



REVISION  
DATE

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SUMMARY OF QUANTITIES				
ITEM NO.	DESCRIPTION	UNIT	AS BID	RECORD PAID
AR108051	POWER CABLE IN UNIT DUCT	LINEAR FOOT	124.0	
AR108052	POWER CABLE IN CONDUIT	LINEAR FOOT	228.0	
AR150510	ENGINEER'S FIELD OFFICE	LUMP SUM	1.0	
AR152499	UNCLASSIFIED EXCAVATION (LS)	LUMP SUM	1.0	
AR156510	SILT FENCE	LINEAR FOOT	966.0	
AR156513	SEPARATION FABRIC	SQUARE YARD	550.0	
AR208606	6" AGGREGATE BASE COURSE	SQUARE YARD	48.0	
AR501604	4" PCC SIDEWALK	SQUARE FOOT	376.0	
AR754610	PAVED DITCH	LINEAR FOOT	1653.0	
AR800906	CONCRETE CABLE BOTTOM	SQUARE YARD	544.0	
AR901510	SEEDING	ACRE	1.6	
AR905520	TOPSOILING (FROM OFF SITE)	CUBIC YARD	158.0	
AR908510	MULCHING	ACRE	1.6	

ALTERNATE A				
ITEM NO.	DESCRIPTION	UNIT	AS BID	RECORD PAID
AS162605	CLASS E GATE-5'	EACH	5.0	
AS800944	CL. E FENCE 10' BARB W/2' BUR. GALV	LINEAR FOOT	3120.0	
AS800947	28' ELECTRICAL SLIDING GATE-GALV	EACH	2.0	
AS800948	28' MANUAL SLIDING GATE-GALV	EACH	3.0	

ALTERNATE B				
ITEM NO.	DESCRIPTION	UNIT	AS BID	RECORD PAID
AT800963	28' ELECTRICAL SLIDING GATE-VINYL	EACH	2.0	
AT800975	CLASS E GATE 5'-VINYL	EACH	5.0	
AT800976	CL. E FENCE 10' BARB W/2' BUR.-VINYL	LINEAR FOOT	3120.0	
AT800977	28' MANUAL SLIDING GATE-VINYL	EACH	3.0	

SOME FENCE ITEMS ARE BID AS ALTERNATE A ITEMS (AS) AND OTHERS ARE BID AS ALTERNATE B (AT). THE AWARD WILL BE MADE BASED ON THE BASE BID AND EITHER ALTERNATE A OR ALTERNATE B. ONLY ONE OF THE ALTERNATES WILL BE AWARDED.

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 NOTED IN THE SPECIAL PROVISIONS, COMPLETED AND ACCEPTED BY THE ENGINEER.

Chicago-Romeoville Airport  
JOLIET REGIONAL PORT DISTRICT  
1 George Michas Drive  
Romeoville, Illinois 60446  
Telephone: 815.838.9497  
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Hanson No. 12A0087D	Filename: 02-INDEX AND SQO.DWG	Scale: N/A	Date: MARCH 22, 2013
LAYOUT	SJM	12/18/12	
DRAWN	SJM	12/18/12	
REVIEWED	RMH	3/22/13	

**HANSON**  
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SHEET INDEX AND SUMMARY OF QUANTITIES  
EXTEND FENCING AND GATES  
IDA No. LOT-4192 AIP No. 3-17-0140-B50

REVISION  
DATE

Chicago-Romeoville Airport  
JOLIET REGIONAL PORT DISTRICT  
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Hanson No. 12A0087D  
Filename 03-SITE PLAN.DWG  
Scale 1"=200'  
Date MARCH 22, 2013

**HANSON** Professional Services Inc. 2013  
Hanson Professional Services Inc.  
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Oak Brook, Illinois 60523

**SITE PLAN AND GENERAL NOTES**  
EXTEND FENCING AND GATES  
IDA No. LOT-4192 AIP No. 3-17-0140-B50

**GENERAL NOTES**

- PROJECT DESCRIPTION**
- THIS PROJECT IS TO EXTEND THE PERIMETER FENCING AND INSTALL GATES AT CHICAGO-ROMEUVILLE, INCLUDING, AMONG OTHER INCIDENTAL WORK, THE FOLLOWING ITEMS:
- PLACEMENT OF TEMPORARY EROSION CONTROL MEASURES.
  - PROVIDE SELECT GRADING OF EARTH TO ACCOMMODATE FENCE LINE AND CONSTRUCTION OF PAVED DITCH AND CABLE BOTTOM.
  - INSTALL PRECAST CONCRETE CABLE BOTTOM TREATMENT.
  - CONSTRUCT PC CONCRETE SIDEWALK.
  - CONSTRUCT PC CONCRETE PAVED DITCH.
  - INSTALL CHAIN -LINK FENCING.
  - INSTALL ELECTRIC VEHICULAR SLIDING GATES, MANUAL VEHICULAR SLIDING GATES, AND MANUAL PEDESTRIAN SWINGING GATES.
  - CONSTRUCT ELECTRICAL POWER AND CONTROL CABLING AND EQUIPMENT.
  - TOPSOIL, SEED, AND MULCH FENCE LINE AND DISTURBED AREAS.

**PROTECTION OF EXISTING AIRPORT FACILITIES**

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

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

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE FAA (SMO) THROUGH THE RESIDENT ENGINEER TO LOCATE ALL FAA CABLES ON THE PROJECT SITE. ALL FAA CABLES SHALL BE PROTECTED AT ALL TIMES.

**CONTRACTOR'S ACCESS AND TEMPORARY FACILITIES**

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

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

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

**RESPONSIBILITY FOR EXISTING UTILITIES**

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

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

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

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

**AIRPORT SECURITY**

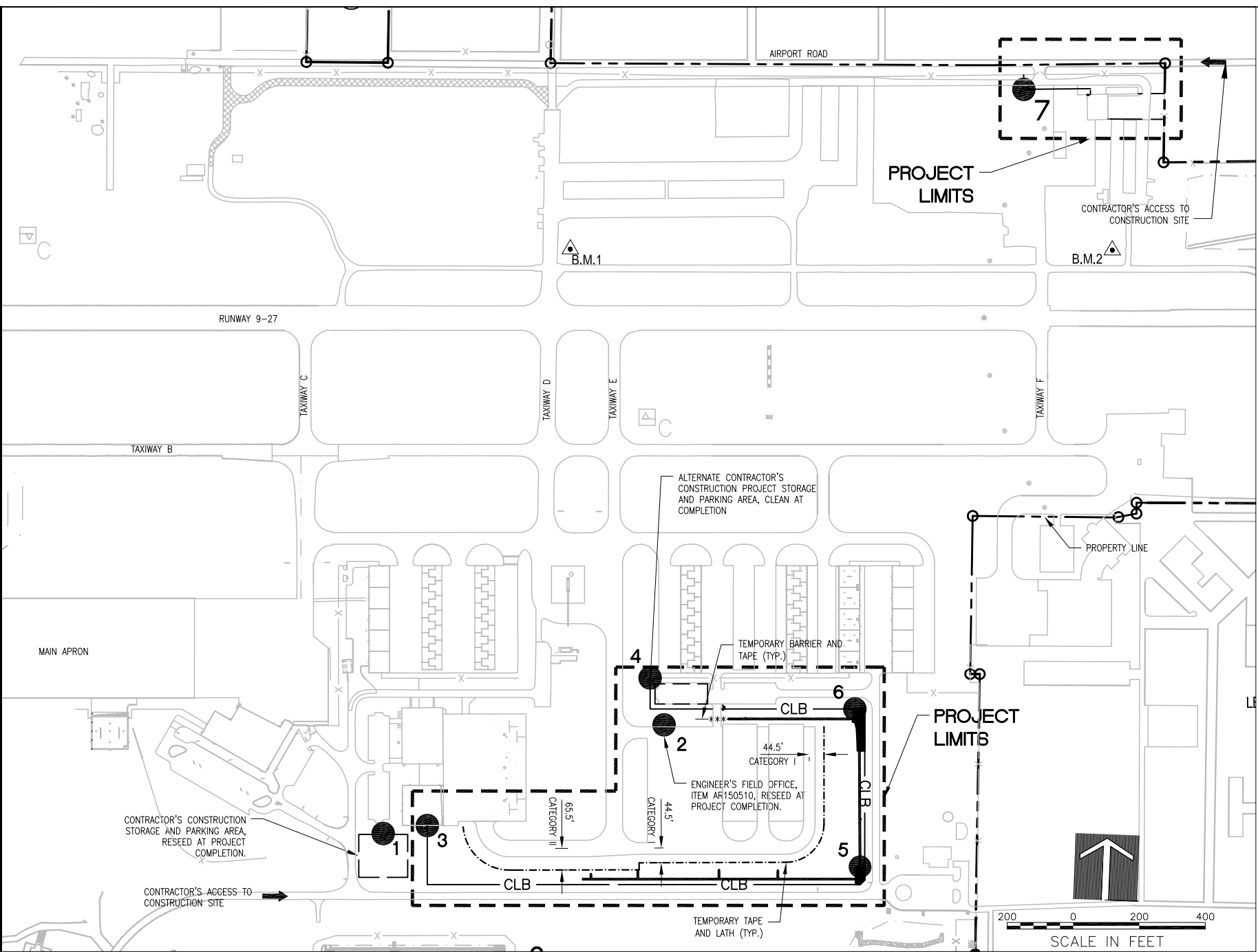
THE CONTRACTOR IS TO COORDINATE GATE SECURITY, THROUGH THE RESIDENT ENGINEER, WITH THE AIRPORT MANAGEMENT. AIRPORT SECURITY SHALL BE MAINTAINED AT ALL TIMES.

**EXISTING BENCHMARK**

PROJECT BENCHMARKS ARE AS FOLLOWS:

- ▲ B.M.1 N 1,800,236.82  
E 1,051,080.54  
ELEV. 666.67
- ▲ B.M.2 N 1,800,302.96  
E 1,052,719.90  
ELEV. 664.18

THIS DATA IS NOT ILLINOIS STATE PLANE COORDINATES



**OBJECT INFORMATION**

ITEM NO.	DESCRIPTION	MOBILITY	GROUND ELEVATION	OBJECT ELEVATION	LATITUDE	LONGITUDE	RUNWAY 9-27 STATION	RUNWAY 9-27 OFFSET	RUNWAY 9-27 EXIS. EL.
1	ENGINEER'S FIELD OFFICE	STATIONARY	665.1	690.1	41°36'14.9973" N	88°05'26.7624" W	60+66.28	1561.1	668.7
2	CONTRACTOR STAGING AREA	STATIONARY	662.9	687.9	41°36'18.5784" N	88°05'15.7517" W	69+16.41	1232.0	668.7
3	CONSTRUCTION EQUIPMENT	MOVING	665.6	690.6	41°36'15.2877" N	88°05'25.0190" W	61+99.78	1537.0	668.7
4	CONSTRUCTION EQUIPMENT	MOVING	664.7	689.7	41°36'19.9635" N	88°05'16.3808" W	68+74.18	1090.0	668.7
5	CONSTRUCTION EQUIPMENT	MOVING	656.8	706.8	41°36'14.5657" N	88°05'07.7258" W	75+12.64	1661.9	668.2
6	CONSTRUCTION EQUIPMENT	MOVING	661.5	711.5	41°36'19.1767" N	88°05'08.1710" W	74+94.00	1184.0	668.3
7	CONSTRUCTION EQUIPMENT	MOVING	665.6	690.6	41°36'38.0001" N	88°05'02.4251" W	80+05.51	692.4	665.5

**RUNWAY END COORDINATES**

DESCRIPTION	LATITUDE	LONGITUDE	RUNWAY STATION
RUNWAY 9 END	41°36'28.9758" N	88°06'15.9913" W	23+85.38
RUNWAY 27 END	41°36'31.1949" N	88°05'01.0708" W	80+81.15
RUNWAY 2 END	41°35'57.2760" N	88°06'03.2207" W	100+00.40
RUNWAY 20 END	41°36'59.6552" N	88°05'42.9106" W	165+00.00

- NOTES**
1. WORK MUST BE CONTROLLED.
  2. MAXIMUM HEIGHT OF CONTRACTOR'S EQUIPMENT SHALL BE 50 FEET FOR INSTALLATION OF CONCRETE CABLE BOTTOM, ALL OTHER WORK MAXIMUM HEIGHT SHALL BE 25 FEET, EXCEPT BY PRIOR APPROVAL OF THE ENGINEER (SEE SPECIAL PROVISIONS).
  3. TRAFFIC TO BE MAINTAINED ON ALL AIRPORT ROADWAYS AT ALL TIMES.
  4. NO CLOSURES TO TAXIWAY, APRON, ROADWAY, AND AUTO PARKING SHALL BE CONDUCTED EXCEPT AS SHOWN IN THE SITE PLAN.

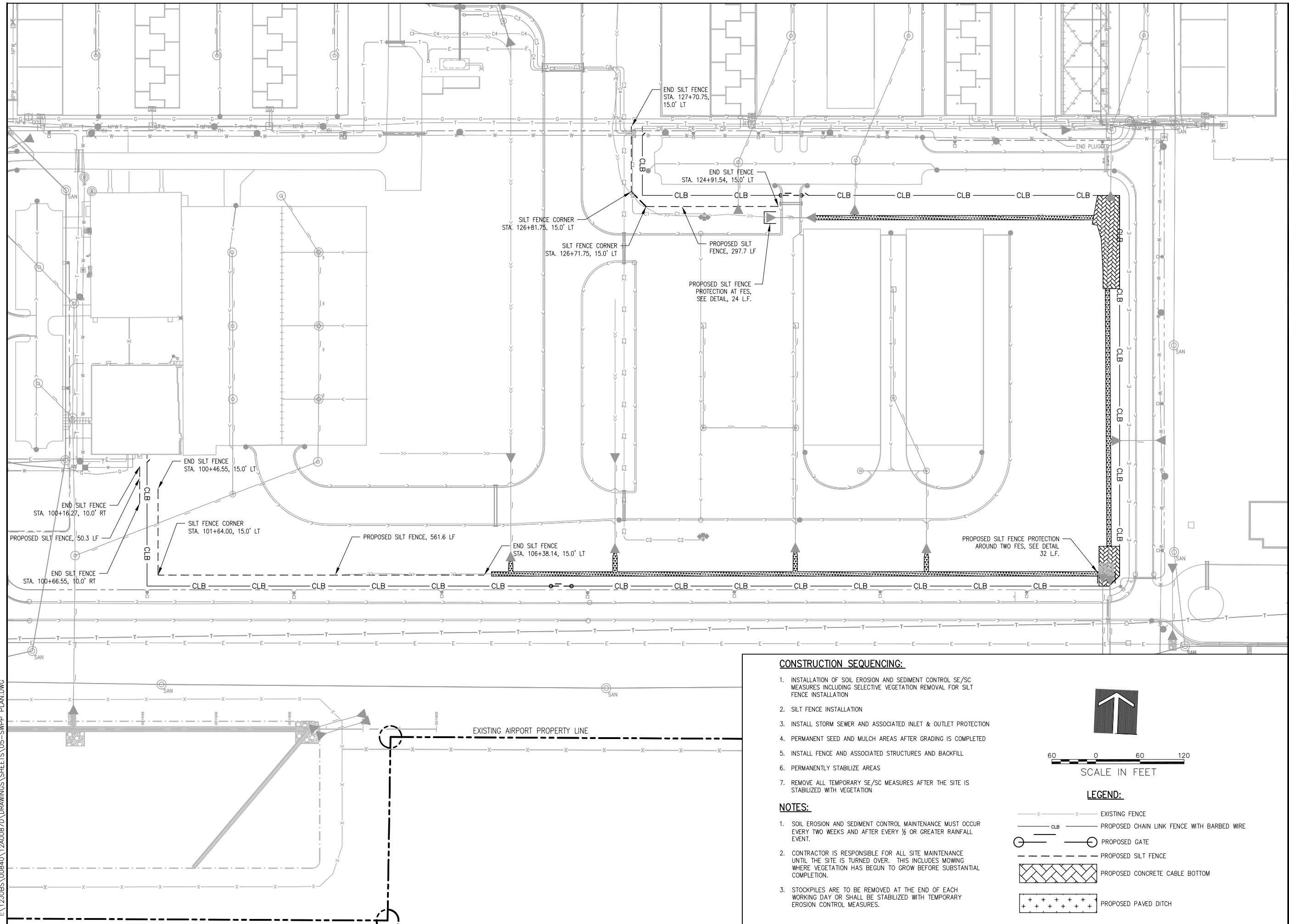
ALL TAXIWAYS WITHIN THE PROJECT LIMITS ARE FAA CATEGORY II.



PROJECT IS LOCATED IN  
NORTHEAST 1/4 OF SECTION 16  
LOCKPORT TOWNSHIP, WILL COUNTY

APR 26, 2013 8:12 AM MCLAU1058 I:\12105\00840\12A0087D\DRAWINGS\03-SITE PLAN.DWG



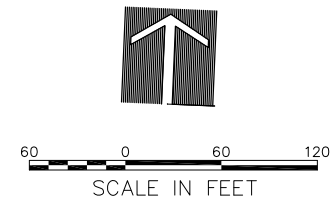


**CONSTRUCTION SEQUENCING:**



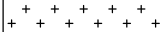
1. INSTALLATION OF SOIL EROSION AND SEDIMENT CONTROL SE/SC MEASURES INCLUDING SELECTIVE VEGETATION REMOVAL FOR SILT FENCE INSTALLATION
2. SILT FENCE INSTALLATION
3. INSTALL STORM SEWER AND ASSOCIATED INLET & OUTLET PROTECTION
4. PERMANENT SEED AND MULCH AREAS AFTER GRADING IS COMPLETED
5. INSTALL FENCE AND ASSOCIATED STRUCTURES AND BACKFILL
6. PERMANENTLY STABILIZE AREAS
7. REMOVE ALL TEMPORARY SE/SC MEASURES AFTER THE SITE IS STABILIZED WITH VEGETATION

**NOTES:**

1. SOIL EROSION AND SEDIMENT CONTROL MAINTENANCE MUST OCCUR EVERY TWO WEEKS AND AFTER EVERY 1/2 OR GREATER RAINFALL EVENT.
2. CONTRACTOR IS RESPONSIBLE FOR ALL SITE MAINTENANCE UNTIL THE SITE IS TURNED OVER. THIS INCLUDES MOWING WHERE VEGETATION HAS BEGUN TO GROW BEFORE SUBSTANTIAL COMPLETION.
3. STOCKPILES ARE TO BE REMOVED AT THE END OF EACH WORKING DAY OR SHALL BE STABILIZED WITH TEMPORARY EROSION CONTROL MEASURES.



**LEGEND:**

- x-x- EXISTING FENCE
- CLB- PROPOSED CHAIN LINK FENCE WITH BARBED WIRE
 PROPOSED GATE
- - - - - PROPOSED SILT FENCE
 PROPOSED CONCRETE CABLE BOTTOM
 PROPOSED PAVED DITCH

Hanson No.	12A0087D	Filename	05-SWPP PLAN.DWG
Scale	1"=60'	Date	MARCH 22, 2013
LAYOUT	KMS	12/21/12	
DRAWN	KMS	12/21/12	
REVIEWED	RMH	3/22/13	

**HANSON**  
Professional Services Inc. 2013  
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Oak Brook, Illinois 60523

**STORM WATER POLLUTION PREVENTION PLAN**

EXTEND FENCING AND GATES  
IDA No. LOT-4192 AIP No. 3-17-0140-B50

REVISION	DATE

**Chicago-Romeoville Airport**  
**JOLIET REGIONAL PORT DISTRICT**  
 1 George Michas Drive  
 Romeoville, Illinois 60446  
 Telephone: 815.838.9497  
 Fax: 815.838.9524

Hanson No.	12A0087D
Filename	06-SITE PLAN ALIGNMENT 100.DWG
Scale	1"=30'
Date	MARCH 22, 2013
LAYOUT	SJM
DRAWN	KMS
REVIEWED	RMH
	12/13/12
	12/20/12
	3/22/13

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 815 Commerce Drive Suite 200  
 Oak Brook, Illinois 60523

**SITE PLAN ALIGNMENT 100**  
**STA. 100+00 - 109+50**  
**EXTEND FENCING AND GATES**  
 IDA No. LOT-4192 AIP No. 3-17-0140-B50

**LEGEND:**

- EXISTING STORM SEWER
- EXISTING UNDERDRAIN
- EXISTING ELECTRICAL
- EXISTING POWER CABLE
- EXISTING TELEPHONE
- EXISTING FENCE
- EXISTING STORM SEWER MANHOLE
- ▽ EXISTING FLARED END SECTION
- CLB — PROPOSED CHAIN LINK FENCE WITH BARBED WIRE
- E — PROPOSED ELECTRICAL
- PROPOSED FENCE REMOVAL
- PROPOSED GATE
- ▨ PROPOSED CONCRETE CABLE BOTTOM
- ▤ PROPOSED PAVED DITCH

**NOTES:**

- PROPOSED FENCE LINE FOLLOWS THE EXISTING GRADE UNLESS OTHERWISE NOTED. ALSO, SEE SPECIAL PROVISIONS FOR ADDITIONAL FENCELINE REQUIREMENTS.
- SOME EXISTING AND PROPOSED UTILITIES HAVE BEEN OMITTED FOR CLARITY.
- SWING GATES ARE STATIONED AT THE ANCHOR POST. SLIDE GATES ARE STATIONED AT THE CENTER OF THE GATE.

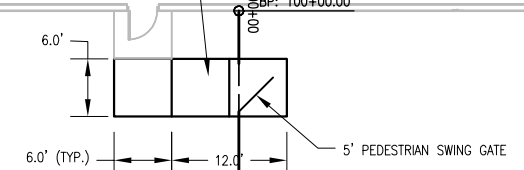


**ALIGNMENT 100**

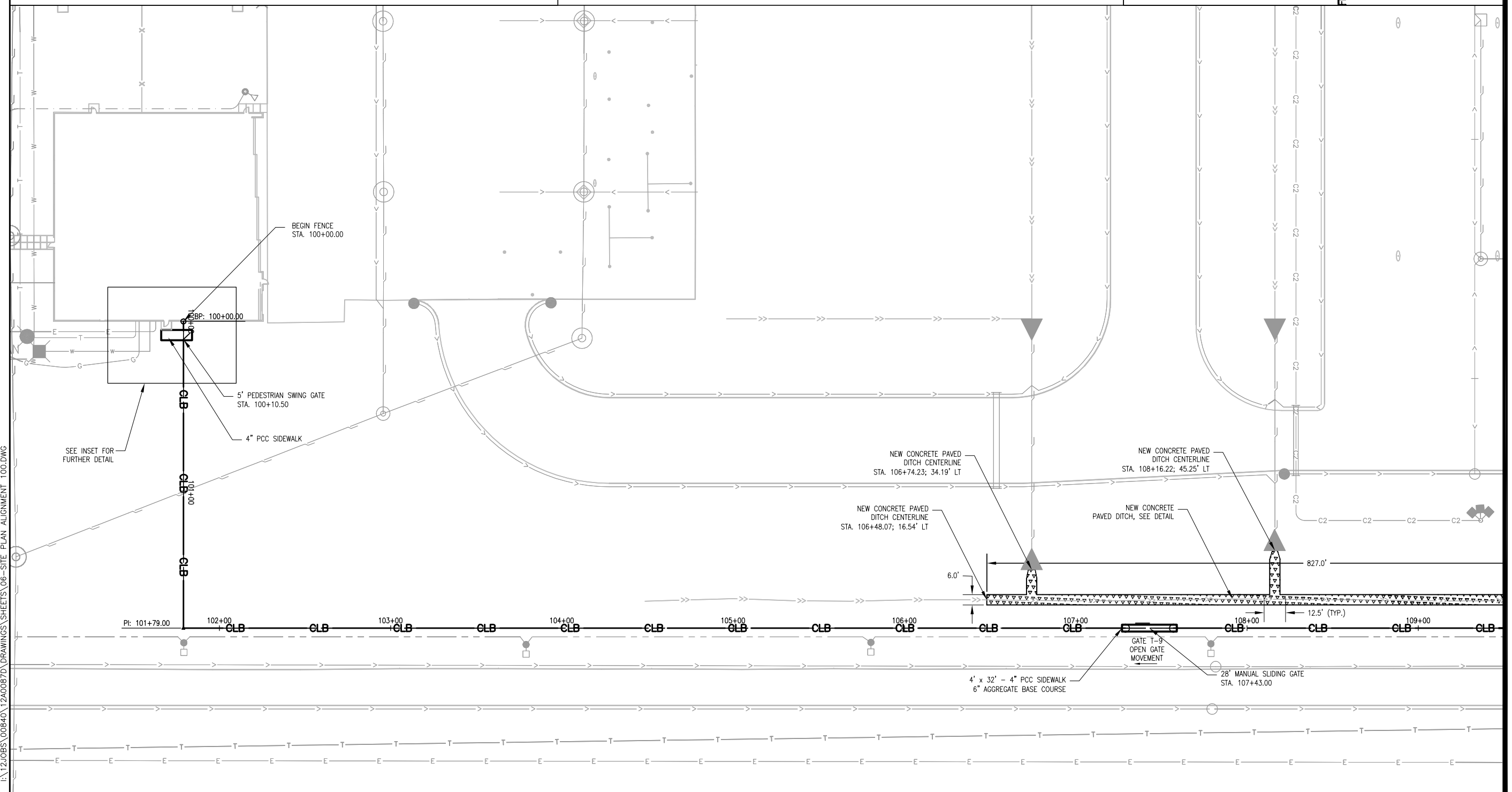
ALIGNMENT	STATION	NORTHING	EASTING
BEGINNING OF ALIGNMENT	100+00.00	1798474.5178	1050721.9497
PI	101+79.00	1798295.6747	1050729.5213
PI	114+89.08	1798351.0890	1050238.4246
PI	115+09.08	1798365.8166	1052051.9559
PI	120+26.94	1798883.2110	1052030.0512
PI	126+76.75	1798855.7247	1051380.8155
END OF ALIGNMENT	127+70.75	1798949.6406	1051376.8395

NOTE:  
 COORDINATES ARE ILLINOIS STATE PLANE COORDINATE SYSTEM, EAST ZONE, US SURVEY FOOT, NAD 83

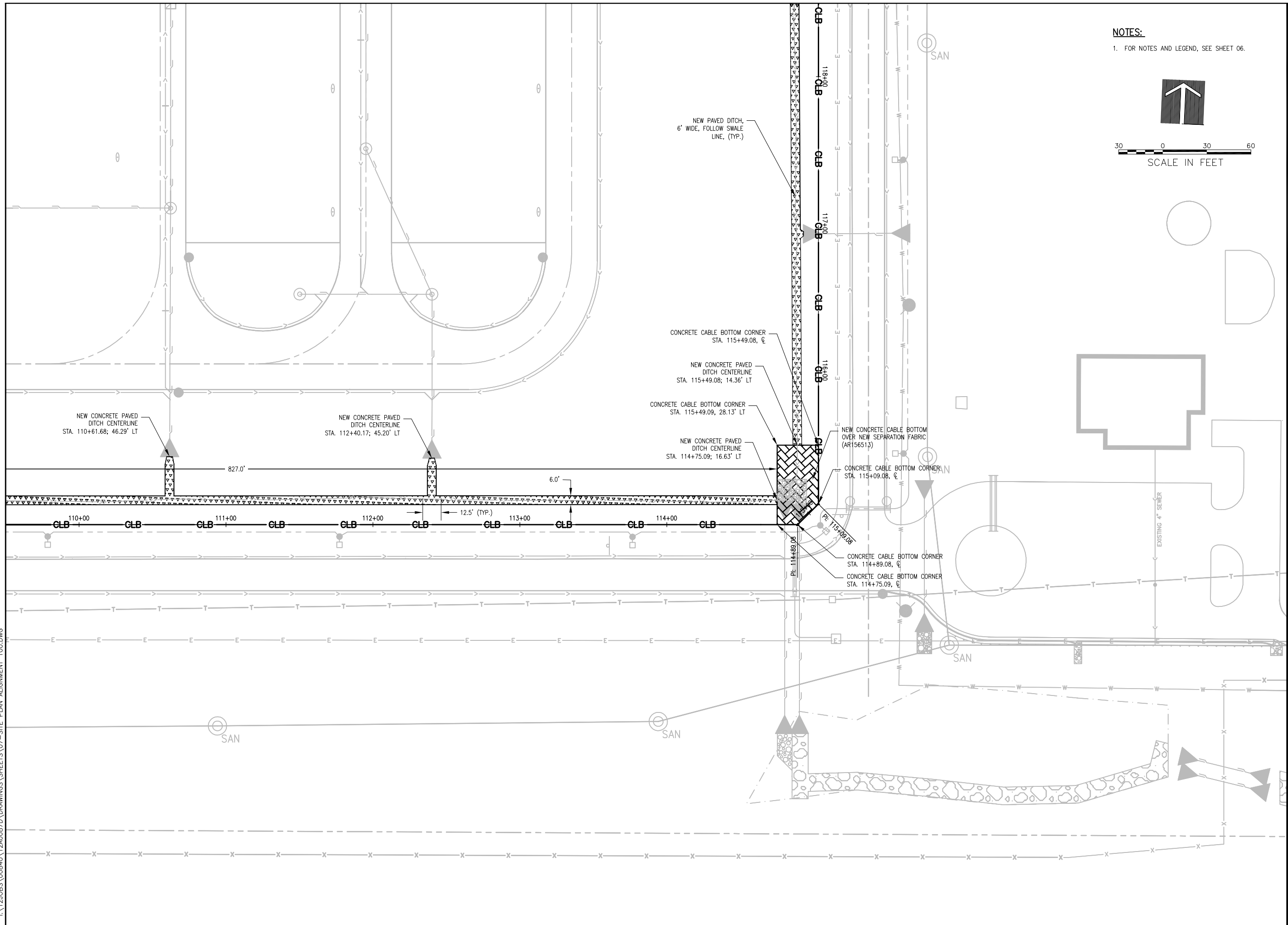
4" PCC SIDEWALK  
 6" AGGREGATE BASE COURSE



NOTE:  
 1. UTILITIES IN INSET OMITTED FOR CLARITY.

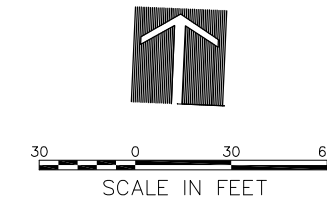


APR 26, 2013 8:20 AM SPITZ01394  
 I:\12\085\00840\12A0087D\DRAWINGS\SHEETS\06-SITE PLAN ALIGNMENT 100.DWG



**NOTES:**

1. FOR NOTES AND LEGEND, SEE SHEET 06.



LE045

REVISION	DATE

**Chicago-Romeoville Airport**  
**JOLIET REGIONAL PORT DISTRICT**  
 1 George Michas Drive  
 Romeoville, Illinois 60446  
 Telephone: 815.838.9497  
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Hanson No. 1240087D	12/13/12
Filename 07-SITE PLAN ALIGNMENT 100	SJM
Scale 1"=30'	KMS
Date MARCH 22, 2013	RMH
LAYOUT	12/13/12
DRAWN	12/20/12
REVIEWED	3/22/13

**HANSON**  
 Professional Services Inc. 2013  
**Hanson Professional Services Inc.**  
 815 Commerce Drive Suite 200  
 Oak Brook, Illinois 60523

**SITE PLAN ALIGNMENT 100**  
**STA. 109+50 - 118+50**  
**EXTEND FENCING AND GATES**  
 IDA No. LOT-4192 AIP No. 3-17-0140-B50

NOTES:  
1. FOR NOTES AND LEGEND, SEE SHEET 06

1. FOR NOTES AND LEGEND, SEE SHEET 06



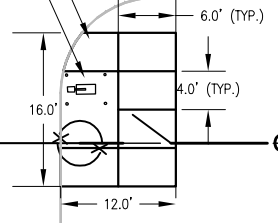
30 0 30 60  
SCALE IN FEET

4" PCC SIDEWALK,  
6" AGGREGATE BASE COURSE  
ITEM 208

BACKFILL ISLAND BETWEEN  
SIDEWALK AND DRIVEWAY  
WITH 6" CA-6 OVER  
SEPARATION FABRIC (ITEM AR156513)

28' ELECTRICAL SLIDE GATE

GATE T-7  
OPEN GATE  
MOVEMENT



NOTE:  
1. UTILITIES IN INSET OMITTED FOR CLARITY

10 0 10 20  
SCALE IN FEET

MEET EXISTING FENCE AT  
STA. 127+70.75

5' PEDESTRIAN SWING GATE  
STA. 127+58.25

4" PCC SIDEWALK  
5' PEDESTRIAN SWING GATE  
STA. 124+45.25

28' ELECTRIC  
SLIDE GATE  
STA. 124+74.25

GATE T-7  
OPEN GATE  
MOVEMENT

NEW CONCRETE PAVED  
DITCH CENTERLINE  
STA. 123+87.74, 25.44' LT

CABLE BOTTOM CORNER  
STA. 120+56.94, €

CABLE BOTTOM CORNER  
STA. 120+26.94, €

NEW CONCRETE PAVED  
DITCH CENTERLINE  
STA. 120+62.64, 30.32' LT

PI: 120+26.94

NEW CONCRETE CABLE BOTTOM  
OVER NEW SEPARATION FABRIC  
(AR156513)

SEE INSET FOR  
FURTHER DETAIL

NEW CONCRETE PAVED  
DITCH CENTERLINE  
STA. 124+41.00, 30.32' LT

CABLE BOTTOM CORNER  
STA. 119+87.63, 37.40' LT

CABLE BOTTOM CORNER  
STA. 119+86.31, 30.43' LT

CABLE BOTTOM CORNER  
STA. 119+67.48, 25.01' LT

CABLE BOTTOM CORNER  
STA. 119+22.56, 22.69' LT

CABLE BOTTOM CORNER  
STA. 119+00.00, 22.53' LT

NEW CONCRETE PAVED  
DITCH CENTERLINE  
STA. 119+00.00, 16.53' LT

CABLE BOTTOM CORNER  
STA. 119+00.00, €

Chicago-Romeoville Airport  
JOLIET REGIONAL PORT DISTRICT  
1 George Michas Drive  
Romeoville, Illinois 60446  
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Fax: 815.838.9524

Hanson No.	12A0087D
Filename	08-SITE PLAN ALIGNMENT 100.DWG
Scale	1"=30'
Date	MARCH 22, 2013
LAYOUT	SJM 12/13/12
DRAWN	KMS 12/20/12
REVIEWED	RMH 3/22/13

**HANSON**  
Professional Services Inc. 2013  
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Oak Brook, Illinois 60523

**SITE PLAN ALIGNMENT 100**  
STA. 118+50 - 127+70  
**EXTEND FENCING AND GATES**  
IDA No. LOT-4192 AIP No. 3-17-0140-B50

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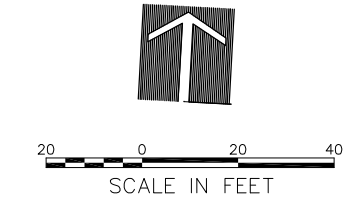


**ALIGNMENT 500**

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BEGINNING OF ALIGNMENT	500+00.00	1800822.5115	1052429.3791
PI	500+44.29	1800778.2812	1052431.7587
PI	503+89.77	1800796.8411	1052776.7319
PI	504+06.96	1800779.6668	1052777.6290
END OF ALIGNMENT	504+86.67	1800783.9490	1052857.2231

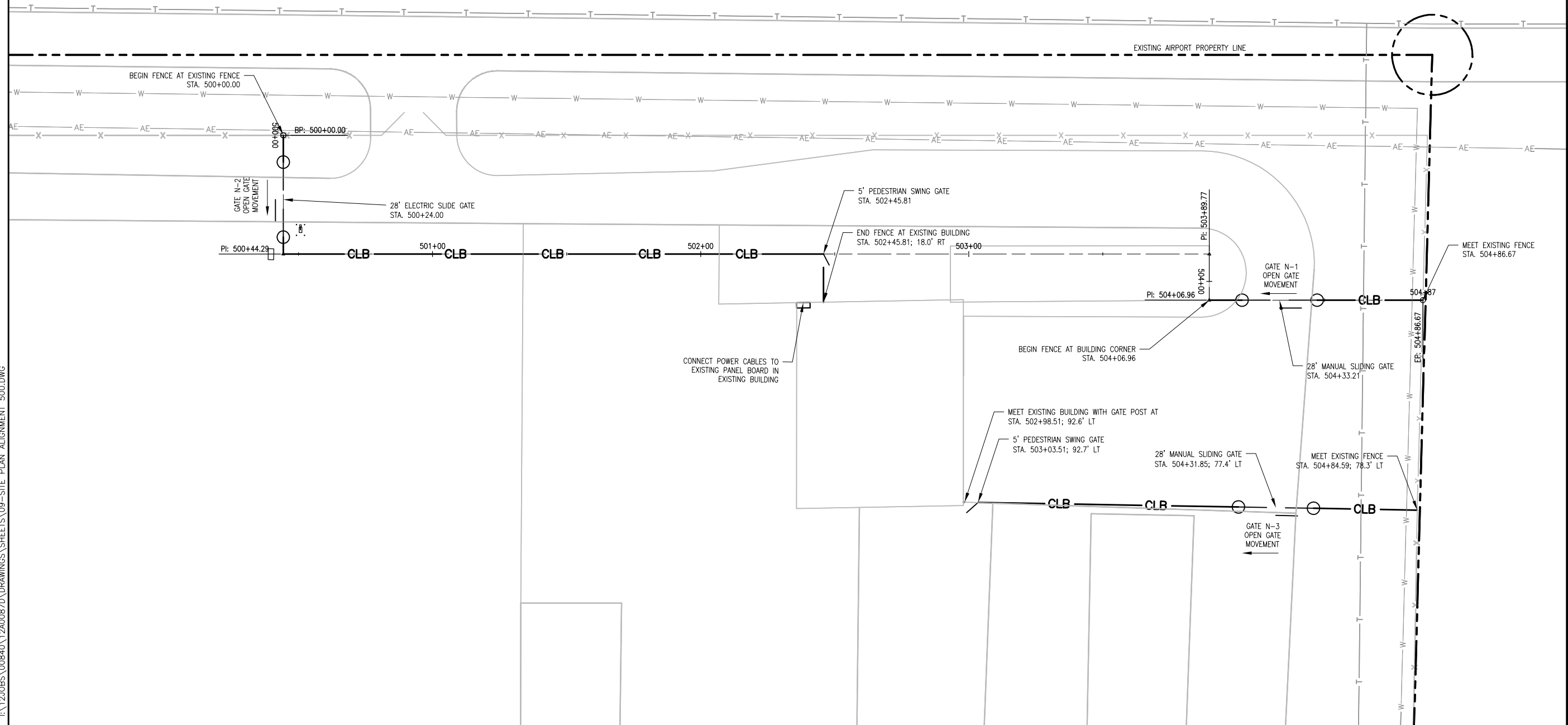
**NOTES:**

1. FOR NOTES AND LEGEND, SEE SHEET 6



**NOTE:**

- COORDINATES ARE ILLINOIS STATE PLANE COORDINATE SYSTEM, EAST ZONE, US SURVEY FOOT, NAD 83
- SWING GATES ARE STATIONED AT THE ANCHOR POST. SLIDE GATES ARE STATIONED AT THE CENTER OF THE GATE.



REVISION  
DATE

**Chicago-Romeoville Airport**  
**JOLIET REGIONAL PORT DISTRICT**  
 1 George Michas Drive  
 Romeoville, Illinois 60446  
 Telephone: 815.838.9497  
 Fax: 815.838.9524

Hanson No.	12A0087D
Filename	09-SITE PLAN ALIGNMENT 500.DWG
Scale	1"=20'
Date	MARCH 22, 2013
LAYOUT	SJM 12/13/12
DRAWN	KMS 12/20/12
REVIEWED	RMH 3/22/13

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**SITE PLAN**  
**ALIGNMENT 500**  
**EXTEND FENCING AND GATES**  
 IDA No. LOT-4192 AIP No. 3-17-0140-B50

REVISION  
DATE

Chicago-Romeoville Airport  
JOLIET REGIONAL PORT DISTRICT  
1 George Michas Drive  
Romeoville, Illinois 60446  
Telephone: 815.838.9497  
Fax: 815.838.9524

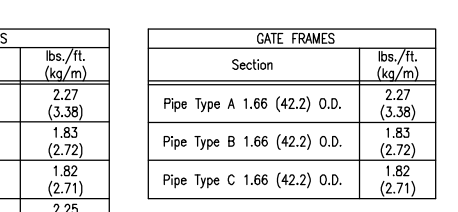
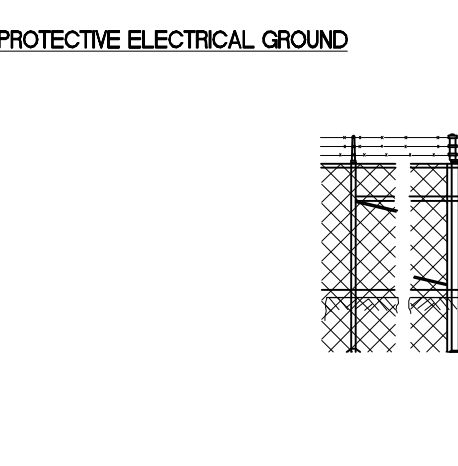
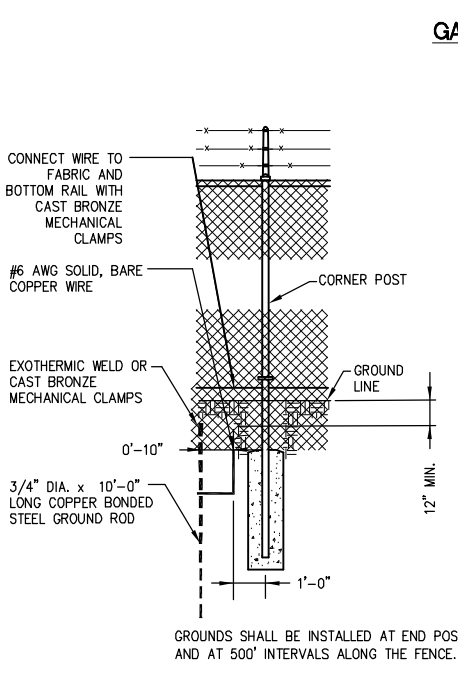
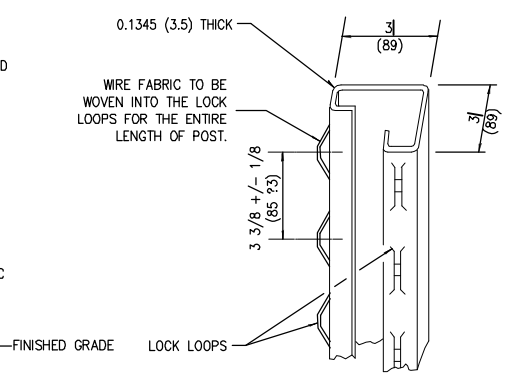
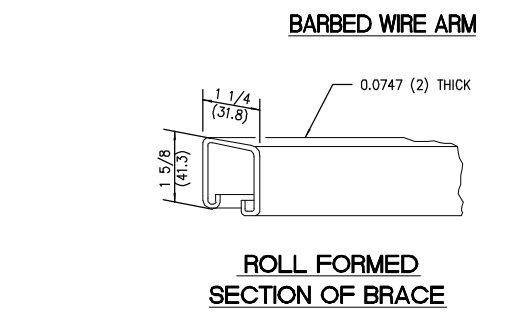
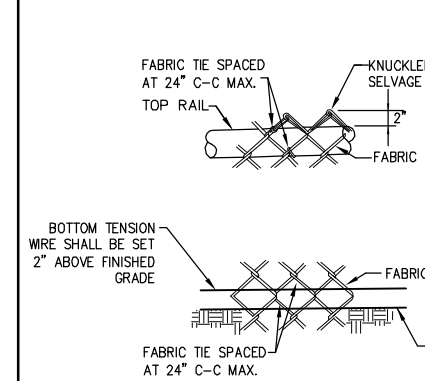
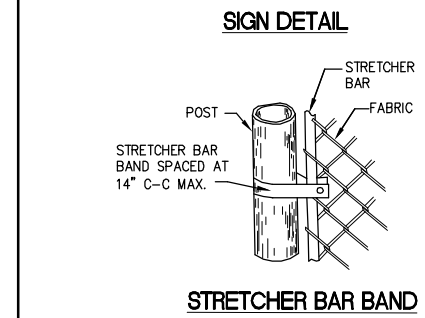
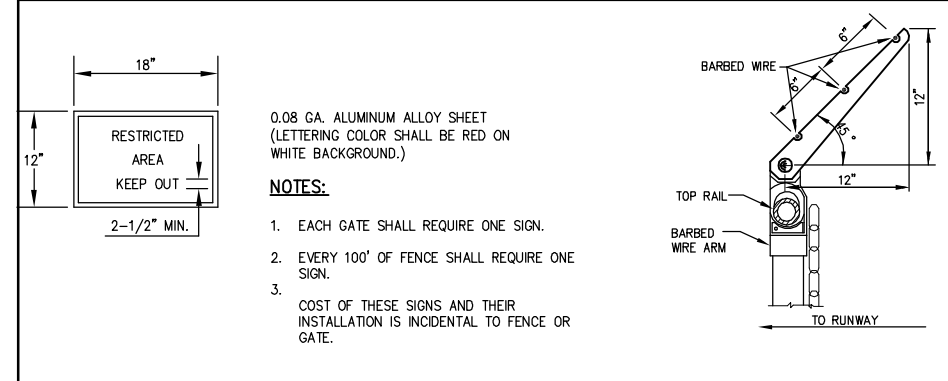
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Date: MARCH 22, 2013

LAYOUT	SJM	12/18/12
DRAWN	SJM	12/18/12
REVIEWED	RMH	3/22/13

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FENCE DETAILS

EXTEND FENCING AND GATES  
IDA No. LOT-4192 AIP No. 3-17-0140-B50



**GATE POSTS \***

Gate Opening * ft. (m)	Pipe Type A		Pipe Type B	
	Size (O.D.)	lbs./ft. (kg/m)	Size (O.D.)	lbs./ft. (kg/m)
Up to 4 (1.2)	2.375 (60.3)	3.65 (5.43)	2.375 (60.3)	3.11 (4.63)
Over 4 (1.2) to 8 (2.5)	2.875 (73.0)	5.79 (8.62)	2.875 (73.0)	4.64 (6.91)
Over 8 (2.5) to 12 (3.6)	3.5 (89.0)	7.58 (11.28)	3.5 (89)	5.707 (8.49)

- FENCING NOTES**
- ALL FENCE, FABRIC, POSTS, GATES, TENSION WIRE, RODS, BRACES, ARMS, BARBED WIRE AND MISCELLANEOUS FITTINGS SHALL BE GALVANIZED STEEL EXCEPT FOR ITEMS AT800963, AT800975, AT800976, AND AT800977 WHICH SHALL BE GREEN VINYL COATED.
  - BARBED WIRE FOR FENCE AND GATES SHALL BE GALVANIZED STEEL.
  - FENCE HEIGHT SHALL BE 10' WITH BOTTOM 2' BURIED. GATE HEIGHT ABOVE GROUND LINE SHALL BE 8'-0" AS SHOWN.
  - PULL POSTS SHALL BE PLACED AT 660 FOOT INTERVALS BETWEEN CORNER OR END POSTS TO WHICH THE ENDS OF THE FABRIC ARE CLAMPED OR MIDWAY BETWEEN SUCH POSTS WHEN THE DISTANCE IS LESS THAN 1,320 FEET AND GREATER THAN 660 FEET.
  - ALUMINUM RESTRICTED AREA SIGNS SHALL BE FURNISHED AS SHOWN IN THE DETAIL. COST INCIDENTAL TO FENCE OR GATE.
  - SONOTUBE TO BE USED FOR CASTING POST FOUNDATIONS WHERE REQUIRED BY THE SOIL CONDITIONS TO PROVIDE A CONSTANT WIDTH FOOTING
  - COST OF TRENCHING FOR FENCE FABRIC BURIAL SHALL BE INCIDENTAL TO CHAIN LINK FENCE.
  - SOME FENCE ITEMS ARE BID AS ALTERNATE BID A ITEMS (AS) AND OTHERS ARE BID AS ALTERNATE BID B ITEMS (AT). THE AWARD WILL BE MADE BASED ON THE BASE BID AND EITHER ALTERNATE BID A OR ALTERNATE BID B. ONLY ONE OF THE ALTERNATES WILL BE AWARDED.
  - SEE SPECIAL PROVISIONS.

**LINE POST**

Section	lbs./ft. (kg/m)
Pipe Type A 2.375 (60.3) O.D.	4.64 (6.90)
Pipe Type B 2.375 (60.3) O.D.	4.64 (6.90)
Pipe Type C 2.25x1.7 (57.2x43.2)	2.78 (4.14)
H 2.25x1.70 (57.2x43.2)	2.72 (4.05)

**TERMINAL POST**

Section	lbs./ft. (kg/m)
Pipe Type A 2.875 (73.0) O.D.	4.64 (6.90)
Pipe Type B 2.875 (73.0) O.D.	4.64 (6.90)
Pipe Type C 3.5x3.5 (89.0x89.0)	5.10 (7.59)
Roll Formed 3.5x3.5 (89.0x89.0)	See detail
Sq. Tubing 2.5x2.5 (63.5x63.5)	5.10 (7.59)

**HORIZONTAL BRACES**

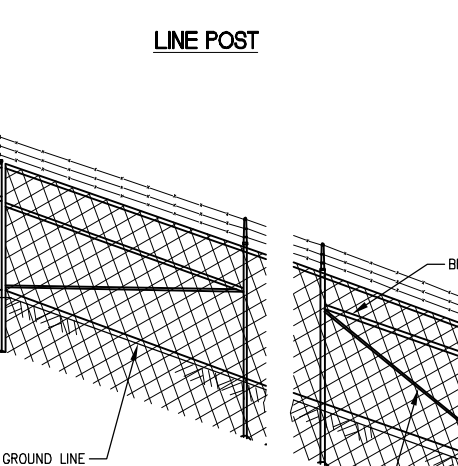
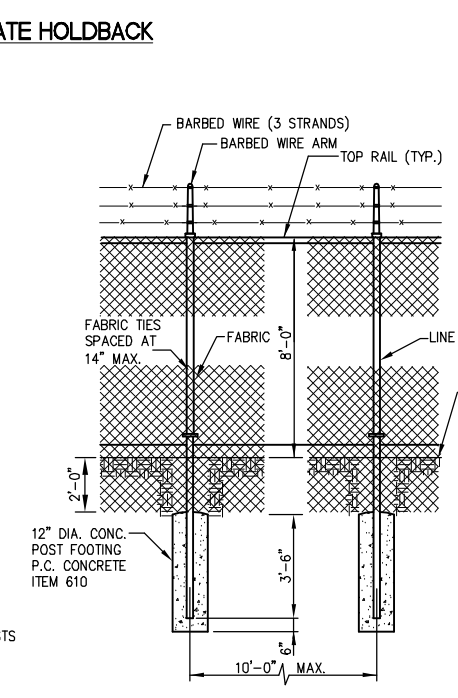
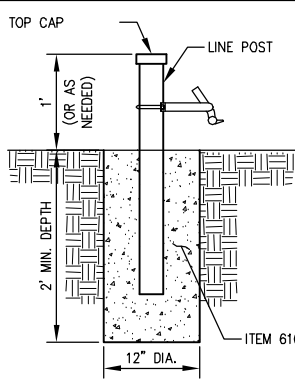
Section	lbs./ft. (kg/m)
Pipe Type A 1.66 (42.2) O.D.	2.27 (3.38)
Pipe Type B 1.66 (42.2) O.D.	1.83 (2.72)
Pipe Type C 1.66 (42.2) O.D.	1.82 (2.71)
H 1.31x1.5 (33.3x38.1)	2.25 (3.35)
Roll Formed 1.625x1.25 (41.3x31.8)	See detail

\* The 3.5x3.5 (89.0 x 89.0) roll formed section as detailed may be used as gate posts for single gate up to 6' (1.8 m) and double gate up to 12' (3.6 m).

**GATE POSTS \***

Gate Opening * ft. (m)	Pipe Type A		Pipe Type B	
	Size (O.D.)	lbs./ft. (kg/m)	Size (O.D.)	lbs./ft. (kg/m)
Over 12 (3.75) but not over 30 (9.375)	4.0 (101.6)	9.11 (13.6)	4.0 (101.6)	9.11 (13.6)

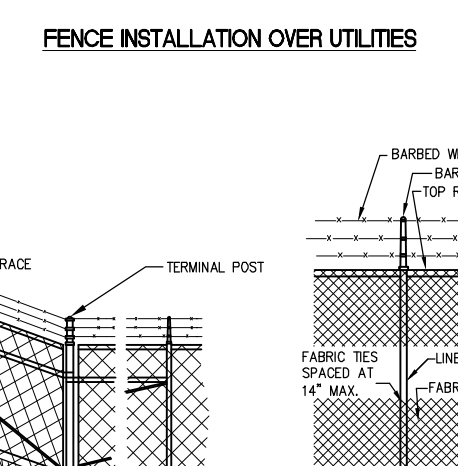
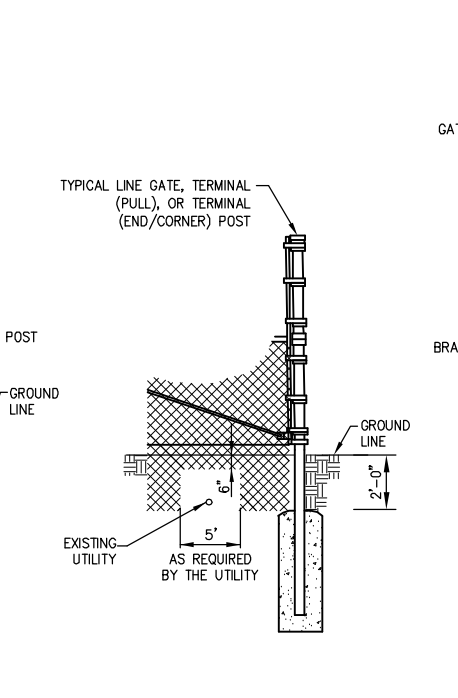
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**GATE POSTS \***

Gate Opening * ft. (m)	Pipe Type A		Pipe Type B	
	Size (O.D.)	lbs./ft. (kg/m)	Size (O.D.)	lbs./ft. (kg/m)
Up to 4 (1.2)	2.375 (60.3)	3.65 (5.43)	2.375 (60.3)	3.11 (4.63)
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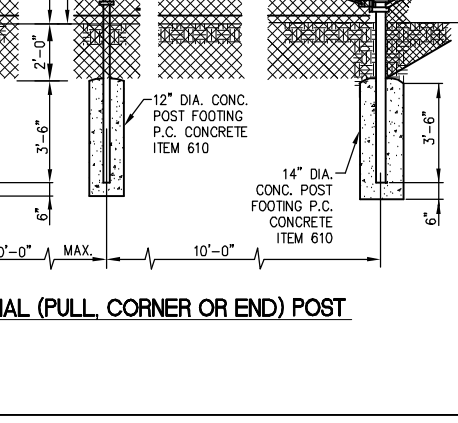
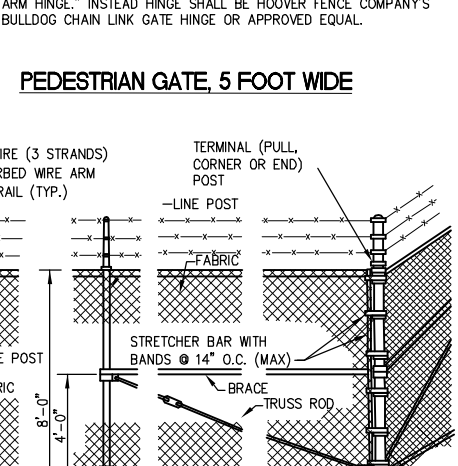
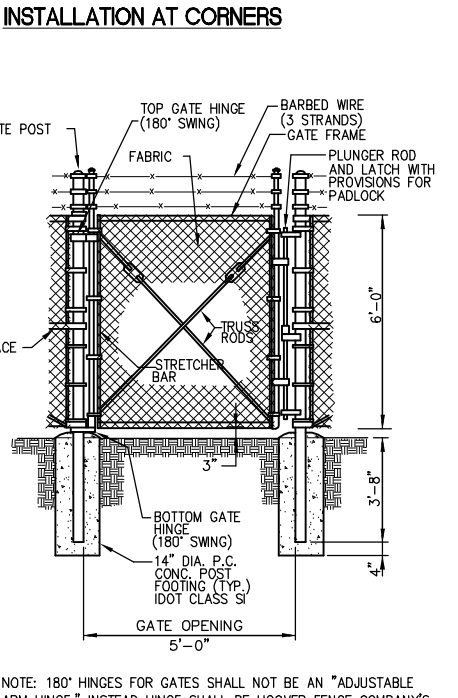
\* The 3 1/2 x 3 1/2 (89.0 x 89.0) roll formed section as detailed may be used as gate posts for single gate up to 6' (1.8 m) and double gate up to 12' (3.6 m).



**GATE POSTS \***

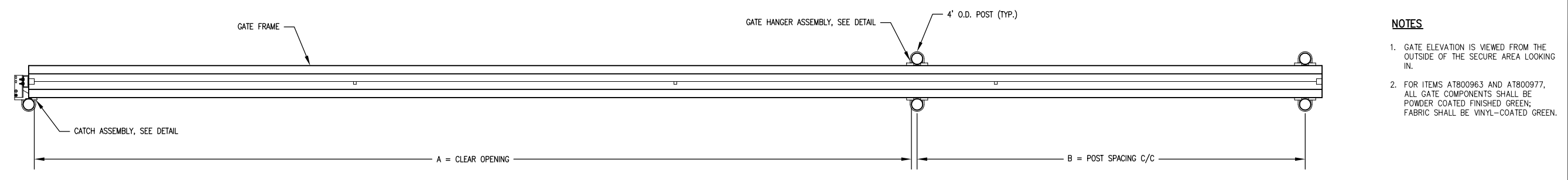
Gate Opening * ft. (m)	Pipe Type A		Pipe Type B	
	Size (O.D.)	lbs./ft. (kg/m)	Size (O.D.)	lbs./ft. (kg/m)
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\* The 3 1/2 x 3 1/2 (89.0 x 89.0) roll formed section as detailed may be used as gate posts for single gate up to 6' (1.8 m) and double gate up to 12' (3.6 m).



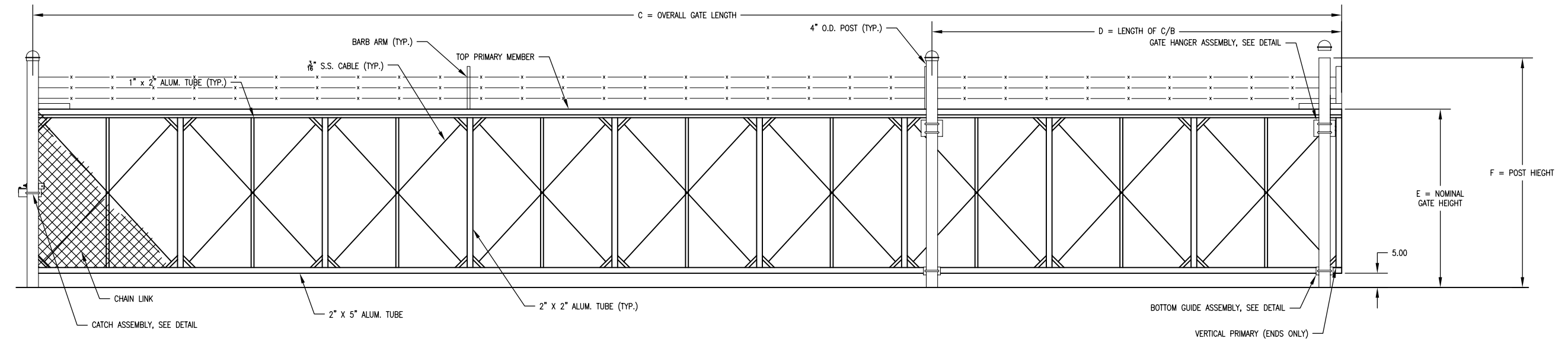
\* The 3 1/2 x 3 1/2 (89.0 x 89.0) roll formed section as detailed may be used as gate posts for single gate up to 6' (1.8 m) and double gate up to 12' (3.6 m).

DETAILS SHOWN ARE NOT TO SCALE

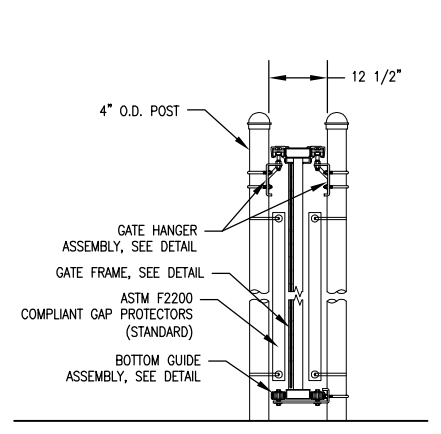


- NOTES**
- GATE ELEVATION IS VIEWED FROM THE OUTSIDE OF THE SECURE AREA LOOKING IN.
  - FOR ITEMS AT800963 AND AT800977, ALL GATE COMPONENTS SHALL BE POWDER COATED FINISHED GREEN; FABRIC SHALL BE VINYL-COATED GREEN.

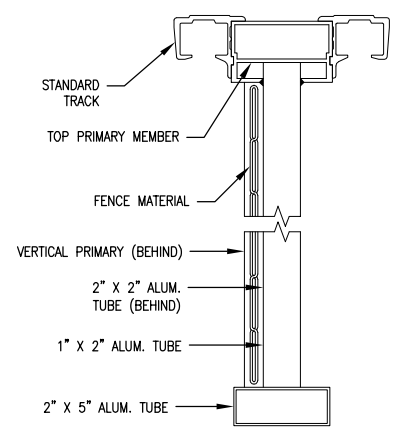
**PLAN VIEW**



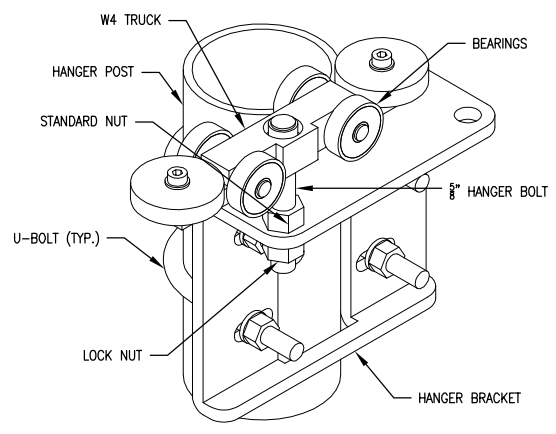
**ELEVATION**



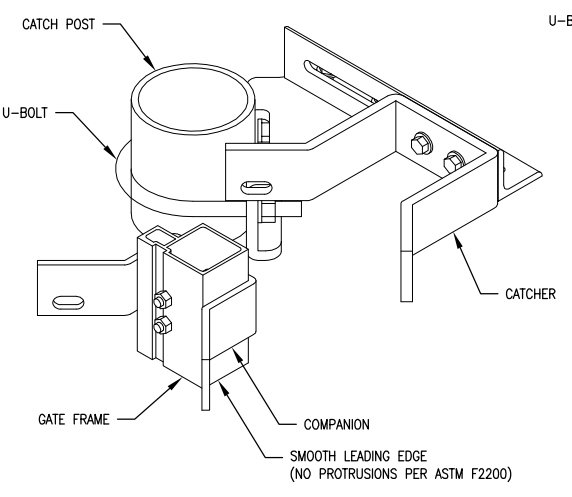
**ASSEMBLY SECTION**



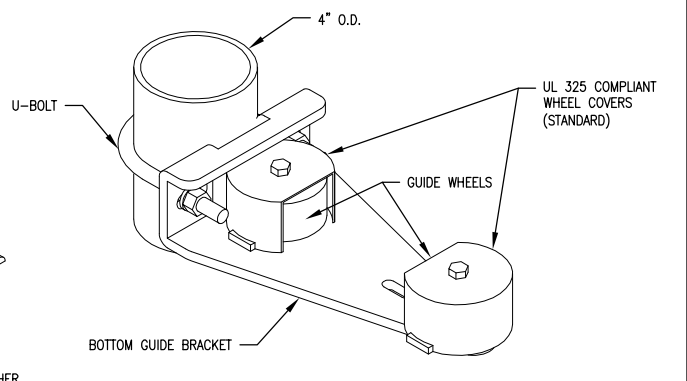
**GATE FRAME SECTION**



**GATE HANGER ASSEMBLY**



**CATCH ASSEMBLY**



**BOTTOM GUIDE ASSEMBLY**

NOMINAL GATE SIZE		
28' W X 8'-1" H		
CRITICAL DIMENSION CHART		
A	CLEAR OPENING	28'-0"
B	COUNTERBALANCE POST SPACING C/C	13'-1"
C	OVERALL GATE LENGTH	42'-0"
D	COUNTERBALANCE LENGTH	14'-0"
E	NOMINAL GATE HEIGHT	8'-0"
F	POST HEIGHT	9'-6"

REVISION

Chicago-Romeoville Airport  
 JOLIET REGIONAL PORT DISTRICT  
 1 George Michas Drive  
 Romeoville, Illinois 60446  
 Telephone: 815.838.9497  
 Fax: 815.838.9524

DATE	BY	CHKD

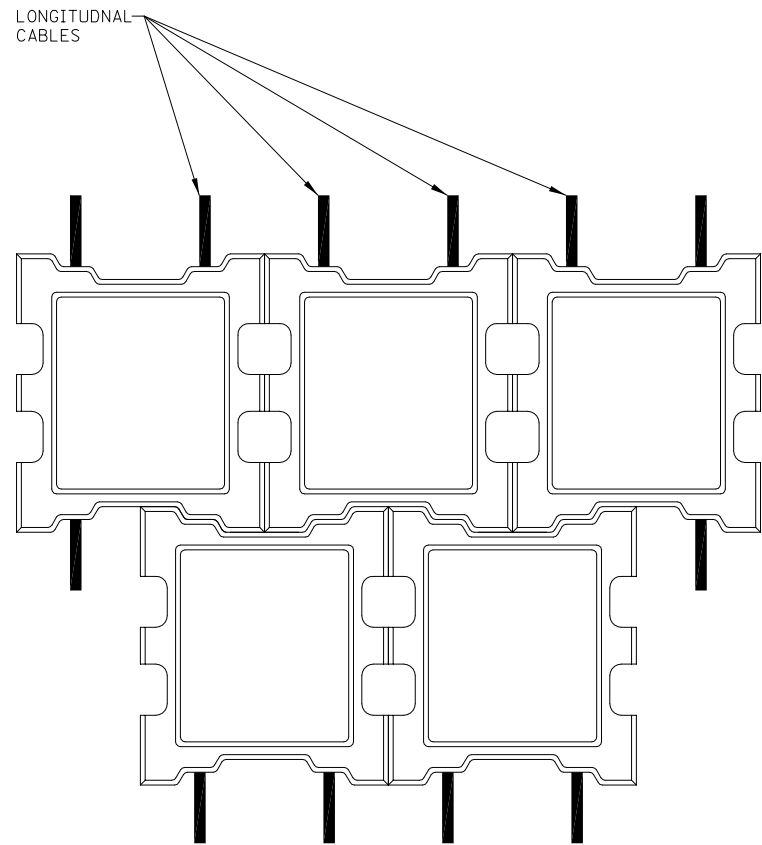
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 Scale: N/A  
 Date: MARCH 22, 2013

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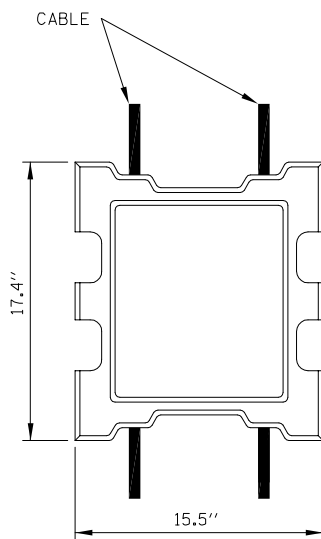
28' GATE DETAILS

EXTEND FENCING AND GATES  
 IDA No. LOT-4192 AIP No. 3-17-0140-B50

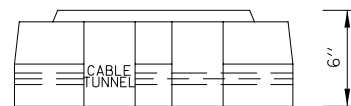
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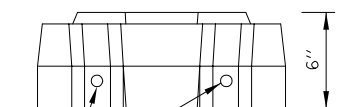
PLAN



TOP VIEW



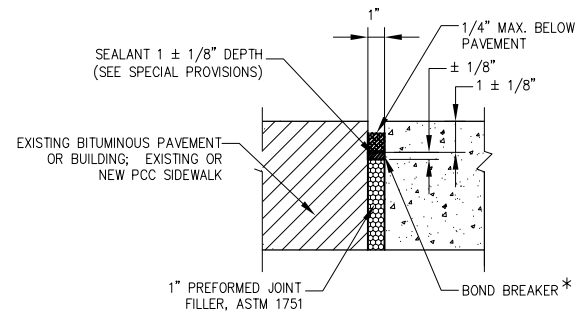
SIDE VIEW



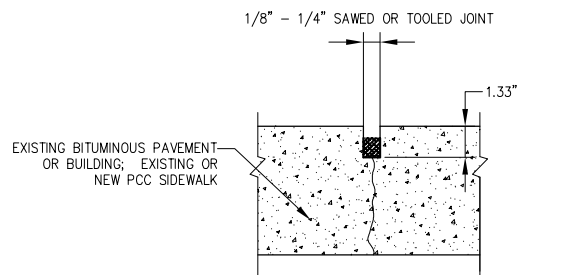
END VIEW

**CONCRETE CABLE**

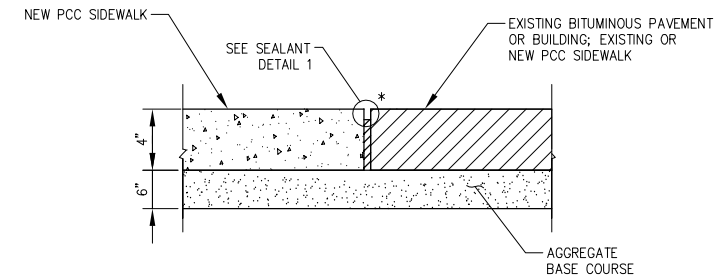
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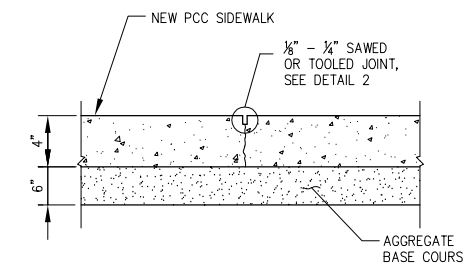
DETAIL 1 - SEALANT



DETAIL 2 - SEALANT

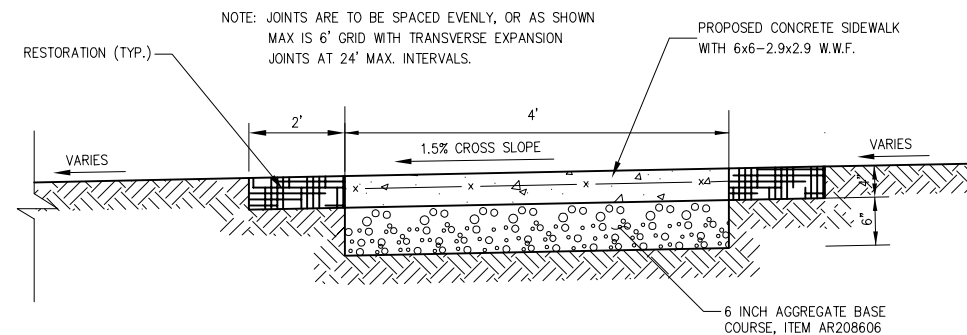


EXPANSION JOINT



SAWED OR TOOLED CONTRACTION JOINT

\* POLYETHYLENE OR POLYESTER TAPE (3 MIL. MIN.) OR MARKING TAPE, RUBBER TAPE, 1/8" WIDER THAN WIDTH OF JOINT.



CROSS SECTION

SIDEWALK

**NOTES**

1. EXPANSION JOINT TO BE FURNISHED IN ALL LOCATIONS WHERE SIDEWALK IS ADJACENT TO EXISTING PAVEMENT, SIDEWALK, OR BUILDING.
2. SIDEWALK SHALL BE SET AT 2 INCHES ABOVE EXISTING GRADE AND SLOPED TRANSVERSELY TO MEET FENCE GRADE.
3. ALL JOINT AND JOINT SEALING IS INCIDENTAL TO SIDEWALK.

**NOTES**

1. FILTER FABRIC MEETING THE REQUIREMENTS OF ITEM AR156513 IS TO BE PLACED ON TOP OF COMPACTED SUBGRADE BEFORE ARMORFLEX BLOCK IS PLACED.
2. ALL WORK FOR THIS ITEM IS TO BE PAID UNDER AR800906.

REVISION

DATE

Chicago-Romeoville Airport  
 JOLIET REGIONAL PORT DISTRICT  
 1 George Michas Drive  
 Romeoville, Illinois 60446  
 Telephone: 815.838.9497  
 Fax: 815.838.9524

Hanson No.	12A0087D		
Filename	12-MISCELLANEOUS		
Scale	N/A	Date	MARCH 22, 2013
LAYOUT	SJM	12/18/12	
DRAWN	SJM	12/18/12	
REVIEWED	RMH	3/22/13	

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 Oak Brook, Illinois 60523

MISCELLANEOUS DETAILS  
 EXTEND FENCING AND GATES  
 IDA No. LOT-4192 AIP No. 3-17-0140-B50

**NOTES:**

- FENCE POST SHALL BE EITHER STEEL "1" LINE POST OR HARDWOOD POST WITH A MINIMUM SECTIONAL AREA OF 3.0 SQUARE INCHES. A CARPENTER'S (NOMINAL) 2"x2" POST WILL NOT MEET SPECIFICATIONS.
- TOP AND BOTTOM WIRE OF WIRE FABRIC SHALL BE MINIMUM GAGE NO. 9. INTERMEDIATE WIRES OF THE WIRE FABRIC SHALL BE MINIMUM GAGE NO. 11.
- WIRE FABRIC SHALL BE SECURELY FASTENED TO FENCE POSTS WITH NO. 9 GAGE WIRE MINIMUM. FOUR (4) FASTENERS PER POST REQUIRED.
- FILTER FABRIC SHALL BE SECURELY FASTENED TO WIRE FABRIC AND POSTS WITH TIES OR STAPLES SPACED AT 12" APART AT THE TOP, MIDDLE AND BOTTOM.
- WHEN TWO SECTIONS OF FILTER FABRIC MEET, THEY SHALL BE OVERLAPPED BY 6" AND FOLDED AND ATTACHED TO THE WIRE FABRIC AT A POST.
- FILTER FABRIC SHALL BE IN ACCORDANCE WITH SPECIAL PROVISIONS WITH EQUIVALENT OPENING SIZE OF AT LEAST 30 FOR NONWOVEN AND 50 FOR WOVEN.
- A MAXIMUM OF 5 FEET IS USED FOR POST-TO-POST SPACING.
- SOIL DISTURBANCE SHALL BE CONDUCTED IN SUCH A MANNER AS TO MINIMIZE EROSION. SOIL STABILIZATION MEASURES SHALL CONSIDER THE TIME OF YEAR, SITE CONDITIONS AND THE USE OF TEMPORARY OR PERMANENT MEASURES.
- SILT FENCE SHALL BE INSTALLED PRIOR TO ANY GRADING WORK IN THE AREA TO BE PROTECTED. PERIODIC INSPECTION SHALL BE PERFORMED EVERY 2 WEEKS OR AFTER 0.5 INCH RAINFALL IN A 24 HOUR PERIOD, AND REQUIRED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN EVENT.
- MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED AND REPLACED WHEN BULGES DEVELOP IN THE SILT FENCE.
- IF DEWATERING SERVICES ARE USED, ADJOINING PROPERTIES AND DISCHARGE LOCATIONS SHALL BE PROTECTED FROM EROSION. DISCHARGES SHALL BE ROUTED THROUGH AN EFFECTIVE SEDIMENT CONTROL MEASURE (E.G. SEDIMENT TRAP, SEDIMENT BASIN, OR OTHER APPROPRIATE MEASURE).
- FENCE POSTS SHALL BE REMOVED WHEN DIRECTED AT PROJECT END.
- THE EROSION CONTROL MEASURES INDICATED ON THE PLANS ARE THE MINIMUM REQUIREMENTS. ADDITIONAL MEASURES MAY BE REQUIRED, AS DIRECTED BY THE ENGINEER OR GOVERNING AGENCY.

**SEDIMENTATION AND EROSION CONTROL NOTES:**

- SOIL DISTURBANCE SHALL BE CONDUCTED IN SUCH A MANNER AS TO MINIMIZE EROSION. SOIL STABILIZATION MEASURES SHALL CONSIDER THE TIME OF YEAR, SITE CONDITIONS AND THE USE OF TEMPORARY OR PERMANENT MEASURES.
- SOIL EROSION AND SEDIMENT CONTROL FEATURES SHALL BE CONSTRUCTED PRIOR TO THE COMMENCEMENT OF HYDROLOGIC DISTURBANCE OF UPLAND AREAS.
- DISTURBED AREAS SHALL BE STABILIZED WITH TEMPORARY OR PERMANENT MEASURES WITHIN 14 CALENDAR DAYS OF THE END OF ACTIVE HYDROLOGIC DISTURBANCE, OR REDISTURBANCE.
- AREAS OR ENBANKMENTS HAVING SLOPES GREATER THAN OR EQUAL TO 3H:1V, AND APPROVED BY THE ENFORCEMENT OFFICER, SHALL BE STABILIZED WITH SOD, MAT OR BLANKET IN COMBINATION WITH SEEDING.
- EROSION CONTROL BLANKET SHALL BE REQUIRED ON ALL INTERIOR DETENTION BASIN SIDE SLOPES BETWEEN NORMAL WATER LEVEL AND HIGH WATER LEVEL.
- ALL STORM SEWERS THAT ARE OR WILL BE FUNCTIONING DURING CONSTRUCTION SHALL BE PROTECTED, BY AN APPROPRIATE SEDIMENT CONTROL MEASURE.
- ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED.
- ALL TEMPORARY AND PERMANENT EROSION CONTROL MEASURES MUST BE MAINTAINED AND REPAIRED AS NEEDED. THE PROPERTY OWNER SHALL BE ULTIMATELY RESPONSIBLE FOR MAINTENANCE AND REPAIR.
- A STABILIZED MAT OF AGGREGATE UNDERLAIN WITH FILTER CLOTH (OR OTHER APPROPRIATE MEASURE) SHALL BE LOCATED AT ANY POINT WHERE TRAFFIC WILL BE ENTERING OR LEAVING A CONSTRUCTION SITE TO OR FROM A PUBLIC RIGHT-OF-WAY, STREET, ALLEY OR PARKING AREA. ANY SEDIMENT OR SOIL REACHING AN IMPROVED PUBLIC RIGHT-OF-WAY, STREET, ALLEY OR PARKING AREA SHALL BE REMOVED BY SCRAPING OR STREET CLEANING AS ACCUMULATIONS WARRANT AND TRANSPORTED TO A CONTROLLED SEDIMENT DISPOSAL AREA.
- SOIL STOCKPILES SHALL NOT BE LOCATED IN A FLOOD PRONE AREA OR A DESIGNATED BUFFER PROTECTING WATERS OF THE UNITED STATES OR ISOLATED WATERS OF THE COUNTY.
- IF DEWATERING SERVICES ARE USED, ADJOINING PROPERTIES AND DISCHARGE LOCATIONS SHALL BE PROTECTED FROM EROSION. DISCHARGES SHALL BE ROUTED THROUGH AN EFFECTIVE SEDIMENT CONTROL MEASURE (e.g. SEDIMENT TRAP, SEDIMENT BASIN, OR OTHER APPROPRIATE MEASURE.)
- THE EROSION CONTROL MEASURES INDICATED ON THE PLANS ARE THE MINIMUM REQUIREMENTS. ADDITIONAL MEASURES MAY BE REQUIRED, AS DIRECTED BY THE ENGINEER OR GOVERNING AGENCY.

**STORM WATER POLLUTION PREVENTION NOTES**

**GENERAL**

THE CONTRACTOR SHALL IMPLEMENT ALL PROVISIONS OF THE CONTRACT DOCUMENTS TO ASSURE THAT STORM WATER POLLUTION PREVENTION ITEMS ARE CONSTRUCTED AND MAINTAINED IN A TIMELY MANNER. SEDIMENTATION MUST NOT BE TRANSPORTED OFF THE CONSTRUCTION SITE. PERMANENT DRAINAGE FEATURES AND VEGETATIVE MEASURES SHALL BE PROVIDED AS SOON AS POSSIBLE.

THE MAINTENANCE OF ALL STORM WATER POLLUTION PREVENTION MEASURES IS INCIDENTAL TO THE ASSOCIATED ITEM.

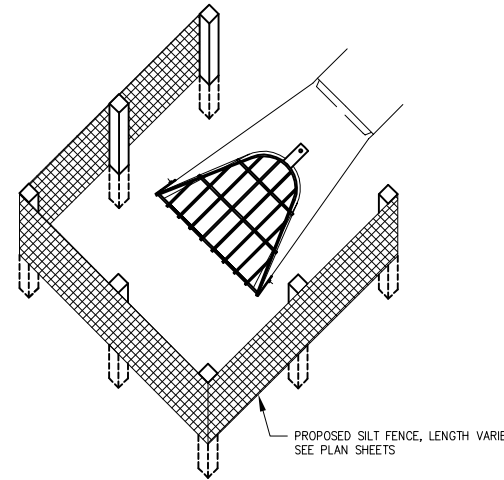
**POLLUTION PREVENTION MEASURES**

THE CONTRACTOR SHALL BE REQUIRED TO IMPLEMENT AND MAINTAIN STORM WATER POLLUTION PREVENTION PRACTICES AND MEASURES PRIOR TO THE STRIPPING OF EXISTING VEGETATION WHERE EVER POSSIBLE AND AS SOON AS CONSTRUCTION PERMITS IN OTHER AREAS. POLLUTION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, INCLUDING THESE CONSTRUCTION PLANS, AND WITH STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, ILLINOIS ENVIRONMENTAL PROTECTION AGENCY, CURRENT ISSUE. THE CONTRACTOR SHALL ADJUST HIS OPERATIONS AND IMPLEMENT POLLUTION CONTROL MEASURES SO THAT NO RUNOFF FROM STRIPPED AREAS WILL LEAVE THE CONSTRUCTION SITE OTHER THAN THROUGH SEDIMENT TRAPS OR OTHER SUITABLE CONTROL MEASURES.

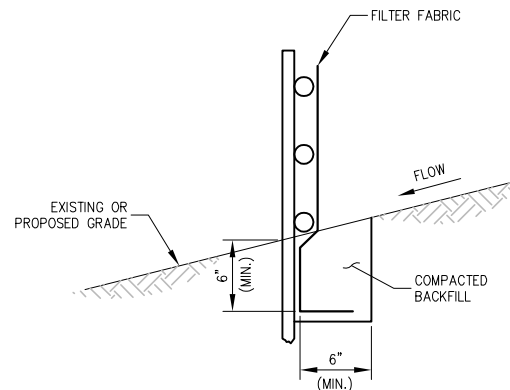
POLLUTION CONTROL ITEMS SHALL BE PROVIDED AS NOTED ON THE STORM WATER POLLUTION PREVENTION PLAN AND IN THE STORM WATER POLLUTION PREVENTION DETAILS AND AS DIRECTED BY THE ENGINEER. THE LIMITS OF SUCH MEASURES SHALL BE STAKED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. SUCH LIMITS MAY BE ADJUSTED BY THE ENGINEER TO ACCOUNT FOR ACTUAL SITE CONDITIONS EXPERIENCED DURING CONSTRUCTION. ADDITIONAL COMPENSATION FOR MEASURES EXCEEDING THE PLAN QUANTITIES WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR EACH ITEM.

THE CONTRACTOR IS TO MAINTAIN AND ADJUST, REPAIR OR REPLACE ALL POLLUTION PREVENTION MEASURES AS REQUIRED OR AS DIRECTED BY THE ENGINEER UNTIL PERMANENT VEGETATION HAS BEEN ESTABLISHED. MAINTENANCE OF POLLUTION CONTROL MEASURES IS TO BE PROVIDED AT NO ADDITIONAL COST TO THE CONTRACT.

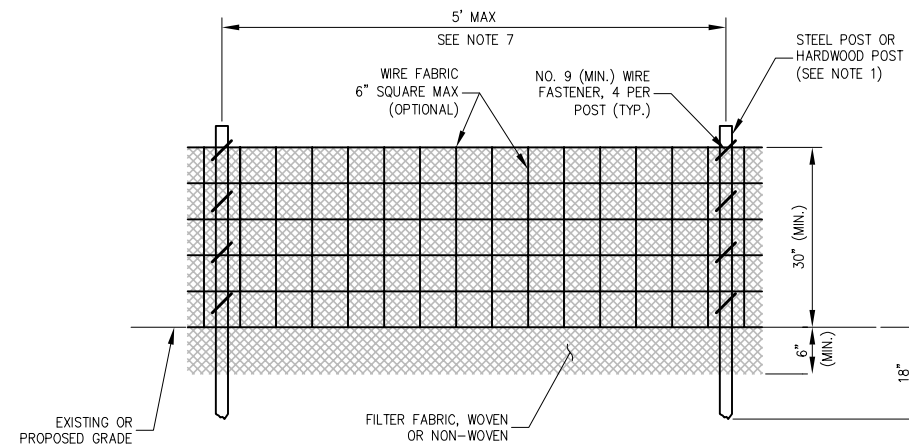
ADDITIONAL STORMWATER POLLUTION PREVENTION MEASURES ARE EXISTING ON SITE LOCATED AT DRAINAGE FACILITIES AND ALONG THE PROPERTY LINE.



**SILT FENCE PLACEMENT AT FLARED END SECTIONS (FES)**



**FABRIC ANCHOR DETAIL**



**ELEVATION**

**SILT FENCE DETAILS**

REVISION	DATE

**CONTROL DETAILS**  
**Chicago-Romeoville Airport**  
**JOLIET REGIONAL PORT DISTRICT**  
 1 George Michas Drive  
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Hanson No. 12A0087D	12/18/12
Filename 13-DRAINAGE AND EROSION CONTROL DETAILS.DWG	12/18/12
Scale N/A	12/18/12
Date MARCH 22, 2013	3/22/13
LAYOUT SJM	RMH
DRAWN SJM	
REVIEWED RMH	

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**DRAINAGE AND EROSION CONTROL DETAILS**  
**EXTEND FENCING AND GATES**  
 IDA No. LOT-4192 AIP No. 3-17-0140-B50

DETAILS SHOWN ARE NOT TO SCALE

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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 CIRCLUAR 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

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 MTD. 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

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

208/120 VAC, 3 PHASE, 4 WIRE  
 PHASE A BLACK  
 PHASE B RED  
 PHASE C BLUE  
 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.
- PER NEC 511 THE GARAGE AREA OF THE MAINTENANCE BUILDING MIGHT BE CLASSIFIED AS A CLASS I, DIVISION 2, GROUP D HAZARDOUS LOCATION FOR A LEVEL OF 18 IN. ABOVE THE FLOOR. ALL ELECTRICAL INSTALLATIONS SHALL CONFORM TO THE APPLICABLE SECTIONS OF NEC 500, 501, AND 511 IN ADDITION TO THE OTHER APPLICABLE SECTIONS OF NEC. WHERE ELECTRICAL EQUIPMENT IS INSTALLED IN A CLASSIFIED HAZARDOUS LOCATION, IT SHALL BE SUITABLE FOR USE IN THE RESPECTIVE CLASSIFIED HAZARDOUS LOCATION. WHERE POSSIBLE, AVOID INSTALLATION OF ELECTRICAL EQUIPMENT, RACEWAYS, AND WIRING IN THE CLASSIFIED HAZARDOUS AREAS OF THE FACILITY.

REVISION	DATE

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**JOLIET REGIONAL PORT DISTRICT**

Hanson No. 12A0087D	15-ELECTRICAL LEGEND AND ABBREVIATIONS.DWG	Scale N/A	Date MARCH 22, 2013
LAYOUT	KNL	3/25/13	
DRAWN	LDH	3/26/13	
REVIEWED	RMH	3/22/13	

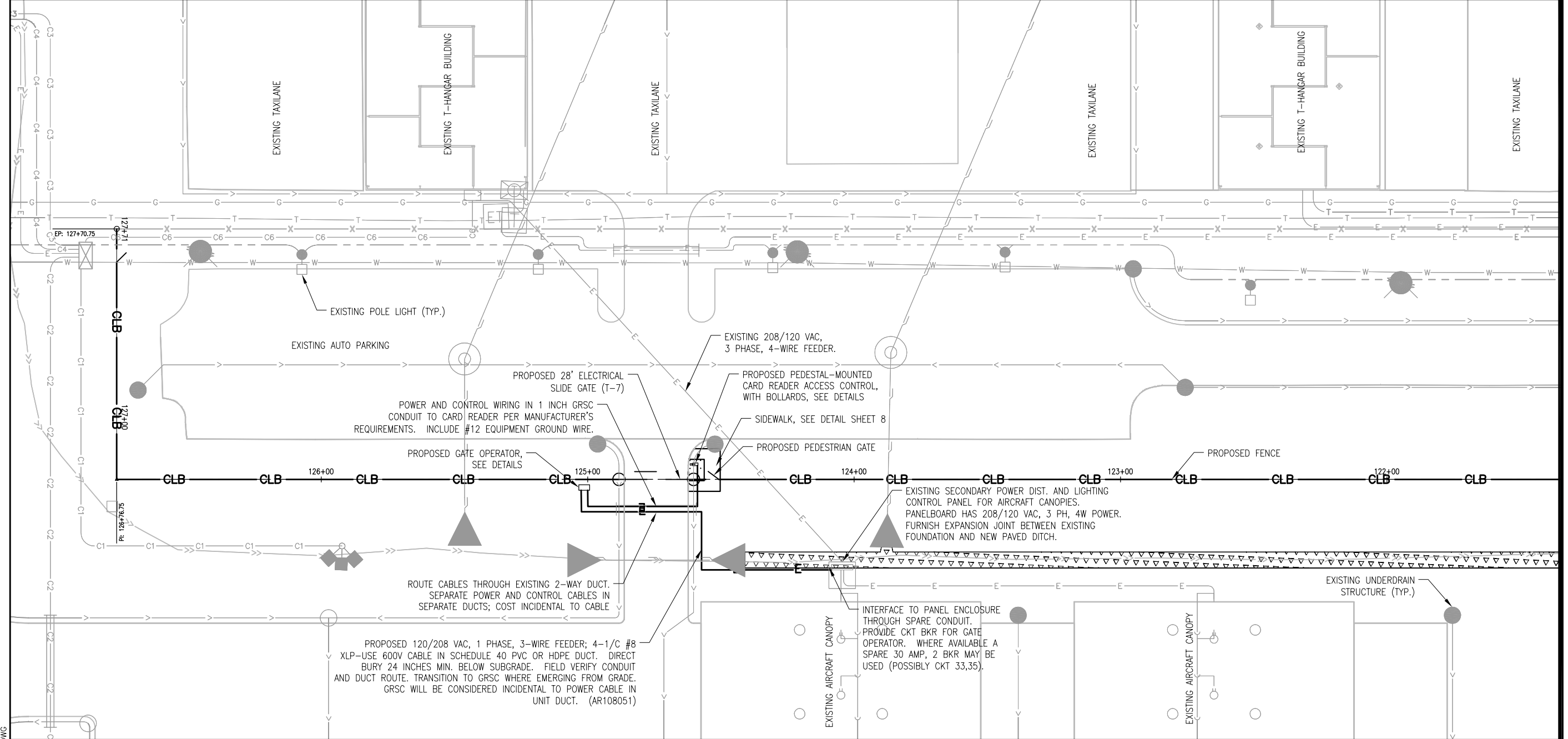
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**ELECTRICAL LEGEND AND ABBREVIATIONS**

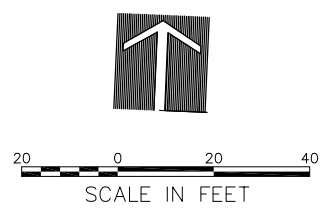
**EXTEND FENCING AND GATES**  
 IDA No. LOT-4192 AIP No. 3-17-0140-B50

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 I:\121058\00840\1240087D\DRAWINGS\SHEETS\16-ELECTRICAL PLAN ALIGNMENT 100.DWG



THE LOCATION, SIZE, AND TYPE OF MATERIAL OF EXISTING UNDERGROUND AND/OR ABOVEGROUND UTILITIES THAT MAY BE 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 J.U.L.I.E. (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.



**NOTES:**

- REFER TO CORRESPONDING CIVIL SHEETS FOR ADDITIONAL INFORMATION.
- SOME EXISTING AND PROPOSED UTILITIES HAVE BEEN OMITTED FOR CLARITY.
- REFER TO SHEET 18 "ELECTRIC SLIDE GATE DETAILS" FOR GATE OPERATOR INSTALLATION DETAIL AND ELECTRIC GATE PLAN.
- REFER TO SHEET 20 "ELECTRICAL ONE LINE FOR GATE T-7".
- CONTRACTOR SHALL EXAMINE THE SITE AND REPORT ANY POSSIBLE INTERFERENCES TO THE RESIDENT ENGINEER/RESIDENT PROJECT REPRESENTATIVE PRIOR TO INSTALLATION OF THE GATE OPERATOR AND CONTROLS.
- DIRECT-BURIED CONDUIT SHALL BE INSTALLED A MINIMUM OF 24" BELOW FINISHED GRADE. CONTRACTOR SHALL FIELD VERIFY PROPOSED CONDUIT ROUTING PRIOR TO INSTALLATION. CONTRACTOR SHALL COORDINATE INSTALLATION OF PROPOSED CONDUIT WITH PROPOSED FENCING. PROPOSED FENCING WILL BE INSTALLED PARTIALLY BELOW GRADE, THEREFORE ANY CONDUIT/FENCING CROSSINGS MUST BE INSTALLED BELOW LOWER LIMIT OF FENCING. CONDUIT SHALL NOT PENETRATE FENCING BELOW GRADE.
- THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES AND AGENCIES WHICH HAVE LINES, UTILITIES, AND/OR CONDUITS IN THE PROPOSED WORK AREA. ALL LINES, UTILITIES, AND CONDUITS SHALL BE LOCATED AND IDENTIFIED FOR DEPTH BEFORE ANY WORK BEGINS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO IDENTIFY ALL UNDERGROUND ELECTRIC SERVICE LINES, UTILITIES, AND CONDUITS LOCATED WITHIN THE PROPOSED CONSTRUCTION LIMITS. THESE UNDERGROUND LINES, UTILITIES, AND CONDUITS SHALL BE LOCATED AT THE CONTRACTOR'S OWN EXPENSE PRIOR TO THE START OF CONSTRUCTION ACTIVITIES. ANY EXISTING UTILITY LINES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED BY THE CONTRACTOR AT HIS OWN EXPENSE.

**LEGEND:**

- C# — EXISTING ELECTRICAL CIRCUIT
- >—>— EXISTING SWALE
- G — EXISTING GAS
- S— EXISTING STORM SEWER
- U— EXISTING UNDERDRAIN
- E — EXISTING ELECTRICAL
- P— EXISTING POWER CABLE
- T — EXISTING TELEPHONE
- X — EXISTING FENCE
- ⊙ — EXISTING STORM SEWER MANHOLE
- ▼ — EXISTING FLARED END SECTION
- CLB— PROPOSED CHAIN LINK FENCE WITH BARBED WIRE
- +++++ PROPOSED FENCE REMOVAL
- ⊙ — PROPOSED GATE
- E— PROPOSED ELECTRICAL CABLING IN DUCT

REVISION	DATE

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Hanson No. 1240087D	16-ELECTRICAL PLAN ALIGNMENT
Filename	1-20
Scale	1"=20'
Date	MARCH 22, 2013
LAYOUT	KNL 3/25/13
DRAWN	LDH 3/25/13
REVIEWED	RMH 3/22/13

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**ELECTRICAL SITE PLAN**  
**ALIGNMENT 100 - GATE T-7**  
**EXTEND FENCING AND GATES**  
 IDA No. LOT-4192 AIP No. 3-17-0140-B50





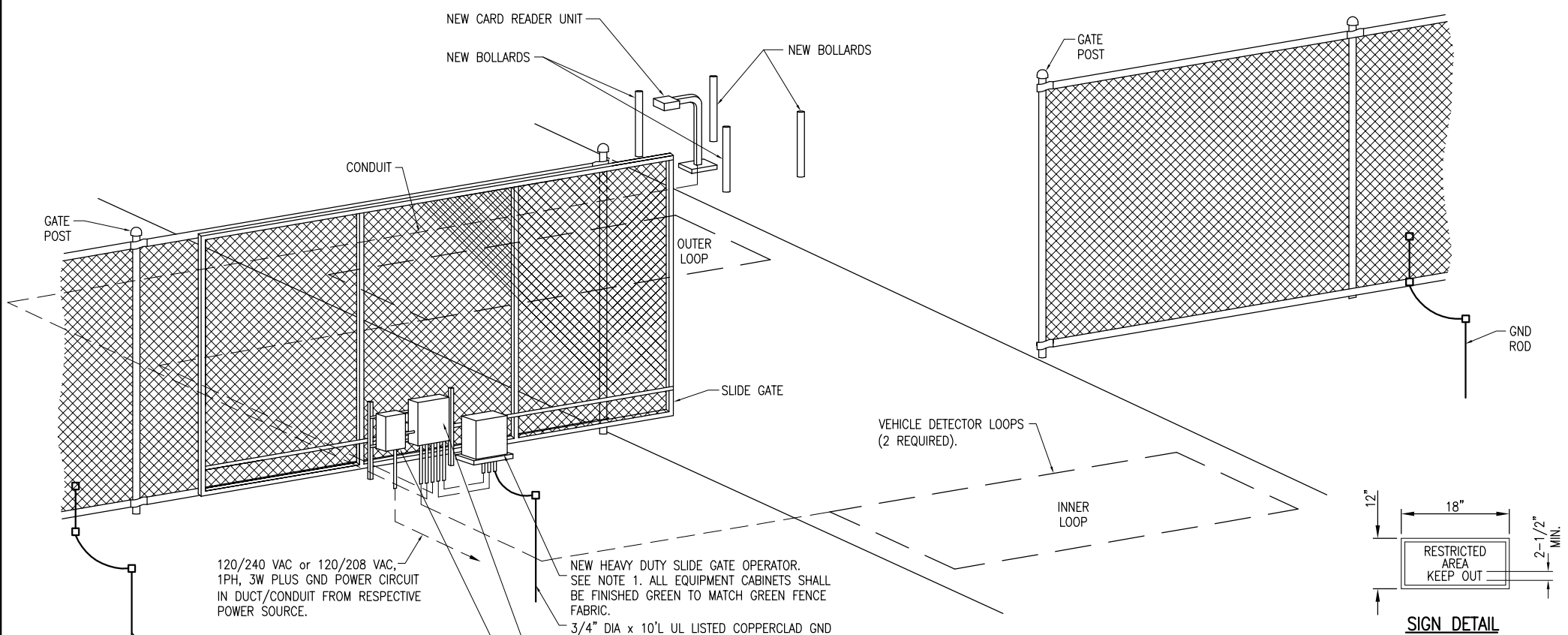
Hanson No.	12A0087D	OPERATOR	
Filename	18-- ELECTRICAL_GATE_OPERATOR		
Scale	N/A		
Date	MARCH 22, 2013		
LAYOUT	KNL	3/25/13	
DRAWN	LDH	3/26/13	
REVIEWED	RMH	3/27/13	

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**ELECTRICAL SLIDE GATE DETAILS**  
**EXTEND FENCING AND GATES**  
IDA No. LOT-4192 AIP No. 3-17-0140-B50

**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 ACCESS CONTROL UNIT. FOUNDATION FOR THE GATE OPERATOR SHALL BE 48" (MIN.) IN DEPTH AND OF THE SIZE RECOMMENDED BY THE MANUFACTURER. FOUNDATION FOR THE KEYPAD ACCESS CONTROL UNIT SHALL BE 48" (MIN.) IN DEPTH, AS DETAILED ON "KEYPAD UNIT, BOLLARD AND GATE OPERATOR DETAILS" SHEET.
- 1" GRS CONDUIT WILL BE REQUIRED BETWEEN THE SLIDE GATE OPERATOR INSTALLATION AND THE CARD READER ACCESS CONTROL UNIT 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 KEYPAD 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.
- CONTRACTOR SHALL PROVIDE VERIFICATION THAT THE PROPOSED GATE OPERATOR IS SUITABLE FOR USE WITH AND PROPERLY SIZED FOR THE EXISTING SLIDE GATE.
- (RESERVED).
- CONTRACTOR SHALL COORDINATE ANY POWER OUTAGES TO EXISTING EQUIPMENT WITH THE RESPECTIVE OWNER'S REPRESENTATIVE AND THE AIRPORT DIRECTOR.
- INCLUDE AC SURGE PROTECTION DEVICE FOR EACH GATE OPERATOR, UL 1449 THIRD EDITION 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 OR APPROVED EQUAL. INCLUDE MOUNTING BRACKET.
- CONCRETE USED FOR INSTALLING THE GATE OPERATOR, CARD READER ACCESS CONTROL UNIT, & 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, (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 EACH SLIDE GATE, CARD READER, 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.
- 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 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.



**GATE DETAIL (ISOMETRIC)**  
"NOT TO SCALE"

120/240 VAC or 120/208 VAC, 1PH, 3W PLUS GND POWER CIRCUIT IN DUCT/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.

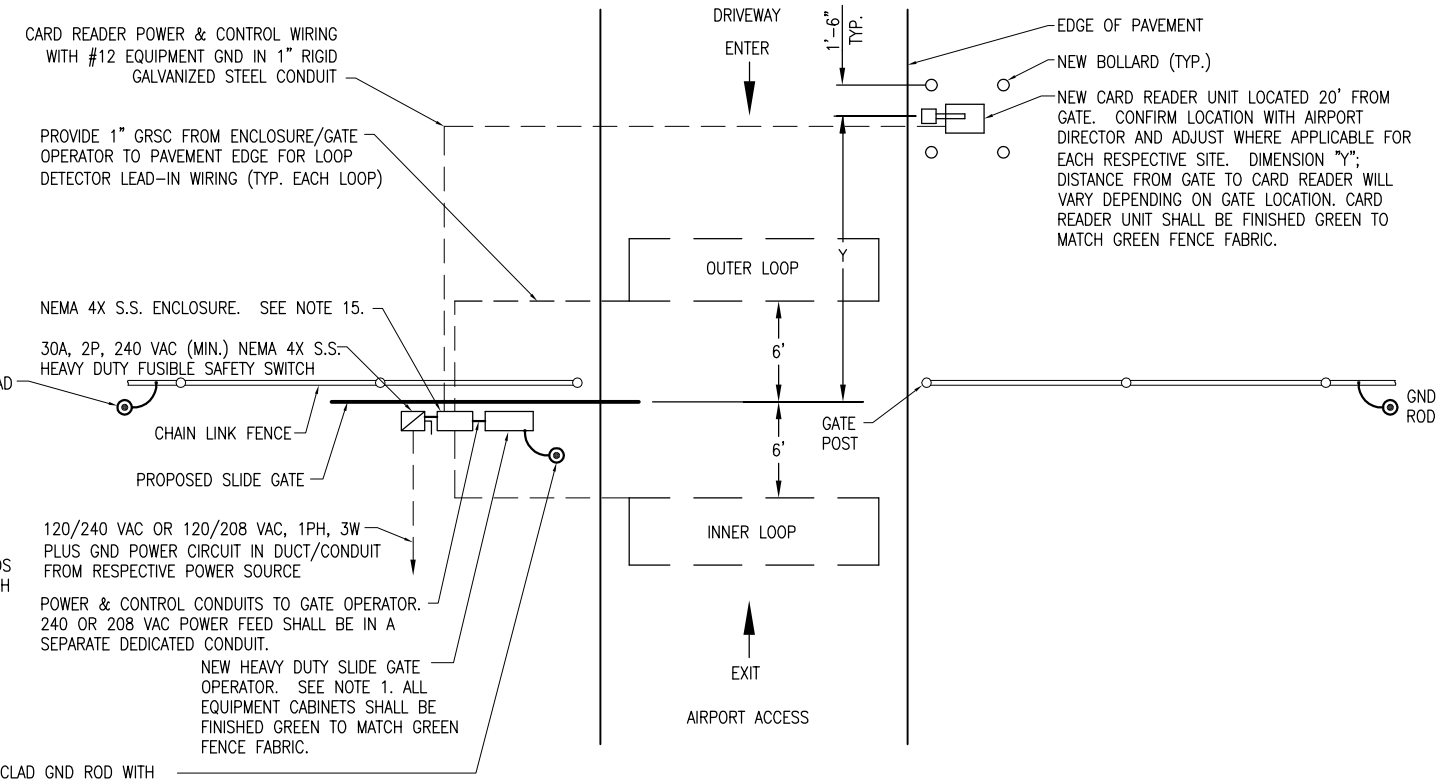
NEW HEAVY DUTY SLIDE GATE OPERATOR. SEE NOTE 1. ALL EQUIPMENT CABINETS SHALL BE FINISHED GREEN TO MATCH GREEN FENCE FABRIC.

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 15.

30A, 2P, 240 VAC (MIN.) 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



**ELECTRIC GATE PLAN**  
"NOT TO SCALE"

CARD READER POWER & CONTROL WIRING WITH #12 EQUIPMENT GND IN 1" RIGID GALVANIZED STEEL CONDUIT

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

NEMA 4X S.S. ENCLOSURE. SEE NOTE 15.

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

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.

CHAIN LINK FENCE

PROPOSED SLIDE GATE

120/240 VAC OR 120/208 VAC, 1PH, 3W PLUS GND POWER CIRCUIT IN DUCT/CONDUIT FROM RESPECTIVE POWER SOURCE

POWER & CONTROL CONDUITS TO GATE OPERATOR. 240 OR 208 VAC POWER FEED SHALL BE IN A SEPARATE DEDICATED CONDUIT.

NEW HEAVY DUTY SLIDE GATE OPERATOR. SEE NOTE 1. ALL EQUIPMENT CABINETS SHALL BE FINISHED GREEN TO MATCH GREEN FENCE FABRIC.

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.



REVISION  
DATE

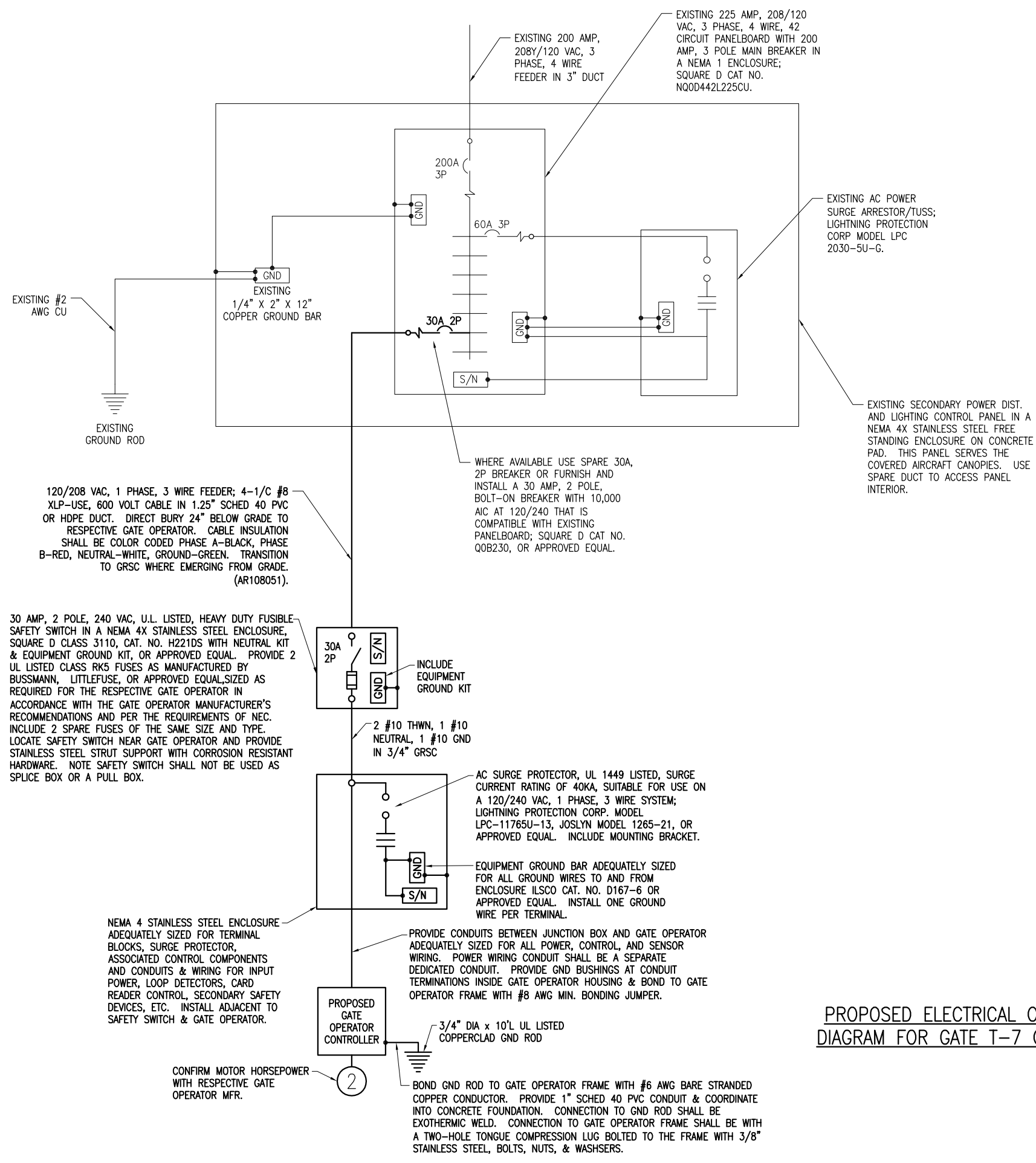
Chicago-Romeoville Airport  
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Hanson No.	12A0087D
Revision	20-T-7 ONE LINE.DWG
Scale	N/A
Date	MARCH 22, 2013
LAYOUT	KNL
DRAWN	LDH
REVIEWED	RMH
	3/22/13
	3/22/13
	3/22/13

**HANSON**  
Professional Services Inc. 2013  
Hanson Professional Services Inc.  
815 Commerce Drive Suite 200  
Oak Brook, Illinois 60523

ELECTRICAL ONE-LINE  
FOR GATE T-7  
EXTEND FENCING AND GATES  
IDA No. LOT-4192 AIP No. 3-17-0140-B50

- 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.
  - THE FEEDER CIRCUIT IN DUCT FROM THE POWER SOURCE TO THE GATE OPERATOR DISCONNECT WILL BE PAID FOR UNDER ITEM AR108051 POWER CABLE IN UNIT DUCT PER LINEAL FOOT.
  - PROPOSED 28 FT. ELECTRIC SLIDE GATE AND ASSOCIATED WORK SHOWN ON THIS SHEET WILL BE PAID FOR UNDER ITEM AS800947 OR AT800963 PER EACH.
  - ALL CONDUCTORS/WIRING SHALL BE COPPER.
  - CONTRACTOR SHALL CONFIRM POWER REQUIREMENTS WITH THE ACTUAL NAMEPLATE ON EACH GATE OPERATOR (OR OTHER RESPECTIVE EQUIPMENT) AND ADJUST CIRCUIT BREAKER, WIRE SIZES AND CONDUIT SIZES TO CONFORM WITH NEC AND MANUFACTURER'S RECOMMENDATIONS WHERE APPLICABLE. WIRE SIZES SHOWN ON THE PLANS ARE MINIMUM.
  - CONFIRM CONTROL WIRING REQUIREMENTS WITH THE RESPECTIVE GATE OPERATOR SYSTEM MANUFACTURER'S REPRESENTATIVE.
  - 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.



**PROPOSED ELECTRICAL ONE-LINE  
DIAGRAM FOR GATE T-7 OPERATOR**

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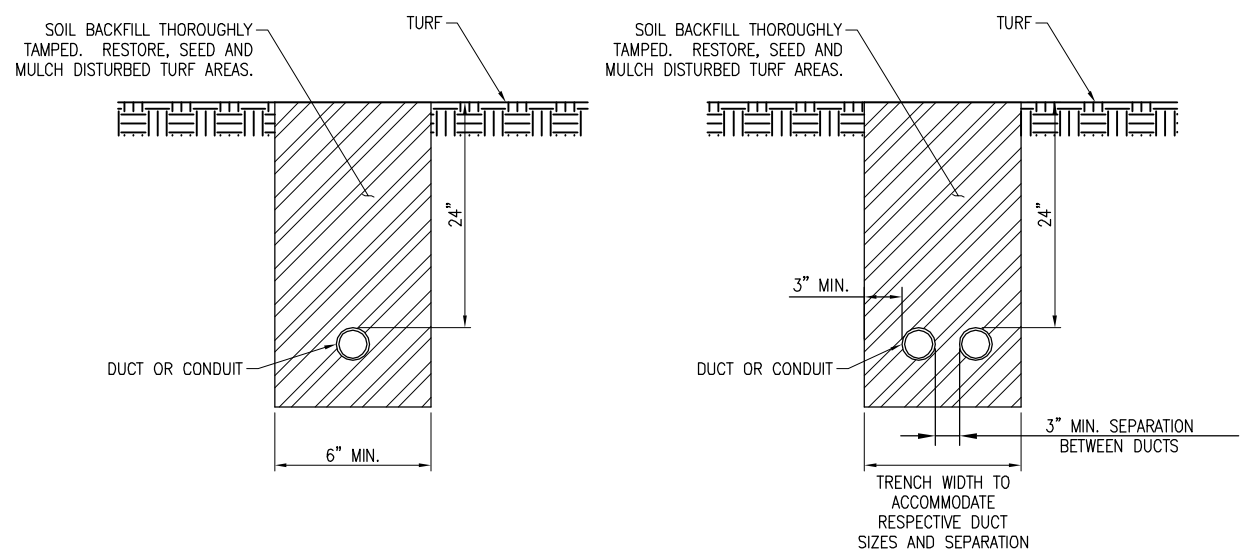
REVISION  
DATE

Chicago-Romeoville Airport  
JOLIET REGIONAL PORT DISTRICT  
1 George Michas Drive  
Romeoville, Illinois 60446  
Telephone: 815.838.9497  
Fax: 815.838.9524

Hanson No.	12A0087D	DATE	MARCH 22, 2013
Revision	22-ELEC DET.DWG	Scale	N/A
LAYOUT	KNL	3/22/13	
DRAWN	LDH	3/22/13	
REVIEWED	RMH	3/22/13	

**HANSON**  
Professional Services Inc. 2013  
Hanson Professional Services Inc.  
815 Commerce Drive Suite 200  
Oak Brook, Illinois 60523

**ELECTRIC CABLE AND DUCT DETAILS**  
EXTEND FENCING AND GATES  
IDA No. LOT-4192 AIP No. 3-17-0140-B50



**SINGLE DUCT**

**TWO DUCTS**

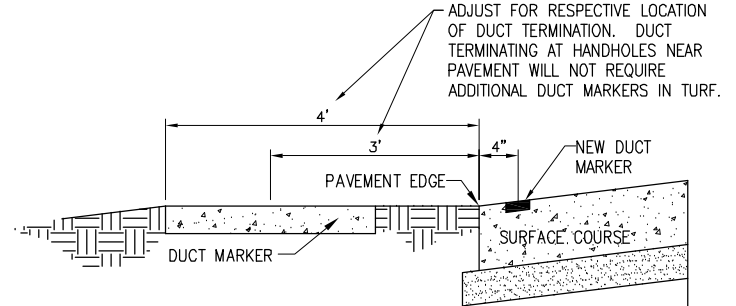
**NOTES:**

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 AND/OR RESPECTIVE CABLE OR DUCT WORK.

**CONDUIT IN TRENCH**

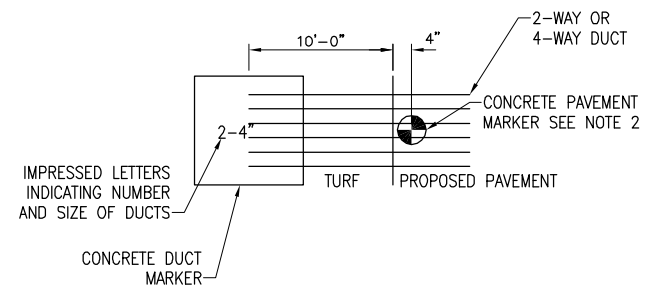
NOT TO SCALE



#10 PULL WIRE COIL A MINIMUM OF 3' AT DUCT ENDS. INSTALL APPROVED PLUGS IN END OF DUCTS NOT USED.

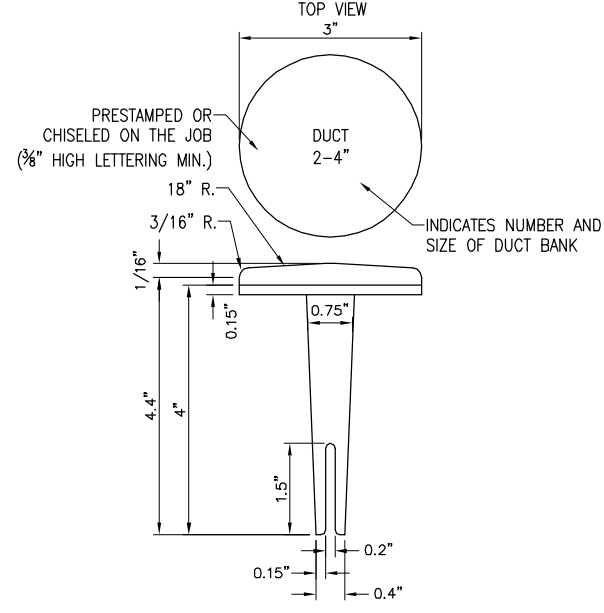
**UNDERGROUND ELECTRICAL DUCT**

(NOT TO SCALE)



**DUCT MARKER DETAIL**

"NOT TO SCALE"

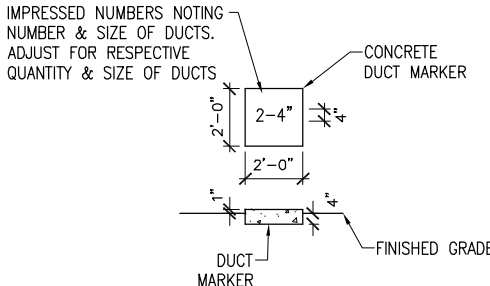


**BITUMINOUS PAVEMENT DUCT MARKERS**

"NOT TO SCALE"

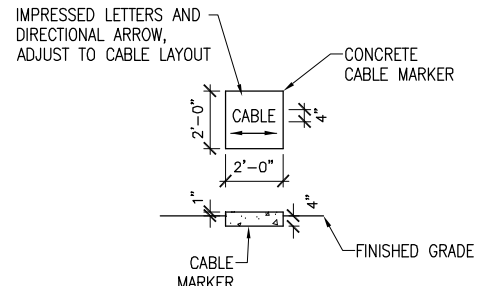
**NOTE:**

- TOP OF MARKER SHALL BE FLUSH WITH FINISHED PAVEMENT SURFACE. MARKER MAY BE INSTALLED IN A DRILLED HOLE AND SECURED WITH EPOXY GLUE
- BRASS DUCT MARKERS ARE AVAILABLE FROM G&S FOUNDRY & MANUFACTURING CO. INC., 210 KASKASKIA DRIVE, RED BUD, IL 62278.



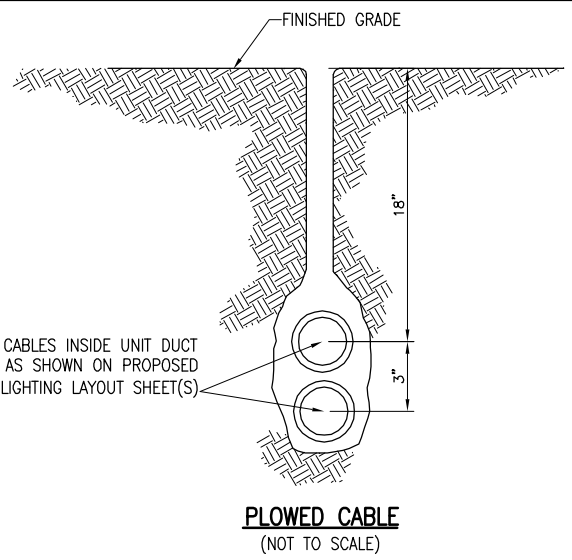
**TURF DUCT MARKERS**

"NOT TO SCALE"



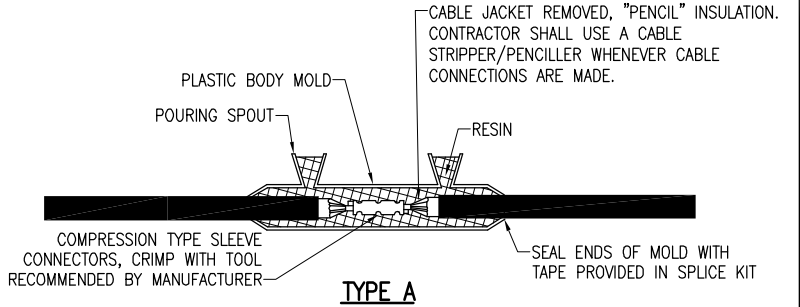
**TURF CABLE MARKERS**

"NOT TO SCALE"



**PLOWED CABLE**

(NOT TO SCALE)



**TYPE A**

FOR SPLICES IN LOW VOLTAGE CABLE (600V) HOMERUNS FOR EXTENSIONS TO EXISTING LOW VOLTAGE CABLES ONLY. TYPE A SPLICES SHALL BE MADE IN SPLICE CANS, HANDHOLES, MANHOLES, OR JUNCTIONS BOXES

**LOW VOLTAGE (600V) CABLE SPLICE**

(NOT TO SCALE)

**CABLE & DUCT MARKER NOTES:**

- 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.
- 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 IMPORMED AS DESCRIBED IN NOTE 4.
- CABLE MARKERS SHALL BE PLACED AT CHANGES OF DIRECTION AND APPROXIMATELY EVERY 200' ALONG CABLE RUNS.
- 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.
- EMPLOY THE FOLLOWING METHODS WHERE ADDITIONAL SPACE TO FIT THE LEGEND IS REQUIRED:  
A. REDUCE LETTER SIZE TO 3" HIGH, 2" WIDE.  
B. INCREASE THE MARKER SIZE TO 30" X 30".  
C. PROVIDE ADDITIONAL MARKERS PLACED SIDE BY SIDE.

DETAILS SHOWN ARE NOT TO SCALE

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**GENERAL 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.
- CONTRACTOR SHALL KEEP A COPY OF THE LATEST NEC IN FORCE ON SITE AT ALL TIMES DURING CONSTRUCTION FOR USE AS A REFERENCE.
- CONTRACTOR SHALL COORDINATE WORK AND ANY POWER OUTAGES AND/OR SHUT DOWN OF SYSTEMS WITH THE RESPECTIVE FACILITY OWNER PERSONNEL AND THE AIRPORT MANAGER/DIRECTOR. ONCE SHUT DOWN, THE CIRCUITS SHALL BE LABELED AS SUCH TO PREVENT ACCIDENTAL ENERGIZING OF THE RESPECTIVE CIRCUITS. ALL PERSONNEL SHALL FOLLOW U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION (OSHA) 29 CFR PART 1910 OCCUPATIONAL SAFETY & HEALTH STANDARDS FOR ELECTRICAL SAFETY AND LOCKOUT/TAGOUT PROCEDURES INCLUDING, BUT NOT LIMITED TO, 29 CFR SECTION 1910.147 THE CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT).
- THE CONTRACTOR SHALL ASCERTAIN THAT ALL LIGHTING SYSTEM COMPONENTS AND/OR OTHER EQUIPMENT COMPONENTS FURNISHED BY HIM, INCLUDING FAA APPROVED EQUIPMENT, ARE COMPATIBLE IN ALL RESPECTS WITH EACH OTHER AND THE REMAINDER OF THE NEW/EXISTING SYSTEM. ANY NONCOMPATIBLE COMPONENTS FURNISHED BY THIS CONTRACTOR SHALL BE REPLACED BY HIM AT NO ADDITIONAL COST TO THE AIRPORT SPONSOR WITH A SIMILAR UNIT, APPROVED BY THE ENGINEER (DIFFERENT MODEL OR DIFFERENT MANUFACTURER) THAT IS COMPATIBLE WITH THE REMAINDER OF THE AIRPORT LIGHTING SYSTEM.
- IN CASE THE CONTRACTOR ELECTS TO FURNISH AND INSTALL AIRPORT LIGHTING EQUIPMENT OR OTHER EQUIPMENT REQUIRING ADDITIONAL WIRING, TRANSFORMERS, ADAPTORS, MOUNTINGS, ETC., TO THOSE SHOWN ON THE DRAWINGS AND/OR LISTED IN THE SPECIFICATION, ANY COST FOR THESE ITEMS SHALL BE INCIDENTAL TO THE EQUIPMENT COST.
- THE CONTRACTOR INSTALLED EQUIPMENT (INCLUDING FAA APPROVED) SHALL NOT GENERATE ANY ELECTROMAGNETIC INTERFERENCE IN THE EXISTING AND/OR NEW COMMUNICATIONS, WEATHER, AIR NAVIGATION, AND AIR TRAFFIC CONTROL EQUIPMENT. ANY EQUIPMENT GENERATING SUCH INTERFERENCE SHALL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST WITH THE EQUIPMENT MEETING THE APPLICABLE SPECIFICATIONS AND NOT GENERATING ANY INTERFERENCE.
- WHEN A SPECIFIC TYPE, STYLE, CLASS, ETC. OF FAA APPROVED EQUIPMENT IS SPECIFIED ONLY THAT TYPE, STYLE, CLASS, WILL BE ACCEPTABLE, EVEN THOUGH EQUIPMENT OF OTHER TYPES STYLES, CLASSES, ETC. MAY BE APPROVED.
- ANY AND ALL INSTRUCTIONS FROM THE RESIDENT ENGINEER/RESIDENT PROJECT REPRESENTATIVE TO THE CONTRACTOR REGARDING CHANGES IN OR DEVIATIONS FROM THE PLANS AND SPECIFICATIONS SHALL BE IN WRITING WITH COPIES SENT TO THE AIRPORT SPONSOR AND THE ILLINOIS DEPARTMENT OF TRANSPORTATION, DIVISION OF AERONAUTICS. THE CONTRACTOR SHALL NOT ACCEPT ANY VERBAL INSTRUCTIONS FROM THE RESIDENT ENGINEER/RESIDENT PROJECT REPRESENTATIVE REGARDING ANY CHANGES FROM THE PLANS AND SPECIFICATIONS.
- A MINIMUM OF THREE COPIES OF THE INSTRUCTION BOOK SHALL BE SUPPLIED WITH EACH DIFFERENT TYPE OF EQUIPMENT. THE BOOKS DESCRIBING A MORE SOPHISTICATED TYPE OF EQUIPMENT, SUCH AS REGULATORS, PAPI, REIL, ETC. AS A MINIMUM SHALL CONTAIN THE FOLLOWING:
  - A DETAILED DESCRIPTION OF THE OVERALL EQUIPMENT AND ITS INDIVIDUAL COMPONENTS.
  - THEORY OF OPERATION INCLUDING THE FUNCTION OF EACH COMPONENT.
  - INSTALLATION INSTRUCTION.
  - START-UP INSTRUCTIONS.
  - PREVENTATIVE MAINTENANCE REQUIREMENTS.
  - CHART FOR TROUBLE-SHOOTING.
- COMPLETE POWER AND CONTROL DETAILED WIRING DIAGRAM(S), SHOWING EACH CONDUCTOR/CONNECTION/COMPONENT - "BLACK" BOXES ARE NOT ACCEPTABLE. THE DIAGRAM OF THE NARRATIVE SHALL SHOW VOLTAGE/CURRENTS/WAVE SHAPES AT STRATEGIC LOCATIONS TO BE USED WHEN CHECKING AND/OR TROUBLE-SHOOTING THE EQUIPMENT. WHEN THE EQUIPMENT HAS SEVERAL MODES OF OPERATION, SUCH AS SEVERAL BRIGHTNESS STEPS, THESE PARAMETERS SHALL BE INDICATED FOR ALL DIFFERENT MODES.
- PARTS LIST WHICH WILL INCLUDE ALL MAJOR AND MINOR COMPONENTS SUCH AS RESISTORS, DIODES, ETC. IT SHALL INCLUDE A COMPLETE NOMENCLATURE OF EACH COMPONENT AND, IF APPLICABLE, THE NAME OF ITS MANUFACTURER AND THE CATALOG NUMBER.
- SAFETY INSTRUCTIONS.

**POWER AND CONTROL NOTES**

- PROVIDE LEGEND PLATES FOR ALL ELECTRICAL EQUIPMENT TO IDENTIFY FUNCTION, CIRCUIT VOLTAGE AND PHASE. WHERE THE EQUIPMENT CONTAINS FUSES, ALSO IDENTIFY THE FUSE OR FUSE LINK AMPERE RATING. WHERE THE EQUIPMENT DOES NOT HAVE SUFFICIENT AREA TO INSTALL LEGEND PLATES, THE LEGEND PLATES SHALL BE INSTALLED ON THE WALL NEXT TO THE UNIT. 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.
- COLOR CODE ALL PHASE WIRING BY THE USE OF COLORED WIRE INSULATION AND/OR COLORED TAPE. WHERE TAPE IS USED, THE WIRE INSULATION SHALL BE BLACK. BLACK AND RED SHALL BE USED FOR PHASE CONDUCTORS ON 120/240VAC SINGLE-PHASE, THREE WIRE SYSTEMS. BLACK, RED, AND BLUE SHALL BE USED FOR PHASE CONDUCTORS ON 208/120VAC THREE-PHASE, FOUR WIRE SYSTEMS. NEUTRAL CONDUCTORS, SIZE NO. 6 AWG OR SMALLER, SHALL BE IDENTIFIED BY A CONTINUOUS WHITE OR NATURAL GRAY OUTER FINISH ALONG ITS ENTIRE LENGTH. NEUTRAL CONDUCTORS LARGER THAN NO. 6 AWG SHALL BE IDENTIFIED EITHER BY A CONTINUOUS WHITE OR NATURAL GRAY OUTER FINISH ALONG ITS ENTIRE LENGTH OR BY THE USE OF WHITE TAPE AT ITS TERMINATIONS AND INSIDE ACCESSIBLE WIREWAYS. INSULATED GROUND CONDUCTORS SHALL HAVE GREEN COLORED INSULATION FOR ALL CONDUCTOR SIZES (AWG OR KCMIL).
- ALL BRANCH CIRCUIT CONDUCTORS CONNECTED TO A PARTICULAR PHASE SHALL BE IDENTIFIED WITH THE SAME COLOR. THE COLOR CODING SHALL BE EXTENDED TO THE POINT OF UTILIZATION.
- IN CONTROL WIRING THE SAME COLOR SHALL BE USED THROUGHOUT THE SYSTEM FOR THE SAME FUNCTION, SUCH AS 10%, 30%, 100% BRIGHTNESS CONTROL, ETC.
- LOW VOLTAGE (600 V.) AND HIGH VOLTAGE (5000 V.) CONDUCTORS SHALL BE INSTALLED IN SEPARATE WIREWAYS.
- NEATLY LACE WIRING IN DISTRIBUTION PANELS, WIREWAYS, SWITCHES AND JUNCTION/PULL BOXES.
- THE MINIMUM SIZE OF PULL/JUNCTION BOXES, REGARDLESS OF THE QUANTITY AND SIZE OF THE CONDUCTORS SHOWN, SHALL BE AS FOLLOWS:
  - IN STRAIGHT PULLS THE LENGTH OF THE BOX SHALL NOT BE LESS THAN EIGHT TIMES THE TRADE DIAMETER OF THE LARGER CONDUIT. THE TOTAL AREA (INCLUDING THE CONDUIT CROSS-SECTIONAL AREA) OF A BOX END SHALL BE AT LEAST 3 TIMES GREATER THAN THE TOTAL TRADE CROSS-SECTIONAL AREA OF THE CONDUITS TERMINATING AT THE END.
  - IN ANGLE PULLS OR 'U' PULLS THE DISTANCE BETWEEN EACH CONDUIT ENTRY INSIDE THE BOX AND THE OPPOSITE WALL OF THE BOX SHALL NOT BE LESS THAN SIX (6) TIMES THE TRADE DIAMETER OF THE LARGEST CONDUIT. THIS DISTANCE SHALL BE INCREASED FOR ADDITIONAL ENTRIES BY THE AMOUNT OF THE SUM OF THE DIAMETERS OF ALL OTHER CONDUIT ENTRIES ON THE SAME WALL AS THE BOX. THE DISTANCE BETWEEN CONDUIT ENTRIES ENCLOSING THE SAME CONDUCTOR SHALL NOT BE LESS THAN SIX TIMES THE TRADE DIAMETER OF THE LARGEST CONDUIT.
- A RUN OF CONDUIT BETWEEN TERMINATIONS AT EQUIPMENT ENCLOSURES, SQUARE DUCTS AND PULL/JUNCTION BOXES, SHALL NOT CONTAIN MORE THAN THE EQUIVALENT OF FOUR QUARTER BENDS (360 DEGREES TOTAL), INCLUDING THOSE BENDS LOCATED IMMEDIATELY AT THE TERMINATIONS, CAST, CONDUIT TYPE OUTLETS SHALL NOT BE TREATED AS PULL/JUNCTION BOXES.
- EQUIPMENT CABINETS SHALL NOT BE USED AS PULL/JUNCTION BOXES. ONLY WIRING TERMINATING AT THE EQUIPMENT SHALL BE BROUGHT INTO THESE ENCLOSURES.
- SPLICES AND JUNCTION POINTS SHALL BE PERMITTED ONLY IN JUNCTION BOXES, DUCTS EQUIPPED WITH REMOVABLE COVERS, AND AT EASILY ACCESSIBLE LOCATIONS.
- CIRCUIT BREAKERS IN POWER DISTRIBUTION PANEL(S) SHALL BE THERMAL-MAGNETIC MOLDED CASE, PERMANENT TRIP WITH 100 AMPERE, MINIMUM FRAME.
- DUAL LUGS SHALL BE USED WHERE TWO (2) WIRES, SIZE NO. 6 OR LARGER, ARE TO BE CONNECTED TO THE SAME TERMINAL.
- ALL INTERIOR WALL MOUNTED EQUIPMENT ENCLOSURES SHALL BE MOUNTED ON HOT DIPPED GALVANIZED STEEL STRUT SUPPORT, OR STAINLESS STEEL STRUT SUPPORT, WITH CORROSION RESISTANT HARDWARE.
- SUPPORT FOR EXTERIOR MOUNTED EQUIPMENT SHALL USE HOT DIPPED GALVANIZED STEEL STRUT SUPPORT OR STAINLESS STEEL STRUT SUPPORT WITH STAINLESS STEEL HARDWARE. PROVIDE ZINC RICH PAINT APPLIED TO FIELD CUTS OF GALVANIZED STEEL SUPPORT TO MINIMIZE THE POTENTIAL FOR CORROSION PER THE RESPECTIVE STRUT SUPPORT MANUFACTURER'S RECOMMENDATIONS.
- CONDUITS FOR ELECTRIC SERVICE ENTRANCE AND FEEDERS SHALL BE AS DETAILED HEREIN ON THE PLANS. WHERE GALVANIZED RIGID STEEL CONDUIT IS SPECIFIED IT SHALL HAVE THREADED FITTINGS. SET SCREW TYPE FITTINGS WILL NOT BE ACCEPTABLE. CONDUITS FOR UNDERGROUND APPLICATIONS SHALL BE AS DETAILED HEREIN. CONDUITS FOR GROUNDING ELECTRODE CONDUCTORS OR INDIVIDUAL GROUNDING CONDUCTORS SHALL BE SCHEDULE 40 OR SCHEDULE 80 PVC.
- PROVIDE LIQUID TIGHT FLEXIBLE METAL CONDUIT AT CONNECTIONS TO EQUIPMENT SUBJECT TO VIBRATION OR WHERE FLEXIBILITY IS REQUIRED. LIQUID TIGHT FLEXIBLE METAL CONDUIT AND ASSOCIATED FITTINGS SHALL BE U.L. LISTED TO MEET THE REQUIREMENTS OF NEC 350.6, SUITABLE FOR GROUNDING, SUNLIGHT RESISTANT, AND RESISTANT TO OIL, GASOLINE, AND GREASE. LIQUID TIGHT FLEXIBLE METAL CONDUIT THAT IS USED FOR FLEXIBILITY (INCLUDING CONNECTIONS TO MOTORS, TRANSFORMERS, & CONSTANT CURRENT REGULATORS) SHALL REQUIRE AN EXTERNAL BONDING JUMPER OR INTERNAL EQUIPMENT GROUNDING CONDUCTOR PER NEC 350.60. DO NOT INSTALL LIQUID TIGHT FLEXIBLE METAL CONDUIT THAT IS NOT UL LISTED. CONFIRM LIQUID-TIGHT FLEXIBLE METAL CONDUIT BEARS THE UL LABEL PRIOR TO INSTALLING IT.
- UNLESS OTHERWISE SHOWN, ALL EXPOSED CONDUITS SHALL BE RUN PARALLEL TO OR AT RIGHT ANGLES WITH THE LINES OF THE STRUCTURE.
- ALL STEEL CONDUITS, FITTINGS, NUTS, BOLTS, ETC. SHALL BE GALVANIZED.
- USE CONDUIT BUSHINGS AT EACH CONDUIT TERMINATION. WHERE NO. 4 AWG OR LARGER UNDERGROUND WIRE IS INSTALLED, USE INSULATED BUSHINGS.
- USE DOUBLE LOCK NUTS AT EACH CONDUIT TERMINATION.
- WRAP ALL PRIMARY AND SECONDARY POWER TRANSFORMER CONNECTIONS WITH SUFFICIENT LAYERS OF INSULATING TAPE (3M SCOTCH 23 ALL-VOLTAGE SPLICING TAPE, 3M SCOTCH 130C LINERLESS RUBBER SPLICING TAPE, OR APPROVED EQUAL) AND COVER WITH VINYL ELECTRICAL TAPE (3M SCOTCH 88 VINYL ELECTRICAL TAPE OR APPROVED EQUAL) FOR FULL VALUE OF CABLE INSULATION VOLTAGE.
- UNLESS OTHERWISE NOTED, ALL SINGLE CONDUCTOR CONTROL WIRING SHALL BE NO. 12 AWG. COPPER MINIMUM.
- THE FOLLOWING SHALL APPLY TO RELAY/CONTACTOR PANELS/ENCLOSURES:
  - FOR INTERIOR LOCATIONS ALL COMPONENTS SHALL BE MOUNTED IN NEMA 12 (DUST TIGHT) ENCLOSURE(S) WITH VERTICALLY HINGED COVERS. FOR EXTERIOR/OUTDOOR LOCATIONS ALL COMPONENTS SHALL BE MOUNTED IN NEMA 4X STAINLESS STEEL ENCLOSURE(S) WITH VERTICALLY HINGED COVERS. ALL CONDUIT ENTRIES INTO NEMA 4, 4X ENCLOSURES SHALL HAVE NEMA 4 HUBS LISTED SUITABLE FOR THE RESPECTIVE ENCLOSURE TO MAINTAIN THE NEMA 4, 4X RATING OF THE ENCLOSURE.
  - THE ENCLOSURE(S) SHALL HAVE AMPLE SPACE FOR THE CIRCUIT COMPONENTS, TERMINAL BLOCKS AND INCOMING AND INTERNAL WIRING.
  - ALL CONTROL CONDUCTOR TERMINATIONS SHALL BE OF THE OPEN-EYE CONNECTOR/SCREW TYPE. SOLDERED CLOSED-EYE TERMINATIONS, OR TERMINATIONS WITHOUT CONNECTORS ARE NOT ACCEPTABLE.
  - WHEN THE ENCLOSURE COVER IS OPENED, ALL CIRCUIT COMPONENTS, WIRING AND TERMINALS SHALL BE EXPOSED AND ACCESSIBLE WITHOUT REMOVAL OF ANY PANELS, COVERS, ETC., EXCEPT THOSE COVERING HIGH VOLTAGE COMPONENTS.
  - ACCESS TO, OR REMOVAL OF A CIRCUIT COMPONENT OR TERMINAL BLOCK WILL NOT REQUIRE THE REMOVAL OF ANY OTHER CIRCUIT COMPONENT OR TERMINAL BLOCK.
  - EACH CIRCUIT COMPONENT SHALL BE CLEARLY IDENTIFIED INDICATING ITS CORRESPONDING NUMBER SHOWN ON THE DRAWINGS AND ITS FUNCTION.
  - A COMPLETE WIRING DIAGRAM SHALL BE MOUNTED ON THE INSIDE OF THE COVER. THE DIAGRAM SHALL REPRESENT EACH CONDUCTOR BY A SEPARATE LINE.
  - THE DIAGRAM SHALL IDENTIFY EACH CIRCUIT COMPONENT AN NUMBERING AND COLOR OF EACH TERMINAL CONDUCTOR AND TERMINAL.
  - ALL WIRING SHALL BE NEATLY TRAINED AND LACED.
  - MINIMUM WIRE SIZE SHALL BE NO. 12 AWG.
- FURNISH & INSTALL A WEATHERPROOF WARNING LABEL FOR EACH METER SOCKET, SERVICE DISCONNECT, SAFETY SWITCH, CUTOUT, PANELBOARD, & CONTROL PANEL TO WARN PERSONS OF POTENTIAL ELECTRIC ARC FLASH HAZARDS, PER THE REQUIREMENTS OF NEC 110.16 "FLASH PROTECTION".

REVISION

DATE

Chicago-Romeoville Airport



JOLIET REGIONAL PORT DISTRICT

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Hanson No. 12A0087D

Filename 23- ELECTRICAL NOTES.DWG

Scale N/A

Date MARCH 22, 2013

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DRAWN	LDH	3/26/13
REVIEWED	RMH	3/22/13

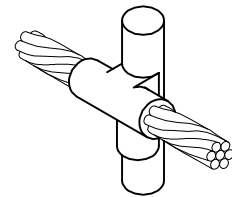

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ELECTRICAL NOTES

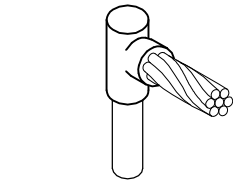
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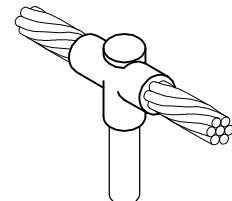
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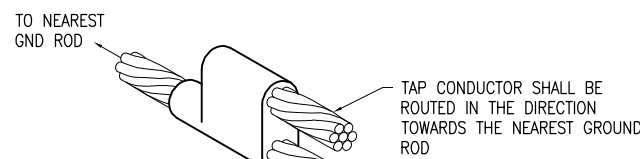
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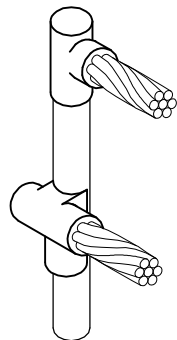
CABLE TO GROUND ROD



CABLE TO GROUND ROD



CABLE TO CABLE  
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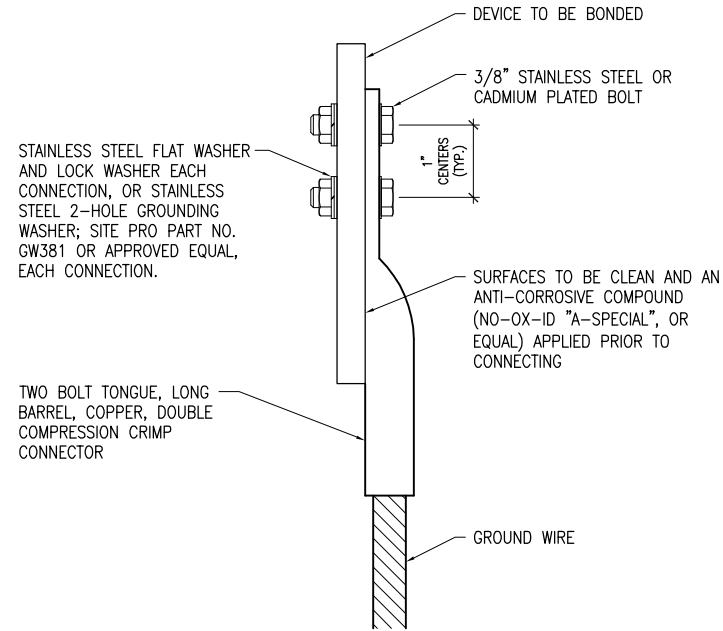


CABLES TO GROUND ROD

**DETAIL NOTES**

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

**EXOTHERMIC WELD DETAILS**



2 HOLE LONG BARREL COMPRESSION LUG TABLE			
WIRE SIZE	BURNDY CAT. NO.	THOMAS & BETTS CAT. NO.	PENN-UNION CAT. NO.
#8 AWG STRANDED	YA8C-2TC38	256-30695-1157	BBLU-8D-2TC38
#6 AWG SOLID	YA8C-2TC38 OR YGA6C-2TC38E2G1		
#6 AWG STRANDED	YA6C-2TC38	256-30695-1158	BBLU-6D-2TC38
#4 AWG STRANDED	YA4C-2TC38	256-30695-1159	BBLU-4D-2TC38
#2 AWG STRANDED	YA2C-2TC38	256-30695-1160	BBLU-2D-2TC38
#2 AWG SOLID	YA3C-2TC38	256-30695-1160	BBLU-3D-2TC38
#1/0 AWG STRANDED	YA25-2TC38	256-30695-1162	BBLU-1/0D-2TC38
#2/0 AWG STRANDED	YA26-2TC38	256-30695-1116	BBLU-2/0D-2TC38
#3/0 AWG STRANDED	YA27-2TC38	54816BE	BBLU-3/0D-2TC38
#4/0 AWG STRANDED	YA28-2TC38	256-30695-1117	BBLU-4/0D-2TC38

**NOTES**

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

**GROUNDING LUG CONNECTION DETAIL**

LEGEND PLATE SCHEDULE	
DEVICE	LABEL
GATE T-7 OPERATOR DISCONNECT	GATE T-7 120/208VAC FED FROM DIST. PNL FOR AIRCRAFT CANOPIES
GATE N-2 OPERATOR DISCONNECT	GATE N-2 120/240VAC FED FROM LOAD CENTER IN NORTH MAINT. BLDG.

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.

REVISION	DATE

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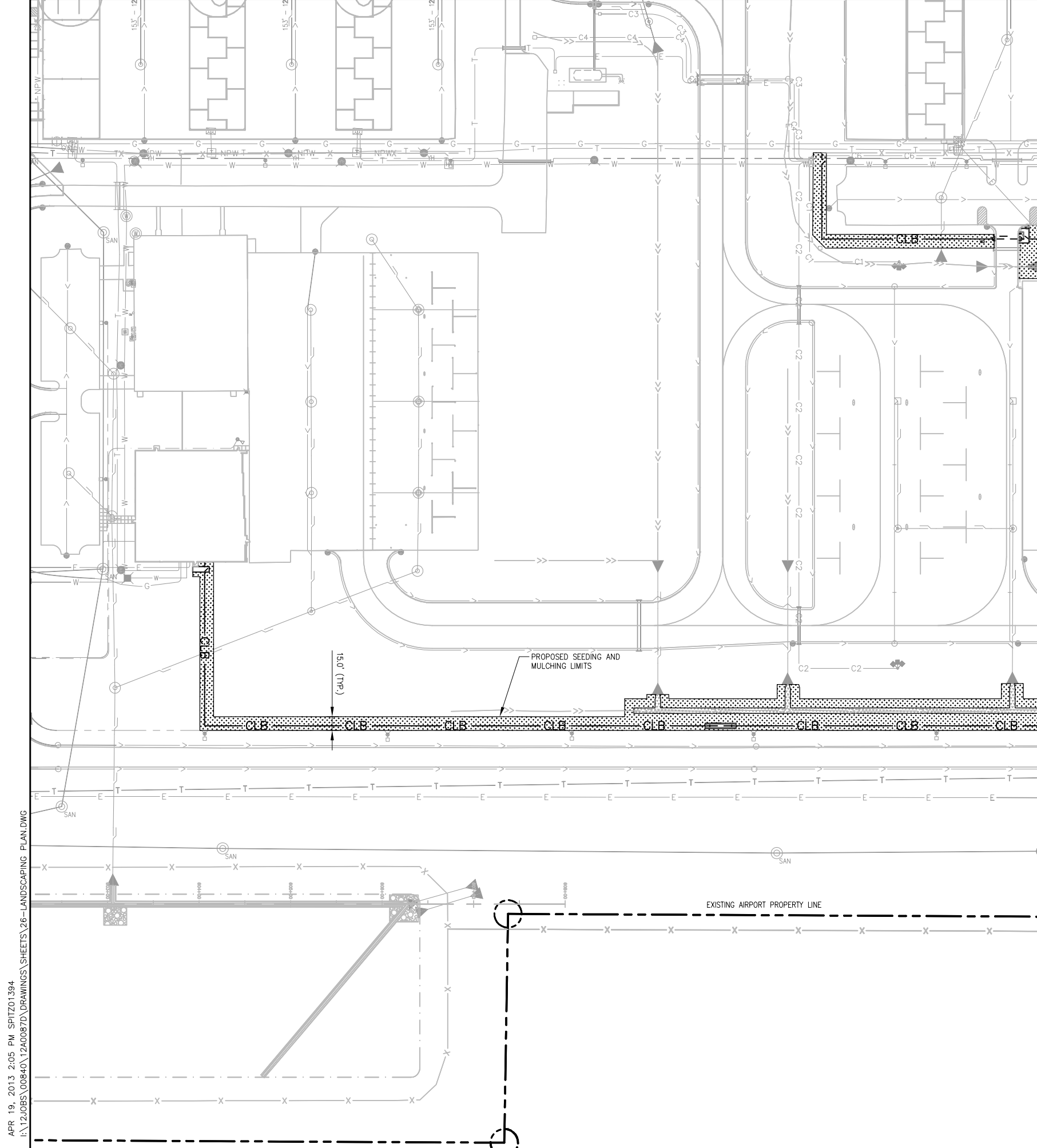
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DRAWN	LDH
REVIEWED	RMH
	3/22/13
	3/22/13
	3/22/13

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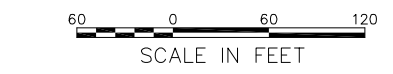
GROUNDING DETAILS AND  
LEGEND PLATE SCHEDULE  
EXTEND FENCING AND GATES  
IDA No. LOT-4192 AIP No. 3-17-0140-B50







- NOTES:**
1. LANDSCAPING AND SEEDING WILL BE 5' OUTSIDE OF FENCE AND 10' INSIDE OF FENCE UNLESS PLANS STATE OTHERWISE, OR AS DIRECTED BY RESIDENT ENGINEER.
  2. STOCKPILES ARE TO BE REMOVED AT THE END OF EACH WORKING DAY OR SHALL BE STABILIZED WITH TEMPORARY EROSION CONTROL MEASURES.



- LEGEND:**
- X — EXISTING FENCE
  - CLB — PROPOSED CHAIN LINK FENCE WITH BARBED WIRE
  - ⊙ — PROPOSED GATE
  - ▨ (stippled) PROPOSED SEEDING AND MULCHING
  - ▨ (cross-hatched) PROPOSED PAVED DITCH
  - >> — EXISTING DITCH
  - ▨ (diagonal lines) PROPOSED CONCRETE CABLE BOTTOM

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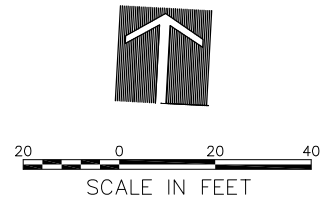
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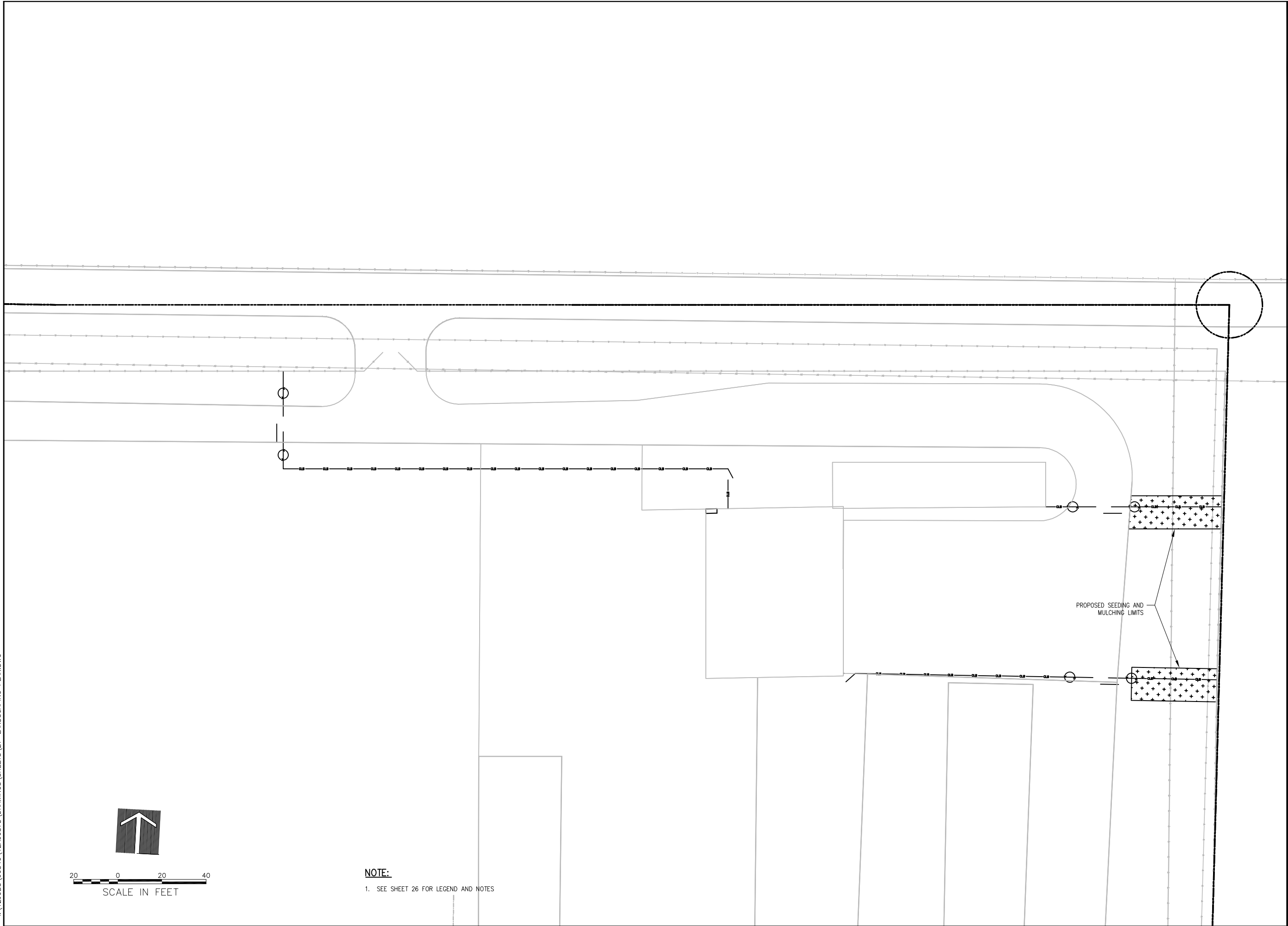
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Date	MARCH 22, 2013
LAYOUT	KMS
DATE	12/13/12
DRAWN	KMS
DATE	12/20/12
REVIEWED	RMH
DATE	3/22/13

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**LANDSCAPING PLAN**  
**ALIGNMENT 100**  
**EXTEND FENCING AND GATES**  
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**NOTE:**  
 1. SEE SHEET 26 FOR LEGEND AND NOTES



LE045

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Hanson No.	12A0087D
Filename	27-LANDSCAPING PLAN.DWG
Scale	1"=20'
Date	MARCH 22, 2013
LAYOUT	KMS 12/13/12
DRAWN	KMS 12/27/12
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**LANDSCAPING PLAN**  
**ALIGNMENT 500**  
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