

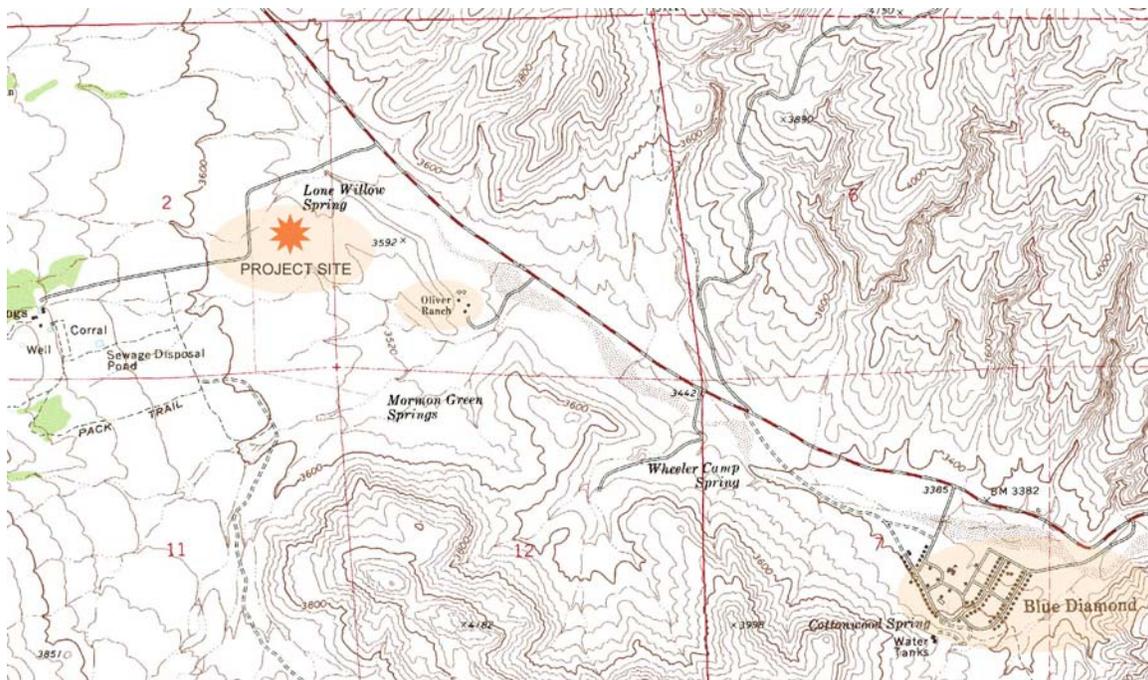
CONCEPTUAL SITE DESIGN – WILD HORSE AND BURRO FACILITIES

THE PROCESS

During the feasibility planning sessions for the science school, a number of undefined parameters related to the facilities planned for the Wild Horse and Burro (WHB) Program as part of the overall Oliver Ranch site development remained unresolved. Although the WHB facilities serve separate functions from the environmental education complex, there will be a linkage with the school's curriculum, and an educational component will be an integral part of the WHB Program.

During July 22-24, 2002, personnel from the Architecture and Engineering Services Division of BLM's National Science and Technology Center, all of whom had participated in the earlier feasibility studies for the science school (Busch, Pritchett, Fleming and Hart), performed additional site reconnaissance and a charrette to focus specifically on the WHB elements. As part of this effort, program refinements were made with an intense involvement of Amy Torres of the BLM Las Vegas Field Office WHB Group, and Billie Young, President of the National Wild Horse Association. Otherwise, the conceptual design process followed the same steps as that used for the science school.

The results were presented on July 24 to an expanded group of stakeholders, including BLM management and staff and Outside Las Vegas representatives. It was concluded that the proposed WHB facilities will fit nicely on the site, provide excellent opportunities for linkage with the science school, and serve the WHB Program in an excellent fashion.



THE RESULTS

Conceptual design of the WHB facilities focused on:

- Programmatic goals, requirements and mission of the WHB Program.
- Functional linkage between WHB program elements and with the Red Rock Visitor Center and educational center.
- Extension of the appropriate, sustainable concepts proposed for the science school.
- Low-stress concepts for all facilities in which the animals will be housed, worked or handled.



view south toward proposed site

PROGRAM

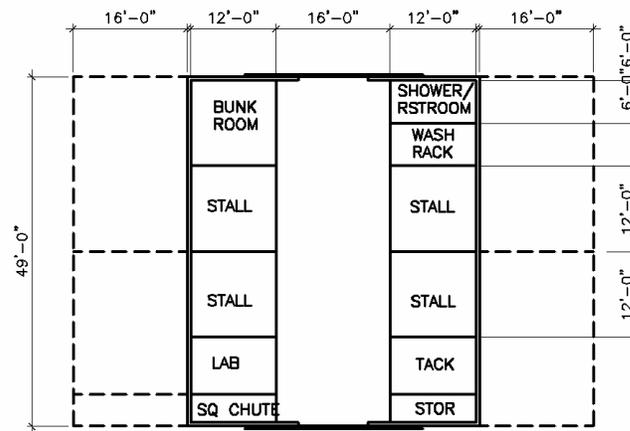
The program established for the WHB facilities was a refinement of that developed by a team of personnel from the WHB group in the Las Vegas Field Office, the National Wild Horse Association, and the Nevada State Commission for the Preservation of Wild Horses. Their Draft Proposal of April 25, 2002 was entitled “Oliver Ranch Wild Horse and Burro Environmental Education Program and Facility.”

The refined spatial requirements and building program for the WHB facilities is presented in the matrix from which the preliminary budget for these facilities was developed. *Please see Appendix VI.*

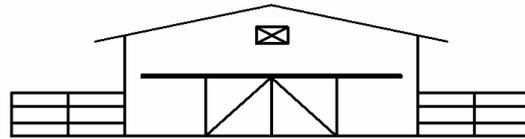
The primary elements of the building program are as follows:

- Resident Horse Barn - Accommodating six horses, with a tack room
- Amphitheater/Arena – For special riding events, but flexible for use in other types of demonstrations, adoptions, classes and shows, seating for 100
- Office – With 4 to 5 work spaces and small conference space
- Outdoor Gathering Space – For barbeques and similar social events

- Helipad – with 90-foot diameter “safety circle”
- Holding Corral
- Sorting/Handling Area
- RV Site with Utilities – For seasonal use by a single resident
- Animal Infirmary – for 4 horses, with a bunk room
- Hay Storage – Approximately 3 months storage for 25 horses
- Pasture – Fenced, flexible usage, approximately 2 acres
- Equipment Garage – For one ATV with trailer and one tractor
- Parking – For staff, public, trucks, equipment and special events



PLAN



ELEVATION

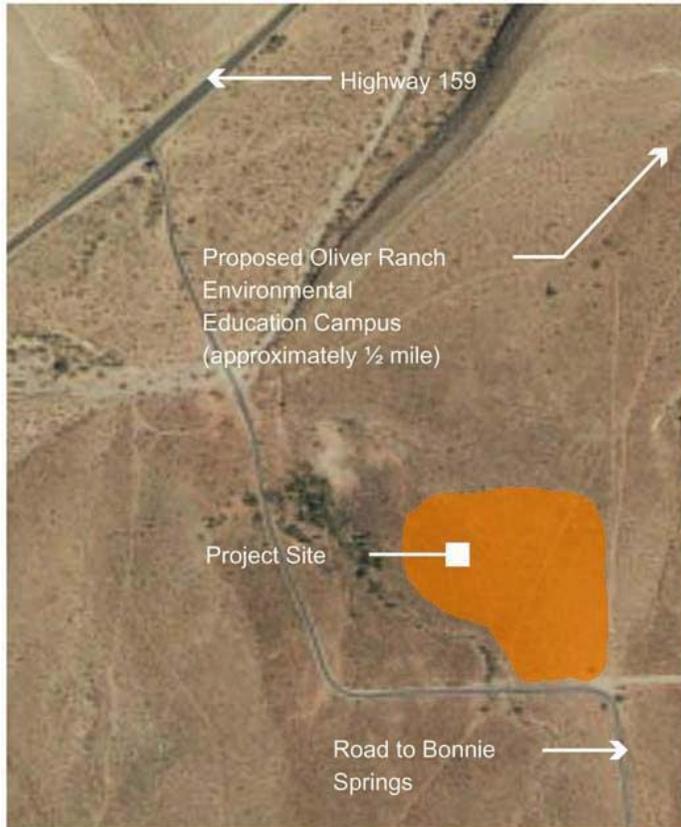
INFIRMARY CONCEPT

FUNCTIONAL LINKAGE

An element of the environmental education curriculum proposed for the science school is the role of the wild horses and burros in the desert ecosystem, and a corral for one or more gentled horses is part of the campus program proposal for the school. It is also anticipated that there will be times when groups of students will visit the WHB facilities during their stay at the campus.

There is an existing trail that can be developed to serve as a pedestrian/equestrian link between the science school campus and the WHB facilities, providing a hike or ride of

approximately ½-mile in length. A visual link between the two developments occurs over much of the route.



PROJECT LOCATION



Existing Trail Between Sites

There would also be a linkage with the visitor experience at the Red Rock Visitor Center, either through prearranged appointments at the WHB facilities, or through demonstration areas at the visitor center.

SUSTAINABLE CONCEPTS

Essentially all of the sustainable design concepts proposed for the science school campus can be extended into the WHB facilities. The *differences* between the two developments are as follows:

Site

- There are no existing structures to be reused at the WHB facilities site.
- Most of the site is naturally flat such that only minimal grading will be required.
- The site design will respect the existing riparian and spring areas, providing no construction impacting them.
- Vehicular access will primarily be utilitarian. Parking will be sized for recurring events, but the peak needs for events occurring only annually or less frequently will be accommodated by the use of temporary arrangements and/or shuttles.
- Runoff from the entire site will be contained and treated as required by State regulations.
- Wayside-type exhibit panels adjacent to the primary “front-side” parking were discussed as a way of providing information to occasional visitors without encroaching on the operational parts of the facilities.



Water

- Planting will consist only of native species, with a purpose of creating natural shade for the animals.
- Wastewater treatment will consist of simple onsite systems (septic tanks with subsurface infiltration effluent disposal), with a portion of effluent being reused for irrigation of plantings.
- An extension of the main that will serve the science school will bring in potable water.

Energy and Air

(The same principles and concepts apply as for the science school).

Materials

- There are no existing buildings at the WHB site; hence there is no potential to reuse or mimic any historic elements.
- Use of a translucent fabric-covered frame structure is proposed for the arena, maximizing the available natural light and ventilation, while minimizing construction cost. A similar structure with opaque fabric can be used for hay storage.

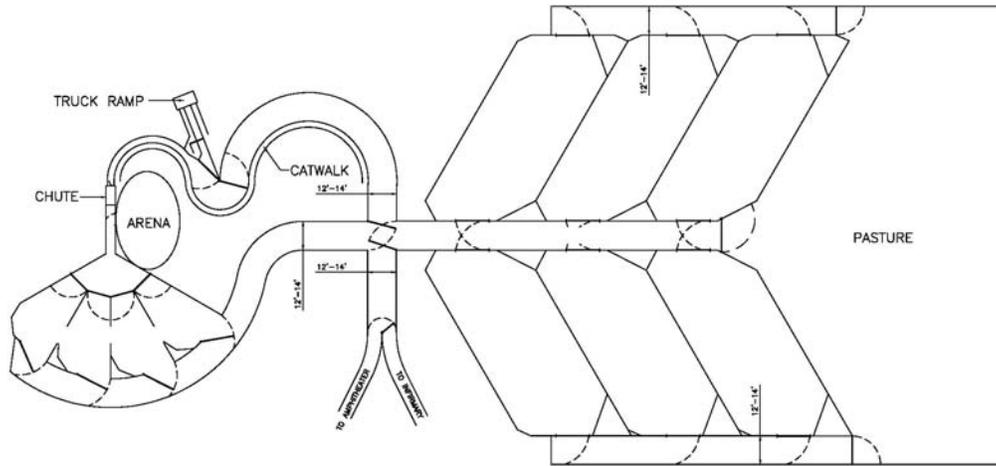


LOW STRESS CONCEPTS

The pens, corrals, aisleways, chutes and ramps needed for the WHB facilities will all be designed using the “low stress” concepts that have evolved for livestock in recent years, particularly due to the pioneering work of Dr. Temple Grandin of Colorado State University. Some of the applicable concepts include:

- Use curvilinear layouts for chutes, aisleways, pens and corrals, avoiding any corners or perceived constrictions.
- Use herringbone pen layout instead of rectangles.
- Avoid any noise-causing elements, such as metallic ramps or grating.
- Use color-coding for gates.
- Use higher (7-foot for horses) fence for the areas where stress occurs.
- Use solid (complete visual barrier) fencing for chutes and raceways.
- Use a consistent walking surface material, ideally sand.

The following conceptual plan was developed based on a sketch prepared by Ms. Amy Torres and using some of the principles of stress-free layout, proposed on Dr. Grandin's web site, www.Grandin.com:



LOW-STRESS HANDLING FACILITIES

(SCHEMATIC CONFIGURATION)

NOTE: BASE DATA TAKEN FROM SKETCH BY AMY TORRES, BLM, LVDD.

CONCEPTUAL SITE PLAN

A conceptual site plan was developed which implemented the building program in a manner consistent with the goals and parameters described in the preceding pages. The plan takes advantage of the existing paved access from Highway 159 to the Bonnie Spring Resort, and provides the full building program in a relatively compact footprint. The entire project footprint will impact an area of approximately 13.5 acres.



CONCEPTUAL SITE PLAN

