CONSTRUCTION PLANS FOR

MT. STERLING MUNICIPAL AIRPORT MT. STERLING, BROWN COUNTY, ILLINOIS

CONSTRUCT A PARTIAL PARALLEL TAXIWAY TO RUNWAY 18-36

THE PROPOSED IMPROVEMENTS CONSIST OF PAVING, LIGHTING, AND MARKING 2,557.5' x 35' TAXIWAY "B" AND 220.5' x 70' TAXIWAY "B-2". ASSOCIATED WORK INCLUDES BITUMINOUS PAVING, MARKING, LIGHTING, GRADING, SEEDING, AND MULCHING.

MT. STERLING MUNICIPAL AIRPORT ENGINEER

LOCATION

163-3431 A.I.P. PROJ. 3-17-0147-B6

39' 59' 15" 90' 48' 15" 732.0' M.S.L. LONGITUDE: **ELEVATION:** 05/18/05

REGISTERED PROFESSIONAL REVISED 7/21/05

FOR ELECTRICAL DESIGN

SP HANSON

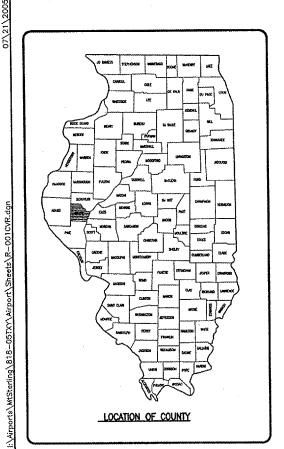


Lics. Exp. Date NOVEMBER 30, 2005

MS002

TOTAL SHEETS: 57

HANSON



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III.W NO	DESCRIPTION	UŅIT	AS AWARDED QUANTITIES	AS BUILT QUANTITIES
AR108158	1/C #8 5 KV UG CABLE IN UD	L.F.	8,819	
AR109200	INSTALL ELECTRICAL EQUIPMENT	L.S.	1	
AR110014	4" DIRECTIONAL BORE	L.F.	110	
AR110502	2-WAY CONCRETE ENCASED DUCT	LF.	125	
AR125410	MITL-STAKE MOUNTED	EACH	40	
AR125415	MITL-BASE MOUNTED	EACH	8	·
AR125447	TAXIWAY GUIDANCE SIGN, 7 CHARACTER	EACH	1	
AR125901	REMOVE STAKE MOUNTED LIGHT	EACH	1	
AR150510	ENGINEER'S FIELD OFFICE	LS.	1	
AR150540	HAUL ROUTE	LS.	1	
AR151450	CLEARING AND GRUBBING	ACRE	0.53	
AR152410	UNCLASSIFIED EXCAVATION	C.Y.	10,326	
AR155540	BYPRODUCT LIME	TON	352	
AR155712	LIME-MODIFIED SUBGRADE-12"	S.Y.	12,641	
AR156510 AR156511	SILT FENCE	L.F.	950	
AR156511	DITCH CHECK	EACH	8	
1 AK156521	HEADWALL PROTECTION	EACH	3	
AR156530	TEMPORARY SEEDING	ACRE	17.5	
AR156530 AR156540 AR161632 AR201610	RIPRAP	S.Y.	105	
AR161632	CLASS C GATE-32'	EACH	100	
AR201610	BITUMINOUS BASE COURSE	TONS	1,804	
AR209510	CRUSHED AGGREGATE BASE COURSE	TONS	4,296	
AR401610	BITUMINOUS SURFACE COURSE	TONS	1,068	
AR401665	BITUMINOUS PAVEMENT SAWING	LF.	216	
AR602510	BITUMINOUS PRIME COAT	GAL.	6,012	
AR603510	BITUMINOUS TACK COAT	GAL.	1,781	
AR620520	PAVEMENT MARKING-WATERBORNE	S.F.	4,757	
AR620900	PAVEMENT MARKING REMOVAL	S.F.	210	
AR701515	15" RCP, CLASS N	LF.	100	
AR701518	18" RCP. CLASS IV	LF.	236	
AR705410	POROUS BACKFILL	C.Y.	276	
AR705526	6" PERFORATED UNDERDRAIN W/SOCK	LF.	5,558	
AR705630	UNDERDRAIN INSPECTION HOLE	EACH	3,336	~~~~
	PRECAST REINFORCED CONC. FES 15"	EACH	2	
AD750410	PRECAST REINFORCED CONC. FES 18"	EACH	2	
AR752618 AR901510 AR908510	CONCRETE HEADWALL 18"	EACH	2	
AR901510	SEEDING	ACRE	17.5	
AR908510	MULCHING	ACRE	17.5	

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MT. STERLING, ILLINOIS

SUMMARY OF QUANTITIES, INDEX TO SHEETS

AIRPORT SECURITY NOTE

AIRPORT SECURITY WILL BE MAINTAINED AT ALL TIMES. THE CONTRACTOR WILL CLOSE AND LOCK THE EXISTING GATE IN THE HAUL ROUTE AT THE END OF EACH WORKING DAY.

UTILITY NOTE

THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES AND AGENCIES WHICH HAVE LINES OR CONDUITS IN THE PROPOSED WORK AREA. ALL LINES AND CONDUITS SHALL BE LOCATED AND IDENTIFIED FOR DEPTH BEFORE ANY EXCAVATION BEGINS. THE CONTRACTOR WILL CALL J.U.L.I.E.

(1-800-892-0123) TO ACCOMPLISH THE ABOVE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO IDENTIFY ALL UNDERGROUND NON-JULIE UTILITIES LOCATED WITHIN THE PROPOSED CONSTRUCTION LIMITS. THESE UNDERGROUND IMPROVEMENTS WILL BE LOCATED AT THE CONTRACTOR'S OWN EXPENSE PRIOR TO THE START OF CONSTRUCTION ACTIVITIES.

HEIGHT OF CONSTRUCTION EQUIPMENT

THE MAXIMUM ANTICIPATED HEIGHT OF THE CONSTRUCTION EQUIPMENT WILL BE 25 FEET. THE TALLEST EQUIPMENT IS EXPECTED TO BE A DUMP

HAUL ROUTE AND EQUIPMENT PARKING

THE CONTRACTOR WILL USE THE DESIGNATED HAUL ROUTE AND PARKING AREA AS SHOWN ON THIS SHEET. THE PROPOSED PARKING AREA WILL BE 200' X 200'. THE CONTRACTOR WILL BE REQUIRED TO MAINTAIN THE PROPOSED HAUL ROUTE AND PARKING AREA THROUGHOUT THE DURATION OF THE PROJECT. ANY AREAS DISTURBED OUTSIDE OF THESE AREAS WILL BE REPAIRED BY THE CONTRACTOR AND AT THE CONTRACTOR'S EXPENSE. AT THE CONCLUSION OF THE PROJECT THE CONTRACTOR WILL PLACE CRUSHED AGGREGATE BASE COURSE, FERTILIZE, SEED AND MULCH THE HAUL ROUTE AND PARKING AREA AS NEEDED TO RESTORE IT TO ITS' ORIGINAL STATE. RESTORATION OF THE HAUL ROUTE AND PARKING AREA 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

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

ALL WORK PERFORMED SHALL BE DONE IN A ORDERLY AND EFFECTIVE MANNER TO MINIMIZE RUNWAY CLOSURE.

BARRICADES AND TRAFFIC CONES

IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO PLACE AND MAINTAIN BARRICADES AND TRAFFIC CONES AS DIRECTED BY THE AIRPORT MANAGER. THE LIGHTED BARRICADES WILL BE PLACED ADJACENT TO THE EXISTING PAVEMENT EDGES ANY TIME THE DROP-OFF EXCEEDS THREE (3) INCHES. THESE BARRICADES WILL BE IN PLACE EACH EVENING BEFORE REOPENING A TAXIWAY OR RUNWAY. THE BARRICADES WILL BE EQUIPPED WITH RED STEADY-BURN OR FLASHING LIGHTS. THE BARRICADES, THEIR MAINTENANCE, PLACEMENT AND REMOVAL WILL BE CONSIDERED AS AN INCIDENTAL ITEM TO THE CONTRACT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

EROSION CONTROL

THIS PROJECT WILL DISTURB MORE THAN 1 ACRE OF LAND, THEREFORE A N.P.D.E.S. PERMIT WILL BE REQUIRED.

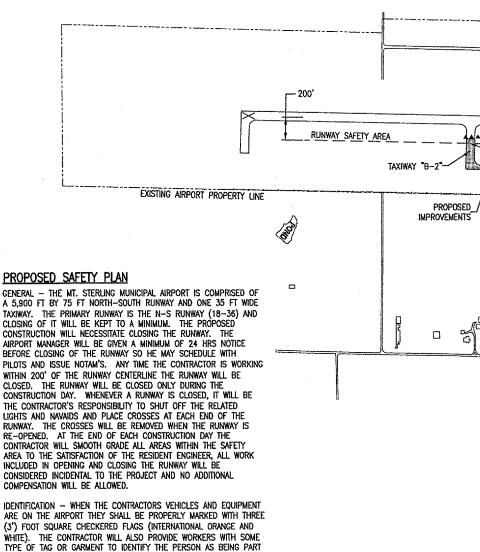
150-ENGINEER'S FIELD OFFICE NOTES

THE PROPOSED ENGINEER'S FIELD OFFICE WILL BE FURNISHED, MAINTAINED, AND REMOVED IN ACCORDANCE WITH ITEM AR150510 "ENGINEER'S FIELD OFFICE" AS STATED ON PAGE 168 OF THE SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS, ADOPTED JULY 1, 2004.

THE LOCATION OF THE PROPOSED ENGINEER'S FIELD OFFICE WILL BE DETERMINED AT THE PRE-CONSTRUCTION MEETING.

THE ENGINEERING FIRM WILL MAKE PAYMENT FOR ALL LONG DISTANCE TELEPHONE CALLS IN EXCESS OF ONE HUNDRED DOLLARS (\$100.00) PER MONTH.

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



CRITICAL POINT DATA

OF THE CONSTRUCTION CREW.

CENTERLINE OF TAXIWAY "B-2" STA. 2+00 LONGITUDE - 90° 48' 12.54" LATITUDE - 39' 58' 57.37" ELEV. 720.76

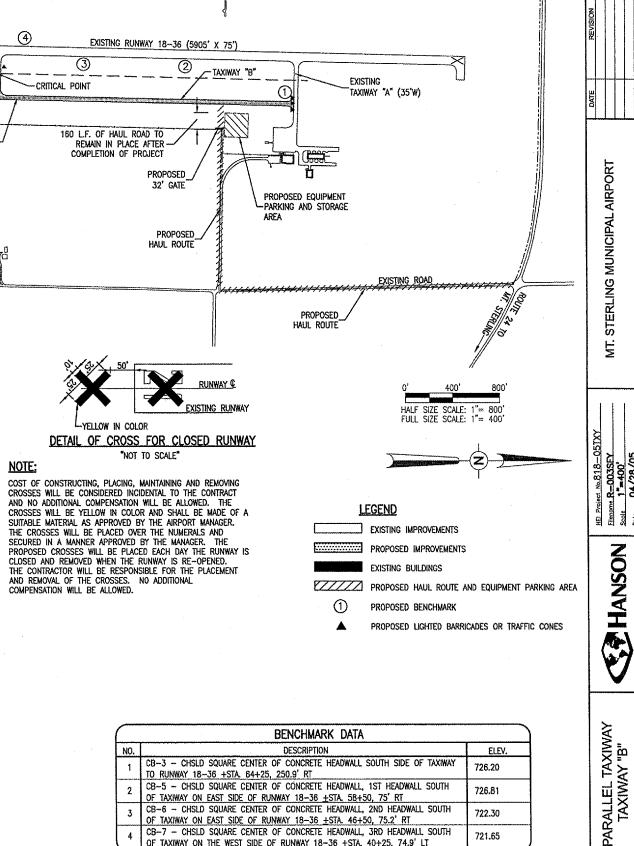
MT. STERLING TOWNSHIP __ 12 & 13 SECTION NO.__ MT. STERLING MUNICIPAL AIRPORT 145 W. MAIN STREET

J.U.L.I.E. INFORMATION

MT. STERLING, ILLINOIS 62353-1296

THE LOCATION, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND UTILITIES INDICATED ON THE PLANS IS NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. 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 ENGINEER SHALL ALSO BE IMMEDIATELY NOTIFIED. ANY SUCH MAINS AND SERVICES SHALL BE RESTORED TO SERVICE AT ONCE AND PAID FOR BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT.

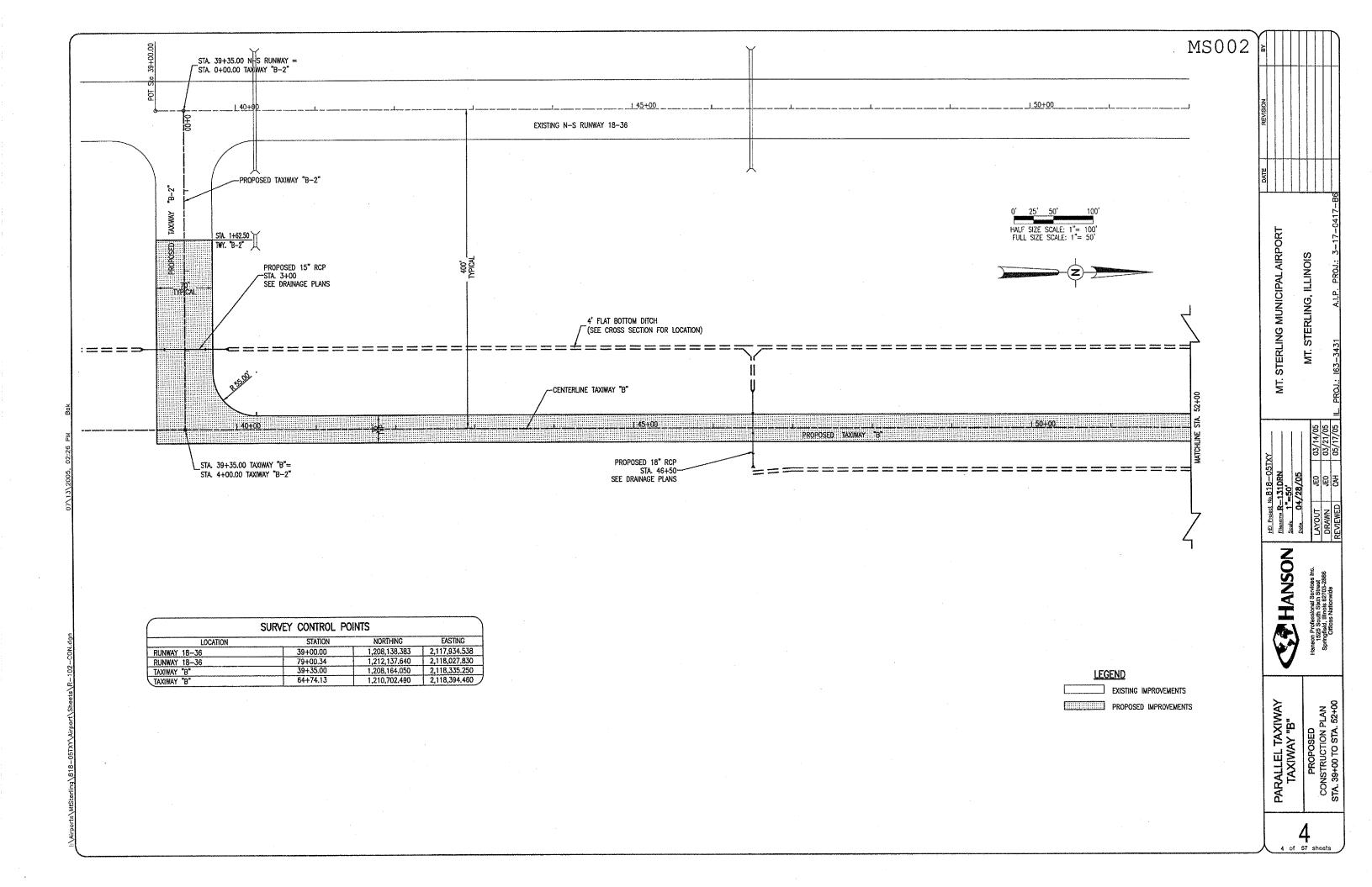
CALL J.U.L.I.E. FOR UTILITY INFORMATION AT 1-800-892-0123.

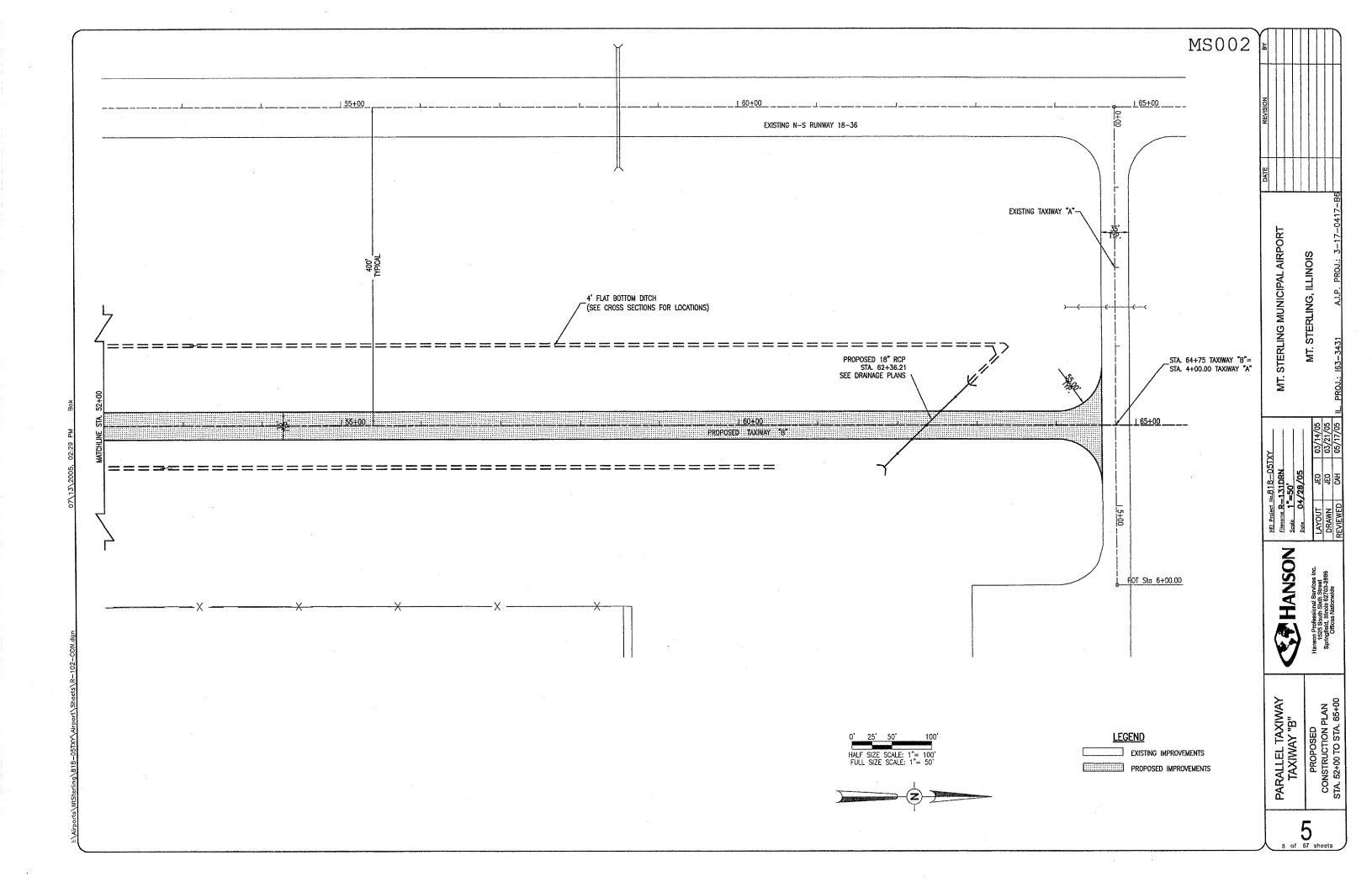


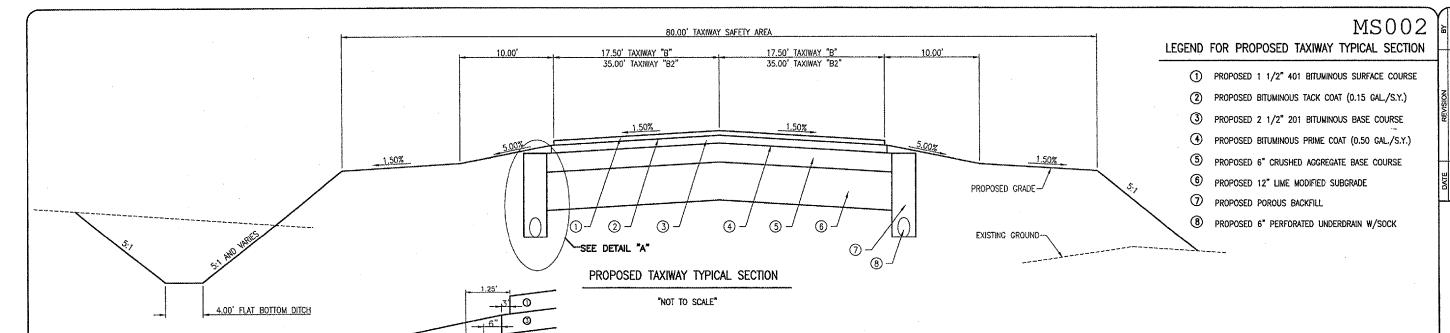
EXISTING AIRPORT PROPERTY LINE

BENCHMARK DATA DESCRIPTION FLFV. CB-3 - CHSLD SQUARE CENTER OF CONCRETE HEADWALL SOUTH SIDE OF TAXIWAY TO RUNWAY 18-36 +STA. 64+25, 250.9' RT CB-5 - CHSLD SQUARE CENTER OF CONCRETE HEADWALL, 1ST HEADWALL SOUTH 726.81 OF TAXIWAY ON EAST SIDE OF RUNWAY 18-36 +STA. 58+50, 75' RT CB-6 - CHSLD SQUARE CENTER OF CONCRETE HEADWALL, 2ND HEADWALL SOUTH 722.30 OF TAXIWAY ON EAST SIDE OF RUNWAY 18-36 +STA. 46+50, 75.2' RT CB-7 - CHSLD SQUARE CENTER OF CONCRETE HEADWALL, 3RD HEADWALL SOUTH 721.65 OF TAXIWAY ON THE WEST SIDE OF RUNWAY 18-36 ±STA. 40+25, 74.9' LT

MS002







155-LIME-MODIFIED SUBGRADE

THE PROPOSED LIME-MODIFIED SUBGRADE SHALL BE COMPLETED IN ACCORDANCE WITH ITEM 155 "LIME TREATED SUBGRADE" AS STATED ON PAGE 32 OF THE SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS, ADOPTED JULY 1, 2004 FOR AIRCRAFT WEIGHING LESS THAN 60,000 LBS.

THIS ITEM OF WORK SHALL CONSIST OF CONSTRUCTING A 12" DEEP COURSE OF A MIXTURE OF SOIL, LIME AND WATER IN ACCORDANCE WITH THE RATES AND METHODS DESIGNED IN THE SPECIFICATIONS (EITHER THE WET OR DRY METHODS IS ACCEPTABLE). USE CAUTION WHEN TILLING OVER PROPOSED PIPES TO ENSURE PROPER CLEARANCES.

THE SUBGRADE WILL BE CUT PRIOR TO LIME-MODIFICATION.

ANY SWELL WILL BE REMOVED BY THE CONTRACTOR AND DISPOSED OF ON THE AIRPORT SITE AS DIRECTED BY THE RESIDENT ENGINEER. NO ADDITIONAL PAYMENT WILL BE MADE FOR REMOVAL OF SWELL.

THE LIME-MODIFIED SUBGRADE SHALL BE CUT TO FINISHED ELEVATION UPON COMPLETION (0.05+) IN ACCORDANCE TO SECTION 152-2.11 OF THE SPECIFICATIONS. THE LIME-MODIFIED SUBGRADE WILL BE WET CURED FOR 2 DAYS.

THE CONTRACTOR WILL LIME-MODIFY THE SUBGRADE FROM THE CENTERLINE TO 1.25' OUTSIDE OF THE PROPOSED PAVEMENT SURFACE ON BOTH SIDES.

THE LIME-MODIFIED SUBGRADE WILL BE COMPACTED IN ACCORDANCE WITH PROCEDURES FOR AIRCRAFT WEIGHING LESS THAN 60 000 POUNDS.

THE LIME, BY-PRODUCT LIME (CODE L), WAS CALCULATED AT 6% OF THE DRY SOIL WEIGHT AT MAXIMUM DENSITY. THE ACTUAL AMOUNT WILL BE DETERMINED PRIOR TO THE START OF CONSTRUCTION, BUT SHALL NOT EXCEED 6% BY WEIGHT. THE COST OF LIME WILL BE PAID FOR UNDER ITEM AR155540.

THE SOIL TEST INDICATES AN AVERAGE SOIL WEIGHT OF 103 POUNDS PER CUBIC FOOT. THEREFORE, THE MAXIMUM TONNAGE OF LIME WILL BE 352 TONS.

THE PROPOSED LIME-MODIFIED SUBGRADE WILL BE PAID FOR UNDER ITEMS:

AR155712 LIME-MODIFIED SUBGRADE-12"___ AR155540 BY-PRODUCT LIME_ 352 TONS

209 CRUSHED AGGREGATE BASE COURSE

THE CRUSHED AGGREGATE BASE COURSE (209) SHALL BE PLACED IN ACCORDANCE WITH ITEM 209 "CRUSHED AGGREGATE BASE COURSE" AS STATED ON PAGE 45 OF THE SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS, ADOPTED JULY 1, 2004.

THE BASE COURSE MATERIAL (CA-6) WILL BE USED TO CONSTRUCT A BASE COURSE FOR THE PROPOSED TAXIWAY PAVEMMENT. THE BASE COURSE WILL BE 6 INCHES IN DEPTH AND COMPACTED TO NOT LESS THAN 95 PERCENT DENSITY.

THE PROPOSED AGGREGATE FOR THE BASE COURSE MATERIAL SHALL MEET THE REQUIREMENTS OF GRADATION B IN TABLE 1 OF THE SUPPLEMENTAL SPECIFICATIONS.

209 3.2 EQUIPMENT. ADD THE FOLLOWING PARAGRAPHS TO THIS SECTION:

PROVISIONS SHALL BE MADE BY THE CONTRACTOR FOR FURNISHING WATER AT THE PLANT AND AT THE SITE OF THE WORK BY EQUIPMENT OF AMPLE CAPACITY AND OF SUCH DESIGN AS TO ASSURE UNIFORM MIXING AND APPLICATION.

THE CONTRACTOR WILL PROVIDE THE RESIDENT ENGINEER A PROCTOR CURVE SHOWING OPTIMUM DENSITY AND MOISTURE FOR THE SUPPLIED BASE COURSE MATERIAL.

THE COMPACTION CONTROL TEST TO BE USED SHALL BE FAA COMPACTION CONTROL TEST T-611 FOR AIRCRAFT WEIGHING LESS THAN 60,000 LBS.

209-4.1. DELETE THE FIFTH SENTENCE AND REPLACE IT WITH THE FOLLOWING:

IF AT THE TIME THE AGGREGATES ARE WEIGHED THEY CONTAIN MORE THAN SIX (6) PERCENT OF ABSORBED AND FREE MOISTURE BY WEIGHT. A DEDUCTION FOR THE MOISTURE IN EXCESS OF THIS AMOUNT SHALL BE MADE IN DETERMINING THE PAY QUANTITY.

602-BITUMINOUS PRIME COAT

THE BITUMINOUS PRIME COAT (602) SHALL BE PLACED IN ACCORDANCE WITH ITEM AR602 "BITUMINOUS PRIME COAT" AS STATED ON PAGE 58 OF THE SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS,

THE PROPOSED BITUMINOUS PRIME COAT SHALL BE PLACED ON THE PROPOSED AGGREGATE BASE COURSE PRIOR TO THE PLACEMENT OF THE FIRST LIFT OF PROPOSED BITUMINOUS BASE COURSE. THE PROPOSED AGGREATE BASE COURSE SHALL HAVE A PRIME COAT OF BITUMINOUS MATERIAL APPLIED IN ACCORDANCE WITH THE REQUIREMENTS OF THE

AR602510 BITUMINOUS PRIME COAT _____ 6,012 GAL.

401-BITUMINOUS SURFACE COURSE

THE BITUMINOUS SURFACE COURSE (401) SHALL BE PLACED IN ACCORDANCE WITH ITEM AR401001 BITUMINOUS SURFACE COURSE-METHOD I AS STATED ON PAGE 245 OF THE SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS, ADOPTED JULY 1,

THIS ITEM OF WORK SHALL CONSIST OF CONSTRUCTING ONE LIFT OF A BITUMINOUS SURFACE COURSE (1 1/2 IN. DEPTH) ON THE PROPOSED BITUMINOUS SURFACE COURSE FOR THE PROPOSED TAXIWAY PAVEMENT.

THE PROPOSED BITUMINOUS SURFACE COURSE WILL BE DESIGNED TO A MARSHALL DESIGN OF LESS THAN 60,000 POUNDS.

401-4.9 TRANSPORTING, SPREADING, AND FINISHING. DELETE ANY REFERENCE TO STRINGLINE AND SUBSTITUTE THE FOLLOWING:

WHEN HAND SPREADING IS PERMITTED, THE MIXTURE WILL BE DISTRIBUTED AND SPREAD USING HAND TOOLS. WHEN THE WORK IS COMPLETED. THE LAYER WILL HAVE THE REQUIRED THICKNESS AND CONFORM TO THE GRADE AND SURFACE CONTOUR SHOWN ON THE PLANS.

401 4.12 SHAPING EDGES. ADD THE FOLLOWING TO THIS PARAGRAPH:

ALL PAVEMENT EDGES (LONGITUDINAL, RADIUS, AND PAVEMENT ENDS) MUST BE LEFT IN PROPER ALIGNMENT AS SHOWN ON THE PLANS. THIS MAY BE ACCOMPLISHED BY THE TRIMMING METHOD OUTLINED ABOVE OR AT THE CONTRACTOR'S OPTION BY SAWING AFTER THE PAVING HAS BEEN COMPLETED. NO ADDITIONAL COMPENSATION WILL BE MADE IF THE SAWING METHOD IS USED.

ADOPTED JULY 1, 2004.

SPECIAL PROVISIONS

THE PROPOSED BITUMINOUS PRIME COAT WILL BE PAID FOR UNDER ITEM:

STERLING MUNICIPAL AIRPOR

STERLING,

HANSON

TAXIWAY 4Y "B" POSED . SECTION PARALLEL TA TAXIWAY PROP TYPICAL

6

603-BITUMINOUS TACK COAT

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DETAIL "A"

6

THE BITUMINOUS TACK COAT (603) SHALL BE PLACED IN ACCORDANCE WITH ITEM AR603 "BITUMINOUS TACK COAT" AS STATED ON PAGE 62 OF THE SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS, ADOPTED JULY 1, 2004.

THE PROPOSED BITUMINOUS TACK COAT SHALL BE PLACED ON THE PROPOSED BITUMINOUS BASE COURSE PRIOR TO THE PLACEMENT OF THE PROPOSED BITUMINOUS SURFACE COURSE. THE PROPOSED BITUMINOUS PAVEMENT SHALL HAVE A TACK COAT OF BITUMINOUS MATERIAL APPLIED IN ACCORDANCE WITH THE REQUIREMENTS OF THE SPECIAL PROVISIONS.

THE ACTUAL APPLICATION RATES WILL BE DETERMINED BY THE RESIDENT ENGINEER AT THE TIME OF CONSTRUCTION.

THE PROPOSED BITUMINOUS TACK COAT WILL BE PAID FOR UNDER ITEM:

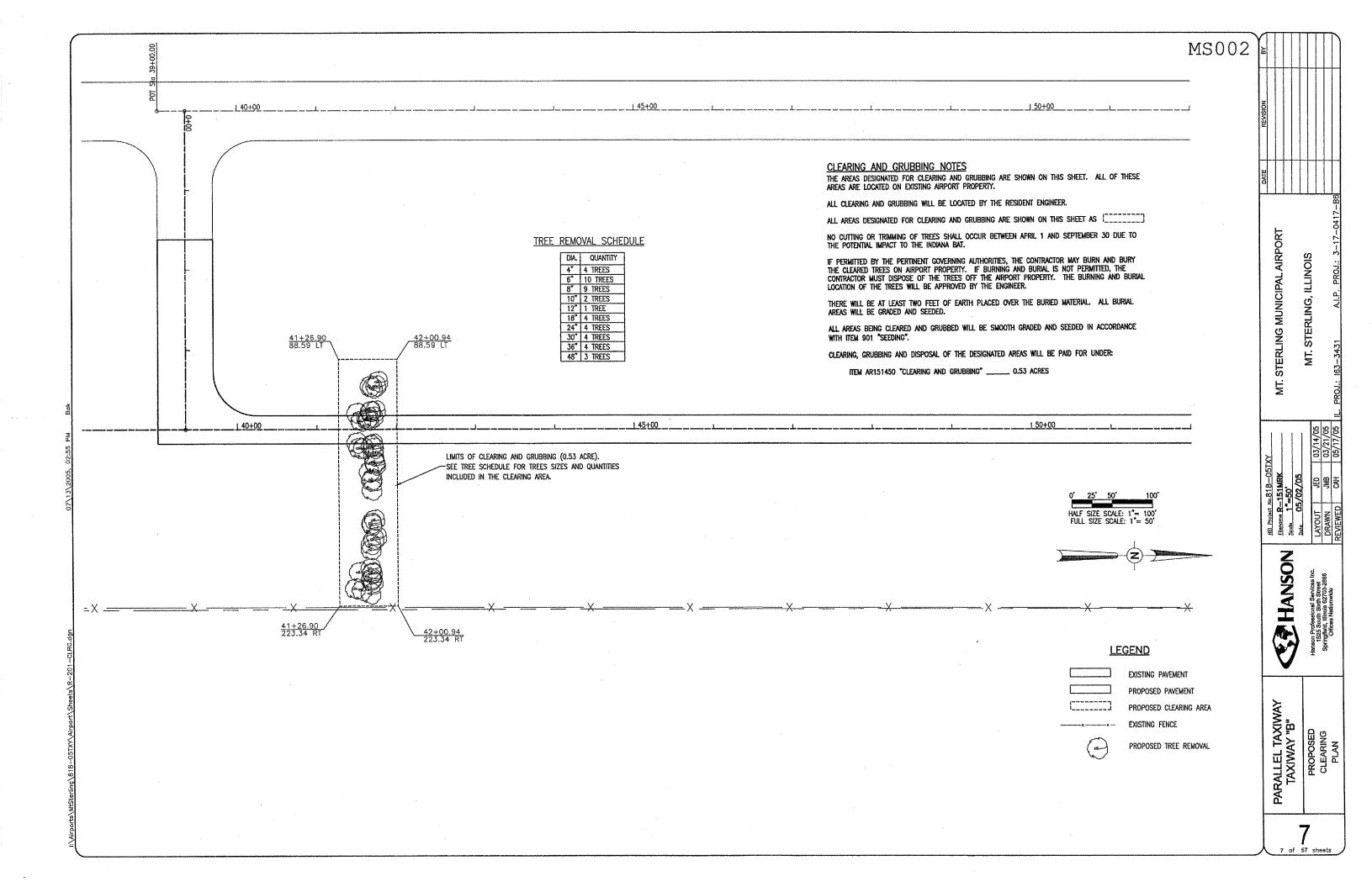
AR603510 BITUMINOUS TACK COAT _____ 1,781 GAL.

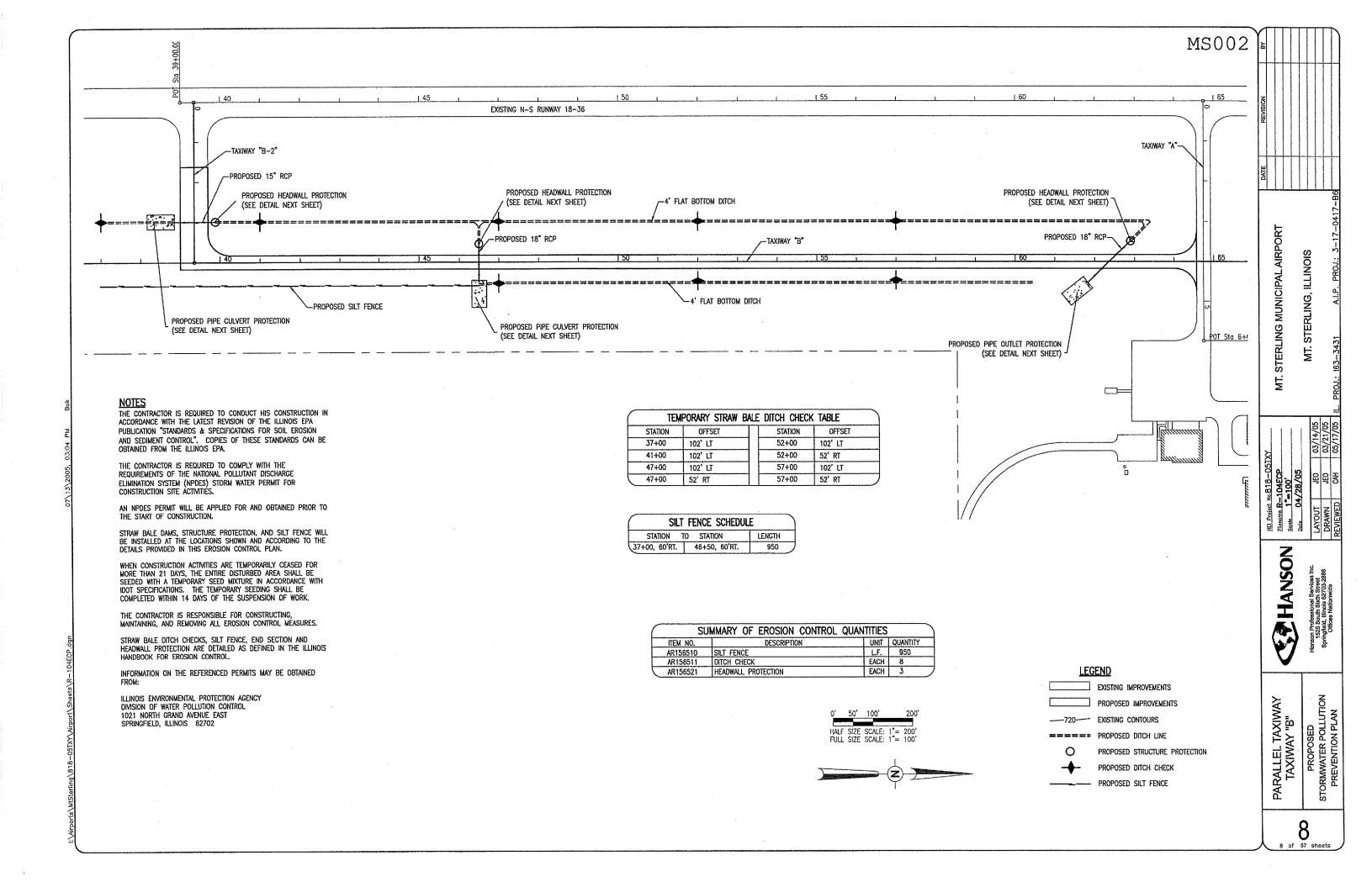
201-BITUMINOUS BASE COURSE NOTES

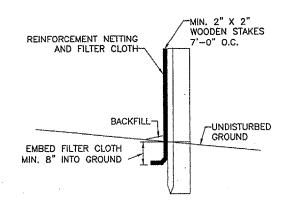
THE BITUMINOUS BASE COURSE (201) SHALL BE PLACED IN ACCORDANCE WITH ITEM AR201001 "BITUMINOUS BASE COURSE-METHOD I" AS STATED ON PAGE 185 OF THE SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS, ADOPTED JULY 1, 2004.

THIS ITEM OF WORK SHALL CONSIST OF CONSTRUCTING ONE LIFT OF BITUMINOUS BASE COURSE (2-1/2 INCH DEPTH) ON THE PROPOSED CRUSHED AGGREGATE BASE COURSE FOR THE PROPOSED TAXIWAY.

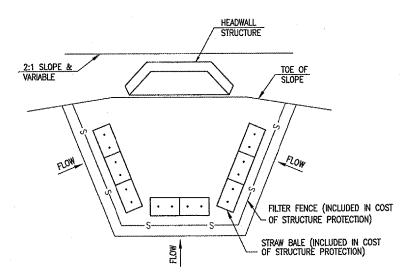
THE PROPOSED BITUMINOUS BASE COURSE WILL BE DESIGNED TO A MARSHALL DESIGN OF LESS THAN 60,000 POUNDS.







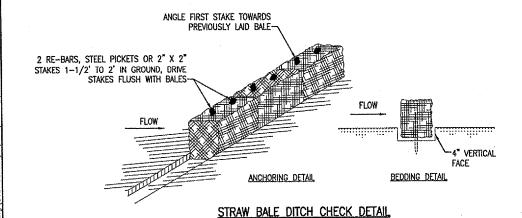
FILTER FENCE DETAIL "NOT TO SCALE"



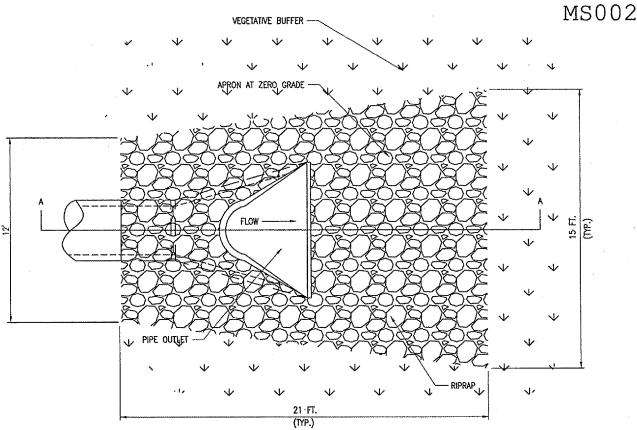
HEADWALL PROTECTION

"NOT TO SCALE"

CONC. HEADWALL SHOWN. DETAIL SIMILIAR FOR FLARED END SECTION.



"NOT TO SCALE"



PIPE OUTLET PROTECTION

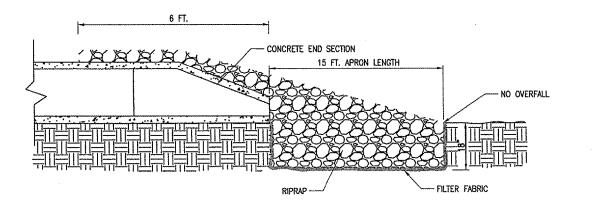
"NOT TO SCALE"

FLARED END SECTION SHOWN. DIMENSIONS SIMILIAR FOR CONCRETE HEADWALL.

NOTES

PERMANENT RIPRAP APRONS SHALL BE PLACED AT EACH OF THE DOWNSTREAM END SECTIONS OR HEADWALLS. THE RIPRAP SHALL BE PLACED ON FILTER FABRIC NEATLY AND IN A WORKMANLIKE MANNER CONFORMING TO THE PROPOSED GRADES AND TO THE SATISFACTION OF THE RESIDENT ENGINEER, RIPRAP SHALL BE PAID FOR UNDER ITEM AR156540.

DIMENSIONS OF RIPRAP ARE AS SHOWN UNLESS NOTED OTHERWISE.



PIPE OUTLET PROTECTION SECTION A-A

"NOT TO SCALE"

MT. STERLING MUNICIPAL AIRPORT

MT. STERLING, ILLINOIS

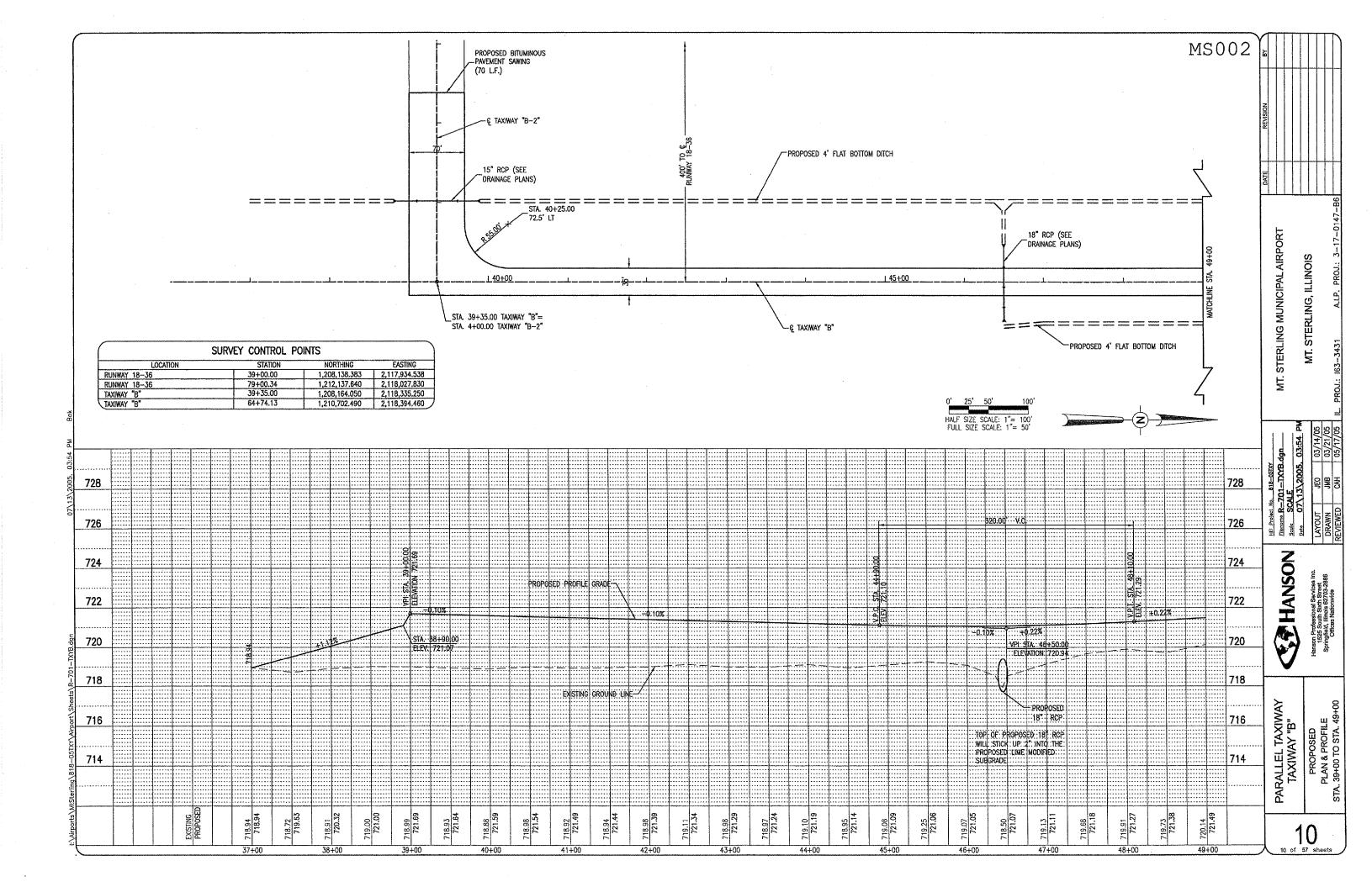
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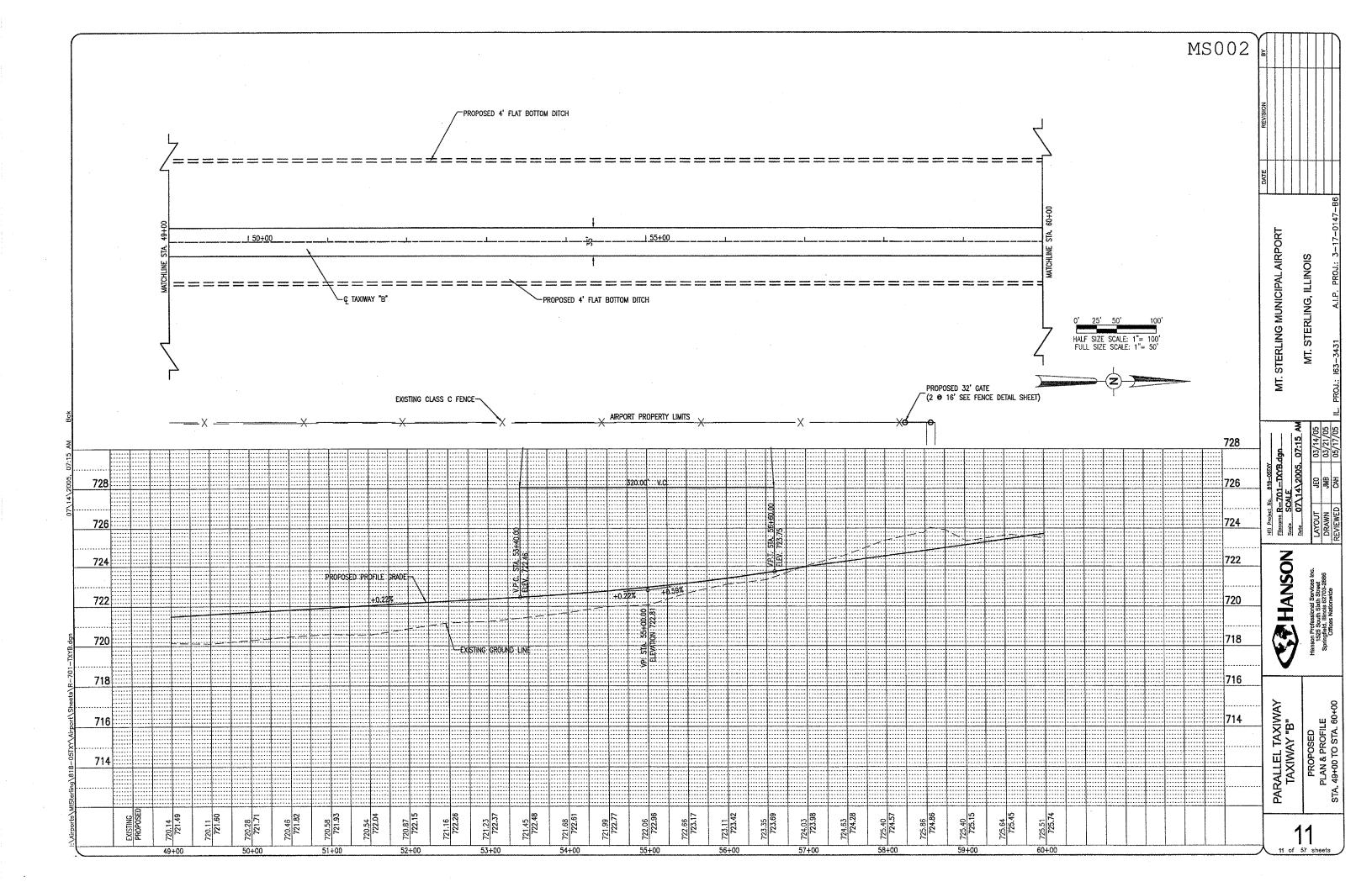
HEI Project No.21 SWP
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Date 04/28/05

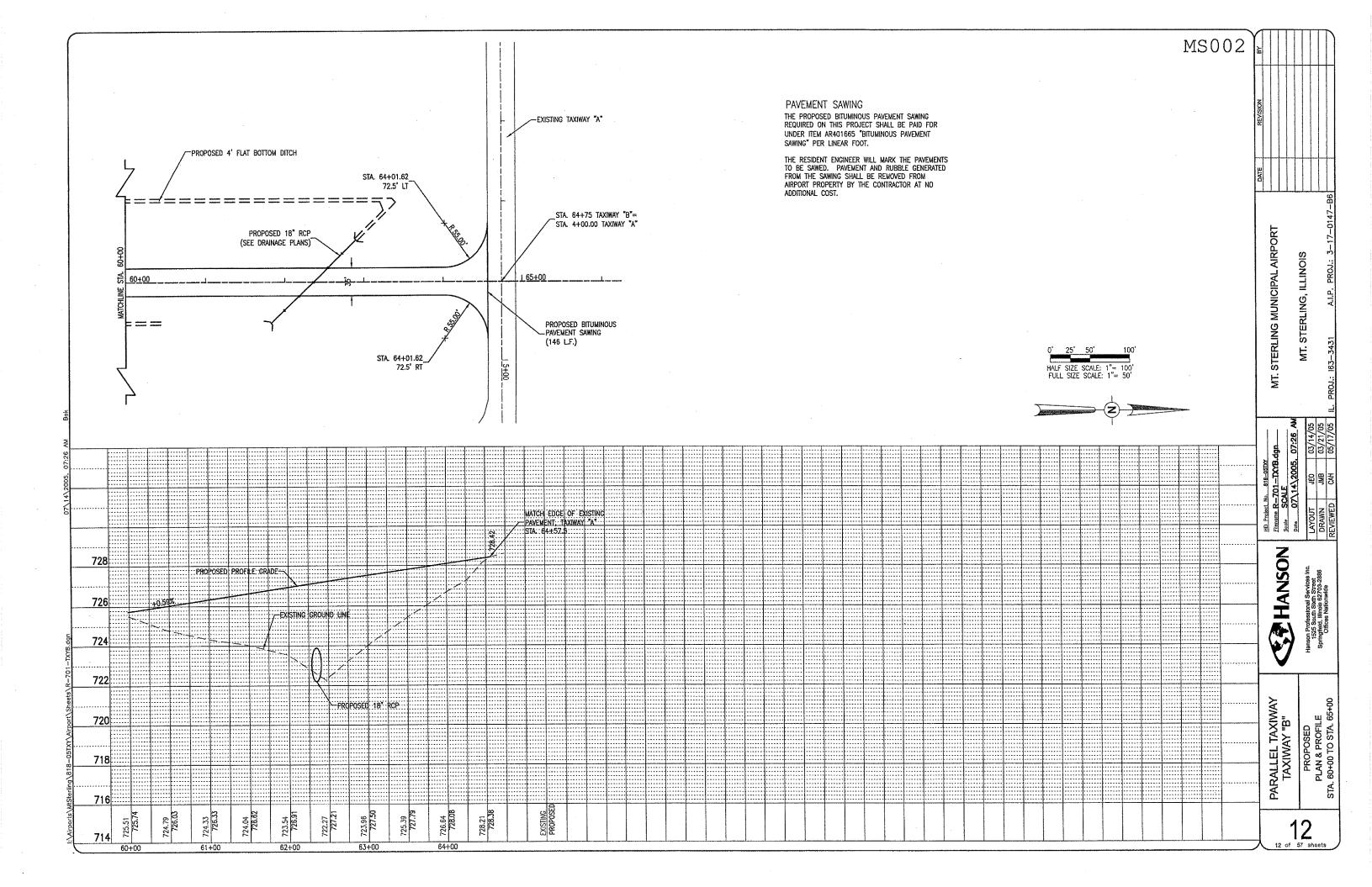
Hanson Professional Services Inc.
1225 South Street
Sprindfeld, Illinois 62703-886

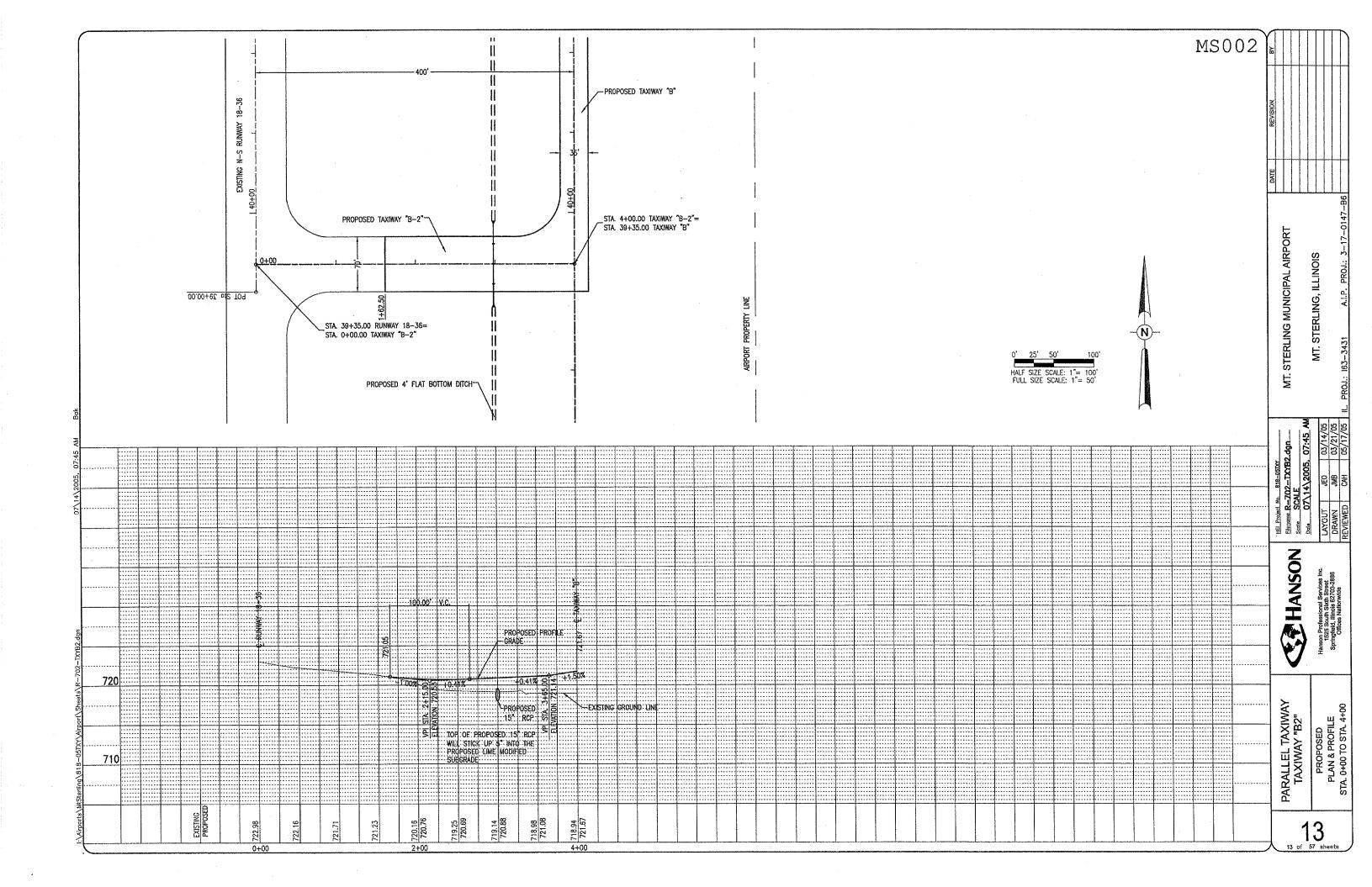
PARALLEL TAXIWAY
TAXIWAY "B"
PROPOSED
EROSION CONTROL

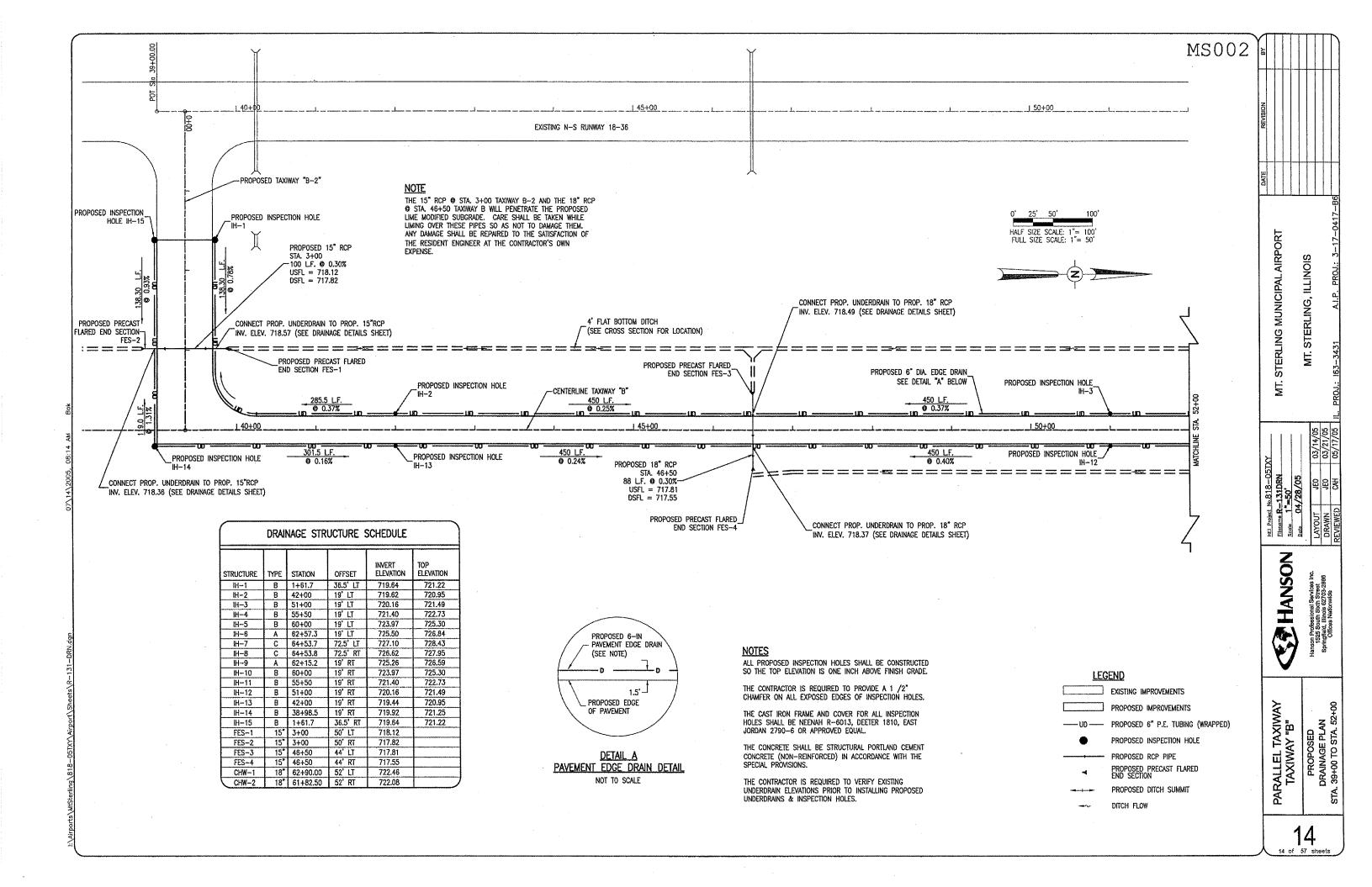
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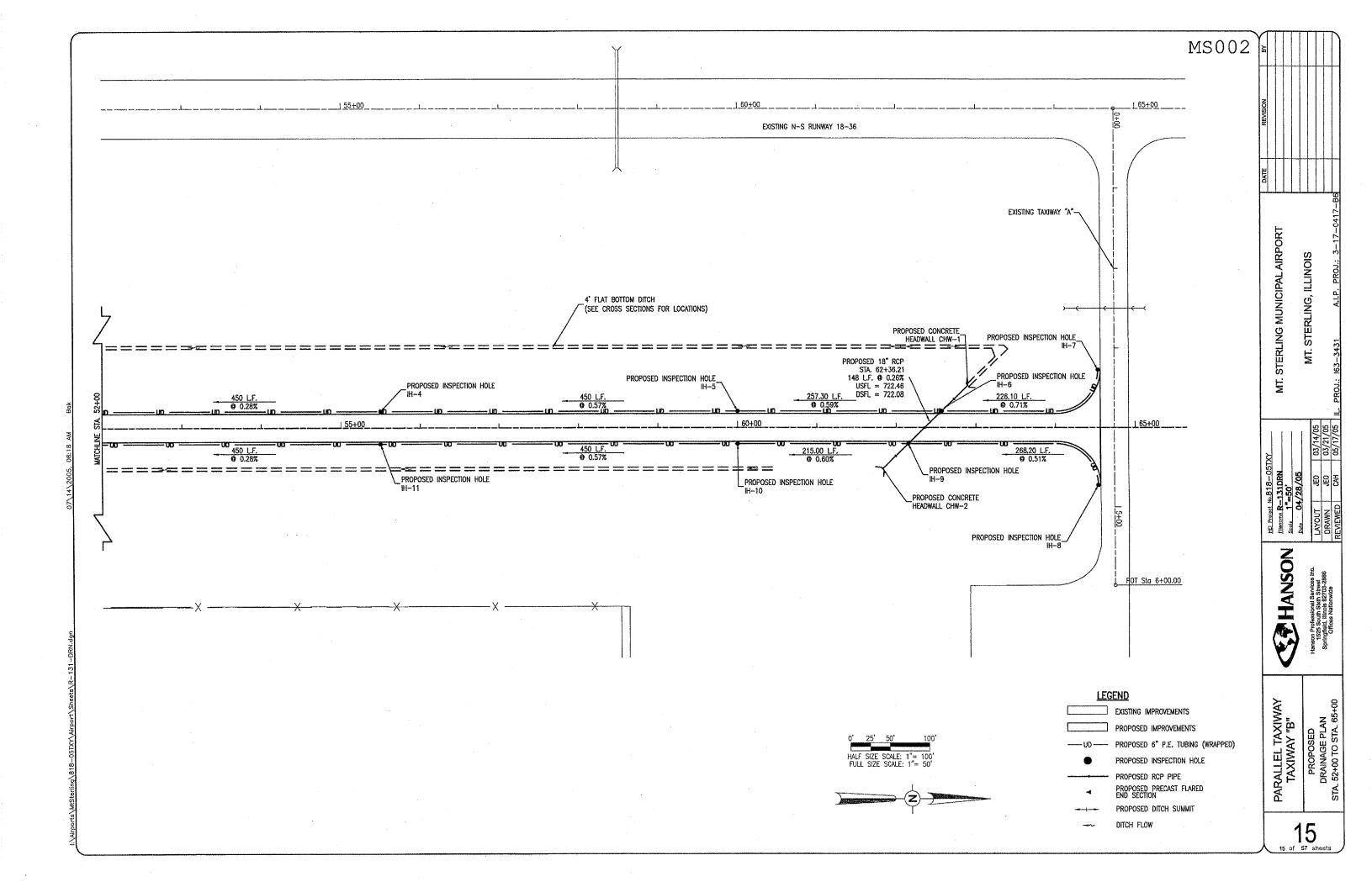


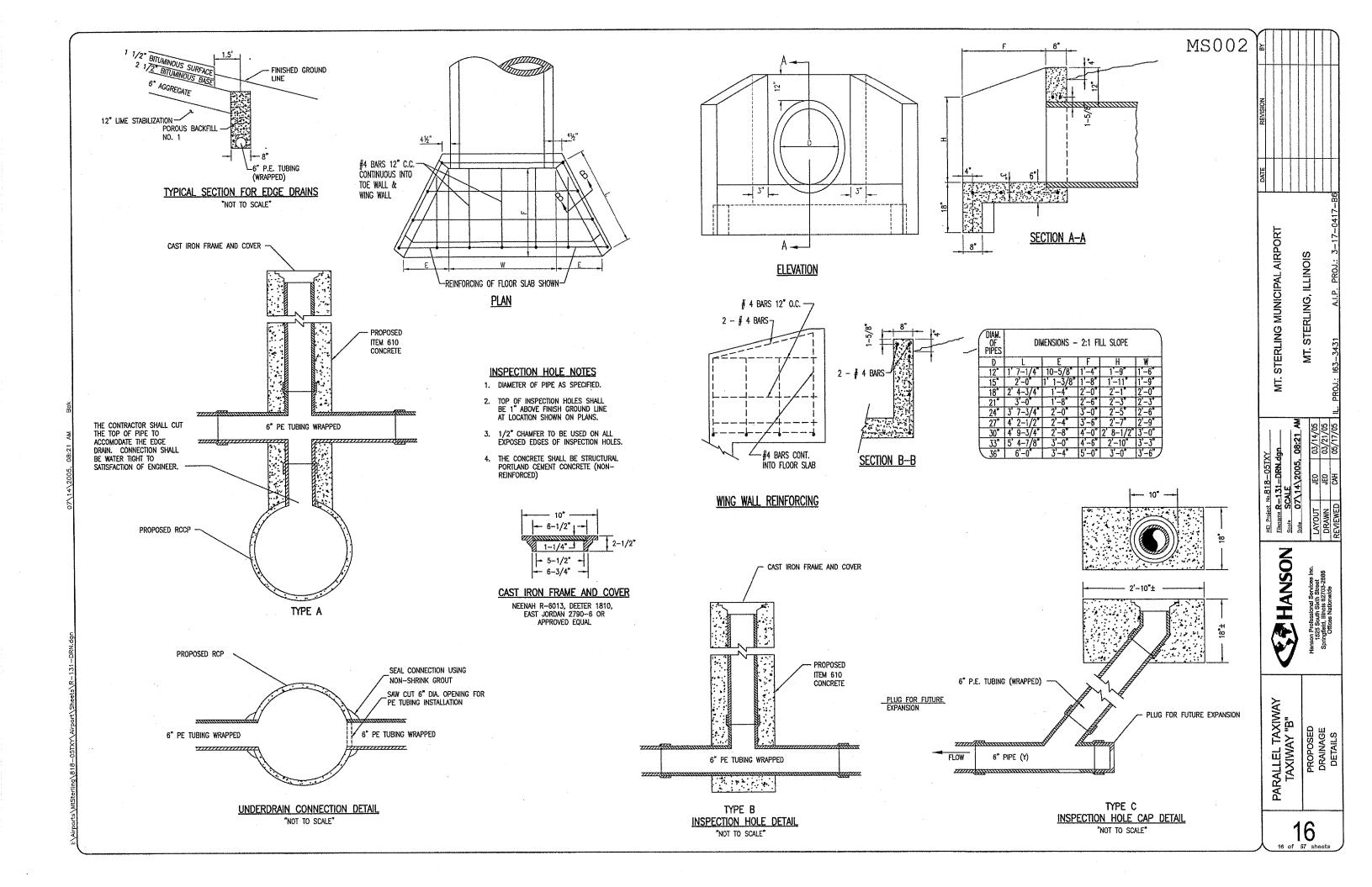


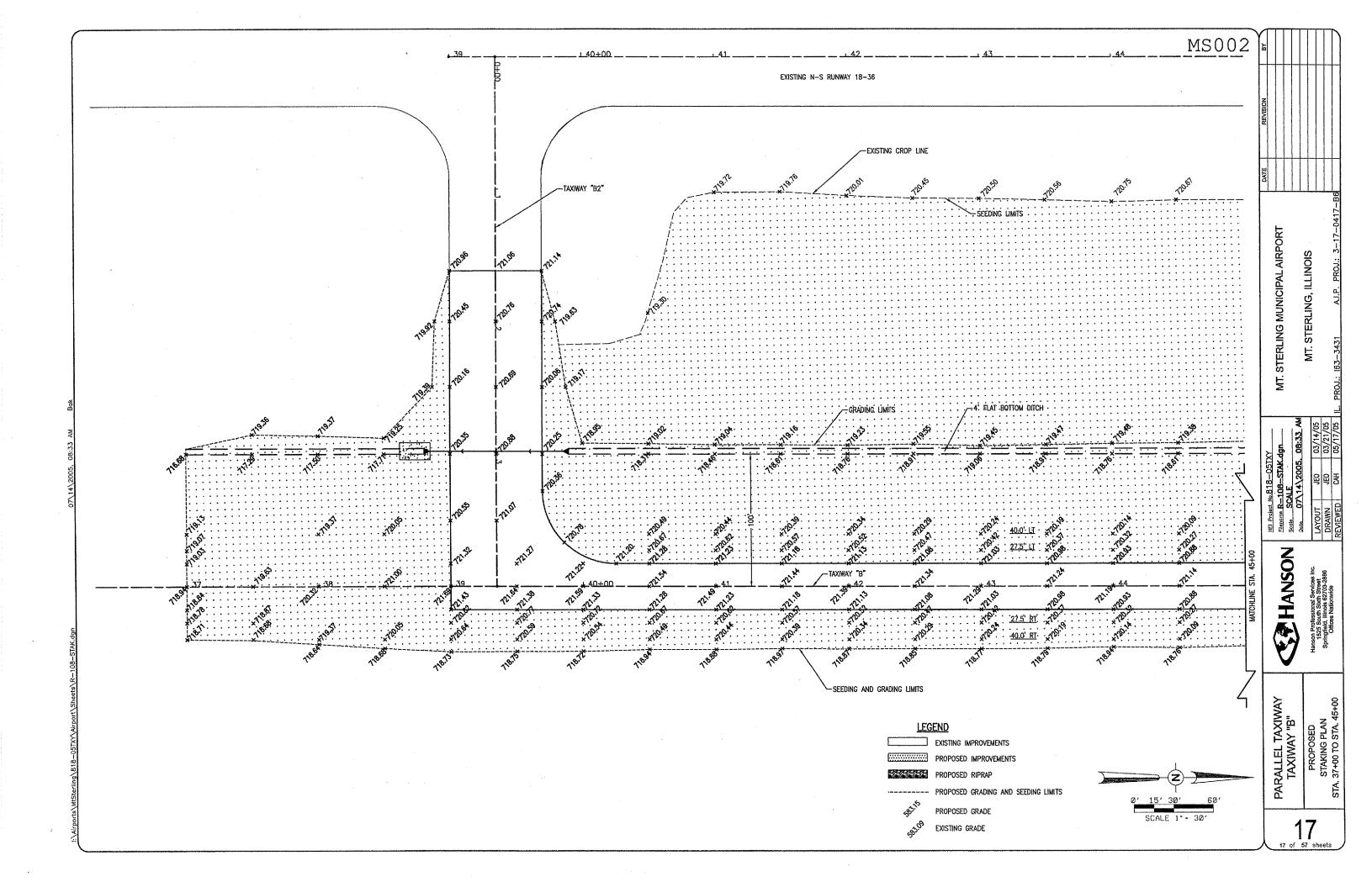


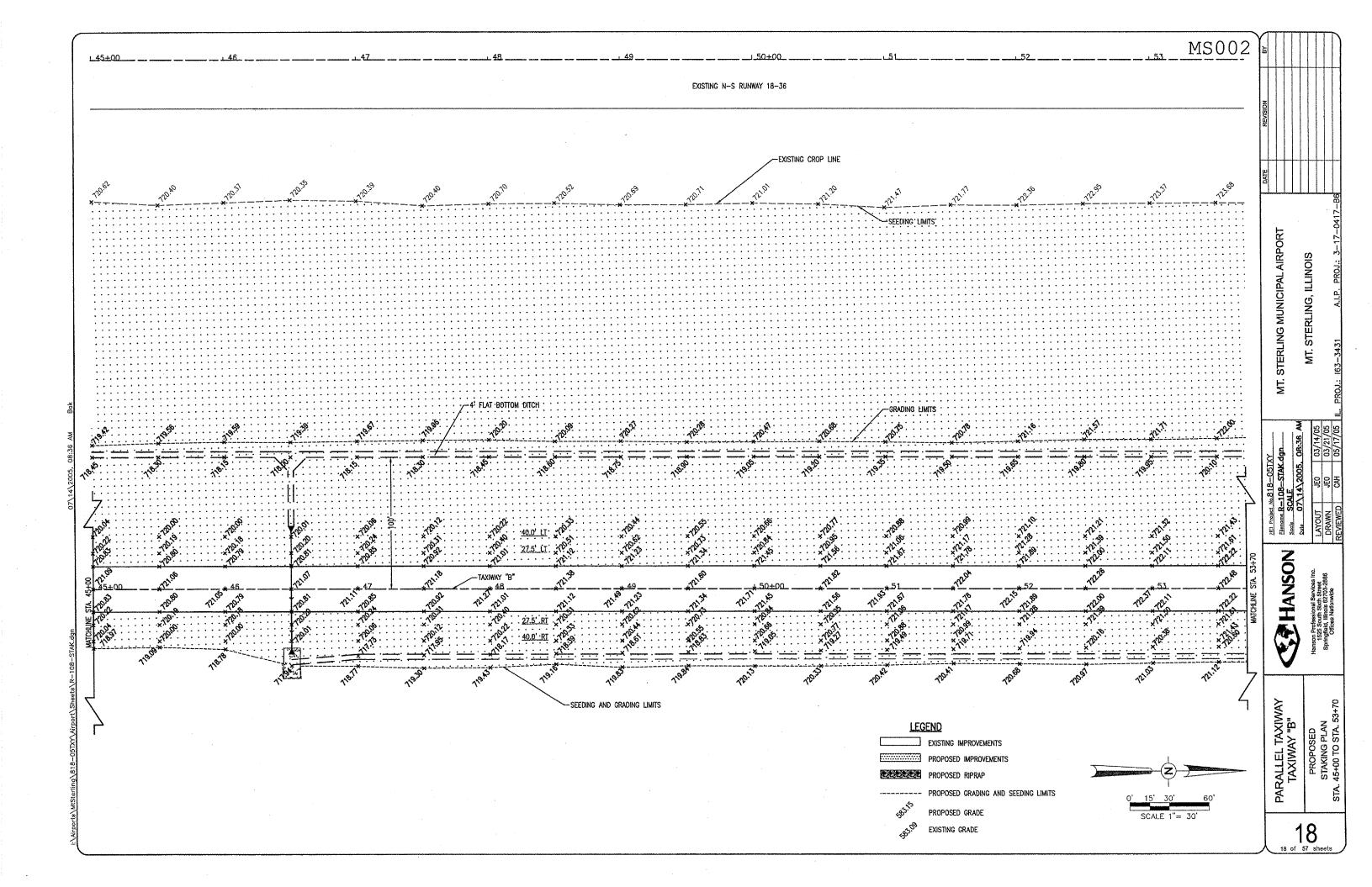


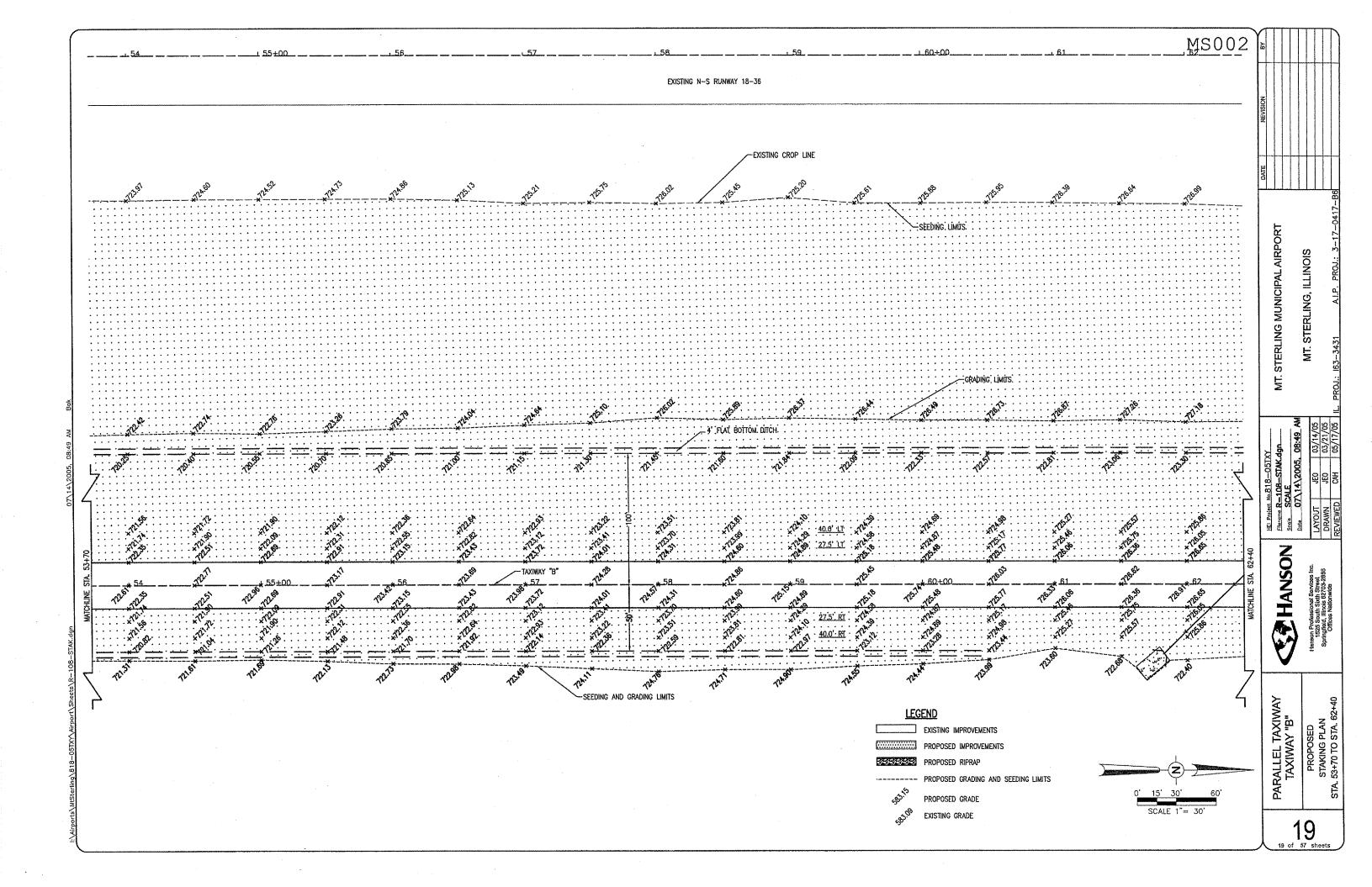












901 SEEDING NOTES

THE PROPOSED SEEDING SHALL BE ACCOMPLISHED IN ACCORDANCE WITH ITEM 901 "SEEDING" AS STATED ON PAGE 120 OF THE SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS, ADOPTED JULY 1,

ALL DISTURBED AREAS LOCATED WITHIN THE PROPOSED GRADING AND SEEDING LIMITS (17.5 ACRES) WILL BE SEEDED IN ACCORDANCE WITH THE ABOVE NOTED SPECIFICATION. ALL AREAS DISTURBED OUTSIDE THE DESIGNATED GRADING AND SEEDING LIMITS BY THE CONTRACTOR, WILL ALSO BE SEEDED BUT AT THE CONTRACTOR'S OWN EXPENSE.

ALL MATERIALS AND/OR DEBRIS RESULTING FROM THE SEEDING OPERATIONS WILL BE REMOVED FROM THE PAVEMENTS AND MISCELLANEOUS STRUCTURES

901-3.4 MAINTENANCE OF SEEDED AREAS. DELETE THE SECOND PARAGRAPH OF THIS SECTION AND ADD THE FOLLOWING:

"THE CONTRACTOR WILL BE REQUIRED TO ESTABLISH A GOOD STAND OF GRASS OF UNIFORM COLOR AND DENSITY TO THE SATISFACTION OF THE RESIDENT ENGINEER. IF AT THE TIME WHEN THE CONTRACT HAS BEEN OTHERWISE COMPLETED, IT IS NOT POSSIBLE TO MAKE AN ADEQUATE DETERMINATION OF COLOR, DENSITY, AND UNIFORMITY OF SUCH STAND OF GRASS, THE ITEM OF WORK WILL BE REVIEWED AT A LATER DATE DETERMINED BY THE ILLINOIS DIVISION OF AERONAUTICS."

DATE SEEDING COMPLETED__

THE PROPOSED SEEDING WILL BE PAID FOR UNDER ITEMS: AR901510 SEEDING _____ 17.5 ACRES

908 MULCHING NOTES

THE PROPOSED MULCHING SHALL BE ACCOMPLISHED IN ACCORDANCE WITH ITEM 908 "MULCHING" AS STATED ON PAGE 127 OF THE SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS, ADOPTED JULY 1,

THIS ITEM SHALL CONSIST OF THE FURNISHING, TRANSPORTING, AND PLACING MULCH OVER THE SEEDED AREA. DISTURBED AREAS OUTSIDE THE GRADING LIMITS SHALL ALSO BE MULCHED AND PARTICIPATION WILL BE THE SAME AS FOR SEEDED AREAS.

908-2.1 MULCH MATERIAL: THE CONTRACTOR MAY EITHER FURNISH STRAW (AT A RATE OF 2 TONS PER ACRE) OR HYDROMULCH (AT A RATE OR 2,500 LB OF MULCH MIXED WITH 2,500 LB OF WATER PER ACRE) AS THE TYPE OF MULCH MATERIAL TO BE USED ON THIS PROJECT.

908-3.4 STRUCTURE CLEANING: AFTER THE PROPOSED MULCH HAS BEEN APPLIED, THE CONTRACTOR WILL CLEAN THE MULCH OFF ALL STRUCTURES (DRAINAGE, ELECTRICAL, LIGHTS, ETC.).

> EARTHWORK DISTRIBUTION CUT TAXIMAY "8" = 10,277 C.Y. FILL TAXIMAY "8" = 8,223 C.Y.

> > FILL TAXIWAY "B2" = 294 C.Y.

TOTAL FILL = 8,517 C.Y.

SHRINKAGE FACTOR = 1.25

TOTAL FILL REQUIRED = 10,647 C.Y EXCESS CUT = (321) C.Y.

CUT TAXINAY "B2" = 49 C.Y.

DATE MULCHING COMPLETED_

THE PROPOSED MULCHING WILL BE PAID FOR UNDER ITEMS: AR908510 MULCHING _____ 17.5 ACRES

156540-RIPRAP NOTES:

THE PROPOSED RIPRAP SHALL BE PLACED IN ACCORDANCE WITH ITEM AR156540 "RIPRAP" AS STATED ON PAGE 182 OF THE SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS, ADOPTED JULY 1, 2004.

THE PROPOSED RIPRAP WILL BE GRADATION NO. 4 AND PLACED TO THE DIMENSIONS AS SHOWN ON THIS SHEET AND IN ACCORDANCE WITH THE SPECIAL PROVISIONS.

A FILTER FABRIC WILL BE REQUIRED UNDER THE STONE RIPRAP. THE FILTER FABRIC MATERIAL WILL BE IN ACCORDANCE WITH THE REQUIREMENTS AS STATED ON PAGE 183 FOR A GRADATION 4 & 5 RIPRAP STONE. THE FILTER FABRIC WILL BE CONSIDERED AS AN INCIDENTAL ITEM TO THE RIPRAP AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

THE PROPOSED RIPRAP WILL BE PAID FOR UNDER ITEM: AR156540 RIPRAP _____ 105 S.Y.

152410-UNCLASSIFIED EXCAVATION NOTES:

THE PROPOSED UNCLASSIFIED EXCAVATION SHALL BE PLACED IN ACCORDANCE WITH ITEM 152 "EXCAVATION AND EMBANKMENT" AS STATED ON PAGE 25 OF THE SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS, ADOPTED JULY 1, 2004. FOR EVERY 1' FOOT IN EMBANKMENT FORMATION, THE EMBANKMENT WILL BE COMPACTED 1' FOOT BEYOND PAVEMENT EDGE AT 95% OF EARTH PROCTOR.

THE EXCAVATED AREAS WILL BE COMPACTED IN ACCORDANCE WITH PROCEDURES FOR AIRCRAFT WEIGHING LESS THAN 60,000 POUNDS.

ALL EARTHWORK WILL BE CLASSIFIED AS "UNCLASSIFIED EXCAVATION".

THE PROPOSED UNCLASSIFIED EXCAVATION WILL BE PAID FOR UNDER ITEM: AR152410 UNCLASSIFIED EXCAVATION _______ 10,326 C.Y.

LEGEND

EXISTING IMPROVEMENTS

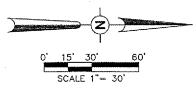
PROPOSED IMPROVEMENTS

PROPOSED RIPRAP

---- PROPOSED GRADING AND SEEDING LIMITS

PROPOSED GRADE EXISTING GRADE





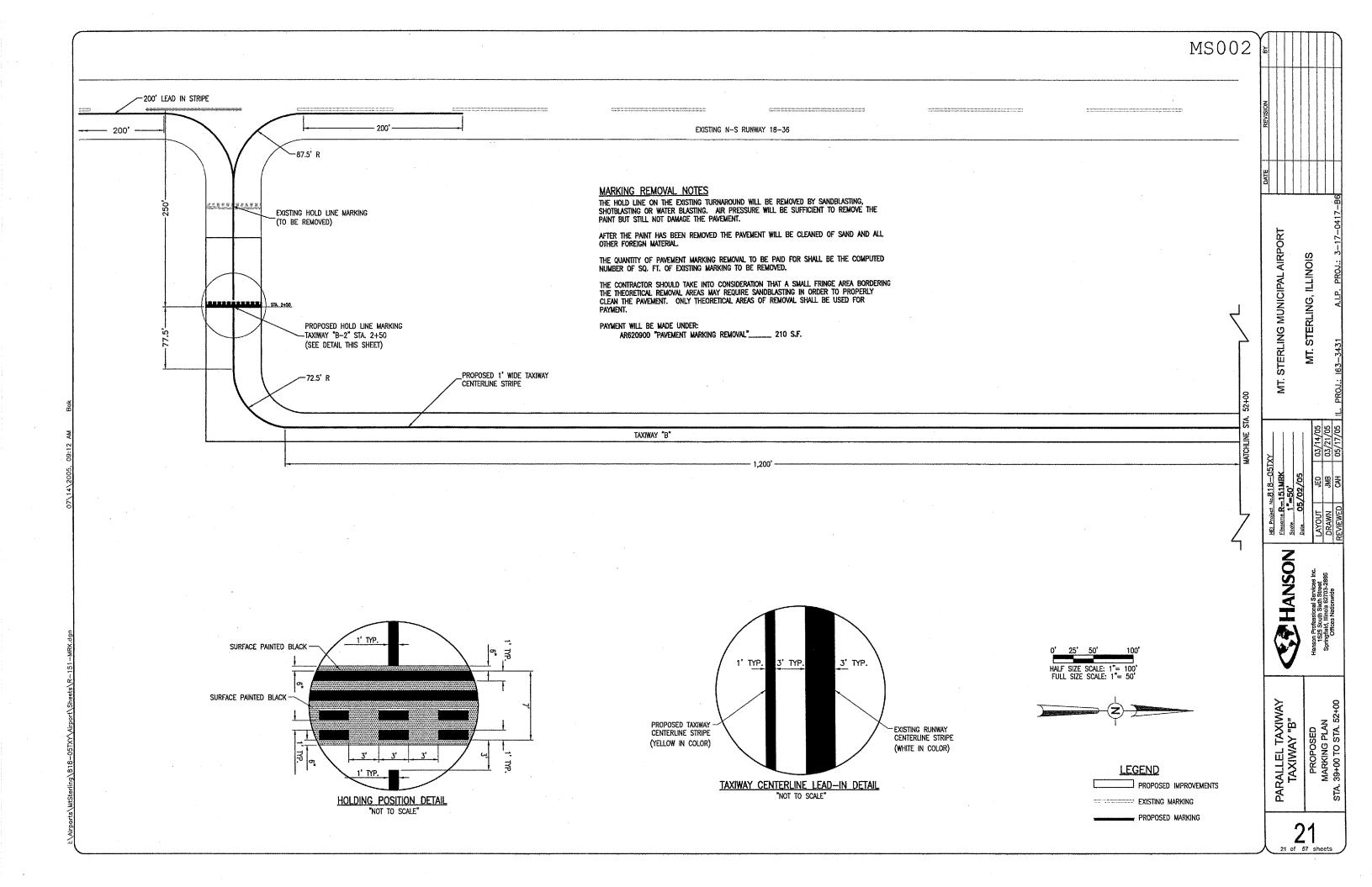
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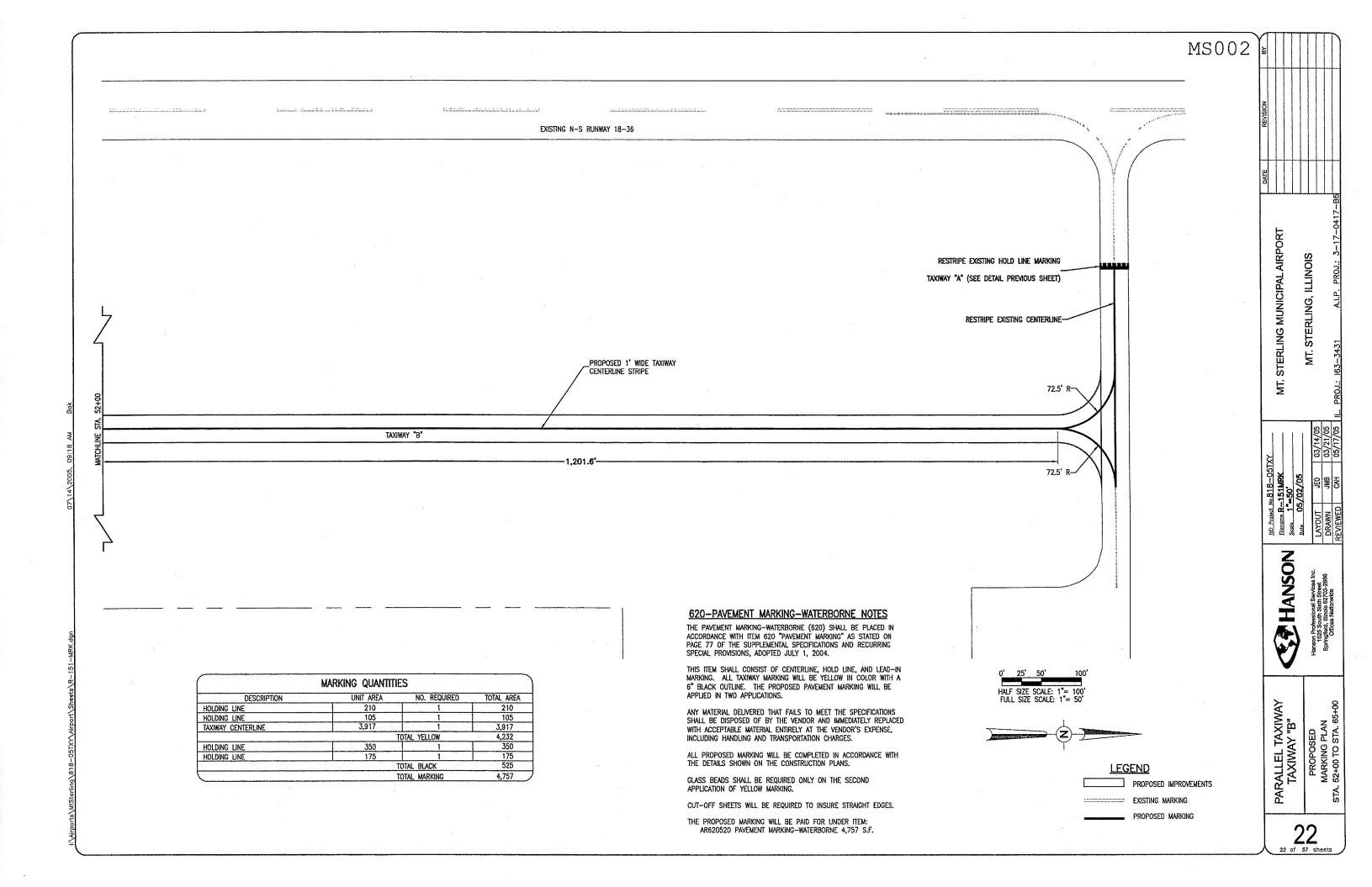
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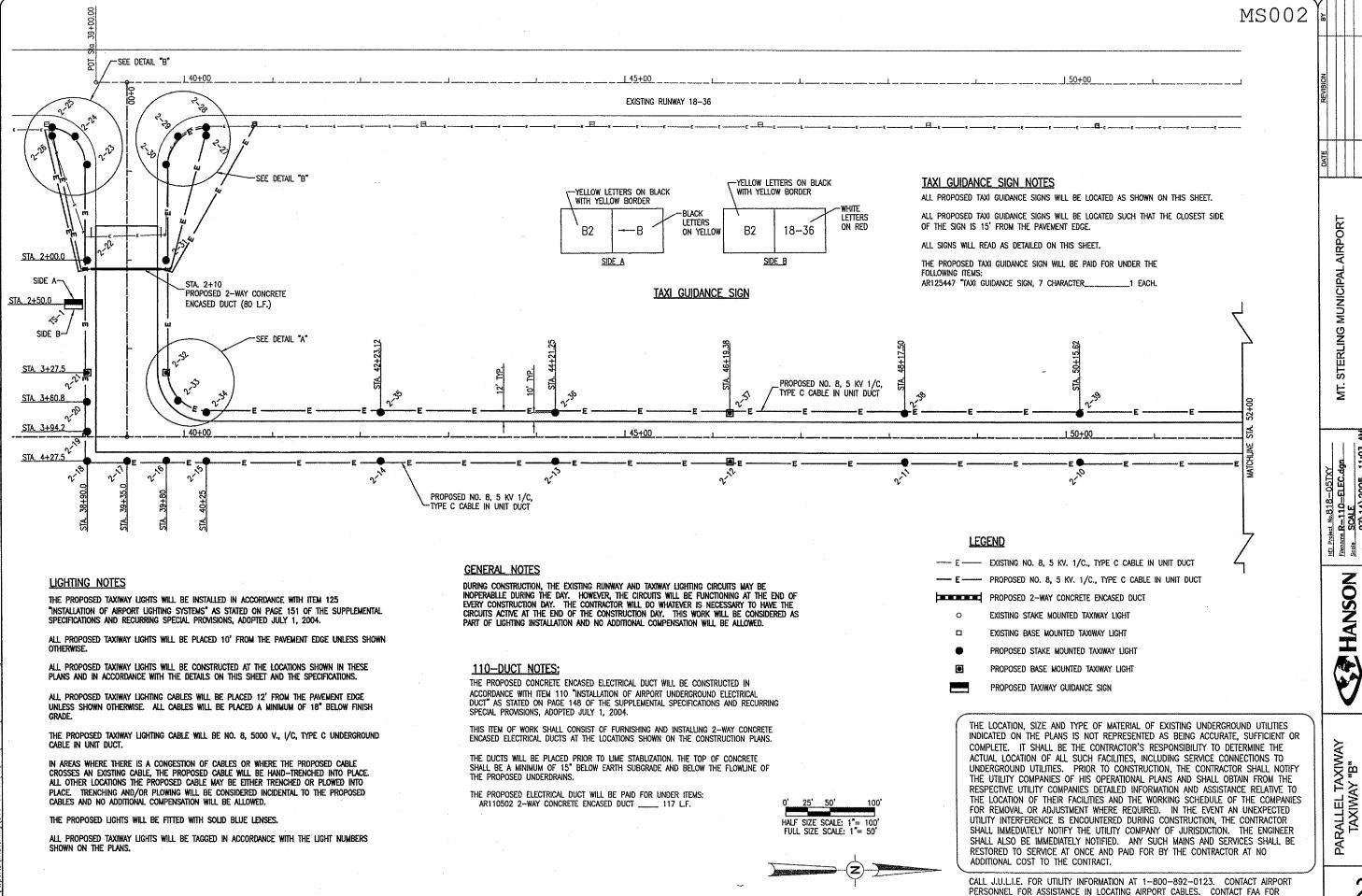
STERLING MUNICIPAL AIRPORT

HANSON

Parallel Taxiway Taxiway "B" PROPOSED STAKING PLAN 62+40 TO STA. 60



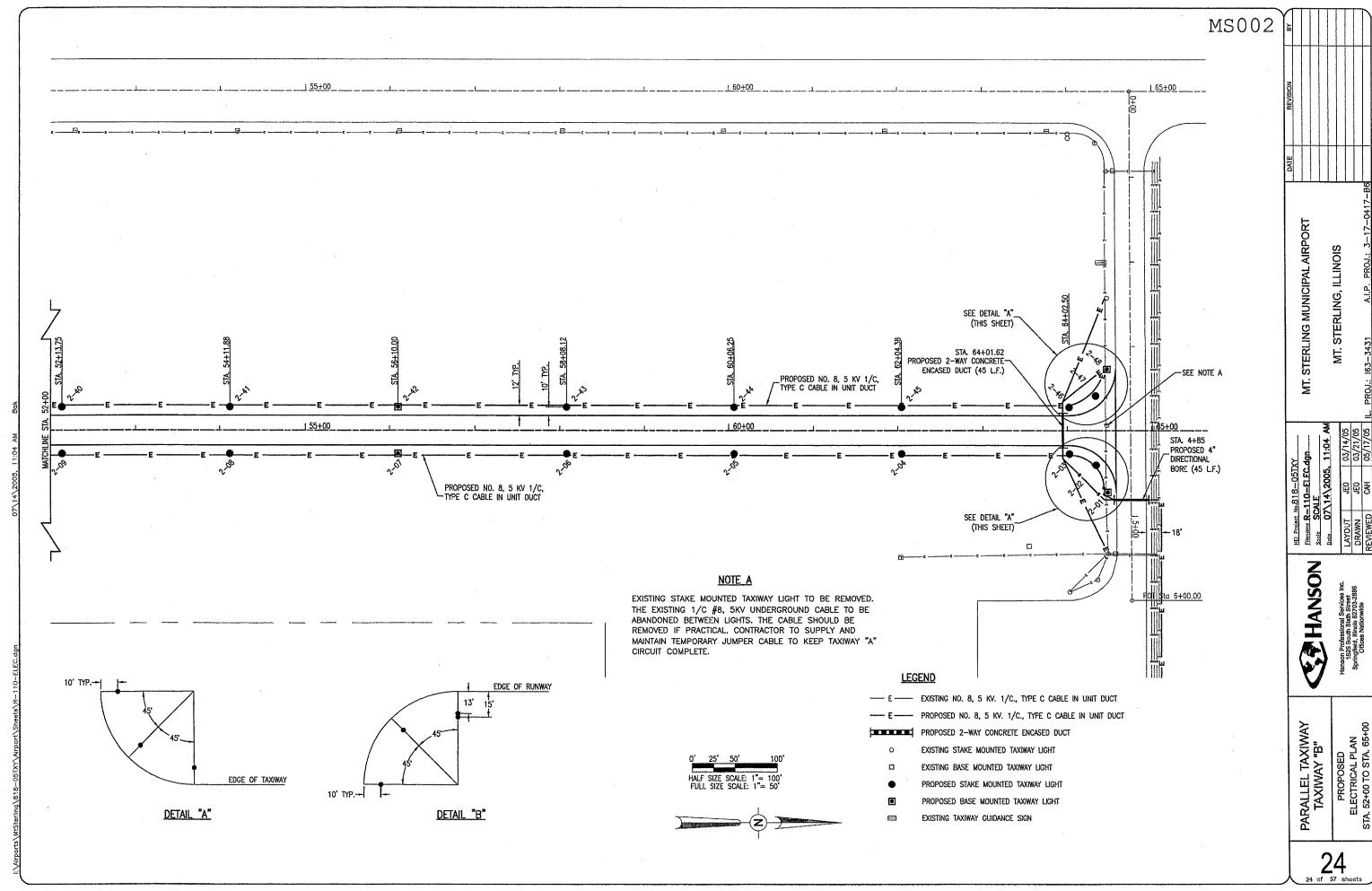


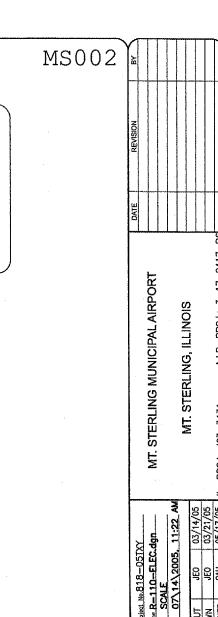


PROPOSED ELECTRICAL PLAN A. 39+00 TO STA, 52+1

23 of 57 sheets

ASSISTANCE IN LOCATING FAA CABLES





THE LOCATION, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND UTILITIES INDICATED ON THE PLANS IS NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. 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 ENGINEER SHALL ALSO BE IMMEDIATELY NOTIFIED. ANY SUCH MAINS AND SERVICES SHALL BE RESTORED TO SERVICE AT ONCE AND PAID FOR BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT.

CALL J.U.L.I.E. FOR UTILITY INFORMATION AT 1-800-892-0123. CONTACT AIRPORT PERSONNEL FOR ASSISTANCE IN LOCATING FAA CABLES. CONTACT FAA FOR ASSISTANCE IN LOCATING FAA CABLES

LEGEND

— F ——	FYISTING	HINDERGROUND	FI FCTRICAL	CARLE	

--- E--- PROPOSED NO. 8, 5 KV. 1/C., TYPE C CABLE IN UNIT DUCT

---- T ---- EXISTING TELEPHONE CABLE

PROPOSED 4" DIRECTIONAL BORE

EXISTING STAKE MOUNTED TAXIWAY LIGHT

EXISTING BASE MOUNTED TAXIWAY LIGHT

€ EXISTING APRON FLOOD LIGHT

T EXISTING UTILITY TRANSFORMER

© EXISTING AIRPORT ROTATING BEACON

EXISTING BUILDINGS

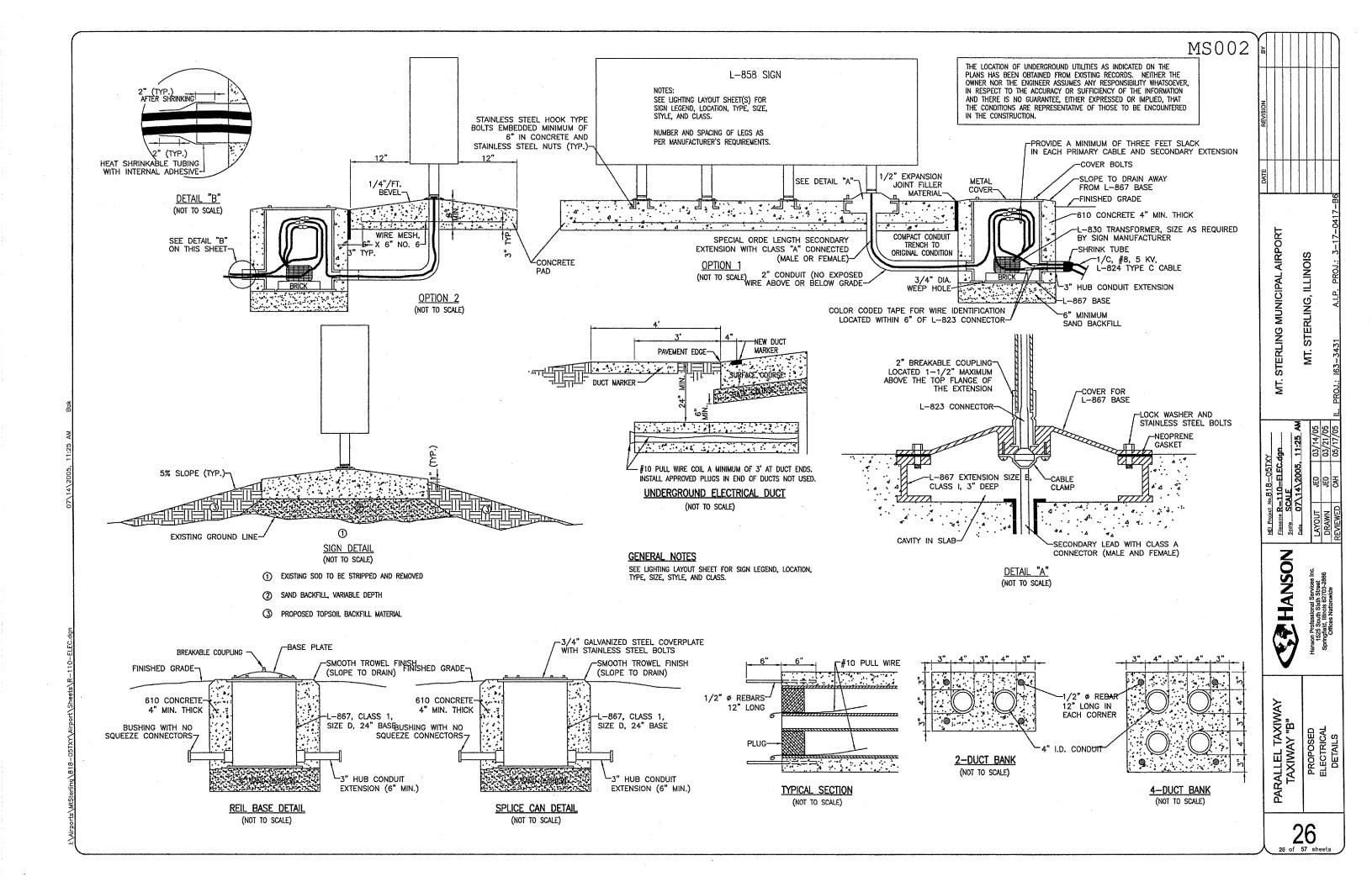
EXISTING WIND CONE PROPOSED NO. 8, 5 KV 1/C TYPE C CABLE IN UNIT DUCT EXISTING ABOVE GROUND FUEL STORAGE TANK APRON -PROPOSED 4" DIRECTECTIONAL BORE (65 L.F.) PARKING LOT BEACON-EXISTING RUNWAY, PLASI, -& WIND CONE HOME RUN CABLES TO REMAIN IN PLACE -EXISTING ELECTRICAL VAULT

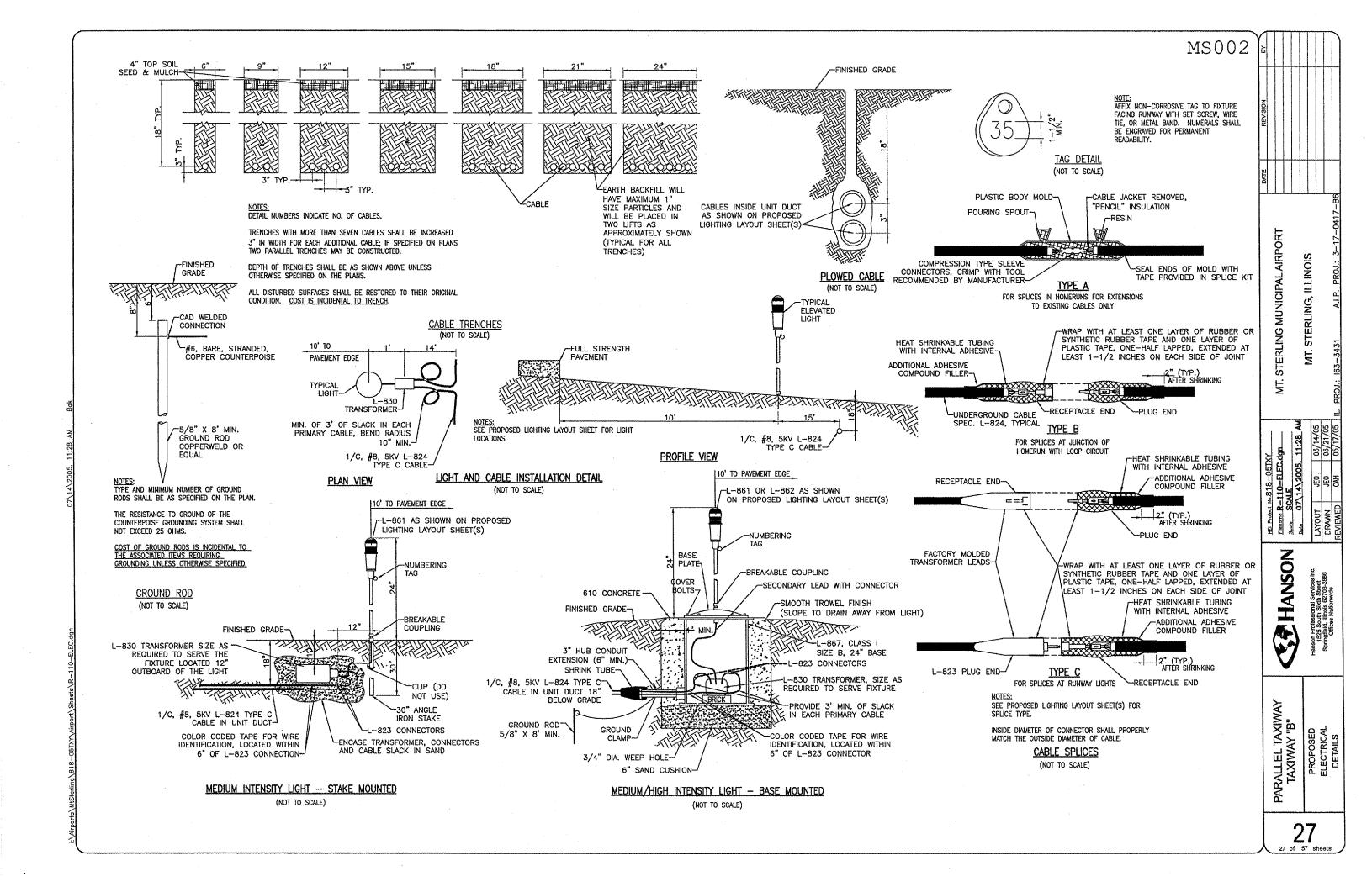
	ELECTRICAL QUANTITIES			`
ITEM NO.	DESCRIPTION	UNIT	QUANTITY	
AR108158	1/C #8 5 KV UG CABLE IN UD	L.F.	8,819	
AR109200	INSTALL ELECTRICAL EQUIPMENT	L.S.	1	
AR110014	4" DIRECTIONAL BORE	LF.	110	
AR110502	2-WAY CONCRETE ENCASED DUCT	LF.	125	
AR125410	MITL - STAKE MOUNTED	EACH	40	
AR125415	MITL - BASE MOUNTED	EACH	8	
AR125447	TAXIWAY GUIDANCE SIGN, 7 CHARACTER	EACH	1	

25 of 57 sheets

HANSON

Parallel taxiway Taxiway "B"





- UNLESS OTHERWISE NOTED, ALL UNDERGROUND FIELD POWER MULTIPLE AND SERIES CIRCUIT CONDUCTORS WHETHER DEB OR IN DUCT/CONDUIT SHALL BE FAA APPROVED L-824 TYPE. INSULATION VOLTAGE AND SIZE SHALL BE AS SPECIFIED.
- 2. NO COMPONENTS OF PRIMARY CIRCUIT SUCH AS CABLE, CONNECTORS AND TRANSFORMERS SHALL BE BROUGHT ABOVE GROUND AT EDGE LIGHTS, SIGNS, REIL, PAPI, ETC.
- 3. THERE SHALL BE NO EXPOSED POWER/CONTROL CABLES BETWEEN THE POINT WHERE THEY LEAVE THE UNDERGROUND (DEB OR L-867 BASES) AND WHERE THEY ENTER THE EQUIPMENT (SUCH AS TAXIWAY SIGNS, PAPI, REIL, ETC.) ENCLOSURES. THESE CABLES SHALL BE ENCLOSED IN RIGID CONDUIT OR IN FLEXIBLE, WATERTIGHT CONDUIT WITH BREAKABLE COUPLING(S) AT THE GRADE OR THE HOUSING COVER, AS SHOWN IN APPLICABLE DETAILS.
- 4. THE JOINTS OF THE L-823 PRIMARY CONNECTORS SHALL BE WRAPPED WITH AT LEAST ONE LAYER OF RUBBER OR SYNTHETIC RUBBER TAPE AND ONE LAYER OF PLASTIC TAPE, ONE-HALF LAPPED, EXTENDING AT LEAST 1-1/2 INCHES ON EACH SIDE OF THE JOINT, AS SHOWN ON SHEET NO. 27.
- THE CABLE ENTRANCE INTO THE FIELD-ATTACHED L-823 CONNECTORS SHALL BE ENCLOSED BY A HEAT—SHRINKABLE TUBING WITH CONTINUOUS INTERNAL ADHESIVE, AS SHOWN ON SHEET NO.
- 6. L-823 TYPE II, TWO-CONDUCTOR SECONDARY CONNECTORS SHALL BE CLASS 'A' (FACTORY MOLDED).
- 7. THERE SHALL BE NO SPLICES IN THE SECONDARY CABLE(S) WITHIN THE STEMS OF A RUNWAY/TAXIWAY EDGE/THRESHOLD LIGHTING FIXTURE AND THE WIREWAYS LEADING TO TAXIWAY SIGNS AND PAPI/REIL EQUIPMENT.
- ELECTRICAL INSULATING GREASE SHALL BE APPLIED WITHIN THE L-823, SECONDARY, TWO CONDUCTOR CONNECTORS TO PREVENT WATER ENTRANCE. THESE CONNECTORS SHALL NOT BE
- DEB ISOLATION TRANSFORMERS SHALL BE BURIED AT A DEPTH OF TEN (10") INCHES ON A LINE CROSSING THE LIGHT AND PERPENDICULAR TO THE RUNWAY/TAXIWAY CENTERLINE AT A LOCATION TWELVE (12") INCHES FROM THE LIGHT OPPOSITE FROM THE RUNWAY/TAXIWAY.
- 10. A SLACK OF THREE (3') FEET, MINIMUM, SHALL BE PROVIDED IN THE PRIMARY CABLE AT EACH TRANSFORMER/CONNECTOR TERMINATION. AT STAKE-MOUNTED LIGHTS, THE SLACK SHALL BE LOOSELY COILED IMMEDIATELY BELOW THE ISOLATION
- 11. DIRECTION OF PRIMARY CABLES SHALL BE IDENTIFIED BY COLOR CODING AS FOLLOWS: WHEN FACING LIGHT WITH BACK TO PAVEMENT. CABLE TO THE LEFT IS CODED RED AND CABLE TO RIGHT IS CODED BLUE. THIS APPLIES TO STAKE MOUNTED LIGHTS AND BASE MOUNTED LIGHTS WHERE THE BASE HAS ONLY
- 12. L-867 BASES SHALL BE SIZE B, 24" DEEP, CLASS I, UNLESS OTHERWISE NOTED.
- 13. BASE MOUNTED BREAKABLE COUPLINGS SHALL NOT HAVE WEEP HOLES TO THE OUTSIDE. PLUGGED UP HOLES SHALL NOT BE ACCEPTABLE. IT SHALL BE A 1/4" DIAMETER, MINIMUM, OR EQUIVALENT OPENING FOR DRAINAGE FROM THE SPACE AROUND THE SECONDARY CONNECTOR INTO THE L-867 BASE.
- 14. THE ELEVATION OF THE BREAKABLE COUPLING GROOVE SHALL NOT EXCEED 1-1/2" ABOVE THE EDGE OF THE COVER IN CASE OF BASE MOUNTED COUPLINGS, OR THE TOP OF THE STAKE IN CASE OF STAKE MOUNTED COUPLINGS.

- 15. WHERE THE BREAKABLE COUPLING IS NOT AN INTEGRAL PART OF THE LIGHT FIXTURE STEM OR MOUNTING LEG, A BEAD OF SILICON SEAL SHALL BE APPLIED COMPLETELY AROUND LIGHT STEM OR WIREWAY AT BREAKABLE COUPLING TO PROVIDE A WATERTICHT SEAL
- 16. TOPS OF THE STAKES SUPPORTING LIGHT FIXTURES SHALL BE FLUSH WITH THE SURROUNDING GRADE.
- 17. PLASTIC LIGHTING FIXTURE COMPONENTS, SUCH AS LAMP HEADS, STEMS, BREAKABLE COUPLINGS, BASE COVERS, BRACKETS, STAKES, SHALL NOT BE ACCEPTABLE.
- 18. THE TOLERANCE FOR THE HEIGHT OF RUNWAY/TAXIWAY EDGE LIGHTS SHALL BE: ONE (1) INCH. IN CASE OF STAKE MOUNTED LIGHTS, THE SPECIFIED LIGHTING FIXTURE HEIGHT SHALL BE MEASURED BETWEEN THE TOP OF THE STAKE AND THE TOP OF THE LENS IN CASE OF BASE MOUNTED LIGHTS. THE SPECIFIED LIGHTING FIXTURE HEIGHT SHALL BE MEASURED BETWEEN THE TOP OF THE BASE FLANGE AND THE TOP OF THE LENS, THUS INCLUDING THE BASE COVER, THE FRANGIBLE COUPLING, THE STEM, THE LAMP HOUSING AND THE LENS.
- 19. THE TOLERANCE FOR THE LATERAL SPACING (LIGHT LANE TO RUNWAY/TAXIWAY CENTERLINE) OF RUNWAY/TAXIWAY EDGE LIGHTS SHALL BE ONE (1) INCH. THIS ALSO APPLIES AT INTERSECTIONS TO LATERAL SPACING BETWEEN LIGHTS OF A RUNWAY/TAXIWAY AND THE INTERSECTING RUNWAY/TAXIWAY.
- 20. ENTRANCES INTO L-867 BASES SHALL BE SEALED WITH HEAT SHRINK AS SHOWN IN DETAIL "8" ON SHEET NO. 26.
- 21. GALVANIZED/PAINTED EQUIPMENT/COMPONENT SURFACES SHALL NOT BE DAMAGED BY DRILLING, FILING, ETC. DRAIN HOLES IN METAL TRANSFORMER HOUSINGS SHALL BE MADE BEFORE
- 22. EDGE LIGHT NUMBERING TAGS SHALL BE FACING THE PAVEMENT.
- 23. CABLE/SPLICE/DUCT MARKERS SHALL BE PRECAST CONCRETE OF THE SIZE SHOWN. LETTERS/NUMBERS/ARROWS FOR THE LEGEND TO BE IMPRESSED INTO THE TOPS OF THE MARKERS SHALL BE PRE-ASSEMBLED AND SECURED IN THE MOLD BEFORE THE CONCRETE IS POURED. LEGEND INSCRIBED BY HAND IN WET CONCRETE SHALL NOT BE ACCEPTABLE.
- 24. ALL UNDERGROUND CABLE RUNS SHALL BE IDENTIFIED BY CABLE MARKERS AT 200 FEET MAXIMUM SPACING, WITH AN ADDITIONAL MARKER AT EACH CHANGE OF DIRECTION OF THE CABLE RUN. CABLE MARKERS SHALL BE INSTALLED IMMEDIATELY ABOVE THE
- 25. THERE SHALL BE NO SPLICES BETWEEN THE ISOLATION TRANSFORMERS. L-823 CONNECTORS ARE ALLOWED AT TRANSFORMER CONNECTIONS ONLY, UNLESS OTHERWISE SHOWN.
- 26. APPLY AN OXIDE INHIBITING, ANTI-SEIZING COMPOUND TO ALL SCREWS, NUTS AND BREAKAGE COUPLING THREADS.
- 27. LOCATIONS OF ENDS OF ALL UNDERGROUND DUCTS SHALL BE
- 28. WHERE A PARALLEL, CONSTANT VOLTAGE PAPI SYSTEM IS PROVIDED, THE "T" SPLICES SHALL BE OF THE CAST TYPE.
- CONCRETE USED FOR SLABS, FOOTINGS, BACKFILL AROUND TRANSFORMER HOUSINGS, MARKINGS, ETC. SHALL BE 3000 PSI, AIR-FNTRAINED
- 30. ALL POWER AND CONTROL CABLES IN MAN/HAND HOLES SHALL BE TAGGED. USE EMBOSSED COPPER STRIPS TO BE ATTACHED AT BOTH ENDS TO THE CABLE BY THE USE OF PLASTIC STRAPS. MINIMUM OF TWO TAGS SHALL BE PROVIDED ON EACH CABLE IN A MAN/HAND HOLE-ONE AT THE CABLE ENTRANCE AND ONE AT THE

MS002

GROUNDING NOTES

- 1. ALL GROUND CONNECTIONS TO GROUND RODS, BUSSES, PANELS, ETC. SHALL BE MADE WITH PRESSURE TYPE SOLDERLESS LUGS AND GROUND CLAMPS SOLDERED OR BOLT AND WASHER TYPE CONNECTIONS ARE NOT ACCEPTABLE. CLEAN ALL METAL SURFACES BEFORE MAKING GROUND CONNECTIONS. CONNECTIONS TO GROUND RODS SHALL BE EXOTHERMIC WELD WHERE SPECIFIED HEREIN.
- 2. TOP OF GROUND RODS SHALL BE TEN (10) INCHES BELOW GRADE, UNLESS SPECIFIED OTHERWISE HEREIN, FOR RESPECTIVE APPLICATIONS.
- 3. THE RESISTANCE TO GROUND OF THE VAULT GROUNDING SYSTEM WITH THE COMMERCIAL POWER LINE NEUTRAL DISCONNECTED SHALL NOT EXCEED 10 OHMS.

ΒY					
REVISION					
DATE					

HANSON

Parallel Taxiway Taxiway "B"

28

STERLING MUNICIPAL AIRPOR STERLING, ILLINOIS ΣË

GENERAL NOTES

- 1. THE ELECTRICAL INSTALLATION, AS A MINIMUM, SHALL MEET THE NATIONAL ELECTRICAL CODE AND LOCAL REGULATIONS.
- 2. THE CONTRACTOR SHALL ASCERTAIN THAT ALL LIGHTING SYSTEM 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 MANUFACTURE) THAT IS COMPATIBLE WITH THE REMAINDER OF THE AIRPORT LIGHTING SYSTEM.
- 3. IN CASE THE CONTRACTOR ELECTS TO FURNISH AND INSTALL AIRPORT LIGHTING EQUIPMENT REQUIRING ADDITIONAL WIRING. TRANSFORMERS, ADAPTERS, 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.
- 4. 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.
- 5. 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.
- 6. ANY AND ALL INSTRUCTIONS FROM THE ENGINEER 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 FAA FIELD OFFICE (ADO/AFO). THE CONTRACTOR SHALL NOT ACCEPT ANY VERBAL INSTRUCTIONS FROM THE RESIDENT ENGINEER REGARDING ANY CHANGES FROM THE PLANS AND SPECIFICATIONS.
- 7. 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. A DETAILED DESCRIPTION OF THE OVERALL EQUIPMENT AND ITS INDIVIDUAL COMPONENTS.
 - B. THEORY OF OPERATION INCLUDING THE FUNCTION OF EACH COMPONENT.
 - C. INSTALLATION INSTRUCTIONS.
 - D. START-UP INSTRUCTIONS.
 - E. PREVENTATIVE MAINTENANCE REQUIREMENTS.
 - F. CHART FOR TROUBLE-SHOOTING.
 - G. 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 MANUFACTURE AND THE CATALOG NUMBER.
 - SAFETY INSTRUCTIONS.

POWER AND CONTROL NOTES

- STENCIL ALL ELECTRICAL EQUIPMENT TO IDENTIFY FUNCTION, CIRCUIT VOLTAGE AND PHASE. WHERE THE EQUIPMENT CONTAINS FUSES, ALSO STENCIL THE EUSE OR FUSE LINK AMPERE RATING WHERE THE EQUIPMENT DOES NOT HAVE SUFFICIENT STENCILING AREA, THE STENCILING SHALL BE DONE ON THE WALL NEXT TO THE UNIT. THE LETTERS SHALL BE ONE INCH HIGH AND PAINTED IN WHITE OR BLACK TO PROVIDE THE HIGHEST CONTRAST WITH THE BACKGROUND.
- 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 SINGLE-PHASE, THREE WIRE SYSTEMS AND BLACK, RED AND BLUE SHALL BE USED FOR THREE-PHASE 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,
- 3. 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.
- 4. IN CONTROL WIRING THE SAME COLOR SHALL BE USED THROUGHOUT THE SYSTEM FOR THE SAME FUNCTION, SUCH AS 10%, 30%, 100% BRIGHTNESS CONTROL, ETC.
- 5. LOW VOLTAGE (600 V.) AND HIGH VOLTAGE (5000 V.) CONDUCTORS SHALL BE INSTALLED IN SEPARATE WIREWAYS.
- 6. NEATLY LACE WIRING IN DISTRIBUTION PANELS, WIREWAYS, SWITCHES AND JUNCTION/PULL BOXES.
- 7. THE MINIMUM SIZE OF PULL/JUNCTION BOXES, REGARDLESS OF THE QUANTITY AND SIZE OF THE CONDUCTORS SHOWN, SHALL BE AS
 - A. 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.
 - B. 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 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.
- 8. 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.
- 10. SPLICES AND JUNCTION POINTS SHALL BE PERMITTED ONLY IN JUNCTION BOXES, DUCTS EQUIPPED WITH REMOVABLE COVERS, AND AT EASILY ACCESSIBLE LOCATIONS.
- 11. CIRCUIT BREAKERS IN POWER DISTRIBUTION PANEL(S) SHALL BE THERMAL-MAGNETIC MOLDED CASE, PERMANENT TRIP WITH 100 AMPERE, MINIMUM FRAME.
- 12. DUAL LUGS SHALL BE USED WHERE TWO (2) WIRES, SIZE NO. 6 OR LARGER, ARE TO BE CONNECTED TO THE SAME TERMINAL.

- 13. ALL WALL MOUNTED EQUIPMENT ENCLOSURES SHALL BE MOUNTED ON WOODEN MOUNTING BOARDS, AND/OR GALVANIZED STEEL STRUT SUPPORT
- 14. WOODEN EQUIPMENT MOUNTING BOARDS SHALL BE PLYWOOD, EXTERIOR TYPE, 3/4 INCH, MINIMUM, THICKNESS, BOTH SIDES PAINTED WITH ONE COAT OF PRIMER AND TWO COATS OF GRAY OIL-BASED PAINT.
- 15. RIDGID STEEL CONDUIT SHALL BE USED THROUGHOUT THE INSTALLATION UNLESS OTHERWISE SPECIFIED. THE MINIMUM TRADE SIZE SHALL BE 3/4 INCH.
- 16. ALL RIGID CONDUIT SHALL BE TERMINATED AT CONSTANT CURRENT REGULATORS WITH A SECTION (10" MINIMUM) OF FLEXIBLE CONDUIT.
- 17. UNLESS OTHERWISE SHOWN, ALL EXPOSED CONDUITS SHALL BE RUN PARALLEL TO OR AT RIGHT ANGLES WITH THE LINES OF THE
- 18. ALL STEEL CONDUITS, FITTINGS, NUTS, BOLTS, ETC. SHALL BE GALVANIZED.
- 19. USE CONDUIT BUSHINGS AT EACH CONDUIT TERMINATION, WHERE NO. 4 AWG OR LARGER UNDERGROUND WIRE IS INSTALLED, USE INSULATED BUSHINGS.
- 20. USE DOUBLE LOCK NUTS AT EACH CONDUIT TERMINATION.
- 21. WRAP ALL PRIMARY AND SECONDARY POWER TRANSFORMER CONNECTIONS WITH SUFFICIENT LAYERS OF INSULTING TAPE AND COVER WITH INSULATING VARNISH FOR FULL VALUE OF CABLE INSULATION VOLTAGE.
- 22. UNLESS OTHERWISE NOTED, ALL INDOOR SINGLE CONDUCTOR CONTROL WIRING SHALL BE NO. 12 AWG.
- 23. THE FOLLOWING SHALL APPLY TO RELAY/CONTACTOR PANELS/ENCLOSURES:
 - A. ALL COMPONENTS SHALL BE MOUNTED IN DUST PROOF ENCLOSURE(S) WITH VERTICALLY HINGED COVERS.
 - B. THE ENCLOSURE(S) SHALL HAVE AMPLE SPACE FOR THE CIRCUIT COMPONENTS, TERMINAL BLOCKS AND INCOMING AND INTERNAL WIRING.
 - C. ALL CONTROL CONDUCTOR TERMINATIONS SHALL BE OF THE OPEN-EYE CONNECTOR/SCREW TYPE. SOLDERED CLOSED-EYE TERMINATIONS, OR TERMINATIONS WITHOUT CONNECTORS ARE NOT ACCEPTABLE.
 - D. 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.
 - E. ACCESS TO, OR REMOVAL OF A CIRCUIT COMPONENT OR TERMINAL BLOCK WILL NOT REQUIRE THE REMOVAL OF ANY OTHER CIRCUIT COMPONENT OR TERMINAL BLOCK.
 - F. EACH CIRCUIT COMPONENT SHALL BE CLEARLY IDENTIFIED INDICATING ITS CORRESPONDING NUMBER SHOWN ON THE DRAWINGS AND ITS FUNCTION.
 - G. A COMPLETE WIRING DIAGRAM (SCHEMATIC DIAGRAM) SHALL BE MOUNTED ON THE INSIDE OF THE COVER. THE DIAGRAM SHALL REPRESENT EACH CONDUCTOR BY A SEPARATE LINE.
 - H. THE DIAGRAM SHALL IDENTIFY EACH CIRCUIT COMPONENT AN NUMBERING AND COLOR OF EACH TERMINAL CONDUCTOR
 - I. ALL WIRING SHALL BE NEATLY TRAINED AND LACED.
 - J. MINIMUM WIRE SIZE SHALL BE NO. 12 AWG.

	ELECTRICAL LEGEND - SCHEMATIC
	NORMALLY OPEN (N.O.) CONTACT
	NORMALLY CLOSED (N.C.) CONTACT
\vdash	STARTER COIL, * = STARTER NUMBER
oL I	OVERLOAD RELAY CONTACT
(R)	CONTROL RELAY, * = CONTROL RELAY NUMBER
(E)	RELAY, * = RELAY NUMBER
	TOGGLE SWITCH / 2 POSITION SWITCH
OFF AUTO	2-POSITION SELECTOR SWITCH
HAND T AUTO XOO	3-Position selector switch (H-O-A Shown)
	2 POLE DISCONNECT SWITCH
1111	3 POLE DISCONNECT SWITCH
-	PHOTOCELL
-6-	TERMINAL BLOCK, * = TERMINAL NUMBER
	DEVICE TERMINAL, * = DEVICE TERMINAL NUMBER
	Internal Panel Wiring
	FIELD WIRING
	FUSE
GND	ground bus or terminal.
S/N	Neutral Bus
青	GROUND, GROUND ROD
000	INDUSTRIAL CONTROL RELAY OR LIGHTING CONTACTOR
CCR	S1 CUTOUT HANDLE REMOVED
CCR	S1 CUTOUT HANDLE INSERTED
200	N.O. THERMAL SWITCH
्रु	N.C. THERMAL SWITCH

	ELECTRICAL ABBREVIATIONS
AF.F.	ABOVE FINSHED FLOOR
A, AMP	AMPERES
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
9KR	BREAKER
С	CONDUIT
C8	CIRCUIT BREAKER
СКТ	CIRCUIT
CR	CONTROL RELAY
CU	COPPER
pppr	DOUBLE POLE DOUBLE THROW
DPST	DOUBLE POLE SINGLE THROW
EM	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
ENCL	ENCLOSURE
EP	EXPLOSION PROOF
ES	EMERGENCY STOP
ETM	ELAPSE TIME METER
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GF1	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)
LP	LIGHTING PANEL
MAX	MAXIMUM
MCB	MAIN CIRCUIT BREAKER
MCM	THOUSAND CIRCLUAR MIL
MDP	MAIN DISTRIBUTION PANEL
MH	METAL HALIDE
MIN	мінши
MLO	MAIN LUGS ONLY
NC	NORMALLY CLOSED
NO	NORWALLY OPEN
NTS	NOT TO SCALE
OHE	OVERHEAD ELECTRIC
OL OL	OVERLOAD
PB	PULL SOX
PC	PHOTO CELL
PDB	POWER DISTRIBUTION BLOCK
PNL	PANEL.
1100	1

ELE	ECTRICAL ABBREVIATIONS (CONTINUED)
RCPT	RECEPTACLE
R	RELAY
s	STARTER
SPD	SURGE PROTECTION DEVICE
SPST	SINGLE POLE SINGLE THROW
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
ΥP	TYPICAL,
UG	UNDERGROUND
UGE	UNDERGROUND ELECTRIC
٧	voriz .
W/	WITH
W/ 0	WITHOUT
WP	WEATHER PROOF
XFER	TRANSFER
XFMR	TRANSFORMER

	AIRPORT EQUIPMENT ABBREVIATIONS
CCR	CONSTANT CURRENT REGULATOR
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
REIL	RUNWAY END IDENTIFIER LIGHT
VASI	VISUAL APPROACH SLOPE INDICATOR
WC.	WIND CONE

	ELECTRICAL LEGEND PLANS				
	CONDUIT (EXPOSED)				
	CONDUIT OR UNIT DUCT (CONCEALED OR BURIED)				
	DUCT				
E	BURIED/UNDERGROUND ELECTRIC				
UGE	UNDERGROUND ELECTRIC				
OHE	OVERHEAD ELECTRIC				
e−¤	POLE MOUNTED HID FIXTURE				
4	Duplex convenience receptacle, 120v, single phase, grounding type, 48" a.f.f. except as noted				
• 0	WALL OR CEILING MT'D. JUNCTION BOX. CONFIGURATION VARIES WITH USE				
Ō	SINGLE THROW DISCONNECT SWITCH				
423	SINGLE THROW, FUSIBLE DISCONNECT SWITCH				
년(28	ENCLOSED CIRCUIT BREAKER				
(B)	CONTROL PANEL				
ø	MOTOR. ESTIMATED H.P. AS INDICATED.				
•	MOTOR				
Ī	TRANSFORMER				
凸	ELECTRIC UTILITY METER				
	ENCLOSURE				
	CIRCUIT BREAKER PANEL-SEE SCHEDULES				
0	GROUND ROD				
	LONG SLASHES INDICATE NEUTRAL. SHORT SLASHES INDICATE HOT OR SWITCHED LEG. G = SEPARATE GROUND WIRE.				
PNLA	HOMERUN TO PANEL PNL A INDICATES PANEL 1.3.5 INDICATES CIRCUIT NUMBERS				
\$	SINGLE POLE SWITCH				
\$ OR \$1	FRACTIONAL HP STARTER				
<u>©</u>	CONTACTOR				
□	SURFACE MOUNTED OR CHAIN HUNG FLUORESCENT FIXTURE				
юо	WALL OR CEILING MT'D. INCANDESCENT OR HID FIXTURE.				

NOTES

- ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN CONFORMANCE WITH NFPA
 70 (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 SHALL NOT BE PERMITTED.
- 2. CONTRACTOR SHALL COORDINATE WORK AND ANY POWER OUTAGES WITH THE RESPECTIVE FACILITY OWNER PERSONNEL AND THE AIRPORT MANAGER.
- 3. 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. STANDARD COLORS FOR POWER WIRING AND BRANCH CIRCUITS SHALL BE AS FOLLOWS:

20/240	VAC, 1	PHASE,	3	WIRE
HASE A		BLACK		
HASE B		RED		
EUTRAL		WHITE		
ROUND		GREEN		

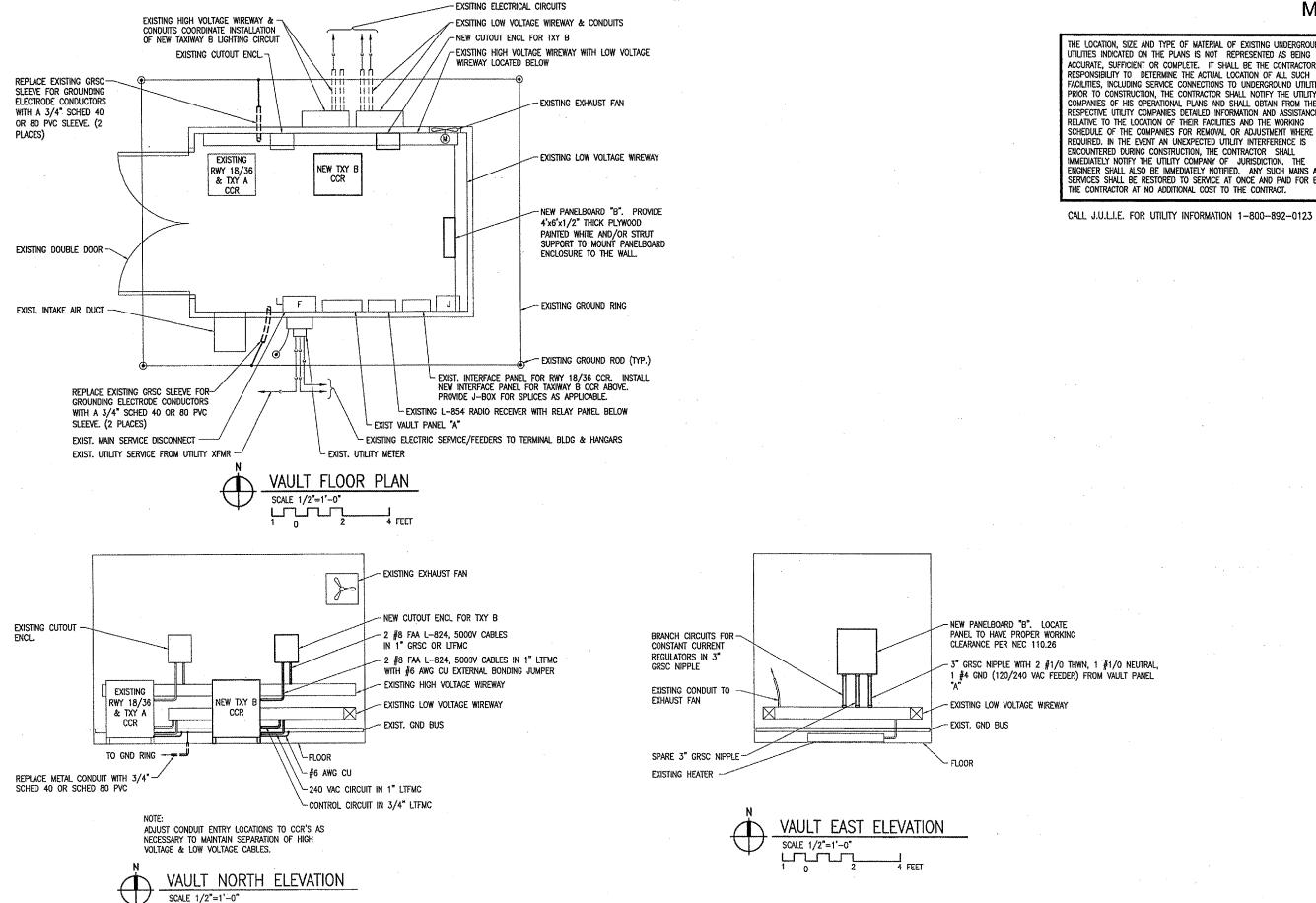
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Hanson Professional Sarvices Inc. 1525 South Sixch Street Springfled, Illinois 82709-2886 Offices Nationwide

PARALLEL TAXIWAY
TAXIWAY "B"
ELECTRICAL LEGEND

30



THE LOCATION, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND UTILITIES INDICATED ON THE PLANS IS NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. 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 ENGINEER SHALL ALSO BE IMMEDIATELY NOTIFIED. ANY SUCH MAINS AND SERVICES SHALL BE RESTORED TO SERVICE AT ONCE AND PAID FOR BY

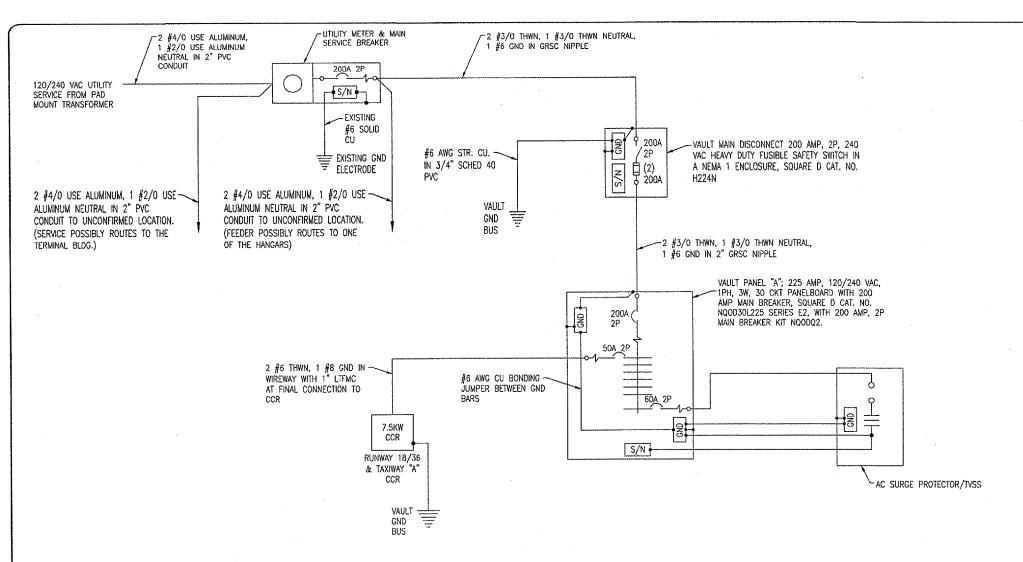
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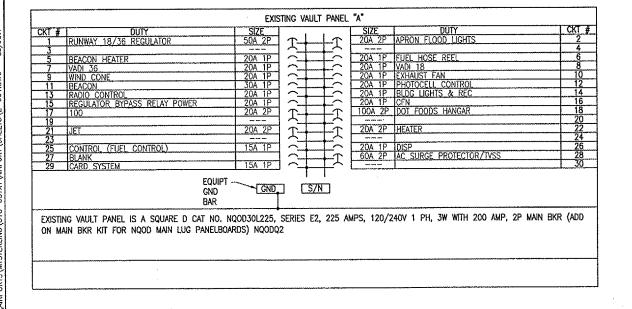
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PARALLEL TAXIWAY TAXIWAY "B" VAULT FLOOR PLAN & ELEVATIONS

31

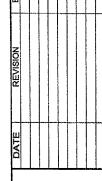


EXISTING VAULT ELECTRICAL ONE LINE DIAGRAM



NOTES

- ALL VAULT WORK AND/OR POWER OUTAGES SHALL BE COORDINATED WITH THE AIRPORT MANAGER AND THE RESIDENT ENGINEER.
- 2. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS & REPORT ANY VARIATIONS TO RESIDENT ENGINEER. SOME OF THE EXISTING EQUIPMENT (INCLUDING THE 7.5 KW CCR & THE AC SURGE PROTECTOR/TVSS) ARE PRESENTLY UNDER CONSTRUCTION ON ANOTHER PROJECT.
- 3. CCR DENOTES CONSTANT CURRENT REGULATOR.



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PARALLEL TAXIWAY TAXIWAY "B" EXISTING VAULT ELECTRICAL ONE LINE DIAGRAM

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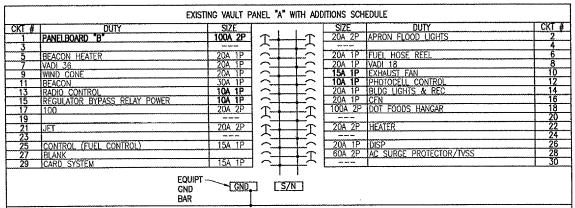
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100 AMP, 120/240 VAC, 1 PHASE, 3 WIRE, 20 CIRCUIT PANELBOARD WITH MAIN LUGS IN A NEMA 1 ENCLOSURE. INCLUDE SEPARATE COPPER GROUND BAR KIT. ALL BRANCH BREAKERS SHALL BE BOLT-ON TYPE WITH 10,000 AIC AT 120/240 VAC. PANELBOARD SHALL BE SQUARE D CAT. NO. NQOD20L100CU WITH MH23 ENCLOSURE OR APPROVED EQUAL.

NOTES:

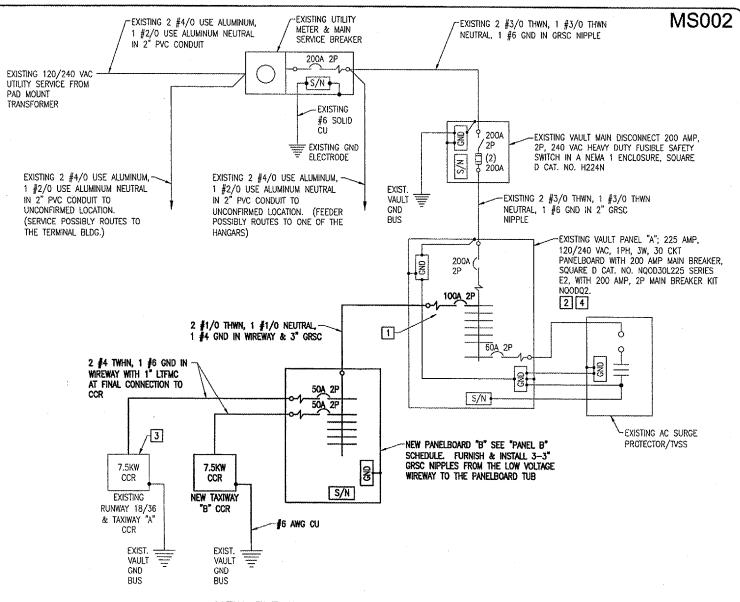
- PANELBOARD BUSSES SHALL BE COPPER.
- 2. CONTRACTOR SHALL CONFIRM POWER REQUIREMENTS WITH THE ACTUAL NAMEPLATE ON THE CCR AND ADJUST CIRCUIT BREAKER SIZE TO CONFORM WITH NEC & MANUFACTURER'S RECOMMENDATIONS WHERE APPLICABLE.



EXISTING VAULT PANEL IS A SQUARE D CAT NO. NQOD30L225, SERIES E2, 225 AMPS, 120/240V 1 PH, 3W WITH 200 AMP, 2P MAIN BKR (ADD ON MAIN BKR KIT FOR NQOD MAIN LUG PANELBOARDS) NQODQ2

NOTES:

- 1. REPLACE THE 50 AMP, 2 POLE BREAKER (FOR RWY 18/36 CCR) IN POSITIONS 1 & 3 WITH A NEW 100 AMP, 2 POLE, BOLT-ON BREAKER WITH 10,000 AIC AT 120/240 VAC, SQUARE D CAT. NO. QOB2100. THIS BREAKER SHALL FEED PANELBOARD "B". THE RWY 18/36 CCR CIRCUIT SHALL BE REPLACED AND RE-FED FROM PANELBOARD "B".
- REPLACE THE 20A, 1 POLE BREAKER FOR THE PHOTOCELL CIRCUIT WITH A NEW 10 AMP, 1 POLE, BOLT-ON BREAKER WITH 10,000 AIC AT 120/240, SQUARE D CAT. NO. QOB110.
- 3. REPLACE THE 20A, 1 POLE BREAKER FOR THE REGULATOR BYPASS RELAY POWER CIRCUIT WITH A NEW 10 AMP, 1 POLE, BOLT-ON BREAKER WITH 10,000 AIC AT 120/240 VAC, SQUARE D CAT. NO. QOB110.
- 4. REPLACE THE 20A, 1 POLE BREAKER FOR THE EXHAUST FAN CIRCUIT WITH A NEW 15 AMP, 1 POLE, BOLT-ON BREAKER WITH 10,000 AIC AT 120/240 VAC, SQUARE D CAT. NO. QOB115.
- 5. REPLACE THE 20A, 1 POLE BREAKER FOR THE RADIO CIRCUIT WITH A NEW 10 AMP, 1 POLE BOLT-ON BREAKER WITH 10,000 AIC AT 120/240 VAC, SQUARE D CAT. NO. QOB110.
- 6. ALL EXISTING BREAKERS SCHEDULED FOR REPLACEMENT SHALL REMAIN AIRPORT AUTHORITY PROPERTY.
- 7. UPDATE CIRCUIT DIRECTORY TO REFLECT ALL ADDITIONS.



NEW ELECTRICAL ONE LINE DIAGRAM FOR VAULT

KEYED NOTES

- THE EXISTING 50 AMP, 2 POLE BREAKER THAT FEEDS RUNWAY 18/36 CCR WITH A 100 AMP, 2 POLE FOR USE AS THE FEEDER CIRCUIT TO PANELBOARD "B".
- 2 SEE "EXISTING VAULT PANEL A WITH ADDITIONS" SCHEDULE FOR DETAILS ON CIRCUIT BREAKER REPLACEMENTS & ADDITIONS. FURNISH & INSTALL THE FOLLOWING NEW BREAKERS:
 3-10 AMP, 1 POLE BOLT-ON BREAKERS
 1-15 AMP, 1 POLE BOLT-ON BREAKER

1-100 AMP, 2 POLE BOLT-ON BREAKER

- THE EXISTING RUNWAY 18/36 CCR CIRCUIT SHALL BE REPLACED WITH A NEW CIRCUIT FROM PANELBOARD "B".
- [4] REPLACE THE EXISTING #12 AWG BEACON BRANCH CIRCUIT CONDUCTORS WITH 1 #8 THWN, 1 #8 NEUTRAL, 1 #8 GND.

NOTES

- ALL VAULT WORK AND/OR POWER OUTAGES SHALL BE COORDINATED WITH THE AIRPORT MANAGER AND THE RESIDENT ENGINEER.
- 2. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS & REPORT ANY VARIATIONS TO RESIDENT ENGINEER.
- 3. ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN CONFORMANCE WITH NFPA 70 (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 SHALL NOT BE PERMITTED.
- 4. ALL EQUIPMENT NOT LABELED AS EXISTING IS NEW.
- HIGH VOLTAGE & LOW VOLTAGE CIRCUITS SHALL NOT BE INSTALLED IN THE SAME RACEWAY.
- GRSC DENOTES GALVANIZED RIGID STEEL CONDUIT. LTFMC DENOTES LIQUID TIGHT FLEXIBLE METAL CONDUIT UL LISTED SUITABLE FOR GROUNDING, AND SUNLIGHT RESISTANT.
- 7. VAULT WORK SHALL BE PAID FOR UNDER ITEM AR109200.

Harson Professional Services Inc.

AIRP

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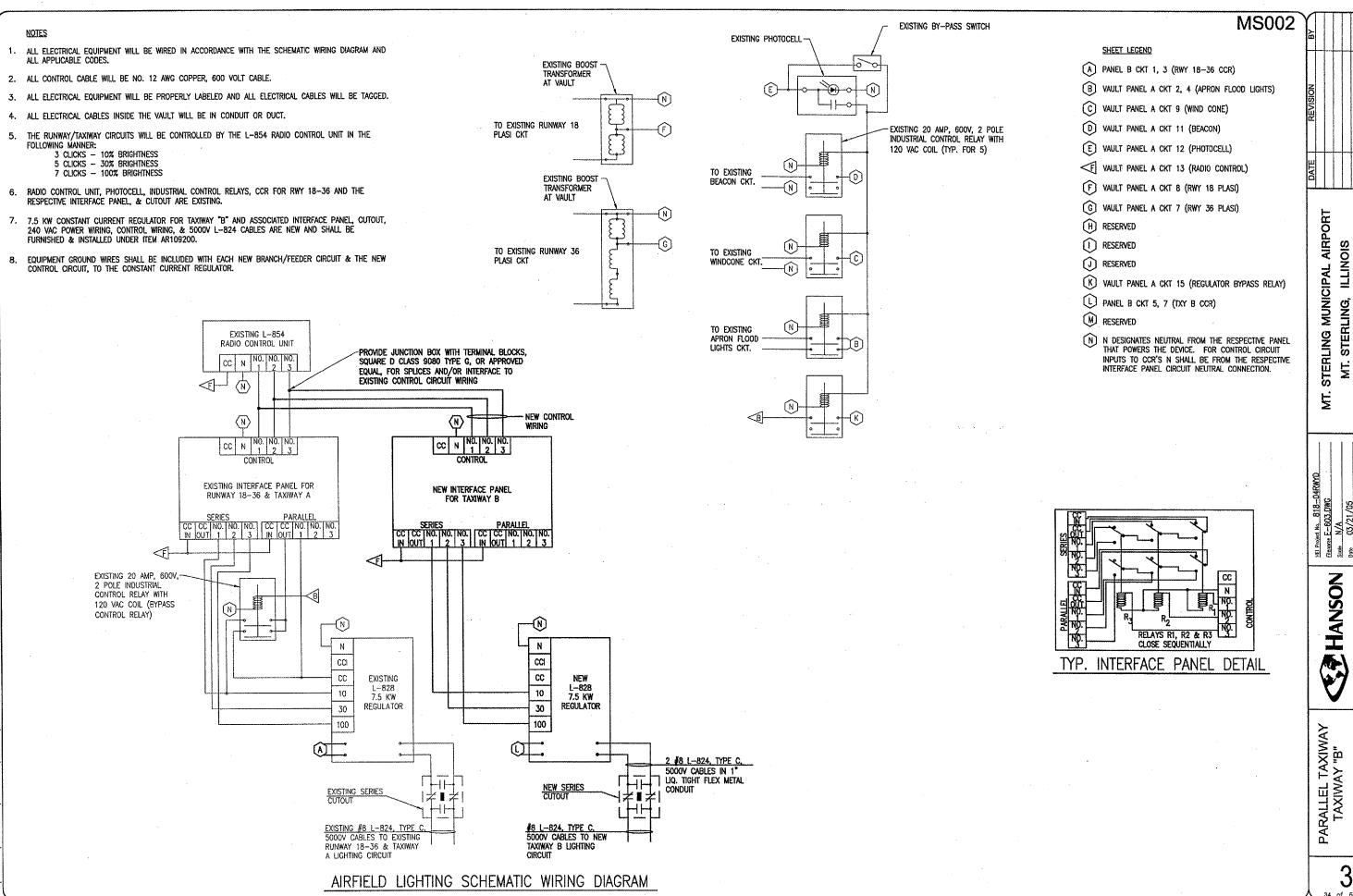
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STERLING,

PARALLEL TAXIWAY TAXIWAY "B" VEW ELECTRICAL ONE LINE FOR VAULT

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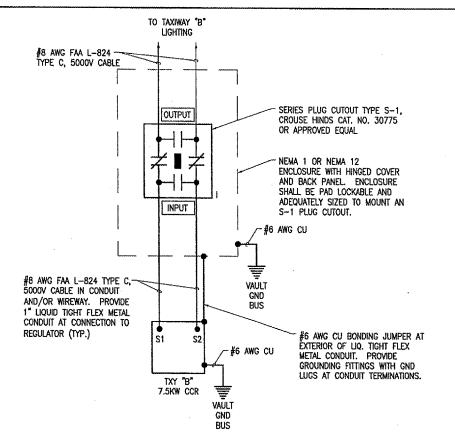
34 of 57 sheets

SERIES PLUG CUTOUT MOUNTING DETAIL

NOT TO SCALE

LEGEND	PLATE SCHEDULE
DEVICE	LEGEND PLATE LABEL
VAULT MAIN PANELBOARD	MAIN VAULT PANEL A 120/240 VAC, 1 PH, 3W
VAULT SUB PANELBOARD "B"	PANEL B 120/240 VAC 1 PH, 3W FED FROM MAIN PANEL A
RUNWAY 18/36 & TAXIWAY A CCR	RUNWAY 18/36 & TAXIWAY A
TAXIWAY B CCR	TAXIWAY B
CUTOUT ENCLOSURE FOR RUNWAY 18/36 & TAXIWAY A CCR	RUNWAY 18/36 & TAXIWAY A
CUTOUT ENCLOSURE FOR TAXIWAY B CCR	TAXIWAY B
EACH CUTOUT LINE SIDE CONNECTION	INPUT
EACH CUTOUT LOAD SIDE CONNECTION	OUTPUT
INTERFACE PANEL FOR RUNWAY 18/36 CCR	RUNWAY 18/36 & TAXIWAY A
INTERFACE PANEL FOR TAXIWAY B CCR	TAXIWAY B
HIGH VOLTAGE WIREWAY	HIGH VOLTAGE
LOW VOLTAGE WIREWAY (EACH WALL)	LOW VOLTAGE

NOTES
ALL LEGEND PLATES SHALL BE ENGRAVED PHENOLIC
OR PLASTIC MATERIAL, BLACK LETTERS ON A WHITE
BACKGROUND.



HIGH VOLTAGE WIRING SCHEMATIC

NOTES

- PROVIDE PHENOLIC ENGRAYED LEGEND PLATES FOR EACH CONSTANT CURRENT REGULATOR (EXISTING & NEW) NOTING THE RUNWAY AND/OR TAXIWAY SERVED.
- EACH PLUG CUTOUT CABINET (EXISTING & NEW) SHALL BE FURNISHED WITH A PHENOLIC ENGRAVED LEGEND PLATE THAT IDENTIFIES THE RESPECTIVE RUNWAY/TAXIWAY CIRCUIT OR REGULATOR.
- 3. PROVIDE PHENOLIC ENGRAVED LEGEND PLATES FOR EACH CUTOUT (EXISTING & NEW) TO IDENTIFY THE RESPECTIVE REGULATOR OUTPUT CONNECTION AND THE RESPECTIVE CIRCUIT LOAD CONNECTION.
- BOND EACH PLUG CUTOUT CABINET (EXISTING & NEW) TO THE VAULT GROUND BUS WITH A #6 AWG COPPER BONDING JUMPER.
- PROVIDE ADEQUATE WORKING SPACE IN FRONT OF EACH CUTOUT ENCLOSURE TO MEET NEC CLEARANCE REQUIREMENTS.
- PROVIDE WARNING SIGN ON VAULT DOOR LABELED "DANGER HIGH VOLTAGE KEEP OUT" PER THE REQUIREMENTS OF NEC 110.34 (C).

LEGEND

- "I" DENOTES PLUG CUTOUT WITH PLUG INSERTED
- "P" DENOTES PLUG CUTOUT WITH PLUG PULLED

"CCR" DENOTES CONSTANT CURRENT REGULATOR

STERLING MUNICIPAL AIRPORT

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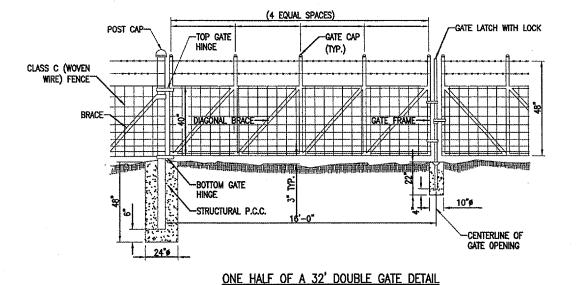
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HANSON
Tarson Professional Services Inc.
1526 South Sixth Street
Springfield, Illinois 62703-2886

PARALLEL TAXIWAY TAXIWAY TAXIWAY "B" HIGH VOLTAGE WIRING SCHEMATIC

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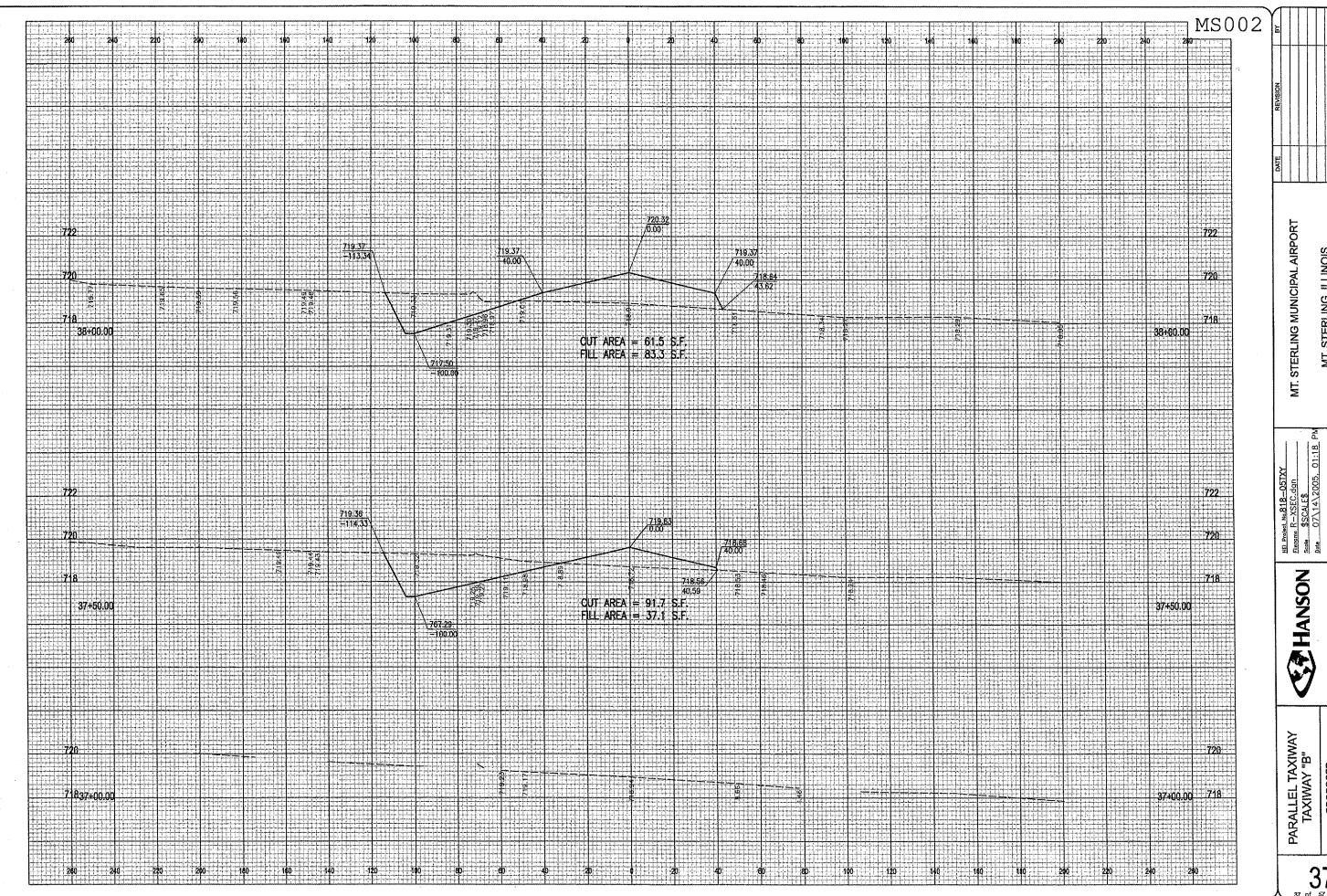
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PARALLEL TAXIWAY
TAXIWAY "B"
PROPOSED
FENCE DETAILS

36 36 of 57 sheets

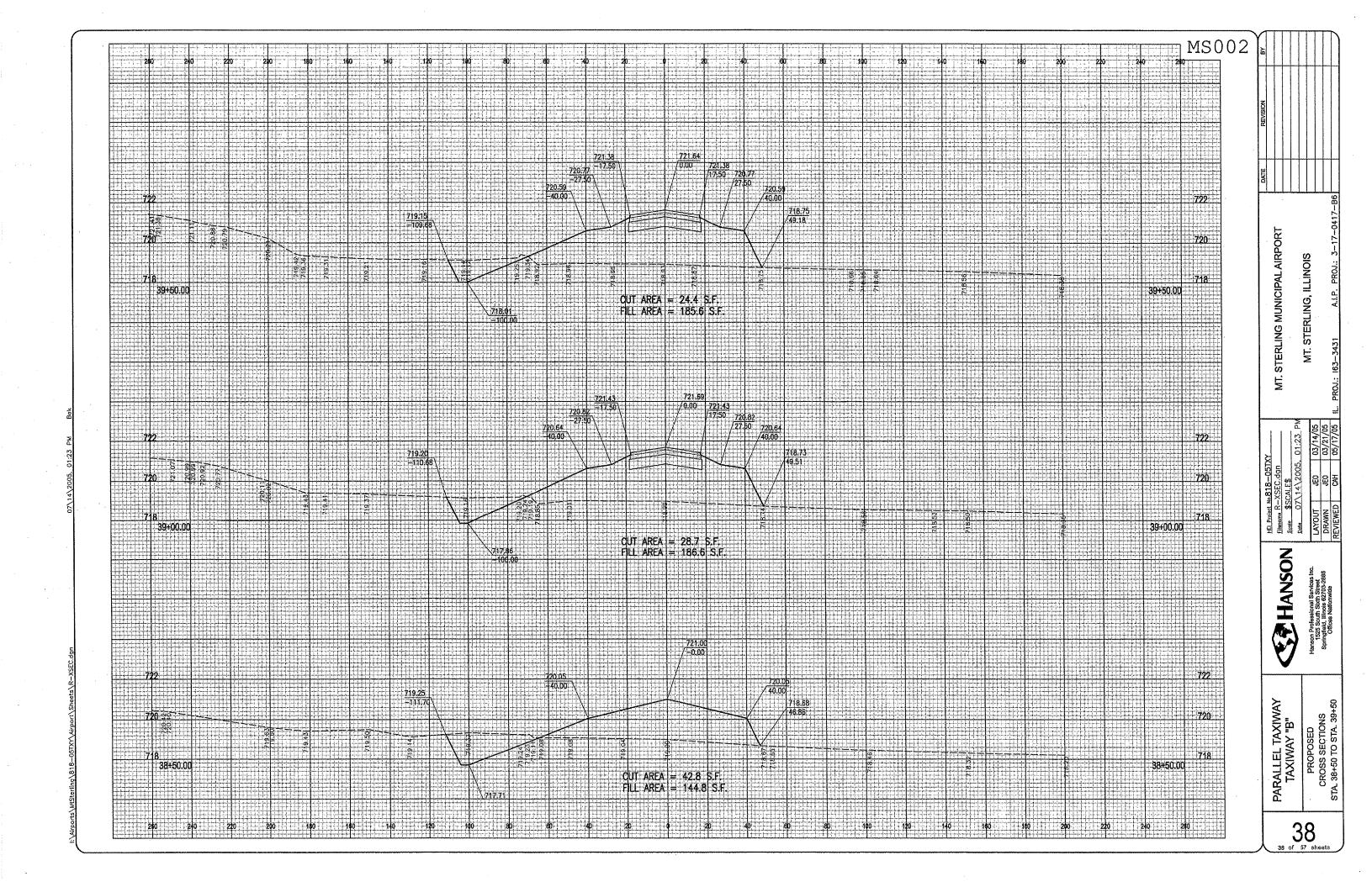


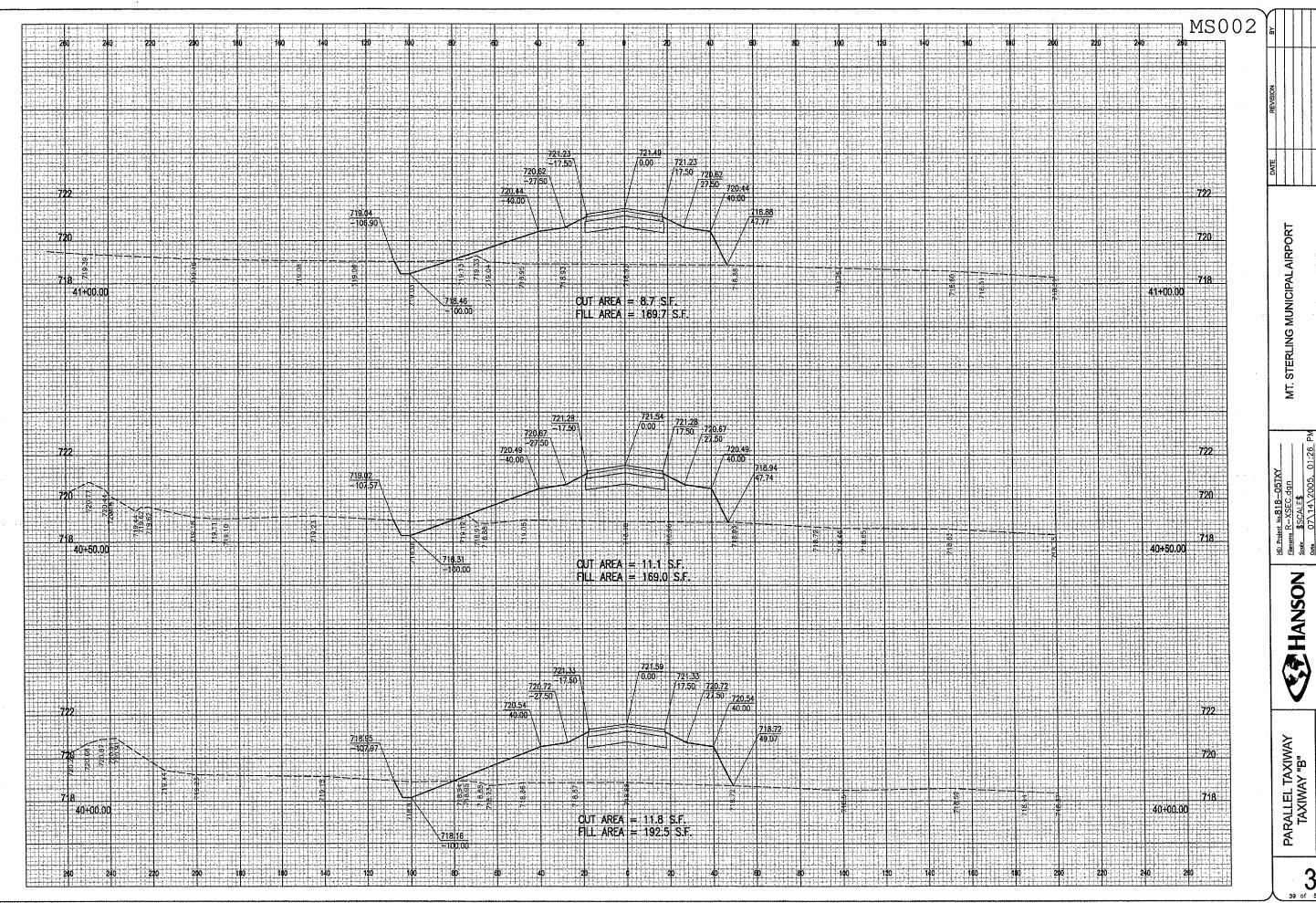
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PROPOSED CROSS SECTIONS STA. 37+00 TO STA. 38+00

37





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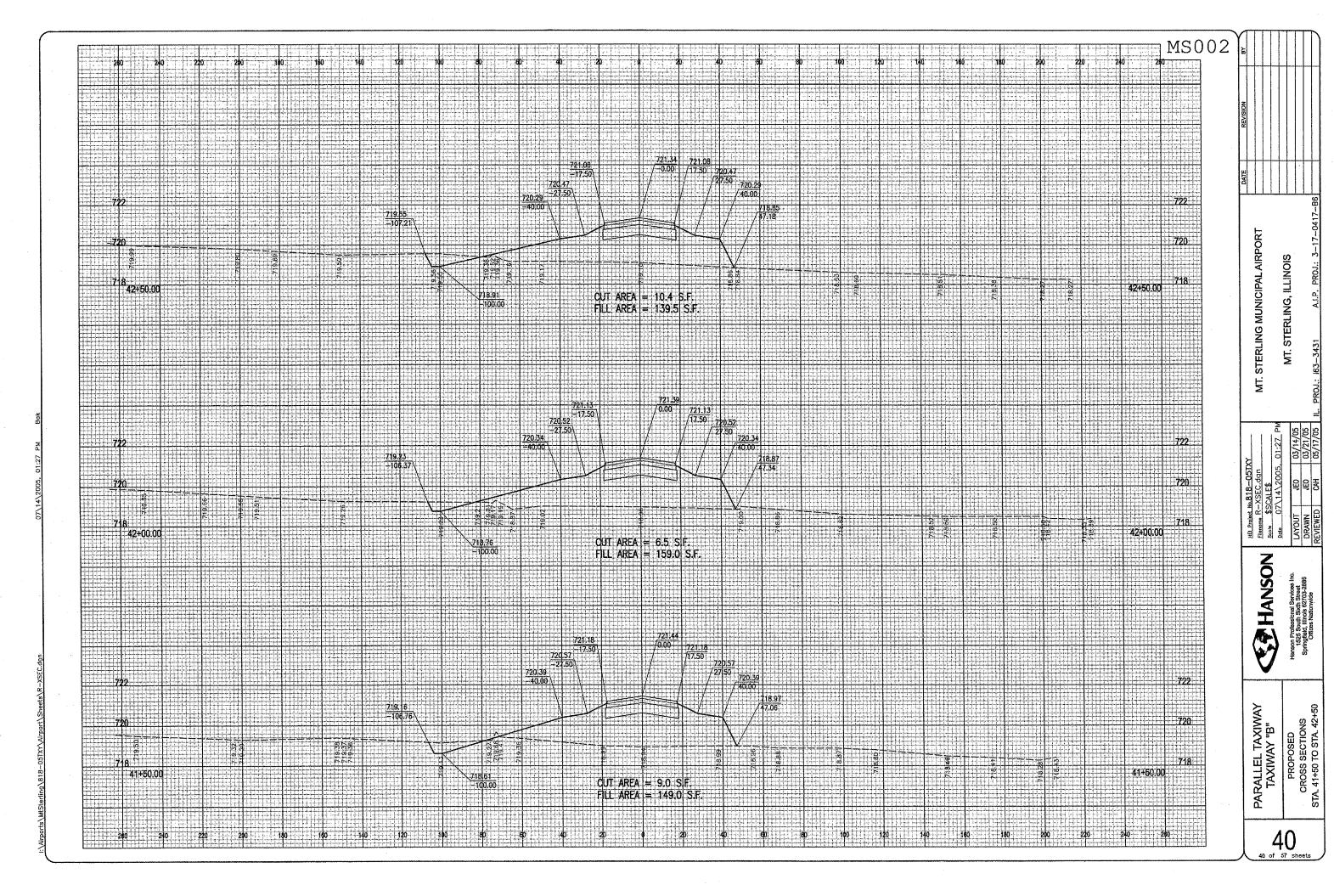
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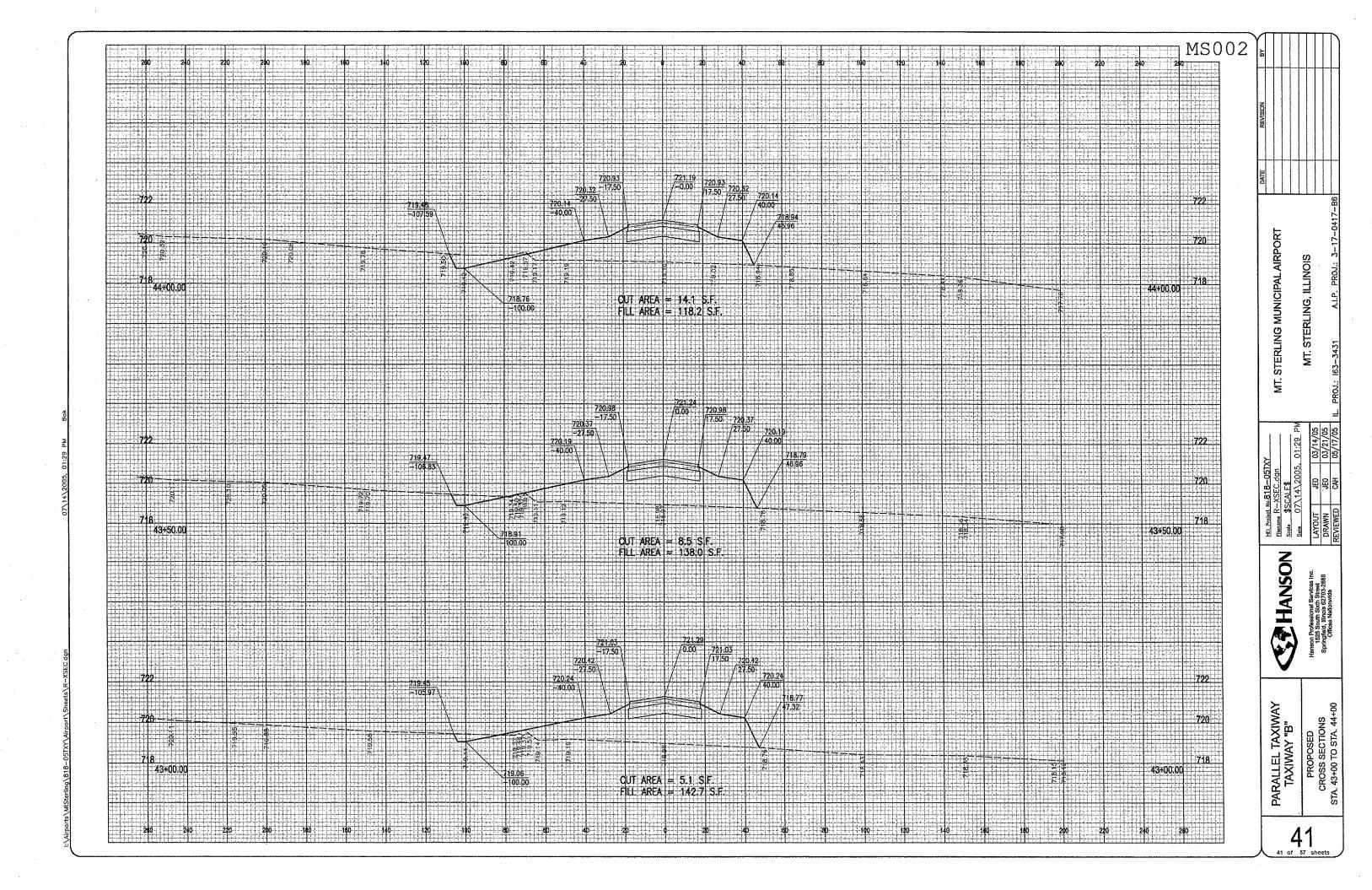
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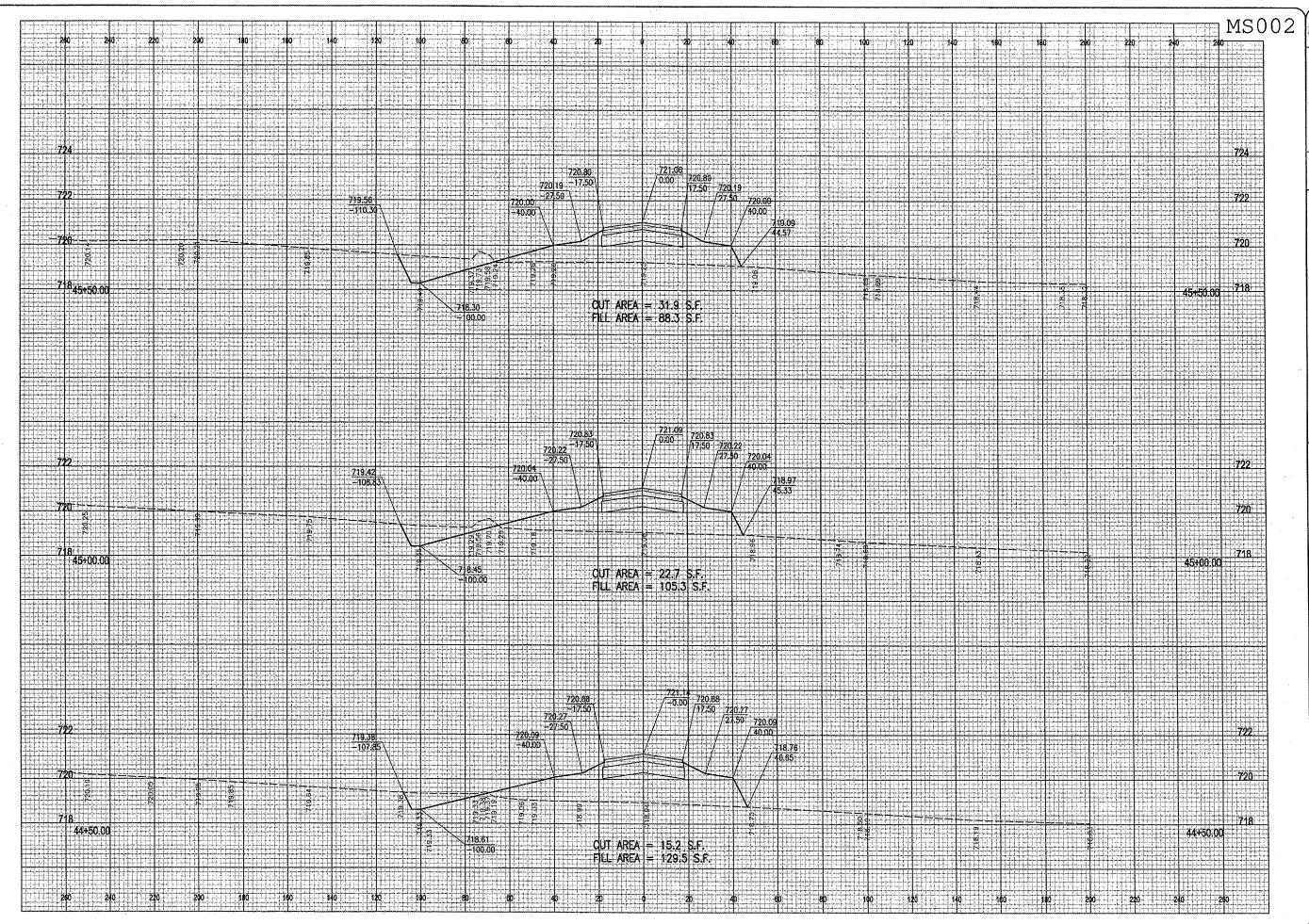
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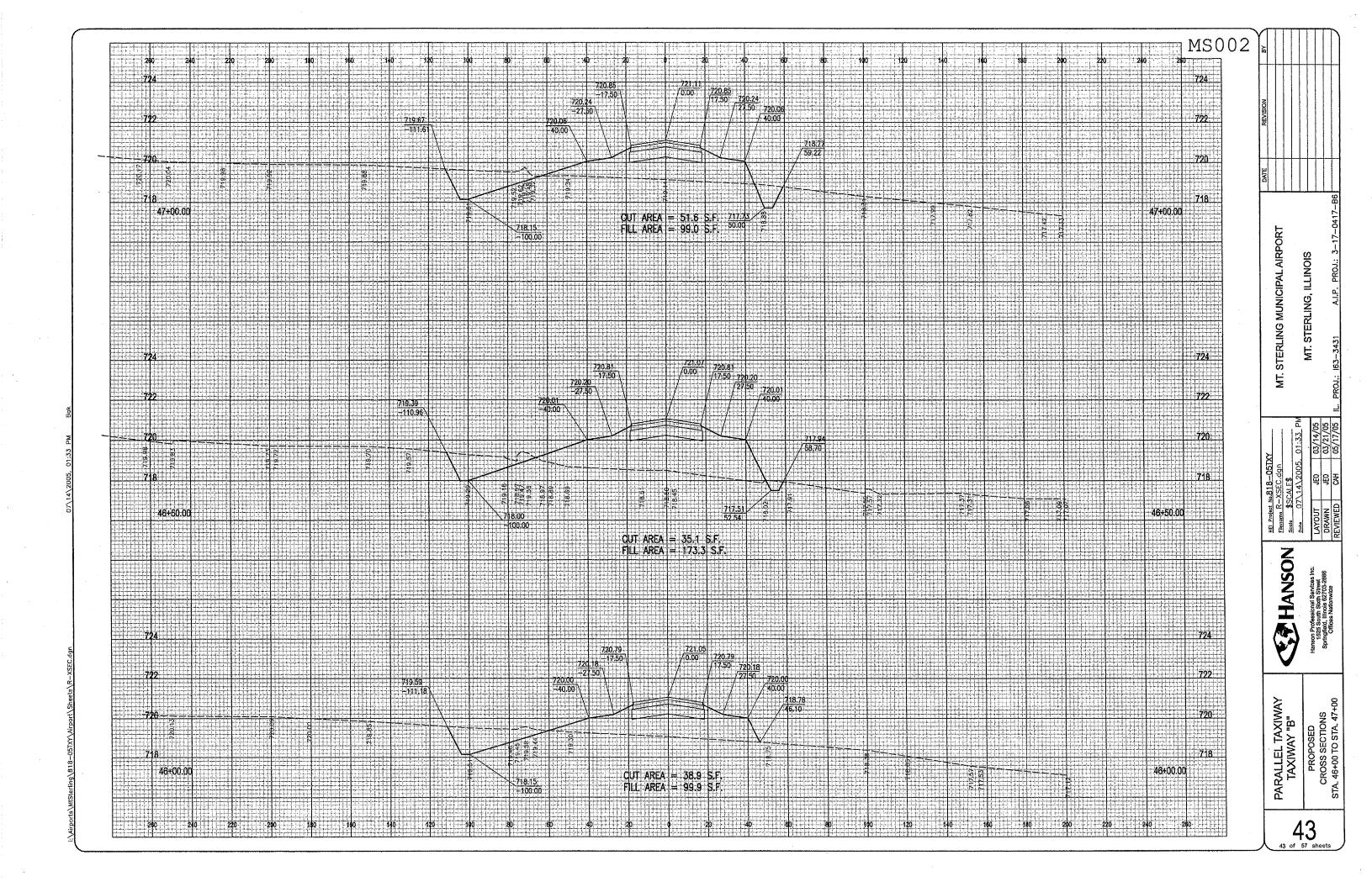


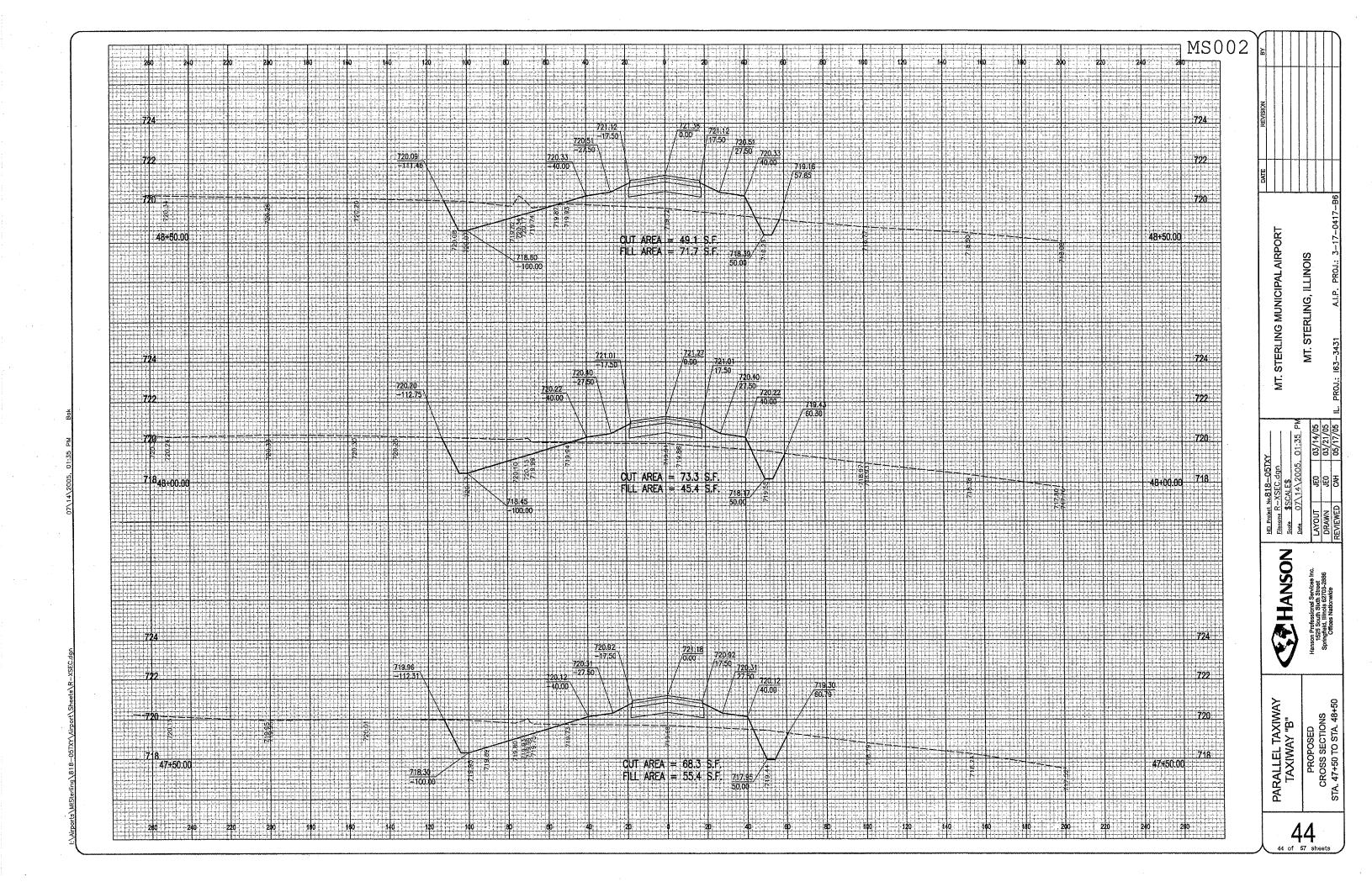
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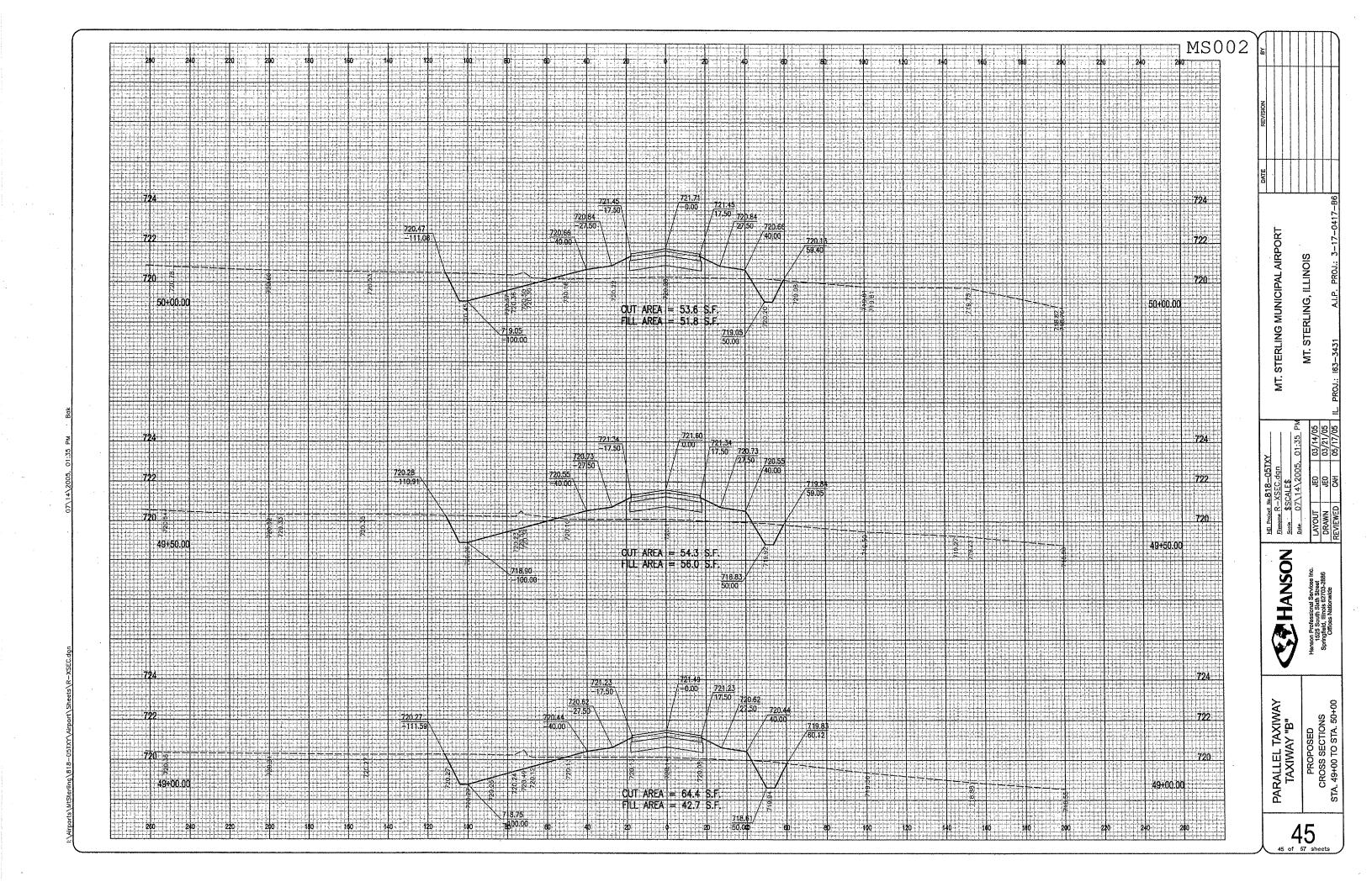
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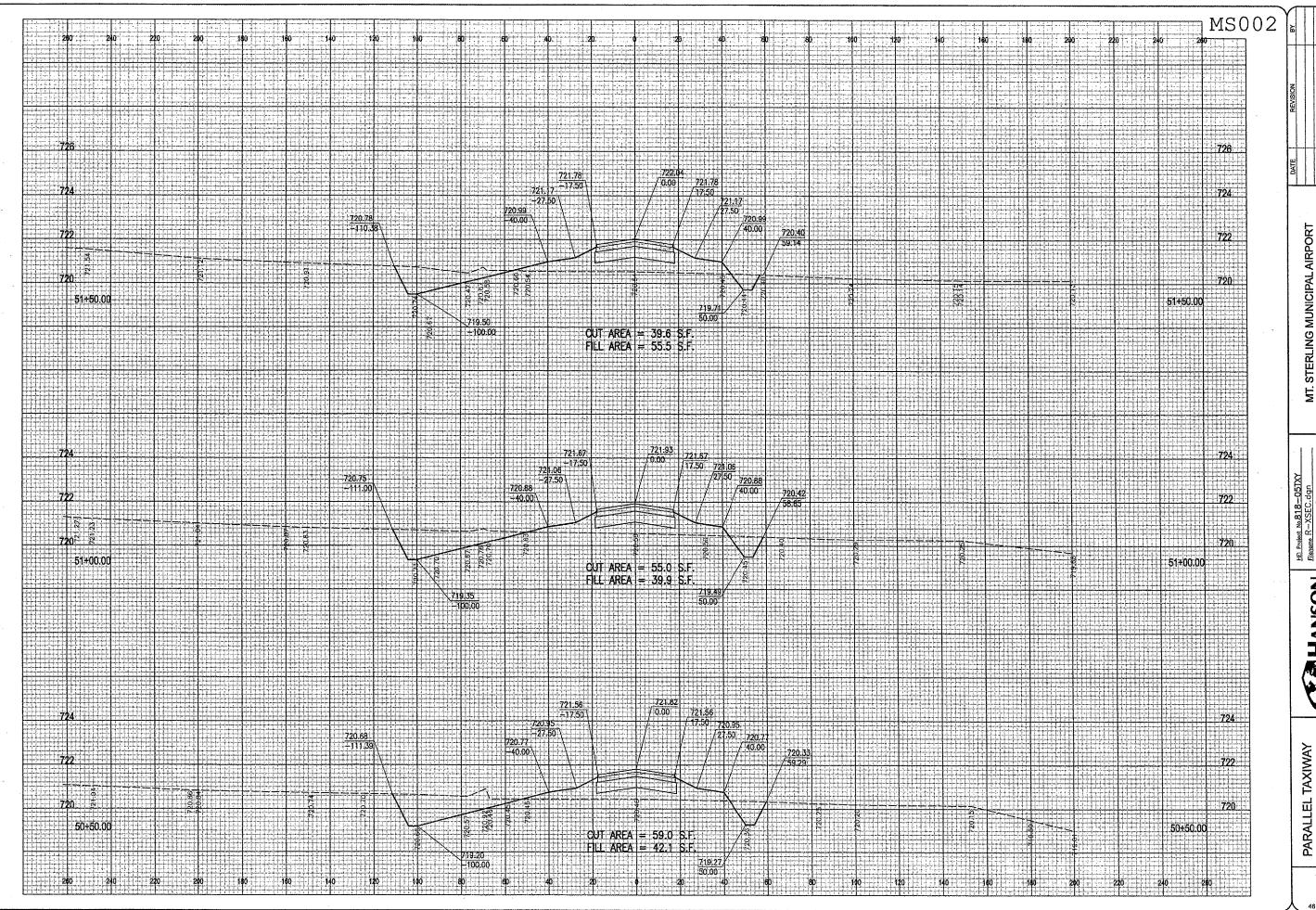
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PROPOSED CROSS SECTIONS STA, 44+50 TO STA. 45+50 PARALLEL TAXIWAY TAXIWAY "B"









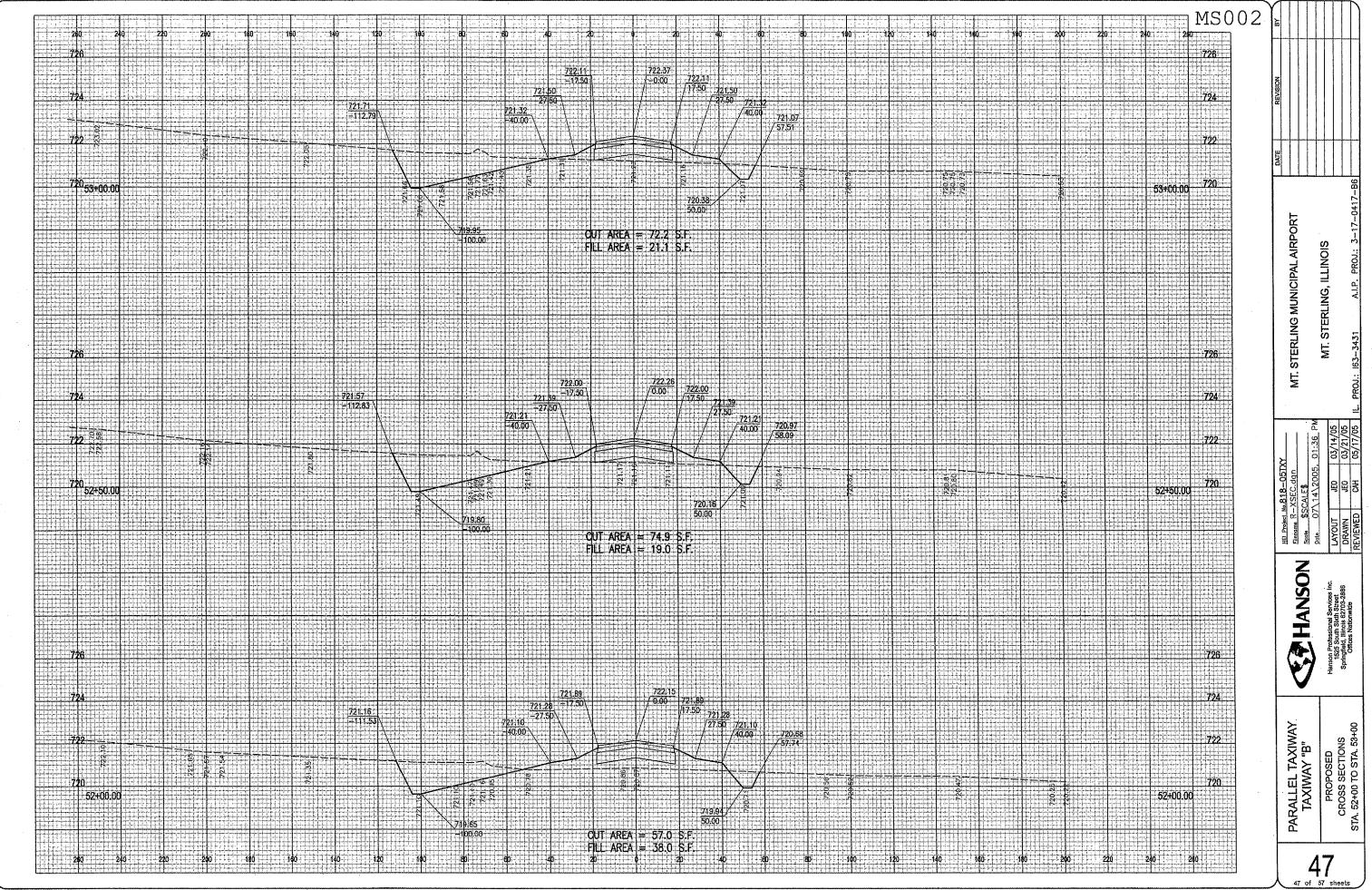
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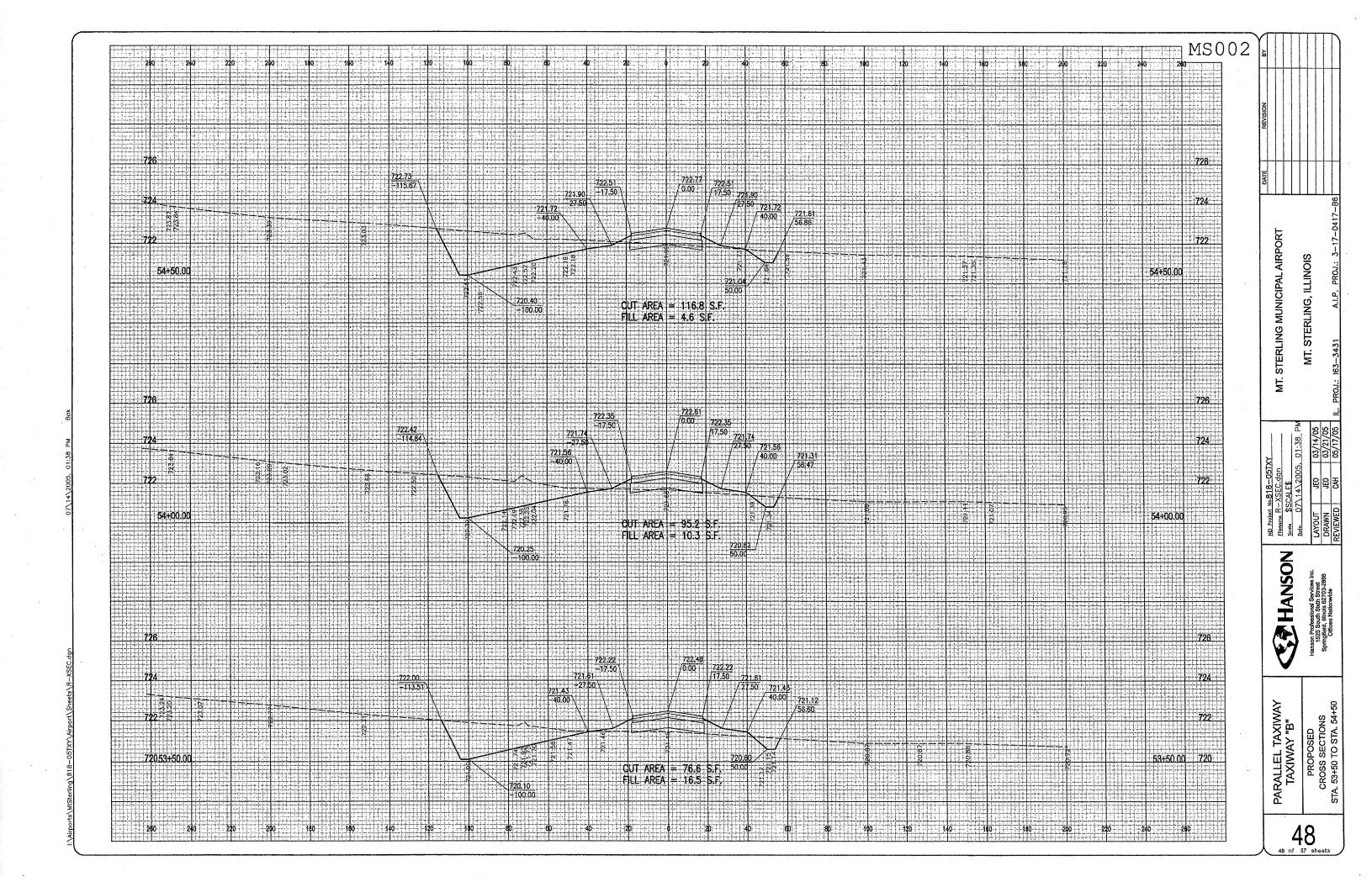
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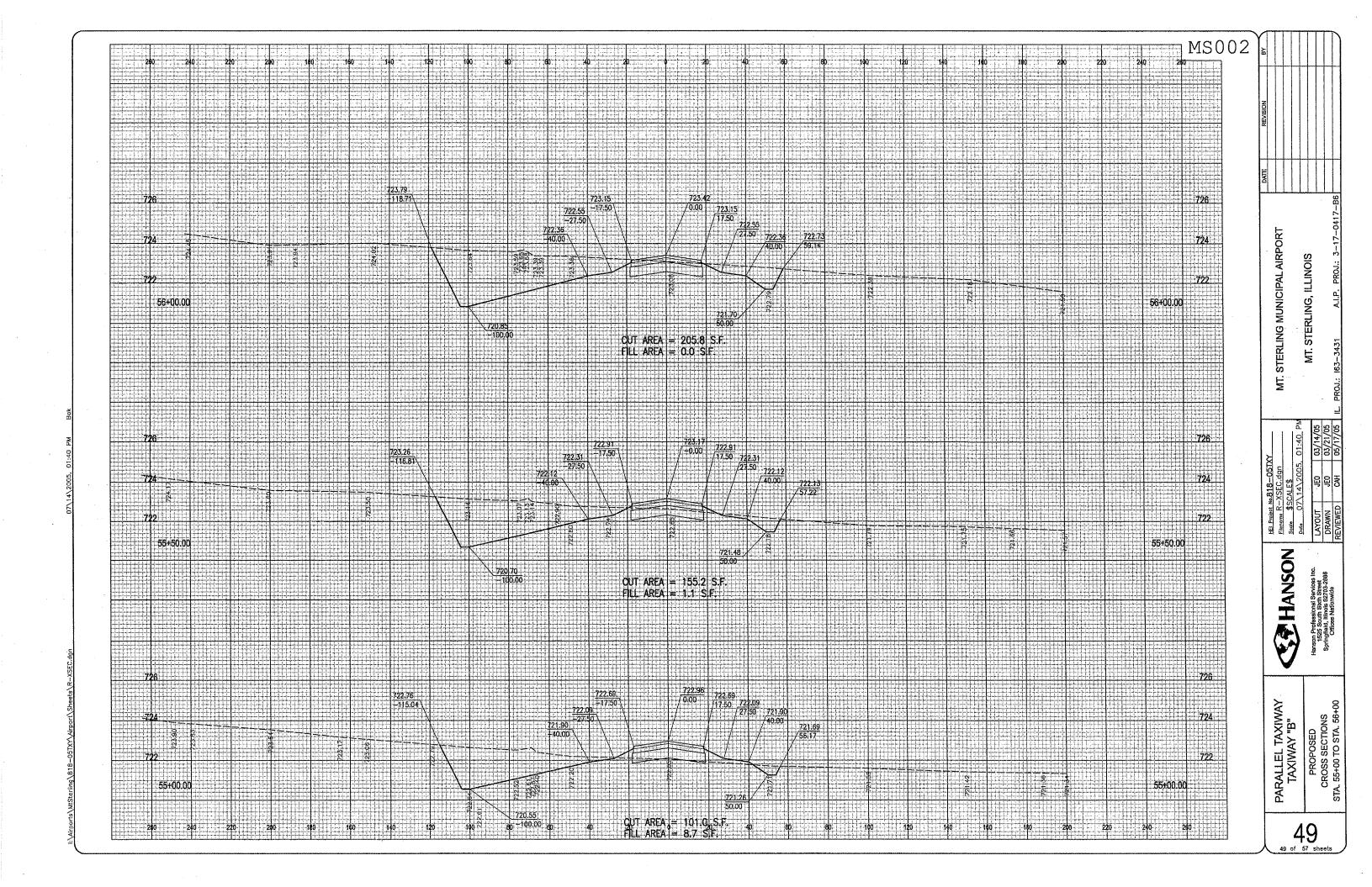
PARALLEL TAXIWAY TAXIWAY "B"

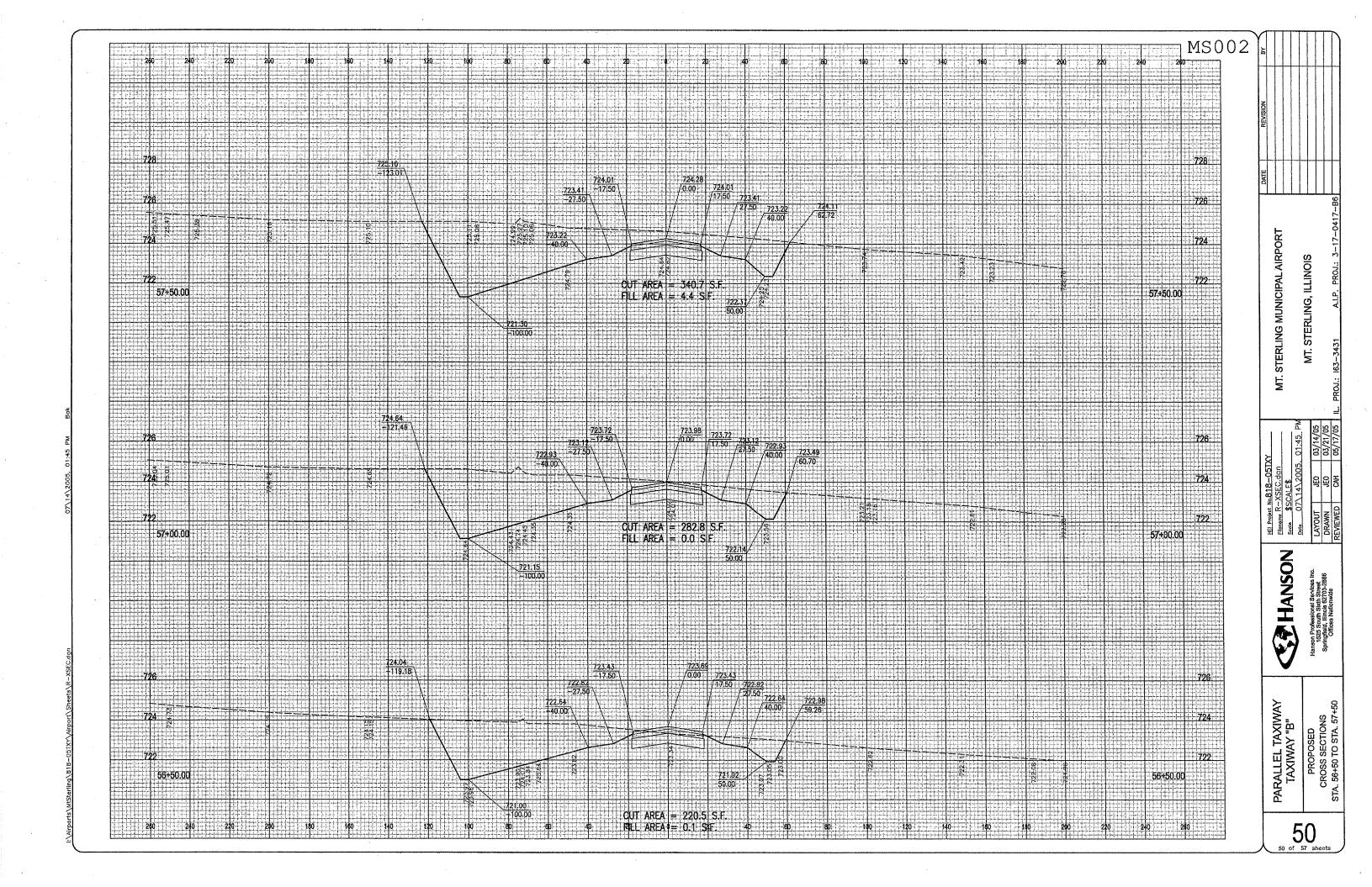
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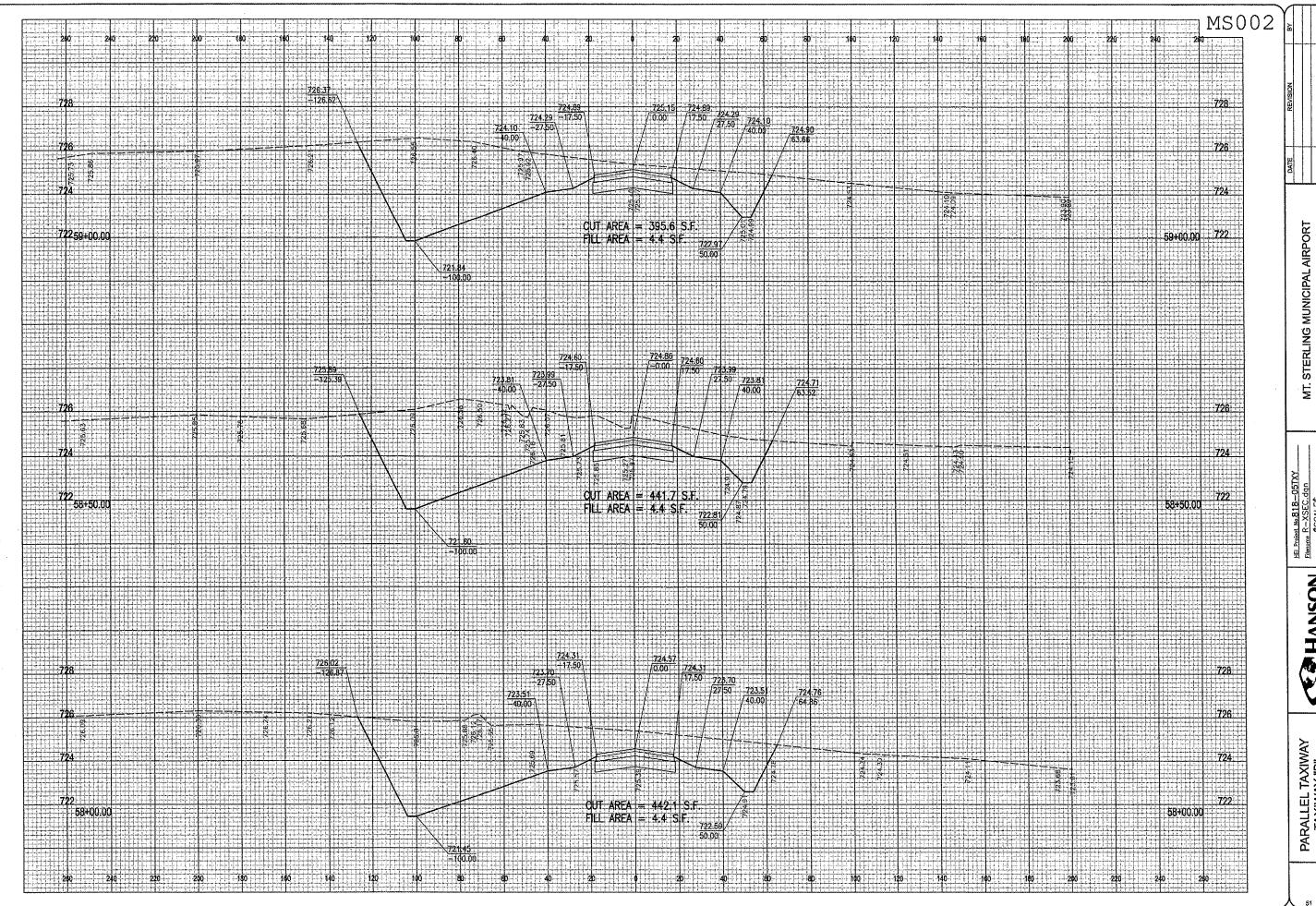


PROPOSED CROSS SECTIONS STA, 52+00 TO STA, 53+00





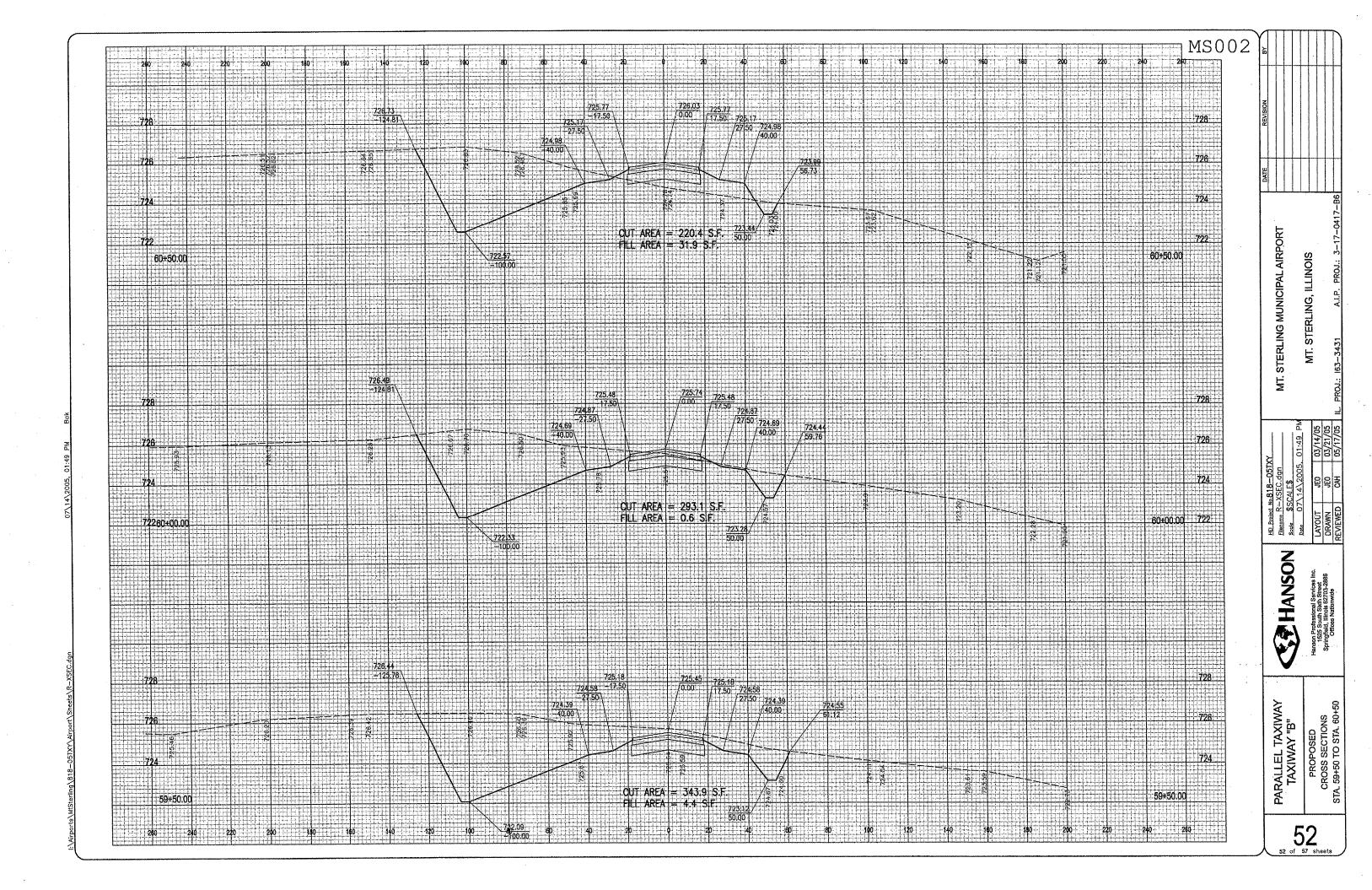


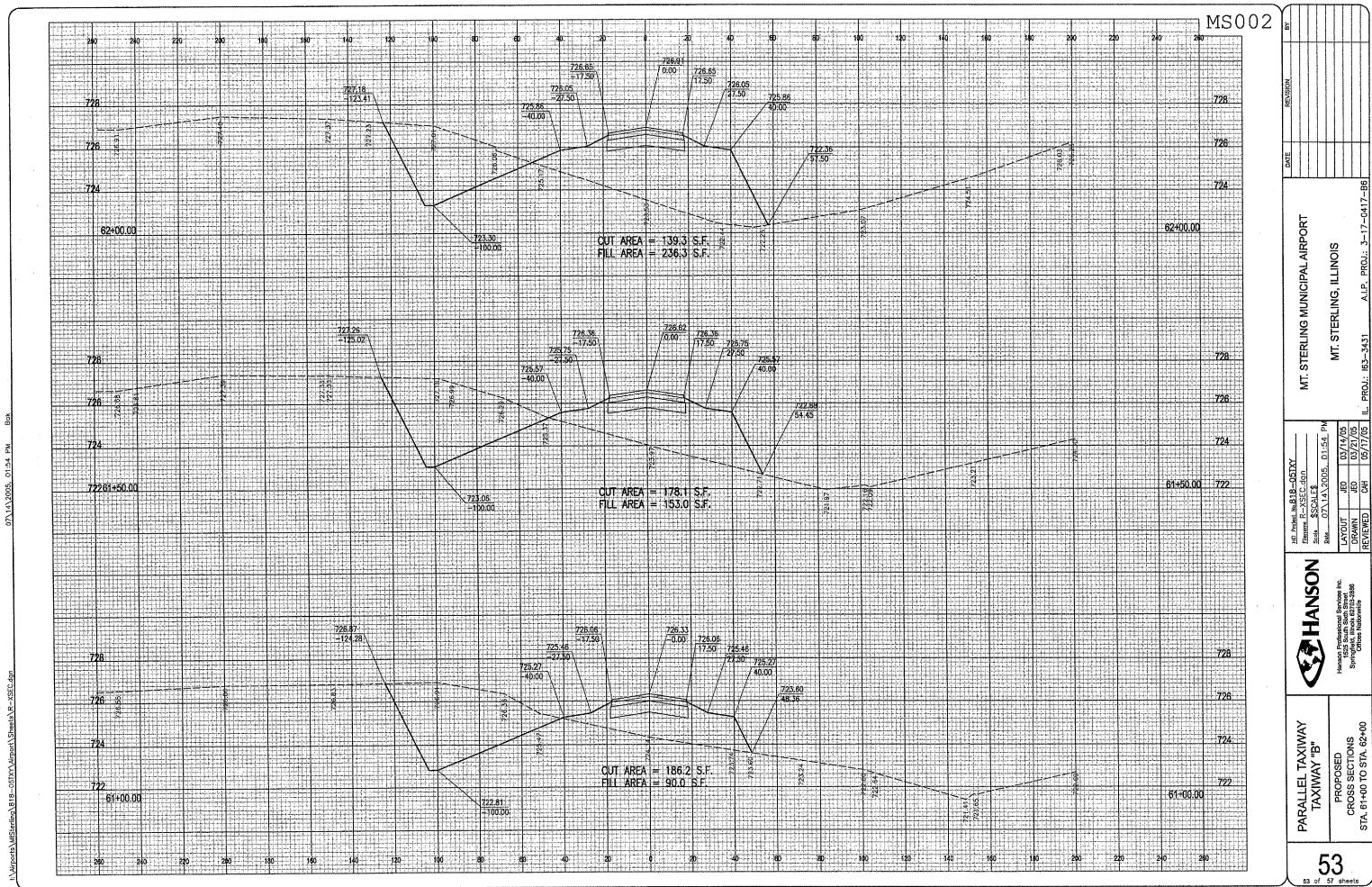


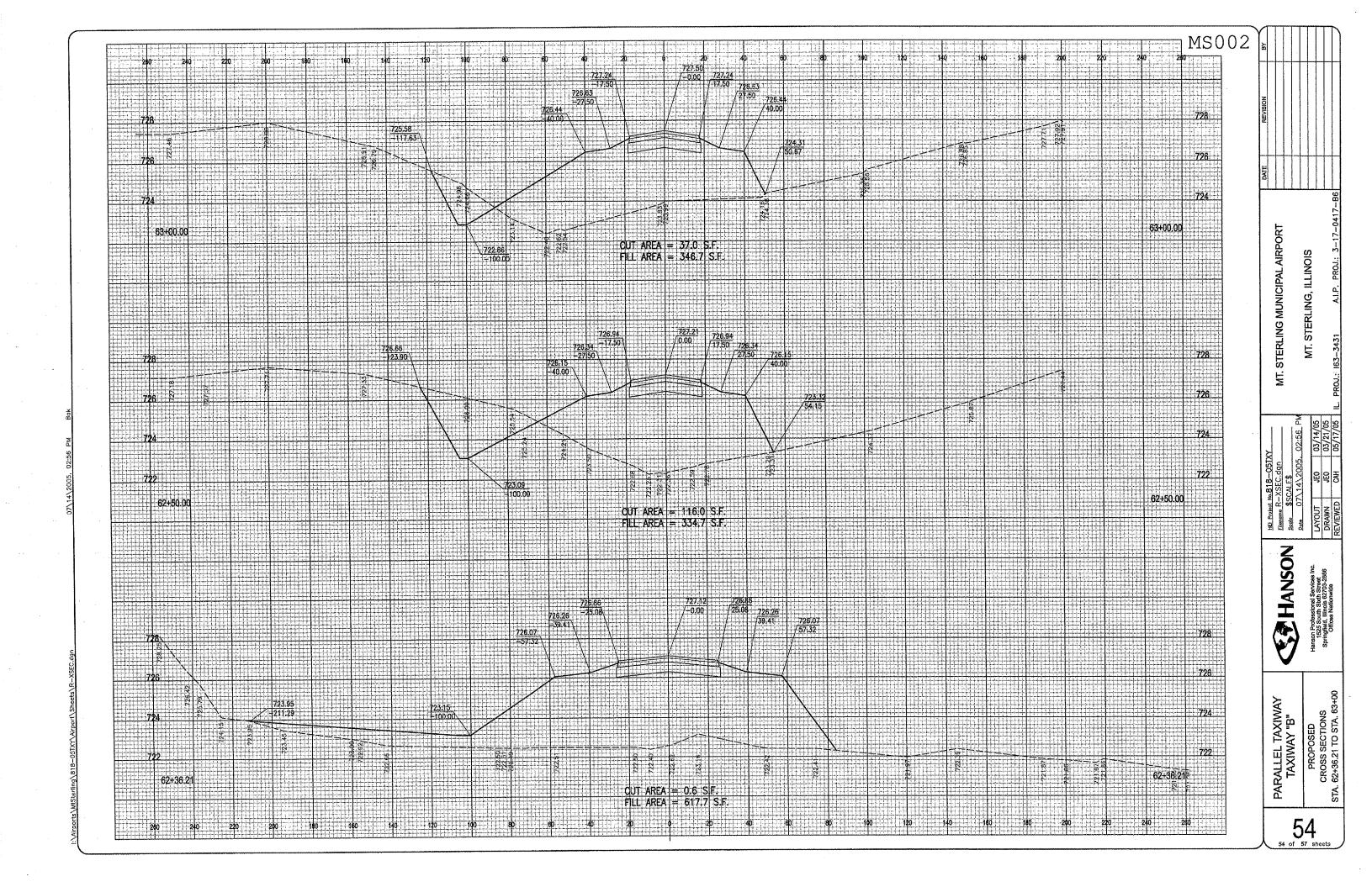
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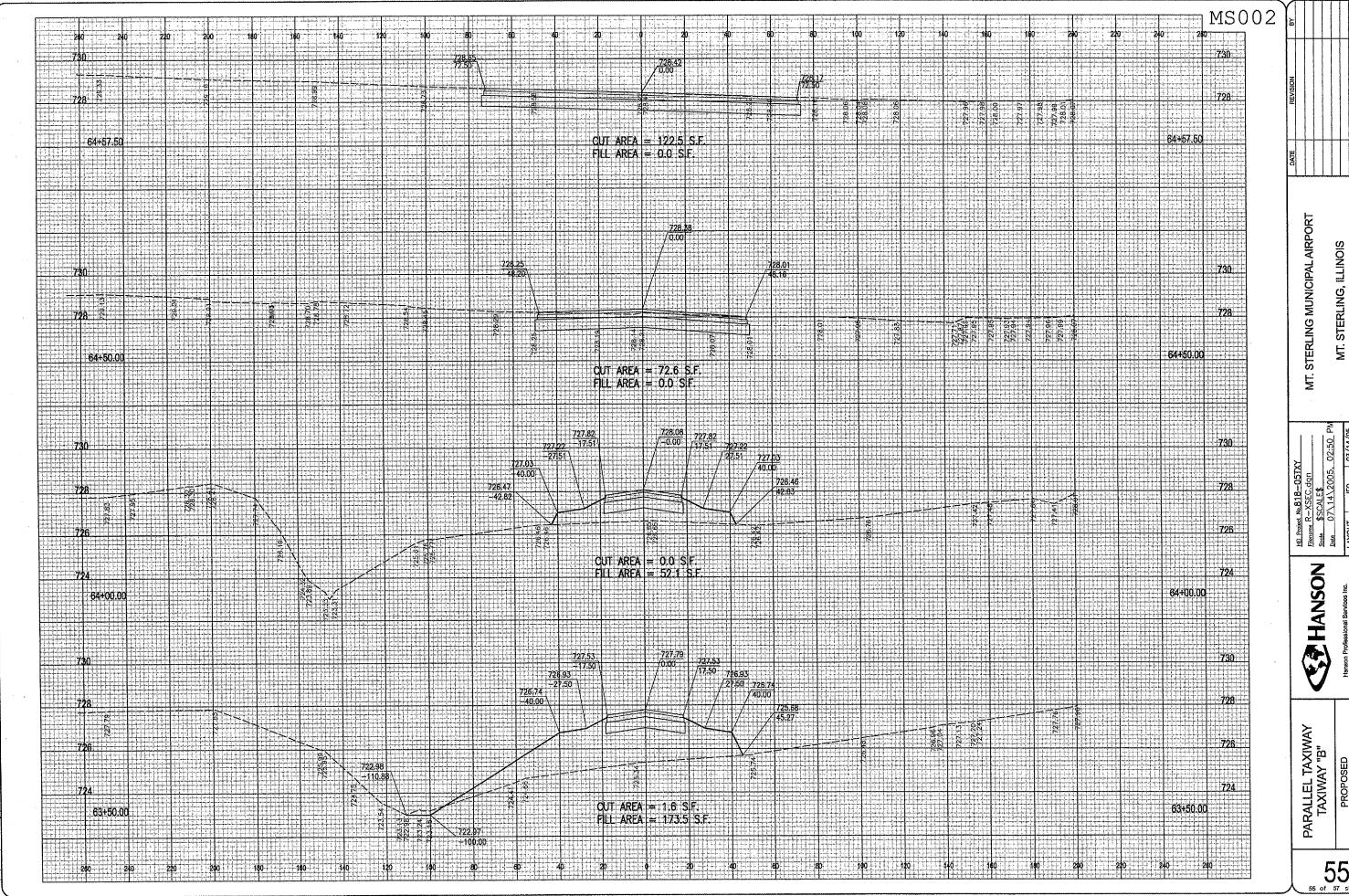
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Parallel Taxiway Taxiway "B" PROPOSED CROSS SECTIONS STA. 58+00 TO STA. 59+00









PROPOSED CROSS SECTIONS STA, 63+50 TO STA, 64+50

