Vault

Advance Packet 10/15/07

For

Monday, October 22, 2007 Council Meeting

Included in this packet is documentation to support the following 10/22/07 Agenda Items:

Ordinances

Council Agenda Report [pg. 3]

A. First and second reading by title only with possible adoption of Ordinance 07-O-585, an ordinance adding Chapter 17.171, Neighborhood Circulation Plans, to the Brookings Municipal Code. [pg. 5]

B. First and second reading by title only with possible adoption of Ordinance 07-O-593, an ordinance amending Section 17.80.040, Site Plan Approval, Improvement Standards, of the Brookings Municipal Code. [pg. 13]

C. First and second reading by title only with possible adoption of Ordinance 07-O-595, an ordinance adding Chapter 17.170, Street Standards, to the Brookings Municipal Code. [pg. 15]

D. First and second reading by title only with possible adoption of Ordinance 07-O-596, an ordinance amending Chapter 17.168, Public Facilities Improvement Standards and Criteria for Utilities, of the Brookings Municipal Code, in its entirety. [pg. 29]

City of Brookings
898 Elk Drive
Brookings, OR 97415

COUNCIL AGENDA REPORT

To: Mayor and City Council

From: Dianne Morris, Planning Director

Date: October 9, 2007

Re: Adopting ordinances for File # LDC-2-06 revisions to Chapter 17.170, Streets, Chapter 17.80.040, Site Plan Approval, Chapter 17.171, Neighborhood Circulation Plans, and Chapter 17.168, Utilities, Brookings Municipal Code (BMC), for City Council meeting on Oct. 22, 2007.

Subject: Adopting ordinances for approved revisions to the above referenced Chapters of the BMC.

Background /Discussion: Revisions to these Chapters have been approved by the City Council after numerous hearings during the past several months.

Recommendation: Recommend approval of the attached adopting ordinances.

Financial Impact(s): None.

City Manager Review and Approval for placement on Council Agenda:

Gary Milliman, City Manager

IN AND FOR THE CITY OF BROOKINGS
STATE OF OREGON

In the Matter of an Ordinance adding	)	
Chapter 17.171, Neighborhood	)	
Circulation Plans to the Brookings	)	**Ordinance 07-O-585**
Municipal Code.	)	

The City of Brookings ordains as follows:

Chapter 17.171, Neighborhood Circulation Plans, of the Brookings Municipal Code, is added to read as follows:

Chapter 17.171
NEIGHBORHOOD CIRCULATION PLANS

Sections:

17.171.010 Purpose. A neighborhood circulation plan may be created for a specific area in the City to address existing and proposed streets. The plan will provide for the optimum traffic flow considering the special limitations and opportunities present in the particular neighborhood.

17.171.020 Adoption of Neighborhood Circulation Plan. Neighborhood circulation plans may be developed for appropriate areas. Such plans shall identify the street classification, projected Average Daily Traffic (ADT), existing condition, design criteria and right-of-way and roadway width of all existing and projected street systems within the neighborhood circulation plan area. Within an adopted neighborhood circulation plan, right-of-way and roadway widths can be either the standards of BMC 17.170.060 or the standards of the circulation plan, provided that once a standard has been established for a street segment, the remainder of the street will be constructed at that standard.

171.030 Dawson Tract neighborhood circulation plan standards.

A. Dawson Tract right-of-way and roadway width standards. Street right-of-way and roadway widths shall conform to the values shown in Table 17.171.030 or the standard right-of-way and road widths in Table 17.170.030. The Dawson Tract standards shall apply to all public and private streets in the Dawson Tract area, as defined in the Dawson Tract neighborhood circulation plan. Once a standard has been established by construction for any street segment, the remaining portion of the street shall be constructed at that standard.

B. Dawson Tract Neighborhood Circulation Plan Map. The Neighborhood Circulation Plan map (See Figure 17.171.030-1) is to be used in conjunction with the Neighborhood Circulation Plan standards in Table 17.171.030. In the event of a conflict between the map and the table of standards, the table shall govern.

1. The Neighborhood Circulation Plan offers alternative right-of-way and roadway widths for the main loop road of the Dawson Tract system (Dawson Road (North), Dawson Road (West), the Skyline-Passley connection, and Passley (See Table 17.171.030). Pacific Heights (Dawson South), Shorewood Terrace, Ridgeway Street, and Skyline Drive are already developed to the standard minimum (See Table 17.171.030). North of Dawson Road North, Blueberry Drive (portion) and Holmes Court are also developed to the standard minimum.

2. For the area within the Dawson Road/Skyline/Passley loop, Type A and Type B cul-de-sac access streets are shown conceptually for single owner sites (See Figure 17.171.030-3). At sites where Type A or Type B access is shown serving properties with two or more tax lots, the location is required, as shown, subject to amendment per BMC 17.171.020 (B).

3. For the area north of Dawson Road North, a Holmes Drive-Blueberry Lane loop is anticipated. For determination of the Holmes Drive, Blueberry Lane loop right-of-way and roadway widths, an amendment to the Dawson Tract Neighborhood Circulation Plan Map will be required, per BMC 17.171.020 (B). In addition, Lane, Place and Private Drive access shall be developed as required to serve future property divisions. Right of way and roadway widths, and location of these future streets shall be approved by the Planning Commission as part of tentative plan approval. Approval shall be determined by the estimated average daily traffic (ADT), right-of-way and roadway widths shown in the Dawson Tract Right-of-Way and Roadway Widths Table 17.171.030.

4. For "landlocked" tax lots located to the east of Passley Road, Lane, Place, and Drive, access in some combination will be required for service in order to further develop these sites, although no location is shown on the Neighborhood Circulation Plan map. Access location, right-of-way, and roadway width shall be approved by the Planning Commission as part of tentative plan approval. Approval shall be determined by the estimated average daily traffic (ADT), right-of-way and roadway widths shown in the Dawson Tract Right-of-Way and Roadway Widths Table 17.171.030.

TABLE 17.171.030
Dawson Tract Right-of-Way And Roadway Width

Street Name Or Type	Estimated ADT+	Right of Way Width (FT)	Roadway (curb face to curb face) Width (Ft)	Minimum Sidewalk Width (FT)	Curbs Square Curb (SC) Rolled Curb (RC) Gutter (GT) Gravel Shldr (GS)
Dawson Rd. (North•)	1400	50	28*	4-Both sides Park on north	SC/GT
Dawson Rd. (West•)	800	50	26**	4 - East Side	SC/GT
Pacific Heights••		50	36	5 - Both side	SC/GT
Shorewood Terrace••		50	36	5 - One Side	SC/GT
Skyline Dr.••		50	36	5 - Both sides	SC/GT
Ridgeway St.••		50	36	5 - Both sides	SC/GT
Passley R.	800	50	26**/30*	4 - Both sides	
SC/GTSkyline/Passley Connector	800	50	26**/30*/36	5 - Both sides	SC/GT
Holmes/Blueberry Loop (Future)					
Type A (cul-de-sac) 50 Lot maximum 750 Ft. maximum length	400	45	24**/30*	4 - One side	RC
Type B (cul-de-sac) 12 Lot maximum 400 Ft. maximum length	100	45	20**/30*	4 - One side	RC
Cul-de-sac radius or hammerhead dimensions	See Figure 171.030-3	See Figure 172.020-3	N/A	One side	
Private (private drive) 6 Lot maximum	60	20***	N/A		GS

• Existing, improved one side only.

• • Existing, improved both sides.

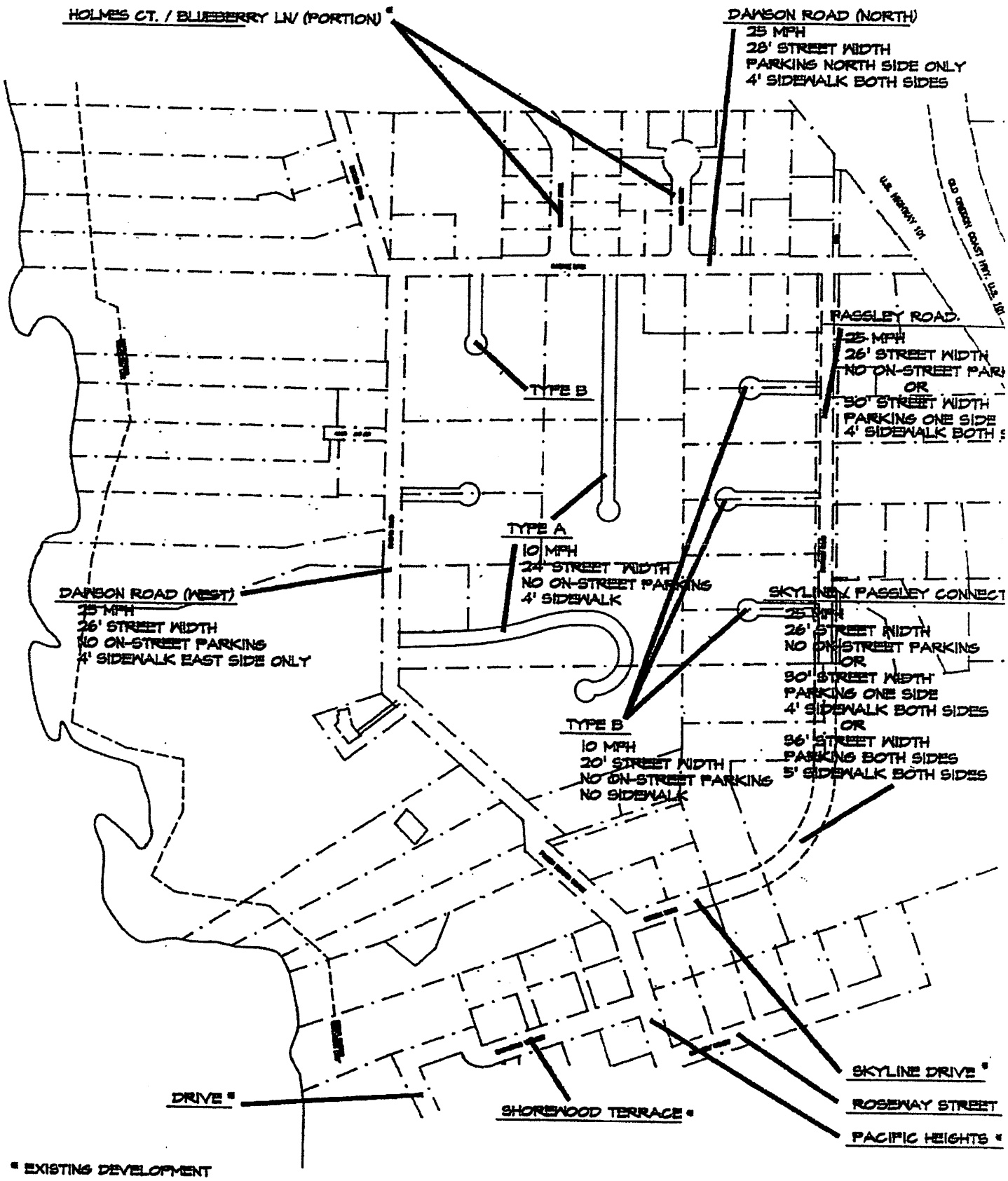
* Parking one side only. Lots serviced by no-parking side shall provide 6 off-street parking spaces in parking bays or on each lot. Add 1500 square feet to minimum lot size. (See parking sketch 17.171.030-2)

** No on-street parking. All lots serviced by no-parking streets shall provide 6 off-street parking spaces in parking bays or on each lot. Add 1500 square feet to minimum lot size. (See parking sketch 17.171.030-2)

*** For properties landlocked, or impacted by steep slopes, geological or soil hazard, or unusual parent parcel dimensions. No on-street parking permitted. Lots serviced by Drives shall provide six (6) off-street parking spaces in parking bays or on each lot. Add 1500 square feet to minimum lot size. (See parking sketch 17.171.030-2).

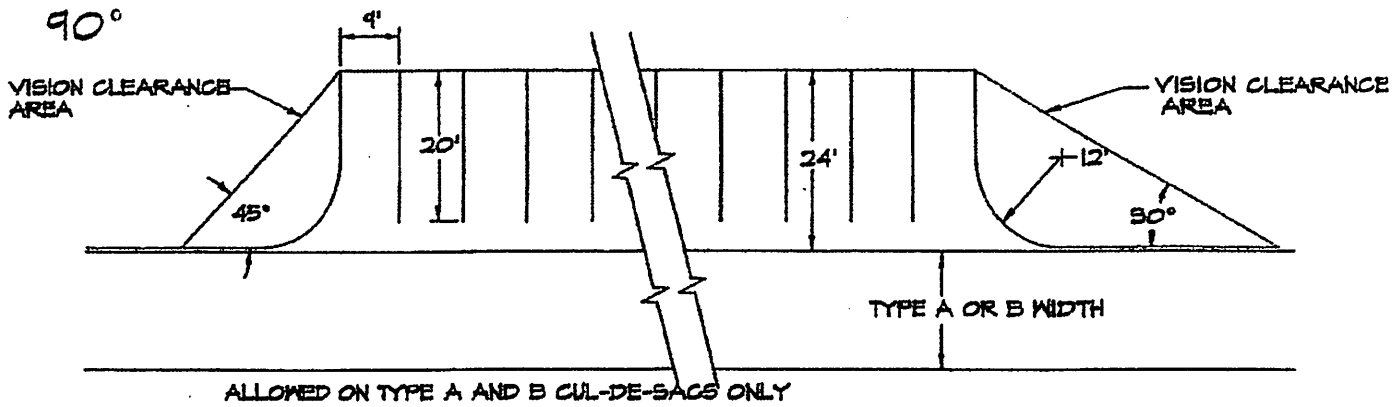
+ ADT = Average Daily Traffic, (for mixed family/retirement area, computed at 8 ADT per dwelling unit).

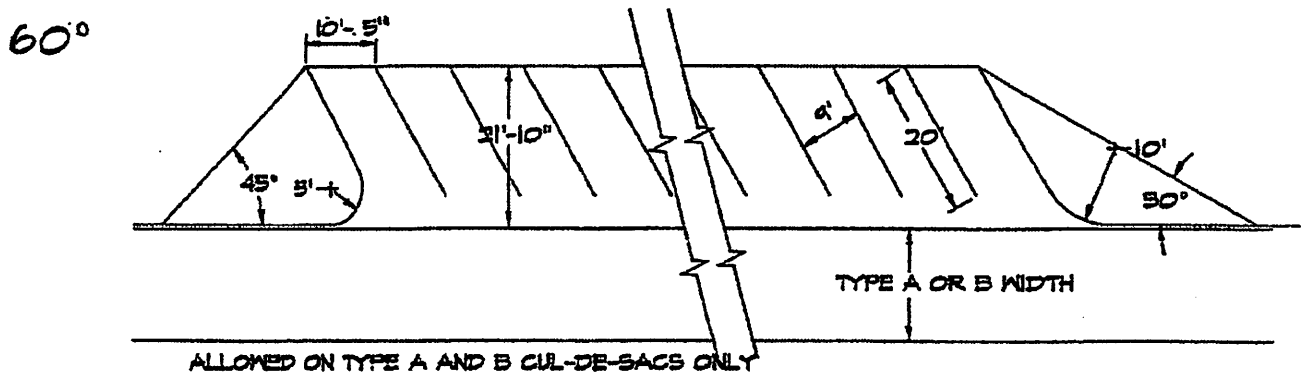
MAP 171.030 – 1
DAWSON TRACT NEIGHBORHOOD CIRCULATION PLAN
Map



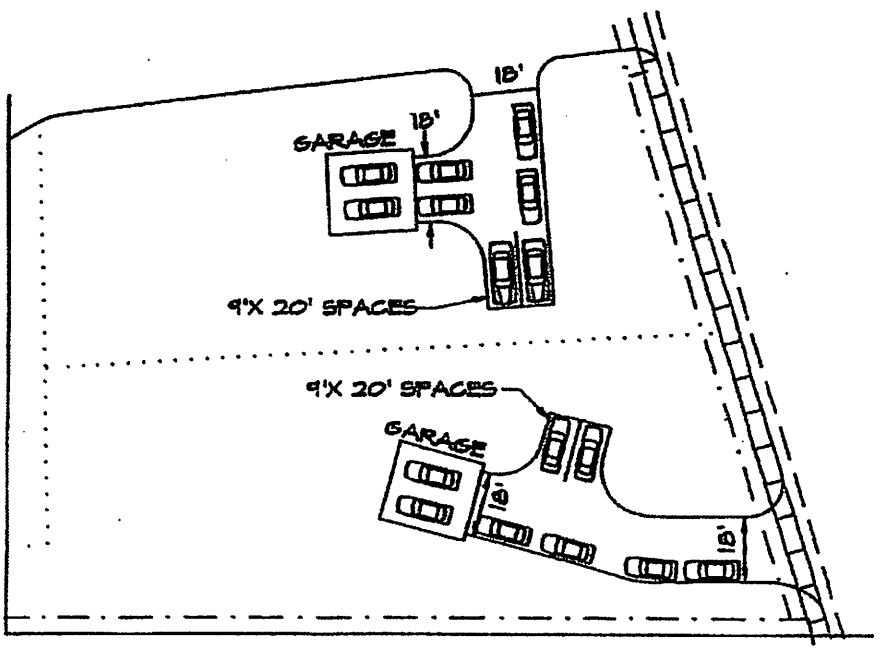
* EXISTING DEVELOPMENT

MAP 171.030 – 2
DAWSON TRACT NEIGHBORHOOD CIRCULATION PLAN
Parking Examples



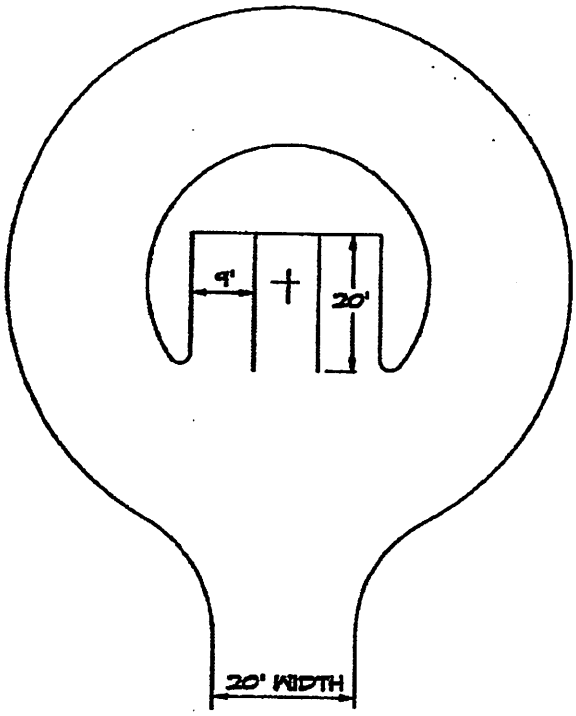


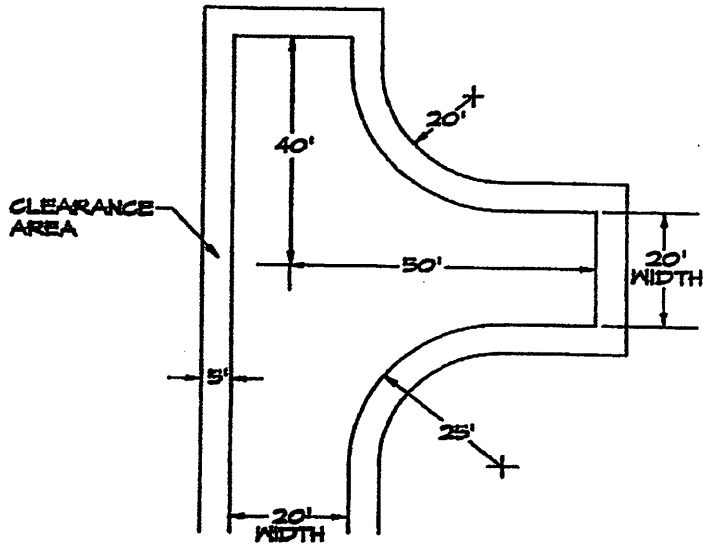
PARKING ON LOTS

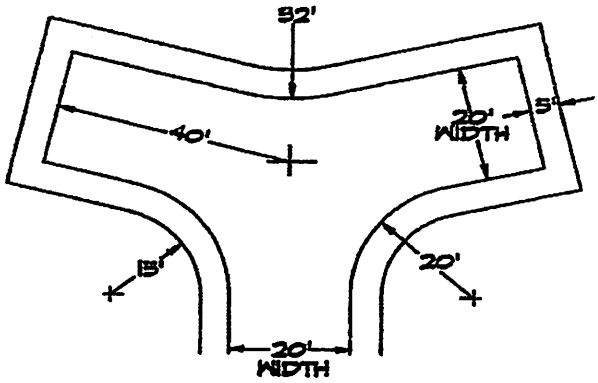


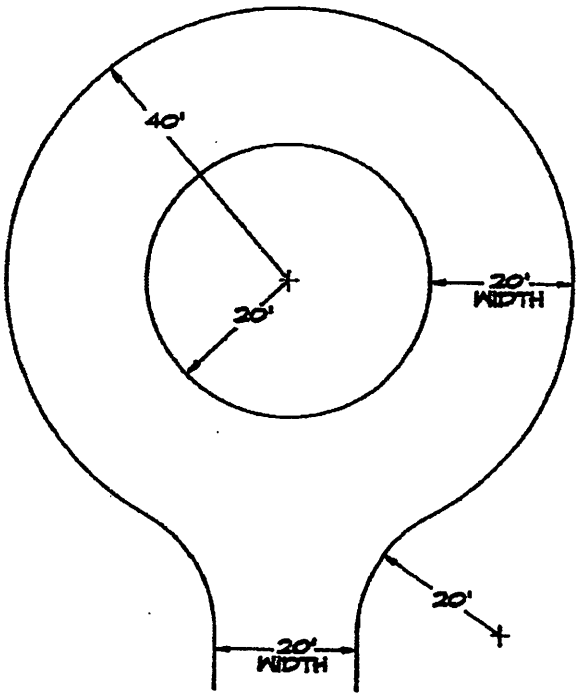
NOTE:
USE WIDER DRIVES
ALLOW FOR ONE C.
LANE TO GARAGE.

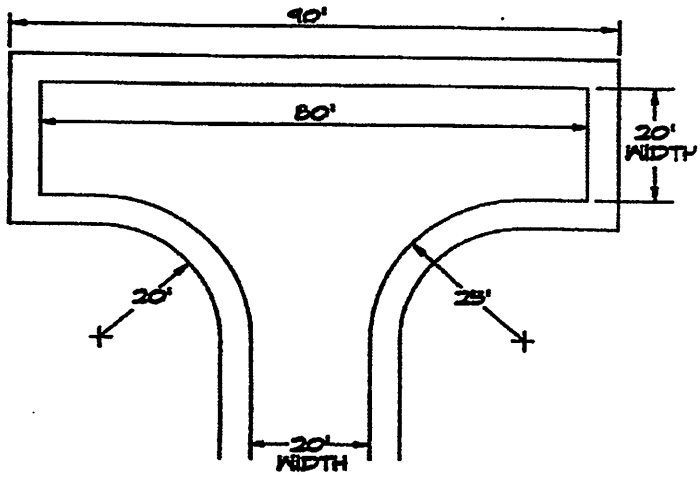
MAP 171.030 – 3
DAWSON TRACT NEIGHBORHOOD CIRCULATION PLAN
Turnaround Options for Type A and Type B Cul-de-Sacs











First reading: _____

Second reading: _____

Passage: _____

Effective date _____

Signed by me in authentication of its passage this _____ day of _____, 2007.

_____
Pat Sherman, Mayor

ATTEST:

_____
Joyce Heffington, Interim City Recorder

IN AND FOR THE CITY OF BROOKINGS
STATE OF OREGON

In the Matter of an Ordinance Amending Section 17.80.040, Site Plan Approval, Improvement Standards of the Brookings Municipal Code.	))))	**Ordinance 07-O-593**

The City of Brookings ordains as follows:

Section 17.80.040 Site Plan Approval, Improvement Standards, of the Brookings Municipal Code, is hereby amended to read as follows:

17.80.040 Improvement standards.

The site plan committee in its review of projects subject to the provisions of this chapter shall apply the following standards and requirements in addition to those found in the applicable zoning district, and listed in Chapter 17.172 BMC. Developments and activities that are exempt from these requirements are listed in BMC 17.04.070.

A. For multiple-family residential development an area equal to at least 15 percent of the site area, inclusive of required setback yards, shall be devoted to usable open space recreation areas. This area must be cleared of brush or obstructions and not used for temporary or regular parking of vehicles.

B. An accessway to a commercial or industrial off-street parking area shall be improved from the public roadway to the parking area to a minimum width of 20 feet for two-way traffic. If the access way is a one-way in or one-way out, it shall be a minimum width of 10 feet and have appropriate signage.

C. Provide for the improvement of an existing dedicated alleyway which is intended to be used for egress and ingress, or backup space of off-street parking for the development.

D. Make provision for screening the visibility of roof-, wall- or ground-mounted mechanical equipment and devices, in addition to propane tanks in commercial and industrial zones. [Ord. 06-O-446.VV; Ord. 93-O-446.P § 4; Ord. 89-O-446 § 1.]

First reading: _____

Second reading: _____

Passage: _____

Effective date _____

Signed by me in authentication of its passage this _____ day of _____, 2007.

_____
Pat Sherman, Mayor

ATTEST:

_____
Joyce Heffington, Interim City Recorder

IN AND FOR THE CITY OF BROOKINGS
STATE OF OREGON

In the Matter of an Ordinance adding Chapter 17.170, Street Standards to the Brookings Municipal Code.	)	**Ordinance 07-O-595**

The City of Brookings ordains as follows:

Chapter 17.170, Street Standards, of the Brookings Municipal Code, is added to read as follows:

Chapter 17.170
STREET STANDARDS

Sections:

17.170.010 **Purpose.** The purpose of this section is to provide a multi-modal circulation system within the city that preserves the flow of motorized traffic in terms of safety, capacity, functional classification, and level of service while at the same time providing and encouraging a safe and efficient bicycle and pedestrian system throughout the city.

17.170.020 **Definitions.** The following definitions apply for the purpose of this Section. Also see definitions in Chapter 17.8, BMC.

Access. A way or means of approach to provide pedestrian, bicycle, or motor vehicular entrance or exit to a property.

Access Classification. A ranking system for roadways used to determine the appropriate degree of access management. Factors considered include functional classification, the appropriate local government's adopted plan for

the roadway, subdivision of abutting properties, and existing level of access control.

Access Management. The process of providing and managing access to land development while preserving the regional flow of traffic in terms of safety, capacity, and speed.

Bicycle Facilities. A general term denoting improvements and provisions made to accommodate or encourage bicycling, including parking facilities and all bikeways.

Bikeway. Any road, path, or way that is in some manner specifically open to bicycle travel, regardless of whether such facilities are designated for the exclusive use of bicycles or are shared with other transportation modes. The five types of bikeways are:

1. Multi-use Path. A paved 10 to 12–foot wide way that is physically separated from motorized vehicular traffic; typically shared with pedestrians, skaters, and other non-motorized users.
2. Bike lane. A 4 to 6–foot wide portion of the roadway that has been designated by permanent striping and pavement markings for the exclusive use of bicycles.
3. Shoulder Bikeway. The paved shoulder of a roadway that is 4 feet or wider; typically shared with pedestrians in rural areas.
4. Shared Roadway. A travel lane that is shared by bicyclists and motor vehicles.
5. Multi-use Trail. An unpaved path that accommodates all-terrain bicycles; typically shared with pedestrians.

Through-connector. A short spur that provides through-connectivity for bicycle circulation between adjoining streets, between abutting dead-end roads, through a multiple-family dwelling cluster, or through a park.

Corner Clearance. The distance from an intersection of a public or private road to the nearest driveway or street measured from the closest edge of the pavement of the intersecting road to the closest edge of the pavement of the connection along the traveled way.

Cross Access. A commercial or industrial service drive providing vehicular access between two or more contiguous sites so the driver need not enter the public street system.

Frontage Road. A public or private drive which generally parallels a public street between the right-of-way and the front building setback line. The frontage road provides access to private properties while separating them from the arterial street.

Functional Area (Intersection). That area beyond the physical intersection of

two roads that comprises decision and maneuver distance, plus any required vehicle storage length.

Functional Classification. A system used to group public roadways into classes according to their purpose in moving vehicles and providing access.

Joint Access (or Shared Access). A driveway connecting two or more contiguous sites to the public street system.

Lot. A parcel, tract, or area of land whose boundaries have been established by some legal instrument, which is recognized as a separate legal entity for purposes of transfer of title, has frontage upon a public or private street, and complies with the dimensional requirements of this code.

Lot, Corner. Any lot having at least two (2) contiguous sides abutting upon one or more streets, provided that the interior angle at the intersection of such two sides is less than one hundred thirty-five (135) degrees.

Lot Depth. The average distance measured from the front lot line to the rear lot line.

Lot Frontage. That portion of a lot extending along a street right-of-way line.

Non-conforming Access Features. Features of the property access that existed prior to the date of ordinance adopting and do not conform to the requirements of this ordinance.

On-site Improvements. Street facilities installed on the subject property.

Off-site Improvements. Street facilities not on the subject property.

Pedestrian Facilities. A general term denoting improvements and provisions made to accommodate or encourage walking, including sidewalks, accessways, crosswalks, ramps, paths, and trails.

Plat. An exact and detailed map of the subdivision of land.

Private Road. A local access road that is built to City standards and that the City has not officially accepted for purposes of jurisdiction, or an existing local access road that was not constructed to City standards and was never intended to be dedicated to the public.

Public Road. A road over which the public has a right of use that is a matter of public record.

Reasonable Access. The minimum number of access points, direct or indirect, necessary to provide safe access to and from the roadway.

Right-of-Way. Land reserved, used, or to be used for a highway, street, alley,

walkway, drainage facility, or other public purpose.

Significant Change in Trip Generation. A change in the use of the property, including land, structures or facilities, or an expansion of the size of the structures or facilities causing an increase in the trip generation of the property exceeding: (1) local 10 percent more trip generation (either peak or daily) and 100 vehicles per day more than the existing use for all roads under local jurisdiction; or (2) State exceeding 25 percent more trip generation (peak volume) and 100 vehicles per day more than the existing use for all roads under state jurisdiction.

Stub-out (Stub-street). A portion of a street or cross access drive used as an extension to an abutting property that may be developed in the future.

Walkway. A hard-surfaced area intended and suitable for pedestrians, including sidewalks and the surfaced portions of accessways.

17.170.030 General development standards and requirements.

A. On-site improvements shall be provided, paid for and installed, or caused to be installed by the developer, including by way of example and not by way of limitation, curbs and gutters, sidewalks and pedestrian walkways, street base course and wearing course materials, bridges, street signs, and traffic control devices.

B. Off-site improvement requirements are found in 17.170.060.

C. If the original developer is required to construct off-site improvements, future reimbursement may be applicable. The Public Works document, "General Engineering Requirements and Standard Specifications" contains provisions for the reimbursement process.

17.170.040 Security improvement agreement. The developer shall enter into a security improvement agreement pursuant to the provisions of BMC 17.80.080, if requesting postponement for installation of public improvements.

17.170.050 Street construction standards. The improvement plans shall comply with the standards and criteria set forth herein and with the specifications contained in current Public Works document, "General Engineering Requirements and Standard Specifications". Proposed construction of improvements not covered by the above document shall be reviewed for approval by the City. The materials and workmanship of said improvements shall be warranted as outlined in BMC 17.80.090. Other improvements may be required pursuant to Chapter 17.168, BMC.

17.170.060 Street standards.

A. All parcels of land subject to the issuance of a development permit shall be

provided access to a public or private street as follows:

1. Street improvements are required along the street frontage of all newly created lots and of new development on an existing vacant lot. Improvements shall be to the standards as shown in BMC Table 17.170.060 or as in an approved neighborhood circulation plan, Planned Unit Development or Master Plan. Deferment of street improvements may be allowed when authorized by the Site Plan Committee as described in 17.170.070. Some development is exempt from street improvements as described in BMC 17.04.070.
2. Newly created lots must have access from the street on which they front.
3. Existing residential, commercial or industrial lots must take access from the street on which they front. Easement access is acceptable if no street frontage exists or topography or other circumstance, not in applicant's control, prohibits access from the fronting street.

B. Street classification and location shall conform to the Transportation Systems Plan, or to an adopted neighborhood circulation plan. Where street classification or location is not shown in the Transportation Systems Plan, the arrangement of public streets shall provide for connectivity and alignment with existing streets in the surrounding area.

C. Standard minimum right-of-way and roadway width. Unless otherwise indicated in an adopted neighborhood circulation plan, Planned Unit Development, or authorized by the Planning Commission as stated in 17.170.060 (C)(1), the street right-of-way and roadway widths shall not be less than the standard shown in BMC Table 17.170.060.

Table 17.170.060
Standard Minimum Right-of-Way and Roadway Width

Type of Street	ROW (Feet)	Road Way Curb to Curb (Feet)	Sidewalk Improvements
State Highway Arterial [1]	80	70	5-12 feet both sides
Residential Collector	50	36	5 feet both sides
Residential (Local) Maximum of 20 dwelling units taking access.[6]	45	28	5 feet both sides
Residential (Local) Maximum of 8 dwelling units taking access and on-street parking available within 400 feet on this street. [2]	***30***	20	5 feet one side
Downtown Core Area [1] (See Map 17.92.030-1)	53	36	5-8 feet both sides
Residential One Way Street [2]	36	20	5 feet both sides

Half Street [2, 5]	25/22 1/2	18/15	5 feet one side
Access Road Turnaround	See Public Works document	"General Engineering Requirements and Standard Specifications"	To Be Determined based on Type of Turnaround.
Commercial/Industrial [1]	60	44	5-8 feet–both sides
Commercial One Way Street [1]	53	36	5-8 feet both sides
Hillside Street [2, 3, 4]	50	24	4' paved shoulder one side
Hillside One Way Street [2, 3, 4, 7]	35 to 50	16	4' paved shoulder one side
Alley	20	20	None

[1] *SIDEWALKS MUST BE THE MAXIMUM POSSIBLE WHEN ADEQUATE RIGHT-OF-WAY IS AVAILABLE.*
[2] *No parking on either side.*
[3] *Requires documentation that topographical constraints warrant use of Hillside streets. Site Plan committee approval required.*
[4] *Alternative engineered designed standards may be considered and right-of-way width may vary depending on topography.*
[5] *Only used when easement for second half width is secured on adjacent property. Must be approved by Planning Commission.*
[6] *Parking on one side only.*
[7] *PAVED SHOULDER MUST BE CONSTRUCTED TO MEET PAVED ROAD WAY STANDARDS.*

1. The Planning Commission may accept a narrower right-of-way width and/or alternate construction standard than those set forth in BMC Table 17.170.060 above, where it can be shown by the applicant, to the satisfaction of the Commission, that the topography or the small number of lots served and the probable future traffic development are such that the proposal is justified

2. Slope easements. The Planning Commission may require a perpetual, unobstructed easement adjacent to a public right-of-way where the slope of the land is such that earth movements might damage a public right-of-way. Within this easement area the natural vegetative cover shall not be disturbed.

3. In areas where a neighborhood circulation plan has been adopted, the right-of-way and roadway width can be constructed to the standards of BMC Table 17.170.060 or at the standards of the adopted neighborhood circulation plan. Once a standard has been determined for any street segment the remaining portion of the segment will be constructed at that standard.

D. All development proposals, plan amendments or zone changes shall be in conformance with the adopted Transportation System Plan.

E. Frontage roads. When any parcels front on an arterial street, the Planning Commission may require the developer to dedicate and improve a frontage road at the front of the parcel to serve the resulting lot(s).

F. Planting strips. When a lot borders an arterial street, the Planning Commission may require the developer to dedicate and improve a planting strip adjacent to said highway or arterial street.

G. Alleys. When any lots are proposed for commercial or industrial usage, alleys at least 20 feet in width may be required at the rear thereof with adequate ingress and egress for truck traffic unless alternative commitments for off-street service truck facilities without alleys are approved by the Planning Commission.

H. Street alignment. As far as practical, streets other than minor streets shall be in alignment with existing streets by continuation of the center line 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. In areas with an adopted neighborhood circulation plan, alignment shall conform to the adopted plan.

I. Future extension of streets. When necessary to give access to or permit a satisfactory future division or development of adjoining land, a public street shall be extended to the boundary of the development and the resulting dead-end street may be approved without a permanent turnaround provided a temporary turnaround is constructed in a manner approved by the City Fire Chief.

J. Street intersection angles. All streets within or abutting a development shall intersect one another at an angle as near to a right angle as is practicable in each specific case unless otherwise necessitated by topographical conditions or other pre-existing conditions and approved by the City.

K. Cul-de-sacs. A cul-de-sac shall be as short as possible. Cul-de-sacs shall have a maximum length of 400 feet, although where unusual circumstances exist the Planning Commission may authorize a longer street. A cul-de-sac shall terminate with a turn-around as specified in BMC Table 17.170.060 above, and a minimum corner radius of 20 feet is required at curb returns. In areas with an adopted neighborhood circulation plan, cul-de-sac length and design shall conform to the adopted plan.

L. Private streets. A private street is permitted only if provisions are made to assure private responsibility for future maintenance. Unless otherwise specifically authorized as part of a street plan or adopted neighborhood circulation plan, a private street shall comply with the same standards as a public street. A street held for private use shall be distinguished from public streets and any reservations or restrictions relating to the private street shall be described in the land division documents and the deed records.

17.170.070 **Off-Site street improvements, deferred.** Street improvements may include pavement, curbs, gutters, pavement markings, sidewalks, and storm drainage. These improvements may be deferred by the Site Plan Committee. The Site Plan Committee will consider street improvement requirements on a case by

case basis utilizing the following information:

- The condition and standard of the existing, abutting street;
- The likelihood and timing of new improvements given existing development on parcels in the vicinity;
- Topographic constraints;
- Safety concerns;
- Other details specific to the subject property or vicinity.

A. When an entire street, or a segment of a street, is on the City's Capital Improvement Project List to be improved within the next 5 years, the property owner will be required to provide an engineer's estimate of cost for street improvements to the frontage of the subject property. This estimate must be reviewed and approved by the City. These costs must be paid and these funds will be put into an account to be used when the project is initiated.

B. Deferred Street Improvements. When street improvements are deferred, the developer shall enter into a Deferred Improvement Agreement for each lot fronting the street segment and record said agreement with the Curry County Recorder's Office. Said agreement shall run with the land and require that the property owner agree to the performance of the work deferred by conformance with one of the following options:

1. Work performed by property owner. The owner of the property subject to a deferred improvement agreement shall be responsible for performance of the work identified in said agreement and for obtaining contractors therefore. The owner shall cause satisfactory plans and specifications for the improvements to be prepared and to submit said plans and specifications to the City Public Works Department for approval prior to commencement of the work to be done. Such work shall be done in accordance with City standards in effect at the time the improvement plans are submitted for approval. Owner agrees to make payments required by the City including, but not limited to, engineering deposits, permit fees and inspection fees. Owner shall obtain a "Permit to Work in the Right-of-Way" and notify the City Public Works Department at least 48 hours prior to the start of work.

   Prior to approval of improvement plans by the City, the owner may be required to execute and deliver to the City a security bond in an amount and form acceptable to the City, to be released by the City upon the City's final acceptance of the work performed.

2. Recordation of a Deferred Improvement Agreement shall be equivalent to consent to the establishment of a Local Improvement District. If the property owner does not complete the improvement pursuant to BMC 17.80.080 (F), the City may do the work as a local improvement project following the procedures established by ordinance for such projects and assess the cost against the property specially benefited. Permission to enter onto the property of the owner is granted to the City or its contractor as may be necessary to

construct such improvements.

3. Activation of deferred improvement agreements. When the City determines the improvements must be constructed, the City shall notify affected property owners in writing. All or any portion of said improvement may be required at a specified time. Each affected owner shall participate on a pro rata basis of the cost of installation of the improvements. The City may require a Local Improvement District to be formed for a street or segment of a street involving all properties owners to participate when this street or segment has at least 50% of the properties subject to a Deferred Improvement Agreement. As City funds are available, the City may participate in the expense of the project.

C. The Site Plan Committee's decision regarding required street improvements may be appealed to the Planning Commission.

17.170.080 Street names and signs.

A. The name of any public or private street shall not duplicate or be so similar as to be confused with the name of any existing street within the 97415 zip code area.

B. Street names and traffic control signs shall be installed by the applicant as required by the City.

C. An alley may be named if it has a paved surface and an unobstructed travel-way between two streets.

D. Street names shall be approved by the Planning Commission.

17.170.090 Traffic impact statement or analysis.

A. Applicability. A traffic impact statement or analysis may be required by the City as necessary to determine a development impact on the adjacent street system. When required, the traffic impact statement or analysis shall be prepared by an- engineer registered in the State of Oregon and submitted to the City prior to action on a project authorization for which the traffic impact statement or analysis was required.

B. The traffic impact statement or analysis is designed to identify the traffic impacts and potential problems which may be caused by a proposed use, and to identify all improvements required to insure safe and efficient pedestrian and vehicular ingress to and egress from a proposed development, to maintain an adequate street capacity, and to eliminate hazardous conditions and situations.

17.170.100. Access management.

A. Access standards for the state highway are shown in the Oregon Highway Plan.

B. Special Transportation Areas (STA). Access to arterial streets located in the area designated as a Special Transportation Area, is less restrictive than in Oregon Highway Plan.

C. Commercial joint and cross access.

1. Adjacent commercial properties classified as major traffic generators, shall be provided a cross access drive and pedestrian access to allow circulation between sites.

2. A system of joint use driveways and reciprocal access agreements shall be established wherever feasible and shall incorporate the following.

   a. A continuous service drive or cross access corridor extending the entire length of each block served to provide for driveway separation consistent with the Highway's access management classification system if accessing the Highway.

   b. A design speed of 10 mph and a maximum width of 20 feet to accommodate two-way travel aisles designated to accommodate automobiles, service vehicles, and loading vehicles;

   c. Stub-outs and other design features to make it visually obvious that the abutting properties may be tied in to provide cross-access via a service drive;

   d. A unified access and circulation system plan for coordinated or shared parking areas is encouraged.

3. Shared parking areas shall be permitted a reduction in required parking spaces if peak demands do not occur at the same time periods pursuant to 17.92.050, BMC.

4. Pursuant to this section, property owners shall:

   a. Record an easement with the deed allowing cross access to and from other properties served by the joint use driveways and cross access or service drive;

   b. Record an agreement with the deed that remaining access rights along the roadway will be dedicated to the (city/county) and preexisting driveways will be closed and eliminated after construction of the joint-use driveway;

c. Record a joint maintenance agreement with the deed defining maintenance responsibilities of property owners.

D. Commercial access connection and driveway design

1. Driveways shall meet the following standards:

a. If the driveway is a one way in or one way out drive, then the driveway shall be a minimum width of 10 feet and shall have appropriate signage designating the driveway as a one way connection.

b. For two-way access, each lane shall have a minimum width of 10 feet.

2. Driveway approaches must be designed and located to provide an exiting vehicle with an unobstructed view. Construction of driveways along acceleration or deceleration lanes and tapers shall be avoided due to the potential for vehicular weaving conflicts.

3. The length of driveways shall be designed in accordance with the anticipated storage length for entering and exiting vehicles to prevent vehicles from backing into the flow of traffic on the public street or causing unsafe conflicts with on-site circulation.

E. Reverse frontage

1. Lots that front on more than one street shall be required to locate motor vehicle accesses on the street with the lower functional classification, or lower average daily traffic, if both facilities have the same functional classification. Where safety concerns exist, the City will have final authority to permit appropriate access.

2. When a residential subdivision is proposed that would abut an arterial, it shall be designed to provide through lots along the arterial with access from a frontage road or interior local road, unless otherwise constrained by topography. Access rights of these lots to the arterial shall be dedicated to the city and recorded with the deed. A berm or buffer yard may be required at the rear of through lots to buffer residences from traffic on the arterial. The berm or buffer yard shall not be located within the public right-of-way.

F. Connectivity

1. The street system of proposed subdivisions shall be designed to connect with existing, proposed, and planned streets outside of the subdivision as provided in this Section.

2. Wherever a proposed development abuts unplatted land or a future

development phase of the same development, street stubs shall be provided to provide access to abutting properties or to logically extend the street system into the surrounding area. All street stubs shall be provided with a temporary turn-around unless specifically exempted by the Site Plan Committee, and the restoration and extension of the street shall be the responsibility of any future developer of the abutting land.

3. Collector and local residential access streets shall connect with surrounding streets to permit the convenient movement of traffic between residential neighborhoods or facilitate emergency access and evacuation. Connections shall be designed to avoid or minimize through traffic on local streets. Appropriate design and traffic control and traffic calming measures are the preferred means of discouraging through traffic.

4. When a public or private street intersects a state highway, the Oregon Highway Plan will be used to determine proper spacing and signal placement.

17.170.110 Bicycle and pedestrian development standards. New commercial and multifamily development will provide safe and convenient pedestrian and bicycle access and connections such as accessways, walkways, and transit facilities.

A. Internal pedestrian and bicycle circulation shall be provided in new commercial, office and multi-family residential developments through the clustering of buildings, construction of hard surface walkways, landscaping, accessways, or similar techniques.

B. Bikeways shall be required, where possible, along existing arterial and collector streets. Bikeways shall be required on proposed collector streets.

17.170.120 Residential driveway approaches.

A. Distance from intersection. Driveway approaches shall be positioned from the intersection of a residential street a distance of no less than 20 feet and 100 feet for collector and arterial streets provided however that such distances may be reduced by the city engineer where impractical due to lot configuration and/or width.

B. Number of accesses permitted. Access points to a public street shall be the minimum necessary to provide reasonable access while not inhibiting the safe traffic circulation and carrying capacity of the street. Each parcel or lot may have one access to the street unless an additional access is approved by the Site Plan Committee.

C. Joint access encouraged. Common accessways at a property line shall be encouraged and in some instances may be required in order to reduce the number of access points to streets. Construction of common accessways shall be preceded by recording of joint access and maintenance easements.

First reading: _____

Second reading: _____

Passage: _____

Effective date _____

Signed by me in authentication of its passage this _____ day of _____, 2007.

_____
Pat Sherman, Mayor

ATTEST:

_____
Joyce Heffington, Interim City Recorder

IN AND FOR THE CITY OF BROOKINGS
STATE OF OREGON

In the Matter of an Ordinance Amending Chapter 17.168, Public Facilities Improvement Standards and Criteria for Utilities, of the Brookings Municipal Code, in its entirety.	)))))	**Ordinance 07-O-596**

The City of Brookings ordains as follows:

Chapter 17.168, Public Facilities Improvement Standards and Criteria for Utilities, of the Brookings Municipal Code, is hereby amended to read as follows:

Chapter 17.168
PUBLIC FACILITIES IMPROVEMENT STANDARDS AND CRITERIA FOR UTILITIES

Sections:

17.168.010 General on-site development standards and requirements. On-site means utilities on the subject property. Unless otherwise provided by this code, all improvements shall be at the sole cost and expense of the developer, who shall provide, install or cause to be installed, including, but not limited to, the following:

- Water mains and fire hydrants, sanitary sewer mains, storm drain mains and all associated equipment and easements required by the City.
- Electrical, communication, and Cable TV conduits or raceways and transformer bases.
- Street light bases and stanchions.
- Grading and erosion control and drainage plans pursuant to Section 100 of this code.

17.168.020 Off-site development standards and requirements. Off-site means City utilities not on the subject property.

1. New single family or duplex development on an existing lot may not be required to upgrade existing City water, sanitary sewer, or storm drain mains, unless deemed necessary by Site Plan Committee. Site Plan Committee will determine if up-sizing of utility infrastructure is needed to accommodate the proposed development and what funding mechanisms would be employed.

2. New multi-family or commercial development will be considered on a case-by-case basis. Site Plan Committee will determine if up-sizing of utility infrastructure is needed to accommodate the proposed development and what funding mechanisms would be employed. If Site Plan Committee allows deferment of the up-sizing, the Deferred Improvement Agreement (DIA) process will be as described in BMC 17.170.070.

3. Land divisions will be handled as stated in #2 above.

4. Conditional Use Permits will be dealt with as stated in #2 above only if the approval of the application will result in more intense use of the subject property.

5. The Site Plan Committee's decision regarding required improvements to existing City infrastructure may be appealed to the Planning Commission.

6. If the original developer is required to install off-site improvements, future reimbursement may be applicable. The Public Works document, "General Engineering Requirements and Standard Specifications" contains provisions for the reimbursement process.

17.168.030 Easements.

A. Public utility easements (PUE). All development including partitions, subdivisions, and Planned Communities shall provide a continuous five (5) foot "PUE" adjacent to the right-of-way on street frontages to be utilized for water related equipment (meters, valves, etc. and other utilities (electrical pedestals, street lights, telephone and other facilities).

B. Unless determined as unnecessary by the City, an easement dedicated to the City shall be placed over all water and sanitary sewer mains and storm drain facilities, including natural water courses used for engineered drainage, located across private property or common areas. The width of the required easement will be determined at the time of review and approval of construction plans for the

facility.

17.168.040 Underground utilities.

Primary utility lines, including, but not limited to, electricity, communications, street lighting and cable television shall be required to be placed underground, whenever possible. Secondary utility lines must be undergrounded. All such service and facilities shall be located in a public utility easement or right-of-way with a junction box. The developer shall confer with each utility company to determine the necessary conduits and equipment, their location and installation requirements. All costs of such equipment and installation shall be at the developers cost or as agreed to between the developer and the utility provider.

17.168.050 Service extension. Where no City utility mains presently exist, a condition of development permit approval will be provision of basic urban services (water, sanitary sewer, storm drainage and streets) along the full length of all portions of the subject property fronting a public right-of-way. Installation of services shall be according to the provision of the City's current edition of the Infrastructure Development Guidelines.

17.168.060 Improvement plans.

The developer shall cause plans and specifications for all public improvements to be prepared by an engineer registered in the State of Oregon. A security deposit in the amount established by the City ordinance shall be collected by the City to cover the cost of plan review and inspections.

First reading: _____
Second reading: _____
Passage: _____
Effective date: _____
Signed by me in authentication of its passage this ____day of _____, 2007.

_____
Pat Sherman, Mayor

ATTEST:

_____
Joyce Heffington, Interim City Recorder

MEMORANDUM

Office of the City Manager

GARY MILLIMAN
City Manager

October 22, 2007

TO: Mayor and Council

SUBJECT: Vactor Truck Financing

As reported to you on Saturday, we have received proposals from two local banks on the financing of the vactor truck. Following are the total amount of payments that would be made over the term of the three financing proposals:

Dooling (Umpqua):	$217,615.12	4.46936%
CFCU:	227,358.15	3.75%
LOCAP:	236,050.56	4.6392%

The CFCU financing would be at a lower interest rate, but would be a five-year term; the other two proposals are a four year-term.

It is my recommendation that the City Council authorize the City Manager to enter into a lease/purchase financing agreement with Dooling Lease Management Corporation for financing the purchase of the vactor truck. Dooling is associated with Umpqua Bank.

DOOLING LEASE MANAGEMENT CORP.

October 19, 2007

Gary Milliman
City Manager
City of Brookings
898 Elk Drive
Brookings, OR 97415

Dear Gary:

We are pleased to submit the following municipal lease proposal on the new equipment to be acquired by City of Brookings. This municipal lease proposal is to provide you with certain basic, general information on the proposed lease transaction. The specific final terms and conditions of the lease transaction will be subject to documentation satisfactory to both City of Brookings and Umpqua Bank Leasing as well as final investment committee review and approval by the management of the LESSOR, and availability of funds.

LESSOR:

Umpqua Bank Leasing

LESSEE:

City of Brookings

EQUIPMENT:

Sewer Truck

EQUIPMENT COST:

Approximately $204,044.28, including freight and installation expense.

FUNDING:

Upon equipment delivery and acceptance by LESSEE. Prior to actual lease closing and upon partial equipment deliveries being made and acceptance by LESSEE, interim disbursements can be made by the LESSOR to such equipment supplier(s). In such event, Interim Rent at the daily rental factor of 0.0124148% will be charged, (which is 4.46936% per annum) which will be computed daily from the date of such disbursements and payable on the last day of each calendar quarter before the due date of the first regular Lease payment, unless LESSOR elects to receive payment in a lump sum on the due date of the first regular Lease payment or add it to the lease.

6400 S.W. CORBETT AVENUE • PORTLAND, OREGON 97239-3558 • 503-293-8888 • FAX 503-293-6646

LEASE TERM:

4 Years

RENTAL PAYMENTS Computed at 4.46936% per annum:

Rentals, expressed below as a percentage of equipment cost, are payable annually in advance, beginning upon lease closing.

26.66273%

Assuming an equipment cost of $204,044.28, the annual rentals, excluding taxes, if applicable, would be:

$54,403.78

OBLIGATORY PURCHASE OPTIONS:

At lease expiration, LESSEE agrees to purchase all, but not less than all, and LESSOR agrees to sell all, but not less than all, of the equipment for $1.00.

TAXES:

The LESSEE shall pay all fees, assessments, sales, use, property and other taxes imposed, except those levied on the net income of the LESSOR by the United States, the State of Oregon, or other applicable jurisdictions.

INSURANCE:

LESSEE, at its own expense, will provide all-inclusive insurance in the joint names of the LESSOR and LESSEE including, but not limited to, public liability and property damage and casualty coverage.

REPAIRS:

LESSEE, at its sole cost and expense, will keep and maintain the equipment in good operating order, repair and condition.

EXPENSES:

Whether or not the lease transaction contemplated hereunder is consummated, LESSEE, upon acceptance of this proposal, will be required to pay all reasonable out-of-pocket expenses including, but not limited to, documentation and legal expenses applicable to the lease transaction incurred by the LESSOR. We estimate these to be nominal. Standard documentation fee is $75.00. (Payments to be made by LESSEE under this paragraph will be in addition to any liquidated damages for which LESSEE may be liable as provided below under COMMITMENT FEE.)

COMMITMENT FEE:

Upon acceptance of this proposal, LESSEE agrees to pay to LESSOR a Commitment Fee in the amount of $500.00, which shall not bear interest. Such fee will be credited to LESSEE upon lease closing, or will be returned to LESSEE if this proposed lease is not approved by our Investment Committee. If, through no fault of LESSOR, however, lease closing has not taken place, or the lease contemplated herein is not consummated prior to July 1, 2008, LESSEE agrees LESSOR can retain the Commitment Fee as liquidated damages to compensate for time spent, labor and services performed, loss of rent and any other losses incurred by LESSOR in connection with the transaction contemplated herein. LESSEE agrees that the damages, which would be sustained by LESSOR should the proposed lease not be consummated, are difficult to ascertain at this time.

USE AND SELECTION OF EQUIPMENT:

LESSEE will use the equipment solely for business purposes. The equipment and its supplier(s) are the sole choice of LESSEE.

REPRESENTATIONS & FINANCIAL INFORMATION:

LESSEE will make certain representations and warranties and will provide financial statements including balance sheets and profit and loss statements in conformance with generally accepted accounting principles at such time as LESSOR may reasonably request. LESSEE warrants such financial information as being a full, true, and correct statement of LESSEE'S financial condition on stated dates and further agrees to notify LESSOR immediately in writing of any materially unfavorable change in LESSEE'S condition.

BID EXPIRATION:

This bid expires ten (10) days from date hereof if not accepted by LESSEE.

OUTSIDE DELIVERY DATE:

Obligations incurred by LESSOR under this bid or subsequent lease terminate with regard to any equipment not delivered to and accepted by LESSEE by July 1, 2008.

OPINION OF COUNSEL:

LESSEE agrees to provide a letter from Counsel stating that the City of Brookings is a duly constituted political subdivision, that the municipal lease is a legal, valid and binding obligation of the City of Brookings and that the interest payments in this agreement are exempt from federal taxes in applicable sections of the Internal Revenue Service Code.

RIGHT TO REQUEST REASONS FOR CREDIT DENIAL:

If your application for business credit is denied, you have the right to a written statement of the specific reasons for the denial. To obtain the statement, please contact Dooling Lease Management Corp. within 60 days from the date you are notified of the decision. We will send you a written statement of reasons for the denial within 30 days of receiving your request for the statement.

Notice: The Federal Equal Credit Opportunity Act prohibits creditors from discriminating against credit applicants on the basis of race, color, religion, national origin, sex, marital status, or age (provided the applicant has the capacity to enter into a binding contract); or because all or part of the applicant's income derives from any public assistance program or because the applicant has in good faith exercised any right under the Consumer Credit Protection Act. The federal agency that administers compliance with this law concerning this creditor is the Federal Trade Commission, Equal Credit Opportunity, Washington, D.C. 20580.

UNIFORM COMMERICAL CODE FINANCING STATEMENT AUTHORIZATION:

Our signature below authorizes Umpqua Bank Leasing to file an initial financing statement and amendments thereto for the equipment and other personal property described in the Lease.

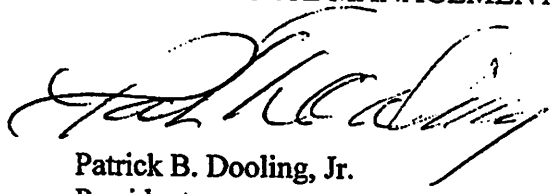
ACCEPTANCE:

You may indicate your acceptance of this proposal by executing the enclosed copy of this letter, and returning it together with the Commitment Fee. Please make this check payable to Dooling Lease Management Corp., 6400 S.W. Corbett Avenue, Portland, Oregon 97239-3558.

We appreciate the opportunity to submit this proposal, and if you have any questions or require further information, please feel free to contact our office.

Cordially,

DOOLING LEASE MANAGEMENT CORP.



Patrick B. Dooling, Jr.
President

PBD/rl

c: Bogue Morgan, SVP/Costal Division Loan Manager, Umpqua Bank
Pamela Plummer, VP/Commercial Lending Officer, Umpqua Bank
Craig Friar, VP/Commercial Loan Officer, Umpqua Bank

The above terms and conditions are hereby agreed to and accepted this _____ day of _____, 20____.

City of Brookings

By_____ Title_____

October 22, 2007

BUSCH GEOTECHNICAL CONSULTANTS

Rev. William Smith
St. Timothy's Episcopal Church
P.O.B. 1`237
Brookings, Oregon 97415

RE: Misconceptions stated in recent City of Brookings letters re: the Church's request for assistance with drainage improvements

Dear Bill:

After reviewing City letters dated September 4, September 6, and October 11, 2007, I believe this letter is necessary to help set the record straight. Please make it available to the Mayor, City Council, and City Manager as appropriate to support your request for assistance by the City.

First, I want to state that while working on behalf of St. Timothy's Episcopal Church, Busch Geotechnical Consultants (BGC) never defined the factors that caused the bank settlement at the Church, or discussed their relative importance, or placed blame. Our focus was on determining the site conditions and possible stabilization options for the Church.

Right now, however, if BGC is to assist the Church as much as possible, I have to make my opinion public because the rationale being used to deny assistance is based on misinformation and incorrect conclusions. I am not suggesting that any particularly individual has deliberately slanted the facts; instead I suggest that the facts have been misconstrued.

The first letter, the September 4 letter, is from Richard Nored, the President of HGE, Inc. I address this as a "City letter" because HGE functions as the City Engineer. In that capacity the company provides information and recommendations to City officials.

1) Mr. Nored, P.E., notes that," Nothing in the recommendations [by geologists working for the Church] involve[s] the *City of Brookings* in making any type of improvements to the existing drainage course…[my italics]." Whereas this statement is true, BGC did recommend drainage improvements as one solution to the bank failure / bank settlement problem. We detailed our recommendations in our 2007 bank stabilization plans (the "D" sheet map).

2) Mr. Nored also notes that, "Construction of building and parking improvements on the St. Timothy's property *has created ground movement in the past several years, and water from the property has eroded the banks of the drainage course substantially* [my italics]." I disagree with this statement completely. I believe observations that my staff and I made while working on the project demonstrate that creek erosion, not parking lot run-off, caused the problem.

Whereas it is true that water from the parking lot and building drain to the creek and, in the two locations where it is concentrated it has caused minor surficial erosion, this runoff did NOT erode the toe of the bank, the part adjacent to the creek. The substantial bank erosion that has occurred was caused primarily by peak flows of the creek. The observations that support this conclusion include bare creek banks, sunken areas above them, and the precise misalignment of the culvert discharge at that location.

My assessment is that the erosion of the toe of the slope (the creek bank) was the primary cause of the settlement of the creekside slope above it, the paved walkway, and south edge of the Church. The bank erosion occurred because the culvert discharge was—and still is—misdirected. The culvert end is aligned in such a way that high flows partially reflect off a large boulder on the left bank of the creek and partially directly strike the bank. Please recall that our suggested drainage improvement calls for a culvert extension with two elbows. Our proposed extension and the alignment we suggest are to redirect the water away from the bank. The compact fill cover is to bury the culvert and stabilize the slope below the church. If Mr. Nored does not approve of our 2007 work plan, we will be very happy to see him or another qualified engineer review our work and modify it at will. Our only goal is to assist the Church.

Next I would like to address the September 6 letter from Gary Milliman, City Manager.

3) The City's past work on this same drainage in 2000 was to protect Old County Road, not the Church. In 2000, local engineering geologist Ron Sonnevil (i.e., Terra Firm Geologic Services) wrote a report to support the 16-ft-long eastward extension of the Church. He noted, to paraphrase, "...there is a low risk that channel erosion will affect the church." That statement regarding the east end of the church has been taken out of context and applied to the south side of the church. **It is the channel bank erosion on the south side of the church that has been a primary causal factor in the current instability problem threatening the church.** It was the City's 2000 work that placed the culvert discharge end where it is now. (I do not know if an HGE engineer or another qualified engineer helped with the design of these drainage improvements.)

4) The City's Storm and Surface Waters Facilities Plan correctly identified the culvert intake on the north side of Fir Street as a "problem area." That same study evidently failed to identify the present culvert discharge end as a problem area. That is, the absence of the identification of the culvert discharge end by the study's authors does not in fact mean there is no problem there; it just means the problem area was missed.

5) The conclusion that , "The drainage course on the Church property is a naturally occurring condition," is not true. The drainage has been modified by filling, realignment, creekside vegetation removal, and, most recently, being subjected to increased peak flows from a slightly misdirected "shotgun" culvert (a culvert not at stream grade).

The final letter (October 11) is also from Gary Milliman. The letter restates his earlier opinion.

6) First, Mr. Milliman quotes two conclusions from the Sonnevil 2000 report, which, as noted, addressed the east side of the church, not the south. Ergo, the report conclusions are inapplicable to the current problem.

7) Second, he quotes Mr. Nored's conclusions. I have addressed those already. They are, based on the data BGC has developed, incorrect.

In conclusion, I offer the following sequence of observations:

- In 1985 the church expanded to the south.

- The winters of 1996 and 1997 saw exceptional, prolonged rains that caused widespread landsliding in many locations, but the bank and creekside slopes on the south side of the church did not fail or settle.

- In 2000 the church expanded to the east. Geologist Sonnevil prepared a foundation-soils report that concluded the area was adequately stable and at low risk from the nearby drainage at that location. He did not address the south side of the Church.

- In 2000 the City made improvements to the drainage east and southeast of the Church. The City extended the culvert under Fir Street and covered it. The culvert discharge was (inadvertently) aimed so that it is directed slightly, not directly, toward the bank below the south side of the church. At this time, fifteen years (15) had passed without a problem on the south side of the church.

- In 2004 the Church contacted BGC about a crack in the walkway on the south side of the building. Notes from our reconnaissance inspection record bare creek banks, open ground cracks, and settlement. Four years (4) had passed since the culvert was extended.

- In 2006 the Church suffered significant damage and hired BGC to determine the site conditions and stabilization options. We suggested three bank stabilization options plus the temporary support of the south edge of the Church using helical soil anchors. One of the options was extending the culvert, realigning it in the process, and filling over it to stabilize the creekside slopes.

- In early 2007 the Church asked BGC to complete a work plan for the culvert extension option (because it is the least expensive option and involves the least risk to the Church during construction).

- Most recently the Church asked BGC to help define the causal role the culvert might have played in the bank erosion and settlement, if any, and to support its appeal to the City for assistance extending the culvert.

To me, this sequence of events suggests that relocating the culvert discharge end, slightly misaligned as it is, was a causal factor in the bank instability. Other factors exist, but in our opinion, peak discharge flows eroding the creek bank directly below the south side of the Church is the primary cause of the instability there.

Bill, I hope this helps and the City agrees to contribute to the solution. As always, thank you for hiring us. Please let me know if I can help additionally.

Sincerely,

Busch Geotechnical Consultants

R. E. Busch, Jr., Ph.D.
C.E.G. #989

No attachments
References available upon request
Repository\Geotech closed\St. Tim's2\St. Tim 2.ltr.October 22.doc