"
	6'-0"
	5'-0" +

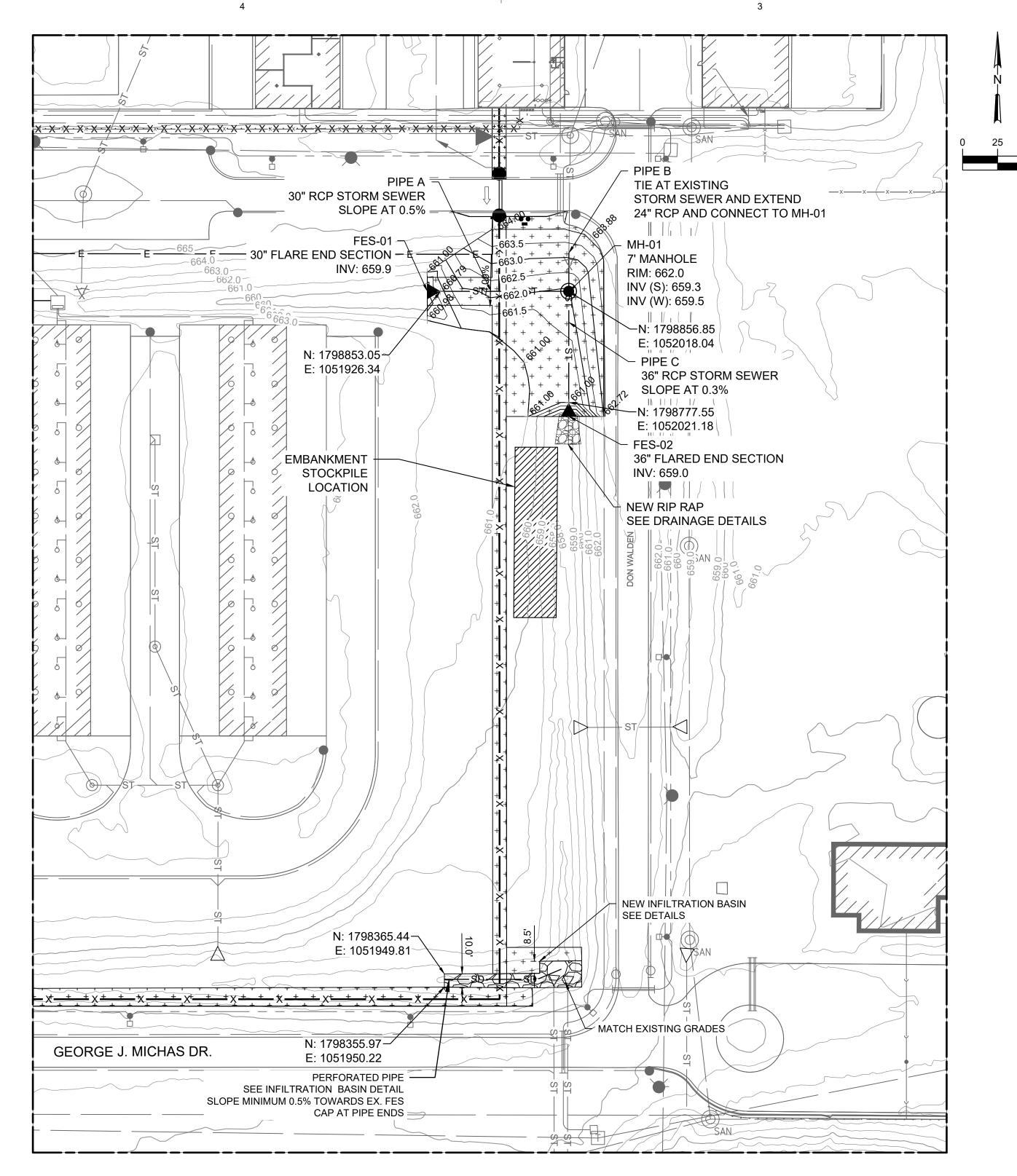






4. ALL SIDEWALK TO SLOPE AWAY FROM ROADWAY EDGE.

	SO VEST JACKSON BLVD., SUTE 600, CHICAGO, ILLINOIS 60661
.)	Lewis University Airport JOLIET REGIONAL PORT DISTRICT
OP OF SEALANT /4" - 3/8" BELOW AVEMENT	
PPROVED SEALANT	
OAM BACKER ROD	Α
RE MOLDED CLOSED ELL FLEXIBLE FOAM JOINT ILLER MATERIAL	
.C.C. PAVEMENT	
ALANT NTS	
	в
	No. Description By Chk. App. Date Issues
	INSTALL AIRPORT SECURITY FENCING
	IDA No: LOT-4536 BCM NO. LE056 SBG No: 3-17-SBGP-TBD
	100% PREFINAL
	KEY PLAN
	c DRAWING TITLE
	APPROVED SHEET NO. <u>RMH</u> CHECKED <u>KWS</u> DRAWN BY
	JVJ OF 31

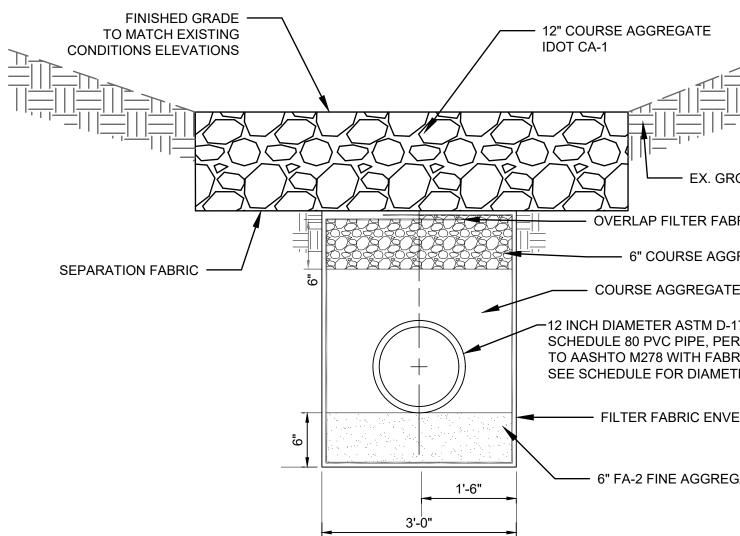


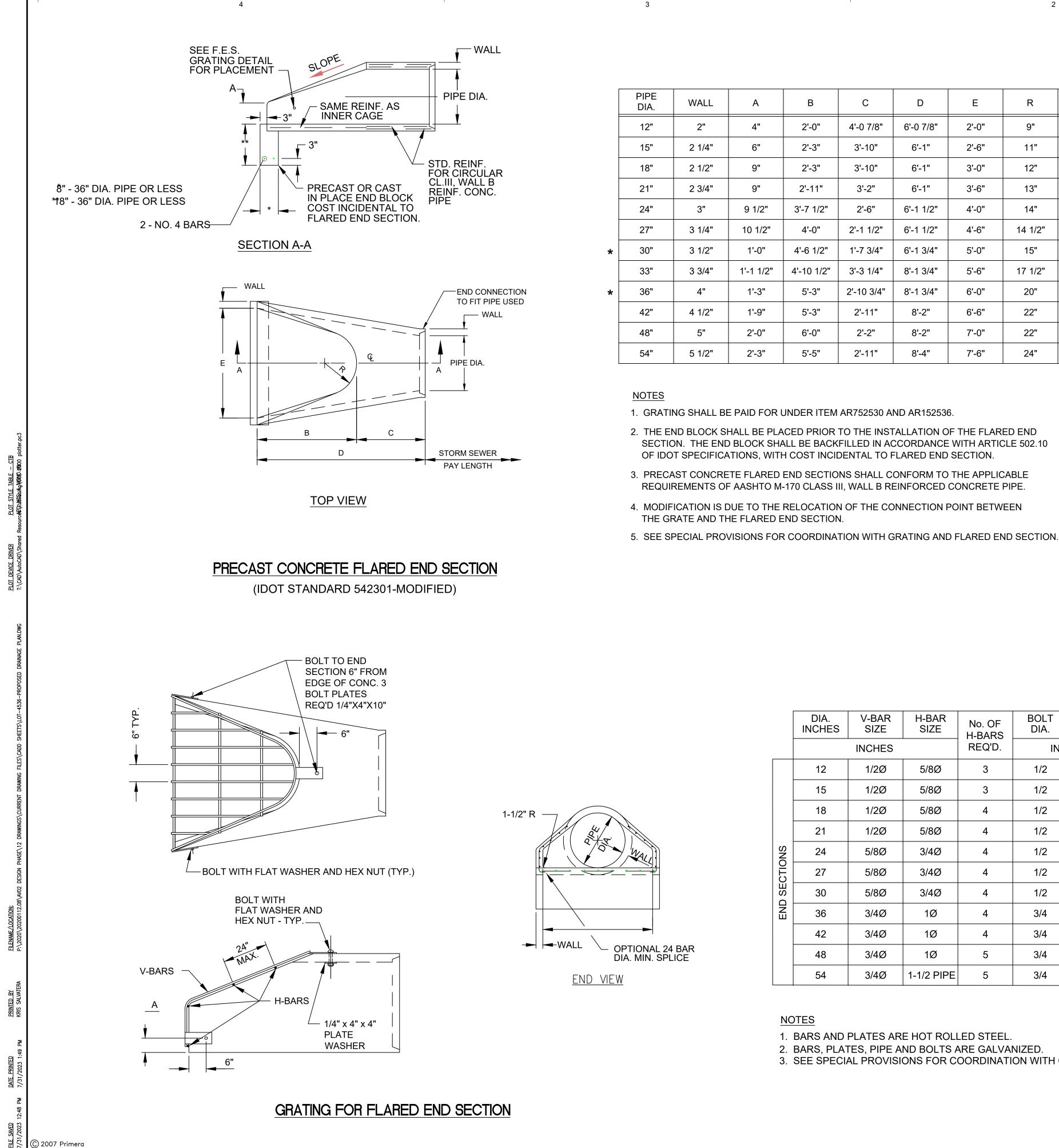
DRAINAGE PIPE SCHEDULE							
PIPE	UPSTREAM	DOWNSTREAM	UPSTREAM	DOWNSTREAM	PIPE SIZE / TYPE	PIPE	PIPE SLOPE
	STRUCTURE	STRUCTURE	INVERT	INVERT		LENGTH	FIFE SLOFE
A	FES-01	MH-01	659.90	659.50	30" RCP	85.00	0.5%
B*	EX. PIPE	MH-01	MATCH EX.	659.50	24" RCP	20.00	0.3%
С	MH-01	FES-02	659.30	659.00	36" RCP	80.00	0.3%

*CONTRACTOR SHALL VERIFY NEW PIPE EXTENSION MAINTAINS A MINIMUM SLOPE OF 0.3%

<u>H</u>E 2007 Primera

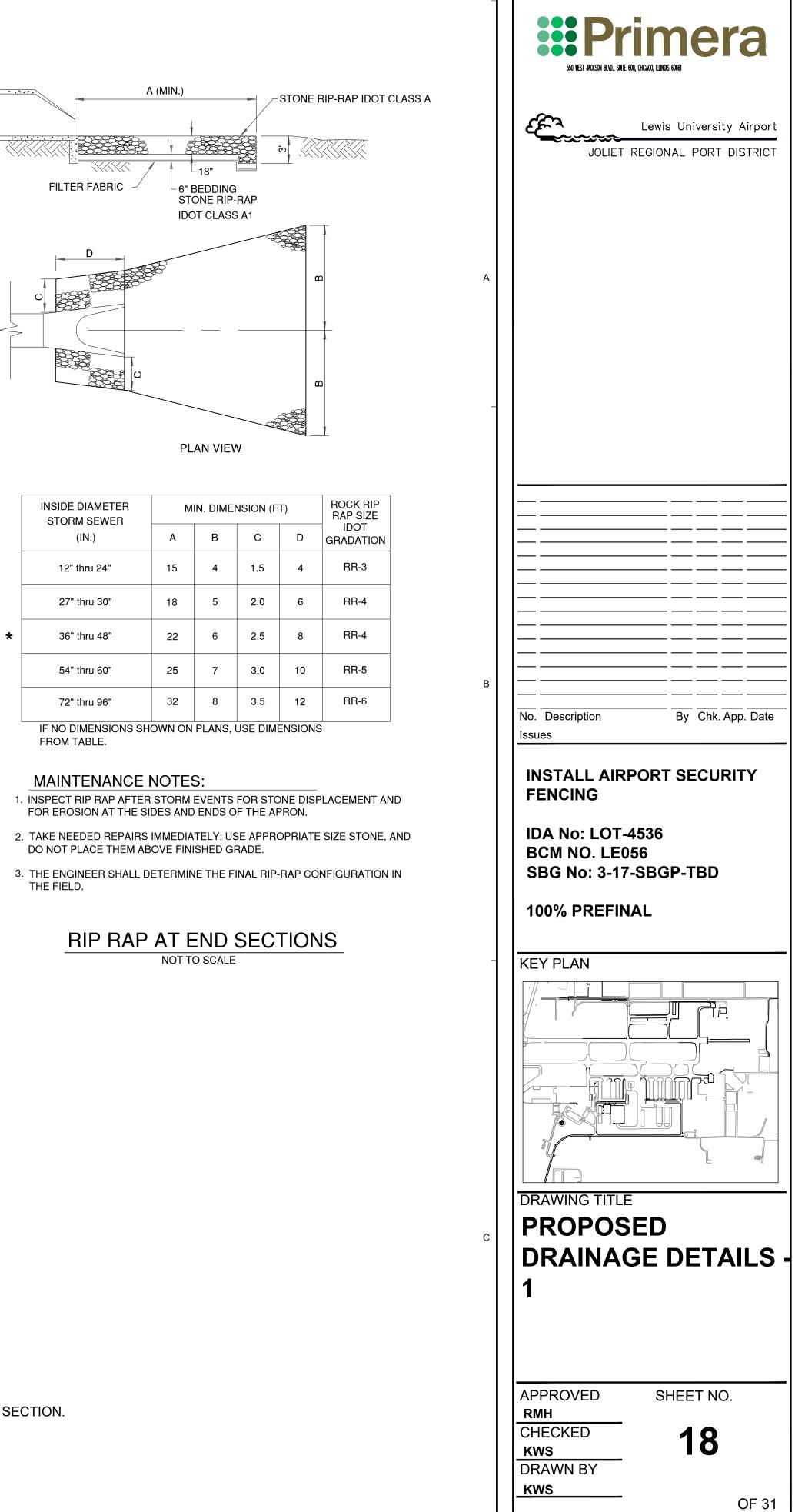
PLOT DE





PIPE DIA.	WALL	А	В	С	D	E	R	SLOPE
12"	2"	4"	2'-0"	4'-0 7/8"	6'-0 7/8"	2'-0"	9"	3:1
15"	2 1/4"	6"	2'-3"	3'-10"	6'-1"	2'-6"	11"	3:1
18"	2 1/2"	9"	2'-3"	3'-10"	6'-1"	3'-0"	12"	3:1
21"	2 3/4"	9"	2'-11"	3'-2"	6'-1"	3'-6"	13"	3:1
24"	3"	9 1/2"	3'-7 1/2"	2'-6"	6'-1 1/2"	4'-0"	14"	3:1
27"	3 1/4"	10 1/2"	4'-0"	2'-1 1/2"	6'-1 1/2"	4'-6"	14 1/2"	3:1
30"	3 1/2"	1'-0"	4'-6 1/2"	1'-7 3/4"	6'-1 3/4"	5'-0"	15"	3:1
33"	3 3/4"	1'-1 1/2"	4'-10 1/2"	3'-3 1/4"	8'-1 3/4"	5'-6"	17 1/2"	3:1
36"	4"	1'-3"	5'-3"	2'-10 3/4"	8'-1 3/4"	6'-0"	20"	3:1
42"	4 1/2"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	22"	3:1
48"	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	22"	3:1
54"	5 1/2"	2'-3"	5'-5"	2'-11"	8'-4"	7'-6"	24"	2.4:1
	1	1	1	1				

* , , ^P, d', ^p, y ______ FILTER FABRIC



INSIDE DIAMETER STORM SEWER	
(IN.)	
12" thru 24"	1
27" thru 30"	1
36" thru 48"	2
54" thru 60"	2
72" thru 96"	3
IF NO DIMENSIONS SH	OWI

5/8Ø 18 1/2Ø 4 21 1/2Ø 5/8Ø 4 24 5/8Ø 3/4Ø 4 27 5/8Ø 3/4Ø 4 C ы С 5/8Ø 3/4Ø 30 4 END 36 3/4Ø 1Ø 4 42 3/4Ø 1Ø 4 3/4Ø 48 1Ø 5 1-1/2 PIPE 54 3/4Ø 5

V-BAR

SIZE

INCHES

1/2Ø

1/2Ø

DIA.

INCHES

12

15

H-BAR

SIZE

5/8Ø

5/8Ø

No. OF

H-BARS

3

3

REQ'D.

NOTES

1. BARS AND PLATES ARE HOT ROLLED STEEL

2. BARS, PLATES, PIPE AND BOLTS ARE GALVANIZED.

3. SEE SPECIAL PROVISIONS FOR COORDINATION WITH GRATING AND FLARED END SECTION.

BOLT DIA.

1/2

1/2

1/2

1/2

1/2

1/2

1/2

3/4

3/4

3/4

3/4

"A"

DIM.

4

4 1/2

4 1/2

5

5

5 1/2

5 1/2

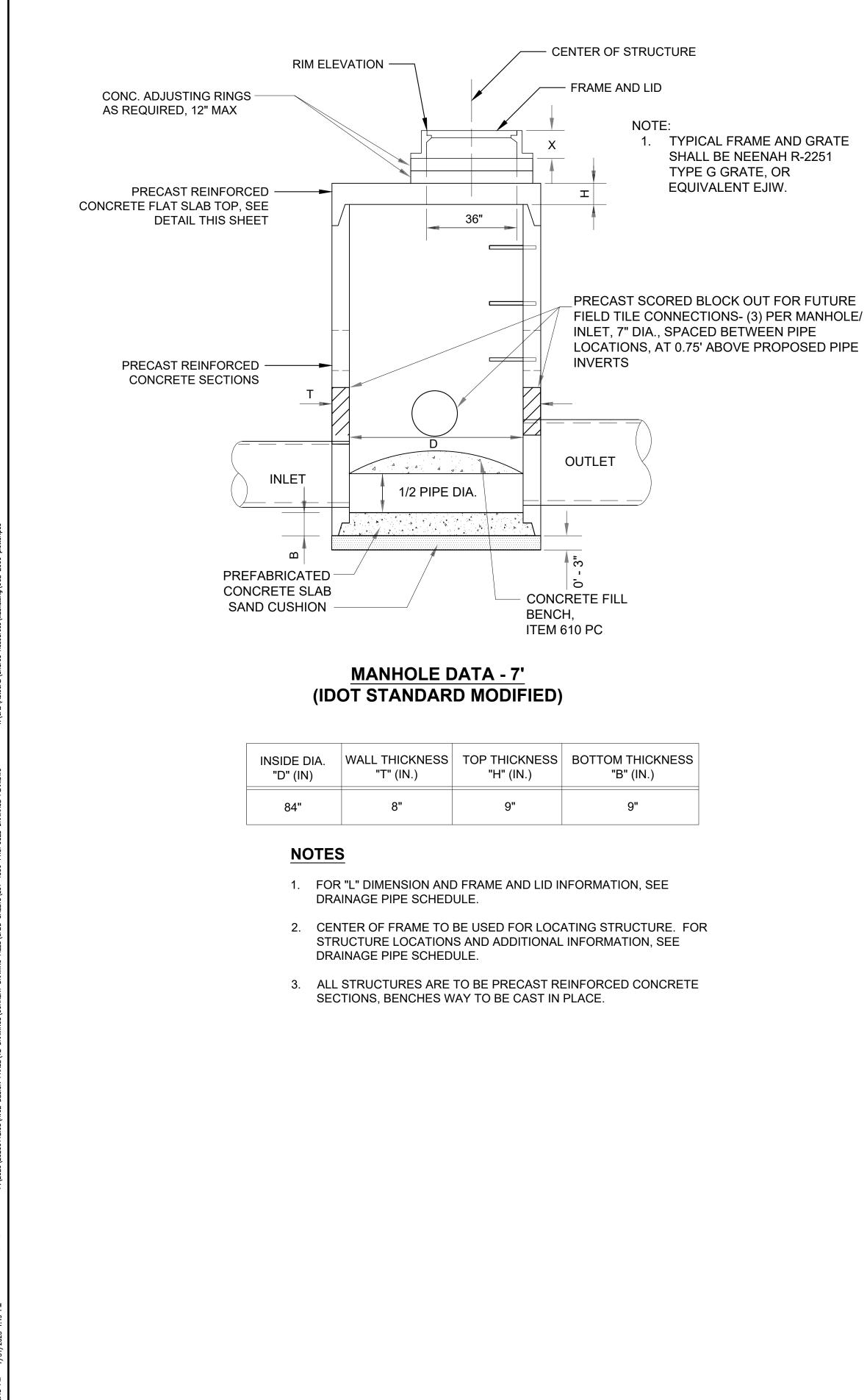
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8

8

8

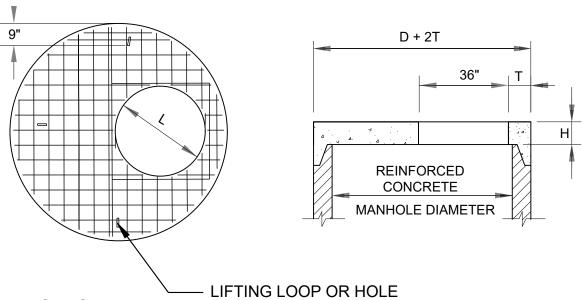
INCHES



C 2007 Primera

2

3



NOTES

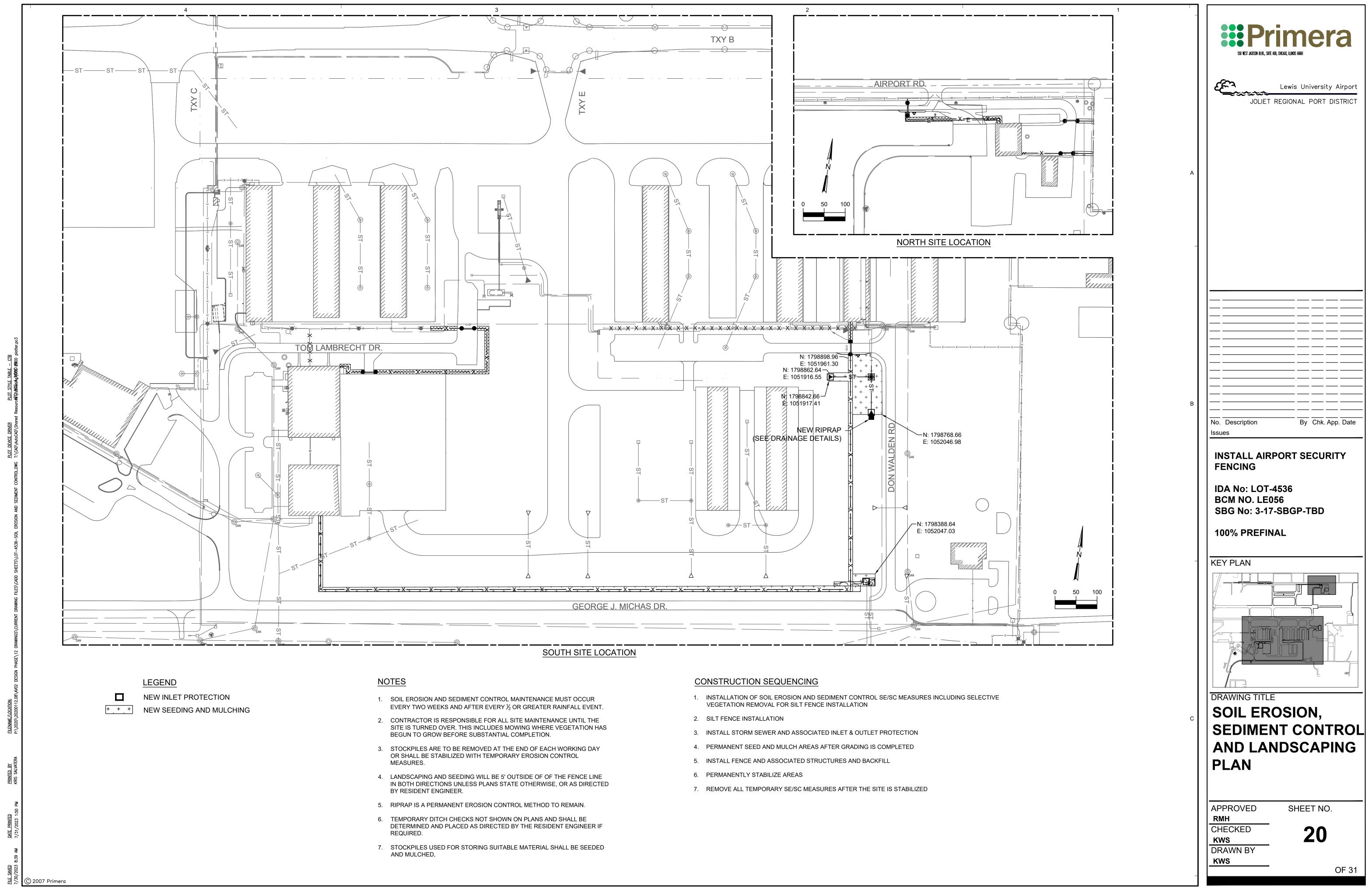
- 1. ADDITIONAL TOP AND BOTTOM BARS PLACED ADJACENT TO ACCESS MANHOLE.
- 2. MINIMUM 1" COVER ON ALL STEEL BARS.

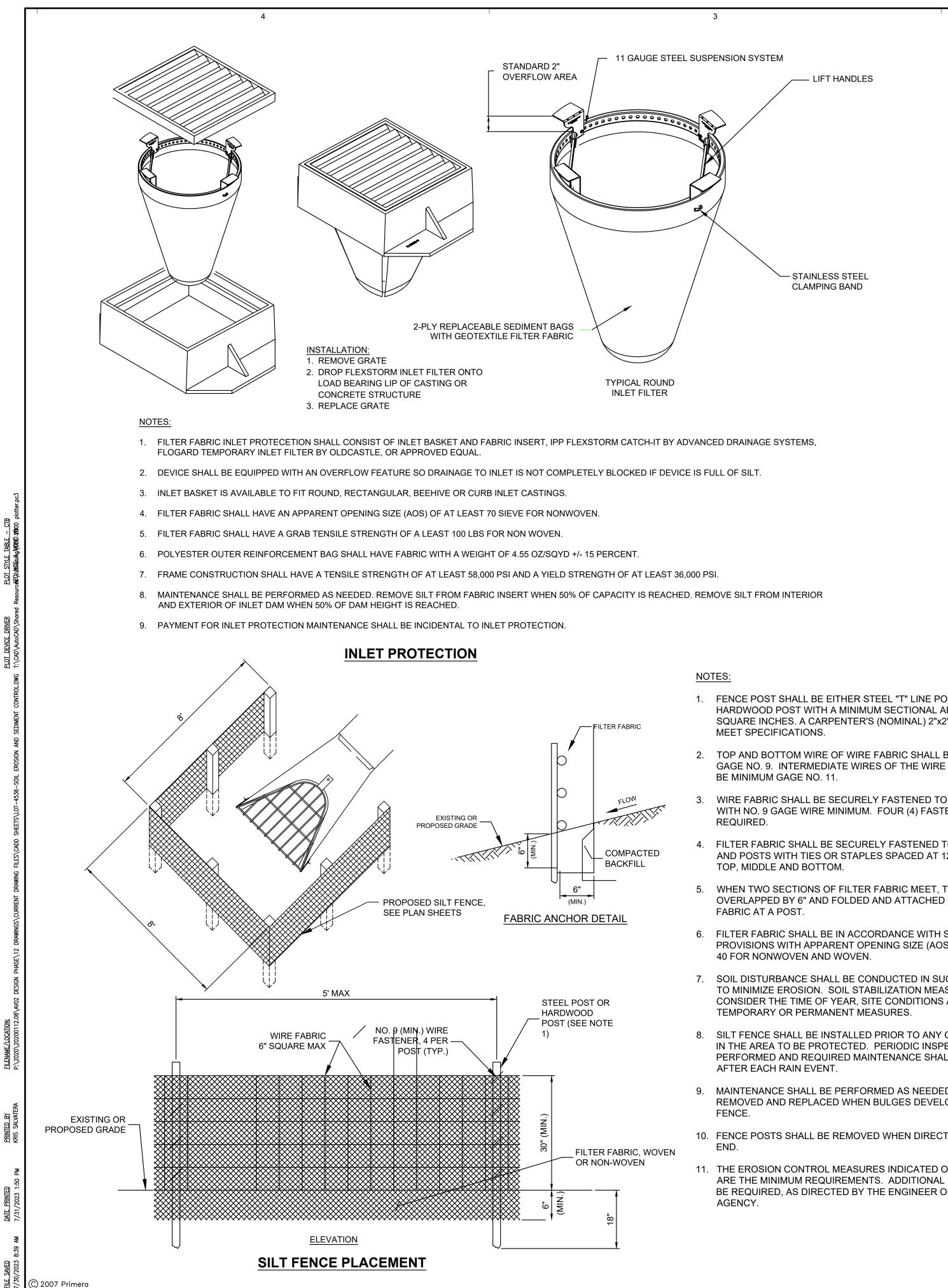
(TYP.)

- 3. THREE LIFTING LOOPS OR HOLES.
- 4. MINIMUM STEEL REINFORCEMENT IN EACH DIRECTION TO BE WWF 1.06 SQ. IN./FT. IN ACCORDANCE WITH AASHTO M199 AND IDOT STANDARDS.
- 5. FOR "L" DIMENSION SEE STORM SEWER SCHEDULES.

PRECAST REINFORCED CONCRETE FLAT SLAB TOP

SO WEST JACKSON BLAD, SUITE GOD, CHICAGO, ILLINOIS GOGOT
Lewis University Airport JOLIET REGIONAL PORT DISTRICT
No. Description By Chk. App. Date
INSTALL AIRPORT SECURITY FENCING
IDA No: LOT-4536 BCM NO. LE056 SBG No: 3-17-SBGP-TBD
100% PREFINAL
KEY PLAN
DRAWING TITLE PROPOSED
DRAINAGE DETAILS - 2
APPROVED SHEET NO.
RMH CHECKED kws 19
DRAWN BY <u>KWS</u> OF 31





- 1. FENCE POST SHALL BE EITHER STEEL "T" LINE POST OR HARDWOOD POST WITH A MINIMUM SECTIONAL AREA OF 2.0 SQUARE INCHES. A CARPENTER'S (NOMINAL) 2"x2" POST WILL
- 2. TOP AND BOTTOM WIRE OF WIRE FABRIC SHALL BE MINIMUM GAGE NO. 9. INTERMEDIATE WIRES OF THE WIRE FABRIC SHALL
- WIRE FABRIC SHALL BE SECURELY FASTENED TO FENCE POSTS WITH NO. 9 GAGE WIRE MINIMUM. FOUR (4) FASTENERS PER POST
- 4. FILTER FABRIC SHALL BE SECURELY FASTENED TO WIRE FABRIC AND POSTS WITH TIES OR STAPLES SPACED AT 12" APART AT THE
- 5. WHEN TWO SECTIONS OF FILTER FABRIC MEET, THEY SHALL BE OVERLAPPED BY 6" AND FOLDED AND ATTACHED TO THE WIRE
- 6. FILTER FABRIC SHALL BE IN ACCORDANCE WITH SPECIAL PROVISIONS WITH APPARENT OPENING SIZE (AOS) OF AT LEAST
- 7. SOIL DISTURBANCE SHALL BE CONDUCTED IN SUCH A MANNER AS TO MINIMIZE EROSION. SOIL STABILIZATION MEASURES SHALL CONSIDER THE TIME OF YEAR, SITE CONDITIONS AND THE USE OF
- 8. SILT FENCE SHALL BE INSTALLED PRIOR TO ANY GRADING WORK IN THE AREA TO BE PROTECTED. PERIODIC INSPECTION SHALL BE PERFORMED AND REQUIRED MAINTENANCE SHALL BE PROVIDED
- 9. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED AND REPLACED WHEN BULGES DEVELOP IN THE SILT
- 10. FENCE POSTS SHALL BE REMOVED WHEN DIRECTED AT PROJECT
- 11. THE EROSION CONTROL MEASURES INDICATED ON THE PLANS ARE THE MINIMUM REQUIREMENTS. ADDITIONAL MEASURES MAY BE REQUIRED, AS DIRECTED BY THE ENGINEER OR GOVERNING

SEDIMENTATION AND EROSION CONTROL NOTE

- A. SOIL DISTURBANCE SHALL BE CONDUCTED IN SUCH A MANN STABILIZATION MEASURES SHALL CONSIDER THE TIME OF YE TEMPORARY OR PERMANENT MEASURES.
- B. SOIL EROSION AND SEDIMENT CONTROL FEATURES SHALL B COMMENCEMENT OF HYDROLOGIC DISTURBANCE OF UPLAN
- C. DISTURBED AREAS SHALL BE STABILIZED WITH TEMPORARY CALENDAR DAYS OF THE END OF ACTIVE HYDROLOGIC DIST
- D. AREAS OR EMBANKMENTS HAVING SLOPES GREATER THAN STABILIZED WITH SOD, MAT OR BLANKET IN COMBINATION W
- E. EROSION CONTROL BLANKET SHALL BE REQUIRED ON ALL IN BETWEEN NORMAL WATER LEVEL AND HIGH WATER LEVEL.
- F. ALL STORM SEWERS THAT ARE OR WILL BE FUNCTIONING DU PROTECTED, BY AN APPROPRIATE SEDIMENT CONTROL MEA
- G. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASU DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFT LONGER NEEDED.
- H. ALL TEMPORARY AND PERMANENT EROSION CONTROL MEAS REPAIRED AS NEEDED. THE PROPERTY OWNER SHALL BE UL MAINTENANCE AND REPAIR.
- A STABILIZED MAT OF AGGREGATE UNDERLAIN WITH FILTER MEASURE) SHALL BE LOCATED AT ANY POINT WHERE TRAFF CONSTRUCTION SITE TO OR FROM A PUBLIC RIGHT-OF-WAY, SEDIMENT OR SOIL REACHING AN IMPROVED PUBLIC RIGHT-AREA SHALL BE REMOVED BY SCRAPING OR STREET CLEANI TRANSPORTED TO A CONTROLLED SEDIMENT DISPOSAL ARE
- J. SOIL STOCKPILES SHALL NOT BE LOCATED IN A FLOOD PRON STOCKPILES SHALL BE LOCATED WITHIN AN ACTIVE RUNWAY AREA, RUNWAY OBSTACLE FREE ZONE, OR ACTIVE TAXIWAY
- K. IF DEWATERING SERVICES ARE USED, ADJOINING PROPERTI BE PROTECTED FROM EROSION. DISCHARGES SHALL BE ROU SEDIMENT CONTROL MEASURE (e.g. SEDIMENT TRAP, SEDIM MEASURE.
- L. THE EROSION CONTROL MEASURES INDICATED ON THE PLAN ADDITIONAL MEASURES MAY BE REQUIRED, AS DIRECTED BY AGENCY

STORM WATER POLLUTION PREVENTION NOTES

GENERAL

THE CONTRACTOR SHALL IMPLEMENT ALL PROVISIONS OF THE THAT STORM WATER POLLUTION PREVENTION ITEMS ARE CONS TIMELY MANNER. SEDIMENTATION MUST NOT BE TRANSPORTED PERMANENT DRAINAGE FEATURES AND VEGETATIVE MEASURES POSSIBLE.

THE MAINTENANCE OF ALL STORM WATER POLLUTION PREVENT THE ASSOCIATED ITEM.

POLLUTION PREVENTION MEASURES

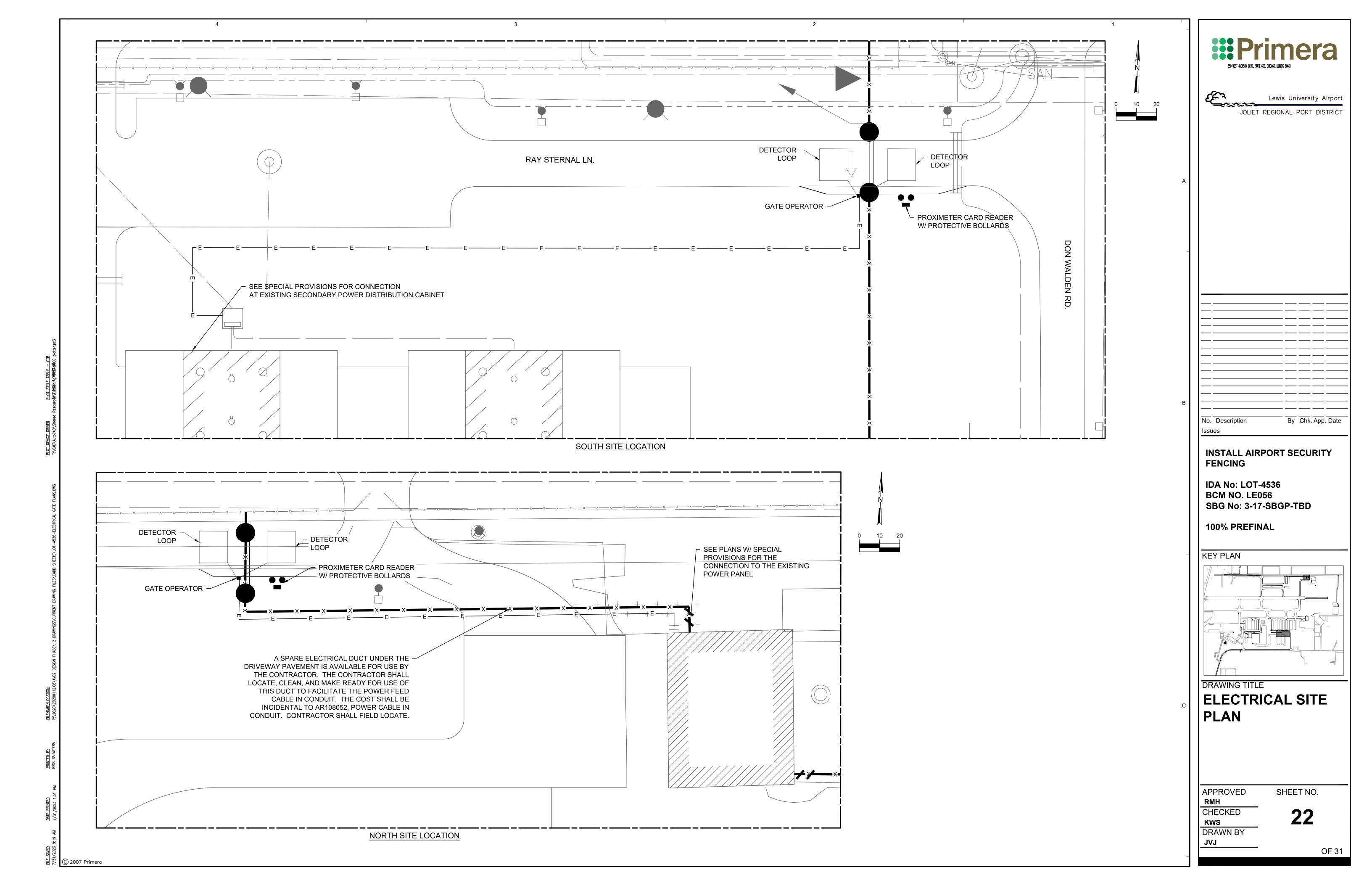
THE CONTRACTOR SHALL BE REQUIRED TO IMPLEMENT AND MA PREVENTION PRACTICES AND MEASURES PRIOR TO THE STRIPF WHEREVER POSSIBLE AND AS SOON AS CONSTRUCTION PERMI CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE COM THESE CONSTRUCTION PLANS, AND WITH STANDARDS AND SPE AND SEDIMENT CONTROL, ILLINOIS ENVIRONMENTAL PROTECTI CONTRACTOR SHALL ADJUST HIS OPERATIONS AND IMPLEMENT SO THAT NO RUNOFF FROM STRIPPED AREAS WILL LEAVE THE THROUGH SEDIMENT TRAPS OR OTHER SUITABLE CONTROL ME

POLLUTION CONTROL ITEMS SHALL BE PROVIDED AS NOTED ON PREVENTION PLAN AND IN THE STORM WATER POLLUTION PREV BY THE ENGINEER. THE LIMITS OF SUCH MEASURES SHALL BE TO THE COMMENCEMENT OF CONSTRUCTION. SUCH LIMITS MA TO ACCOUNT FOR ACTUAL SITE CONDITIONS EXPERIENCED DUP COMPENSATION FOR MEASURES EXCEEDING THE PLAN QUANTI CONTRACT UNIT PRICE FOR EACH ITEM.

THE CONTRACTOR IS TO MAINTAIN AND ADJUST, REPAIR OR REI MEASURES AS REQUIRED OR AS DIRECTED BY THE ENGINEER U BEEN ESTABLISHED. MAINTENANCE OF POLLUTION CONTROL M ADDITIONAL COST TO THE CONTRACT.

ADDITIONAL STORMWATER POLLUTION PREVENTION MEASURES AT DRAINAGE FACILITIES AND ALONG THE PROPERTY LINE.

1	
1 TO.	
ES:	550 West Jackson Blvd., Suite 600, Chicago, Illingis 60661
NER AS TO MINIMIZE EROSION. SOIL YEAR, SITE CONDITIONS AND THE USE OF	Lewis University Airpo
BE CONSTRUCTED PRIOR TO THE ND AREAS.	JOLIET REGIONAL PORT DISTRIC
Y OR PERMANENT MEASURES WITHIN 14 TURBANCE, OR REDISTURBANCE.	
N OR EQUAL TO 8H:1V SHALL BE WITH SEEDING.	A
INTERIOR DETENTION BASIN SIDE SLOPES	
DURING CONSTRUCTION SHALL BE ASURE.	
URES SHALL BE REMOVED WITHIN 30 TER THE TEMPORARY MEASURES ARE NO	
ASURES MUST BE MAINTAINED AND JLTIMATELY RESPONSIBLE FOR	
R CLOTH (OR OTHER APPROPRIATE FIC WILL BE ENTERING OR LEAVING A Y, STREET, ALLEY OR PARKING AREA. ANY F-OF-WAY, STREET, ALLEY OR PARKING NING AS ACCUMULATIONS WARRANT AND REA.	
ONE AREA OR A DESIGNATED BUFFER. NO AY SAFETY AREA, RUNWAY OBJECT FREE AY OBJECT FREE AREA.	
TIES AND DISCHARGE LOCATIONS SHALL OUTED THROUGH AN EFFECTIVE MENT BASIN, OR OTHER APPROPRIATE	в
ANS ARE THE MINIMUM REQUIREMENTS. BY THE ENGINEER OR GOVERNING	No. Description By Chk. App. Dat Issues
<u>ES</u>	INSTALL AIRPORT SECURITY FENCING
E CONTRACT DOCUMENTS TO ASSURE NSTRUCTED AND MAINTAINED IN A ED OFF THE CONSTRUCTION SITE. ES SHALL BE PROVIDED AS SOON AS	IDA No: LOT-4536 BCM NO. LE056 SBG No: 3-17-SBGP-TBD 100% PREFINAL
NTION MEASURES IS INCIDENTAL TO	
MAINTAIN STORM WATER POLLUTION PPING OF EXISTING VEGETATION MITS IN OTHER AREAS. POLLUTION ONTRACT DOCUMENTS, INCLUDING PECIFICATIONS FOR SOIL EROSION TION AGENCY, CURRENT ISSUE. THE NT POLLUTION CONTROL MEASURES E CONSTRUCTION SITE OTHER THAN MEASURES.	
ON THE STORM WATER POLLUTION EVENTION DETAILS AND AS DIRECTED E STAKED BY THE CONTRACTOR PRIOR IAY BE ADJUSTED BY THE ENGINEER URING CONSTRUCTION. ADDITIONAL TITIES WILL BE PAID FOR AT THE	C SOIL EROSION, SEDIMENT CONTRO
EPLACE ALL POLLUTION PREVENTION UNTIL PERMANENT VEGETATION HAS MEASURES IS TO BE PROVIDED AT NO	AND LANDSCAPING
ES ARE EXISTING ON SITE LOCATED	APPROVED SHEET NO. <u>RMH</u> CHECKED <u>KWS</u> DRAWN BY <u>KWS</u> OF 3



EL	ECTRICAL ABBREVIATONS
A.F.F.	ABOVE FINISHED FLOOR
A, AMP	AMPERES
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BKR	BREAKER
С	CONDUIT
СВ	CIRCUIT BREAKER
СКТ	CIRCUIT
CR	CONTROL RELAY
CU	COPPER
DPDT	DOUBLE POLE DOUBLE THROW
DPST	DOUBLE POLE SINGLE THROW
EM	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
ENCL	ENCLOSURE
EP	EXPLOSION ROOF
ES	EMERGENCY STOP
ETL	INTERTEK - ELECTRICAL TESTING LABS
ЕТМ	ELAPSE TIME METER
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFI	GROUND FAULT INTERRUPTER
GND	GROUND
GRSC	GALVANIZED RIGID STEEL CONDUIT
HID	HIGH INTENSITY DISCHARGE
НОА	HAND OFF AUTOMATIC
HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
J	JUNCTION BOX
KVA	KILOVOLT AMPERE(S)
KW	KILOWATTS
LC	LIGHTNING CONTACTOR
LTFMC	LIQUID FLEXIBLE METAL CONDUIT (UL LISTED)
LTG	LIGHTING
LP	LIGHTING PANEL
MAX	ΜΑΧΙΜυΜ
МСВ	MAIN CIRCUIT BREAKER
МСМ	THOUSAND CIRCULAR MIL
MDP	MAIN DISTRIBUTION PANEL
MFR	MANUFACTURER
МН	METAL HALIDE
MIN	МІЛІМИМ
MLO	MAIN LUGS ONLY
NEC	NATIONAL ELECTRICAL CODE (NFPA 70)
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OHE	OVERHEAD ELECTRIC
OL	OVERLOAD

ELECTRICAL ABBREVIATIONS (CONTINUED)			
PB	PULL BOX		
PC	PHOTO CELL		
PDB	POWER DISTRIBUTION BLOCK		
PNL	PANEL		
RCPT	RECEPTACLE		
R	RELAY		
S	STARTER		
SPD	SURGE PROTECTION DEVICE		
SPST	SINGLE POLE SINGLE THROW		
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR		
TYP	TYPICAL		
UG	UNDERGROUND		
UGE	UNDERGROUND ELECTRIC		
UL	UNDERWRITER'S LABORATORIES		
V	VOLTS		
W/	WITH		
W/O	WITHOUT		
WP	WEATHER PROOF		
XFER	TRANSFER		
XFMR	TRANSFORMER		

AIRPORT EQUIPMENT/FACILITY ABBREVIATIONS			
ASOS	AUTOMATED SURFACE OBSERVING SYSTEM		
ATCT	AIR TRAFFIC CONTROL TOWER		
AWOS	AUTOMATED WEATHER OBSERVING SYSTEM		
CCR	CONSTANT CURRENT REGULATOR		
DME	DISTANCE MEASURING EQUIPMENT		
FAR	FEDERAL AVIATION REGULATION		
GS	GLIDE SLOPE FACILITY		
HIRL	HIGH INTENSITY RUNWAY LIGHT		
ILS	INSTRUMENT LANDING SYSTEM		
IM	INNER MARKER		
LIR	LOW IMPACT-RESISTANT		
LOC	LOCALIZER FACILITY		
MALS	MEDIUM INTENSITY APPROACH LIGHTING SYSTEM		
MALSR	MEDIUM INTENSITY APPROACH LIGHTING SYSTEM WITH RUNWAY ALIGNMENT INDICATING LIGHTS		
MIRL	MEDIUM INTENSITY RUNWAY LIGHT		
MITL	MEDIUM INTENSITY TAXIWAY LIGHT		
NDB	NON-DIRECTIONAL BEACON		
PAPI	JPRECISION APPROACH PATH INDICATOR		
PLASI	PULSE LIGHT APPROACH SLOPE INDICATOR		
RAIL	RUNWAY ALIGNMENT INDICATING LIGHTS		
REIL	RUNWAY END IDENTIFIER LIGHT		
RVR	RUNWAY VISUAL RANGE		
VADI	VISUAL APPROACH DESCENT INDICATOR		
VASI	VISUAL APPROACH SLOPE INDICATOR		
VOR	VERY HIGH FREQUENCY OMNIDIRECTIONAL RANGE FACILITY		
WC	WIND CONE		

PLOT DEVICE DRIVER PLOT STYLE TABLE - CTB TRICAL GATE PLANS.DWG T:\CAD\AutoCAD\Shared Resource&CQ_MGABHAAG\ODDD.\$CD00 plotter.pc3

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ELECTRIC	CAL LEGEND - ONE-LINE DIAGRAM
o	CABLE TERMINATOR/LUG, TERMINAL BLOCK, OR SPLICE
×	TRANSFORMER
__	DISCONNECT SWITCH
	FUSIBLE DISCONNECT SWITCH
	CIRCUIT BREAKER
	THERMAL MAGNETIC CIRCUIT BREAKER
	NORMALLY OPEN (N.O.) CONTACT
	NORMALLY CLOSED (N.C.) CONTACT
	TOGGLE SWITCH / 2 POSTITION SWITCH
	FUSE
 •	TRANSIENT VOLTAGE SURGE SUPPRESSOR OR SURGE PROTECTOR DEVICE
[‡]	GROUND - GROUND ROD, GROUNDING ELECTRODE, OR AT EARTH POTENTIAL
\sim	
 (M)	MOTOR
	LOAD. MOTOR. # - HORSEPOWER
	ELECTRIC UTILITY METER BASE
0	JUNCTION BOX WITH SPLICE OR TERMINALS
xxx	EQUIPMENT, XXX = DEVICE DESCRIPTION
GND	GROUND BAR, GROUND BUS OR GROUND TERMINAL
S/N	SOLID NEUTRAL, NEUTRAL BUS OR NEUTRAL TERMINAL
ŧ	PANELBOARD WITH MAIN LUGS
	PANELBOARD WITH MAIN BREAKER
	FUSE PANEL WITH MAIN FUSE PULLOUT
⊖	DUPLEX RECEPTACLE 120V SINGLE PHASE GROUNDING TYPE
	CONTROL STATION
N EM L C	TRANSFER SWITCH N = NORMAL EM = EMERGENCY L = LOAD
G	ENGINE GENERATOR SET

ELECTRICAL LEGEND - PLANS			
	CONDUIT (EXPOSED)		
	CONDUIT OR UNIT DUCT (CONCEALED OR BURIED)		
	DUCT		
	DUCT		
——E——	BURIED/UNDERGROUND ELECTRIC		
OHE	OVERHEAD ELCTRIC		
\$ 0	TOGGLE SWITCH		
\square	PUSH BUTTON STATION		
H) () o	WALL OR CEILING MT'D. JUNCTION BOX. CONFIGURATION VARIES WITH USE		
4	SINGLE THROW DISCONNECT SWITCH		
5	SINGLE THROW, FUSIBLE DISCONNECT SWITCH		
Ч <mark>СВ</mark>	ENCLOSED CIRCUIT BREAKER		
\bigcirc	MOTOR		
Т	TRANSFORMER		
	ELECTRIC UTILITY METER		
	ENCLOSURE		
	CIRCUIT BREAKER PANEL - SEE SCHEDULES		
CP	CONTROL PANEL		
۲	GROUND ROD		
⊗-Þ	POLE WITH CAMERA		

<u>NOTES</u>

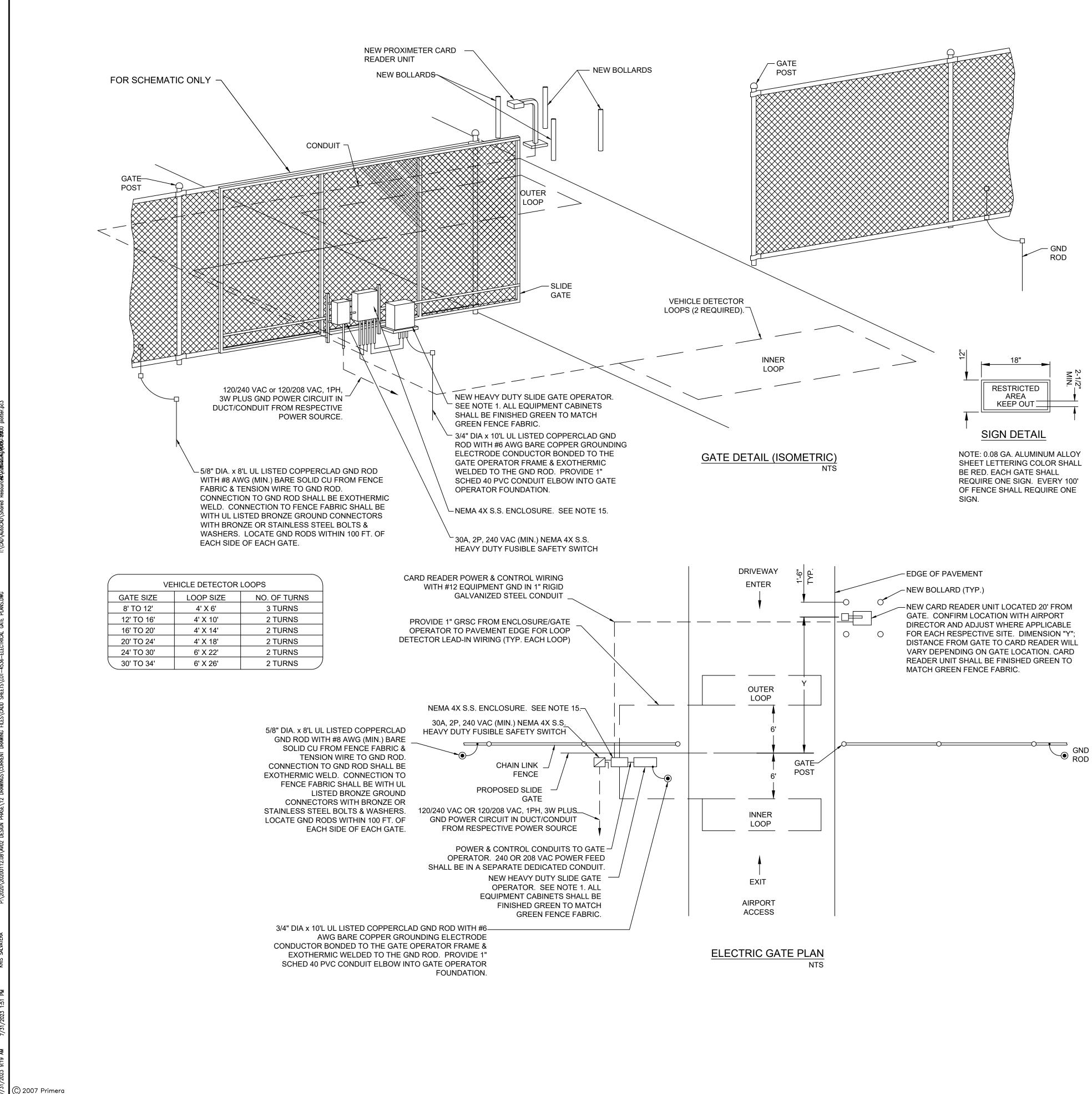
- 1. ALL ELECTRICAL EQUIPMENT SHALL BE INSTALL CONFORMANCE WITH NFPA 70 - NATIONAL ELEC MOST CURRENT ISSUE IN FORCE, THE RESPECT MANUFACTURER'S DIRECTIONS AND ALL OTHER CODES, LAWS, ORDINANCES, AND REQUIREMEN INSTALLATIONS WHICH VOID THE U.L. LISTING, E OTHER THIRD PARTY LISTING) AND/OR THE MAN WARRANTY OF A DEVICE WILL <u>NOT</u> BE PERMITT
- 2. ALL WORK, POWER OUTAGES, AND/OR SHUT DO SYSTEMS SHALL BE COORDINATED WITH THE AIL DIRECTOR/MANAGER. ONCE SHUT DOWN, THE C LABELED AS SUCH TO PREVENT ACCIDENTAL EN RESPECTIVE CIRCUITS. ALL PERSONNEL SHALL I DEPARTMENT OF LABOR OCCUPATIONAL SAFET ADMINISTRATION (OSHA) 29 CFR PART 1910 OCC & HEALTH STANDARDS FOR ELECTRICAL SAFETY LOCKOUT/TAGOUT PROCEDURES INCLUDING, BL 29 CFR SECTION 1910.147 THE CONTROL OF HAZ (LOCKOUT/TAGOUT).
- 3. COLOR CODE PHASE AND NEUTRAL CONDUCTO NO. 6 AWG OR SMALLER. PROVIDE COLORED IN COLORED MARKING TAPE FOR PHASE AND NEU FOR NO. 4 AWG AND LARGER. INSULATED GROU SHALL HAVE GREEN COLORED INSULATION FOR AWG AND/OR KCMIL TO COMPLY WITH NEC 250. CONDUCTORS SHALL HAVE WHITE COLORED IN AWG AND SMALLER TO MEET THE REQUIREMEN STANDARD COLORS FOR POWER WIRING AND B SHALL BE AS FOLLOWS:

PHASE, 3 WIRE
BLACK
RED
WHITE
GREEN

208/120 VAC,	3 PHASE, 4 WIRE
PHASE A	BLACK
PHASE B	RED
PHASE C	BLUE
NEUTRAL	WHITE
GROUND	GREEN

- 4. SEE RESPECTIVE SITE PLANS FOR SITE LEGEND
- 5. LTFMC DENOTES LIQUID TIGHT FLEXIBLE METAL LISTED, SUNLIGHT RESISTANT, & SUITABLE FOR LIQUID TIGHT FLEXIBLE METAL CONDUIT AND AS SHALL BE U.L. LISTED TO MEET THE REQUIREME LIQUID TIGHT FLEXIBLE METAL CONDUIT THAT IS FLEXIBILITY (INCLUDING CONNECTIONS TO CCR TRANSFORMERS) SHALL REQUIRE AN EXTERNA OR INTERNAL EQUIPMENT GROUNDING CONDUC 350.60. EXTERNAL BONDING JUMPERS USED WI INSTALLATIONS SHALL BE #6 AWG COPPER (MIN INSTALL LTFMC THAT IS NOT UL LISTED. CONFIE THE UL LABEL PRIOR TO INSTALLATION.
- 6. ALL ENCLOSURES RATED NEMA 4, 4X SHALL HAV HUBS AT CONDUIT ENTRANCES U.L. LISTED NEW RESPECTIVE ENCLOSURE, TO MAINTAIN THE NE
- 7. HIGH VOLTAGE & LOW VOLTAGE CIRCUITS SHALL IN THE SAME WIREWAY, CONDUIT, DUCT, OR HAN
- 8. PER NEC 511 THE GARAGE AREA OF THE MAINTE MIGHT BE CLASSIFIED AS A CLASS I, DIVISION 2, HAZARDOUS LOCATION FOR A LEVEL OF 18 IN. A ALL ELECTRICAL INSTALLATIONS SHALL CONFOR APPLICABLE SECTIONS OF NEC 500, 501, AND 51 THE OTHER APPLICABLE SECTIONS OF NEC. WHI EQUIPMENT IS INSTALLED IN A CLASSIFIED HAZA IT SHALL BE SUITABLE FOR USE IN THE RESPECT HAZARDOUS LOCATION. WHERE POSSIBLE, AVOI ELECTRICAL EQUIPMENT, RACEWAYS, AND WIRII CLASSIFIED HAZARDOUS AREAS OF THE FACILIT

1 _	550 HEST JACKSON BLVD, SUTE 600, CHICAGO, LILINOIS 60661
ALLED IN ECTRICAL CODE (NEC) CTIVE EQUIPMENT ER APPLICABLE LOCAL ENTS IN FORCE. ANY , ETL LISTING (OR ANUFACTURER'S TTED.	Lewis University Airport JOLIET REGIONAL PORT DISTRICT
DOWN OF EXISTING AIRPORT E CIRCUITS SHALL BE ENERGIZING OF THE LL FOLLOW U.S. ETY & HEALTH CCUPATIONAL SAFETY A ETY AND BUT NOT LIMITED TO, IAZARDOUS ENERGY	
TOR INSULATION FOR INSULATION OR EUTRAL CONDUCTORS OUND CONDUCTORS OR ALL CONDUCTOR 50.119. NEUTRAL INSULATION FOR NO. 6 ENTS OF NEC 200.6. O BRANCH CIRCUITS	
ND INFORMATION. AL CONDUIT UL DR GROUNDING. B ASSOCIATED FITTINGS MENTS OF NEC 350.6. T IS USED FOR DR'S & NAL BONDING JUMPER UCTOR PER NEC	No. Description By Chk. App. Date
WITH CCR IINIMUM). DO NOT FIRM LTFMC BEARS HAVE WATERTIGHT EMA 4, 4X FOR THE NEMA 4, 4X RATING.	INSTALL AIRPORT SECURITY FENCING IDA No: LOT-4536 BCM NO. LE056 SBG No: 3-17-SBGP-TBD
ALL NOT BE INSTALLED HANDHOLE. ITENANCE BUILDING 2, GROUP D . ABOVE THE FLOOR. FORM TO THE 511 IN ADDITION TO	100% PREFINAL
WHERE ELECTRICAL AZARDOUS LOCATION, ECTIVE CLASSIFIED VOID INSTALLATION OF IRING IN THE LITY.	
c	DRAWING TITLE ELECTRICAL LEGEND AND ABBREVIATIONS
	APPROVED SHEET NO. <u>RMH</u> CHECKED <u>kws</u> DRAWN BY JVJ
-	OF 31



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NOTE: 0.08 GA. ALUMINUM ALLOY SHEET LETTERING COLOR SHALL REQUIRE ONE SIGN. EVERY 100' OF FENCE SHALL REQUIRE ONE

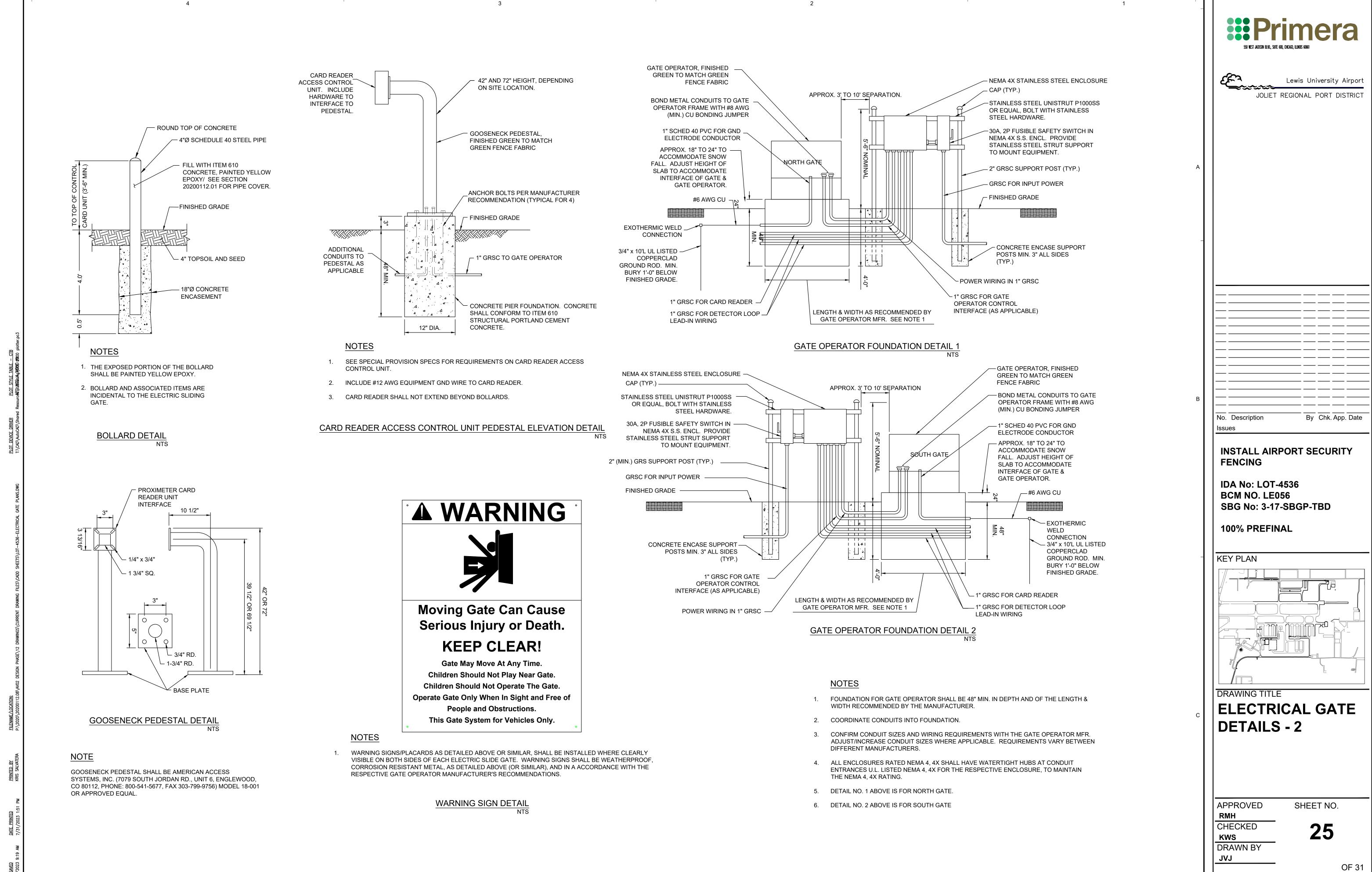
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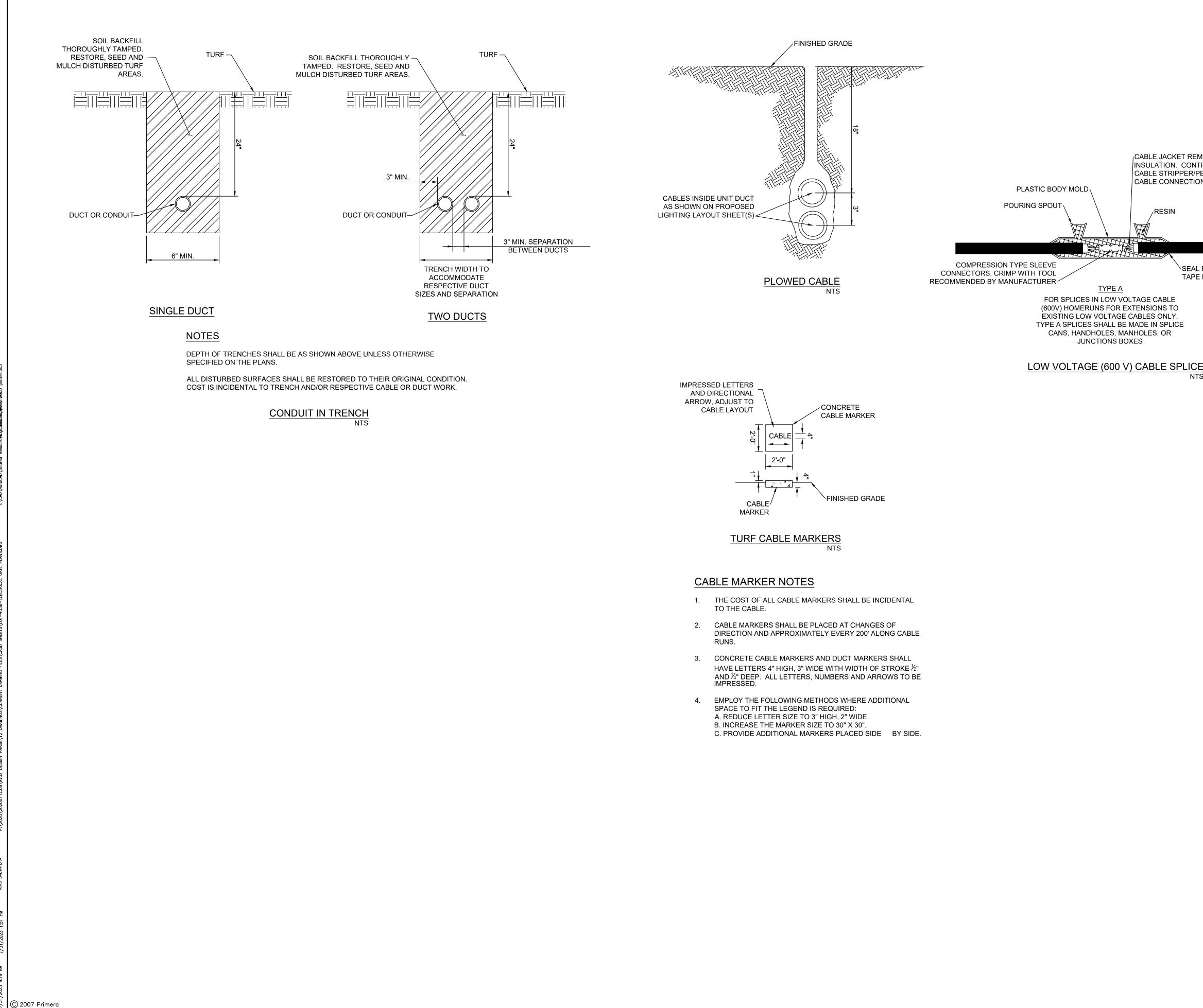
3.

- SEE SPECIAL PROVISIONS FC 1. **RESPECTIVE GATE & GATE O**
- ALL DIMENSIONS AND LAYOU 2. SHOULD BE ADJUSTED AS RE MANUFACTURER. SEE RESPI GATE.
- CONCRETE FOUNDATIONS SH SLIDE GATE OPERATOR AND CONTROL UNIT. FOUNDATION SHALL BE 48" (MIN.) IN DEPTH RECOMMENDED BY THE MAN FOR THE PROXIMETER CARD SHALL BE 48" (MIN.) IN DEPTH "PROXIMETER CARD READER OPERATOR DETAILS" SHEET.
- 4. 1" GRS CONDUIT WILL BE REC GATE OPERATOR INSTALLATI ACCESS CONTROL UNIT AND MINIMUM BURYING DEPTH IS ENTERING THE GATE OPERA THE GATE OPERATOR FRAME COPPER BONDING JUMPER. REQUIREMENTS WITH THE RE SALES AND SERVICE REPRES
- THE GUARD/BOLLARD POSTS (HEAVY WALL) PIPE, CONCRE EXTEND FROM THE TOP OF T DEPTH OF 48" BELOW THE GF FOOTER DIMENSION SHALL B GUARD/BOLLARD POSTS SHA MANUFACTURED PLASTIC CC
- 6. CONTRACTOR SHALL PROVID PROPOSED GATE OPERATOR AND PROPERLY SIZED FOR T
- TWO (2) PROXIMITY CARD RE 7. BE INSTALLED AT EACH LOCA HEIGHT AND THE SECOND AT
- CONTRACTOR SHALL COORD 8. TO EXISTING EQUIPMENT WIT REPRESENTATIVE AND THE A
- INCLUDE AC SURGE PROTEC 9. OPERATOR, UL 1449 THIRD EI CURRENT RATING OF 40KA, S 120/240 VAC, 1 PHASE, 3 WIRE INDICATING OPERATIONAL ST 1265-21 OR APPROVED EQUA BRACKET.
- CONCRETE USED FOR INSTAL 10. CARD READER ACCESS CON MEET THE REQUIREMENTS O CEMENT CONCRETE ITEM 610
- 11. ALL ELECTRICAL EQUIPMENT **CONFORMANCE WITH NFPA 7** CODE (NEC) MOST CURRENT RESPECTIVE EQUIPMENT MA AND ALL OTHER APPLICABLE ORDINANCES, AND REQUIRE INSTALLATIONS WHICH VOID (OR OTHER THIRD PARTY LIS MANUFACTURER'S WARRANT PERMITTED.
- 12. PROVIDE A WEATHERPROOF PLASTIC LEGEND PLATE FOR **RESPECTIVE GATE OPERATO** VOLTAGE, AND RESPECTIVE LOCATION.
- 13. PAYMENT FOR EACH ELECTR PROXIMETER CARD READER, OPERATOR, AND ALL ASSOCI DEVICES SHALL BE ON A LUM FULL COMPENSATION FOR AL CABLE IN CONDUIT, DUCT, OF LABOR, TOOLS, COORDINATIO INCIDENTALS REQUIRED TO I AND IN OPERATING CONDITION
- 14. CONTROL CIRCUIT WIRING SH THROUGH THE SAFETY SWIT
- 15. ALL CONTROL POWER TRANS RECEPTACLES, LOOP DETEC SECONDARY SAFETY DEVICE OTHER ASSOCIATED CONTRO EITHER INSIDE THE GATE OPI **INSIDE A SEPARATE NEMA 4 S** PANEL ENCLOSURE. WHERE TO BE INSTALLED INSIDE THE PANEL THE CONTRACTOR SH THE GATE OPERATOR MANUF **RESPECTIVE GATE OPERATO** LOCATING THESE CONTROLS OPERATOR CONTROL PANEL OPERATOR HOUSING WILL NO
- 16. DETAILS SHOWN ON THIS SHI CONTRACTOR SHALL VERIFY DETAILS OF THE ELECTRIC G

1	
OR REQUIREMENTS ON	550 WEST JACKSON BLVD., SUITE 600, CHICAGO, ILLINOIS 60661
OPERATOR SYSTEM.	
UT INFORMATION SHOWN RECOMMENDED BY THE PECTIVE SITE PLAN FOR EACH	JOLIET REGIONAL PORT DISTRICT
SHALL BE PROVIDED FOR THE D THE CARD READER ACCESS DN FOR THE GATE OPERATOR TH AND OF THE SIZE NUFACTURER. FOUNDATION D ACCESS CONTROL UNIT TH, AS DETAILED ON TR UNIT, BOLLARD AND GATE T.	A
EQUIRED BETWEEN THE SLIDE TION AND THE CARD READER D THE DETECTOR LOOPS. THE S 24". ALL METAL CONDUITS ATOR SHALL BE BONDED TO ME WITH A #8 AWG (MIN.) . CONFIRM CONTROL WIRING RESPECTIVE GATE OPERATOR ESENTATIVE.	
TS SHALL BE 4" DIA. STEEL RETE FILLED, AND SHALL THE CONTROL UNIT TO A GROUND LINE. THE CONCRETE BE AS DETAILED HEREIN. HALL FURNISHED WITH A ROVER AS DETAILED/	
IDE VERIFICATION THAT THE R IS SUITABLE FOR USE WITH THE NEW SLIDE GATE.	
EADER / KEY PAD UNITS SHALL CATION, ONE AT 42" LENGTH AT 72" LENGTH HEIGHT.	
DINATE ANY POWER OUTAGES ITH THE RESPECTIVE OWNER'S AIRPORT DIRECTOR.	
CTION DEVICE FOR EACH GATE EDITION LISTED, SURGE	в
SUITABLE FOR USE ON A RE SYSTEM WITH LED STATUS, JOSLYN MODEL AL. INCLUDE MOUNTING	No. Description By Chk. App. Date Issues
ALLING THE GATE OPERATOR, NTROL UNIT, & FENCE SHALL OF STRUCTURAL PORTLAND 10.	INSTALL AIRPORT SECURITY FENCING
IT SHALL BE INSTALLED IN 70 - NATIONAL ELECTRICAL T ISSUE IN FORCE, THE ANUFACTURER'S DIRECTIONS	IDA No: LOT-4536 BCM NO. LE056 SBG No: 3-17-SBGP-TBD
E LOCAL CODES, LAWS, EMENTS IN FORCE. ANY D THE UL LISTING, ETL LISTING, STING) AND/OR THE ITY OF A DEVICE WILL <u>NOT</u> BE	100% PREFINAL
F ENGRAVED PHENOLIC OR R THE SAFETY SWITCH AT THE OR NOTING THE GATE SERVED, E POWER SOURCE CIRCUIT AND	KEY PLAN
RIC GATE LOCATIONS WITH , R, AND GOOSENECK, GATE CIATED CONTROL & SAFETY MP SUM BASIS AND SHALL BE ALL MATERIALS, EQUIPMENT, DR UNIT DUCT, GROUNDING, TION, TESTING, AND INSTALL THE GATE COMPLETE ION.	
SHALL NOT BE ROUTED TCH/DISCONNECT.	
NSFORMERS, POWER SUPPLIES, CTOR AMPLIFIERS, E EQUIPMENT, AND ANY ROLS SHALL BE INSTALLED PERATOR CONTROL PANEL OR STAINLESS STEEL CONTROL E THE CONTROL EQUIPMENT IS HE GATE OPERATOR CONTROL HALL COORDINATE THIS WITH JFACTURER AND THE OR EQUIPMENT SUPPLIER.	с ELECTRICAL GATE DETAILS - 1
S OUTSIDE OF GATE L BUT WITHIN THE GATE	
NOT MEET THIS REQUIREMENT. HEET IS A SCHEMATIC ONLY. Y WITH THE MANUFACTURER GATE OPERATORS.	APPROVED SHEET NO. RMH CHECKED 24
	DRAWN BY JVJ
	OF 31

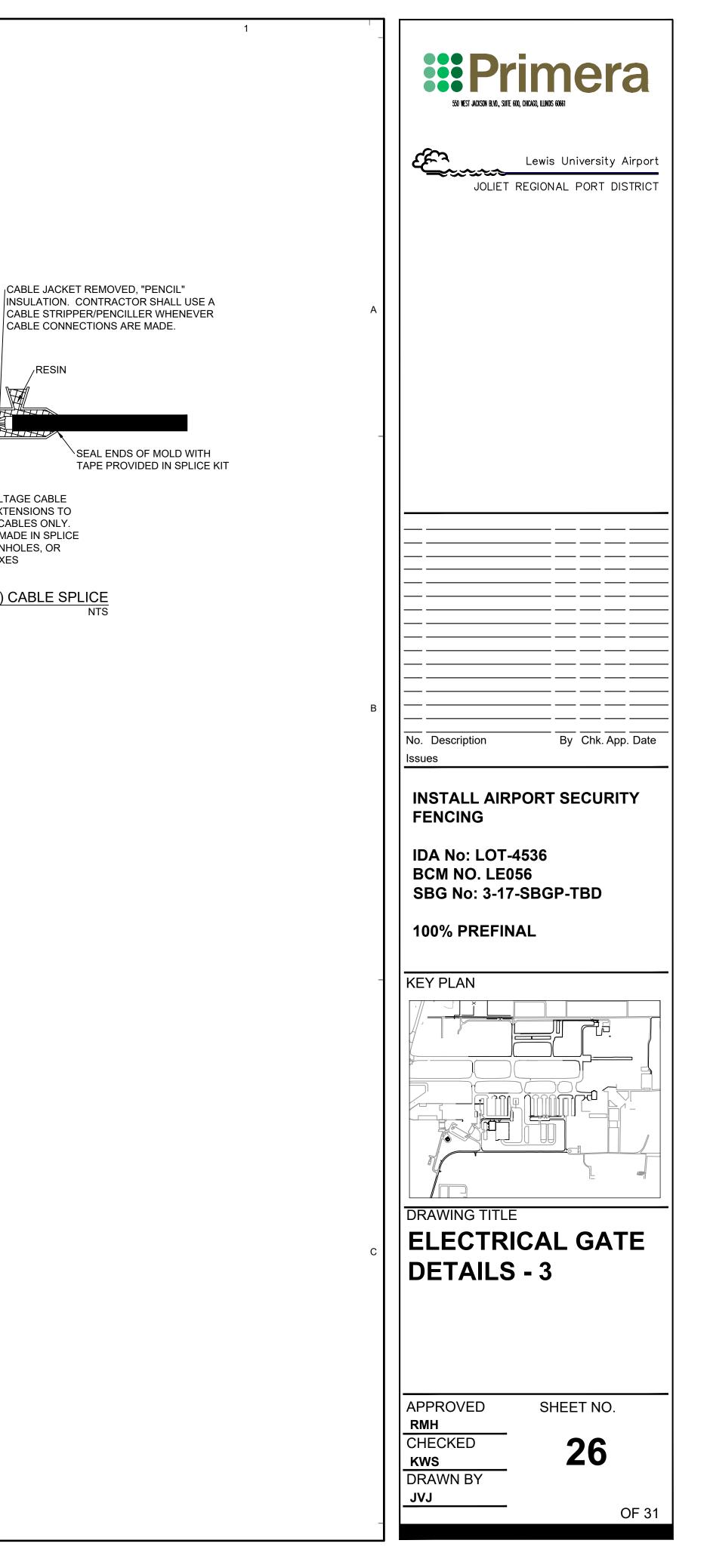


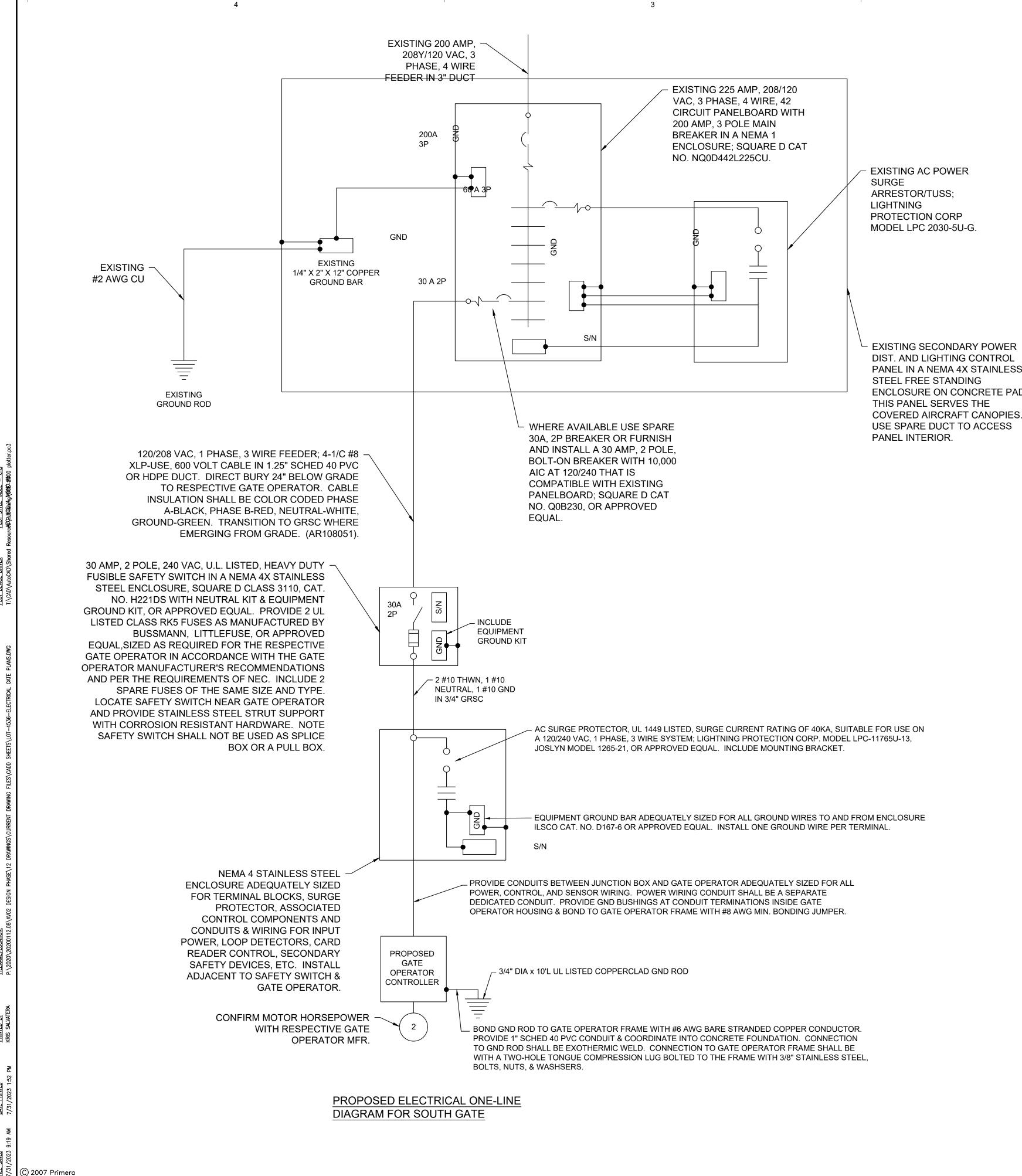
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CANS, HANDHOLES, MANHOLES, OR JUNCTIONS BOXES



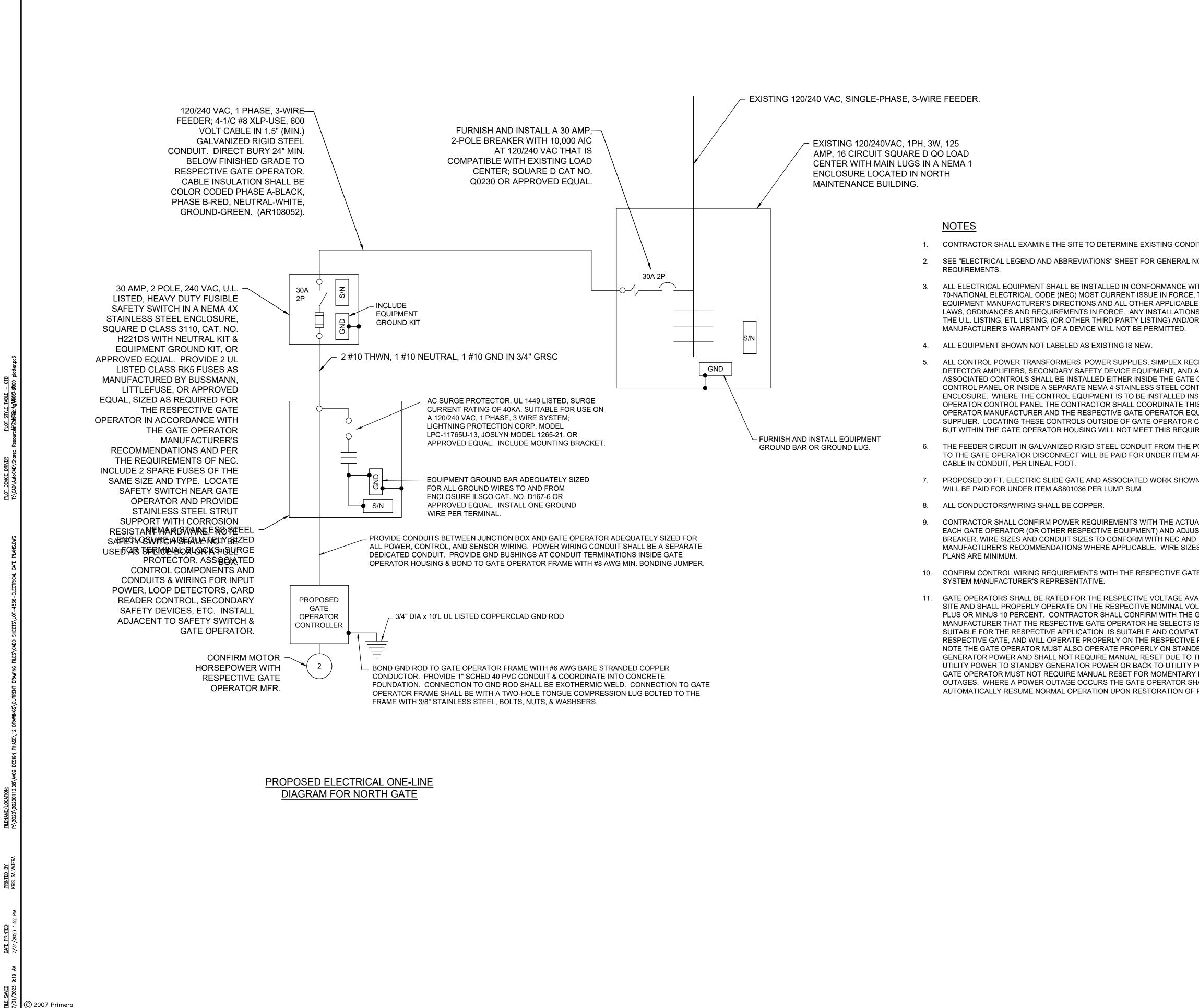


- EXISTING SECONDARY POWER DIST. AND LIGHTING CONTROL PANEL IN A NEMA 4X STAINLESS STEEL FREE STANDING ENCLOSURE ON CONCRETE PAD. THIS PANEL SERVES THE

NOTES

- CONTRACTOR SHALL EXAMINE THE SITE TO DETERMINE EXISTING
- SEE "ELECTRICAL LEGEND AND ABBREVIATIONS" SHEET FOR GENE 2. REQUIREMENTS.
- ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN CONFORMAI ELECTRICAL CODE (NEC) MOST CURRENT ISSUE IN FORCE. THE RE MANUFACTURER'S DIRECTIONS AND ALL OTHER APPLICABLE LOCA ORDINANCES AND REQUIREMENTS IN FORCE. ANY INSTALLATIONS LISTING, ETL LISTING, (OR OTHER THIRD PARTY LISTING) AND/OR WARRANTY OF A DEVICE WILL NOT BE PERMITTED.
- 4. ALL EQUIPMENT SHOWN NOT LABELED AS EXISTING IS NEW.
- ALL CONTROL POWER TRANSFORMERS, POWER SUPPLIES, SIMPL 5. DETECTOR AMPLIFIERS, SECONDARY SAFETY DEVICE EQUIPMENT ASSOCIATED CONTROLS SHALL BE INSTALLED EITHER INSIDE THE PANEL OR INSIDE A SEPARATE NEMA 4 STAINLESS STEEL CONTRO WHERE THE CONTROL EQUIPMENT IS TO BE INSTALLED INSIDE TH CONTROL PANEL THE CONTRACTOR SHALL COORDINATE THIS WIT MANUFACTURER AND THE RESPECTIVE GATE OPERATOR EQUIPME THESE CONTROLS OUTSIDE OF GATE OPERATOR CONTROL PANEL OPERATOR HOUSING WILL NOT MEET THIS REQUIREMENT.
- THE FEEDER CIRCUIT IN DUCT FROM THE POWER SOURCE TO THE DISCONNECT WILL BE PAID FOR UNDER ITEM AR108051 POWER CAI LINEAL FOOT.
- PROPOSED 30 FT. ELECTRIC SLIDE GATE AND ASSOCIATED WORK 7. WILL BE PAID FOR UNDER ITEM AR801030, PER LUMP SUM.
- 8. ALL CONDUCTORS/WIRING SHALL BE COPPER
- CONTRACTOR SHALL CONFIRM POWER REQUIREMENTS WITH THE 9. EACH GATE OPERATOR (OR OTHER RESPECTIVE EQUIPMENT) AND WIRE SIZES AND CONDUIT SIZES TO CONFORM WITH NEC AND MAN RECOMMENDATIONS WHERE APPLICABLE. WIRE SIZES SHOWN ON
- 10. CONFIRM CONTROL WIRING REQUIREMENTS WITH THE RESPECTIV MANUFACTURER'S REPRESENTATIVE.
- 11. GATE OPERATORS SHALL BE RATED FOR THE RESPECTIVE VOLTAGE AND SHALL PROPERLY OPERATE ON THE RESPECTIVE NOMINAL V MINUS 10 PERCENT. CONTRACTOR SHALL CONFIRM WITH THE GAT MANUFACTURER THAT THE RESPECTIVE GATE OPERATOR HE SEL FOR THE RESPECTIVE APPLICATION, IS SUITABLE AND COMPATIBL GATE, AND WILL OPERATE PROPERLY ON THE RESPECTIVE POWE OPERATOR MUST ALSO OPERATE PROPERLY ON STANDBY ENGINI SHALL NOT REQUIRE MANUAL RESET DUE TO TRANSFER FROM UT GENERATOR POWER OR BACK TO UTILITY POWER. THE GATE OPE MANUAL RESET FOR MOMENTARY POWER OUTAGES. WHERE A PO GATE OPERATOR SHALL AUTOMATICALLY RESUME NORMAL OPERA OF POWER.

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		550 WEST JACKSON BLVD., SUITE 600, CHICAGO, ILLINOIS 60661
G CONDITIONS.		
NERAL NOTES AND		JOLIET REGIONAL PORT DISTRICT
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	А	
LEX RECEPTACLES, LOOP IT, AND ANY OTHER E GATE OPERATOR CONTROL OL PANEL ENCLOSURE. HE GATE OPERATOR ITH THE GATE OPERATOR MENT SUPPLIER. LOCATING EL BUT WITHIN THE GATE	-	
IE GATE OPERATOR ABLE IN UNIT DUCT PER		
K SHOWN ON THIS SHEET		
E ACTUAL NAMEPLATE ON ID ADJUST CIRCUIT BREAKER, ANUFACTURER'S		
ON THE PLANS ARE MINIMUM. IVE GATE OPERATOR SYSTEM		
AGE AVAILABLE AT THE SITE VOLTAGE SYSTEM PLUS OR ATE OPERATOR		
ELECTS IS RATED SUITABLE BLE WITH THE RESPECTIVE	В	
ER SUPPLY. NOTE THE GATE NE GENERATOR POWER AND ITILITY POWER TO STANDBY PERATOR MUST NOT REQUIRE POWER OUTAGE OCCURS THE		No. Description By Chk. App. Date Issues
RATION UPON RESTORATION		INSTALL AIRPORT SECURITY FENCING
		IDA No: LOT-4536 BCM NO. LE056 SBG No: 3-17-SBGP-TBD
		100% PREFINAL
	_	
	C	DRAWING TITLE ELECTRICAL GATE
	U U	DETAILS - 4
		APPROVED SHEET NO. RMH CHECKED KWS DRAWN BY
	-	JVJ OF 31



3

- THE FEEDER CIRCUIT IN GALVANIZED RIGID STEEL CONDUIT FROM THE P TO THE GATE OPERATOR DISCONNECT WILL BE PAID FOR UNDER ITEM AF
- 7. PROPOSED 30 FT. ELECTRIC SLIDE GATE AND ASSOCIATED WORK SHOW WILL BE PAID FOR UNDER ITEM AS801036 PER LUMP SUM.
- 8. ALL CONDUCTORS/WIRING SHALL BE COPPER.

- 9. CONTRACTOR SHALL CONFIRM POWER REQUIREMENTS WITH THE ACTUA EACH GATE OPERATOR (OR OTHER RESPECTIVE EQUIPMENT) AND ADJUS BREAKER, WIRE SIZES AND CONDUIT SIZES TO CONFORM WITH NEC AND MANUFACTURER'S RECOMMENDATIONS WHERE APPLICABLE. WIRE SIZES
- 10. CONFIRM CONTROL WIRING REQUIREMENTS WITH THE RESPECTIVE GATI SYSTEM MANUFACTURER'S REPRESENTATIVE.
- 11. GATE OPERATORS SHALL BE RATED FOR THE RESPECTIVE VOLTAGE AVA SITE AND SHALL PROPERLY OPERATE ON THE RESPECTIVE NOMINAL VOL PLUS OR MINUS 10 PERCENT. CONTRACTOR SHALL CONFIRM WITH THE C MANUFACTURER THAT THE RESPECTIVE GATE OPERATOR HE SELECTS IS SUITABLE FOR THE RESPECTIVE APPLICATION, IS SUITABLE AND COMPAT RESPECTIVE GATE, AND WILL OPERATE PROPERLY ON THE RESPECTIVE NOTE THE GATE OPERATOR MUST ALSO OPERATE PROPERLY ON STANDI GENERATOR POWER AND SHALL NOT REQUIRE MANUAL RESET DUE TO 1 UTILITY POWER TO STANDBY GENERATOR POWER OR BACK TO UTILITY P GATE OPERATOR MUST NOT REQUIRE MANUAL RESET FOR MOMENTARY OUTAGES. WHERE A POWER OUTAGE OCCURS THE GATE OPERATOR SH AUTOMATICALLY RESUME NORMAL OPERATION UPON RESTORATION OF

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LE LOCAL CODES, NS WHICH VOID	
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		GENERAL NOTES		POWE
	1.	ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN CONFORMANCE WITH NFPA 70 - NATIONAL ELECTRICAL CODE (NEC) MOST CURRENT ISSUE IN FORCE, THE RESPECTIVE EQUIPMENT MANUFACTURER'S DIRECTIONS AND ALL OTHER APPLICABLE LOCAL CODES, LAWS, ORDINANCES, AND REQUIREMENTS IN FORCE. ANY INSTALLATIONS WHICH VOID THE U.L. LISTING, ETL LISTING (OR OTHER THIRD PARTY LISTING) AND/OR THE MANUFACTURER'S WARRANTY OF A DEVICE WILL <u>NOT</u> BE PERMITTED.	1.	PROVID CIRCUIT THE FUS SUFFICI ON THE PLASTIC
	2.	CONTRACTOR SHALL KEEP A COPY OF THE LATEST NEC IN FORCE ON SITE AT ALL TIMES DURING CONSTRUCTION FOR USE AS A REFERENCE.		UNLESS SCREW ADDITIC SPECIAI
	3.	CONTRACTOR SHALL COORDINATE WORK AND ANY POWER OUTAGES AND/OR SHUT DOWN OF SYSTEMS WITH THE RESPECTIVE FACILITY OWNER PERSONNEL AND THE AIRPORT MANAGER/DIRECTOR. ONCE SHUT DOWN, THE CIRCUITS SHALL BE LABELED AS SUCH TO PREVENT ACCIDENTAL ENERGIZING OF THE RESPECTIVE CIRCUITS. ALL PERSONNEL SHALL FOLLOW U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION (OSHA) 29 CFR PART 1910 OCCUPATIONAL SAFETY & HEALTH STANDARDS FOR ELECTRICAL SAFETY AND LOCKOUT/TAGOUT PROCEDURES INCLUDING, BUT NOT LIMITED TO, 29 CFR SECTION 1910.147 THE CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT).	2.	COLOR COLORE RED SH SYSTEM 208/120 OR SMA FINISH A BE IDEN
	4.	THE CONTRACTOR SHALL ASCERTAIN THAT ALL LIGHTING SYSTEM COMPONENTS AND/OR OTHER EQUIPMENT COMPONENTS FURNISHED BY HIM, INCLUDING FAA APPROVED EQUIPMENT, ARE COMPATIBLE IN ALL RESPECTS WITH EACH OTHER AND THE REMAINDER OF THE NEW/EXISTING SYSTEM. ANY NONCOMPATIBLE COMPONENTS FURNISHED BY THIS CONTRACTOR SHALL BE REPLACED BY HIM AT NO ADDITIONAL COST TO THE AIRPORT SPONSOR WITH A SIMILAR UNIT, APPROVED BY THE ENGINEER (DIFFERENT MODEL OR	3.	ALL BRA
		DIFFERENT MANUFACTURER) THAT IS COMPATIBLE WITH THE REMAINDER OF THE AIRPORT LIGHTING SYSTEM.	4.	OF UTIL
	5.	IN CASE THE CONTRACTOR ELECTS TO FURNISH AND INSTALL AIRPORT LIGHTING EQUIPMENT OR OTHER EQUIPMENT REQUIRING ADDITIONAL WIRING, TRANSFORMERS, ADAPTORS, MOUNTINGS, ETC., TO THOSE SHOWN ON THE DRAWINGS AND/OR LISTED IN THE	5.	SAME F
		SPECIFICATION, ANY COST FOR THESE ITEMS SHALL BE INCIDENTAL TO THE EQUIPMENT COST.	6.	SEPARA NEATLY
n	6.	THE CONTRACTOR INSTALLED EQUIPMENT (INCLUDING FAA APPROVED) SHALL NOT GENERATE ANY ELECTROMAGNETIC INTERFERENCE IN THE EXISTING AND/OR NEW COMMUNICATIONS, WEATHER, AIR NAVIGATION, AND AIR TRAFFIC CONTROL EQUIPMENT.	7.	BOXES. THE MIN
		ANY EQUIPMENT GENERATING SUCH INTERFERENCE SHALL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST WITH THE EQUIPMENT MEETING THE APPLICABLE SPECIFICATIONS AND NOT GENERATING ANY INTERFERENCE.		THE CO
	7.	WHEN A SPECIFIC TYPE, STYLE, CLASS, ETC. OF FAA APPROVED EQUIPMENT IS SPECIFIED ONLY THAT TYPE, STYLE, CLASS, WILL BE ACCEPTABLE, EVEN THOUGH EQUIPMENT OF OTHER TYPES STYLES, CLASSES, ETC. MAY BE APPROVED.		TH CC GF TE
	8.	ANY AND ALL INSTRUCTIONS FROM THE RESIDENT ENGINEER/RESIDENT PROJECT REPRESENTATIVE TO THE CONTRACTOR REGARDING CHANGES IN OR DEVIATIONS FROM THE PLANS AND SPECIFICATIONS SHALL BE IN WRITING WITH COPIES SENT TO THE AIRPORT SPONSOR AND THE ILLINOIS DEPARTMENT OF TRANSPORTATION, DIVISION OF AERONAUTICS. THE CONTRACTOR SHALL NOT ACCEPT ANY VERBAL INSTRUCTIONS FROM THE RESIDENT ENGINEER/RESIDENT PROJECT REPRESENTATIVE REGARDING ANY CHANGES FROM THE PLANS AND SPECIFICATIONS.		B. IN TH IN DI. DI. NO
	9.	A MINIMUM OF THREE COPIES OF THE INSTRUCTION BOOK SHALL BE SUPPLIED WITH EACH DIFFERENT TYPE OF EQUIPMENT. THE BOOKS DESCRIBING A MORE SOPHISTICATED TYPE OF EQUIPMENT, SUCH AS REGULATORS, PAPI, REIL, ETC. AS A MINIMUM SHALL CONTAIN THE FOLLOWING:	8.	a run c and pu quarte at the pull/ju
		A. A DETAILED DESCRIPTION OF THE OVERALL EQUIPMENT AND ITS INDIVIDUAL COMPONENTS.	9.	EQUIPM
		B. THEORY OF OPERATION INCLUDING THE FUNCTION OF EACH COMPONENT.	10.	SPLICES
		C. INSTALLATION INSTRUCTION.D. START-UP INSTRUCTIONS.	11.	EQUIPPI
		E. PREVENTATIVE MAINTENANCE REQUIREMENTS.	12.	MOLDEE DUAL LU
		F. CHART FOR TROUBLE-SHOOTING.G. COMPLETE POWER AND CONTROL DETAILED WIRING DIAGRAM(S), SHOWING EACH	13.	
		CONDUCTOR/CONNECTION/COMPONENT - "BLACK" BOXES ARE NOT ACCEPTABLE. THE DIAGRAM OF THE NARRATIVE SHALL SHOW VOLTAGE/CURRENTS/WAVE SHAPES AT STRATEGIC LOCATIONS TO BE USED WHEN CHECKING AND/OR TROUBLE-SHOOTING		
		THE EQUIPMENT. WHEN THE EQUIPMENT HAS SEVERAL MODES OF OPERATION, SUCH AS SEVERAL BRIGHTNESS STEPS, THESE PARAMETERS SHALL BE INDICATED FOR ALL DIFFERENT MODES.	14.	SUPPOF STRUT S HARDWA SUPPOF
		H. PARTS LIST WHICH WILL INCLUDE ALL MAJOR AND MINOR COMPONENTS SUCH AS RESISTORS, DIODES, ETC. IT SHALL INCLUDE A COMPLETE NOMENCLATURE OF EACH COMPONENT AND, IF APPLICABLE, THE NAME OF ITS MANUFACTURER AND THE CATALOG NUMBER.		SUPPOF
		I. SAFETY INSTRUCTIONS.		
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VER AND CONTROL NOTES

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VIDE LEGEND PLATES FOR ALL ELECTRICAL EQUIPMENT TO IDENTIFY FUNCTION, CUIT VOLTAGE AND PHASE. WHERE THE EQUIPMENT CONTAINS FUSES, ALSO IDENTIFY FUSE OR FUSE LINK AMPERE RATING. WHERE THE EQUIPMENT DOES NOT HAVE FICIENT AREA TO INSTALL LEGEND PLATES, THE LEGEND PLATES SHALL BE INSTALLED THE WALL NEXT TO THE UNIT. LEGEND PLATES SHALL BE WEATHERPROOF ENGRAVED STIC OR PHENOLIC MATERIAL, 1/4" HIGH BLACK LETTERS ON A WHITE BACKGROUND ESS NOTED OTHERWISE. SECURE WITH WEATHERPROOF ADHESIVE AND MACHINE EWS. FURNISH ADDITIONAL LEGEND PLATES WHERE REQUIRED BY CODE, FOR ITIONAL EQUIPMENT, AS DETAILED HEREIN ON THE PLANS, AND AS NOTED IN THE CIAL PROVISION SPECIFICATIONS.

OR CODE ALL PHASE WIRING BY THE USE OF COLORED WIRE INSULATION AND/OR ORED TAPE. WHERE TAPE IS USED, THE WIRE INSULATION SHALL BE BLACK. BLACK AND SHALL BE USED FOR PHASE CONDUCTORS ON 120/240VAC SINGLE-PHASE, THREE WIRE TEMS. BLACK, RED, AND BLUE SHALL BE USED FOR PHASE CONDUCTORS ON 120VAC THREE-PHASE, FOUR WIRE SYSTEMS. NEUTRAL CONDUCTORS, SIZE NO. 6 AWG SMALLER, SHALL BE IDENTIFIED BY A CONTINUOUS WHITE OR NATURAL GRAY OUTER SH ALONG ITS ENTIRE LENGTH. NEUTRAL CONDUCTORS LARGER THAN NO. 6 AWG SHALL DENTIFIED EITHER BY A CONTINUOUS WHITE OR NATURAL GRAY OUTER FINISH ALONG ENTIRE LENGTH OR BY THE USE OF WHITE TAPE AT ITS TERMINATIONS AND INSIDE ESSIBLE WIREWAYS. INSULATED GROUND CONDUCTORS SHALL HAVE GREEN COLORED ILATION FOR ALL CONDUCTOR SIZES (AWG OR KCMIL).

BRANCH CIRCUIT CONDUCTORS CONNECTED TO A PARTICULAR PHASE SHALL BE TIFIED WITH THE SAME COLOR. THE COLOR CODING SHALL BE EXTENDED TO THE POINT TILIZATION.

ONTROL WIRING THE SAME COLOR SHALL BE USED THROUGHOUT THE SYSTEM FOR THE E FUNCTION, SUCH AS 10%, 30%, 100% BRIGHTNESS CONTROL, ETC.

VOLTAGE (600 V.) AND HIGH VOLTAGE (5000 V.) CONDUCTORS SHALL BE INSTALLED IN ARATE WIREWAYS.

TLY LACE WIRING IN DISTRIBUTION PANELS, WIREWAYS, SWITCHES AND JUNCTION/PULL ES.

MINIMUM SIZE OF PULL/JUNCTION BOXES, REGARDLESS OF THE QUANTITY AND SIZE OF CONDUCTORS SHOWN, SHALL BE AS FOLLOWS:

- IN STRAIGHT PULLS THE LENGTH OF THE BOX SHALL NOT BE LESS THAN EIGHT TIMES THE TRADE DIAMETER OF THE LARGER CONDUIT. THE TOTAL AREA (INCLUDING THE CONDUIT CROSS-SECTIONAL AREA) OF A BOX END SHALL BE AT LEAST 3 TIMES GREATER THAN THE TOTAL TRADE CROSS-SECTIONAL AREA OF THE CONDUITS TERMINATING AT THE END.
- IN ANGLE PULLS OR 'U' PULLS THE DISTANCE BETWEEN EACH CONDUIT ENTRY INSIDE THE BOX AND THE OPPOSITE WALL OF THE BOX SHALL NOT BE LESS THAN SIX (6) TIMES THE TRADE DIAMETER OF THE LARGEST CONDUIT. THIS DISTANCE SHALL BE INCREASED FOR ADDITIONAL ENTRIES BY THE AMOUNT OF THE SUM OF THE DIAMETERS OF ALL OTHER CONDUIT ENTRIES ON THE SAME WALL AS THE BOX. THE DISTANCE BETWEEN CONDUIT ENTRIES ENCLOSING THE SAME CONDUCTOR SHALL NOT BE LESS THAN SIX TIMES THE TRADE DIAMETER OF THE LARGEST CONDUIT.

IN OF CONDUIT BETWEEN TERMINATIONS AT EQUIPMENT ENCLOSURES, SQUARE DUCTS PULL/JUNCTION BOXES, SHALL NOT CONTAIN MORE THAN THE EQUIVALENT OF FOUR RTER BENDS (360 DEGREES TOTAL), INCLUDING THOSE BENDS LOCATED IMMEDIATELY HE TERMINATIONS, CAST, CONDUIT TYPE OUTLETS SHALL NOT BE TREATED AS _/JUNCTION BOXES.

PMENT CABINETS SHALL NOT BE USED AS PULL/JUNCTION BOXES. ONLY WIRING MINATING AT THE EQUIPMENT SHALL BE BROUGHT INTO THESE ENCLOSURES.

CES AND JUNCTION POINTS SHALL BE PERMITTED ONLY IN JUNCTION BOXES, DUCTS IPPED WITH REMOVABLE COVERS, AND AT EASILY ACCESSIBLE LOCATIONS.

CUIT BREAKERS IN POWER DISTRIBUTION PANEL(S) SHALL BE THERMAL-MAGNETIC DED CASE, PERMANENT TRIP WITH 100 AMPERE, MINIMUM FRAME.

LUGS SHALL BE USED WHERE TWO (2) WIRES, SIZE NO. 6 OR LARGER, ARE TO BE NECTED TO THE SAME TERMINAL.

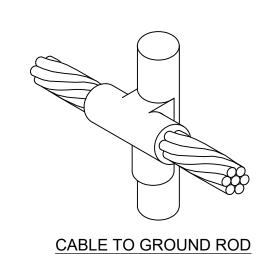
NTERIOR WALL MOUNTED EQUIPMENT ENCLOSURES SHALL BE MOUNTED ON HOT ED GALVANIZED STEEL STRUT SUPPORT, OR STAINLESS STEEL STRUT SUPPORT, WITH ROSION RESISTANT HARDWARE.

PORT FOR EXTERIOR MOUNTED EQUIPMENT SHALL USE HOT DIPPED GALVANIZED STEEL JT SUPPORT OR STAINLESS STEEL STRUT SUPPORT WITH STAINLESS STEEL DWARE. PROVIDE ZINC RICH PAINT APPLIED TO FIELD CUTS OF GALVANIZED STEEL PORT TO MINIMIZE THE POTENTIAL FOR CORROSION PER THE RESPECTIVE STRUT PORT MANUFACTURER'S RECOMMENDATIONS. 15. CONDUITS FOR ELECTRIC SERVICE ENTRANCE AND FEEDERS SHAL HEREIN ON THE PLANS. WHERE GALVANIZED RIGID STEEL CONDUI HAVE THREADED FITTINGS. SET SCREW TYPE FITTINGS WILL NOT E CONDUITS FOR UNDERGROUND APPLICATIONS SHALL BE AS DETAI FOR GROUNDING ELECTRODE CONDUCTORS OR INDIVIDUAL GROU SHALL BE SCHEDULE 40 OR SCHEDULE 80 PVC.

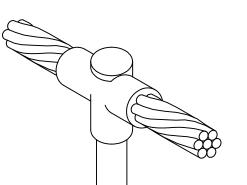
- 16. PROVIDE LIQUID TIGHT FLEXIBLE METAL CONDUIT AT CONNECTIONS SUBJECT TO VIBRATION OR WHERE FLEXIBILITY IS REQUIRED. LIQU METAL CONDUIT AND ASSOCIATED FITTINGS SHALL BE U.L. LISTED T REQUIREMENTS OF NEC 350.6, SUITABLE FOR GROUNDING, SUNLIGI RESISTANT TO OIL, GASOLINE, AND GREASE. LIQUID TIGHT FLEXIBL IS USED FOR FLEXIBILITY (INCLUDING CONNECTIONS TO MOTORS, T CONSTANT CURRENT REGULATORS) SHALL REQUIRE AN EXTERNAL INTERNAL EQUIPMENT GROUNDING CONDUCTOR PER NEC 350.60. I TIGHT FLEXIBLE METAL CONDUIT THAT IS NOT UL. LISTED. CONFIRM METAL CONDUIT BEARS THE UL LABEL PRIOR TO INSTALLING IT.
- 17. UNLESS OTHERWISE SHOWN, ALL EXPOSED CONDUITS SHALL BE R RIGHT ANGLES WITH THE LINES OF THE STRUCTURE.
- 18. ALL STEEL CONDUITS, FITTINGS, NUTS, BOLTS, ETC. SHALL BE GAL
- 19. USE CONDUIT BUSHINGS AT EACH CONDUIT TERMINATION. WHERE UNDERGROUND WIRE IS INSTALLED, USE INSULATED BUSHINGS.
- 20. USE DOUBLE LOCK NUTS AT EACH CONDUIT TERMINATION.
- 21. WRAP ALL PRIMARY AND SECONDARY POWER TRANSFORMER CON SUFFICIENT LAYERS OF INSULATING TAPE (3M SCOTCH 23 ALL-VOL' SCOTCH 130C LINERLESS RUBBER SPLICING TAPE, OR APPROVED E VINYL ELECTRICAL TAPE (3M SCOTCH 88 VINYL ELECTRICAL TAPE O FOR FULL VALUE OF CABLE INSULATION VOLTAGE.
- 22. UNLESS OTHERWISE NOTED, ALL SINGLE CONDUCTOR CONTROL W AWG. COPPER MINUMUM.
- 23. THE FOLLOWING SHALL APPLY TO RELAY/CONTACTOR PANELS/ENG
 - A. FOR INTERIOR LOCATIONS ALL COMPONENTS SHALL BE MOUNTIGHT) ENCLOSURE(S) WITH VERTICALLY HINGED COVERS. FOR LOCATIONS ALL COMPONENTS SHALL BE MOUNTED IN NEMA 4 ENCLOSURE(S) WITH VERTICALLY HINGED COVERS. ALL CONIT 4, 4X ENCLOSURES SHALL HAVE NEMA 4 HUBS LISTED SUITABLE ENCLOSURE TO MAINTAIN THE NEMA 4, 4X RATING OF THE ENCLOSURE TO MAINTAIN THE NEMA 4, 4X RATING OF THE ENCLOSURE TO MAINTAIN THE NEMA 4, 4X RATING OF THE ENCLOSURE TO MAINTAIN THE NEMA 4, 4X RATING OF THE ENCLOSURE TO MAINTAIN THE NEMA 4, 4X RATING OF THE ENCLOSURE TO MAINTAIN THE NEMA 4, 4X RATING OF THE ENCLOSURE TO MAINTAIN THE NEMA 4, 4X RATING OF THE ENCLOSURE TO MAINTAIN THE NEMA 4, 4X RATING OF THE ENCLOSURE TO MAINTAIN THE NEMA 4, 4X RATING OF THE ENCLOSURE TO MAINTAIN THE NEMA 4, 4X RATING OF THE ENCLOSURE TO MAINTAIN THE NEMA 4, 4X RATING OF THE ENCLOSURE TO MAINTAIN THE NEMA 4, 4X RATING OF THE ENCLOSURE TO MAINTAIN THE NEMA 4, 4X RATING OF THE ENCLOSURE TO MAINTAIN THE NEMA 4, 4X RATING OF THE ENCLOSURE TO MAINTAIN THE NEMA 4, 4X RATING OF THE ENCLOSURE TO MAINTAIN THE NEMA 4, 4X RATING OF THE ENCLOSURE TO MAINTAIN THE NEMA 4, 4X RATING AFTHE AND AFTHE NEMA 4, 4X RATING AFTHE AND AFTHE AN
 - B. THE ENCLOSURE(S) SHALL HAVE AMPLE SPACE FOR THE CIRC TERMINAL BLOCKS AND INCOMING AND INTERNAL WIRING.
 - C. ALL CONTROL CONDUCTOR TERMINATIONS SHALL BE OF THE CONNECTOR/SCREW TYPE. SOLDERED CLOSED-EYE TERMINA TERMINATIONS WITHOUT CONNECTORS ARE NOT ACCEPTABL
 - D. WHEN THE ENCLOSURE COVER IS OPENED, ALL CIRCUIT COM TERMINALS SHALL BE EXPOSED AND ACCESSIBLE WITHOUT F PANELS, COVERS, ETC., EXCEPT THOSE COVERING HIGH VOLT
 - E. ACCESS TO, OR REMOVAL OF A CIRCUIT COMPONENT OR TER REQUIRE THE REMOVAL OF ANY OTHER CIRCUIT COMPONENT
 - F. EACH CIRCUIT COMPONENT SHALL BE CLEARLY IDENTIFIED IN CORRESPONDING NUMBER SHOWN ON THE DRAWINGS AND I
 - G. A COMPLETE WIRING DIAGRAM SHALL BE MOUNTED ON THE IN THE DIAGRAM SHALL REPRESENT EACH CONDUCTOR BY A SE
 - H. THE DIAGRAM SHALL IDENTIFY EACH CIRCUIT COMPONENT AN COLOR OF EACH TERMINAL CONDUCTOR AND TERMINAL.
 - I. ALL WIRING SHALL BE NEATLY TRAINED AND LACED.
 - J. MINIMUM WIRE SIZE SHALL BE NO. 12 AWG.
- 24. FURNISH & INSTALL A WEATHERPROOF WARNING LABEL FOR EACH SERVICE DISCONNECT, SAFETY SWITCH, CUTOUT, PANELBOARD, & WARN PERSONS OF POTENTIAL ELECTRIC ARC FLASH HAZARDS, PI OF NEC 110.16 "FLASH PROTECTION".

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RUN PARALLEL TO OR AT	_	
VANIZED. E NO. 4 AWG OR LARGER		
NECTIONS WITH TAGE SPLICING TAPE, 3M		
EQUAL) AND COVER WITH OR APPROVED EQUAL) VIRING SHALL BE NO. 12		
CLOSURES: INTED IN NEMA 12 (DUST FOR EXTERIOR/OUTDOOR 4X STAINLESS STEEL IDUIT ENTRIES INTO NEMA BLE FOR THE RESPECTIVE INCLOSURE.	В	No. Description By Chk. App. Date
CUIT COMPONENTS,		INSTALL AIRPORT SECURITY
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RMINAL BLOCK WILL NOT T OR TERMINAL BLOCK.		100% PREFINAL
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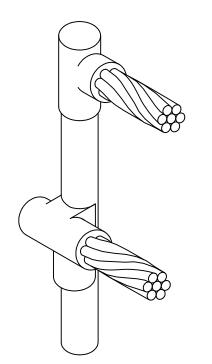
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4



CABLE TO GROUND ROD

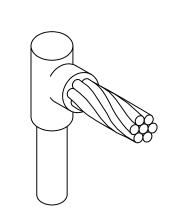


CABLES TO GROUND ROD

DETAIL NOTES

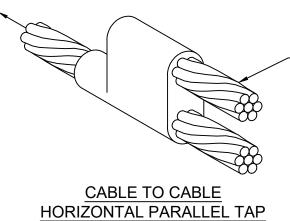
- ALL BELOW GRADE CONNECTIONS TO GROUND RODS & GROUND RING CONDUCTORS SHALL BE EXOTHERMIC WELD TYPE CONNECTIONS. EXOTHERMIC WELDS SHALL BE CADWELD AS MANUFACTURED BY ERICO PRODUCTS, SOLON, OHIO, ULTRAWELD AS MANUFACTURED BY HARGER LIGHTNING PROTECTION & GROUNDING EQUIPMENT, GRAYSLAKE, IL, OR THERMOWELD AS MANUFACTURED BY CONTINENTAL INDUSTRIES, TULSA, OKLAHOMA. VERIFY PROPER SIZES, MOLDS, TYPES, AND REQUIREMENTS FOR THE RESPECTIVE APPLICATION WITH THE MANUFACTURER, AND INSTALL PER THEIR DIRECTIONS.
- 2. FOR APPLICATIONS TO GALVANIZED STEEL OR PAINTED STEEL, REMOVE GALVANIZING AND/OR PAINT & CLEAN THE SURFACE TO EXPOSE BARE STEEL BEFORE MAKING EXOTHERMIC WELD CONNECTION.
- 3. INDIVIDUAL GROUNDING ELECTRODE CONDUCTORS SHALL NOT BE INSTALLED IN METAL CONDUIT. INSTALL GROUNDING ELECTRODE CONDUCTORS IN SCHED 40 PVC CONDUIT AS REQUIRED IN FOUNDATIONS, FOR PROTECTION, WHERE ENTERING ENCLOSURES, ETC. WHERE PLASTIC CONDUIT IS USED FOR INDIVIDUAL GROUND WIRES, DO NOT COMPLETELY ENCIRCLE THE CONDUIT WITH FERROUS AND/OR MAGNETIC MATERIALS. WHERE METAL CLAMPS ARE INSTALLED USE NYLON BOLTS, NUTS, WASHERS, & SPACERS TO INTERRUPT A COMPLETE METALLIC PATH FROM ENCIRCLING THE CONDUIT.

EXOTHERMIC WELD DETAILS



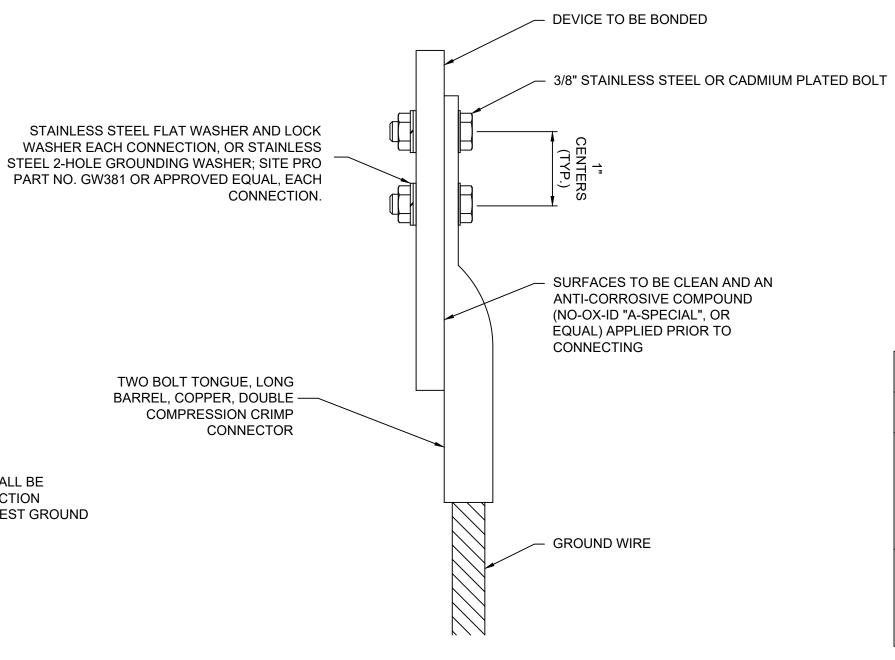
CABLE TO GROUND ROD

TO NEAREST GND ROD



TAP CONDUCTOR SHALL BE ROUTED IN THE DIRECTION TOWARDS THE NEAREST GROUND ROD





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			Lewis University Airport JOLIET REGIONAL PORT DISTRICT
		A	
LEGEND PLATE			
DEVICE SOUTH GATE OPERATOR DISCONNECT	LABEL SOUTH GATE 120/208VAC FED FROM DIST. PNL FOR AIRCRAFT CANOPIES	-	
NORTH GATE OPERATOR DISCONNECT	NORTH GATE 120/240VAC FED FROM LOAD CENTER IN NORTH MAINT. BLDG.		
NOTED OTHERWISE. SECURE WITH WEAT SCREWS. FURNISH ADDITIONAL LEGEND F	TTERS ON A WHITE BACKGROUND UNLESS		
		В	
			INSTALL AIRPORT SECURITY FENCING
			IDA No: LOT-4536 BCM NO. LE056 SBG No: 3-17-SBGP-TBD
			100% PREFINAL
			KEY PLAN Image: Constrained of the second design of the sec
		С	DETAILS AND LEGEND PLATE SCHEDULE
			RMHCHECKEDKWSDRAWN BYJVJOF 31
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2 HOLE LONG BARREL COMPRESSION LUG TABLE			
WIRE SIZE	BURNDY CAT. NO.	THOMAS & BETTS CAT. NO. PENN-UNION CAT. NO.	
#8 AWG STRANDED	YA8C-2TC38	256-30695-1157	BBLU-8D-2TC38
#6 AWG SOLID	YA8C-2TC38 OR YGA6C-2TC38E2G1		
#6 AWG STRANDED	YA6C-2TC38	256-30695-1158	BBLU-6D-2TC38
#4 AWG STRANDED	YA4C-2TC38	256-30695-1159	BBLU-4D-2TC38
#2 AWG STRANDED	YA2C-2TC38	256-30695-1160	BBLU-2D-2TC38
#2 AWG SOLID	YA3C-2TC38	256-30695-1160	BBLU-3D-2TC38
#1/0 AWG STRANDED	YA25-2TC38	256-30695-1162	BBLU-1/0D-2TC38
#2/0 AWG STRANDED	YA26-2TC38	256-30695-1116	BBLU-2/0D-2TC38
#3/0 AWG STRANDED	YA27-2TC38	54816BE	BBLU-3/0D-2TC38
#4/0 AWG STRANDED	YA28-2TC38	256-30695-1117	BBLU-4/0D-2TC38

NOTES

- 1. ALL CONNECTIONS TO GROUND BUS BAR SHALL BE WITH 2 HOLE TONGUE LONG BARREL COMPRESSION LUGS BOLTED TO THE BUS BAR.
- 2. GROUND WIRE CONNECTIONS TO EQUIPMENT SHALL BE WITH 2 HOLE TONGUE LONG BARREL COMPRESSION LUGS BOLTED TO THE DEVICE OR WITH THE RESPECTIVE EQUIPT MANUFACTURER'S LUG OR TERMINAL WHERE APPLICABLE.
- 3. GROUNDING ELECTRODE CONDUCTORS, BONDING JUMPERS, & INDIVIDUAL GROUND WIRES SHALL NOT BE INSTALLED IN METAL CONDUIT. WHERE PLASTIC CONDUIT IS USED FOR INDIVIDUAL GROUND WIRES, DO NOT COMPLETELY ENCIRCLE THE CONDUIT WITH FERROUS AND/OR MAGNETIC MATERIALS. WHERE METAL CLAMPS ARE INSTALLED USE NYLON BOLTS, NUTS, WASHERS, & SPACERS TO INTERRUPT A COMPLETE METALLIC APTH FROM ENCIRCLING THE CONDUIT.
- 4. ALL CONNECTIONS SHALL BE COATED WITH A CORROSION PREVENTATIVE COMPOUND (SANCHEM INC. NO-OX-ID "A-SPECIAL", BURNDY PENETROX E, OR EQUAL) BEFORE JOINING. ALL COPPER BUS BARS SHALL BE CLEANED PRIOR TO MAKING CONNECTIONS TO REMOVE SURFACE OXIDATION. CLEAN SURFACES, OF RESPECTIVE DEVICES TO BE BONDED, TO BARE METAL, PER NEC 250-12.

GROUNDING LUG CONNECTION DETAIL

	 GROUNDING NOTES 1. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL GROUNDING AS MAY BE NECESSARY OR REQUIRED TO MAKE A COMPLETE GROUNDING SYSTEM AS REQUIRED BY THE LATEST NATIONAL ELECTRICAL CODE (NFPA 70) IN FORCE AND AS DETAILED 	13.	IT IS THE INTENT OF THIS ELECTRICAL EQUIPMENT I HAVE A CONTINUOUS COF BONDED TO THE RESPECT NOT BE CONSIDERED AS A
	HEREIN. THE RELIABILITY OF THE GROUNDING SYSTEM IS DEPENDENT ON CAREFUL, PROPER INSTALLATION AND CHOICE OF MATERIALS. IMPROPER PREPARATION OF SURFACES TO BE JOINED TO MAKE AN ELECTRICAL PATH, LOOSE JOINTS OR CORROSION CAN INTRODUCE IMPEDANCE THAT WILL SERIOUSLY IMPAIR THE ABILITY OF THE GROUND PATH TO PROTECT PERSONNEL AND EQUIPMENT AND TO ABSORB TRANSIENTS THAT CAN CAUSE NOISE IN COMMUNICATIONS CIRCUITS. THE FOLLOWING FUNCTIONS ARE PARTICULARLY IMPORTANT TO ENSURE A RELIABLE GROUND SYSTEM:	14.	PROVIDE A POSITIVE GRO EQUIPMENT ENCLOSURES INSTALL A GROUNDING CO CONDUCTOR TO HAVE 600 GREEN COLOR COATING. AND BE ENTIRELY SEPARA EXCEPT AT SUPPLY SIDE 0
	 FURNISH AND INSTALL GROUND RODS AS DETAILED HEREIN. GROUND RODS FOR ELECTRICAL INSTALLATIONS SHALL BE MINIMUM 3/4-IN. DIAMETER BY 10-FT LONG, UL-LISTED, COPPER CLAD WITH 10-MIL MINIMUM COPPER COATING. GROUND RODS FOR FENCE GROUNDING SHALL BE 5/8-IN. DIAMETER BY 10-FT. LONG, UL LISTED, 	15.	AND NEUTRAL SYSTEMS A EACH AND ALL GROUNDEI EQUIPMENT SHALL BE TES
	COPPER CLAD WITH 10-MILL MINIMUM COPPER COATING. GROUND RODS SHALL BE SPACED OR AS DETAILED ON THE RESPECTIVE PLANS, AND IN NO CASE SPACED LESS THAN ONE ROD LENGTH APART. ALL CONNECTIONS TO GROUND RODS, GROUND FIELDS, AND/OR THE GROUND RING SHALL BE MADE WITH EXOTHERMIC WELD TYPE CONNECTORS, CADWELD BY ERICO PRODUCTS, INC., SOLON, OHIO, (PHONE 1-800-248-9353), THERMOWELD BY CONTINENTAL INDUSTRIES, INC., TULSA, OKLAHOMA (PHONE 918-663-1440), ULTRAWELD BY HARGER, GRAYSLAKE, ILLINOIS (PHONE 1-800-842-7437), OR APPROVED EQUAL. EXOTHERMIC WELD CONNECTIONS SHALL BE INSTALLED IN CONFORMANCE WITH THE RESPECTIVE MANUFACTURER'S DIRECTIONS USING MOLDS AS REQUIRED FOR EACH RESPECTIVE APPLICATION. BOLTED CONNECTIONS WILL NOT BE PERMITTED AT GROUND RODS OR AT BURIED GROUNDING		SYSTEM BY CONTRACTOR ALL CONNECTIONS BETWI ABOVE GRADE SHALL BE I LUGS SHALL BE PROVIDED BOXES. EQUIPMENT GRO TO THESE GROUND LUGS FRAMES OF ELECTRICAL E CONTRACTOR SHALL DRIL CONNECTOR. ALL BOLTED BOND ALL NONCURRENT-(
	 ELECTRODE CONDUCTORS. 3. CONTRACTOR SHALL TEST EACH MADE ELECTRODE GROUND ROD/GROUND 		SYSTEM. BUILDING STRUCTURAL S
	FIELD/GROUND RING WITH AN INSTRUMENT SPECIFICALLY DESIGNED FOR TESTING GROUND FIELD SYSTEMS. IF GROUND RESISTANCE EXCEEDS 25 OHMS, CONTACT THE PROJECT ENGINEER FOR FURTHER DIRECTION. COPIES OF GROUND FIELD TEST RESULTS SHALL BE FURNISHED TO THE RESIDENT ENGINEER/RESIDENT PROJECT REPRESENTATIVE.	19.	SYSTEM.
er.pc3	4. ALL PRODUCTS ASSOCIATED WITH THE GROUNDING SYSTEM SHALL BE UL-LISTED AND LABELED.		GROUNDING ELECTRODE CONDUCTORS OR INDIVID NOT COMPLETELY ENCIRC
AgVOND.2000 plott	5. ALL BOLTED OR MECHANICAL CONNECTIONS SHALL BE COATED WITH A CORROSION PREVENTATIVE COMPOUND BEFORE JOINING, SANCHEM INC. "NO-OX-ID "A-SPECIAL" COMPOUND, BURNDY PENETROX E, OR EQUAL.		USE NON-METALLIC REINF CONDUIT CLAMPS ARE INS TO INTERRUPT A COMPLE IS REQUIRED TO AVOID GI
PLOT STYLE Resourcest (Puttashi	 METALLIC SURFACES TO BE JOINED SHALL BE PREPARED BY THE REMOVAL OF ALL NON-CONDUCTIVE MATERIAL, PER 2011 NATIONAL ELECTRICAL CODE ARTICLE 250-12. ALL COPPER BUS BARS MUST BE CLEANED PRIOR TO MAKING CONNECTIONS TO REMOVE SURFACE OXIDATION. 		GROUND CONDUCTOR IS MAGNETIC MATERIAL. TH SUPPORT PIPE CLAMP, OF GROUND CONDUCTORS S THE GROUND CONDUCTO
PLANS.DWG PLOT DEVICE DRIVER PLOT STYLE TABLE – CTB T:\CAD\AutoCAD\Shared Resource&CPLMSShing.NOND.2000 plotter.pc3	7. METALLIC RACEWAY FITTINGS SHALL BE MADE UP TIGHT TO PROVIDE A PERMANENT LOW IMPEDANCE PATH FOR ALL CIRCUITS. METAL CONDUIT TERMINATIONS IN ENCLOSURES SHALL BE BONDED TO THE ENCLOSURE WITH UL-LISTED FITTINGS SUITABLE FOR GROUNDING. PROVIDE GROUNDING BUSHINGS WITH BONDING JUMPERS FOR ALL METAL CONDUITS ENTERING SERVICE EQUIPMENT (METER BASE, CT CABINET, MAIN SERVICE BREAKER ENCLOSURE, ETC.). PROVIDE GROUNDING BUSHINGS WITH BONDING JUMPERS FOR ALL METAL CONDUITS ENTERING AN ENCLOSURE THROUGH CONCENTRIC OR ECCENTRIC KNOCKOUTS THAT ARE PUNCHED OR OTHERWISE FORMED SO AS TO IMPAIR THE ELECTRICAL CONNECTION TO GROUND. STANDARD LOCKNUTS OR BUSHINGS SHALL NOT BE THE SOLE MEANS FOR BONDING WHERE A CONDUIT ENTERS AN ENCLOSURE THROUGH A CONCENTRIC OR ECCENTRIC KNOCKOUT		RESISTANCE THAT OPPOS IN THE IMPEDANCE OF A G MITIGATE RADIO FREQUEN WHERE A GROUND COND PHENOMENA KNOWN AS S IS A RESULT OF VOLTAGE FOR A SHORT DURATION. LIGHTNING FREQUENCIES AND FREQUENCY LEVELS CONDUCTOR MUST BE CC LOW INDUCTIVE IMPEDAN PATH.
I-4536-ELECTRICAL GATE PLANS.DWG	8. ALL CONNECTIONS, LOCATED ABOVE GRADE, BETWEEN THE DIFFERENT TYPES OF GROUNDING CONDUCTORS SHALL BE MADE USING UL-LISTED DOUBLE COMPRESSION CRIMP TYPE CONNECTORS OR UL-LISTED BOLTED GROUND CONNECTORS. FOR GROUND CONNECTIONS TO ENCLOSURES, CASES AND FRAMES OF ELECTRICAL EQUIPMENT NOT SUPPLIED WITH GROUND LUGS THE CONTRACTOR SHALL DRILL REQUIRED HOLES FOR MOUNTING A BOLTED GROUND CONNECTOR. ALL BOLTED	20. 21.	IF LOCAL CODES DICTATE IN METAL CONDUIT OR RA AT EACH END OF THE RUN GROUNDING CONDUCTOR NOT APPLY TO AC EQUIPM WHERE A CONFLICT IS DE
CADD SHEETS\LO1	 GROUND CONNECTORS SHALL BE BURNDY, THOMAS AND BETTS, OR EQUAL. TIGHTEN CONNECTIONS TO COMPLY WITH TIGHTENING TORQUES IN UL STANDARD 486A TO ASSURE PERMANENT AND EFFECTIVE GROUNDING. 9. ALL METAL EQUIPMENT ENCLOSURES, CONDUITS, CABINETS, BOXES, RECEPTACLES, 	21.	PER MANUFACTURER INS DOCUMENTS, CONTACT T FURTHER DIRECTIONS.
MING FILES	 MOTORS, ETC. SHALL BE BONDED TO THE RESPECTIVE GROUNDING SYSTEM. PROVIDE ALL BOXES FOR PROPOSED OUTLETS, SWITCHES, CIRCUIT BREAKERS, ETC. 	22.	GROUND RODS SHALL BE COMPLY WITH THE AIRPO REQUIREMENTS. STEEL U
NGS\CURRENT DRA	WITH GROUNDING SCREWS. PROVIDE ALL PANELBOARD, SWITCHGEAR, ETC., ENCLOSURES WITH GROUNDING BARS WITH INDIVIDUAL SCREWS, LUGS, CLAMPS, ETC., FOR EACH OF THE GROUNDING CONDUCTORS THAT ENTER THEIR RESPECTIVE ENCLOSURES.		PERCENT DOMESTIC STEE
Filename/location: P:\2020\20200112.08\avo2 design Phase\12 drawings\current drawing files\cadd sheefs\lot	11. EACH NEW FEEDER CIRCUIT AND/OR BRANCH CIRCUIT SHALL INCLUDE AN EQUIPMENT GROUND WIRE. METAL RACEWAY OR CONDUIT SHALL NOT MEET THIS REQUIREMENT. THE EQUIPMENT GROUND WIRE FROM EQUIPMENT SHALL NOT BE SMALLER THAN ALLOWED BY 2011 NEC TABLE 250-122 "MINIMUM SIZE CONDUCTORS OR GROUNDING RACEWAY AND EQUIPMENT." WHEN CONDUCTORS ARE ADJUSTED IN SIZE TO COMPENSATE FOR VOLTAGE DROP, EQUIPMENT-GROUNDING CONDUCTORS SHALL BE ADJUSTED PROPORTIONATELY ACCORDING TO CIRCULAR MIL AREA. ALL EQUIPMENT GROUND WIRES SHALL BE COPPER, EITHER BARE OR INSULATED GREEN IN COLOR. WHERE THE EQUIPMENT GROUNDING CONDUCTORS ARE INSULATED, THEY SHALL BE IDENTIFIED BY THE COLOR GREEN, AND SHALL BE THE SAME INSULATION TYPE AS THE PHASE CONDUCTORS.		
	12. ALL EXTERIOR METAL CONDUIT, WHERE NOT ELECTRICALLY CONTINUOUS BECAUSE OF MANHOLES, HANDHOLES, NON-METALLIC JUNCTION BOXES, ETC., SHALL BE BONDED TO ALL OTHER METAL CONDUIT IN THE RESPECTIVE DUCT RUN, AND AT EACH END, WITH A COPPER-BONDING JUMPER SIZED IN CONFORMANCE WITH 2011 NEC 250-102. WHERE METAL CONDUITS TERMINATE IN AN ENCLOSURE (SUCH AS A MOTOR		
PRINTED BY KRIS SALVATERA	CONTROL CENTER, SWITCHBOARD, ETC) WHERE THERE IS NOT ELECTRICAL CONTINUITY WITH THE CONDUIT AND THE RESPECTIVE ENCLOSURE, PROVIDE A BONDING JUMPER FROM THE RESPECTIVE ENCLOSURE GROUND BUS TO THE CONDUIT SIZED PER 2011 NEC 250-102.		
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SITIVE GROUND BOND FOR ALL OUTLET BOXES, ELECTRICAL NCLOSURES, GROUNDING RECEPTACLES, TOGGLE SWITCHES, ETC. DUNDING CONDUCTOR IN ALL WIRE AND CABLE RACEWAYS. GROUND TO HAVE 600-VOLT INSULATION AND BE IDENTIFIED BY A CONTINUOUS & COATING. THEY SHALL BE USED SOLELY FOR GROUNDING PURPOSES ELY SEPARATE FROM WHITE GROUNDED NEUTRAL CONDUCTOR, PPLY SIDE OF SERVICE DISCONNECTING MEANS, WHERE GROUNDING SYSTEMS ARE TO BE CONNECTED TO SERVICE GROUND.

GROUNDED CASED AND METAL PARTS ASSOCIATED WITH ELECTRICAL HALL BE TESTED FOR CONTINUITY OF CONNECTION WITH GROUND BUS DNTRACTOR IN PRESENCE OF OWNER'S REPRESENTATIVE.

IONS BETWEEN THE DIFFERENT TYPES OF GROUNDING CONDUCTORS SHALL BE MADE USING BOLTED GROUND CONNECTORS. GROUND E PROVIDED IN ALL ENCLOSURES AND WIRING TERMINATION JUNCTION PMENT GROUNDS AND GROUNDING CONDUCTOR SHALL BE CONNECTED DUND LUGS. FOR GROUND CONNECTIONS TO ENCLOSURES, CASES AND ECTRICAL EQUIPMENT NOT SUPPLIED WITH GROUND LUGS THE SHALL DRILL REQUIRED HOLES FOR MOUNTING A BOLTED GROUND ALL BOLTED GROUND CONNECTORS SHALL BE BURNDY, OR EQUAL.

ICURRENT-CARRYING PARTS OF METAL EQUIPMENT TO GROUND

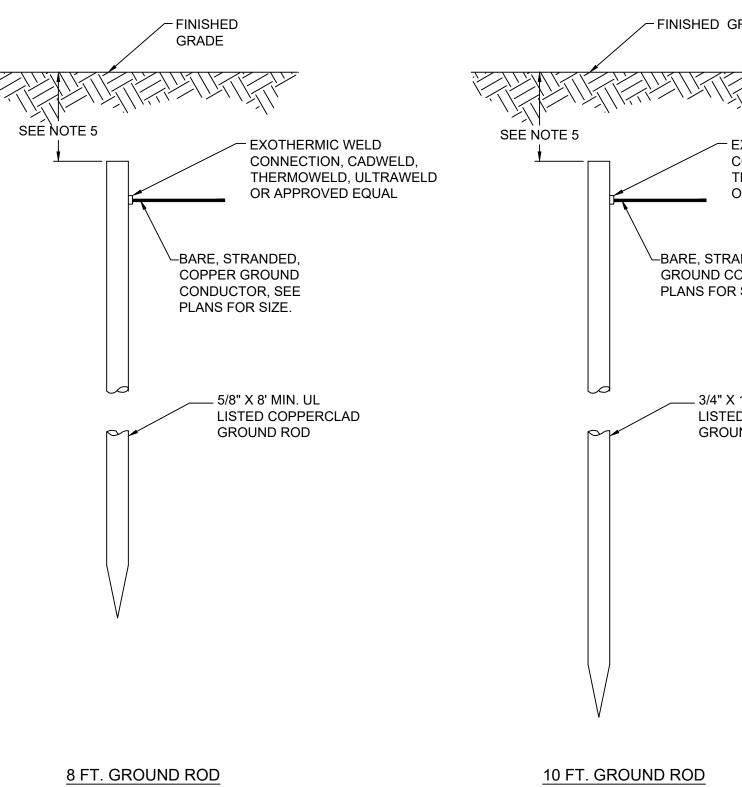
JCTURAL STEEL SYSTEM SHALL BE BONDED TO ELECTRICAL GROUND

NDING ELECTRODE CONDUCTORS, LIGHTNING PROTECTION DOWN AND SEPARATE GROUND CONDUCTORS IN SCHEDULE 40 OR SCHEDULE IT OR EXPOSED WHERE ACCEPTABLE TO LOCAL CODES. WHERE LECTRODE CONDUCTORS, LIGHTNING PROTECTION DOWN OR INDIVIDUAL GROUND CONDUCTORS ARE RUN IN PVC CONDUIT, DO ELY ENCIRCLE CONDUIT WITH FERROUS AND/OR MAGNETIC MATERIALS. ALLIC REINFORCED FIBERGLASS STRUT SUPPORT. WHERE METAL IPS ARE INSTALLED, USE NYLON BOLTS, NUTS, WASHERS AND SPACERS A COMPLETE METALLIC PATH FROM ENCIRCLING THE CONDUIT. THIS O AVOID GIRDLING OF GROUND CONDUCTORS. GIRDLING OF A DUCTOR IS THE RESULT OF PLACING THE CONDUCTOR IN A RING OF TERIAL. THIS RING COULD BE A METALLIC CONDUIT, U-BOLT OR STRUT E CLAMP, OR OTHER SUPPORT HARDWARE. THE RESULT OF GIRDLING DUCTORS SIGNIFICANTLY INCREASES THE INDUCTIVE IMPEDANCE OF CONDUCTOR. INDUCTIVE AND CAPACITIVE IMPEDANCE IS A TYPE OF THAT OPPOSES THE FLOW OF ALTERNATING CURRENT. ANY INCREASE NCE OF A GROUND CONDUCTOR REDUCES ITS ABILITY TO EFFECTIVELY IO FREQUENCY NOISE IN THE GROUND SYSTEM. THE CONDITION UND CONDUCTOR IS GIRDLED DURING A LIGHTNING STRIKE RESULTS IN (NOWN AS SURGE IMPEDANCE LOADING. SURGE IMPEDANCE LOADING F VOLTAGE AND CURRENT REACHING 500,000 VOLTS AND 10,000 AMPS DURATION. GIRDLING FURTHER INCREASES THE IMPEDANCE AT EQUENCIES OF 100 KILOHERTZ TO 100 MEGAHERTZ. AT THESE POWER ICY LEVELS ANY INCREASE IN THE IMPEDANCE OF THE GROUND /UST BE CONTROLLED. DURING LIGHTNING DISCHARGE CONDITIONS A E IMPEDANCE PATH IS MORE IMPORTANT THAN A LOW DC RESISTANCE

ES DICTATE THAT INDIVIDUAL GROUNDING CONDUCTORS MUST BE RUN DUIT OR RACEWAY, THEN THE CONDUIT OR RACEWAY MUST BE BONDED OF THE RUN WITH A BONDING JUMPER SIZED EQUAL TO THE INDIVIDUAL ONDUCTOR OR AS REQUIRED BY 2011 NEC 250-102. NOTE THIS DOES AC EQUIPMENT GROUNDING CONDUCTORS RUN WITH AC CIRCUITS.

FLICT IS DETERMINED WITH RESPECT TO GROUNDING REQUIREMENTS TURER INSTALLATION INSTRUCTIONS, NEC, AND/OR THE CONTRACT CONTACT THE RESIDENT ENGINEER OR PROJECT ENGINEER FOR

S SHALL BE MANUFACTURED IN THE UNITED STATES OF AMERICA TO THE AIRPORT IMPROVEMENT PROGRAM BUY AMERICAN PREFERENCE IS. STEEL USED TO MANUFACTURER GROUND RODS SHALL BE 100 MESTIC STEEL.



2

<u>NOTES</u>

- 1. TYPE AND MINIMUM NUMBER OF GROUND RODS SHALL BE AS SPECIFIED ON THE PLANS.
- 2. THE RESISTANCE TO GROUND OF THE GROUNDING SYSTEM SHALL NOT EXCEED 25 OHMS.
- 3. <u>COST OF GROUND RODS IS INCIDENTAL TO THE ASSOCIATED ITEMS REQUIRING GROUNDING</u> <u>UNLESS OTHERWISE SPECIFIED.</u>
- 4. GROUND RODS SHALL BE SPACED AS DETAILED ON THE PLANS AND SHALL NOT BE SPACED LES THAN ONE ROD LENGTH APART.
- 5. TOP OF GROUND RODS SHALL BE 12" MINIMUM BELOW GRADE UNLESS DETAILED OTHERWISE HEREIN.

GROUND RODS

	1 -	
		50 NEST JACKSON BLVD, SJITE 600, CHCACO, ILLINOIS 60661
		Lewis University Airport JOLIET REGIONAL PORT DISTRICT
RADE	A	
EXOTHERMIC WELD CONNECTION, CADWELD, THERMOWELD, ULTRAWELD OR APPROVED EQUAL	_	
NDED, COPPER ONDUCTOR, SEE SIZE.		
10' MIN. UL D COPPERCLAD IND ROD		
	В	Image: Constraint of the second se
		INSTALL AIRPORT SECURITY FENCING
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	_	100% PREFINAL KEY PLAN
SS		
	С	DRAWING TITLE GROUNDING NOTES
		APPROVED SHEET NO. <u>RMH</u> CHECKED 31
	-	DRAWN BY JVJ OF 31