

FLYING HORSE NORTH

A PLANNED UNIT DEVELOPMENT



LAND SUITABILITY ANALYSIS

SHEET INDEX

- Sheet 1 of 6: Written Analysis
- Sheet 2 of 6: Elevation Analysis
- Sheet 3 of 6: Slope Analysis
- Sheet 4 of 6: Natural Features
- Sheet 5 of 6: Vegetation & Visual Analysis
- Sheet 6 of 6: Composite Analysis



N.E.S. Inc.
 619 N. Cascade Avenue, Suite 200
 Colorado Springs, CO 80903
 Tel: 719.471.0073
 Fax: 719.471.0267
 www.nescobrdo.com
 © 2012. All Rights Reserved.

PLANNED UNIT DEVELOPMENT

FLYING HORSE
 NORTH

PLANNED UNIT
 DEVELOPMENT

DATE: 04-04-16
 PROJECT NO: J-HAYWARD
 PREPARED BY: E. MARSHALL

LAND
 SUITABILITY
 ANALYSIS

DATE: 07-25-16 BY: KMM PER REVIEW COMMENTS

Index of 6

LAND SUITABILITY ANALYSIS. Land Suitability Analysis is a process employed to determine the most appropriate uses of land. Using information about a site's physical characteristics and features, an assessment is made of topography, vegetation, soils, wildlife - particularly threatened and endangered species, - drainage patterns including wetlands, and potential visual impacts. The assessment "layers" potential impacts of these features to create, by mapping, a composite of constraints to use of land. The following factors have been analyzed and mapped to form a basis for the land use plan proposed in this application.

Man-made Features. No man-made features are found on this site which would contribute to or influence the design of the subdivision. However, land use plans and county transportation systems will influence any development proposal. This property is within the Black Forest Preservation Plan boundary and is affected by the recommendations of that Plan. Conformance with the Plan is discussed in the Letter of Intent, however, there are several recommendations of the Plan which have significant impact on any proposed land use. Residential density is recommended as a maximum of one home site per 5 acres of land. The recommendation dictates a rural residential land use. Land use transitions to existing residential uses are also a recommendation of the Plan, which should translate to compatible lot sizes within the project as it borders adjacent properties. The Black Forest Preservation Plan also recommends that density be clustered in forested areas and prairie lands be developed in an open character.

County roads surround the site and provide for site access. Access will be constrained by the classification of adjacent roads, particularly Black Forest Road and Hodgen Road. Internal circulation is discussed in the Letter of Intent.

Elevation and Slope. The Elevation Analysis of Flying Horse North reflects the general slope of the land. The property is somewhat unique in that the Palmer Divide traverses the site creating slope characteristics to the northeast and to the southwest. The highest elevations are located along the southern boundary of the site east of the Palmer Divide, and along the Divide itself. The low point of the site is in the extreme southwest corner. The range in elevation is from approximately 7370 feet to 7640 feet. *Figure 02.*

A Slope analysis is one of the primary determinants of development suitability. The entire site was mapped using two foot contour intervals and slope categories of 0% - 8%; 8% - 12%; 12% - 15%; 15% - 25%; and greater than 25% as shown on *Figure 03.* These categories reflect generally accepted ranges that relate to land development as follows:

- 0% - 8% - generally unconstrained
- 8% - 12% - roads can be constructed to meet acceptable grades
- 12% - 15% - some road grade constraints; good building sites
- 15% - 25% - "hillside characteristics" - good building sites if accessible
- Greater than 25% - too constrained for development

The Slope Analysis reveals that there are two noticeable land characteristics found on the property. The eastern one-half of the property has gently rolling hills with slopes ranging from 0 to 12% with very limited areas of slopes reaching 25%. The steeper slopes are found along the sparse intermittent drainages that flow northward and are generally associated with erosion or man-made earthen structures. The western portion of the property has a more dense drainage pattern configuration with more undulating land. This portion of the property consists of several drainage ravines that typically run from the northeast to the southwest. Slopes in these areas are generally less than 25% with very limited areas above 25%. Generally the ridge lines and the drainage lines are gentle in slope with the steeper slopes occurring along the hillsides.

Natural Features. *Figure 04,* the Natural Features Map, shows the vegetation inventory for Flying Horse North. The Natural Features Map was initially prepared by using aerial photography and mapping, which was then field verified by N.E.S. Inc.

The site consists of rolling hillside topography and drainage ways, nestled in the far western section of the Black Forest in El Paso County, Colorado. Ponderosa Pine forest predominately covers the western half of the property. The under-story ground covers consist of a vast variety of native wild flowers, herbaceous perennials, and some low growing succulent species. The property also contains open meadow areas and drainage corridors that are covered in both short and tall grass species native to the foothills and western prairie edge to the east. Smaller pockets of scrub oak can be found at the lower elevations of the site to the south as well as aspen and "volunteer" deciduous tree material at drainage areas.

The Natural Features Map reveals a network of primary and secondary ridgelines that originate along the Palmer Divide and run towards the Southwest. There are numerous high points found along the ridgelines. The general drainage pattern mimics the ridgelines as they flow from the Palmer Divide to the south-southwest. The eastern one-half of the property reflects less pronounced ridgelines and ravines. This land has generally more rolling landscape. Stock ponds, located along most of the prominent drainages, are also shown on this map.

Floodplain/Drainage. There are no FEMA designated floodplains on this site. However, drainage is a significant design determinant. Drainage ways have been mapped as shown on *Figure 04.* Because this site is at the top of the Palmer Divide, drainage basins are small compared with most development projects. Stock ponds have been constructed throughout the property, primarily on the land east of the Palmer Divide, to control erosion. The MMDP for the project addresses how drainage detention and water quality will be addressed.

Wildfire. In the summer of 2013, the Black Forest Fire impacted portions of Section 36. Aerial photography and field reconnaissance has been used to identify areas of the site impacted by fire. *Figure 06.* Mitigation of burned areas, including removal of blackened trees and the re-vegetation of the forest floor to prevent erosion has been performed by the previous owner. Treatment of burned areas of the site has influenced the proposed land use plan.

A Wildfire Hazard and Mitigation Report has been prepared for Flying Horse North by Steve Spaulding. The Report is included as a part of the application. In summary, the Report classifies the forested land as a moderate risk for Wildfire due to past forest management and removal of fuel by the Black Forest Fire. The Report further recommends removal of additional fuel material (trees) to improve fire safety and to manage for a healthy forest. Forest Management recommendations are included for both developer and homeowners which will be included in HOA documents.

Geology and Soils. Soil properties can exert a strong influence on land use patterns. A need exists in all planning efforts to examine the soils present on a site in order to determine constraints to development or use, and to manage soil resources on site. Soil analysis was performed on Flying Horse North by Entech Engineering, Inc. In addition, N.E.S. Inc. reviewed the Soil Survey of El Paso County prepared by the U.S. Department of Agriculture. Both sources identify the soil types on Flying Horse North. Generally, all soil types, with the exception of very limited areas in obvious wetland/stream bed areas, are suitable for residential structures, pending detailed site review required at building permit stage. Prior to any development of the site, more specific soils analysis will be performed.

Visual Analysis. A visual analysis is an important aspect in determining land use alternatives. Visual impressions can add or detract from the image of the site and are significant in determining land use opportunities and constraints. Areas of visibility adjacent to roads, the visual content of short range and long range views from the site, and areas where views are blocked or screened by natural features forming barriers to views are all important considerations in visual analysis and land use planning. *Figure 05* depicts the Visual Inventory of Flying Horse North as well as a Visual Analysis Map superimposed on the Natural Features Map.

The Flying Horse North view shed encompasses the entire Front Range Mountains offering pristine views from the many ridge tops and higher elevation points of the site. The prairie lands on the eastern portion of the site also offer a panoramic view of the mountains. Views to the property from Highway 83 are buffered by dense forest, but will become filtered as vegetation is mitigated for wildfire. The Donald Wescott Fire Station is an example of how the eventual view from Highway 83 will change.

Both the northern and southern boundaries are border by rural-residential developments know as High Forest Ranch and Cathedral Pines. These higher-end developments are also heavily forested with Ponderosa Pines, similar to the Flying Horse North property. Views into the site from these lots are buffered or filtered by this vegetation. Sparse rural residential development and farm homesteads surround the site on the east and off of Holmes and Black Forest Road with open views into the property.

Wildlife CORE Consultants Inc., in a report entitled Habitat Assessment for the Flying Horse North Residential Development, El Paso County, Colorado, identified potential habitat for Preble's Meadow Jumping Mouse. No known population of this species occurs within project boundaries. The report recommends a detailed habitat assessment at the subdivision stage of development. The CORE report also recommends that a formal wetlands delineation and consultation with the Corps of Engineers be performed at the subdivision stage of development.

All development has impacts on wildlife. Covenants will be prepared at a later stage of development review that will address mitigation measures relative to wildlife. Wildlife can also be a nuisance. The current owners have implemented a controlled elk hunting program in order to "cull the herd" at the recommendation of the Colorado Division of Parks and Wildlife.

Conclusion

Flying Horse North Flying is appropriate for rural residential development. There are no significant man-made or natural constraints to development. Fire -wise practices and design should be employed in any development scenario. A development pattern consisting of clustered home sites is most appropriate and economical for rural residential land use.



N.E.S. Inc.
619 N. Cascade Avenue, Suite 200
Colorado Springs, CO 80903

Tel: 719.471.0073
Fax: 719.471.0267
www.nescolorado.com
© 2012. All Rights Reserved.

FLYING HORSE NORTH

PLANNED UNIT
DEVELOPMENT

DATE: 04-04-16
PROJECT: MGR
PREPARED BY: J. MAYNARD
K. MARSHALL

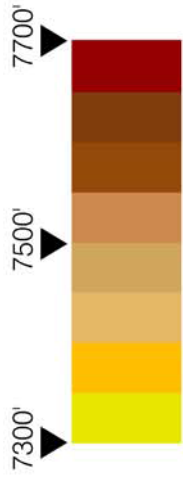
LAND
SUITABILITY
ANALYSIS

DATE: 07-25-16
BY: MHW
DESCRIPTION: PER REVIEW COMMENTS

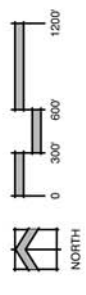
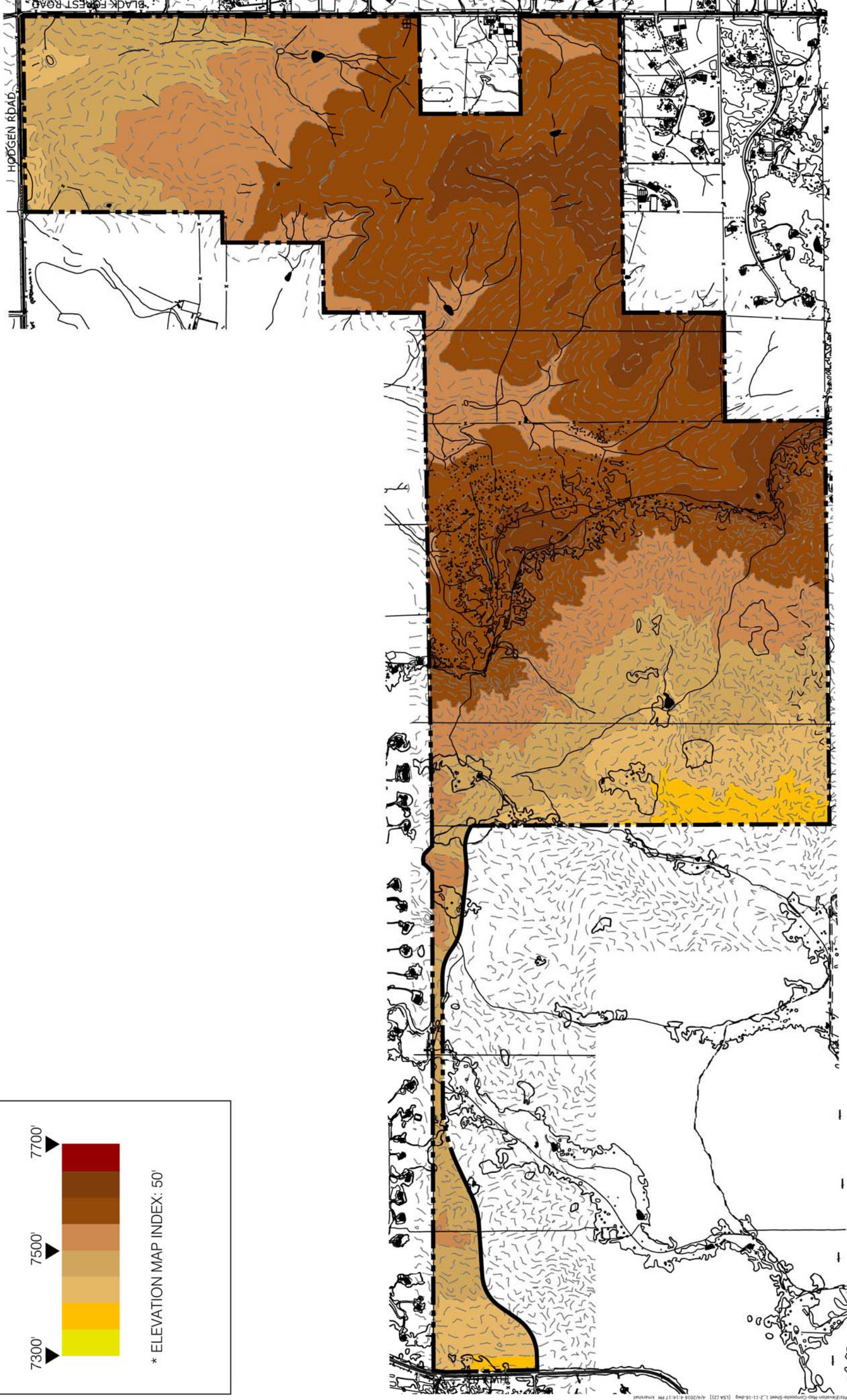
WRITTEN ANALYSIS

1
OF 6

LEGEND



* ELEVATION MAP INDEX: 50'



Land Planning
Landscape
Architecture
Urban Design



N.E.S. Inc.
619 N. Cascade Avenue, Suite 200
Colorado Springs, CO 80903
Tel. 719.471.0073
Fax 719.471.0267
www.nescolorado.com
© 2012. All Rights Reserved.

**FLYING HORSE
NORTH**

**PLANNED UNIT
DEVELOPMENT**

DATE: 06-15-10
PROJECT MGR: J. HAYWARD
PREPARED BY: D. DORTCHER

**LAND
SUITABILITY
ANALYSIS**

DATE: 3-2-14 BY: M. FIELDS DESCRIPTION: Boundary Adjustment
2-22-16 K. MARSHALL DESCRIPTION: Boundary Adjustment






**ELEVATION
ANALYSIS**

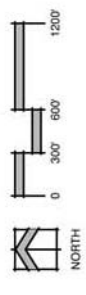
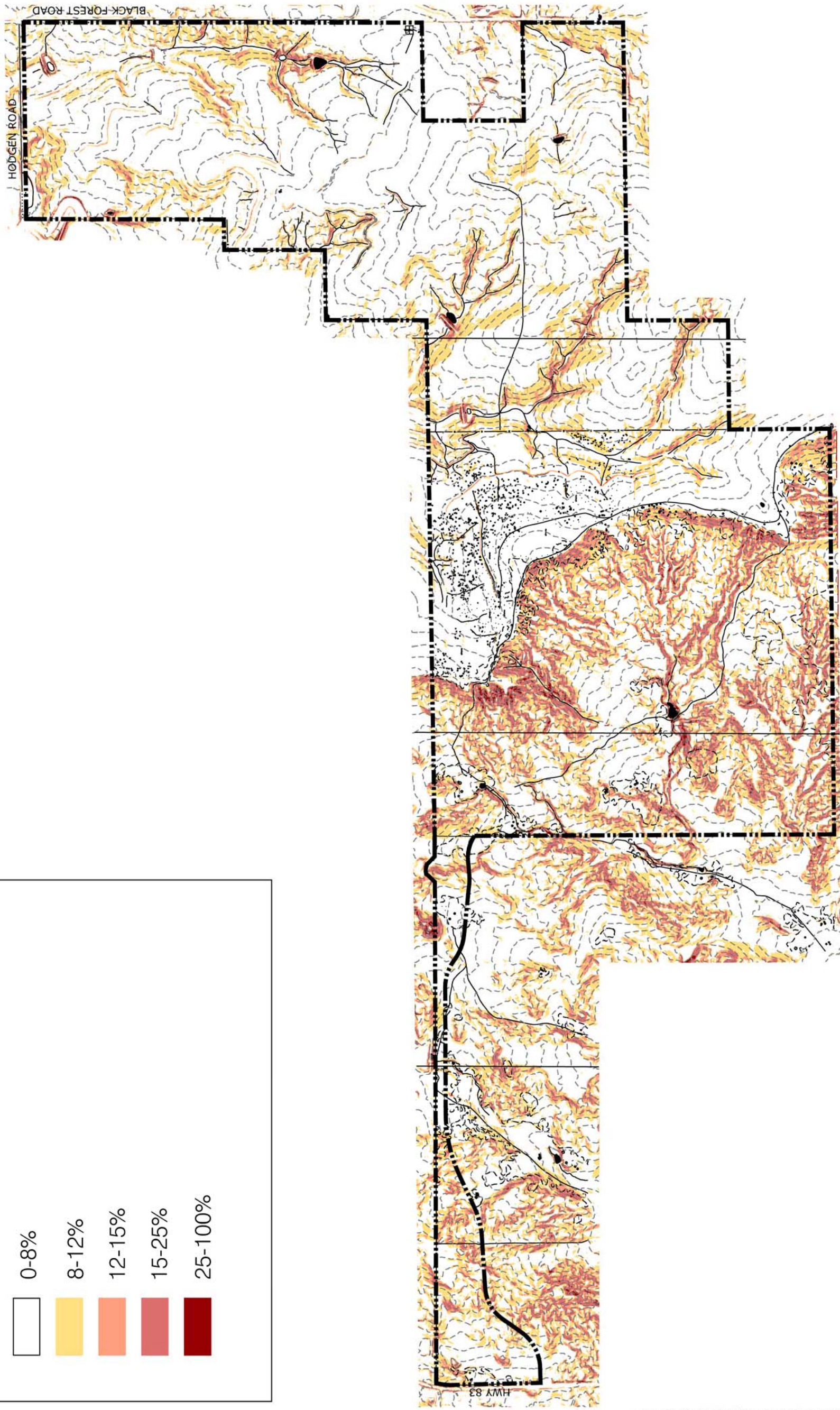
2

OF 6

PLAN FILE # SHEET NUMBER

LEGEND

-  0-8%
-  8-12%
-  12-15%
-  15-25%
-  25-100%



Land Planning
Landscape
Architecture
Urban Design



N.E.S. Inc.
619 N. Cascade Avenue, Suite 200
Colorado Springs, CO 80903
Tel. 719.471.0073
Fax 719.471.0267
www.nescolorado.com
© 2012. All Rights Reserved.

FLYING HORSE
NORTH
PLANNED UNIT
DEVELOPMENT

DATE: 06-15-10
PROJECT MGR: J. HAYWARD
PREPARED BY: D. DORTCHER












LAND
SUITABILITY
ANALYSIS

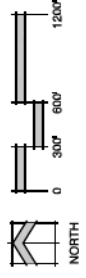
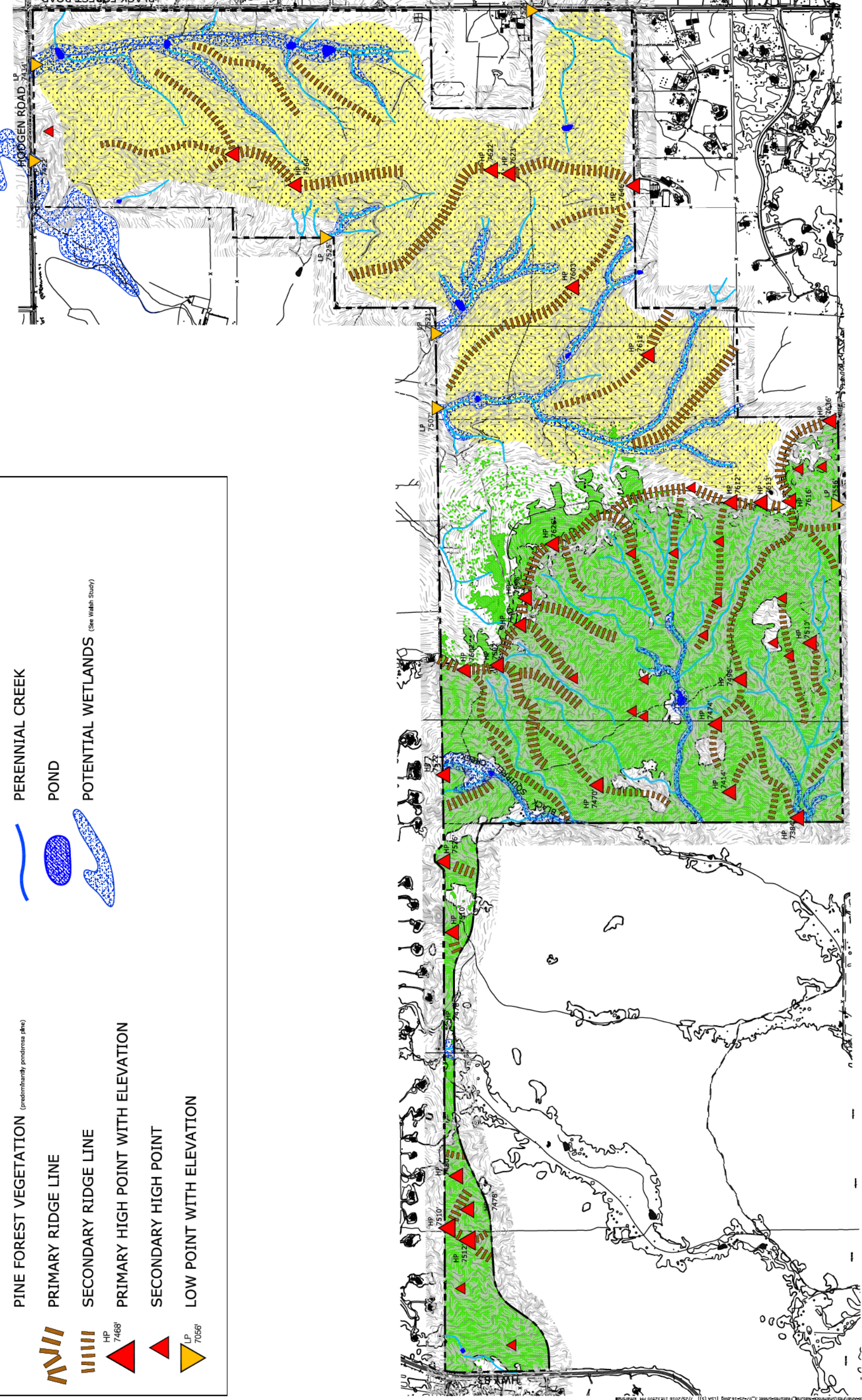
DATE	BY	DESCRIPTION
3-5-14	M. FIELDS	Boundary Adjustment
2-22-16	K. MARSHALL	Boundary Adjustment

SLOPE ANALYSIS

3 OF 6

LEGEND

-  NATIVE PRAIRIE GRASS (predominantly short/tall grass prairie w/ sparse succulent vegetation)
-  PINE FOREST VEGETATION (predominantly ponderosa pine)
-  PRIMARY RIDGE LINE
-  SECONDARY RIDGE LINE
-  PRIMARY HIGH POINT WITH ELEVATION
-  SECONDARY HIGH POINT
-  LOW POINT WITH ELEVATION
-  INTERMITTENT DRAINAGE
-  PERENNIAL CREEK
-  POND
-  POTENTIAL WETLANDS (See Walk Study)



Land Planning
Landscape
Architecture
Urban Design



N.E.S. Inc.
619 N. Cascade Avenue, Suite 200
Colorado Springs, CO 80903
Tel. 719.471.0073
Fax 719.471.0267
www.nescolorado.com
© 2012. All Rights Reserved.

PLANNER/LANDSCAPE ARCHITECT

**FLYING HORSE
NORTH**

**PLANNED UNIT
DEVELOPMENT**

PROJECT NO: 06-15-10
DATE: 3-4-14
PROJECT MGR: J. JAYWARD
PREPARED BY: D. DREITNER

**LAND
SUITABILITY
ANALYSIS**

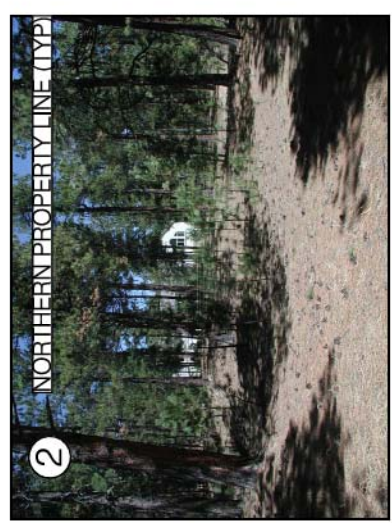
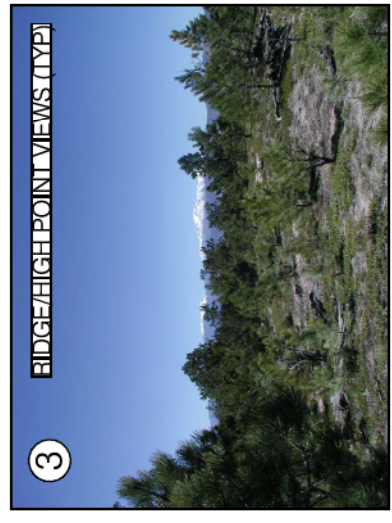
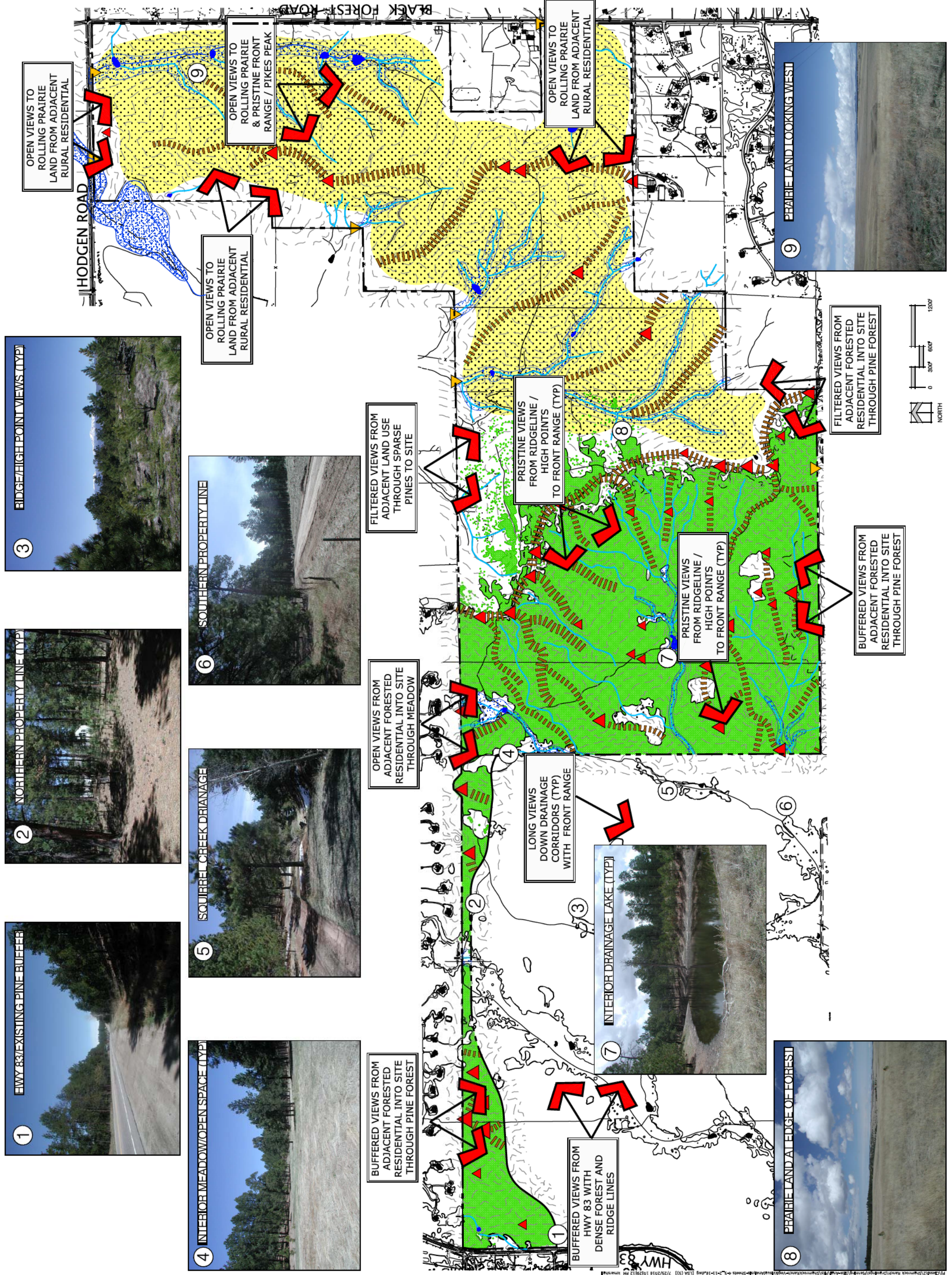
DATE: 3-4-14
BY: N.FIELDS
DESCRIPTION: Boundary Adjustment
2-25-18
KAMMESHALL Boundary Adjustment
7-25-18
KAMMESHALL Per review comments

**NATURAL FEATURES
ANALYSIS**

4

OF 6

PLATE # SHEET NUMBER



FILTERED VIEWS FROM
ADJACENT LAND USE
THROUGH SPARSE
PINES TO SITE

OPEN VIEWS FROM
ADJACENT FORESTED
RESIDENTIAL INTO SITE
THROUGH MEADOW

BUFFERED VIEWS FROM
ADJACENT FORESTED
RESIDENTIAL INTO SITE
THROUGH PINE FOREST

PRISTINE VIEWS
FROM RIDGELINE /
HIGH POINTS
TO FRONT RANGE (TYP)

PRISTINE VIEWS
FROM RIDGELINE /
HIGH POINTS
TO FRONT RANGE (TYP)

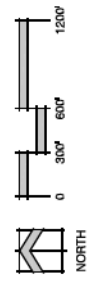
LONG VIEWS
DOWN DRAINAGE
CORRIDORS (TYP)
WITH FRONT RANGE

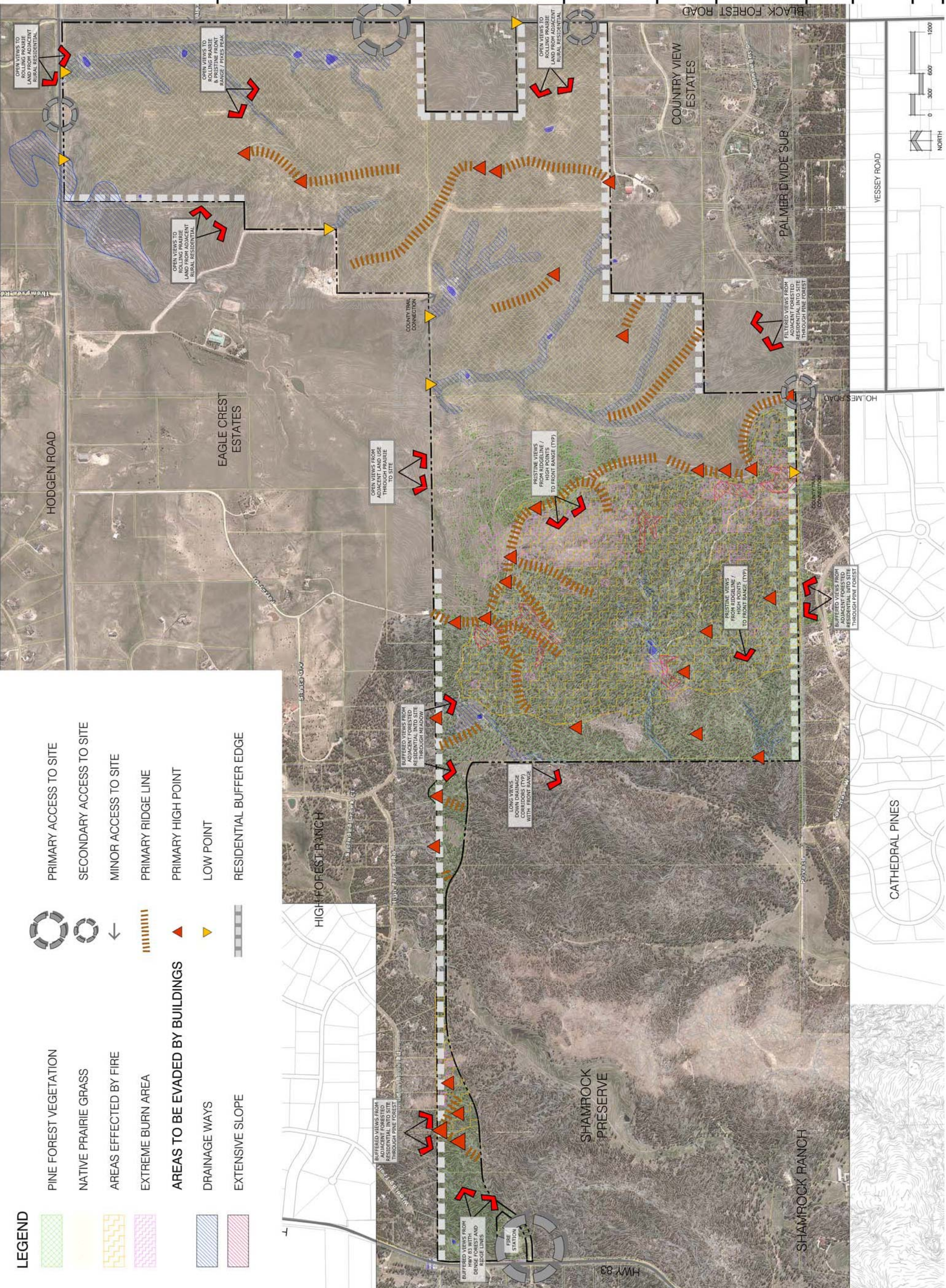
INTERIOR DRAINAGE LAKE (TYP)

BUFFERED VIEWS FROM
HWY 83 WITH
DENSE FOREST AND
RIDGE LINES

FILTERED VIEWS FROM
ADJACENT FORESTED
RESIDENTIAL INTO SITE
THROUGH PINE FOREST

BUFFERED VIEWS FROM
ADJACENT FORESTED
RESIDENTIAL INTO SITE
THROUGH PINE FOREST





LEGEND

	PINE FOREST VEGETATION		PRIMARY ACCESS TO SITE
	NATIVE PRAIRIE GRASS		SECONDARY ACCESS TO SITE
	AREAS EFFECTED BY FIRE		MINOR ACCESS TO SITE
	EXTREME BURN AREA		PRIMARY RIDGE LINE
	AREAS TO BE EVADED BY BUILDINGS		PRIMARY HIGH POINT
	DRAINAGE WAYS		LOW POINT
	EXTENSIVE SLOPE		RESIDENTIAL BUFFER EDGE

FLYING HORSE NORTH
PLANNED UNIT DEVELOPMENT

DATE: 04-04-16
PROJECT MGR: J. MAYNARD
PREPARED BY: K. MARSHALL

LAND SUITABILITY ANALYSIS

DATE	BY	DESCRIPTION
07-25-16	MM	PER REVIEW COMMENTS

COMPOSITE ANALYSIS