AIRPORT LAYOUT PLAN FOR

REDFIELD MUNICIPAL AIRPORT

REDFIELD, SOUTH DAKOTA

MARCH, 2007

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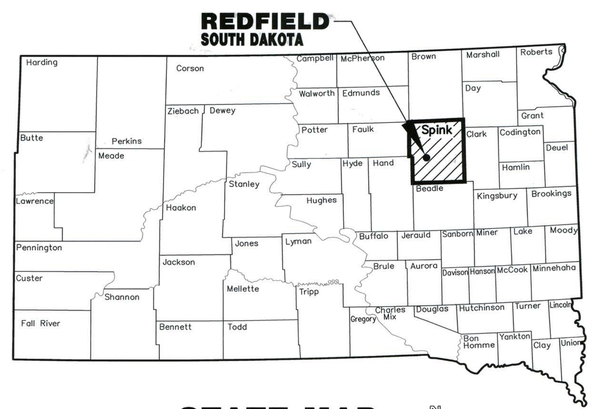
FAA APPROVAL LETTER



STATE MAP

NO SCALE

N

"ALP REVIEW STATEMENT"

ON BEHALF OF HELMS AND ASSOCIATES, THIS AIRPORT LAYOUT PLAN (ALP) WAS PREPARED FOR REDFIELD MUNICIPAL AIRPORT ACCORDING TO THE APPLICABLE ADVISORY CIRCULARS. THE CURRENT VERSION OF THE GREAT LAKES REGION CHECK LIST, AND ACCURATELY DEPICTS THE PROPOSED USE OF THE AIRSPACE AT THE TIME OF SUBMITTAL. THE ALP CONFORMS WITH FAA DESIGN STANDARDS, EXCEPT AS NOTED.

ENGINEERS CERTIFICATION

I HEREBY CERTIFY THAT TO THE BEST OF MY PROFESSIONAL ABILITY THIS AIRPORT LAYOUT PLAN WAS DEVELOPED UNDER MY DIRECT SUPERVISION IN ACCORDANCE WITH ALL APPLICABLE FEDERAL STANDARDS AND REQUIREMENTS AND NO DEVIATIONS FROM OR MODIFICATIONS TO STANDARDS SET FORTH IN THE FEDERAL AVIATION ADMINISTRATION ADVISORY CIRCULARS WILL BE NECESSARY OTHER THAN THOSE PREVIOUSLY APPROVED BY F.A.A. EXCEPT FOR THOSE LISTED ON PAGE 2 OF THIS A.L.P.

MICHAEL A SCHMIT, PE
SD REG. NO. 11520
HELMS AND ASSOCIATES

DATE 7/8/14

SPONSORS APPROVAL

CITY OF REDFIELD

I HEREBY APPROVE THIS AIRPORT LAYOUT PLAN, CERTIFIED BY A LICENSED PROFESSIONAL ENGINEER THAT THEY HAVE BEEN DEVELOPED TO THE BEST OF HIS PROFESSIONAL ABILITY IN ACCORDANCE WITH FEDERAL STANDARDS AND NO DEVIATIONS FROM OR MODIFICATIONS TO STANDARDS AS SET FORTH IN FEDERAL AVIATION ADMINISTRATION ADVISORY CIRCULARS WILL BE NECESSARY OTHER THAN THOSE PREVIOUSLY APPROVED BY THE F.A.A. EXCEPT FOR THOSE LISTED ON PAGE 2 OF THIS A.L.P.

MAYOR _____ DATE 7/10/14

A.L.P. APPROVALS

FEDERAL AVIATION ADMINISTRATION

CONDITIONALLY APPROVAL SUBJECT TO LETTER DATED 9/30/14
F.A.A. DISTRICT OFFICE
BISMARCK, NORTH DAKOTA

_____ DATE 9/30/14

A.L.P. APPROVAL

A.L.P. AIRSPACE APPROVAL DATE 7/10/14

DIRECTOR _____ DATE _____

OFFICE OF AIR, RAIL AND TRANSIT

ACCEPTED

SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION
OFFICE OF AIR, RAIL AND TRANSIT

BRUCE LINDHOLM, _____
OFFICE OF AERONAUTICS
DIVISION OF AIR, RAIL, AND TRANSIT TO THE
DIVISION OF FISCAL AND PUBLIC ASSISTANCE.

DATE: 7/8/14

HELMS and ASSOCIATES
CONSULTING ENGINEERS AND LAND SURVEYORS
221 BROWN COUNTY ROAD HWY 19, ABERDEEN, SOUTH DAKOTA 57401
PHONE: (605)225-1212 – FAX: (605)225-3189

I Hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the law of the State of South Dakota.

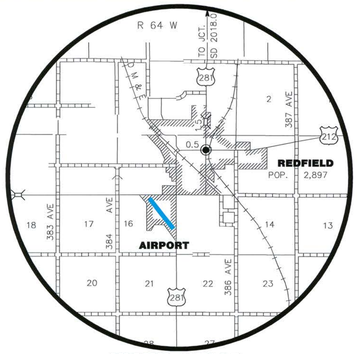
Registration No. 2847

COVER SHEET

REDFIELD MUNICIPAL AIRPORT
REDFIELD, SOUTH DAKOTA

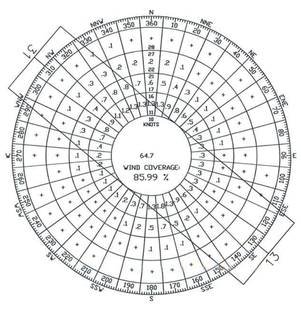
No.	Revisions	By	App.	Date
2	FAA REVIEW / THOMAS SCHAUER	WRD	CDH	6/08
3	2014 REVISIONS	TMO	CDH	4/14

Drawn By:	WRD
Chk' by:	TDH
PROJ. #:	A-4016
DWG:	4016-COV
DATE:	2/2007



VICINITY MAP

NO SCALE



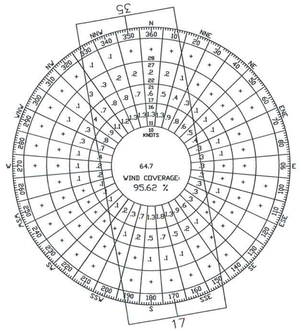
EXISTING ALL WEATHER WINDROSE 10.5 KNOTS

SMALL AIRCRAFT EXCLUSIVELY

ALL WEATHER WINDROSE DATA TABLE

RUNWAY	10.5 KNOTS	13 KNOTS	16 KNOTS	20 KNOTS
13–31	85.99%	92.31%	97.17%	99.31%

ALL WEATHER – # OBSERVATIONS
WIND DATA FROM ABERDEEN, SD
2004–2013



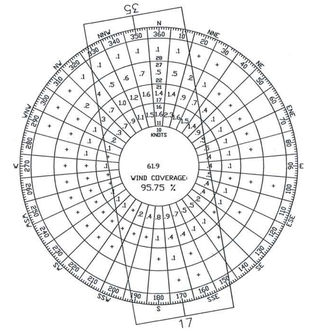
FUTURE/ULTIMATE ALL WEATHER WINDROSE 13 KNOTS

SMALL AIRCRAFT EXCLUSIVELY

ALL WEATHER WINDROSE DATA TABLE

RUNWAY	10.5 KNOTS	13 KNOTS	16 KNOTS	20 KNOTS
17–35	91.56%	95.62%	98.54%	99.63%

ALL WEATHER – # OBSERVATIONS
WIND DATA FROM ABERDEEN, SD
2004–2013



FUTURE/ULTIMATE IFR WINDROSE 13 KNOTS

SMALL AIRCRAFT EXCLUSIVELY

IFR WEATHER WINDROSE DATA TABLE

RUNWAY	10.5 KNOTS	13 KNOTS	16 KNOTS	20 KNOTS
17 – 35	91.29%	95.75%	98.74%	99.67%

ALL WEATHER – # OBSERVATIONS
WIND DATA FROM ABERDEEN, SD
2004–2013

PROJECT LEGEND

- PROPERTY LINE (EXISTING)
- F PL — PROPERTY LINE (FUTURE)
- U PL — PROPERTY LINE (ULTIMATE)
- SECTION LINE
- QUARTER LINE
- X — EXISTING FENCE
- XX — FUTURE FENCE
- RPZ — RUNWAY PROTECTION ZONE
- F RPZ — FUTURE RUNWAY PROTECTION ZONE
- U RPZ — ULTIMATE RUNWAY PROTECTION ZONE
- OFA/OFZ — EXISTING OBJECT FREE AREA/OBSTACLE FREE ZONE
- F OFA/OFZ — FUTURE OBJECT FREE AREA/OBSTACLE FREE ZONE
- U OFA/OFZ — ULTIMATE OBJECT FREE AREA/OBSTACLE FREE ZONE
- RSA — EXISTING RUNWAY SAFETY AREA
- F RSA — FUTURE RUNWAY SAFETY AREA
- U RSA — ULTIMATE RUNWAY SAFETY AREA
- BRL — EXISTING BUILDING RESTRICTION LINE
- F/U-BRL — FUTURE/ULTIMATE BUILDING RESTRICTION LINE
- PART 77 APPROACH SURFACE (EXISTING)
- PART 77 APPROACH SURFACE (FUTURE)
- PART 77 APPROACH SURFACE (ULTIMATE)
- PRIMARY SURFACE (EXISTING)
- PRIMARY SURFACE (FUTURE)
- PRIMARY SURFACE (ULTIMATE)
- EXISTING APPENDIX 2 APPROACH SURFACE
- FUTURE APPENDIX 2 APPROACH SURFACE
- ULTIMATE APPENDIX 2 APPROACH SURFACE
- EXISTING APPENDIX 2 DEPARTURE SURFACE
- FUTURE APPENDIX 2 DEPARTURE SURFACE
- ULTIMATE APPENDIX 2 DEPARTURE SURFACE
- FUTURE GLIDESLOPE QUALIFICATION SURFACE (GQS)
- ULTIMATE GLIDESLOPE QUALIFICATION SURFACE (GQS)
- PROPERTY CORNER
- RUNWAY THRESHOLD LIGHTS
- RUNWAY LIGHTS
- TAXIWAY LIGHTS
- RUNWAY MARKERS/CONES
- LIGHT POLE
- BEACON
- TIE DOWNS
- BUILDINGS
- POWER POLE
- SURVEY MARKER
- CULVERTS
- STORM SEWER MANHOLES
- DECIDUOUS TREE
- CONIFEROUS TREE
- EXISTING ASPHALT SURFACING
- FUTURE ASPHALT SURFACING
- ULTIMATE ASPHALT SURFACING
- EXISTING GRAVEL SURFACING

HORIZONTAL DATUM = NAD 83
VERTICAL DATUM = NADV 88

RUNWAY DATA TABLE

RUNWAY 13/31			RUNWAY 17/35				ITEM	RUNWAY 19/1	
EXISTING			FUTURE		ULTIMATE			EXISTING	
*A & BI – 75%			BII – 95%		BII – 100%		APPROACH CATEGORY AND DESIGN GROUP	A & BI	
3297' X 60'			3500' X 60'		4100' X 60'		RUNWAY DIMENSIONS (LENGTH X WIDTH)	2555' X 120'	
0.012%			0.057%		0.075%		EFFECTIVE GRADIENT (%)	0.14%	
12,500			12,500		GREATER THAN 12,500		PAVEMENT STRENGTH (LBS)/ASPHALT	TURF	
VISUAL			1 MILE	1 MILE	1 MILE	1 MILE	APPROACH VISIBILITY MINIMUMS	VISUAL	
NONE			NONE		NONE		RUNWAY THRESHOLD DISPLACEMENT	NONE	
NONE			NONE		NONE		RUNWAY STOPWAY/CLEARWAY (LENGTH X WIDTH)	NONE	
20:1			20:1	20:1	34:1	34:1	PART 77 APPROACH SURFACE	20:1	20:1
3777 X 120			3980 X 120		4580 X 120		RUNWAY SAFETY AREA (LENGTH X WIDTH)	3045 X 120	
3777 X 250			3980 X 250		4580 X 250		OBJECT FREE AREA (LENGTH X WIDTH)	3045 X 250	
LIRL	NONE		MIRL	MITL	MIRL	MITL	RUNWAY/TAXIWAY LIGHTING	REFLECTIVE MARKERS	
NONE			NONE		NONE		RUNWAY APPROACH LIGHTING	NONE	
VISUAL			NON–PRECISION		NON–PRECISION		RUNWAY AND TAXIWAY MARKING	NONE	
BITUMINOUS			BITUMINOUS		BITUMINOUS		LANDING SURFACE TYPE	TURF	
NONE			PAPI REIL	PAPI REIL	PAPI REIL	PAPI REIL	NAVIGATION AIDS (VISUAL)	NONE	
NONE			GPS W/ VERTICAL GUIDANCE		GPS W/ VERTICAL GUIDANCE		NAVIGATION AIDS (ELECTRICAL)	NONE	
3697 X 250			3900 X 250		4700 X 250		OBSTACLE FREE ZONE (LENGTH X WIDTH)	2765 X 250	
N/A	N/A		40:1	40:1	40:1	40:1	APPENDIX II DEPARTURE SURFACE	N/A	N/A

*GROUP #1 TAIL HEIGHT (ft) = < 20, WINGSPAN (ft) = < 49

*GROUP II TAIL HEIGHT (ft) =

AIRPORT DATA TABLE

EXISTING	FUTURE	ITEM	ULTIMATE
GENERAL AVIATION UTILITY	GENERAL AVIATION UTILITY	SERVICE LEVEL	GENERAL AVIATION UTILITY
1308.49	1308.50	AIRPORT ELEVATION	1308.50
44°51'35.48"	44°51'23.64"	ARP – LATITUDE (NAD '83)	44°51'20.7"
98°31'45.63"	98°31'52.42"	ARP – LONGITUDE (NAD '83)	98°31'51.95"
87° JULY	87° JULY	MEAN MAX. TEMP. – HOTTEST MONTH	87° JULY
WINDCONE	WINDCONE	ON –SITE WEATHER INDICATOR	WINDCONE/AWOS
100 LL	100 LL	FUEL FACILITY	100 LL/JET A
BEACON	BEACON	TERMINAL NAVIGATIONAL AIDS	BEACON
7° E 1985 FAA	N/A	MAGNETIC DEVIATION	N/A

RUNWAY ENDS LATITUDE AND LONGITUDE

RUNWAY END		EXISTING	FUTURE	ULTIMATE
13	LAT.	44°51'48.217"		
	LONG.	98°31'59.875"		
31	LAT.	44°51'22.738"		
	LONG.	98°31'31.385"		
19	LAT.	CLOSED		
	LONG.	CLOSED		
1	LAT.	CLOSED		
	LONG.	CLOSED		
17	LAT.		44°51'40.810"	44°51'40.810"
	LONG.		98°31'55.171"	98°31'55.171"
35	LAT.		44°51'06.471"	44°51'00.585"
	LONG.		98°31'49.674"	98°31'48.732"

CONTROL MONUMENTS

NO.	DESCRIPTION	LOCATION	ELEVATION
PS 0763 (AIRPORT)	CONTROL POINT	44°51'35.378" 98°31'43.831"	1304.95
CP–1	CONTROL POINT	44°51'48.669" 98°32'04.141"	1299.91
CP–2	CONTROL POINT	44°51'51.058" 98°32'06.751"	1300.44
CP–3	CONTROL POINT	44°51'34.979" 98°31'41.328"	1305.91
CP–4	CONTROL POINT	44°51'44.212" 98°31'31.050"	1308.81
CP–5	CONTROL POINT	44°51'48.543" 98°31'31.068"	1307.13
CP–6	CONTROL POINT	44°51'36.146" 98°31'38.470"	1306.51
SEE PLAN SHEET, 3 FOR LOCATIONS			

NOTES REGARDING RUNWAY 1/19

TURF RUNWAY 1/19 IS CLOSED DUE TO APPROACH SURFACE PENETRATIONS

NOTES REGARDING RUNWAY 13/31

RUNWAY 13/31 SHALL BE CLOSED UPON THE CONSTRUCTION OF FUTURE RUNWAY 17/35.

NO MODIFICATIONS TO STANDARDS

RUNWAY TDZ LATITUDE AND LONGITUDE

DESCRIPTION		EXISTING	FUTURE	ULTIMATE
RUNWAY ENDS 13/31 TDZ ELEV 1308.70 EXISTING, FUTURE, ULTIMATE	LAT	44°51'39.688"	CLOSED	44°51'39.688"
	LONG	98°31'50.337"	CLOSED	98°31'50.337"
RUNWAY ENDS 19/1 TDZ ELEV 1308.70 EXISTING, FUTURE, ULTIMATE	LAT	44°51'39.688"		
	LONG	98°31'50.337"		
RUNWAY END 17 TDZ ELEV 1308.50 FUTURE, ULTIMATE	LAT		44°51'40.810"	44°51'40.810"
	LONG		98°31'55.171"	98°31'55.171"
RUNWAY END 35 TDZ ELEV 1307.86 FUTURE	LAT		44°51'35.904"	
	LONG		98°31'54.386"	
RUNWAY END 35 TDZ ELEV 1307.09 ULTIMATE	LAT			44°51'30.018"
	LONG			98°31'53.443"

No.	Revisions	By	App.	Date
1	FAA REVIEW MEETING	CDH		12–06
2	FAA REVIEW/THOMAS SCHAUER	CDH		6–08
3	2019 REVISIONS	TMO		04–14

I Hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the law of the State of South Dakota. Registration No.

221 Brown County Highway 19
P.O. Box 111,
Aberdeen, S.D. 57401
Phone: 605.225.1212,
Fax: 605.225.3189
Email: terryh@helmsengineering.com

Helms & ASSOCIATES
CIVIL ENGINEERS & LAND SURVEYORS

Drawn By: CDH
Chk' By: x
Proj. No: A-4016
Dwg. No: 4016-TAB REV
VP. No: x
Date: 04/14

AIRPORT DATA SHEET

AIRPORT LAYOUT PLAN
REDFIELD MUNICIPAL AIRPORT
REDFIELD, SOUTH DAKOTA

CITY OF REDFIELD

174TH STREET

US HIGHWAY 281

SECTION LINE

QUARTER LINE

PROPERTY LINE

RESIDENTIAL AREA

COUNTY FAIRGROUNDS

TREES

4' HIGH BARBED WIRE FENCING

AIRCRAFT HANGARS

GATE

IMPLEMENT DEALER

AIRPORT ACCESS ROAD (ASPHALT)

RUNWAY END MARKERS

RUNWAY END 19 ELEV. 1303.06 (LOW POINT)

RUNWAY 19/1 CLOSED DUE TO RW END 19 APPROACH OBSTRUCTIONS

CLOSED

BEACON

HANGAR (TYP.)

AIRCRAFT TIE DOWNS 3 EA.

90' X 125' APRON

350' X 105' APRON

PARKING

FUEL

25' WIDE HANGAR TAXILANES

RUNWAY TURNAROUND

RUNWAY END 13 ELEV. 1304.26

THRESHOLD LIGHTS

ELEV 1308.49 (HIGH POINT)

TAXIWAY LIGHTS

4' CHAIN LINK FENCING

RUNWAY HOLD SIGN

RUNWAY WIDENED END

MEDIUM INTENSITY RUNWAY LIGHTING SYSTEM

60' X 3296.9 13/31 PAVED RUNWAY BEARING N38°24'11"W

VISUAL RUNWAY MARKINGS

RUNWAY END 31 ELEV. 1303.86 (LOW POINT)

120' X 2564.5 CLOSED 19/1 TURF RUNWAY S20°33'33"W

RUNWAY MARKERS

LIGHTED WINDCONE

WETLAND

RESIDENTIAL (TRAILER COURT)

RUNWAY END 1 ELEV. 1306.53

MAGNETIC NORTH 7° E 1985 FAA

GRAVEL ROAD

PROJECT LEGEND

- PROPERTY LINE — PROPERTY LINE (EXISTING)
- CLF — EXISTING CHAIN LINK FENCE
- SECTION LINE
- QUARTER LINE
- X — EXISTING FENCE
- PROPERTY CORNER
- RUNWAY THRESHOLD LIGHTS
- RUNWAY LIGHTS
- TAXIWAY LIGHTS
- RUNWAY MARKERS/CONES
- LIGHT POLE
- BEACON
- TIE DOWNS
- BUILDINGS
- POWER POLE
- SURVEY MARKER
- CULVERTS
- STORM SEWER MANHOLES
- DECIDUOUS TREE
- CONIFEROUS TREE
- EXISTING ASPHALT SURFACING
- EXISTING GRAVEL SURFACING

GRAPHIC SCALE

300 0 150 300 600 1200

(IN FEET)
1 inch = 300 ft.
HALF SCALE: 1"= 600'

No.	Revisions	By	App.	Date
2	FAA REVIEW/THOMAS SCHAUER	WRD	CDH	6/08
3	3RD REDLINES	TMO	–	3/08
4	2014 REVISIONS	TMO	–	4/14

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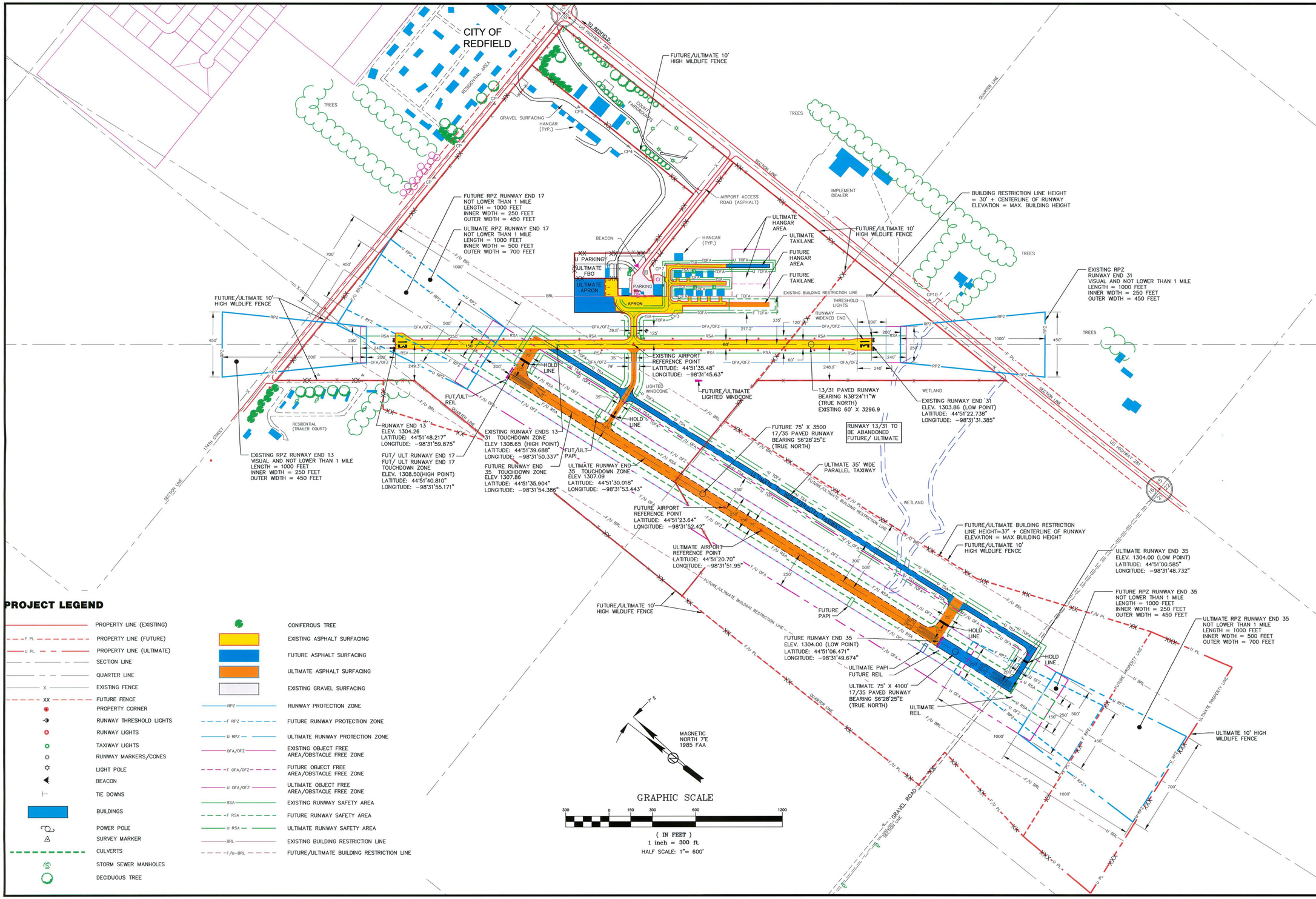
Helms & ASSOCIATES
CIVIL ENGINEERS & LAND SURVEYORS

Drawn By: CDH
Chk' By: x
Proj. No: 4061-01
Dwg. No: 4061-01REV
VP. No: TOPO
Date: 4-14

SITE TOPOGRAPHIC SURVEY EXISTING CONDITIONS

AIRPORT LAYOUT PLAN
REDFIELD MUNICIPAL AIRPORT
REDFIELD, SOUTH DAKOTA



PROJECT LEGEND

- PROPERTY LINE (EXISTING)
- PROPERTY LINE (FUTURE)
- PROPERTY LINE (ULTIMATE)
- SECTION LINE
- QUARTER LINE
- EXISTING FENCE
- FUTURE FENCE
- PROPERTY CORNER
- RUNWAY THRESHOLD LIGHTS
- RUNWAY LIGHTS
- TAXIWAY LIGHTS
- RUNWAY MARKERS/CONES
- LIGHT POLE
- BEACON
- TIE DOWNS
- BUILDINGS
- POWER POLE
- SURVEY MARKER
- CULVERTS
- STORM SEWER MANHOLES
- DECIDUOUS TREE
- CONIFEROUS TREE
- EXISTING ASPHALT SURFACING
- FUTURE ASPHALT SURFACING
- ULTIMATE ASPHALT SURFACING
- EXISTING GRAVEL SURFACING
- RUNWAY PROTECTION ZONE
- FUTURE RUNWAY PROTECTION ZONE
- ULTIMATE RUNWAY PROTECTION ZONE
- EXISTING OBJECT FREE AREA/OBSTACLE FREE ZONE
- FUTURE OBJECT FREE AREA/OBSTACLE FREE ZONE
- ULTIMATE OBJECT FREE AREA/OBSTACLE FREE ZONE
- EXISTING RUNWAY SAFETY AREA
- FUTURE RUNWAY SAFETY AREA
- ULTIMATE RUNWAY SAFETY AREA
- EXISTING BUILDING RESTRICTION LINE
- FUTURE/ULTIMATE BUILDING RESTRICTION LINE

No.	Revisions	By	App.	Date
2	FAA REVIEW/THOMAS SCHAUER	WRD	CDH	6/08
3	2014 REVISIONS	TMO	–	4/14

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Email: terryh@helmsengineering.com

Helms & ASSOCIATES
CIVIL ENGINEERS & LAND SURVEYORS

Drawn By: CDH
Chk' By: x
Proj. No: 4061-01
Dwg. No: 4061-01REV
VF. No: GRND
Date: 4-14

RUNWAY DESIGN SURFACES

AIRPORT LAYOUT PLAN
REDFIELD MUNICIPAL AIRPORT
REDFIELD, SOUTH DAKOTA

7:1 TRANSITIONAL OBSTRUCTION TABLE				
NO.	OBSTRUCTION INFORMATION	ELEVATION	7:1 TRANSITIONAL	PROP ACTION
13/13	FENCE	1309.0	CLEAR 22.0'	
13/14	TREE	1343.0	OBSTRUCTS 14.4'	FAA DETERMINATION
13/15	FENCE	1309.0	CLEAR 22.0'	

CITY OF REDFIELD

RESIDENTIAL AREA

TO REDFIELD

US HIGHWAY 281

FUTURE/ULTIMATE 10' HIGH WILDLIFE FENCE

GRAVEL SURFACING

HANGAR (TYP.)

COUNTY FAIRGROUNDS

AIRPORT ACCESS ROAD (ASPHALT)

IMPLEMENT DEALER

TREES

QUARTER LINE

SECTION LINE

FUTURE PART 77 SURFACE APPROACH SLOPE 20:1

ULTIMATE PART 77 SURFACE APPROACH SLOPE 34:1

FUTURE PART 77 IMAGINARY SURFACE
RUNWAY END 17 NONPRECISION/UTILITY
WIDTH 200' FM RWY END = 500 FEET
HORIZ DIST. APPROACH EXTENDS = 5000 FEET
OUTER WIDTH = 2000 FEET
APPROACH SLOPE = 20:1

ULTIMATE PART 77 IMAGINARY SURFACE
RUNWAY END 17 NONPRECISION/UTILITY
WIDTH 200' FM RWY END = 500 FEET
HORIZ DIST. APPROACH EXTENDS = 10000 FEET
OUTER WIDTH = 3500 FEET
APPROACH SLOPE = 34:1

BEACON

U PARKING

ULTIMATE FBO

ULTIMATE APRON

APRON

PARKING

HANGAR (TYP.)

ULTIMATE HANGAR AREA

ULTIMATE TAXILANE

FUTURE HANGAR AREA

FUTURE TAXILANE

EXISTING ELEV 1308.65 (HIGH POINT)

PRIMARY SURFACE

EXISTING AIRPORT REFERENCE POINT
LATITUDE: 44°51'35.48"
LONGITUDE: -98°31'45.63"

THRESHOLD LIGHTS

RUNWAY WIDENED END

RSA

13/31 PAVED RUNWAY
BEARING N38°24'11"W
(TRUE NORTH)
EXISTING 60' X 3296.9

EXISTING RUNWAY END 31
ELEV. 1303.86 (LOW POINT)
LATITUDE: 44°51'22.738"
LONGITUDE: -98°31'31.385"

EXISTING PART 77 IMAGINARY SURFACE
RUNWAY END 31 VISUAL UTILITY
WIDTH 200' FM RWY END = 250 FEET
HORIZ DIST. APPROACH EXTENDS = 5000 FEET
OUTER WIDTH = 1250 FEET
APPROACH SLOPE = 20:1

EXISTING PART 77 SURFACE APPROACH SLOPE 20:1

WETLAND

HOLD LINE

FUT/ULT REIL

FUTURE/ULTIMATE LIGHTED WINDCONE

FUTURE 35' WIDE TAXIWAY

FUT/ULT PRIMARY SURFACE

FUT/ULT PAPI

EXISTING RUNWAY END 13
ELEV. 1304.26
LATITUDE: 44°51'48.217"
LONGITUDE: -98°31'59.875"

RESIDENTIAL (TRAILER COURT)

50' CONTOUR

13/15

13/13

13/14

EXISTING PART 77 IMAGINARY SURFACE
RUNWAY END 13 VISUAL UTILITY
WIDTH 200' FM RWY END = 250 FEET
HORIZ DIST. APPROACH EXTENDS = 5000 FEET
OUTER WIDTH = 1250 FEET
APPROACH SLOPE = 20:1

FUT/ ULT RUNWAY END 17
ELEV. 1308.50(HIGH POINT)
LATITUDE: 44°51'40.810"
LONGITUDE: -98°31'55.171"

FUTURE 75' X 3500
17/35 PAVED RUNWAY
BEARING S6°28'25"E
(TRUE NORTH)

RUNWAY 13/31 TO BE ABANDONED FUTURE/ ULTIMATE

ULTIMATE 35' WIDE PARALLEL TAXIWAY

FUTURE AIRPORT REFERENCE POINT
LATITUDE: 44°51'23.64"
LONGITUDE: -98°31'52.42"

ULTIMATE AIRPORT REFERENCE POINT
LATITUDE: 44°51'20.70"
LONGITUDE: -98°31'51.95"

FUTURE/ULTIMATE 10' HIGH WILDLIFE FENCE

GRAVEL ROAD

ULTIMATE RUNWAY END 35
ELEV. 1304.00(LOW POINT)
LATITUDE: 44°51'00.585"
LONGITUDE: -98°31'48.732"

ULTIMATE, PART 77 IMAGINARY SURFACE
RUNWAY END 35 NONPRECISION
WIDTH 200' FM RWY END = 500 FEET
HORIZ DIST. APPROACH EXTENDS = 10000 FEET
OUTER WIDTH = 3500 FEET
APPROACH SLOPE = 34:1

FUTURE PAPI

FUTURE RUNWAY END 35
ELEV. 1304.00(LOW POINT)
LATITUDE: 44°51'06.471"
LONGITUDE: -98°31'49.674"

ULTIMATE PAPI

FUTURE REIL

ULTIMATE 75' X 4100'
17/35 PAVED RUNWAY
BEARING S6°28'25"E
(TRUE NORTH)

ULTIMATE REIL

ULTIMATE 10' HIGH WILDLIFE FENCE

FUTURE, PART 77 IMAGINARY SURFACE
RUNWAY END 35 NONPRECISION/UTILITY
WIDTH 200' FM RWY END = 500 FEET
HORIZ DIST. APPROACH EXTENDS = 5000 FEET
OUTER WIDTH = 2000 FEET
APPROACH SLOPE = 20:1

MAGNETIC NORTH 7° E 1985 (FAA)

GRAPHIC SCALE

300 0 150 300 600 1200

(IN FEET)
1 inch = 300 ft.
HALF SCALE: 1"= 600'

PROJECT LEGEND

- PROPERTY LINE (EXISTING)
- PROPERTY LINE (FUTURE)
- PROPERTY LINE (ULTIMATE)
- SECTION LINE
- QUARTER LINE
- EXISTING FENCE
- FUTURE FENCE
- PROPERTY CORNER
- RUNWAY THRESHOLD LIGHTS
- RUNWAY LIGHTS
- TAXIWAY LIGHTS
- RUNWAY MARKERS/CONES
- LIGHT POLE
- BEACON
- TIE DOWNS
- BUILDINGS
- POWER POLE
- SURVEY MARKER
- CULVERTS
- STORM SEWER MANHOLES
- DECIDUOUS TREE
- CONIFEROUS TREE
- EXISTING ASPHALT SURFACING
- FUTURE ASPHALT SURFACING
- ULTIMATE ASPHALT SURFACING
- EXISTING GRAVEL SURFACING
- PART 77 APPROACH SURFACE (EXISTING)
- PART 77 APPROACH SURFACE (FUTURE)
- PART 77 APPROACH SURFACE (ULTIMATE)
- PRIMARY SURFACE (EXISTING)
- PRIMARY SURFACE (FUTURE)
- PRIMARY SURFACE (ULTIMATE)

No.	Revisions	By	App.	Date
2	FAA REVIEW/THOMAS SCHAUER	WRD	CDH	6/08
3	3RD REDLINES	TMO	–	3/08
4	2014 REVISIONS	TMO	–	4/14

I Hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the law of the State of South Dakota. Registration No.

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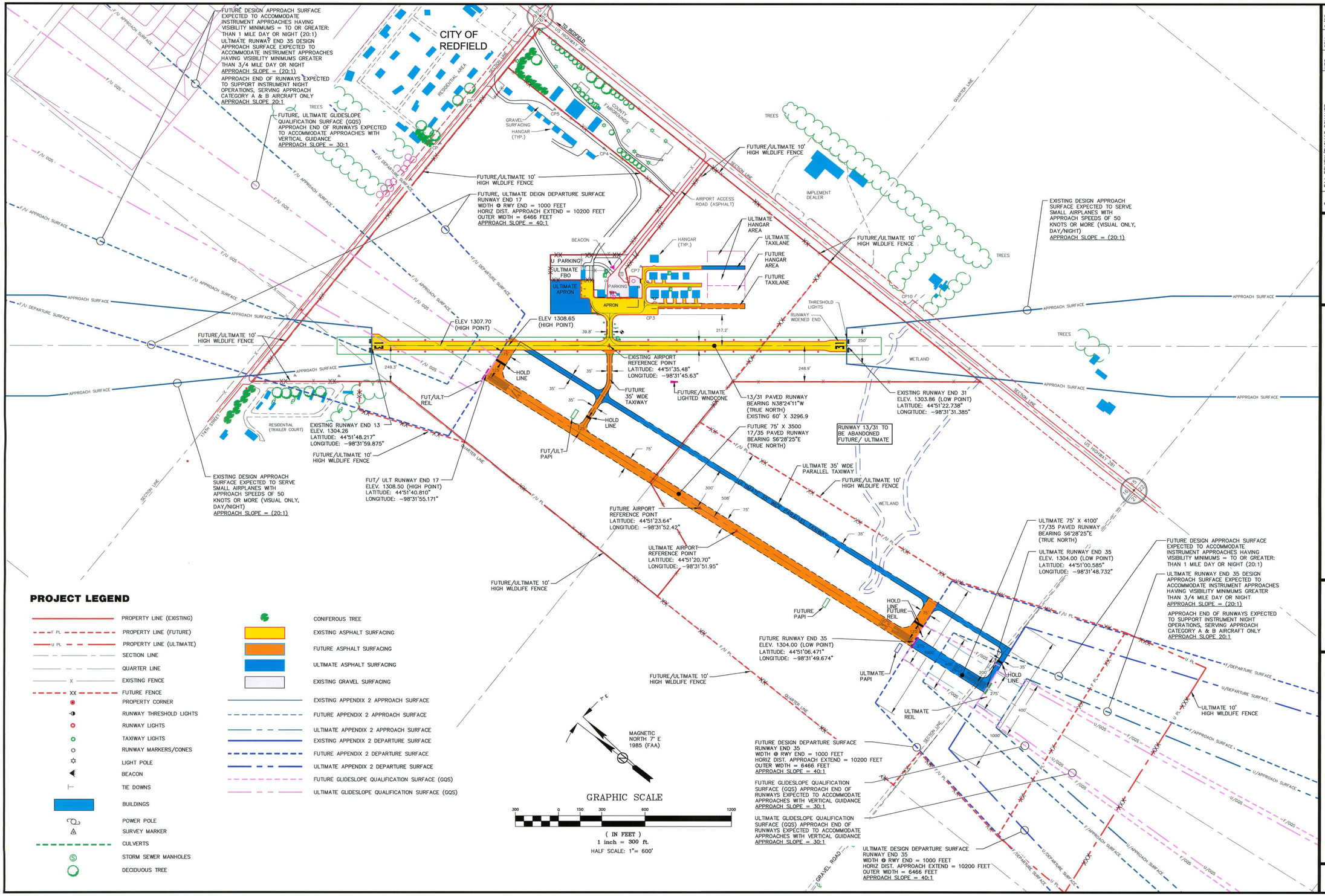
Helms & ASSOCIATES
CIVIL ENGINEERS & LAND SURVEYORS

Drawn By: CDH
Chk' By: x
Proj. No: 4061-01
Dwg. No: 4061-01REV
VP. No: PART77
Date: 4-14

PART 77 IMAGINARY SURFACES

AIRPORT LAYOUT PLAN
REDFIELD MUNICIPAL AIRPORT
REDFIELD, SOUTH DAKOTA



No.	Revisions	By	App.	Date
2	FAA REVIEW/THOMAS SCHAUER	WRD	CDH	6/08
3	3RD REDLINES	TMO	–	3/08
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Drawn By: CDH
Chk' By: x
Proj. No: 4061-01
Dwg. No: 4061-01REV
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Date: 4-14

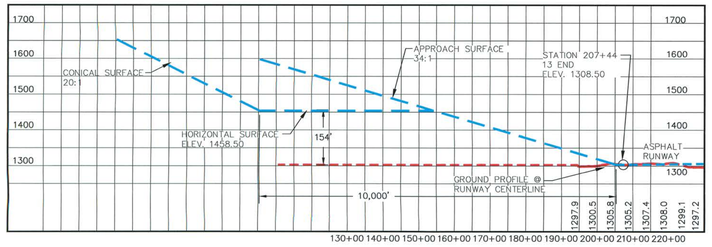
APPROACH/ DEPARTURE/ GQS IMAGINARY SURFACES

AIRPORT LAYOUT PLAN
REDFIELD MUNICIPAL AIRPORT
REDFIELD, SOUTH DAKOTA

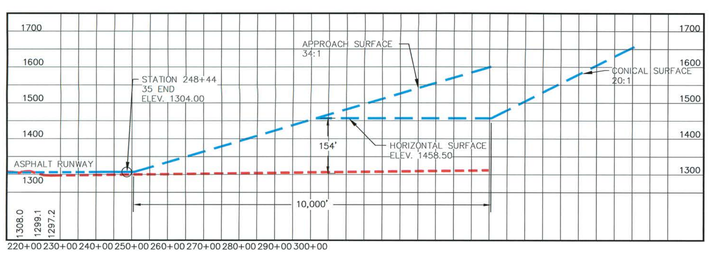
TABLE OF AIRSPACE OBSTRUCTIONS

NUMBER	STRUCTURE TYPE	BASE ELEVATION	TOP ELEVATION	PENETRATES	REMARKS
1	ANTENNA TOWER 1996-AGL-4308-OE RAILROAD	1306	1406		
2	1990-AGL-1695-OE	1300	1630	PENETRATES C.S. 172'	
3	SPINK CO. 1996-AGL-3850-OE	1305	1428		
4	FARMERS UNION OIL CO. NO 7460-1	1300	1390		
5	JAMES VALLEY TELEPHONE ANTENNA TOWER	1283	1533	PENETRATES C.S. 55'	
6	NORTHERN RURAL TW CO-OP ANTENNA TOWER	1286	1436		

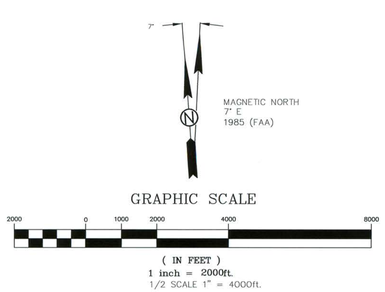
NOTE: ITEMS HIGHLIGHTED SHOW ITEMS THAT PENETRATE EXISTING SURFACES.

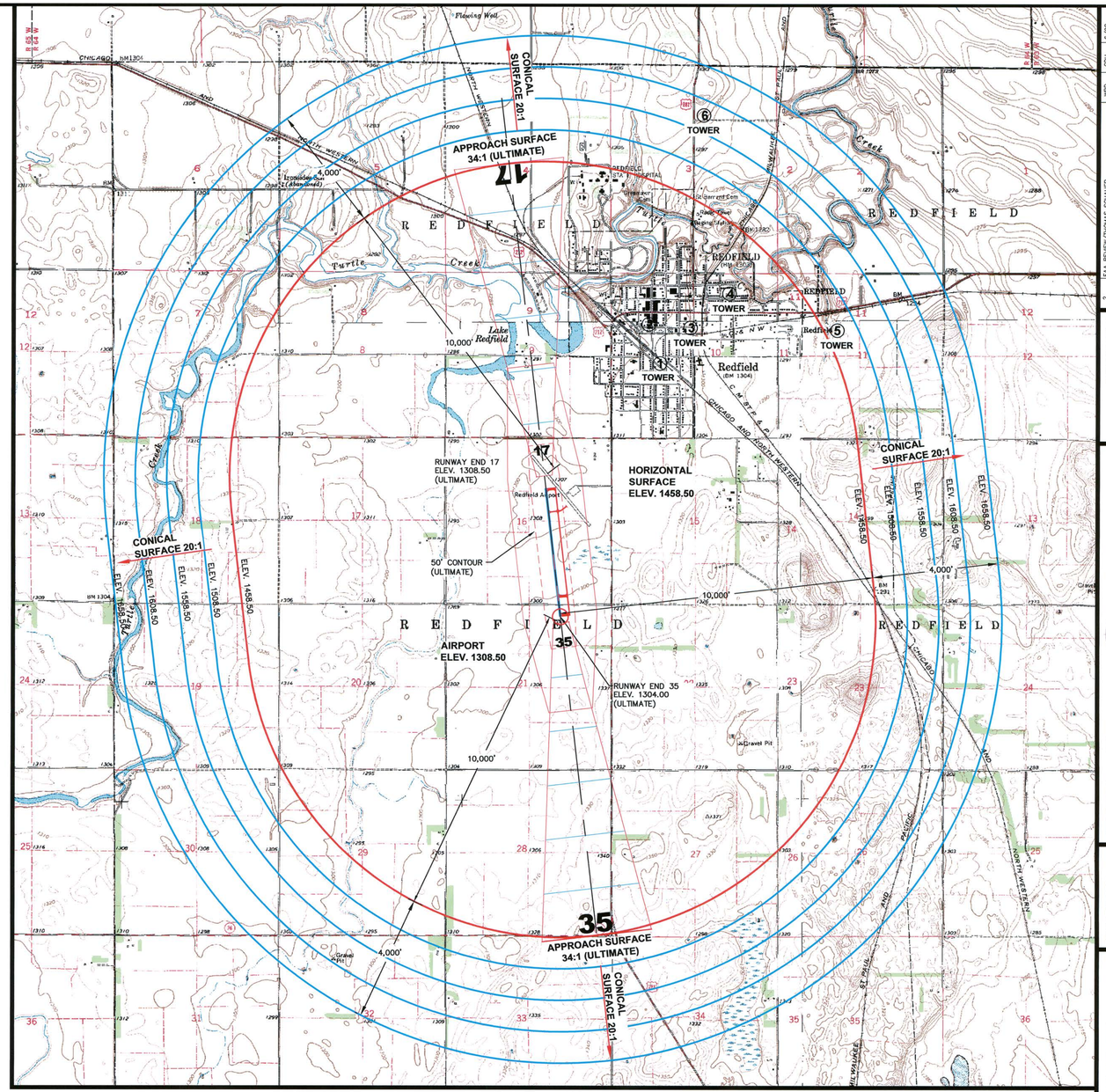


APPROACH TO RUNWAY 17



APPROACH TO RUNWAY 35





No.	Revisions	By	App.	Date
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2	2014 REVISIONS	TWO	CDH	04/14
3				

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Drawn By: CDH
Chk' By: x
Proj. No: A-4016
Dwg. No: 4016CREV
VP. No: x
Date: 4-14

AIRSPACE PLAN (PART 77)

AIRPORT LAYOUT PLAN
REDFIELD MUNICIPAL AIRPORT
REDFIELD, SOUTH DAKOTA

PROJECT LEGEND

- PROPERTY LINE (EXISTING)
- F PL — PROPERTY LINE (FUTURE)
- U PL — PROPERTY LINE (ULTIMATE)
- SECTION LINE
- QUARTER LINE
- X — EXISTING FENCE
- XX — FUTURE FENCE
- TSA — TAXIWAY SAFETY AREA
- TOFA — TAXIWAY OBJECT FREE AREA
- F-TSA — FUTURE TAXIWAY SAFETY AREA
- F-TOFA — FUTURE TAXIWAY OBJECT FREE AREA
- U-TSA — ULTIMATE TAXIWAY SAFETY AREA
- U-TOFA — ULTIMATE TAXIWAY OBJECT FREE AREA
- RUNWAY LIGHTS
- TAXIWAY LIGHTS
- RUNWAY MARKERS/CONES
- LIGHT POLE
- BEACON
- PROPERTY CORNER
- RUNWAY THRESHOLD LIGHTS
- TIE DOWNS
- BUILDINGS
- POWER POLE
- SURVEY MARKER
- CULVERTS
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- DECIDUOUS TREE
- CONIFEROUS TREE
- EXISTING ASPHALT SURFACING
- FUTURE ASPHALT SURFACING
- ULTIMATE ASPHALT SURFACING
- EXISTING GRAVEL SURFACING

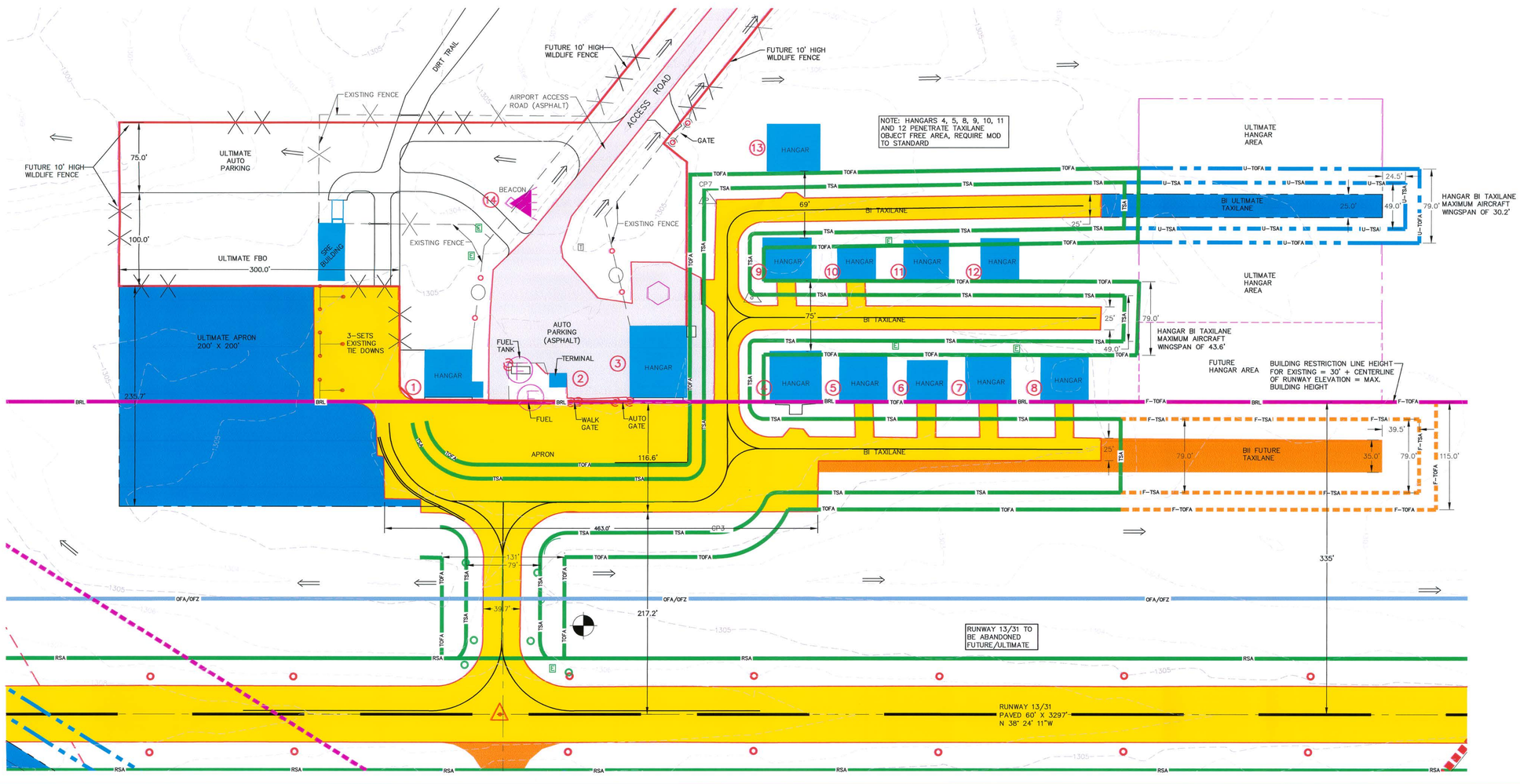
MAGNETIC NORTH
7° E 1985 (FAA)

GRAPHIC SCALE

50 0 30 60 120 240

(IN FEET)
1 inch = 60 ft.
1/2 SCALE; 1 inch = 120 ft.

OBSTRUCTION INFORMATION			OBSTRUCTION STATUS EXISTING/FUTURE/ULTIMATE 250' PRIMARY SURFACE	PROPOSED ACTION	
ITEM	DESCRIPTION	ELEVATION TOP	7:1 TRANSITIONAL SURFACE	TRIGGERING EVENT FOR PROPOSED ACTION	OWNER
1	HANGAR	1324.90	CLEAR BY 13.7'	*	Wilbur Ellis
2	TERMINAL	1318.30	CLEAR BY 21.6'		City of Redfield
3	HANGAR	1323.93	CLEAR BY 14.2'		Dakota Ag Service
4	HANGAR	1322.00	CLEAR BY 15.3'		Darrel Jensen
5	HANGAR	1320.20	CLEAR BY 16.9'		Randy Tolvstad
6	HANGAR	1317.10	CLEAR BY 19.6'		Redfield Flying Club C/O Ricky Aver
7	HANGAR	1320.70	CLEAR BY 15.9'		Darrel Jensen
8	HANGAR	1320.00	CLEAR BY 16.6'		Randy Fuss
9	HANGAR	1321.10	CLEAR BY 34.7'		Chuck's Body Shop
10	HANGAR	1319.90	CLEAR BY 35.6'		David Appel
11	HANGAR	1320.90	CLEAR BY 34.3'		Ricky Avery
12	HANGAR	1325.00	CLEAR BY 30.0'		Ricky Avery
13	HANGAR	1327.40	CLEAR BY 45.1'		Dan Appel/Tim Kattke
14	BEACON	1398.80	CLEAR BY 28.2'		



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3	2014 REVISIONS	TMO	CDH	4/14

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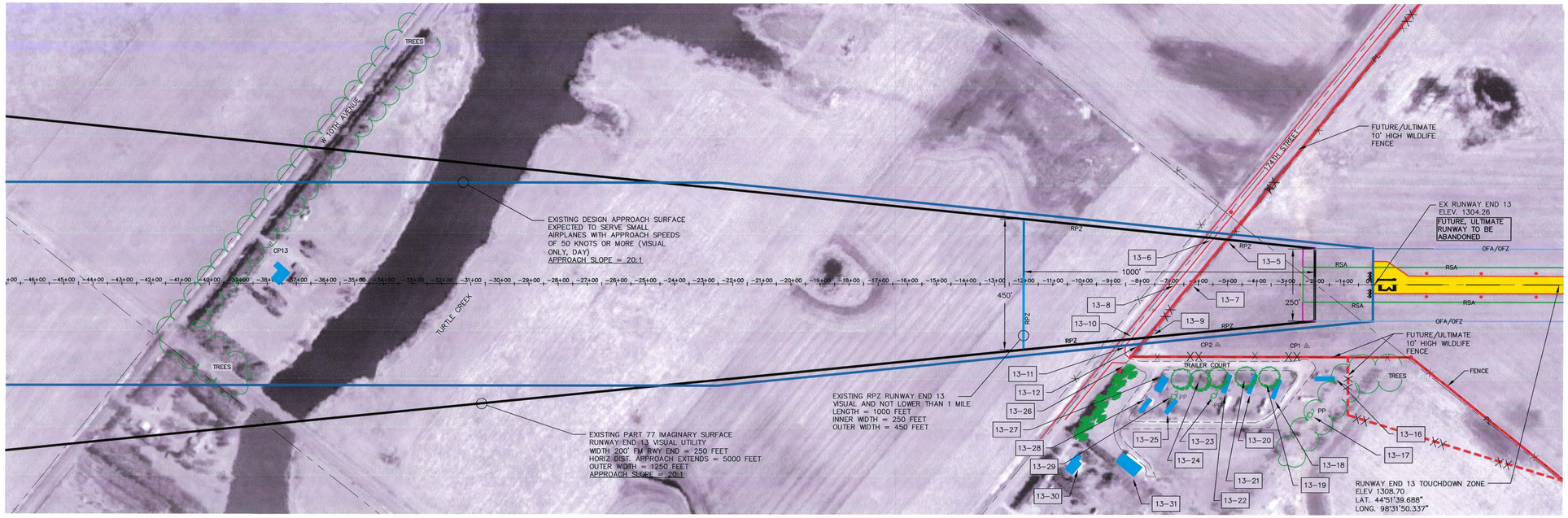
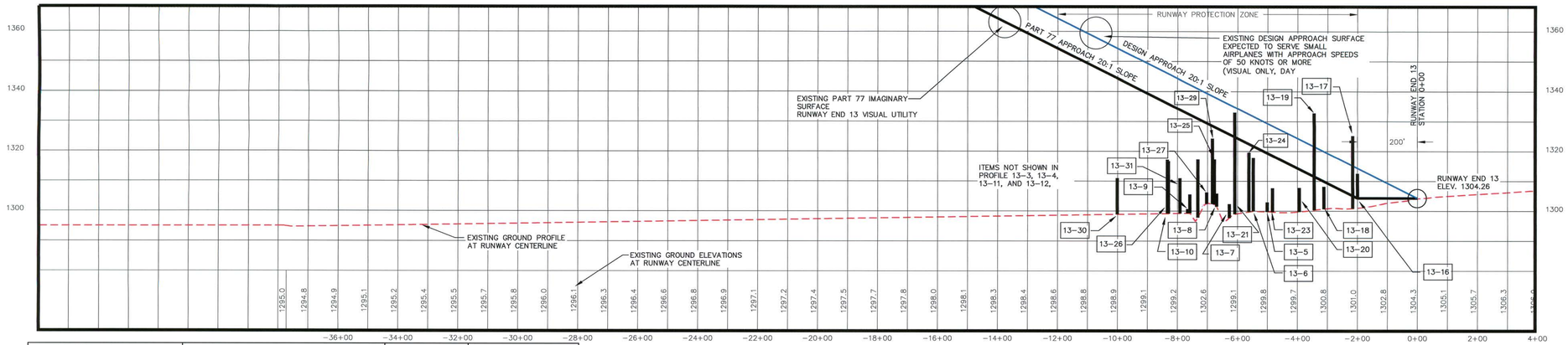
Chk' By: x
Proj. No: A-4016
Dwg. No: 4016-AP REV
VP. No: APRON
Date: 4-14

APRON LAYOUT PLAN

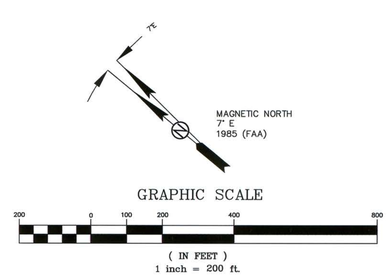
AIRPORT LAYOUT PLAN
REDFIELD MUNICIPAL AIRPORT
REDFIELD, SOUTH DAKOTA





OBSTRUCTION INFORMATION			OBSTRUCTION STATUS			PROPOSED ACTION		
			EXISTING			EXISTING		
ID	TYPE	ELEVATION	PART 77 APPROACH SLOPE 20:1	DESIGN APPROACH SURFACE 20:1		PROPOSED ACTION	TRIGGERING EVENT FOR PROPOSED ACTION	ID
13-1	FENCE	1302.3						13-1
13-2	ASPHALT ROAD	*1317.9						13-2
13-3	FENCE	1302.3		CLEAR BY 19.3'				13-3
13-4	ASPHALT ROAD	*1317.3		CLEAR BY 19.3'				13-4
13-5	FENCE	1303.0	CLEAR BY 16.3'					13-5
13-6	ASPHALT ROAD	*1317.8	CLEAR BY 3.8'					13-6
13-7	FENCE	1302.4	CLEAR BY 23.2'	CLEAR BY 19.3'				13-7
13-8	ASPHALT ROAD	*1317.3	CLEAR BY 10.8'	CLEAR BY 19.3'				13-8
13-9	FENCE	1300.7	CLEAR BY 31.9'					13-9
13-10	ASPHALT ROAD	*1316.7	CLEAR BY 19.1'					13-10
13-11	ASPHALT ROAD	*1316.4		CLEAR BY 45.6'				13-11
13-12	FENCE	1310.7		CLEAR BY 45.6'				13-12
13-13	FENCE	1309.0	CLEAR BY 12.9'					13-13
13-17	POWER POLE	1325.2	CLEAR BY 26.0'	NOT IN SURFACE				13-17
13-18	TRAILER HOUSE	1308.2	CLEAR BY 29.0'	NOT IN SURFACE				13-18
13-19	TOP TREE	1331.3	CLEAR BY 5.1'	NOT IN SURFACE				13-19
13-20	TRAILER HOUSE	1307.9	CLEAR BY 29.9'	NOT IN SURFACE				13-20
13-21	TOP TREE	1343.1	CLEAR BY 5.4'	NOT IN SURFACE				13-21
13-22	TRAILER HOUSE	1307.7	CLEAR BY 33.3'	NOT IN SURFACE				13-22
13-23	POWER POLE	1332.0	CLEAR BY 21.4'	NOT IN SURFACE				13-23
13-24	TOP TREE	1319.6	CLEAR BY 25.9'	NOT IN SURFACE				13-24
13-25	TRAILER HOUSE	1305.9	CLEAR BY 54.3'	NOT IN SURFACE				13-25
13-26	TOP TREE	1333.4	CLEAR BY 18.0'	NOT IN SURFACE				13-26
13-27	TRAILER HOUSE	1306.3	CLEAR BY 41.9'	NOT IN SURFACE				13-27
13-28	TRAILER HOUSE	1305.6	CLEAR BY 55.7'	NOT IN SURFACE				13-28
13-29	POWER POLE	1332.1	CLEAR BY 26.6'	NOT IN SURFACE				13-29
13-30	BUILDING	1311.0	CLEAR BY 87.0'	NOT IN SURFACE				13-30
13-31	BUILDING	1311.0	CLEAR BY 77.7'	NOT IN SURFACE				13-31

*ASPHALT ROAD GROUND ELEVATION + 15' – ***TOP TREES 7:1 TRANSITIONAL PENETRATION



No.	Revisions	By	App.	Date
2	FAA REVIEW/THOMAS, SCHAUER	WRD	CDH	6/08
3	2014 REVISIONS	TMO	CDH	4/14

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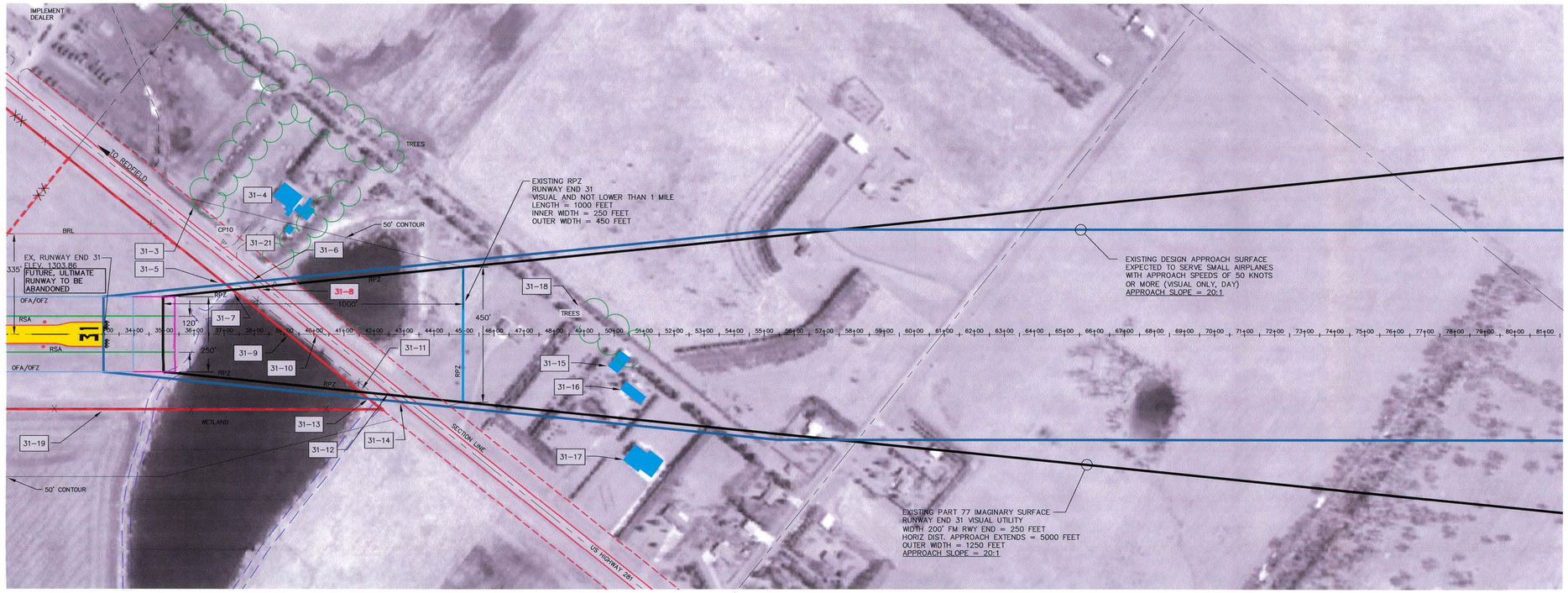
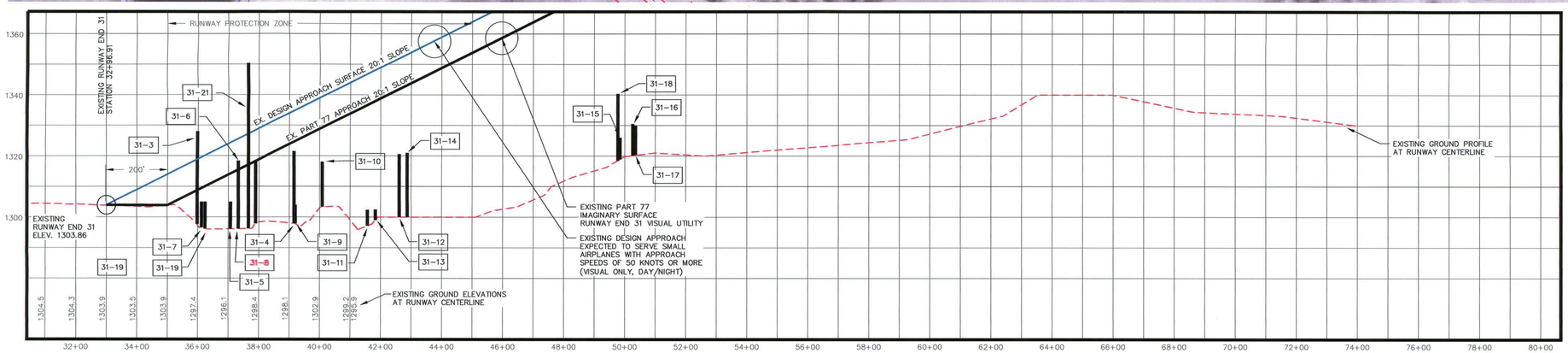
Drawn By: CDH
Chk' By: x
Proj. No: 4061-01
Dwg. No: 4061-01REV
VP. No: GRND
Date: 4-14

RUNWAY END 13 APPROACH AND CLEAR ZONE PLAN AND PROFILE

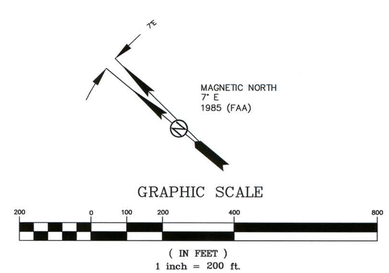
AIRPORT LAYOUT PLAN
REDFIELD MUNICIPAL AIRPORT
REDFIELD, SOUTH DAKOTA





OBSTRUCTION INFORMATION			OBSTRUCTION STATUS			PROPOSED ACTION	
			EXISTING			EXISTING	
ID	TYPE	ELEVATION	PART 77 APPROACH SLOPE 20:1	APPENDIX 2 APPROACH SURFACE 20:1		PROPOSED ACTION	ID
31-1	FENCE	1305.0	CLEAR BY 28.8'(7:1)				31-1
31-2	ASPHALT ROAD	*1320.1					31-2
31-3	TOP TREE	1329.7	CLEAR BY 14.1'(7:1)	NOT IN SURFACE			31-3
31-4	BUILDING	1321.2	CLEAR BY 35.7'(7:1)	NOT IN SURFACE			31-4
31-5	FENCE	1305.0		CLEAR BY 19.3'			31-5
31-6	ASPHALT ROAD	*1318.4		CLEAR BY 10.0'			31-6
31-7	FENCE	1305.0	CLEAR BY 4.5'				31-7
31-8	ASPHALT ROAD	*1318.4	OBSTRUCTS BY 2.9'			FAA AIRSPACE DETERMINATION	31-8
31-9	FENCE	1304.0	CLEAR BY 20.8'	CLEAR BY 30.8'			31-9
31-10	ASPHALT ROAD	*1318.6	CLEAR BY 10.7'	CLEAR BY 20.7'			31-10
31-11	FENCE	1302.4	CLEAR BY 34.3'				31-11
31-12	ASPHALT ROAD	*1320.6	CLEAR BY 21.3'				31-12
31-13	FENCE	1302.5		CLEAR BY 45.6'			31-13
31-14	ASPHALT ROAD	*1321.0		CLEAR BY 32.3'			31-14
31-15	BUILDING	1326.1	CLEAR BY 52.0'	CLEAR BY 62.0'			31-15
31-16	BUILDING	1330.5	CLEAR BY 49.7'	CLEAR BY 59.7'			31-16
31-17	BUILDING	1330.0	CLEAR BY 62.8'	NOT IN SURFACE			31-17
31-18	*** TOP TREE	1340.4	CLEAR BY 37.3'	CLEAR BY 47.3'			31-18
31-19	FENCE	1305.0	CLEAR BY 16.6'				31-19
31-20	GROUND	1299.3	CLEAR BY 58.0'				31-20
31-21	TOP TREE	1350.4	CLEAR BY 6.0'	NOT IN SURFACE			31-21

*ASPHALT ROAD GROUND ELEVATION + 15'



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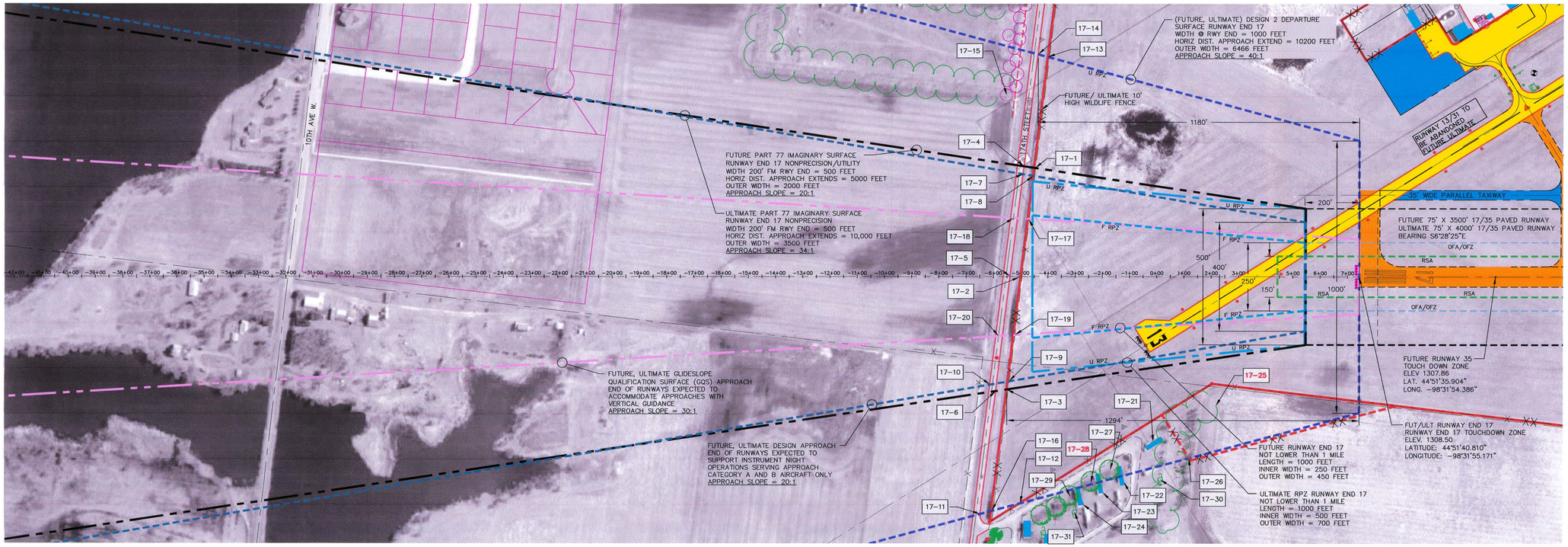
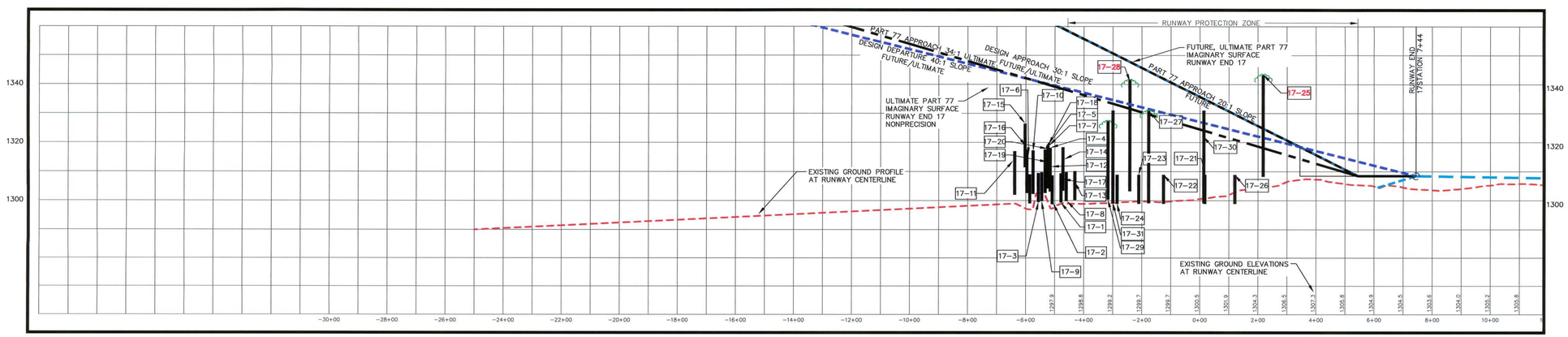
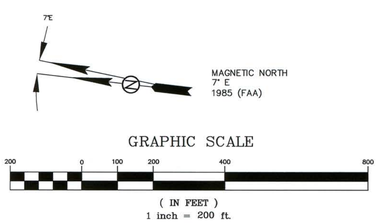
Chk' By: x
Proj. No: 4061-01
Dwg. No: 4061-01REV
VP. No: ORND
Date: 4-14

RUNWAY END 31 APPROACH AND CLEAR ZONE PLAN AND PROFILE

AIRPORT LAYOUT PLAN
REDFIELD MUNICIPAL AIRPORT
REDFIELD, SOUTH DAKOTA







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VP. No: GRND
Date: 4-14

RUNWAY END 17 APPROACH AND CLEAR ZONE PLAN AND PROFILE

AIRPORT LAYOUT PLAN
REDFIELD MUNICIPAL AIRPORT
REDFIELD, SOUTH DAKOTA

OBSTRUCTION INFORMATION			OBSTRUCTION STATUS								PROPOSED ACTION				
			FUTURE				ULTIMATE				EXISTING	FUTURE	ULTIMATE		
ID	TYPE	ELEVATION	PART 77 APPROACH SLOPE 20:1	DESIGN APPROACH SURFACE 20:1	DESIGN DEPARTURE SURFACE 40:1	GLIDESLOPE QUALIFICATION SURFACE (GQS) 30:1	PART 77 APPROACH SLOPE 20:1	DESIGN APPROACH SURFACE 30:1	DESIGN DEPARTURE SURFACE 40:1	GLIDESLOPE QUALIFICATION SURFACE (GQS) 30:1	PROPOSED ACTION	PROPOSED ACTION	PROPOSED ACTION	TRIGGERING EVENT FOR PROPOSED ACTION	ID
17–1	10' WLD LIFE FENCE	**1307.90	CLEARS BY 50.3'				CLEARS BY 29.8'								17–1
17–2	10' WLD LIFE FENCE	**1309.10	CLEARS BY 51.7'	CLEARS BY 51.7'	CLEARS BY 30.5'	CLEARS BY 40.9'	CLEARS BY 30.1'	CLEARS BY 34.2'	CLEARS BY 30.5'	CLEARS BY 40.9'					17–2
17–3	10' WLD LIFE FENCE	**1309.10	CLEARS BY 54.1'				CLEARS BY 31.6'								17–3
17–4	ASHPALT ROAD	*1314.10	CLEARS BY 46.1'				CLEARS BY 24.8'								17–4
17–5	ASHPALT ROAD	*1317.60	CLEARS BY 45.0'	CLEARS BY 45.0'	CLEARS BY 23.0'	CLEARS BY 33.6'	CLEARS BY 22.7'	CLEARS BY 27.0'	CLEARS BY 23.0'	CLEARS BY 33.6'					17–5
17–6	ASHPALT ROAD	*1317.80	CLEARS BY 47.4'				CLEARS BY 24.1'								17–6
17–7	ASHPALT ROAD	*1318.24		CLEARS BY 42.8'				CLEARS BY 25.3'							17–7
17–8	10' WLD LIFE FENCE	**1308.37		CLEARS BY 49.8'				CLEARS BY 33.2'							17–8
17–9	10' WLD LIFE FENCE	**1309.57		CLEARS BY 53.2'				CLEARS BY 35.1'							17–9
17–10	ASHPALT ROAD	*1317.81		CLEARS BY 48.0'				CLEARS BY 28.9'							17–10
17–11	ASHPALT ROAD	*1316.50			CLEARS BY 26.8'				CLEARS BY 26.8'						17–11
17–12	10' WLD LIFE FENCE	**1307.70			CLEARS BY 32.1'				CLEARS BY 32.1'						17–12
17–13	10' WLD LIFE FENCE	**1310.73			CLEARS BY 26.4'				CLEARS BY 26.4'						17–13
17–14	ASHPALT ROAD	*1320.16			CLEARS BY 17.8'				CLEARS BY 17.8'						17–14
17–15	TREE TOP	1331.50	CLEARS BY 67.5'(7:1)		CLEARS BY 9.4'		CLEARS BY 35.7'(7:1)		CLEARS BY 9.4'						17–15
17–16	10' WLD LIFE FENCE	**1305.56	CLEARS BY 25.8'(7:1)		CLEARS BY 35.8'		CLEARS BY 52.0'(7:1)		CLEARS BY 35.8'						17–16
17–17	10' WLD LIFE FENCE	**1308.11				CLEARS BY 41.0'				CLEARS BY 41.0'					17–17
17–18	ASHPALT ROAD	*1317.82				CLEARS BY 33.0'				CLEARS BY 33.0'					17–18
17–19	10' WLD LIFE FENCE	**1307.04				CLEARS BY 45.6'				CLEARS BY 45.6'					17–19
17–20	ASHPALT ROAD	*1317.11				CLEARS BY 37.3'				CLEARS BY 37.3'					17–20
17–21	MOBILE HOME	1308.90	CLEARS BY 62.7'(7:1)		CLEARS BY 17.6'		CLEARS BY 52.0'(7:1)		CLEARS BY 17.6'						17–21
17–22	MOBILE HOME	1308.20	CLEARS BY 83.6'(7:1)		CLEARS BY 22.1'		CLEARS BY 69.6'(7:1)		CLEARS BY 22.1'						17–22
17–23	MOBILE HOME	1307.90	CLEARS BY 90.3'(7:1)		CLEARS BY 24.4'		CLEARS BY 74.8'(7:1)		CLEARS BY 24.4'						17–23
17–24	MOBILE HOME	1307.70	CLEARS BY 99.3'(7:1)		CLEARS BY 26.5'		CLEARS BY 82.3'(7:1)		CLEARS BY 26.5'						17–24
17–25	TREE TOP	1343.40	CLEARS BY 7.3'(7:1)		OBSTRUCTS BY 21.3'		CLEARS BY 0.2'(7:1)		OBSTRUCTS BY 21.3'			REMOVE/TRIM		FUTURE RUNWAY CONS.	17–25
17–26	10' WLD LIFE FENCE	**1308.82	CLEARS BY 74.7'(7:1)		CLEARS BY 15.3'		CLEARS BY 66.0'(7:1)		CLEARS BY 15.3'						17–26
17–27	TREE TOP	1331.30	CLEARS BY 63.8'(7:1)		CLEARS BY 0.1'		CLEARS BY 49.0'(7:1)		CLEARS BY 0.1'						17–27
17–28	TREE TOP	1343.10	CLEARS BY 54.1'(7:1)		OBSTRUCTS BY 8.9'		CLEARS BY 37.9'(7:1)		OBSTRUCTS BY 8.9'			REMOVE/TRIM		FUTURE RUNWAY CONS.	17–28
17–29	TREE TOP	1327.20	CLEARS BY 80.0'(7:1)		CLEARS BY 6.0'		CLEARS BY 62.2'(7:1)		CLEARS BY 6.0'						17–29
17–30	POWER POLE	1325.20	CLEARS BY 69.2'(7:1)				CLEARS BY 58.3'(7:1)								17–30
17–31	POWER POLE	1332.00	CLEARS BY 88.2'(7:1)				CLEARS BY 70.8'(7:1)								17–31

*ASPHALT ROAD GROUND ELEVATION + 15' – **FUTURE/ULTIMATE WILDLIFE FENCE GROUND ELEVATION + 10'

No.	Revisions	By	App.	Date
2	FAA REVIEW/THOMAS SCHAUER	WBD	CDH	6/08
3	2014 REVIEW	TMO	CDH	4/14

I Hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the law of the State of South Dakota. Registration No.

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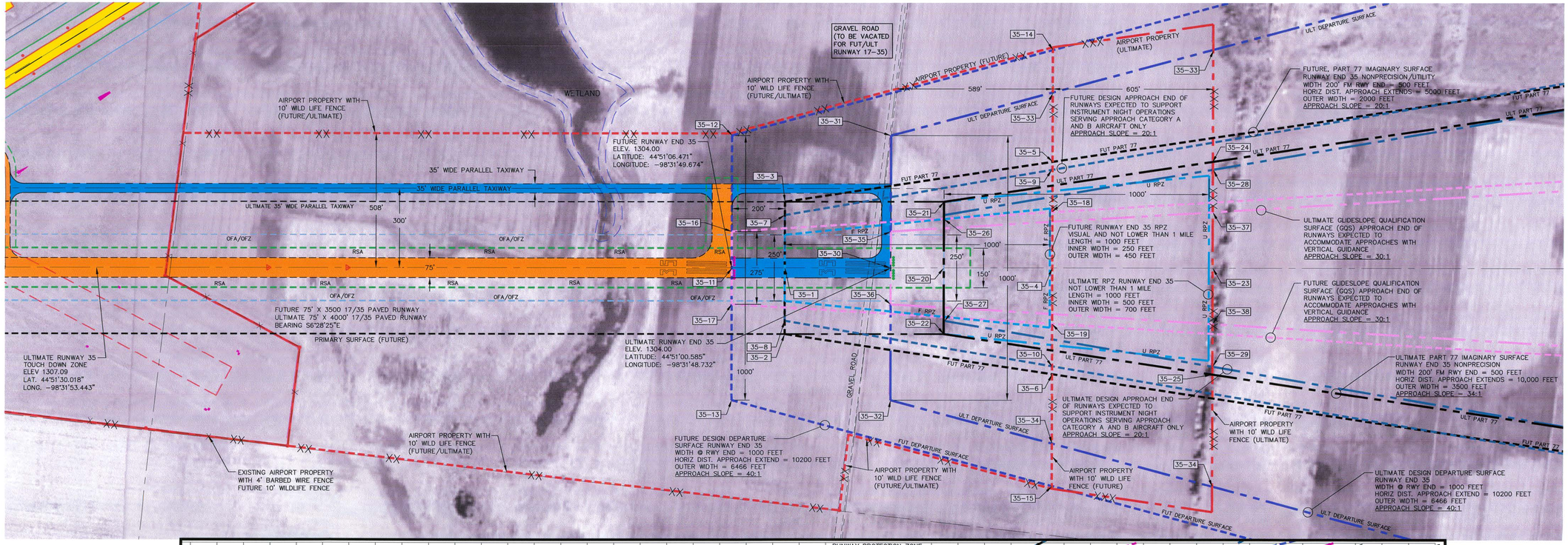
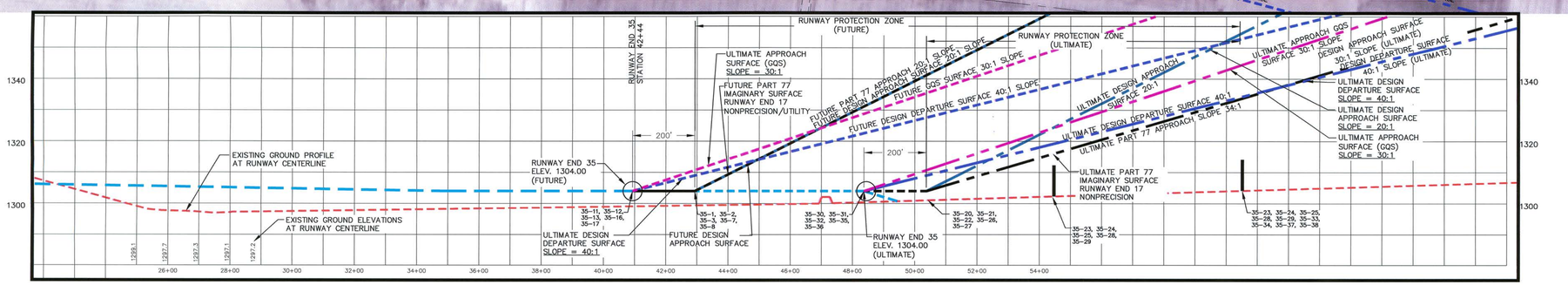
Helms & ASSOCIATES
CIVIL ENGINEERS & LAND SURVEYORS

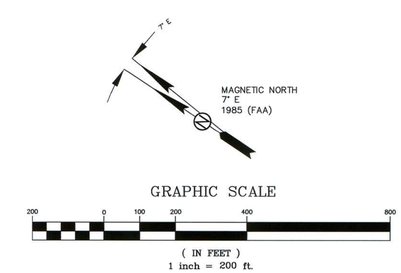
Drawn By: CDH
Chk' By: x
Proj. No: 4061-01
Dwg. No: 4061-01REV
VP. No: GRND
Date: 4-14

RUNWAY END 17 APPROACH AND CLEAR ZONE PLAN AND PROFILE

AIRPORT LAYOUT PLAN
REDFIELD MUNICIPAL AIRPORT
REDFIELD, SOUTH DAKOTA







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3	2014 REVISIONS	TMO	CDH	4/14

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Helms & Associates
CIVIL ENGINEERS & LAND SURVEYORS

Drawn By: CDH
Chk' By: x
Proj. No: 4061-01
Dwg. No: 4061-01REV
VP. No: GRND
Date: 4-14

RUNWAY END 35 APPROACH AND CLEAR ZONE PLAN AND PROFILE

AIRPORT LAYOUT PLAN
REDFIELD MUNICIPAL AIRPORT
REDFIELD, SOUTH DAKOTA

OBSTRUCTION INFORMATION			OBSTRUCTION STATUS								PROPOSED ACTION				
			FUTURE				ULTIMATE				EXISTING	FUTURE	ULTIMATE		
ID	TYPE	ELEVATION	PART 77 APPROACH SLOPE 20:1	DESIGN APPROACH SURFACE 20:1	APPENDIX 2 DEPARTURE SURFACE 40:1	GUIDESLOPE QUALIFICATION SURFACE (GQS) 30:1	PART 77 APPROACH SLOPE 34:1	DESIGN APPROACH SURFACE 20:1	DESIGN DEPARTURE SURFACE 40:1	GUIDESLOPE QUALIFICATION SURFACE (GQS) 30:1	PROPOSED ACTION	PROPOSED ACTION	PROPOSED ACTION	TRIGGERING EVENT FOR PROPOSED ACTION	ID
35-1	GROUND	1304	CLEAR BY 0'	CLEAR BY 0'											
35-2	GROUND	1302	CLEAR BY 2'												
35-3	GROUND	1303	CLEAR BY 1'												
35-4	**FENCE	1316	CLEAR BY 38.5'	CLEAR BY 38.5'	CLEAR BY 18.3'	CLEAR BY 28.3'									
35-5	**FENCE	1318	CLEAR BY 36.5'												
35-6	**FENCE	1316	CLEAR BY 38.5'												
35-7	GROUND	1302		CLEAR BY 2'											
35-8	GROUND	1302		CLEAR BY 2'											
35-9	**FENCE	1318		CLEAR BY 36.5'											
35-10	**FENCE	1316		CLEAR BY 38.5'											
35-11	GROUND	1304			CLEAR BY 0'	CLEAR BY 0'									
35-12	GROUND	1302			CLEAR BY 2'										
35-13	GROUND	1303			CLEAR BY 3'										
35-14	**FENCE	1318			CLEAR BY 19.3'										
35-15	**FENCE	1316			CLEAR BY 15.3'										
35-16	GROUND	1301				CLEAR BY 3'									
35-17	GROUND	1301				CLEAR BY 3'									
35-18	**FENCE	1317				CLEAR BY 27.3'									
35-19	**FENCE	1316				CLEAR BY 28.3'									
35-20	GROUND	1304					CLEAR BY 0'	CLEAR BY 0'							
35-21	GROUND	1302					CLEAR BY 2'								
35-22	GROUND	1303					CLEAR BY 1'								
35-23	**FENCE	1316					CLEAR BY 17.9'	CLEAR BY 38.8'	CLEAR BY 18.4'	CLEAR BY 28.4'					
35-24	**FENCE	1320					CLEAR BY 13.9'								
35-25	**FENCE	1317					CLEAR BY 16.9'								
35-26	GROUND	1304						CLEAR BY 0'							
35-27	GROUND	1304						CLEAR BY 0'							
35-28	**FENCE	1320						CLEAR BY 34.8'							
35-29	**FENCE	1317						CLEAR BY 37.8'							
35-30	GROUND	1304							CLEAR BY 0'	CLEAR BY 0'					
35-31	GROUND	1304							CLEAR BY 0'						
35-32	GROUND	1304							CLEAR BY 0'						
35-33	**FENCE	1322							CLEAR BY 12.4'						
35-34	**FENCE	1318							CLEAR BY 16.4'						
35-35	GROUND	1304								CLEAR BY 0'					
35-36	GROUND	1304								CLEAR BY 0'					
35-37	**FENCE	1320								CLEAR BY 24.5'					
35-38	**FENCE	1317								CLEAR BY 27.5'					

**FUTURE/ULTIMATE WILDLIFE FENCE GROUND ELEVATION + 10'

No.	Revisions	By	App.	Date
2	FAA REVIEW/THOMAS SCHAUER	WRD	CDH	6/08
3	2014 REVISIONS	TMO	CDH	4/14

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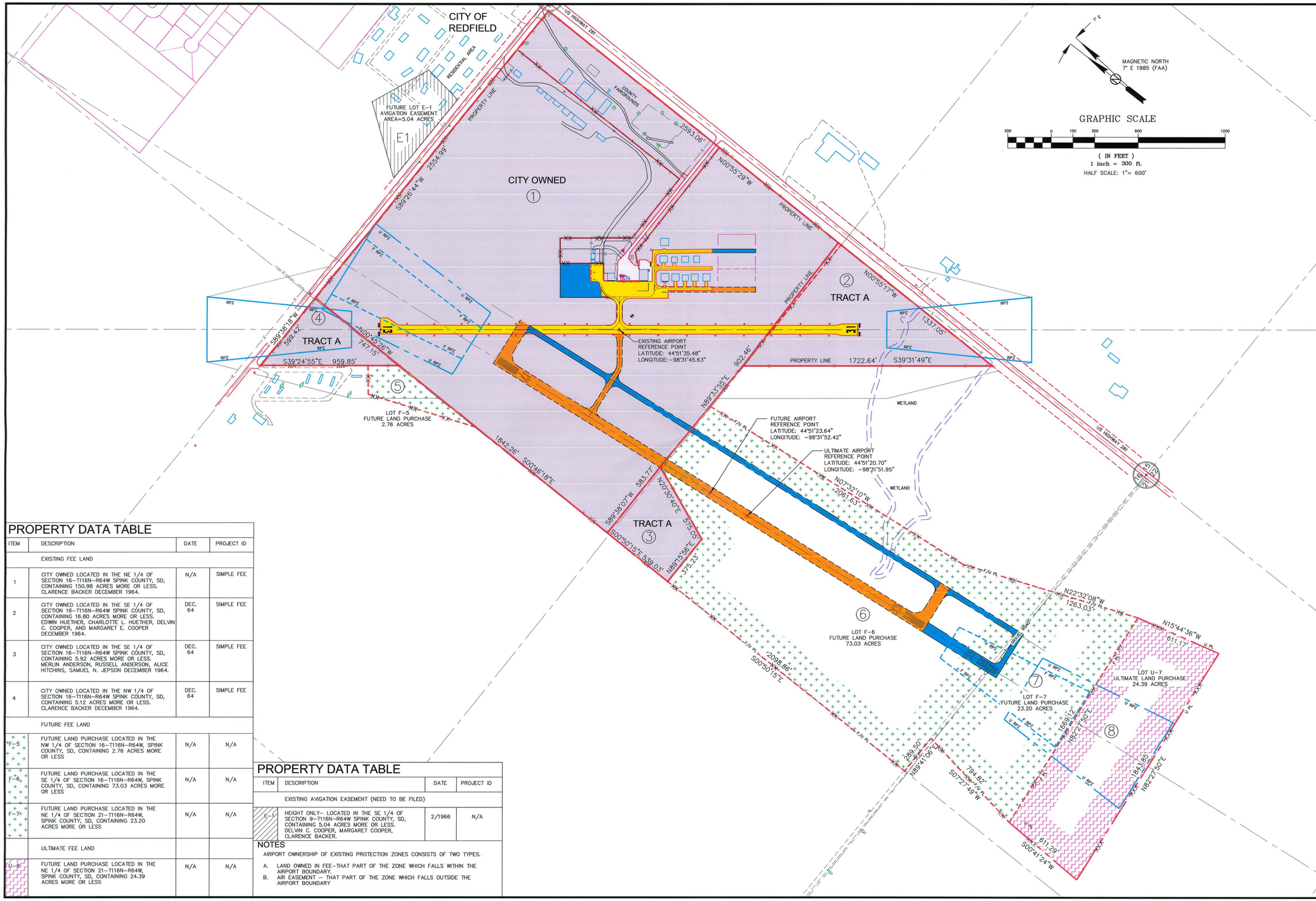
Helms & ASSOCIATES
CIVIL ENGINEERS & LAND SURVEYORS

Drawn By: CDH
Chk' By: x
Proj. No: 4061-01
Dwg. No: 4061-01REV
VP. No: GRND
Date: 4-14

RUNWAY END 35 APPROACH AND CLEAR ZONE PLAN AND PROFILE

AIRPORT LAYOUT PLAN
REDFIELD MUNICIPAL AIRPORT
REDFIELD, SOUTH DAKOTA



PROPERTY DATA TABLE

ITEM	DESCRIPTION	DATE	PROJECT ID
	EXISTING FEE LAND		
1	CITY OWNED LOCATED IN THE NE 1/4 OF SECTION 16–T116N–R64W SPINK COUNTY, SD, CONTAINING 150.98 ACRES MORE OR LESS. CLARENCE BACKER DECEMBER 1964.	N/A	SIMPLE FEE
2	CITY OWNED LOCATED IN THE SE 1/4 OF SECTION 16–T116N–R64W SPINK COUNTY, SD, CONTAINING 16.80 ACRES MORE OR LESS. EDWIN HUETHER, CHARLOTTE L. HUETHER, DELVIN C. COOPER, AND MARGARET E. COOPER DECEMBER 1964.	DEC. 64	SIMPLE FEE
3	CITY OWNED LOCATED IN THE SE 1/4 OF SECTION 16–T116N–R64W SPINK COUNTY, SD, CONTAINING 5.92 ACRES MORE OR LESS. MERLIN ANDERSON, RUSSELL ANDERSON, ALICE HITCHINS, SAMUEL N. JEPSON DECEMBER 1964.	DEC. 64	SIMPLE FEE
4	CITY OWNED LOCATED IN THE NW 1/4 OF SECTION 16–T116N–R64W SPINK COUNTY, SD, CONTAINING 5.12 ACRES MORE OR LESS. CLARENCE BACKER DECEMBER 1964.	DEC. 64	SIMPLE FEE
	FUTURE FEE LAND		
F–5	FUTURE LAND PURCHASE LOCATED IN THE NW 1/4 OF SECTION 16–T116N–R64W, SPINK COUNTY, SD, CONTAINING 2.76 ACRES MORE OR LESS	N/A	N/A
F–6	FUTURE LAND PURCHASE LOCATED IN THE SE 1/4 OF SECTION 16–T116N–R64W, SPINK COUNTY, SD, CONTAINING 73.03 ACRES MORE OR LESS	N/A	N/A
F–7	FUTURE LAND PURCHASE LOCATED IN THE NE 1/4 OF SECTION 21–T116N–R64W, SPINK COUNTY, SD, CONTAINING 23.20 ACRES MORE OR LESS	N/A	N/A
	ULTIMATE FEE LAND		
U–8	FUTURE LAND PURCHASE LOCATED IN THE NE 1/4 OF SECTION 21–T116N–R64W, SPINK COUNTY, SD, CONTAINING 24.39 ACRES MORE OR LESS	N/A	N/A

PROPERTY DATA TABLE

ITEM	DESCRIPTION	DATE	PROJECT ID
	EXISTING AVIGATION EASEMENT (NEED TO BE FILED)		
E–1	HEIGHT ONLY– LOCATED IN THE SE 1/4 OF SECTION 9–T116N–R64W SPINK COUNTY, SD, CONTAINING 5.04 ACRES MORE OR LESS. DELVIN C. COOPER, MARGARET COOPER, CLARENCE BACKER.	2/1966	N/A

NOTES

AIRPORT OWNERSHIP OF EXISTING PROTECTION ZONES CONSISTS OF TWO TYPES.

A. LAND OWNED IN FEE–THAT PART OF THE ZONE WHICH FALLS WITHIN THE AIRPORT BOUNDARY.
B. AIR EASEMENT – THAT PART OF THE ZONE WHICH FALLS OUTSIDE THE AIRPORT BOUNDARY

No.	Revisions	By	App.	Date
1	2014 REVISIONS	TMO	CDH	4/14

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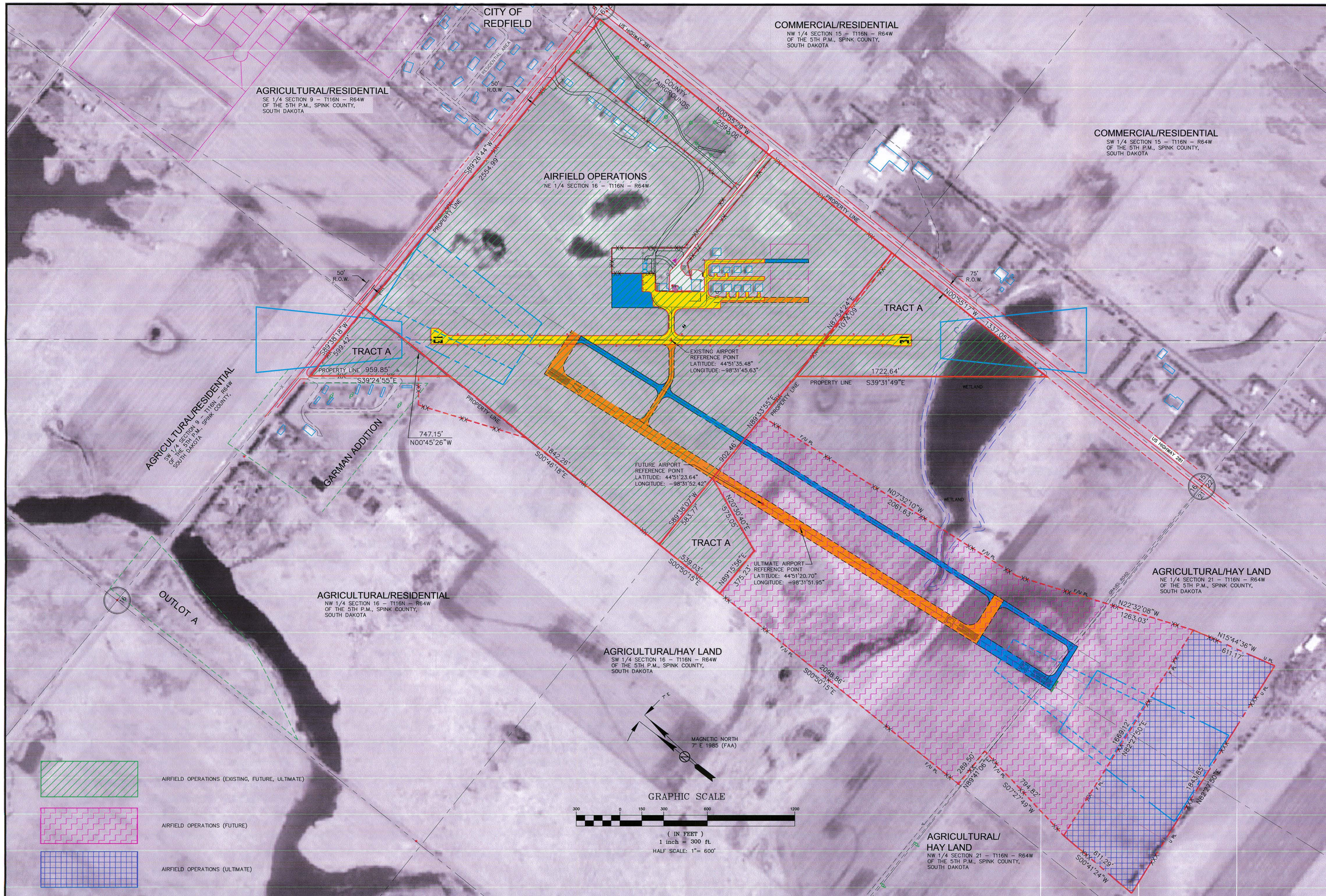
Helms & ASSOCIATES
CIVIL ENGINEERS & LAND SURVEYORS

Drawn By: CDH
Chk' By: x
Proj. No: A-4016
Dwg. No: 4016-03REV
VP. No: PROP
Date: 04/14

AIRPORT PROPERTY MAP EXHIBIT "A"

AIRPORT LAYOUT PLAN
REDFIELD MUNICIPAL AIRPORT
REDFIELD, SOUTH DAKOTA



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Drawn By: CDH
Chk' By: x
Proj. No: A-4016
Dwg. No: 4016-03REV
VP. No: LAND
Date: 4-14

AIRPORT LAND USE MAP

AIRPORT LAYOUT PLAN
REDFIELD MUNICIPAL AIRPORT
REDFIELD, SOUTH DAKOTA