

STAFF REPORT

February 7, 2002

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**No. 01PL110 - Preliminary and Final Plat**

**ITEM 4**

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GENERAL INFORMATION:

PETITIONER	Fisk Land Surveying for Dakota Land Development
REQUEST	<b>No. 01PL110 - Preliminary and Final Plat</b>
LEGAL DESCRIPTION	Lots 1-7, Vista Lake Subdivision, Section 8, T1N, R7E, BHM, Rapid City, Pennington County, South Dakota
PARCEL ACREAGE	Approximately 12.50 acres
LOCATION	On Jackson Boulevard/Highway 44 west north of the Fish Hatchery
EXISTING ZONING	Park Forest District
SURROUNDING ZONING	
North:	Medium Density Residential District
South:	Flood Hazard District
East:	Flood Hazard District
West:	Park Forest District
PUBLIC UTILITIES	To be extended
DATE OF APPLICATION	10/12/2001
REPORT BY	Vicki L. Fisher

RECOMMENDATION:

Staff recommends that the Preliminary and Final Plat be continued to the **February 21, 2002 Planning Commission meeting to allow the applicant to submit additional information.**

GENERAL COMMENTS:

**This item has been continued several times since the November 8, 2001 Planning Commission meeting. This Staff Report has been revised as of January 28, 2002. All revised or added text is shown in bold text.** The applicant has submitted a Preliminary and Final Plat proposing to subdivide a 22.2 acre unplatted parcel and to replat a four acre lot to create a seven lot residential development, leaving a 3.445 acre unplatted balance. The proposed development will be known as Vista Lake Subdivision. Currently, an unoccupied building is located on proposed Lot 1. At one time the building was the site of the Johnson Siding Volunteer Fire Department.

The applicant has also submitted a Subdivision Regulations Variance request to waive the requirement for sidewalks and street light conduit. (See companion item #01SV030.)

On July 16, 2001, the City Council approved a Preliminary and Final Plat to subdivide a four

## STAFF REPORT

February 7, 2002

---

**No. 01PL110 - Preliminary and Final Plat**

**ITEM 4**

---

acre portion of the subject property into one lot. As previously indicated, the applicant is now proposing to replat the four acre lot as a part of the proposed Vista Lake Subdivision.

**STAFF REVIEW:**

Staff has reviewed the Preliminary and Final Plat and has noted the following considerations:

**Zoning:** The property is zoned Park Forest District requiring a minimum three acre lot size. The proposed plat identifies lots ranging in size from .6 acres to 8.6 acres. Five of the proposed lots do not meet the minimum lot size requirement of the Park Forest District. The applicant has indicated that a Planned Residential Development request will be submitted to allow for clustering of dwelling units due to the constraints imposed by the existing topography of the subject property. Prior to Final Plat approval, the Initial and Final Planned Residential Development must be approved or a Variance to the lot size requirement must be obtained. **On December 14, 2001, the applicant submitted an Initial and Final Planned Residential Development request. (See companion item #01PD065.)**

**Lot Configuration:** The Park Forest District requires that each lot abut a public street for a distance of not less than fifty feet. Three of the proposed lots do not meet the minimum lot width requirement. The applicant has indicated that as a part of the Planned Residential Development request, consideration will be requested to allow a reduced lot width for the three lots. Prior to Final Plat approval, the Initial and Final Planned Residential Development must be approved or a Variance to the lot width requirement must be obtained.

**Unplatted Balance:** As previously indicated, the proposed plat leaves a 3.45 acre unplatted balance in the southwest corner of the subject property. Access to the unplatted balance is not shown. On October 26, 2001, a Preliminary and Final Plat application (01PL114) was submitted incorporating the unplatted balance into an adjacent lot located in the Cleghorn Canyon Subdivision. Prior to Final Plat approval, Preliminary and Final Plat 01PL114 must be approved or the proposed plat must be revised to show access to the unplatted balance. **On December 17, 2001, the City Council approved Preliminary and Final Plat 01PL114 incorporating the unplatted balance into Lot 13, Block 2 of Cleghorn Canyon #2 Subdivision.**

**Cul-de-sac:** The plat identifies a 640 foot long cul-de-sac, extending off Jackson Boulevard serving as legal access to the property. In addition, an existing approach located 280 feet west of the cul-de-sac will serve as legal access to proposed Lot 1. The Engineering Division has indicated that the radius of the curve of the road located at the entrance is estimated to be 10 feet. The Street Design Criteria Manual requires a minimum 15 to 20 foot radius. As such, the applicant must obtain a Special Exception to the requirement or the plan must be revised to meet the minimum radius requirement. The applicant has provided an 18 foot perpendicular staging area at the approach along Jackson Boulevard. The Engineering Division has indicated that a minimum 25 foot staging area starting 12 feet back of the curb (stop sign location) must be provided as required by the Street Design Criteria Manual. In addition, the Engineering Division has indicated that the minimum setback for a stop sign is 12 feet back from an arterial highway and the intersecting curb line

## STAFF REPORT

February 7, 2002

---

**No. 01PL110 - Preliminary and Final Plat**

**ITEM 4**

---

as required by the Federal Uniform Traffic Control Devices Manual. A Special Exception to the Street Design Criteria Manual must also be obtained for the minimum staging area requirement or the plat must be revised accordingly. **The applicant has requested that a Special Exception be granted to reduce the minimum allowed curve radius and to reduce the minimum required staging area. The Engineering Division may be able to support the Special Exceptions with the applicant's agreement to supply a minimum of 300 feet of guard rail around the curve and submittal of complete street plans, a revised drainage plan, revised utility plan and cross sections at 50 foot centers.**

The applicant has indicated that an approach permit has been submitted to the South Dakota Department of Transportation for the above referenced approach. To date, the South Dakota Department of Transportation has not indicated whether or not the approach location is acceptable. The Engineering Division has reviewed a recently submitted site distance analysis and has indicated that the starting point for the "line of sight" (distance from the edge of the traveled roadway to the eye of the approach driver) is about 50% shorter than required. The Engineering Division has indicated that adjusting the starting point for the line of sight will require that the proposed retaining wall, located along a portion of proposed Lot 2, be higher, longer and further back than currently shown. In addition, a permit to allow the proposed retaining wall in the Jackson Boulevard right-of-way must be obtained from the South Dakota Department of Transportation. **Line of sight comments were forwarded to the applicant's engineer on January 4, 2002.**

The Engineering Division has also indicated that the second curve along the proposed cul-de-sac has a 40 foot radius of curvature. The Street Design Criteria Manual requires a minimum 100 foot radius for roads with a typical speed limit of 20 to 25 miles per hour. The design speed for the curve as shown would be 10 miles per hour or less. The applicant has indicated that a 15 mile per hour curve speed is proposed. The applicant has requested a Special Exception to the Street Design Criteria Manual to allow a 40 foot radius. In reviewing the Special Exception request, the Engineering Division has noted that the slope of the cul-de-sac at centerline is at a 12% slope. Given the orientation and grading of the road, the steepest portion and curve would be out of the sunlight. This may result in severe and sudden icing conditions during the winter months. The Street Design Criteria Manual states that in areas with severe icing conditions, a maximum grade of 8% should be considered. In addition, the slope on the inside of the curve will be greater than 12%. The Street Design Criteria Manual states that a maximum grade of 12% is allowed. As such, the applicant must obtain a Special Exception to the Street Design Criteria Manual to allow excessive grade(s) or the design plans must be revised accordingly. The Engineering Division has also indicated that the sight distance on the second curve will be minimal, perhaps deficient, for both ascending and descending traffic. The Engineering Division has indicated that the 22 foot wide pavement design of the cul-de-sac exceeds the minimum 20 foot wide pavement requirement for a lane road as required by the Street Design Criteria Manual; however, the Street Design Criteria Manual does not take into account the steep topography as found on the subject property. The applicant has indicated that the knoll of the hill on the inside of the curve may be lowered. By removing the knoll of the hill, the applicant has indicated that additional pavement width around the curve could be provided. As a result of the widened pavement width, the radius of the curve and the slope on the inside of the curve could be improved. The applicant has also indicated that removing the

## STAFF REPORT

February 7, 2002

---

**No. 01PL110 - Preliminary and Final Plat**

**ITEM 4**

---

knoll of the hill would open portion(s) of the roadway to afternoon sunlight resulting in reduced icing conditions. The Engineering Division has indicated that, even though this is an improvement, a large portion of the road would continue to be out of the sunlight. In addition, the applicant has indicated that removing the knoll of the hill would provide an area adjacent to the road for the construction of a sidewalk on one side of the street. (As previously indicated, the applicant has requested a Variance to the Subdivision Regulations to waive sidewalks on both sides of the street.) Staff is recommending that the applicant revise the road design plans accordingly and submit the plans for review and approval. **On December 14, 2001, the applicant submitted revised road design plans identifying that the knoll of the hill will be removed and identifying a three foot wide graveled sidewalk along the south side of the proposed road. A Variance to the Subdivision Regulations is needed in order to allow a sidewalk on one side of the street and a Special Exception to the Street Design Criteria Manual is required to allow a sidewalk that does not meet minimum construction standards.**

The Fire Department has indicated that the property is located in a moderate to high fire hazard area. The Street Design Criteria Manual states that cul-de-sacs shall not exceed 500 feet in moderate, high or extreme fire hazard areas. The applicant has submitted a Special Exception request to allow the 640 foot long cul-de-sac in lieu of a 500 foot long cul-de-sac. The Fire Department has also indicated that the bulb of the cul-de-sac has a 12% side slope. The cul-de-sac bulb will serve as a staging area for fire apparatus. The Uniform Fire Code states that a maximum 3% side slope shall be provided in a staging area unless approved otherwise by the Fire Chief. The applicant has indicated that the grade on the lots directly west of the cul-de-sac may be lowered and that, subsequently, a staging area meeting the Uniform Fire Code may be provided. Staff is recommending that a revised grading plan be submitted identifying the grade change as proposed by the applicant. **On December 14, 2001, the applicant submitted a revised grading plan identifying that a maximum 2% side slope will be provided within the cul-de-sac.**

The Street Design Criteria Manual requires that common use visitor parking for single family, duplexes and townhouse residential uses be provided at the rate of one paved parking stall per dwelling located within three hundred feet of the residence. On-street parallel parking may serve this visitor parking requirement. The Engineering Division has indicated that the 22 foot wide proposed cul-de-sac is not of sufficient width to allow for on-street parking. As such, the applicant must obtain a Special Exception to waive the visitor parking requirement or the plat must be revised accordingly. **As previously indicated, the applicant has submitted an Initial and Final Planned Residential Development request for the subject property. The Initial and Final Planned Residential Development identifies two off-street paved parking spaces being provided on each of the proposed lots.**

Water: The applicant has indicated that City water will be extended to serve the proposed development. The Engineering Division has indicated that adequate water pressure can not be provided to Lots 4, 5 and 6 due to the elevation of this portion of the subject property. The Engineering Division has indicated that a minimum 20 PSI residual pressure with a minimum 1,000 gallon per minute flow must be available at the nearest water hydrant. In addition, a minimum 40 PSI static pressure must be available at the first floor of the residence in order to provide residential use water service. The applicant has indicated that

## STAFF REPORT

February 7, 2002

---

**No. 01PL110 - Preliminary and Final Plat**

**ITEM 4**

---

individual booster pumps are being proposed for the three lots in order to provide the required water pressure. The Engineering Division has indicated that the Rapid City Utility Construction Code requires that the water supply be provided from a gravity flow source in order to assure adequate water pressure, even during times of electrical failure. In addition, the Fire Department has indicated that any lot with a residence located more than 150 feet from a fire hydrant must provide an emergency vehicle turnaround on the lot. As previously indicated, the applicant has suggested that the grade along the three lots may be significantly lowered than what is identified on the existing plan. Lowering the grade will increase the buildable area on the three lots that can be served by City water with adequate water pressure and flows. Staff is recommending that the applicant submit a revised grading plan as identified for review and approval. The Engineering Division has also indicated that a water line profile, addressing the above referenced revisions, must be provided for review and approval. **The revised grading plan identifies that the knoll of the hill will be removed in order to provide the required water pressure to each of the building sites. Engineering plan comments have been returned to the applicant's engineer.**

Sewer: The applicant has indicated that the property will be served by City sewer. The Engineering Division has indicated that the sewer profile must be revised to show storm sewer and other utility crossings. The Engineering Division has also indicated that the sewer plan must be revised to relocate manholes to insure that the sewer lines remain within the street limits (curb and gutter to curb and gutter). In addition, the manhole located at the end of the street must end within the limits of the street. Staff is recommending that the applicant submit a revised sewer plan for review and approval. **Engineering comments have been returned to the applicant's engineer.**

Grading Plan and Topographic Information: The Engineering Division has indicated that significant fill shown with extremely steep slopes is proposed along the north side of the proposed cul-de-sac. No provisions for benching or stabilization of the fill has been provided. The Engineering Division has also indicated that a specific geotechnical analysis must be submitted for fill slopes of 2:1 or less. The Engineering Division has also indicated that lot grading plans will require individual geotechnical review and certification due to the extreme grades of the subject property. In addition, the Engineering Division has indicated that driveway and sidewalk slopes must meet minimum City standards or a Special Exception must be obtained. The Engineering Division has indicated that the grading plan and topographic information must be expanded to address these concerns. **Revised grading plans indicate a retaining wall(s) will be located along the interior access road. Prior to Final Plat approval, copies documenting a legal mechanism for the maintenance of the retaining wall must be submitted for review and approval.**

Drainage: The Engineering Division has indicated that the recently submitted drainage plan addresses total flows on the property. An existing major drainage easement is located on proposed Lot 1. The Engineering Division has indicated that the proposed plat will result in an increase in the impervious area requiring that the drainage plan be revised to show that the boundaries of the existing drainage easement are adequate for the proposed development. **On December 26, 2001, the applicant submitted a revised drainage plan. The Engineering Division has indicated that the plans are incomplete and do not**

## STAFF REPORT

February 7, 2002

---

No. 01PL110 - Preliminary and Final Plat

ITEM 4

---

**delineate the location and/or size of Major Drainage Easement(s) needed to convey drainage through the subject property, to Jackson Boulevard.**

Labeling Requirement: The Engineering Division has indicated that statements regarding special requirements for geotechnical, individual lot site plans, driveway grades, geotechnical building pad certifications, special setbacks, engineered retaining wall designs, special construction and stability issues, limitation of structure on cut/fill transitions and special inspection requirements be shown on the plat. The plat must also be revised to show an 8 foot wide utility easement along all the front lot lines. In addition, a road name for the proposed cul-de-sac must be submitted to the Emergency Services Communication Center for review and approval and, subsequently, shown on the plat. Staff is recommending that the plat labeling be revised as identified prior to Final Plat approval. **The applicant submitted a revised site plan on December 14, 2001 identifying the name of the proposed road as "Feather Ridge Court". The Emergency Services Communication Center has reviewed and approved the proposed road name.**

Summary: Staff is very concerned with the topographic constraints associated with the subject property and the proposed development. As identified, the proposed grade, slope and radius of the curve(s) of the road in addition to the water pressure issues and fire protection concerns, suggests that the applicant should consider significant revisions to the proposed development. A residential development with clustered housing closer to the entrance may be more appropriate for the site. Staff will continue to work with the applicant as the revised construction plans are submitted for review and approval; however, the applicant should be aware that staff cannot support the numerous Special Exceptions and/or Variances to the Subdivision Regulations that may be necessary in order to obtain approval of the plat in its current format.

**On January 4, 2002, staff met with the applicant to discuss the on-going issues relative to the proposed plat. The subject property poses significant developmental constraints due to topographic concerns relative to the site. The Engineering Division has indicated that Special Exceptions to the Street Design Criteria Manual could be supported to allow:**

- 1) a 10 foot radius of the curve on the first curve of the road in lieu of the required 15 to 20 foot radius of curve;**
- 2) a 40 foot radius of curve on the second curve of the road with a maximum speed of 10 miles per hour in lieu of 20 to 25 radius with a minimum 100 foot radius of curve;**
- 3) an 18 foot perpendicular staging area at the approach along Jackson Boulevard, in lieu of the required 25 foot minimum;**
- 4) a 14% maximum grade along the inside of the second curve of the road in lieu of the maximum allowed 12% grade;**
- 5) a four foot wide concrete sidewalk along one side of the road in lieu of both sides of the road;**
- 6) a 640 foot long cul-de-sac in lieu of the maximum allowed 500 foot long cul-de-sac; and,**
- 7) to allow the proposed road as a private access easement.**

STAFF REPORT

February 7, 2002

---

No. 01PL110 - Preliminary and Final Plat

ITEM 4

---

The Engineering Division has indicated that in order to support the above referenced Special Exceptions to the Street Design Criteria Manual the following information must be submitted for review and approval:

- 1) Final geotechnical information relating to the cut, fill and retaining wall stability and design information relating to of the proposed road including the geotechnical scope of services;
- 2) Site distance evaluation demonstrating compliance with the minimum 14.4 foot American Association of Highway and Transportation Officials (AASHTO) requirement;
- 3) Construction and design plans for a concrete retaining wall to be located in or adjacent to Feather Ridge Court;
- 4) Documentation identifying maintenance responsibility for the proposed road; and,
- 5) Full cross-sections of street, fill slopes, drainage areas and conveyances and sewer and water.

The above referenced information is needed in order to determine that safety standards are not being compromised by granting the Special Exception(s) to the Street Design Criteria Manual. To date, none of the information has been submitted for review and approval. As such, staff is recommending that the Preliminary and Final Plat be continued to the February 21, 2002 Planning Commission meeting to allow the applicant additional time to submit the above referenced information.