

CONSTRUCTION PLANS FOR ST. LOUIS DOWNTOWN AIRPORT CAHOKIA, ST. CLAIR COUNTY, ILLINOIS CONSTRUCT PERIMETER FENCE

SCOPE OF WORK

BASE BID: THIS PROJECT CONSISTS OF REMOVING EXISTING CLASS E PERIMETER FENCE, INSTALLING NEW 10 FOOT CLASS E FENCE WITH THREE STRANDS OF BARBED WIRE, AND CONSTRUCTION OF 10 FOOT FENCE AT NEW LOCATIONS. ASSOCIATED WORK WILL INCLUDE THE PLACEMENT OF SLIDE GATES, REMOVAL AND REPLACEMENT OF ELECTRIC SLIDE GATES NO. 2 AND NO. 5, RELOCATION OF CLASS E FENCE NEAR GATE NO. 2, AND SEEDING AND MULCHING.

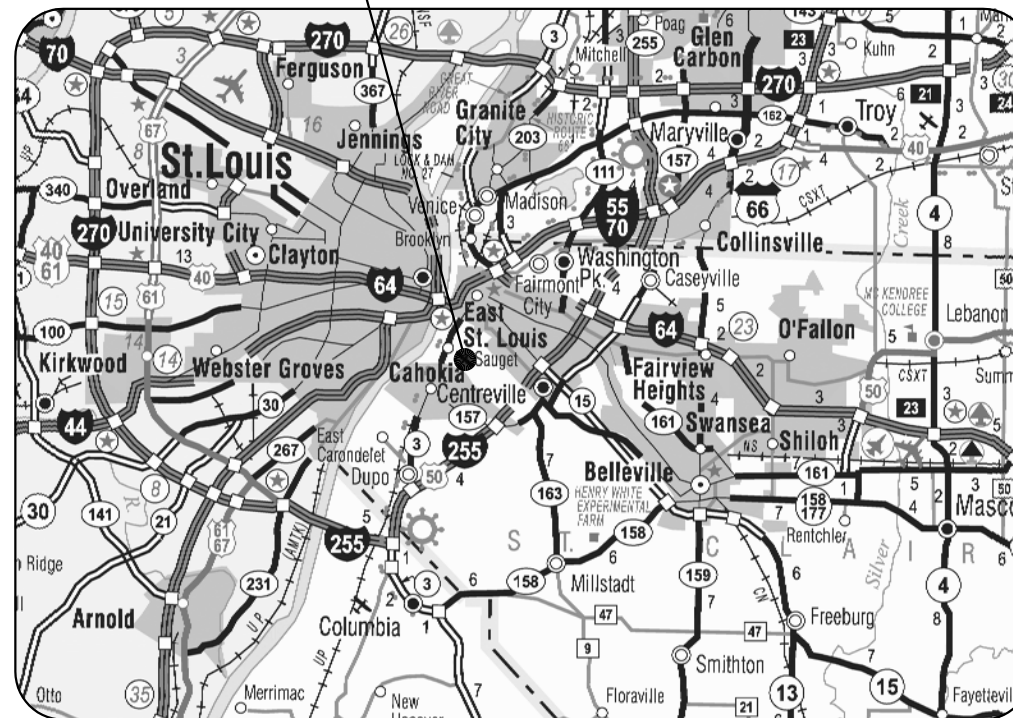
ADDITIVE ALTERNATE 1 SHALL CONSIST OF INSTALLING AN ADDITIONAL 1837 FEET OF NEW 10 FOOT CLASS E FENCE WITH THREE STRANDS OF BARBED WIRE, AND INCIDENTAL SEEDING AND MULCHING.

COVERING
ELECTRICAL DESIGN

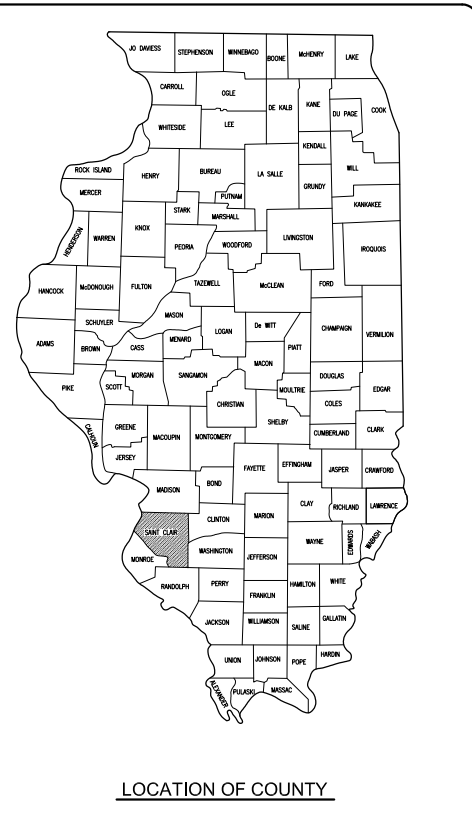
ILL. PROJ.: CPS-3988
A.I.P. PROJ.: 3-17-0039-B25

LATITUDE: 38° 34' 14"
LONGITUDE: 90° 09' 22"
ELEVATION: 413' M.S.L.
DATE: MAY 27, 2011

ST. LOUIS DOWNTOWN AIRPORT
CAHOKIA, ILLINOIS



LOCATION



Hanson Professional Services Inc.
ELECTRICAL ENGINEER

Submitted by: *Kevin N. Lightfoot*
Date Submitted: 6/20/2011
Lic. Exp. Date: NOVEMBER 30, 2011



Hanson Professional Services Inc.
CIVIL ENGINEER

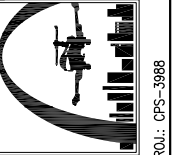
Submitted by: *Robert A. Waller* ENG'R
Date Submitted: JUNE 20, 2011
Lic. Exp. Date: NOVEMBER 30, 2011

BI-STATE DEVELOPMENT AGENCY

Approved: *Robert A. Waller* DIRECTOR OF THE AIRPORT
Date: 6/6/11

REVISION	DATE	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of Bi-State Development Agency
A.I.P. PROJ.: 3-17-0039-B25



Hanson Project No. 08A0212D_0800	LAYOUT	RAW	01/12/09
File Name R-001CVR.DWG	DRAWN	MLH	05/19/11
Scale N/A	REVIEWED	RAW/KNL	05/27/11
Date 05/27/11			

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4227 Riverway, Suite 130
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Offices Nationwide

CONSTRUCT PERIMETER FENCE
COVER SHEET

DATE	REVISION	BY

SUMMARY OF QUANTITIES – BASE BID

ITEM NO.	DESCRIPTION	UNIT	TOTAL QUANTITIES	AS BUILT QUANTITIES
AR150510	ENGINEER'S FIELD OFFICE	L.S.	1	
AR162224	CLASS E MANUAL SLIDE GATE – 24'	EACH	3	
AR162510	CLASS E FENCE 10'	L. F.	6,209	
AR162624	CLASS E GATE – 24'	EACH	1	
AR162715	ELECTRIC GATE – 15'	EACH	1	
AR162716	ELECTRIC GATE – 16'	EACH	1	
AR162900	REMOVE CLASS E FENCE	L.F.	3,620	
AR162905	REMOVE GATE	EACH	1	
AR162960	RELOCATE CLASS E FENCE	L.F.	166	
AR162964	RELOCATE GATE	EACH	1	
AR209604	CRUSHED AGG. BASE COURSE – 4"	S.Y.	116	
AR401900	REMOVE BITUMINOUS PAVEMENT	S.Y.	107	
AR501506	6" PCC PAVEMENT	S.Y.	107	
AR800470	SECURITY SYSTEM ADDITION	L.S.	1	

SUMMARY OF QUANTITIES – ADDITIVE ALTERNATE 1

ITEM NO.	DESCRIPTION	UNIT	TOTAL QUANTITIES	AS BUILT QUANTITIES
AS162510	CLASS E FENCE 10'	L.F.	1,837	

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

INDEX TO SHEETS

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2	SUMMARY OF QUANTITIES AND INDEX TO SHEETS
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4	EXISTING FENCING PLAN OVERVIEW
5	EXISTING FENCING PLAN SHEET 1
6	EXISTING FENCING PLAN SHEET 2
7	GATE NO. 5 AND GATE NO. 2 EXISTING SITE AND DEMOLITION PLAN
8	PROPOSED FENCING PLAN OVERVIEW
9	PROPOSED FENCING PLAN SHEET 1
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12	GATE NO. 2 PROPOSED SITE PLAN AND DETAILS
13	PROPOSED FENCE DETAILS AND NOTES
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18	PROPOSED ELECTRIC SLIDE GATE DETAILS – GATE NO. 5
19	GATE NO. 2 ELECTRICAL PLAN
20	ELECTRICAL ONE-LINE DIAGRAMS FOR NO. GATE NO. 1 AND GATE NO. 2 OPERATOR
21	PROPOSED ELECTRIC SLIDE GATE DETAILS – GATE NO. 2
22	GATE NO. 1 & GATE NO. 2 PANELBOARD SCHEDULE AND DETAILS
23	CARD READER, BOLLARD & GATE OPERATOR DETAILS
24	ELECTRICAL DETAILS

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of Missouri State Development Agency
 ILL. PROJ.: 3-17-0039-B25

ILL. PROJ.: CPS-3988

Hanson Project No.	08A0212D_0800
Filename	R-002ELP.DWG
Scale	NOT TO SCALE
Date	05/27/11
LAYOUT	MLH 05/27/11
DRAWN	MLH 05/27/11
REVIEWED	RAW/KNL 05/27/11

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 4227 Fernside
 St. Louis, MO 63045-1308
 Offices Nationwide

CONSTRUCT PERIMETER FENCE
SUMMARY OF QUANTITIES AND INDEX TO SHEETS

SCOPE OF WORK

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ADDITIVE ALTERNATE 1 SHALL CONSIST OF INSTALLING AN ADDITIONAL 1837 FEET OF NEW 10 FOOT CLASS E FENCE WITH THREE STRANDS OF BARBED WIRE, AND INCIDENTAL SEEDING AND MULCHING.

UTILITY NOTE

THE LOCATION, SIZE, AND TYPE OF MATERIAL OF EXISTING UNDERGROUND AND/OR ABOVEGROUND UTILITIES INDICATED ON THE PLANS ARE NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. NEITHER THE OWNER NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY WHATSOEVER IN RESPECT TO THE ACCURACY, COMPLETENESS, OR SUFFICIENCY OF THE INFORMATION. THERE IS NO GUARANTEE, EITHER EXPRESSED OR IMPLIED, THAT THE LOCATIONS, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND UTILITIES INDICATED ARE REPRESENTATIVE OF THOSE TO BE ENCOUNTERED IN THE CONSTRUCTION. 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 THE UTILITY COMPANIES OF HIS OPERATIONAL PLANS AND SHALL OBTAIN FROM THE RESPECTIVE UTILITY COMPANIES DETAILED INFORMATION AND ASSISTANCE RELATIVE TO THE LOCATION OF THEIR FACILITIES AND THE WORKING SCHEDULE OF THE COMPANIES FOR REMOVAL OR ADJUSTMENT WHERE REQUIRED. IN THE EVENT AN UNEXPECTED UTILITY INTERFERENCE IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY COMPANY OF JURISDICTION. THE OWNER'S REPRESENTATIVE AND/OR THE RESIDENT ENGINEER SHALL ALSO BE IMMEDIATELY NOTIFIED. ANY DAMAGE TO SUCH MAINS AND SERVICES SHALL BE RESTORED TO SERVICE AT ONCE AND PAID FOR BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT. ALL UTILITY CABLES AND LINES SHALL BE LOCATED BY THE RESPECTIVE UTILITY. **CONTACT JULIE (JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS) FOR UTILITY INFORMATION, PHONE: 1-800-892-0123.** 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. ALSO CONTACT AIRPORT DIRECTOR/MANAGER AND AIRPORT PERSONNEL FOR ASSISTANCE IN LOCATING UNDERGROUND AIRPORT CABLES AND/OR UTILITIES. ALSO COORDINATE WORK WITH ALL ABOVEGROUND UTILITIES.

HEIGHT OF CONSTRUCTION EQUIPMENT

THE MAXIMUM ANTICIPATED HEIGHT OF THE CONSTRUCTION EQUIPMENT WILL BE 45 FEET, WHICH IS EXPECTED TO BE A CRANE TO SET THE CAMERA POLE. THE CRANE SHALL BE USED DURING DAYLIGHT HOURS AND VFR CONDITIONS ONLY, AND SHALL BE LOWERED WHEN NOT IN USE, DURING THE HOURS BETWEEN SUNSET AND SUNRISE, AND/OR DURING IFR WEATHER CONDITIONS. THE MAXIMUM ANTICIPATED HEIGHT OF CONSTRUCTION EQUIPMENT AT OTHER LOCATIONS WILL BE 25 FEET, WHICH IS EXPECTED TO BE A CONCRETE TRUCK OR A LINE TRUCK.

HAUL ROUTE AND VEHICLE PARKING

THE CONTRACTOR WILL USE THE EXISTING ROADS AROUND THE AIRPORT AS HIS DESIGNATED HAUL ROUTES. IF NO ROAD EXISTS THEN THE CONTRACTOR WILL TRAVEL NEXT TO THE FENCE ON THE AIRFIELD SIDE OF THE FENCE. THE CONTRACTOR'S EMPLOYEES WILL PARK THEIR PERSONAL VEHICLES IN THE AIRPORT AUTO PARKING LOT. THE CONTRACTOR WILL BE REQUIRED TO TRANSPORT HIS EMPLOYEES TO THE AREA IN WHICH THEY WILL BE WORKING. ANY AREAS DAMAGED OUTSIDE OF THESE FENCING AREAS WILL BE REPAIRED BY THE CONTRACTOR AND AT THE CONTRACTOR'S OWN EXPENSE. AT THE CONCLUSION OF THE PROJECT THE CONTRACTOR WILL GRADE, FERTILIZE, SEED AND MULCH (IN ACCORDANCE WITH ITEMS 901 AND 908, RESPECTIVELY) THE EXISTING AND PROPOSED FENCING AS NEEDED TO RESTORE THESE AREAS TO THEIR ORIGINAL STATE. RESTORATION OF THESE AREAS, UNLESS NOTED OTHERWISE, WILL BE CONSIDERED INCIDENTAL TO THE PROJECT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

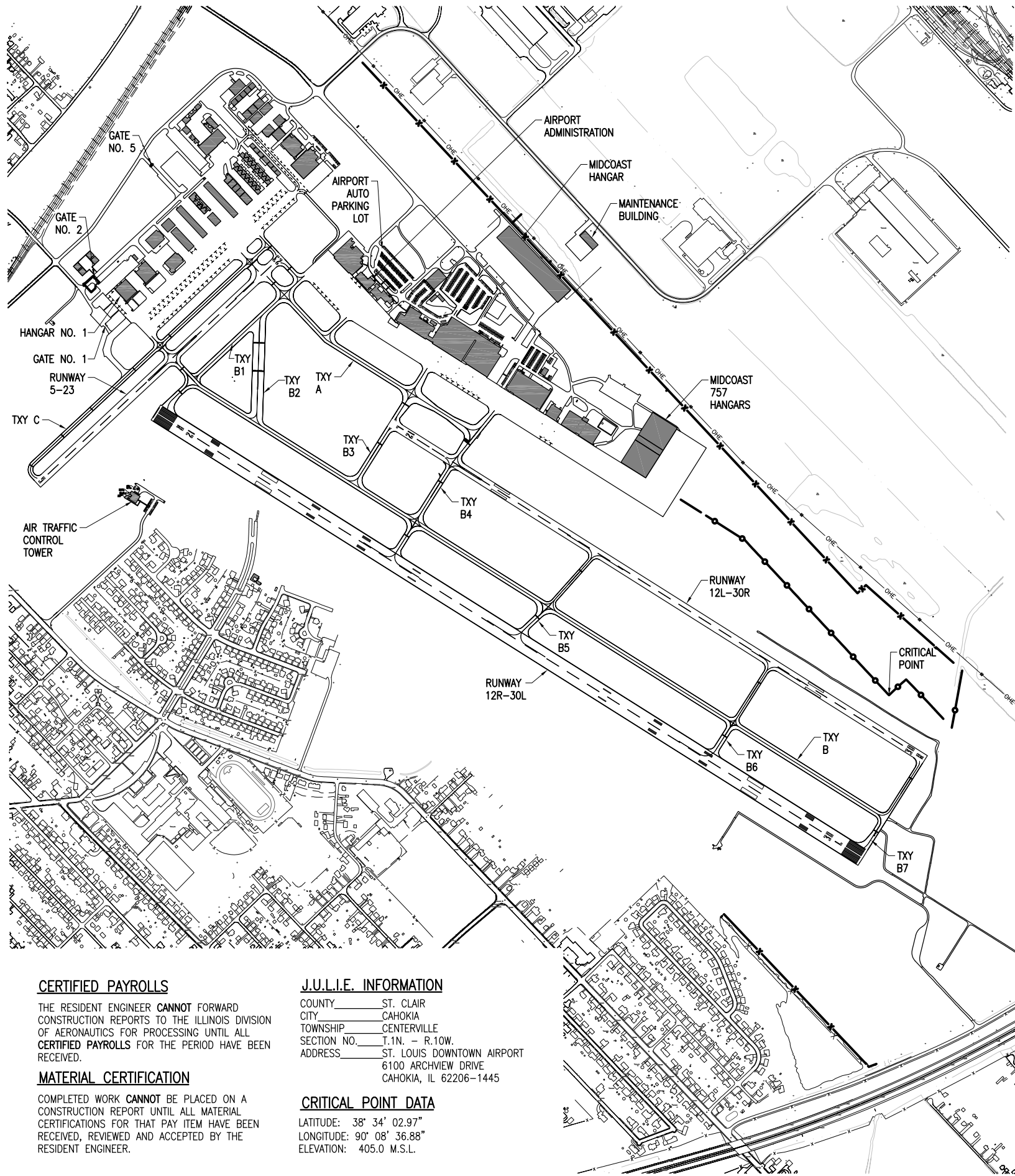
CONTRACTOR RESPONSIBILITIES

THE CONTRACTOR'S EQUIPMENT PARKING AND STORAGE AREA WILL BE AS SHOWN ON THIS SHEET. THE CONTRACTOR'S EMPLOYEES WILL PARK THEIR VEHICLES IN THIS AREA. ONLY CONTRACTOR VEHICLES WILL BE ALLOWED OUTSIDE THIS AREA.

THE CONTRACTOR AND HIS EMPLOYEES WILL BE RESTRICTED TO THE WORK AREA AND ALL OTHER AREAS OF THE AIRPORT ARE "OFF LIMITS" TO THEM.

THE CONTRACTOR WILL NOT BE REQUIRED TO CLOSE ANY RUNWAY OR TAXIWAY.

ALL CONSTRUCTION OPERATIONS SHALL BE PERFORMED IN ACCORDANCE WITH FAA ADVISORY CIRCULAR 150/5370-2E "OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION."



SD054

PROPOSED SAFETY PLAN

GENERAL - THE ST. LOUIS DOWNTOWN AIRPORT IS COMPRISED OF THREE RUNWAYS. THE PROPOSED CONSTRUCTION WILL NOT NECESSITATE CLOSING ANY RUNWAYS.

IDENTIFICATION - WHEN THE CONTRACTORS VEHICLES AND EQUIPMENT ARE ON THE AIRPORT THEY SHALL BE PROPERLY MARKED WITH THREE (3') FOOT SQUARE CHECKERED FLAGS (INTERNATIONAL ORANGE AND WHITE). THE CRANE SHALL BE MARKED WITH A FLAG AS DESCRIBED ABOVE. THE CONTRACTOR SHALL ALSO PROVIDE WORKERS WITH SOME TYPE OF TAG OR GARMENT TO IDENTIFY THE PERSON AS BEING PART OF THE CONSTRUCTION CREW.

RADIO CONTROL - THE CONTRACTOR WILL BE REQUIRED TO BE IN TWO-WAY RADIO CONTACT (121.80 MHZ.) WITH THE GROUND CONTROL. THIS WILL KEEP THE CONTRACTOR IN CONSTANT CONTACT WITH THE ST. LOUIS REGIONAL AIRPORT AND ENABLE THE AIRPORT TO IMMEDIATELY CONTACT THE CONTRACTOR IN CASE OF AN AERONAUTIC EMERGENCY THAT WOULD REQUIRE ACTION BY THE CONTRACTOR AND/OR HIS PERSONNEL.

150-ENGINEER'S FIELD OFFICE NOTES

THE CONTRACTOR WILL FURNISH A CELL PHONE TO THE RESIDENT ENGINEER FOR HIS EXCLUSIVE USE FOR THE DURATION OF THIS PROJECT. THE RESIDENT ENGINEER WILL USE THIS PHONE FOR PROJECT BUSINESS ONLY. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL CHARGES ASSOCIATED WITH THIS CELL PHONE.

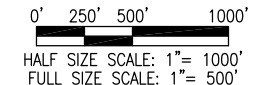
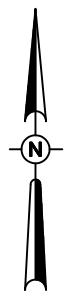
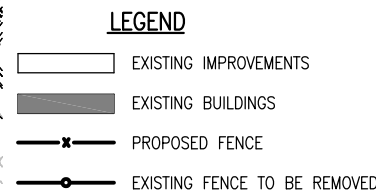
THE PROPOSED ENGINEER'S FIELD OFFICE WILL BE PAID FOR UNDER ITEMS:
AR150510 ENGINEER'S FIELD OFFICE ____ 1 L.S.

PROPOSED MATERIAL STORAGE AREA NOTES

THERE ARE SEVERAL AREAS WITHIN THE SECURE AREAS OF THE AIRPORT THAT THE CONTRACTOR WILL BE ALLOWED TO STORE HIS MATERIAL. THE AIRPORT DIRECTOR WILL DESIGNATE TO THE CONTRACTOR WHERE ON THE AIRPORT THE CONTRACTOR WILL BE ALLOWED TO STORE HIS MATERIAL. ALL CONSTRUCTION MATERIALS WILL BE STORED IN THE DESIGNATED AREAS.

EROSION CONTROL

THIS PROJECT WILL DISTURB LESS THAN 1 ACRE OF LAND, THEREFORE NO N.P.D.E.S. PERMIT WILL BE REQUIRED.



CERTIFIED PAYROLLS

THE RESIDENT ENGINEER CANNOT FORWARD CONSTRUCTION REPORTS TO THE ILLINOIS DIVISION OF AERONAUTICS FOR PROCESSING UNTIL ALL CERTIFIED PAYROLLS FOR THE PERIOD HAVE BEEN RECEIVED.

MATERIAL CERTIFICATION

COMPLETED WORK CANNOT BE PLACED ON A CONSTRUCTION REPORT UNTIL ALL MATERIAL CERTIFICATIONS FOR THAT PAY ITEM HAVE BEEN RECEIVED, REVIEWED AND ACCEPTED BY THE RESIDENT ENGINEER.

J.U.L.I.E. INFORMATION

COUNTY ST. CLAIR
 CITY CAHOKIA
 TOWNSHIP CENTERVILLE
 SECTION NO. T.1N. - R.10W.
 ADDRESS ST. LOUIS DOWNTOWN AIRPORT
 6100 ARCHVIEW DRIVE
 CAHOKIA, IL 62206-1445

CRITICAL POINT DATA

LATITUDE: 38° 34' 02.97"
 LONGITUDE: 90° 08' 36.88"
 ELEVATION: 405.0 M.S.L.

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BY	
REVISION	
DATE	
<p>SAINT LOUIS DOWNTOWN AIRPORT A Division of Ill-Share Development Agency ILL. PROJ.: 3-17-0039-B25 ILL. PROJ.: CPS-3988</p>	
Hanson Project No. 08A0212D_0800 Filename R-003SFY.DWG Scale 1" = 500' Date 05/27/11	LAYOUT 01/12/09 DRAWN MLH 05/19/11 REVIEWED RAW/KNL 05/27/11
<p>HANSON Hanson Professional Services, Inc. 4227 Fernside Drive, Suite 130 St. Louis, MO 63045-1308 Offices Nationwide</p>	
CONSTRUCT PERIMETER FENCE	PROPOSED SAFETY PLAN
<h1>3</h1> <p>3 of 24 sheets</p>	

EARTHWORK

MINOR EARTHWORK GRADING MAY BE NECESSARY TO ESTABLISH ADEQUATE CLEARANCE FOR THE PROPOSED FENCE. THE EARTHWORK WILL BE CONSIDERED AS AN INCIDENTAL ITEM TO THE PROPOSED FENCE AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

NOTE

THE CONTRACTOR WILL BE PERMITTED TO ACCESS THE AIRPORT PROPERTY THROUGH ANY OF THE EXISTING GATES THAT ARE IN CLOSE PROXIMITY TO THE WORK TO BE COMPLETED THAT DAY. THE CONTRACTOR WILL BE REQUIRED TO COORDINATE HIS DAILY ACCESS WITH THE RESIDENT ENGINEER AND THE AIRPORT DIRECTOR.

FENCE REMOVAL NOTES

THE EXISTING FENCE TO BE REPLACED IS 6 FOOT TALL CLASS E CHAIN LINK FENCE. THE CONTRACTOR IS REQUIRED TO REMOVE AND DISPOSE OF THE FENCE MATERIAL OFF THE AIRPORT PROPERTY, WITH THE EXCEPTION OF THE LENGTH OF FABRIC NECESSARY TO COMPLETE WORK IN GATE NO. 2 LOCATION (SEE NOTE 1, SHEET 12).

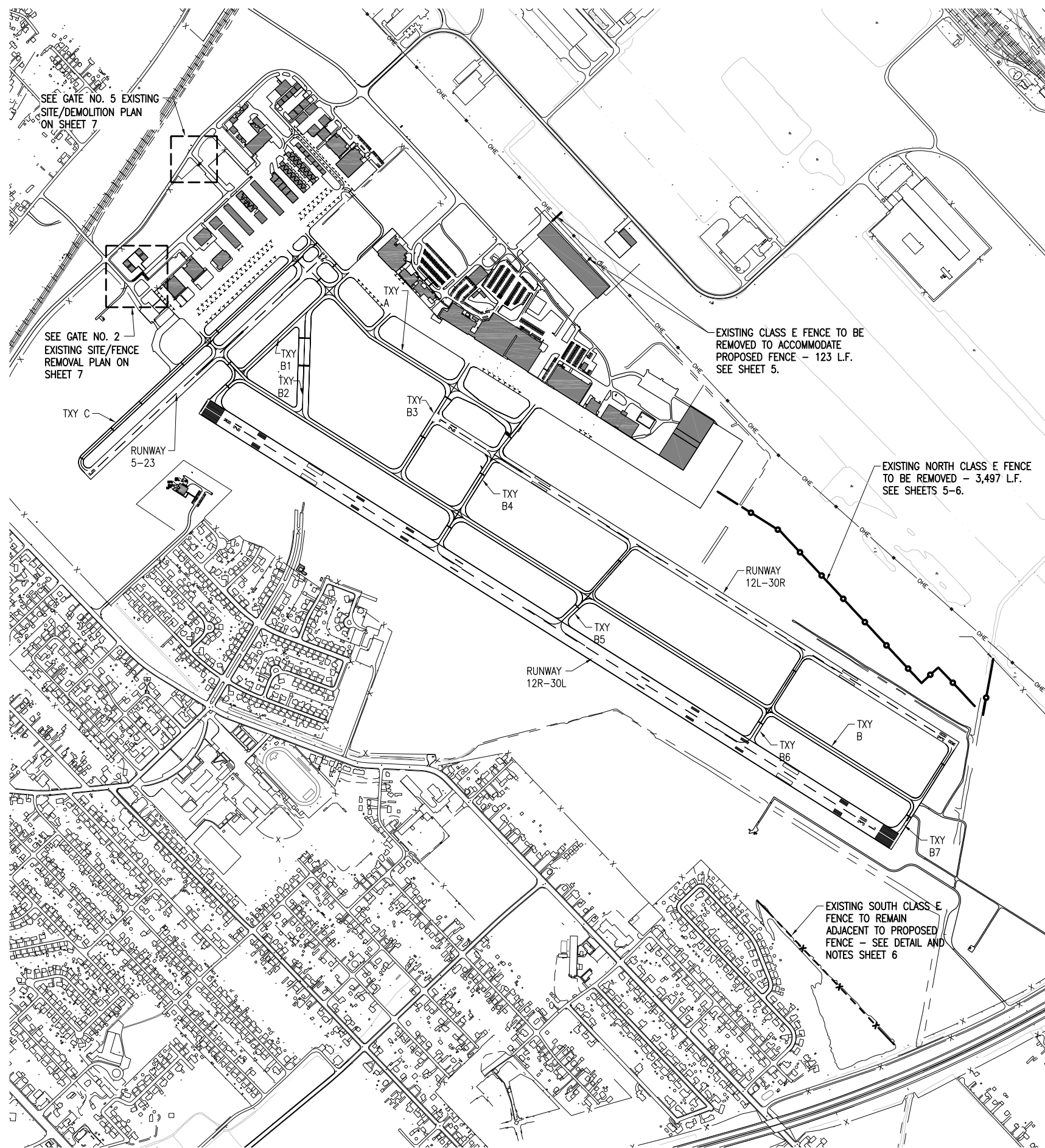
THE CONTRACTOR IS REQUIRED TO REMOVE THE EXISTING FENCE IN A MANNER THAT WILL NOT COMPROMISE THE SECURITY AT THE AIRPORT. THE EXISTING FENCE WILL NOT BE REMOVED UNTIL THE PROPOSED FENCE HAS BEEN SUFFICIENTLY INSTALLED TO PROVIDE ADEQUATE SECURITY.

EXCEPT AS NOTED ABOVE, ALL EXISTING FENCE MATERIAL TO INCLUDE FENCE POST, WIRE, HARDWARE, CONCRETE, AND ALL ASSOCIATED MATERIAL SHALL BE REMOVED AND DISPOSED OF OFF THE AIRPORT PROPERTY. DISPOSAL OF THE EXISTING FENCE MATERIAL SHALL BE INCLUDED IN THE COST OF AR162900 - REMOVE CLASS E FENCE, PER L.F.

THE REMOVAL OF SHRUBS, SMALL TREES, STUMPS, LOGS, ETC. THAT ARE IN THE EXISTING FENCE LINE WILL BE REMOVED AND DISPOSED OF OFF THE AIRPORT SITE. THIS REMOVAL AND DISPOSAL WILL BE CONSIDERED AS AN INCIDENTAL ITEM TO THE FENCE REMOVAL AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

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LEGEND

- EXISTING IMPROVEMENTS
- EXISTING BUILDINGS
- EXISTING FENCE
- EXISTING FENCE (TO BE REMOVED)
- EXISTING FENCE (TO BE ABANDONED)

0' 250' 500' 1000'
 HALF SIZE SCALE: 1" = 1000'
 FULL SIZE SCALE: 1" = 500'

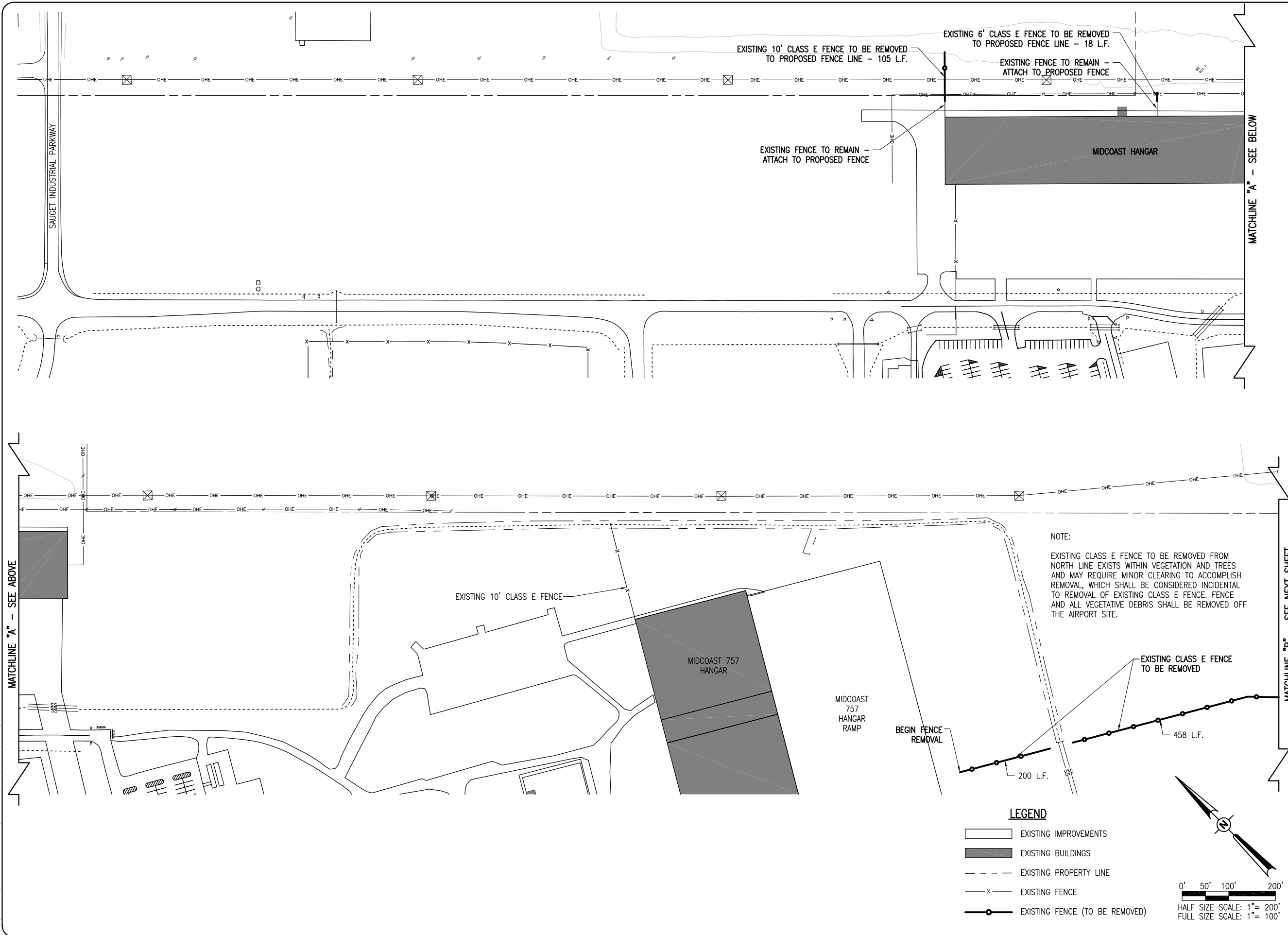
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SAINT LOUIS DOWNTOWN AIRPORT
 A Division of Missouri State Development Agency
 A.I.P. PROJ.: 3-17-0039-B25
 I.L. PROJ.: CPS-3988

Hanson Project No.	08A0212D_0800
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LAYOUT	RAW 01/12/09
DRAWN	MLH 05/19/11
REVIEWED	RAW/KNL 05/27/11

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CONSTRUCT PERIMETER FENCE
 EXISTING FENCING PLAN OVERVIEW



SD054

DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of Missouri State Development Agency
 ILL. PROJ.: CPS-3988

Hanson Project No.	08A0212D_0800
Filename	R-17ZEN.DWG
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LAYOUT	RAW 01/12/09
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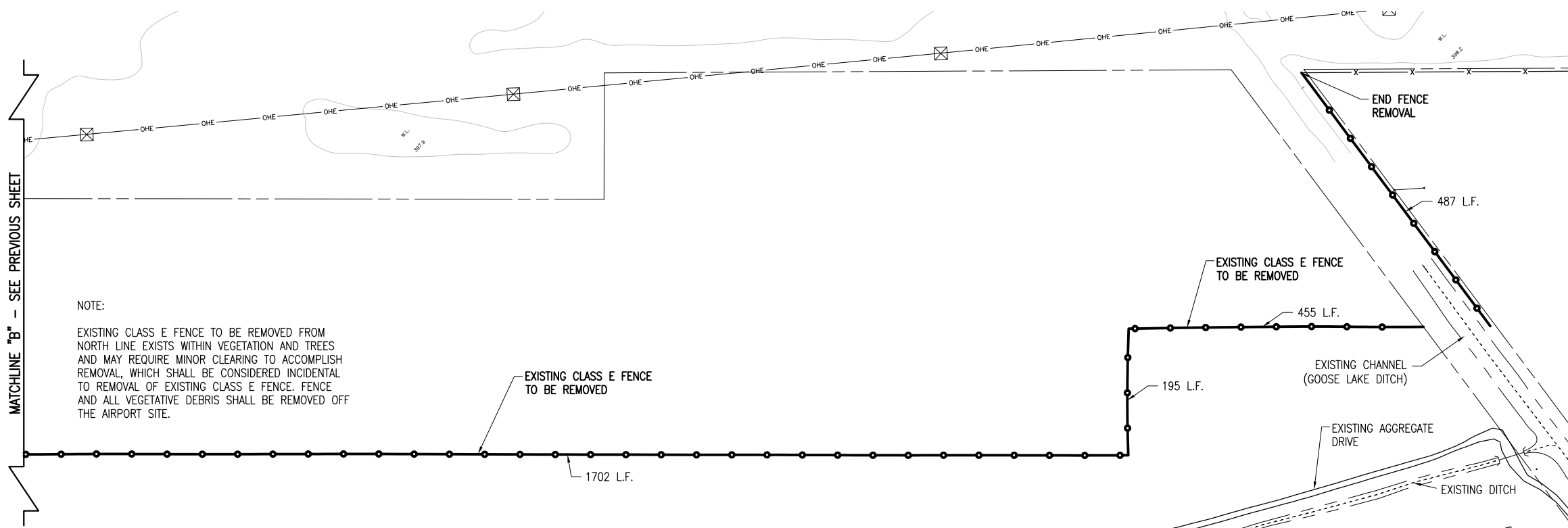
CONSTRUCT PERIMETER FENCE
 EXISTING FENCING PLAN
 SHEET 1

LEGEND

- EXISTING IMPROVEMENTS
- EXISTING BUILDINGS
- EXISTING PROPERTY LINE
- EXISTING FENCE
- EXISTING FENCE (TO BE REMOVED)

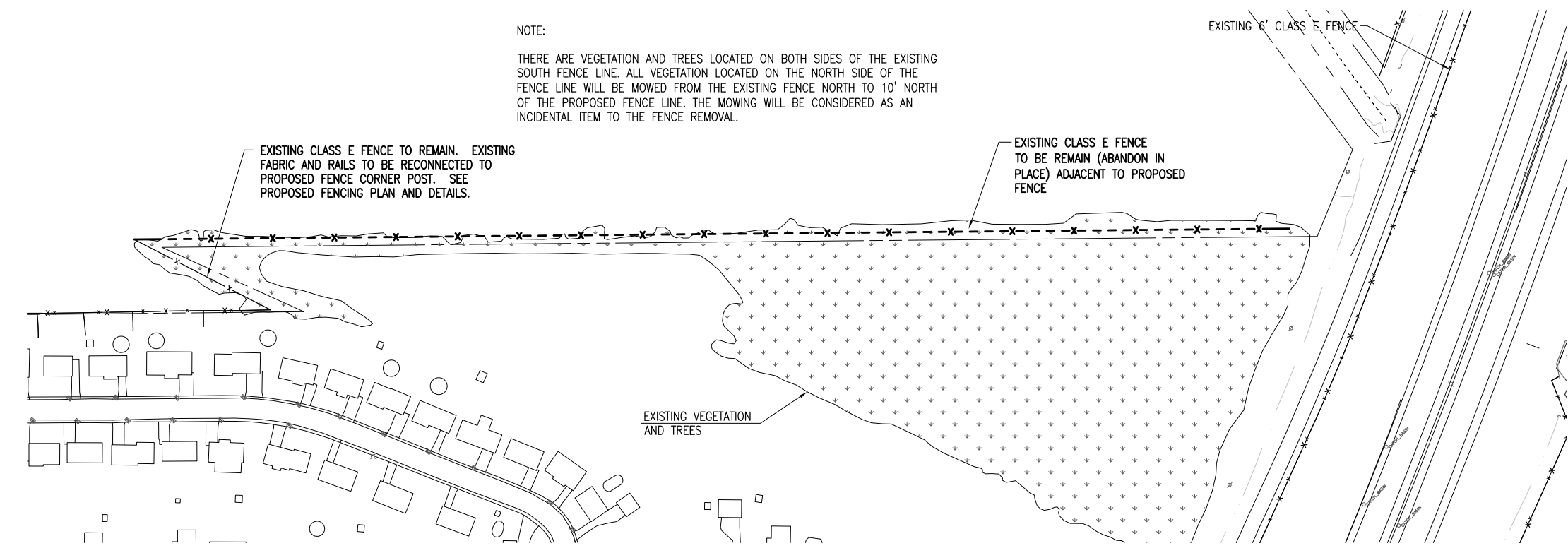
0' 50' 100' 200'

HALF SIZE SCALE: 1" = 200'
 FULL SIZE SCALE: 1" = 100'



MATCHLINE "B" -- SEE PREVIOUS SHEET

NOTE:
EXISTING CLASS E FENCE TO BE REMOVED FROM NORTH LINE EXISTS WITHIN VEGETATION AND TREES AND MAY REQUIRE MINOR CLEARING TO ACCOMPLISH REMOVAL, WHICH SHALL BE CONSIDERED INCIDENTAL TO REMOVAL OF EXISTING CLASS E FENCE. FENCE AND ALL VEGETATIVE DEBRIS SHALL BE REMOVED OFF THE AIRPORT SITE.



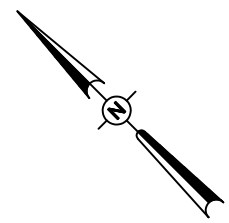
NOTE:
THERE ARE VEGETATION AND TREES LOCATED ON BOTH SIDES OF THE EXISTING SOUTH FENCE LINE. ALL VEGETATION LOCATED ON THE NORTH SIDE OF THE FENCE LINE WILL BE MOWED FROM THE EXISTING FENCE NORTH TO 10' NORTH OF THE PROPOSED FENCE LINE. THE MOWING WILL BE CONSIDERED AS AN INCIDENTAL ITEM TO THE FENCE REMOVAL.

EXISTING CLASS E FENCE TO REMAIN. EXISTING FABRIC AND RAILS TO BE RECONNECTED TO PROPOSED FENCE CORNER POST. SEE PROPOSED FENCING PLAN AND DETAILS.

EXISTING CLASS E FENCE TO BE REMAIN (ABANDON IN PLACE) ADJACENT TO PROPOSED FENCE

EXISTING VEGETATION AND TREES

- LEGEND**
- EXISTING IMPROVEMENTS
 - EXISTING BUILDINGS
 - EXISTING PROPERTY LINE
 - EXISTING FENCE
 - EXISTING FENCE (TO BE REMOVED)
 - EXISTING FENCE (TO BE ABANDONED)



0' 50' 100' 200'
HALF SIZE SCALE: 1" = 200'
FULL SIZE SCALE: 1" = 100'

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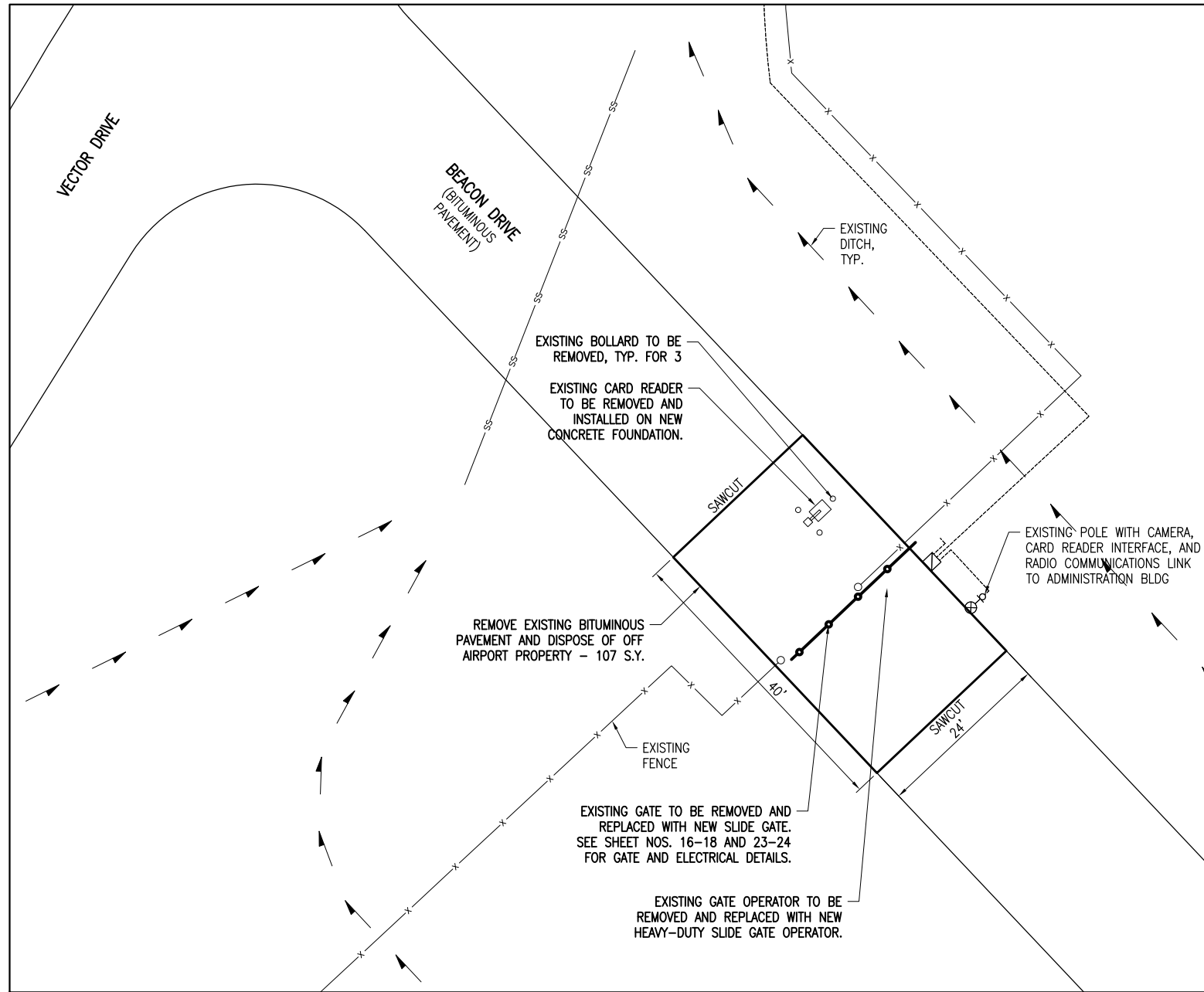
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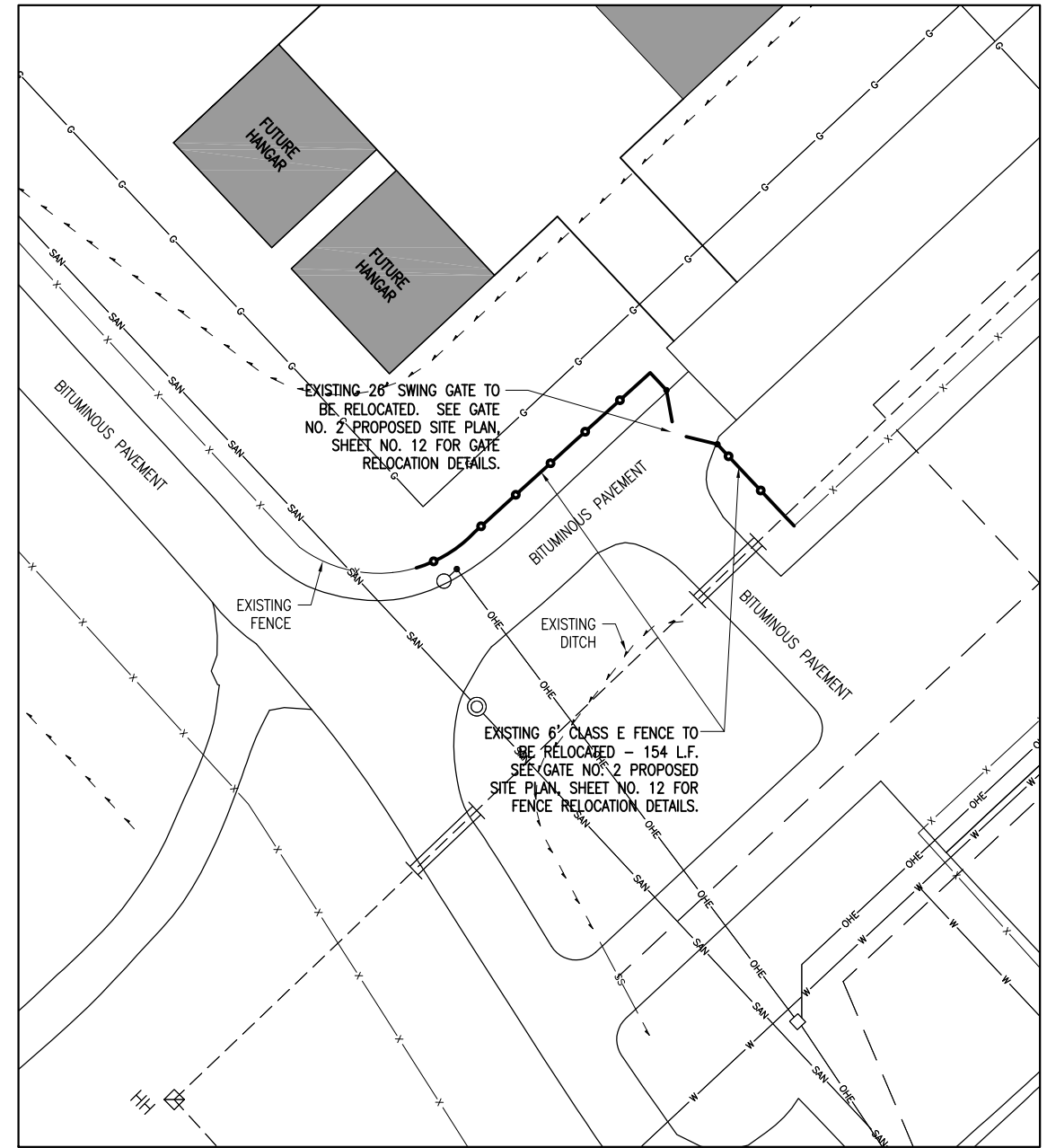
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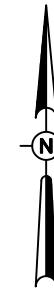
CONSTRUCT PERIMETER FENCE
EXISTING FENCING PLAN
SHEET 2



GATE NO. 5 EXISTING SITE/DEMOLITION PLAN
 SCALE 1" = 10'



GATE NO. 2 EXISTING SITE/FENCE REMOVAL PLAN
 SCALE 1" = 30'



LEGEND

- | | |
|-----------------------------------|---------------------------|
| EXISTING PAVEMENT | EXISTING GAS LINE |
| EXISTING BUILDING | EXISTING FENCE |
| PAVEMENT TO BE REMOVED | FENCE/GATE TO BE REMOVED |
| EXISTING ELECTRICAL CABLES | EXISTING HANDHOLE |
| EXISTING OVERHEAD ELECTRICAL LINE | GATE OPERATOR |
| EXISTING UNDERDRAIN | CARD READER WITH BOLLARDS |
| EXISTING STORM SEWER | EXISTING MANHOLE |
| EXISTING SANITARY SEWER | UTILITY POLE |
| EXISTING WATER LINE | EXISTING POLE LIGHT |
| EXISTING TELEPHONE LINE | |

SD054

REVISION	DATE	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of Missouri State Development Agency
 A.I.P. PROJ.: 3-17-0039-B25



ILL. PROJ.: CPS-3988

Hanson Project No. 08A0212D_0800
 Filename: R-173FEN.DWG

Scale: AS NOTED

Date: 05/27/11

LAYOUT	RAW	01/12/09
DRAWN	MLH	05/19/11
REVIEWED	RAW/KNL	05/27/11



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CONSTRUCT PERIMETER FENCE
GATE NO. 5 AND GATE NO. 2 EXISTING SITE AND DEMOLITION PLAN

FENCE INSTALLATION NOTES

THE PROPOSED FENCE SHALL BE 10 FOOT CLASS E FENCE WITH THREE STRANDS OF BARB WIRE. THIS WORK WILL INCLUDE SLIDE GATES AT THE LOCATIONS SHOWN. THE PROPOSED FENCE AND GATES SHALL MEET THE REQUIREMENTS PROVIDED IN THE SPECIAL PROVISIONS.

THE CONTRACTOR IS REQUIRED TO REMOVE THE EXISTING FENCE IN A MANNER THAT WILL NOT COMPROMISE THE SECURITY AT THE AIRPORT. THE EXISTING FENCE WILL NOT BE REMOVED UNTIL THE PROPOSED FENCE CAN BE INSTALLED IN SUCH A WAY THAT SECURITY IS MAINTAINED.

UTILITY NOTE

THE LOCATION, SIZE, AND TYPE OF MATERIAL OF EXISTING UNDERGROUND AND/OR ABOVEGROUND UTILITIES INDICATED ON THE PLANS ARE NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. NEITHER THE OWNER NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY WHATSOEVER IN RESPECT TO THE ACCURACY, COMPLETENESS, OR SUFFICIENCY OF THE INFORMATION. THERE IS NO GUARANTEE, EITHER EXPRESSED OR IMPLIED, THAT THE LOCATIONS, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND UTILITIES INDICATED ARE REPRESENTATIVE OF THOSE TO BE ENCOUNTERED IN THE CONSTRUCTION. 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 THE UTILITY COMPANIES OF HIS OPERATIONAL PLANS AND SHALL OBTAIN FROM THE RESPECTIVE UTILITY COMPANIES DETAILED INFORMATION AND ASSISTANCE RELATIVE TO THE LOCATION OF THEIR FACILITIES AND THE WORKING SCHEDULE OF THE COMPANIES FOR REMOVAL OR ADJUSTMENT WHERE REQUIRED. IN THE EVENT AN UNEXPECTED UTILITY INTERFERENCE IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY COMPANY OF JURISDICTION. THE OWNER'S REPRESENTATIVE AND/OR THE RESIDENT ENGINEER SHALL ALSO BE IMMEDIATELY NOTIFIED. ANY DAMAGE TO SUCH MAINS AND SERVICES SHALL BE RESTORED TO SERVICE AT ONCE AND PAID FOR BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT. ALL UTILITY CABLES AND LINES SHALL BE LOCATED BY THE RESPECTIVE UTILITY.

CONTACT JULIE (JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS) FOR UTILITY INFORMATION, PHONE: 1-800-892-0123. 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. ALSO CONTACT AIRPORT DIRECTOR/MANAGER AND AIRPORT PERSONNEL FOR ASSISTANCE IN LOCATING UNDERGROUND AIRPORT CABLES AND/OR UTILITIES. ALSO COORDINATE WORK WITH ALL ABOVEGROUND UTILITIES.



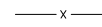
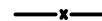
10' CLASS E FENCE NOTES:

THE PROPOSED CLASS E FENCE WILL BE 10' IN HEIGHT WITH THREE STRANDS OF BARBED WIRE.

A TOP RAIL WILL BE REQUIRED FOR ALL OF THE 10' CLASS E FENCE.

THE PROPOSED CLASS E FENCE WILL BE INSTALLED AT THE LOCATIONS SHOWN ON THE FOLLOWING PROPOSED FENCING PLANS AND IN ACCORDANCE WITH THE DETAILS AS SHOWN IN THESE CONSTRUCTION PLANS.

LEGEND

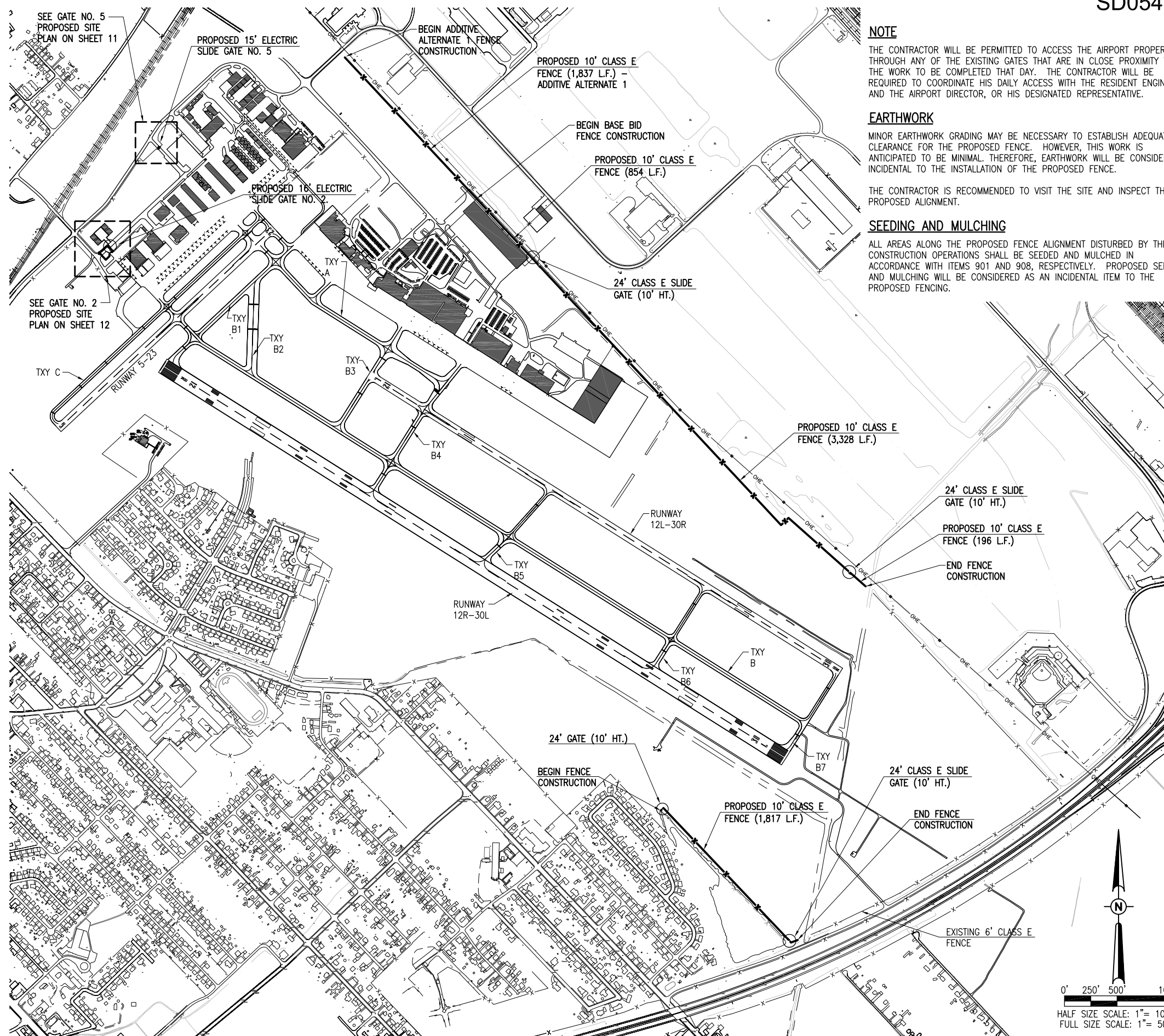
-  EXISTING IMPROVEMENTS
-  EXISTING BUILDINGS
-  EXISTING FENCE
-  PROPOSED FENCE

BASE BID FENCE QUANTITY SCHEDULE

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
AR162224	CLASS E MANUAL SLIDE GATE-24'	EACH	3
AR162510	CLASS E FENCE 10'	L.F.	6,209
AR162624	CLASS E GATE-24'	EACH	1
AR162715	ELECTRIC GATE - 15'	EACH	1
AR162716	ELECTRIC GATE - 16'	EACH	1

ADDITIVE ALTERNATE 1 FENCE QUANTITY SCHEDULE

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
AS162510	CLASS E FENCE 10'	L.F.	1,837



NOTE

THE CONTRACTOR WILL BE PERMITTED TO ACCESS THE AIRPORT PROPERTY THROUGH ANY OF THE EXISTING GATES THAT ARE IN CLOSE PROXIMITY TO THE WORK TO BE COMPLETED THAT DAY. THE CONTRACTOR WILL BE REQUIRED TO COORDINATE HIS DAILY ACCESS WITH THE RESIDENT ENGINEER AND THE AIRPORT DIRECTOR, OR HIS DESIGNATED REPRESENTATIVE.

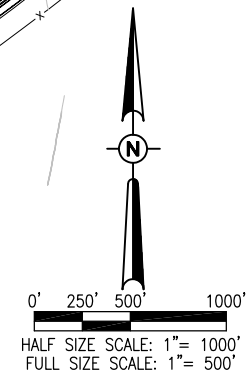
EARTHWORK

MINOR EARTHWORK GRADING MAY BE NECESSARY TO ESTABLISH ADEQUATE CLEARANCE FOR THE PROPOSED FENCE. HOWEVER, THIS WORK IS ANTICIPATED TO BE MINIMAL. THEREFORE, EARTHWORK WILL BE CONSIDERED INCIDENTAL TO THE INSTALLATION OF THE PROPOSED FENCE.

THE CONTRACTOR IS RECOMMENDED TO VISIT THE SITE AND INSPECT THE PROPOSED ALIGNMENT.

SEEDING AND MULCHING

ALL AREAS ALONG THE PROPOSED FENCE ALIGNMENT DISTURBED BY THE CONSTRUCTION OPERATIONS SHALL BE SEEDED AND MULCHED IN ACCORDANCE WITH ITEMS 901 AND 908, RESPECTIVELY. PROPOSED SEEDING AND MULCHING WILL BE CONSIDERED AS AN INCIDENTAL ITEM TO THE PROPOSED FENCING.



BY	DATE	REVISION

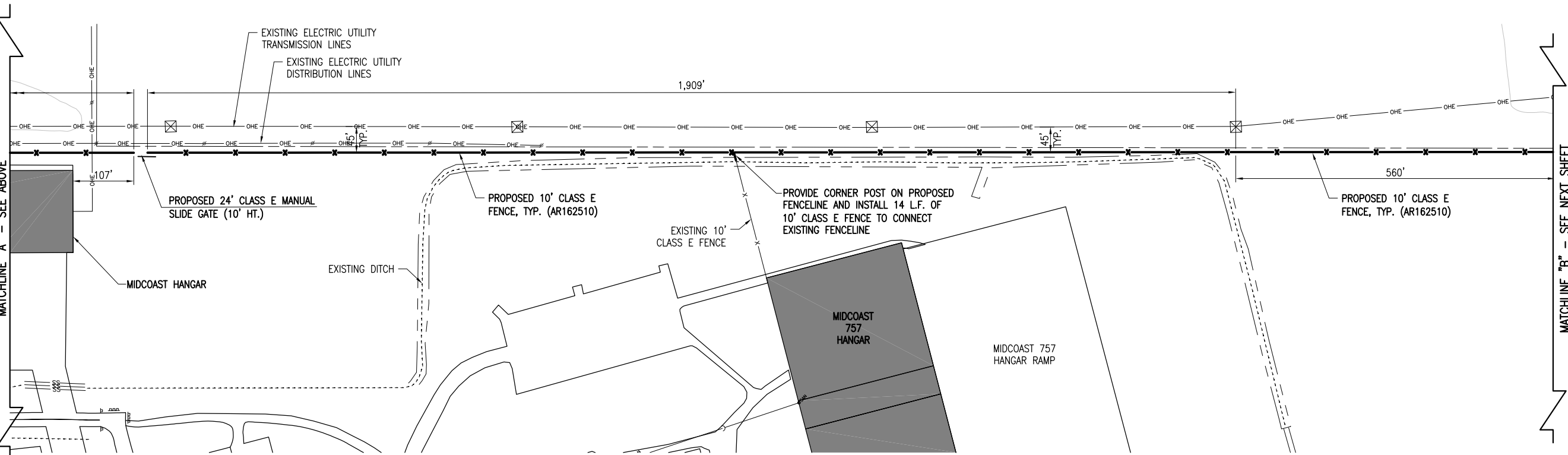
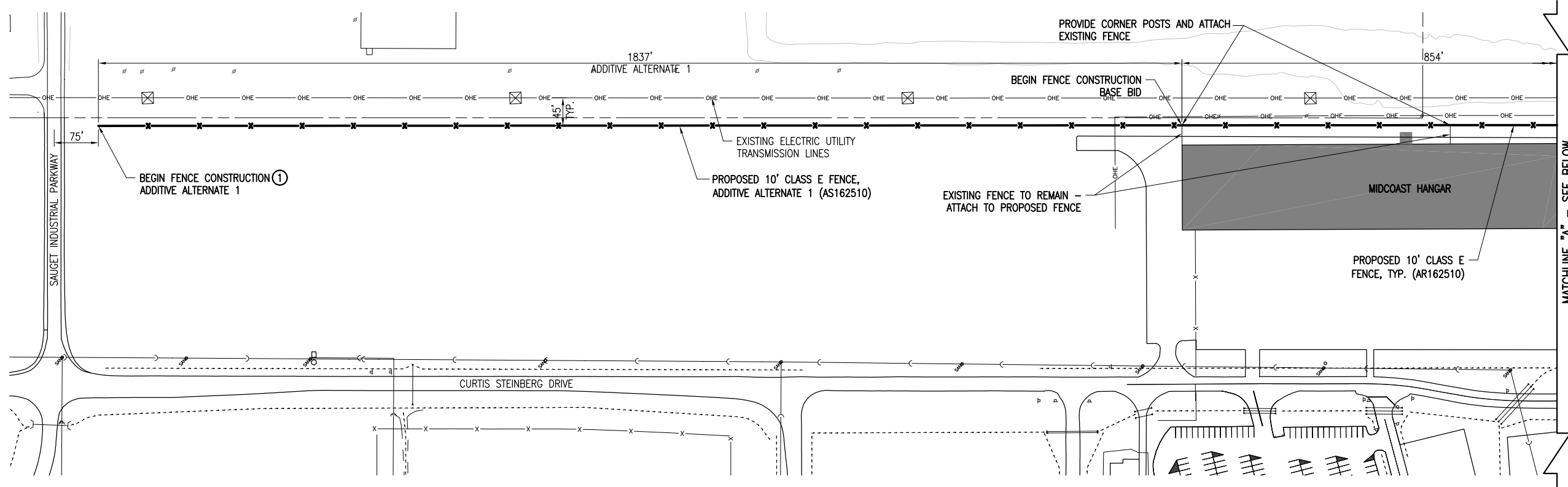
SAINT LOUIS DOWNTOWN AIRPORT
A Division of Missouri State Development Agency
ILL. PROJ.: CPS-3988
A.L.P. PROJ.: 3-17-0039-B25

Hanson Project No.	08A0212D_0800
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CONSTRUCT PERIMETER FENCE
PROPOSED FENCING PLAN OVERVIEW

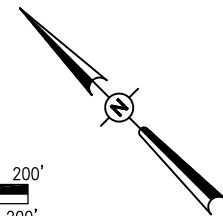
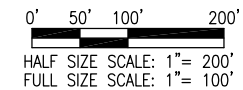
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8 of 24 sheets



NOTE: PROPOSED FENCE COORDINATES SHOWN IN TABLE - SHEET 10.

LEGEND

- EXISTING IMPROVEMENTS
- EXISTING BUILDINGS
- EXISTING PROPERTY LINE
- EXISTING FENCE
- PROPOSED FENCE



DATE	REVISION	BY

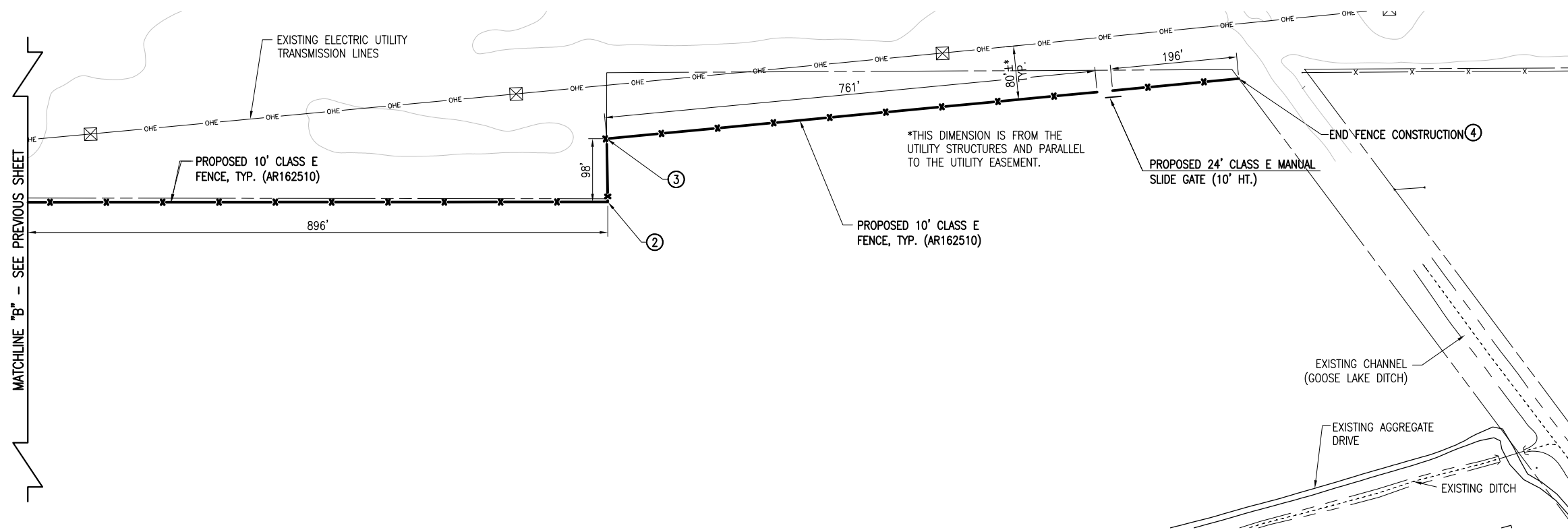
SAINT LOUIS DOWNTOWN AIRPORT
 A Division of Missouri State Development Agency
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Hanson Project No.	08A0212D_0800
Filename	R-175FEN.DWG
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CONSTRUCT PERIMETER FENCE

PROPOSED FENCING PLAN SHEET 1



PROPOSED FENCE COORDINATES		
CORNER NO.	NORTHING	EASTING
1	697422.03	2298772.85
2	692976.15	2302920.58
3	693043.89	2302990.90
4	692393.07	2303724.34
5	690261.56	2301776.83
6	690285.67	2301802.21
7	689007.88	2303015.76
8	689032.09	2303078.91

MATCHLINE "B" - SEE PREVIOUS SHEET

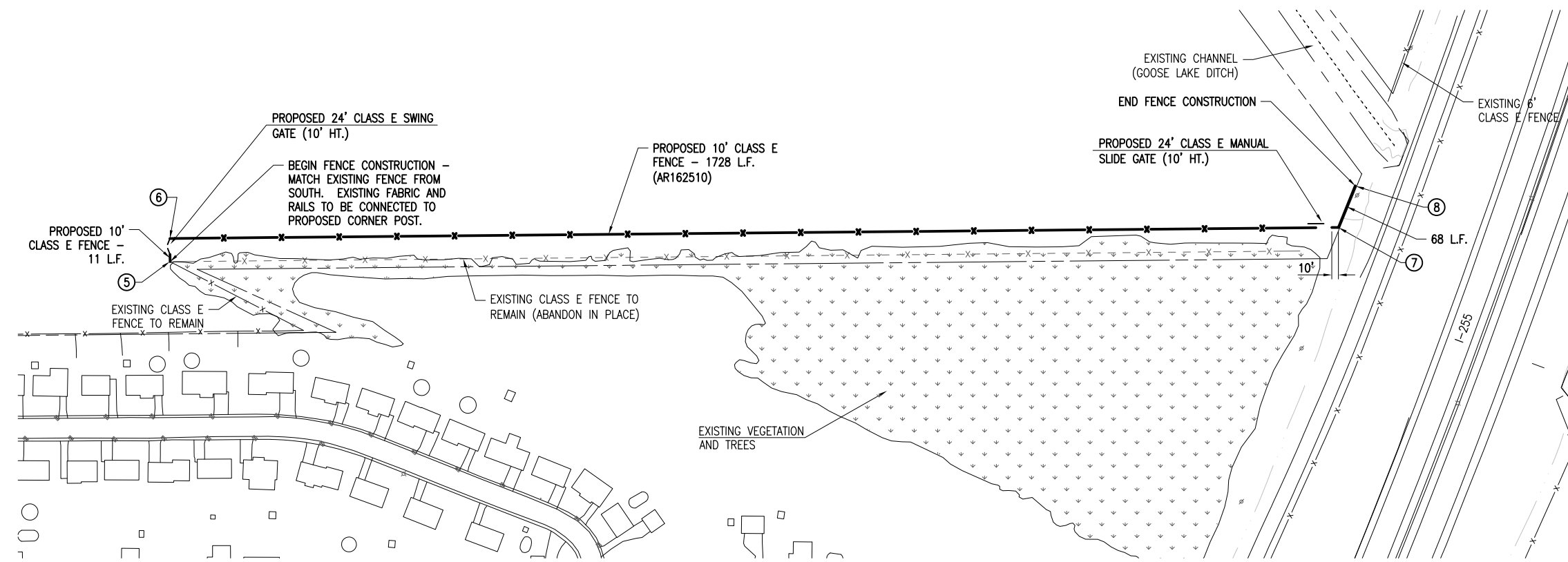
BY

REVISION

DATE

SAINT LOUIS DOWNTOWN AIRPORT
A Division of Missouri State Development Agency
A.I.P. PROJ.: 3-17-0039-B25

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LEGEND

- EXISTING IMPROVEMENTS
- EXISTING BUILDINGS
- EXISTING PROPERTY LINE
- EXISTING FENCE
- PROPOSED FENCE
- FENCE TO BE ABANDONED

0' 50' 100' 200'

HALF SIZE SCALE: 1" = 200'

FULL SIZE SCALE: 1" = 100'

Hanson Project No. 08A0212D_0800

Filename R-175FEN.DWG

Scale 1" = 100'

Date 05/27/11

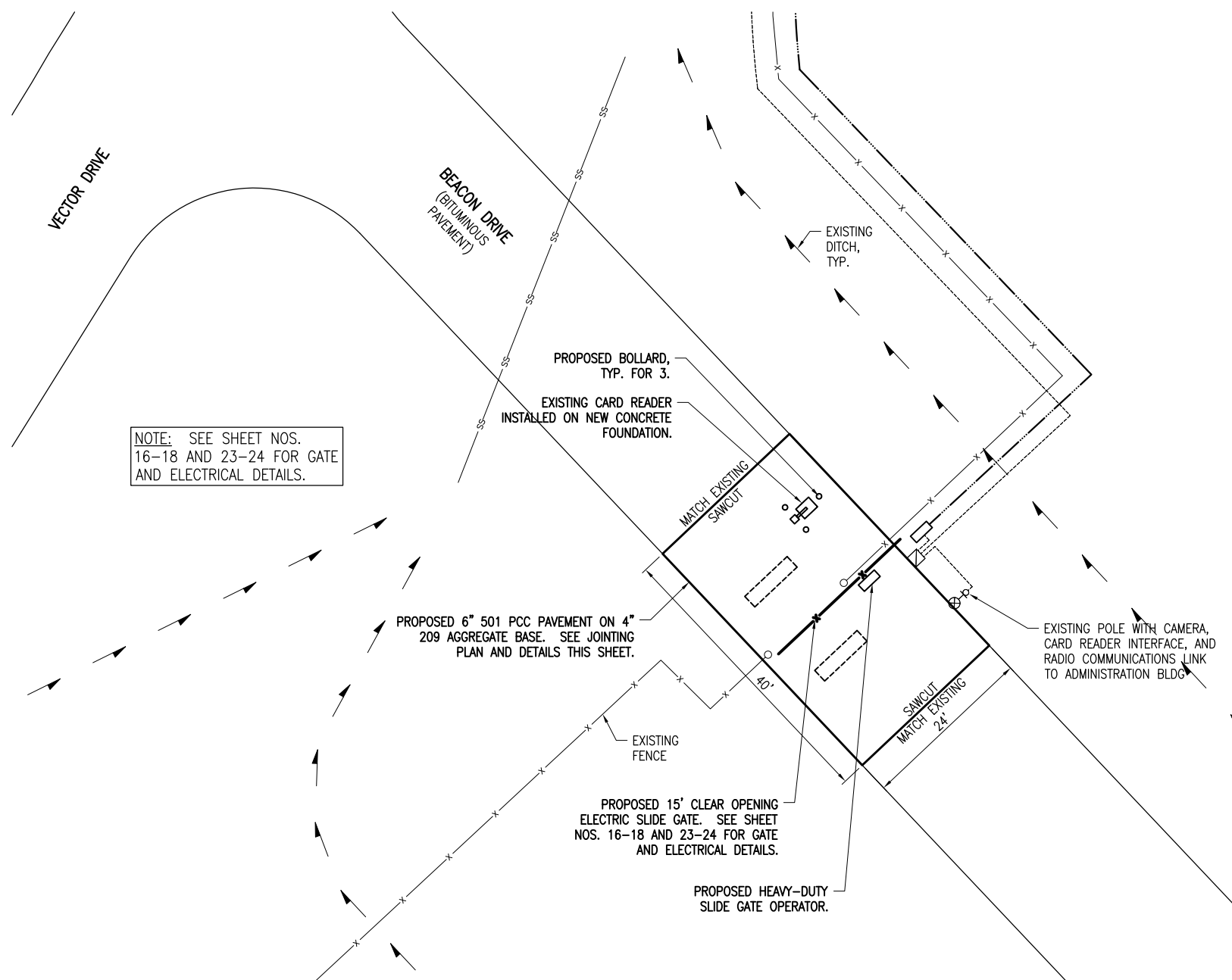
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REVIEWED	RAW/KNL	05/22/11

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CONSTRUCT PERIMETER FENCE

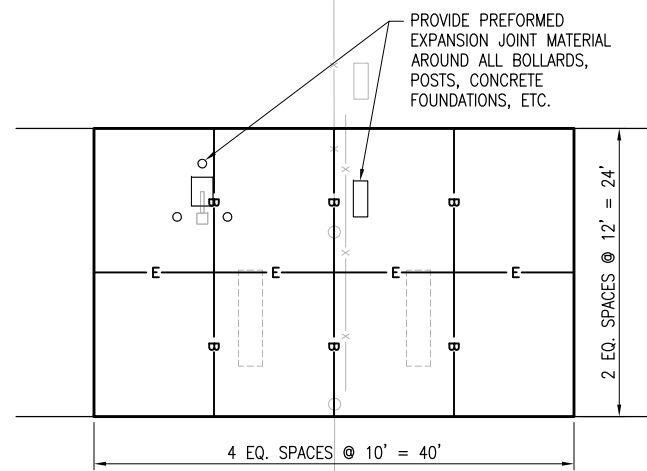
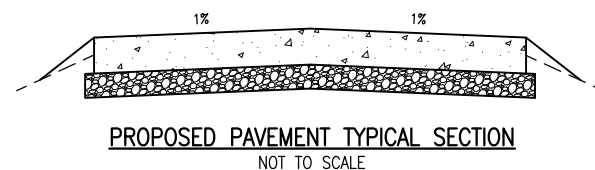
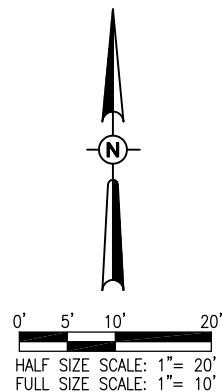
PROPOSED FENCING PLAN SHEET 2

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 I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0212D\CADD\AIRPORT\SHEET\R-176FEN.DWG - Gate 5 Site Plan



GATE NO. 5 PROPOSED SITE PLAN
 SCALE: 1"=10'

- LEGEND**
- EXISTING PAVEMENT
 - EXISTING BUILDING
 - PROPOSED PAVEMENT
 - EXISTING ELECTRICAL CABLES
 - EXISTING FENCE
 - PROPOSED FENCE/GATE
 - EXISTING HANDHOLE
 - GATE OPERATOR
 - CARD READER WITH BOLLARDS
 - EXISTING MANHOLE
 - UTILITY POLE
 - EXISTING POLE LIGHT



PROPOSED PAVEMENT JOINTING PLAN

- TYPE B HINGED CONTRACTION JOINT
- TYPE E TIED CONSTRUCTION JOINT

JOINTING NOTES

ALL EXPOSED JOINT EDGES SHALL BE EDGED WITH AN APPROVED TOOL HAVING A RADIUS OF 1/4" OR STONED TO PRODUCE THE 1/8" CHAMFER.

ALL LONGITUDINAL AND TRANSVERSE CONTRACTION AND CONSTRUCTION JOINTS SHALL BE SAWED.

ALL TIE-BARS SHALL BE SECURELY HELD IN PLACE BY SUPPORT PINS OR OTHER METHODS TO PREVENT SHIFTING DURING AND AFTER CONCRETE PLACEMENT. SUPPORT PINS SHALL BE OF SUFFICIENT LENGTH TO PENETRATE AT LEAST 6" INTO THE SUBGRADE.

ALL TIE-BARS SHALL BE PLACED AT A POINT NOT EXCEEDING 15" OR CLOSER THAN 6" FROM A TRANSVERSE, CONTRACTION, EXPANSION, OR CONSTRUCTION JOINT AND SPACED 30" ON CENTERS AND SHALL BE NO. 4 DEFORMED BARS, 30" IN LENGTH.

ALLOWABLE TOLERANCES FOR GROOVE DEPTH WILL BE +1/8" FOR CONSTRUCTION JOINTS AND +1/4" FOR CONTRACTION JOINTS.

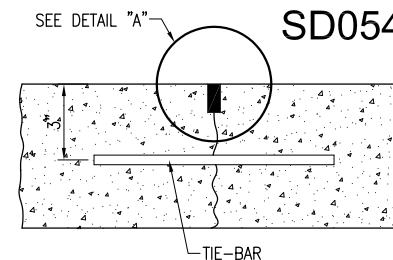
THE COST OF ALL, TIE-BARS, CURING COMPOUND, SAWING AND SEALING SHALL BE INCLUDED IN THE COST OF THE P.C.C. PAVEMENT.

PRIOR TO PLACING ADJACENT PAVEMENT SECTIONS, THE VERTICAL EDGE SHALL BE CHECKED FOR TRUENESS IF THE FACE IS BURRED OR IRREGULAR, THE CONTRACTOR SHALL GRIND, STONE OR SAW THE FACE A MINIMUM OF 2" IN DEPTH TO PRODUCE A SMOOTH AND STRAIGHT EDGE.

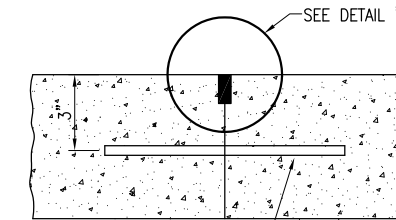
JOINT SEALANT SHALL BE AS REQUIRED IN THE SPECIFICATIONS ITEM 605.

CURING COMPOUND WILL BE AS REQUIRED IN THE SPECIFICATIONS, ITEM 501-3.17 AND SHALL BE APPROVED PRIOR TO THE PAVING OPERATION BY THE ENGINEER.

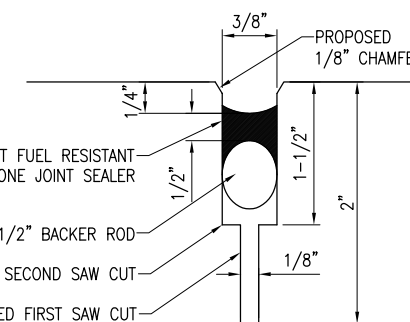
ALL NON-ALIGNED EDGES WILL BE SAWED FULL DEPTH.



TYPE B HINGED CONTRACTION JOINT



TYPE E - TIED CONSTRUCTION JOINT



DETAIL "A"
 "NOT TO SCALE"

- PROPOSED JET FUEL RESISTANT SILICONE JOINT SEALER
- PROPOSED 1/2" BACKER ROD
- PROPOSED SECOND SAW CUT
- PROPOSED FIRST SAW CUT

NOTES:

1. FOLLOWING THE BITUMINOUS PAVEMENT REMOVAL, THE SUBGRADE WILL BE EXCAVATED TO THE DEPTH NECESSARY TO ACCOMMODATE THE PROPOSED PAVEMENT SECTION AND COMPACTED TO THE SATISFACTION OF THE RESIDENT ENGINEER, PRIOR TO THE PLACEMENT OF THE AGGREGATE BASE. THE EXCAVATION SHALL BE CONSIDERED INCIDENTAL TO THE PAVEMENT REMOVAL AND NO ADDITIONAL COMPENSATION ALLOWED.
2. PCC SHALL BE CONSTRUCTED IN ACCORDANCE WITH ITEM 610.

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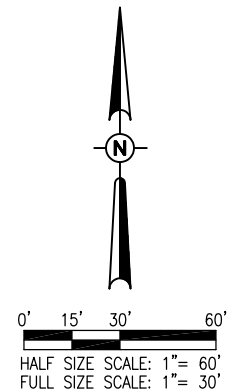
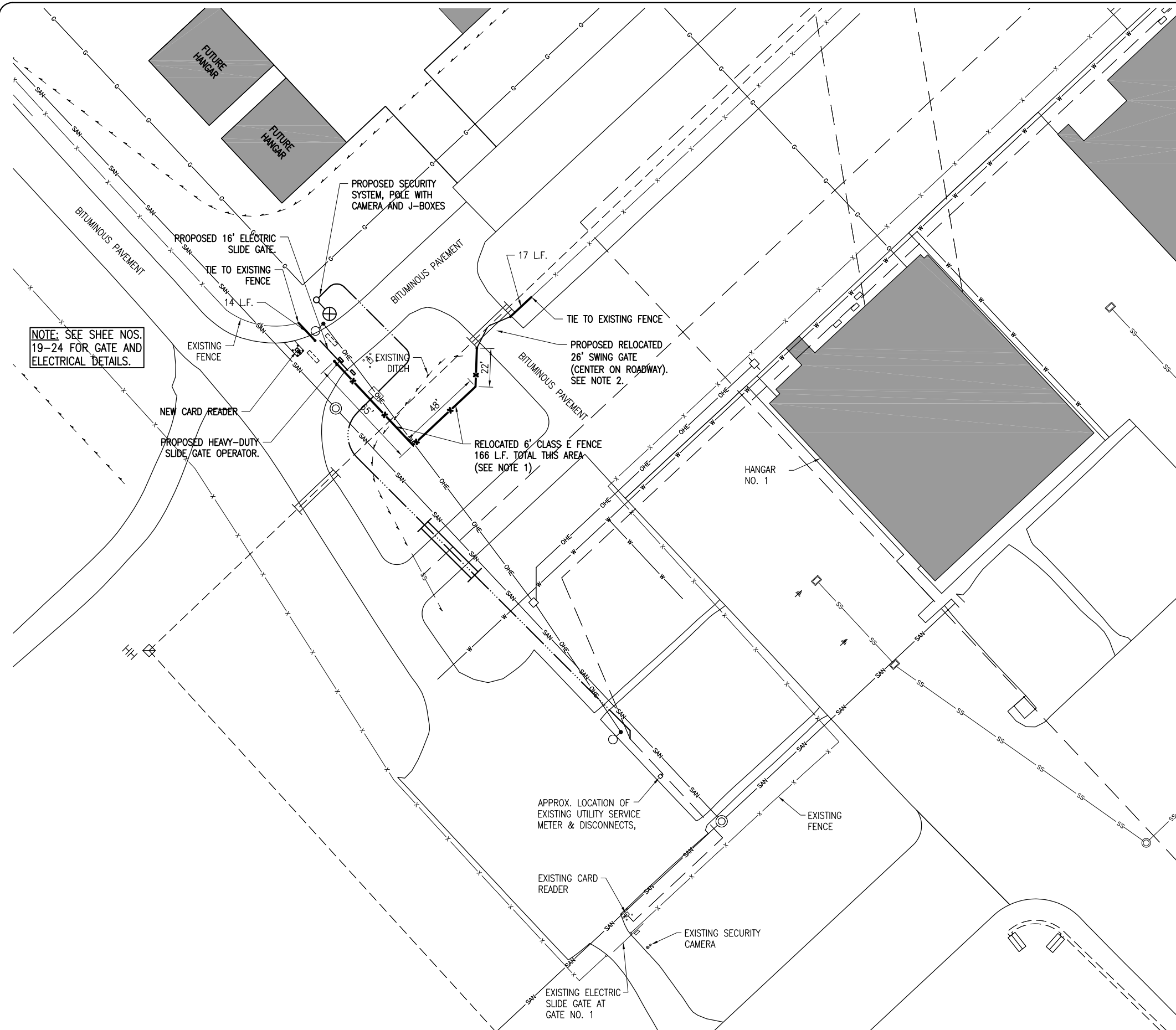
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CONSTRUCT PERIMETER FENCE
 GATE NO. 5
 PROPOSED SITE PLAN
 AND DETAILS

NOTES:

1. THE QUANTITY OF FENCE SHOWN TO BE RELOCATED IS GREATER THAN THE AMOUNT THAT EXISTS AT THIS LOCATION. THE CONTRACTOR SHALL SALVAGE FENCE FABRIC FROM OTHER REMOVAL LOCATIONS TO OBTAIN THE QUANTITY NEEDED TO CONSTRUCT THE FENCE AS SHOWN. NEW POSTS WILL BE REQUIRED. THE NEW POSTS, RELOCATION OF THE FABRIC AND ALL INCIDENTALS TO ENSURE A COMPLETE FENCE INSTALLATION SHALL BE INCIDENTAL TO ITEM AR162960 RELOCATE CLASS E FENCE, AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
2. NEW GATE POSTS SHALL BE REQUIRED TO RELOCATE THE EXISTING 26' SWING GATE. ALL MATERIALS, EQUIPMENT AND LABOR SHALL BE INCLUDED IN ITEM AR162964 AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.

NOTE: SEE SHEE NOS. 19-24 FOR GATE AND ELECTRICAL DETAILS.



LEGEND

- EXISTING PAVEMENT
- EXISTING BUILDING
- EXISTING OVERHEAD ELECTRICAL LINE
- EXISTING UNDERDRAIN
- EXISTING STORM SEWER
- EXISTING SANITARY SEWER
- EXISTING WATER LINE
- EXISTING TELEPHONE LINE
- EXISTING GAS LINE
- EXISTING FENCE
- PROPOSED FENCE
- EXISTING HANDHOLE
- GATE OPERATOR
- CARD READER WITH BOLLARDS
- EXISTING MANHOLE
- UTILITY POLE
- EXISTING POLE LIGHT

GATE NO. 2 PROPOSED SITE PLAN
SCALE: 1"=30'

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DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
A Division of Missouri State Development Agency
ILL. PROJ.: CFS-3988
A.I.P. PROJ.: 3-17-0039-B25

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CONSTRUCT PERIMETER FENCE
GATE NO. 2
PROPOSED SITE PLAN

GENERAL NOTES

FABRIC - THE FABRIC MAY BE WOVEN WITH EITHER ZINC COATED STEEL WIRE OR ALUMINUM-ALLOY WIRE IN A 2-INCH MESH. COATED WIRE AND ALUMINUM-ALLOY SHALL HAVE A DIAMETER OF 0.148 INCHES. THE FABRIC SHALL MEET THE FOLLOWING REQUIREMENTS: (1) ZINC-COATED STEEL FABRIC SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 181, TYPE 1, CLASS D. (2) ALUMINUM-COATED STEEL FABRIC SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 181 TYPE II. THE UNIT WEIGHT OF THE COATING SHALL BE DETERMINED IN ACCORDANCE WITH AASHTO T 213. THE ALUMINUM-COATED STEEL FABRIC SHALL BE GIVEN A CLEAR ORGANIC COATING AFTER FABRICATION. (3) ALUMINUM-ALLOY FABRIC SHALL BE MADE FROM WIRE CONFORMING TO THE REQUIREMENTS OF AASHTO M 181 TYPE III.

METAL POSTS - METAL POSTS (LINE, CORNER, END, PULL AND GATE POSTS) SHALL BE THE SHAPES, DIMENSIONS, AND WEIGHT SHOWN IN THE TABLES. (1) STEEL PIPE, TYPE A, SHALL BE HOT-DIPPED GALVANIZED CONFORMING TO THE REQUIREMENTS OF ASTM F 1083. (2) STEEL PIPE, TYPE B, SHALL BE MANUFACTURED FROM COLD ROLLED ELECTRIC RESISTANCE WELDED, HEATED AND TEMPERED STEEL. THE STEEL STRIP USED IN THE MANUFACTURE OF THE PIPE SHALL CONFORM TO ASTM A 569 OR ASTM A 607. THE WALL THICKNESS SHALL NOT BE LESS THAN THAT SHOWN IN THE TABLE. THE PRODUCT OF THE YIELD STRENGTH AND SECTION MODULUS OF THE PIPE SHALL NOT BE LESS THAN THAT OF THE PIPE MEETING THE REQUIREMENTS OF ASTM F 1083. (3) STEEL PIPE, TYPE C, SHALL BE MANUFACTURED BY ROLLED FORMING ALUMINIZED STEEL TYPE 2 STRIP AND ELECTRIC RESISTANCE WELDING INTO TUBULAR FORM. THE OUTSIDE OF THE WELD AREA SHALL BE METALLIZED WITH COMMERCIAL PURE ALUMINUM TO A THICKNESS SUFFICIENT TO PROVIDE RESISTANCE TO CORROSION EQUAL TO THAT OF THE REMAINDER OF THE TUBE. THE ALUMINUM COATING WEIGHT SHALL BE A MINIMUM OF 0.75 OUNCES PER SQUARE FOOT, TRIPLE SPOT TEST, 0.70 OUNCES PER SQUARE FOOT SINGLE SPOT TEST, AS MEASURED IN ACCORDANCE WITH ASTM A 428. THE STEEL STRIP USED IN THE MANUFACTURE OF THE PIPE SHALL CONFORM TO ASTM A 787 TYPE 1 AND SHALL HAVE A MINIMUM YIELD STRENGTH OF 50,000 P.S.I. THE WEIGHT OF THE PIPE SHALL NOT BE LESS THAN THAT SHOWN ON THE PLANS AND THE PRODUCT OF THE YIELD STRENGTH AND SECTION MODULUS OF THE PIPE SHALL NOT BE LESS THAN THAT OF PIPE MEETING THE REQUIREMENTS OF ASTM A 120. (4) STRUCTURAL SHAPES SHALL BE FABRICATED FROM STEEL CONFORMING TO THE REQUIREMENTS OF AASHTO M 281, GRADES A OR B. ROLLED FORMED SECTIONS SHALL BE FABRICATED FROM STEEL CONFORMING TO THE REQUIREMENTS OF ASTM A 570, GRADES 36 THRU 50, WITH A MAXIMUM TENSILE STRENGTH OF 80,000 POUNDS PER SQUARE INCH. ALL STRUCTURAL SHAPES AND ROLLED FORMED SECTIONS SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M 111, USING ZINC OF ANY GRADE CONFORMING TO THE REQUIREMENTS OF AASHTO M 120. THE ZINC COATING SHALL BE NOT LESS THAN 2.0 OUNCES PER SQUARE FOOT OF SURFACE. (5) SQUARE HOLLOW STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A 500, GRADE B OR ASTM A 501. THE TUBING SHALL BE GALVANIZED INSIDE AND OUTSIDE IN ACCORDANCE WITH AASHTO M 111, USING ZINC OF ANY GRADE CONFORMING TO THE REQUIREMENT OF AASHTO M 120. THE ZINC COATING SHALL NOT BE LESS THAN 2.0 OUNCES PER SQUARE FOOT OF SURFACE.

TOP RAILS - THE TOP RAILS SHALL BE 1.625 INCH O.D., GALVANIZED OR ALUMINUM COATED PIPE HAVING A MINIMUM BENDING STRENGTH OF 202 LBS. AT THE CENTER OF A 10 FT. SPAN.

BOTTOM TENSION WIRE - THE BOTTOM TENSION WIRE SHALL BE #9 GAUGE GALVANIZED STEEL WIRE MEETING THE REQUIREMENTS OF AASHTO M 181, THE WIRE SHALL BE STRETCHED TIGHT WITH GALVANIZED TURNBUCKLES SPACED AT INTERVALS NOT MORE THAN 1,000 FEET. THE ZINC COATING SHALL BE NOT LESS THAN 12 OUNCES PER SQUARE FOOT OF SURFACE.

HORIZONTAL BRACES - THE BRACES SHALL BE "STANDARD WEIGHT" GALVANIZED STEEL PIPE MEETING THE SPECIFICATIONS FOR LINE POSTS AND SHALL BE THE SAME DIMENSIONS AND WEIGHT AS REQUIRED FOR THE TOP RAIL.

TRUSS RODS - THE TRUSS RODS SHALL BE 3/8" ROUND GALVANIZED STEEL ROD WITH GALVANIZED TURNBUCKLES. THE ZINC COATING SHALL BE NOT LESS THAN 1.2 OUNCES PER SQUARE FOOT OF SURFACE.

GATE - THE GATE TYPE AND SIZE SHALL CONFORM TO THE DETAILS SHOWN ON THE PLANS AND AS PROVIDED IN THE SPECIAL PROVISIONS.

POST TOPS - THE POST TOPS SHALL BE STEEL OR MALLEABLE IRON OR WROUGHT IRON OR APPROVED TYPE AND SHALL BE GALVANIZED. THE ZINC COATING SHALL BE NOT LESS THAN 1.2 OUNCES PER SQUARE FOOT OF SURFACE.

STRETCHER BARS - THE STRETCHER BARS SHALL BE FLAT GALVANIZED STEEL BARS NOT LESS THAN 1/4" X 3/4" AND THE STRETCHER BAR BANDS SHALL BE FLAT GALVANIZED STEEL BARS NOT LESS THAN 1/8" X 1" WITH A 3/8" DIAMETER GALVANIZED CARRIAGE BOLT. THE ZINC COATING SHALL BE NOT LESS THAN 1.2 OUNCES PER SQUARE FOOT OF SURFACE.

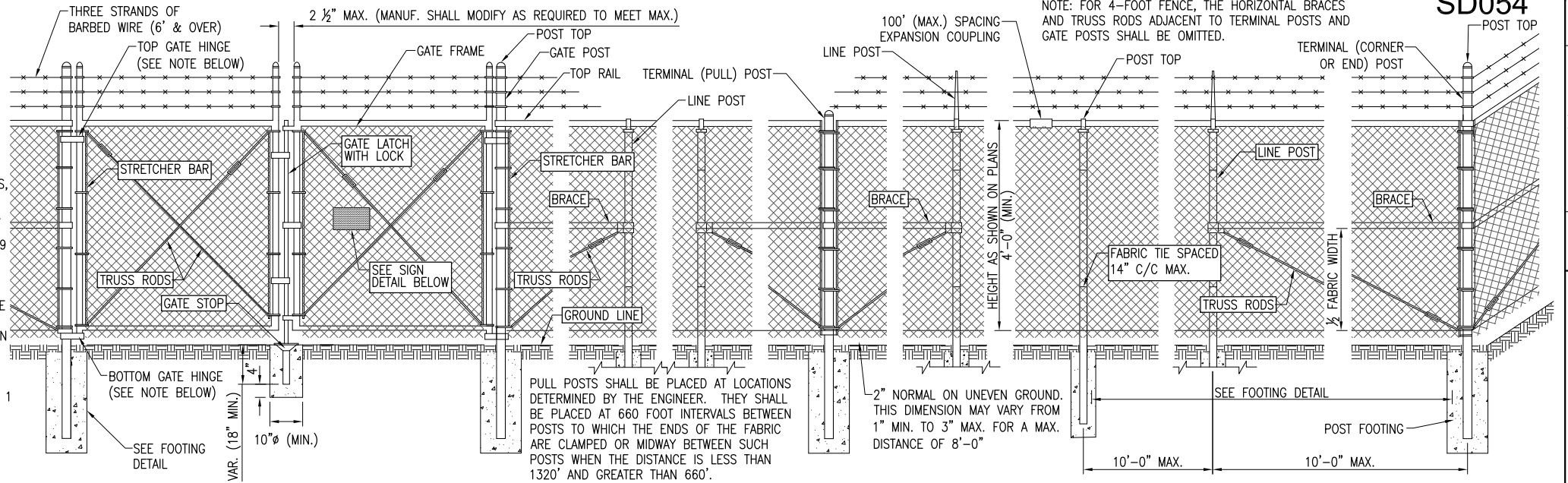
FABRIC TIES - THE FABRIC TIES SHALL BE HOG RINGS, OR ALUMINUM WIRE, OR GALVANIZED STEEL WIRE NOT LESS THAN #9 GAUGE. THE ZINC COATING SHALL BE NOT LESS THAN 1.2 OUNCES PER SQUARE FOOT OF SURFACE.

FITTINGS - THE PERTINENT FITTINGS FOR FENCE AND GATES SHALL BE STEEL OR MALLEABLE IRON OR WROUGHT IRON OR APPROVED TYPE AND SHALL BE GALVANIZED. THE ZINC COATING SHALL BE NOT LESS THAN 1.2 OUNCES PER SQUARE FOOT OF SURFACE IN ACCORDANCE WITH AASHTO M 232.

STRUCTURAL P.C. CONCRETE - THE STRUCTURAL P.C. CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF ITEM 610 OF THE STANDARD SPECIFICATIONS.

BOLTS AND NUTS - THE BOLTS AND NUTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A 307 AND SHALL BE ZINC COATED IN ACCORDANCE WITH AASHTO M 232 OR M 298, CLASS 50.

BARBED WIRE - BARBED WIRE MAY BE EITHER GALVANIZED STEEL BARBED WIRE OR ALUMINUM-COATED STEEL BARBED WIRE CONSISTING OF 2 STRANDS OF 12 1/2 GAUGE WIRE WITH 4-POINT BARBS OF 14 GAUGE WIRE SPACED 5 INCHES APART CONFORMING TO THE FOLLOWING REQUIREMENTS: (1) GALVANIZED BARBED WIRE SHALL CONFORM TO THE SPECIFICATIONS OF ZINC-COATED (GALVANIZED) STEEL BARBED WIRE, AASHTO M 280, CLASS 3 WITH A MINIMUM COATING OF 0.80 OUNCES PER SQUARE FOOT OF WIRE SURFACE (2) ALUMINUM-COATED STEEL BARBED WIRE SHALL CONFORM TO THE SPECIFICATIONS FOR GALVANIZED STEEL BARBED WIRE, EXCEPT THE WIRE SHALL BE ALUMINUM COATED. THE WIRE SHALL HAVE NOT LESS THAN 0.25 OUNCES OF COATING OF ALUMINUM ALLOY PER SQUARE FOOT OF UNCOATED SURFACE. THE WEIGHT OF THE ALUMINUM ALLOY COATING SHALL BE DETERMINED IN ACCORDANCE WITH AASHTO T 213.

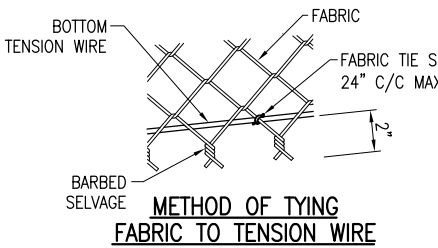
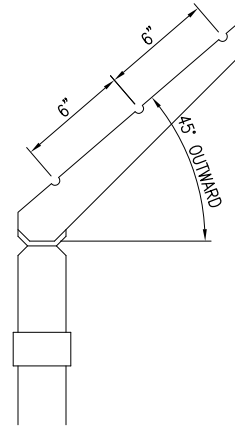


VEHICLE GATE ARRANGEMENT

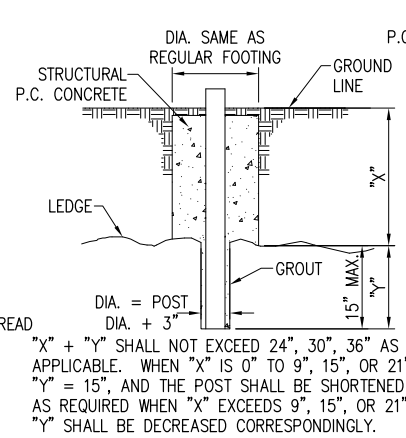
10' FENCE-POST & BRACE TABLE

DESCRIPTION	DIA. - INCH (O.D.)	WT. LBS./FT.
LINE POST	2.875	5.79
TERMINAL POST	4.0	9.11
END POST	4.0	9.11
CORNER POST	4.0	9.11
PULL POST	4.0	9.11
GATE POST	6.625	18.97
TOP RAIL	1.66	2.27

NOTE: TABLE ABOVE IS FOR SCHEDULE 40 PIPE. OTHER MATERIALS ARE ACCEPTABLE, IN ACCORDANCE WITH THE PARAGRAPH AT LEFT, AND SHALL BE OF EQUAL CAPACITY AND STRENGTH TO THAT SHOWN FOR SCHEDULE 40, BUT NOT NECESSARILY OF EQUAL DIMENSION DUE TO THE VARIOUS MATERIAL CHARACTERISTICS.

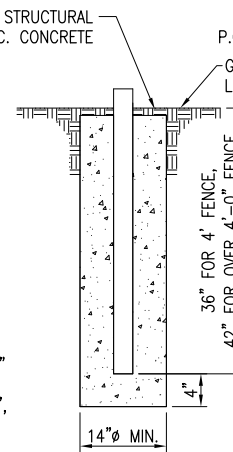


PULL POST ARRANGEMENT



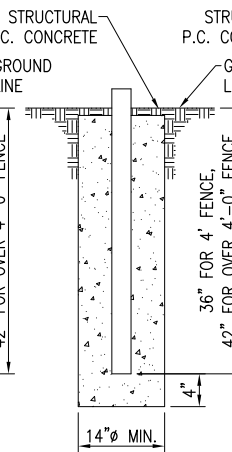
FOOTING FOR POST WHEN ROCK LEDGE IS ENCOUNTERED

LINE POST ARRANGEMENT



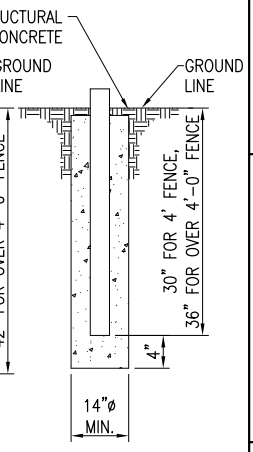
FOOTING FOR TERMINAL POST

CORNER OR END POST ARRANGEMENT



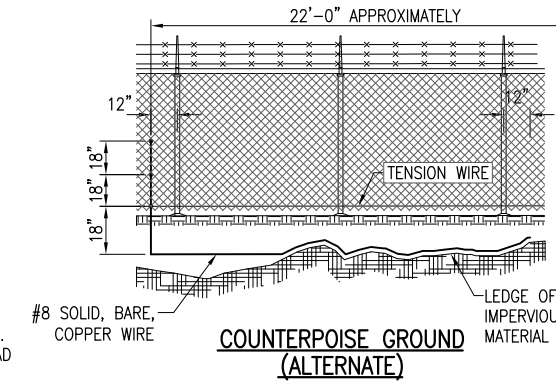
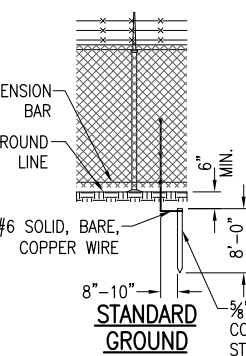
FOOTING FOR GATE POST

CORNER OR END POST ARRANGEMENT



FOOTING FOR LINE POST

DETAIL - BARBED WIRE ARM OF LINE POST

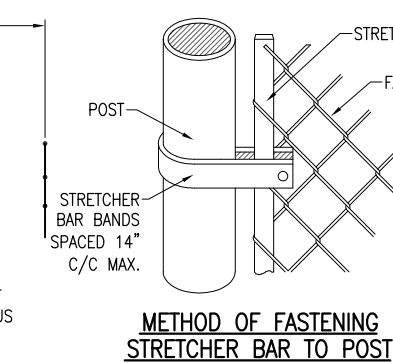


PROTECTIVE ELECTRICAL GROUND

GENERAL NOTE:

CONTINUOUS FENCE SHALL BE GROUNDED AT INTERVALS NOT EXCEEDING 500 FT IN URBAN AREAS AND 1,000 FT IN RURAL AREAS. THERE SHALL BE A GROUND WITHIN 100 FT OF GATES IN EACH SECTION OF THE FENCE ADJACENT TO THE GATE. FENCE UNDER A POWER LINE SHALL BE GROUNDED BY THREE GROUNDS; ONE DIRECTLY UNDER THE CROSSING AND ONE ON EACH SIDE 25 FT TO 50 FT AWAY. A SINGLE GROUND SHALL BE LOCATED DIRECTLY UNDER EACH TELEPHONE WIRE OR CABLE CROSSING. THE COUNTERPOISE GROUND SHALL BE USED ONLY WHERE IT IS IMPOSSIBLE TO DRIVE A GROUND ROD. THE GROUND WIRE SHALL BE CONNECTED TO THE FABRIC AND TENSION WIRE WITH UL LISTED GROUNDING CONNECTORS OF CAST BRONZE BODY AND BRONZE OR STAINLESS STEEL BOLTS AND WASHERS. GROUNDING CONNECTORS SHALL BE SIZED AND SUITABLE FOR THE RESPECTIVE APPLICATION. CONNECTIONS TO GROUND RODS SHALL BE WITH UL LISTED GROUNDING CONNECTORS SUITABLE FOR EXOTHERMIC WELD TYPE CONNECTORS, CADWELD BY ERICO PRODUCTS, INC., DIRECT BURIAL IN EARTH OR SOLON, OHIO, (PHONE 1-800-248-9353), THERMOWELD BY CONTINENTAL INDUSTRIES, INC., TULSA, OKLAHOMA (PHONE 918-663-1440) OR ULTRAWELD BY HARGER, GRAYSLAKE, ILLINOIS (PHONE 1-800-842-7437). EXOTHERMIC WELD CONNECTIONS SHALL BE INSTALLED IN CONFORMANCE WITH THE RESPECTIVE MANUFACTURER'S DIRECTIONS USING MOLDS SUITABLE FOR EACH RESPECTIVE APPLICATION. GROUND RODS SHALL BE 5/8-IN. DIAMETER BY 8 FT LONG (MINIMUM), UL-LISTED, COPPER-CLAD. THE GROUND WIRE USED TO BOND THE FENCE FABRIC AND TENSION WIRE TO THE GROUND ROD SHALL BE #6 AWG BARE SOLID COPPER CONDUCTOR.

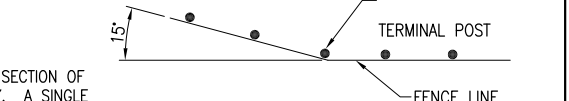
FOOTING FOR POST WHEN ROCK LEDGE IS ENCOUNTERED



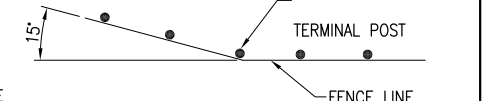
METHOD OF FASTENING STRETCHER BAR TO POST

SIGN DETAIL

NOTE: 0.05 GA. ALUMINUM ALLOY SHEET. LETTERING COLOR SHALL BE RED ON WHITE BACKGROUND. EACH GATE SHALL REQUIRE ONE SIGN. EVERY 100' OF FENCE SHALL REQUIRE ONE SIGN.



METHOD OF TYING FABRIC TO PIPE



WHERE THE FENCE LINE HAS A CHANGE IN DIRECTION OF 15° OR MORE, A TERMINAL POST SHALL BE PLACED AS SHOWN ABOVE. WHERE ANGLE IS LESS THAN 15° AND EXISTING CONDITIONS REQUIRE TERMINAL POST, THEY SHALL BE PLACED AS DIRECTED BY ENGINEER.

JUN 21, 2011 8:16 AM HARR01115
 I:\APPROPTS\ST_LOUIS DOWNTOWN\08A0212D\CADD\AIRPORT\SHEET\R-571FEN.DWG - Layout1

BY	
REVISION	
DATE	

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of Missouri State Development Agency
 A.I.P. PROJ.: 3-17-0039-B25
 I.L. PROJ.: CFS-3988

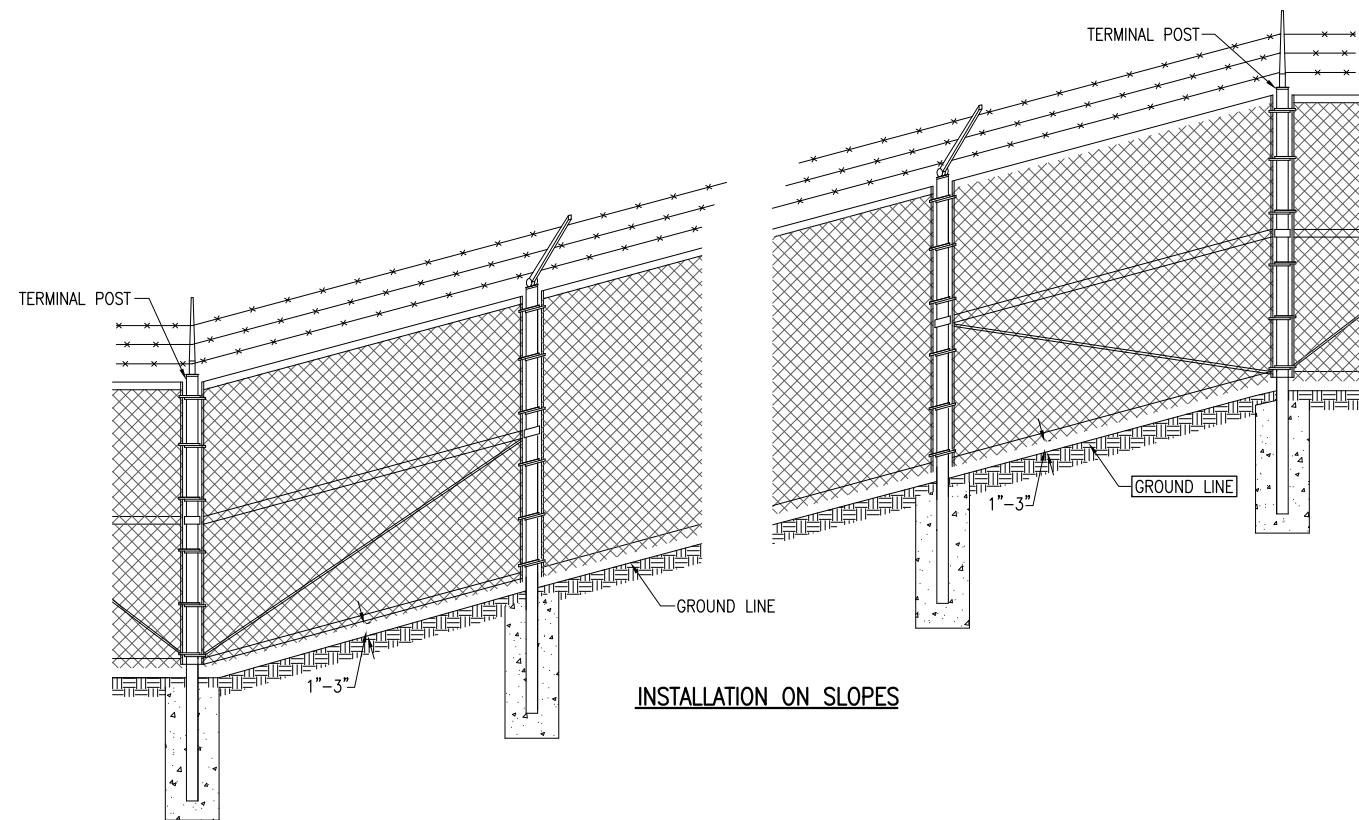
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Filename	R-571FEN.DWG
Scale	NOT TO SCALE
Date	05/27/11
LAYOUT	01/12/09
DRAWN	MLH
REVIEWED	RAW/KNL
	05/21/11
	05/27/11

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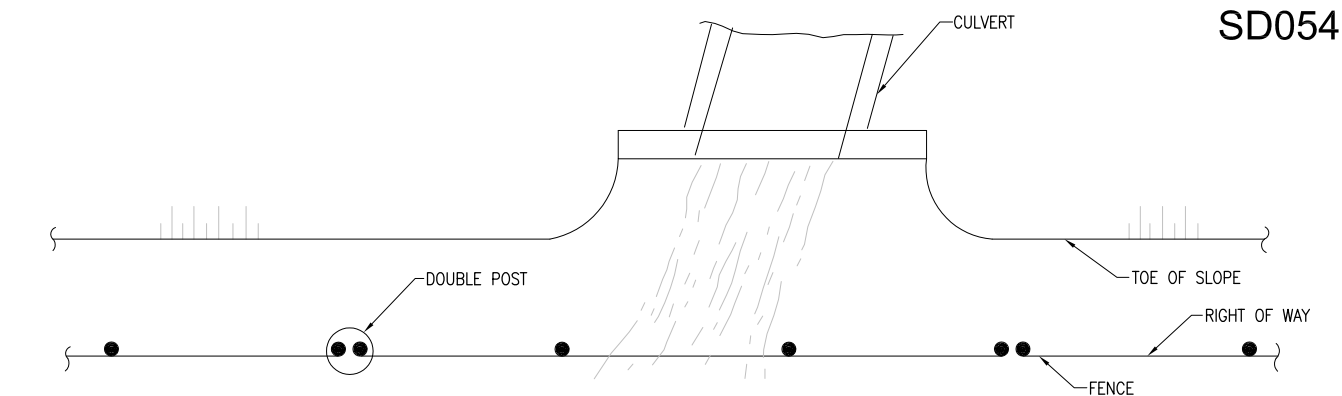
CONSTRUCT PERIMETER FENCE

PROPOSED FENCE DETAILS AND NOTES

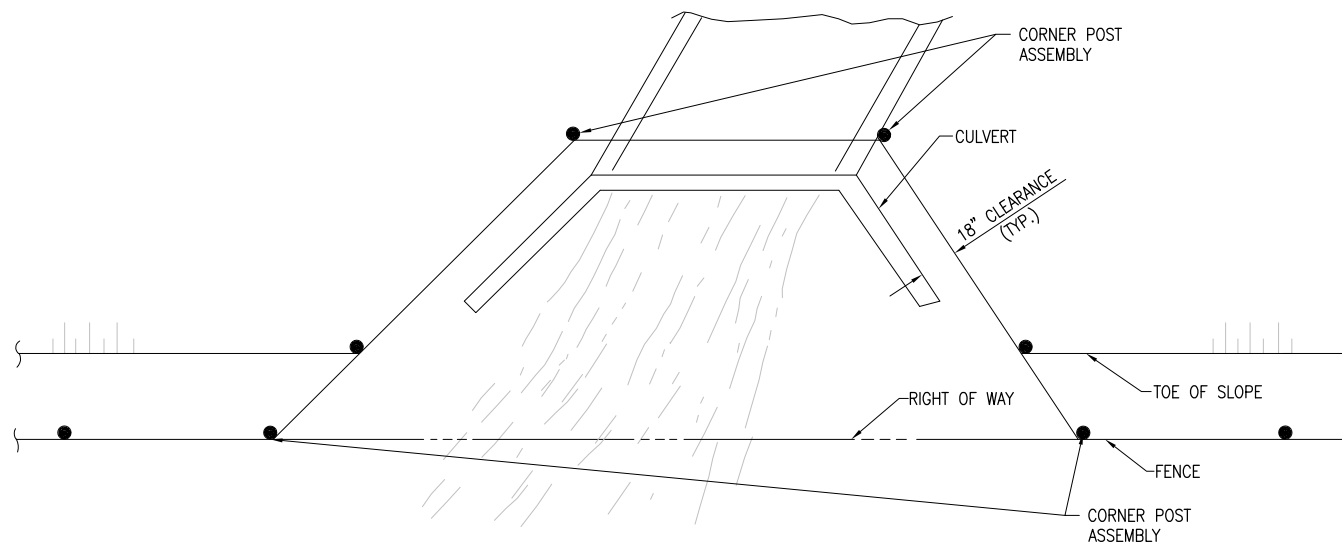
13
 13 of 24 sheets



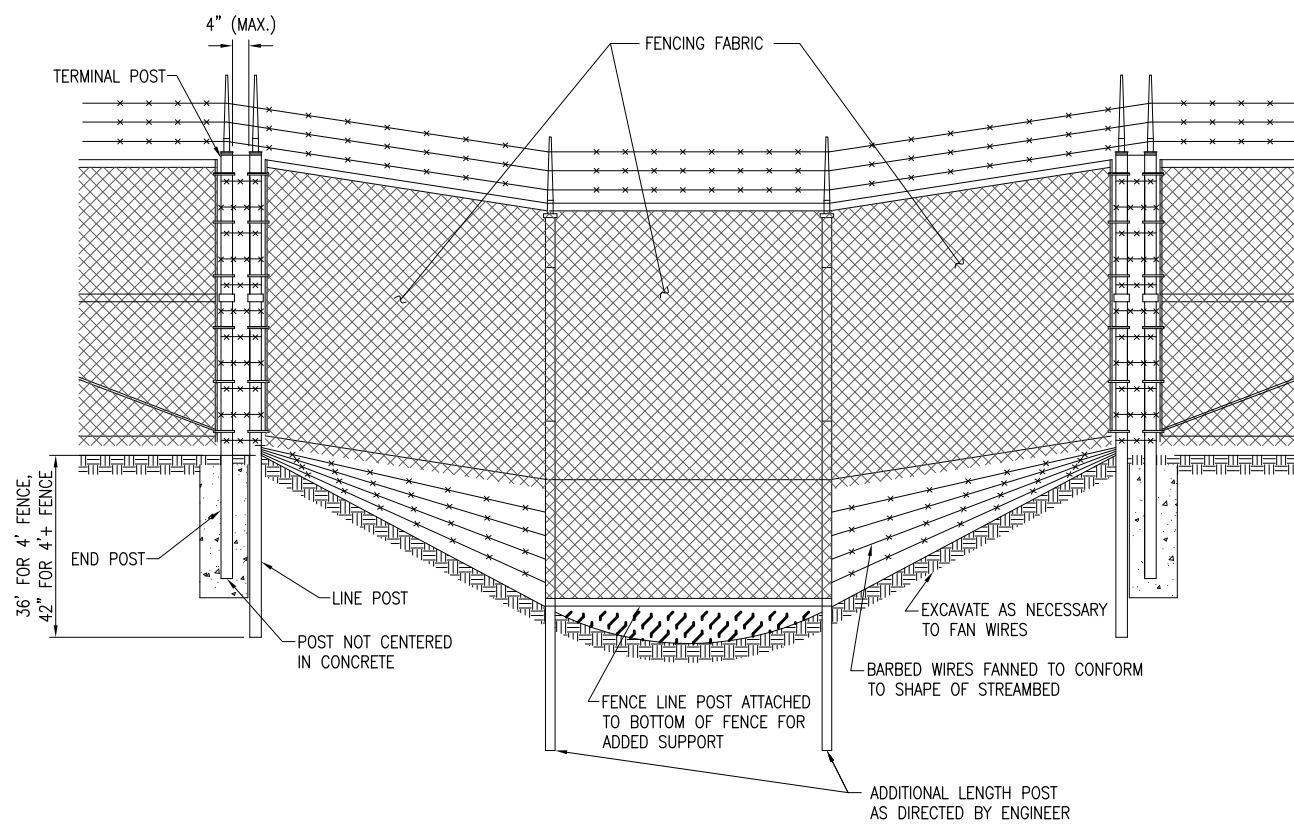
INSTALLATION ON SLOPES



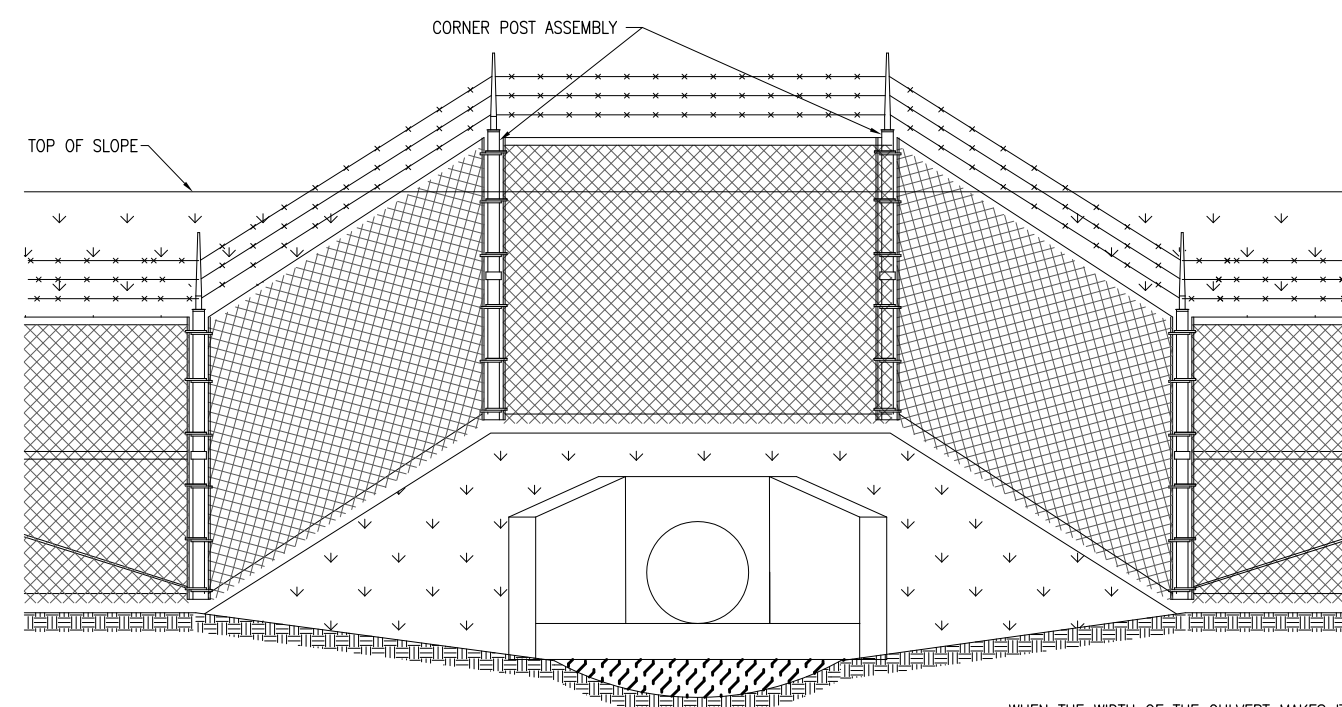
INSTALLATION OVER STREAM (PLAN)



INSTALLATION AROUND HEADWALL (PLAN)



INSTALLATION OVER STREAM (ELEVATION)



INSTALLATION AROUND HEADWALL (ELEVATION)

THE CHAIN LINK FABRIC SHALL BE REPLACED BY BARBED WIRE STRANDS AT 12" MAXIMUM CENTERS BETWEEN THE DOUBLE POST SHOWN.

WHEN THE WIDTH OF THE CULVERT MAKES IT NECESSARY TO ANCHOR A POST TO THE TOP OF THE CULVERT, A CAST IRON SHOE OR OTHER DEVICE APPROVED BY THE ENGINEER SHALL BE USED.

JUN 06, 2011 3:59 PM HARRI01115
 I:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0212D\CADD\AIRPORT\SHEET\R-572FEN.DWG - Layout1

DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of St. Louis Development Agency
 ILL. PROJ.: CPS-3988
 A.I.P. PROJ.: 3-17-0039-B25

Hanson Project No.	08A0212D_0800
Filename	R-572FEN.DWG
Scale	NOT TO SCALE
Date	05/27/11
LAYOUT	RAW 01/12/09
DRAWN	MLH 05/21/11
REVIEWED	RAW/KNL 05/27/11

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CONSTRUCT PERIMETER FENCE
 PROPOSED FENCE DETAILS

ELECTRICAL LEGEND - ONE-LINE DIAGRAM	
	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 POSITION SWITCH
	FUSE
	TRANSIENT VOLTAGE SURGE SUPPRESSOR OR SURGE PROTECTOR DEVICE
	GROUND - GROUND ROD, GROUNDING ELECTRODE, OR AT EARTH POTENTIAL
	INDICATING LIGHT
	MOTOR
	LOAD, MOTOR, # = HORSEPOWER
	ELECTRIC UTILITY METER BASE
	JUNCTION BOX WITH SPLICE OR TERMINALS
	EQUIPMENT, XXX = DEVICE DESCRIPTION
	GROUND BAR, GROUND BUS OR GROUND TERMINAL
	SOLID NEUTRAL, NEUTRAL BUS, OR NEUTRAL TERMINAL
	PANELBOARD WITH MAIN LUGS
	PANELBOARD WITH MAIN BREAKER
	FUSE PANEL WITH MAIN FUSE PULLOUT
	DUPLEX RECEPTACLE 120V SINGLE PHASE GROUNDING TYPE
	CONTROL STATION
	TRANSFER SWITCH: N = NORMAL EM = EMERGENCY L = LOAD
	ENGINE GENERATOR SET

ELECTRICAL LEGEND - PLANS	
	CONDUIT (EXPOSED)
	CONDUIT OR UNIT DUCT (CONCEALED OR BURIED)
	DUCT
	DUCT
	BURIED/UNDERGROUND ELECTRIC
	OVERHEAD ELECTRIC
	TOGGLE SWITCH
	PUSH BUTTON STATION
	WALL OR CEILING MT'D. JUNCTION BOX. CONFIGURATION VARIES WITH USE
	SINGLE THROW DISCONNECT SWITCH
	SINGLE THROW, FUSIBLE DISCONNECT SWITCH
	ENCLOSED CIRCUIT BREAKER
	MOTOR
	TRANSFORMER
	ELECTRIC UTILITY METER
	ENCLOSURE
	CIRCUIT BREAKER PANEL-SEE SCHEDULES
	CONTROL PANEL
	GROUND ROD
	POLE WITH CAMERA

ELECTRICAL ABBREVIATIONS	
A.F.F.	ABOVE FINISHED FLOOR
A, AMP	AMPERES
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BKR	BREAKER
C	CONDUIT
CB	CIRCUIT BREAKER
CKT	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 PROOF
ES	EMERGENCY STOP
ETL	INTERTEK - ELECTRICAL TESTING LABS
ETM	ELAPSE TIME METER
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFI	GROUND FAULT INTERRUPTER
GND	GROUND
GRSC	GALVANIZED RIGID STEEL CONDUIT
HID	HIGH INTENSITY DISCHARGE
HOA	HAND OFF AUTOMATIC
HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
J	JUNCTION BOX
KVA	KILOVOLT AMPERE(S)
KW	KILOWATTS
LC	LIGHTING CONTACTOR
LTFMC	LIQUID TIGHT FLEXIBLE METAL CONDUIT (UL LISTED)
LTG	LIGHTING
LP	LIGHTING PANEL
MAX	MAXIMUM
MCB	MAIN CIRCUIT BREAKER
MCM	THOUSAND CIRCUAR MIL
MDP	MAIN DISTRIBUTION PANEL
MFR	MANUFACTURER
MH	METAL HALIDE
MIN	MINIMUM
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	PRECISION 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


NOTES:

- 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 NOT BE PERMITTED.
- ALL WORK, POWER OUTAGES, AND/OR SHUT DOWN OF EXISTING SYSTEMS SHALL BE COORDINATED WITH THE AIRPORT DIRECTOR/MANAGER. 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).
- COLOR CODE PHASE AND NEUTRAL CONDUCTOR INSULATION FOR NO. 6 AWG OR SMALLER. PROVIDE COLORED INSULATION OR COLORED MARKING TAPE FOR PHASE AND NEUTRAL CONDUCTORS FOR NO. 4 AWG AND LARGER. INSULATED GROUND CONDUCTORS SHALL HAVE GREEN COLORED INSULATION FOR ALL CONDUCTOR AWG AND/OR KCMIL TO COMPLY WITH NEC 250.119. NEUTRAL CONDUCTORS SHALL HAVE WHITE COLORED INSULATION FOR NO. 6 AWG AND SMALLER TO MEET THE REQUIREMENTS OF NEC 200.6. STANDARD COLORS FOR POWER WIRING AND BRANCH CIRCUITS SHALL BE AS FOLLOWS:

120/240 VAC, 1 PHASE, 3 WIRE	
PHASE A	BLACK
PHASE B	RED
NEUTRAL	WHITE
GROUND	GREEN
- SEE RESPECTIVE SITE PLANS FOR SITE LEGEND INFORMATION.
- LTFMC DENOTES LIQUID TIGHT FLEXIBLE METAL CONDUIT UL LISTED, SUNLIGHT RESISTANT, & SUITABLE FOR GROUNDING. LIQUID TIGHT FLEXIBLE METAL CONDUIT AND ASSOCIATED FITTINGS SHALL BE U.L. LISTED TO MEET THE REQUIREMENTS OF NEC 350.6. LIQUID TIGHT FLEXIBLE METAL CONDUIT THAT IS USED FOR FLEXIBILITY (INCLUDING CONNECTIONS TO CCR'S & TRANSFORMERS) SHALL REQUIRE AN EXTERNAL BONDING JUMPER OR INTERNAL EQUIPMENT GROUNDING CONDUCTOR PER NEC 350.60. EXTERNAL BONDING JUMPERS USED WITH CCR INSTALLATIONS SHALL BE #6 AWG COPPER (MINIMUM). DO NOT INSTALL LTFMC THAT IS NOT UL LISTED. CONFIRM LTFMC BEARS THE UL LABEL PRIOR TO INSTALLATION.
- ALL ENCLOSURES RATED NEMA 4, 4X SHALL HAVE WATERTIGHT HUBS AT CONDUIT ENTRANCES U.L. LISTED NEMA 4, 4X FOR THE RESPECTIVE ENCLOSURE, TO MAINTAIN THE NEMA 4, 4X RATING.
- HIGH VOLTAGE & LOW VOLTAGE CIRCUITS SHALL NOT BE INSTALLED IN THE SAME WIREWAY, CONDUIT, DUCT, OR HANDHOLE.

DATE	REVISION

SAINT LOUIS DOWNTOWN AIRPORT
A Division of Ill-Share Development Agency
A.I.P. PROJ.: 3-17-0039-B25



ILL. PROJ.: CPS-3988

Hanson Project No.	08A0212D_0800
Filename	E-001.DWG
Scale	NONE
Date	05/27/11
LAYOUT	KNL 01/20/09
DRAWN	MV 01/20/09
REVIEWED	RAW/KNL 05/27/11

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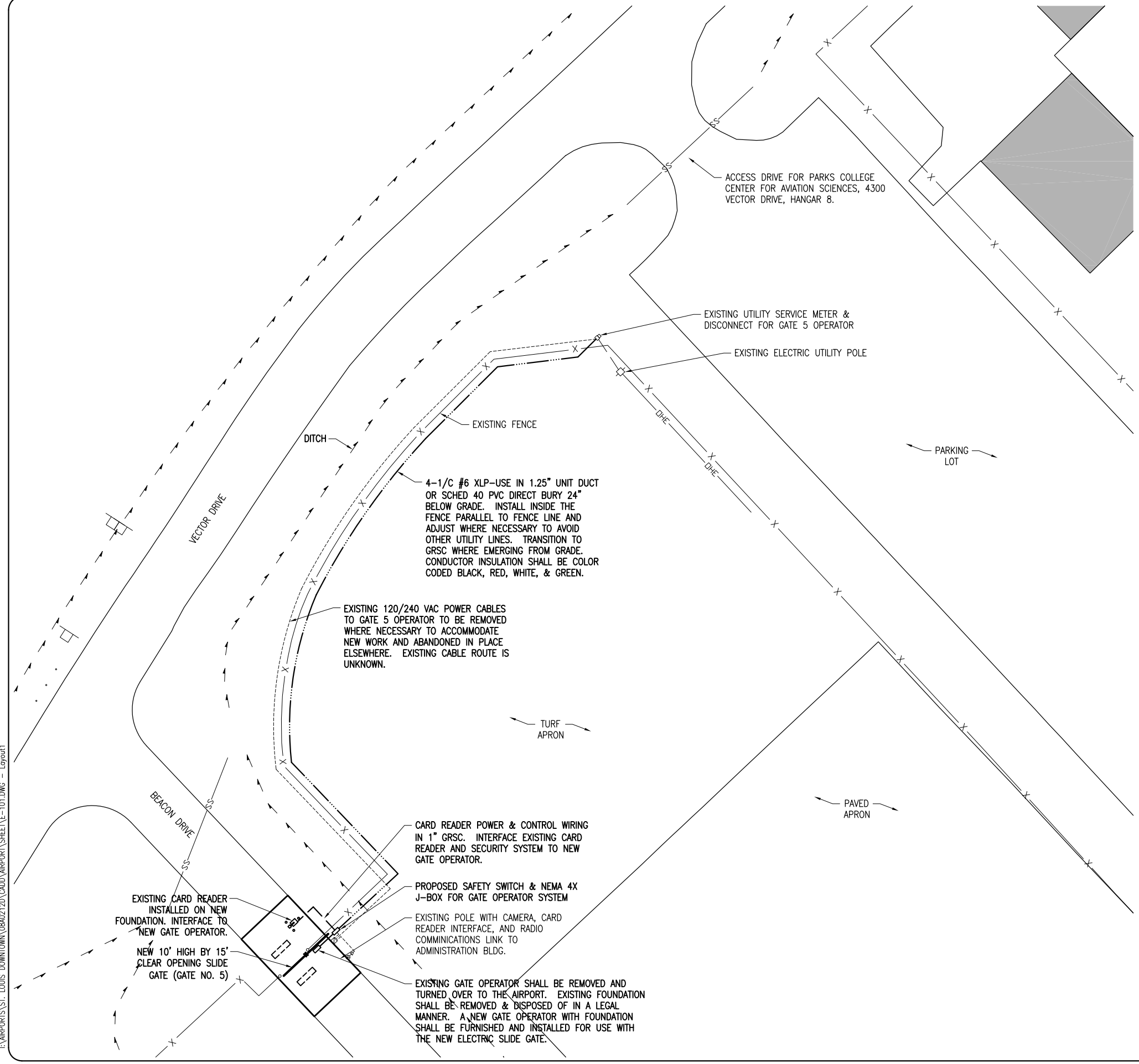
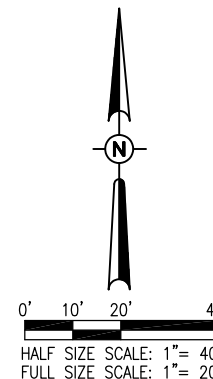
CONSTRUCT PERIMETER FENCE
ELECTRICAL LEGEND AND ABBREVIATIONS

NOTES:

- CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS.
- THE LOCATION, SIZE, AND TYPE OF MATERIAL OF EXISTING UNDERGROUND AND/OR ABOVEGROUND UTILITIES INDICATED ON THE PLANS ARE NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. NEITHER THE OWNER NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY WHATEVER IN RESPECT TO THE ACCURACY, COMPLETENESS, OR SUFFICIENCY OF THE INFORMATION. THERE IS NO GUARANTEE, EITHER EXPRESSED OR IMPLIED, THAT THE LOCATIONS, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND UTILITIES INDICATED ARE REPRESENTATIVE OF THOSE TO BE ENCOUNTERED IN THE CONSTRUCTION. 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 THE UTILITY COMPANIES OF HIS OPERATIONAL PLANS AND SHALL OBTAIN FROM THE RESPECTIVE UTILITY COMPANIES DETAILED INFORMATION AND ASSISTANCE RELATIVE TO THE LOCATION OF THEIR FACILITIES AND THE WORKING SCHEDULE OF THE COMPANIES FOR REMOVAL OR ADJUSTMENT WHERE REQUIRED. IN THE EVENT AN UNEXPECTED UTILITY INTERFERENCE IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY COMPANY OF JURISDICTION. THE OWNER'S REPRESENTATIVE AND/OR THE RESIDENT ENGINEER SHALL ALSO BE IMMEDIATELY NOTIFIED. ANY DAMAGE TO SUCH MAINS AND SERVICES SHALL BE RESTORED TO SERVICE AT ONCE AND PAID FOR BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT. ALL UTILITY CABLES AND LINES SHALL BE LOCATED BY THE RESPECTIVE UTILITY. **CONTACT JULIE (JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS) FOR UTILITY INFORMATION, PHONE: 1-800-892-0123.** 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. ALSO CONTACT AIRPORT DIRECTOR/MANAGER AND AIRPORT PERSONNEL FOR ASSISTANCE IN LOCATING UNDERGROUND AIRPORT CABLES AND/OR UTILITIES. ALSO COORDINATE WORK WITH ALL ABOVEGROUND UTILITIES.
- EXISTING DETECTOR LOOPS SHALL BE REMOVED & REPLACED WITH NEW DETECTOR LOOPS.
- SEE "PROPOSED GATE OPERATOR DETAILS - GATE NO. 5" SHEET FOR ADDITIONAL REQUIREMENTS ON ELECTRIC SLIDE GATE AND GATE OPERATOR WORK.

LEGEND

- EXISTING PAVEMENT
- PROPOSED PAVEMENT
- EXISTING BUILDING
- EXISTING ELECTRICAL DUCT
- PROPOSED ELECTRICAL DUCT
- EXISTING ELECTRICAL CABLES
- PROPOSED ELECTRICAL CABLES
- PROPOSED ELECTRICAL CABLES
- EXISTING OVERHEAD ELECTRICAL LINE
- EXISTING UNDERDRAIN
- EXISTING STORM SEWER
- EXISTING SANITARY SEWER
- EXISTING WATER LINE
- EXISTING TELEPHONE LINE
- EXISTING GAS LINE
- EXISTING FENCE
- EXISTING HANDHOLE
- GATE OPERATOR
- CARD READER WITH BOLLARDS



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 A Division of Missouri State Development Agency
 A.I.P. PROJ.: 3-17-0039-B25

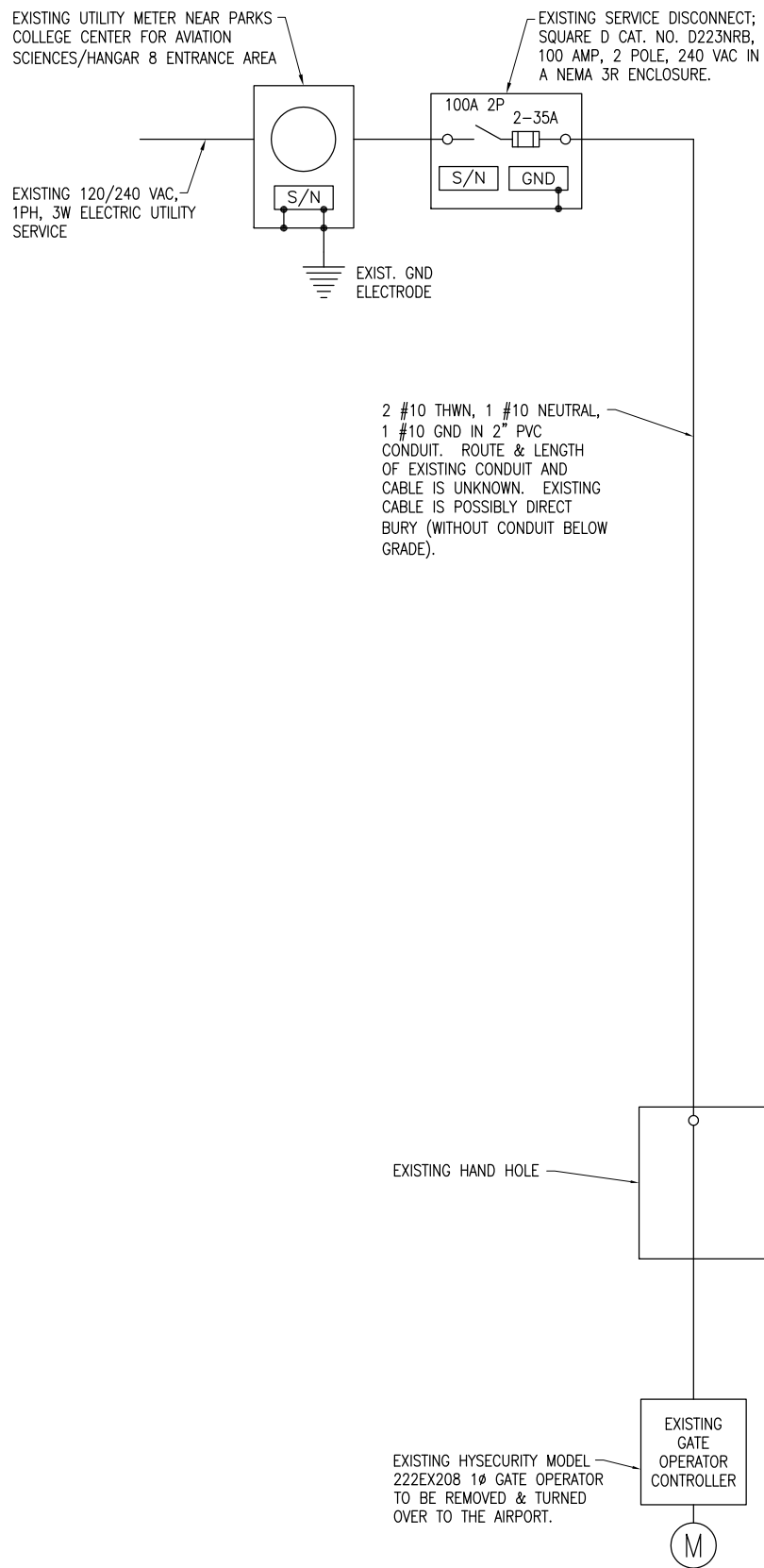
Hanson Project No.	08A0212D_0800
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Scale	1" = 20'
Date	05/27/11
LAYOUT	KNL 01/23/09
DRAWN	MLH 05/21/11
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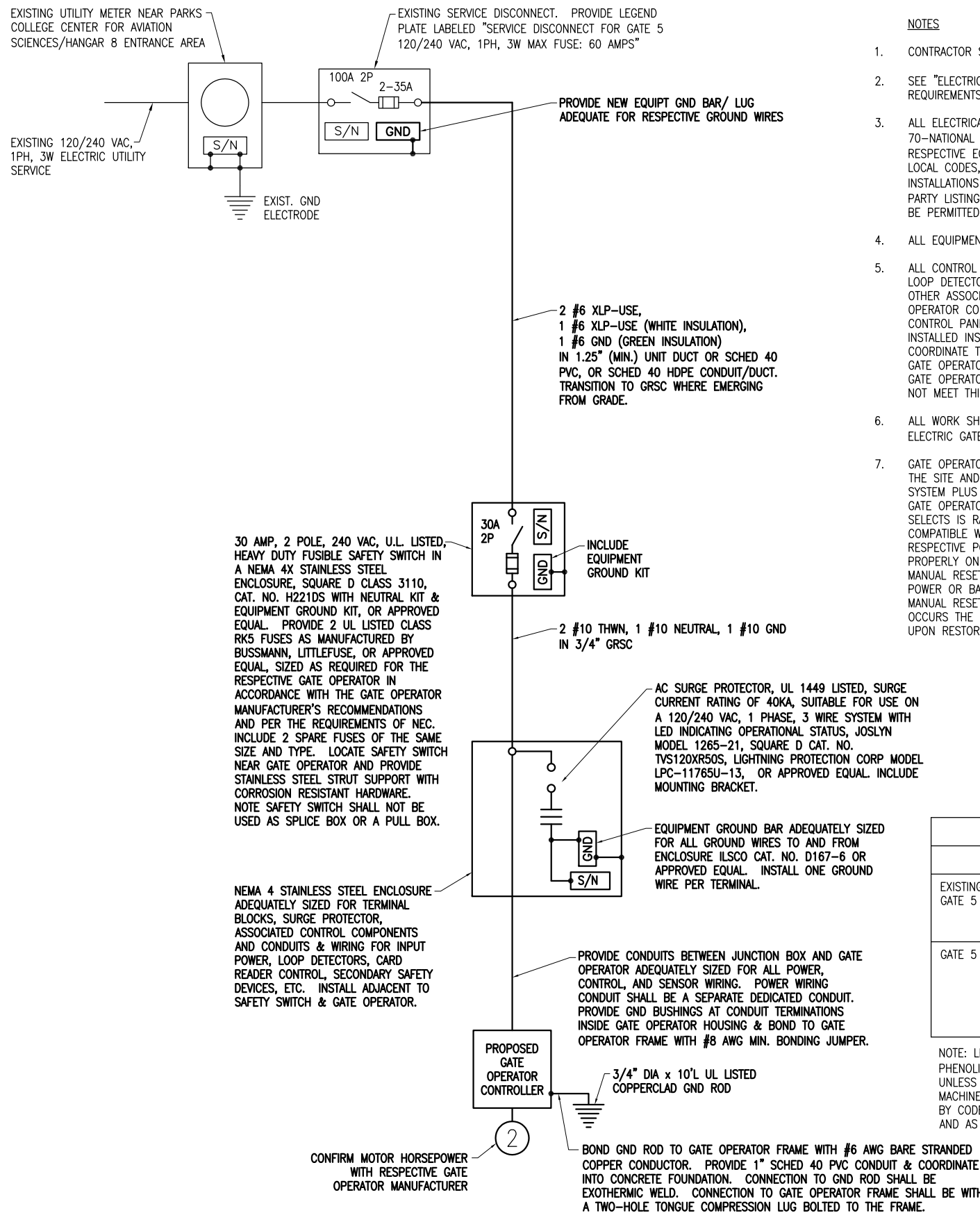
CONSTRUCT PERIMETER FENCE
GATE NO. 5 ELECTRICAL PLAN

16
 16 of 24 sheets

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EXISTING ELECTRICAL ONE-LINE DIAGRAM FOR GATE NO. 5 OPERATOR



PROPOSED ELECTRICAL ONE-LINE DIAGRAM FOR GATE NO. 5 OPERATOR

NOTES

- CONTRACTOR SHALL EXAMINE THE SITE TO DETERMINE EXISTING CONDITIONS.
- SEE "ELECTRICAL LEGEND AND ABBREVIATIONS" SHEET FOR GENERAL NOTES AND REQUIREMENTS.
- 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 NOT BE PERMITTED.
- ALL EQUIPMENT SHOWN NOT LABELED AS EXISTING IS NEW.
- ALL CONTROL POWER TRANSFORMERS, POWER SUPPLIES, SIMPLEX RECEPTACLES, LOOP DETECTOR AMPLIFIERS, SECONDARY SAFETY DEVICE EQUIPMENT, AND ANY OTHER ASSOCIATED CONTROLS SHALL BE INSTALLED EITHER INSIDE THE GATE OPERATOR CONTROL PANEL OR INSIDE A SEPARATE NEMA 4 STAINLESS STEEL CONTROL PANEL ENCLOSURE. WHERE THE CONTROL EQUIPMENT IS TO BE INSTALLED INSIDE THE GATE OPERATOR CONTROL PANEL THE CONTRACTOR SHALL COORDINATE THIS WITH THE GATE OPERATOR MANUFACTURER AND THE RESPECTIVE GATE OPERATOR EQUIPMENT SUPPLIER. LOCATING THESE CONTROLS OUTSIDE OF GATE OPERATOR CONTROL PANEL BUT WITHIN THE GATE OPERATOR HOUSING WILL NOT MEET THIS REQUIREMENT.
- ALL WORK SHOWN ON THIS SHEET SHALL BE PAID FOR UNDER ITEM AR162715 ELECTRIC GATE - 15'.
- GATE OPERATORS SHALL BE RATED FOR THE RESPECTIVE VOLTAGE AVAILABLE AT THE SITE AND SHALL PROPERLY OPERATE ON THE RESPECTIVE NOMINAL VOLTAGE SYSTEM PLUS OR MINUS 10 PERCENT. CONTRACTOR SHALL CONFIRM WITH THE GATE OPERATOR MANUFACTURER THAT THE RESPECTIVE GATE OPERATOR HE SELECTS IS RATED SUITABLE FOR THE RESPECTIVE APPLICATION, IS SUITABLE AND COMPATIBLE WITH THE RESPECTIVE GATE, AND WILL OPERATE PROPERLY ON THE RESPECTIVE POWER SUPPLY. NOTE THE GATE OPERATOR MUST ALSO OPERATE PROPERLY ON STANDBY ENGINE GENERATOR POWER AND SHALL NOT REQUIRE MANUAL RESET DUE TO TRANSFER FROM UTILITY POWER TO STANDBY GENERATOR POWER OR BACK TO UTILITY POWER. THE GATE OPERATOR MUST NOT REQUIRE MANUAL RESET FOR MOMENTARY POWER OUTAGES. WHERE A POWER OUTAGE OCCURS THE GATE OPERATOR SHALL AUTOMATICALLY RESUME NORMAL OPERATION UPON RESTORATION OF POWER.

LEGEND PLATE SCHEDULE	
DEVICE	LABEL
EXISTING SERVICE DISCONNECT FOR GATE 5	SERVICE DISCONNECT FOR GATE 5 120/240VAC, 1PH, 3W MAX FUSE: 60 AMPS
GATE 5 OPERATOR SAFETY SWITCH	GATE 5 120/240VAC FED FROM SERVICE DISCONNECT AT PARKS COLLEGE ENTRANCE AREA

NOTE: LEGEND PLATES SHALL BE WEATHERPROOF ENGRAVED PLASTIC OR PHENOLIC MATERIAL, 1/4" HIGH BLACK LETTERS ON A WHITE BACKGROUND UNLESS NOTED OTHERWISE. SECURE WITH WEATHERPROOF ADHESIVE AND MACHINE SCREWS. FURNISH ADDITIONAL LEGEND PLATES WHERE REQUIRED BY CODE, FOR ADDITIONAL EQUIPMENT, AS DETAILED HEREIN ON THE PLANS, AND AS NOTED IN THE SPECIAL PROVISION SPECIFICATIONS.

DATE	REVISION

SAINT LOUIS DOWNTOWN AIRPORT
A Division of Missouri State Development Agency
A.I.P. PROJ.: 3-17-0039-B25
IL PROJ.: CPS-3988

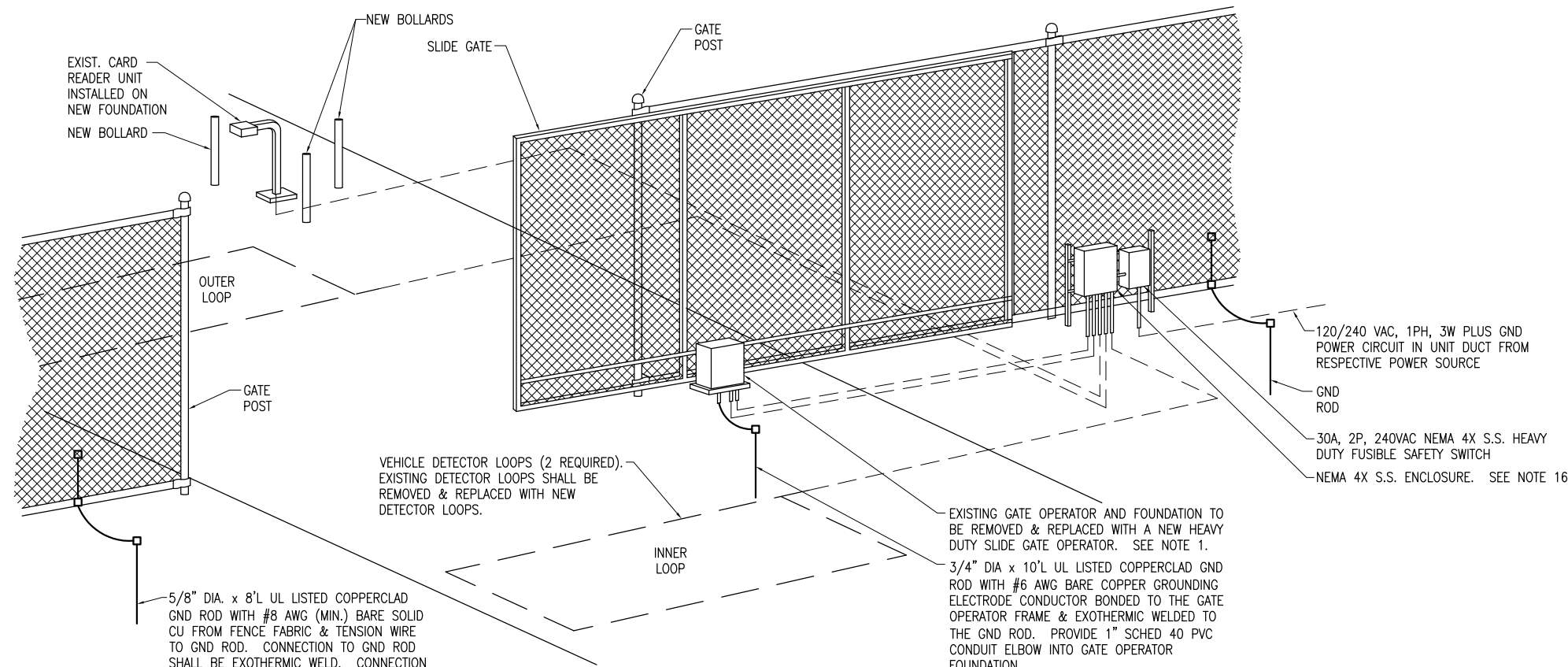
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DRAWN	MV 01/20/09
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CONSTRUCT PERIMETER FENCE
ELECTRICAL ONE-LINE DIAGRAMS FOR GATE NO. 5 OPERATOR

NOTES:

- SEE SPECIAL PROVISION SPECS FOR REQUIREMENTS ON RESPECTIVE GATE OPERATOR SYSTEM.
- ALL DIMENSIONS AND LAYOUT INFORMATION SHOWN SHOULD BE ADJUSTED AS RECOMMENDED BY THE MANUFACTURER. SEE RESPECTIVE SITE PLAN FOR EACH GATE. FIELD VERIFY EXISTING CONDITIONS.
- CONCRETE FOUNDATION SHALL BE PROVIDED FOR THE SLIDE GATE OPERATOR AND THE CARD READER CONTROL UNIT. FOUNDATION FOR THE GATE OPERATOR SHALL BE 48" (MIN.) IN DEPTH AND OF THE SIZE RECOMMENDED BY THE MANUFACTURER. FOUNDATION FOR THE CARD READER ACCESS AND EXIT PUSH BUTTON CONTROL UNITS SHALL BE 48" (MIN.) IN DEPTH, AS DETAILED HEREIN. COORDINATE WITH NEW PAVEMENT CONSTRUCTION.
- 1" GRG CONDUIT WILL BE REQUIRED BETWEEN THE SLIDE GATE OPERATOR INSTALLATION AND THE CARD READER ACCESS CONTROL UNIT, THE PHOTO-ELECTRIC EYES, AND THE DETECTOR LOOPS. THE MINIMUM BURYING DEPTH IS 24". ALL METAL CONDUITS ENTERING THE GATE OPERATOR SHALL BE BONDED TO THE GATE OPERATOR FRAME WITH A #8 AWG (MIN.) COPPER BONDING JUMPER. CONFIRM CONTROL WIRING REQUIREMENTS WITH THE RESPECTIVE GATE OPERATOR SALES AND SERVICE REPRESENTATIVE.
- THE GUARD/BOLLARD POSTS SHALL BE 4" DIA. STEEL (HEAVY WALL) PIPE, CONCRETE FILLED, AND SHALL EXTEND FROM THE TOP OF THE CARD CONTROL UNIT TO A DEPTH OF 48" BELOW THE GROUND LINE. THE CONCRETE FOOTER DIMENSION SHALL BE AS DETAILED HEREIN. GUARD/BOLLARD POSTS SHALL BE PAINTED WITH YELLOW COLORED ENAMEL FINISH.
- THE EXISTING GATE OPERATOR, PHOTOELECTRIC EYES, & DETECTOR LOOPS SHALL BE REPLACED WITH A NEW GATE OPERATOR, PHOTOELECTRIC EYE SYSTEM, & DETECTOR LOOPS. EXISTING GATE SHALL BE REPLACED. THE SLIDING GATE SHALL BE A DOUBLE TRACK CANTILEVER TYPE OF THE SIZE CALLED FOR ON THE PLANS, SHALL HAVE AN ENCLOSED ROLLER ASSEMBLY WHICH IS PROTECTED FROM FREEZING RAIN AND SNOW, AND SHALL BE A FORTRESS STRUCTURAL SLIDE GATE AS MANUFACTURED BY TYMETAL CORPORATION OR APPROVED EQUAL.
- INCLUDE SIMPLEX 120VAC RECEPTACLE & POWER SUPPLY COMPATIBLE WITH THE EXISTING CARD READER.
- CONTRACTOR SHALL COORDINATE ANY POWER OUTAGES TO EXISTING EQUIPMENT WITH THE RESPECTIVE OWNER'S REPRESENTATIVE AND THE AIRPORT DIRECTOR.
- INCLUDE AC SURGE PROTECTOR FOR THE GATE OPERATOR, UL 1449 LISTED, SURGE CURRENT RATING OF 40KA, SUITABLE FOR USE ON A 120/240 VAC, 1 PHASE, 3 WIRE SYSTEM WITH LED INDICATING OPERATIONAL STATUS, JOSLYN MODEL 1265-21, SQUARE D CAT. NO. TVS120XR50S, LIGHTNING PROTECTION CORP. MODEL LPC-11765U-13, OR APPROVED EQUAL. INCLUDE MOUNTING BRACKET.
- CONCRETE USED FOR INSTALLING THE GATE, GATE OPERATOR, CARD READER AND FENCING SHALL MEET THE REQUIREMENTS OF STRUCTURAL PORTLAND CEMENT CONCRETE ITEM 610.
- 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 UL LISTING, ETL LISTING, (OR OTHER THIRD PARTY LISTING) AND/OR THE MANUFACTURER'S WARRANTY OF A DEVICE WILL NOT BE PERMITTED.
- PROVIDE A WEATHERPROOF ENGRAVED PHENOLIC OR PLASTIC LEGEND PLATE FOR THE SAFETY SWITCH AT THE RESPECTIVE GATE OPERATOR NOTING THE GATE SERVED, VOLTAGE, AND RESPECTIVE POWER SOURCE CIRCUIT AND LOCATION.
- PAYMENT FOR REPLACING THE GATE OPERATOR, AND ALL ASSOCIATED CONTROL & SAFETY DEVICES SHALL BE ON A LUMP SUM BASIS AND SHALL BE FULL COMPENSATION FOR ALL MATERIALS, EQUIPMENT, CABLE IN CONDUIT, DUCT, OR UNIT DUCT, GROUNDING, LABOR, TOOLS, COORDINATION, TESTING, AND INCIDENTALS REQUIRED TO INSTALL THE GATE COMPLETE AND IN OPERATING CONDITION.
- CONTROL CIRCUIT WIRING SHALL NOT BE ROUTED THROUGH THE SAFETY SWITCH/DISCONNECT.
- INCLUDE CORROSION RESISTANT SUPPORT POSTS AND HARDWARE WITH THE PHOTO-ELECTRIC EYE SAFETY DEVICES.
- ALL CONTROL POWER TRANSFORMERS, POWER SUPPLIES, SIMPLEX RECEPTACLES, LOOP DETECTOR AMPLIFIERS, SECONDARY SAFETY DEVICE EQUIPMENT, AND ANY OTHER ASSOCIATED CONTROLS SHALL BE INSTALLED EITHER INSIDE THE GATE OPERATOR CONTROL PANEL OR INSIDE A SEPARATE NEMA 4 STAINLESS STEEL CONTROL PANEL ENCLOSURE. WHERE THE CONTROL EQUIPMENT IS TO BE INSTALLED INSIDE THE GATE OPERATOR CONTROL PANEL THE CONTRACTOR SHALL COORDINATE THIS WITH THE GATE OPERATOR MANUFACTURER AND THE RESPECTIVE GATE OPERATOR EQUIPMENT SUPPLIER. LOCATING THESE CONTROLS OUTSIDE OF GATE OPERATOR CONTROL PANEL BUT WITHIN THE GATE OPERATOR HOUSING WILL NOT MEET THIS REQUIREMENT.

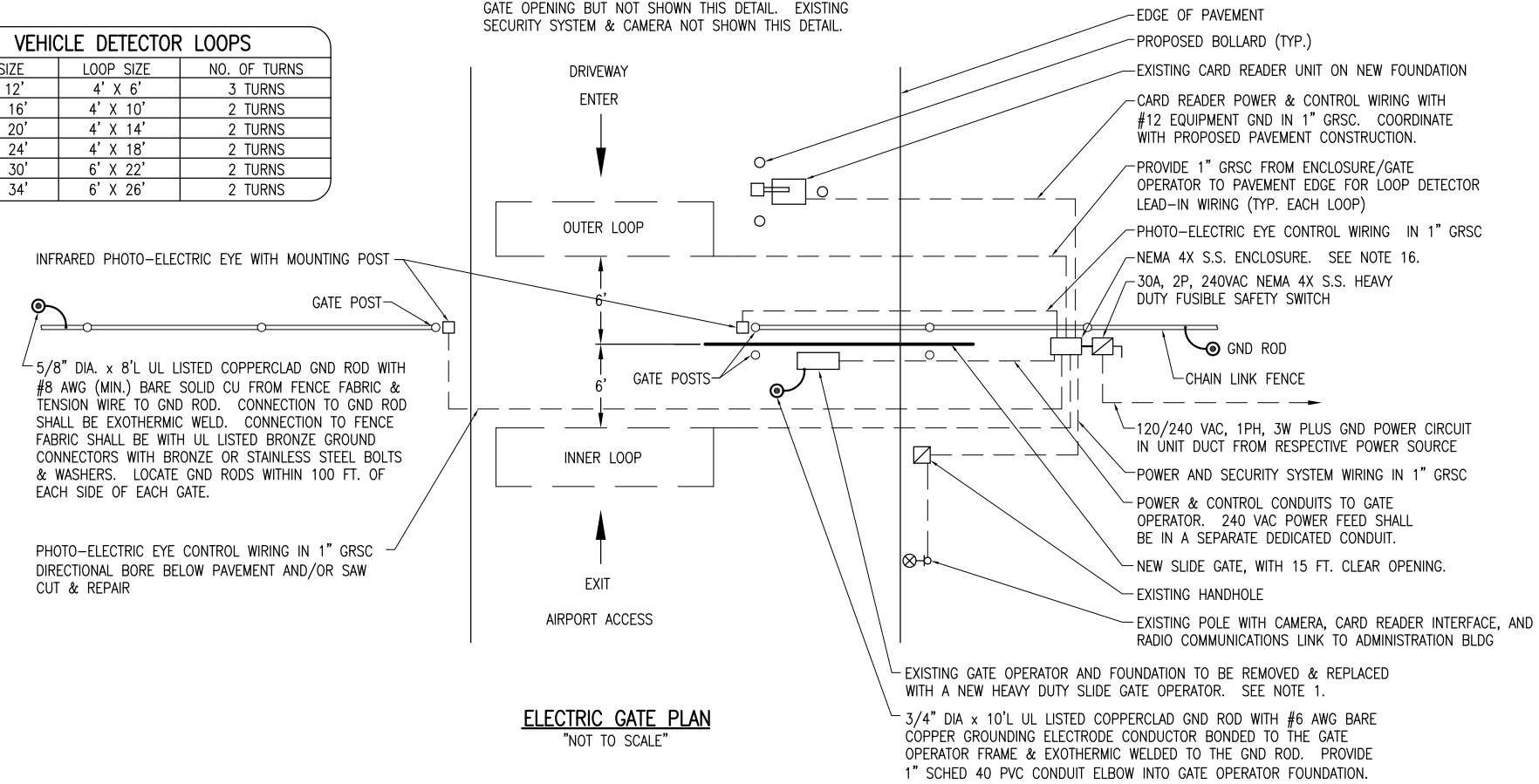


ELECTRIC GATE DETAIL (ISOMETRIC)
"NOT TO SCALE"

NOTE: PHOTO-ELECTRIC EYES ARE REQUIRED FOR THE GATE OPENING BUT NOT SHOWN THIS DETAIL. EXISTING SECURITY SYSTEM & CAMERA NOT SHOWN THIS DETAIL.

VEHICLE DETECTOR LOOPS

GATE SIZE	LOOP SIZE	NO. OF TURNS
8' TO 12'	4' X 6'	3 TURNS
12' TO 16'	4' X 10'	2 TURNS
16' TO 20'	4' X 14'	2 TURNS
20' TO 24'	4' X 18'	2 TURNS
24' TO 30'	6' X 22'	2 TURNS
30' TO 34'	6' X 26'	2 TURNS



ELECTRIC GATE PLAN
"NOT TO SCALE"

SAINT LOUIS DOWNTOWN AIRPORT
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ILL. PROJ.: CPS-3988
A.I.P. PROJ.: 3-17-0039-B25

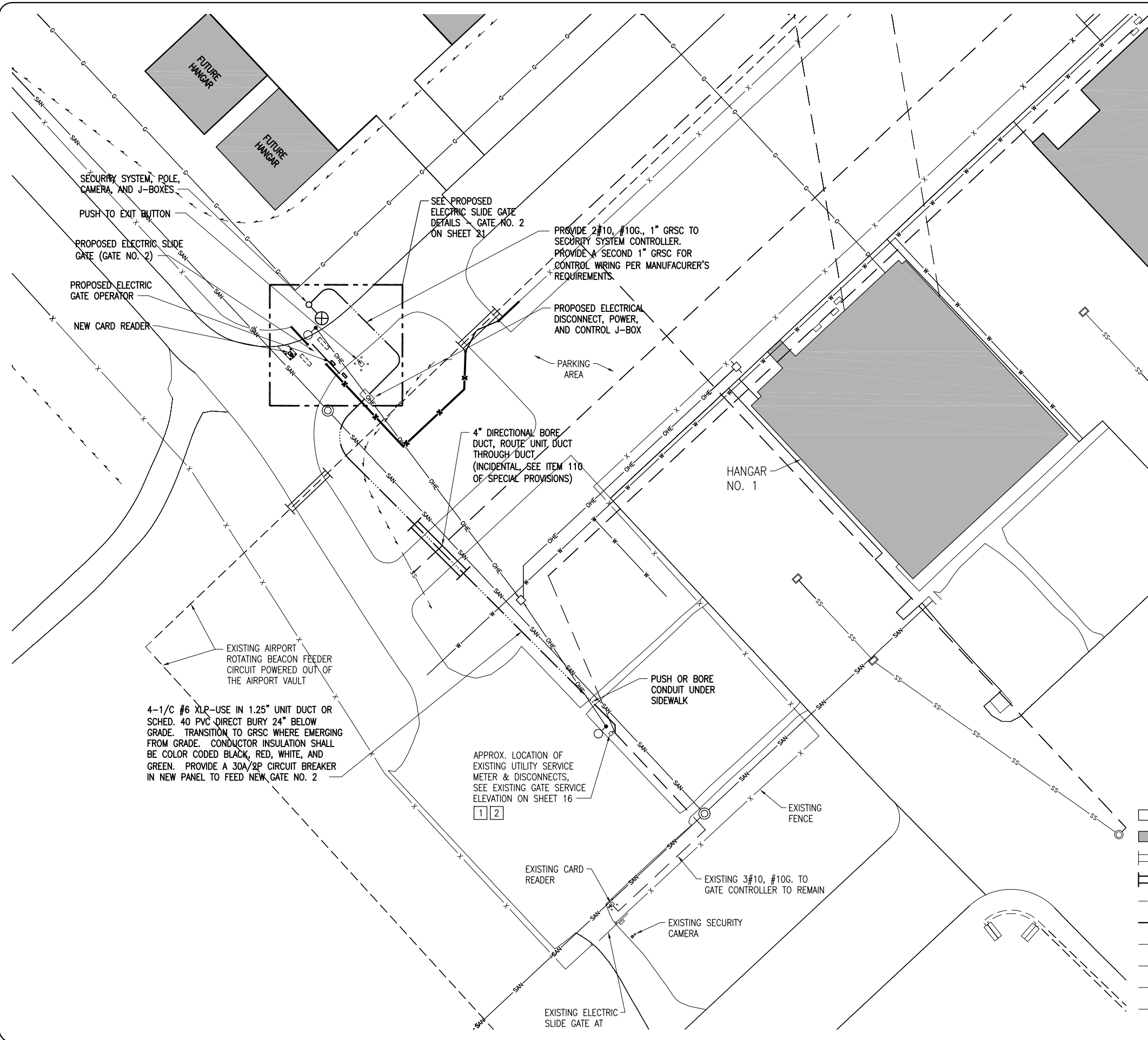
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Scale NOT TO SCALE
Date 05/27/11

LAYOUT	KNL	01/09/09
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CONSTRUCT PERIMETER FENCE
PROPOSED ELECTRIC SLIDE GATE DETAILS - GATE NO. 5

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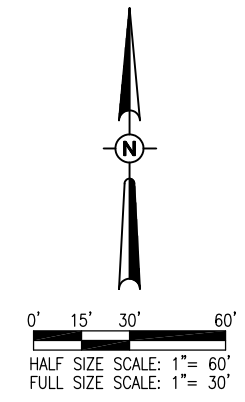


NOTES: SD054

- CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS.
- THE LOCATION, SIZE, AND TYPE OF MATERIAL OF EXISTING UNDERGROUND AND/OR ABOVEGROUND UTILITIES INDICATED ON THE PLANS ARE NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. NEITHER THE OWNER NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY WHATEVER IN RESPECT TO THE ACCURACY, COMPLETENESS, OR SUFFICIENCY OF THE INFORMATION. THERE IS NO GUARANTEE, EITHER EXPRESSED OR IMPLIED, THAT THE LOCATIONS, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND UTILITIES INDICATED ARE REPRESENTATIVE OF THOSE TO BE ENCOUNTERED IN THE CONSTRUCTION. 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 THE UTILITY COMPANIES OF HIS OPERATIONAL PLANS AND SHALL OBTAIN FROM THE RESPECTIVE UTILITY COMPANIES DETAILED INFORMATION AND ASSISTANCE RELATIVE TO THE LOCATION OF THEIR FACILITIES AND THE WORKING SCHEDULE OF THE COMPANIES FOR REMOVAL OR ADJUSTMENT WHERE REQUIRED. IN THE EVENT AN UNEXPECTED UTILITY INTERFERENCE IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY COMPANY OF JURISDICTION. THE OWNER'S REPRESENTATIVE AND/OR THE RESIDENT ENGINEER SHALL ALSO BE IMMEDIATELY NOTIFIED. ANY DAMAGE TO SUCH MAINS AND SERVICES SHALL BE RESTORED TO SERVICE AT ONCE AND PAID FOR BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT. ALL UTILITY CABLES AND LINES SHALL BE LOCATED BY THE RESPECTIVE UTILITY. **CONTACT JULIE (JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS) FOR UTILITY INFORMATION, PHONE: 1-800-892-0123. 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. ALSO CONTACT AIRPORT DIRECTOR/MANAGER AND AIRPORT PERSONNEL FOR ASSISTANCE IN LOCATING UNDERGROUND AIRPORT CABLES AND/OR UTILITIES. ALSO COORDINATE WORK WITH ALL ABOVEGROUND UTILITIES.**
- SEE "PROPOSED ELECTRIC SLIDE GATE DETAILS - GATE 2" SHEET FOR ADDITIONAL REQUIREMENTS ON ELECTRIC SLIDE GATE OPERATOR WORK.

KEYED NOTES:

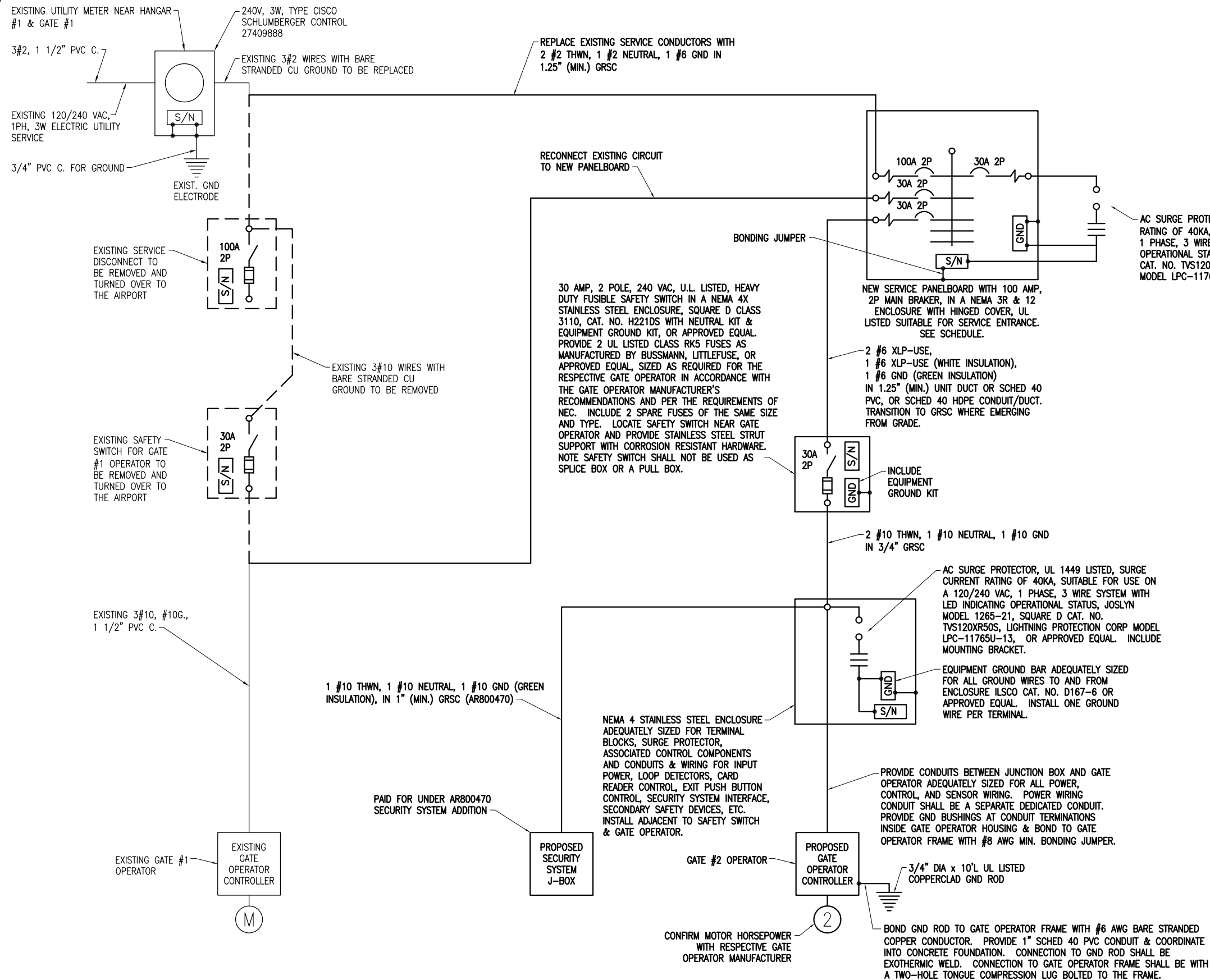
- REMOVE EXISTING 100A, 120/240V, 1Ø, FUSED SERVICE DISCONNECT AND 30A, 120/240V, 1Ø, FUSED DISCONNECT FEEDING GATE NO. 1.
- PROVIDE A NEW 100A, 120/240V, 20 CKT. PANEL WITH 100A MAIN CIRCUIT BREAKER. PROVIDE A 30A/2P BREAKER IN PANEL AND UTILIZE EXISTING FEEDER TO RE-FEED GATE NO. 1.



LEGEND

	EXISTING PAVEMENT		EXISTING WATER LINE
	EXISTING BUILDING		EXISTING TELEPHONE LINE
	EXISTING ELECTRICAL DUCT		EXISTING GAS LINE
	PROPOSED ELECTRICAL DUCT		EXISTING FENCE
	EXISTING ELECTRICAL CABLES		PROPOSED FENCE
	PROPOSED ELECTRICAL CABLES		EXISTING HANDHOLE
	EXISTING OVERHEAD ELECTRICAL LINE		GATE OPERATOR
	EXISTING UNDERDRAIN		CARD READER WITH BOLLARDS
	EXISTING STORM SEWER		EXISTING MANHOLE
	EXISTING SANITARY SEWER		UTILITY POLE
			EXISTING POLE LIGHT

BY									
REVISION									
DATE									
SAINT LOUIS DOWNTOWN AIRPORT A Division of Ill-Share Development Agency A.I.P. PROJ.: 3-17-0039-B25									
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Project No. 08A0212D_0800 File Name: E-102.DWG Scale: 1"=30' Date: 05/27/11		LAYOUT: RDN 02/19/09 DRAWN: ANC 02/19/09 REVIEWED: RAW/KNL 05/27/11							
CONSTRUCT PERIMETER FENCE GATE NO. 2 ELECTRICAL PLAN									
19 19 of 24 sheets									



- NOTES**
- CONTRACTOR SHALL EXAMINE THE SITE TO DETERMINE EXISTING CONDITIONS.
 - SEE "ELECTRICAL LEGEND AND ABBREVIATIONS" SHEET FOR GENERAL NOTES AND REQUIREMENTS.
 - 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 NOT BE PERMITTED.
 - ALL EQUIPMENT SHOWN NOT LABELED AS EXISTING IS NEW.
 - ALL CONTROL POWER TRANSFORMERS, POWER SUPPLIES, SIMPLEX RECEPTACLES, LOOP DETECTOR AMPLIFIERS, SECONDARY SAFETY DEVICE EQUIPMENT, AND ANY OTHER ASSOCIATED CONTROLS SHALL BE INSTALLED EITHER INSIDE THE GATE OPERATOR CONTROL PANEL OR INSIDE A SEPARATE NEMA 4 STAINLESS STEEL CONTROL PANEL ENCLOSURE. WHERE THE CONTROL EQUIPMENT IS TO BE INSTALLED INSIDE THE GATE OPERATOR CONTROL PANEL THE CONTRACTOR SHALL COORDINATE THIS WITH THE GATE OPERATOR MANUFACTURER AND THE RESPECTIVE GATE OPERATOR EQUIPMENT SUPPLIER. LOCATING THESE CONTROLS OUTSIDE OF GATE OPERATOR CONTROL PANEL BUT WITHIN THE GATE OPERATOR HOUSING WILL NOT MEET THIS REQUIREMENT.
 - COORDINATE ELECTRIC SERVICE WORK WITH THE SERVING ELECTRIC UTILITY; AMEREN CALL CENTER PHONE: 1-888-789-2477 AND AMEREN CIPS, 500 EAST BROADWAY, EAST ST. LOUIS, IL 62201, ATTN. MR. KEN LAKE, PHONE 618-482-2260 OR ATTN. MR. KEITH CHAPMAN, PHONE: 618-482-2213. ALSO COORDINATE WORK WITH THE AIRPORT DIRECTOR.
 - WORK SHOWN ON THIS SHEET SHALL BE PAID FOR UNDER ITEM AR162716 ELECTRIC GATE - 16' UNLESS NOTED OTHERWISE.
 - GATE OPERATORS SHALL BE RATED FOR THE RESPECTIVE VOLTAGE AVAILABLE AT THE SITE AND SHALL PROPERLY OPERATE ON THE RESPECTIVE NOMINAL VOLTAGE SYSTEM PLUS OR MINUS 10 PERCENT. CONTRACTOR SHALL CONFIRM WITH THE GATE OPERATOR MANUFACTURER THAT THE RESPECTIVE GATE OPERATOR HE SELECTS IS RATED SUITABLE FOR THE RESPECTIVE APPLICATION, IS SUITABLE AND COMPATIBLE WITH THE RESPECTIVE GATE, AND WILL OPERATE PROPERLY ON THE RESPECTIVE POWER SUPPLY. NOTE THE GATE OPERATOR MUST ALSO OPERATE PROPERLY ON STANDBY ENGINE GENERATOR POWER AND SHALL NOT REQUIRE MANUAL RESET DUE TO TRANSFER FROM UTILITY POWER TO STANDBY GENERATOR POWER OR BACK TO UTILITY POWER. THE GATE OPERATOR MUST NOT REQUIRE MANUAL RESET FOR MOMENTARY POWER OUTAGES. WHERE A POWER OUTAGE OCCURS THE GATE OPERATOR SHALL AUTOMATICALLY RESUME NORMAL OPERATION UPON RESTORATION OF POWER.

DEMOLITION ELECTRICAL ONE-LINE DIAGRAM FOR GATE NO. 1 OPERATOR

PROPOSED ELECTRICAL ONE-LINE DIAGRAM FOR GATE NO. 1 & GATE NO. 2 OPERATOR

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REVISION	
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SAINT LOUIS DOWNTOWN AIRPORT
 A Division of Missouri State Development Agency
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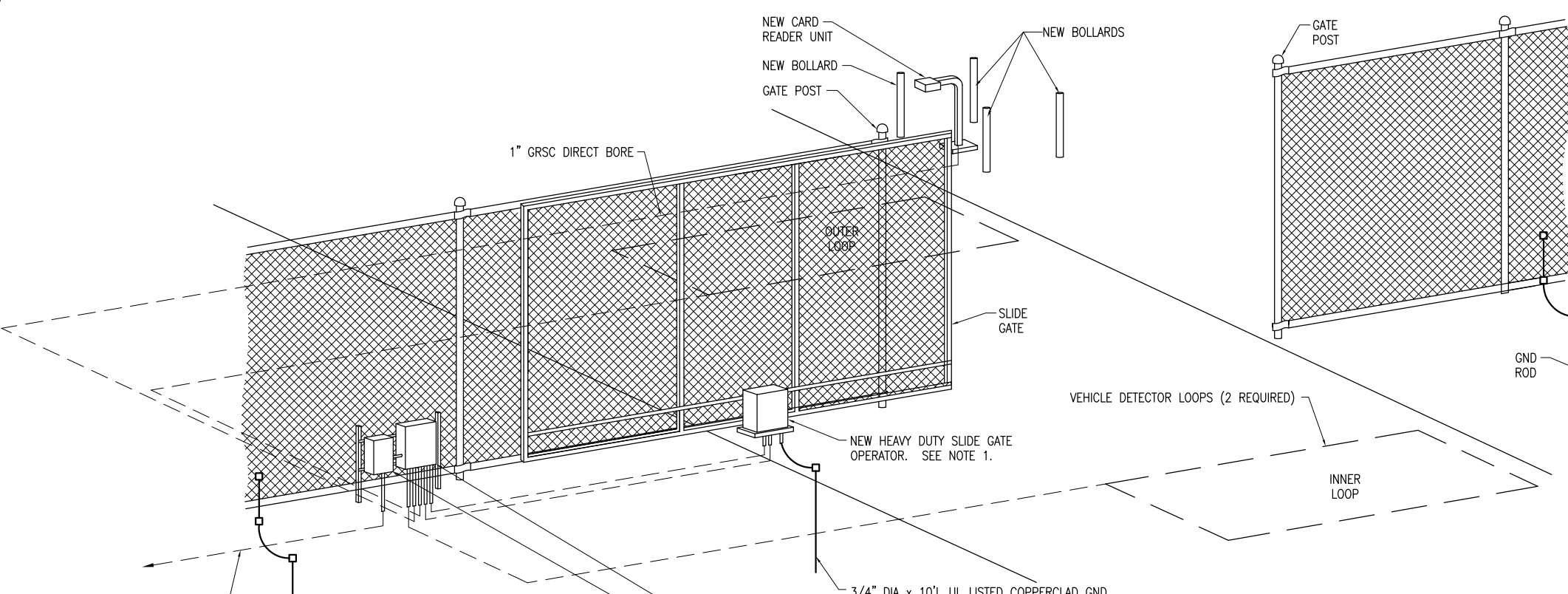
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DRAWN	ANC 02/19/09
REVIEWED	RAW/KNL 05/27/11

CONSTRUCT PERIMETER FENCE
ELECTRICAL ONE-LINE DIAGRAMS FOR GATE NO. 1 AND GATE NO. 2 OPERATOR

20
 20 of 24 sheets

NOTES:

- SEE SPECIAL PROVISION SPECS FOR REQUIREMENTS ON RESPECTIVE GATE & GATE OPERATOR SYSTEM.
- ALL DIMENSIONS AND LAYOUT INFORMATION SHOWN SHOULD BE ADJUSTED AS RECOMMENDED BY THE MANUFACTURER. SEE RESPECTIVE SITE PLAN FOR EACH GATE.
- CONCRETE FOUNDATIONS SHALL BE PROVIDED FOR THE SLIDE GATE OPERATOR AND THE CARD READER CONTROL UNIT. FOUNDATION FOR THE GATE OPERATOR SHALL BE 48" (MIN.) IN DEPTH AND OF THE SIZE RECOMMENDED BY THE MANUFACTURER. FOUNDATION FOR THE CARD READER ACCESS AND EXIT PUSH BUTTON CONTROL UNITS SHALL BE 48" (MIN.) IN DEPTH, AS DETAILED HEREIN.
- 1" GRS CONDUIT WILL BE REQUIRED BETWEEN THE SLIDE GATE OPERATOR INSTALLATION AND THE CARD READER ACCESS CONTROL UNIT, THE EXIT PUSH BUTTON STATION, THE PHOTO-ELECTRIC EYES, AND THE DETECTOR LOOPS. THE MINIMUM BURYING DEPTH IS 24". ALL METAL CONDUITS ENTERING THE GATE OPERATOR SHALL BE BONDED TO THE GATE OPERATOR FRAME WITH A #8 AWG (MIN.) COPPER BONDING JUMPER. CONFIRM CONTROL WIRING REQUIREMENTS WITH THE RESPECTIVE GATE OPERATOR SALES AND SERVICE REPRESENTATIVE.
- THE GUARD/BOLLARD POSTS SHALL BE 4" DIA. STEEL (HEAVY WALL) PIPE, CONCRETE FILLED, AND SHALL EXTEND FROM THE TOP OF THE CARD CONTROL UNIT TO A DEPTH OF 48" BELOW THE GROUND LINE. THE CONCRETE FOOTER DIMENSION SHALL BE AS DETAILED HEREIN. GUARD/BOLLARD POSTS SHALL BE PAINTED WITH YELLOW COLORED ENAMEL FINISH.
- THE SLIDING GATE SHALL BE A DOUBLE TRACK CANTILEVER TYPE OF THE SIZE CALLED FOR ON THE PLANS, SHALL HAVE AN ENCLOSED ROLLER ASSEMBLY WHICH IS PROTECTED FROM FREEZING RAIN AND SNOW, AND SHALL BE A FORTRESS STRUCTURAL SLIDE GATE AS MANUFACTURED BY TYMETAL CORPORATION OR APPROVED EQUAL.
- (RESERVED).
- CONTRACTOR SHALL COORDINATE ANY POWER OUTAGES TO EXISTING EQUIPMENT WITH THE RESPECTIVE OWNER'S REPRESENTATIVE AND THE AIRPORT DIRECTOR.
- INCLUDE AC SURGE PROTECTOR FOR THE GATE OPERATOR, UL 1449 LISTED, SURGE CURRENT RATING OF 40KA, SUITABLE FOR USE ON A 120/240 VAC, 1 PHASE, 3 WIRE SYSTEM WITH LED INDICATING OPERATIONAL STATUS, JOSLYN MODEL 1265-21, SQUARE D CAT. NO. TVS120XR50S, LIGHTNING PROTECTION CORP. MODEL LPC-11765U-13, OR APPROVED EQUAL. INCLUDE MOUNTING BRACKET.
- CONCRETE USED FOR INSTALLING THE GATE OPERATOR, CARD READER, EXIT PUSH BUTTON STATION, SECURITY SYSTEM POLE, & FENCE SHALL MEET THE REQUIREMENTS OF STRUCTURAL PORTLAND CEMENT CONCRETE ITEM 610.
- 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 UL LISTING, ETL LISTING, (OR OTHER THIRD PARTY LISTING) AND/OR THE MANUFACTURER'S WARRANTY OF A DEVICE WILL **NOT** BE PERMITTED.
- PROVIDE A WEATHERPROOF ENGRAVED PHENOLIC OR PLASTIC LEGEND PLATE FOR THE SAFETY SWITCH AT THE RESPECTIVE GATE OPERATOR NOTING THE GATE SERVED, VOLTAGE, AND RESPECTIVE POWER SOURCE CIRCUIT AND LOCATION.
- SEE SPECIAL PROVISION SPECS FOR THE RESPECTIVE GATE AND AR800470 SECURITY SYSTEM ADDITION FOR ADDITIONAL REQUIREMENTS AND BASIS OF PAYMENT.
- CONTROL CIRCUIT WIRING SHALL NOT BE ROUTED THROUGH THE SAFETY SWITCH/DISCONNECT.
- INCLUDE CORROSION RESISTANT SUPPORT POSTS AND HARDWARE WITH THE PHOTO-ELECTRIC EYE SAFETY DEVICES.
- NEMA 4 S.S. ENCLOSURE REQUIRED FOR POWER DISTRIBUTION, CONDUITS, INTERFACE TO SECURITY SYSTEM, ETC. ALL CONTROL POWER TRANSFORMERS, POWER SUPPLIES, RECEPTACLES, LOOP DETECTOR AMPLIFIERS, SECONDARY SAFETY DEVICE EQUIPMENT, AND ANY OTHER ASSOCIATED CONTROLS SHALL BE INSTALLED EITHER INSIDE THE GATE OPERATOR CONTROL PANEL OR INSIDE THE NEMA 4 STAINLESS STEEL CONTROL PANEL ENCLOSURE. WHERE THE CONTROL EQUIPMENT IS TO BE INSTALLED INSIDE THE GATE OPERATOR CONTROL PANEL THE CONTRACTOR SHALL COORDINATE THIS WITH THE GATE OPERATOR MANUFACTURER AND THE RESPECTIVE GATE OPERATOR EQUIPMENT SUPPLIER. LOCATING THESE CONTROLS OUTSIDE OF GATE OPERATOR CONTROL PANEL BUT WITHIN THE GATE OPERATOR HOUSING WILL NOT MEET THIS REQUIREMENT.



ELECTRIC GATE DETAIL (ISOMETRIC)

"NOT TO SCALE"

NOTE: PHOTO-ELECTRIC EYES ARE REQUIRED FOR THE GATE OPENING BUT NOT SHOWN THIS DETAIL. SECURITY SYSTEM CAMERA NOT SHOWN THIS DETAIL. EXIT PUSH BUTTON STATION NOT SHOWN THIS DETAIL.

120/240 VAC, 1PH, 3W PLUS GND POWER CIRCUIT IN UNIT DUCT OR CONDUIT FROM RESPECTIVE POWER SOURCE

5/8" DIA. x 8'L UL LISTED COPPERCLAD GND ROD WITH #8 AWG (MIN.) BARE SOLID CU FROM FENCE FABRIC & TENSION WIRE TO GND ROD. CONNECTION TO GND ROD SHALL BE EXOTHERMIC WELD. CONNECTION TO FENCE FABRIC SHALL BE WITH UL LISTED BRONZE GROUND CONNECTORS WITH BRONZE OR STAINLESS STEEL BOLTS & WASHERS. LOCATE GND RODS WITHIN 100 FT. OF EACH SIDE OF EACH GATE.

3/4" DIA x 10'L UL LISTED COPPERCLAD GND ROD WITH #6 AWG BARE COPPER GROUNDING ELECTRODE CONDUCTOR BONDED TO THE GATE OPERATOR FRAME & EXOTHERMIC WELDED TO THE GND ROD. PROVIDE 1" SCHED 40 PVC CONDUIT ELBOW INTO GATE OPERATOR FOUNDATION.

NEMA 4X S.S. ENCLOSURE. SEE NOTE 16.

30A, 2P, 240VAC NEMA 4X S.S. HEAVY DUTY FUSIBLE SAFETY SWITCH

VEHICLE DETECTOR LOOPS		
GATE SIZE	LOOP SIZE	NO. OF TURNS
8' TO 12'	4' X 6'	3 TURNS
12' TO 16'	4' X 10'	2 TURNS
16' TO 20'	4' X 14'	2 TURNS
20' TO 24'	4' X 18'	2 TURNS
24' TO 30'	6' X 22'	2 TURNS
30' TO 34'	6' X 26'	2 TURNS

CARD READER POWER & CONTROL WIRING WITH #12 EQUIPMENT GND IN 1" GRSC

PROVIDE 1" GRSC FROM ENCLOSURE/GATE OPERATOR TO PAVEMENT EDGE FOR LOOP DETECTOR LEAD-IN WIRING (TYP. EACH LOOP)

PHOTO-ELECTRIC EYE CONTROL WIRING IN 1" GRSC

NEMA 4X S.S. ENCLOSURE. SEE NOTE 16.

30A, 2P, 240VAC NEMA 4X S.S. HEAVY DUTY FUSIBLE SAFETY SWITCH

CHAIN LINK FENCE

5/8" DIA. x 8'L UL LISTED COPPERCLAD GND ROD WITH #8 AWG (MIN.) BARE SOLID CU FROM FENCE FABRIC & TENSION WIRE TO GND ROD. CONNECTION TO GND ROD SHALL BE EXOTHERMIC WELD. CONNECTION TO FENCE FABRIC SHALL BE WITH UL LISTED BRONZE GROUND CONNECTORS WITH BRONZE OR STAINLESS STEEL BOLTS & WASHERS. LOCATE GND RODS WITHIN 100 FT. OF EACH SIDE OF EACH GATE.

120/240 VAC, 1PH, 3W PLUS GND POWER CIRCUIT IN UNIT DUCT OR CONDUIT FROM RESPECTIVE POWER SOURCE

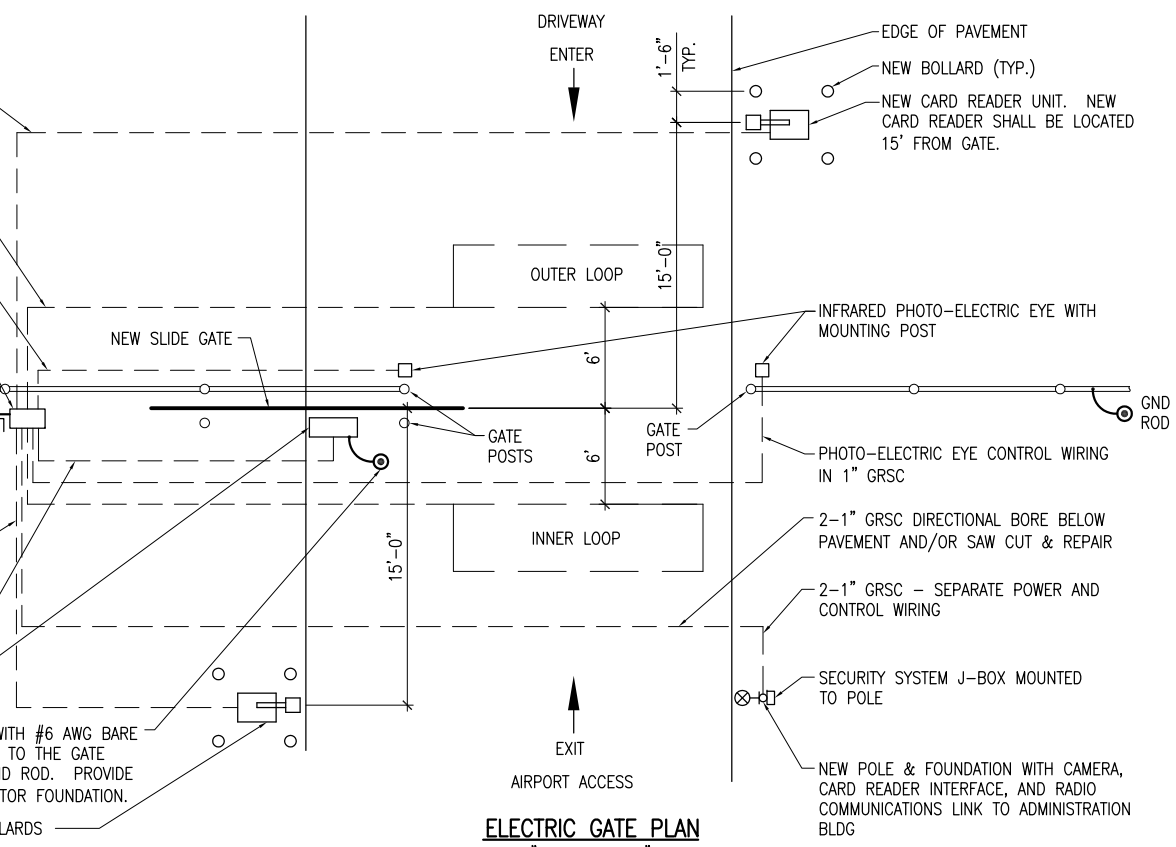
EXIT PUSH BUTTON STATION WIRING WITH #12 EQUIPT GND IN 1" GRSC

POWER & CONTROL CONDUITS TO GATE OPERATOR. 240 VAC POWER FEED SHALL BE IN A SEPARATE DEDICATED CONDUIT.

NEW HEAVY DUTY SLIDE GATE OPERATOR. SEE NOTE 1.

3/4" DIA x 10'L UL LISTED COPPERCLAD GND ROD WITH #6 AWG BARE COPPER GROUNDING ELECTRODE CONDUCTOR BONDED TO THE GATE OPERATOR FRAME & EXOTHERMIC WELDED TO THE GND ROD. PROVIDE 1" SCHED 40 PVC CONDUIT ELBOW INTO GATE OPERATOR FOUNDATION.

EXIT PUSH BUTTON STATION WITH PEDESTAL AND BOLLARDS



ELECTRIC GATE PLAN

"NOT TO SCALE"

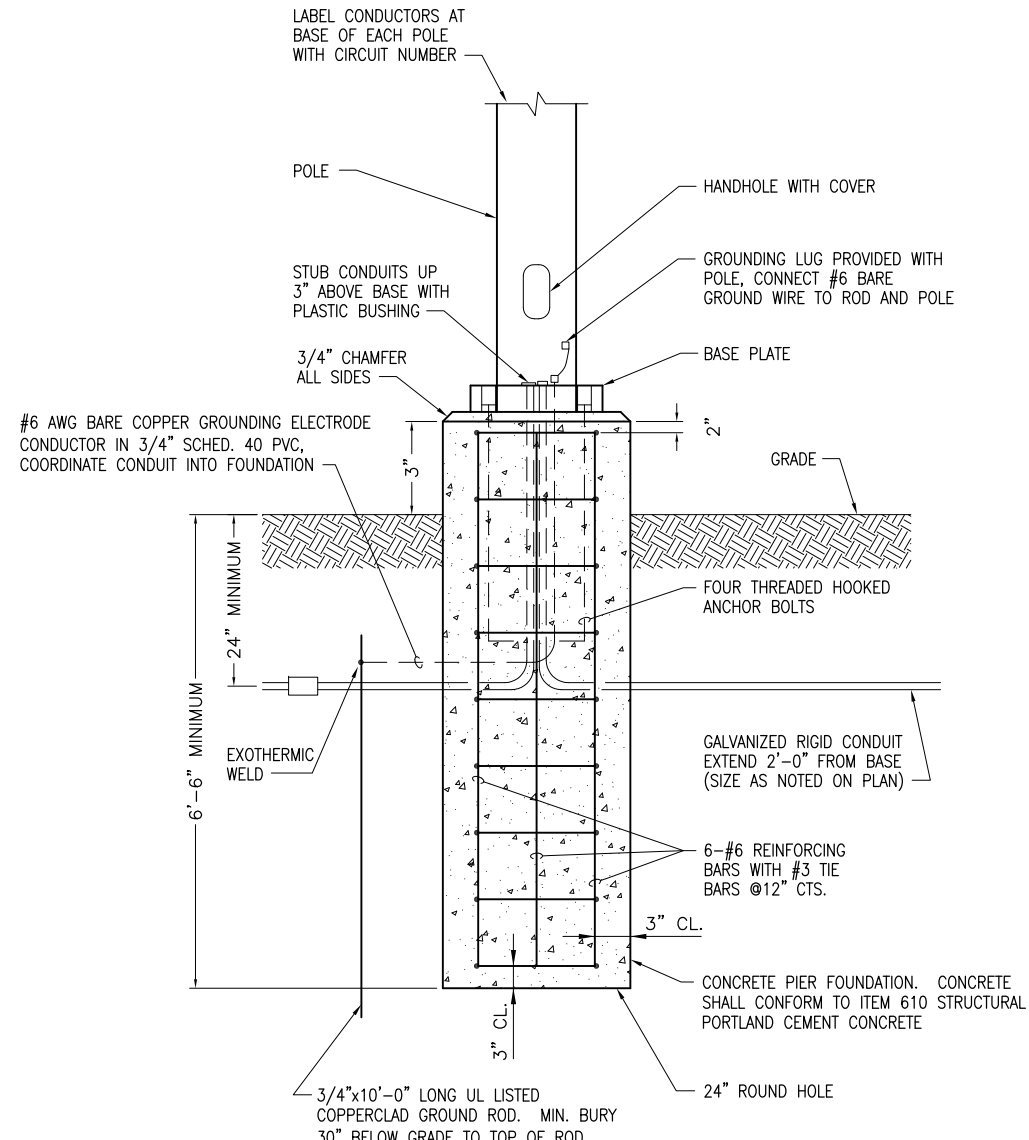
JUN 06, 2011 4:00 PM HARRI01115
E:\AIRPORTS\ST. LOUIS DOWNTOWN\08A0212D\CADD\AIRPORT\SHEET\E-503.DWG - Work

BY	
REVISION	
DATE	
<p>SAINT LOUIS DOWNTOWN AIRPORT A Division of Ill-Share Development Agency A.I.P. PROJ.: 3-17-0039-B25 ILL PROJ.: CPS-3988</p>	
Hanson Project No.	08A0212D 0800
Filename	E-503.DWG
Scale	N/A
Date	05/27/11
LAYOUT	KNL/RDN 02/19/09
DRAWN	ANC 02/19/09
REVIEWED	RAY/KKL 05/07/09
<p>HANSON Hanson Professional Services, Inc. 4227 Fernside Ave. 130 St. Louis, MO 63045-1308 Offices Nationwide</p>	
<p>CONSTRUCT PERIMETER FENCE</p> <p>PROPOSED ELECTRIC SLIDE GATE DETAILS</p> <p>- GATE NO. 2</p>	
<p>21</p> <p>21 of 24 sheets</p>	

GATE 1 & 2 SERVICE PANELBOARD SCHEDULE						
CKT #	DUTY	SIZE		SIZE	DUTY	CKT #
1	MAIN/SERVICE BREAKER	100A 2P		30A 2P	AC SURGE PROTECTOR	2
3				30A 2P	GATE NO. 1	4
5	GATE NO. 2	30A 2P				6
7						8
9	SPARE	30A 2P				10
11						12
13	BLANK					14
15	BLANK					16
17	BLANK					18
19	BLANK					20

100 AMP, 120/240 VAC, 1 PHASE, 3 WIRE, 20 CIRCUIT MAIN LUGS WITH 100 AMP, 2 POLE REVERSE FED MAIN BREAKER PANELBOARD IN A NEMA 3R & 12 ENCLOSURE WITH HINGED COVER UL LISTED SUITABLE FOR SERVICE ENTRANCE, SQUARE D CLASS 1630, CAT. NO. NQ0D20L100CU WITH MH23WP ENCLOSURE, OR APPROVED EQUAL. INCLUDE COPPER EQUIPT GROUND BAR. BRANCH BREAKERS SHALL BE BOLT-ON TYPE WITH 10,000 AIC AT 120/240 VAC. PANELBOARD BUSSES INCLUDING NEUTRAL SHALL BE COPPER.

- NOTES**
- PANELBOARD SHALL REPLACE EXISTING SERVICE DISCONNECT NEAR GATE 1 & GATE 2. PROVIDE STAINLESS STEEL STRUT SUPPORT FOR NEW PANEL. TOP OF PANELBOARD ENCLOSURE SHALL BE APPROX. 5'-6" NOMINALLY ABOVE FINISHED GRADE.
 - INCLUDE PHENOLIC ENGRAVED LEGEND PLATE LABELED "SERVICE PANEL, 120/240 VAC, 1 PH, 3W".



SECURITY SYSTEM POLE FOUNDATION DETAIL

SCALE: NONE



EXISTING GATE NO. 1 SERVICE ELEVATION

SCALE: NONE

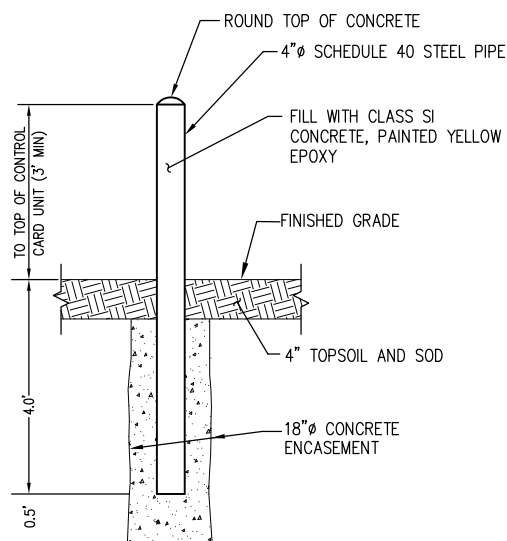
DATE	REVISION	BY

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of St. Louis Development Agency
 ILL. PROJ.: 3-17-0039-B25
 ILL. PROJ.: CPS-3988

Hanson Project No.	08A0212D_0800
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DRAWN	ANC 02/19/09
REVIEWED	RAW/KNL 05/27/11

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CONSTRUCT PERIMETER FENCE
GATE NO. 1 & GATE NO. 2
PANELBOARD SCHEDULE
AND DETAILS

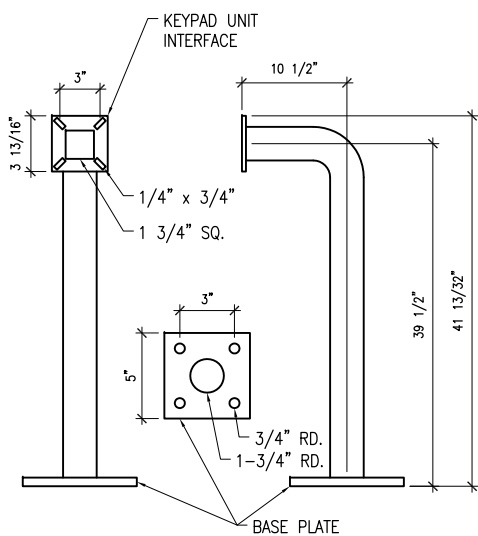


NOTES

1. THE EXPOSED PORTION OF THE BOLLARD SHALL BE PAINTED YELLOW EPOXY.
2. BOLLARD AND ASSOCIATED ITEMS ARE INCIDENTAL TO THE ELECTRIC SLIDING GATE.

BOLLARD DETAIL

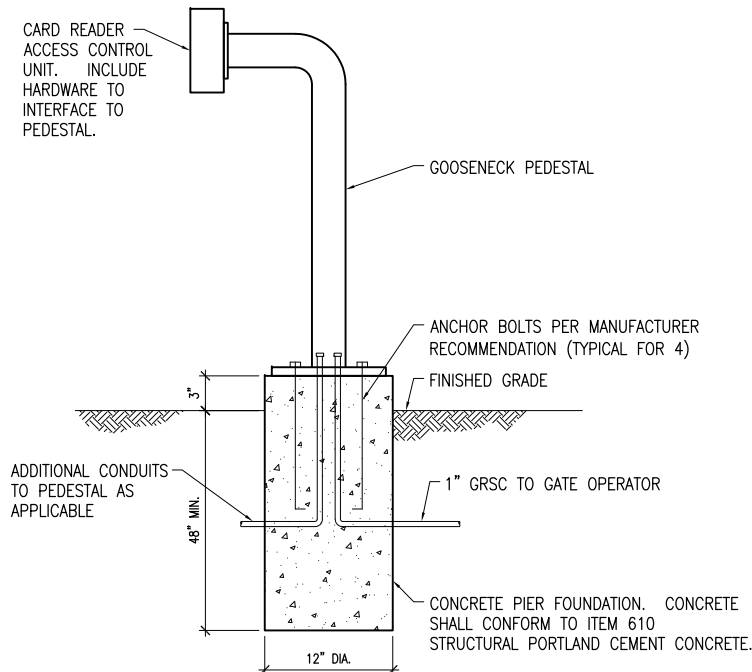
SCALE: NONE



GOOSENECK PEDESTAL DETAIL

SCALE: NONE

NOTE:
GOOSENECK PEDESTAL SHALL BE AMERICAN ACCESS SYSTEMS, INC. (7079 SOUTH JORDAN RD., UNIT 6, ENGLEWOOD, CO 80112, PHONE: 800-541-5677, FAX 303-799-9756) MODEL 18-001 OR APPROVED EQUAL.



NOTES

1. SEE SPECIAL PROVISION SPECS FOR REQUIREMENTS ON CARD READER ACCESS CONTROL UNIT.
2. INCLUDE #12 AWG EQUIPMENT GND WIRE TO CARD READER.
3. FACE OF CARD READER SHALL NOT EXTEND BEYOND BOLLARDS.

CARD READER ACCESS CONTROL UNIT PEDESTAL ELEVATION DETAIL

SCALE: NONE

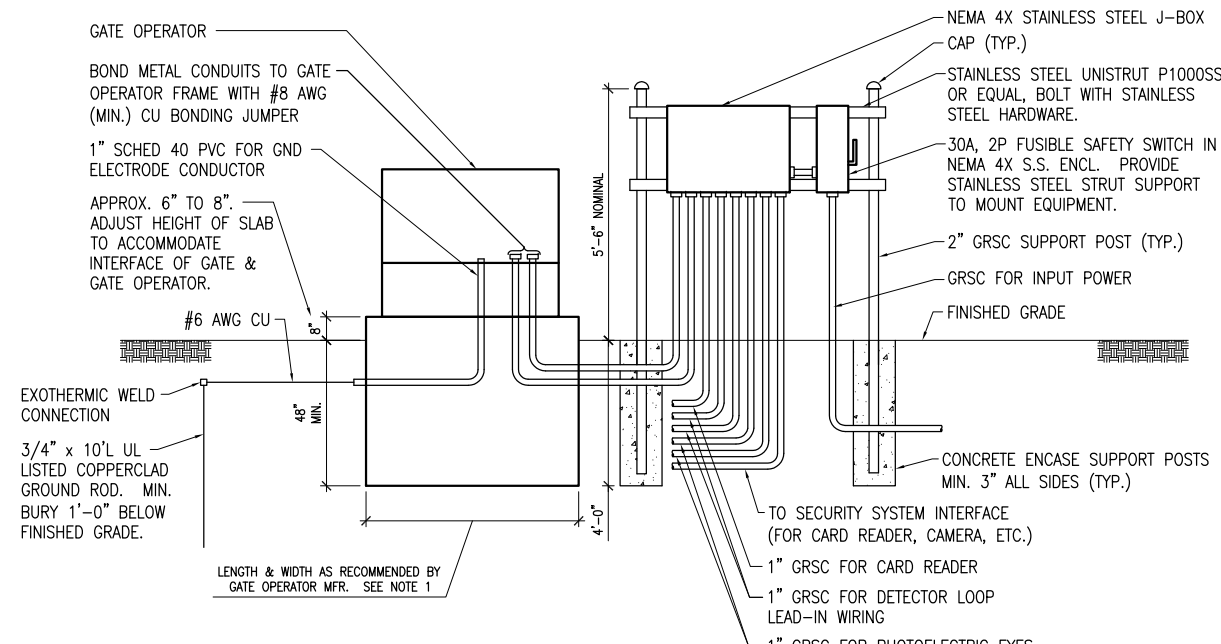


NOTES

1. WARNING SIGNS/PLACARDS AS DETAILED ABOVE OR SIMILAR, SHALL BE INSTALLED WHERE CLEARLY VISIBLE ON BOTH SIDES OF EACH ELECTRIC SLIDE GATE. WARNING SIGNS SHALL BE WEATHERPROOF, CORROSION RESISTANT METAL, AS DETAILED ABOVE, AND IN ACCORDANCE WITH THE RESPECTIVE GATE MANUFACTURER'S RECOMMENDATIONS, HY-SECURITY PART NO. MX000882, OR EQUAL.

WARNING SIGN DETAIL

SCALE: NONE



NOTES

1. FOUNDATION FOR GATE OPERATOR SHALL BE 48" MIN. IN DEPTH AND OF THE LENGTH & WIDTH RECOMMENDED BY THE MANUFACTURER.
2. COORDINATE CONDUITS INTO FOUNDATION. ADJUST LOCATION OF SAFETY SWITCH & JUNCTION BOX TO BE CLEAR OF THE GATE AND OPENING.
3. CONFIRM CONDUIT SIZES AND WIRING REQUIREMENTS WITH THE GATE OPERATOR MFR. ADJUST/INCREASE CONDUIT SIZES WHERE APPLICABLE. REQUIREMENTS VARY BETWEEN DIFFERENT MANUFACTURERS.
4. ALL ENCLOSURES RATED NEMA 4, 4X SHALL HAVE WATERTIGHT HUBS AT CONDUIT ENTRANCES U.L. LISTED NEMA 4, 4X FOR THE RESPECTIVE ENCLOSURE, TO MAINTAIN THE NEMA 4, 4X RATING.

GATE OPERATOR FOUNDATION DETAIL

SCALE: NONE



NOTES

1. 0.05 GA ALUMINUM ALLOY SHEET. LETTERING COLOR SHALL BE RED ON A WHITE BACKGROUND. EACH GATE SHALL REQUIRE ONE SIGN, ON EXTERIOR FACE. EVERY 100' OF FENCE SHALL REQUIRE ONE SIGN.

NO TRESPASSING SIGN DETAIL

SCALE: NONE

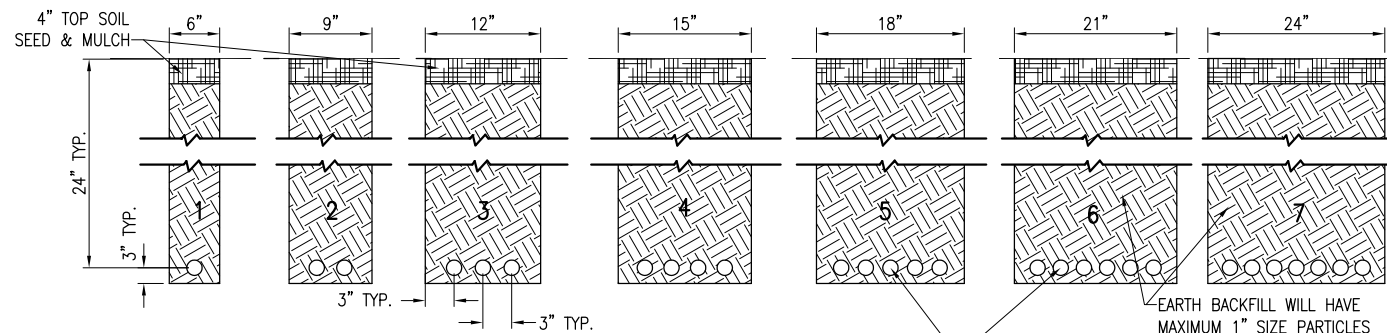
BY	REVISION	DATE

SAINT LOUIS DOWNTOWN AIRPORT
A Division of Ill-Share Development Agency
A.I.P. PROJ.: 3-17-0039-B25
ILL PROJ.: CPS-3988

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LAYOUT	KNL 01/20/09
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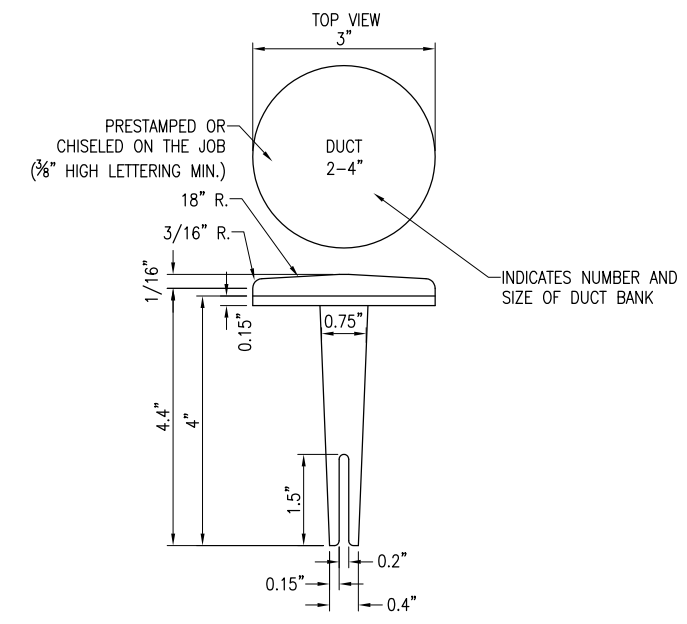
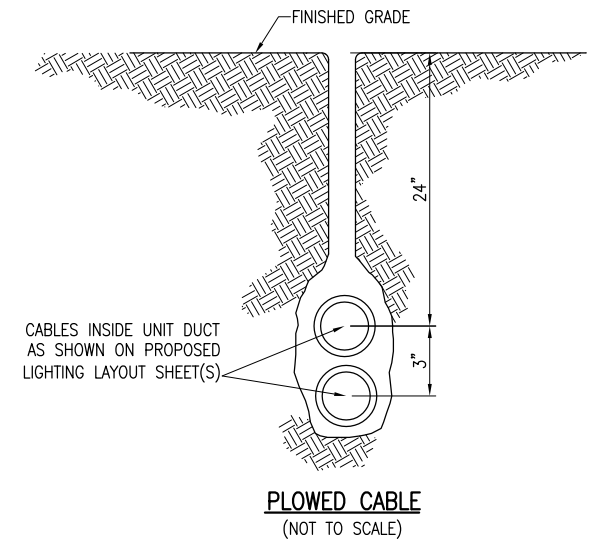
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4227 Fairview Ave. #130
St. Louis, MO 63045-1308
Offices Nationwide

CONSTRUCT PERIMETER FENCE
CARD READER, BOLLARD & GATE OPERATOR DETAILS



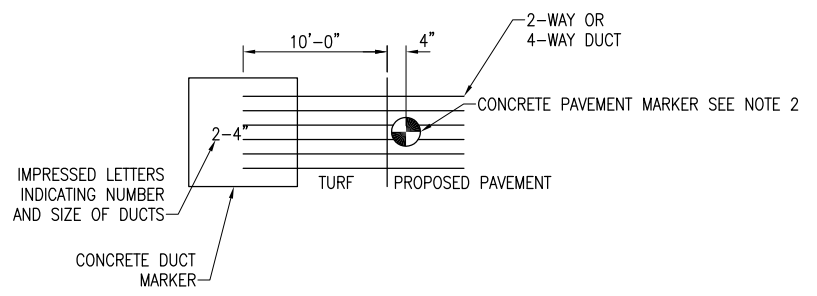
NOTES:
 DETAIL NUMBERS INDICATE NO. OF CABLES.
 TRENCHES WITH MORE THAN SEVEN CABLES SHALL BE INCREASED 3" IN WIDTH FOR EACH ADDITIONAL CABLE; IF SPECIFIED ON PLANS TWO PARALLEL TRENCHES MAY BE CONSTRUCTED.
 DEPTH OF TRENCHES SHALL BE AS SHOWN ABOVE UNLESS OTHERWISE SPECIFIED ON THE PLANS.
 ALL DISTURBED SURFACES SHALL BE RESTORED TO THEIR ORIGINAL CONDITION. COST IS INCIDENTAL TO TRENCH.

CABLE TRENCHES
 (NOT TO SCALE)

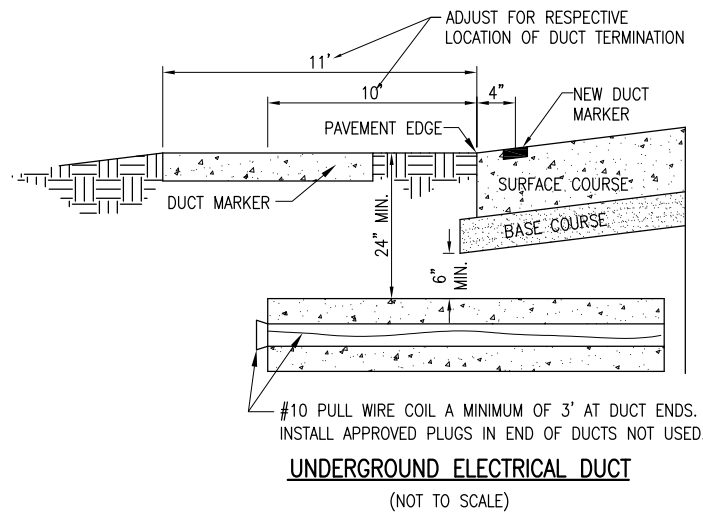


BITUMINOUS PAVEMENT DUCT MARKERS
 "NOT TO SCALE"

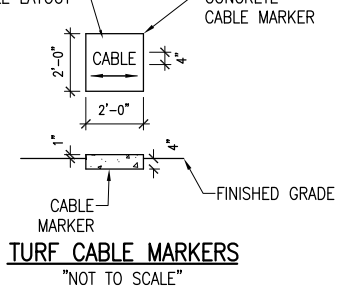
NOTE:
 TOP OF MARKER SHALL BE FLUSH WITH FINISHED PAVEMENT SURFACE. MARKER MAY BE INSTALLED IN A DRILLED HOLE AND SECURED WITH EPOXY GLUE.



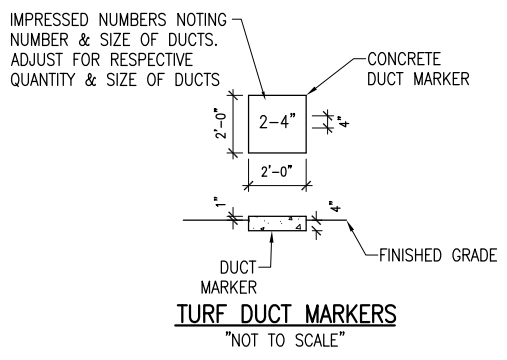
DUCT MARKER DETAIL
 "NOT TO SCALE"



TURF CABLE MARKERS
 "NOT TO SCALE"



TURF DUCT MARKERS
 "NOT TO SCALE"



- CABLE & DUCT MARKER NOTES:**
1. THE COST OF ALL TURF AND PAVEMENT DUCT MARKERS SHALL BE INCIDENTAL TO THE DUCT. THE COST OF ALL CABLE MARKERS SHALL BE INCIDENTAL TO THE CABLE.
 2. BITUMINOUS PAVEMENT DUCT MARKER AND CONCRETE DUCT MARKER TO BE PROVIDED AT EACH END OF EACH DUCT AS SHOWN ON THE LOCATION PLAN. FOR CONCRETE PAVEMENT, THE LETTER "D" SHALL BE IMPRESSED IN THE PAVEMENT INSTEAD OF THE MARKER. THE LETTER SHALL BE FORMED AS DESCRIBED IN NOTE 4.
 3. CABLE MARKERS SHALL BE PLACED AT CHANGES OF DIRECTION AND APPROXIMATELY EVERY 200' ALONG CABLE RUNS.
 4. CONCRETE CABLE MARKERS AND DUCT MARKERS SHALL HAVE LETTERS 4" HIGH, 3" WIDE WITH WIDTH OF STROKE 1/2" AND 1/4" DEEP. ALL LETTERS, NUMBERS AND ARROWS TO BE IMPRESSED.

DATE	REVISION

SAINT LOUIS DOWNTOWN AIRPORT
 A Division of Ill-State Development Agency
 A.I.P. PROJ.: 3-17-0039-B25
 ILL. PROJ.: CPS-3988

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CONSTRUCT PERIMETER FENCE
ELECTRICAL DETAILS