

**National Park Service
U.S. Department of the Interior**

Record of Decision

Utah Museum of Natural History New Museum Facility

Approved:

Signed – March 26, 2007

Michael D. Snyder
Intermountain Regional Director
National Park Service

**UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE**

RECORD OF DECISION

**UTAH MUSEUM OF NATURAL HISTORY NEW MUSEUM FACILITY
ENVIRONMENTAL IMPACT STATEMENT**

Utah Museum of Natural History at the University of Utah

Salt Lake City, Utah

This document is the Record of Decision of the Department of the Interior, National Park Service, on the Final Environmental Impact Statement for the Utah Museum of Natural History New Museum Facility (EIS). The EIS was prepared by the National Park Service and the Utah Museum of Natural History/University of Utah as Joint Lead Agencies.

This Record of Decision includes a description of the background of the project, a statement of the decision made, synopsis of other alternatives considered, the basis for the decision, a summary of impacts, a description of the environmentally preferred alternative, a listing of measures to minimize environmental harm, and an overview of public and agency involvement in the decision-making process.

BACKGROUND OF THE PROJECT

The Utah Museum of Natural History (UMNH or the Museum) at the University of Utah, Salt Lake City, opened in 1969 in the old University Library on President's Circle. The Museum serves as the principal repository for archaeological and vertebrate paleontological specimens recovered on public lands in Utah, and protects, studies, and displays the collections it holds in trust. The collections include more than one million archaeological, paleontological, zoological, geological, and botanical objects. By the early 1990's, it became clear that the 71-year old former library building was no longer suitable for the Museum's needs. It does not have the space and flexibility to afford the Museum success in meeting its mission today, nor the capacity for future growth of collections and Museum related research, education, conservation, and display. Additionally, the building does not meet current seismic safety codes and would be extremely expensive to retrofit.

The Museum and the University of Utah began planning for a new museum site in the 1990's to address shortcomings of the facility. After consideration of several potential locations, a 17-acre site slated for development was selected for a new Museum facility in Research Park adjacent to Red Butte Garden and Arboretum. In February 1997, the site was reserved by the University Board of Trustees for use by the Museum. Private grants and a Congressional funding authorization (in 2002) were obtained to contribute to the development of a new museum facility at the new site.

With the infusion of federal monies, it was concluded between the Museum and the National Park Service (the federal agency with responsibility for administering the Congressionally authorized funding) that the project would need to comply with the National Environmental Policy Act (NEPA). In early 2005, preparation of an Environmental Assessment was begun. After public scoping, it was decided in the fall of 2005 that NEPA compliance should be achieved through preparation of an Environmental Impact Statement. The National Park Service and the Utah

Museum of Natural History/University of Utah agreed through a Memorandum of Understanding signed in June 2005 to cooperate in preparation of the EIS as Joint Lead Agencies.

DECISION

Alternative B, the Preferred Alternative, is selected for project implementation. The following describes the components selected for implementation under this decision.

Description of the Selected Action

The selected action includes the largest designated area considered for development (confining envelope) within the site, affording flexibility for site design and placement of facilities. A portion of the development area extends into Red Butte Garden and Arboretum (also University of Utah) property. The Museum building itself would be located in the upper portion of the 17-acre site, above the corridor that includes the Bonneville Shoreline Trail (BST) and utility pipelines.

With the flexibility afforded under the selected action, the Museum building could be built adjacent to Red Butte Garden near the northern site boundary to afford placement of a pedestrian plaza/arrival/ departure area for shared Museum/Red Butte use and potentially, shared parking with Red Butte Garden.

If shared parking with Red Butte were not initially viable, parking for the Museum would occur downhill from the BST/pipeline corridor.

Key Actions

- The Museum Building would be located above the BST and utility pipelines
- Sharing of a pedestrian plaza/arrival/departure area would be pursued with Red Butte Garden
- Shared parking would be pursued with Red Butte Garden
- If shared parking were not initially viable, Museum parking facilities would be placed downhill from the BST and pipelines corridor.
- Changes to ingress and egress to Red Butte Garden and the Museum site would be pursued to possibly reduce grade, and increase capacity.
- A road connection would be installed to the Williams Building Garage for event and overflow parking.
- Modifications to parking on adjacent Colorow Way would be pursued with Salt Lake City to increase parking capacity for recreationists/trail users.
- Surface and vegetative disturbance would be minimized to the extent practicable and, as feasible, construction-related disturbance to the 30 percent slopes and the mapped "tall oak" communities would be avoided.

Additionally, the selected action includes the elements enumerated in the EIS as common to this and other action alternatives. Among these elements are the following actions in brief:

- ❖ Existing pipelines will be protected in their existing alignment. All new utilities will be buried and utility corridors located in conjunction with existing or new roadways.
- ❖ The Museum will seek a LEED-NC Version 2.2 project certification.
- ❖ Although temporary or long-term trail realignments may be necessary, trail use and access will be maintained for the Bonneville Shoreline (pipeline) Trail and the Upper Trail, including trail access from Colorow Way, throughout construction and after construction.
- ❖ Actions are stipulated to assure public safety and reduce conflicts between area users and construction activities.

- ❖ Landscaping and vegetative treatments geared toward water efficiency, adapted native species, control of invasive plants, conserving or re-establishing existing natural areas, and reduction of wildfire risk.
- ❖ No facilities other than trail enhancements would be located on areas of greater than 30 percent slope.
- ❖ Installation of outdoor interpretive exhibits and programs integral to the Museum's mission and the site.
- ❖ Obtaining and adhering to all applicable permits including U.S. Army Corps of Engineers' stipulated Special Conditions and Nationwide Permit Number 39.
- ❖ Post-construction storm water management in compliance with established requirements, infrastructure capacity, and designed to minimize the necessity for storm water surface retention basins.
- ❖ Installation of pedestrian and bike ways providing access to Red Butte Garden, the Museum, Colorow Way, and the Bonneville Shoreline Trail.
- ❖ Construction monitoring and appropriate recovery and protection of any discovered archaeological, cultural, or paleontological resources.

Mitigating Measures/Monitoring

Numerous mitigation measures are applicable to the selected action. The Utah Museum of Natural History and the University of Utah have agreed to these mitigation measures and in consultation with the National Park Service, would be responsible for their implementation, monitoring their application, and measuring their success.

A storm water pollution prevention plan will be prepared and implemented and a general permit obtained from the Utah Division of Water Quality to control erosion and storm water runoff during project construction.

Areas of surface disturbance will be kept to the minimum possible to reduce opportunities for invasive weeds and disturbance of existing vegetation. For those excavation areas where installation of native plants is anticipated after construction, the topsoil will be retained, separated, and stored. Prior to plantings, the topsoil will be placed back where it originated. Areas slated for disturbance and soil salvaged/stored on-site will be pre-treated/treated for noxious and invasive weed control. All fill, gravel, or topsoil needed for construction or maintenance will be obtained from certified noxious weed-free sources.

Post-construction exterior and security lighting will be provided in accordance with University of Utah design standards, and will include directional shielding to prevent light pollution onto adjacent sites, to prevent glare, and to protect the night sky.

Procedures will be developed and implemented by the Construction Manager/General Contractor for minimizing air quality effects from fugitive dust and other pollutants generated during construction. Likewise, the contractor will develop and implement strategies to reduce to the extent practicable construction related noise and odor impacts to people recreating on the site or visiting adjacent Red Butte Garden. Such strategies may include scheduling and time-of-day conflict reduction.

Evacuation fans, stacks, and vents will be directed upward and away from trail and public use areas. HVAC systems, evacuation fans, and other mechanical devices will be selected and installed to minimize potential noise and odor levels in the vicinity of the Museum building.

Any staging of fuel and oil services for construction machinery and equipment will be placed outside of drainage or water channels including any secondary containment for fuel storage tanks and within the footprint of parking lot or other construction areas. Fuel spill precautions and containment strategies and equipment will be maintained on site.

The contractor will develop and implement a University approved plan for handling of concrete waste disposal and washing of concrete mixers and equipment to minimize adverse effects to soils and vegetation.

Colors, materials and textures for buildings and appurtenances are intended to be compatible with the setting, but distinct.

Scheduled University Shuttle Service will be established to the arrival/departure plaza of the new Museum providing Shuttle connection for the Museum and for Red Butte Garden to the Shuttle network, UTA bus service, and TRAX. Funding for provision of this Service will be determined through negotiations between University Commuter Services and the Museum and Red Butte Garden, but may include fees for on-site parking by staff. Shuttle service connections to Hogle Zoo and This Is The Place Heritage Park will be pursued through Research Park. Site design will accommodate circulation needs of transit shuttles and other similar vehicles.

The Museum will cooperate with the University of Utah Facilities Management, Red Butte Garden, and Research Park to educate/inform the user public of the potential conflicts between free roaming dogs and mule deer winter movement through the site and Museum patrons including children. Applicable existing governmental laws and ordinances and University of Utah policies including on-leash provisions will apply.

Qualified plant specialists will conduct surveys prior to construction on areas where surface disturbance is anticipated to determine the presence of the Sego lily or *Viola beckwithii*. Should these species be found, the Museum, in cooperation with the Utah Native Plant Society, will take appropriate action to salvage, temporarily store, and relocate these plants.

Construction will be scheduled to begin prior to avian nesting or after young have fledged if feasible. If construction scheduling cannot be so adjusted, then pre-construction surveys, nest removal (if necessary), and seasonal and temporal construction buffers may be implemented for the protection of migratory bird species, as required under the Migratory Bird Treaty Act of 1918.

Pedestrian ways and sidewalks will possibly be extended by Research Park from the Museum down Wakara Way to its intersection with Chipeta Way to provide connectivity with the Research Park sidewalk network and to provide pedestrian access to transit routes available near that intersection.

The Museum building, parking facilities, plazas and all other appurtenances would be located toward the northern/Red Butte end of the parcel to maximize blocks of unoccupied open space.

Should egress be routed through the Williams Building service road, traffic will be monitored at the intersections of the Williams Building service road and Chipeta Way. Measures will be taken to address traffic congestion if queuing during peak travel times is

compounded by the proximity of the two intersections and increased traffic from the Williams Building service road.

The Museum and its contractors will abide by the special provisions of the Corps of Engineers authorization and Nationwide Permit Number 39 for any activities that may impact the ephemeral drainage in the Red Butte property.

Amenities would be provided for trail users. Amenities may include drinking fountains, watering fountains for dogs, garbage and trash containers, dispensers for dog waste bags, benches, bicycle stands, shade, and access to indoor restrooms. Where the trail passes near the Museum, parking areas, and visitor areas including drop off/pick up points, efforts will be made to define areas of trail use and minimize the potential for conflicts between Museum patrons and trail users.

A recommendation is made to Red Butte Garden and Arboretum to realign its fence on the southeast side of the Garden and bring it down closer toward Red Butte Creek to afford improved opportunities for passage for wildlife.

A plan will be prepared and implemented under the direction of the Museum for a native species restoration program. The program may include pre-construction salvage of native forbs and seedling shrubs, eliminating invasive and exotic species from native plant communities, developing and implementing interpretive/educational opportunities, cooperating with the Native Plant Society, and long term monitoring of plant communities and control of invasive plants. The plan may also include pre-construction control measures to eradicate or reduce noxious weeds and invasive species and their seeds prior to surface disturbance and monitoring and weed control of any stockpiled soils.

The Museum recommends that the University of Utah explore through the Long Range Development Plan revisions and with other affected jurisdictions and appropriate interests the feasibility, interest, and means to convene a cooperative foothill planning process. The process would be geared toward preservation and interpretation of the integrity of remaining open space, native vegetation, wildlife access and migration, and dispersed recreational use along the foothill corridor from the northern boundary of the University of Utah to the mouth of Emigration Canyon.

OTHER ALTERNATIVES CONSIDERED

The EIS considered the No Action Alternative, Alternative A, and four other action alternatives, Alternatives C, D, E, and F.

Under Alternative A, the new museum facilities would not be built on the subject 17-acre site. However, as disclosed in the EIS and addressed in the environmental consequences section of the document, there are potential indirect ramifications if the Museum were not to utilize the site. If not used by the Museum, it is highly likely that the parcel would revert to Research Park and be available for development consistent with the Research Park Zone.

Alternative C is similar to Alternative B, but would encompass a smaller development area/confining envelope. Among distinct Alternative C features are the following:

- The museum building would be built downhill from the BST and pipelines corridor.

- Surface parking would be built both on top of and uphill from the corridor.

- Facilities would be sited toward the northern side of the parcel.

As with Alternative B, the alternative extends into Red Butte Garden and Arboretum in order to pursue with Red Butte shared parking and arrival/departure areas.

The Bonneville Shoreline (pipeline) Trail would be permanently reconfigured through the site to either uphill or downhill from the museum and parking facilities.

Alternative D is similar to Alternative B, but smaller and with the exception of a new entrance way, the confining envelope includes the BST and pipelines corridor, an area uphill from the BST, and the extreme southern portion of Red Butte Garden. Distinct features include:

The museum building is built uphill from the BST and pipelines corridor.

Parking would be via a shared facility with Red Butte Garden within the Red Butte property.

A new entrance road would be built to replace the existing Red Butte entranceway. The road would curve up through the downhill portion of the site to a joint Red Butte/Museum arrival area.

Parking is modified on Colorow Way to increase capacity for site visitors/recreationists.

Alternative E is similar to Alternative B, but the confining envelope includes the BST and pipeline corridor and all but the Southwest corner of the site that lies downhill from the BST. Distinct features of this alternative include:

There would be no building or parking facilities constructed uphill from the BST.

Parking would not be shared with Red Butte Garden, but likely be placed adjacent to the access road.

A new inbound entrance road would be constructed similar to Alternative D.

Alternative F is similar to Alternative E, but the confining envelope is all in the lowest portion of the parcel, directly adjacent to Colorow Road, and does not extend uphill as far as the BST.

Distinct features of this alternative include:

The museum building, parking, and other facilities would be either directly adjacent to Colorow Way or the access road. Nothing would be constructed on or uphill from the BST.

There would be no shared parking or arrival area with Red Butte.

New vehicular access may be developed either off of the Red Butte access road or directly off of Colorow Way.

BASIS FOR DECISION

The selected action, Alternative B, is the alternative that best achieves the Museum's objectives, affords flexibility in design, and takes into account and reasonably mitigates the environmental impacts of the action on the site.

For six of the Museum's stated objectives, there is no difference among the proposed alternatives. However Alternative B best meets the five following objectives.

- Forge a new identity that connects the UMNH to the unique and dynamic landscape of Utah;
- Create a new way to tell the story of natural Utah that is engaging and appropriate for today's audiences through exhibits and interaction with the physical setting;
- Attract tourists and become a major visitor center for natural wonders, cultural organizations and communities across the state and region. Reinforce this goal through connection and interaction with the other visitor venues in the Foothill Cultural District. These venues include Red Butte Garden and Arboretum, This is the Place Heritage Park, and Utah's Hogle Zoo;
- Afford improved opportunities for access by the general public through parking facilities and transit connections;
- Assure the integrity and opportunities for research and display of the Museum's collections.

The selected action affords flexibility in the placement of the building and parking facilities. If a building design is chosen that has a relatively low silhouette, the resulting larger footprint could be accommodated in the identified location above the pipelines. The selected action also offers flexibility on ingress and egress to incorporate the best fit approach to site design while reducing the in-bound grade from Colorow Way to the Red Butte Garden and Arboretum parking lot. The separation of the building from the parking area by the pipeline trail (should joint parking with Red Butte not be possible), allows a more buffered and natural experience for visitors and has the greatest potential for screening the parking from the building, particularly with parking downhill from the pipelines corridor. The Bonneville Shoreline Trail (BST) will continue to run through the site, although its alignment may be altered in consultation with the BST Committee.

With placement of the building in the upper portion of the site, uphill of the pipelines, the Museum would have the greatest visibility to visitors approaching from Foothill Boulevard via Wakara Way. At the final approach, the Museum can create the sense for the visitor of leaving the City to enter an experience of greater connection to the landscape. Views of the highly variable distant landscapes from the site are key for primary educational purposes and unique for a natural history museum in an urban environment. The Museum proposes to use views to connect visitors to such issues as geological history and the formation of Utah's landscape, regional weather patterns and their influence on biota, the Great Salt Lake and its role in the water cycle, and rapidly expanding human occupation patterns in the region, among other interpretive themes. These views would be superior from a building on the upper side of the pipelines. The views also are more likely to endure given the in-fill construction going on in Research Park. In the unlikely event of rupture of any one of the four pipelines, housing the collections in a facility uphill from the pipeline minimizes the risk of damage.

Clustering of facilities on the north side of the envelope is possible in the selected action. This enables a greater width of open space on the southern and western side of the site, which buffers the 30% slope, provides a wider corridor for mule deer to access the tall oak community adjacent to Colorow Way, and supports better public trail access through the site from the upper trail and from Colorow way to the BST. Clustering to the north also provides a greater buffer for the oak clone community, better protecting its intrinsic biological resource values as a native plant community and to wildlife. Outdoor interpretive experiences are key to the unique visitor experience of the new Museum. Alternative B encourages the access to open habitat at the southern side of the envelope, increasing the potential number of direct connections from the Museum to the variable habitat on site.

There is the possibility under this alternative to share an arrival area with Red Butte Garden and Arboretum. The arrival area facilitates the organization and staging of arrivals and departures of tour buses, school buses and vans, paratransit and Campus Shuttle transit service, and pedestrians to the advantage of both entities and public safety. It provides the opportunity to work with Red Butte Garden and Arboretum to plan and conduct pedestrian, traffic, staging, and movement corridors at an arrival area and among facilities and parking. The adjacency of the Museum and Red Butte Garden provides mutual access for patrons and staff to the facilities and amenities of both institutions. Adjacencies also provide opportunities for synergistic programs. An opportunity is also afforded to plan for accommodation and minimized conflict for BST trail users moving through the developed portion of the site.

An element of the selected action (and also Alternatives C, D, and E) calls for construction planning and implementation to avoid disturbance to the 30 degree slope and to as much of the tall oak communities as is practicable. The envelope for B has been configured to avoid as much of the tall oak as possible and still provide a viable building site. Twenty-three percent of the project area's tall oak community is within this confining envelope, substantially less than that found within Alternatives E and F. Most of the tall oak within the confining envelope is toward

the outside edges of the development area. It is believed that with planning to avoid disturbance, a good portion of the tall oak community within the envelope could be retained. The Alternative narrative describes the advantages of clustering facilities in the vicinity of the northern portion of the parcel near Red Butte Garden and this is reinforced by a mitigation measure applicable solely to Alternatives B and C. This would also concentrate areas of disturbance and minimize site-wide soils and vegetative disturbance or loss. Successful implementation of the mitigation measure and careful positioning of parking downhill from the pipelines (if applicable) could retain much of the tall oak within the envelope. Along with the 77% of the tall oak community excluded from the confining envelope, much of this community could remain intact under the preferred alternative.

Alternative B includes mitigation measures to provide amenities for trail users and to plan and implement a native plant species restoration program. Alternative B (and also C) also includes a measure to increase parking availability for Trail users by reconfiguring and increasing available parking on Colorow Way. Mitigation measures applicable to this alternative also provide for exploring the feasibility of a cooperative foothill planning process. The process would be conducted with other nearby applicable entities and geared toward preservation and interpretation of the integrity of remaining open space, native vegetation, wildlife access and migration, and dispersed recreational use along the foothill corridor from the northern boundary of the University of Utah to the mouth of Emigration Canyon.

Finally, Alternative B includes a mitigation measure recommending that Red Butte Garden and Arboretum move their perimeter fence on the hillside south east of their visitor center. By relocating this fence downhill, closer to Red Butte Creek, movement of mule deer down out of Red Butte Canyon in periods of heavy snow would not be as impeded as it is now with the high fence. These mitigation measures contribute toward selection of Alternative B.

SUMMARY OF IMPACTS

The Environmental Consequences section of the EIS elaborates on the impacts of implementation of each of the alternatives. Table 3 on Page 50 of the Final EIS provides a summary of those findings. Following is a brief summary of the findings for Alternative B, the selected action.

There is potential for impacts to vegetation both within and outside of the confining envelope. Vegetative disturbance and/or loss is anticipated within the envelope above and below the BST including up to 59% of the gambel low oak, 23% of the tall oak, and 58% of the sagebrush community within the site resulting in major long-term to very-long term impacts for these communities within the site.

Impacts to wildlife would be negligible except for impacts to mule deer resulting from temporary loss of habitat during construction and impediments to seasonal movement through the site. Short-term and long-term impacts to recreation are moderate to major with temporary disruption from construction activity and post-construction changes in the quality of the recreationists' experience.

Visual quality and open space effects are major with a reduction in open space and change in the viewshed. With clustering of facilities under this alternative, overall site disturbance may be reduced and more open space retained. Transportation and traffic impacts are minor largely due to the application of mitigation measures and that traffic generated by the Museum will not usually coincide with peak travel times.

Construction related economic impacts are beneficial, but short-term and minor in the context of Salt Lake County. Tourist spending impacts are beneficial, long-term, but small in the context of

Salt Lake County. Moderate long-term effects to storm water runoff volume will occur, however, compliance with regulatory mandates will render them negligible. Ground water recharge effects are negligible and water quality effects to Red Butte Creek are negligible due to necessary compliance with Clean Water Act requirements.

ENVIRONMENTALLY PREFERRED ALTERNATIVE

The environmentally preferred alternative is the alternative that best promotes the purposes of a national environmental policy set forth in the National Environmental Policy Act. The environmentally preferred alternative would cause the least adverse impacts to the biological and physical environment and would provide the best approach to protection of historical, cultural, and natural resources.

In selection of the environmentally preferred alternative, National Park Service NEPA compliance guidelines call for selection of the alternative that best fulfills the policy stated in Section 101(b) of NEPA:

1. fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
2. ensure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings;
3. attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences;
4. preserve important historic, cultural, and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choice;
5. achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities; and
6. enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

Alternative C was identified as the environmentally preferred alternative because it best addresses these NEPA goals as described below.

If the alternatives were solely considered in terms of their potential direct impacts, the No Action Alternative, Alternative A, would best advance the policies of NEPA Section 101(b). Without construction of a new UMNH and its associated features, there would be no immediate change to the existing environment at the proposed 17-acre site. The setting would retain its remaining natural attributes. However, as described in the narrative for Alternative A, it is plausible and likely that should UMNH not utilize this site, it would be developed by other entities as part of Research Park. The University of Utah Board of Trustees has determined that this site is planned for development. It is the likelihood of subsequent development by other parties consistent with the Research Park Zone that gives rise to the indirect effects, which preclude identification of this alternative as the environmentally preferred alternative. Construction and development on this parcel, probably on two development lots, would likely not have the environmental consideration afforded through the NEPA process, or mitigation measures that are applicable under this EIS. Surface and vegetative disturbance could exceed what would be experienced under the UMNH implementation of any of the action alternatives. With commercial buildings, traffic impacts would exceed those of the action alternatives. Less consideration may be given to vegetation restoration planning and implementation, trail use and remediation considerations, or potential environmental/site benefits of securing LEED certification. Due to these potential indirect effects of Alternative A, it is not identified as the environmentally preferred alternative.

Alternative C's confining envelope and the positioning and clustering of facilities toward the northern end of the site overall make it more consistent with the objectives established in Section 101(b) of the National Environmental Policy Act. While various elements and impacts are similar among the action alternatives, it is the combination of elements in this alternative that on balance led to its selection.

Goals 1, 3, 4, 5, and 6 are partially addressed by Alternative C's retention of open space in the upper and lower parcels; retention of areas for movement of mule deer both through the site and to the oak communities in the lower portions of the site; and retention of most of the tall oak community. An element of the alternative (as well as alternatives B, D, and E) requires construction planning to avoid tall oak communities and the 30% slope as much as practicable. In Alternative C, most of the tall oak is toward the outer edges of the envelope and may be able to be retained. In addition, 77% of the site's tall oak is outside of the envelope. Alternative C (as well as B and D) includes mitigation measures to plan and implement a native plant species restoration program. Also, placing the building downhill from the pipelines would result in continuing the predominant development pattern of adjacent buildings in Research Park below the pipelines/trail as opposed to development higher toward the foothills. Views looking into the site would be changed with the new building and parking. However, retention of most of the tall oak community would provide some screening of the structure. Also, a building at a lower elevation would not be as dramatic a change to the viewshed looking in toward the site as a building higher on the project area. However, whether that is environmentally preferable depends on the subjective opinion of the viewer. A mitigation measure applicable to this alternative (and B) provides for exploring the feasibility of a cooperative foothill planning process and a recommendation to Red Butte Garden and Arboretum to move its southeast perimeter fence. This would decrease impediments to mule deer movement in and out of Red Butte Canyon and across this site.

Goals 2, 3, 4, and 5 are reflected in melding Museum and recreational use of the site. Flexibility is afforded to maintain trail connections between the Bonneville Shoreline Trail and the upper trail and with parking along Colorow Way. With location of parking and an access corridor on the pipelines and the BST, the BST would necessarily need to be permanently realigned through the site. Although such alignment is not yet designed, there may be opportunities to improve the trail surface and perhaps its appeal to some users with a departure from the current pipeline maintenance road alignment. An advantage of this trail realignment under Alternative C is to eliminate potential cross traffic conflicts between trail users and Museum visitors passing between parking and the Museum. Alternative C (as well as B and D) includes mitigation measures to provide amenities for trail users.

The surface parking lot would likely be terraced and landscaped. For some trail users, it may not present as dramatic a change to the upslope views and character as would placement of the Museum above the trail. Likewise, with placement of the Museum building at a lower elevation below the pipelines, views looking out across the valley from the Upper Trail would only be partially obscured by a building. Depending on the height and profile of the building, views looking out from other portions of the Bonneville Shoreline Trail may be partially blocked. Depending upon configuration of the Bonneville Shoreline Trail realignment under this alternative, trail users might be able to see over the Museum building from portions of the realignment. Alternative C (and B) also includes a measure to increase parking availability for Trail users by reconfiguring and increasing available parking on Colorow Way.

Alternative B has elements and mitigation measures identical to Alternative C. However, the size and position of the envelope and the placement of facilities within it decrease its ability to achieve the NEPA goals as well as does Alternative C. For goals 1, 3, 4, 5, and 6, less open space is retained in the upper parcel, more of the mule deer movement corridor in the upper

parcel would be blocked, and more of the vegetative communities are within the development envelope, but a similar amount of tall oak would be retained as in Alternative C. With the Museum placed uphill from the BST and higher on the site, it would be more visible to people looking into the site toward the foothills and present a greater change to the existing viewshed. Likewise, the building placement would change views upslope for trail users. However, downslope views would be more open for trail users than under Alternative C. For goals 2, 3, 4, and 5 in regard to a diversity of site uses, the BST would not necessarily be permanently realigned. However, with the location of the Museum, there would be limitations for options for connections between the upper trail and the BST. Also, under B, there is the potential for conflicts between trail users and cross traffic of Museum patrons moving between the parking facility and the Museum building.

Alternative D's structures are entirely uphill from the pipelines and BST and less of the site is within the envelope. However, for goals 1, 3, 4, 5, and 6, the access road through the lower parcel would cause fragmentation to the tall oak community; to fit the Museum building and a parking structure into the envelope would largely block mule deer movement corridors; and changes to the viewshed would be similar to Alternative B. However, under Alternative D, only five percent of the tall oak community is within the confining envelope meaning that more of this community can probably be retained under this alternative than the other action alternatives. For goals 2, 3, 4, and 5, as with Alternative B, there would be few options available for connections between the upper trail and the BST and the upslope view would change for trail users. For Alternative D, no new parking would be afforded on Colorow Way. An advantage for Museum and recreational site visitors would be that with all Museum facilities above the BST, the trail cross traffic issue would be avoided. Also, with no structural development below the trail, downslope views for trail users would be open.

Alternative E's structures are entirely downhill from the pipelines and BST. For goals 1, 3, 4, 5, and 6, more of the tall oak community is lost than in Alternatives B, C, or D. While the upper parcel is retained as open space, facilities in the lower parcel would fragment retained open space and vegetative communities and inhibit mule deer access to the retained oak habitat in the lower parcel. Impacts to the viewshed looking into the site would be less than alternatives B or D with the Museum higher on the site, but would not be afforded as much screening from the tall oak as under Alternative C. For goals 2, 3, 4, and 5, there would be few options for trail connections through the site between Colorow Way and the BST and no increased parking on Colorow Way. With structures all downhill from the BST there would not be cross traffic conflicts with the Museum users as under Alternatives B and C and there would be flexibility for connections between the upper trail and the BST. Trail users would experience an open upslope view but the downslope view would be changed with the placement of facilities.

Alternative F is located in the lowest portion of the site with the Museum building just above Colorow Way. For goals 1, 3, 4, 5, and 6, while a large portion of the lower parcel and the entire upper parcel are retained as open space, nearly the entire tall oak community would be impacted or lost. Impacts to the viewshed from a distance would be reduced from the other action alternatives, but the uniqueness of the site in terms of integration with the Museum's character and mission would be greatly diminished. While mule deer movement corridors across the top of the site would be retained, the tall oak habitat at this location would be lost. For goals 2, 3, 4, and 5, the melding of uses as described for Alternative C would largely be lost. While the Museum and trail use would largely be separated, there would be no amenities provided for trail users and connections from Colorow Way to the BST would have few options.

PUBLIC AND AGENCY INVOLVEMENT

Scoping

NEPA compliance was initiated as preparation of an Environmental Assessment (EA). Public involvement and a public scoping process were conducted in February and March 2005 with a public meeting held on March 8, 2005. During EA scoping, 342 written comments were received and about 90 people participated in the public scoping meeting. After review of public comments received during EA scoping and consideration of public interest and identified issues, it was determined that it would be appropriate to prepare an EIS.

A Notice of Intent to prepare an EIS was published in the Federal Register on September 9, 2005. A scoping brochure describing the proposal and preliminarily identified issues was mailed to 1,702 addresses and another 246 brochures were mailed to University of Utah addresses via University internal mail. Email notification of the scoping process was communicated to 109 people for whom mailing addresses were not available. People receiving scoping brochures or email notifications included interested federal and state agencies, tribes, local governments and organizations, names provided by UMNH, and people who participated in EA scoping. Public scoping for the EIS was conducted from September 9 through October 11, 2005. Ninety written comments and three phone calls were received in response to the Scoping Brochure. Because a well attended public meeting was held during EA scoping, a separate EIS scoping meeting was not conducted. All comments received during EA scoping were retained, and were considered during EIS preparation. The Purpose and Need section of the EIS describes the issues and concerns raised. Written scoping comments from public agencies and Tribes are included in Appendix F of the EIS, Consultation Letters.

Public Meetings and Outreach

For both scoping and public review of the Draft EIS, numerous activities were conducted to assure that interested parties would be aware of the process and how to participate. The Museum's website, umnh.utah.edu, provided information on the process, periodic updates, and viewing and downloading of the scoping brochure and the Draft EIS. Postcards, flyers, and other announcements directed interested parties to the website. Legal notices were published in both the Salt Lake Tribune and the Deseret News and press releases were issued to print and electronic media. Public service announcements were provided to a number of local radio stations. Scoping notification flyers were posted at Salt Lake City Libraries, University of Utah campus billboards, recreation outlets, Red Butte Garden, and the Museum's reception desk. Copies of the Draft EIS were available in Salt Lake City public libraries, the University of Utah Marriott Library and at the reception desk of the Museum. A public notice sandwich board and brochures and notices of the Draft EIS comment and public meeting were placed in pouches on the Bonneville Shoreline Trail. A project master tracking list was maintained to assure that all persons who had indicated an interest were included in process notifications.

Public Involvement on the Draft EIS

A Notice of Availability of the Draft EIS from the National Park Service appeared in the Federal Register on July 21, 2006. A Notice of Availability of the Draft EIS from the Environmental Protection Agency appeared in the Federal Register on July 28, 2006. The 60-day public comment period ended September 28, 2006. Parties on the project tracking list were either provided paper or disk copies of the DEIS, or were sent postcards or emails directing them to the Museum website for comment period information, viewing and downloading of the DEIS, and information on the public meeting.

A public meeting was held on September 5 at the Fort Douglas Officers' Club. Thirty-nine members of the public registered at the meeting. Thirteen people provided oral comments on the DEIS and eight written comments were filed at the meeting.

Public Comment

A total of 70 people/agencies provided comments on the DEIS. Some of these provided multiple comments: 13 oral comments; 50 comments by email; and 12 written comments were received.

Most comments received were similar to those received during scoping raising issues or concerns about utilization of the site by the Museum. Few comments spoke to the sufficiency of the Draft document. Many comments indicated preferences or opinions about future use of the Museum site. Comments included opposition to any development on the site and retention of the site's characteristics including existing recreational uses. Other comments supported use of the site by the Museum and felt that the location would be beneficial to the Museum and the community. Some comments expressed concerns about cumulative effects of continued encroachment of development along the foothills including effects to recreation, the natural character and appearance of the setting, wildlife, and vicinity traffic. A comment questioned the adequacy of the Draft because sites other than the site selected by the University in 1997 were not considered as alternatives for analysis. That question was address on page 37 of the Draft EIS and on page 41 of the Final EIS. A summary of all comments received and responses to the comments is included in the Consultation and Coordination section of the Final EIS.

Agency and American Indian Consultation and Coordination

All Indian Tribes known or believed to have a potential interest in the site are included on the master tracking list and were provided scoping materials and notified of availability of the Draft EIS on the Museum website. For Tribes believed to have greater potential interest, the Northwestern Band of Shoshone, the Skull Valley Band of Goshute Indians, the Northern Ute Tribe, and the Confederate Tribes of Goshute, follow-up letters were sent and phone calls placed during scoping. These Tribes were also provided paper copies of the Draft EIS and received follow-up letters asking their review and comment.

All federal agencies believed to have an interest in the project or the EIS process were included in the NEPA process and provided copies or electronic access to scoping information and the Draft EIS. Comments received from agencies are included in Appendix F, Consultation Letters, or in the Consultation and Coordination section of the Final EIS.

The U.S. Fish and Wildlife Service provided four written comments as well as telephone interaction regarding compliance with Section 7 of the Endangered Species Act. Effects analysis (see the Environmental Consequences section of the Final EIS) determined that negligible impacts would be anticipated to the listed species identified by the U.S. Fish and Wildlife Service that may occur within the area of influence of the project. The Fish and Wildlife Service provided notice that it would no longer provide concurrence for "no effect" determinations, but rely upon individual agencies to conduct analysis and make conclusions (Dear Interested Parties letter dated January 27, 2006).

A Class III Cultural Resources Inventory was conducted on the site in 2003 by Mountain States Archaeology under State Permit U-03-MV. The inventory report concluded that no historical sites or resources were on the site and no new archaeological sites or isolated finds were located. In its review of the report, the Utah State Historical Preservation Office recommended construction monitoring for archaeological resources. Monitoring and recovery of any found archaeological resources is a component of all action alternatives including the selected action.

CONCLUSION

Implementation of the selected action includes elements common to action alternatives and specifically to this alternative as well as the mitigation measures described in the Proposal and Alternatives section. In preparing the EIS, the agencies sought to address issues and concerns and included these elements and measures to assure that adverse environmental effects will be avoided or minimized to the maximum extent practicable. The selected action was not identified as the Environmentally Preferred Alternative, although the two alternatives are very similar and have nearly identical mitigation measures, primarily because of the size of the confining envelopes and the location of the Museum building. However, it has been determined that the selected action provides advantages to the Museum in successfully furthering its mission that justify any small difference in environmental impacts. These advantages of Alternative B over the Environmentally Preferred Alternative warrant its selection as outlined under the previous Basis for Decision discussion.