

APPENDIX F SHAFT CLOSURE PLAN



GOOSEBERRY MINE
BROWNFIELDS PROJECT
STOREY COUNTY, NEVADA



SEP 26 2007

September 24, 2007
Job #5807

Brett Whitford
AMEC
780 Vista Blvd., Ste. 100
Sparks, NV 89434-6656

RE: Gooseberry Mine
Shaft Closures

Dear Brett,

We have completed our review of the "Initial Geotechnical Assessment Final Report Gooseberry Mine, Storey County, Nevada" prepared by AMEC Earth and Environmental, Inc. dated May 2006 and offer the following details as a suggested means to cap the Main Shaft and Decline Shaft at the project site.

It is our understanding the former mining site is being considered for possible commercial development and the attached details will be used to develop budgetary costs in connection with capping the two existing Mine Shafts. Our details are based on the assumption that an additional Field Investigation will be conducted prior to final design or construction of any concrete plug or cap. Subsurface Geotechnical conditions near the shaft openings must be verified and would be used to determine the actual keyed dimensions required for the concrete plug and cap.

All work near and around the shaft openings must be performed by properly trained and qualified individuals. Workers and equipment must be secured to appropriate anchorages until the concrete cap has been placed and attained adequate strength.

Since the future development for this site is unknown at this time, actual design loads could vary from those used to develop the attached details. A qualified Engineer should determine the final design requirements prior to constructing the concrete plug and cap. The following parameters were used to prepare the enclosed details dated September 24, 2007.

1. Concrete $f'_c = 3,000$ psi @ 28 days
2. Reinforcing $f_y = 60$ ksi
3. Concrete Density 130 pcf
4. Single Point Load at Center of each Shaft opening:
 - a. Dead Load 78 kips
 - b. Snow Load 20 kips
 - c. High Rack Load 24 kips

Although it is preferable to avoid constructing any structures directly over a capped shaft opening, it is our opinion the above criteria will provide reasonable budgetary costs to cap the shafts with concrete plugs that have the ability to support a potential future column or footing for a warehouse or distribution center similar to those currently being developed within the Tahoe-Reno Industrial Park.

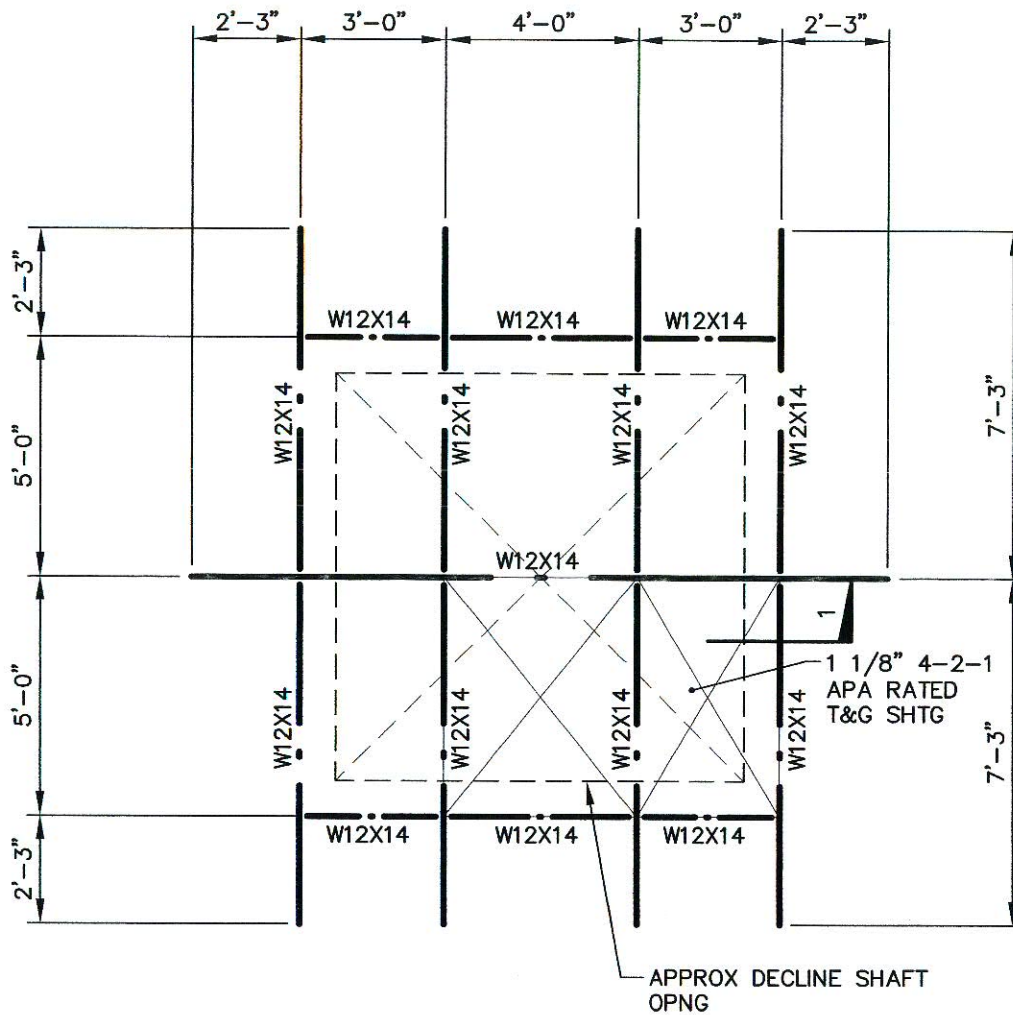
Please give me a call should you have any questions.

1005 Terminal Way
Suite 165
Reno, Nevada
89502-2196

Telephone:
(775) 786-4717
Facsimile: bsh/mm
(775) 786-4733 Enc. (4)
www.hartman-se.com
mail@hartman-se.com

Sincerely,
Hartman Structural Engineering, LLC

Brian S. Hartman, P.E.



PLAN @ 8'-6"X8'-6" DECLINE SHAFT

SCALE: 1/4"=1'-0"

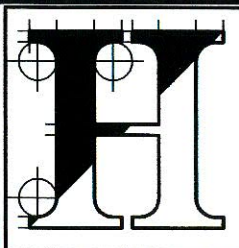
**PROPOSED DECLINE SHAFT
CLOSURE**

FOR

GOOSEBERRY MINE

STOREY COUNTY

NEVADA



HARTMAN
STRUCTURAL ENGINEERING

1005 Terminal Way
Suite #165
Reno, Nevada
89502-2196

Telephone: (775) 786-4717
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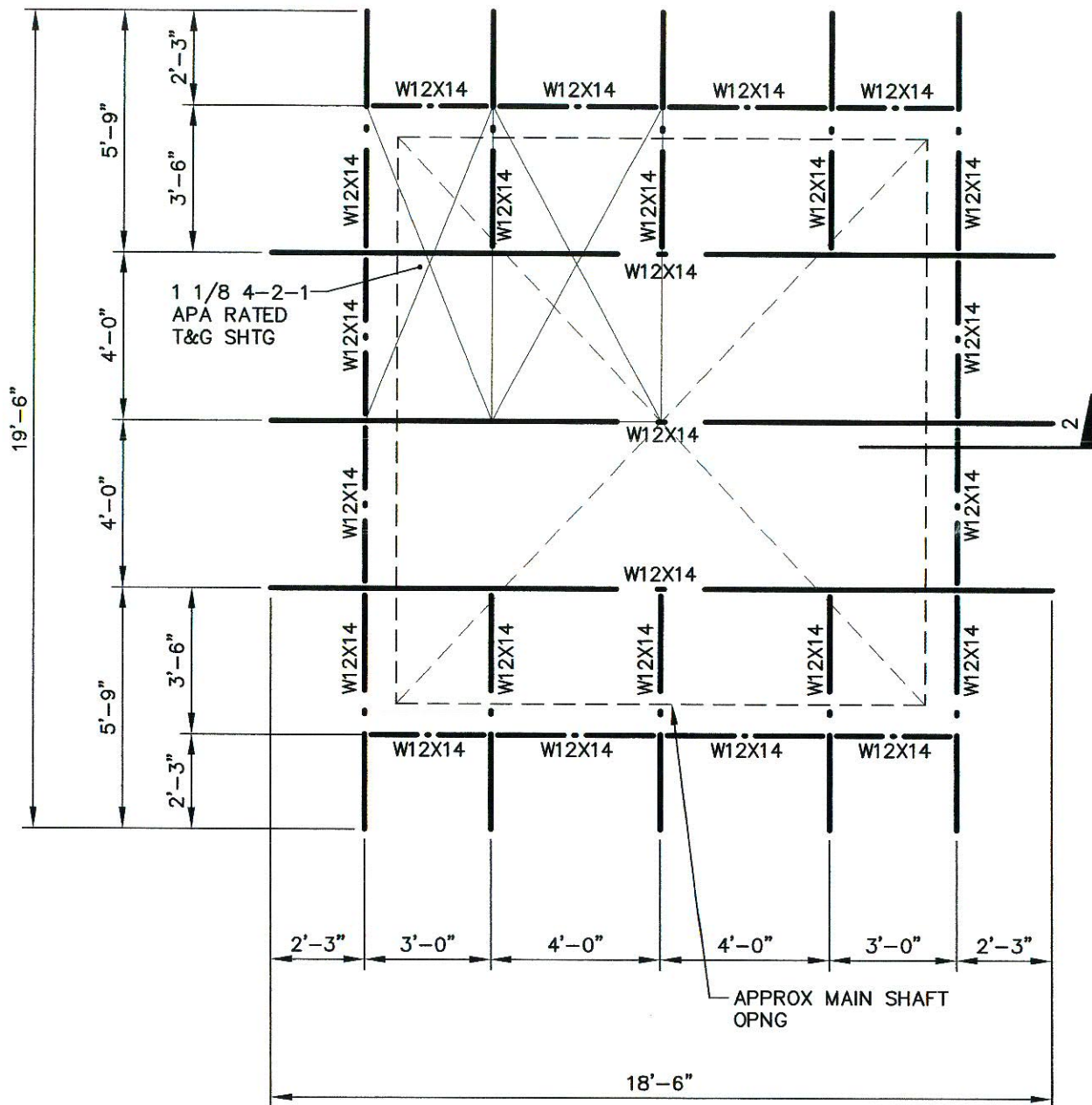
JOB # 5807

DATE: 25 SEP 2007

SHEET

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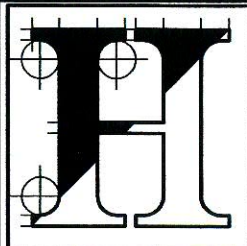
OF 4



PLAN @ 12'-6"X13'-6" MAIN SHAFT

SCALE: 1/4"=1'-0"

PROPOSED MAIN SHAFT CLOSURE
FOR
GOOSEBERRY MINE
STOREY COUNTY NEVADA



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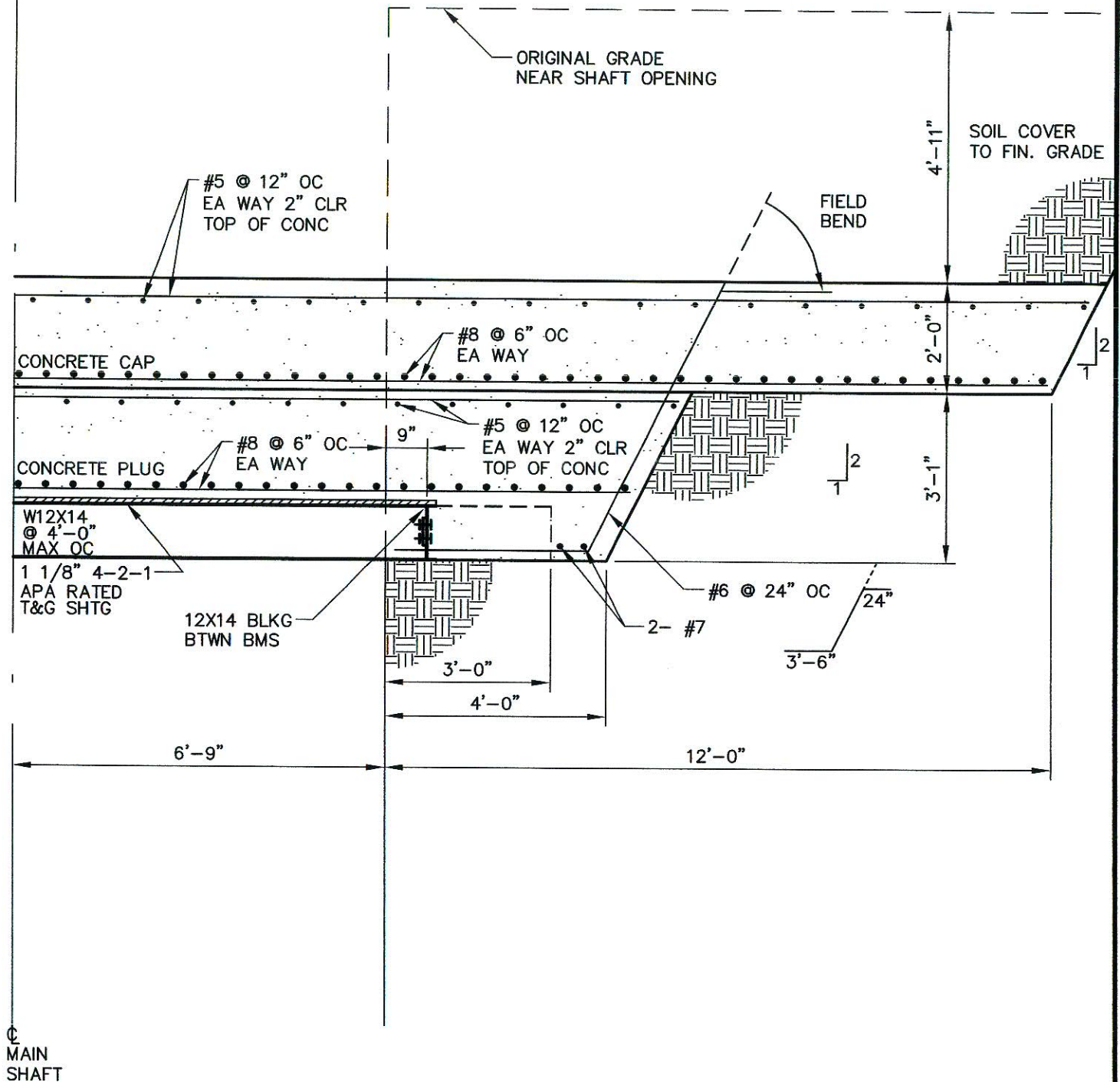
JOB # 5807

DATE: 25 SEP 2007

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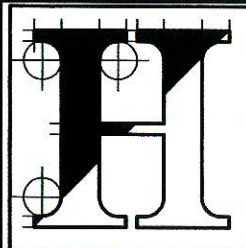
OF 4



SECTION 2

SCALE: 3/8"=1'-0"

PROPOSED MAIN SHAFT CLOSURE
FOR
GOOSEBERRY MINE
STOREY COUNTY NEVADA



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