Planning Commission
Staff Report

Subject: Park City Heights MPD
Author: Kirsten Whetstone, MS, AICP
Date: March 9, 2011
Type of Item: Master Planned Development-work session/update

Summary Recommendation

Staff recommends the Planning Commission review and discuss additional information (revised Wildlife Study and cul-de-sac Cross Section Study) provided by the applicant as requested at the work session on February 23, 2011. The public hearing should be continued to March 23, 2011.

Description

Project Name:	Park City Heights Master Planned Development
Project #:	PL-10-01028
Applicants:	The Boyer Company and Park City Municipal Corporation
Location:	Southwest corner of the intersection of SR248 and US40
Zoning:	Community Transition (CT)
Adjacent Land Uses:	Municipal open space; single family residential; vacant parcel to the north zoned County- RR; vacant parcel to the south zoned County- MR; Park City Medical Center (IHC) and the Park City Ice Arena/Quinn's Fields Complex northwest of the intersection.
Reason for Review:	Applications for Master Planned Developments require Planning Commission review and approval
Owner:	The Boyer Company and Park City Municipal Corporation

Proposal

The proposed Park City Heights MPD application is a request for a mixed residential development of 239 units on 239 acres of land in the CT zoning district. The MPD includes:

- 160 market rate units in a mix of cottage units on smaller lots (6,000 to 8,000 sf) and single family detached units on 9,000 sf to 10,000 sf lots
- 28 deed restricted townhouse units (IHC affordable), configured as seven four-plex buildings,
- 16 deed restricted units in a mix of unit types (CT zone required) from single family detached to townhouse units.
- 35 additional deed restricted units in a mix of unit types (Park City).

- All units (including all deed restricted units) constructed to LEED for Homes Silver rating at a minimum with each unit achieving a minimum combined 10 points minimum for water efficiency/conservation with Third Party inspection required prior to certificate of occupancy.
- 175 acres of the property dedicated as large tracts of contiguous natural open space (does not include) open space area around the lots.
- 5 acre dedicated open space east of Summit County Health Department along US 40 provided the 28 IHC deed restricted townhouses are transferred to the PC Heights neighborhood as shown on the current plan.
- A dedicated 3.55 acre (155,000 sf) public City Park to be constructed by the Development.
- A community gardens area approximately 22,000 sf (0.5acre) within the PC Heights neighborhood.
- 3-5 miles of soft surface trails within the property and additional 8' wide hard surfaced sidewalks and paths along streets.
- Trail connections to the Rail Trail and Quinn's trail.
- Transit bus shelters and along Richardson's Flat road.
- Cross walk across and Richardson's Flat road.
- A community center/club house area with dedicated future support commercial tenant spaces.
- Water infrastructure improvements for the project and to enhance the City's overall water system (water shares dedicated through the pre-annexation agreement).
- Transportation improvements to the Richardson's Flat/248 intersection including lane improvements and installation of a traffic signal to provide intersection safety (controlled left turn) required to put the Park and Ride facility at Richardson's Flat on the bus route.

Background

On June 30, 2010 the City received a complete application for the MPD following approval of the Park City Heights annexation by City Council on May 27, 2010. On September 22nd, October 13th, November 10th, and December 8th, 2010 and on February 9th and 23rd, 2011, the Planning Commission conducted work sessions and/or public hearings on the MPD.

At the December 8th, 2010, meeting the Commission reviewed:

- a revised MPD site plan
- design guideline concepts
- photo study of architectural ideas for the different housing types

At the February 9th, 2011, meeting the Commission reviewed:

- physical and computer models of the project,
- draft design guidelines

At the February 23rd, 2011 meeting, the Commission reviewed

- Preliminary plat and utility plans
- Visuals from various vantage points

- Perspectives of the housing types and street cross sections
- Wildlife study

The information reviewed at these meetings is supplemental to the information included in the Park City Heights binder and exhibits to previous staff reports discussed at meetings in September, October, and December. A comprehensive staff analysis and project recommendation is being prepared for the March 23, 2011 public hearing.

For the work session on March 9th, the applicants have provided staff with:

- Revised Wildlife Study to address issues raised by the Planning Commission at the February 23rd meeting (see Exhibit A).
- Cross sections of three cul-de-sac areas to review grading (cut/fill and retaining issues) (see Exhibit B).

Wildlife Study

As part of the Sensitive Lands Analysis (LMC Section 15-2.21-3) a map depicting all wildlife habitat areas, as defined by the wildlife habitat report, shall be provided by the applicant. The report is required to be prepared by a professional, qualified in the areas of ecology wildlife biology, or other relevant disciplines. The following are requirements of the map/report:

- Ecological and wildlife use of the property
    - Species
    - Timing
    - Value the area provides (feeding, watering, cover, nesting roosting, perching, etc.)
- Existence of Wildlife movement corridors
- Existence of Special habitat features
    - Nesting Sites
    - Calving areas
    - Production areas
    - Areas used by migrating species
    - Dens (fox and coyote)
    - Concentration areas (elk and deer) as defined by the DOW
    - Areas of high terrestrial or aquatic insect diversity
- Existence of Areas inhabited by state or federally threatened or endangered species. General ecological functions currently provided by the site and features of the site.
- Potential impacts of the development on these existing wildlife species.

Section 15-2.21-8 of the Land Management Code, Sensitive Land Regulations-Wildlife and Wildlife Habitat Protection, includes the following language:

- Protection of Wildlife Habitat and Ecological Character

- Timing of construction to minimize disturbance of Sensitive or specially Valued Species occupying or using on-Site and adjacent natural areas.
- If development contains or is within 500' of a natural Area or habitat Area and report shows existence of Sensitive or Specially Valued Species the Development plans shall include provisions to ensure that the habitat is not disturbed or diminished, and to the maximum extent feasible such habitat shall be enhanced.
- Natural area connections to adjacent existing natural areas shall be preserved if they exist or provided if reasonably feasible. Such connections shall be designed and constructed to allow for continuance of existing wildlife movements and to enhance the opportunity for establishment of new connections for the movement of wildlife.
- Development plan must include provisions to minimize conflicts with wildlife and occupants of the development to the extent reasonably feasible.

The intent of these regulations is to promote, preserve, and enhance wildlife and wildlife habitat Areas in and around Park City, and to protect them from adverse effects and potentially irreversible impacts.

Staff has reviewed the revised Wildlife Study and provided comments to the applicant. **Staff has requested the following additional revisions:**

- Mapping information from the consultant on deer, elk and moose habitat.
- Identification of wildlife corridors through the property.
- Information regarding methods of enhancing wildlife corridors (connections) (i.e. does planting wildlife friendly plants encourage wildlife to utilize an area for movement?)

The western perimeter natural open space area is adjacent and connected to other large tracts of natural open space conducive to wildlife movement and activity. There are no street crossings across this open space area.

The eastern perimeter open space area provides a contiguous connection between the higher natural area dedicated as open space and lower wetlands and natural area along the Rail Trail, with one local street crossing. The eastern perimeter area is proposed to be enhanced with native vegetation.

Staff requests the Commission discuss the following Staff recommended enhancements:

- Western perimeter plantings (trees and shrubs), requested to soften the visual edge of the property, shall include native species that are wildlife friendly to encourage wildlife to utilize the open space on the western perimeter as a connection to the lower natural areas and stream.

- Cheat grasses within the project's open space areas shall be eradicated and reseeded with native grasses natural to this ecological area.

- Wildlife crossing signs shall be installed by the development for both eastbound and westbound traffic along Richardson's Flat Road.

Due to other requirements of the Sensitive Lands Ordinance, development is proposed in the least sensitive area of the property, off steep slope and ridgeline areas, and away from all wetland area. These areas are dedicated as open space on the site plan and are the areas of highest wildlife value. Because of this, no development, with the exception of the trail crossing, will impact the highest value wildlife and wetland areas.

Cross Section Study

Three cul-de-sac areas were studied to examine the impacts of the proposed grading. The applicants have stated that the entire site grading plan is in compliance with the 2:1 slope requirements, without utilizing retaining structures. There are areas of the upper roads and cul-de-sacs that indicate graded slopes with a maximum vertical height from the road of 10.4 feet.

The applicants demonstrate with the cross section study that the visibility of these slopes will be diminished at the time a house is constructed on the lot.

Staff requests the Commission discuss the following Staff recommendations:

To mitigate impacts on natural slopes and existing vegetation, as well as to minimize visual impacts prior to construction of structures, low stepping retaining structures (4'-6' in height) shall be utilized as necessary. Additional vegetation (native grasses and shrubs) shall be installed and established with temporary irrigation to mitigate visual impacts of cut and fill slopes.

Public Comment

The Commission should continue the public hearing to March 23, 2011, meeting. Staff has re-noticed and re-posted the property for the March 23rd meeting. Written public comment may also be provided to the Planning Staff and it will be forwarded to the Commission.

Staff Recommendation

Staff recommends the Planning Commission review and discuss the additional information provided by the applicant as requested at the work session on February 23, 2011, and continue the public hearing to March 23, 2011.

Exhibits

Exhibit A- Revised Wildlife Study
Exhibit B- Cross section study

Biological Resources Overview
for
Park City Heights

Prepared for

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Prepared by

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March 2, 2011

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1. Background

The Boyer Company has proposed a residential development for a parcel of land along Richardson Flat Road, called Park City Heights. The Boyer Company requested that Logan Simpson Design Inc. (LSD) visit the Park City Heights project area and evaluate biological resources present in the area. This includes identifying any protected or sensitive biological resources that may occur in the project area or could be affected by the proposed development; documenting the ecological setting of the project area; providing a qualitative assessment of wildlife habitats within the area; identifying the common plant and animal species occupying the property; identifying and determining the suitability of habitats within the project area for endangered, threatened, or special concern plants and animals known from Summit County, Utah; providing an evaluation of the suitability of habitat for greater sage-grouse, which has been documented near the project area; and providing a review of the Park City Sensitive Lands Overlay (SLO) Zoning Regulations.

Throughout this Biological Resources Overview, the term “project site” is used to represent the development footprint (area of disturbance); the term “developable property” is a 216 acre contiguous parcel of land within which the project site is located; and the term “project area” includes lands generally surrounding the developable property. The term “project vicinity” is used to denote a more expansive landscape context. Note, a non-contiguous parcel of approximately 23 acres will be included in the zoning permit request; however this land was not considered in this biological study because it will not to be developed.

2. Project Location

The developable property is an approximately 216-acre parcel located south of Utah State Route (SR) 248 and west of US Highway 40 (US 40) in Park City, Summit County, Utah (Figures 1 and 2). The property lies adjacent to, but outside the city limits of Park City. Approximately one third of the property is proposed for development – a site plan is included in Appendix A. The proposed development is at the base of the mountains, east to US 40, and north to nearly Richardson Flat Road. Lands adjacent to the property are a combination of mountain slopes with undeveloped shrublands in conservation easements (to the west), residential developments (to the west and southwest), riparian corridors and agricultural land (to the north) and an embankment for a controlled access highway (to the east). The developable property’s legal description includes portions of the southern half of section 2 and the northern half of section 11, Township 2 South, Range 4 East (Salt Lake Baseline and Meridian).

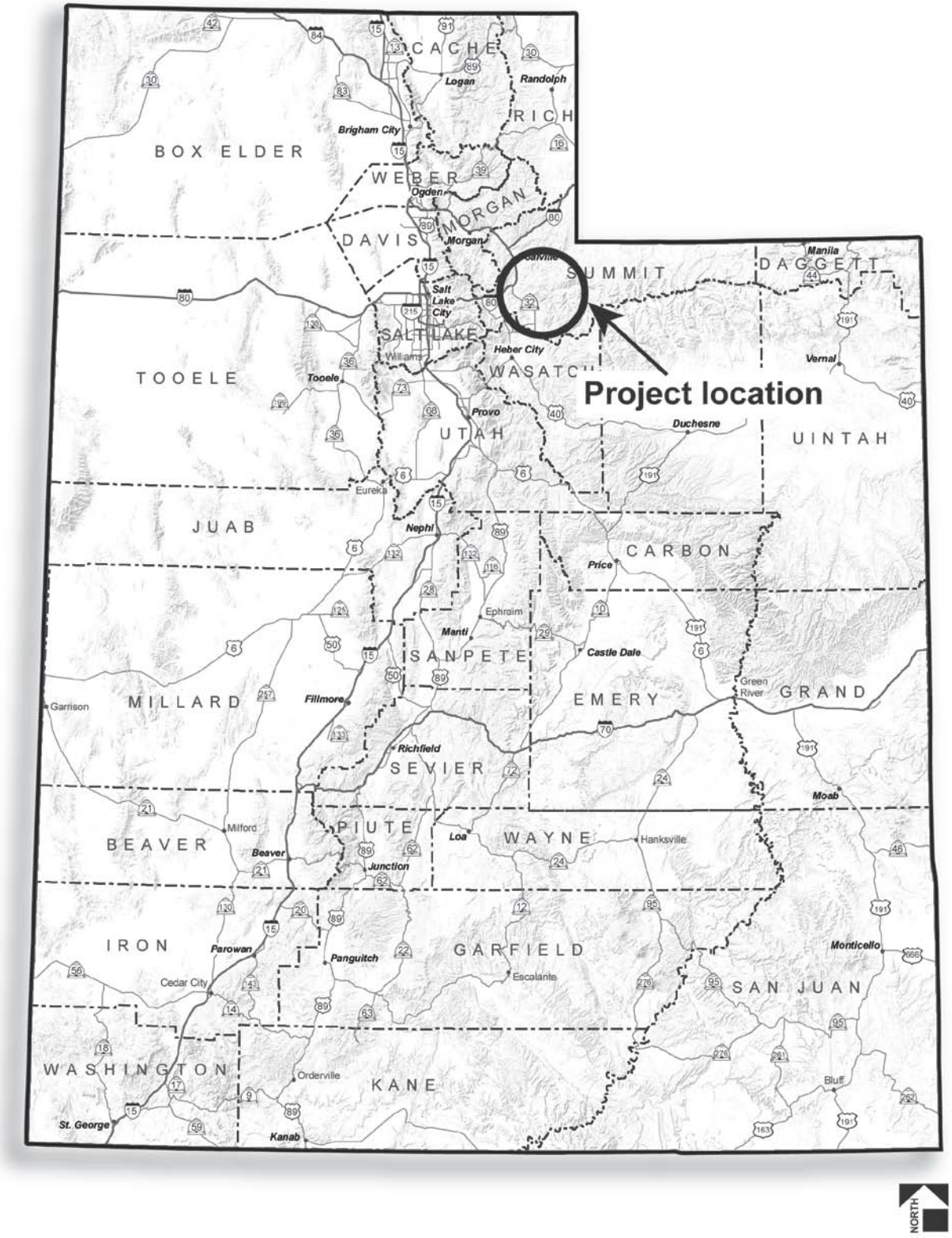

Figure 1. Project location.

Figure 2. Project area.

3. Ecological Setting

LSD biologist Gary Reese conducted a site visit to the Park City Heights project area on December 6 and 7, 2010. Data was collected on the existing biological resources of the project area. Site visit photographs are included in Appendix B. While snow depth averaged nine inches on uplands, conditions were ideal for evaluating the suitability of the habitat for wintering greater sage-grouse. A collapsible snow shovel was used to remove the snow in those areas where the herbaceous flora needed to be evaluated (Photograph 1). A four wheel drive vehicle aided in navigating the unimproved roads; areas not accessible by vehicle were surveyed on foot.

The project area is located within the Utah-Wyoming Rocky Mountains Ecological Region, which includes the mountains just north of Yellowstone National Park in south-central Montana, the Bighorn Mountains in northeast Wyoming, the Uinta Mountains of northeast Utah and Northwest Colorado, Utah's Wasatch Range, and the mountains and valleys of the southeastern corner of Idaho (Noss et al. 2001). Park City, which encompasses approximately 12 square miles with a resident population of approximately 7,300 people (2000 Census) and a substantial tourism industry, is located on the east side of the Wasatch Range. Park City consists of a core downtown area that is surrounded by lower-density residential and commercial developments, golf courses, and ski resorts.

The developable property is a 216-acre vegetated parcel that is situated south of Silver Creek, in the part of Richardson Flat lying west of the US 40 grade (Photograph 2). Elevation ranges from 6,640 to 7,580 feet. The highway realignment in the late 1980s resulted in an embankment being built across the western side of Richardson Flat (Photograph 3). Richardson Flat is located in a low gradient valley surrounded by hills of about 1,000 feet relief. The hills are comprised of either Woodside Shale or Weber Quartzite (Bromfield and Crittenden 1971). The erosion and weathering of these hills formed the old alluvial soils of the foothills. These soils are rich in clay and exhibit very low water permeability. The flat is drained by Silver Creek (Photograph 4), which flows from Park City to its east, then turns north from the developable property and passes the Richardson Flat tailings. The tailings and the riparian zone for Silver Creek have been undergoing remediation for heavy metal toxicity, left as a legacy of historic mining around Park City.

Figure 3 provides a map of the vegetation communities on the developable property, which includes six natural habitats and two types of disturbed areas. The vegetation communities are: Gambel oak shrubland (108 acres), mountain big sagebrush shrubland (99 acres), mountain big sagebrush - Saskatoon serviceberry shrubland (2 acres), sparsely vegetated wet meadow (1 acre), Douglas-fir woodland (1 acre), and quaking aspen shrubland (less than 1 acre). Disturbed areas include ruderal vegetation (7 acres highway grade and 2 acres abandoned railroad grade); and excavated land (4 acres). The wet meadow and part of the aspen shrubland are riparian wetland habitat, the remainder is upland.

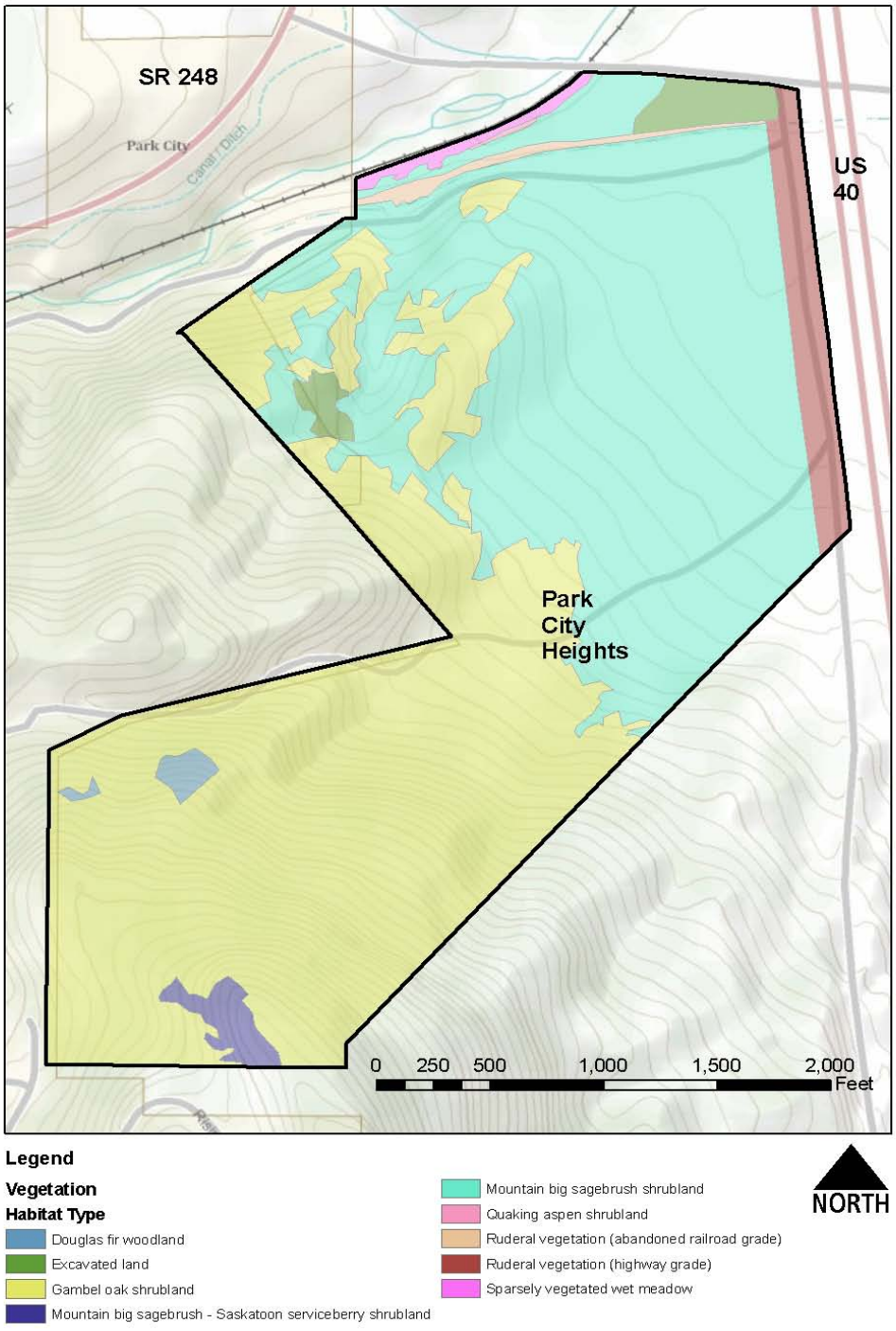

Figure 3. Vegetation communities and disturbed land types on the developable property.

Gambel Oak Shrubland

Shrublands dominated by Gambel oak (*Quercus gambelii*) are the most common habitat type in the developable property. The oaks form thickets averaging 20 feet high and have sparse understories of shrubs, grasses, and herbs. These shrublands generally occupy steeper slopes and higher elevations in the project area (Photograph 5) than does the Mountain big sagebrush shrubland. The dense bushy environment provides cover for animals and their young. The high tannin content of Gambel oak doesn't seem to bother mule deer, who browse year-round on its foliage. Oak acorns which are rich in carbohydrates, fats, and proteins take a year to mature. Oak acorns are important food sources for ravens, jays, turkeys, squirrels, chipmunk, and deer.

Mountain Big Sagebrush Shrubland

Mountain big sagebrush (*Artemisia tridentata* ssp. *vaseyana*) shrubland is the second most extensive habitat on the developable property (Photograph 6). It extends throughout the eastern side of the developable property, occupying moderate slopes. Mountain big sagebrush dominates the shrub canopy, with localized Saskatoon serviceberry (*Amelanchier alnifolia*) as an associated species. The average cover of sagebrush emerging from 9 inches of snow was 28 percent, with an average height of 23 inches emergent above snow. The herbaceous understory has been diminished from many years of grazing by cattle, sheep and horses. The understory appears to be dominated by cheatgrass (*Bromus tectorum*), an exotic grass which has invaded sagebrush rangelands throughout the region.

Big sagebrush is highly preferred and nutritious winter forage for mule deer, and provides habitat for a diverse assemblage of birds and mammals across the western United States (Welsh 2005). Songbirds such as dark-eyed juncos, horned larks, and white-crowned sparrows occupy sagebrush and consume big sagebrush seed. Additionally, the greater sage grouse requires sagebrush for its survival.

Mountain Big Sagebrush – Saskatoon Serviceberry Shrubland

The transition zone between Gambel oak and mountain big sagebrush is where Saskatoon serviceberry is most common. These edge areas are highly variable in vegetative composition and are not readily mappable on aerial photography. However, this plant community forms a mappable habitat on ridgelines, a topographic feature protected under the Park City SLO Zone Regulations. Mountain big sagebrush – Saskatoon serviceberry shrubland is important wildlife habitat due to the proximity of protective oak cover to serviceberry plants and its fruits. Deer and moose browse serviceberry and its fruit is relished by a variety of song and game birds (NRCS 2006). The ridgeline will not be directly impacted by the proposed development.

Sagebrush and serviceberry are co-dominants on the ridge along the southern edge of the developable

property (Photograph 7). This area had abundant wildlife tracks (Photograph 8) and was the only area with a significant herbaceous component to the shrubland. The grasses identified included slender wheatgrass (*Elymus trachycaulus*) and crested wheatgrass (*Agropyron cristatum*). Except in times of high winter wind, this ridgeline appears to provide excellent wildlife habitat. Deer Valley subdivisions are immediately below the ridge. Lack of cover and proximity to homes limit the utilization of this habitat to species which tolerate human presence.

Sparsely Vegetated Wet Meadow

Silver Creek flows within 5 to 100 feet of the northeastern edge of the developable property. The floodplain is bisected by a historic Union Pacific railroad grade, now converted to a rail trail. The ballast which built up the railroad bed is from mining operations and is toxic. The rail trail and Richardson Flat Road are the northern boundary for the developable property. Silver Creek is classified as a cold water fishery and supports willows (*Salix* spp.), cattails (*Typha latifolia*), and emergent and floating vegetation. The density and height of this riparian vegetation is quite variable, depending on the influence of beaver dams.

Along the rail trail is a sparsely vegetated wet meadow where the vegetation is dominated by sedges, with a small patch of aspen (*Populus tremuloides*) (Photograph 9). The wet meadow may be sparsely vegetated due to soil toxicity, or having been covered with soil.

Riparian habitats associated with Silver Creek are adjacent to the developable property and will not be disturbed by the proposed development. These riparian habitats will continue to offer forage and cover for birds, mammals (including resident beavers), fish, amphibians, reptiles, and aquatic invertebrates. Birds expected in the area include: red-tailed hawk, bald eagle (non-nesting), killdeer, rock pigeon, belted kingfisher, northern flicker, black-billed magpie, common raven, black-capped chickadee, European starling, song sparrow, dark-eyed junco, and house finch.

Douglas-fir Woodland

Two small groves of Douglas-fir (*Pseudotsuga menziesii*) occupy a sheltered area below the ridge line and in a valley between two hills within the Gambel oak shrubland. This vegetation type was only examined through binoculars due to deep snow buildup and hazardous walking conditions. These groves can provide nesting sites and cover for birds such as owls and woodpeckers, as well as tree canopy habitat for squirrels.

Quaking Aspen Shrubland

Twelve 20 feet high quaking aspen (*Populus tremuloides*) saplings occupy the upland edge of the sparsely vegetated wet meadow (Photograph 9). There are 4 to 6 feet high suckers colonizing the wet meadow near the saplings. This appears to be vegetative recovery after beaver removal. With time, these saplings will

probably be felled by the beaver lodging immediately north in Silver Creek. This vegetative type is narrow and barely evident on the 2009, 1:945 scale aerial photography that was used for mapping the vegetation of the developable property.

Ruderal Vegetation

The area between the riparian habitat and the sagebrush uplands is bisected by an historic alignment of the Richardson Flat Road (now a two-track on the south side of Silver Creek) and an abandoned railroad spur (Photograph 10). The abandoned railroad grade and its cut embankments are dominated by weedy plants which have spontaneously colonized the site after the tracks were removed.

A steep embankment on the east side of the developable property is a highway re-seeding after construction of a grade for US 40 in the late 1980s. The seeding is a mix of grasses and herbs (Photograph 11). The top of the embankment is flat and has an unimproved road running parallel to the US 40 right-of-way fence.

Excavated Land

A 4-acre excavated site in the northeast corner of the developable property is used in winter as the Park City snow storage area (Photograph 12). It is also used as an unimproved parking lot and staging area for heavy equipment.

Wildlife

Various owls and raptors may occur incidentally throughout the project area. While there were perch sites on power line poles near the riparian area, no large nests were observed. Fresh tracks representing bobcat, turkey, coyote, and fox were observed during the site visit. Large mammal (e.g. ungulates, such as deer, elk, and moose) have been reported in the area by Utah Big Game Range Trend Studies and migrate across Silver Creek, crossing SR 248 both north and south (Dynamac Corporation 2002). They may be attracted to the willows to forage; however, because of the small size of the riparian area, large-scale vegetation removal in the last 20 years, and nearby human presence, it does not provide adequate cover areas for breeding. The riparian corridor may see occasional foraging use by these species.

Use of the project area by wildlife would be relatively similar between different seasons, with the exception that fewer species would be present in winter because many species migrate or hibernate to escape cold temperatures and scarce resources. Winter is when larger species such as deer and elk are more likely to risk entering the developed areas of Park City to browse on the supplemental vegetation available in landscaped areas, particularly golf courses and gardens.

The steep oak shrublands and riparian corridor can serve as linkages for wildlife movements in fragmented landscapes. But the portion of the developable property to be developed currently has reduced value as a

movement corridor because of the extent of human presence, the barrier fence along US 40, and the openness of the habitat in full view to any predator perched on the US 40 embankment. These factors preclude the movements of many wildlife species through the proposed developable property.

In summary, the project area currently provides various habitats for wildlife species that tolerate the presence of human development and disturbance. These species consist of small bird and mammal species with relatively small home range requirements. The surrounding habitat not proposed for development offers habitat for a variety of species. Although the area proposed for development may receive occasional use by wildlife for cover, foraging, roosting, and perching, occurrences by these species would be incidental and the habitat in the proposed development area is not critical to the survival of these species in the greater Park City area.

4. Species Identification

Threatened, Endangered, and Sensitive Species

The US Fish and Wildlife Service (USFWS) list of endangered, threatened, proposed, candidate, and conservation agreement species occurring in Summit County and the Utah Division of Wildlife Resources (UDWR) list of sensitive species for Summit County were reviewed to determine if any of these special status species have the potential to occur within the project area. Species included on the USFWS and UDWR lists are addressed in Table 1. No plants were included on either the USFWS or UDWR lists for Summit County. A project coordination letter from UDWR revealed that UDWR has not documented the presence of any special status species within the project area. The project area does not include any critical habitat that has been designated or proposed under the Endangered Species Act (16 U.S. Code 1531–1544, as amended).

Table 1. Special status species potentially occurring in the project area

Species	Status[a]	Habitat Requirements	Suitable Habitat Present?
Invertebrates			
Deseret mountainsnail (*Oreohelix peripherica*)	SPC	Closely associated with limestone outcrops under vegetation and associated leaf litter, specifically mountain maple (Acer sp.), scrub oak (Quercus gambelii), and balsam root (Balsamorhiza sp.).	Project area is outside of species' known distribution.
Western pearlshell (*Margaritifera falcata*)	SPC	Small streams. Possibly extirpated in Utah, although small populations may exist in historical localities.	Project area is outside of species' known distribution.
Fish			
Bluehead sucker (*Catostomus discobolus*)	CS	A benthic species of small or mid-sized tributaries of moderate-to-fast velocity in high gradient reaches of mountain rivers of the Upper Colorado River system, the Snake River, and the Lake Bonneville basin.	Project area is outside of species' known distribution.
Boneytail (Gila elegans)	ESA LE	Colorado River drainage	Project area is outside of species' known distribution.
Bonneville cutthroat trout (*Oncorhynchus clarkia utah*)	ESA LE	Found in a number of habitat types, ranging from high elevation mountain streams and lakes to low elevation grassland streams. In all habitats, a functional stream riparian zone providing structure, cover, shade and bank stability is required.	Historically present throughout the region; there are no recent records from Silver Creek.
Colorado River cutthroat trout (*Oncorhynchus clarkia pleuriticus)*	CS	This subspecies of the cutthroat trout that is native to the upper Colorado River drainage of UT, WY, CO, AZ, and NM has been reintroduced into lakes in the Uinta Mountains, in the northeastern part of the state.	Project area is outside of species' known distribution.
Colorado pikeminnow *(Ptychocheilus lucius)*	ESA LE	Colorado river drainage	Project area is outside of species' known distribution.
Humpback chub (Gila cypha)	ESA LE	Colorado river drainage	Project area is outside of species' known distribution.
Least chub (Iotichthys phlegethontis)	ESA C	Springs, streams and lakes associated with the Bonneville Basin	Project area is outside of species' known distribution.
Razorback sucker (Xyrauchen texanus)	ESA LE	Colorado river drainage	Project area is outside of species' known distribution.
Northern Leatherside chub (*Lepidomeda Copei*)	SPC	Native to streams and rivers of the southeastern portion of the Bonneville Basin.	Project area is outside of species' known distribution.

Table 1. Special status species potentially occurring in the project area (continued)

Species	Status[a]	Habitat Requirements	Suitable Habitat Present?
Reptiles and Amphibians			
Columbia River spotted frog (*Rana luteiventris*)	CS	Isolated springs and seeps which have a permanent water source with areas that do not freeze in winter; lays eggs primarily in pools of water without fish; cat-tails habitat rarely used, with preference for emergent sedges and willows; individuals may migrate along riparian corridors in spring and summer after breeding.	Historical records for this species near Jordanelle Reservoir, species no longer present by 1991. No suitable habitat within or adjacent to the project area.
Smooth green snake (*Opheodrys vernalis*)	SPC	Moist areas, especially moist grassy areas and meadows where it is camouflaged due to its solid green dorsal coloration.	According to UDWR natural heritage records, there are no documented occurrences of this species in Summit County.
Western toad (*Bufo boreas*)	SPC	Found in a variety of habitats, including slow moving streams, wetlands, desert springs, ponds, lakes, meadows, and woodlands.	Project area is outside of species' known distribution.
Birds			
Bald eagle (*Haliaeetus leucocephalus*)	SPC	Nests in tall trees near bodies of water where fish and waterfowl prey are available. Winters in sheltered stands of trees near open water. Generally avoid human activity and development.	Occurrence in project area is unlikely. Occurrence would be incidental; no foraging, roosting, or nesting habitat is present.
Bobolink (*Dolichonyx oryzivorus*)	SPC	Wet meadows, grasslands, and agricultural areas associated with riparian or wetland areas. Populations in Utah are found in the northern half of the state near Logan, Brigham City, Kamas, Heber, Morgan, Mountain Green, Huntsville, West Layton, Provo, and Bear Lake.	Not expected to occur in the project area due to a limited area of potential suitable habitat.
Ferruginous hawk (*Buteo regalis*)	SPC	Flat and rolling terrain in grasslands, agriculture lands, sagebrush/saltbush/greasewood shrub lands, and at the periphery of pinyon-juniper forests. In the winter, uses farmlands, grasslands, deserts, and other arid regions where lagomorphs, prairie dogs, or other major prey items are present.	Occurrence in project area is unlikely. Occurrence would be incidental; no foraging, roosting, or nesting habitat is present.
Grasshopper Sparrow (*Ammodramus Savannarum*)	SPC	Summer resident, nesting in Utah in grasslands or shrub-steppe with a minor component of sagebrush.	No suitable habitat in the project area.
Greater sage-grouse (*Centrocercus urophasianus*)	ESA C	Plains, foothills, and mountain valleys with an overstory of sagebrush and an understory of grasses and forbes for breeding habitat which maybe adjacent to wet meadow areas for brooding habitat. Low density sagebrush on south and southwestern slopes below ca. 6500 feet for winter habitat.	Occupied habitat within a ½-mile radius of the project area, but no suitable habitat within the project area.

Table 1. Special status species potentially occurring in the project area (continued)

Species	Status[a]	Habitat Requirements	Suitable Habitat Present?
Birds (continued)			
Lewis's woodpecker (*Melanerpes lewis*)	SPC	Within Utah, found in central part of state in open park-like ponderosa pine forests. Attracted to burned Douglas-fir, mixed conifer, pinyon-juniper, riparian, and oak woodlands. Prefers understory of grasses and shrubs to support insect prey populations. Nests in dead trees and stumps.	No suitable nesting habitat in the project area. Occurrence in the project area is unlikely based on the lack of Ponderosa pine or burned habitat and lack of understory in Douglas fir and Gambel oak.
Northern goshawk (*Accipiter gentilis*)	CS	Uncommon, permanent resident in Utah. Prefers montane forests and riparian zone habitats.	No suitable habitat in the project area.
Short-eared owl (Asio flammeus)	SPC	Large open grassland or non-riparian wetland areas, such as hayland, retired cropland, small-grain stubble, shrub-steppe and wet meadow zones of wetlands. Breeds in Utah in wetlands and grassland habitat; in winter roosts in forests and woodlands, forages in agricultural fields.	Occupied habitat in the vicinity of the project area, but no suitable breeding or foraging habitat within or adjacent to the project area.
Three-toed woodpecker (*Picoides tridactylus*)	SPC	Engelmann spruce, sub-alpine fir, Douglas fir, grand fir, pondersosa pine, tamarack, aspen, and lodgepole pine forests, generally above 8,000 feet. Require soft wood for excavation and scaly barked trees or snags infested with boring insects for foraging.	No suitable habitat in the project area.
Western Yellow-billed cuckoo (*Coccyzus americanus occidentalis*)	ESA C	Rare breeder in Utah. Large blocks of riparian habitat with dense sub-canopies below 6,500 feet.	No suitable habitat in the project area.
Mammals			
Black-footed ferret (*Mustela nigripes*)	ESA LE	Underground prairie dog borrows. Reintroduced to the Coyote Basin of Uintah County, Utah.	Project area is outside of species' known distribution.
Canada lynx (*Lynx canadensis*)	ESA LT	Montane conifer forests. Rare in Utah.	Project area is outside of species' known distribution.
White-tailed prairie dog (*Cynomys leucurus)*	SPC	Similar to other prairie-dogs, these form colonies and spend much of their time in underground burrows.	Project area is outside of species' known distribution.

Source: Utah Conservation Data Center, <http://dwrcdc.nr.utah.gov/ucdc/ViewReports/te_cnty.htm>; <http://dwrcdc.nr.utah.gov/ucdc/ViewReports/sscounty.htm>; and <http://www.fws.gov/utahfieldoffice/Documents/Species%20by%20County_12092010.pdf>. Accessed December 15 2010.

[a] Status definitions: SPC=Wildlife of Special Concern in Utah, CS=Species receiving special management under a Conservation Agreement in order to preclude the need for Federal listing, ESA=Endangered Species Act, C=Candidate, LE=Listed Endangered, LT=Listed Threatened

5. Habitat Suitability for the Greater Sage-grouse

This section provides an informed evaluation of the habitat suitability of the developable property for greater sage-grouse (*Centrocercus urophasianus*) in various seasons. It is based on field surveys and 2009 aerial imagery interpretation of the vegetation types in the project area. It is also based upon findings in recent published research studies and from the greater sage-grouse conservation plan for Morgan and Summit Counties, Utah (MSARM 2006).

The proposed Park City Heights development project lies within an area presently mapped by the UDWR as greater sage-grouse habitat. A shapefile of the property boundaries, including lands north of Silver Creek to the junction of SR 248 and US 40, was submitted to the UDWR along with a request for a sensitive species overview of the area. A response letter dated December 13, 2010 (Appendix C) stated that "Within a ½-mile radius of the project area (sections 2 and 8, Township 2 South, Range 4 East), the Utah Division of Wildlife Resources (UDWR) has recent records for greater sage-grouse." No additional information on the sage-grouse occurrences was provided by UDWR.

In 1999, the UDWR mapped at a 1:980,000 scale the extent of seasonal habitat types for greater sage-grouse in the Morgan and Summit Counties Resource Area (MSARM 2006). Figure 4 from that report depicts sage-grouse nesting and brood habitat. It is of sufficient resolution to depict occupied nesting and brood habitat in the valley drained by Silver Creek, including the Richardson Flat area. Figure 5 from that report depicts winter habitat over the entire project area and region. These maps appear to be derived from the SGID93_BIOSCIENCE-Habitat-SageGrouseBrood and SGID93_BIOSCIENCE-Habitat-SageGrouse Winter geographical information system (GIS) data layers available at the Utah GIS Portal. Those data sets represent sage-grouse brooding and winter use areas in Utah as determined by UDWR field biologists in spring 1999. They show brood habitat extending into the project area and winter habitat over the entire property. Noteworthy is that boundaries of both potential habitats are highly generalized at this mapping scale, and thus included areas which scientific studies have shown are not preferred habitat.

Doherty, et al. 2010 produced a map depicting the location and relative population size of sage-grouse breeding areas (leks) in the western United States. For the Park City area of the map, the Silver Creek valley, extending from Richardson Flats north 4 miles to Interstate 80, has at least three leks, which are all categorized in the smallest population size class. These low density leks are shown as 8.5 kilometer (km) diameter areas, to denote the typical range around a lek within fragmented habitats like Richardson Flat. The implication of this size class analysis is that leks like the ones in the project vicinity should be considered of lower priority. Further evidence of a low density of birds in western Summit County is provided by lek survey results in a report by UDWR (2005). It reports three leks surveyed in 1995 and one lek in 2000 and 2001. There were only one male and three females birds counted. However, not all leks

are counted on a reoccurring basis.

Suitable habitat depends on a wide variety of factors which can transform a habitat with preferred vegetation into one that sage-grouse won't occupy. For the property area, these exclusionary factors included poor quality habitat, such as exotic plant dominance and even-aged structure; unsuitable habitat such as oak shrubland; unsuitable topography and aspect; omnipresent human disturbance such as roads, parking lots, and construction staging areas; transmission lines and poles; presence of known predators; toxic soils; wildlife exclusion fencing; juniper encroachment; habitat fragmentation; and adjacent developed land. The following discussion provides evidence to support a hypothesis that the combination of these factors within the property area makes the developable property poorly suited to supporting sage-grouse in any season.

Preferred and suitable habitats for sage-grouse depend, in part, upon the topography, as well as the structure and composition of existing vegetation, which varies by season. Preferred topography and aspect for sage-grouse wintering habitat has been determined in research studies summarized by Connelly et al. (2011) to be on south or southwest-facing aspects. These aspects capture sun at the best angles for warming sage-grouse during sunny days. They are also on gentle slopes of less than 5 percent grade. The project area is the direct opposite, being primarily northeastern slopes and in part over 5 percent grade. Most areas of undeveloped land near known leks and within these preferred winter habitat topographic parameters are east of the property area across US 40; on the eastern side of Silver Creek and Richardson Flat.

Sage-grouse are obligate sagebrush species, meaning that sagebrush (*Artemisia* sp.) is a necessary component of their habitat. The species, height, and cover of sagebrush selected as habitat depends upon the season and type of activity the sage-grouse are engaged in (i.e., breeding, nesting/brooding, or wintering). Much of the developable property is Gambel oak, which immediately excludes it from consideration as sage-grouse habitat. Research studies summarized by Connelly et al. (2011) shows that preferred sagebrush habitat must lie within a restricted range of cover and height classes for the shrub. These parameters varied by state. In Utah, satellite imagery was used by Homer et al. (1993) to classify winter habitat of sage-grouse into seven shrub categories. Wintering grouse preferred shrub habitats with medium to tall (16-24 inch high) shrubs and moderate shrub canopy cover (20–30 percent). Sage-grouse avoided winter habitats characterized by medium (16-20 inch high) shrub height with sparse (less than14 percent) sagebrush canopy cover. However, Bohne et al. (2007) caution that efforts to inventory wintering areas need to validate the maps of potential sage-grouse winter habitat indicated by vegetation and snow deposition patterns developed from aerial or satellite imagery. They summarized the winter range sagebrush preferences of sage-grouse in Wyoming as 10-30 percent canopy cover, 10-14 inches in height above snow, with preference for windblown ridges with low sagebrush in a landscape mosaic of taller

sagebrush. Sage-grouse winter range in Wyoming does not occur above 7,500 feet elevation, or in areas where there is Juniper (*Juniperus osteosperma*) encroachment.

Based upon eight transects of 100-200 feet in length, completed during the site visit when there was an average of nine inches snow cover, most of the sagebrush within the developable property exceeded the optimum height or cover parameters for preferred winter habitat. The average cover along the transects was 28 percent (range 8-46), with an average height of 32 inches (i.e., 23 inches emergent above snow; height range of 21 to 41 inches). However, winter sagebrush cover is dependent on snow depth. As the depth increases, emergent cover decreases. Records compiled by the Western Regional Climate Center indicate the average winter snow depth in Park City is 5-6 inches, with a February maximum of 18-20 inches. Thus as the winter progresses, less sagebrush is exposed and a migratory sage grouse population could move 50-100 miles (Patterson 1952) to lower elevations and milder conditions. When snow depths reach 14 inches, sage-grouse abandon flat areas for drainages and steeper southwest facing slopes (Autenrieth 1981, Hupp and Braun 1989). Thus, even if an optimum combination of sagebrush cover and height were attained sometime between January and March on the developable property, the 14 inches or greater average snow depth and northeast-facing aspect of the developable property would preclude winter occupancy by sage-grouse.

Brooding habitat must have available succulent forage. The sagebrush in the project area would classify under the National Vegetation Classification system as an *Artemisia tridentata* ssp. *vaseyana* / *Bromus tectorum* (Mountain big sagebrush / cheatgrass) Semi-natural Shrubland [and Sparse Shrubland] Association. The herbaceous understory vegetation is dominated by an exotic grass and poor in the quantity and quality of forage preferred by sage-grouse during brooding season.

Sage-grouse are potentially subject to increased mortality and disturbance resulting from manmade structures including fences, power lines, and other tall structures (wind turbines, communication towers), though this threat is poorly understood (MSARM 2006). Sage-grouse may fly into these structures which can result in death or may injure them to the point where they cannot effectively avoid predators. Sage-grouse mortalities due to collision with power lines, fences, and other tall structures have been observed in Colorado, Utah, and other areas (Gunnison Sage-grouse Rangewide Steering Committee 2005). Photograph 11 shows a five foot high, hog-wire fence along US 40 and an embankment fragmenting the developable property from more extensive and diverse sagebrush habitat in Richardson Flat, to the east. It apparently was installed to prevent moderate-sized mammals from entering the highway right-of-way and being a collision risk. Given its height and orientation along the crest of the embankment, it could present a hazard to low-flying sage-grouse. The poles provide perches for avian predators of sage-grouse, which include black-billed magpie and common raven (both observed on a December 7 site visit), as well as eagles and hawks (MSARM 2006). The predators can also perch on the edge of the embankment and

command a view of the entire acreage of sagebrush in the project area (Photographs 3 and 11). Along the oak/sagebrush transition are encroaching junipers which have been highline browsed in winter by deer and serve as perches for predators. Studies in Nevada have shown sage-grouse leks and brooding areas are not found within view of junipers, due to threats from predators (Dallin 2010).

While sagebrush adjacent to riparian zones can be a preferred habitat for nesting, a combination of exclusionary factors makes the developable property unsuitable habitat. A power line crosses the north end of the developable property near to the Silver Creek riparian area. The power line poles serve as perching sites for avian predators. From atop these poles, some of which are shown in Photograph 11 the entire upland/riparian transition area within the project area is visible to predators. Ravens were observed on these poles during the December field visit.

Welsh (2005) summarized the available research on sage-grouse habitat preference and wrote that "the ideal brooding habitat would consist of big sagebrush with a canopy cover of some 25 percent with a small creek running through it. A riparian zone about 50 feet wide would reduce the big sagebrush canopy cover to zero and provide the needed forbs for the chicks to eat with the adjacent big sagebrush cover providing shading, loafing, escape, food, and a source of insects." In contrast, the Silver Creek floodplain is approximately 500 feet wide and toxic waste underlies the riparian vegetation and pools formed by beaver activity. On the rail trail, the toxic ballast of the former Union Pacific Railroad has been partly paved over and presently provides a pedestrian rail trail through the riparian zone (SCWSG 2006). The riparian soils are also toxic from the tailings of historic mining operations (Weston 1989). The toxicity is from heavy metals, primarily zinc, lead, and arsenic (EPA 2005). Grazing and browsing the vegetation rooted in these soils leads to bioaccumulation of the heavy metals in the food chain. The combination of all these exclusionary factors makes the north end of the property area both unsuitable and unfit habitat for sage-grouse.

Sage-grouse avoid areas of human presence. The perimeter of the developable property is heavily used by humans and is laced with two-track roads. The northern boundary has vehicle traffic on the paved Richardson Flats Road. Photograph 12 shows a parking and construction staging area in the northeast corner of the developable property. A construction company operates a busy yard just across Silver Creek from the northwest corner of the project area. There are existing subdivisions adjacent to Gambel oak shrublands and mountain big sagebrush-Saskatoon serviceberry shrubland habitats just beyond the west property boundary. The entire eastern property boundary is an embankment for US 40. Only the southern property boundary is unoccupied by humans. Thus, sage-grouse within the fragmented sagebrush habitat of the property cannot escape the visual and auditory presence of humans.

6. Findings

The location of the proposed Park City Heights development provides limited habitat for native wildlife species. Habitat values have been compromised due to adjacent highways, roadways, and fences that fragment habitats; the presence of power lines and power poles; the severely degraded condition of the meadow zone; and presence of toxic soils within the Silver Creek riparian corridor. The best habitats present on the property include oak shrubland on the slopes, and a small stand of Douglas-fir trees; these areas and the riparian corridor will remain as open space. Park City's SLO Zone Regulations limits the density of residential development of oak shrublands. This vegetation community provides sensitive wildlife habitat and occupies steep slopes generally unsuitable for development. Within the project area, approximately 4-8 acres of 108 acres of oak shrubland habitat will be impacted by the proposed development. Development is proposed for the edge of areas classified as oak shrubland. However, at this location the vegetation is composed of a poor diversity of sagebrush and low stature oaks, is fragmented by numerous openings, does not include the steep slopes, and is currently impacted by off-rood vehicle traffic and dirt roads that cross the area. The 100-104 acres of oak shrubland on the property that is identified for open space and will benefit from closing vehicle access and blocking dirt roads.

The proposed Park City Heights development is consistent with Section (B) Jurisdiction, subsection (1) Protection of Wildlife Habitat and Ecological Character, in the Park City Municipal Code – Title 15 LMC, Chapter 2.21 Sensitive Land Overlay Zone (SLO) Regulations. Section 6, Findings, addresses the four jurisdictional paragraphs under Section (B) (1) with respect to: (a) Construction timing, (b) Sensitive and specially valued species, (c) Connections, and (d) Wildlife conflicts.

Construction timing

Due to the project areas small size and the minimal availability of habitat for nesting by birds, few avian species are anticipated to occur; however, vegetation clearing and grubbing would still be minimized from April through July to avoid disturbance to nesting birds. No mass grading of open areas would occur during the avian nesting season, though clearing and grubbing limited to streets and buildable pads could occur during this time period if a detailed search for active bird nests is conducted. If a nest is found it would either be avoided until it is no longer in use, or a licensed bird rehabilitation center would recover the nestlings, meeting compliance requirements of the Migratory Bird Treaty Act.

Sensitive and Specially Valued Species

No habitats that would be used by threatened, endangered, or sensitive species during any part of the year were identified in or adjacent to the project area. Therefore, the proposed project will have no effect on any threatened or endangered species or its habitat and will not impact any sensitive species. The following paragraphs summarize the reasons why the three sensitive species listed by the Utah Department of

Natural Resources in a database search, as indicated by the letter provided in Appendix C, are not affected or impacted.

Greater sage-grouse

The Utah Department of Natural Resources indicated a recent greater sage grouse record from within one half mile of sections 2 or 11, Township 2 South, Range 4 East, but did not provide further information on its location. A literature search revealed very small leks a few miles north of the project area, with a buffer area of possible brooding habitat extending to approximately one mile north of the project area. Section 5 above (Habitat Suitability for the Greater Sage-grouse) concludes that neither the project area nor adjacent lands are suitable habitat for this species in any season.

Columbia spotted frog

The Utah Department of Natural Resources indicated a historic Columbia spotted frog occurrence from the vicinity of the project area, but did not state when nor where the species was found. Bailey, et al. (2006) stated that historic records are limited to museum collection records and anecdotal information from surveys conducted in the mid 1900's. During 1991 and 1992, all historically known locations as well as other suitable wetlands within its historic range, were surveyed for the occurrence of spotted frog. Results of that survey indicated that remaining nearby populations were near the present day Jordanelle Reservoir at Rock Cliff. This is known as the Jordanelle/Francis population (approximately 8 miles southeast of the project area), which previously included many extirpated populations extending north along Ross Creek, now under the reservoir pool. Thus, the applicable historical records for this species were all near Jordanelle Reservoir and were no longer extant by 1992. Additionally, since Silver Creek does not have springs and seeps with a permanent water source that does not freeze in winter, there is no suitable habitat within or adjacent to the project area.

Short-eared owl

The Utah Department of Natural Resources indicated a recent short-eared owl occurrence from the vicinity of the project area, but did not state where the species was found. US Geological Survey and Utah State University (1999) showed that the nearest occurrences of short-eared owls were wintering populations 16 miles away at Coalville, Utah. This owl breeds in Utah in wetlands and grassland habitat. In winter it roosts in forests and woodlands, and forages in agricultural fields. If an incidental occurrence of a short-eared owl were to roost near the project area, it would be in oak scrub or isolated trees – habitats which are being protected in the proposed development. There are no suitable breeding or foraging habitats within or adjacent to the project area. Suitable habitat would require large open grassland or non-riparian wetland areas, such as hayland, retired cropland, small-grain stubble, shrub-steppe, and wet meadow zones of wetlands. The adjacent Silver Creek habitat is unsuitable as it lacks wet meadows. Short-eared owls do not

typically utilize riparian areas in Utah (Romin and Much 1999). Rather, they exhibit a preference for non-riparian meadows with sedges and grasses under 1.5 feet tall (BLM 2006), rather than the tall cattail and willow vegetation present along adjacent the reach of Silver Creek. The nearest available foraging habitat would be agricultural fields, which are outside the project area.

Connections

The proposed development would occur on approximately one-third (70-80 acres) of the developable property. As proposed, the development would be confined to mountain big sagebrush habitat and areas of ruderal vegetation. The project would result in a reduction in low quality wildlife habitat. Undeveloped lands on the developable property are contiguous with conservation easements on adjacent properties, thus provide interconnected habitats for wildlife occurring in the project vicinity. Species that currently occupy open space habitat are not likely to be substantially affected by a reduction in mountain sagebrush habitat. In addition, there are large areas of open space adjacent to undeveloped land within the developable property.

Wildlife conflicts

No wildlife conflicts are expected to occur with future occupants of the proposed development.

7. Recommendations

- The existing riparian areas include toxic soils and minimal quality habitat; however any future project area developments will minimize impacts to riparian areas and wetlands in the project area.
- Due to the close proximity of US Highway 40 and SR 248 there is a greater likelihood for noxious and invasive weeds colonizing the project area during construction activity; therefore, noxious weeds in the project area will be treated to prevent their spread throughout the project area and into adjacent areas.
- Due to the project areas small size and the minimal availability of habitat for nesting by birds, few avian species are anticipated to occur; however, vegetation clearing and grubbing would still be minimized from April through July to avoid disturbance to nesting birds. No mass grading of open areas would occur during the avian nesting season, though clearing and grubbing limited to streets and buildable pads could occur during this time period if a detailed search for active bird nests is conducted. If a nest is found it would either be avoided until it is no longer in use, or a licensed bird rehabilitation center would recover the nestlings, meeting compliance requirements of the Migratory Bird Treaty Act.
- Signage will be provided along the multi-use path to alert recreational users to the presence of wetland habitats and the need to stay on paths to protect them. Alternatively, signage that highlights

the opportunities for wildlife watching or ecological discovery (e.g., the identification of vegetation components or observation of ecological processes) could be provided, resulting in an enhanced recreational experience for those passing through the project area.

- Close existing trails to motorized vehicles, especially those presently extending from the sagebrush habitat into the oak shrubland. This will minimize human disturbances to wildlife in the oak shrubland habitat.

8. Coordination

UDWR was consulted for species concerns during the development of this Biological Resources Overview. A letter from the UDWR regarding the project indicated that UDWR has not documented the presence of any special status species within the developable property, although known and historical special status species occurrences are within the project vicinity (Appendix C).

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10. Additional Information

Gary A. Reese conducted a field review of the project area on December 6 and 7, 2010. Photographs and field notes are on file at Logan Simpson Design Inc. This document was prepared by Gary Reese under the supervision of Bruce Palmer. Brief resumes of each follow:

Gary Reese, Project Biologist

Gary is a senior biologist who began his professional experience in 1975. He earned a master's in range ecology from Utah State University (USU) and has worked throughout Utah with the USDA Forest Service (USFS); USU Ecology Center; and U.S. Geological Survey. His expertise is in assessing vegetation resources; evaluating wildlife habitat; developing habitat management and conservation plans; wetland delineation; noxious plant inventory; and special status species surveys. Gary has worked nationwide both for and within federal, regional, county, and city governments, identifying and evaluating over 1,100 areas for suitability as parks, wildlife areas, conservation easements, open space, and wetland reserves. He has also represented the interests of private, corporate, and non-profit landowners, conducting natural resource assessments and developing conservation plans. Gary has 30 years of experience in presenting findings to governmental entities, such as the USFS Intermountain Region; Utah Ecological Services Field Office (USFWS); the Utah Water Board; and regional Water Conservancy Districts.

Bruce Palmer, Senior Biologist/Logan Simpson Design Director of Biological Services

Bruce is a senior ecologist/wildlife biologist with over 30 years of experience in natural resource and endangered species management, and the application of environmental regulations with a focus on the Endangered Species Act (ESA) and National Environmental Policy Act (NEPA). Bruce has held program management positions with the Arizona Game and Fish Department (AGFD), and U.S. Fish and Wildlife Service (USFWS) in Arizona and California, leading conservation programs for some of the rarest species throughout the Southwest and Intermountain West. Bruce is considered an expert on species distribution and habitat relationships. For the USFWS, Bruce implemented and supervised species' recovery programs and interagency consultation under the ESA for numerous listed species of plants and animals. As coordinator of the USFWS California Condor Recovery Program, Bruce directed this high profile, multi-million dollar international conservation program that included captive breeding and releases to the wild in California, Arizona, and Baja California. Over the years, Bruce has worked on projects throughout the West, and has gained in-depth experience in environmental planning and compliance documentation; endangered species consultation; big game management; vegetation community delineation; habitat restoration; on-the-ground implementation of plant and animal species surveys, research, and management; and evaluating effects to species from a wide variety of land management actions.

11. Signatures

Prepared By: _____ Date: March 2, 2011

Gary A. Reese, Senior Biologist
Logan Simpson Design Inc.

Reviewed/Approved By: _____ Date: March 2, 2011

Bruce Palmer, Senior Biologist
Logan Simpson Design Inc.

Appendix A

Preliminary Site Plan

PARK CITY HEIGHTS

CONCEPTUAL MASTER PLAN

NOVEMBER 7, 2010

Appendix B

Photographs

Photograph 1. Use of a collapsible shovel to sample vegetation under the snow pack.

Photograph 2. View of the developable property from the top of a ridge along the south west border of the property. Note US 40 running north south and SR 248 coming in from the west (left side of photograph).

Photograph 3. View of developable property looking north north-east from US 40 grade.

Photograph 4. View northeast along the rail trail. The Silver Creek riparian area is on the left and the sparsely vegetated wet meadow is on the right.

Photograph 5. View upslope along the powerline crossing the northern end of the developable property. This line passes through Gambel oak shrubland.

Photograph 6. View downslope along the powerline, looking east across the mountain big sagebrush in the northern part of the developable property. This line is close to the riparian area and the poles are perching sites for raptors.

Photograph 7. Mountain big sagebrush and Saskatoon serviceberry habitat on the ridge top at the southern end of the developable property.

Photograph 8. Detail of mountain big sagebrush emergent from the snowpack on the ridge line of the developable property. Abundant mammal tracks were present in this area, which abuts Deer Valley subdivisions.

Photograph 9. Quaking aspen shrubland illustrating aspen suckers and saplings along the wet meadow.

Photograph 10. Abandoned railroad grade along northern end of developable property.

Photograph 11. US 40 and right-of-way fence, looking south along a frontage road from the east side of developable property.

Photograph 12. Excavated area serving as a parking lot at northeast corner of the developable property.

Appendix C

UDWR Letter

JON M. HUNTSMAN, JR.
Governor
GARY R. HERBERT
Lieutenant Governor

State of Utah
DEPARTMENT OF NATURAL RESOURCES
MICHAEL R. STYLER
Executive Director
Division of Wildlife Resources
JAMES F. KARPOWITZ
Division Director

December 13, 2010

Gary Reese
Logan Simpson Design
3753 Howard Hughes Parkway #235
Las Vegas, NV 89169

Subject: Species of Concern Near the Richardson Flats Residential Development, Park City, Utah

Dear Gary Reese:

I am writing in response to your email dated December 8, 2010 regarding information on species of special concern proximal to the proposed Richardson Flats residential development located in Sections 2 and 11 of Township 2 South, Range 4 East, SLB&M, in Park City, Summit County, Utah.

Within a ½-mile radius of the project area noted above, the Utah Division of Wildlife Resources (UDWR) has recent records for greater sage-grouse. In addition, in the vicinity there are recent records of occurrence for short-eared owl and historical records of occurrence for Columbia spotted frog. All of the aforementioned species are included on the *Utah Sensitive Species List*.

The information provided in this letter is based on data existing in the Utah Division of Wildlife Resources' central database at the time of the request. It should not be regarded as a final statement on the occurrence of any species on or near the designated site, nor should it be considered a substitute for on-the-ground biological surveys. Moreover, because the Utah Division of Wildlife Resources' central database is continually updated, and because data requests are evaluated for the specific type of proposed action, any given response is only appropriate for its respective request.

In addition to the information you requested, other significant wildlife values might also be present on the designated site. Please contact UDWR's habitat manager for the northern region, Scott Walker, at (801) 476-2776 if you have any questions.

Please contact our office at (801) 538-4759 if you require further assistance.

Sincerely,

Sarah Lindsey

Sarah Lindsey
Information Manager
Utah Natural Heritage Program

cc: Scott Walker, NRO

1594 W. North Temple, Suite 2110, PO Box 146301, Salt Lake City, UT 84114-6301
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UTAH DNR WILDLIFE RESOURCES

The Boyer Company

Memo

To: Kirsten Whetstone

From: Patrick Moffat

CC:

Date: 03/04/2011

Re: PC Heights Grading

As requested at our last Planning Commission meeting on February 23, 2011, attached hereto please find an exhibit showing 3 cross sections of cul-de-sacs within Park City Heights.

Please note that the maximum cut at any point is 10.4'. The maximum vertical distance from road to top of slope is approximately 20'. All cuts are shown with a 2:1 slope that catches natural grade. It is our intent to re-vegetate all fill and cut slopes.

Upon build out, the homes should screen all cuts and fills from view. Specifically, Cross Section #1 shows how a home could potentially shield any cut slopes. In the few areas where there are cut slopes and no lots or homes to block the cut slope, we would look at terracing the cuts via small retaining walls, if the soil conditions allow.

Please let me know if you have questions.

HORIZONTAL GRAPHIC SCALE

20 0 10 20 40

(IN FEET)

HORZ: 1 inch = 20 ft.

ENSIGN

SALT LAKE CITY
90 E. Fort Union Blvd
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Midvale UT 84047
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Fax: 801.255.4449

LAYTON
Phone: 801.547.1100

PLEASANT GROVE
Phone: 801.796.8145

TOOELE
Phone:435.843.3590

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FOR:
BOYER PARK CITY JUNCTION, LC
90 SOUTH 400 WEST SUITE 200
SALT LAKE CITY, UTAH 84101

CONTACT:
PATRICK MOFFAT
PHONE: 801-521-4781
FAX:

PARK CITY HEIGHTS

PARK CITY, UTAH

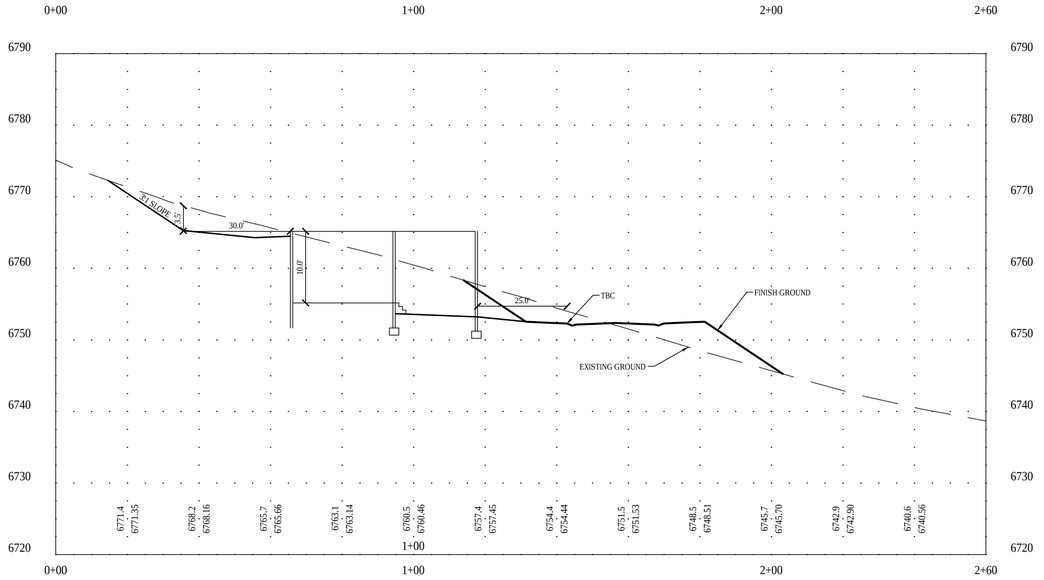
LICENSED PROFESSIONAL ENGINEER
No. 169379
ROBERT Q. ELDER
STATE OF UTAH

NO.	DATE	REVISION	BY
1			
2			
3			
4			
5			
6			
7			
8			

CUL-DE-SAC CROSS SECTION LOCATIONS

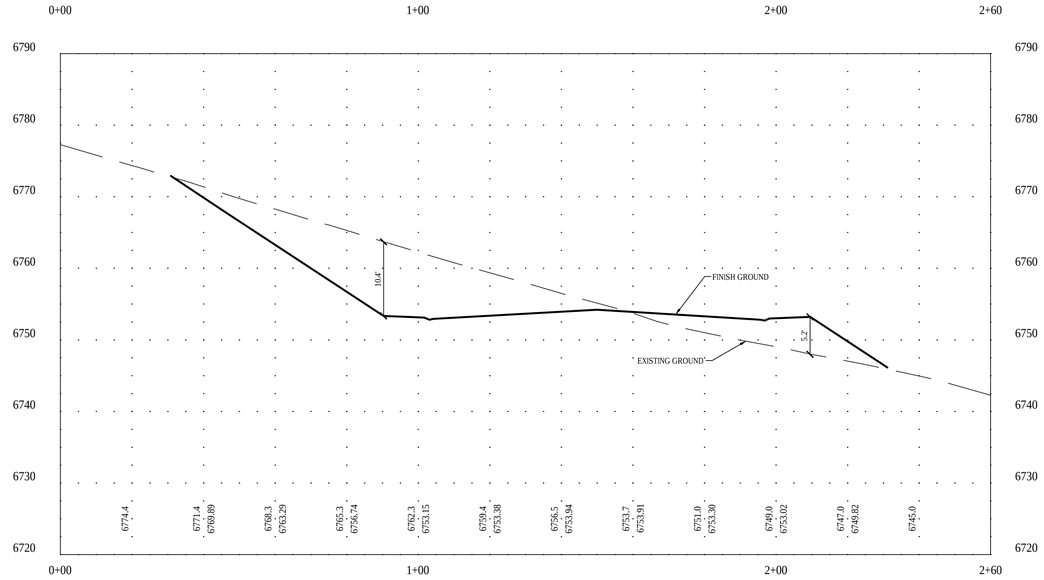
PROJECT NUMBER: 4976
DATE: 3/3/11
DRAWN BY: B. HADLEY
CHECKED BY: J. FORD
PROJECT MANAGER: R. ELDER

EX-1



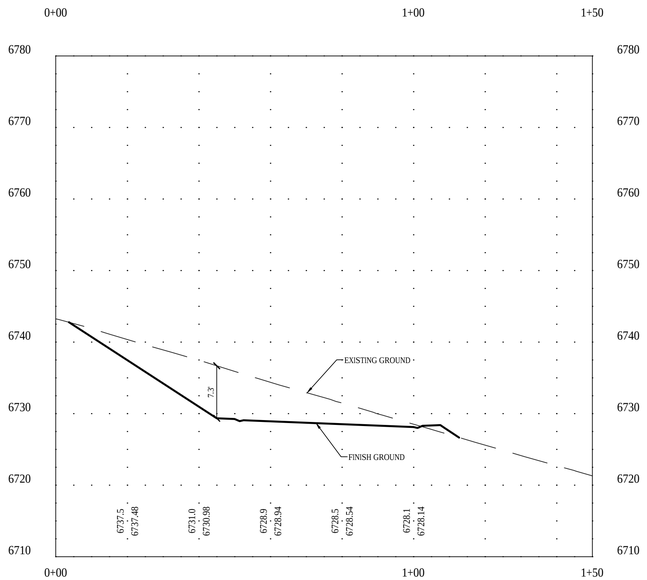
1 CROSS SECTION 1

Scale: 1"=20'



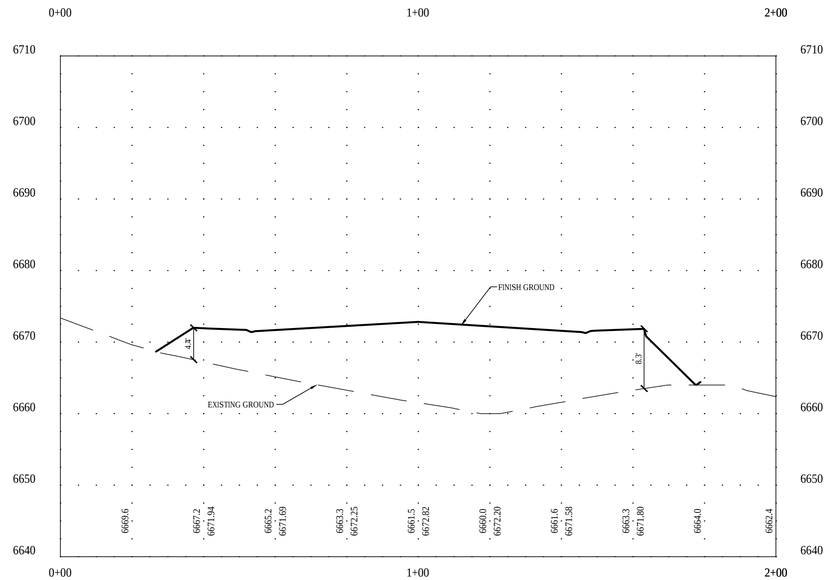
2 CROSS SECTION 2

Scale: 1"=20'



3 CROSS SECTION 3

Scale: 1"=20'



4 CROSS SECTION 4

Scale: 1"=20'

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PHONE: 801-521-4781
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PARK CITY HEIGHTS

PARK CITY, UTAH

LICENSED PROFESSIONAL ENGINEER
No. 169379
ROBERT Q. ELDER
STATE OF UTAH

NO.	DATE	REVISION	BY
1			
2			
3			
4			
5			
6			
7			
8			

CUL-DE-SAC CROSS SECTIONS

PROJECT NUMBER: 4976
DATE: 3/3/11
DRAWN BY: B. HADLEY
CHECKED BY: J. FORD
PROJECT MANAGER: R. ELDER

EX-2