Visual Resource Technical Memorandum
for the North Meadows Extension to US 85 and Interstate 25

March 2010

Prepared for:

Town of Castle Rock
Douglas County
Colorado Department of Transportation
Federal Highway Administration

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## LIST OF ACRONYMS

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<th>Description</th>
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<tr>
<td>BNSF</td>
<td>Burlington Northern Santa Fe Railway</td>
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<tr>
<td>CDOT</td>
<td>Colorado Department of Transportation</td>
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<tr>
<td>FHU</td>
<td>Felsburg Holt &amp; Ullevig</td>
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<td>FHWA</td>
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<tr>
<td>GIS</td>
<td>Geographic Information System</td>
</tr>
<tr>
<td>EA</td>
<td>Environmental Assessment</td>
</tr>
<tr>
<td>I-25</td>
<td>Interstate 25</td>
</tr>
<tr>
<td>NEPA</td>
<td>National Environmental Policy Act</td>
</tr>
<tr>
<td>UPRR</td>
<td>Union Pacific Railroad</td>
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<tr>
<td>US 85</td>
<td>US Highway 85</td>
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<tr>
<td>USFWS</td>
<td>US Department of the Interior Fish and Wildlife Service</td>
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1.0 INTRODUCTION

The National Environmental Policy Act (NEPA) of 1969 established a mandate for federal agencies to consider the potential environmental consequences of their proposed actions, to document the analysis, and to make the information available to the public for comment prior to implementation. In accordance with NEPA and related regulations, the Federal Highway Administration (FHWA), as the Lead Agency, in cooperation with the Colorado Department of Transportation (CDOT) as a Joint Lead Agency, has prepared this Environmental Assessment (EA) for a proposed extension of North Meadows Drive from The Meadows area to US Highway 85 (US 85) and to Interstate 25 (I-25) in Douglas County, Colorado. The proposed North Meadows Extension would cross the Burlington Northern Santa Fe (BNSF) Railway, East Plum Creek, and the Union Pacific Railroad (UPRR) (Figure 1 Study Area). The project is sponsored by the Town of Castle Rock and Douglas County. The US Department of the Interior Fish and Wildlife Service (USFWS) is a Cooperating Agency.

1.1 Purpose

The purpose of this Visual Resource Technical Memorandum is to review the proposed North Meadows Extension to US 85 and I-25 in adequate detail to evaluate whether the project alternatives would be expected to have an adverse effect on visual resources within the project area. This technical memorandum describes the visual character and setting of the North Meadows Extension project area and the impacts of Refined Alternative 6 and Refined Alternative 7 to key visual resources. Mitigation measures to lessen the visual impacts of the alternatives are discussed.

The Town of Castle Rock provided an inventory of important ridgelines, skylines and viewing locations from roadway corridors that aided in the inventory of visual assets. Field observations, aerial imagery, and three dimensional software tools & techniques were utilized to analyze and document dominant visual features. Geographic Information System (GIS) based visibility analysis tools were utilized to evaluate visible areas of the landscape from project components.
Figure 1  Study Area
2.0 EXISTING CONDITIONS

Castle Rock’s visual character is distinct among Front Range communities. The Town is situated in the East Plum Creek valley, surrounded by visually prominent buttes, mesas and rolling hills. The scenic views through the study area can be categorized into two distinct types: gateway views providing a sense of entry or arrival to key portions of the study area (e.g. I-25 South of Happy Canyon) and focal point or dramatic views, dominated by a central identifying feature that provides a notable landmark (e.g. Castle Rock). The town is framed by defined ridgelines with steep slopes, providing natural visual gateways into the community. Within the corporate limits of the Town there are numerous landforms including mesas with distinct ridgelines, usually at higher elevations. These topographic features combined with the variety of vegetation types found through the area create a particular visual character, distinct from the surrounding communities of the Denver Metropolitan Area. The Town of Castle Rock 2020 Comprehensive Plan supports the preservation of the Town’s visual assets, including views of the Town namesake, Castle Rock.

The study area is comprised of distinctive landscape character units containing comparable components. These character units described below are present within the study area:

- geologic landforms
- existing road corridors
- residential areas
- commercial & industrial areas (includes railroads)
- open space, riparian corridor, recreation areas, and trails (undeveloped areas)

2.1 Geologic Landforms

The Town of Castle Rock sits at an average elevation of 6,200 feet surrounded by steeply sloping terrain & ridgelines rising in elevation between 300 to 800 feet. Foreground landform views (up to 0.5 mile) looking east and south are dominated by the Castle Rock geologic feature as well as the escarpment defining the edge of the East Plum Creek valley. Far background views include Pike’s Peak to the south. Views north include the rolling hills adjacent to the East Plum Creek valley and Long’s Peak in the far background. Scenic landform views west include Cann Hill, Wildcat Mountain, Elephant Rock, Gott Mountain, Dakan Mountain, Carpenter Peak, and Turkshead Peak. From the northern I-25 entrance into Town, the butte adjacent to Red Hawk Ridge Golf Course is first visible when descending into the valley. These geologic landforms create a strong sense of place and community identity for the residents of Castle Rock.

The importance of these landforms to the public is reflected in Castle Rock Ordinance No. 99-15. This regulation adopted by the Town places restrictions on the placement of structures in visually significant areas and provides mitigation of the visual impact of such development. These regulations apply uniformly to all zoned development encompassing landforms with visually sensitive areas, while also recognizing pre-existing development rights vested under law and the need to site public facilities at locations optimizing their effectiveness. The regulation includes definition of areas of minor, moderate, and major skyline as well as minor and major ridgeline areas where the regulations would apply. Skyline is defined as the horizon between the land and the sky where modifications to the landscape would be highly visible. Skyline area is defined as an area in which all or part of a permanent structure constructed would be visible along the skyline, i.e., it would extend higher than the highest landform located.
either in front or behind the structure, when viewed from key locations in the community. *Ridgeline areas* are areas in which all or part of a permanent structure constructed would be visible, although not visible along the skyline when viewed from the same points. Three areas of minor skyline and two areas of moderate skyline defined by the Town are within the study area. Roughly, 6 acres of minor skyline and 1 acre of moderate skyline occur within the study area. Figure 2 *Skyline and Ridgeline Protection Areas* illustrates skyline and ridgeline protection areas defined by the Town of Castle Rock in the vicinity of the study area.

### 2.2 Existing Road Corridors

The study area contains five types of existing road corridors. Roadways adjacent to residential land uses in the area have typical transportation elements, including signing, lighting, signal controls, curb & gutter, guardrails, and fencing. Road corridors through the study area are described separately in Table 1 *Road Corridors within the Study Area*.

**Table 1 Road Corridors within the Study Area**

<table>
<thead>
<tr>
<th>Road Type</th>
<th>Road Name</th>
<th>Road Description</th>
<th>Adjacent Land Uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interstate Highway</td>
<td>I-25</td>
<td>Eastern edge of study area trending northwest from the existing Meadows Parkway Interchange for approximately 2 miles</td>
<td>Residential areas in the north, undeveloped land in the central portion, and commercial areas in the south</td>
</tr>
<tr>
<td>U.S. Highway/Urban-Other Principal Arterial</td>
<td>US 85</td>
<td>Bisects study area from southeast to northwest, paralleling UPRR railroad and East Plum Creek</td>
<td>High density residential areas in the north, undeveloped land to the in the central and southern portions, borders UPRR for entire length of study area</td>
</tr>
<tr>
<td>Major Arterial</td>
<td>Meadows Parkway</td>
<td>Trends east-west and forms southwestern study area boundary for roughly 1/2 mile</td>
<td>Commercial and single-family residential areas to the south, middle school to the north</td>
</tr>
<tr>
<td>Collector Streets</td>
<td>Factory Shops Boulevard</td>
<td>Trends north-south adjacent to Castle Rock Factory Shops</td>
<td>Commercial areas to the east, undeveloped land to the west</td>
</tr>
<tr>
<td>Collectors Streets</td>
<td>North Meadows Drive</td>
<td>North-south trending adjacent to Castle Rock Middle School and Castle View High School</td>
<td>Residential areas to the west, middle school and high school to the east</td>
</tr>
<tr>
<td>Collector Streets</td>
<td>Butterfield Crossing Drive</td>
<td>East-west trending, terminating east at Castle View High School and Castle Rock Middle School</td>
<td>Residential areas to the west, middle school and high school to the east</td>
</tr>
<tr>
<td>Minor Arterial Streets</td>
<td>Atrium Circle</td>
<td>Half-moon loop connecting Factory Shops Blvd to Castlegate Drive West near outlet shops</td>
<td>Undeveloped areas centrally, high density residential to the west, commercial to the east</td>
</tr>
<tr>
<td>Minor Arterial Streets</td>
<td>Castlegate Drive West</td>
<td>Begins at Atrium Circle and trends east-west, bordering The Pines at Castle Rock Apartments to the south</td>
<td>Undeveloped areas to the north, high density residential to the south</td>
</tr>
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<td>Minor Arterial Streets</td>
<td>Castlegate Drive North</td>
<td>Adjacent to The Pines at Castle Rock Apartments, trending north-south, terminating at US 85</td>
<td>High density residential to the east, newly developing medium density residential to the west</td>
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Figure 2  Skyline and Ridgeline Protection Areas
The northern I-25 entrance into Castle Rock represents one of the Town’s most scenic views, descending from ponderosa pine forest opening onto a mesa with views of Hunt Mountain, Dawson Butte, and the Castle Rock. I-25 descends roughly 150-feet in elevation from the northern study area extent to the Meadows/Founders Parkway interchange in the south and provides a varied visual experience from natural setting in the north to urban setting in the south. In the setting of Castle Rock, the existing Meadows/Founders interchange is not a prominent visual feature, being surrounded by more visible landform features in foreground and middle ground views. The partial cloverleaf ramps leave open infill areas, affording views of the surrounding terrain and landscape.

Gateway views, similar to those seen on I-25, are seen along US 85 heading south into Castle Rock. The existing US 85 highway corridor has the unique element of paralleling and direct adjacency to the Union Pacific Railroad (UPRR). The existing situation results in nighttime drivers on US 85 facing lights from oncoming locomotives. Intersections on US 85 through the study area are at-grade. The US 85 Corridor, C-470 to Castle Rock Aesthetic Study and Design Guidelines, prepared by PKM Design Group for CDOT, promotes the use of textures, colors, materials, and structural elements to create an identifiable aesthetic for the US 85 corridor. These design guidelines note that few existing designed aesthetic elements exist in the US 85 corridor between Meadows/Founders Parkway and C-470.

Meadows Parkway currently connects the Meadows development east-west to the downtown area and includes a vegetated median with minimal tree cover. Sidewalk is adjacent to the roadway through the study area and the East Plum Creek trail crosses under Meadows Parkway west of the Meadows Parkway/ Elegant Street intersection. Scenic views from Meadows Parkway include views to Hunt Mountain and Dawson Butte. North Meadows Drive runs west of Castle View High School & Castle Rock Middle School with no median or sidewalk on either side. Fences from residences limit views west from the roadway while views east of the roadway primarily view the schools and background mesas. Butterfield Crossing Drive heads uphill from Castle View High School with views east of the mesas and the Meadows/Founders Parkway interchange at I-25.

Castlegate Drive North, Castlegate Drive West, Atrium Circle and Factory Shops Boulevard all lie east of US 85. Castlegate Drive North heads uphill from US 85 and is surrounded by developing areas within Castle Pines Village to the north and The Pines at Castle Rock Apartments to the south. Scenic views of the East Plum Creek valley are seen heading south on Castlegate Drive North. Atrium Circle is currently in an open undeveloped area and has open views of the valley. Factory Shops Boulevard is bordered on the east by the factory shops and by the new Lowe’s Home Improvement store to the west.

2.3 Residential Areas

Residential overlooks adjacent to the study area predominantly face outward towards the East Plum Creek valley. A number of subdivisions with foreground views look down to the study area. The houses in the Meadows subdivision were constructed on hillsides with variable terrain and have resulted in tiers of houses with views facing the East Plum Creek valley. Homes with the highest visibility to the project area are the outward-most homes facing the open undeveloped areas in the East Plum Creek valley. Residences adjacent to the study area are typically suburban in nature, consisting of single-family dwelling units. The Meadows development was annexed in the early 1980’s and was zoned for a total density of 13,758 dwelling units on 3,558 acres. There are currently roughly 3,900 households in The Meadows subdivision and the build-out numbers have since been revised down to approximately 10,900 households for roughly 30
percent build-out currently. Castle View High School and Castle Rock Middle School were constructed in the last several years.

In addition to the Meadows subdivision, residential neighborhoods surrounding the study area consist of Castle Pines Village, including The Promontory, Interlocken, Elementi, and Beau Village developments just north and east of US 85. Portions of the Castle Pines Village subdivision closest to the study area are not yet fully built out; these yet to be built portions of Castle Pines Village will likely have higher visibility to the study area. The Red Hawk, Wolfensberger Road West, and Castle Highlands subdivisions sit to the south of the study area. The Silver Heights, Maher Ranch, and Diamond Ridge Estates subdivisions sit above the study area to the east. These subdivisions surround the study area, though the majority of residences would have only limited background views to the study area. The Pines at Castle Rock, a 630-unit apartment complex off of US 85, lies within the study area. A large multi-unit residential area is slated for future development in the eastern portion of the study area.

2.4 Commercial and Industrial Areas

The lone commercial/industrial business within the study area, Ludwig Caisson Drilling, sits at 3613 N US 85. A UPRR signalized grade crossing lies between the business and US 85. Lowes Home Improvement opened in November 2007 adjacent to the Castle Rock Outlets and the study area. Two railroads bisect the study area; BNSF owns the westernmost line while UPRR owns the easternmost line adjacent to US 85. Several large commercial areas are slated for future development within the area.

The architectural styles, building heights, and colors of commercial buildings through the area vary, though no taller than 4-story buildings are found. Commercial land uses are often surrounded by manicured lawns and roadways with landscaped vegetation. Higher levels of light are typical of commercial areas, emanating light from buildings, vehicles, and street lights.

2.5 Open Space, Parks, Recreation Areas, and Trails

Existing active recreational opportunities within the study area include the East Plum Creek paved pedestrian trail, connecting Castle View High School and Castle Rock Middle School to the downtown sidewalk system. The Douglas County Open Space and Trails Master Plan lists East Plum Creek Trail as one segment of the proposed regional trail system. This system will ultimately connect downtown Castle Rock to East Plum Creek Park and Chatfield State Recreation Area. The trail is surrounded by trees along East Plum Creek and offers a variety of scenic elements, including views of mesas and ridges with few man-made elements. Views from the trail to existing transportation facilities were considered in the evaluation of the visual quality of the existing facility.

Uses of undeveloped areas along the East Plum Creek riparian corridor that bisect the study area are specified under the Douglas County Habitat Conservation Plan and The Meadows Habitat Conservation Plan. This riparian zone provides a visual break between developed areas on either side of East Plum Creek and helps create a higher visual quality experience for users of the trail. While no parks are present in the area, a small number of open space properties are found. Douglas County currently owns a 130-acre parcel of open space along US 85 north of the old sewage treatment plant just north of the study area. Small areas of open space are present surrounding Castle View High School and Castle Rock Middle School with wide-open views of the East Plum Creek valley.
3.0 IMPACT EVALUATION

This section describes the impacts of the No-Action Alternative and Build Alternatives to visual resources. Aesthetic and design guidelines for the I-25 and US 85 corridors will be used for elements of the preferred alternative intersecting these corridors. The incorporation of aesthetic and structural treatments from these guidelines will help maintain visual continuity through the area, reinforcing a visual sense of place.

3.1 Methodology

A visual resource inventory of the existing environment was performed for the study area. This involved an examination of the character of the landscape itself, as well as an examination of viewers and their potential sensitivity to impacts on the visual character of the landscape. Important gateway views and focal point views were identified through visibility analysis and from skyline & ridgeline mapping provided by the Town. These included views identified as elements of high visual quality to be maintained as visual & scenic assets in the Castle Rock Comprehensive Master Plan. Views were divided into two major groups: visibility from the proposed roadway improvements and views to the proposed roadway improvements. Existing visual conditions were evaluated based upon several factors, including existing level of disturbance (e.g. undeveloped vs. developed), scenic resources and landform character of the surrounding area (e.g. trails, gateway views), views from residences to focal point views (e.g. Castle Rock, Pikes Peak), and community values.

Visibility from the alternative was determined in GIS. Existing 5-foot resolution terrain was merged with proposed design elevations as a base for the visibility analysis. Seen and unseen areas were determined for a 360° field of view every 100-feet along areas of new roadway. A 4-foot vertical offset was used to simulate an average vehicle height. This methodology does not take into account cultural features that may limit the visibility of the improvements (e.g. buildings, trees), but is a conservative estimate of areas visible from the proposed improvements. Figure 3 Visual Resource Elements illustrates the visual resource evaluation process elements:

**Figure 3 Visual Resource Elements**
3.2 **No-Build Alternative**

The No-Build Alternative is used as a basis for comparison to the build alternatives. There will be no visual impacts from roadway improvements under the No-Build Alternative, though the area will see significant visual changes. The Pinecrest development will lie east of The Pines at Castle Rock Apartments and is currently being platted. This subdivision of the Castle Pines Commercial PD will add over 500 additional dwelling units consisting of a mix of condominiums, paired homes, and apartments. The development is on a gently sloping south facing hill and will change the existing undeveloped character of the area. The development will be visible from I-25 and may include the removal of ponderosa pine trees from the hillside.

In addition, the Castle Rock Development Company has roughly 100 acres of developable land within the study area between US 85 and the BNSF line. The land use of these areas will likely be commercial in the future, though no formal plans or platting exists. The visual setting of the area will change markedly from undeveloped land to commercial in the future.

3.3 **Build Alternatives**

Refined Alternative 6 and Refined Alternative 7 are described in detail in Chapter 2 of the Environmental Assessment, *Alternatives*.

A key tool in assessing the visual changes associated with activities in a landscape is the concept of **visual contrast**. Contrast ratings (BLM, 1986) compare project alternatives with existing conditions element by element, according to the degree of dominance or discontinuity anticipated to occur within the landscape setting. Levels of visual contrast range from weak to strong, defining the extent of change to the existing landscape perceived by viewers. Different elements of the alternative will have the potential for visual contrast:

- **Weak Contrast** is associated with changes that can be seen but do not attract attention, and are subordinate to the setting.

- **Moderate contrast** is associated with changes that are noticeable but remain subordinate to the setting.

- **Strong contrast** is associated with changes that attract attention and dominate the setting.

Build alternative elements with the greatest potential for contrast would include the addition of structures that are large in size, numerous in quantity, and/or of high diversity in shape. Some components would be more likely to attract attention than others. Vertical elements, such as elevated structures and retaining walls, would tend to attract more attention from views that are inferior (below) or normal (even) to the alternative. Horizontal elements, such as additional pavement and median treatment, would attract attention from views that are superior (above) to the alternative, however, would not attract attention from views that are inferior (below) or normal (even) to the alternative.

**Refined Alternative 6 Visual Contrast**

Refined Alternative 6 would be visible from portions of The Meadows, Happy Canyon, Silver Heights, and Castle Pines Village subdivisions. The Pines at Castle Rock Apartments residences would have the highest potential for altered viewshed under Refined Alternative 6, particularly along the southern and northwestern edges of the complex due to the ramps for the grade-separated intersection at US 85, the addition of sidewalk, and the addition of noise walls on Castlegate Drive North. A new sidewalk is included in the proposed improvements along North Meadows Drive north of Butterfield Crossing Drive. This will likely increase the visibility to homes immediately adjacent to North Meadows Drive from users of the sidewalk. The degree to
which the improvements would affect scenic resources of residences depends upon the level of visual contrast created by project components in any given area.

Refined Alternative 6 does not lie within skyline areas identified and regulated under Castle Rock Ordinance No. 99-15. Because of the orientation of the improvements, Refined Alternative 6 is not anticipated to affect the skyline of residences in the area and will not affect gateway views to scenic geologic landforms. The alternative is anticipated to be surrounded by commercial and residential development in the future and is at a lower elevation than the majority of residences in the surrounding area. **Figure 4 Visibility from Refined Alternative 6** illustrates visibility, calculated every 100-feet from the paved area along the length of Refined Alternative 6.
Figure 4  Visibility from Refined Alternative 6
Refined Alternative 6 Strong Contrasts

- Grade separated roundabout intersection over US 85 and UPRR with 35-foot fill
- 30-foot height ramps from US 85 intersection
- 30-foot cut and fill east of the Pines at Castle Rock Apartments
- Bridge and bridged access over East Plum Creek
- 29-foot cut with BNSF bridge over the North Meadows Extension

Surrounding residential views will look down to the 29-foot cut at the BNSF line, though for a relatively confined area immediately surrounding the area of cut. The rolling hills through the study area will limit views to the grade separation at the railroad. Strong contrast at US 85 will be primarily for drivers viewing the grade separated intersection over US 85. Residences at The Pines at Castle Rock Apartments will experience strong contrast at the US 85 ramps connecting the new intersection, where views down to the ramps from a portion of the apartments will be present. The bridge at East Plum Creek will be visible to recreationalists of the East Plum Creek Trail, from lower elevation areas of the Castle Pines Village Subdivision, and from The Pines at Castle Rock Apartments. The 30-foot cut and fill slopes east of the Pines at Castle Rock Apartments will be viewed primarily from the apartments and areas to the south due to the orientation of the surrounding terrain. Figure 5 Simulation with Strong Visual Contrast Elements of Refined Alternative 6 illustrates areas of strong visual contrast and a visual depiction of the alternative elements.

**Figure 5  Simulation with Strong Visual Contrast Elements of Refined Alternative 6**
Refined Alternative 6 Moderate Contrasts

- Retaining wall along I-25
- Loop ramp and bridge over I-25
- Noise wall along Castlegate Drive North

Retaining walls along I-25 will be minimal in height, though they have the potential to limit gateway views for drivers heading southbound along I-25. The loop ramp at I-25 will be visible from surrounding subdivisions, particularly Happy Canyon and Silver Heights. The proposed noise walls along Castlegate Drive North will limit views for northern portions of The Pines at Castle Rock Apartments. Figure 6 Simulation with Moderate Visual Contrast Elements of Refined Alternative 6 illustrates areas of moderate visual contrast.

Figure 6 Simulation with Moderate Visual Contrast Elements of Refined Alternative 6
Refined Alternative 6 Weak Contrasts

- Retaining wall and noise wall on the west side of North Meadows Drive across from Castle View High School

Residences bordering North Meadows Drive currently have a roughly 7-foot fence separating backyards from the road. The retaining wall and noise wall will abut the edge of Refined Alternative 6 right-of-way adjacent to the existing fence line. This is a weak visual contrast since fence already separates the roadway from the homes. **Figure 7 Simulation with Weak Visual Contrast Elements of the Refined Alternative 6** illustrates areas of weak visual contrast.

**Figure 7  Simulation with Weak Visual Contrast Elements of Refined Alternative 6**
Refined Alternative 7 Visual Contrast

Refined Alternative 7 would be visible from portions of The Meadows, Happy Canyon, Silver Heights, and Castle Pines Village subdivisions. The high-density multi-unit residences of The Pines at Castle Rock Apartments will have views to the proposed improvements under Refined Alternative 7, primarily from units on the southern and eastern edges. A new sidewalk is included in the proposed improvements along North Meadows Drive north of Butterfield Crossing Drive. This will likely increase the visibility to homes immediately adjacent to North Meadows Drive from users of the sidewalk. The degree to which the improvements would affect scenic resources of residences depends upon the level of visual contrast created by project components in any given area. **Figure 8 Visibility from Refined Alternative 7** illustrates visibility, calculated every 100-feet from the paved area along the length of Refined Alternative 7.

Refined Alternative 7 does not lie within skyline areas identified and regulated under Castle Rock Ordinance No. 99-15. Because of the orientation of the improvements, Refined Alternative 7 is not anticipated to affect the skyline of residences in the area and will not affect gateway views to scenic geologic landforms. Drivers along US 85 and residences at The Pines at Castle Rock Apartments will experience the greatest visual contrast. The alternative is anticipated to be surrounded by commercial and residential development in the future and is at a lower elevation than the majority of residences in the surrounding area.
Figure 8  Visibility from Refined Alternative 7
Refined Alternative 7 Strong Contrasts

- Grade separated roundabout intersection over US 85 and UPRR
- 30-foot height ramps from US 85 intersection
- 32-foot height fill slope west of US 85 intersection
- 29-foot cut and grade separation under the BNSF line
- 30-foot cut and fill on the hillside north of Atrium Circle west of I-25
- Bridge over East Plum Creek

Surrounding residential views will look down to the 29-foot cut at the BNSF line, though for a relatively confined area immediately surrounding the area of cut. The rolling hills through the study area will limit views to the grade separation. Areas of strong contrast will be primarily for drivers along US 85. The 30-foot cut and fill on the hillside north of Atrium Circle will be most visible from The Pines at Castle Rock Apartments and from residences to the west in The Meadows development. The bridge at East Plum Creek would be visible to recreationalists of the East Plum Creek Trail, from lower elevation areas of the Castle Pines Village Subdivision, and from The Pines at Castle Rock Apartments. Residences at The Pines at Castle Rock Apartments will experience strong contrast at the US 85 ramps connecting the new intersection, where views down to the ramps will be present. Figure 9 Simulation with Strong Visual Contrast Elements of Refined Alternative 7 illustrates areas of strong visual contrast and a visual depiction of the alternative elements.

Figure 9  Simulation with Strong Visual Contrast Elements of Refined Alternative 7
Refined Alternative 7 Moderate Contrasts

- Retaining wall along I-25
- Loop ramp and bridge over I-25

The loop ramp at I-25 will be visible from surrounding subdivisions, particularly Happy Canyon and Silver Heights. Retaining walls along I-25 will be minimal in height, though they have the potential to limit gateway views for drivers heading southbound along I-25 for a limited distance. **Figure 10 Simulation with Moderate Visual Contrast Elements Refined Alternative 7** illustrates areas of moderate visual contrast.

**Figure 10 Simulation with Moderate Visual Contrast Elements of Refined Alternative 7**
Refined Alternative 7 Weak Contrasts

- Retaining wall and noise wall on the west side of North Meadows Drive across from Castle View High School
- New roundabout connecting Factory Shops Boulevard and Castlegate Drive
- New roundabout connecting proposed I-25 ramp connections

Residences bordering North Meadows Drive currently have a roughly 7-foot fence separating backyards from the road. The retaining wall and noise wall will abut the edge of Refined Alternative 7 right-of-way adjacent to the existing fence line. This is a weak visual contrast since fence already separates the roadway from the homes. The new roundabout at Factory Shops Boulevard and Castlegate Drive will be in the open undeveloped area currently encompassed by Atrium Circle. The cut and fill slopes through this section will be smaller than those to the east heading uphill towards I-25. The roundabout west of the proposed loop ramp will have less visual contrast than the fill slopes required for its construction. Figure 11 Simulation with Weak Visual Contrast Elements of the Refined Alternative 7 illustrates areas of weak visual contrast.

Figure 11 Simulation with Weak Visual Contrast Elements of Refined Alternative 7
3.4 Mitigation

Mitigation measures for visual resources center on reducing visual contrast associated with implementation of an alternative. Because visual contrast is most closely associated with the addition of structural elements and changes to landform contrast, the following mitigation measures are organized into those related to landforms and those related to structures. These measures should be considered during final design.

3.5 Landforms

- Treat all disturbed slopes for erosion control and revegetate using native plant species as appropriate for adjacent land use and terrain.
- Implement sensitive grading techniques that blend grading with the natural terrain.
- Use location-specific colors for retaining walls to match surrounding geology.

3.6 Structures

- To the extent possible, use structures that are simple, slim, and low-profile with minimal bulk and horizontal emphasis, reducing structure depth as compared to deck edge, and keep structures proportional.
- Implement aesthetic and design guidelines for the US 85 and I-25 corridors, including consistent use of colors and finishes for structural elements, lighting, signage, and landscaping.
- Design colors of structures to be sensitive to the unique landforms and soils of Castle Rock and use repeating colors to provide continuity with other structural elements.
- Design tapered and rounded forms and edges where appropriate to soften appearance and reduce perceived bulk, particularly for bridge piers.

Aesthetic issues, including bridge design treatments, retaining walls, landscaping, colors, textures, and other aesthetic elements will be examined for consistency with the design guidelines for the US 85 and I-25 corridors. Roadway elements, including lighting fixtures, signs, and traffic control devices that have visual effects will also be examined for consistency with these guidelines.
4.0 REFERENCES


Colorado Department of Transportation (CDOT). 2002. *US 85 Corridor C-470 to Castle Rock Aesthetic Study and Design Guidelines*


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