LEMITAR MINE SAFEGUARD PROJECT - PHASE II

LEMITAR, NEW MEXICO
PROJECT LOCATION OVERVIEW

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GENERAL NOTES:
1. THIS DRAWING SHOWS TWO EXAMPLE MINE OPENINGS AND THE CORRESPONDING LAYOUTS OF THE STEEL CLOSURE. THE DRAWING SHALL BE USED AS A GUIDE FOR FIELD LAYOUT, DETERMINE THE ACTUAL LAYOUTS AND DIMENSIONS OF THE CLOSURES IN THE FIELD PRIOR TO FABRICATION.
3. INSTALL LOOSE ROCK AT CLOSURES PRIOR TO FABRICATION AND FIELD ERECTION OF THE CLOSURES. REMOVE THE AMOUNT OF ROCK AND OTHER DEBRIS THAT FALL INTO THE MINE OPENING PRIOR TO CONSTRUCTION, FULL LOOSE MATERIAL UP AND AWAY FROM THE MINE AREA.
4. USE BEAM SUPPORT OR BEAM SEAT AT CONTRACTOR'S DISCRETION AND APPROVAL. IT IS THE PROJECT MANAGER TO INSTALL SEE MINE OPENING SEAT AT COMPETENT ROCK.
5. UNLESS OTHERWISE ACCEPTED BY THE PROJECT ENGINEER, PLACE BEAMS ACROSS THE SPAN (WIDTH) OF THE SHAFT OPENING.
6. INSTALL SURVEY MARKER (SUPPLIED BY ANL) PROGRAM INTO CONCRETE OR ADJACENT COMPETENT ROCK AS DIRECTED BY THE PROJECT MANAGER.
### Horizontal Bat Gate Locations

<table>
<thead>
<tr>
<th>Feature Number</th>
<th>Approx. Opening (ft)</th>
<th>Approx. Ts42x25 Needed (Linear Feet)</th>
<th>Approx. No. of Support Beam Ends</th>
<th>No. of Removable Bars</th>
</tr>
</thead>
<tbody>
<tr>
<td>07_10</td>
<td>6' x 6'</td>
<td>120</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>18_04</td>
<td>6' x 6'</td>
<td>200</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>18_05</td>
<td>6' x 6'</td>
<td>200</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>520</td>
<td>15</td>
<td>3</td>
</tr>
</tbody>
</table>

### Anchor Installation Notes:

1. Support beams for horizontal bat gates shall be attached to the surrounding rock using Hilti HY 200 adhesive anchoring system or an approved equivalent.

2. Hilti HY 200 adhesive is available in two options, Hilti HY 200 A and Hilti HY 200 B. Both options utilize the same technical data. Hilti HY 200 A shall have shorter working time and cure time than Hilti HY 200 B. The packaging loss factor is different which helps the user determine between the two adhesives.

3. Hilti HY 200 adhesive shall be used for installation of threaded rods (rebar) out of existing concrete. Adhesive shall be furnished in containers containing a hard component and a liquid component. Containers shall be designed to assure static mixing inside the container, which prevents the component from mixing while still in the container.

4. Only injection tools and Kelly bars made by HY 200 shall be used. Injection adhesives shall be formulated to include the resin and hardener to provide optimal cure speed, high strength and stiffness. Injection adhesive anchor system shall be used in HY 200 system shall be supplied by HCI.

5. The anchors shall be HY 200 anchors rods 6" diameter 6 ½' length. Drill hole shall be 7 ½" in length and the diameter shall be 6 ½".

6. Where used, holes 6" diameter and 6 ½' in length shall be drilled for optimal capacity when base material temperature is greater than 35°F or colder. A hand held 2½' drill bit is used. However, the hole shall be cleaned if any other drill method is used.

7. The drill shall be torqued to 60 inch lbs.

8. Installation of each bolt shall utilize two washers and at least one nut. Three measures to make all nuts unwindable such as destroying the threads on each washer.

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**Example Photo of Completed Horizontal Bat Gate**

*Image shows a completed horizontal bat gate.*

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**Abandoned Mine Land Program**

*Image shows an abandoned mine land program.*

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**Abandoned Mine Land Closure**

*Image shows an abandoned mine land closure.*

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**Project Details**

*Image shows project details.*
DEPRESSED BACKFILL DESIGN
(TYPICAL SECTION)