Basis of Design

This section applies to the design and construction of roadways.

Background

- Fire Apparatus Access Fire service is provided to the University by the Seattle Fire Department. Emergency access roads should conform to the Seattle Fire Code Article 9, SFD Administrative Rules, and referenced standards. See drawing 901RU-02 for University Campus Map Fire Lanes and Fire Hydrants.

- The University road system is designed with student safety as the main concern. When designing new or modifying existing roadways; pedestrian movement, sight distance, speed and conflict points should be considered to maximize pedestrian safety.

Design Criteria

- Cross walks crossing Stevens Way and Memorial Way shall be made with a 10-foot wide, 12-inch thick, dark grey colored concrete and scored with 2’ x 2’ square pattern.

- Stevens Way, Memorial Way and Pend Oreille Road are subject to Metro Bus traffic and are to be designed with pavement sections that can handle such traffic. Typically this is an 10-inch concrete over 6-inch crushed surfacing base course section.

- Vehicular PCC paving shall be used in service areas, loading docks, and access roads leading to loading docks, and shall have a minimum thickness of 8 inches over 4 inches of Crushed Surfacing Base Course. Additional pavement section may be needed as a result of the traffic and wheel loading study.

- Vehicular Asphalt paving shall be a minimum of 3 inches Asphalt Concrete HMA CI ½” over 6 inches if Crushed Surfacing Top Course. Additional pavement section may be needed as the result of the traffic and wheel load study.

- Vehicular PCC and Asphalt paving shall meet latest requirements of Washington State Department of Transportation Standard Specifications for Road, Bridge, and Municipal Construction (WSDOT).

Design Evaluation

The following information is required to evaluate the design:

- **Design Development Phase**: Show road locations. Show cross section of roadways. Provide depths and preliminary specifications for all paving materials.

- **Construction Document Phase**: Details and specifications. Include joint design.

Construction Submittals

- Pavement mix design

- Plan of pavement joints

Products, Material and Equipment

- Provide a flexural strength of a least 3,000 psi at final strength for concrete for vehicular PCC paving. Use high-early cement when it is necessary to open the area to traffic after seven days of curing.
• Provide concrete for PCC paving with a silica fume additive when (a) the slope of the paving exceeds a 6 percent grade or (b) within 60 feet of a stop sign.

**Installation, Fabrication and Construction**

• The University of Washington shall retain a testing lab to monitor and test all rock, concrete and asphalt samples and check the density of the subgrade before placing the surfacing materials.

• The specifications shall call for testing of the concrete for vehicular paving to be in accordance with ASTM C 78 Standard Testing Method for Flexural Strength of Concrete (using a simple beam with third point loading).

• After edging, apply a medium broom finish transversely to vehicular PCC paving.

• Saw cut joints as soon as possible (approximately 8 to 10 hours after pouring).

• Cure vehicular PCC pavement with water only.

• Supply a back-up sprinkler system if the evaporation rate exceeds the rate shown in the specification.

• Place asphalt pavement when the air temperature is above 50º F and the sub grade is compact density in excess of 95% modified proctor.

• See Roadway & Utility Corridor Arrangement drawing.

• For long sections of vehicular PCC paving, a test sample showing final surface texture shall be made available at the site prior to initial pour. University Staff shall inspect the test sample. The Construction Coordinator shall make inspection arrangements with the Contractor and University Staff.

END OF DESIGN GUIDE SECTION
Roadway and Utility Corridor Arrangement

SOUTH OR WEST SIDE

1'–6"

STREET LIGHTING CABLE

6'–0" MIN.

VARI

2'–6"

15'–0"

GAS

STREET

5'–0"

SANITARY SEWER

5'–0"

STORM SEWER

15'–0"

WATER MAIN

NORTH OR EAST SIDE

FINISH GRADE

6'–0" MIN.

3'–0"

5'–6"

HYDRANT