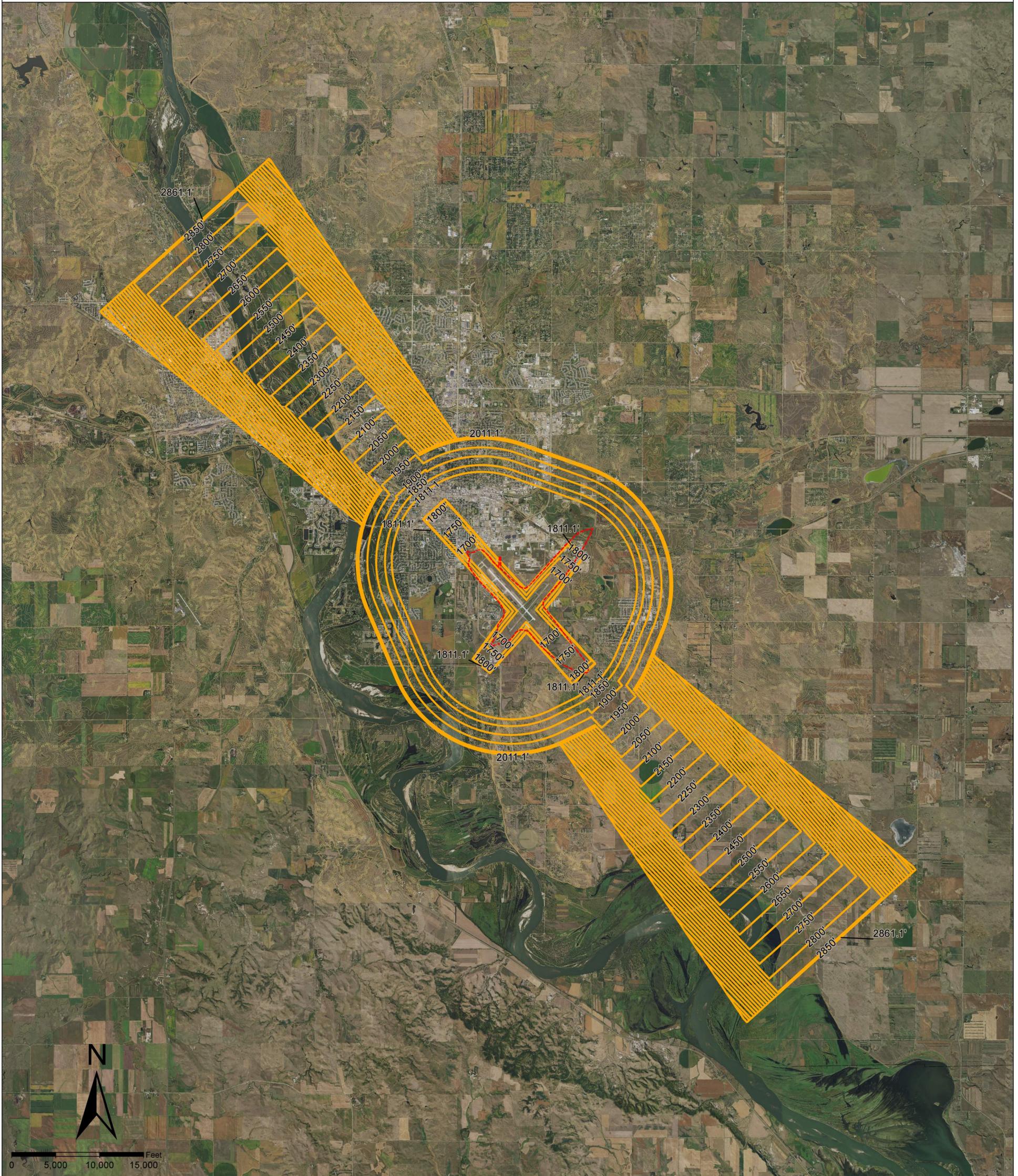


Bismarck Airport - Airport Zoning Map



Notes:

1. Refer to the City of Bismarck, Code of Ordinances, Title 10-09, Airport Zoning Regulations, for guidance concerning airport zoning.
2. Refer to City of Bismarck, Code of Ordinances, Title 14-04-20, Airport Noise (AN) Overlay Zone, for guidance concerning the 65 day-night average sound level (DNL).
3. Refer to U.S. 14 Code of Federal Regulations (CFR) Part 77 regarding Part 77 contours and surfaces. Part 77 surface elevations are shown in mean sea level (MSL) in feet.
4. Refer the Federal Aviation Regulations (FAR) Part 150, Airport Noise Compatibility Planning Program regarding the 65 DNL.
5. The airport elevation is 1,661.1 feet MSL.

Sources:

1. City of Bismarck, Code of Ordinances, Title 10-09, Airport Zoning Regulations.
2. City of Bismarck, Code of Ordinances, Title 14-04-20, AN Airport Noise Overlay Zone.
3. U.S. 14 Code of Federal Regulations Part 77, Federal Aviation Regulations Part 150, Airport Noise Compatibility Planning Program.
4. Bismarck-Mandan Metropolitan Planning Organization (MPO) Contours (2009).
5. MPO Bismarck Aerial (2016).
6. National Agriculture Imagery Program (NAIP).

Legend

- Bismarck Airport Zoning Ordinance Height Limits
- - - AN Airport Noise Overlay Zone
- Ground Elevation

10-09-01. This chapter is and may be cited as "Bismarck Airport Zoning Ordinance".

Commented [LW1]: It's Bismarck Municipal Airport according to their documentation. I'd suggest making sure this ordinance reflects the proper name throughout.

Commented [BG2R1]: The Airport refers to themselves as Bismarck Airport.

10-09-02. Definitions. As used in this chapter, unless the context otherwise requires:

1. "Airport" means Bismarck Municipal Airport.

2. "Airport elevation" means the established elevation of the highest point of the landing areas and is set at 1,663 feet above sea level.

Commented [LW3]: According to AGIS data and survey from 2015, the airport elevation is 1661.1 ft.

Commented [BG4R3]: 1661.1 is correct and is shown on Sheet 2 (Airport Data Sheet) in the BIS ALP set.

Commented [LW5]: Change to mean sea level (MSL). Reflect new airport elevation.

3. "Airport hazard" means any structure, tree or use of land which obstructs the airspace for or is otherwise hazardous to the flight of aircraft in landing or taking-off at the airport.

4. "Airport reference point" means the point established as the approximate geographic center of the airport landing area and so designated.

5. "Board of adjustment" means a board consisting of five members appointed by the Board of City Commissioners of said city.

6. "Height". For the purpose of determining the height limits in all zones set forth in this article and

shown on the zoning map, the datum shall mean sea level elevation unless otherwise specified.

7. "Instrument runway" means a runway equipped or to be equipped with electronic or visual air navigation aids adequate to permit the landing of aircraft under restricted visibility conditions.

8. "Landing area" means the area of the airport used for the landing, take-off or taxiing of aircraft.

9. "Nonconforming use" means any structure, tree or use of land which is lawfully in existence at the time the regulation is prescribed in the article or an amendment thereto becomes effective and does not then meet the requirements of said regulation.

10. "Noninstrument runway" means a runway other than an instrument runway.

11. "Person" means an individual, firm, partnership, corporation, company, association, joint stock association, or body politic, and includes a trustee, receiver, assignee, administrator, executor, guardian, or other representative.

Commented [LW6]: Insert space between "non" and "instrument". My main question is if "non instrument runway" is the best definition to use in this document. Does "visual runway" better describe this condition? Part 77 defines a visual runway that is intended solely for the operation of aircraft using visual approach procedures. I would recommend using language similar to what's in Part 77.

Commented [BG7R6]: Agree, recommend use of term visual runway.

12. "Runway" means the paved surface of an airport landing strip.

Commented [LW8]: Runways can also be constructed from turf. Consider changing the language to reflect this. An example would be "paved runway".

13. "Structure" means an object constructed or installed by man, including, but without limitation, buildings, towers, smokestacks, and overhead transmission lines.

10-09-03. Creation of Zones. To carry out the provisions of this chapter certain zones are created which include all of the land lying within the instrument approach zones, non-instrument approach zones, transition zones, horizontal zone and conical zone. These areas and zones are shown on the airport zoning map consisting of one sheet, prepared by Mead & Hunt, Inc. and adopted by the Bismarck Community Development Department and dated March 5, 1979, which is made a part hereof, and on file in the offices of the city auditor and the city engineer. The various zones are established and defined as follows:

Commented [LW9]: If "non-instrument" is replaced with "non-precision", this would be changed to reflect that.

Commented [BG10R9]: Recommend use of term non-precision

Commented [LW11]: This should be "transitional". Additionally, this term isn't defined until further down in the document. I would recommend moving that definition and other pertinent definitions prior to 10-09-03.

Commented [LW12]: Change to "Bismarck Municipal Airport- Airport Zoning Map".

Commented [BG13R12]: Omit the word "municipal" -see previous comment

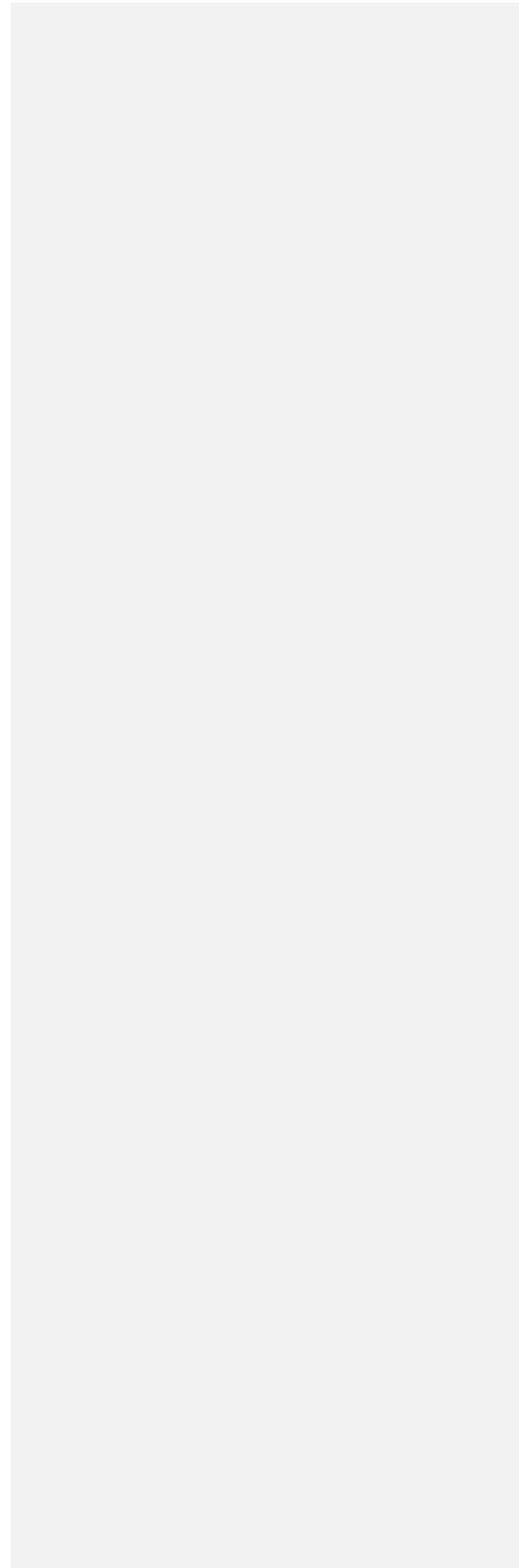
1. Instrument approach zone. An instrument approach zone is established at each end of the NW-SE instrument runway and at each end of the master planned NE-SW instrument runway, for the purpose of instrument landings and takeoffs. The instrument approach zones have a width of one thousand feet at a distance

Commented [LW14]: Suggest using "located".

Commented [LW15]: Awkward wording. Suggest rewording to "end of the NE-SW instrument runway as reflected in the..."

Commented [LW16]: "and begin two hundred feet beyond the ends of the runways..."

of two hundred feet beyond the ends of the runways, widening thereafter uniformly to a width of sixteen thousand



feet ~~at a distance of~~ fifty thousand two hundred feet beyond the ends of the runways, the center lines being the continuation of the center lines of the runways.

2. **Non-instrument approach zones.** A non-instrument approach zone is established at each end of all existing and master planned non-instrument runways for the purpose of non-instrument landings and takeoffs. The non-instrument approach zone of the NE-SW runway and the master planned NW-SE runway have a width of two hundred fifty feet at a distance of two hundred feet beyond each end of the runways, widening thereafter uniformly to a width of one thousand two hundred fifty feet at a distance of five thousand two hundred feet beyond each end of the runways, the center lines being the continuation of the center lines of the runways. The non-instrument approach zone of the N-S runway has a width of five hundred feet at a distance of two hundred feet beyond each end of the runway, widening thereafter uniformly to a width of two thousand five hundred feet at a distance of ten thousand two hundred feet beyond each end of the runway, its center line being the continuation of the center line of the runway.

3. **Transition zones.** Transition zones are established adjacent to each existing and master planned instrument and non-

Commented [LW17]: "and extends..."

Commented [LW18]: Unless there's a logical reason to leave these numbers spelled out, I would recommend using the numerical value instead of words. These are large numbers and it's easier to process while reading if they are in number form.

Commented [LW19]: I get what this means, but I am not sure this is the best way to present this. Perhaps some language can be added that discusses how the centerlines of the instrument approach zones are the extended centerlines of the runways.

Commented [LW20]: See previous comments about whether or not this is a good term to carry throughout the ordinance.

Commented [BG21R20]: Recommend use of non-precision approach zones

Commented [LW22]: Future or ultimate may be some language appropriate for this and would match the language in the recent master plan. If this were to change, it should be reflected throughout the ordinances.

Commented [BG23R22]: Recommend use of term future

Commented [LW24]: While this is correct, I suggest that the ordinance also include definitions of the primary surface. The inner width of the primary surface is also the inner width of the approach surface (or, non-instrument approach zones).

Commented [LW25R24]: 14 CFR Part 77.19, Civil Airport Imaginary Surfaces, Section C:

“(c) **Primary surface.** A surface longitudinally centered on a runway. When the runway has a specially prepared hard surface, the primary surface extends 200 feet beyond each end of that runway; but when the runway has no specially prepared hard surface, the primary surface ends at each end of that runway. Th... [1]

Commented [LW26]: See previous comment. It's important to distinguish this surface *begins* 200 feet b... [2]

Commented [LW27]: "runway end".

Commented [LW28]: Perhaps it would be a good idea to make sure there is a reference to the ALP or the Mast... [3]

Commented [LW29]: This dimension is correct. However, Part 77 uses this dimension for other than utility runw... [4]

Commented [LW30]: "begins 200 feet beyond each runway end" or something along that line.

Commented [LW31]: "and widens uniformly to..."

Commented [LW32]: See previous comment about extended centerline.

Commented [LW33]: Consider using "Transitional zones". Part 77 uses transitional surfaces.

instrument runway and approach zone as indicated on the zoning map. Transition zones symmetrically located on either side of the runways have variable widths as shown on the zoning map. Transition zones extend outward from a line one hundred twenty-five feet on either side of the center lines of the NE-SW and the master planned NW-SE non-instrument runways, and two hundred fifty feet on either side of the center line of the N-S non-instrument runway, for the length of the runways plus two hundred feet on each end, and are parallel and level with the runway center lines. Transition zones extend outward from a line five hundred feet on either side of the center line of the NW-SE and the master planned NE-SW instrument runways, for the length of the runways plus two hundred feet on each end, and are parallel and level with the runway center lines. The transition zones along the runways slope upward and outward one foot vertically for each seven feet horizontally to the point where they intersect the surface of the horizontal zone. Further, transition zones are established adjacent to the instrument and non-instrument approach zones for the entire length of the approach zones. These transition zones have variable widths, as shown on the zoning map.

Commented [LW34]: Not sure where they are getting this number unless this was established above and beyond what Part 77 requires.

Part 77 states:

(e) Transitional surface. These surfaces extend outward and upward at right angles to the runway centerline and the runway centerline extended at a slope of 7 to 1 from the sides of the primary surface and from the sides of the approach surfaces. Transitional surfaces for those portions of the precision approach surface which project through and beyond the limits of the conical surface, extend a distance of 5,000 feet measured horizontally from the edge of the approach surface and at right angles to the runway centerline."

Commented [LW35]: "and extends 200 feet beyond each runway end" is an example of how this could be cleaned up and more readable.

Commented [LW36]: Is this really necessary to the sentence? Could use "which are parallel and level to the runway center lines."

Commented [LW37]: What line? Is this supposed to say "center line"? Also, centerline should be one word and not two.

The transition zones flare symmetrically with either side of the runway approach zones from the base of the zones and slope upward and outward at the rate of one foot vertically for each seven feet horizontally to the points where they intersect the surfaces of the horizontal and conical zones. Additionally transition zones are established adjacent to the instrument approach zones where they project through and beyond the limits of the conical zone, extending a distance of five thousand feet measured horizontally from the edge of the instrument approach zones at right angles to the continuation of the center line of the runways.

Commented [LW38]: Some of this is redundant language. However, the piece about the intersection of the horizontal and conical zones should be worked into the previous sentence(s).

Commented [LW39]: Comma (",") here.

4. Horizontal zone. A horizontal zone is established as the area contained within the following described boundary, the perimeter of which is constructed by swinging arcs of ten thousand two hundred feet from each end of the NW-SE runway and the master planned NE-SW runway, and connecting the adjacent arcs of lines tangent to those arcs. The horizontal zone does not include the instrument and non-instrument approach zones and the transition zones.

Commented [LW40]: A blanket comment is to rearrange these sections to reflect the order in Part 77. Each surface (or "zone") builds off of the other and might help a reader connect the dots, so to speak.

Commented [LW41]: The arcs are swung from the center of each end of the primary surface... Which is the technically lies at the end of each runway end.

5. Conical zone. A conical zone is established as the area that commences at the periphery of the horizontal zone and extends outward therefrom a distance of four thousand feet. The conical

Commented [LW42]: Not sure this a real word. Suggest using "extends outward for a distance of four thousand feet."

zone does not include the instrument approach zones and transition zones.

10-09-04. Zone Height Limits.

1. Except as otherwise provided in this chapter, a structure or tree may not be erected, altered, allowed to grow, or maintained in any zone to a height in excess of the height limit established for the zone. The height limitations established for each of the zones are as follows:

a. Instrument approach zones. One foot in height for each fifty feet in horizontal distance beginning at a point two hundred feet from and at the elevation of the end of the runway extending to a distance of ten thousand two hundred feet from the end of the runway; thence one foot in height for each forty feet in horizontal distance to a point fifty thousand two hundred feet from the end of the runway.

b. Non-instrument approach zones. One foot in height for each forty feet in horizontal distance beginning at a point two hundred feet from and at the elevation of the end of the runway, extending to a point ten thousand two hundred feet from the end of the runway, said zones are established at the ends of the N-S non-instrument runway. One foot in height for each twenty feet in horizontal distance beginning at a point two hundred feet from and at the elevation of the end of the runway, extending to a point five thousand two hundred feet from the end of the runway.

Commented [LW43]: "ten thousand two hundred feet beyond the runway end."

c. Transition zones. One foot in height for each seven feet in horizontal distance beginning at any point one hundred twenty-five feet normal to and at the respective elevations of the center lines of the NE-SW non-instrument runway and the master planned NW-SE non-instrument runway and two hundred fifty feet normal to and at the elevation of the center line of the N-S non-instrument runway extending two hundred feet beyond each end, and five hundred feet normal to and at the respective elevations of the center lines of the NW-SE instrument runway, extending two hundred feet beyond each end extending to a height of one hundred fifty feet above the airport elevation which is one thousand six hundred sixty-three feet above mean sea level.

Commented [LW44]: Check this?

In addition, there are established height limits of one foot

Commented [LW45]: See previous comments about airport elevation.

Commented [BG46R45]: 1661.1' MSL

vertical height for each seven feet horizontal distance measured from the edges of all approach zones for the entire length of the approach zones and extending upward and outward to the points where they intersect the horizontal or conical surfaces.

Further, where the instrument approach zones project through and beyond the conical zone, a height limit of one foot for each seven feet of horizontal distance must be maintained beginning at the edge of the instrument approach zones and extending a distance of five thousand feet from the edge of the instrument approach zones measured normal to the center lines of the runways extended.

d. Horizontal zone. One hundred fifty feet above the airport elevation or a height of one thousand eight hundred thirteen feet above mean sea level.

e. Conical zone. One foot in height for each twenty feet horizontal distance beginning at the periphery of the horizontal zone; extending to a height of three hundred fifty feet above the airport elevation.

Commented [LW47]: "Furthermore"?

Commented [LW48]: Is this word necessary for this ordinance? What purpose does it serve?

Commented [LW49]: This isn't correct. Survey from 2015 shows that airport elevation is 1661.1 ft. So 150' above airport elevation is 1,811.1 feet.

2. Where an area is covered by more than one height limitation the more restrictive limitation prevails.

Commented [LW50]: Insert comma (,) here.

10-09-05. Use Restrictions. Notwithstanding any other provisions of this chapter, a use may not be made of the land within a zone established by this chapter in a manner which creates electrical interference with radio communication between the airport and aircraft, makes it difficult for flyers to distinguish between airport lights and others, results in glare in the eyes of flyers using the airport, impairs visibility in the vicinity of the airport or otherwise endangers the landing, takeoff or maneuvering of aircraft. |

Commented [LW51]: Does it make sense to add anything in regards to wind turbines, or are we assuming this zoning ordinance will preclude them altogether?

10-09-06. Regulations Not Retroactive.

1. The provisions of this chapter are not retroactive as to any structure or tree not in conformity with these regulations on January 24, 1967, nor shall the regulations affect the continuance of the non-conformity. In addition, this chapter does not require any change in the construction or alteration of the intended use of a structure which was began prior to January 24, 1967, and diligently prosecuted. |

Commented [LW52]: Date will need to change to reflect updated ordinance.

Commented [LW53]: See previous comment.

2. Notwithstanding subsection 1, the owner of any nonconforming structure or tree shall permit the installation, operation and maintenance of the markers and lights the airport manager deems necessary to indicate to the operators of aircraft in the vicinity of the airport, the presence of such airport hazards. The markers and lights are to be installed, operated and maintained at the expense of the city.

Commented [LW54]: Should this be director? The airport calls this position airport director.

Commented [BG55R54]: Recommend airport director

10-09-07. Use Permits.

1. Future uses: Except as specifically provided in paragraphs a, b and c, a material change may not be made in the use of land and a structure or tree may not be erected, altered, planted or otherwise established in any zone hereby created unless a permit therefor has been applied for and granted. Each application for a permit shall indicate the purpose for which the permit is desired, with sufficient particularity to permit it to be determined whether the resulting use, structure or tree would conform to the regulations herein prescribed. If such determination is in the affirmative, the permit must be granted.

a. In the area lying within the limits of the horizontal zone and the conical zone, a permit is not required for any tree or structure less than seventy-five feet of vertical height above the ground, except when because of terrain, land contour or topographic features such tree or structure would extend above the height limits prescribed for such zone.

b. In the areas lying within the limits of the instrument and non-instrument approach zones but at a horizontal distance of not less than 42,000 feet from each end of the runways, a permit is not required for any tree or structure less than seventy-five feet of vertical height above the ground, except when such tree or structure would extend above the height limit prescribed for such instrument or no-instrument approach zone.

c. In the areas lying within the limits of the transition zones beyond perimeter of the horizontal zone, a permit is not required for any tree or structure less than seventy-five feet of vertical height above the ground except when such tree or structure, because of terrain, land contour or topographic features would extend beyond the height limit prescribed for such transition zones.

Nothing in the foregoing exceptions may be construed as permitting or intending to permit any construction, alteration or growth of any structure or tree in excess of the height limits, except as set forth in section 10-09-04.

Commented [LW56]: This is an odd word; perhaps "aforementioned" might be a better choice.

2. Existing uses: Permits may not be granted that would allow the establishment or creation of an airport hazard or permit a nonconforming use, structure or tree to be made or become higher, or become a greater hazard to air navigation, than it was on January 24, 1967, or than it was when the application for a permit is made. Except as indicated, all applications for such a permit shall be granted.

Commented [LW57]: See previous comments.

3. Non-conforming uses abandoned or destroyed: Whenever the airport manager determines that a non-conforming structure or tree has been abandoned or is more than eighty percent torn down, physically deteriorated, or decayed, a permit may not be granted to allow the structure or tree to exceed the applicable height limit or otherwise deviate from the zoning regulations.

Commented [LW58]: See previous comment.

4. Variances: Any person desiring to erect or increase the height of any structure, or permit the growth of any tree, or use his or her property, not in

accordance with the regulations, **ma** apply to the board of adjustment for a variance from the regulations. The variances may be allowed if it is found that a literal application or enforcement of the regulations would result in practical difficulty or unnecessary hardship and the relief granted is not contrary to the public interest but would do substantial justice and be in accordance with the spirit of this chapter.

Commented [LW59]: Word is misspelled. "may"

5. Hazard lighting and marking: Any permit or variance granted may, if deemed advisable and reasonable in the circumstances, be conditioned on the owner of the structure or tree in question permitting the city at its own expense, to install, operate and maintain thereon such markers and lights as may be necessary to indicate to flyers the presence of an airport hazard.

10-09-08. Enforcement. It is the duty of the airport **manager** to administer and enforce the regulations of this chapter.

Commented [LW60]: See previous comments.

Applications for permits and variances must be made to the airport manager on a form furnished by him or her. Applications required by this chapter to be submitted to the airport **manager** shall be promptly considered and granted or denied. Applications for action by the board of adjustment shall be forthwith transmitted by the airport **manager**.

Commented [LW61]: See previous comments.

Commented [LW62]: See previous comments.

10-09-09. Board of Adjustment. The existing city board of adjustment shall exercise the powers granted in section 2-04-10 of the North Dakota Century Code.

10-09-10. Administrative Appeal.

1. Any person aggrieved, or any taxpayer affected, by a decision of the airport **manager** may appeal to the board of adjustment.

Commented [LW63]: See previous comments.

2. All appeals must be taken within a reasonable time as provided by the rules of the board of adjustment, by filing with the airport **manager** a notice of appeal specifying the grounds.

Commented [LW64]: See previous comments.

The airport **manager** shall transmit to the board of adjustment all the papers constituting the record upon which the action appealed from was taken.

Commented [LW65]: See previous comments.

3. An appeal stays all proceedings in furtherance of the action appealed from, unless the airport **manager** certifies to the board of adjustment, after the notice of appeal is filed with it, that by reason of the facts stated in the certificate a stay would, in his opinion, cause imminent peril to life or property. In that case, proceedings shall not be stayed except by order of the board of adjustment on notice to the

Commented [LW66]: See previous comments.

agency from which the appeal is taken and on due cause shown.

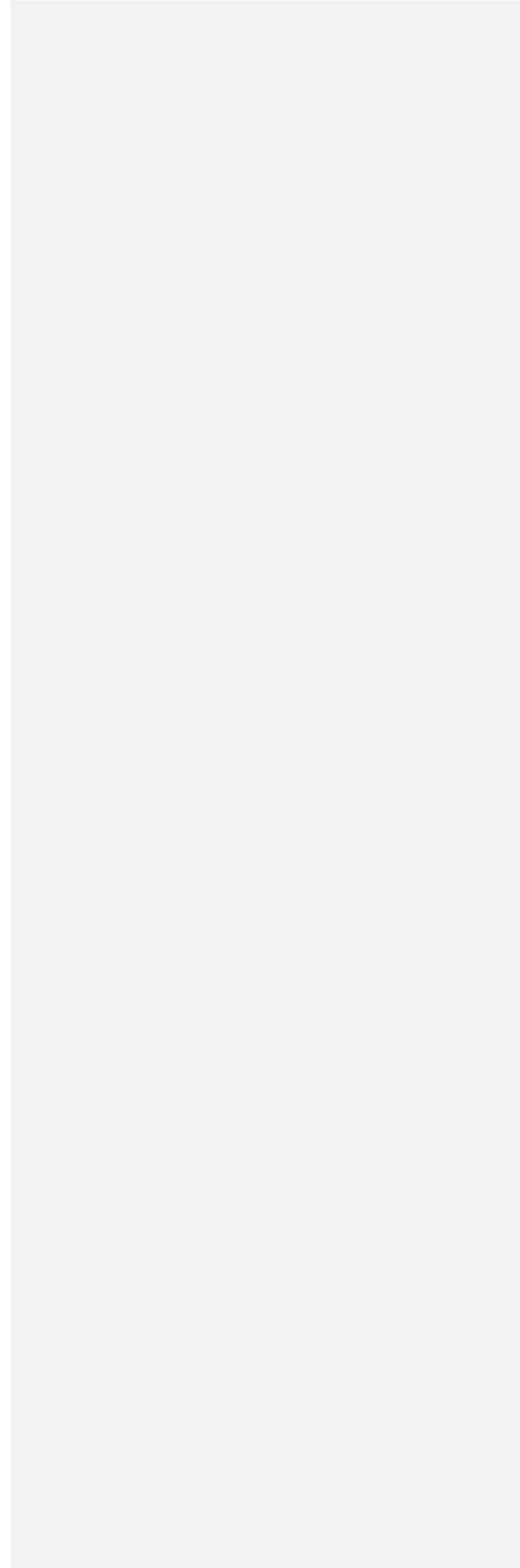
4. The board of adjustment shall fix a reasonable time for hearing appeals, give public notice and due notice to the parties in interest, and decide the appeal within a reasonable time. At the hearing any party may appear in person or by agent or by attorney.

5. The board of adjustment may reverse or affirm, in whole or in part, or modify the order, requirement, decision or determination appealed from and may make such order, requirement, decision or determination as may be appropriate under the circumstances.

10-09-11. Judicial Review. Any person aggrieved, or taxpayer affected, by a decision of the board of adjustment, may appeal to the board of city commissioners and may appeal an adverse decision of the board of city commissioners to the district court as provided in the North Dakota Century Code.

10-09-12. Conflicting Regulations. Where there exists a conflict between any of the regulations or limitations prescribed in this chapter and any other regulations applicable to the same area,

the more stringent limitation or requirement shall govern and prevail.



14 CFR Part 77.19, Civil Airport Imaginary Surfaces, Section C:

“(c) **Primary surface.** A surface longitudinally centered on a runway. When the runway has a specially prepared hard surface, the primary surface extends 200 feet beyond each end of that runway; but when the runway has no specially prepared hard surface, the primary surface ends at each end of that runway. The elevation of any point on the primary surface is the same as the elevation of the nearest point on the runway centerline. The width of the primary surface is:

- (1) 250 feet for [utility runways](#) having only visual approaches.
- (2) 500 feet for [utility runways](#) having non-precision [instrument](#) approaches.
- (3) For other than utility runways, the width is:
 - (i) 500 feet for [visual runways](#) having only visual approaches.
 - (ii) 500 feet for [non-precision instrument runways](#) having visibility minimums greater than three-fourths statute mile.
 - (iii) 1,000 feet for a [non-precision instrument runway](#) having a non-precision [instrument](#) approach with visibility minimums as low as three-fourths of a statute mile, and for precision [instrument](#) runways.
 - (iv) The width of the primary surface of a runway will be that width prescribed in this section for the most precise approach existing or planned for either end of that runway.”

See previous comment. It's important to distinguish this surface *begins* 200 feet beyond the runway ends. This could be read as it ends 200 feet beyond the runway end.

Perhaps it would be a good idea to make sure there is a reference to the ALP or the Master plan when referring to the different runways?

This dimension is correct. However, Part 77 uses this dimension for other than utility runways which are non-precision instrument runways. Adding language that coincides with Part 77 language and perhaps directing readers to Part 77 in addition to zoning ordinances might be wise. If Bismarck has more restrictive ordinances than what is covered in part 77, it certainly shouldn't be the end all be all.

14-04-20. AN Airport Noise Overlay District. In any AN Airport Noise overlay district, the following regulations shall apply: 1. General description. The AN Airport Noise overlay district for the area around the Bismarck Municipal Airport is hereby established based on the analysis and recommendations of the F.A.R. Part 150 Noise Compatibility Plan prepared for the Bismarck Municipal Airport. The AN zone is an overlay zone, the requirements and standards of which shall supplement the requirements and standards of the underlying zone. For the AN Airport Noise district, in promoting the general purposes of this ordinance, the specific interest of this section is:

a. To establish specific standards within noise-impacted areas to help mitigate the problems caused by airport noise.

b. To encourage the establishment of, and continuing operation of land uses within the overlay district which are compatible with the recommendations of the F.A.R. Part 150 Noise Compatibility Plan for the airport.

c. To permit the establishment of, and continuing operation of land uses within the overlay district which are non-compatible with the recommendations of the F.A.R. Part 150 Noise Compatibility Plan for the airport, provided such uses are located on lots of record which exist as of the date of enactment of this ordinance.

d. To prohibit the development of new noise-sensitive land uses within the overlay district, except as provided under the provisions of this ordinance.

Commented [LW1]: If AN stands for Airport Noise, that needs to be indicated. For instance "Airport Noise (AN)..."

Commented [LW2]: "Federal Aviation Regulations (FAR)"

Commented [LW3]: Airport Noise Compatibility Planning is the correct term.

Commented [LW4]: See previous comment.

Commented [LW5]: See previous comments.

2. AN district boundaries. The boundaries of the AN airport noise district are shown on the official zoning map of the city and generally correspond to the area impacted by noise exceeding 65 Ldn based on a combination of noise contours for the 1989 Official Noise Exposure Map, the 1990 Noise Compatibility Plan, and the 1995 Noise Compatibility Plan as presented in the F.A.R. Part 150 Noise Compatibility Study prepared for the Bismarck Municipal Airport and dated February 12, 1991.

Commented [LW6]: Should be included in the city zoning map. Add an additional location for "Bismarck Airport - Airport Zoning Map". In other words, reference the map we are providing the City of Bismarck.

Commented [LW7]: Day-night average sound level (DNL).

Commented [LW8]: See previous comments.

3. Definitions.

a. Day-Night Sound Level (Ldn): A cumulative noise metric which describes the noise occurring during a 24-hour period as averaged over one year. The Ldn metric assesses a 10 dB penalty to all noise events occurring between 10:00 p.m. and 7:00 a.m., reflecting the greater annoyance associated with nighttime noise.

Commented [LW9]: See previous comments.

Commented [LW10]: See previous comments.

b. Ldn Contour: A line linking together a series of points of equal cumulative noise exposure based on the Ldn metric. Aircraft noise contours are developed based on aircraft flight patterns, number of daily aircraft operations by type of aircraft and time of day, noise characteristics of each aircraft, and typical runway usage patterns.

Commented [LW11]: See previous comments.

Commented [LW12]: See previous comments.

c. Lot of Record: A record lot as defined in Section 14-02-03 of the Zoning Ordinance.

d. Navigable Airspace: The airspace above the minimum altitudes of flight prescribed by regulations issued under the Federal Aviation Act of 1958, Section 101(24) 49 United States Code 1301, including the

airspace needed to ensure safety in the take-off and landing of aircraft.

e. Noise Compatibility Plan: A plan developed in conformance with Part 150 of the Federal Aviation Regulations proposing noise abatement and land use management measures to reduce the adverse impact of aircraft noise on surrounding residents and noise-sensitive land uses.

Commented [LW13]: FAR Part 150 instead.

f. Non-compatible Land Use: A land use shown in the Table of Land Use Compatibility Standards as not permitted within the AN Airport Noise Overlay Zone.

Commented [LW14]: If "AN" is an abbreviation of Airport Noise, consider using one or the other and not both.

g. Official Noise Exposure Map: A map showing either existing or forecast aircraft noise exposure prepared in conformance with Part 150 of the Federal Aviation Regulations.

Commented [LW15]: See previous comment.

4. Uses permitted. Land uses permitted in the AN district shall be as specified in the Table of Land Use Compatibility Standards.

Commented [LW16]: See two comments prior.

5. Use prohibited. Land uses prohibited in the AN district shall be as specified in the Table of Land Use Compatibility Standards.

Commented [LW17]: See previous comment.

6. Land Use Compatibility Standards:

TABLE OF LAND USE COMPATIBILITY STANDARDS

<u>SLUCM NO.</u>	<u>Land Use Name</u>	<u>Overlay Zoning District AN</u> <u>(65+Ldn)</u>
10	<i>Residential</i>	
11	Household units	
11.11	Single Unit - detached	
11.12	Single Unit - semi-detached	N ¹

Commented [LW18]: Use "DNL".

11.13	Single Unit - attached row	N ¹
11.21	Two units - side by side	N ¹
11.22	Two units - over-under	N ¹
11.31	Apartments - walk-up	N ¹
11.32	Apartments - elevator	N ¹
12	Group quarters	N ¹
13	Residential hotels	N ¹
14.1	Mobile home parks	N ¹
14.2	Mobile homes in existing parks	N
15	Transient lodgings, hotels, motels	N ¹
16	Other residential	N ¹
20 MANUFACTURING		
21	Food & kindred products	
22	Textile mill products	Y
23	Apparel & other finished products made from fabrics, leather & similar materials	Y
24	Lumber & wood products (except furniture)	Y
25	Furniture & fixtures	Y

26	Paper & allied products	Y
27	Printing, publishing & allied industries	Y
28	Chemicals & allied products	Y
29	Petroleum refining and related industries	Y
30	MANUFACTURING (Continued)	Y
31	Rubber & miscellaneous plastic products	
32	Stone, clay & glass products	Y
33	Primary metal industries	Y
34	Fabricated metal products	Y
35	Professional, scientific & controlling instruments; photographic & optical goods; watches & clocks	Y
39	Miscellaneous manufacturing	Y