

CLATSOP COUNTY DEVELOPMENT AND USE STANDARDS

DOCUMENT

ORDINANCE 80-14

(September 30, 1980)

Amendments

1. Order 81-3-142 March 30, 1981
- 2.

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ADOPTION OF DEVELOPMENT STANDARDS

DEVELOPMENT AND USE STANDARDS DOCUMENT FOR CLATSOP COUNTY

Section 1. Title. This ordinance shall be known as the Clatsop County Development Standards Document of 1980.

Section 2. Scope of Regulations.

(1) This document contains standards applicable to development. The development standards document is used primarily in conjunction with the development ordinance.

(2) If there is a conflict between a provision of this development standards document and a requirement of the development ordinance, or a requirement adopted under an approval procedure of the development ordinance, the requirement resulting from application of the development ordinance shall apply.

(3) The standards established by this initial enactment shall be revised and extended as specified in the following section of and by decisions authorized by the development ordinance and other ordinances of the County.

Section 3. Revision of Standards.

(1) The standards contained within this document may be revised or deleted and new standards may be added when such action will improve enforcement of the Land and Water Development Ordinance.

(2) The Planning Director or Planning Commission shall make recommendations for revision of the Development Standards to the Board of Commissioners. The recommendations shall contain a description of the proposed revision and evidence and factual information which supports the action. The potential impacts of the revisions shall be described.

(3) The Board of Commissioners shall hold a public hearing on the proposed revisions with the notice of the hearing published in a newspaper of general circulation. Action to approve the proposed revisions of standards shall be taken through an Order of the Board of Commissioners.

CHAPTER 1. SITE ORIENTATION

Sl.010. Basic Characteristics of a Residential Site. Except as otherwise provided by Sl.030 and Sl.040, a lot or parcel to be developed for residential use shall comply with the following:

1. In a location that will not be served by a public sewer, a lot or parcel shall have sufficient size to permit compliance with the requirements of the Department of Environmental Quality for sewage disposal by septic tank and drainfield or other alternative system and permit continued reliance on that method of sewage disposal. If the location will not be served by a community water system, a lot or parcel shall have sufficient additional size to permit an on-site water supply for each lot or parcel without conflict between water supply and sewage disposal facilities.
2. In a location that will be served by public or private sewer, the standards of each zone shall apply.

Sl.030. General Exception to Lot Size Standards. If, at the time of adoption of these standards, a lot, or the aggregate of contiguous lots or parcels held in a single ownership, has an area or dimension which does not meet size requirements, the lot or aggregate holdings may be developed subject to all other requirements, and providing, if there is an area deficiency, residential use shall be limited to a single family residence.

CHAPTER 2. SITE ORIENTED IMPROVEMENTS

S2.010. Grading of Building Site. The grading of a building site shall conform to the standards contained in Chapter 70 of the 1979 edition of the Uniform Building Code published by the International Conference of Building Officials for all Hazard, Active Dune and Structures Allowed Active Dune districts.

S2.012. Clear Vision Area. A clear vision area shall be maintained on the corners of all property at the intersection of two streets or a street and a railroad.

- (1) A clear vision area shall consist of a triangular area, two sides of which are lot lines measured from the corner intersection of the street lot lines for a distance specified in this regulation, or, where the lot lines have rounded corners, the lot lines extended in a straight line to a point of intersection and so measured, and the third side of which is a line across the corner of the lot joining the non-intersecting ends of the other two sides.
- (2) A clear vision area shall contain no planting, fence, wall, structure or temporary or permanent obstruction exceeding 2.5 feet in height, measured from the top of the curb or, where no curb exists, from the established street center line grade, except that trees exceeding this height may be located in this area, provided all branches and foliage are removed to a height of eight (8) feet above the grade.
- (3) The following measurements shall establish clear vision areas:
 - a. In an agricultural or residential zone the minimum distance shall be thirty (30) feet or, at intersections including an alley, ten (10) feet.
 - b. In all other zones where yards are required, the minimum distance shall be fifteen (15) feet or, at intersections including an alley, ten (10) feet, except that when the angle of intersection between streets, other than an alley, is less than thirty (30) degrees, the distance shall be twenty-five (25) feet.

S2.100. Special Site Development for Environmental Protection. Special requirements for environmental protection are specified in Chapter 4 for the following areas and activities.

1. Beach and dune areas: S4.100 to S4.1
2. Shoreland and aquatic areas: S4.300 to S4.3
3. General soil areas: S4.300 to S4.3
4. Rock and mineral resource areas: S4.400 to S4.4

S2.200. Off-Street Parking Required. Off-street parking and loading shall be provided for all development requiring a development permit according to S2.200 to S2.212.

S2.202. Minimum Off-Street Parking Space Requirements. The minimum off-street parking space requirements are as follows:

(1) Residential type of development and number of parking spaces.

Single family dwelling - - - - - (2) per dwelling unit.

Multi-family dwelling - - - - - (3 per 2) dwelling units.

Sorority, fraternity or dorm - - - - - (1 per 2) occupants.

Residential hotel, rooming or
boarding house or club - - - - - (2 per 3) guest rooms.

Hotel or motel - - - - - (1) per guest room or suite,
plus (1 per 2) employee.

Mobile home park - - - - - (1) per mobile home site, plus
(1 per site) for guest parking
at a convenient location.

Planned Development - - - - - -In addition to the requirements
for dwelling units, (1 per 2)
units for guest parking at a
convenient location.

(2) Commercial type of development and number of parking spaces.

General retail or personal service - - -(1 per 200) sq.ft. floor area.

Furniture or appliance store - - - - -(1 per 500) sq.ft. floor area.

Auto, boat or trailer sales, or
nursery - - - - - (1 per 1,000) sq.ft. floor area,
plus (1 per 2) employees

Barber shop or beauty parlor - - - - -(1 per 100) sq.ft. floor area.

General, professional or banking
office - - - - - (1 per 300) sq.ft. floor area.

Medical or dental office or clinic - - -(1 per 200) sq.ft. floor area.

Eating or drinking establishment - - - -(1 per 100) sq.ft. floor area.

Theater, gymnasium, racetrack, stadium
or similar use - - - - - (1 per 4) seats or (8 ft.) bench
length.

- Amusement park - - - - - (1 per 1,000) sq.ft. floor area,
plus (1 per 2) employees.
- Service station - - - - - (1 per 2,000) sq.ft. lot area.
- (3) Institutional, public and quasi-public type of development and number of parking spaces.
- Child care center or kindergarten - - - - (1 per 2) employees, plus
(1 per 5) children.
- School, elementary or junior high - - - - (2) per teacher.
- School, high school - - - - - (2) per classroom, plus (1 per
10) students.
- Church, chapel, mortuary, auditorium - - - (1 per 4) seats or (8 ft.) bench
length.
- Nursing or convalescent home - - - - - (1 per 2) beds for patients and
residents.
- Hospital - - - - - (3 per 2) beds.
- Golf course - - - - - (8) per hole.
- (4) Industrial type of development and number of parking spaces.
- Storage, warehouse or manufacturing establishment;
air, rail or trucking freight terminal - - - (1) per employee on
largest shift.
- Public utility (gas, water, telephone, etc.) - - (1 per 2) employees on
largest shift, plus (1)
per company vehicle.
- (5) Requirements for a building or development not specifically listed
herein shall be determined by the Planning Director based upon the
requirements of comparable uses listed.

S2.204. Off-Street Parking Restrictions.

- (1) Parking spaces in a public street, including an alley, shall not
be eligible as fulfilling any part of the parking requirements.
- (2) Required parking facilities may be located on an adjacent parcel
of land or separated only by an alley, provided the adjacent par-
cel is maintained in the same ownership as the use it is required
to serve. Except for industrial uses, required parking shall not
be located in a required front or side yard setback area abutting
a public street.

- (3) In the event that several uses occupy a single structure or parcel of land, the total requirements for off-street parking shall be the sum of the requirements for the several uses computed separately.
- (4) Required parking facilities of two or more uses, structures, or parcels of land may be satisfied by the same parking facilities used jointly, to the extent that it can be shown by the owners or operators that the need for the facilities does not materially overlap (e.g. uses primarily of a daytime vs. nighttime nature) and provided that such right of joint use is evidenced by a deed, lease, contract, or similar written instrument establishing such joint use.
- (5) Required parking shall be available for parking of operable passenger vehicles of residents, customers and employees only, and shall not be used for the storage or display of vehicles or materials.

S2.206. Off-Street Parking Plan. A plan indicating how the off-street parking and loading requirement is to be fulfilled, shall accompany the application for a development permit. The plan shall show all those elements necessary to indicate that these requirements are being fulfilled and shall include but not be limited to:

- (1) Delineation of individual parking spaces.
- (2) Circulation area necessary to serve spaces.
- (3) Access to streets, alleys, and properties to be served.
- (4) Curb cuts.
- (5) Dimensions, continuity and substance of screening.
- (6) Grading, drainage, surfacing and subgrading details.
- (7) Delineations of all structures or other obstacles to parking and circulation on the site.
- (8) Specifications as to signs and bumper guards.

S.2.208. Off-Street Parking Construction. Required parking spaces shall be improved and available for use at the time of final building inspection.

S2.210. Design Requirements for Off-Street Parking. Driveways and turn-arounds providing access to parking areas shall conform to the following provisions.

- (1) Except for a single or two family dwelling, groups of more than three parking spaces shall be provided with adequate aisles or turnaround areas so that all vehicles may enter the street in a forward manner.
- (2) Except for a single or two family dwelling, more than three parking spaces shall be served by a driveway designed and constructed to facilitate the flow of traffic on and off the site, with due regard to pedestrian and vehicle safety, and shall be clearly and permanently marked and defined. In no case shall two-way and one-way driveways be less than twenty eight (28) feet and twelve (12) feet respectively.
- (3) Driveways, aisles, turnaround areas and ramps shall have a minimum vertical clearance of twelve (12) feet for their entire length and width but such clearance may be reduced in parking structures.
- (4) Service drives to public streets shall have a minimum vision clearance area formed by the intersection of the driveway center line, the street right-of-way line, and a straight line joining said lines through points twenty (20) feet from their intersection. No obstruction over twenty-four (24) inches in height that has a cross section over twelve (12) inches shall be permitted in such area.
- (5) The following off-street parking development and maintenance shall apply in all cases, except single and two family dwellings.
 - a. Parking areas, aisles and turnarounds for standing and maneuvering of vehicles shall have durable and dustless surfaces maintained adequately for all weather use.
 - b. Parking areas, aisles and turnarounds shall have provisions made for the on-site collection of drainage waters to eliminate sheet flow of such waters onto sidewalks, public rights-of-way, and abutting private property.
 - c.. Approaches shall be paved with concrete surfacing constructed to county standards. In the event that a street is not paved, the approach may be maintained to the same standard as the street until the street is paved.
 - d. Spaces shall be permanently and clearly marked.
 - e. Wheel stops and bumper guards shall be provided where appropriate for spaces abutting a property line or building, and no vehicle shall overhang a public right-of-way or other property line.

- f. Where parking abuts a public right-of-way, a wall or screen planting shall be provided sufficient to screen the parking facilities but without causing encroachment into vision clearance areas. Except in residential areas, where a parking facility or driveway is serving other than a one or two family dwelling and is located adjacent to residential, agricultural or institutional uses, a site obscuring fence, wall or evergreen hedge shall be provided on the property line. Such screening shall be maintained in good condition and protected from being damaged by vehicles using the parking area.
- g. Artificial lighting which may be provided shall be deflected so as not to shine directly into adjoining dwellings or other types of living units and so as not to create a hazard to the public use of a street.

S2.212. Loading Facilities.

- (1) The minimum area required for commercial and industrial loading spaces is as follows:
 - a. 250 sq.ft. for buildings of (5,000 to 20,000) sq.ft. of gross floor area.
 - b. 500 sq.ft. for buildings of (20,000 to 50,000) sq.ft. of gross floor area.
 - c. 750 sq.ft. for buildings in excess of (50,000) sq.ft. of gross floor area.
- (2) The required loading area shall not be less than ten feet in width by twenty-five feet in length and shall have an unobstructed height of fourteen feet.
- (3) If possible, required loading areas shall be screened from public view from public streets and adjacent properties.
- (4) Required loading facilities shall be installed prior to final building inspection and shall be permanently maintained as a condition of use.
- (5) A driveway designed for continuous forward flow of passenger vehicles for the purpose of loading and unloading children shall be located on the site of a school having a capacity greater than twenty-five students.

S2.300. Sign Requirements.

- (1) No sign shall be placed in or extended over a required side yard or street right-of-way or within ten (10) feet of the front property line in a required front yard except as hereinafter provided.
- (2) There shall be no moving or flashing signs, and light from a sign shall be directed away from a residential zone and use shall not be located so as to detract from a motorist's view of a traffic light or oncoming traffic or pedestrians.
- (3) In all zones except the LI, HI, and MI zone, signs except as hereinafter provided, shall be limited to the following kinds which may be directed towards each facing street or located at needed points of vehicular access where such access points are over 200 feet apart:
 - a. A name plate or sign not exceeding one and one half (1-1/2) square feet in area for each dwelling.
 - b. A temporary sign not exceeding eight (8) square feet in area pertaining to the lease, rental or sale of the property or the construction of a structure thereon.
 - c. A temporary sign not exceeding ninety (90) square feet advertising a new subdivision.
 - d. A sign not exceeding twenty-four (24) square feet in area, identifying a non-residential use such as the sale of farm produce, a golf course, or church.
 - e. A sign not exceeding twenty-four (24) square feet directing vehicular traffic to places of interest to the public, such as tourist accommodations and recreation sites which would otherwise be difficult to find, subject to the provisions of Article 7.
 - f. Signs not exceeding a total area of two hundred (200) square feet in a NC, TC, and GC zone.
- (4) Political Campaign Signs regarding a candidate or candidates seeking any elective office or regarding any issue to be voted on by the electorate, subject to the following conditions:
 - a. Permitted signs shall not exceed thirty-two (32) square feet in area.
 - b. Such signs shall be confined within private property.
 1. Such signs may not be permitted more than 210 days preceeding an election.
 2. Such signs shall be removed within thirty (30) days after the election for which they were erected.

CHAPTER 3. STRUCTURE SITING AND DEVELOPMENT

S3.010. General Exceptions to Yard Standards.

- (1) Cornices, eaves, canopies, sunshades, gutters, chimneys, flues, belt courses, leaders, sills, pilasters, lintels, ornamental features, and other similar architectural features may project not more than two (2) feet into a required yard or into required open space as established by coverage standards.
- (2) The following are exceptions to the front yard requirement for a dwelling:
 - a. If there are dwellings on both abutting lots with front yards of less than the depth otherwise required, the front yard for a lot need not exceed the average front yard of the abutting dwellings.
 - b. If there is a dwelling on one abutting lot with a front yard of less than the depth otherwise required, the front yard for a lot need not exceed a depth one-half way between the depth of the abutting lot and the required front yard depth.

Cluster Development

S3.150. Purpose. The intent of these standards is to preserve large contiguous forest and agricultural lands, other resource lands, and lands suitable for open space by providing an alternative to the division of forest, agricultural and resource lands into the minimum sized lots allowed in the appropriate zones.

S3.152. Procedures for Cluster Development. A cluster development shall comply with the procedures and standards in this section.

1. The applicant shall discuss the proposed cluster development with the staff of the Clatsop County Department of Planning and Development in a pre-application conference pursuant to Section 2.020.
2. An applicant for a cluster development must submit a development plan and receive approval of the plan prior to development.
3. As soon as plan approval is given, the plan and any conditions of approval shall be recorded in the office of the County Clerk by book and page and shall constitute an agreement not to divide the property as long as it remains in its present zoning.
4. (a) As a condition to the approval that may be given for partitioning under this section, the applicant shall provide all deeds or contracts affecting the original farm use parcel to assure that the maximum density will not be exceeded.

(b) For each partition application under this Standard the Planning Director or designate shall determine and include with the approved plan map a statement including:
 - (1) the number of homesite lots allowable on the original parcel,
 - (2) a legal description of the original parcel,
 - (3) the number of homesite lots that will result from the proposed partition, and
 - (4) the number of homesite lots, if any, that could be allowed in the future on the original parcel.

S3.154. Forest Land Cluster Development Standards.

1. The cluster development shall not substantially interfere with accepted forest and farm practices, including chemical spraying or burning, on adjacent lands devoted to forest or farm uses.

2. The development shall utilize land generally unsuitable for forest and farm uses, if such land is available on the lot, considering forest or agricultural productivity, terrain, soils or land conditions, drainage, vegetation, proximity of roads and public facilities and services and size of tract.
3. Whenever practicable, the development shall not materially alter the stability of the overall land use pattern of the area.
4. Cluster developments shall be allowed an equivalent density of one unit per 10 acres in forest zones having a minimum lot size of 10 acres; and a density of one unit per 20 acres in forest zones having a minimum lot size of 20 acres.
5. The small lots within a cluster development shall have a minimum size of 1* acre and a maximum of two (2) acres and shall maintain a 1:3 width to depth lot ratio.
6. Buildings within the development shall be separated from the forest resource by not less than 30 feet. This buffer shall be cleared of combustible materials, excluding shrubbery planted or cultivated as part of a site design.
7. The development shall be located at least 1,000 feet from any forest processing facility. It should also be located as far as possible from any commercial forest or agricultural lands not owned by the applicant.
8. Fire protection factors set forth in the guide published by the Northwest State Agency Fire Protection group entitled "Fire Safety Considerations for Developments in Forested Areas" shall be followed unless the development is located in a rural fire protection district.
9. See Section S6.000 for road standards appropriate for cluster developments in forest lands.
10. Land in the same ownership that is divided by a road can be used in calculating the acreage that can be used in the clustering option.

S3.156. Exclusive Farm Use (EFU) Land Cluster Development Standards.

1. The original farm use parcel must be thirty-eight (38) acres or more in gross acreage.
2. The maximum allowable density shall be one dwelling unit per thirty-eight (38) acres. In calculating the maximum density, farm dwellings and buildings shall not be considered in the density limitation. The maximum number of homesite lots allowed shall be determined by rounding the gross acreage of the original parcel to the nearest multiple of thirty-eight acres. If no multiple is nearest, then it shall be rounded to the greater multiple of thirty-eight acres.

* Amendment: Order 81-3-142, March 30, 1981 Changed 1/2 to 1 acre

3. The minimum lot size shall be one (1) acre and the maximum lot size of a homesite shall be two (2) acres.
4. Homesite lots, when created, shall whenever possible, be at the periphery of the original parcel and contiguous to each other. One non-farm dwelling shall be permitted on each homesite lot created under this standard excluding the farm unit portion of the original parcel provided that each non-farm dwelling:
 - a. is compatible with farm uses;
 - b. does not interfere seriously with accepted farming practices on adjacent lands devoted to farm use;
 - c. will not materially alter the stability of the overall land use pattern of the area;
 - d. is situated upon generally unsuitable land for the production of farm crops and livestock, considering the proximity of roads and public facilities, and services, agricultural productivity, terrain, adverse soil and land conditions, drainage, and flooding and vegetation; and
 - e. see Section S6.000 for road standards for cluster developments in EFU lands.
5. Land in the same ownership that is divided by a road can be used in calculating the acreage that can be used in the clustering option.

S3.158. Residential Cluster Development Standards.

1. The tract of land to be developed shall not be less than 4 contiguous acres in size.
2. The development may have a density not to exceed the equivalent of the number of dwelling units allowed per acre in the zone
3. The cluster development shall not contain commercial or industrial developments.
4. The minimum percentage of common open space shall be 30% excluding roads and property under water (MHHW).
5. Attached residences are permitted provided the density allowed per acre in the zone is not exceeded (this does not apply in the Clatsop Plains planning area).
6. The prescribed common open space may be used to buffer adjacent forest, farm, hazard areas or other resource lands such as but not limited to archeological and historical sites, water bodies, etc.

S3.160. Additional Residential Cluster Development Standards for the Clatsop Plains Planning Area.

1. All planned developments and subdivisions shall designate and retain areas as permanent common open space.
2. The minimum percentage of common open space shall be 30% excluding roads.
3. Permanent common open space shall include, whenever possible, steep dunes which would require substantial alterations for building, buffers along streams, water bodies, deflation plains, and farm and forest lands.
4. Buffers (screening) shall be provided in all subdivisions and planned developments along all property lines adjacent to arterials and/or collectors.
5. Permanent common open space as part of subdivisions or planned developments adjoining one another shall be interrelated and continuous whenever possible. This could mean that the common open space could continuously follow ridge tops, deflation plains or shorelands. The Clatsop County Department of Planning and Development shall prepare a map of potential systems of common open space to be used as a guide for developers.
6. Streams and drainages which form a system of common open space shall be preserved.

Maintenance of Common Open Space and Facilities.

S3.180. Maintenance of Common Open Space and Facilities. Whenever any lands or facilities, including streets or ways, are shown on the final development plan as being held in common, the tenants be created into a non-profit corporation under the laws of the State of Oregon, and that such corporation shall adopt articles of incorporation and by-laws and adopt and impose a declaration of covenants and restrictions on such common areas and facilities to the satisfaction of the Planning Commission. Said association shall be formed and continued for the purpose of maintaining such common open spaces and facilities. It shall be created in such a manner that owners of property shall automatically be members and shall be subject to assessment levies to maintain said areas and facilities for the purposes intended. The period of existence of such associations shall be not less than twenty (20) years, and it shall continue thereafter until a majority vote of the members shall terminate it.

Standards for Mobile Homes on Individual Lots.

S3.190. Standards for Mobile Homes on Individual Lots.

1. The mobile home shall bear an Oregon "Insignia of Compliance" with a date not prior to 1972.
2. Reconstruction or equipment installation shall be State approved as evidenced by an appropriate insignia.
3. Mobile homes shall be installed in accordance with State standards and shall be tied down with one of the following:
 - a. A galvanized steel cable of not less than 7/32" diameter having approved clamps and connecting hardware.
 - b. A galvanized aircraft cable of not less than 1/4" diameter having approved clamps and connecting hardware.
 - c. A galvanized steep strap 1-1/4" x .035" having approved clamps and connecting hardware.
 - d. Any other approved cable or strap with a breaking strength of not less than 4,800 pounds with approved clamps and connecting hardware.
4. Mobile homes shall have continuous skirting of compatible siding material.
5. Except for a structure which conforms to the State definition of a mobile home accessory structure (which includes such things as skirting, awnings, cabanas, some carports, tip-outs, etc.), no extensions shall be attached to a mobile home. An outbuilding shall be separated from a mobile home by not less than six feet.

Mobile Home Park Development

S3.200. Standards for a Mobile Home Park. A mobile home park shall be built to state standards in effect at the time of construction and shall comply with the following additional standards.

S3.202. Permitted Uses Within a Mobile Home Park. No building structure or land within the boundaries of a mobile home park shall be used for any purpose except for the uses permitted by this article as follows:

1. Mobile homes for residential use only, together with the normal accessory uses such as a cabana, ramada, patio slab, carport, or garage, and a storage or washroom building.
2. Private and public utilities.
3. Community recreation facilities, including swimming pools, for residents of the park and guests only.
4. A mobile home park may have one residence for the use of a caretaker or manager responsible for maintaining or operating the property.
5. Occupied, abandoned or unoccupied mobile homes may be abated if they constitute a menace to the public health, safety and welfare.

S3.204. General Conditions and Limitations Within a Mobile Home Park.

1. Area - The parcel of land to be used for mobile home park purposes shall contain not less than four (4) acres.
2. Density - In no event shall the density exceed eight (8) mobile homes per gross acre. Density requirements shall be established as the minimum square footage of gross site area for each mobile home.
3. Yard Regulations - For the purposes of this Ordinance, the setback required in each instance shall be a line parallel to and measured at right angles from the front, side, or rear property line. The front and rear building setback lines shall extend the full width of the property. The depth of the lot shall not exceed two times the average width. No building, structure or mobile home shall be located so that any part thereof extends into the area between the building setback line and the property line. Fences and signs may be placed within the aforementioned area as an exception to this subsection.

Mobile home parks shall set back at least thirty (30) feet from any interior property line abutting residential zoned property. The setback shall be at least fifteen (15) feet from any interior property line abutting commercial or industrial zoned property. The setback from any abutting public street or highway shall be at least twenty-five (25) feet.

4. No mobile home shall occupy more than forth (40) percent of the space provided for it.
5. Screening - A sight-obscuring fence or wall of not less than five (5) feet nor more than six (6) feet in height, and/or ever-green planting of not less than five (5) feet in height, shall surround the mobile home park.
 - Such fence, wall or planting may be placed up to the front property line if adequate vision clearance for entrances and exits is maintained.
6. Access to a Public Street - A mobile home park shall not be established on any site that does not have access to any public street which does not meet the County Road Standards in Section S6.000.
7. Service Buildings - Service buildings housing sanitation facilities shall be permanent structures, complying with all applicable County and State ordinances and statutes regulating building, electrical installations and plumbing and sanitation systems.
8. Structures - Structures located in any mobile home space shall be limited to a storage building, ramada or carport. The storage building, ramada or carport may be combined as one structure. No structural additions shall be built onto or become a part of any mobile home, and no mobile home shall support any building in any manner. The words "structural additions" shall not be construed to exclude the construction of an awning, patio cover, or cabana adjacent to a mobile home. There shall be no outdoor storage of furniture, tools, equipment, building materials or supplies belonging to the occupants or management of the park.
9. A mobile home permitted in the park, if not resting on a continuous foundation, shall be provided with a continuous skirting of non-decaying, non-corroding material extending at least six (6) inches into the ground or to an impervious surface. The skirting or continuous foundation shall have provisions for ventilation and access to the space under the unit.

S3.206. Site Requirements Within a Mobile Home Park. The following shall be considered the minimum site requirements for a new mobile home park or the expansion of an existing mobile home park.

1. Accessway - Accessways shall connect each mobile home space to a public street and shall a minimum right-of-way width of thirty-six (36) feet.
2. Walkways - Walkways of not less than three (3) feet in width shall be provided from each mobile home space to the service buildings and recreational area or areas, and from the patio to the accessway. A walkway system shall be provided which gives safe, convenient access and should be so designed to be located through interior area, and removed and kept separate from vehicular traffic.

3. Recreation Area - A minimum of two hundred (200) square feet of recreation area shall be provided for each mobile home space. The recreation area may be in one or more locations in the park. At least one (1) recreation area shall have a minimum size of five thousand (5,000) square feet (and be of a shape that will make it usable for its intended purpose) and at least fifty (50) percent of the required recreation area shall be provided for use by residents of the entire park.
4. Electrical - Approved underground electrical hookups shall be provided for each mobile home space.
5. Sewage - Each mobile home space shall be provided with a sewage connection which complies with Oregon State Department of Environmental Quality regulations.
6. Water Supply - A continuous supply of pure water for drinking and domestic purposes that meet Oregon State standards shall be supplied by underground facilities to all buildings and mobile home spaces within the park.
7. Anchors and Tie-Downs - Each mobile or trailer space shall be equipped with ground anchors of sufficient number and design to accommodate "over the top" and "frame" type tie-downs to anchor the mobile home or trailer in winds up to and including 100 miles per hour.

SS.206. Mobile Home Space Requirements - The minimum mobile home space requirements for a new mobile home park or the expansion of an existing mobile home park are as follows:

1. The average size of a mobile home space in a mobile home park shall not be less than four thousand (4,000) square feet and no space shall be smaller than three thousand four hundred (3,400) square feet. No space shall have a width of less than forty (40) feet, nor less than eighty-five (85) feet in depth.
2. No mobile home space shall have a paved stand of less than ten (10) feet in width and less than thirty (30) feet in length.
3. Occupied mobile homes shall be parked only on stands provided, shall be set back a minimum of ten (10) feet from the edge of all accessways, and shall observe the setbacks as established in subsection (e) of Section 7.
4. Each mobile home space shall be provided with a patio having a minimum area of one hundred forty (140) square feet. The patio shall have a minimum width of seven (7) feet and a minimum length of twenty (20) feet and shall be constructed adjacent and parallel to each mobile home parking space.

5. One (1) permanent storage building containing a minimum of thirty-two (32) square feet of floor area shall be provided for each mobile home space. The building height shall not be less than seven (7) feet nor more than nine (9) feet.
6. Minimum space requirements between mobile homes:
 - a. End to end, twenty-five (25) feet.
 - b. Temporary or permanent structures situated in one (1) space shall be separated by at least fifteen (15) feet from temporary or permanent structures, or mobile homes in an adjoining space.

S3.210. Improvement Requirements Within a Mobile Home Park. Improvement requirements for a new mobile home park or the expansion of an existing park are as follows:

1. Roadway within an accessway and sidewalk shall be paved with a crushed rock base and asphalt or concrete surfacing according to a structural specifications required by the County Roadmaster.
2. The minimum surfaced width of the roadway within an accessway shall be twenty (20) feet if there is no parking allowed, and thirty (30) feet if parking is allowed.

The first fifth (50) feet of the accessway measured from the street shall be surfaced to a width of thirty (30) feet and shall be connected to an existing street according to place approved by County Roadmaster or State Highway Engineer.

3. Patios shall be paved with asphalt, concrete, or suitable hard surfaced material.
4. All accessways and walkways within the park shall be lighted at night to provide a minimum of 1.5 foot candles of illumination.
5. Wires for service to light poles and mobile home spaces shall be underground.
6. Mobile home stands shall be paved with asphalt or concrete surfacing, or with crushed rock contained with concrete curbing or pressure treated wooded screens.
7. The mobile home park shall be well drained. Provisions for drainage shall be made in accordance with plans approved by the County Engineer.
8. Recreation areas shall be suitably improved and maintained for recreational purposes as the Planning Commission finds necessary for the types of residents for whom the mobile home park is intended.
9. Public telephone service shall be made available for the mobile home park residents.

10. Adequate and properly equipped laundry room facilities shall be made available to the residents of the mobile home park.

S3.212. Plot Plans Required for a Mobile Home Park. The application for a permit to construct a new mobile home park or to expand an existing mobile home park, shall be accompanied by seven (7) copies of the plot plan of the proposed park. The plot plan should show the general layout of the entire mobile home park, and should be drawn to a scale not smaller than one (1) inch representing fifty (50) feet. The drawing shall be placed on substantial tracing paper, and shall show the following information:

The planning process for development shall include:

1. Professional Design Team. The applicant for all proposed mobile home parks, pursuant to Section S3.200 shall certify that the talents of one of the following professionals shall be used in the planning process for development:

- a. An architect licensed by the State of Oregon.
- b. A registered engineer or registered engineer and land surveyor licensed by the State of Oregon.

The professional chosen by the applicant(s) from a or b above shall be designated to be responsible for conferring with the planning staff with respect to concept and details of the plan.

The selection of the professional coordinator of the design team will not limit the owner of the developer in consulting with planning staff or the Planning Commission.

2. Plot plan of land in area to be developed indicating location of adjacent streets and all private rights-of-way existing and proposed within four hundred (400) feet of the development site as well as topographical lines for each five (5) foot contour.
3. A legal boundary survey.
4. Boundaries and dimensions of the mobile home park.
5. Location and dimensions of each mobile home space. Designate each space by number, letter or name.
6. Name of mobile home park and address.
7. Scale and north point of plan.
8. Location and dimensions of each existing or proposed structure, together with the usage to be contained therein, and approximate location of all entrances thereto, and height and gross floor area thereof.

9. Location and width of accessways.
10. Location and width of walkways.
11. Extent, location, arrangement and proposed improvements of all off-street parking and loading facilities.
12. Extent, location, arrangement, type and proposed improvements of all open space, landscaping, fences and walls.
13. Architectural drawings and sketches demonstrating the planning and character of the proposed development.
14. Total number of mobile home spaces.
15. Location of each lighting fixture for lighting the mobile home spaces and grounds.
16. Location of recreation areas and buildings and area of recreation space in square feet.
17. Location and type of landscaping, fence, wall or combination of any of these or other screening materials.
18. Location of point where mobile home park water and sewer system connects with the public system.
19. Location of available fire and irrigation hydrants.
20. Location of public telephone service for the park.
21. Enlarged plot plan of a typical mobile home space showing location of the stand, patio, storage space, parking, sidewalk, utility connections and landscaping.
22. Detailed plans required - at the time application for a permit to construct a new mobile home park or to expand an existing park, the applicant shall submit seven (7) copies of the required detailed plans:
 - a. New structures.
 - b. Water and sewer systems.
 - c. Electrical systems.
 - d. Road, sidewalk and patio construction.
 - e. Drainage system, including existing and proposed finished grades.
 - f. Recreation area improvements.
23. Before construction of a swimming pool in a mobile home park, two (2) copies of plans approved by the Oregon State Board of Health shall be filed with the Building Inspector.

S3.214. Improvement Requirements for Expansion of Existing Mobile Home Parks.

1. Sewers - Existing sewer lines within the park which do not meet the minimum requirements of this article may remain in use so long as they function properly and the park conforms to the County and State regulations governing sewage and waste water. Any replacement of sewer facilities shall conform to the requirements of new mobile home parks.
2. Water Supply - An existing water supply system which does not meet minimum requirements of this article with respect to general availability, etc. may remain in use so long as it continues to function properly and the park conforms to the County and State regulations governing water supply. Any replacement of water supply facilities shall conform to the requirements for new mobile home parks.
3. Lighting and Wiring - The electrical and lighting systems shall be made to conform to the Uniform Building Code of the State of Oregon.
4. Service Building - Service buildings shall be made to conform to the standards for new mobile home parks.
5. Surfacing for accessways, patios and stands shall be made to conform to the following standards:
 - a. Accessways shall be surfaced to a minimum width of twenty (20) feet with a crushed rock base and asphalt or concrete surfacing according to structural specifications established by the County Engineer. If parking is to be allowed, the minimum surfaced width of the roadway shall be thirty (30) feet.
 - b. Mobile home standards shall be surfaced with crushed gravel to a size equal to or greater than the dimensions of the trailer located on the stand, but shall not be less than ten (10) feet by thirty (30) feet.
 - c. Patios shall have a surface area of at least one hundred forty (140) square feet and a minimum width of seven (7) feet, paved with concrete, asphalt, flagstone or the equivalent.
 - d. Walkways shall have a minimum width of three (3) feet with a paved surface of concrete, asphalt or the equivalent. Walkways shall be provided from each mobile home space to the service buildings. From the patio to the surfaced part of the accessway may be considered as part of the walkway to the service building.
6. Outside Storage - All outside storage in a mobile home space shall be in an enclosed building as required for new mobile home parks.

Beach Front Motel Development

S3.250. Purpose: The purpose of this section is to set forth standards by which resort motels can be placed in beach front rural residential areas without resulting in conflicts with the low intensity residential uses and the natural and recreational resources of the area.

S3.252. Development Standards. All beach front resort motel development in CBR and CRC districts shall comply with the following standards:

1. Adequate off-street parking for guests and employees shall be provided consistent with parking standards of this Ordinance. The parking area shall be screened from adjacent residential uses and shall be landscaped.
2. A minimum of 25% of the property shall be retained in landscaping.
3. Service areas, garbage disposal areas and other similar portions of the development shall be screened from view.
4. The height of the development shall not exceed the average height of the residential uses of the area and no parts of the development shall block views of the ocean from residential uses in the area.
5. The construction materials used in the development shall be similar in appearance to materials used in neighboring residential dwellings.
6. Exterior lighting for signs, parking area, walkways and other areas shall be lower intensity so as not to create a distraction to adjacent residential uses.
7. Access to and from the development shall be by improved streets having a direct connection to major arterials and/or Highway 101.
8. The development shall not block public access to ocean beaches unless an alternate, suitable access is provided as part of the development.
9. Natural resources and features on or adjacent to the site prior to development shall be retained to the maximum extent possible.

Cottage Industries

S3.450. Purpose. The purpose of this section is to establish standards by which limited small-scale business activities, hereafter referred to as "Cottage Industries", could operate in non-commercial and non-industrial zones. Allowable uses which would come under Cottage Industries would include such things as small-scale light manufacturing and crafts.

S3.452. Cottage Industries Standards. The following limitations and requirements shall apply to all Cottage Industries:

1. No more than four persons are to be employed in the Cottage Industry, including members of the family.
2. No more than two vehicles or trailers are to be used in the operation of the Cottage Industry.
3. The total floor area in one or more accessory building which is to be devoted to the operation of the Cottage Industry shall be based upon (a) zoning in the area, (b) size and location where the Cottage Industry will occur and (c) impacts which could occur.
4. No modification shall be made to the dwelling to establish or operate the Cottage Industry that would cause it to resemble anything other than a dwelling.
5. All materials, parts, tools and other equipment used in the operation of the Cottage Industry shall be stored entirely within the dwelling or accessory building.
6. The Cottage Industry shall not involve operations or use of equipment or processes which would produce or cause the emission of gases, dust, odors, vibration, electrical interference, smoke, noise, or light in a manner likely to cause offense or irritation to neighboring residents.
7. No more than two unlighted signs with a combined area on all surfaces of 5 square feet shall be used to identify the Cottage Industry. No other form of identification or advertisement shall be used.
8. The Cottage Industry uses are not intended to involve in-person customer retail sales of merchandise on the premises. The use shall be confined to the fabricating and manufacturing of an end product.

Establishing Non-farm or Non-forest Developments

S3.500. Purpose. The purpose of this section is to establish standards by which non-farm and non-forest developments may be permitted in designated farm and forest zones.

S3.502. Standards. In order for a non-farm or non-forest development to be allowed in a farm or forest zone it must be found that the development:

1. Is compatible with and will not interfere with accepted forest or farm practices, including chemical spraying or burning on adjacent land devoted to farm or forest uses.
2. Will maintain the stability of the overall land use pattern of the area.
3. Minimizes the loss of productive forest and farm land.
4. Provides for at least a minimum of fire safety measures in planning, design, construction and operation.
5. The development shall utilize land generally unsuitable for forest and farm uses, if such land is available on the lot, considering forest or agricultural productivity, terrain, soils or land conditions, drainage, vegetation, proximity of roads and public facilities and services and size of tract.
6. Fire protection factors set forth in the guide published by the Northwest State Agency Fire Protection group entitled "Fire Safety Considerations for Developments in Forested Areas" shall be followed unless the development is located in a rural fire protection district.

Recreation Vehicle Parks

S3.550. Purpose. The purpose of the regulations imposed upon recreation vehicle parks is to assure that each park provides safe and sanitary accommodations for the campers, travel trailers and other vehicles which are located temporarily in the park; that the support services provided tourists (utility conveniences and facilities) are adequate for the period of their stay in the park; and that the park does not permit the use of any of its accommodations for mobile home or recreational vehicles which are used for permanent occupancy.

The scope of the park is to encompass additional recreation activities such as overnight tent camping and picnicking, and to only provide those in-park services and supplies required by the clientele.

S3.552. Standards and Requirements. The following standards and requirements shall govern the application of a park in an area in which it is permitted:

(a) Duration of Occupance. No recreation vehicle shall remain in the park for more than thirty (30) days in any sixty (60) day period. No habitable vehicle, which is not a recreation vehicle, shall be allowed in the park for any period with the exception of one mobile home unit for the exclusive use of the park manager and/or caretaker.

(b) Size, Density, Lot Dimension and Setbacks.

1. Size. Minimum total acreage shall not be less than five (5) acres.
2. Density. Maximum recreational vehicle spaces per gross acre shall not exceed ten (10) spaces.
3. The minimum lot area for any recreation vehicle or travel trailer space shall not be less than 3,500 square feet.
4. The minimum lot width shall be forty (40) feet.
5. The minimum lot length shall be seventy (70) feet.
6. The minimum distance between recreation vehicles, and a public street, arterial or highway right-of-way shall be sixty (60) feet.
7. The minimum distance between recreation vehicles and all property lines shall be ten (1) feet.
8. The minimum distance between recreation vehicles and other like units shall be twenty-five (25) feet.

9. The minimum distance between recreation vehicles and public service buildings shall be twenty-five (25) feet.
 10. No recreation vehicle site or structure shall be placed closer than 30 feet to perennial streams or lakes (high-water mark) or other bodies of water.
 11. The space provided for a recreation vehicle shall be covered with crushed gravel, or paved with asphalt, concrete or similar material and be designed to provide run-off of surface water. The part of the space which is not occupied by the recreation vehicle, or not part of an outdoor patio need not be paved or covered with gravel provided the area is landscaped or otherwise treated to prevent dust.
- (c) Plot and Building Plans. Seven (7) copies of the plans drawn to scale required by the Oregon State Health Division shall be submitted to the Clatsop County Planning Office.
- (d) Recreation Areas. Recreation areas and facilities such as playgrounds, swimming pools and community buildings should be provided to the extent necessary to meet the anticipated needs of the clientele the recreation park is designed to serve.
1. A developed recreation area shall be provided which contains a minimum of 2,500 square feet or 200 square feet per site space, whichever is the greater.
 2. Provide separate adult and tot recreation areas.
 3. Playground areas shall be protected from main thoroughfares and parking areas.
 4. Recreation areas shall be centrally located to the spaces they are to serve. At least one recreation area shall have a minimum size of five thousand (5,000) square feet and be of a shape that will make it usable for its intended purpose.
- (e) Utilities and Sanitation.
1. All facilities and services structures including each recreation vehicle/travel trailer space shall be provided with underground water and utilities.
 2. Approved public drinking fountains are to be located in playground and service building area.
 3. Recreation vehicles without bathroom facilities shall be parked within two hundred (200) feet of the park utility building.

(f) Lighting. Lighting is required for all common walkways, toilet facilities, service buildings, service building areas and roadways.

(g) Access and Circulation.

1. The recreation vehicle park shall be served by hard surfaced roads.
2. The recreation vehicle park shall not be located where it will have a hazardous entrance or exit onto a road or onto a road that has a hazardous intersection with a major arterial.
3. The amount of traffic generated by the recreation vehicle park shall not exceed the capability of roads serving the development.
4. Off highway entry (ingress and egress) shall be provided by park owner in order to permit entrance/access, as well as parking, through the park toll booth without causing traffic stoppage or unsafe traffic movement on public roads.
5. Roadways within the park shall be hard surfaced to a width of twenty (20) feet if no parking is permitted on the roadway, and thirty (30) feet if parking is permitted on the roadway.
6. The first fifty (50) feet of access (for ingress or egress) measured from the street shall be hard surfaced to a width of thirty-six (36) feet and shall be connected to an existing street according to plans approved by the County Roadmaster and/or the Oregon State Highway Engineer.
7. Street grades shall not be in excess of eight (8) percent at any given point.

(h) Parking.

1. The total number of parking spaces in the park, exclusive of parking provided for the use of the manager, employees or specialized additional parking, shall be equal to one 10' x 20' space per camping space. All parking spaces shall be covered with crushed gravel or paved with asphalt, concrete or similar material.
2. Additional parking areas for boats, trailers, etc. shall be conveniently located for supervision, but these specialized parking areas shall be separated from all other parking facilities. The ratio of one 10' x 20' additional parking space for every eight (8) camping spaces shall be observed.

(i) Walkways.

1. A walkway system shall be provided and maintained which gives safe, convenient access to park spaces.
2. Common trails and walkways shall be provided to connect recreation vehicle sites to common areas, bathroom facilities, service buildings and natural amenities.
3. Common walkways shall be located through interior areas and be kept separated from vehicular traffic.

(j) Greenbelts, Natural Screening and Open Space.

1. Ten (10) percent of the gross area of the recreation park must be reserved for open space. This open space is in addition to areas used for lots, roads, walkways, play areas and service areas.
2. A site obscuring greenbelt buffer strip shall be required around all sides of the recreation park to a height of eight (8) feet above ground level. This buffer strip shall be composed of natural screenings, plantings, or other screens of a material type, size and location as recommended by the Planning Commission.
3. Vegetative screening is to be provided between recreation park spaces, between spaces and service buildings, as well as between park and commercial activities, etc.

Flood Hazard Requirements

S3.650. Purpose. The purpose of this section is to set forth standards that guide development in areas of special flood hazard, floodways, coastal high hazards and areas of shallow flooding in order to reduce personal injury, property damage and loss of life.

S3.652. General Standards for Flood Hazard Reduction.

- (1) All structures shall be anchored to resist flotation, collapse, or lateral movement.
- (2) Construction methods and practices shall be utilized that minimize flood damage.
- (3) Materials and utility equipment used in construction shall be reasonably resistant to flood damage.

S3.654. Specific Standards for All Areas of Special Flood Hazards.

In all areas of special flood hazards the following standards shall apply for all new construction and substantial improvements.

- (1) Residential construction shall have the lowest floor of a structure including basement at a minimum of one foot above base flood elevation.
- (2) Non-residential Construction. Any commercial, industrial or other non-residential structure have either: the lowest floor, including basement, elevated at a minimum to the level of one foot above the base flood elevation or, together with attendant utility and sanitary facilities:
 - a. be floodproofed so that the portion of the structure below this level is watertight with walls substantially impermeable to the passage of water;
 - b. have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of bouoyancy;
 - c. have a registered professional surveyor or architect certify by affidavit that the standards of this subsection are satisfied. Such certification shall be provided to the official designated in Section 10.
- (3) Mobile Homes.
 - a. All mobile homes shall be anchored to resist flotation, collapse, or lateral movement with more specific requirements as follows:
 1. over-the-top and frame ties be provided at each corner with two additional ties per side at intermediate locations;

EXCEPTION: Mobile homes less than 50 feet long require one additional tie per side.

2. frame ties be provided at each corner with five additional ties per side at intermediate points;

EXCEPTION: Mobile homes less than 50 feet long require four additional ties per side.

3. all components of the anchoring system be capable of carrying a force of 4,800 pounds.
 4. alternative methods of anchoring may be utilized provided certification is provided by a licensed professional engineer or architect that the system is designed to withstand a wind force of ninety (90) miles per hour or greater.
- b. Any other additions to the mobile home shall be anchored in the same manner required of the mobile home.
 - c. For new mobile home parks/subdivision; for expansions to existing mobile home parks/subdivisions where the repair, reconstruction or improvement of the streets, utilities and pads equals or exceeds 50 percent of the value of the streets, utilities, and pads before the repair, reconstruction has commenced; and for mobile homes not placed in a mobile home park or a mobile home subdivision;
 1. the home shall be elevated on compacted fill or situated on piling so that the lowest floor of the mobile home will not be less than one foot above base flood elevation;
 2. adequate surface drainage and access for a hauler shall be provided;
 3. when the mobile home is to be elevated on piling (1) lots shall be large enough to permit steps, (2) piling foundation shall be placed in stable soil no more than ten feet apart; and (3) reinforcement shall be provided for piling more than six feet above ground level.

(4) Utilities.

- a. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood water into the system.
- b.. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood water into the system and discharge from the systems into flood waters, and
- c. On-site waste disposal systems shall be located so as to avoid impairment to them or contamination from them during flooding.

(5) Subdivision Proposals. All subdivisions must meet the following requirements:

- a. have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage; must

- b. have adequate drainage provided to reduce exposure to flood hazards;
- c. base flood elevation data shall be provided for proposed subdivisions.

S3.656. Specific Uses and Standards for Floodways.

- (1) Structures for the purpose of human habitation in identified floodways are prohibited.
- (2) The following uses may be permitted upon issuance of a development permit as described in
 - a. Uses or non-habitable structures accessory to open space or recreational uses.
 - b. Marinas, boat rentals, docks, piers, and wharves.
 - c. Railroads, roads, bridges, utility transmission lines and pipelines.
- (3) Encroachments, including fill, new construction or substantial improvements to structures (other than those listed in above) are prohibited unless an affidavit is provided by a professional registered architect or engineer certifying that the proposed encroachment shall not result in any increase in flood levels or diversion of floodwaters during occurrence of the base flood discharge.
- (4) All new construction and substantial improvement meeting requirements of subsection 4.144 (3) shall comply with all applicable flood hazard reduction provisions of Section 4.140.

S3.658. Specific Standards for Coastal High Hazard Areas (V Zones).

In all areas of special flood hazards designated as V Zones, the following provisions shall also apply:

- (1) All new construction and substantial improvements shall be located landward of the reach of high mean tide.
- (2) All new construction and substantial improvements shall be elevated so that the lowest supporting member of the lowest floor (excluding pilings or columns) is located no lower than one (1) foot above the base flood elevation, with all space below the lowest supporting member open so as not to impede the flow of water, except for breakaway walls constructed as provided for in 4.145 (7).
- (3) All new construction and substantial improvements shall be securely anchored on pilings or columns which shall be designed and anchored to withstand all applied loads of the base flood.
- (4) Compliance with the provisions of 4.145 (2) and (3) shall be certified by affidavit of a registered professional engineer or architect.

- (5) The use of fill as structural support is prohibited.
- (6) There shall be no unnecessary alteration of the sand dune or other vegetation which would increase potential flood damage.
- (7) Any alteration, repair, reconstruction or improvements started after the date of this ordinance shall not enclose the space below the lowest floor unless breakaway walls are utilized. If breakaway walls are utilized the following provisions shall apply:
 - a. The resulting enclosed space shall not be used for human habitation.
 - b. Prior to construction the proposed plans for the breakaway wall must be submitted to the building official for approval.
- (8) The placement of a mobile home shall be prohibited, except in an existing mobile home park/subdivision.

S3.660. Specific Standards for Areas of Shallow Flooding (AO Zone).
In all areas of special flood hazards designated as areas of shallow flooding, the following provisions shall apply:

- (1) All new construction and substantial improvements of residential structures have the lowest floor, including basement, elevated one foot above the crown of the nearest street to or above the depth number specified on the FIRM; or to the specified elevation if an elevation appears on the FIRM.
- (2) All construction and substantial improvement of non-residential structures shall:
 - a. have the lowest floor including basement, elevated one foot above the crown of the nearest street to or above the depth specified on the FIRM; or to the specified elevation if an elevation appears on the FIRM, or
 - b. together with attendant utility and sanitary facilities be completely flood proofed to or above the level designated in 4.146 (2) so that any space below that level is water-tight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy.

Geologic Hazard Requirements

S3.700. Special Requirements for Hazard Areas.

The special requirements applicable in the Hazard maps in the Comprehensive Plan are set forth in S3.700 to S3.708. The general procedures and requirements for approving development in the district are contained in Sections 3.840 through 3.852 of the Clatsop County Land and Water Development and Use Ordinance of 1980. The standards in S3.700 to S3.708 shall be used in conducting such approvals.

S3.702. Preliminary Site Investigation.

S3.704. Detailed Site Investigation for Geologic Hazard Areas.

Development in a Geologic Hazards Overlay District requires a detailed site investigation report if the preliminary site investigation report if the preliminary site investigation required in Section S3.702 confirms existence of a geologic hazard area or is in a geologic hazard area identified by Martin Ross' report A Field Inventory of Geologic Hazards from Silver Point to Cove Beach, Clatsop County Oregon. The report shall contain the information listed below together with appropriate identification of information sources and the date of the information.

Before a development permit can be issued, the site investigation report must be approved as part of the development permit approval process. The approved site investigation report shall be referred to in the deed and other documents of sale and shall be recorded with the record of deeds.

- (1) Background Data in Report. The site investigation report shall contain the following background information.
 - a. The methods used in the investigation and the approximate number of man-hours spent on the site.
 - b. A general analysis of the local and regional topography and geology including the faults, folds, geologic and engineering geologic units and any soil, rock and structural details important to engineering or geologic interpretations.
 - c. A history of problems on and adjacent to the site, which may be derived from discussions with local residents and officials and the study of old photographs, reports and newspaper files.
 - d. The extent of the surface soil formation and its relationship to the vegetation of the site, the activity of the land form and the location on the site.
 - e. The following ground photographs of the site with information showing the scale and date of the photographs and their relationship to the topographic map.

- (1) A view of the general area.
 - (2) The site of the proposed development.
 - (3) Any features which are important to the interpretation of the hazard potential of the site.
 - (4) Unusual natural features and important wildlife habitat.
- (2) Topography Map. A topography base map of (1 to 100) scale and with a contour interval of (two feet) shall be prepared identifying the following features and shall be accompanied by references to the source and date of information used.
- a. The position of the lot line.
 - b. The boundaries of the property.
 - c. Species identification of major plant communities.
 - d. Any springs, streams, marshy areas or standing bodies of water.
 - e. Areas subject to flooding, including those shown on the flood hazard maps prepared under the HUD National Flood Insurance Program.
 - f. Areas subject to stream erosion and areas exhibiting significant surface erosion due to improper drainage and runoff concentration.
 - g. Geological information, including lithologic and structural details important to engineering and geologic interpretation.
- (3) Subsurface Analysis. If upon initial investigation it appears there are critical areas where the establishment of geologic conditions at depth is required, a subsurface analysis obtained by drill holes, well logs and other geophysical techniques shall be conducted by the person responsible for the site investigation report to include the following data as appropriate.
- a. The lithology and compaction of all subsurface horizons to bedrock.
 - b. The depth, width, slope and bearing of all horizons containing significant amounts of silt and clay and any other subsurface waters.
 - c. The depth, bearing and capacity of seasonal and permanent aquifers.
 - d. Underlying areas of buried vegetation.
- (4) Development Proposal. The site investigation report shall include the following information on the proposed development as applicable. The information will be shown on the maps described above or appropriately referenced.

- a. Plans and profiles showing the position and height of each structure, paved area and area where cut and fill is required for the construction.
 - b. The percent and location of the surface of the site which will be covered by impermeable or semipermeable surfaces.
 - c. Points to preserve for public access.
 - d. A description of the impact of the development on any critical biological habitats.
 - e. A stabilization program for the development describing:
 - 1. How much of the site will be exposed during construction and what measures will be taken to reduce erosion.
 - 2. A revegetation program designed to return open areas to a stable condition as soon as possible following construction.
 - 3. The time of commencement of revegetation planting.
 - f. A description of safeguards that will be provided as part of the proposed development.
 - g. For a logging or farming operation, areas to be protected from vegetation loss or groundwater pollution shall be identified and means for protection described.
- (5) Special Review for Water Supply or Sewerage. If a well or an on-site sewage disposal system is planned, the proposed location shall be described and the following shall be determined.
- a. The maximum and minimal levels (seasonal extreme) in water table height.
 - b. The expected water needs of the proposed development.
 - c. The water supply capacity and the expected effect of the increased water consumption on the water table.
 - d. Any detrimental contamination of the groundwater, lakes or marshes that may occur.
- (6) Conclusions in the Report.
- a. The site investigation report shall contain conclusions stating the following:
 - 1. How intended use of the land is compatible with the existing conditions.
 - 2. The existing or potential hazards found during the investigation.
 - 3. The manner for achieving compliance with applicable development criteria and standards.

- b. Recommended safeguards and mitigation for specific areas and hazards shall be specified.
- c. Conclusions shall be based on data included in the report and the sources of information and facts shall be referenced.

S3.706. Site Investigation Report Review. The Planning Director, Planning Commission or Board of Commissioners may want to have a technical site investigation report reviewed including the methods actually used to avoid hazards. The Planning Director, Planning Commission or Board of Commissioners may request the owner or developer to pay for a portion or all of the review on behalf of the County.

S3.708. Qualifications. The site investigation report shall be conducted by a registered geologist. The Department of Planning and Development shall maintain a list of qualified geologists.

CHAPTER 4. ENVIRONMENTAL PROTECTION

Standards for Area Protection Conditions.

S4.010. Standards for Area Protection Conditions. When the imposition of discretionary standards is authorized to avoid detrimental impacts to the public, the standards should be designed to:

- (1) Designate the size, number, location and nature of vehicle access points.
- (2) Increase the amount of street dedication, roadway width or improvements within the street right-of-way.
- (3) Protect vegetation, water resource, wildlife habitat or another significant natural resource.

Beach and Dune Area Requirements

S4.100. Special Requirements for Beach and Dune Areas. The special requirements applicable in the Active Dune Overlay (ADO) and Structures Allowed Active Dune Overlay (SAO) Districts set forth in S4.100 to S4.134 are in addition to the other requirements for the kind of development proposed. The general procedures and requirements for approving developments in the district are contained in Sections 3.860 through 3.892 of the Clatsop County Land and Water Development and Use Ordinance #80-14. The standards of S4.102 to S4.136 shall be used in conducting such approvals.

S4.102. Active Dune Stabilization Plan. Development in the Active Dune Overlay and Structures Allowed Active Dune Overlay Districts requires a stabilization plan be approved by the Planning Director.

S4.104. Active Dune Development Standards.

1. A minimum amount of vegetation should be disturbed during site preparation.

Adequate methods should be taken to prevent sand movement on all fills, excavations, or other disturbed areas. Methods of stabilization include:

- a. Areas that contain beach grass.

Apply 200 lbs. per acre of commercial fertilizer (21-0-0) to the disturbed area to encourage quick recovery of the remaining vegetation.

- b. Areas that do not contain beach grass.

Critically exposed areas with expected sand movement should have 1-1/2-2 tons per acre (70-90 lbs. per 1,000 sq. ft.) straw, grass, or waste hay incorporated into the surface of the sand and then planted to European beach grass between December and March 15th. Beach grass should be fertilized in April with 200 lbs. per acre of commercial fertilizer (21-0-0).

On less critical areas incorporate 1-1/2 to 2 tons per acre of straw or grass mulch into the surface of the sand immediately following grading. Seed the area to Astoria bent grass 2#/ac., creeping red fescue at 10#/ac., and perennial rye grass 8#/ac. at the earliest planting season (March to May or mid-August to mid-September).

2. Any combination of disturbed areas larger than 3,000 sq. ft. to be cleared of vegetation should have a detailed stabilization plan approved by the Clatsop Soil and Water Conservation District prior to start of work. The Conservation District should be informed at the start of work and also upon major completion of stabilization.
3. All areas that are bare of vegetation between October 1 and March 31 shall immediately be temporarily covered with 1-1/2 to 2 tons per acre of straw or grass mulch punched into the sand or covered with a matting to prevent sand movement.

4. All beach access trails are to be perpendicular to the beach. Trails wider than 4 feet or any trails that start to blow must be hard surfaced with planks, asphalt, concrete, gravel bound with clay, or other material of like character.

S4.110. Site Investigation Report for Beach and Dune Area. The following standards will be used:

1. When the Active Dune Overlay and Structures Allowed Active Dune Overlay District boundaries are proposed to be changed; or
2. When the Planning Director or Planning Commission feel the development being proposed under S4.102 and S4.104 may impact an area larger than the actual proposal and/or potential result in any of all of the following:
 - a. erosion,
 - b. loss of stabilizing vegetation,
 - c. loss of water quality,
 - d. salt water intrusion into the water supply,
 - e. the permanent drawdown of the dune lakes,
 - f. a structure which might modify current or wave patterns or the beach sand supply, or
 - g. the placement of a structure that might be subject to ocean or wind hazards.

The site investigation report provides information on the site of the development and adjacent land that is likely to be affected by a proposed development. The initial phase of the site investigation may provide information calling for an adjustment of the boundaries of the investigation area. Unless the Director determines specific items are not required, the report shall include the information described in S4.112 to S4.124 together with appropriate identification of information sources and the date of the information. Before a development permit can be issued, the site investigation report must be approved as part of the development permit approval process. The approved site investigation report shall be referred to in the deed and other documents of sale and shall be recorded with the record of deeds.

S4.112. Background Data in Report. The site investigation report shall contain the following background information:

1. The methods used in the investigation and the approximate number of man-hours spent on the site.
2. A general analysis of the local and regional topography and geology including the faults, folds, geologic and engineering geologic units and any soil, rock and structural details important to engineering or geologic interpretations as well as beach and dune forms and their relative activity.

3. A history of problems on and adjacent to the site, which may be derived from discussions with local residents and officials and the study of old photographs, reports and newspaper files.
4. The extent of the surface soil formation and its relationship to the vegetation of the site, the activity of the land form and the location on the site.
5. The following ground photographs of the site with information showing the scale and date of the photographs and their relationship to the topographic map and profiles.
 - a. A view of the general area.
 - b. The site of the proposed development.
 - c. Any features which are important to the interpretation of the hazard potential of the site, including all sites of erosion or accretion.
 - d. Unusual natural features and important wildlife habitat.
 - e. Views of the windward and leeward sides of the foredune.

S4.114. Dune Topography Map. A topographic base map of (1 to 100) scale and with a contour of interval of (two feet) shall be prepared identifying the following features and shall be accompanied by reference to the source and date of information used.

- (1) The position of the lot line.
- (2) The boundaries of the property.
- (3) The vegetation line and beach zone line.
- (4) Each dune classification type.
- (5) The crest of the foredune.
- (6) Areas of open sand and the boundaries and species identification of major plant communities.
- (7) Any springs, streams, marshy areas or standing bodies of water.
- (8) Areas subject to flooding, including those shown on the flood hazard maps prepared under the HUD National Flood Insurance Program.
- (9) Wave cut terraces, erosion scarps and areas exhibiting significant erosion due to improper drainage and runoff concentration.
- (10) Geological information, including lithologic and structural details important to engineering and geologic interpretation.

S4.116. Dune Profiles. The site investigation report shall contain dune profiles extending across the site and area of impact parallel to the direction of major elevation change on the site and passing through the intended position of any structure. Vertical and horizontal scale shall be sufficient to show important details accurately or shall be at a scale of . Each profile shall show where applicable:

- (1) Elevations in relation to mean sea level.
- (2) The position of the beach zone line.
- (3) the position of the vegetation line.
- (4) Sites of erosion and accretion.
- (5) The position of the crest, leeward and windward edges of the foredune, the deflation plain and any open sand areas crossed by a profile.

S4.118. Dune Subsurface Analysis. If upon initial investigation it appears there are critical areas where the establishment of geologic conditions at depth is required, a subsurface analysis obtained by drill holes, well logs and other geophysical techniques shall be conducted by the person responsible for the site investigation report to include the following data as appropriate.

- (1) The lithology and compaction of all subsurface horizons to bedrock.
- (2) The depth, width, slope and bearing of all horizons containing significant amounts of silt and clay and any other subsurface layers which could reduce the infiltration of surface waters.
- (3) The depth, bearing and capacity of seasonal and permanent aquifers.
- (4) Underlying areas of buried vegetation.

S4.120. Dune Development Proposal. The site investigation report shall include the following information on the proposed development as applicable. The information will be shown on the maps described in S4.114 and S4.116 or appropriately referenced.

- (1) Plans and profiles showing the position and height of each structure, paved area and area where cut and fill is required for the construction.

- (2) The percent and location of the surface of the site which will be covered by impermeable or semipermeable surfaces.
- (3) Points to preserve for public access to the beach.
- (4) A description of the impact of the development on any critical biological habitats.
- (5) A dune stabilization program for the development describing:
 - a. The stability and movement of sand and shoreline.
 - b. How much of the site will be exposed during construction and what measures will be taken to reduce wind erosion and sand movement during construction.
 - c. A revegetation program designed to return open sand areas, both pre-existing and newly created, to a stable condition as soon as possible following construction and the period of time during which revegetation maintenance.
 - d. The time of commencement of revegetation planting. If this does not fall within the optimal revegetation period of November through April, special care of the planting shall be provided for until they are well established.
- (6) For a logging or farming operation, areas to be protected from vegetation loss or groundwater pollution shall be identified and means for protection described.
- (7) A beach or dune sand removal or other mining operation shall only be permitted if the site investigation report establishes that an historic surplus of sand exists at the site and that it can be removed without substantial impairment of the natural functions of the beach and dune system, water circulation and littoral drift.

S4.122. Special Review for Water Supply or Sewerage. If a well or an on-site sewage disposal system is planned, the proposed location shall be described and the following shall be determined.

- (1) The maximum and minimal levels (seasonal extremes) in water table height.
- (2) The expected water needs of the proposed development.
- (3) The water supply capacity of the dune system and the expected effect of the increased water consumption on the water table drawdown, taking into account water use rates to meet present and future needs of adjacent properties.
- (4) Any detrimental contamination of the groundwater, lakes or marshes that may occur.

S4.124. Conclusions in the Dune Report.

- (1) The site investigation report shall contain conclusions stating the following:
 - a. How the intended use of the land is compatible with the conditions.
 - b. Any existing or potential hazards noted during the investigation.
 - c. The manner for achieving compliance with the standards.
- (2) Mitigating recommendations for specific areas of concern shall be included.
- (3) Conclusions shall be based on data included in the report, and the sources of information and facts shall be specifically referenced.

S4.126. Restrictions in Active Dune Area.

- (1) No land partitioning or subdivision shall sever an active foredune from property to the rear unless, in making the severance, the foredune is restricted by provisions in the deed to prohibit future construction of structures.
- (2) The height of a foredune shall not be lowered except that modification of a foredune is permissible when authorized as part of one of the following:
 - a. An emergency breaching.
 - b. A dune stabilization program.
 - c. A sand bypass program.
 - d. Specific approval on part of the approval of other development.
- (3) Stabilization of ocean deposits of accreted sand is allowable only if necessary for the maintenance of a jetty or groin.
- (4) A beach front protective structure that is to the landward side of the zone line and therefore does not require a permit from the Oregon Department of Transportation shall be designed by a registered engineer and shall comply with the same standards as the Oregon Department of Transportation complies to such a structure on the ocean side of the zone line.

S4.128. Restrictions on Development in Dune Area. In a beach and dune special purpose district, the following development restrictions shall be observed.

- (1) Clearing or other development activity by fire shall not lead to destabiliation of a stable or conditionally stable dune system.
- (2) The method of removal of sand, gravel, timber, driftwood or vegetation shall not threaten the survival of adjacent plant communities.
- (3) The removal of groundwater from the dune area is limited to levels which provide a safe sustainable yield without causing the water table drawdown to be injurious to dune vegetation.
- (4) An open sand area shall be planted and maintained for stabilization purposes unless the site investigation report has provided for its retention as an open sand area.
- (5) Utilities shall be located underground with any excavated areas stabilized except that, where existing development and the small size of the new development make underground installation impractical, an aboveground location shall be approved if the installation will not disrupt the stability of the area.
- (6) Development for human occupancy in an area with the highest annual water table or an impermeable subsurface soil within (five) feet of the ground surface shall take place only where sanitary sewer and public water systems are available.
- (7) Development in an active sand area shall only take place after the area has been stabilized by vegetative planting.
- (8) Modification of dunes shall not create unnaturally homogeneous and visually unappealing shoreline configurations or lead to scars, flooding or blowouts in the dunes area.

S4.130. Standards for Open Land Activities in Dune Area. In a beach and dune special purpose district, the activities shall be conducted consistent with the following standards.

- (1) Livestock grazing and other farming shall be permitted only in areas inland from the foredunes and then only if vegetation or groundwater will not be damaged. Grazing is restricted and shall not cause destruction of vegetation sufficient to cause erosion.

- (2) Logging activities within a dune area shall be conducted so that watershed runoff is maintained at the preexisting quality, volume and rate of flow and natural vegetation is retained along the coastal beach and foredunes and adjacent to streams, ponds and marshes.
- (3) Except for privately owned open sand areas or a stabilized area which is authorized for reactivation, dunes property shall not be used for the following:
 - a. Vehicle travel off approved roads unless a development permit has specifically authorized off-road travel.
 - b. Concentrated or directed pedestrian or animal movement on a foredune except over an improved access route.

S4.132. Standards for Building Construction in Dune Area. Building construction shall be approved under conditions that do not adversely affect sand movement patterns or vegetation. The grading of land and the orientation and design of a building shall avoid creating conditions that will cause erosion or accretion of sand. Where there is some risk of these conditions occurring, a "qualified sand expert" shall certify that the design and control measures will comply with this standard.

S4.134. Standards for an Access Route in Dune Area. A access route within a dune area of the beach and dune special purpose district shall comply with the following:

- (1) A road or trail shall be stabilized by planking, gravel or pavement.
- (2) A land division or development involving more than two dwelling units for each (200) feet of shoreline or a development or activity that serves (ten) or more persons shall have common beach access trails to serve building sites near the beach no more frequent than each (200) feet.
- (3) Vehicle access points to the beach shall be spaced the maximum distance that still permits reasonable access and shall be located and designed to preserve the natural form and profile of the beach and dune affected by the access point.
- (4) The owner of a development or activity that provides beach access for more than (one/two families) shall provide and maintain a trash container at the access point.

S4.136. Site Investigation Report Review. The Planning Director, Planning Commission or Board of Commissioners may want to have a technical site investigation report reviewed including the methods actually used to avoid hazards. The Planning Director, Planning Commission or Board of Commissioners may request the owner or developer to pay for a portion or all of the review on behalf of the County.

S4.138. Qualifications. The site investigation report shall be conducted by a person which should have the equivalent of professional registration with a demonstrated competence in evaluating coastal processes and deposits (refer to Stability of Coastal Dunes Clatsop County, Oregon by Leonard Palmer).

Shoreline and Aquatic Development

S4.200. Purpose. The following shoreland and aquatic development standards apply to developments permitted with review and conditional developments in one or more of the shoreland and aquatic zones. These standards are intended to protect the unique environmental, economic and social values of the Columbia River Estuary.

S4.202. General Standard. Developments shall be allowed only if it is determined that the development is consistent with the resource capabilities of the particular area and purposes of the management classification described in the Clatsop County Comprehensive Plan.

S4.203. Development Zone Standards. Developments in water-dependent shoreland and aquatic development zones shall comply with the following standards:

- (1) Developments that are not water-dependent shall not preclude or unduly conflict with existing, proposed or probable future water-dependent development on the site or in the vicinity.
- (2) Uses will either be compatible to nearby uses (particularly adjacent historic structures) or appropriate landscaping, fencing, and/or other bettering techniques shall be used to protect the character of these surrounding uses.
- (3) Waterfront access for the public, such as walkways, trails, waterfront seating or landscaped areas, shall be provided except when proven to be inconsistent with security or safety factors. Industrial and port facilities should be designed to permit public viewing of the waterfront and/or operations from viewpoints which would not interfere with industrial operations.
- (4) Parking facilities shall not be located over the water or on the immediate shoreline, except when parking elsewhere is rendered impractical by topography, existing development, or would constitute a severe economic hardship.
- (5) Placement of signs will be done in such a way as to minimize restrictions on waterfront views. Signs shall be constructed against existing buildings whenever feasible to minimize visual obstructions of the shoreland and water bodies.
- (6) Where a proposed industrial use borders an aquatic area in an A3 or A4 Zone, the applicant will show what measures are to be taken to minimize environmental impacts on the area.
- (7) Commercial or industrial uses situated on floating structures shall be located so as not to rest on the bottom at low water.

- (8) Where feasible, facilities for parking, cargo handling, storage, or moorage should be established for more than one use. When new facilities are proposed, the applicant shall show that existing facilities in the area cannot be utilized.
- (9) In some locations maintenance, placement or replacement of riparian vegetation may be required to enhance visual attractiveness or assist in bank stabilization.
- (10) Facilities to treat and dispose of waste water, and to prevent and clean-up spills and dispose of toxic materials or petroleum shall be provided as necessary.

S4.204. Agriculture. Raising and harvesting crops or livestock using acceptable farming practices, and structures or facilities relating to these uses.

- (1) Tillage and drainage practices should minimize sedimentation and control surface water runoff of animal wastes and excess fertilizers, herbicides and pesticides. Pesticides and herbicides shall be applied so as to minimize the amount that is lost to the aquatic environment.
- (2) In undiked areas bordering bodies of water, a buffer strip of permanent vegetation shall be maintained between cultivated or pasture areas and the water body, so as to filter surface runoff and retard sedimentation.
- (3) Feed lots or other confinement lots for livestock shall be:
 - a. Located at least 100 feet from streams or other water bodies;
 - b. Away from hillsides leading directly to streams;
 - c. Outside the 100-year floodplain; and
 - d. Located so as to protect ground water supplies.
- (4) Dikes, tidegates and drainage systems shall be kept in good working order.
- (5) On Development and Water Dependent Development Shorelands, agriculture uses shall be undeveloped and low intensity to reserve these areas for intensive residential, commercial or industrial use, as appropriate.
- (6) On Conservation Shorelands, agricultural uses shall be low intensity and consistent with maintenance of the forest resource and recreational values of these lands.

S4.205. Airports. Terminal stations for aircraft passenger and cargo operations; include runways, towers and associated structures.

- (1) Existing airport facilities shall be utilized or expanded to the extent possible before new facilities may be approved.
- (2) Airports and associated facilities shall be located away from migratory bird flyways and heavily used habitat for resident waterfowl or other birds, in the interest of air safety and wildlife conservation.
- (3) Airport facilities shall not be allowed on new fill land.

S4.206. Aquaculture Standards. Aquaculture development in shoreland or aquatic zones shall comply with the following:

- (1) Structures and activities associated with aquaculture operation shall not unduly interfere with navigation.
- (2) Water diversion or other shoreline structures shall be located so as not to unduly interfere with public shoreline access. Public access to the facility shall be provided consistent with safety and security consideration.
- (3) Aquaculture facilities shall be constructed to blend in with and not detract from the aesthetic qualities of the area. In developed areas, views from upland property shall be given consideration in facility design.
- (4) Water diversion structures or manmade spawning channels shall be constructed so as to maintain minimum required stream flows for aquatic life in the adjacent streams.
- (5) The potential impacts of introducing a new fish or shellfish species (or race within a species) shall be carefully evaluated in light of existing aquatic life and potential fish and shellfish production in the stream, estuary and ocean.
- (6) Aquaculture facilities shall be located far enough from sanitary sewer outfalls to prevent any potential health hazard.
- (7) Water discharged from the facility shall meet all federal and state water quality standards and any conditions attached to a waste discharge permit.
- (8) Aquaculture operations in Natural Aquatic areas shall be low intensity, undeveloped (no structures), and consistent with protection of natural values.

S4.207. Commercial Uses. Privately-owned or operated facility or place of business open to the public for sale of goods or services. Examples include: restaurants, taverns, hotels, motels, offices, personal services, retail stores, recreational vehicle parks, and campgrounds. Outdoor advertising, signs and billboards are subject to the standards set forth here. Public facilities offering similar goods or services should also meet these standards.

- (1) Uses that are not water dependent shall not preclude or unduly conflict with existing, proposed, or probable future water dependent use on the site or in the vicinity.
- (2) Uses shall be aesthetically compatible with their waterfront location and architecturally related to any adjacent historic or scenic structures or areas.
- (3) Sign placement shall not impair visual access to the water. When feasible, signs shall be constructed against existing buildings to minimize visual obstructions of the shoreline and water bodies. Off-premise outdoor advertising signs shall not be allowed in aquatic areas.
- (4) Preservation, placement or replacement of riparian vegetation in shoreline areas where it would enhance visual attractiveness or assist in bank stabilization may be required.
- (5) Parking facilities shall not be located over the water or on the immediate shoreline, except where parking elsewhere is rendered impractical by topography or constitutes a severe economic hardship to the commercial enterprise, in which case it shall remain as far landward as feasible.
- (6) Commercial uses situated on floating structures shall be located to be protected against currents and wave action and not to rest on the bottom at low water.
- (7) When the proposed use is situated directly on the waterfront, significant public access shall be provided, such as waterfront seating, walkways, wharves, street furniture, or similar facilities.
- (8) Uses other than water related should be set back 30 feet from the high water mark, and riparian vegetation should be protected.
- (9) In Rural Shorelands, a commercial use shall be permitted only upon a finding that it satisfies a need that cannot be accommodated on shorelands designated for more intensive development. It shall be located so as not to interfere with normal agricultural practices in adjacent areas.
- (10) In Conservation and Rural Aquatic areas, only low intensity water dependent or temporary commercial uses with minimal adverse environmental impacts may be permitted.

(11) In Development Aquatic areas or Water Dependent Development Shorelands, water dependent uses shall have the highest priority. Other uses may be allowed if the project satisfies 33.0401 and the applicant presents evidence that either:

- a. The use is water related and is not to be situated on new fill in an aquatic area;
- b. The use shares an existing structure, such as a wharf or pier, with a water dependent use, and the combination results in a multiple-use facility;
- c. The project provides significant public access or recreation uses through the provision of waterfront seating, walkways, piers, street furniture, or similar facilities; or
- d. The use is temporary, with minimal permanent capital investment, and, in such cases, the temporary use permit will be valid only for a specified period, not to exceed one year.

(12) Where a use is permitted under 33.0411 (1-2) above, public access shall be provided as described in 33.0411 (3) above.

(13) In Development Aquatic areas, uses that are not water dependent shall be located either on a floating structure or pilings, or shall not increase the need for fill, if in association with a water dependent use located on fill.

(14) In Conservation Shorelands, a commercial use may be permitted only upon a finding that it satisfies a need that cannot be accommodated on shorelands designated for more intensive development. It shall be low intensity and not conflict with forest management or recreational uses in the area.

S4.208. Dock/Moorage Facility Standards. Dock/moorage facilities in shoreland or aquatic zones shall comply with the following standards:

- (1) Where a private individual dock or moorage is proposed, the applicant must provide evidence that alternative moorage sites such as nearby marinas, community docks or mooring bouys are not available, are impractical or will not satisfy the need. In any event, only one boat dock or moorage area will be permitted for each waterfront residence, subdivision or other use.
- (2) Evidence shall be provided by the applicant that the size of the dock or moorage is the minimum necessary to fulfill the purpose.
- (3) Open moorages shall be provided, rather than covered or enclosed moorages, except in connection with a commercial or industrial use where shelter is necessary for repair and maintenance of vessels and associated equipment, such as fishing nets, etc.

- (4) Open pile piers or secured floats shall be used for dock construction.
- (5) Piers and floats shall extend no farther out into the water than is needed to provide navigational access. Conflicts with other water surface uses, such as commercial fishing, recreational boating and log rafting, shall be minimized.
- (6) Floats in tidally-influenced areas shall be located such that they do not rest on the bottom at low water.
- (7) Docks and moorages shall be designed so that adverse hydraulic effects at the site and in adjacent areas are minimized.

S4.209. Industrial and Port Facilities. Public or private use of land or structures for manufacturing processing deep water port development, and energy generation facilities. (Standards for marinas, docks, and piers are provided in 33.05 and 33.27.)

- (1) Uses that are not water dependent shall not preclude or unduly conflict with existing, proposed, or probable future water dependent use on the site or in the vicinity.
- (2) The placement of facilities shall take into account the impact on views and vistas from adjacent roads or residential areas. Facilities which have a decidedly negative impact shall provide for buffering, screening or other design features to protect the views or vistas.
- (3) Facilities to treat and dispose of waste water, and to prevent and clean-up spills and dispose of toxic materials or petroleum shall be provided as necessary.
- (4) The applicant shall present evidence that the industrial or port facility will be designed and constructed to minimize adverse effects on navigation, water and air quality, sedimentation rates and patterns, fish rearing or spawning areas, fish migration routes, important vegetative habitat, land transportation routes and traffic patterns, public services and facilities, and existing land uses.
- (5) Where the proposed industrial use borders aquatic areas designated for resource protection or conservation, the applicant shall show that measures to be taken will reduce adverse impacts on such adjacent areas to a level consistent with their resource protection or conservation use.
- (6) Facilities should be designed to permit public viewing of the waterfront and/or operations from viewpoints which would not interfere with industrial operations. Public access to the shoreline and water, consistent with security and safety, shall be provided.
- (7) Parking facilities shall not be located over water or on the immediate shoreline, except where parking elsewhere is rendered impractical by topography or constitutes a severe economic hardship, in which cases it shall remain as far landward as feasible.

- (8) Industrial uses on floating structures shall be protected against currents and waves, and be located so as not to rest on the bottom at low water.
- (9) Energy facilities will be located and constructed according to the standards of the Oregon Energy Facility Siting Council or Washington Thermal Power Plant Siting Law (RCW 80.50). The states preempt the regulation, certification and siting of thermal power plants.
- (10) In Development Aquatic and Water Dependent Development Shoreland areas water dependent uses shall have the highest priority. Other uses may be allowed if the project satisfies 33.0601 and the applicant presents evidence that either:
 - a. The use is water related and is not to be situated on new fill in an aquatic area; or
 - b. The use shares an existing structure, such as a wharf or pier, with a water dependent use, and the combination results in a multiple-use facility; or
 - c. The use is temporary, with minimal permanent capital investment in such cases, the shoreline permit will be valid only for a specified period, not to exceed one year.
- (11) Multipurpose and cooperative use of proposed moorage, parking, cargo handling and storage facilities should be undertaken where feasible. When new facilities are proposed, the applicant shall show that existing facilities in the area cannot be utilized. New facilities should be designed to provide for cooperative use as feasible.
- (12) The design and construction of water dependent or water related industrial and port facilities shall consider the need to protect or enhance riparian vegetation for bank stabilization, wildlife habitat maintenance, water quality, or a visual and noise buffer. Except where direct access to water is required for wharves, piers, docks, or water intake or discharge facilities, protection or enhancement of riparian vegetation may be required.
- (13) Uses which are not water related shall be set back 30 feet from the shoreline and riparian vegetation protected in this setback.
- (14) In Rural Shorelands an industrial use shall be permitted only upon a finding that it satisfies a need that cannot be met on shorelands designated for more intensive development. It shall be located so as not to interfere unduly with normal agricultural or associated uses in adjacent areas.
- (15) In Conservation Aquatic areas, only low intensity water dependent or temporary industrial uses with minimal adverse environmental impacts shall be permitted.

S4.210. Land Transportation Facilities. Highways, railroads, bridges and associated structures and signs which provide for land transportation of motorized and/or nonmotorized vehicles (excluding logging roads).

- (1) Land transportation facilities shall not be located in aquatic areas except where bridge crossings are needed or where no feasible alternative shoreland or upland route exists. Careful consideration should be given to potential adverse hydraulic effects. Undesirable changes in shoaling, erosion and flood elevations shall be avoided.
- (2) The design and location of highways, railroads and bridges should take advantage of the natural topography to cause minimum disruption of the shoreline area. Causeways across aquatic areas shall not be permitted.
- (3) The applicant shall provide to the planning commission an evaluation of the impacts of proposed rail or highway facilities on land use patterns, energy use, air and water quality, estuarine habitat, functions and processes, existing transportation facilities, and physical/visual access. The benefits of the location of new or expanded routes shall be weighed against the costs of relocating housing, businesses and public facilities. Routes shall be selected which preserve public access and avoid separation of high intensity use areas (such as downstream commercial centers) from the waterfront.
- (4) New land transportation routes shall not degrade the development potential of Water Dependent Development Shorelands.
- (5) Public roadways in scenic areas shall provide for safe pedestrian and non-motorized vehicle travel, and for sufficient viewpoints, rest areas and picnic areas along the public shorelines.
- (6) Maintenance of existing roads and railroads and maintenance and improvement of existing bridges shall be permitted, regardless of the designation of the area they pass through.

S4.211 Log Dump/Sort Areas Standards -- In Water. In-water log dump/sort areas in aquatic zones shall comply with the following standards:

1. Easy let-down facilities shall be used to transfer logs from land to water. Free-fall log dumps are not permitted.
2. The best practicable bark and wood debris controls shall be used.

S4.212. Log Storage Standards -- In Water. In-water log storage in aquatic zones shall comply with the following standards:

- (1) New log storage areas shall be located such that logs will not go aground on tidal flats at low water.
- (2) New log storage areas shall be located in areas where conflicts with traditional and active gillnet fish drifts are minimized.
- (3) Log storage areas shall be located where water quality degradation is minimized. Good flushing characteristics should exist at the site.

S4.213. Log Storage/Sorting Yard -- Dry Land. An area where logs are gathered from surrounding harvest areas, weighed, sorted for species, size and quality, and stored until ready for transfer to water storage areas or to market.

- (1) Storage facilities adjacent to waterways shall be designed, constructed and operated to control leachates and prevent the loss of bark, chips, sawdust and other wood debris into public waters.
- (2) Unpaved storage yards underlain by permeable soils shall have at least a four foot separation between the ground surface and the winter water table.
- (3) Other pertinent standards in the Oregon Environmental Quality Commission's Program and Policy for "Log Handling in Oregon's Public Waters" (October 24, 1975) apply in Oregon.
- (4) In Conservation Shoreland areas, storage and sorting facilities should be located so as not to interfere with non-forestry uses of these areas, such as recreation.
- (5) In Rural Shoreland areas, storage and sorting facilities shall be located so as not to interfere with rural residential uses, normal farming operations and recreation.
- (6) On Water Dependent Development Shorelands, storage and sorting facilities shall not preclude or unduly conflict with existing, proposed or probable future water dependent uses on the site or in the vicinity, unless the dry sort yard is itself an essential part of a water dependent facility.

S4.214. Marina Standards. Marina facilities in shoreland or aquatic zones shall comply with the following standards:

1. The applicant shall provide evidence to show that existing marina facilities are inadequate to meet the demand and that existing facilities cannot feasibly be expanded.
2. Marina facilities shall be designed and constructed as as to minimize negative impacts on navigation, water and air quality, sedimentation rates and patterns, fish rearing or migration routes, important sediment-dwelling organisms, birds, other wildlife, tidal marshes and other important vegetative habitat. The effects on traffic patterns, parking facilities, noise levels and uses in adjacent shoreland and aquatic areas will be considered.
3. Flushing and water circulation adequate to maintain ambient water quality shall be provided by design or artificial means. A calculated flushing time will be presented as evidence that this standard has been met.
4. The amount of water surface occupied shall be the minimum required to meet the need. In this regard, new facilities will make maximum feasible use of dry boat moorage on shoreland areas.
5. Means for preventing oil, fuels and other contaminants from entering the water shall be provided. Equipment will be available on-site for clean up of accidental spills of contaminants. Sewage and fish wastes will not be discharged directly into the water.
6. Marina facilities shall provide for maximum public access and recreation use, consistent with safety and security considerations. Walkways, seating, fishing areas and similar facilities should be provided.
7. Open moorages shall be provided rather than covered or enclosed moorages, except in connection with a commercial or industrial use where such a shelter is necessary for repair and maintenance of vessels and associated equipment, such as fishing nets.
8. New marina facilities shall be located in areas where there is natural or man-made protection from wind, waves, tidal currents and surge, storms, strong prevailing winds and passing ship-wakes. Marinas should be located or designed in a manner which will not adversely affect the natural processes of erosion, littoral drift and/or beach accretion.
9. Parking facilities shall remain outside the shoreline area, except where parking elsewhere is rendered impractical by topography or constitutes a severe economic hardship.

S4.216. Mining/Mineral Extraction Standards. Mining/mineral extraction uses in shoreland or aquatic zones will comply with the following standards:

1. The impacts on fish feeding, spawning and nursery areas; fish transit and migration, bird and wildlife habitat, riparian vegetation, water quality (dissolved oxygen, turbidity, and other relevant factors), shoaling and erosion of nearby areas, circulation and other relevant factors shall be evaluated and minimized.
2. Petroleum extraction and drilling operations shall not be allowed in aquatic areas. Petroleum may, however, be extracted from beneath aquatic areas using equipment located on adjacent shorelands or uplands, according to the rules set forth by the Department of Geology and Mineral Industries. Petroleum exploration (not including exploratory drilling) is permitted in shorelands and aquatic areas, subject to state standards.
3. If the project will occur in aquatic areas, evidence will be presented to explain why the project cannot be carried out on land. Mining/mineral extraction is not permitted in tidal marshes, and productive tidal flats and sub-tidal areas.
4. Unless part of an approved fill project, spoils and stockpiles shall be placed beyond the reach of high water and in such a manner that sediment will not enter or return to the waterway.
5. Riparian vegetation shall be retained to the degree possible. Disturbed shoreline areas shall be revegetated.
6. Waste-water handling facilities must meet state and federal water quality standards and be adequate to prevent damage to in-stream water quality.

S4.218. Active Restoration/Resource Enhancement Standards. Active restoration/resource enhancement in aquatic zones shall comply with the following standards:

1. Regional policies on Restoration and Mitigation in the Clatsop County Comprehensive Plan shall be consulted in evaluation of individual active restoration/resource enhancement projects.
2. Passive/active restoration/resource enhancement in Development Aquatic, or Water Dependent Shoreland zones shall be undertaken only if it is likely that the project will not conflict with or be destroyed by existing or subsequent development.
3. A proposal for active restoration or resource enhancement shall be accompanied by an analysis of possible adverse effects on: circulation and current patterns; shoaling or erosion; water quality; existing habitat and natural resource values; and feeding and migration of juvenile salmon, other fishes, and aquatic organisms. Such effects shall be minimized.

4. The applicant shall establish that the beneficial effects of an active restoration or resource enhancement project outweigh the direct and indirect project costs. Benefits shall include those benefits related to a development project if the restoration or resource enhancement is undertaken as mitigation of other adverse effects of the project. For diked tideland restoration, costs should include costs associated with the loss of agricultural land.

S4.220. Timber Propagation/Harvesting Standards. Timber propagation/harvesting in aquatic zones shall comply with the following standards:

1. In Conservation and Rural Aquatic areas (primarily Sitka Spruce swamps), the Department of Forestry and local government shall allow only selective commercial timber cutting of no more than thirty percent of the merchantable trees in any ten year period of time: PROVIDED, that other timber harvesting methods may be permitted in those limited instances where the topography, soil conditions, and silviculture practices necessary for regeneration, make selective logging ecologically detrimental: and PROVIDED FURTHER, that clear cutting of timber which is solely incidental to the preparation of land for other uses authorized by these standards may be permitted. Disruption of drainage patterns, wildlife habitat and aquatic values shall be minimized, and logging roads and heavy equipment shall not be permitted in aquatic areas.

S4.222. Communication Facilities and Other Utilities Standards. Communication facilities and other utilities in shoreland or aquatic zones will comply with the following standards:

1. Whenever feasible, utility lines will be located underground.
2. Above ground utilities will be designed to minimize adverse effects on the characteristics of the area.
3. Utilities shall not be located on new fill land unless part of an otherwise approved project and no other alternative exists.

S4.224. Navigational Structures. Navigational structures in aquatic zones shall comply with the following standards:

1. Impacts of major navigational structures shall be considered before deciding whether to allow the use, including the structure's capacity for changing currents, sedimentation, erosion, sediment movement by waves and currents, and flushing characteristics; capacity for damaging aquatic habitat and fishery resources; aesthetic impact, interference with navigation; occupation of water surface; and other relevant factors. Effects on longshore sand transport on beaches and in the river are especially important and should be evaluated carefully. Adverse impacts shall be minimized by both design and construction.

- (2) Jetties, groins and rock breakwaters shall be constructed of clean, non-erodible land materials. The size of the material shall be appropriate for existing wave, tide and current conditions. In-stream gravels shall not be used. Sound engineering practices and state and federal agency standards shall be followed.
- (3) Pile dikes shall be installed in accordance with the standards for piling/dolphin installation, Section S4.244.
- (4) Fills shall be installed in accordance with the standards on fills, Section S4.242.
- (5) Floating breakwaters are preferred over the solid, rip-rapped, or rock types, when feasible, to maintain fish habitat and sand movement. Solid breakwaters should be constructed only where they can be designed to minimize detrimental effects on sand movement and water circulation.

S4.226. Recreation Standards. Recreation uses in shoreland or aquatic zones shall comply with the following standards.

- (1) Recreation use in waterfront areas will take maximum advantage of proximity to the water. To the extent possible, provisions will be made for water access points and water viewing. Structural design will be consistent with the character of the waterfront location. Parking areas shall be located as far away from the shoreline as feasible.
- (2) Recreational water access points provided in connection with private commercial development shall be open to public use, except where security and safety considerations are overriding.
- (3) Recreation uses of Aquatic Development and Water-Dependent Development Shoreland zones shall be water dependent and located so as not to interfere unduly with industrial uses of these areas.

S4.227. Residential Uses. Development of land and structures for human occupancy as living quarters. This category includes single and multi-family dwellings, subdivisions, mobile homes and mobile home parks, and planned unit developments.

- (1) The basic shoreline setback for residential structures and associated parking shall be 30 feet as measured from the aquatic-shoreland boundary. Where erosion or flood hazard exists, the required setback will be determined on a case-by-case basis with appropriate hazard protection required. If the applicant can demonstrate that existing structures on adjoining lots infringe on the 30-foot setback, the setback may be determined by the building line common to the adjacent existing structures, but no setback may be less than 10 feet without a variance.

- (2) Removal of existing vegetation along the stream or river bank shall not be permitted except as necessary for property access or placement of residential structures. Consistent with maintaining a stable shoreline, provision for limited removal or replacement of vegetation may be made to increase livability or provide a view of the water. Applicants, particularly for subdivisions, will show how they plan to preserve and/or replace shoreline vegetation.
- (3) Storm drainage systems shall be separated from sewage disposal systems. Sewage disposal systems shall be designed so that water quality of adjacent coastal waters will not be impaired.
- (4) Subdivisions, mobile home parks and planned unit developments shall be designed so as to protect and compliment the aesthetic character of the shorelands and adjacent aquatic areas (as viewed from the water or shorelands).
- (5) Unless it can be demonstrated that adequate public access exists in the area, subdivisions, mobile home parks and planned unit developments shall provide for public pedestrian access to the shoreline within the development.
- (6) When only a shoreland area is being developed, adjacent aquatic areas shall not be used to compute lot area or density.
- (7) Residential uses in Oregon Development Aquatic areas shall be limited to accessory uses and multi-family residences with marina facilities. Multi-family residences shall not preclude or unduly conflict with existing, proposed, or probable future water dependent use on the site or in the vicinity. Residences shall not be located on new fill in aquatic areas.
- (8) On Conservation Shorelands, no subdivisions or major or minor partitions may be allowed. Single-family residences may be allowed only upon a finding that the housing satisfies a need that cannot be met on shorelands designated for more intensive development, shall be low density, and shall be located so as not to interfere with normal forest management practices.
- (9) On Rural Shorelands, residences, residential subdivisions, and major or minor partitions may be allowed only upon a finding that the housing satisfies a need that cannot be met on shorelands designated for more intensive development, shall be low density, and shall be located so as not to interfere with normal agricultural use and practices on adjacent parcels of land.
- (10) Residential uses in Water Dependent Development Shorelands shall be allowed only as an accessory use.

S4.228. General Standard for Developments Requiring a State or Federal Permit. Developments requiring a state or federal permit shall not be started without first obtaining such a permit. Clatsop County expects the appropriate state and federal permit issuing agencies to apply the standards in Sections S4.230 through S4.246 when considering permit applications.

S4.230. Overall Mitigation Requirements for Regulated Activities.

- (1) Adverse impacts to estuarine resources resulting from dredge, fill or dredged material disposal activities (public or private) permitted in intertidal or tidal marsh areas shall be mitigated by creation, restoration or enhancement of estuarine areas. Such mitigation shall improve or maintain the functional characteristics and processes of the estuary, such as its natural biological productivity, habitats and species diversity, unique features and water quality.
- (2) Actions exempted from the mitigation requirement mentioned in Item 1 of this section include:
 - a. Removal or filling of less than 50 cubic yards of material or when an Oregon State Removal and Fill Permit is not otherwise required;
 - b. Filling for repair and maintenance of existing functional dikes when there is negligible physical or biological damage to tidal marsh or intertidal areas;
 - c. Riprap to allow protection of an existing bank line with clean, durable erosion resistant material provided that the need for riprap protection is demonstrated and that this need cannot be met with natural vegetation, and no appreciable increase in existing upland occurs;
 - d. Filling for repair and maintenance of existing roads when there is negligible physical or biological damage to tidal marsh or intertidal areas;
 - e. Dredging or filling required as part of an estuarine resource creation, restoration or enhancement project agreed to by local, state and federal agencies; or
 - f. Other proposed projects or activities where, upon determination of the Oregon Division of State Lands, the proposed alteration would have negligible physical, biological and water quality impacts.
- (3) Actions which will not satisfy mitigation requirements in Item 1 of this section include the transfer of ownership of estuarine lands, including wetlands and submersible lands, to public ownership; the dedication of estuarine lands for certain natural uses; and the provision of funds for research.
- (4) In addition to activities mentioned in Item 1 of this section, mitigation will also be required for any regulated activity which would degrade or destroy habitat believed to be critical for endangered or threatened species. This mitigation shall be in the form of restoration, resource enhancement, preservation, or financial compensation.

- (5) Mitigation may be required for other regulated activities which degrade or destroy biologically productive areas.
- (6) Potential mitigation projects will be evaluated on the basis of the appropriateness of the type of project, its economic feasibility, and the desirability of its location. Unless economically impractical, the following priorities will be used to evaluate mitigation project locations:
 - a. First priority will be given to areas in close proximity to the development site with physical characteristics such that when restored, the area will develop a similar quality and quantity of plant and animal life and perform similar ecological functions;
 - b. Second priority will be for areas in other parts of the estuary that satisfy the physical characteristics such that when restored, the area will develop a similar quality and quantity of plant and animal life and perform similar ecological functions;
 - c. Third priority will be given to areas with resources in shortest supply as compared to past abundance, particularly tidal marshes and the salmon resource.

S4.231. Solid Waste Disposal. The deposition of municipal or industrial solid waste on shorelands.

- (1) Solid waste disposal on shorelands shall be allowed only when an upland location is not feasible, and as part of the preparation of the site for an allowed or conditionally allowed shoreland development. Sites shall be consistent with the approved solid waste disposal plan.
- (2) Solid waste material shall not be deposited in marshes, wetlands, or other aquatic areas. Solid waste deposited in a shoreland disposal site shall be strictly confined to the site.
- (3) All relevant state and federal air quality, water quality and solid waste disposal regulations shall be adhered to. Leaching of harmful substances into ground and surface waters shall be avoided, and public health and safety protected.
- (4) Aesthetic impacts of the solid waste disposal shall be minimized by screening the site with natural or planted vegetation.

S4.232. Bankline or Stream Alteration. If the Planning Director or Planning Commission determines that a proposal for bankline or stream alteration is consistent with the Comprehensive Plan and above standards, the Planning Director or Planning Commission shall recommend to the permit granting agency that the following standards are met if the state or federal permit is granted.

- (1) Adverse impacts on fish spawning, feeding, migration and transit, wildlife habitat, riparian vegetation, circulation patterns, salinity intrusion, water quality, sediment movement and distribution, erosion and shoaling of nearby areas and other estuarine processes, habitats and functions shall be evaluated and minimized.
- (2) An altered water course shall meander and maintain stream surface area as feasible. Alteration of sloughs, oxbows, and marshes shall be minimized.
- (3) Alignments should make maximum use of natural or existing deep water channels, but should not create pockets of stagnant water or other undesirable hydraulic conditions.
- (4) In-stream dredging shall be conducted according to the Dredging Standards.
- (5) Excavation standards will be applied.

S4.234. Dike Standards. Proposals for a state or federal permit for dikes shall meet the following standards.

- (1) Minor dredging as a source of material for dike maintenance shall be allowed only when economically feasible upland sources of material are not available according to Dredging Standard S4.236.
- (2) When new dikes are placed as flood protection, they should be placed on the shorelands and not in aquatic areas (including marshes or other wetlands). New diking of aquatic areas will be subject to the standards for fill.
- (3) Emergency repair to existing dikes is permitted, consistent with other requirements of these standards, subject to the rules set forth by the Oregon Division of State Lands and the U.S. Army Corps of Engineers.

If the Planning Director or Planning Commission determines that a proposal for dikes is consistent with the Comprehensive Plan and above standards, the Planning Director or Planning Commission shall recommend to the permit granting agency that the following standards are met if the state or federal permit is granted.

- (1) The outside face of the dike shall be suitably protected to prevent erosion, as part of any new dike construction or maintenance of existing dikes. All standards for shoreline stabilization shall be met, as applicable. However, trees, brush and shrubs should not be planted.
- (2) Good engineering practices shall be followed in dike maintenance; repair and construction, state and federal agency regulations apply.
- (3) New dike alignment and configuration shall be such as to cause no increase in erosion or shoaling in adjacent areas and no appreciable increase in back water elevation. Channelization of the water way should be avoided.

S4.236. Dredging Standards. Proposals for a state or federal permit for dredging shall meet the following standards.

- (1) Dredging in aquatic areas shall be permitted only:
 - a. For navigation or navigational access; or
 - b. In conjunction with a permitted or conditionally permitted water-dependent use of water or adjacent shorelands for which there is a demonstrated public need and for which no feasible alternative exists; or
 - c. As part of an approved restoration project; or
 - d. As a source of material, as per standard, or for mining or mineral extraction, as provided in the Mining and Mineral Extraction Standards; or
 - e. For dike maintenance, as provided in standard S4.236-4.
 - f. In conjunction with a permitted or conditionally permitted bridge, for where there is a public need and no other feasible sites or routes exist.
- (2) Dredging as a source of material for fill or construction should not occur in productive, shall sub-tidal areas, tidal flats, or tidal marshes. When dredging as a source of material is necessary, because feasible upland sources of material are absent, dredging should occur in areas of sandy bottom sediments, where biological productivity is low and unwanted shoaling has occurred.
- (3) In all aquatic areas, minor dredging may be permitted to the minimal extent necessary to open drainage channels from tide boxes out to deeper water. Dredging in front of the tidegate shall only be large enough to insure proper operation (opening and closing) of the tidegate. Dredging shall not result in the creation of potholes where fish could be stranded

at low water. Dredging shall include a channel that is only large enough to ensure that fish standing is minimized.

- (4) In all aquatic areas except NATURAL, dredging of shallow biologically productive areas adjacent to dikes as a source of material for dike maintenance may be allowed upon the applicant's demonstration that:
 - a. Alternative sources of materials are not available or are not economically feasible; and
 - b. The dredging method selected will not leave potholes where juvenile salmon and other fish might be stranded at low water; and
 - c. Other disruption of tidal flats and tidal marshes is minimized.
- (5) New navigation project dredging in CONSERVATION and Aquatic Rural areas may be allowed only for minor navigational improvements and limited to shallow draft. Such dredging shall not result in major alteration to the estuarine ecosystem.

If the Planning Director or Planning Commission determines that a proposal for dredging is consistent with the Comprehensive Plan and above standards, the Planning Director or Planning Commission shall recommend to the permit granting agency that the following standards are met if the state of federal permit is granted.

- (1) When dredging is permitted, the dredging shall be the minimum necessary to accomplish the proposed use.
- (2) Erosion, sedimentation, increased flood hazard and other undesirable changes in circulation shall be avoided in dredging and the disposal of dredged material. Tidal marshes, tidal flats and other wetlands should not be adversely affected. The applicant may be required to demonstrate the absence of adverse effects by correlation of field data and mathematical models or the Corps of Engineers' model.
- (3) Bottom sediments and pore water in the dredging and disposal areas shall be adequately characterized by the applicant before the operation begins. Information that may be required includes, as appropriate: particle size distribution, organic content, nutrients, sulfides, oxygen and heavy metals, benthic studies or other tests. This requirement may be waived for clean Columbia River sands and gravels.
- (4) The timing of dredging and disposal shall be coordinated with state and federal resource agencies, local governments

and private interests to ensure adequate protection of biological productivity (fish runs, spawning, benthic productivity, wildlife, etc.) and to minimize interference with fishing activities. In general, disposal should occur during periods of adequate river flow to aid flushing of suspended sediments and downstream transport of dredged material reaching the bottom.

- (5) Adverse short-term effects of dredging and disposal such as turbidity, release of nutrients, heavy metals, sulfides, organic material or toxic substances, dissolved oxygen depletion, disruption of the food chain, loss of benthic productivity, and disturbance of fish runs and important localized biological communities shall be minimized.
- (6) All relevant state and federal water quality standards shall be met by dredging and dredged material disposal activities.
- (7) Destabilization of fine-textured sediments, erosion and siltation in areas adjacent to the dredging project and other undesirable changes in circulation patterns, such as a substantial reduction in flushing time, shall be avoided.
- (8) In the evaluation of any dredging project during the permit process, the adverse effects of both the initial dredging and subsequent maintenance dredging must be considered.

S4.238. Dredged Material Disposal Standards (DMD).

Proposals for a state or federal permit for dredged material disposal shall meet the following standards.

- (1) Selection of DMD sites shall be in accordance with the Comprehensive Plan. In Aquatic Conservation areas only sites used in conjunction with an approved fill project or designated as a DMD site or restoration site may be used.
- (2) DMD on land areas shall be compatible with the intended land surface use after disposal.

If the Planning Director of Planning Commission determines that a proposal for dredged material disposal is consistent with the Comprehensive Plan and above standards, the Planning Director or Planning Commission shall recommend to the permit granting agency that the following standards are met if the state or federal permit is granted.

- (1) With regard to in-water disposal in the river, estuary and ocean:

- a. Consideration shall be given to the need for the proposed disposal, the availability and desirability of alternate sites and methods of disposal that might be less damaging to the environment. No site should be used if insufficient sediment type and benthic population data are available to provide a general idea of the biological value of the site.
- b. The size and chemical characteristics of the dredged material should be compared with those of the disposal site, and consideration should be given to matching the dredged material to the capabilities of the site.
- c. In-water disposal requires either a water quality certification or a short-term exemption. Dredged material disposal shall not be permitted in the vicinity of a public water supply intake.

(2) Flow-lane disposal shall be conducted so that:

- a. The material is not deposited upstream from the dredging site. Disposal should not occur under fresh water flow and tidal conditions where the predominant sediment transport at a site is upriver.
- b. Use of the disposal site does not interfere with fishing activities by causing major changes in the circulation patterns or bottom configurations of the disposal site.

(3) Ocean disposal shall be conducted so that:

- a. The amount of material deposited at a site is compatible with the benthic populations and other uses of the area.
- b. Interference with sport and commercial fishing is minimized.
- c. Disposal is strictly confined to the designated disposal sites.

(4) Except for flow-lane disposal and beach nourishment, deposition inside the estuary should be substituted for ocean disposal only when sea or weather conditions are a hazard to safe navigation for the dredging vessel.

(5) Beach nourishment shall be conducted so that:

- a. Erosion or deposition downstream from the disposal site does not occur. Particular care must be taken that erosion of the dredged material does not smother marsh or other shallow productive areas.

- b. The volume and frequency of dredged material disposal is such as to maintain a stable beach profile, as nearly as possible. Dredged material shall be graded at a uniform slope, and contoured to reduce dune and peninsula formation, to minimize juvenile fish stranding.

(6) For land disposal:

- a. Proper diversion of surface discharge must be provided to maintain the integrity of the natural streams, wetlands and drainageways. Leaching of disposal runoff into the waterway must be controlled and all disposal runoff must enter the waterway through an outfall at a location that minimizes circulation and flushing. Underground springs and aquifers must be identified and protected.
- b. Dikes shall be well constructed and large enough to encourage proper "ponding" and to prevent the return of solids into the waterway or estuary. Ponds should be designed to maintain at least one foot of standing water at all times to further encourage property settling. Weirs should have property crest heights.

(7) Disposal of dredged material should occur on the smallest land area consistent with Standard 9 below, in order to minimize the quantity of land that is disturbed. Clearing of land should occur in stages only as needed. Reuse of existing disposal sites is preferred to the creation of new sites in order to minimize the total land area covered by disposal material. It may, however, be desirable to clear and fill an entire site at one time, if the site will be used for development immediately after filling.

(8) Where appropriate, revegetation of land disposal sites should occur as soon as possible, in order to retard wind erosion and to restore wildlife habitat value of the site. Native species should be used; the Soil Conservation Service (SCS) and the SCS Inter-agency Seeding Manual should be consulted. Efforts should be made to minimize the time necessary to achieve leaching of salts from the soils. Revegetation of areas that will be reused is strongly encouraged, to help prevent erosion before reuse.

(9) Height and slope requirements: The final height and slope after each use of a land dredged material site should be such that:

- a. The site does not enlarge itself by sluffing and erosion at the expansion of adjacent aquatic areas.
- b. Loss of material from the site during storms and freshets is minimized.
- c. Interference with the view from nearby residences, scenic viewpoints and parks is avoided.

S4.240. Excavation Standards for Creation of New Water Surface Areas. Proposals for a state or federal permit for excavation for creation of a new water surface area shall meet the following standards.

1. Creation of new water surface area shall be allowed only for navigation, other water-dependent use or restoration.
2. Interference with existing navigation shall be minimized.
3. The excavation shall not be permitted if toxic substances or other pollutants will leach into the water as a result of the excavation.
4. Material generated by the excavation shall be deposited on land in an appropriate manner.
5. Existing public access shall not be reduced, and increased public access to the water and recreational opportunities as part of the project are encouraged.
6. Excavation to create new water area should not destroy valuable shoreland wildlife habitat, or result in stream channelization.

If the Planning Director or Planning Commission determines that a proposal for excavation for creation of new water surface area is consistent with the Comprehensive Plan and above standards, the Planning Director or Planning Commission shall recommend to the permit granting agency that the following standards are met if the state or federal permit is granted.

1. Adverse impacts on flushing time, erosion of or shoaling in adjacent shores and waters, or dissolved oxygen levels, water quality or estuarine habitat, processes and functions shall be evaluated and minimized.
2. Existing riparian vegetation shall be protected to the extent possible and the new bankline shall be stabilized against erosion in an appropriate manner, preferably by vegetative stabilization before the new water body is connected to existing water bodies.
3. Excavation of as much as is practical of the new water body shall be completed before it is connected to existing water bodies.

S4.242. Fill Standards. Proposals for a state or federal permit for fill shall meet the following standards.

1. A fill shall be the minimum necessary to accomplish the proposed use.
2. Where existing public access is reduced, suitable public access as part of the development project shall be provided.

3. Fill in aquatic areas shall be permitted only:
 - a. In conjunction with a permitted or conditionally permitted water-dependent use for which there is a demonstrated public need and for which no feasible upland sites exist;
 - b. In conjunction with a permitted or conditionally permitted bridge, for which there is a public need and where no feasible upland sites or routes exist;
or
 - c. As part of an approved restoration project.
4. Aquatic areas shall not be used for sanitary landfills or the disposal of solid waste.

If the Planning Director or Planning Commission determines that a proposal for fill is consistent with the Comprehensive Plan and above standards, the Planning Director or Planning Commission shall recommend to the permit granting agency that the following standards are met if the state or federal permit is granted.

1. Fills shall be permitted only after it is established that adverse impacts on navigation, estuarine habitat, processes and functions, water circulation and sedimentation patterns, water quality and recreational activities will be minimized.
2. A fill in an aquatic area shall be surrounded by dikes that are appropriately stabilized according to Shoreline Stabilization Standards. Fills in shoreland areas shall also be contained by dikes; these dikes shall be stabilized appropriately if they abut on a body of water. Disposal behind the dikes shall proceed according to Dredging Standards and Dredged Material Disposal Standards.

S4.244. Piling/Dolphin Installation. Proposals for a state or federal permit for piling/dolphin installation shall meet the following standards.

1. Piling/dolphin installation shall be permitted only in conjunction with an allowed or conditional use for which no feasible upland sites exist.
2. Piling/dolphin installation shall be the minimum necessary to accomplish the proposed use.

If the Planning Director or Planning Commission determines that a proposal for piling/dolphin installation is consistent with the Comprehensive Plan and above standards, the Planning Director or Planning Commission shall recommend to the permit granting agency that the following standards are met if the state or federal permit is granted.

1. Piling/dolphin installation shall be permitted only after the applicant has established that adverse impacts on navigation, estuarine habitat, processes and functions, water circulation and sedimentation patterns, water quality, and recreational activities will be minimized.

2. The piling or dolphin and its placement shall meet all applicable state and federal engineering standards.

S4.246. Shoreland Stabilization. Proposals for a state or federal permit for shoreland stabilization shall meet the following standards.

1. Shoreline protection measures shall not restrict public access to public shorelines.
2. Shoreline protection measures should be designed to minimize their impacts on the aesthetic qualities of the shoreline.
3. Bankline protection is not in itself a way to increase land surface area. Where an avulsion has occurred, fill may be used to restore the previous bankline, so long as the corrective action is initiated within one year of the date of the avulsion. Any extension of the bankline into traditional aquatic areas shall be subject to the standards for fill. Disruption of tidal marsh, tidal flat and productive sub-tidal areas shall be minimized.
4. Emergency repair to shoreline stabilization facilities is permitted, notwithstanding the other regulations in these standards, subject to those standards imposed by the Oregon Division of State Lands and the U.S. Army Corps of Engineers.

If the Planning Director or Planning Commission determines that a proposal for shoreland stabilization is consistent with the Comprehensive Plan and above standards, the Planning Director or Planning Commission shall recommend to the permit granting agency that the following standards are met if the state or federal permit is granted.

1. Good engineering and construction practices shall be used in the placement of riprap, with regard to slope, size, composition and quality of material, excavation of the toe trench, placement of a gravel fill blanket and operation of equipment in the water. State and federal agency regulations should be consulted in this regard.
2. Construction of shoreline protection measures shall be coordinated with state and federal agencies and local interests to minimize the effects on aquatic resources and habitats. Relevant state and federal water quality standards shall be met. Stream channelization should be avoided.
3. Bulkheads shall be designed and constructed in such a manner so that they will not result in adverse effects (such as erosion, shoaling, reflection of wave energy or interference with sand transport) on adjacent shoreline areas. State and federal agency regulations concerning construction in water shall be adhered to.

General Soil Development

S4.300. Purpose. The following standards shall apply to construction activity when: there is a waterway or floodplain on the property; the surface of the construction site will be bare or in a disturbed condition in winter; there is a potential for water pollution from sources other than soil; sediment deposition from the site may result in damage to property downstream; part of the development is planned on soils in Groups 1 or 8; or an underground tile line or natural drainageway will be interrupted by excavation or grading.

S4.302. General Standards. Proper design of erosion control measures and timely establishment of vegetation is essential to avoid erosion problems during and after construction. Alignment, grades, area of disturbed soil and bank slopes should be based on soil erodibility, climatic exposure, geology, proposed vegetative restoration and maintenance considerations. Some features involved in earth construction are more vulnerable to erosion than others and require special design considerations.

Section 4.304. Design Standards for Erosion Control Measures.

- a. Earth Slopes. Erosion of cut or fill slopes is usually caused by water concentrations at the top of the slope flowing down an unprotected bank. Runoff should be diverted to safe outlets by diversions or other means. Slopes should be protected from erosion by quick establishment of vegetative cover, benches or terraces, slope protection structures, mulches, rock or concrete, or a combination of these practices.
- b. Waterways or Causeways. Waterways should be designed to avoid serious erosion problems. Wide channels with flat side slopes lined with grass or other vegetation will usually have very slight erosion. Where channel gradients are steep, concrete linings or grade control structures may be required. Space limitations may make it necessary to use concrete or stone linings. Every effort should be made to preserve natural channels.
- c. Structures for Erosion Control. Erosion can be controlled with grade control structures, energy dissipators, special culverts, and various types of pipe structures. Structures are expensive and should be used only if vegetation, rock or other measures will not provide adequate erosion control.
- d. Existing Vegetation. Existing vegetation, adequate to control erosion, should be preserved wherever possible. Regeneration of woody plants should be encouraged where acceptable.

- e. Soil Treatment. The ability of soil to sustain vegetation for erosion control must be ascertained. Fertilizer needs should be determined by a soil test. A general recommendation adequate for most situations is 50-50-50 lbs/acre of nitrogen, phosphate and potash at seeding time.
- f. Seedbed Preparation. Fertilizer should be incorporated into the soil, where practical, to depth of 4 inches. Soil should not be too fluffy nor too compacted, but friable to permit proper seed depth.
- g. Seeding. Composition of seed mixtures should be chosen with consideration given to soil drainage and intended purpose for vegetation. Follow recommended rates, dates, and seeding procedures. Use certified seed to insure mixture-composition, and high purity and germination percentage.
- h. Mulching. Mulching will be needed on difficult seeding sites.

S4.306. Construction Standards. Plans, specifications, and special provisions of a construction contract should show the location, scope and manner of performing erosion control measures. Measures left to the discretion of the contractor or engineer should be as few as practicable and the method of payment for such work should be stated in the contract.

Scheduling construction operations is an important factor. A construction schedule that meets the requirements for erosion control should be made a part of the construction project proposal or should be submitted by the contractor for approval by the engineer.

Permanent soil protection of streets and drainage facilities that will divert runoff from unprotected soils should be completed as early as practicable. The area of exposed soil and the duration of exposure should be minimized by proper scheduling. Temporary protection, such as fiber mats, plastic, straw, and fast-growing grasses may be required. Partially completed drainage structures should be inspected carefully during construction to prevent erosion.

Fording streams with equipment should be kept to a minimum, and where frequent crossings will be necessary, temporary bridges or culverts should be used.

Although disturbance of streams, lakes or reservoirs should be avoided during construction, drainage structures, channel changes, and embankment encroachments are sometimes necessary. Specifications and special provisions should include control of the contractor's operation in performing work in these areas.

Diversions or other protective measures may be needed to avoid sediment problems. Embankment slopes that encroach on stream channels should be adequately protected. Where practicable, a protective area of vegetative cover should be left, or established, between embankments and adjacent stream channels.

Borrow and waste disposal areas should be selected with full consideration given to erosion control and restoration. When it becomes necessary to locate such areas near or in stream channels, special precautions should be taken to minimize erosion and sediment problems. Permits are required by the Division of State Lands for fill and removal activities in channels.

Plans for the control of drainage water must include measures to keep sediment from entering streams and must be completed before borrow or disposal operations begin. Diversion channels, dikes, sediment basins and sediment traps can be used for this purpose. Topsoil should be saved for restoring excavated areas. Final restoration of borrow or waste disposal areas should include grading and establishment of vegetative cover. The restored area should be well drained unless approval is given to convert the pit area into lakes for fish and wildlife, recreation, stock water or irrigation.

1. No major soil disturbance during major rainy season (Nov.-May) without adequate erosion control practices first installed.
2. Restrict exposure of disturbed soil without cover to the least area required and for the shortest time possible. Do not allow disturbed areas to go unprotected during heavy rain season. Protect areas to be retained from equipment or use as storage areas.
3. All areas of cut or fill except on active dune sand must have topsoil removed to a depth of 6-9 inches and stockpiled for later replacement or reuse.
4. For temporary stabilization, seed topsoil stockpile to Annual Rye Grass 20 lbs./acre; Cereal Oats or Rye 100 lbs./acre; or cover with mulch 2 tons/acre (4 straws deep) or some other material to prevent erosion prior to September 1.
5. Active or potential surface and shallow subsurface water from adjoining areas needs to be diverted from the construction site or protected from pollutants from the construction site.
6. Grading and shaping of construction site should be done during dry weather. Install temporary and permanent stabilization practices as soon after disturbing the area as possible. Provide for removal of surface water. Develop a surface grade of 2% or more away from buildings.
7. Cut banks should be as flat as possible. Rock or concrete retaining walls with seep holes should be considered for banks steeper than 1:1 slope.
8. Water from road ditch should not be dumped over fill banks but on hard ground away from fills.
9. Road culverts should be placed on hard ground with water outletting from culverts onto hard ground in a manner to prevent erosion.
10. On sandy soils, road ditches should be lined (rock, asphalt, half round pipe, etc.) to prevent road shoulder and ditch bottom from erosion.

11. All areas which will by necessity be left bare after September 1 shall be seeded to a cover crop (Cereal Oats or Rye 100 lbs./acre; Annual Rye Grass 20 lbs./acre; or Perennial Rye Grass 25 lbs./acre). Mulching and mulching with landscaping is a viable alternative to seeding. Areas in excess of 7% slope must be mulched prior to seeding. If by October 1, seeding has not established itself to the point of being an effective erosion control device, a straw mulch may be required.

12. Recommended Seeding Mixtures:

a. New lawn seeding (August 1-September 15, or April 15-May 15)

2 lbs./1,000 sq.ft. Astoria Bent Grass
3 lbs./1,000 sq.ft. Creeping Red Fescue

b. Temporary critical area seeding (August 1-September 30)

Annual Rye Grass - 20 lbs./acre
or Cereal Oats or Rye - 100 lbs./acre
or Perennial Rye Grass - 25 lbs./acre

c. Permanent critical area (road cut or fills, permanent open areas) Seedings (April 15-May 15, or August 1-September 30)

Creeping Red Fescue - 10 lbs./acre
Perennial Rye Grass - 3 lbs./acre
Astoria Bent Grass - 2 lbs./acre
Lotus Major - 2 lbs./acre

d. Dikes

Astoria Bent Grass - 3 lbs./acre
Tall Fescue - 15 lbs./acre
Annual Rye Grass - 3 lbs./acre
No legumes to reduce rodent burrowing

e. Streambank protection seed on banks that are sloped 3:1 or flatter. Seed between April 15-May 15 or August 1-September 15. Cover with mulch following seeding.

Tall Fescue - 12 lbs./acre
Creeping Red Fescue - 10 lbs./acre
Perennial Rye Grass - 3 lbs./acre
Astoria Bent Grass - 2 lbs./acre
Lotus Major - 2 lbs./acre

13. Fertilizer.

50-70 lbs./acre Nitrogen (N₂)
60-100 lbs./acre Phosphate (P₂O₅)
60-80 lbs./acre Potash (K₂O)

S4.308. Soil Groups for Conservation.

Group Number	Soil Definition	Percent Slope
1	Diked tideland and floodplain soils, poorly drained to well drained	Nearly level
2	Poorly and somewhat poorly drained terrace soils	Less than 7
3	Well drained and moderately well drained terrace and upland soils	Less than 7
4	Deep upland soils	7-12
5	Very deep terrace soils, well drained with gravelly subsurface soil	7-20
6	Steep soils	Greater than 30
7	Shallow soils and rock outcrops	5-30
8	Deep sandy soils, poorly drained to well drained	3-30

S4.310. Conservation Practices. Treatment of a critical erosion or sediment producing site may be for the period of construction or may be a permanent measure. These practices are separated into those which are necessary and those which may be optional, depending upon site conditions.

Conservation Practices

Soil Groups

	1	2	3	4	5	6	7	8
<u>Necessary Temporary Practices</u>								
Critical area planting - - - - -	X	X	X	X	X	X	X	X
Mulching - - - - -						X	X	X
Seasonal construction - - - - -	X	X		X	X	X		
Topsoiling (stockpiling of topsoil) - -		X	X	X	X		X	X
<u>Optional Temporary Practices</u>								
Debris basin - - - - -		X	X	X	X			
Diversion - - - - -		X	X	X	X	X		
Dike - - - - -	X							
Filter strip - - - - -		X	X	X	X	X		
Stream buffer - - - - -	X							
Mulching - - - - -	X	X	X	X	X			
<u>Necessary Permanent Practices</u>								
Contoured development - - - - -				X	X	X		
Critical area planting - - - - -	X			X	X	X	X	X
Drain (subsurface drainage, including foundation drains) - - - - -		X						
Land grading (surface drainage) - - - -	X	X	X	X	X	X		
Maintaining vegetation - - - - -	X					X	X	X
Mulching - - - - -								X
<u>Optional Permanent Practices</u>								
Critical area planting - - - - -		X	X					
Debris basin - - - - -		X	X	X	X			
Dike - - - - -	X							
Diversion - - - - -		X	X	X	X	X		
Drainage (subsurface drainage) - - - -	X	X	X	X				
Grade stabilization structure - - - -			X	X	X	X		
Grassed waterway - - - - -		X	X	X	X			
Heavy use area protection - - - - -	X	X	X	X	X	X	X	X
Maintaining vegetation - - - - -		X	X	X	X	X		
Stream channel stabilization - - - - -	X							
Streambank protection - - - - -	X							
Structure for water control - - - - -			X	X	X	X	X	
Mulching - - - - -	X	X	X	X	X	X	X	

S4.312. Conservation Standards for Well-drilling and Pipeline Installation.

1. No major construction during the heavy rainy season (late November through March).
2. All lands (construction sites, roads, pipelines, etc.) must be protected from erosion during the major rainy season.
 - a. Temporary protection - mulch with hay, straw, or other stabilizers and install adequate waterbars or diversions. Spacing will depend on soil type and slope.
 - b. Permanent protection - following construction seed grasses or other appropriate vegetation during the next planting season.
3. All disposal areas and settling basins to be restored following construction should have at least the first foot of topsoil removed and stockpiled for replacement. Seed stockpile to annual ryegrass by September 30 if not replaced before the first winter rainy season.
4. Restore all cleared fields to original condition.
5. Restore all drainage systems to original condition or better.
6. Restore creek and river banks with large riprap and/or vegetation in such a way as to protect adjoining land as well as rights-of-way (even if it is necessary to go off of the right-of-way).
7. Use standard approved construction methods for forest roads as a minimum.
 - a. Temporary roads - use minimum amount of soil disturbance possible. Mulch and/or seed to vegetation for erosion control. Install waterbars as required. Spacing will depend on soil type and slope.
 - b. Permanent roads - rock and ditch with adequate road culverts of 12 inch minimum diameter. Culvert outfalls should be designed to prevent erosion. Road cuts containing soil should have maximum slope of 1:1 and left rough; seeded to appropriate grasses, and fertilized during the first following planting season.
8. Notify the landowner that the conservation work is being done and give the landowner an opportunity to approve the work before the equipment, men, etc. leave the locality.
9. Remove all well and drilling mud, chemicals, and foreign material from the drilling site.

10. Dispose of excess rock and other approved material to place designated by the landowner.
11. If restored, settling basins should be fenced or marked as hazard areas.
12. Contractors should be responsible for construction and maintenance of temporary fencing. Permanent fencing is to be installed when project is completed.

Rock and Mineral Resource Use

S4.400. Purpose. The purpose of this section is to establish standards to guide the extraction of rock and other minerals needed by the County in a manner compatible with other land uses in the area and consistent with the protection of public health and safety.

S4.402. State Mining Permit Required. No mining extraction or related operations required to have a surface mining permit from the State Department of Geology and Mineral Industries or the Division of State Lands shall be initiated until it has that permit.

S4.404. Resource Use Standards. In addition to the state mining permit, rock and mineral resource use (land surface mining operations) shall comply with the following general standards.

1. The development shall not materially alter the stability of the overall land development pattern of the area or damage environmental assets of particular interest to the County.
2. Use of the resource must be of sufficient significance and community benefit to offset any disadvantages.
3. Appropriate provisions shall be made for reclamation of the site for use consistent with the Comprehensive Plan.
4. Mining activities in view of the major highways shall be screened by an appropriate buffer of trees.
5. Mining, dredging, or removal of gravel or similar materials from streams and other surface water shall be strictly controlled to prevent adverse alteration to flow characteristics, siltation and pollution and destruction or disruption of spawning areas.

Access Control

S5.032. Purpose. The following access control standards apply to industrial, commercial and residential developments including land divisions as noted in the Land and Development and Use Ordinance. These standards are intended to protect the traffic carrying capacity and safety of arterial streets and to avoid the cumulative effect of individual access points into arterial streets.

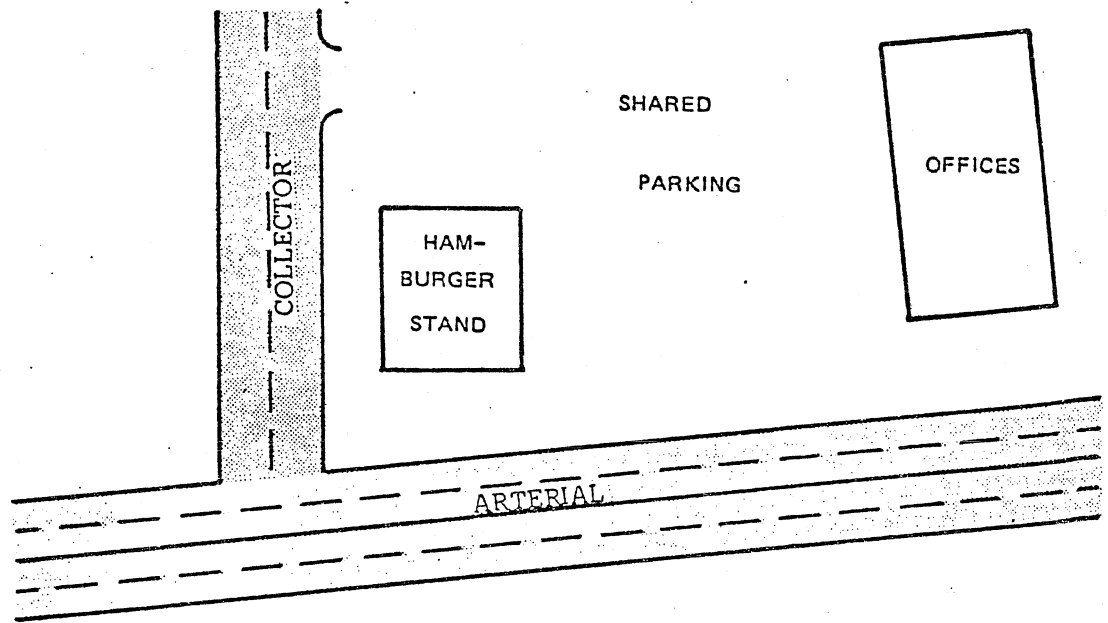
S5.033. Access Control Standards. Developments which would abut or contain an existing or proposed arterial street shall comply with the following standards.

1. When the property to be developed also abuts or contains an existing or proposed side street (collector or local street), access shall be on the side street and shall not be permitted on the arterial (see Figures 1, 3, and 4).
2. Divisions of land shall be designed so that lots abutting the arterial have reverse frontage and access on a parallel street (collector, local or frontage street) and contain a non-access reservation strip along the arterial (see Figures 3, 5, and 6).
3. When an existing or proposed side street does not abut the property, one or more access points on the arterial may be permitted if the following spacing requirements are met:
 - a. access points must be spaced according to the posted speed limit on the arterial as indicated in the following table:

<u>Speed Limit (MPH)</u>	<u>Spacing of Access Points (ft.)</u>
35 or less	150
40	185
45	230
50	275
55	350

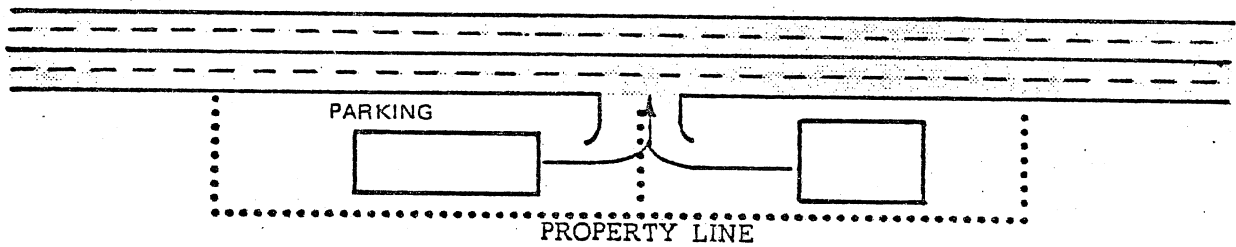
4. When the above spacing cannot be achieved within a particular property, joint (shared) access with an adjacent property shall be sought (see Figure 2).
5. If joint access is not possible, a single access on the arterial may be permitted at the maximum practical spacing from existing access points as long as it is limited to right turns in and out.
6. When several parcels are assembled for purposes of development or when development is proposed for one parcel of a larger undeveloped area, a street plan which consolidates access points for all parcels and future development of the particular area may be required.

FIGURE 1



ACCESS VIA A COLLECTOR STREET

FIGURE 2



SHARED ACCESS ON PROPERTY LINE

FIGURE 3

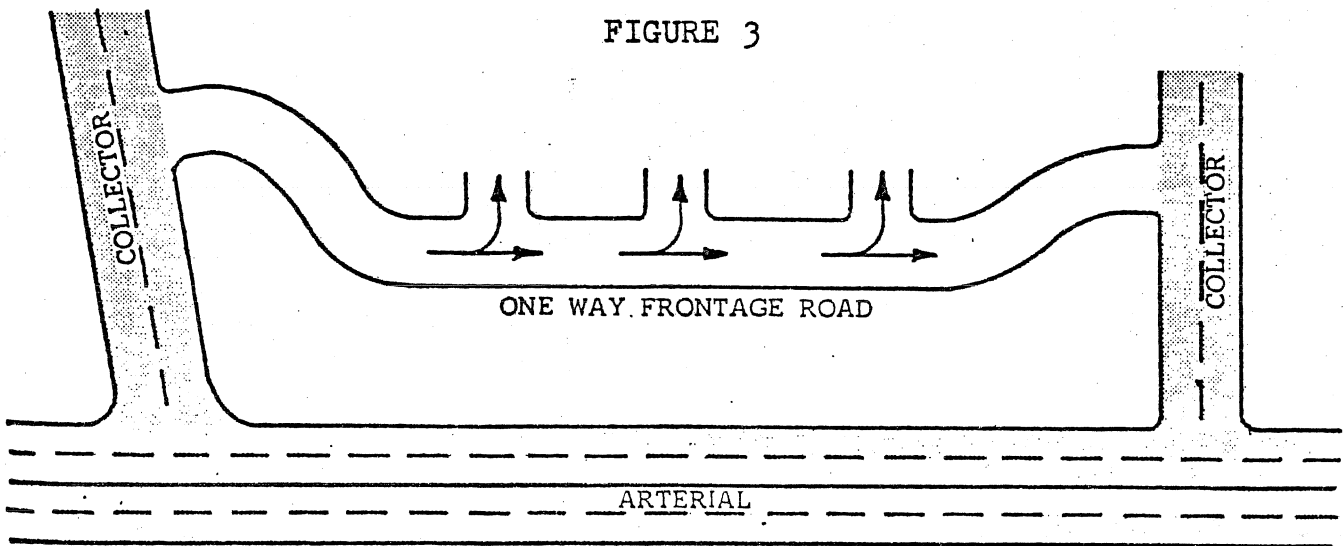


FIGURE 4

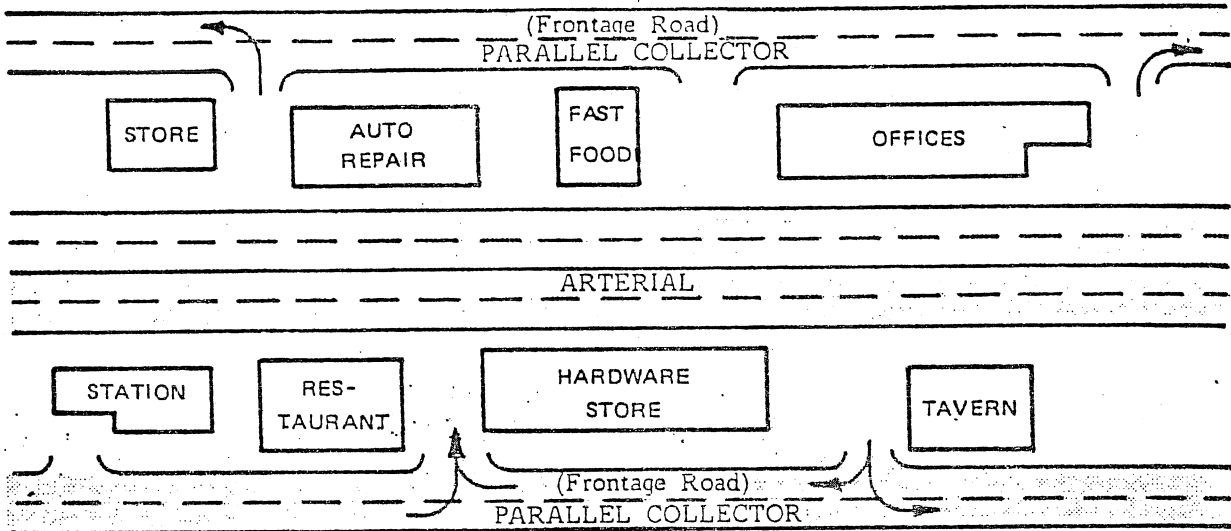


FIGURE 5

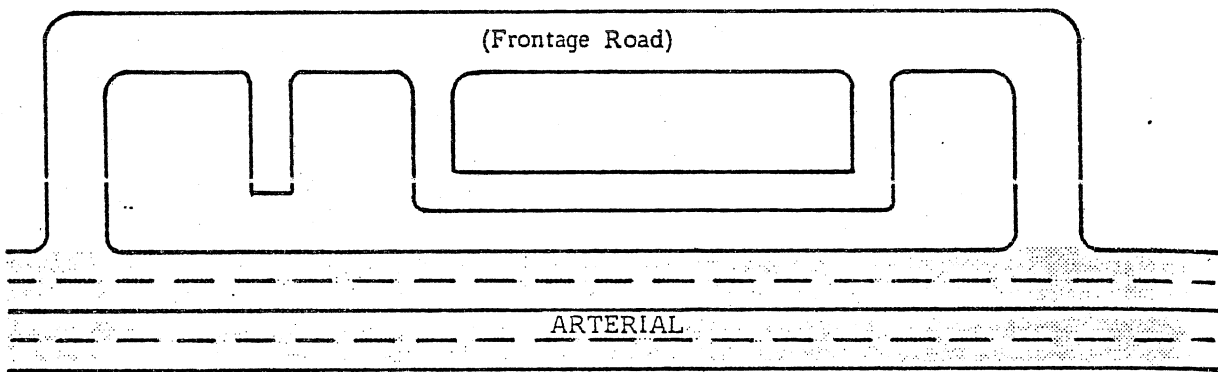
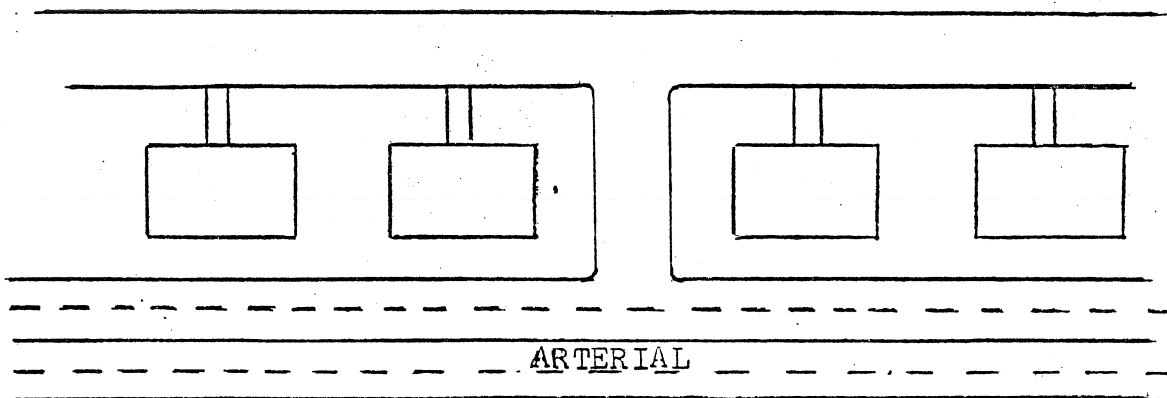


FIGURE 6



Subdivision Design Standards

S5.100. Principles of Acceptability. A subdivision shall conform to the current Comprehensive Plan and shall take into consideration preliminary plans made in anticipation thereof. A subdivision shall conform to the requirements of state law and the standards established by this Ordinance.

S5.102. Streets.

- (1) General. The location, width, and grade of streets shall be considered in their relation to existing and planned streets, to topographical conditions, to public convenience and safety, and to the proposed use of the land to be served by the streets. Where location is not shown in a comprehensive development plan, the arrangement of streets in a subdivision shall either:
 - a. Provide for the continuation or appropriate projection of existing principal streets in surrounding areas; or
 - b. Conform to a plan for the neighborhood approved or adopted by the Planning Commission to meet a particular situation where topographical or other conditions make continuance or conformance to existing streets impractical.
- (2) Minimum right-of-way and roadway widths. The width of streets and roadways shall be adequate to fulfill County specifications as provided in Section S6.000 of this Ordinance.
- (3) Where existing conditions, such as the topography or the size or shape of land parcels, make it otherwise impractical to provide buildable lots, the planning commission may accept a narrower right-of-way. If necessary, special slope easements may be required.
- (4) Reserve strips. Reserve strips or street plugs controlling access to streets will not be approved unless necessary for the protection of the public welfare or of substantial property rights and in these cases they may be required. The control and disposal of the land comprising such strips shall be placed within the jurisdiction of the County under conditions approved by the planning commission.
- (5) Alignment. As far as practical, streets other than minor streets shall be in alignment with existing streets by continuations of the center lines thereof. Staggered street alignment resulting in "T" intersections shall wherever practical leave a minimum distance of 200 feet between the center lines of streets having approximately the same direction and otherwise shall not be less than 125 feet.
- (6) Future extension of streets. Where necessary to give access to or permit a satisfactory future subdivision of adjoining land, streets shall be extended to the boundary of the subdivision and the resulting dead-end streets may be approved without a turn-around. Reserve strips and street plugs may be required to preserve the objectives of street extensions.

- (7) Intersection angles. Streets shall be laid out to intersect at angles as near to right angles as practical except where topography requires a lesser angle, but in no case shall the acute angle be less than 60 degrees unless there is a special intersection design. The intersection of an arterial or collector street with another street shall have at least 100 feet of tangent adjacent to the intersection unless topography requires a lesser distance. Other streets, except alleys, shall have at least 50 feet of tangent adjacent to the intersection unless topography requires a lesser distance. Intersections which contain an acute angle of less than 80 degrees or which include an arterial street shall have a minimum corner radius sufficient to allow for a roadway radius of 20 feet and maintain a uniform width between the roadway and the right-of-way line.
- (8) Existing streets. Whenever existing streets adjacent to or within a tract are of inadequate width, additional right-of-way shall be provided at the time of subdivision.
- (9) Half streets. Half streets, while generally not acceptable, may be approved where essential to the reasonable development of the subdivision, when in conformity with the other requirements of these regulations, and when the planning commission finds it will be practical to require the dedication of the other half when the adjoining property is subdivided. Whenever a half street is adjacent to a tract to be subdivided, the other half of the street shall be platted within such tract. Reserve strips and street plugs may be required to preserve the objectives of half streets.
- (10) Cul-de-sacs. A cul-de-sac shall be as short as possible and shall terminate with a turn-around.
- (11) Street names. Except for extensions of existing streets, no street shall be used which will duplicate or be confused with the names of existing streets. Street names and numbers shall conform to the established pattern in the surrounding area and, if near a city, to the pattern in the city, and shall be subject to the approval of the planning commission.
- (12) Grades and curves. Grades shall not exceed 6 per cent on arterials, 10 per cent on collector streets, or 12 per cent on any other street. Center line radii of curves shall not be less than 300 feet on major arterials, 200 feet on secondary arterials, or 100 feet on other streets, and shall be to an even 10 feet. Where existing conditions, particularly topography, make it otherwise impractical to provide buildable lots, the planning commission may accept steeper grades and sharper curves.
- (13) Streets adjacent to railroad right-of-way. Wherever the proposed subdivision contains or is adjacent to a railroad right-of-way, provision may be required for a street approximately parallel to and on each side of such right-of-way at a distance suitable for the appropriate use of the land between the streets and the railroad. The distance shall be determined with due consideration at cross streets of the minimum distance required for approach grades to a future grade separation and to provide sufficient depth to allow screen planting along the railroad right-of-way.

- (14) Marginal access streets. Where a subdivision abuts or contains an existing or proposed arterial street, the planning commission may require marginal access streets, reverse frontage lots with suitable depth, screen planting contained in a nonaccess reservation along the rear or side property line, or other treatment necessary for adequate protection of residential properties and to afford separation of through and local traffic.
- (15) Alleys. Alleys shall be provided in commercial and industrial districts, unless other permanent provisions for access to off-street parking and loading facilities are approved by the planning commission.

S5.104. Blocks.

- (1) General. The length, width, and shape of blocks shall take into account the need for adequate lot size and street width and shall recognize the limitations of the topography.
- (2) Size. No block shall be more than 1,000 feet in length between street corner lines unless it is adjacent to an arterial street or unless the topography or the location of adjoining streets justifies an exception. The recommended minimum length of blocks along an arterial street is 1,800 feet.
- (3) Easements.
 - a. Utility lines. Easements for sewers, water mains, electric lines, or other public utilities shall be dedicated whenever necessary. The easements shall be at least 12 feet wide and centered on lot lines where possible, except for utility pole tieback easements which may be reduced to six feet in width.
 - b. Water courses. If a subdivision is traversed by a water course such as a drainage way, channel, or stream, there shall be provided a storm water easement or drainage right-of-way conforming substantially with the lines of the water course, and such further width as will be adequate for the purpose. Streets or parkways parallel to major water courses may be required.
 - c. Pedestrian ways. When desirable for public convenience, pedestrian ways may be required to connect to cul-de-sacs or to pass through unusually long or oddly shaped blocks.

S.5.106. Lots.

- (1) Size and shape, lot size, width, shape, and orientation shall be appropriate for the location of the subdivision and for the type of use contemplated. An interior lot shall have a minimum average width of 50 feet and a corner lot a minimum average width of 60 feet. A lot shall have a minimum average depth of 100 feet, and the depth shall not ordinarily exceed two times the average width. These minimum standards shall apply with the following exceptions:

- a. In areas that will not be served by a public water supply or a sewer, minimum lot sizes shall conform to the requirements of the county health department and shall take into consideration requirements for water supply and sewage disposal, as specified in Section 34. The depth of such lots shall not ordinarily exceed two times the average width.
 - b. Where property is zoned, lot sizes shall conform to the zoning requirement. Depth and width of properties reserved or laid out for commercial and industrial purposes shall be adequate to provide for the off-street parking and service facilities required by the type of use contemplated.
- (2) Access. Each lot shall abut upon a street other than an alley for a width of at least 25 feet.
 - (3) Through lots. Through lots shall be avoided except where they are essential to provide separation of residential development from major traffic arteries or adjacent nonresidential activities or to overcome specific disadvantages of topography and orientation. A planting screen easement at least 10 feet wide and across which there shall be no right of access may be required along the line of lots abutting such a traffic artery or other incompatible use.
 - (4) Lot side lines. The side lines of lots, as far as practicable, shall run at right angles to the street upon which the lots face.

S5.108. Lot Grading. Lot grading shall conform to the following standards unless physical conditions demonstrate the propriety of other standards:

- (1) Cut slopes shall not exceed one and one-half feet horizontally to one foot vertically.
- (2) Fill slopes shall not exceed two feet horizontally to one for vertically.
- (3) The character of soil for fill and the characteristics of lots made usable by fill shall be suitable for the purpose intended.

S5.110. Building Lines. If special building setback lines are to be established in the subdivision, they shall be shown on the subdivision plat or included in the deed restrictions.

S5.112. Large Lot Subdivision. In subdividing tracts into large lots which at some future time are likely to be resubdivided, the planning commission may require that the blocks be of such size and shape, be so divided into lots, and contain such building size restrictions as will provide for extension and opening of streets at intervals which will permit a subsequent division of any parcel into lots of smaller size.

S5.114. Land for Public Purposes. If the county has an interest in acquiring any portion of the proposed subdivision for a public purpose, or if the County has been advised of such interest by a school district or other public agency, and there is reasonable assurance that steps will be taken to acquire the land, then the planning commission may require that those portions of the subdivision be reserved for public acquisition, for a period not to exceed one year.

Subdivision Improvements.

S5.116. Improvement Procedures. In addition to other requirements, improvements shall conform to the requirements of this ordinance and improvement standards or specifications adopted by the County and shall be installed in accordance with the following procedure.

- (1) Work shall not be commenced until plans have been reviewed for adequacy and approved by the County. To the extent necessary for evaluation of the subdivision proposal, the plans may be required before approval of the final map. All plans shall be prepared on tracing cloth in accordance with requirements of the County.
- (2) Work shall not be commenced until the County has been notified in advance, and if work has been discontinued for any reason it shall not be resumed until the County has been notified.
- (3) Required improvements shall be inspected by and constructed to the satisfaction of the County. The County may require changes in typical sections and details if unusual conditions arising during construction warrant such change in the public interest.
- (4) Underground utilities, sanitary sewers, and storm drains installed in streets by the subdivider shall be constructed prior to the surfacing of the streets. Stubs for service connections for underground utilities and sanitary sewers shall be placed to lengths that will avoid the need to disturb street improvements when service connections are made.
- (5) A map showing public improvements as built shall be filed with the County engineer upon completion of the improvements.

S5.118. Specifications for Improvements. The County engineer shall prepare and submit to the board of county commissioners specifications to supplement the standards of this ordinance based on engineering standards appropriate for the improvements concerned. Specifications shall be prepared for the construction of the following:

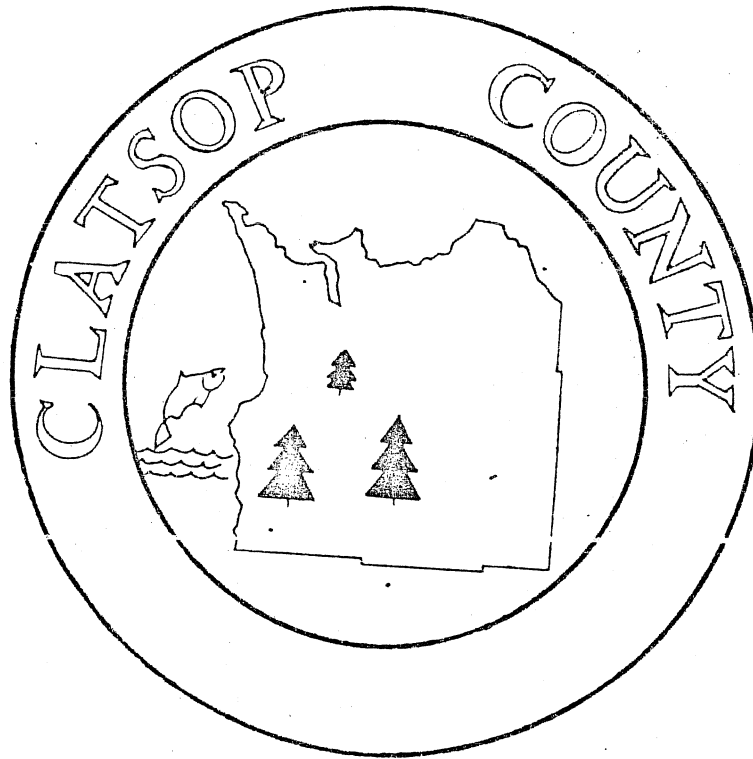
- (1) Streets including related improvements such as curbs, shoulders, median strips and sidewalks, and including suitable provisions for necessary slope easements.
- (2) Drainage facilities.
- (3) Sidewalks in pedestrian ways.
- (4) Sewers and sewage disposal facilities.
- (5) Public water supplies and water distribution systems.

S5.120. Improvement Requirements. The following improvements shall be installed at the expense of the subdivider:

- (1) Water supply. Lots within a subdivision shall either be served by a public domestic water supply system conforming to state or County specifications or the lot size shall be increased to provide such separation of water sources and sewage disposal facilities as the County sanitarian considers adequate for soil and water conditions.
- (2) Sewage. Lots within a subdivision either shall be served by a public sewage disposal system conforming to state or County specifications or the lot size shall be increased to provide sufficient area for a septic tank disposal system approved by the county sanitarian as being adequate for soil and water conditions considering the nature of the water supply.
- (3) Drainage. Such grading shall be performed and drainage facilities installed conforming to County specifications as necessary to provide proper drainage within the subdivision and other affected areas in order to secure healthful, convenient conditions for the residents of the subdivision and for the general public. Drainage facilities in the subdivision shall be connected to drainage ways or storm sewers outside the subdivision. Dikes and pumping systems shall be installed if necessary to protect the subdivision against flooding or other inundation.
- (4) Streets. Where streets are to be accepted into the county road system, the subdivider shall grade and improve streets in the subdivision and the extension of such streets to the paving line of existing streets with which such streets intersect in conformance with county specifications. Street improvements shall include related improvements such as curbs, shoulders, and median strips to the extent these are required. All other streets shall be graded and gravelled in accordance with minimum standards set by the county engineer.
- (5) Pedestrian ways. A sidewalk not less than five feet wide shall be installed in the center of pedestrian ways.
- (6) Underground Utilities. Underground utilities shall be required.

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ROAD DEPARTMENT



STANDARD SPECIFICATIONS FOR DESIGN AND CONSTRUCTION

ROAD STANDARDS

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- Table 3. Minimum Street Right-of-way and Basic Improvement Standards for Rural Subdivisions.
- Table 4. Minimum Street Right-of-way and Basic Improvement Standards for Conservation Forest Lands and Rural Farm Lands Subdivisions.
- Table 5. Responsibility of Road Resting with Property Owners.

The Clatsop County Road Standards are the minimum standards to be met to provide access. The standards apply to county roads, dedicated roads and private roads.

The Road Standards to be applied are based on the density of the zone in which it will be built and shall be constructed to that standard. The Clatsop County Department of Planning and Development, Planning Commission or Board of Commissioners will on a case by case basis consider possible future parcelization and whether or not the road being built should be private or dedicated.

CLATSOP COUNTY ROAD DEPARTMENT
STANDARD SPECIFICATIONS FOR DESIGN AND CONSTRUCTION

The Improvement Plans will include, but not be limited to the following:

A. A plan view showing:

1. Dimensioning necessary to survey and relocate the roadway
2. Right-of-way lines as shown on the final plat.
3. Proposed drainage structures, showing both size and type of structure.
4. Location of all existing and proposed utilities.
5. Location and type of signs.
6. Toe of slope and top of cut lines showing the limits of the construction area within the dedication.
7. Section lines, fractional section lines and/or Donation Land Claim lines tie to corner from which dedication description is prepared.
8. Vicinity map in the upper left hand corner of the first plan sheet showing roughly the relationships of the proposed road to cities, state highways, county roads, or other well defined topographical features.
9. The stamp and signature of the Registered Professional Engineer preparing the plans.

B. A profile showing:

1. Centerline grades and vertical curves.
2. Curb profiles where curbs are required.
3. Superelevation transition diagrams for horizontal curves shall be shown if curbs are not required.

C. Typical roadway cross-section showing:

1. Width and depth of base.
2. Width and depth of paving.
3. Curbs if required.
4. Side slopes.
5. Ditch section in cut areas.

D. Detail plans of all bridges, stamped by a registered professional engineer.

E. Detail plans of any drainage and irrigation structures, sewer lines, or other structures.

F. Any other information required by the County Road Department.

CLATSOP COUNTY ROAD DEPARTMENT
STANDARD SPECIFICATIONS FOR DESIGN AND CONSTRUCTION

1. Road Design

- A. The radius of curvature, grade and intersection curb return radius of streets shall conform with the minimum standards prescribed in Tables 1, 2, 3 and 4 of these standards.
- B. Alignment of Streets: Streets located on opposite sides of an intersecting street shall have their centerlines directly opposite each other where possible; otherwise, the centerlines shall be separated by not less than 125 feet.
- C. Intersection Angles: Street intersections shall be as near right angles as possible except where topography requires a lesser angle, but in no case shall the acute angle be less than 60 degrees.
- D. Location of Centerline: The centerline of the paving shall correspond to the centerline of the right-of-way where possible and practical.
- E. Continuation of Streets: Subdivision streets which constitute the continuation of streets in contiguous territory shall be aligned so that their centerlines coincide. Where straight-line continuations are not possible, such centerlines shall be continued by curves. New streets or the continuation of a street in contiguous territory may be required by the Planning Commission where such continuation is necessary to maintain the function of the street or a desirable existing or planned pattern of streets and blocks in the surrounding area. Any road or street which does not connect directly to a county-maintained road, city-maintained street or state highway will not be accepted for maintenance by the County.
- F. Streets in Subdivisions Adjoining Unsubdivided Land:
 - 1. Stubbed Streets: Where a subdivision adjoins unsubdivided land, streets which may be necessary to assure the proper subdivision of the adjoining land or the continuation of the function of a major arterial or collector street shall be provided through to the boundary line of the subdivision.
 - 2. Half Streets: Half streets proposed adjacent and parallel to the boundary line of the subdivision, while generally not acceptable, may be approved where essential to the reasonable development of the subdivision when in conformity with other requirements of this ordinance and when the Planning Commission finds it will be practical to require the dedication and improvement of the other half when the adjoining property is subdivided. Half streets shall not be permitted where lots would front on such streets. Where half streets are provided, a performance bond may be required to insure all improvements until such time as the remaining half street on adjacent property is dedicated and improved. Whenever an existing half street is adjacent and parallel to the boundary line of a proposed subdivision, the subdivider shall dedicate and improve such additional right-of-way as may be necessary to meet the standards for the type of streets involved.

G. Subdivision Roads: All roads not to be maintained by the County shall be posted with an approved sign stating roads are not County maintained.

H. Existing Streets: Whenever existing streets adjacent to or within a tract are of inadequate width, additional right-of-way shall be provided at the time of the subdivision. When existing streets are to be used as access to the subdivision they shall be constructed as to provide reasonable access as determined by the County Roadmaster/Engineer.

2. Improvement Plans:

A complete set of Improvement Plans shall be submitted and approved by the County Roadmaster prior to the start of construction on any County maintained road, public way or subdivision road which is to become a public way.

3. Surveying:

All roads shall be located by a survey crew so as to insure that the road is constructed in the location shown on the improvement plans. The construction of the road improvement shall be within 0.3' more or less of the horizontal and vertical location shown on the improvement plans.

4. Monumentation:

All P.C. & P.T. points on horizontal curves shall be referenced with a 5/8" x 30" steel rod driven twenty-four (24) inches into the ground set at the intersection of the R/W line and a line perpendicular to the tangent at the P.C. or P.T. point and shall be witnessed by a white 4" x 4" cedar post forty-eight (48) inches in length set eighteen (18) inches into the ground set twelve (12) inches from and in line with the P.C. or P.T. point. As an alternate to the white cedar posts, forty-eight (48) inch steel fence posts painted white may be used for such witness posts.

5. Standard Specifications:

All roadway excavation, fill construction, subgrade preparation, aggregate bases, surfacing, prime coats and paving will be built in accordance with the 1974 edition of the Oregon State Highway Division's "Standard Specifications for Highway Construction". Whenever these specifications refer to the State, consider that to mean the County of Clatsop, the appropriate County Department or appropriate County address.

In case of discrepancy or conflict in the plans, standard specifications, supplemental standard specifications and special provisions, they shall govern in the following order:

1. Special Provisions
2. Plans specifically applicable to the project
3. Standard or general plans
4. Supplemental Standard Specifications
5. Standard Specifications

6. Testing:

All testing except as herein noted, will conform to methods described in "A.A.S.H.T.O. Materials, Part 11, Tests", 11th Edition 1974. All lab costs for testing will be born by the developer.

7. Inspection:

The County Road Department shall be notified 48 hours in advance of the time for subgrade inspection, 48 hours in advance of the time for base inspection and 48 hours in advance of the time for paving inspection. The subgrade is to be inspected before placing the base. The base is to be inspected before placing the pavement.

If proper notification for inspection has not been given, the Clatsop County Road Department will not grant approval of the road for twelve months. In this way, the County can observe any deficiencies that may develop in the road and have them corrected before acceptance.

8. Subgrade:

All subgrades will be compacted in accordance with Section 203.41 of the Standard Specifications.

9. Aggregate Base:

Aggregates for aggregate base shall be gravel or rock, crushed or uncrushed, including sand, reasonably well graded from coarse to fine. The grading shall be such that the maximum size shall not exceed 75% of the compacted thickness of the layer in which it is incorporated. The aggregate fraction passing a 1/4" sieve shall constitute not less than 10% nor more than 50% of the whole, by weight, and not more than 8% of the total aggregate shall pass a no. 200 sieve. Within the above limits, the subbase aggregate shall be so graded that the materials will be dense and firm when watered and compacted. If crushed aggregate meeting the requirements of Section 703.07 of the Standard Specifications is used, a 2 inch reduction in aggregate base depth will be allowed.

10. Asphalt Prime Coat:

For all roadway sections using an oil mat, an asphalt prime coat will be applied to the aggregate base in addition to the oil mat. The prime coat will be applied in accordance with Section 408 of the Standard Specifications. Application rate and type of oil will be as approved by the County Roadmaster. The aggregate shall be 3/4 to 1/2 or as approved by the County Roadmaster and specified in Section 703.12 of the Standard Specifications. The aggregate shall be applied approximately at the rate of 0.01 cubic yards/square yard. A three day curing period will be required.

11. Asphalt Penetration Macadam:

Where an oil mat is required it shall be applied in accordance with Section 406 of the Standard Specifications.

It shall be equal to or greater than a Type 0-9 penetration macadam as shown on the O.S.H.D. Standard Table of Details (Drawing No. 1833). The bituminous material used in the first two spreads shall be as approved by the Roadmaster. The bituminous material used in the seal coat may be as approved by the Roadmaster.

12. Asphalt Concrete Pavement:

Where asphalt concrete pavement is required it shall be done in accordance with Sections 401 and 403 of the Standard Specifications. The asphalt cement shall be as approved by the County Roadmaster. The class of asphalt concrete shall be Class B.

13. Concrete Curb:

Where required portland cement concrete curbs shall be constructed in accordance with Clatsop County "curb-driveway" Standard Drawing and Section 609 of Standard Specifications. The concrete shall be Class 3300 as specified in Section 504 of Standard Specifications.

14. Select Backfill:

The curbs shall be backfilled in the areas shown on the plans with select backfill. This select backfill shall consist of materials with a maximum size of three inches. The material shall be compacted to at least 90% of its relative maximum density.

15. Clearing:

The right-of-way shall be cleared of all trees. However, in subdivisions where traffic safety would not be involved and a lesser requirement would not create a hazard, the right-of-way shall be cleared a minimum of forty (40) feet or four feet beyond the edge of shoulder or curb line or the finished road. Also in subdivisions, in case of an individual tree which is considered an exceptional or stately tree, an allowance can be made to leave the tree within the above mentioned four (4) foot area. In some instances, consideration can also be given to allow the prism of the road to shift slightly toward one side of the right-of-way. Any change in the alignment should be done to provide a safe and aesthetic looking roadway.

16. Signs:

Clatsop County has jurisdiction concerning the type and location of all signs on County maintained roads and public ways.

When in the Roadmaster's opinion there may be a need for a change in the speed limit for a road, he shall request the Oregon State Speed Control Board to study the road in question. If the Speed Control Board issues an order to post a speed limit on the road, Clatsop County will furnish and install the speed limit signs at the County's expense.

Name signs for County maintained roads shall have a reflectorized green background with reflectorized white letters.

Signing at intersections will be paid for as follows:

- A. Intersection of two County maintained roads:
 - 1. Stop signs - County
 - 2. Name signs - County
- B. Intersection of a County maintained road and a public way:
 - 1. Stop signs - County
 - 2. Name signs - County
- C. Intersection of a County maintained road and a public way:
 - 1. Stop signs - Others
 - 2. Name signs - Others
- D. Intersection of two public ways:
 - 1. Stop signs - Others
 - 2. Name signs - Others
- E. Intersection of two private ways:
 - 1. Stop signs - Others
 - 2. Name signs - Others
- F. Intersection of private way and public way
 - 1. Stop signs - Others
 - 2. Name signs - Others

Clatsop County Road Department may furnish and install the signs which were referred to above as paid for by "others". However, they shall be paid by "others" for the County's expenses.

17. Drainage:

- A. Size of Culverts: The design and construction of all drainage facilities within a project shall be of sufficient size and quality to receive and transport, at a 25 year storm frequency standard all surface drainage and natural drainage course waters coming to and passing through the project from the watershed or watersheds to which it is servient, when the lands located in such are at full planned development, according to the Comprehensive Framework Plan. The minimum diameter pipe to be used shall be 12 inches.

Prior to approval being granted for a project, it must be shown that the existing downstream facilities be adequate to receive and pass storm water runoff discharged through and from the proposed project from a 25 year storm based on the present development plus any proposed developments of the lands of the watershed or watersheds to which the proposed project is servient.

In those areas located in the 100 year flood plain, the design and construction of all drainage facilities shall be of sufficient size and quality to receive and transport the 100 year storm without raising the flood plain elevation. The drainage facilities may be

designed to pass less than a 100 year storm provided retention or detention of the runoff is designed and that such retention or detention does not raise the flood plain upstream.

- B. Drainage Easements: When, due to topographical or other reason, all or any portion of the water collected in the project must be discharged at the boundary of the project, such that it is concentrated and must run across other private property before reaching a natural or existing drainage course, the developer shall make all necessary arrangements with the affected property owner or owners. Arrangements shall include, but are not limited to, a proper easement for drainage in favor of the public executed by the affected owner or owners and a method of transporting the water, i.e.; ditch, sewer, etc., satisfactory to the Department and said owner or owners.

If it is necessary to carry water across portions of the land being developed hereunder, which are not to become public, and a satisfactory easement has not been provided in the official plat of the area, the developer shall prepare and cause to be executed a proper easement to the public for such purpose.

- C. Connections to Roadside Ditches: Where drainage is to be connected to an existing roadside ditch, the ditch shall not be deepened so as to produce a finished ditch more than two (?) feet below the shoulder of the adjacent road. Should it be necessary to deepen beyond the maximum two (2) foot depth, the developer shall cause to be constructed a proper size storm sewer line in said roadside ditch.

TABLE 1

Minimum Street Right-of-Way and Basic Improvement Standards

For Urban Growth Boundary Subdivisions*

	Minimum Right-of-Way Width	Minimum Roadway Width	Type of Surface
City of Astoria			
Alleys	20'	20'	Paved
Collector street	60-80'	36-48'	Paved
Continuous minor street	60'	36'	Paved
Minor streets less than 2,400 feet in length which cannot be extended	50'	34'	Paved
Pedestrian Way	5'		Paved
Radius for turnaround at end of cul-de-sacs	50'	40'	Paved
City of Gearhart	50'	22'	Paved
City of Seaside	40-50'	32'	Paved
City of Cannon Beach	40'	22'	Paved
City of Warrenton	60'	36'	Paved
Town of Hammond			
Arterial	80'		Paved
Secondary	60'		Paved
Collector	60'		Paved
Minor street less than 1,800' in length	50'		Paved

NOTE: For further information, see the various Cities' subdivision ordinance regarding Road Standards

*Amendment: Order 81-3-142 March 40, 1981

TABLE 2

MINIMUM STREET RIGHT OF WAY AND BASIC IMPROVEMENT STANDARDS
FOR RURAL SERVICE AREA SUBDIVISIONS

LOT SIZE OF 10,000 SQ. FT. TO 2 1/2 ACRES

Type of Streets	Design Standard	Right of Way Width	Paving Width Between Curbs	Type of Paving	Curbs	Curb Return Radius	Design Speed M.P.H.	Minimum % of Grade (4)	Minimum Radius of Curvature	Street Signs
Arterial	S-40	80	32	(2)	No	4'	55	8%	900	(3)
Collector	S-32	60	24	(2)	No	4'	45	10%	500	(3)
Local	S-28	60	22	(2)	No	3'	25*	12%	250	(3)
Cul-de-sac	S-28	60	22	(2)	No	3'	25	12%	150	(3)
Frontage	S-22	50	20	(2)	NO	1'	25	8%	150	(3)

- (1) The paving radius at the turn-a-around of a cul-de-sac shall be 34' with a 3' shoulder on right-of-way radius of 50'
- (2) A. C. paving or acceptable oil mat surfacing
- (3) One (1) street sign shall be provided at each intersection for each street
- (4) If unavoidable conditions exist a grade of 2% steeper than that shown may be allowed with A.C. paving

*Amendment: Order 81-3-14Z, March 30, 1981

TABLE 3

MINIMUM STREET RIGHT OF WAY AND BASIC IMPROVEMENT STANDARDS
FOR RURAL SUBDIVISIONS

LOT SIZE 2 1/2 ACRES TO 10 ACRES

TYPE OF STREETS	Design Standard	Right of Way Width	Paving Width Between Curbs	Type of Paving	Curbs	Curb Return Radius	Design Speed M.P.H.	Maximum % of Grade (4)	Minimum Radius of Curvature	Street Signs
Arterial	R-40	80	28	(2)	No	6'	55	8%	1100	(3)
Collector	R-30	60	22	(2)	No	4'	45	10%	500	(3)
Local	R-24	60	22	(2)	No	1'	35	12%	300	(3)
Cul-de-sac	R-24	60	22	(2)	No	1'	25	12%	150	(3)
Frontage	R-22	50	20	(2)	No	1'	25	8%	150	(3)
4-6 lot Sub	R-24	50	22	Gravel	No	1'	35	12%	300	(3)

*

- (1) The paving radius at the turn-a-round of a cul de sac shall be 34' with a 1' shoulder on right of way radius of 50'
- (2) A. C. Paving or acceptable oil mat surfacing
- (3) One (1) street sign shall be provided at each intersection for each street
- (4) If unavoidable conditions exist a grade of 2% steeper than that shown may be allowed with A.C. Paving

*Amendment: Order 81-3-142, March 30, 1981

TABLE

MINIMUM STREET RIGHT OF WAY AND BASIC IMPROVEMENT STANDARDS
FOR CONSERVATION FOREST LANDS AND RURAL FARM LANDS SUBDIVISIONS

Type of Streets	Design Standard	Right of Way Width	Paving Width Between Curbs	Type of Paving	Curbs	Curb Return Radius	Design Speed M.P.H.	Maximum % of Grade (4)	Minimum Radius of Curvature	Street Signs
Arterial	A-40	80	28	(2)	No	6	55	8%	1100	(3)
Collector	A-28	60	20	(2)	No	4	40	12%	400	(3)
Local	A-20	50	18	(2)	No	1	35	12%	250	(3)
Cul-de-sac	A-20	50	18	(2)	No	1	25	12%	150	(3)
Lane	A-12	50	12	(5)	No	-	15	12%	50	(3)
Frontage	A-20	50	18	(2)	No	1	25	8%	150	(3)
4-6 lot subd.	A-20	50	18	(5)	No	1	35	12%	250	(3)

*

- (1) The paving radius at the turn-around of a cul-de-sac shall be 34' with a 1' shoulder on right-of-way radius of 50'
- (2) A.C. paving or acceptable oil mat surfacing
- (3) One (1) street sign shall be provided at each intersection for each street
- (4) If unavoidable conditions exist a grade of 2% steeper than that shown may be allowed with A.C. Paving
- (5) Crushed Aggregate as specified by County Road Standards

* Amendment: Order 81-3-142, March 30, 1981

TABLE 5

Minimum Street Right-of-way and Basic Improvement Standards*

For Major Partitions

	<u>Right-of way Width</u>	<u>Paving Width</u>	<u>Type of Paving</u>	<u>Shoulder Width</u>	<u>Maximum Grade</u>	<u>Minimum Radius of Curvature</u>	<u>Street Signs</u>
Limited to 1-3 Residences	40'	12'	1	2'	12%	50	2
Potential of Further Partitioning	50'	18'	1	1'	12%	250	2

1) Crushed aggregate as specified by County Road Standards

2) One street sign shall be provided at each intersection for each street.

*Amendment Order 81-3-142, March 30, 1981

TYPE	0-31 1/4"	0-32 3/8"	0-33 3/8"	0-30 1/2"	0-30 5/8"	0-7 3/4"	0-9 7/8"	0-11 1-1/4"
	RATES QUAN PER SQ YD MILE	RATES QUAN PER SQ YD MILE	RATES QUAN PER SQ YD MILE	RATES QUAN PER SQ YD MILE	RATES QUAN PER SQ YD MILE	RATES QUAN PER SQ YD MILE	RATES QUAN PER SQ YD MILE	RATES QUAN PER SQ YD MILE
	SIZE	SIZE	SIZE	SIZE	SIZE	SIZE	SIZE	SIZE
ASPHALT		15 #682	25 #1137	35 #592	20 #906	19 #564	20 #906	20 #906
AGGREGATE		22" - 4" 008 94	1/2" - 1/4" 008 94	3/4" - 1/2" 008 94	3/4" - 1/2" 009 106	3/4" - 1/2" 011 129	3/4" - 1/2" 011 53	4" - 3/4" 022 264
ASPHALT		20 #910			20 #910	23 #1046	25 #1032	375 #175
AGGREGATE		4" - 2" 0035 41	1/2" - 1/4" 002 23	1/2" - 1/4" 007 82	1/2" - 1/4" 002 23	1/2" - 1/4" 008 94	1/2" - 1/4" 006 71	3/4" - 1/2" 009 54
ASPHALT					1/4" - 1/2" 002 23	1/4" - 1/2" 002 23	1/4" - 1/2" 003 35	1/2" - 1/4" 003 35
AGGREGATE								1/2" - 1/4" 006 71
EMULS ASPHALT	3 #962						25 #202	375 #175
AGGREGATE	4" - 1/2" 0035 59						1/4" - 1/2" 006 71	1/2" - 1/4" 006 71
TOTAL ASPHALT		35 #1592	25 #1137	35 #592	40 #1812	42 #1903	45 #2047	450 #2300
TOTAL EMULS ASPHALT	20 #962						25 #202	375 #175
AGGREGATE		1/2" - 1/4" 008 94	1/2" - 1/4" 008 94	3/4" - 1/2" 008 94	3/4" - 1/2" 009 106	3/4" - 1/2" 011 129	3/4" - 1/2" 013 53	1/2" - 1/4" 009 54
TOTAL AGGREGATE	1/4" - 1/2" 0035 59	1/2" - 1/4" 0035 41	1/2" - 1/4" 002 23	1/4" - 1/2" 003 35	1/4" - 1/2" 002 23	1/4" - 1/2" 002 23	1/4" - 1/2" 003 35	1/2" - 1/4" 003 35
TOTAL	20 #962	0115 #35	010 #117	015 #76	018 #211	021 #246	028 #330	049 #576

* 200-500 Asphalt to be used in coastal area and on west and east slopes of Coast Range

BASIC DATA

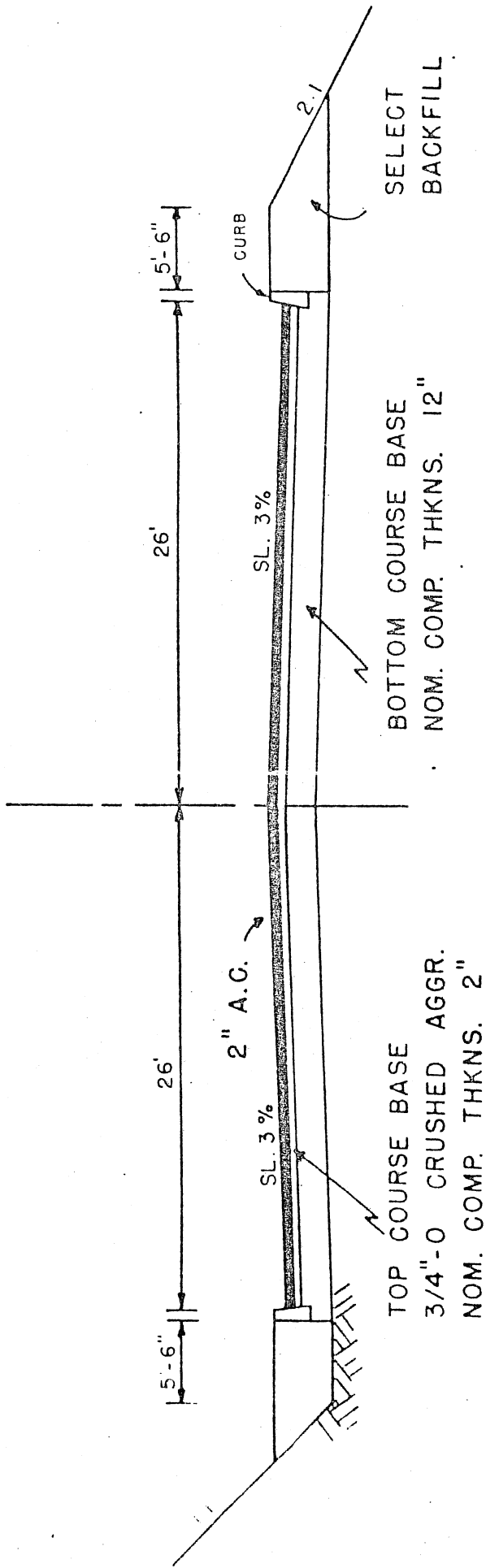
EMULSIFIED ASPHALT		CUTBACK ASPHALT	
RS-1	RS-2	RC-70	RC-800
20	20	MC-70	MC-800
150	150	SC-70	SC-800
255	255	241	241
285	285	249	245
320	320	140	185
105	135	215	235
259	244	261	259
258	246	260	258

NOTES:

• "Rates per sq yd" give aggregates in cu yds (truck measure) and asphalt and emulsified asphalt in gallons (at normal application temperature)

2.- "Quantities per mile" give aggregates in cu yds (truck measure) and asphalt and emulsified asphalt in tons for 20 foot width

3- For details of types not shown, see special provisions



NOTE:

- (1) CONSTRUCTION OUTSIDE R/W LINE SHALL REQUIRE SLOPE EASEMENT.
- (2) SUB-BASE AND BASE COMPACTED TO 95% MAXIMUM DENSITY.
- (3) HORIZONTAL AND VERTICAL ALIGNMENT TO MEET A.A.S.H.O. STANDARDS FOR A DESIGN SPEED OF 45 M.P.H.

APPROVAL:

DATE

COMMISSIONER

COMMISSIONER

COMMISSIONER

ROAD MASTER

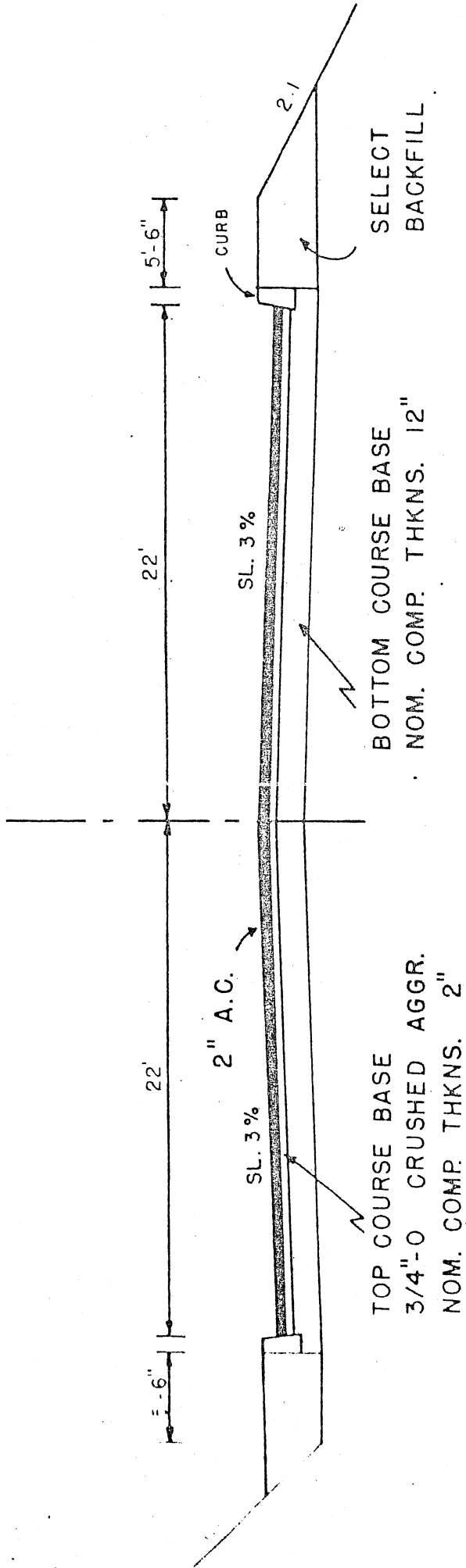
CLATSOP COUNTY
ROAD DEPARTMENT

DESIGN STANDARD
CLASS UC-52

DATE

SCALE NONE

DRAWN BY
ST



NOTE:

- (1) CONSTRUCTION OUTSIDE R/W LINE SHALL REQUIRE SLOPE EASEMENT.
- (2) SUB-BASE AND BASE COMPACTED TO 95% MAXIMUM DENSITY.
- (3) HORIZONTAL AND VERTICAL ALIGNMENT TO MEET A.A.S.H.O. STANDARDS FOR A DESIGN SPEED OF 35 M.P.H.

APPROVAL:

DATE

COMMISSIONER

COMMISSIONER

COMMISSIONER

ROAD MASTER

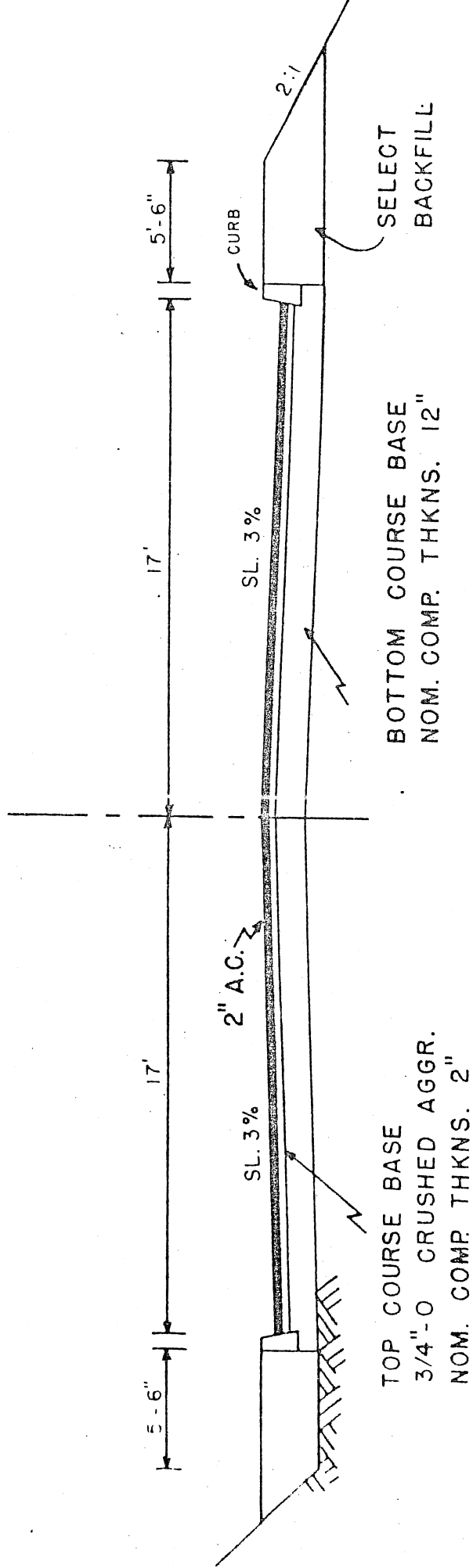
CLATSOP COUNTY
ROAD DEPARTMENT

DESIGN STANDARD
CLASS UC-44

DATE

SCALE: NONE

DRAWN BY
ST



NOTE:

- (1) CONSTRUCTION OUTSIDE R/W LINE SHALL REQUIRE SLOPE EASEMENT.
- (2) SUB-BASE AND BASE COMPACTED TO 95% MAXIMUM DENSITY.
- (3) HORIZONTAL AND VERTICAL ALIGNMENT TO MEET A.A.S.H.O. STANDARDS FOR A DESIGN SPEED OF 25 M.P.H.

APPROVAL:

DATE

COMMISSIONER
COMMISSIONER
COMMISSIONER
ROAD MASTER

CLATSOP COUNTY
ROAD DEPARTMENT

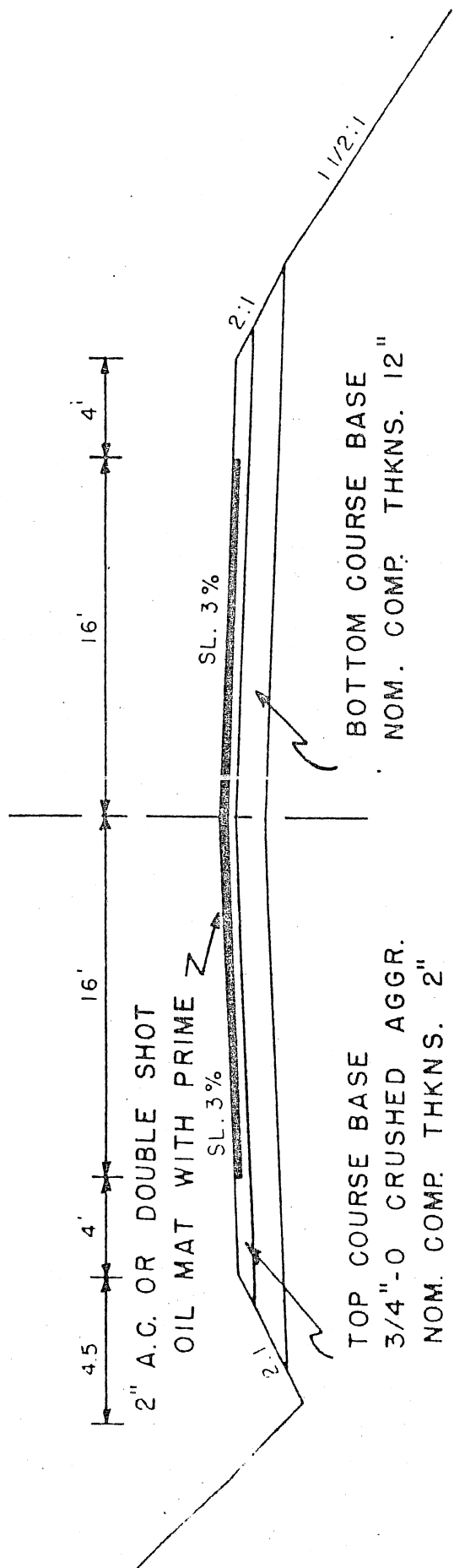
DESIGN STANDARD
CLASS UC-34

DATE

SCALE: NONE

DRAWN BY
ST

DRAWN BY
ST



NOTE:

- (1) CONSTRUCTION OUTSIDE R/W LINE SHALL REQUIRE SLOPE EASEMENT.
- (2) SUB-BASE AND BASE COMPACTED TO 95% MAXIMUM DENSITY.
- (3) HORIZONTAL AND VERTICAL ALIGNMENT TO MEET A.A.S.H.O. STANDARDS FOR A DESIGN SPEED OF 55 M.P.H.

APPROVAL

DATE _____

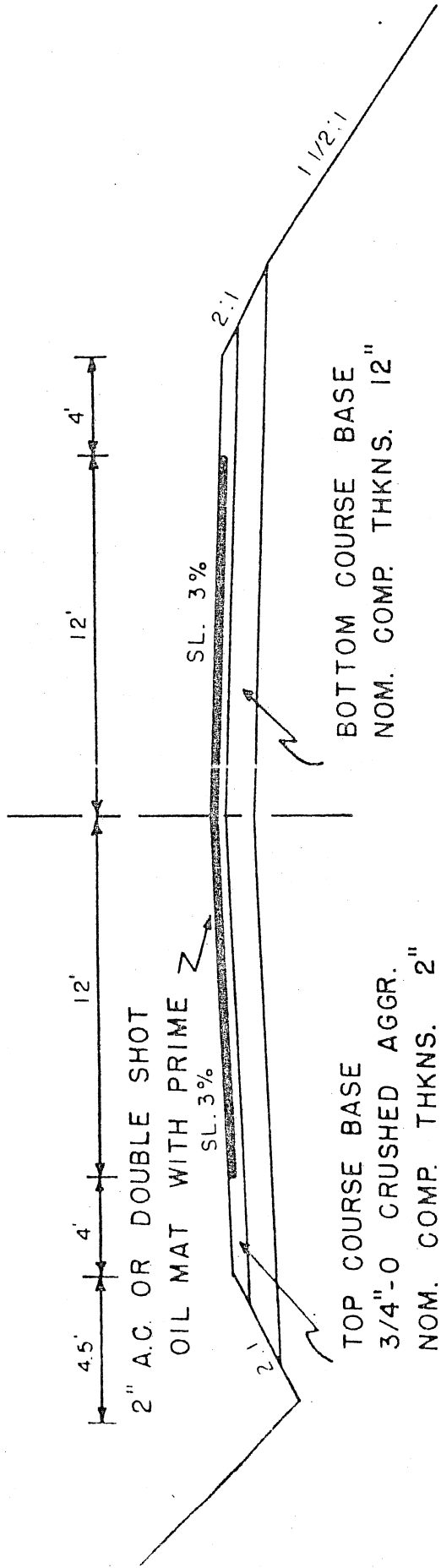
COMMISSIONER _____

COMMISSIONER _____

COMMISSIONER _____

ROAD MASTER _____

CLATSOP COUNTY ROAD DEPARTMENT		DATE	SCALE: NONE	DRAWN BY ST
DESIGN STANDARD CLASS S-40				



NOTE:

- (1) CONSTRUCTION OUTSIDE R/W LINE SHALL REQUIRE SLOPE EASEMENT.
- (2) SUB-BASE AND BASE COMPACTED TO 9% MAXIMUM DENSITY.
- (3) HORIZONTAL AND VERTICAL ALIGNMENT TO MEET A.A.S.H.O. STANDARDS FOR A DESIGN SPEED OF 45 M.P.H.

APPROVAL

DATE

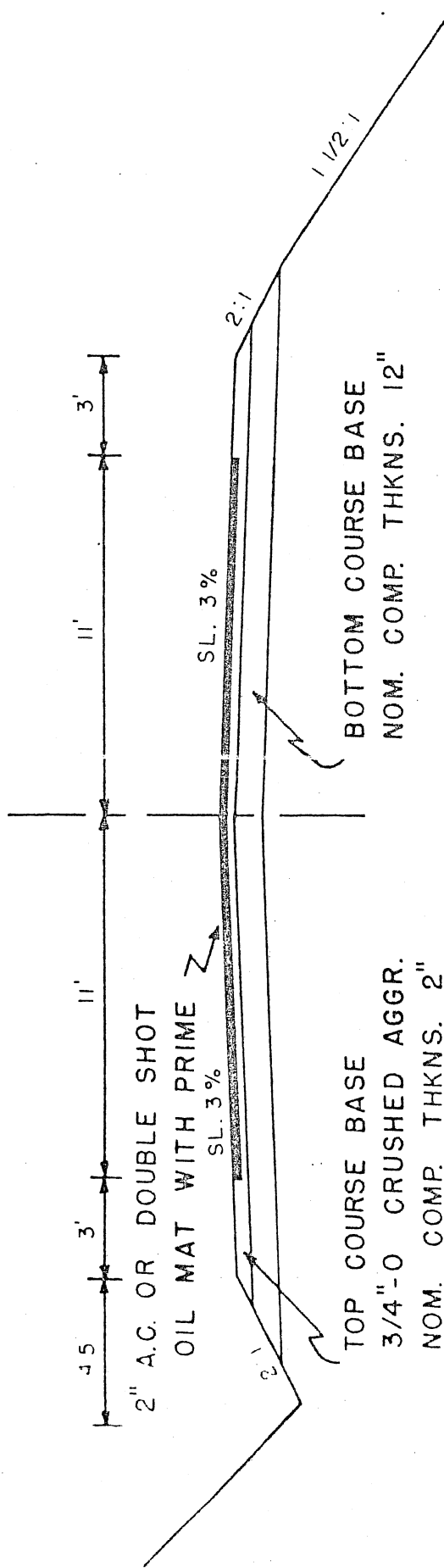
COMMISSIONER

COMMISSIONER

COMMISSIONER

ROAD MASTER

CLATSOP COUNTY ROAD DEPARTMENT		DATE	SCALE: NONE	DRAWN BY ST
DESIGN STANDARD CLASS S-32				



NOTE:

- (1) CONSTRUCTION OUTSIDE R/W LINE SHALL REQUIRE SLOPE EASEMENT.
 - (2) SUB-BASE AND BASE COMPACTED TO 95% MAXIMUM DENSITY.
 - (3) HORIZONTAL AND VERTICAL ALIGNMENT TO MEET A.A.S.H.O. STANDARDS
- FOR A DESIGN SPEED OF 35 M.P.H.

APPROVAL:

DATE:

COMMISSIONER
COMMISSIONER
COMMISSIONER
ROAD MASTER

CLATSOP COUNTY
ROAD DEPARTMENT

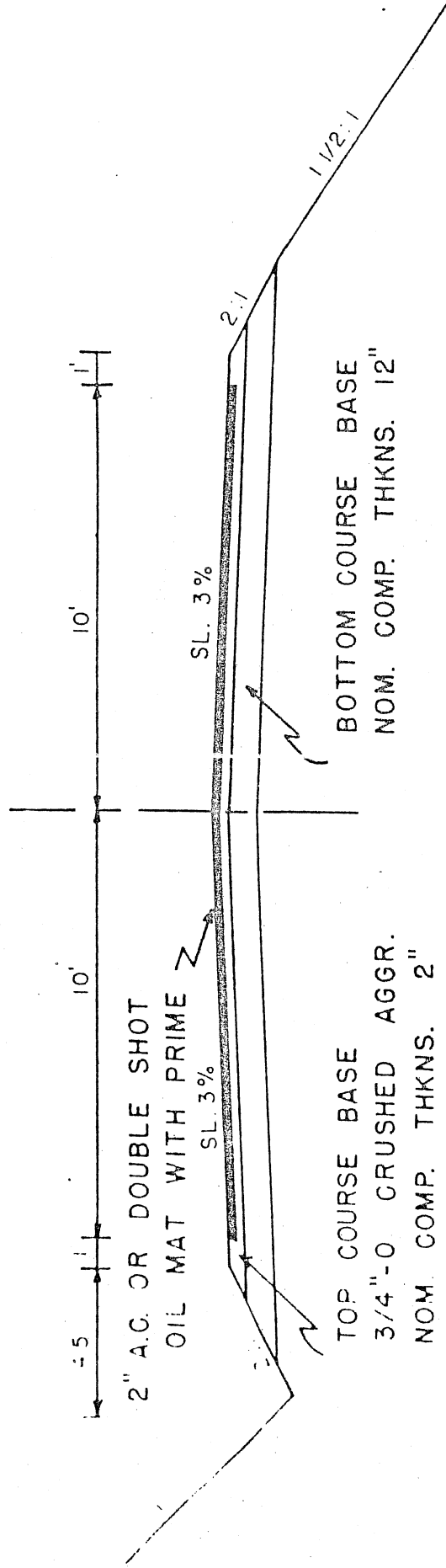
DESIGN STANDARD
CLASS S-28

DATE

SCALE: NONE

DRAWN BY

ST



NOTE:

- (1) CONSTRUCTION OUTSIDE R/W LINE SHALL REQUIRE SLOPE EASEMENT.
 - (2) SUB-BASE AND BASE COMPACTED TO 95% MAXIMUM DENSITY.
 - (3) HORIZONTAL AND VERTICAL ALIGNMENT TO MEET A.A.S.H.O. STANDARDS.
- FOR A DESIGN SPEED OF 25 M.P.H.

APPROVAL

DATE

COMMISSIONER

COMMISSIONER

COMMISSIONER

FIELD MASTER

CLATSOP COUNTY
ROAD DEPARTMENT

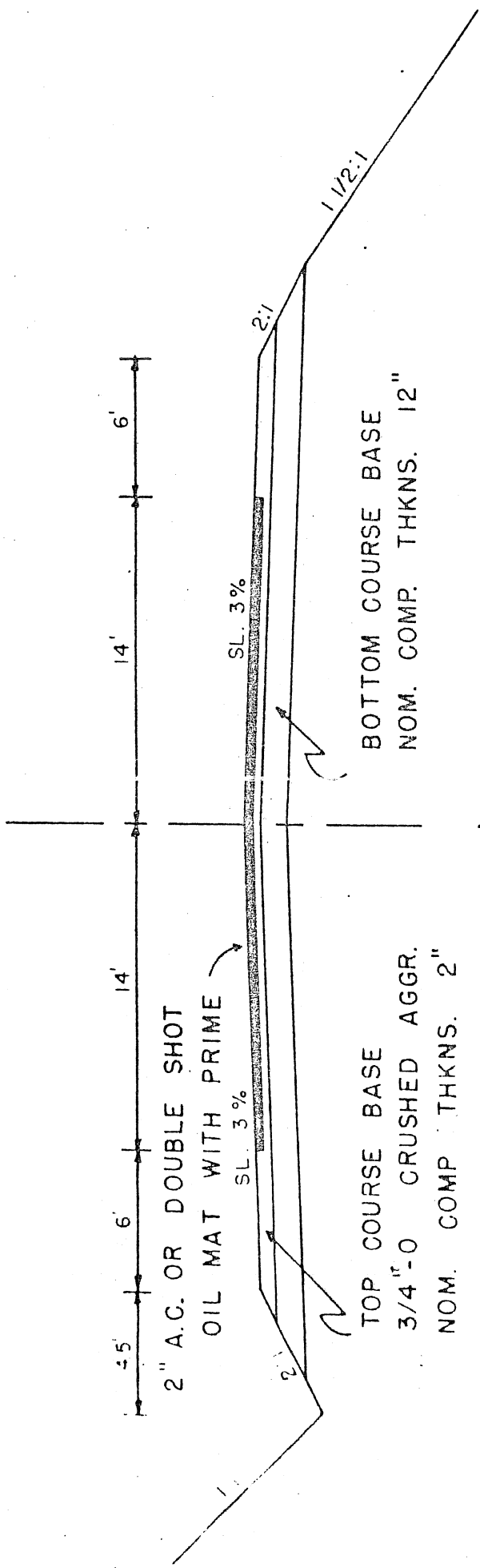
DESIGN STANDARD
CLASS S-22

DATE

SCALE: NONE

DRAWN BY

ST



NOTE:

- (1) CONSTRUCTION OUTSIDE R/W LINE SHALL REQUIRE SLOPE EASEMENT.
 - (2) SUB-BASE AND BASE COMPACTED TO 95% MAXIMUM DENSITY.
 - (3) HORIZONTAL AND VERTICAL ALIGNMENT TO MEET A.A.S.H.O. STANDARDS.
- FOR A DESIGN SPEED OF 55 M.P.H.

APPROVAL:

DATE

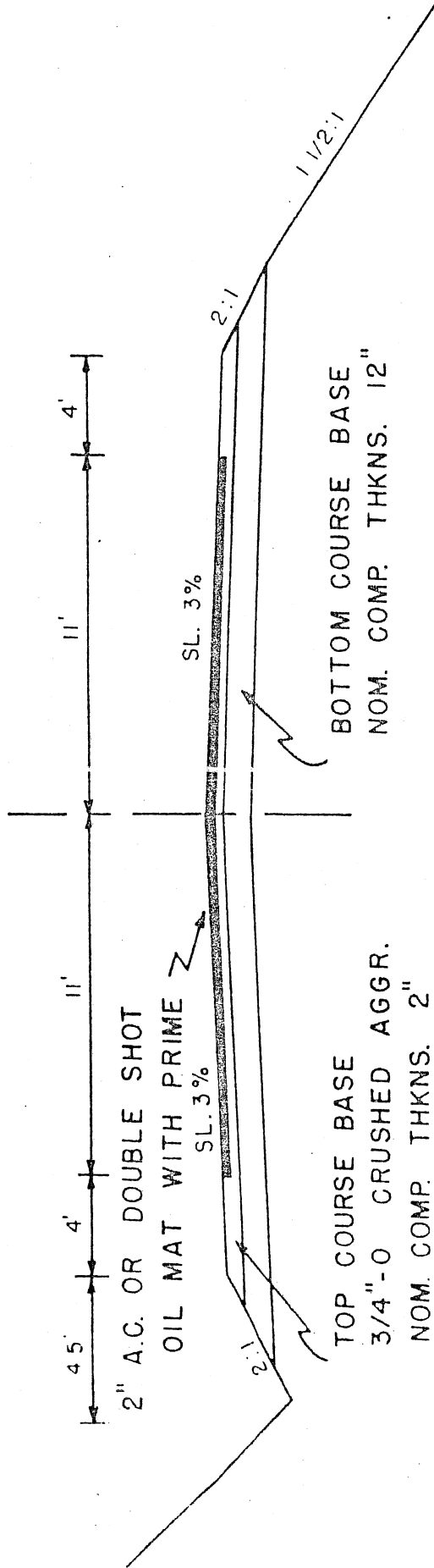
COMMISSIONER -----

COMMISSIONER -----

COMMISSIONER -----

ROAD MASTER -----

CLATSOP COUNTY ROAD DEPARTMENT		DATE	SCALE: NONE	DRAWN BY ST
DESIGN STANDARD CLASS R-40				



NOTE:

- (1) CONSTRUCTION OUTSIDE R/W LINE SHALL REQUIRE SLOPE EASEMENT.
- (2) SUB-BASE AND BASE COMPACTED TO 93% MAXIMUM DENSITY.
- (3) HORIZONTAL AND VERTICAL ALIGNMENT TO MEET A.A.S.H.O. STANDARDS FOR A DESIGN SPEED OF 45 M.P.H.

APPROVAL:

DATE

COMMISSIONER

COMMISSIONER

COMMISSIONER

ROAD MASTER

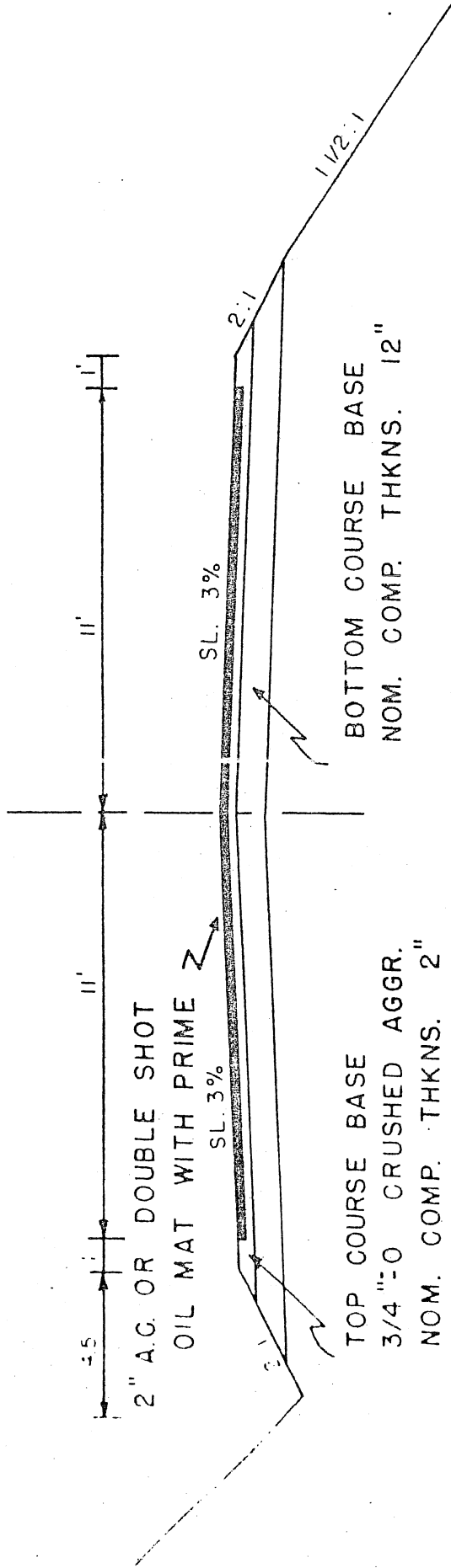
CLATSOP COUNTY
ROAD DEPARTMENT

DESIGN STANDARD
CLASS R-30

DATE

SCALE: NONE

DRAWN BY
ST



NOTE:

- (1) CONSTRUCTION OUTSIDE R/W LINE SHALL REQUIRE SLOPE EASEMENT.
 - (2) SUB-BASE AND BASE COMPACTED TO 95% MAXIMUM DENSITY.
 - (3) HORIZONTAL AND VERTICAL ALIGNMENT TO MEET A.A.S.H.O. STANDARDS.
- FOR A DESIGN SPEED OF 35 M.P.H.

APPROVAL

DATE

COMMISSIONER

COMMISSIONER

COMMISSIONER

ROAD MASTER

CLATSOP COUNTY
ROAD DEPARTMENT

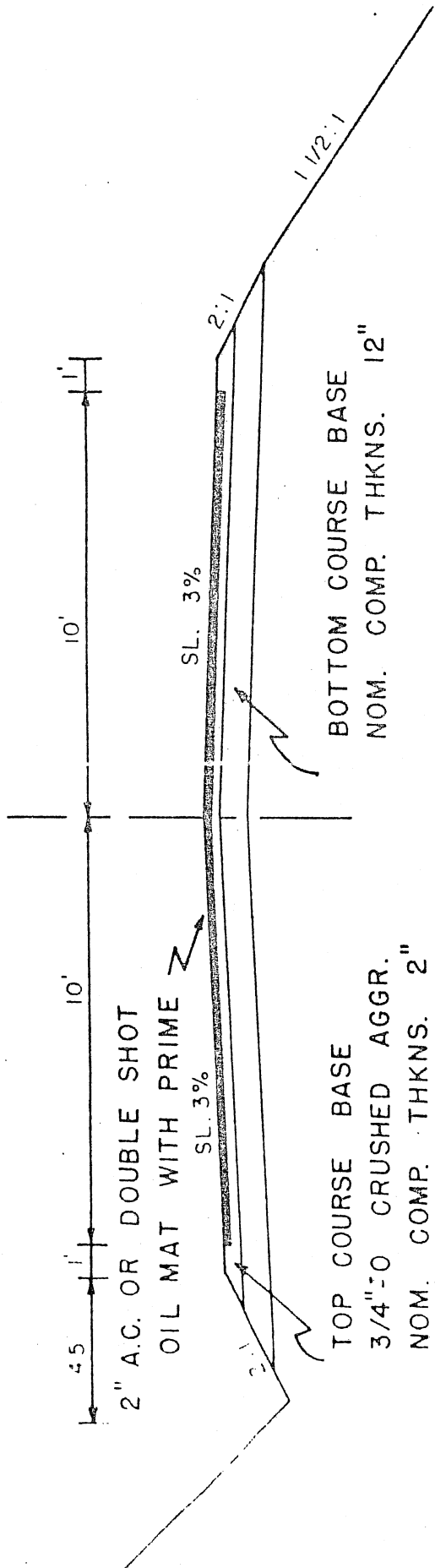
DESIGN STANDARD
CLASS R-24

DATE

SCALE: NONE

DRAWN BY

ST



NOTE:

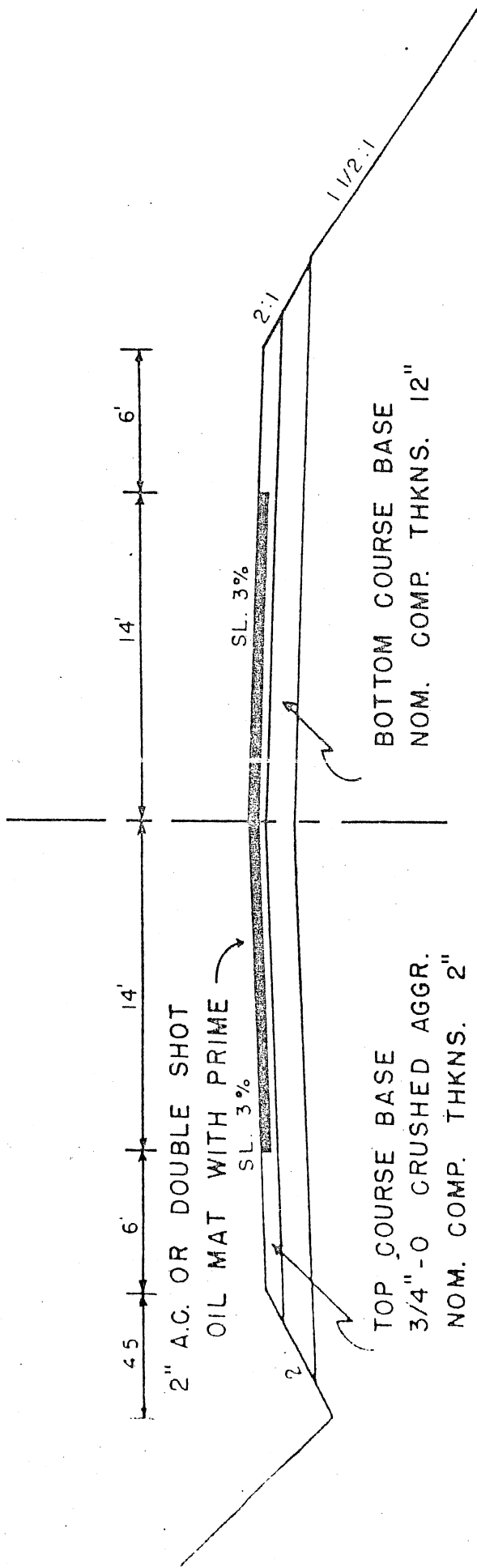
- (1) CONSTRUCTION OUTSIDE R/W LINE SHALL REQUIRE SLOPE EASEMENT.
- (2) SUB-BASE AND BASE COMPACTED TO 95% MAXIMUM DENSITY.
- (3) HORIZONTAL AND VERTICAL ALIGNMENT TO MEET A.A.S.H.O. STANDARDS FOR A DESIGN SPEED OF 25 M.P.H.

APPROVAL:

DATE

COMMISSIONER _____
COMMISSIONER _____
COMMISSIONER _____
ROAD MASTER _____

CLATSOP COUNTY ROAD DEPARTMENT		DATE	SCALE: NONE	DRAWN BY ST
DESIGN STANDARD CLASS R-22				



NOTE:

- (1) CONSTRUCTION OUTSIDE R/W LINE SHALL REQUIRE SLOPE EASEMENT.
- (2) SUB-BASE AND BASE COMPACTED TO 95% MAXIMUM DENSITY.
- (3) HORIZONTAL AND VERTICAL ALIGNMENT TO MEET A.A.S.H.O. STANDARDS FOR A DESIGN SPEED OF 55 M.P.H.

APPROVAL

DATE

COMMISSIONER

COMMISSIONER

COMMISSIONER

ROAD MASTER

CLATSOP COUNTY
ROAD DEPARTMENT

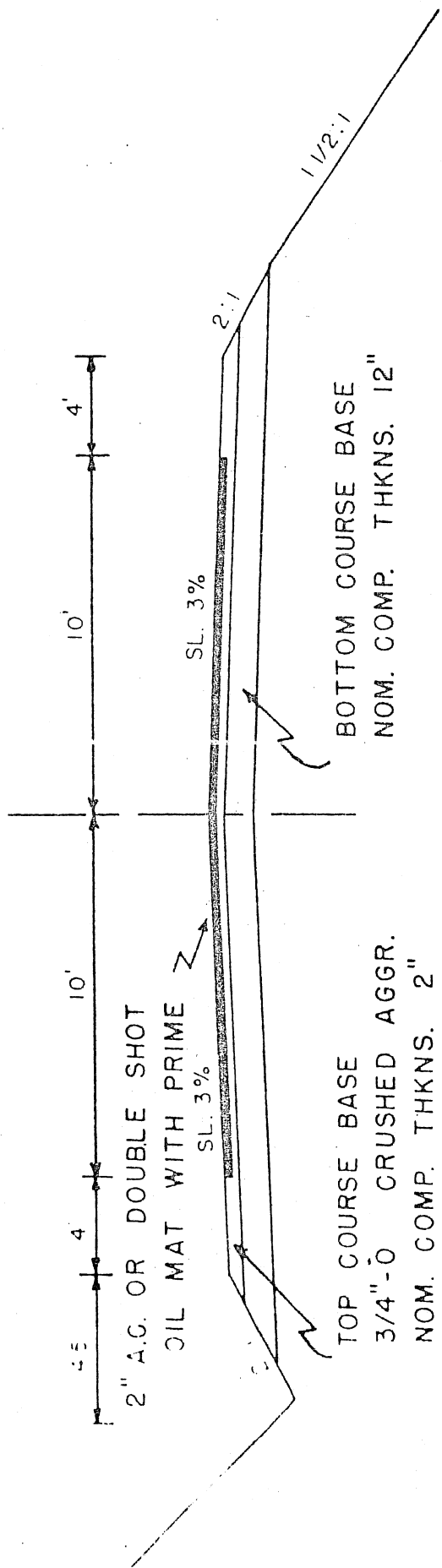
DESIGN STANDARD
CLASS A-40

DATE

SCALE: NONE

DRAWN BY

ST



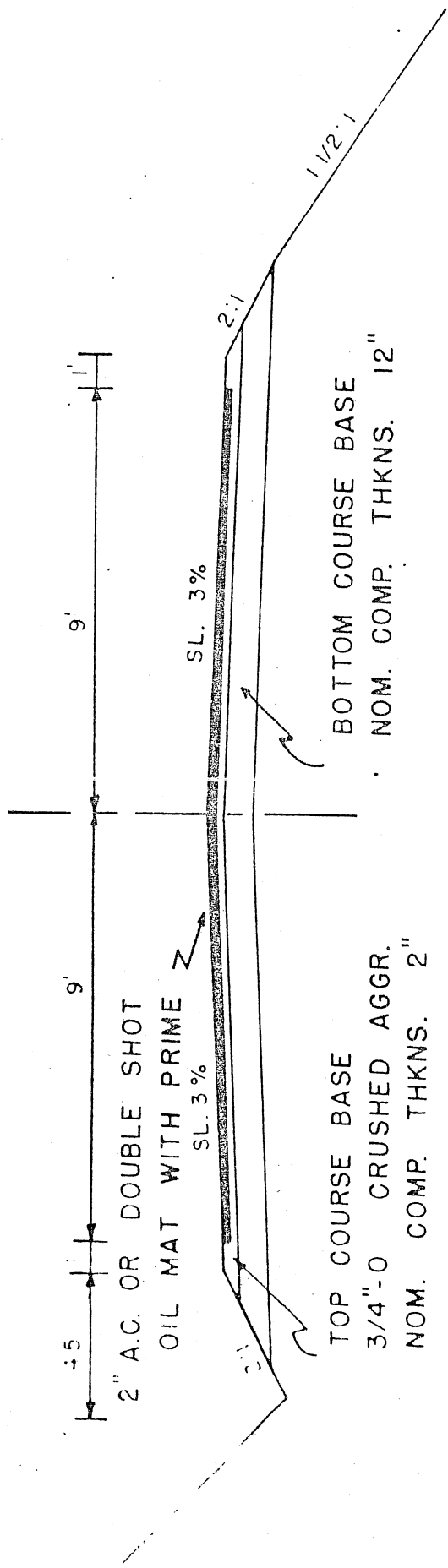
NOTE:

- (1) CONSTRUCTION OUTSIDE R/W LINE SHALL REQUIRE SLOPE EASEMENT.
- (2) SUB-BASE AND BASE COMPACTED TO 95% MAXIMUM DENSITY.
- (3) HORIZONTAL AND VERTICAL ALIGNMENT TO MEET A.A.S.H.O. STANDARDS FOR A DESIGN SPEED OF 40 M.P.H.

APPROVAL:

COMMISSIONER
 ENGINEER
 SURVEYOR
 ROAD MASTER

CLATSOP COUNTY ROAD DEPARTMENT		DATE	SCALE: NONE	DRAWN BY ST
DESIGN STANDARD CLASS A-28				



NOTE:

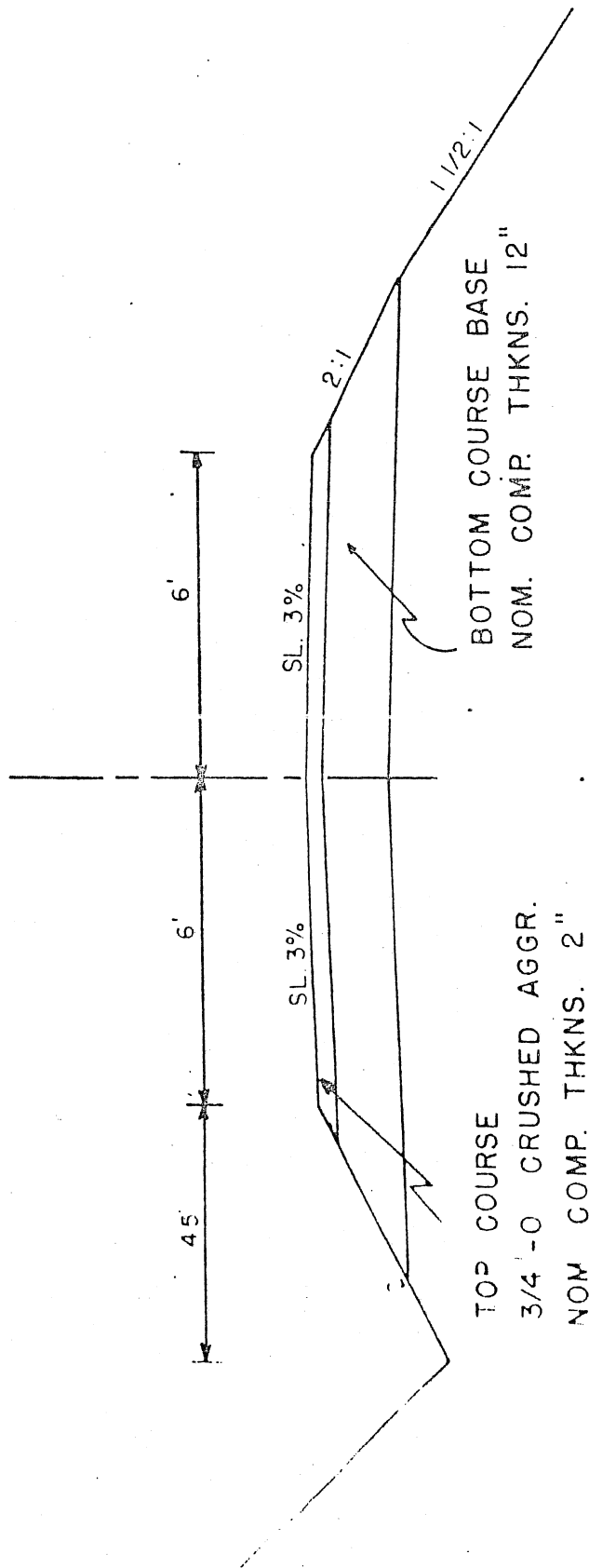
- (1) CONSTRUCTION OUTSIDE R/W LINE SHALL REQUIRE SLOPE EASEMENT.
- (2) SUB-BASE AND BASE COMPACTED TO 95% MAXIMUM DENSITY.
- (3) HORIZONTAL AND VERTICAL ALIGNMENT TO MEET A.A.S.H.O. STANDARDS FOR A DESIGN SPEED OF 35 M.P.H.

APPROVAL:

DATE

COMMISSIONER -----
 COMMISSIONER -----
 COMMISSIONER -----
 ROAD MASTER -----

CLATSOP COUNTY ROAD DEPARTMENT		DATE	SCALE: NONE	DRAWN BY ST
DESIGN STANDARD CLASS A-20				



TOP COURSE
3/4" - 0 CRUSHED AGGR.
NOM COMP. THKNS. 2"

BOTTOM COURSE BASE
NOM. COMP. THKNS. 12"

NOTE:

1. CONSTRUCTION OUTSIDE R/W LINE SHALL REQUIRE SLOPE EASEMENT.
2. SUB-BASE AND BASE COMPACTED TO 95% MAXIMUM DENSITY.
3. HORIZONTAL AND VERTICAL ALIGNMENT TO MEET A.A.S.H.O. STANDARDS FOR A DESIGN SPEED OF 15 M.P.H.

APPROVAL:

DATE

COMMISSIONER

COMMISSIONER

COMMISSIONER

SCALE MASTER

CLATSOP COUNTY
ROAD DEPARTMENT

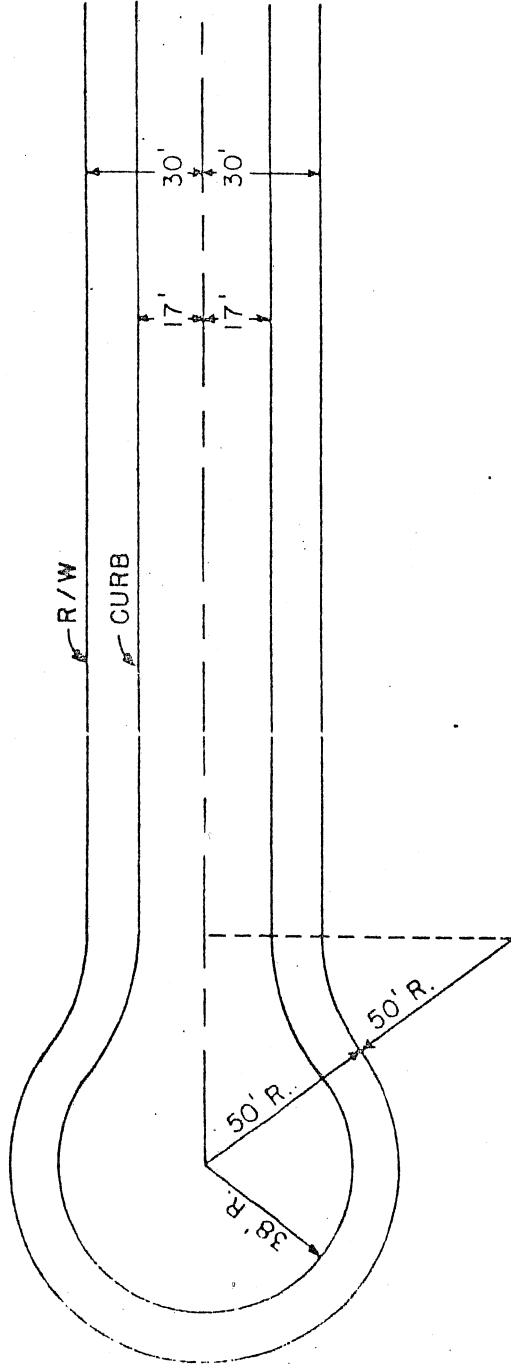
DESIGN STANDARD
CLASS A-12

DATE

SCALE NONE

DRAWN BY

ST



NOTE:

- (1) CONSTRUCTION OUTSIDE R/W LINE SHALL REQUIRE SLOPE EASEMENT.
- (2) 3.0 % CROWN MINIMUM ON PAVING BULB.

APPROVAL:

DATE

COMMISSIONER

COMMISSIONER

COMMISSIONER

LOCAL MASTER

CLATSOP COUNTY
ROAD DEPARTMENT

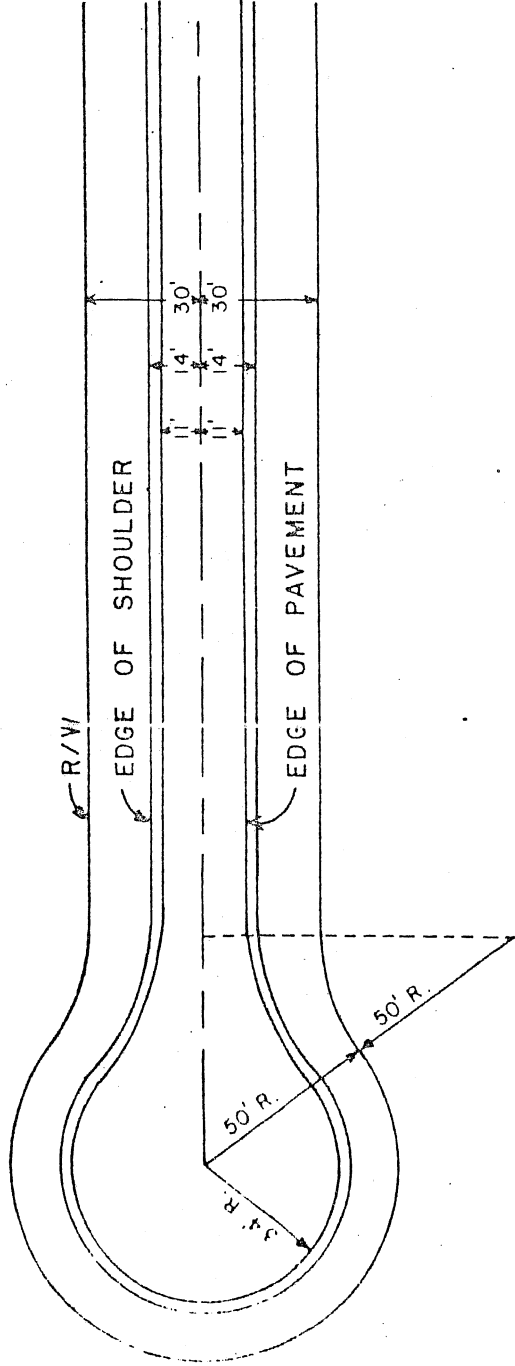
CUL-DE-SAC UC-34

DATE

SCALE: NONE

DRAWN BY

ST



NOTE:

CONSTRUCTION OUTSIDE R/W LINE SHALL REQUIRE SLOPE EASEMENT.
 2 30 % CROWN MINIMUM ON PAVING BULB.

APPROVAL

DATE

COMMISSIONER

COMMISSIONER

COMMISSIONER

ROAD MASTER

CLATSOP COUNTY
ROAD DEPARTMENT

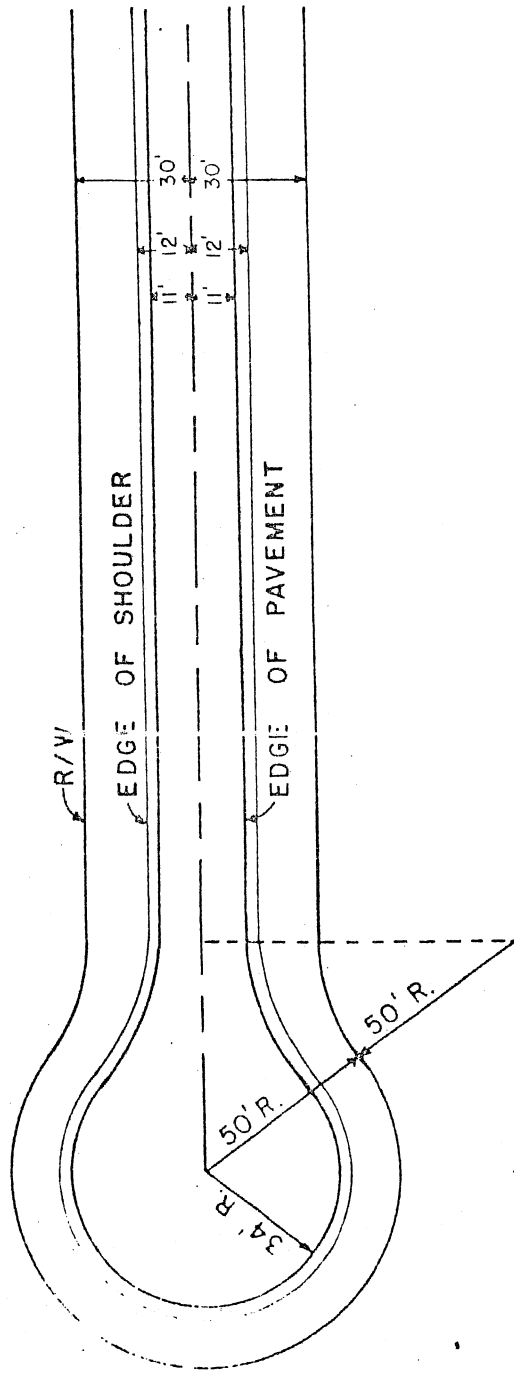
CUL-DE-SAC S-28

DATE

SCALE: NONE

DRAWN BY

ST



NOTE:

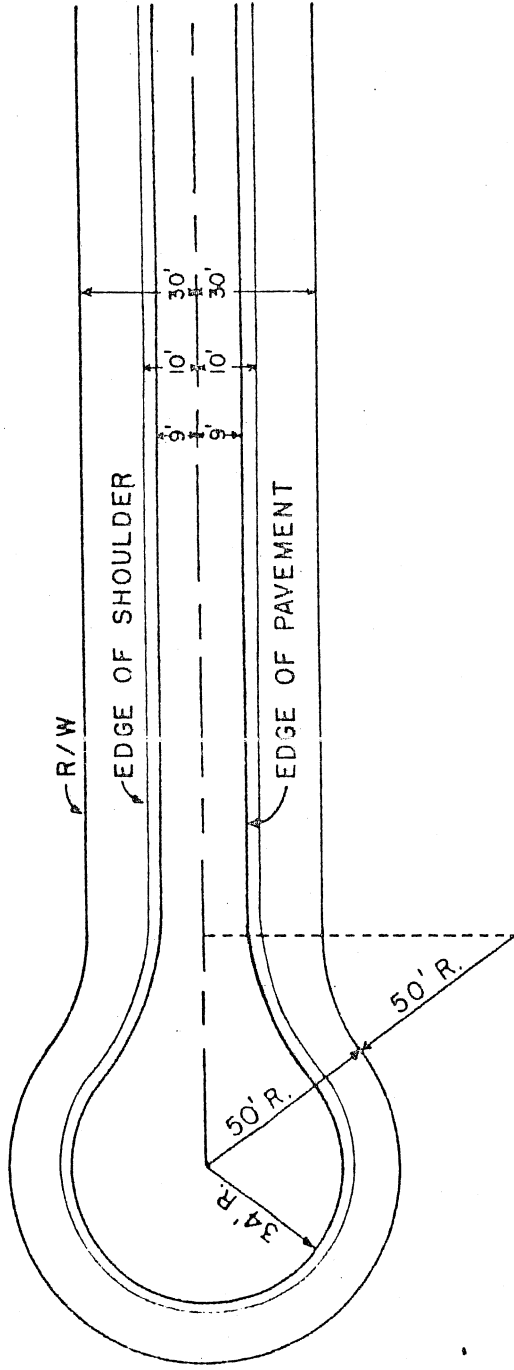
- (1) CONSTRUCTION OUTSIDE R/W LINE SHALL REQUIRE SLOPE EASEMENT.
- (2) 3.0 % CROWN MINIMUM ON PAVING BULB.

APPROVAL:

DATE

COMMISSIONER
COMMISSIONER
COMMISSIONER
ROAD MASTER

CLATSOP COUNTY ROAD DEPARTMENT		DATE	SCALE: NONE	DRAWN BY ST.
CUL-DE-SAC R-24				



NOTE:

- (1) CONSTRUCTION OUTSIDE R/W LINE SHALL REQUIRE SLOPE EASEMENT.
- (2) 3.0 % CROWN MINIMUM ON PAVING BULB.

APPROVAL

DATE

COMMISSIONER

COMMISSIONER

COMMISSIONER

SCALE MASTER

CLATSOP COUNTY
ROAD DEPARTMENT

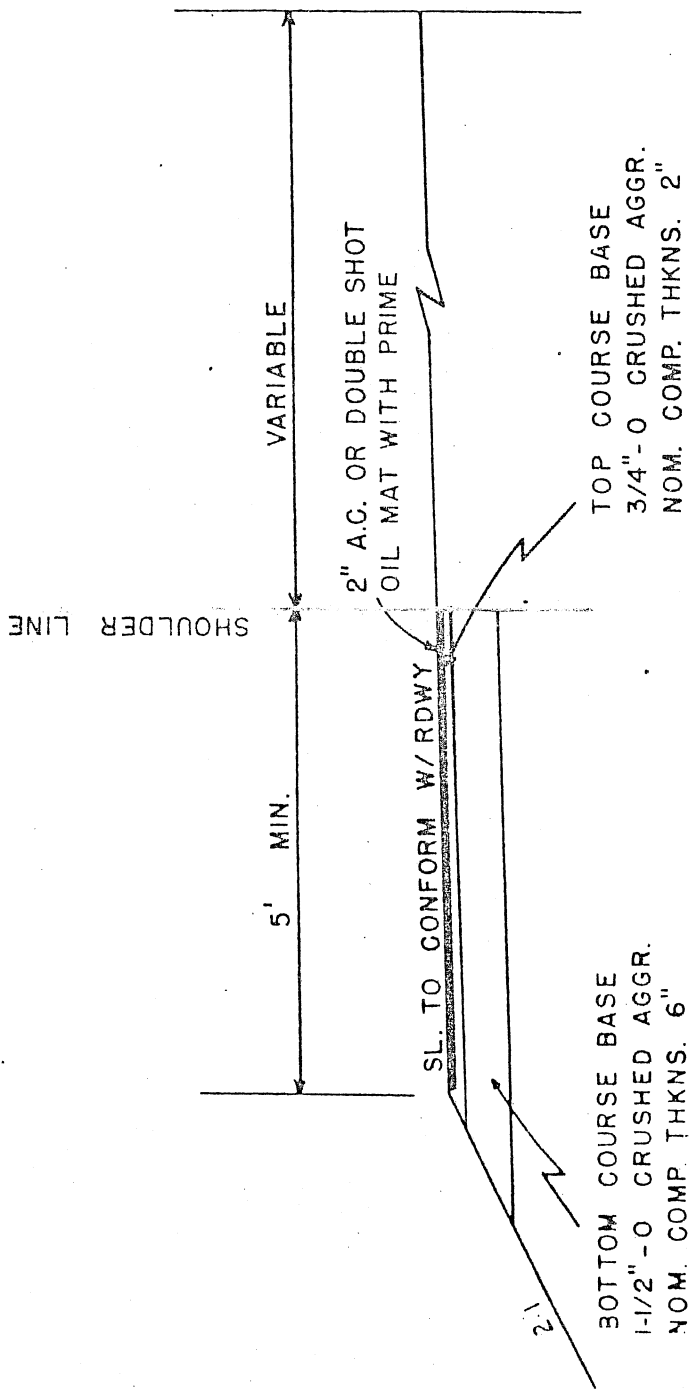
CUL-DE-SAC A-20

DATE

SCALE: NONE

DRAWN BY

ST



NOTE:

- 1) CONSTRUCTION OUTSIDE R/W LINE SHALL REQUIRE SLOPE EASEMENT.
- 2) SUB-BASE AND BASE COMPACTED TO 95% MAXIMUM DENSITY.

APPROVAL

DATE

COMMISSIONER

COMMISSIONER

COMMISSIONER

ROAD MASTER

CLATSOP COUNTY
ROAD DEPARTMENT

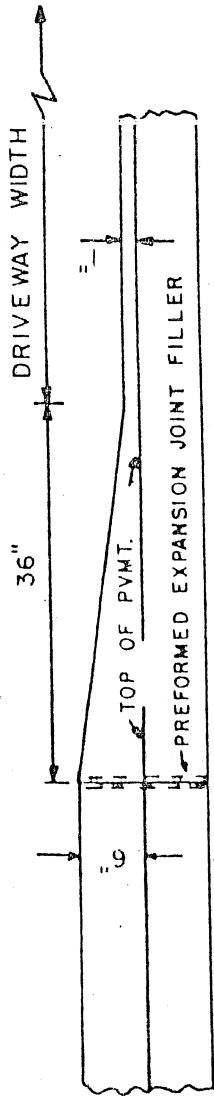
BIKEWAY

DATE

SCALE: NONE

DRAWN BY

ST



TYPICAL DRIVEWAY SECTION

DRIVEWAY WIDTHS

SINGLE DRIVE 14 FT.

DOUBLE DRIVE 20 FT.

COMMERCIAL DRIVE 35 FT.

NOTES:

- (1) CURBS SHALL BE CONSTRUCTED OF CLASS A, 3300 P.S.I. CONCRETE.
- (2) PREFORMED EXPANSION JOINTS FULL DEPTH, PLACED AT 30 FOOT MAXIMUM INTERVALS AND AT EACH END OF RETURNS.
- (3) CONTRACTION JOINTS PLACED AT 15 FOOT MAXIMUM INTERVALS.

APPROVAL:

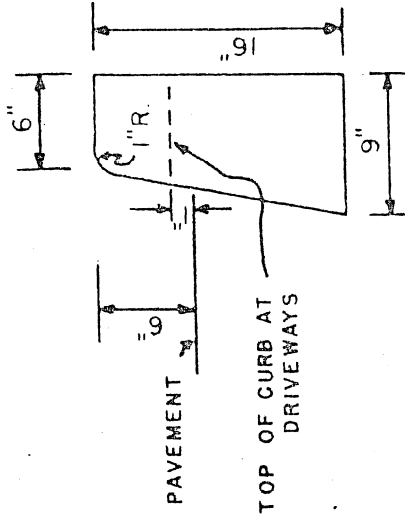
DATE

COMMISSIONER

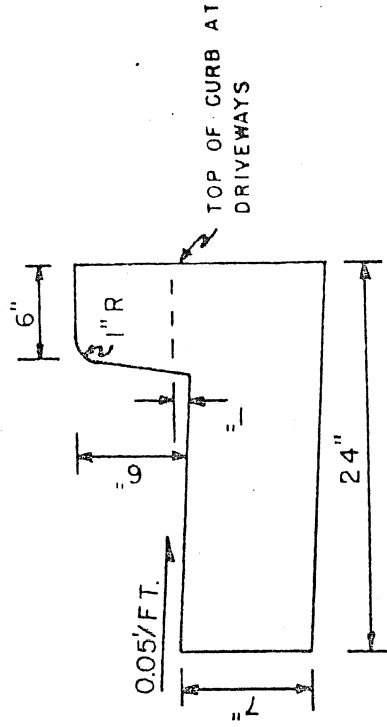
COMMISSIONER

COMMISSIONER

ROAD MASTER



CEMENT CONCRETE CURB



CEMENT CONCRETE CURB AND GUTTER

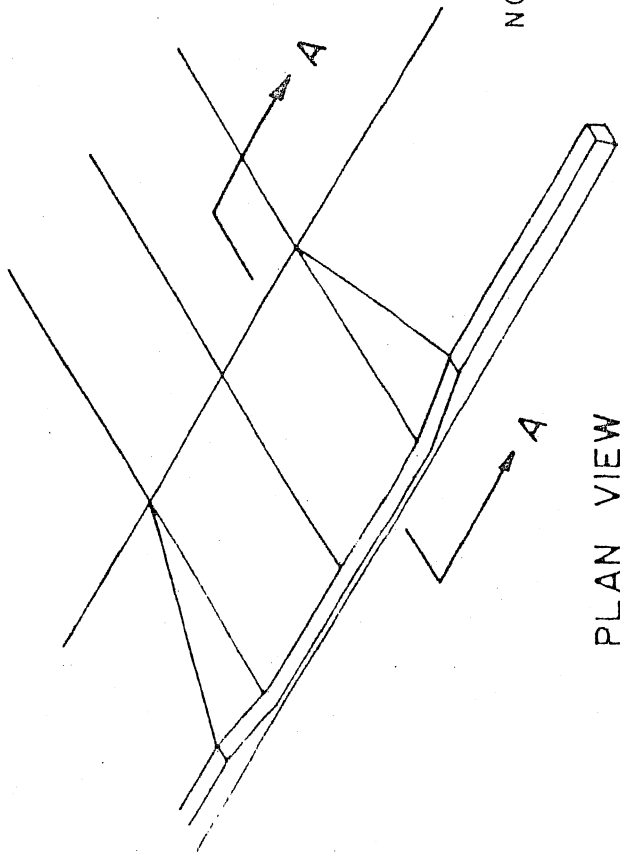
CLATSOP COUNTY
ROAD DEPARTMENT

CURB-DRIVEWAY
STANDARDS

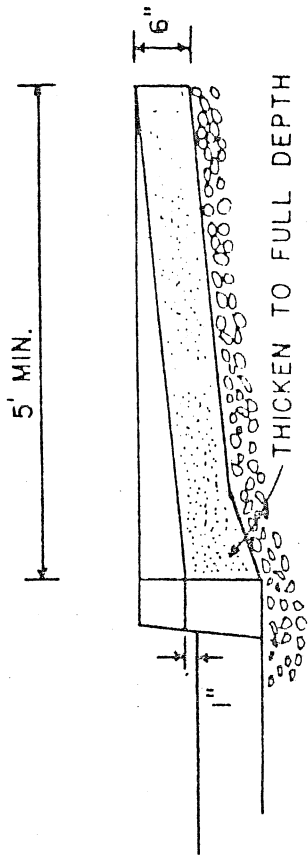
DATE

SCALE: NONE

DRAWN BY
ST



PLAN VIEW



SECTION A-A

NOTE:

- (1) CEMENT CONCRETE DRIVEWAYS SHALL BE CONSTRUCTED TO THE MINIMUM DEPTH OF 6 INCHES, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
- (2) FOR CEMENT CONCRETE DRIVEWAYS OVER 16 FEET IN WIDTH, THERE WILL BE A 1/4 INCH DUMMY JOINT DOWN THE CENTER OF THE DRIVEWAY.
- (3) THERE WILL BE A 10 FOOT MINIMUM CLEARANCE BETWEEN EDGE OF DRIVEWAY AND CORNER RIGHT OF WAY LINE.
- (4) DRIVEWAYS SHALL BE CONSTRUCTED OF 3000 P.S.I. CONCRETE
- (5) DRIVEWAY APRONS, COMMERCIAL AND INDUSTRIAL SHALL BE CONSTRUCTED WITH 6" X 6" 10 GAUGE WIRE MESH PLACED 1-1/2" ABOVE BASE.

APPROVAL:

DATE

COMMISSIONER

COMMISSIONER

COMMISSIONER

FOOT MASTER

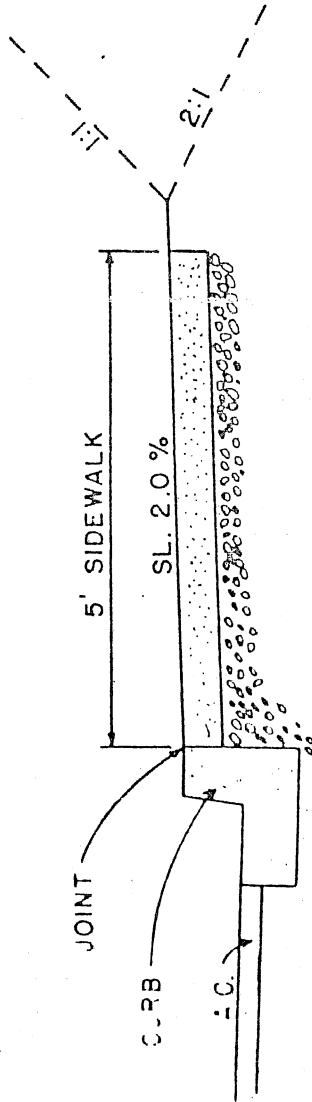
CLATSOP COUNTY
ROAD DEPARTMENT

PAVED DRIVEWAYS

DATE

SCALE: NONE

DRAWN BY
ST



NOTE:

- (1) SIDEWALKS SHALL BE CONSTRUCTED OF 3300 P.S.I. CONCRETE.
- (2) EXPANSION JOINTS AT THE SIDES OF DRIVEWAY APPROACHES AND UTILITY VAULTS.
- (3) JOINT AT CURB-EXPANSION JOINT IF POURED AT SAME TIME OR COLD JOINT IF JOINING EXISTING CURB.
- (4) PREFORMED EXPANSION JOINTS FULL DEPTH, PLACED AT 15 FOOT MAXIMUM INTERVALS AND AT EACH END OF CURB RETURNS.
- (5) CONTRACTION JOINTS PLACED AT 5 FOOT MAXIMUM INTERVALS.
- (6) MINIMUM SIDEWALK THICKNESS SHALL BE 4 INCHES.

APPROVAL:

DATE

COMMISSIONER

COMMISSIONER

COMMISSIONER

ROAD MASTER

CLATSOP COUNTY
ROAD DEPARTMENT

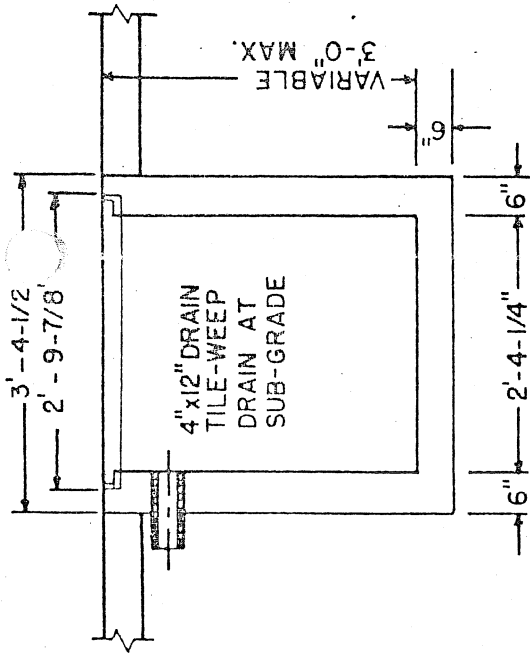
SIDEWALK STANDARD

DATE

SCALE NONE

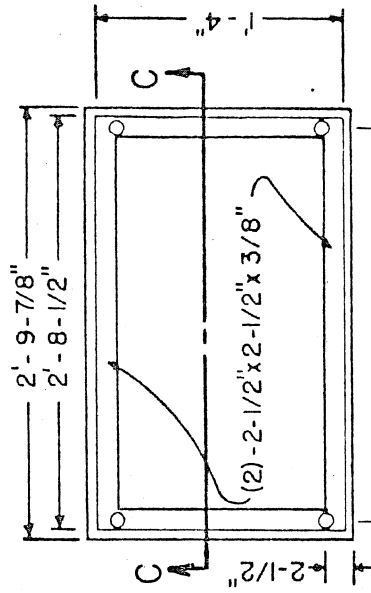
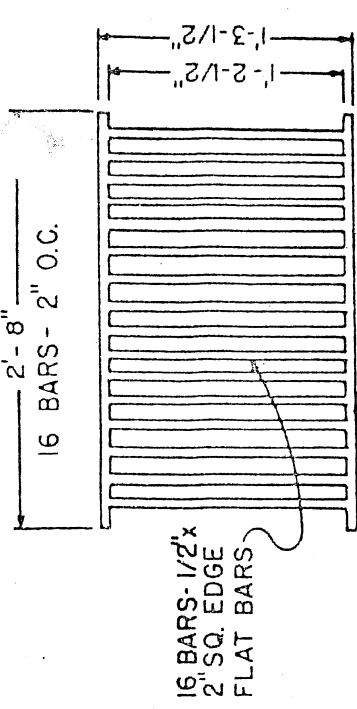
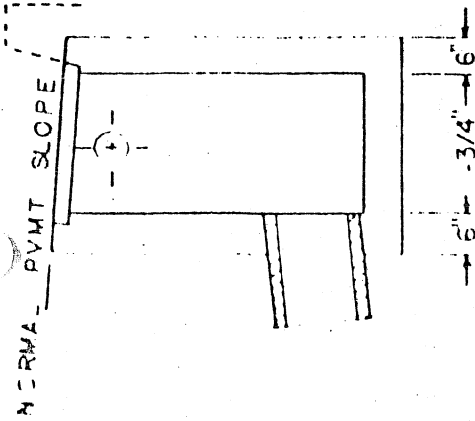
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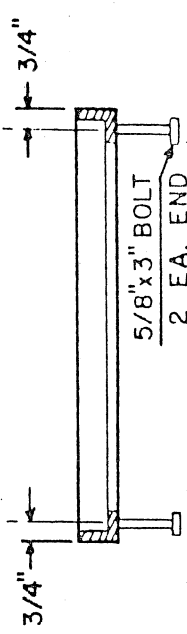
SECTION A-A

SECTION B-B



WROUGHT IRON OR WELDED
FRAME AND GRATE-SEE
DETAIL

DETAIL



SECTION C-C

CONCRETE TO BE 3300 P.S.I. - 28 DAYS

APPROVAL

DATE

COMMISSIONER

COMMISSIONER

COMMISSIONER

LOCAL WASHER

CLATSOP COUNTY
ROAD DEPARTMENT

CONCRETE INLETS

SHEET 1 OF 2

DRAWN BY

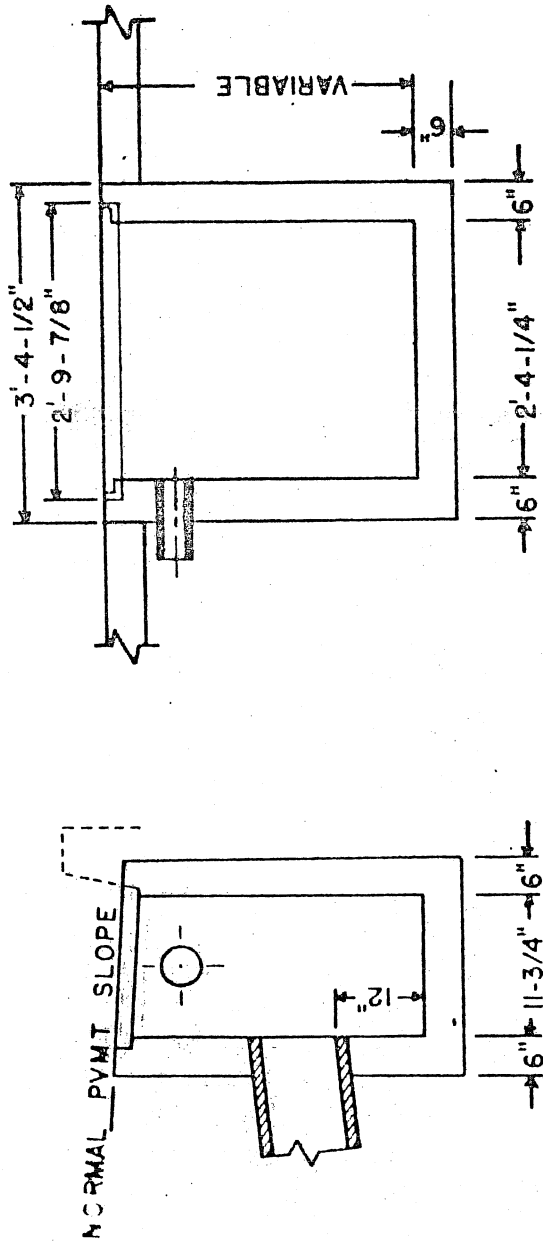
DATE

SCALE: NONE

ST

PLAN VIEW

GUTTER LINE



NOTE

(1) CONCRETE TO BE 3300 P.S.I. - 28 DAYS.

APPROVAL:

DATE

COMMISSIONER

COMMISSIONER

COMMISSIONER

ROAD MASTER

CLATSOP COUNTY
ROAD DEPARTMENT

BASIN FOR INLETS

SHEET 2 OF 2

DATE

DR

SCALE: NONE