

Introduced: Mayor at request of
KPBRSA Board
Date: March 17, 1998
Hearing: April 21, 1998
Action: Enacted as amended
Vote: 7 Yes, 2 No

**KENAI PENINSULA BOROUGH
ORDINANCE 98-08**

**AN ORDINANCE APPROVING THE REVISED ROAD STANDARDS FOR
THE KENAI PENINSULA BOROUGH ROAD MAINTENANCE PROGRAM**

WHEREAS, it is desirable to have roads meet minimal road standards in order to be on the Borough road maintenance system; and

WHEREAS, it is desirable to have uniform borough-wide road standards administered by the road service area board; and

WHEREAS, there are a great number of deteriorating and substandard roads which were placed on the road maintenance system prior to the adoption of maintenance standards; and

WHEREAS, it is expensive to maintain substandard and deteriorating roads; and

WHEREAS, it is desirable to limit unnecessary liability to the Kenai Peninsula Borough Road Service Area due to poor road construction and limited maintenance resources; and

WHEREAS, state support for road maintenance has decreased from \$2,500.00 as provided by AS 29.60.110 to \$696.00 per mile; and

WHEREAS, local tax support has not increased in the road service area, while state funding for road maintenance has decreased, and the burden of maintaining substandard roads has increased.

NOW THEREFORE, BE IT ORDAINED BY THE ASSEMBLY OF THE KENAI PENINSULA BOROUGH:

SECTION 1. That the KPB 14.06 entitled "Road Standards", is amended as follows:

Chapter 14.06

ROAD STANDARDS

14.06.010 Standards applicable.

Before a road is certified for the [ACCEPTED INTO ANY] borough road maintenance [SYSTEM OR] program [OF THE BOROUGH], it must meet or exceed the requirements set forth in this chapter.

14.06.020 Subdivision standards.

All roads within a subdivision must meet or exceed the design requirements of KPB 20.20.010-20.20.260 in effect at the time of application for maintenance in order to be certified for road maintenance and in order to remain in the road maintenance program. [THAT PERTAIN TO ROADS OR THE SUBDIVISION STANDARDS THAT WERE IN EFFECT AT THE TIME THE SUBDIVISION PLAT WAS GIVEN FINAL APPROVAL.]

14.06.030 Local Road Construction Standards.

The Borough adopts the standards for construction of local roads contained in the publication “Kenai Peninsula Borough’s Road Construction Standards” (KPB Standards) dated [FEBRUARY 11, 1997 AVAILABLE TO THE PUBLIC FROM THE KENAI PENINSULA ROAD SERVICE AREA AT NO MORE THAN COST] February 3, 1998 and attached as Appendix A. Should there be a conflict between the KPB standards and those contained in the subdivision ordinance standards the road [SUBDIVISION] standards shall control.

14.06.040 Application for maintenance.

Any person may [REQUEST OR] apply for maintenance for an existing or planned [NEWLY CONSTRUCTED] road [TO BE PLACED IN THE MAINTENANCE PROGRAM WHERE SUCH ROAD] which lies within the borough road service area. The Kenai Peninsula Borough Road Service Area Board shall adopt [ESTABLISH] procedures for making applications for road maintenance consistent with the provisions of this chapter.

14.06.050 Certification.

Only roads that meet the design and construction standards set forth in this chapter may be certified by the road service area board for inclusion [INCLUDED] in the road service area maintenance program. Prior to certification [ACCEPTANCE] an inspection shall be performed by the Kenai Peninsula Borough Road Service Area director [BOARD] or his designee [ITS DESIGNATED AGENT] to determine that these standards have been met. A written recommendation to the road service area board must be made prior to the board’s certification of the road for the maintenance program. The level of maintenance is subject to available funding.

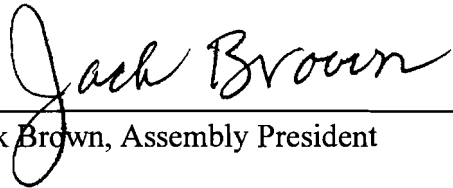
14.06.060 Other requirements not eliminated.

This chapter only establishes the design and construction standards for certification of roads [PRIOR TO ACCEPTANCE INTO] for the road maintenance program and does not eliminate any other requirements for eligibility for the road maintenance program that may be established by federal or

state statutes, borough ordinances or [ANY] other regulations adopted pursuant to these laws. [THEM.] [ROADS ACCEPTED FOR MAINTENANCE PRIOR TO ENACTMENT OF THIS ORDINANCE SHALL NOT BE DISALLOWED BECAUSE OF THEIR FAILURE TO MEET REQUIREMENTS OF THIS ORDINANCE.]

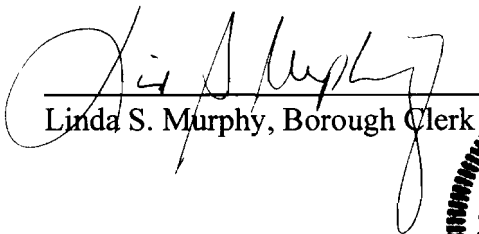
SECTION 2. That this ordinance shall take effect immediately upon its enactment.

ENACTED BY THE ASSEMBLY OF THE KENAI PENINSULA BOROUGH THIS 21st DAY OF APRIL, 1998.

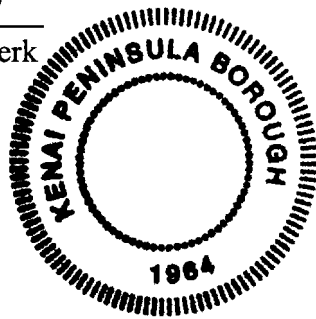


Jack Brown, Assembly President

ATTEST:



Linda S. Murphy, Borough Clerk



ROAD CONSTRUCTION STANDARDS

I. Introduction

The following criteria (standards) for the construction of local roads within the Kenai Peninsula Borough represent a **minimum** level construction of these roads. The developer, engineer or contractor is encouraged to build the roads to the highest standard possible within the economical constraints of the project. A road maintenance application **prior** to construction is required. No roads will be accepted for maintenance after September 1st of each year.

If an application is not filed prior to construction of a pre-existing road or a newly constructed road, an inspection shall be administered by the Road Service Area. This post-inspection process will be at the owner's expense. The post-inspection process requires an application, \$250.00 fee, test holes every 150 feet, and an as-built survey of the road scaled by a professional land surveyor registered in the State of Alaska under AS 8.48.

II. Definitions

Roads shall be constructed for specific traffic volumes and levels of service appropriate for the category of road set forth below. There are four categories of roads. Individual roads shall be constructed in accordance with the standard for the category of road being constructed.

Category I: A Cul-de-sac road or other minor road, both of which serve less than 15 lots.

Category II: A road which serves between 15 and 40 lots.

Category III: A road which serves between 41 and 100 lots.

Category IV: A road that serves greater than 100 lots.

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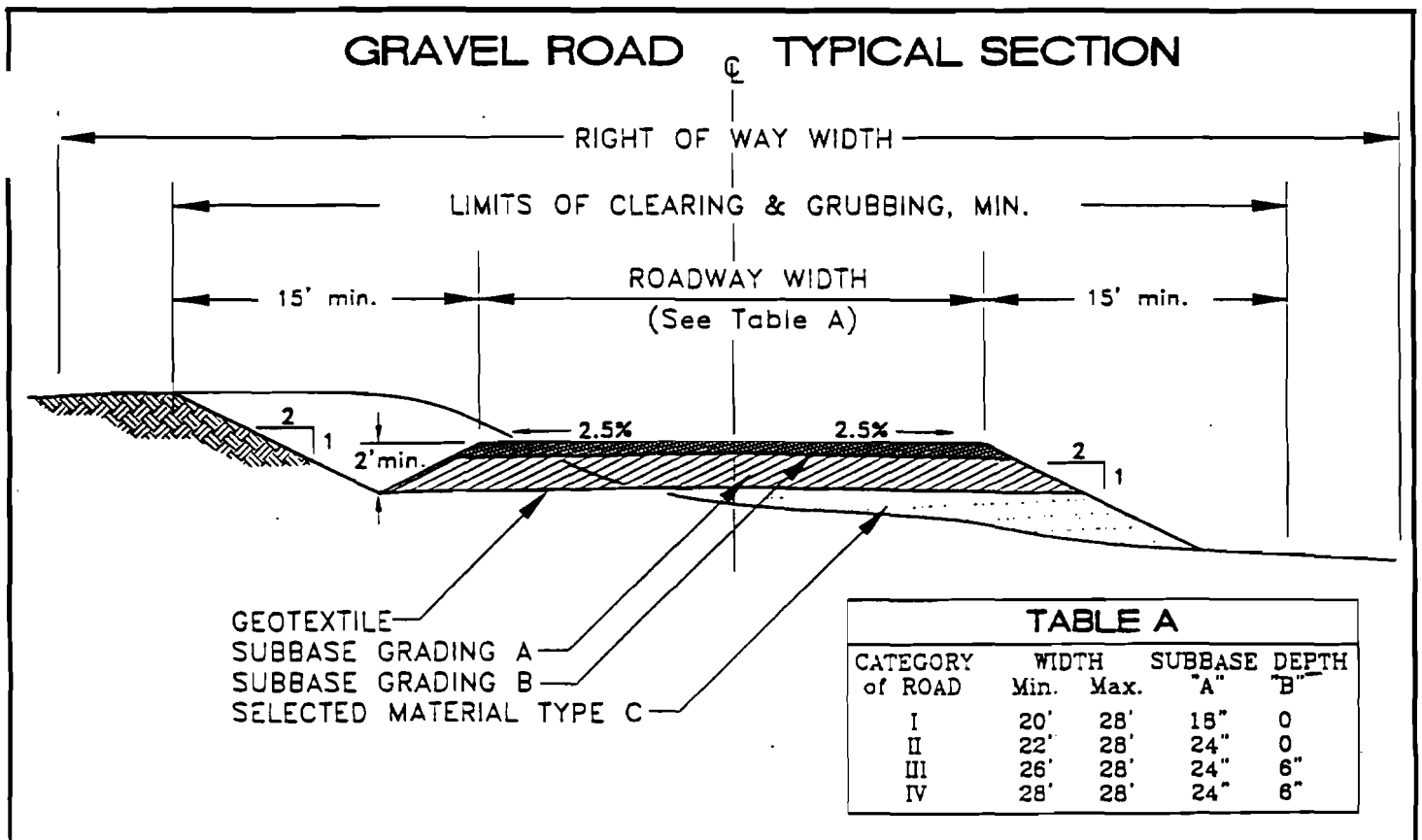
III. Road Widths

<u>Category of Road</u>	<u>Minimum Width (Feet)*</u>	<u>Maximum Width (Feet)</u>
I	20	28
II	22	28
III	26	28
IV	28	28

*Shoulder to shoulder

IV. Structures/Bridges

The design of bridges, bottomless culverts, walls and other structures shall be in accordance with the current 'Standard Specifications' for Highway Bridges and in accordance with the policy on Geometric Design of Highways and Streets, 1984." Plans, prepared and stamped by a licensed professional engineer, shall be submitted to the Road Service Area Board for approval, prior to construction.



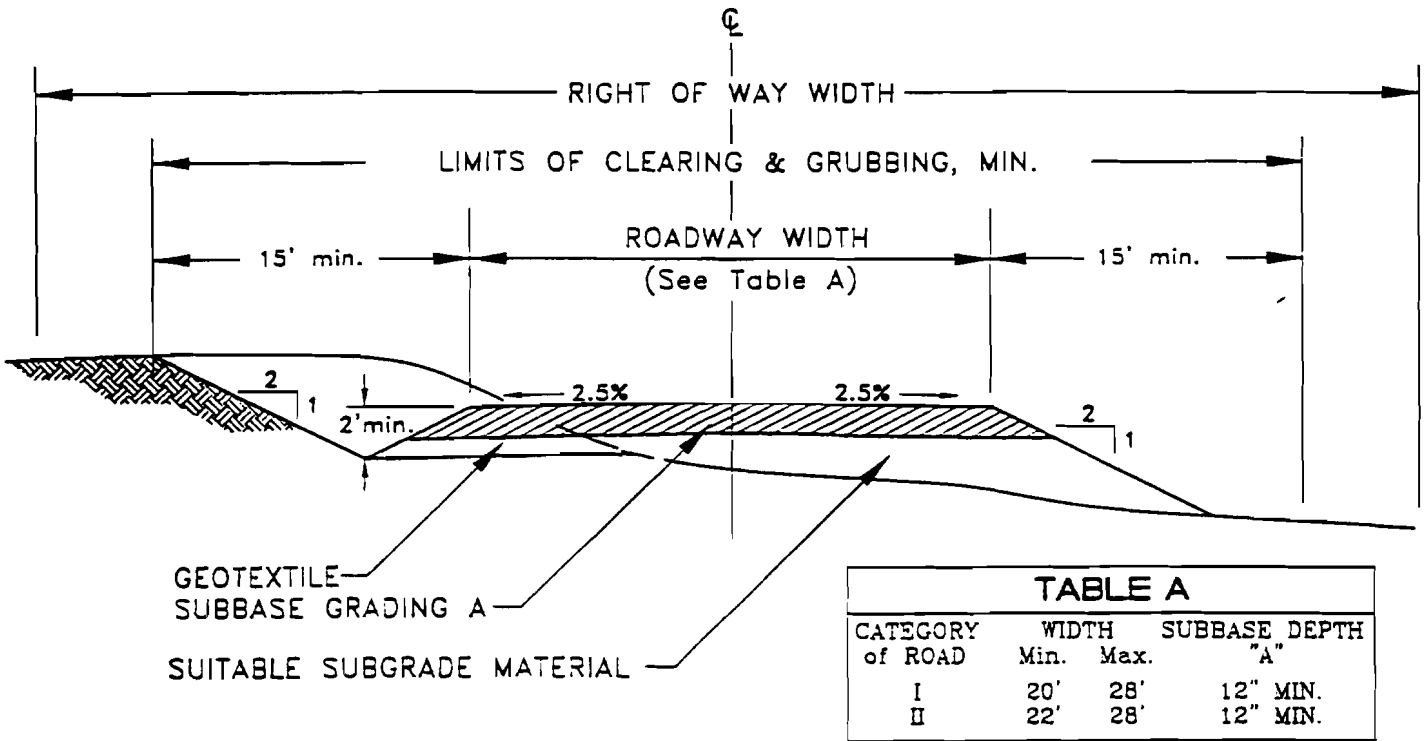
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V. Construction Standards

- A.** Gravel roads shall be constructed in accordance with the Typical Section and Table A. Additional requirements are:
1. All roads must be on a dedicated right-of-way and must be built along the right-of-way centerline. Minimum right-of-way width is to be 50 to 60 feet, enabling utilities to be installed outside the edge of roadside ditches.
 2. All organic material shall be stripped and removed to a minimum depth of four (4) feet below finished grade. If geotextile is utilized over organics, then the depth of subbase must be three (3) feet minimum or greater as required for stable embankment.
 3. Extraction of material between the ditch lines for any purpose other than excavation to subgrade is prohibited.
 4. Geotextile shall be placed over all subgrade soils consisting of silts or clays with a frost classification of F-4 (U.S. Corps of Engineers.)
 5. The roadway embankment shall be placed in lifts and compacted to not less than 90% of maximum density. Maximum density shall be determined by AASHTO T 180, Method D.
 6. In place or useable excavation material meeting the specifications of the required embankment material may be utilized in lieu of borrow.
- B.** A project specific design may be submitted if prepared and sealed by a licensed professional engineer. The design shall include typical section(s), centerline plan and profile and drainage. The design shall be based on a soils investigation with test holes at least every 500 linear feet and report with test hole logs and soil analyses. Project specific designs are subject to approval by the Road Service Area Board prior to construction.

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ALTERNATE TYPICAL SECTION



C. Alternate construction methods may be utilized for Category I and Category II roads where soil, economic and other conditions are such that the standard typical section is not practical. It is the developers responsibility to construct a functional road that will be suitable for traffic and maintenance operations. Final acceptance by the Road Service Area (RSA) will be based on inspection and performance testing. Roads constructed under this alternate method must meet the following requirements:

1. A RSA pre-application form and an application form requesting road maintenance must be filed prior to the start of construction.
2. The road must meet the minimum requirements shown on the Alternate Typical Section.
3. Three inspections are required by the RSA, consisting of initial, midway and final inspections. The final inspection will be conducted one year after the initial application, during the summer season when the subgrade and roadbed are frost free. Photographic documentation will be done by the RSA representative.

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4. The applicant must provide the means to conduct a proof roll test during the final inspection. The proof roll test will consist of a fully loaded 12 cubic yard end dump truck traversing the road as directed by the inspector. The minimum proof rolling is full length of the road, on both lanes. If excessive rutting, greater than three (3) inch depth tracks, occurs, remedial work will be required. The RSA representative will designate the defective areas in a written report.
5. Winter maintenance only will be provided during the interim period for one year.

VI. ALIGNMENT

A. Vertical Alignment

Roads shall be constructed in a manner such that grades shall not exceed 6 percent on arterial roads and 10 percent on all other roads, nor 4 percent within 100 feet of any intersection.

B. Horizontal Alignment

Horizontal alignment shall meet the requirements of K.P.B. 20.20.120, 20.20.130 and 20.20.140. Roads shall be constructed along the centerline of the right-of-way and shall have curves meeting the minimum radius requirements of not less than 300 feet for right-of-ways 100 feet in width or more, and not less than 200 feet on all other roads.

C. Turnarounds

Roads designed to have one end closed, either permanently or temporarily, shall be constructed with a suitable turnaround with a minimum radius of 25 feet. Dedicated cul-de-sacs shall be constructed with a minimum radius of 30 feet. The turnaround shall be constructed to a 4 percent grade or less.

D. Intersections

Street intersections shall be constructed as nearly at right angles as possible. A minimum unobstructed sight distance of 150 feet shall be provided unless a definite finding by the board that a lesser distance is appropriate due to topography, traffic flow or other physical characteristics. Appropriate warning signs shall be required by the board.

Road intersections shall be constructed with a minimum return radius of 20 feet. Where acute intersections are provided, return radii shall be increased appropriately.

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VII. Drainage and Culvert Material

Roads shall be constructed to prevent ponding of runoff waters, in roadside ditches. Drainage ditches shall be constructed such that runoff waters will be conveyed to natural drainage courses, ditches or waterways, or other man-made drainage courses. Outfalls shall be constructed to prevent excessive siltation of riparian habitats, channel erosion or other drainage to public or private property. A roadway cross culvert shall be minimum diameter of 18 inches and driveway culverts shall be a *minimum* of 15 inches. All culverts, coupling bands and special sections shall be corrugated steel pipe, with a minimum of 16 gauge.

Depressed roadway sections are to be avoided.

VIII. Typical Section Materials

A. Subbase

Subbase shall contain no muck, frozen materials, roots, sod or other deleterious matter. It shall have a liquid limit not greater than 25 and plasticity index not greater than 6 as determined by AASHTO T89 and T90.

Requirements for Grading for Subbase Percent Passing by Weight

<u>Sieve Designation</u>	<u>Grading</u>	
	<u>A</u>	<u>B</u>
4 inch	100	-
2 inch	85 - 100	100
No. 4	30-70	30-70
No. 200	10 Max	0-6

B. Selected Material, Type C

Selected Material, Type C, shall be earth, sand, gravel, rock or a combination thereof, and shall contain no muck, peat, frozen material, roots, sod or other deleterious material and shall be compactible.

C. Geotextile Fabric

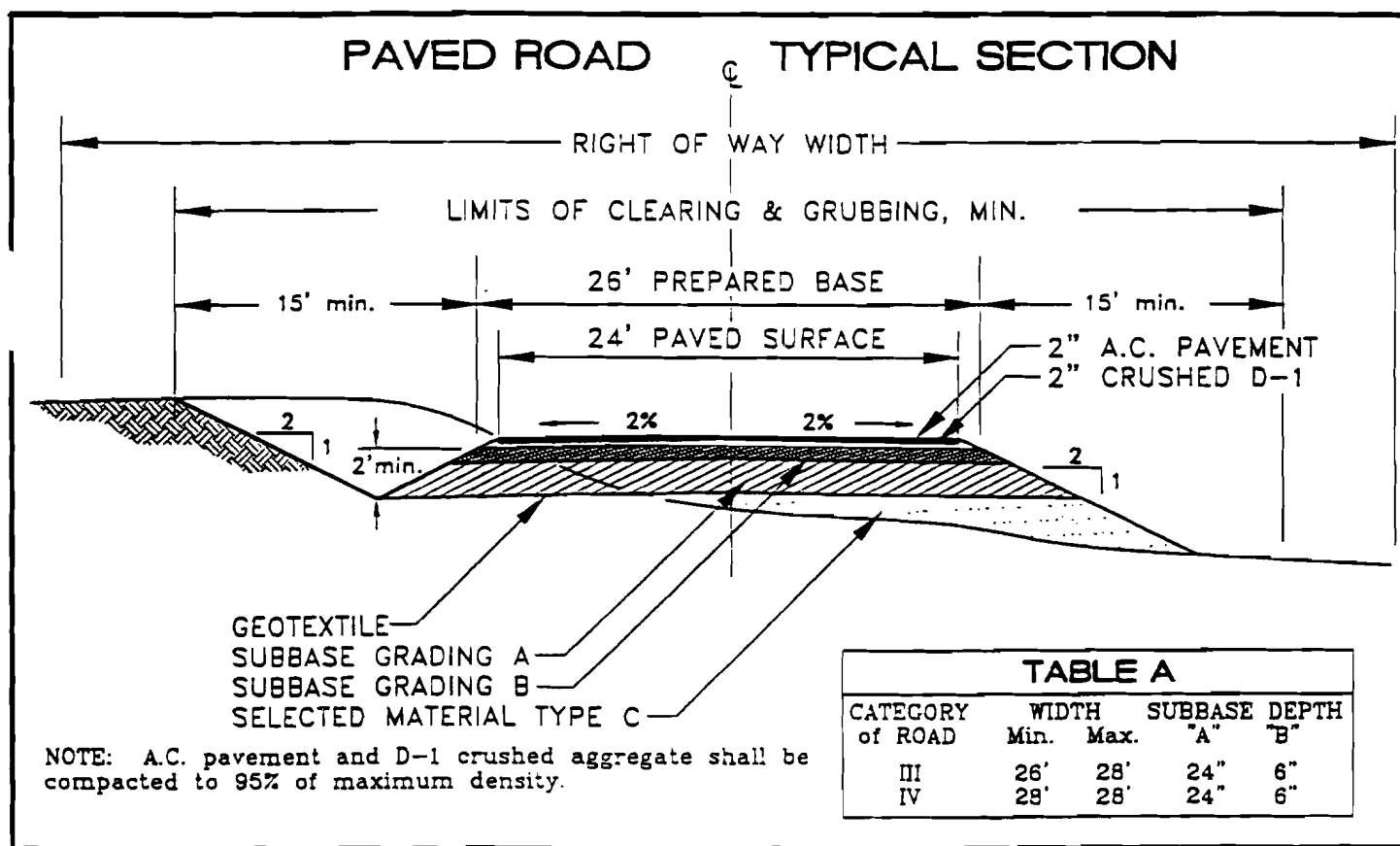
Geotextile fabric shall meet or exceed the following physical and mechanical requirements.

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<u>Geotextile Property</u>	<u>Test Method</u>	<u>Required Minimum</u>
Grab Tensile Strength	ASTM D 1682	190 lbs.
Grab Elongation	ASTM D 1682	30 %
Burst Strength	ASTM D 751	290 psi
Trapezoidal Tear Strength	ASTM D 117	50 lbs.
Permeability	AASHTO M 288	K(soil)

Geotextile shall be installed in accordance with manufacturer's recommendations. If multiple sections of fabric are required, the fabric shall be joined by overlapping adjacent sections a minimum of 3 feet.

IX. Paving Specifications



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A. Description

The work under this section consists of the performance of all work required for the construction of asphalt concrete pavement on a prepared base. Current editions of "Standard Specifications for Highway Construction," as adopted by the Alaska Department of Transportation and Public Facilities and the "Standard Specifications for Streets, Drainage, and Utilities," as adopted by the Municipality of Anchorage will be the references used for asphalt paving.

B. Material and Testing

1. Asphalt

The contractor shall submit a certified analysis of the asphalt to the engineer for review and approval. The engineer reserves the right to make check tests of the asphalt at the project site, and if the asphalt is not in accordance with the certified analysis he may reject the materials.

The asphalt required by these specifications shall conform to the requirements of The Asphalt Institute for the type and grade shown below.

Asphalt for paving mix shall be A.C. -5.

The contractor/developer, at their own expense, will be required to perform three field tests measuring aggregate gradation, asphalt content and compaction (95%).

The prepared base shall meet the standards for a Category III road. Inspection of the subbase, by a RSA approved party, is required prior to paving.

C. Certification of Design

The Road Service Area requires the asphalt design be submitted and stamped by an Alaska licensed professional engineer.

D. Other Specifications

The Road Service Area will use the same specifications previously cited to address seal coat, prime coat, paving geotextile and recycled asphalt paving.

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X. Signs

A. General Information

1. This section applies to furnishing and installing signs, guide markers, informational signs, and removal and relocation of sign related materials. The sign location and type of installation will be shown on the plans or as designated by the Roads Director.

Street name signage shall be installed by developers of new roads, following the specifications set forth in "Alaska Sign Design Specifications."

2. Speed signage shall be requested by resident petition pursuant to KPB 12.02.
3. Unauthorized signs located in the Kenai Peninsula Borough right-of-way may be removed by the Road Service Area.
4. The removal, defacing and or destruction of Road Service Area signs will be punished to the fullest extent of the law.

XI. Fee Schedule

The Road Service Area Board may establish a fee schedule to recover costs related to road standard implementation or inspection.

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