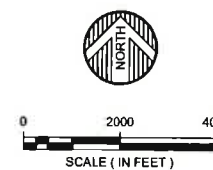


AIRPORT ZONING PLAN BACKUS MUNICIPAL AIRPORT CASS COUNTY, MINNESOTA



INDEX TO SHEETS	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	AIRSPACE ZONING MAP
3	AIRSPACE SECTIONS
4	LAND USE MAP
5	RUNWAY 15 SAFETY ZONES MAP
6	RUNWAY 33 SAFETY ZONES MAP

JOINT AIRPORT ZONING BOARD	
APPROVAL:	KEN KOSTIAL, ZONING BOARD CHAIRMAN
	DATE



BASEMAP: USGS 7.5 MINUTE SERIES TOPOGRAPHIC
CASS COUNTY, MINNESOTA
CURRENT: BACKUS QUADRANGLE - 1970
MILDRED QUADRANGLE - 1970

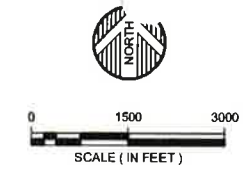
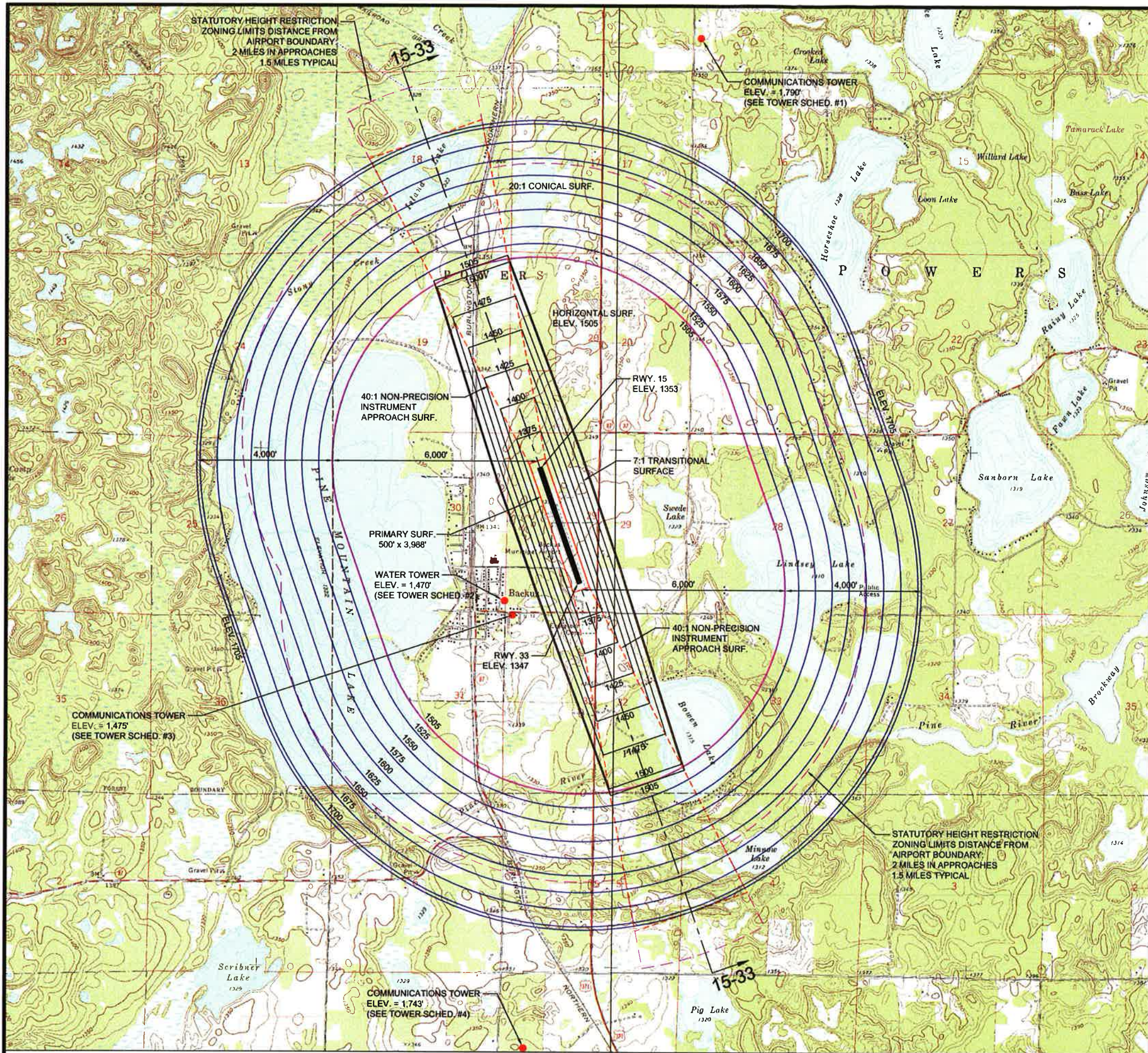
ENGINEERS
ARCHITECTS
LAND SURVEYORS
ENVIRONMENTAL SERVICES

WIDSETH SMITH NOLTING

DATE: FEBRUARY 2010
SCALE: AS SHOWN
DRAWN BY: W.W.J.
CHECKED BY: T.M.H.
JOB NUMBER: 0103B0026

BACKUS MUNICIPAL AIRPORT - ZONING PLAN
CITY OF BACKUS
CASS COUNTY, MINNESOTA
TITLE SHEET

SHEET NO. 1
1 of 6



ULTIMATE APPROACH SURFACE DIMENSIONS			
RUNWAY	INNER WIDTH	LENGTH	OUTER WIDTH
15	500'	10,000'	3,500'
33	500'	10,000'	3,500'

- NOTES:
1. ALL ELEVATIONS ARE IN FEET ABOVE MEAN SEA LEVEL
 2. ESTABLISHED AIRPORT ELEVATION 1355 M.S.L.
 3. IMAGINARY SURFACE DIMENSIONS SHOWN ARE FAA AND MNDOT CRITERIA.
 4. THE AERIAL CONTOURS ILLUSTRATE THE HEIGHT LIMITATIONS WITHIN EACH ZONE.
 5. ZONING APPLIES TO AREAS UNDERLYING THE IMAGINARY SURFACE BOUNDARIES.
 6. A SLOPE SUCH AS 20:1 EXPRESSES THE HORIZONTAL DISTANCE OF 20' TO THE VERTICAL DISTANCE OF 1'.
 7. THE USGS BASE MAP IS A PICTORIAL REPRESENTATION AND IS NOT TIED TO THE COORDINATE SYSTEM OF THE AIRPORT.

- LEGEND:
- TURF RUNWAY SURFACE
 - PRIMARY SURFACE
EL. 1,355 FT.
 - TRANSITIONAL SURFACE
EL. 1,355 - 1,505 FT.
 - HORIZONTAL SURFACE
EL. 1,505 FT.
 - CONICAL SURFACE (20:1)
EL. 1,505 - 1,705 FT.
 - APPROACH SURFACE (40:1)
EL. 1,355 - 1,605 FT.
 - HEIGHT RESTRICTION LIMITS

SCHEDULE OF TOWERS: (SOURCE FCC ASR & CITY FILES)

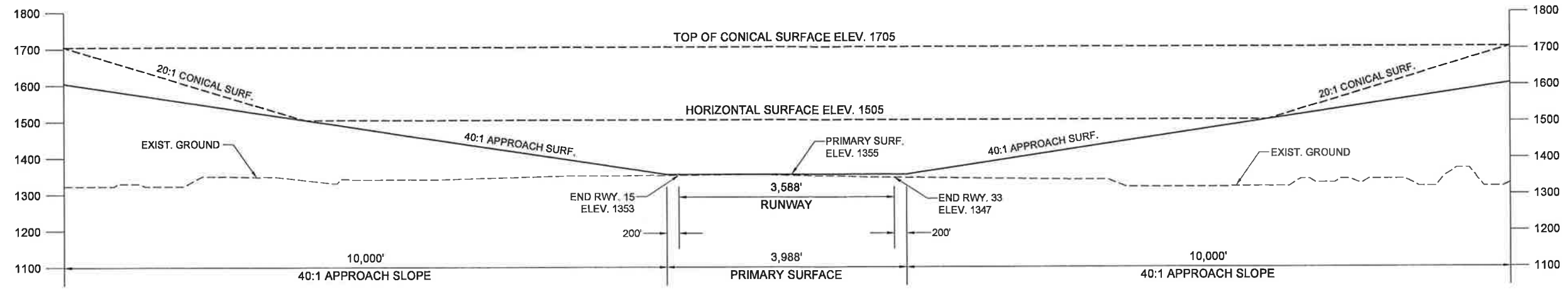
1. RURAL CELLULAR CORPORATION - TOWER
SITE EL. - 1,370 FT.
HGHT. OF STRUCTURE - 420 FT.
STRUCTURE EL. - 1,790 FT.
2. CITY OF BACKUS - WATER TOWER
SITE EL. - 1,342 FT.
HGHT. OF STRUCTURE - 128 FT.
STRUCTURE EL. - 1,470 FT.
3. STATE OF MINNESOTA - TOWER
SITE EL. - 1,355 FT.
HGHT. OF STRUCTURE - 120 FT.
STRUCTURE EL. - 1,475 FT.
4. SBA TOWERS II, LLC - TOWER
SITE EL. - 1,343 FT.
HGHT. OF STRUCTURE - 400 FT.
STRUCTURE EL. - 1,743 FT.

BASEMAP: USGS 7.5 MINUTE SERIES TOPOGRAPHIC CASS COUNTY, MINNESOTA
CURRENT: BACKUS QUADRANGLE - 1970 MILDRED QUADRANGLE - 1970

ALABAMA, AK, ARIZONA, AR, CALIFORNIA, CO, CT, DC, DE, FL, GA, HI, ILLINOIS, IN, IOWA, KS, KY, LA, MA, MD, ME, MI, MN, MO, NE, NH, NJ, NY, NC, ND, OH, OK, OR, PA, RI, SC, SD, TN, TX, VA, VT, WA, WI, WY, DC, HI, GU, PR, VI, AS, FM, MH, PW, AU, NZ, BR, CA, CL, CO, CR, CU, DO, EC, SV, GT, HN, JC, KE, KG, KH, KP, KR, KY, KZ, LA, LB, LC, LI, LU, LV, LY, MG, MK, ML, MN, MR, MT, MU, MV, MW, MX, MY, MZ, NA, NC, NE, NG, NI, NL, NO, NP, NR, NU, NZ, OM, PA, PE, PG, PH, PK, PL, PM, PN, PT, PW, PY, QA, RB, RW, SA, SB, SC, SD, SE, SG, SH, SI, SJ, SK, SL, SM, SN, SO, SR, SS, ST, SV, SW, SY, SZ, TD, TF, TG, TH, TJ, TK, TL, TM, TN, TO, TP, TR, TT, TV, TW, TZ, UA, UB, UC, UD, UE, UF, UG, UH, UI, UJ, UK, UL, UM, UN, UO, UP, UQ, UR, US, UT, UV, UW, UX, UY, UZ, VA, VB, VC, VD, VE, VF, VG, VH, VI, VJ, VK, VL, VM, VN, VO, VP, VQ, VR, VS, VT, VU, VV, VW, VX, VY, VZ, WA, WB, WC, WD, WE, WF, WG, WH, WI, WJ, WK, WL, WM, WN, WO, WP, WQ, WR, WS, WT, WU, WV, WX, WY, WZ, YA, YB, YC, YD, YE, YF, YG, YH, YI, YJ, YK, YL, YM, YN, YO, YP, YQ, YR, YS, YT, YU, YV, YW, YY, YZ, ZA, ZB, ZC, ZD, ZE, ZF, ZG, ZH, ZI, ZJ, ZK, ZL, ZM, ZN, ZO, ZP, ZQ, ZR, ZS, ZT, ZU, ZV, ZW, ZZ

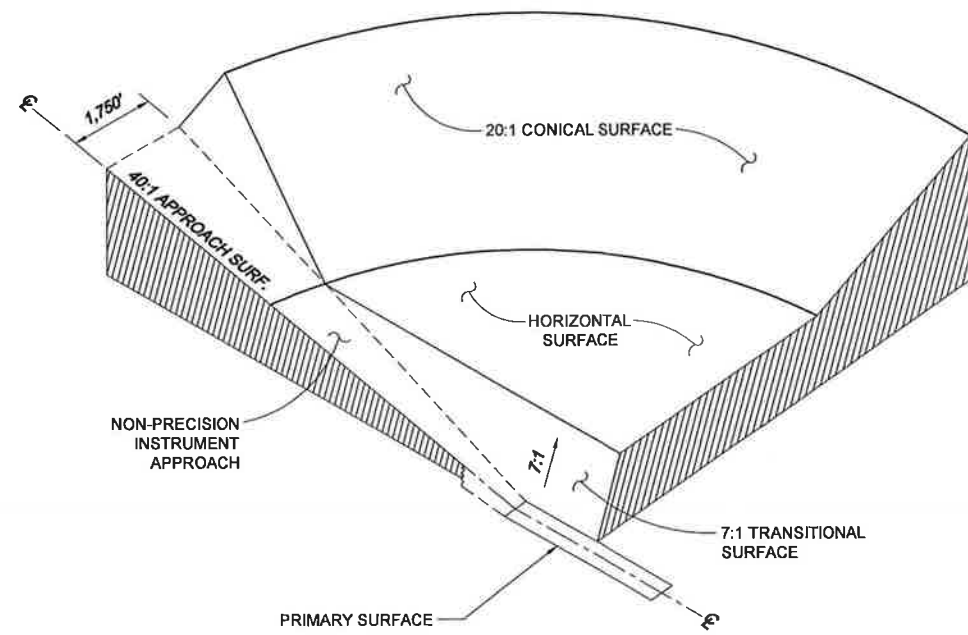
ENGINEERS ARCHITECTS LAND SURVEYORS ENVIRONMENTAL SERVICES
WIDSETH SMITH NOLTING
 www.wsnolting.com
 LICENSE NO. 0103B0026
 DATE: _____

BACKUS MUNICIPAL AIRPORT - ZONING PLAN
 CITY OF BACKUS
 CASS COUNTY, MINNESOTA
 AIRSPACE ZONING MAP
 SHEET NO. **2**
 SHEET 2 OF 6



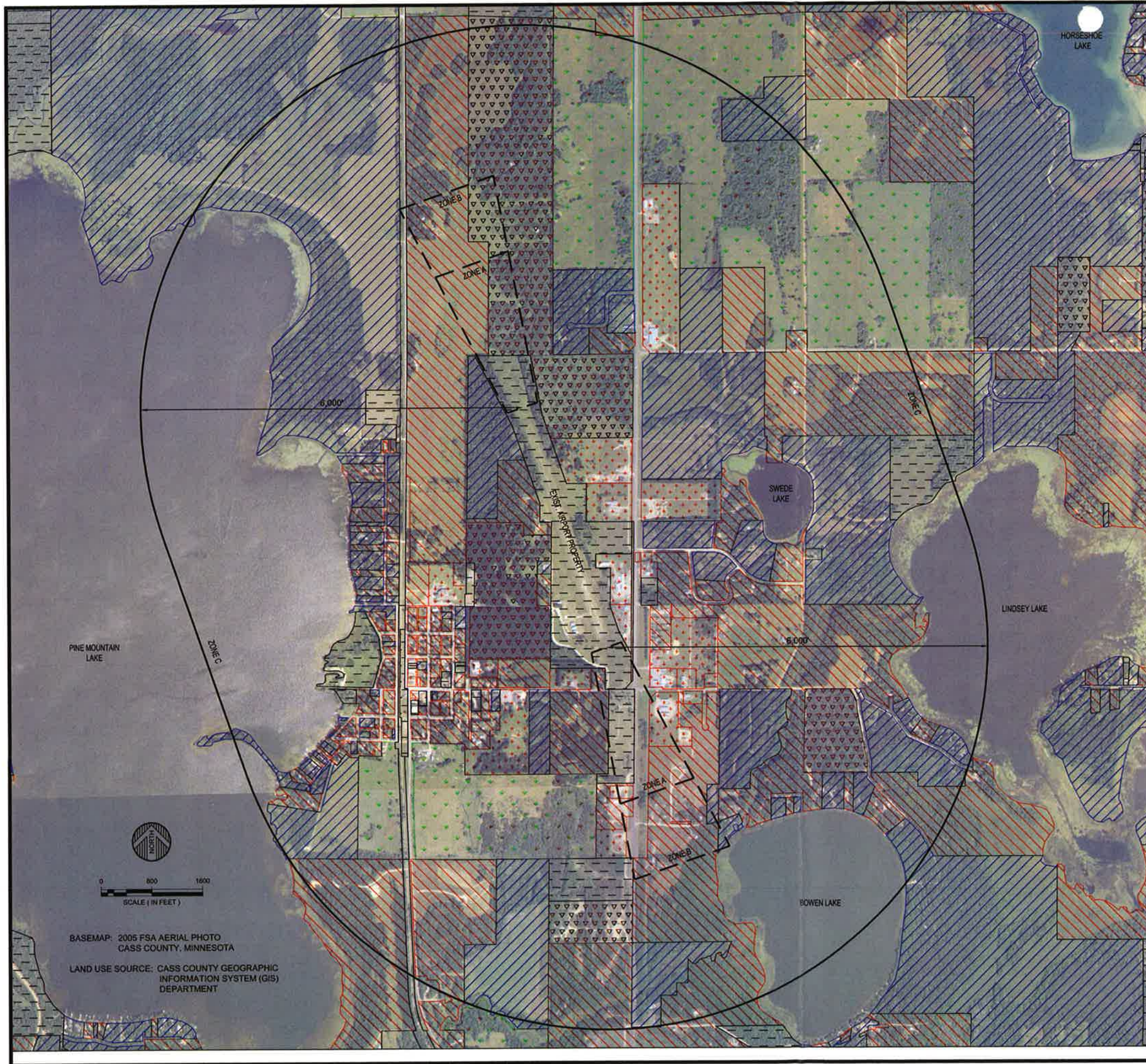
SECTION RUNWAY 15-33

HORIZONTAL SCALE: 1" = 2000'
 VERTICAL SCALE: AS SHOWN



PERSPECTIVE VIEW
 (NOT TO SCALE)

ENGINEERS ARCHITECTS LAND SURVEYORS ENVIRONMENTAL SERVICES
WIDSETH SMITH NOLTING
 www.wsn.com
 LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA
 DATE: _____ LIC. NO.: _____
 BY: _____
 REVISIONS DESCRIPTION: _____
 DATE: _____ REV# _____
 DATE: FEBRUARY 2010 AS SHOWN
 SCALE: W.W.J.
 DRAWN BY: T.M.H.
 CHECKED BY: _____
 JOB NUMBER: D1038026
BACKUS MUNICIPAL AIRPORT - ZONING PLAN
CITY OF BACKUS
CASS COUNTY, MINNESOTA
AIRSPACE SECTIONS
 SHEET NO. **3**
 SHEET 3 of 6



AIRPORT LANDING DIMENSIONS					
RUNWAY	SAFETY ZONE	INNER WIDTH	LENGTH	OUTER WIDTH	SLOPE
15/33	A	500'	2,392'	1,218'	40:1
	B	1,218'	1,196'	1,576'	40:1
	C	6,000' RADIUS FROM END OF PRIMARY SURFACE			

SAFETY ZONE USE RESTRICTIONS:

SOURCE: BACKUS MUNICIPAL AIRPORT ZONING ORDINANCE

GENERAL: Subject at all times to the height restrictions set forth in Section IV B, no use shall be made of any land in any of the Safety Zones defined in Section V A which creates or causes interference with the operations of radio or electronic facilities on the airport or with radio or electronic communications between the airport and aircraft, make it difficult for pilots to distinguish between airport lights and other lights, results in glare in the eyes of pilots using the airport, impairs visibility in the vicinity of the airport, or otherwise endangers the landing, taking off, or maneuvering of aircraft.

ZONE A: Subject at all times to the height restrictions set forth in Subsection IV B and to the general restrictions contained in Subsection V B 1, areas designated as Zone A shall contain no buildings, temporary structures, exposed transmission lines, or other similar above-ground land use structural hazards, and shall be restricted to those uses which will not create, attract, or bring together an assembly of persons thereon. Permitted uses may include, but are not limited to, such uses as agriculture (seasonal crops), horticulture, animal husbandry, raising of livestock, wildlife habitat, light outdoor recreation (non-spectator), cemeteries, automobile parking, and existing lumber yard supply storage.

ZONE B: Subject at all times to the height restrictions set forth in Subsection IV B, and to the general restrictions contained in Subsection V B 1, areas designated as Zone B shall be restricted in use as follows:

- a. Each use shall be on a site whose area shall not be less than three acres.
- b. Each use shall not create, attract, or bring together a site population that would exceed 15 times that of the site acreage.
- c. Each site shall have no more than one building plot upon which any number of structures may be erected.
- d. A building plot shall be a single, uniform, and non-contrived area, whose shape is uncomplicated and whose area shall not exceed the following minimum ratios with respect to the total site area:

Site Area at least (Acres)	But Less Than (Acres)	Ratio of Site Area to Bldg. Plot Area	Building Plot Area (sq. ft.)	Max. Site Population (15 persons/Acre)
3		12:1	10,900	45
4	4	12:1	17,400	60
6	6	10:1	32,600	90
10	10	8:1	72,500	150
20	20 and up	6:1	218,000	300
- e. The following uses are specifically prohibited in Zone B:
Churches, hospitals, schools, theaters, stadiums, hotels, motels, trailer courts, campgrounds, and other places of frequent public or semi-public assembly.

ZONE C: Zone C is subject only to height restrictions set forth in Section V B, and to the general restrictions contained in Section V B 1.

LAND USE LEGEND: (BASED ON CASS COUNTY ZONING CLASSIFICATIONS)

- PUBLIC (CITY, COUNTY, STATE)
- AGRICULTURAL
- TIMBER / FORESTRY
- INDUSTRIAL / COMMERCIAL
- SEASONAL RECREATIONAL
- RESIDENTIAL

PINE MOUNTAIN LAKE

HORSESHOE LAKE

SWEDE LAKE

LINDSEY LAKE

BOWEN LAKE



0 800 1600
SCALE (IN FEET)

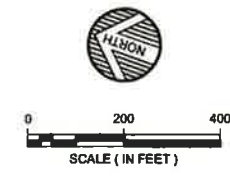
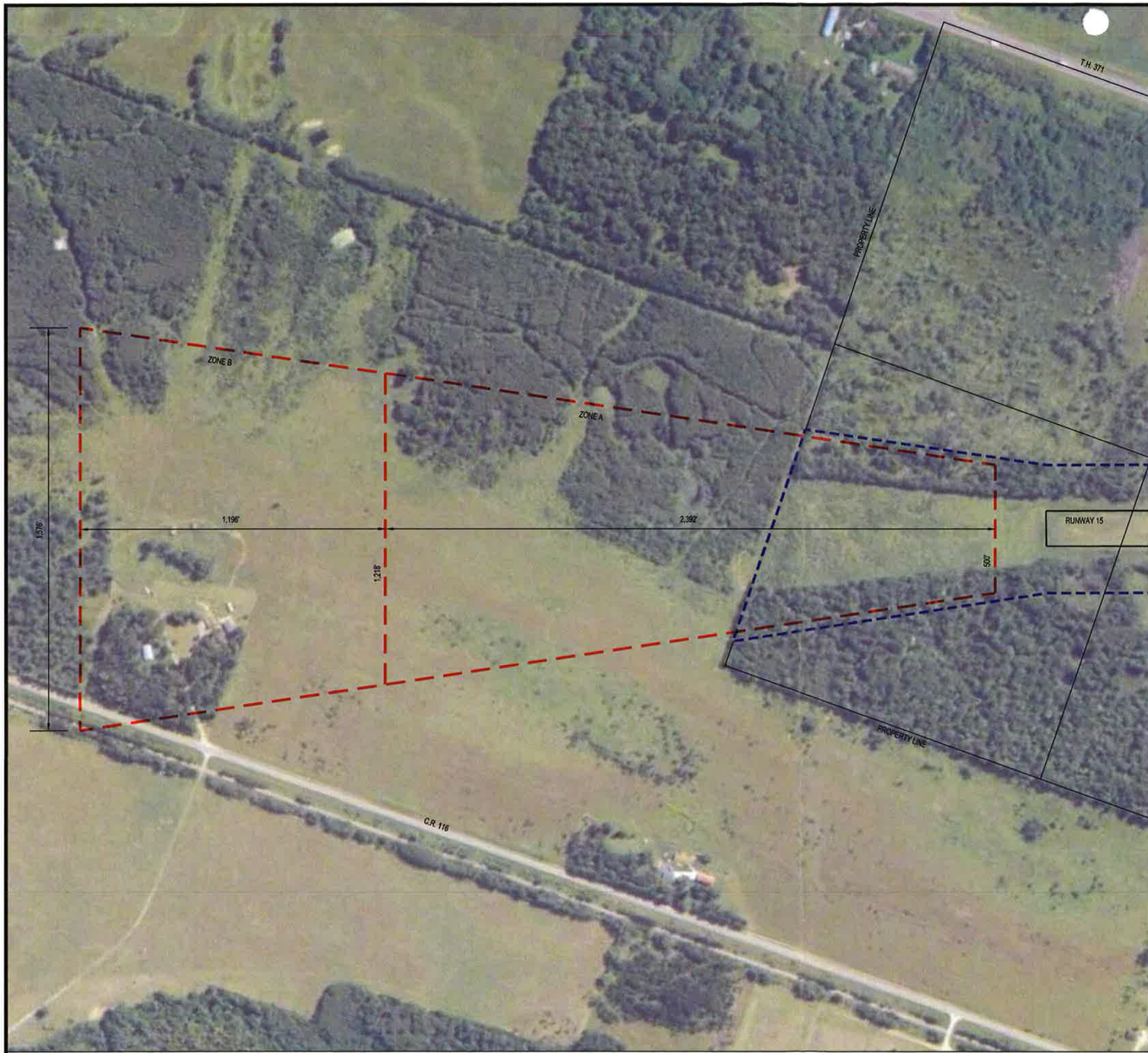
BASEMAP: 2005 FSA AERIAL PHOTO
CASS COUNTY, MINNESOTA

LAND USE SOURCE: CASS COUNTY GEOGRAPHIC
INFORMATION SYSTEM (GIS)
DEPARTMENT

ENGINEERS ARCHITECTS LAND SURVEYORS ENVIRONMENTAL SERVICES
 WIDSETH SMITH NOLTING
 WISCONSIN ILLINOIS MINNESOTA CALIFORNIA
 LICENSE NO. DATE L.C. NO.

DATE	SCALE	DRAWN BY	CHECKED BY	JOB NUMBER
FEBRUARY 2010	AS SHOWN	W.W.J.	T.A.H.	010300026

REVISIONS DESCRIPTION BY DATE REV#
 BACKUS MUNICIPAL AIRPORT - ZONING PLAN
 CITY OF BACKUS
 CASS COUNTY, MINNESOTA
 LAND USE ZONING MAP
 SHEET NO. 4
 SHEET 4 OF 8



AIRPORT ZONING DIMENSIONS				
RUNWAY	SAFETY ZONE	INNER WIDTH	LENGTH	OUTER WIDTH
15/33	A	500'	2,392'	1,218'
	B	1,218'	1,196'	1,576'
	C	8,000' RAD. FROM END OF PRIMARY SURF.		

RUNWAY END COORDINATES		
RUNWAY	LATITUDE	LONGITUDE
15	46° 49' 54.53" N	94° 30' 33.02" W
33	46° 49' 21.09" N	94° 30' 16.01" W

- LEGEND:**
- PARCEL LINE
 - AIRPORT PROPERTY BOUNDARY
 - TURF RUNWAY EDGE (APPROX.)
 - SAFETY ZONE BOUNDARY (A & B)

BASEMAP: 2005 FSA AERIAL PHOTO
CASS COUNTY, MINNESOTA

ENGINEERS ARCHITECTS LAND SURVEYORS ENVIRONMENTAL SERVICES
 WIDSETH SMITH NOLTING

ALABAMA ARIZONA ARKANSAS CALIFORNIA COLORADO CONNECTICUT DELAWARE FLORIDA GEORGIA ILLINOIS INDIANA IOWA KANSAS KENTUCKY LOUISIANA MAINE MARYLAND MASSACHUSETTS MICHIGAN MINNESOTA MISSISSIPPI MISSOURI MONTANA NEBRASKA NEVADA NEW HAMPSHIRE NEW JERSEY NEW MEXICO NEW YORK NORTH CAROLINA NORTH DAKOTA OHIO OKLAHOMA OREGON PENNSYLVANIA RHODE ISLAND SOUTH CAROLINA SOUTH DAKOTA TEXAS UTAH VERMONT VIRGINIA WISCONSIN WYOMING

DATE: FEBRUARY 2010
SCALE: AS SHOWN
DRAWN BY: W.J.J.
CHECKED BY: T.M.H.
JOB NUMBER: 010300026

DATE: _____
REVISIONS DESCRIPTION: _____
BY: _____
DATE: _____

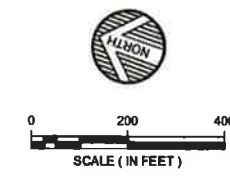
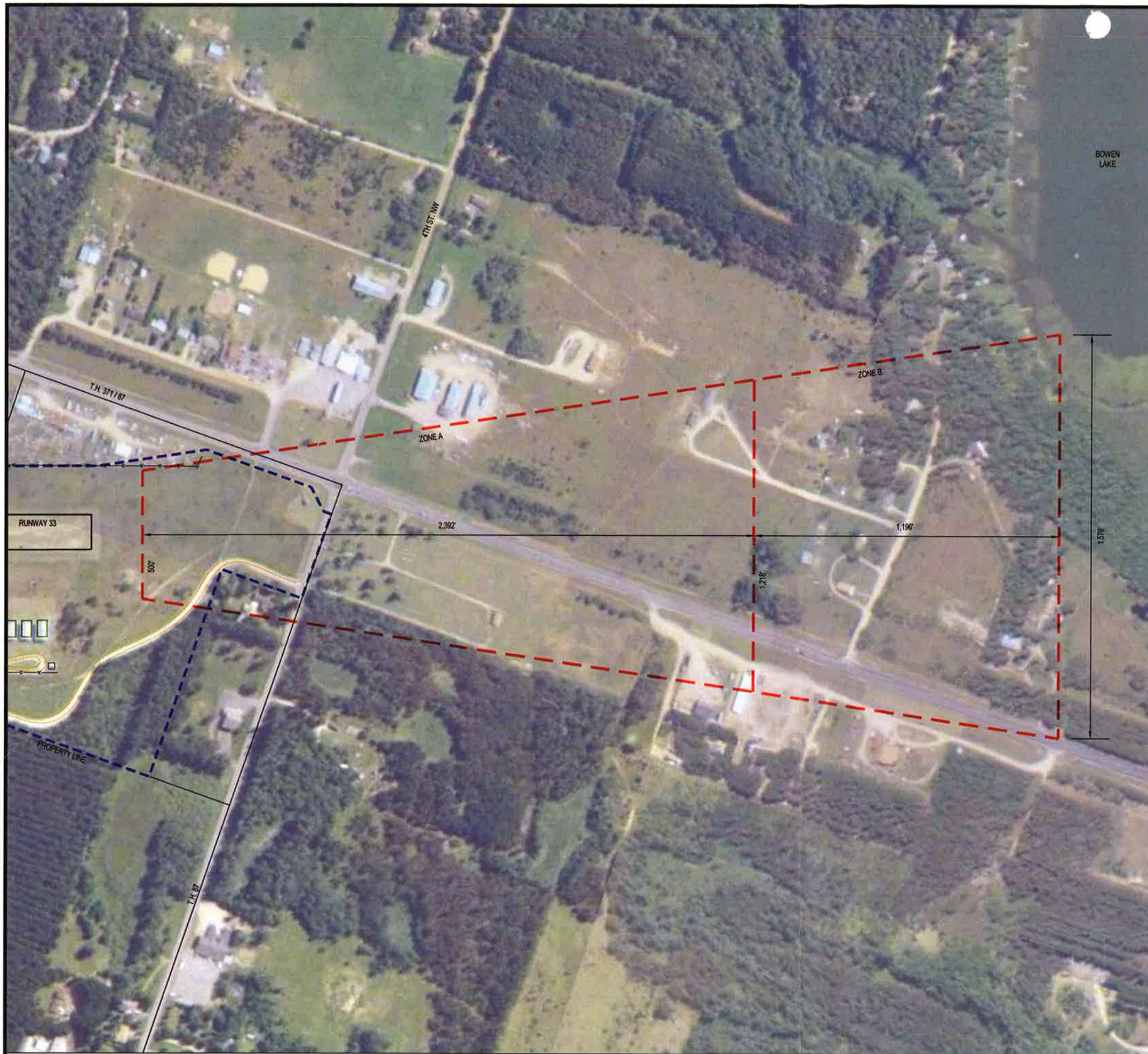
I HEREBY CERTIFY THAT THE PLAN, SPECIFICATION OR REPORT HEREON WAS PREPARED BY ME OR UNDER MY SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

LIC. NO. _____
DATE: _____

BACKUS MUNICIPAL AIRPORT - ZONING PLAN
CITY OF BACKUS
CASS COUNTY, MINNESOTA
RUNWAY 15 SAFETY ZONES MAP

SHEET NO. **5**
SHEET 5 OF 6

© 2010 WIDSETH SMITH NOLTING



AIRPORT ZONING DIMENSIONS				
RUNWAY	SAFETY ZONE	INNER WIDTH	LENGTH	OUTER WIDTH
15/33	A	500'	2,392'	1,218'
	B	1,218'	1,196'	1,576'
	C	6,000' RAD. FROM END OF PRIMARY SURF.		

RUNWAY END COORDINATES		
RUNWAY	LATITUDE	LONGITUDE
15	48° 49' 54.53" N	94° 30' 33.02" W
33	48° 49' 21.09" N	94° 30' 16.01" W

- LEGEND:**
- PARCEL LINE
 - AIRPORT PROPERTY BOUNDARY
 - TURF RUNWAY EDGE (APPROX.)
 - SAFETY ZONE BOUNDARY (A & B)

BASEMAP: 2005 FSA AERIAL PHOTO
CASS COUNTY, MINNESOTA

WIDSETH SMITH NOLTING

ENGINEERS ARCHITECTS LAND SURVEYORS ENVIRONMENTAL SERVICES

ALABAMA ARIZONA ARKANSAS CALIFORNIA COLORADO CONNECTICUT DELAWARE FLORIDA GEORGIA ILLINOIS INDIANA IOWA KANSAS KENTUCKY LOUISIANA MAINE MARYLAND MASSACHUSETTS MICHIGAN MINNESOTA MISSISSIPPI MISSOURI MONTANA NEBRASKA NEVADA NEW HAMPSHIRE NEW JERSEY NEW MEXICO NEW YORK NORTH CAROLINA NORTH DAKOTA OHIO OKLAHOMA OREGON PENNSYLVANIA RHODE ISLAND SOUTH CAROLINA SOUTH DAKOTA TENNESSEE TEXAS UTAH VERMONT VIRGINIA WISCONSIN WYOMING

DATE: _____ L.C. NO. _____

DATE	REV#	REVISIONS DESCRIPTION
FEBRUARY 2010	AS SHOWN	

DATE: FEBRUARY 2010
SCALE: AS SHOWN
DRAWN BY: W.W.J.
CHECKED BY: T.M.H.
JOB NUMBER: 010300026

BACKLUS MUNICIPAL AIRPORT - ZONING PLAN
CITY OF BACKLUS
CASS COUNTY, MINNESOTA
RUNWAY 33 SAFETY ZONES MAP

SHEET NO. **6**

SHEET 6 OF 6

