FAIRBANKS NORTH STAR BOROUGH

Chapter 17.56 - DESIGN AND PUBLIC IMPROVEMENT REQUIREMENTS
Sections .040-.140

17.56.040 Trail easements.

A. On lands through which Category A and B trails pass, the platting board shall require the dedication of easements to conform to the adopted comprehensive recreational trail plan.

B. Existing trail alignment may be adjusted to minimize impact on subdivision design, property use, and safety of residents, and to avoid conflict with existing or proposed roads, driveways, and utility or other special purpose easements. Such adjustments must be consistent with preservation of the continuity of the trail, safety of the trail users, and the purpose of the trail. Adjustments should be made only where necessary.

C. Where realignment is proposed, the new segments to be reserved shall be:

1. Cleared of all trees or brush to a width of five feet for nonmotorized trails or eight feet for multiple use trails; and

2. Equivalent, as nearly as practicable, to the average grade, slope, and terrain of the existing trail; and

3. A gradual transition from the existing trail. Transition points shall be marked or flagged to identify the transitions.

D. Whenever an existing trail alignment is to be abandoned which, because of duration of use or statutory provision, may have established a legal standing affecting title of the underlying fee, vacation of that alignment shall be pursued under provisions of Chapter 17.32 FNSBC, Vacations.

1. Wherever portions of an existing improved trail are proposed for vacation and are utilized for established access to land beyond the property under subdivision, the subdivision road network must provide for alternative routes which furnish equivalent utility for access.

E. Trail easement widths shall be as follows:

1. On public lands:
    a. Category A.
        i. Twenty feet for nonmotorized use,
        ii. Forty feet for multiple use;
    b. Category B.
        i. Twenty feet for nonmotorized use,
        ii. Forty feet for multiple use;

2. On nonpublic lands:
    a. Category A.
        i. Twenty feet for nonmotorized use,
        ii. Twenty feet for multiple use;
    b. Category B.
        i. Twenty feet for nonmotorized use,
        ii. Twenty feet for multiple use;

3. In subdivisions with proposed average lot size less than 80,000 square feet and trail Category B:

a. Ten feet for nonmotorized use;

b. Ten feet for multiple use.

F. In those cases where the deflection angle of the tangent at the point of intersection (delta angle) exceeds 45 degrees, a curve shall be introduced with a radius of 50 feet for nonmotorized trails and 50 feet for multiple-use trails to ensure that the predominant use of the trail will occupy as nearly as possible the center of the reserved easement. (Ord. 2005-10 § 2, 2005. 2004 Code § 17.60.090.)

17.56.060 General road requirements.[1]

A. An applicant for a subdivision that creates fewer than 10 new lots in a fire service area and is not in a road service area, or any subdivision that is not in a road service area and fire service area, and does not rely on roads maintained by a service area for its only access or for access that is required by the subdivision plat or by other regulation or ordinance may apply for and shall be exempted from minimum standards for road materials and construction subject to the following requirements and restrictions:

1. A subdivision which is approved pursuant to this exemption shall not be eligible for inclusion into a road service area until a registered professional certifies that the roads sought to be included meet the minimum design, materials and construction standards of this title in effect when the subdivision was preliminarily approved.

2. The exemption from minimum road materials and construction must be disclosed in writing to any buyer of an exempted lot and any subdivision approved pursuant to this subsection shall contain a plat note with the disclosure containing essentially the following language:

Roads in and to this subdivision were not required to and may not meet the borough's minimum standards for materials and construction. To the extent these road standards have not been met, fire protection, ambulance and other public services may not be available year-around or their availability may be severely limited.

3. The applicant shall provide to the platting authority sufficient information to demonstrate that the subdivision roads have been designed so as to allow future practical and economical construction that meets the standards of this title in effect at the time of the preliminary approval.

4. Where roads in exempted subdivisions intersect with existing traveled ways, landings shall be constructed with a minimum of a 30-foot length meeting the minimum standards for road materials and construction of this title, Fairbanks North Star Borough public works department driveway permit and, if required, the State of Alaska Department of Transportation and Public Facilities driveway permit.

B. An applicant for a subdivision that is not in a road service area but relies on roads maintained by a service area for its only access or for access that is required by the subdivision plat or by other regulation or ordinance may apply for and shall be exempted from minimum standards for road materials and construction subject to the following requirements and restrictions:

1. A subdivision which is approved pursuant to this exemption shall not be eligible for inclusion into a road service area until a registered professional certifies that the roads sought to be included meet the minimum design, materials and construction standards of this title in effect when the subdivision was preliminarily approved.

2. The exemption from minimum road materials and construction must be disclosed in writing to any buyer of an exempted lot and any subdivision approved pursuant to this subsection shall contain a plat note with the disclosure containing essentially the following language:

Roads in and to this subdivision were not required to and may not meet the borough's minimum standards for materials and construction. To the extent these road standards have not been met, fire protection, ambulance and other public services may not be available year-around or their availability may be severely limited.

3. The applicant shall provide to the platting authority sufficient information to demonstrate that the subdivision roads have been designed so as to allow future practical and economical construction that meets the standards of this title in effect at the time of the preliminary approval.

4. There is either (a) a duly authorized, written letter of no objection from the road service area that maintains the roads that the subdivision relies on for its only access or for access required by the subdivision plat or other regulation or ordinance or (b) all of the lots created by the subdivision are governed by a homeowners' association or other similar legal entity comprised of all of the subdivision's property owners and that entity has entered into an agreement approved by the road service area that obligates all current and future subdivision property owners to make annual payments in lieu of taxes to the road service area not to exceed the total amount that would otherwise be payable if the area was annexed into the road service area.

5. Where roads in exempted subdivisions intersect with existing traveled ways, landings shall be constructed with a minimum of a 30-foot length meeting the minimum grade and horizontal geometric requirements of this title and shall be in compliance with Fairbanks North Star Borough public works department driveway permit and, if required, the State of Alaska Department of Transportation and Public Facilities driveway permit.

C. The platting board may require higher minimum standards within Fairbanks North Star Borough road service areas provided the higher standard is commensurate with that of the majority of roads constructed within the service area in which the subdivision is being developed.

D. Road construction must be built taking into account the conclusions/recommendations based on the typical roadway cross-sections.

E. If the standards as contained herein are impractical because of terrain, soil characteristics, or drainage, the borough engineering division may recommend to the platting board alternate designs when substantiated by a design analysis prepared, signed and sealed by the applicant's registered professional. Any alternate geometric design shall be in accordance with sound engineering principles and meet AASHTO/ITE guidelines or applicable federal, state or local standards.

F. Any certification documents of public improvements submitted by the applicant shall be certified by a registered professional.

G. The owner shall warrant and guarantee that the required improvements will remain within the specifications of this title for a period of two years after final plat approval or approval by the borough engineer, whichever is later, and agrees to make all repairs necessary to meet those requirements during that two-year period. This guarantee shall be enforceable by municipal action or by private action by any lot owner within the subdivision.

1. The warranty and guarantee required by this section include defects in design, workmanship, materials, and any damage to required improvements caused by the subdivider, or his or her agents.

2. The duration of the warranty period may be extended for up to one year after completion of repairs or modifications made during the warranty period.

3. A surety in the amount of five percent of the borough engineer's cost estimate of the required improvements shall be provided at the time of final plat and shall be in effect through the warranty period, and, if necessary, for additional time for repairs necessary to meet the specifications of this title.

4. If defects or damage are discovered during the two-year period beginning from the date of final plat approval, or engineer approval as applicable, the borough shall notify the subdivider of the deficiencies to be corrected. In the event the subdivider fails to correct such deficiencies within 60 days or if the deficiencies constitute a public health and safety hazard, the borough may take the following remedial actions:

a. Seek an equitable order requiring the subdivider to correct the deficiencies;

b. Draw on the surety to correct the deficiencies, reserving the right to proceed against the subdivider for any insufficiency in the amount of the surety;

c. Make any repairs or corrections deemed by the borough to be essential to public health and safety and to proceed separately against the subdivider and/or the surety for the cost of the repairs or corrections;

d. The remedies set forth in this subsection are cumulative; provided, that it shall not be construed to allow the borough to recover more than the cost of curing the deficiencies, together with such costs, attorneys' fees and penalties as may be imposed through the court system.

5. If, at the end of the two-year warranty period, the borough has found no deficiencies in the improvements, the borough shall release the surety. If at the expiration of such period there are one or more outstanding notices to the subdivider, the borough may retain the surety until the deficiencies identified in the notice(s) have been corrected. (Ord. 2013-04 § 2, 2013; Ord. 2012-32 § 3, 2012; Ord. 2012-14 § 3, 2012; Ord. 2011-61 § 2, 2012; Ord. 2005-33 § 9, 2006; Ord. 2005-10 § 2, 2005. 2004 Code § 17.60.110.)

17.56.070 Road classifications.

A. Pioneer access roads may be appropriate for access to individual subdivided properties five acres and larger, with a maximum of five lots, requiring road construction.

B. Alleys are designed to provide secondary access to areas proposed for dwellings, commercial or industrial uses or subdivisions where service access, rear parking, or loading is desirable.

C. Local road 1 is designed to provide direct access to individual properties and have the potential of serving 10 or fewer residential lots, with a maximum length of 1,320 feet.

D. Local road 2 is a road within residential subdivisions which provides or supports access to 11 to 40 lots and does not function as a minor collector.

E. Minor collectors collect and distribute traffic from local roads and carry it to major collectors or the arterial system. Minor collectors serve as potential through or spine roads within subdivisions or serve nonresidential uses.

F. Major collectors collect traffic from local streets and minor collectors and channel it into the arterial system.

G. Frontage roads separate properties from heavily traveled arterial roads and eliminate the need for unlimited access to those roads.

H. Arterial roads are designed to move through traffic to and from major traffic generators or out of a community. (Ord. 2005-33 § 10, 2006; Ord. 2005-10 § 2, 2005. 2004 Code § 17.60.120.)

17.56.080 Right-of-way – Trafficway width.

A. All rights-of-way shall be of sufficient width to contain all road construction.

B. Minimum right-of-way, trafficway, and shoulder width shall be as follows:

Minimum Road Design Standards*
Right-of-Way/
Trafficway Widths

Road Classification	Minimum R.O.W.	Minimum Trafficway Width	Minimum Shoulder
Local 1[1]	40	18	2
Local 2[2]	50	20	2
Minor collector	60	20	2
Major collector	80	24	2
Arterial	100	24	2
Frontage road	40	24	2
Alley	20	16	0
Pioneer access road	40	16	0

1 Serve 10 or fewer residential lots, with a maximum length of 1,320 feet.

2 Road within residential subdivisions which provide or support access to 11 to 40 lots and do not function as minor collectors.

* Based on topography and potential development, greater minimum standards may be required.

C. Road Shoulder. For all roads except pioneer access roads and alleys, the applicant shall provide two feet of shoulder width to each side of the trafficway width and shall surface it with the same material as the base. The slope of the shoulder shall not exceed 4:1.

D. Roads that do not connect to adjacent roads shall end in a cul-de-sac or temporary turnaround.

E. Cul-de-Sac and Turnaround Requirements.

1. Roads ending with cul-de-sacs may be used in subdivision design as follows:

    a. Where internal road circulation is restricted by topography or adjacent land use;

    b. As a desirable traffic design characteristic.

2. Roads ending with cul-de-sacs shall not exceed 900 feet in length as surveyed from road intersection to centerpoint of cul-de-sac except as follows:

a. If conditions warrant a cul-de-sac road longer than 900 feet, the minimum trafficway shall be 20 feet wide the entire length;

b. In no case shall the cul-de-sac length exceed 1,320 feet.

3. Permanent or temporary turnarounds shall be constructed to provide a minimum turning diameter of 85 feet contained within a 100-foot diameter right-of-way or, when necessary, contained within a right-of-way sufficient to encompass all road construction.

4. All permanent turnarounds shall have 25-foot minimum radius curve returns between the turnaround bubble and the parallel right-of-way lines to which it attaches. (Ord. 2005-33 § 11, 2006; Ord. 2005-10 § 2, 2005. 2004 Code § 17.60.130.)

17.56.090 Right-of-way – Distance from structures.

No street or right-of-way shall be created or modified within 15 feet of a permanent building existing on or adjoining the property to be subdivided or dedicated unless the applicant proves that the replat will not impede safe public access or otherwise result in a hazard to persons or property. (Ord. 2005-10 § 2, 2005. 2004 Code § 17.60.140.)

17.56.100 Road geometrics and profiles.

A. Where the deflection angle of two road tangents exceeds 10 degrees, a horizontal circular curve is required, the centerline radius of which shall not be less than as outlined below:

1. Local 1 and pioneer access roads, 125 feet;

2. Local 2 roads, 205 feet;

3. Minor collector road, 300 feet;

4. Switchbacks. Switchbacks shall be connected with at least a 50-foot radius curve, and the curve shall have a maximum grade of two percent. Switchbacks will be allowed on local roads and pioneer access roads only;

5. Single curves shall be separated by a 220-foot minimum tangent length for collector and frontage road classifications.

B. Gradients.

1. The maximum permitted road grade for straight sections of local, pioneer, and collector roads shall be 10 percent.

2. The maximum centerline grade for horizontal curves within 25 percent of the minimum radius shall be seven percent with superelevation determined by AASHTO/ITE guidelines.

3. Permanent and temporary turnaround areas shall not exceed four percent.

4. For collector and frontage roads, all changes in road grades shall be connected by vertical curves of a minimum length equivalent to 30 times the algebraic difference in the grade percents.

5. For all other roads, the vertical curve length shall be one-half this minimum.

C. Intersections.

1. Streets shall intersect at an angle as close to 90 degrees as feasible, and in no event, at an angle less than 60 degrees.

2. In classifications other than pioneer access roads, corner roundings with a minimum 20-foot radius shall be required at intersections, except the creation of corner roundings shall not be required by platting action that otherwise would require no other right-of-way dedication if the borough engineer and, if existing, a managing public agency of the roadway(s) find the following:

a. The existing rights-of-way provide sufficient area for the existing road improvements; and

b. The existing rights-of-way provide sufficient area for planned future road improvements.

3. No more than two roads shall intersect at one point.

4. The distance between intersection centerlines shall not be less than 200 feet.

5. For intersections with collectors and frontage roads, intersecting roads shall have no horizontal curves within 100 feet of an intersection.

6. For intersections of all other roads, no horizontal curves shall be within 50 feet of an intersection.

7. Within 100 feet of the shoulder of the through road at an intersection, the intersecting road shall have a grade not exceeding four percent.

a. The through road shall have a grade not exceeding six percent 75-foot each side of the intersection.

D. Sight Distances. The following minimum sight distances, including horizontal and vertical conditions, shall apply both to intersections and along road centerlines:

Minimum Road Design Standards
Road Geometrics and Profiles

Road Classification	Minimum Curve Radius	Minimum Sight Distance	Design Speed
New Option			
Local 1	125	125	20 mph
Local 2	205	205	25 mph
Minor collector	300	300	30 mph
Major collector	*	*	45 mph
Arterial	*	*	55 mph
Frontage road	300	300	30 mph
Alley	125	125	20 mph
Pioneer access road	125	125	20 mph

* Determined by AASHTO/ITE standards.

(Ord. 2015-45 §§ 4, 5, 2015; Ord. 2015-15 § 2, 2015; Ord. 2005-33 § 12, 2006; Ord. 2005-10 § 2, 2005)

17.56.110 Connections with existing and future development.

A. The alignment of subdivision streets shall conform to the official streets and highway plan, when adopted by the Fairbanks North Star Borough assembly.

B. Rights-of-way for stub roads, including temporary dead-end streets intended to provide access for future subdivisions or to connect to existing adjacent subdivision roads, shall be provided to the boundary of the proposed subdivision.

C. Dedication of roads in subsection (B) of this section shall include provision for a temporary turnaround to the standards of this title.

D. Roads which are not required to provide access to lots in the subdivision and which do not connect to existing roads need not be constructed. (Ord. 2005-10 § 2, 2005. 2004 Code § 17.60.160.)

17.56.120 Road construction standards.

A. Subbase.

1. All base material shall be placed upon properly constructed and compacted subbase of sufficient depth and composition to ensure a driveable surface during adverse surface conditions.

2. Prior to placement or construction of the road subbase, all trees and brush shall be removed for at least 10 feet on both sides of the appropriate trafficway width. This debris material may be burned if the necessary permits are obtained. Clearing debris under four inches in diameter may be disposed of within the construction limits by spreading in an even layer, provided the material shall not intrude into the upper four feet of subgrade.

B. Base.

1. Alleys and pioneer access roads must be constructed with at least six inches of base material.

2. Local roads must be constructed with at least 12 inches of base material.

3. Collector roads must be constructed with at least 15 inches of base material.

C. Surface Course.

1. Sections of road with grades greater than seven percent shall have surface course material substituted for the top four inches of base material.

2. Sections of road with grades of seven percent or less shall have surface course material substituted for the top three inches of base material.

3. Alleys and pioneer access roads are exempt from this subsection.

D. Elevation. All roads will be built to an elevation sufficient to ensure a driveable surface for two-way traffic during periods of adverse conditions or seasonal high water flows.

E. Placement. All construction shall be contained within the right-of-way except where the creation of additional slope easements is noted on the plat.

F. Compaction and Grading.

1. The applicant shall grade and compact all roadway surfaces prior to final inspection.

2. Except at intersections or along a superelevated curve, all unpaved roads shall have a three to five percent crown. Subbase and base will also have a crown.

3. Roadway compaction shall be at least 90 percent of the maximum dry density for the given material as determined by the modified Proctor method (AASHTO/ITE T180, Method D).

G. Inspections. Inspections shall be performed by the developer's registered professional during construction to ensure that all required improvements meet the specifications of this title and the requirements of preliminary plat approval. At a minimum, inspections shall occur upon completion of the subbase, the base, and the surface course phases of construction and include review of the road crown, width, and depth; type of material; drainage; and sign placement. (Ord. 2016-07 § 11, 2016; Ord. 2013-66 § 2, 2014; Ord. 2011-61 § 4, 2011; Ord. 2005-33 § 13, 2006; Ord. 2005-10 § 2, 2005. 2004 Code § 17.60.170.)

17.56.130 Road construction standards – Structure/bridges.

Bridges, bottomless culverts, and culverts of 36 inches in diameter or greater, retaining walls and other structures shall be prepared, signed and sealed by a registered professional. (Ord. 2005-33 § 14, 2006. 2004 Code § 17.60.175.)

17.56.140 Drainage.

A. A drainage plan prepared, signed and sealed by a registered professional shall include, at a minimum, a description of the property, description of the drainage basin disturbed by the development, methods and assumptions of the registered professional, and results for culvert locations, culvert outlet controls, drainage easements, ditch section and ditch lining.

B. The design of any drainage structures or reservoirs shall be sufficient to carry surface water runoff from spring melt and/or 10-year rainstorm events which may result from present or projected development.

C. All structures for erosion/runoff control shall be designed by the subdivider in compliance with the applicable state and federal statutes and regulations.

D. Minimum roadway culvert size for drainage shall be 18-inch diameter corrugated metal pipe or equal with at least a one percent drainage grade through the culvert. In areas where the natural drainage is one percent or less, the minimum drainage grade through the culvert may be reduced to three-tenths of one percent, or as allowed by the borough engineer.

E. Minimum roadway culvert size for water equalization shall be 12-inch diameter when approved by the borough engineer. (Ord. 2005-33 § 15, 2006; Ord. 2005-10 § 2, 2005. 2004 Code § 17.60.180.)