"Marcie Bidwell"
<mbidwell@swca.com>
04/16/2010 08:48 AM

To "Debby Kriegel" <dkriegel@fs.fed.us>
cc
bcc
Subject Data Gaps Request

Hello Debby,

No word yet from Tom on the scope questions that I forwarded.

Here is the revised document for the Data Gaps. Please feel free to edit as you need to. I am out the rest of the day. Have a good weekend

Cheers,
Marcie

<<Rosemont_Data_Gaps_040810-04-13.docx>>

Marcie Demmy Bidwell
Environmental Planner
130 Rock Point Drive, Suite A
Durango, Colorado 81301
Office: 970.385.8566
Fax: 970.385.1938
www.swca.com [attachment "Rosemont_Data_Gaps_040810-04-13.docx" deleted by Debby Kriegel/R3/USDAFS]

Debby Kriegel/R3/USDAFS
07/15/2009 07:34 AM

To "Marcie Bidwell" <mbidwell@swca.com>
cc Debby Kriegel/R3/USDAFS@FSNOTES
bcc
Subject Re: Simulation task list~ is this what you are looking for?

Marcie:

See my comments below in red and the attached document. Please call me if you want to discuss any of this.

Two other questions:
1. How is your research of other mines going?
2. Do you think you are budgeted sufficiently to complete currently funded tasks?

Thanks!

Debby

"Marcie Bidwell" <mbidwell@swca.com>

"Marcie Bidwell" <mbidwell@swca.com>
07/14/2009 10:23 AM

To "Debby Kriegel" <dkriegel@fs.fed.us>
cc
Subject Simulation task list~ is this what you are looking for?

Debbie,

can you give this a quick review and let me know if this is what you are looking for~ in table below. Please edit if you want and send back. I will submit to Charles and Tom to resubmit to you, Bev, and Reta.

Also, I am attaching the list of actions that we reviewed this morning (whats funded, not funded, simulation request)

Bold- Simulation request
Italics- underway as Alternative Development
Plain- not funded, not included

<<Visual_Resource_Proposal_2009-07-14 Review.pdf>>

Task 1. Consultation with USFS and Rosemont to Select Simulations and Phases (Note: consulting with Rosemont should help them understand why we selected the simulation points and phases, but the USFS needs to have the final say)

Review all KOPs established by the USFS and select ~~5~~ (Estimated = 28. See the attached document.) key observation points (KOPs) to propose to USFS for simulations.

Prepare and review "existing conditions" panoramas for potential KOP simulations. Select ~~a~~ phases

to represent for each KOP in addition to Reclamation (i.e. construction at 5 years, etc).

Meet with USFS and RCC (including Sage/Tetratech reclamation team) to review data, KOP selection and "photo realistic" process.

Task 2. 3D Surface and Scene construction

Collect nessecary (typo) data and generate 3-D digital surfaces for the MPO at each construction phase selected for simulations. This step will include researching what the pit will look like and generating 3D plant facilities if needed.

Create one set of 3-D GIS Arc Globe working maps and diagrams Construct 3-D working diagrams for RCC and USFS to review potential scenes from each KOP to be selected.

Review with USFS and RCC for proposed simulations (i.e. does the KOP portray a scene which is representative of desired viewshed and phase of construction for visual analysis.

Task 3. Visual Simulations Construction and Review with USFS/RCC

Create photo-realistic computer simulations of MPO for ~~5~~ KOPs and ~~2~~ phases for each KOP. Each simulation will show waste rock and tailing pile forms, pit, roads, and infrastructure.

Prepare photorealistic simulation images for 5 KOPs.

Review draft simulations with resources specialists from RCC, USFS, and SWCA to direct specific aspects of renderings: reclamation, soils, vegetation, etc.

Complete a Draft review with USFS and RCC staff at meeting in Tucson.

Task 4. Photo Simulation Finalization

Complete changes to simulations and submit to USFS and RCC for final approval.

I recommend that your proposal also include other currently unfunded work, including the following:

- Conduct site visits to other mines to glean best management practices (1g)
- Determine landscape patterns and explore concepts for shaping waste rock and tailings piles that better protects and mimics natural landforms and valued landscape character. Conduct site analysis. Define criteria for shaping new topography to mimic surrounding landscape and provide natural drainage patterns to direct and slow water for plants, determine revegetation species, sizes, and patterns, and explore options for possible roads and/or trails on piles (modified 3d and 3f)
- Prepare "before" images (3g)
- Show results of simulations to IDT and get feedback (3i)
- One more site visit (including a meeting with Dr. Pepper)

Simulation_Strategy.doc

Marcie Demmy Bidwell
Environmental Planner
130 Rock Point Drive, Suite A
Durango, Colorado 81301
Office: 970.385.8566
Fax: 970.385.1938
www.swca.com [attachment "Visual_Resource_Proposal_2009-07-14 Review.pdf" deleted by Debby Kriegel/R3/USDAFS]

Beverley A Everson/R3/USDAFS
06/29/2010 03:55 PM

To George McKay/R3/USDAFS@FSNOTES
cc abelauskas@fs.fed.us, aelek@fs.fed.us, cablair@fs.fed.us, ccleblanc@fs.fed.us, dkriegel@fs.fed.us, dsebesta@fs.fed.us, ecuriel@fs.fed.us, hschewel@fs.fed.us,
bcc
Subject Re: Barrel-Only Landform

Dale, Tom and Jonathan,

Can this info be added to the map?

Bev

Beverley A. Everson
Forest Geologist
Coronado National Forest
300 W. Congress Street, 6th Floor
Tucson, AZ. 85701

Voice: 520-388-8428
Fax: 520-388-8305

George McKay/R3/USDAFS
06/29/2010 03:21 PM

To Beverley A Everson/R3/USDAFS@FSNOTES
cc abelauskas@fs.fed.us, aelek@fs.fed.us, cablair@fs.fed.us, ccleblanc@fs.fed.us, dkriegel@fs.fed.us, dsebesta@fs.fed.us, ecuriel@fs.fed.us, hschewel@fs.fed.us, Jeremy J Sautter/R3/USDAFS@FSNOTES, Kendall Brown/R3/USDAFS@FSNOTES, ljones02@fs.fed.us, Melinda D Roth/R3/USDAFS@FSNOTES, mfarrell@fs.fed.us, mreichard@swca.com, rlaford@fs.fed.us, rlefevre@fs.fed.us, seanlockwood@fs.fed.us, sldavis@fs.fed.us, sshafiqullah@fs.fed.us, temmett@fs.fed.us, tfurgason@swca.com, Walter Keyes/R3/USDAFS@FSNOTES, William B Gillespie/R3/USDAFS@FSNOTES
Subject Re: Barrel-Only Landform Link

Is there a reason why this map does not show section and private ownership lines? It would make it a heck of a lot easier to orientate the alternative to the land ownership and real world if it did, especially for lands.

Beverley A Everson/R3/USDAFS
06/29/2010 02:40 PM

To abelauskas@fs.fed.us, aelek@fs.fed.us, cablair@fs.fed.us, ccleblanc@fs.fed.us, dkriegel@fs.fed.us, dsebesta@fs.fed.us, ecuriel@fs.fed.us, gmckay@fs.fed.us, hschewel@fs.fed.us, Kendall Brown/R3/USDAFS@FSNOTES, ljones02@fs.fed.us, Melinda D Roth/R3/USDAFS@FSNOTES, mfarrell@fs.fed.us, mreichard@swca.com, rlaford@fs.fed.us, rlefevre@fs.fed.us, seanlockwood@fs.fed.us, sldavis@fs.fed.us, sshafiqullah@fs.fed.us, temmett@fs.fed.us, tfurgason@swca.com, Walter Keyes/R3/USDAFS@FSNOTES, William B Gillespie/R3/USDAFS@FSNOTES, Jeremy J

Sautter/R3/USDAFS@FSNOTES
cc
Subject Barrel-Only Landform

FYI. Also, we will be discussing this briefly in the IDT meeting tomorrow. I will send the link to the Scholefield footprint that we will also be discussing, briefly.

Beverley A. Everson
Forest Geologist
Coronado National Forest
300 W. Congress Street, 6th Floor
Tucson, AZ. 85701

Voice: 520-388-8428
Fax: 520-388-8305

----- Forwarded by Beverley A Everson/R3/USDAFS on 06/29/2010 02:38 PM -----

"Dale Ortman PE" <daleortmanpe@live.com>

06/27/2010 07:02 PM

To "'Debby Kriegel'" <dkriegel@fs.fed.us>, "'Salek Shafiqullah'" <sshafiqullah@fs.fed.us>, <mbidwell@swca.com>, "'Kathy Arnold'" <karnold@rosemontcopper.com>, <fsamorano@rosemontcopper.com>, "'Krizek, David'" <David.Krizek@tetratech.com>
cc "'Beverley A Everson'" <beverson@fs.fed.us>, <tfurgason@swca.com>, "'Jonathan Rigg'" <jrigg@swca.com>, "'Melissa Reichard'" <mreichard@swca.com>
Subject Barrel-Only Landform

All,

Attached is the latest landform topography developed by Rosemont for the Barrel-Only landform alternative. This landform has been developed through the joint efforts of the CNF, SWCA, Rosemont, and TetraTech and incorporates the following elements:

- Extension of the Upper Barrel drainage within the landform
- Multiple ridge landforms with differing elevations
- Potential for variable slopes on eastern flanks of the landform
- Potential for reduction in number of drainage control benches on eastern flank of landform
- Improved stormwater discharge control utilizing the extension of the Upper Barrel drainage
- Maintain overall 3:1 slopes with drainage benches on west side of landform to provide required storage capacity and maintain tailings placement operations

- Maintain waste rock perimeter buttress surrounding tailings
- Maintain encapsulation of the heap leach facility

The team has done an excellent job in the collaborative effort to develop this landform concept. I believe we have reached a point in the process where the landform concept should be turned over to Rosemont for final engineering development as the Barrel-Only Alternative for consideration in the DEIS. I recommend that, in addition to the general design objectives listed above, Rosemont develop the following during the final engineering:

- Confirm constructability of the landform
- Summarize the concurrent & final reclamation plan
- General layout of rock sub-drains & flow-through drains
- General stormwater control plan, including commitment to the design criteria currently in the Site Water Management Plan Update

In addition, I propose that we not meet on June 30th as currently scheduled but the team review the attached landform and provide any additional design objectives for Rosemont to include in the final engineering. Please get back to me ASAP with comments and any design objectives you believe should be included in the final design.

If you have any questions please email me or try the Utah phone listed below.

Regards,

Dale

Dale Ortman PE PLLC
Consulting Engineer

(520) 896-2404 - Arizona Office
(520) 449-7307 - Mobile
(435) 682-2777 - Utah Office

daleortmanpe@live.com

PO Box 1233
Oracle, AZ 85623

[attachment "Prelim Barrel_Proposed Survey Area.pdf" deleted by George McKay/R3/USDAFS]

Tetra Tech
3031 West Ina Road | Tucson, AZ 85741 | www.tetratech.com <http://www.tetratech.com/>

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[attachment "Barrel Only_raw shape.pdf" deleted by Debby Kriegel/R3/USDAFS] [attachment "11204_KOP12_PAb.jpg" deleted by Debby Kriegel/R3/USDAFS]

"David Harris"
<dharris@swca.com>
08/13/2010 10:52 AM

To "Debby Kriegel" <dkriegel@fs.fed.us>, "Marcie Bidwell" <mbidwell@swca.com>
cc
bcc
Subject RE: Rosemont working outline

Thanks for the comments Debby. I will remove SA from the analysis calculations. As I move through the analysis I will ensure that there's consistency in format, and minimal repetition.

David Harris
SWCA Environmental Consultants
801-322-4307 (Office)
801-230-8359 (Cell)

From: Debby Kriegel [mailto:dkriegel@fs.fed.us]
Sent: Friday, August 13, 2010 11:38 AM
To: David Harris; Marcie Bidwell
Subject: Re: Rosemont working outline

This is looking better! Here are my comments. Thanks!

"David Harris" <dharris@swca.com>

08/12/2010 01:51 PM

To "Debby Kriegel" <dkriegel@fs.fed.us>
cc "Marcie Bidwell" <mbidwell@swca.com>
Subject Rosemont working outline

Debby,
Here's a revised, functional, working outline that we devised late last week, based on your conference call and comments. The outline is overdue, I realize; however, I've made substantial progress is doing the environmental consequences section writeup. Most of the introductory and explanatory parts of the consequences section have been written. Marcie and I are now working through the analysis subsections. As you will see in the outline, the approach that we think would satisfy the complexity of the analysis and also make sense of it is to apply a combination quantitative-qualitative approach, using GIS calculations of as-seen and project footprint acres and miles of potential impacts with landscape contrast analysis. I will have all of the simulations by tomorrow and we are working on getting the GIS calculations by early next week.

David Harris
SWCA Environmental Consultants

801-322-4307 (Office)
801-230-8359 (Cell)
[attachment "Rosemont EC Outline 8-12-10.docx" deleted by Debby Kriegel/R3/USDAFS]

Debby Kriegel/R3/USDAFS
06/01/2010 07:30 AM

To "Marcie Bidwell" <mbidwell@swca.com>, Melinda D Roth/R3/USDAFS@FSNOTES, Beverley A Everson/R3/USDAFS@FSNOTES, Reta
cc Debby Kriegel/R3/USDAFS@FSNOTES
bcc
Subject Rosemont Simulations - Drainage Drawings

Bev, Mindee, Reta: Note Marcie's statement below (I turned her text red). If she doesn't have the data from Rosemont by June 15, she won't be able to produce simulations for the DEIS. I believe that this is a major problem.

Marcie: Please verify with Rosemont and Tetra Tech the correct number of benches to show in the simulation. I'm confused by items 1 (no benches on tailings) and 2 (6 benches). Which is correct for the MPO?

"Marcie Bidwell" <mbidwell@swca.com>

"Marcie Bidwell" <mbidwell@swca.com>
05/28/2010 09:16 AM

To "David Krizek" <david.krizek@tetratech.com>, "Kathy Arnold" <karnold@rosemontcopper.com>
cc "Debby Kriegel" <dkriegel@fs.fed.us>, "Keepers, Ashley" <Ashley.Keepers@tetratech.com>, "Carrasco, Joel" <Joel.Carrasco@tetratech.com>, "Trent Reeder" <treeder@swca.com>, "Melissa Reichard" <mreichard@swca.com>, "Jonathan Rigg" <jrigg@swca.com>, "Lara Mitchell" <lmitchell@swca.com>
Subject RE: Drainage drawing

David,

Good to see you on Monday. You looked refreshed.

Per Kathy's email regarding stormwater, here is an example of what we are looking for as an indication of stormwater elements- we just need to just know a general indication of where to show drop structures, detention ponds, etc. This could be hand drawn, or as Trent prepared similar to this diagram. This is to illustrate what we are requesting.

In the meeting May 19, the MPO was discussed, and it was decided that while several concepts for reclamation were included in the MPO that have different physical forms (such as ridge and valley, etc) that the EIS simulations will use the basic topography that Rosemont has provided the FS and SWCA. Additionally, SWCA will apply vegetation and colors to the surface, but we will not be adjusting the contours. The idea is that the "MPO is the MPO" to the level designed, not to show possible modifications to it.

REQUEST:
1. ***Please indicate by June 3 if Trent's drawing for placement of drop structures and stormwater ponds will suffice.*** At that date, we will complete the drafts of the MPO as Trent has shown. Or you may supply a similar drawing by June 3rd to replace it.

2. Please supply a similar level of drawing for the Scholefield and Barrel Only alternatives with the contours, when they are ready.

3. Any data that has been requested and **not received by June 15th** will not be shown in the DEIS simulations by SWCA, unless special arrangements have been made prior to this date.

A few important points regarding the MPO, drainage, and contours~

1. MPO Contours data set and reclamation- SWCA has been directed to use the set of contours for our alternatives that are shown in the JPG that is attached (August 2009 and Feb 2010 data downloads). However we do also have the 2007 contours Shown in Figure 23 Reclamation Plan as well. There are differences between these data sets, although their footprints are mostly the same. Notice also that Figure 23 does not show benches or access roads. JPG shows three benches on the waste rock pile and no specific benches on the tailing pile; the tails are generally evenly stepped throughout.

Important note: we are proceeding with the data set shown in JPG, as recently directed, unless we hear otherwise by June 3.

2. MPO vs. Reclamation data set. Thus far, SWCA has been using the MPO footprint as shown in the maps used at Monday's meeting.

I know that you are very familiar with the MPO and its Reclamation Plan and you will notice that the contours that we have received for the MPO do not look quite like MPO Rec Figure 23 (compared with the contours shown in MPO SW mdb.jpg). The MPO JPG shows 3-4 benches in some places, but according to your Preliminary Stormwater Concept, there should be 1 bench per 100 feet of elevation on the waste rock, or 4-6 benches depending on where one starts counting.

Important note: we are proceeding with the MPO shown benches on the waste rock and assigning a bench to every 100ft of drop on the tails, which results in 6 benches (approximately), as directed May 19th unless we hear otherwise by June 3.

Thank you for your time and cooperation in advance,
Marcie

From: Marcie Bidwell
Sent: Wednesday, May 19, 2010 4:08 PM
To: 'Kathy Arnold'; David Krizek
Cc: Debby Kriegel; Keepers, Ashley; 'Carrasco, Joel'; Trent Reeder
Subject: RE: Drainage drawing

Hello David,

This request forwarded by Kathy is the conceptual drawing that you and I have been discussing for a few months now.

The request is to suppliment the *Preliminary Stormwater Control and Reclamation Summary* with a conceptual sketch of where the elements described in the text would be placed on each alternative map. This is consistent with the data requests filed by the Forest Service this year.

Specifically, it would be for the following alternatives (i.e. Phased Tailings is considered complete):

- MPO-
- Upper Barrel- (once the final design is confirmed)
- Scholefield- (once final design is confirmed)

Additionally, SWCA would like to request that the Phased Tailings Contour data and associated layers be uploaded to the FTP site, as well.

I would be glad to discuss this on the phone with you, Ashley or Joel. And I want to extend a thank you for the recent call inquiry.

Thank you!
Marcie

From: Kathy Arnold [mailto:karnold@rosemontcopper.com]
Sent: Wednesday, May 19, 2010 2:46 PM
To: David Krizek
Cc: Marcie Bidwell; Debby Kriegel
Subject: Drainage drawing

David -
I need you to put pen to paper on a drawing (2-d is fine) to show Marcie what your write-up will (could?) look like in the real world. Hand drawn arrows will be fine.

Cheers!
Kathy

Katherine Ann Arnold, P.E. | Director of Environmental and Regulatory Affairs
Cell: 520.784.1972 | Main: 520.297.7723 | Fax 520.297.7724
karnold@rosemontcopper.com

ROSEMONT COPPER

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[attachment "MPO_SW mdb.jpg" deleted by Debby Kriegel/R3/USDAFS] [attachment "MPO Rec Figure 23.pdf" deleted by Debby Kriegel/R3/USDAFS]

"Tom Furgason"
<tfurgason@swca.com>
12/02/2009 08:31 AM

To "Debby Kriegel" <dkriegel@fs.fed.us>
cc "Beverley A Everson" <beverson@fs.fed.us>, "Melinda D Roth" <mroth@fs.fed.us>
bcc
Subject RE: FW: Rosemont Landforming Assesssment Proposal

History: This message has been forwarded.

Feel free to send it to Horst if the Coronado is satisfied.

Tom

From: Debby Kriegel [mailto:dkriegel@fs.fed.us]
Sent: Wednesday, December 02, 2009 7:22 AM
To: Tom Furgason
Cc: Beverley A Everson; Melinda D Roth
Subject: Re: FW: Rosemont Landforming Assesssment Proposal

I'd like to share this scope of work with Horst. Can I send this version to him? Or should I wait until everyone has reviewed it and revisions made? Please let me know. Thanks.

"Tom Furgason"
<tfurgason@swca.com>
12/01/2009 05:03 PM

To<beverson@fs.fed.us>, "Melinda D Roth" <mroth@fs.fed.us>, "Debby Kriegel" <dkriegel@fs.fed.us>
cc<rlaford@fs.fed.us>, <jsturgess@augustaresource.com>, "Dale Ortman " <daleortmanpe@live.com>
SubjecFW: Rosemont Landforming Assesssment Proposal
t

Bev,

Attached is Golder's SOW for your consideration. Please let me know ASAP if you feel that George missed anything. I have forwarded a copy with the costs to Rosemont for their consideration.

Tom

From: Kelley Cox
Sent: Tuesday, December 01, 2009 4:51 PM

To: Tom Furgason
Subject: FW: Rosemont Landforming Assesssment Proposal

For you -

Kelley Cox
Senior Administrator
SWCA Environmental Consultants
343 W. Franklin Street
Tucson, Arizona 85701
Phone: 520-325-9194 Fax: 520-325-2033
www.swca.com
Sound Science, Creative Solutions.®

From: Tom Furgason
Sent: Tuesday, December 01, 2009 4:28 PM
To: Kelley Cox
Subject: FW: Rosemont Landforming Assesssment Proposal

Kelley,

Can you please delete the last sheet and black out the cost estimate on Page 2? Thanks.

Tom

From: Annandale, George [mailto:George_Annandale@golder.com]
Sent: Monday, November 30, 2009 4:26 PM
To: Tom Furgason
Cc: Dale Ortman PE; Kidd, Dave; Melissa Reichard
Subject: Rosemont Landforming Assesssment Proposal

Tom

Please find attached the proposal for the landforming assessment.

I will appreciate it if you can let me know whether the client approved so that we can commence with the work.

Sincerely,

George W. Annandale, D.Ing., P.E. | Practice / Program Leader | **Golder Associates Inc.**
44 Union Blvd, Suite 300, Lakewood, Colorado, USA 80228
T: +1 (303) 980-0540 | **D:** +1-720-920-4612 | **F:** +1 (303) 985-2080 | **C:** +1 (720) 244-3865| **E:** george_annandale@golder.com | **www.golder.com**

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Please consider the environment before printing this email.

[attachment "09381962 Ltr RosemontMinePropVer1RevB 30NOV09.pdf" deleted by Debby Kriegel/R3/USDAFS]

Debby Kriegel/R3/USDAFS
06/28/2010 10:06 AM

To "Marcie Bidwell" <mbidwell@swca.com>
cc Debby Kriegel/R3/USDAFS@FSNOTES
bcc
Subject Re: Review of Draft Simulation - MPO 10YR KOP 2

Marcie,

I printed out the simulation. Excellent work, and should be a good starting point for discussions, etc.

I have a few questions/suggestions:
1. I don't see any benches or vegetation on the south end of the waste rock. Is that because this area is farther away and/or the benches are so small?
2. As you proceed with simulations, please include a title on each (MPO Year 10, KOP 2, date), any needed disclaimers (draft, no drop structures shown, assumed tree growth 1'/year, etc.), and label the major features (pit, waste rock, heap, perimeter buttress, tailings).
3. The colors on the various elements are really different. I know that the pit is very light color, so that looks fine to me. The heap and south waste rock are darker and redder, and the buttress and tailings are lighter. How did you figure out which colors to use? Or are these just starting point colors that you can tweak after Rosemont provides the core sample photos?
4. I'm sending you a draft document with some revegetation assumptions by our soils/water/air/forestry person (separate email). Look it over briefly and see whether your simulation assumptions are similar.

Thanks!!!

~~~~~~~~~~~~~~~~~~~~~~~~~

Debby Kriegel, RLA
Landscape Architect
Coronado National Forest
300 W. Congress
Tucson, AZ 85701
(520) 388-8427
Fax (520) 388-8305
www.fs.fed.us/r3/coronado/
dkriegel@fs.fed.us

"Marcie Bidwell" <mbidwell@swca.com>

"Marcie Bidwell" <mbidwell@swca.com>
06/25/2010 11:40 AM

To "Debby Kriegel" <dkriegel@fs.fed.us>
cc
Subject Review of MPO 10YR KOP 2

Debby,

Please review and let me know your thoughts~

Thanks!
~~~~~~~~~~~~~~~~~~~~~~~~~

Marcie

<<Alt2_KOP2_Year10_100602.jpg>>

Marcie Demmy Bidwell
Environmental Planner
130 Rock Point Drive, Suite A
Durango, Colorado 81301
Office: 970.385.8566
Fax: 970.385.1938
www.swca.com [attachment "Alt2_KOP2_Year10_100602.jpg" deleted by Debby Kriegel/R3/USDAFS]

"Terry Chute"
<tjchute@msn.com>
07/30/2010 03:09 PM

To "Debby Kriegel" <dkriegel@fs.fed.us>
cc
bcc
Subject Re: Rosemont DEIS - Visual Quality - Affected Environment Review

History: This message has been replied to.

Debby,

I took a quick look at the Chapter 3 Affected Environment for visuals that you sent me, and here are my comments. You'll see a couple things: (1) we are trying to minimize the number of acronyms we use, so I asked that many of the ones in this section be spelled out. The amount of acronyms throughout the document is overwhelming for the reader; (2) I need to step back and look at the Chapter 3 outline, and I have not done that yet. I'm not sure it flows very well, and as you noted some sections seem out of place given a first overview.

My overall impression is that this is pretty good. We are pretty heavy to technical specific of the various analysis methods (VHS, SMS, and the BLM method), and that kind of overwhelms the description of the existing condition of the project area. You might want to look for opportunities to summarize the analysis methods and put more details in the supporting documentation, with references in the DEIS. Of course, the reader needs enough in the text of the EIS to understand the effects we are describing in the Effects Analysis. I cannot make that judgment until I see the whole thing together, so at this point use your best judgment.

You also sent along document titled Trend Information" - I did not get a chance to look at it closely, and I am wondering what the intended us of this document is. I also did not have a chance to look the figures over.

Thanks for all your hard work. We can talk about this next Tuesday if you have questions/concerns. Have a great weekend.....Terry

From: Debby Kriegel
Sent: Tuesday, July 27, 2010 1:16 PM
To: Ruth Doyle ; tjchute@msn.com
Cc: Debby Kriegel
Subject: Rosemont DEIS - Visual Quality - Affected Environment Review

Here are my comments and some references (per a comment I made in the text). The figures are attached to Marcie's email message below.

Ruth: Can you add your comments to this marked-up version, or is it too messy?

Terry: As your time permits, I'd appreciate you giving this a quick review for general flow, consistency with other resources, red flags, etc.

Thanks.

----- Forwarded by Debby Kriegel/R3/USDAFS on 07/27/2010 12:08 PM -----

"Marcie Bidwell" <
mbidwell@swca.com>

07/26/2010 04:07 PM

To "Marcie Bidwell" <mbidwell@swca.com>, "Debby Kriegel" <dkriegel@fs.fed.us>, "David Harris" <dharris@swca.com>

cc

Subjec t Figures and updated text

Hello Debby,

Here are the figures and an updated document.

I think you are right that perhaps you should review it and then have RO review it, rather than do them simultaneously. This would still keep the RO review moving, and more likely make sure that you approve of the product before it goes to them.

<<Figures_draft 2010-07-26.pdf>> <<Rosemont Ch 3_Draft AE_2010-07-26.doc>>
Eventually, when this goes to editing, the figures will be inserted in the text as part of 3.9 or as an appendix.

I can discuss this with you tomorrow, how about 1:00 AZ time?

Thank you,
Marcie

Marcie Demmy Bidwell

Environmental Planner

130 Rock Point Drive, Suite A

Durango, Colorado 81301

Office: 970.385.8566

Fax: 970.385.1938

www.swca.com[attachment "Rosemont Ch 3_Draft AE_2010-07-26.doc" deleted by Debby Kriegel/R3/USDAFS] Rosemont_Ch_3_Draft_EA_2010_07_30_Chute edits.doc

Debby Kriegel/R3/USDAFS
04/13/2010 12:27 PM

To "Marcie Bidwell" <mbidwell@swca.com>
cc Debby Kriegel/R3/USDAFS@FSNOTES
bcc
Subject Re: FW: Line of Sight for Duval Overpass Road KOP (old KOP 2, new KOP 10)

This is very helpful. The overall style is good, but it brings up some additional thoughts and questions...
1. Someone could ask whether visibility from one point confirms that there is no part of the project that is visible from anywhere on the west side. For example, the existing mountain ridge is lower in some areas (such as Gunsight Pass and Box Canyon) and the project is taller in others (such as the south end of the waste/tails pile). How difficult would it be to convert Interstate-19 to points (every 1/2 mile or so) and run visibility for the whole thing?
2. If both the plan and elevation are used together (i.e., if the I-19 idea above isn't possible), it would be nice if they used the same color for "visible". But since they overlap on the plan view, they would have to be somewhat different colors to show up (like light/dark pink or light/dark green). Or minimally, make the pit outline a different color (like blue) so it's not the same color as "not visible" on the elevation.
3. What is the blue dot?
4. Edit the legend to read "Tailings and Waste Rock" and "Visible Areas" (instead of "Tailings" and "Viewshed").

Thanks!

"Marcie Bidwell" <mbidwell@swca.com>

"Marcie Bidwell" <mbidwell@swca.com>
04/13/2010 11:48 AM

To "Debby Kriegel" <dkriegel@fs.fed.us>
cc
Subject FW: Line of Sight for Duval Overpass Road KOP (old KOP 2, new KOP 10)

Debby,

Mike and I have been working on outputs for the non-visible diagrams that we can do from GIS and how to show them graphically.

We discussed several options- herre is one that combines the viewshed analysis (showing nothing visible on the east side of the ridge for MPO) and the line of sight process that Trent has shown us earlier.

The map and graphics are still rough, but I was curious if this is the type of information that you were looking for for these KOPs.

Thanks for the comments,

Marcie

From: Michael Andres
Sent: Tuesday, April 13, 2010 12:38 PM
To: Marcie Bidwell
Subject: Line of Sight

Mike Andres
GIS Specialist
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Durango, Colorado 81301
970.385.8566 (Office)
970.385.1938 (Fax)
mandres@swca.com
[attachment "11204_Line_of_Sight_ALT_2.pdf" deleted by Debby Kriegel/R3/USDAFS]

Melinda D Roth/R3/USDAFS
08/24/2010 01:01 PM

To Debby Kriegel/R3/USDAFS@FSNOTES
cc Beverley A Everson/R3/USDAFS@FSNOTES, Debby Kriegel/R3/USDAFS@FSNOTES, mbidwell@swca.com, tfurgason@swca.com, tjchute@msn.com
bcc
Subject Re: Rosemont Chapter 2 comments (and EIS organization)

I haven't looked at your detailed comments yet. I do notice you reviewed a much earlier version of Chapter 2. I suspect many of your concerns/findings have been corrected. Terry and SWCA are nearing completion of a draft Chapter 2 ready for internal and external review soon.

Mindee Roth
Coronado National Forest
300 W. Congress, FB42
Tucson, AZ 85701
(520) 388-8319
(520) 396-0715 (cell)
(520) 388-8305 (FAX)

Debby Kriegel/R3/USDAFS

Debby Kriegel/R3/USDAFS
08/24/2010 12:40 PM

To tjchute@msn.com, Melinda D Roth/R3/USDAFS@FSNOTES, tfurgason@swca.com
cc Beverley A Everson/R3/USDAFS@FSNOTES, mbidwell@swca.com, Debby Kriegel/R3/USDAFS@FSNOTES
Subject Rosemont Chapter 2 comments (and EIS organization)

A week or two ago, I had a phone conversation with Marcie Bidwell. Normally in a NEPA document/process, there is a proposal, and then alternatives to the proposal (no action and other actions). Marcie and I had different understandings of whether Rosemont's EIS would be organized this way.

After scanning chapter 2, I'm still confused. I also immediately noticed some typos, inconsistencies, and more:

- The first heading reads "Alternatives, Including the Proposed Action". Is the proposed action really an alternative? If so, what is everything an alternative to?
- On page 2, there is a list of "Alternatives Considered in Detail", which lists No Action, Barrel-Mcleary (misspelled), Upper Barrel Only (I thought we dropped the word "Upper" a long time ago), and Scholefield-McCleary (I thought we dropped the word McCleary, now that waste rock will not be placed in McCleary creek).
- I have many comments on the Visual Quality, Recreation, and Reclamation sections (see attached).

[attachment "Chapter_2_Comments_Kriegel_082410.docx" deleted by Melinda D Roth/R3/USDAFS]

----- Forwarded by Debby Kriegel/R3/USDAFS on 08/24/2010 12:02 PM -----

Beverley A Everson/R3/USDAFS
08/24/2010 10:50 AM

To Debby Kriegel/R3/USDAFS@FSNOTES
cc

Subject Chapter 2, June 21, 2010 version.docx

As promised.

Beverley A. Everson
Forest Geologist
Coronado National Forest
300 W. Congress Street, 6th Floor
Tucson, AZ. 85701

Voice: 520-388-8428
Fax: 520-388-8305

"Marcie Bidwell"
<mbidwell@swca.com>
06/16/2009 08:47 AM

To "Debby Kriegel" <dkriegel@fs.fed.us>
cc "Charles Coyle" <ccoyle@swca.com>, "Tamara Larson" <tklarson@swca.com>, "Molly Thrash" <mthrash@swca.com>
bcc
Subject RE: Bounds~ Map boundaries- Visuals and Land use

History: This message has been replied to.

Debby,
Thanks!

The land use is a new issue for our office, but not necessarily for your oversight. Sorry for confusing you.

I am working on edits and will be back to you shortly. Charles asked that we beef up the paragraphs with more effects reasoning.

I also wanted to introduce you to Molly and Tamara, here in our Durango office that will be helping with the new sections. You may hear from them from time to time; Molly will be jumping in on reclamation and land use; Tamara helping with Visuals and land use. They both ROCK as far as technical knowledge and "get er done" talents.

I will call tomorrow to discuss (all day meetings today),

Cheers,
Marcie

From: Debby Kriegel [mailto:dkriegel@fs.fed.us]
Sent: Tuesday, June 16, 2009 9:04 AM
To: Marcie Bidwell
Cc: Debby Kriegel
Subject: Re: Bounds~ Map boundaries- Visuals and Land use

Marcie: Here are my comments (in red). Thanks. Debby

VISUAL RESOURCES:

1. The temporal bounds of analysis for Visual Resources is intended to include the area that may impact or be impacted by the proposed project. As such, the temporal bounds of analysis include Construction, Operations, Reclamation, and Post-Closure. Additionally, within the Operations time boundary, a sub-boundary for visual resources will include the completion reclamation of the ~~tailings berm~~ perimeter buttress that is intended to screen the mine operation. *(the last sentence is not necessary, as this will be covered within the other boundaries, but if you think it's important to mention, that's fine)*

2. The geographic bounds of the visual resource analysis is defined as (1) the project site (project boundary), (2) ~~Nogales Forest Unit~~, Santa Rita EMA (3) Coronado National Forest, and (4) Santa Cruz County and Eastern Pima Count~~ies~~y.

LAND USE: Is this a new issue?

1. The temporal bounds of analysis for Land Use is intended to describe the land use planning that may impact or be impacted by the proposed project. As such, the temporal bounds of analysis include Construction, Operations, Reclamation, and Post-Closure.

2. Geographic- The potential impacts to Land Use Resources include the project area and surrounding lands as they are managed for land use, and are defined as (1) the project site (project boundary), (2) Nogales Forest Unit, (3) Coronodo National Forest, and (4) southern Santa Cruz and northern Pima Counties.

"Marcie Bidwell" <mbidwell@swca.com>

06/15/2009 11:55 AM

To "Debby Kriegel" <dkriegel@fs.fed.us>

cc

Subject Bounds~ Map boundaries- Visuals and Land use

Hello Debby

Welcome back~ hope you had a great time up north on vacation.

Please see the bounds of analysis discussion below. I had sent you a short description of it before you left, but I am not sure that we actually decided. I have further added on to that description and descriptions.

As we need to have an easily definable area, I shy'd away from doing a visual analysis of all areas that can see the Santa Ritas, and tried to use boundaries that already exist. You and I have discussed that Tucson is within view of the Santa Ritas, and thought that Pima County might be a good way to capture that area in a easier to define way.

Finally, I also suggested that we use the Nogales Forest Unit and the Coronado NF as two others, as the LRMP is defined by those units.

Please confirm/comment on the list below,
Thanks!
Marcie

From: Lara Mitchell

Sent: Monday, June 15, 2009 10:34 AM

To: Marcie Bidwell

Subject: RE: Bounds~ Map boundaries- Visuals and Land use

Hi Marcie
Just wanted to double check on the bounds for the maps, you want to show all of the Coronado NF, highlighted in blue on the attached screen shot? And all of Pima county, all the way out past Ajo?

Thanks

<<visual_miles.pdf>>

From: Marcie Bidwell
Sent: Friday, June 12, 2009 3:19 PM
To: Lara Mitchell; Charles Coyle; Stephen Leslie
Subject: Bounds~ Map boundaries- Visuals and Land use

Lara and Charles!

Here is what I recommend to the Forest for visuals. The boundaries should be existing GIS files.

VISUALS:
1. The temporal bounds of analysis for Visual Resources is intended to include the area that may impact or be impacted by the proposed project. As such, the temporal bounds of analysis include Construction, Operations, Reclamation, and Post-Closure. Additionally, within the Operations time boundary, a sub-boundary for visuals will include the completion reclamation of the tailings berm that is intended to screen the mine operation.

2. The geographic bounds of the visual resource analysis is defined as (1) the project site (project boundary), (2) Nogales Forest Unit, (3) Coronodo National Forest, and (4) Santa Cruz and Pima Counties.

LAND USE:
1. The temporal bounds of analysis for Land Use is intended to describe the land use planning that may impact or be impacted by the proposed project. As such, the temporal bounds of analysis include Construction, Operations, Reclamation, and Post-Closure.

2. Geographic- The potential impacts to Land Use Resources include the project area and surrounding lands as they are managed for land use, and are defined as (1) the project site (project boundary), (2) Nogales Forest Unit, (3) Coronodo National Forest, and (4) southern Santa Cruz and northern Pima Counties.

If "northern Santa Cruz" and "southern Pima" is hard to define (perhaps cut them in half), then we could use the whole counties. Either way.

Marcie Demmy Bidwell
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Office: 970.385.8566
Fax: 970.385.1938
www.swca.com [attachment "visual_miles.pdf" deleted by Debby Kriegel/R3/USDAFS]

Debby Kriegel/R3/USDAFS
01/15/2010 01:07 PM

To "Tom Furgason" <tfurgason@swca.com>
cc Debby Kriegel/R3/USDAFS@FSNOTES
bcc
Subject Re: Rosemont Recreation SOW.doc

Tom,

This scope of work needs the following:
1. Include all of the tasks I asked for on my November 10 list. Many are missing.
2. Include more than one field visit if needed to complete all tasks (didn't you say 2 or 3 trips were funded?).
3. Add planned dates for each task. I would especially like to know what Steve intends to complete before the DEIS.

~~~~~~~~~~~~~~~~~~~~~~~~~~

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dkriegel@fs.fed.us

"Tom Furgason" <tfurgason@swca.com>

"Tom Furgason" <tfurgason@swca.com>
01/15/2010 09:50 AM

To <dkriegel@fs.fed.us>
cc "Marcie Bidwell" <mbidwell@swca.com>
Subject Rosemont Recreation SOW.doc

Debby,

Attached is Steve's portion of the SOW for Recreation.

Tom Rosemont Recreation SOW.doc
~~~~~~~~~~~~~~~~~~~~~~~~~~

Task X. Recreation

During the Rosemont EIS revision process, SWCA will complete the following actions to address critical data gaps related to recreation issues as identified by the Forest Service:

- Field trip to visit the major recreation sites in the area.
- Review background documents and information as requested by Debby Kriegel in order to better characterize recreation resources in the area of analysis:
    - Research recreation special use permittees in the Rosemont area that may be affected by the mine. Contact Duane Bennett to discuss further.
    - Follow up on the status of revision of Tetra Tech report "State Route (SR) 83 Scenic Road Evaluation for Rosemont". On September 14, 2009, Debby provided comments to Rosemont. Contact the Arizona Department of Transportation (ADOT) Scenic Roads Program staff to discuss the mine and determine whether the scenic road status would change.
- Respond to FS comments on preliminary draft EIS
- Prepare revised Draft Affected Environment for recreation that includes the following (Include appropriate graphics, maps, photos, charts/figures, etc):
    - Affected environment. Include relevant information from above items.
        - Will need maps to show the following (can be combined where possible)
            - Recreation Opportunity Spectrum
            - Roadless Areas
            - Arizona Trail
            - Recreation Sites
            - OHV Trails
            - Hiking Trails
    - Environmental consequences analysis for the proposed action and each alternative. Include analysis of all mine impacts: pit, plant, waste rock and tailings piles, roads (including lost access, traffic, litter, etc.), power and water lines, displaced recreation, etc. Use information from site visits, research, and reviews above. Consider impacts during the active mine life and post-mine. Reference appropriate visual simulations. Utilize both qualitative (descriptive) and quantitative (acres of ROS, miles of road, miles of trail, number of rec sites lost, etc.) analysis.
        - Will need GIS analysis as follows for each of the alternatives
            - Calculate acres removed from each Recreation Opportunity Spectrum under alternatives
            - Quantify roads and trails that are lost or cut-off by project area disturbance
            - Calculate total miles of road and trail lost
            - Calculate trailheads, ATV loading and unloading areas, and other recreation sites lost
            - Calculate how much, if any, of the Arizona Trail would be intersected

        - Compare alternative haulage routes with recreation access in the area of analysis
        - Compare alternative project footprints with the two annual recreation event permits off Gardner Canyon Road as well as any other special recreation permitted events.
    - Cumulative effects analysis
    - Recommended mitigations.
        - Research potential mitigations to the loss of recreation resources that would result from the proposed action and alternatives. Coordinate with Debby Kriegel to get minutes from the meetings she has had with Green Valley Hiking Club, Arizona Trail Association, and the Arizona Game and Fish Department. In addition, contact Tom Dwyer (Forest Service Wilderness, Trails, Wild & Scenic Rivers, Dispersed Rec Program Manager, SW Regional Office, 505-842-3233) and Jonathon Stevens (Forest Service Congressional Designated Areas and Trails Program Manager, Washington Office).

Time and budget to complete recreation and wilderness consequences section:

Task		**Hours to Complete**	**Cost Estimate**
1	Coordination with GIS	8 (105/hour)	
2	GIS time	48 (75/hour)	
3	Field Visit and Data Collection	48 (105/hour)	
4	Alternatives Consequences Analysis	80 (105/hour)	
5	Cumulative Impacts	40 (105/hour)	
6	Monitoring and Mitigation Section	40 (105/hour)	
7	Respond to FS comments	24 (105/hour)	
Total		288	

Debby Kriegel/R3/USDAFS
05/24/2010 12:24 PM

To "Marcie Bidwell" <mbidwell@swca.com>
cc Debby Kriegel/R3/USDAFS@FSNOTES
bcc
Subject Re: FW: MPO YR10 feature examples

Marcie: See my comments in red. Thanks! Debby

"Marcie Bidwell" <mbidwell@swca.com>

"Marcie Bidwell" <mbidwell@swca.com>
05/21/2010 02:47 PM

To "Debby Kriegel" <dkriegel@fs.fed.us>, "Trent Reeder" <treeder@swca.com>
cc
Subject FW: MPO YR10 feature examples

Hello Debby,

I am sending these to just you to start, and then we can discuss who else should see them. Great start!! These are very helpful!

These maps show the facilities full footprint made to be 100-foot red box, set on an average point in the area, and the yellow is the 35-foot perimeter channel (How did you determine 35 feet? On the plans, the diversion channel around the plant and around the south end of the tailings are 100'+ wide) assuming it would continuously follow the footprint of the piles, and the green transmission line, with a 100-foot wide ROW/potential clearing corridor (This is also the route for the secondary access road and water line, right? If so, then 100 ft. width makes sense.)

The "Tails Off" version could be used to think of the alternatives with nothing in front of the pit or the facilities. Ok.

I think from these images you can see that the perimeter channel may require grading to move the water all the way around, but that its mostly down in the lower canyons where it would not be visible from a variety of distances or places (due to undulating terrain). Its all about how the southern end of the pile would drain to Barrel Canyon to the north. Again, please confirm the width.

In summary, in quick review, the big piles are still a bigger deal than the perimeter channels. The perimeter road will be completely faded back into the scenery if its only a service road style road. Kathy mentioned last week that perimeter roads must meet MSHA regs and that the perimeter road would be about 750 ft. from the toe of the slope. Can you please ask David K. what the cross section of a mine road needs to be and roughly show the road too? IF there wasnt going to be a big mine there, then the roads would be more of a disturbance. Meaning, the big mine is the big deal. The other stuff continues to contribute to the industrialization of the landscape, but they do not stand on their own as significant impacts. I think we can describe them for the MPO and then wait to see how the other alternatives show up. Your thoughts? I agree that many of these elements are tiny compared with the pit and piles, but still would like to show them accurately in the simulations (even if grading isn't perfect). A linear road, even a narrow one, can contrast with the landscape.

Take a look and let me know.
Marcie

From: Trent Reeder
Sent: Friday, May 21, 2010 3:31 PM
To: Marcie Bidwell
Subject: MPO YR10 feature examples

Here you go.

Red- 100' extruded facility area footprint
Yellow - Perimeter Channel
Green - 100' Transmission ROW (Preferred Route)

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[attachment "ALT2_MPO_YR10_Features_Tails_Off.jpg" deleted by Debby Kriegel/R3/USDAFS]
[attachment "ALT2_MPO_YR10_Features_Tails_On.jpg" deleted by Debby Kriegel/R3/USDAFS]

"Marcie Bidwell"
<mbidwell@swca.com>
10/09/2008 04:37 PM

To "Tom Furgason" <tfurgason@swca.com>
cc <dkriegel@fs.fed.us>
bcc
Subject Rosemont Copper Meetings

Hello Tom,

Debbie and I spoke today about getting together on the Rosemont Copper EIS for visual and recreation. I mentioned that you and I had been talking about a visit to Tuscon that would coordinate with one of the upcoming meetings.

We brainstormed having me come down for the Nov 12 meeting, and seeing if it would be possible to arrange a field visit to the site and possibly to one of the mine tours that we had discussed earlier.

Secondly, we talked about trying to visualize alternatives and the land form. I mentioned the GeoWeb that Denver pulled together, and the possibility of using a 3D modeling or Geoweb platform to envision the development, pit area, and tailings. Debbie thought it would be interesting to see what that program might be able to provide from a visualization potential.

Debbie, I am attaching a few projects that I have been working on here in Durango as far as quick visuals. These are just quick representations of projects across a spectrum of visual analysis. I will send them as separate emails, as the visuals are big.

Thanks for the call today, I look forward to working together.
Marcie

<<Overland Trail Simulation Example.jpg>>

Marcie Demmy Bidwell
Environmental Planner
515 East College Avenue
Durango, Colorado 81301
Office: 970.385.8566
Fax: 970.385.1938
www.swca.com [attachment "Overland Trail Simulation Example.jpg" deleted by Debby Kriegel/R3/USDAFS]

"Marcie Bidwell" <mbidwell@swca.com>
04/23/2009 02:37 PM

To "Debby Kriegel" <dkriegel@fs.fed.us>
cc
bcc
Subject RE: Letter to RCC

sounds great, keep me posted, working on contacting the list..... and GIS maps

From: Debby Kriegel [mailto:dkriegel@fs.fed.us]
Sent: Thursday, April 23, 2009 9:21 AM
To: Marcie Bidwell
Subject: RE: Letter to RCC

Thanks Marcie. I edited this a little (see new version). I added "photo real" to all the simulations because I don't want Rosemont to say we already did the "3-D computer simulations" (i.e., the crude ones that they provided earlier). We obviously need something better.

Hopefully the letter will be sent soon.

"Marcie Bidwell" <mbidwell@swca.com>
04/23/2009 06:35 AM

To "Debby Kriegel" <dkriegel@fs.fed.us>
cc
Subject RE: Letter to RCC

Debby,

here ya go~ add or change if you wish
Marcie

From: Debby Kriegel [mailto:dkriegel@fs.fed.us]
Sent: Wed 4/22/2009 12:19 PM
To: Marcie Bidwell
Subject: Re: Letter to RCC

Rough assumptions:
1. I don't need animations, but do need a model that a viewer can move around in to determine KOPs,

etc.
2. Up to 20 KOPs?!
3. There will likely be 3-5 alternatives (one of which I am optimistic that your work will lead to)

I don't need to see the costs, but undoubtedly Rosemont will want this info. I recommend you include at least 15% contingency for every work item.

Does this help?

"Marcie Bidwell" <mbidwell@swca.com>

04/22/2009 09:12 AM

To "Debby Kriegel" <dkriegel@fs.fed.us>
cc
Subject Letter to RCC

Debby,

I know we had talked trying to prepare a budget to accompany this letter, and I am having a hard time doing so, just because of the range of effort that could go under the visual simulations- do you want animation or photos, how many KOPs, how many alternatives.

I can still set up the format like we discussed, but was curious if you were anticipating dollar amounts? That would be hard to estimate at this moment with any feeling of clarity.

Let me know if you feel strongly,
Marcie

Marcie Demmy Bidwell
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www.swca.com [attachment "Visual RCC scope_estimate- 2009-04-22.xls" deleted by Debby Kriegel/R3/USDAFS]

"Marcie Bidwell"
<mbidwell@swca.com>
07/19/2010 10:46 AM

To "Melissa Reichard" <mreichard@swca.com>, "Terry Chute" <tjchute@msn.com>, "Beverley A Everson" <beverson@fs.fed.us>, "Tom Furgason"
cc
bcc
Subject RE: Friday's meeting notes with deadlines

Hello All,

I am sending updated meeting notes from Friday's Data Transfer Meeting with Tetra Tech and SWCA. The only update is that I included the table from Tetra Tech with handwritten updates as to what layers are still outstanding, who is responsible, and when they will be provided.

Thanks!
Marcie

From: Melissa Reichard
Sent: Monday, July 19, 2010 11:19 AM
To: Terry Chute; Beverley A Everson; Tom Furgason; Debby Kriegel; Marcie Bidwell
Subject: Friday's meeting notes with deadlines

All-
Here are the meeting notes from Friday that include all the new deadlines for visual resources.

Thanks!

Melissa Reichard
Project Administrator
SWCA Environmental Consultants
(520)325-9194 ofc. (520)250-6204 cell

CONFIDENTIALITY NOTICE: The information in this email is intended only for the use of the individual or entity to which it is addressed and may contain information that is privileged, confidential and/or exempt from disclosure under applicable law. If you are not the intended recipient or an authorized representative of the intended recipient, you are hereby notified that any review, dissemination or copying of this email and its attachments, if any, or the information contained herein is prohibited. If you have received this email in error, please immediately notify the sender by return email and delete this email from your system. Thank you.

[attachment "Tt USFS Reclamation Mtg_2010-07-16.pdf" deleted by Debby Kriegel/R3/USDAFS]

"Marcie Bidwell"
<mbidwell@swca.com>
02/19/2010 02:13 PM

To "Debby Kriegel" <dkriegel@fs.fed.us>
cc
bcc
Subject Seen Area Maps

History: This message has been replied to.

Debby,

Did I send this to you yet?

Here is an example of the seen area analysis (viewshed showing largest extent of viewshed).

This was completed using 30 Meter data, cause the 10 meter data would take more than 1 day to run each alternative due to the large analysis area.....

What do you think?

<<11204_Bounds_of_Analysis_ALT_2.pdf>>

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Office: 970.385.8566
Fax: 970.385.1938
www.swca.com [attachment "11204_Bounds_of_Analysis_ALT_2.pdf" deleted by Debby Kriegel/R3/USDAFS]

"Marcie Bidwell" <mbidwell@swca.com>
03/19/2009 08:42 AM

To "Debby Kriegel" <dkriegel@fs.fed.us>
cc
bcc
Subject RE: Updated chart

History: This message has been replied to.

Will try to look at those before we connect this afternoon

From: Debby Kriegel [mailto:dkriegel@fs.fed.us]
Sent: Wednesday, March 18, 2009 4:16 PM
To: Marcie Bidwell
Subject: Re: Updated chart

Marcie:

Stuff that I highlighted to consider adding to the strategy spreadsheet:
1. Many items on the "Design Process - Landscape Architecture" chart. Summarize as possible, but include this kind of thought.
2. Many items on the spreadsheet with the 3 columns "EIS-Visual", "Visual Technical", and "Out of Scope" spreadsheet, especially stuff in sections 4.0 and 5.0.
3. Some items from the "EIS Process Steps spreadsheet", especially the last two items in Task 7.B
4. Clarify which items from "Rosemont EIS - Visual Resources Technical Report" (the one with tasks 1-3 and assumptions) are included on the new strategy spreadsheet and which items are currently in the contract.

If I've confused you, we can discuss.

Thanks!

Debby

"Marcie Bidwell" <mbidwell@swca.com>

03/18/2009 08:08 AM

To "Debby Kriegel" <dkriegel@fs.fed.us>
cc
Subject Updated chart

<<Visual_Resource_Proposal_2009-03-18.xls>>

Marcie Demmy Bidwell
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Office: 970.385.8566
Fax: 970.385.1938
www.swca.com [attachment "Visual_Resource_Proposal_2009-03-18.xls" deleted by Debby Kriegel/R3/USDAFS]

"Dale Ortman PE"
<daleortmanpe@live.com>
05/11/2010 08:55 AM

To "'Beverley A Everson'" <beverson@fs.fed.us>, "'Debby Kriegel'" <dkriegel@fs.fed.us>, "'Salek Shafiqullah'" <sshafiqullah@fs.fed.us>, "'Melinda D Roth'"
cc "'Melissa Reichard'" <mreichard@swca.com>, "'Tom Furgason'" <tfurgason@swca.com>, "'Jonathan Rigg'" <jrigg@swca.com>, "'Marcie Bidwell'"
bcc
Subject FW: Landform Design Report for the Rosemont Mine Project

History: This message has been replied to.

All,

Attached is a PDF version of Horst Schor's revised Landform *Design Report for the Rosemont Mine Project* . This submission completes the one round of review & revision allowed in the current scope-of-work. The only remaining work element in the scope-of-work is to have Horst submit the required hard copies and final electronic copy on disc. Please review the attached report for final CNF acceptance prior to SWCA authorizing submission the finial hard and electronic documents.

Regards,

Dale

Dale Ortman PE PLLC
Consulting Engineer

(520) 896-2404 - Arizona Office
(520) 449-7307 - Mobile
(435) 682-2777 - Utah Office

daleortmanpe@live.com

PO Box 1233
Oracle, AZ 85623

From: Horst [mailto:hjschor@jps.net]
Sent: Monday, May 10, 2010 9:43 PM
To: 'Dale Ortman PE'
Subject: Landform Design Report for the Rosemont Mine Project

Dale,

All right – attached is the revised, corrected and supplemented Final Draft Report for your review.

Per your Memorandum of 4 May 2010 I have made the removals in accordance with the **General Comments 1 and 2** including both text and figures.

General Comments 3: With regards to the Task 3 I have expanded the discussions, options and opportunities in detail with regard to landform design for the three alternative disposal plans for Sycamore, Scholefield and McCleary Canyons to meet the requirements of the SOW.

General Comments 4: I have "threaded in" both the Constraints by Rosemont as well as my response to them at the end of the Summary Section so as to make it more part of the report rather than just an Appendix. The corrections and revisions on the attachment have also been made.

REQUESTED ADDITIONAL INFORMATION::

1. At the end of the text as a POSTSCRIPT I have added the description of five examples of applicable landform designs this author has previously performed
2. Not sure what this meant. Size of my previous projects (some information is incorporated in 1. above) or the size of the Rosemont landform project?
3. The Golder design issue was expanded as requested.
4. Drainage boundary for Barrel Canyon as well and the drainage facilities have been identified.

EDITORIAL COMMENTS:

Spelling errors, page and graphics corrections and additions (contour IDs, 500'setback, sideboards) and rewordings were made.

The gold line is from a Rosemont aerial outlining the limits of the fill placement and mine areas. I tried to remove it as much as possible.

Please take a look and let me know if you think it is all there.

A high resolution version where the contour labels are legible is available by using the link below:

http://www.mediafire.com/?wzdmg3hhita

Horst

[attachment "Rosemont Report -05-10-10- revised final draft std res.pdf" deleted by Debby Kriegel/R3/USDAFS]

"Marcie Bidwell"
<mbidwell@swca.com>
05/25/2010 11:27 AM

To "Debby Kriegel" <dkriegel@fs.fed.us>
cc
bcc
Subject FW: Rosemont - Visual Resources SOW

History: This message has been forwarded.

Debby,

Thanks for sending the approval through. Do you think the statement that "much of the work is not currently funded" needs any clarification? As its more tricky than just a blanket statement like that, and I am afraid that the statement portrays an untrue condition. Its more accurate to say that "Rosemont has agreed to the scope of work, but has currently only allocated 50% of the funding," or something like that.

I just dont want anyone who knows that there has been an agreement, even if partial, to think that we are exagerating.

But perhaps that is implicit to Minde and Bev as they are aware of the situtation.

Thougth the meeting went well yesterday, did you?
Marcie

From: Debby Kriegel [mailto:dkriegel@fs.fed.us]
Sent: Tuesday, May 25, 2010 10:45 AM
To: Beverley A Everson; Melinda D Roth; Tom Furgason; Marcie Bidwell
Cc: Debby Kriegel
Subject: Rosemont - Visual Resources SOW

I have reviewed SWCA's scope of work for visual resources, discussed many items with Marcie, and made some relatively minor edits to the original document.

I approve the attached Scope of Work with the following disclaimers:

1. Much of the work described here is not currently funded. This concerns me and needs to be resolved.

2. I would like Marcie to focus efforts on the specialist report. Writing the EIS should follow.

3. Although this scope describes the majority of the tasks needed for visual resources, there may some unforseen items that would need to be added, such as:
   - Attendance at special meetings when Marcie's participation is desired and/or additional trip(s) to Tucson if needed to complete all work.
   - Site visits to other mines or reclamation projects, if appropriate and needed to collect information appropriate for the Rosemont project.
   - Additional simulations, if necessary for effects analysis.

~~~~~~~~~~~~~~~~~~~~~~~~~

Debby Kriegel, RLA
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www.fs.fed.us/r3/coronado/
dkriegel@fs.fed.us

Beverley A Everson/R3/USDAFS

04/07/2010 02:17 PM

To Debby Kriegel/R3/USDAFS@FSNOTES
cc
Subject Fw: Visual Resources SOW

Beverley A. Everson
Forest Geologist
Coronado National Forest
300 W. Congress Street, 6th Floor
Tucson, AZ. 85701

Voice: 520-388-8428
Fax: 520-388-8305

----- Forwarded by Beverley A Everson/R3/USDAFS on 04/07/2010 02:17 PM -----

"Tom Furgason" <tfurgason@swca.com>

03/03/2010 03:50 PM

To "Beverley A Everson" <beverson@fs.fed.us>
cc
Subject Visual Resources SOW

Bev,

I'm sorry to make you ask again. Here is the visual SOW that we are authorized to work on. Please keep in mind that any violations in assumptions will likely require more money from Rosemont.

Tom[attachment "Doc1.docx" deleted by Debby Kriegel/R3/USDAFS] Scope_Visual_Resources_2010_05_25.doc
~~~~~~~~~~~~~~~~~~~~~~~~~

"Tom Furgason"
<tfurgason@swca.com>
05/04/2009 02:01 PM

To "Debby Kriegel" <dkriegel@fs.fed.us>
cc "Marcie Bidwell" <mbidwell@swca.com>
bcc
Subject RE: FW: AZ trail

Debby,

Re: A couple of questions:
1. Did you happen to take photos at the possible KOP sites? No, but when I understand the protocol I'll be happy to return to the KOP sites.
2. Could you determine what portion of the trail was re-routed? I still haven't seen any maps that show both the old and new alignments and I'm curious what changed. Actually, none of the trail was really re-routed. What did change was the *proposed* route prior to construction. I don't mean to be difficult, but I suspect that route originally proposed by the AZ Trail Association (AZTA) isn't particularly relevant because I don't think that they had CNF authorization for construction. It is my understanding that Sage did an EA per the direction of the CNF that resulted in a FONSI for the current (only) route. It seems to me that the CNF NEPA process for the EA worked in that it resolved potential future conflicts. The EA may have the proposed route and we should get a copy to be thorough. Also, we can probably get the original proposed route from AZTA.

Tom

From: Debby Kriegel [mailto:dkriegel@fs.fed.us]
Sent: Monday, May 04, 2009 12:45 PM
To: Tom Furgason
Cc: Debby Kriegel
Subject: Re: FW: AZ trail

Tom,

Thank you for doing this!! I forwarded your map to Marcie and Steve for their use in scenery & recreation work.

Let's discuss your KOP ideas this week when you, me, and Marcie are together (Wed or Thurs).

A couple of questions:
1. Did you happen to take photos at the possible KOP sites?
2. Could you determine what portion of the trail was re-routed? I still haven't seen any maps that show both the old and new alignments and I'm curious what changed.

Thanks again!

Debby

"Tom Furgason"
<tfurgason@swca.com>

05/04/2009 09:25 AM

To <dkriegel@fs.fed.us>, "Marcie Bidwell" <mbidwell@swca.com>
cc "Kathy Arnold" <karnold@rosemontcopper.com>, "Beverley A Everson" <beverson@fs.fed.us>, "Charles Coyle" <ccoyle@swca.com>
Subject FW: AZ trail

Debbie,

I rode a portion of the Las Colinas segment of the Arizona Trail from FS 231 to Oak Tree Canyon. I didn't have much luck finding the trail north of FS 321 and I didn't spend a lot of time searching because the AZ Trail web page indicated that the last four miles of the route had only been flagged and not constructed. I also rode the portion of the Santa Rita Mountains segment from Oak Tree Canyon to Greaterville Road.

I used the "Tracks" feature on a Garmin Vista GPS that has an accuracy of approximately 3 meters. Based on observations during my ride, the trail looks to be mapped fairly accurately – at least as accurate as the USGS topo itself. Attached are the map and shape files for you to use in any manner you see fit.

I also made some mental notes regarding potential KOPs along portions of the two segments. I'd be happy to come by your office in the next few days to point these out on the map for your consideration. We can also wait for Marcie's arrival if you feel like you don't need the extra time to consider these observations. Just let me know how you would like to proceed.

Tom

From: Lara Mitchell
Sent: Monday, May 04, 2009 8:44 AM
To: Tom Furgason
Subject: AZ trail

[attachment "AZT-lascolinas.pdf" deleted by Debby Kriegel/R3/USDAFS] [attachment "AZT.dbf" deleted by Debby Kriegel/R3/USDAFS] [attachment "AZT.shx" deleted by Debby Kriegel/R3/USDAFS] [attachment "AZT.shp" deleted by Debby Kriegel/R3/USDAFS] [attachment "AZT.sbx" deleted by Debby Kriegel/R3/USDAFS] [attachment "AZT.sbn" deleted by Debby Kriegel/R3/USDAFS] [attachment "AZT.prj" deleted by Debby Kriegel/R3/USDAFS]

"Stephen Leslie"
<sleslie@swca.com>
08/31/2010 09:53 AM

To "Debby Kriegel" <dkriegel@fs.fed.us>
cc "Jonathan Rigg" <jrigg@swca.com>, "Tom Furgason" <tfurgason@swca.com>
bcc
Subject RE: Rosemont Recreation Chapter 3

History: This message has been replied to.

Debby –

1. Attached are responses to comments 1, 3, 4, and 10 from your last review.

2. I forwarded the revised maps along last week. There currently is no GIS alignment for the proposed post-mine public access road between the pit and the piles.

3. I reviewed the noise analysis – In the Impacts Common to all Alternatives section, I reference the noise section analysis in. The draft noise analysis states that the effects of noise would be the same under all alternatives and states the following regarding recreation:

"With respect to recreation users near the mine facility, noise levels from in-pit blasting, construction, and operation similarly do not exceed either the U.S. Department of Housing and Urban Development or Occupational Safety and Health Administration acceptability standards. For several locations around the perimeter of the facility, noise from surface blasting would reach as high as 80 A-weighted decibels. However, even in this case it is highly unlikely that the noise levels, when averaged for a direct comparison with U.S. Department of Housing and Urban Development standards, would be considered unacceptable."

Please let me know if you have any questions.

Thanks,
Steve

From: Debby Kriegel [mailto:dkriegel@fs.fed.us]
Sent: Thursday, August 26, 2010 11:22 AM
To: Stephen Leslie
Cc: Debby Kriegel
Subject: RE: Rosemont Recreation Chapter 3

Hi Steve,

Thanks for sending this. It's looking good! I am told that I should provide input to you now, so that the mid-Sept submittal is as complete as possible. Attached are a few comments on the text...nothing major.

In addition,

1. Can you please provide responses to my "other comments" #1, 3, 4, and 10 from my last review?
2. I'd like to see the revised maps for recreation, including, if possible, something that shows the proposed post-mine public access road between the pit and the piles.
3. Did you read the noise report and determine how much effect to recreation noise will be?

Thanks!

~~~~~~~~~~~~~~~~~~~~~~~~~~

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"Stephen Leslie" <sleslie@swca.com>

08/25/2010 01:14 PM

To "Debby Kriegel" <dkriegel@fs.fed.us>
cc "Jonathan Rigg" <jrigg@swca.com>
Subject RE: Rosemont Recreation Chapter 3

Debby-

Here is the latest and greatest version that has been edited and is ready final formatting. The maps will added in by our formatter to the overall administrative draft EIS. I understand that the complete administrative draft EIS is due to the Forest Service on September 14th.

Thanks,
Steve

From: Debby Kriegel [mailto:dkriegel@fs.fed.us]
Sent: Wednesday, August 25, 2010 12:43 PM
To: Stephen Leslie
Subject: Rosemont Recreation Chapter 3

Hi Steve,

How is your work and editing going? When might you have a revised chapter 3?
~~~~~~~~~~~~~~~~~~~~~~~~~~

Thanks.

~~~~~~~~~~~~~~~~~~~~~~~~~~

Debby Kriegel, RLA
Landscape Architect
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(520) 388-8427
Fax (520) 388-8305
www.fs.fed.us/r3/coronado/
dkriegel@fs.fed.us[attachment "Ch_3_Recreation_and_Wilderness_080310_je_HG_sol.doc" deleted by Debby Kriegel/R3/USDAFS] Other comments.docx
~~~~~~~~~~~~~~~~~~~~~~~~~~

"Dale Ortman PE"
<daleortmanpe@live.com>
06/27/2010 07:02 PM

To "'Debby Kriegel'" <dkriegel@fs.fed.us>, "'Salek Shafiqullah'" <sshafiqullah@fs.fed.us>, <mbidwell@swca.com>, "'Kathy Arnold'" <karnold@rosemontcopper.com>,
cc "'Beverley A Everson'" <beverson@fs.fed.us>, <tfurgason@swca.com>, "'Jonathan Rigg'" <jrigg@swca.com>, "'Melissa Reichard'"
bcc
Subject Barrel-Only Landform

All,

Attached is the latest landform topography developed by Rosemont for the Barrel-Only landform alternative. This landform has been developed through the joint efforts of the CNF, SWCA, Rosemont, and TetraTech and incorporates the following elements:

- Extension of the Upper Barrel drainage within the landform
- Multiple ridge landforms with differing elevations
- Potential for variable slopes on eastern flanks of the landform
- Potential for reduction in number of drainage control benches on eastern flank of landform
- Improved stormwater discharge control utilizing the extension of the Upper Barrel drainage
- Maintain overall 3:1 slopes with drainage benches on west side of landform to provide required storage capacity and maintain tailings placement operations
- Maintain waste rock perimeter buttress surrounding tailings
- Maintain encapsulation of the heap leach facility

The team has done an excellent job in the collaborative effort to develop this landform concept. I believe we have reached a point in the process where the landform concept should be turned over to Rosemont for final engineering development as the Barrel-Only Alternative for consideration in the DEIS. I recommend that, in addition to the general design objectives listed above, Rosemont develop the following during the final engineering:

- Confirm constructability of the landform
- Summarize the concurrent & final reclamation plan
- General layout of rock sub-drains & flow-through drains
- General stormwater control plan, including commitment to the design criteria currently in the Site Water Management Plan Update

In addition, I propose that we not meet on June 30th as currently scheduled but the team review the attached landform and provide any additional design objectives for Rosemont to include in the final engineering. Please get back to me ASAP with comments and any design objectives you believe should be included in the final design.

If you have any questions please email me or try the Utah phone listed below.

Regards,

Dale

Dale Ortman PE PLLC
Consulting Engineer

(520) 896-2404 - Arizona Office
(520) 449-7307 - Mobile
(435) 682-2777 - Utah Office

daleortmanpe@live.com

PO Box 1233
Oracle, AZ 85623
[attachment "Prelim Barrel_Proposed Survey Area.pdf" deleted by Debby Kriegel/R3/USDAFS]

"Trent Reeder" <treeder@swca.com>
07/23/2010 12:02 PM

To "Debby Kriegel" <dkriegel@fs.fed.us>, "Marcie Bidwell" <mbidwell@swca.com>
cc
bcc
Subject RE: Rosemont 3D Facilities Example

The model reflects light shadows from a flat color. Does not take into account glossy or metal surface reflections. I took the Patrician Bronze color that you emailed us and "color grabbed" the RGB values using PhotoShop. I then took these values and created a new color based on these RGB values and applied this color to the models with light shadows of 140 degree azimuth and 31 degree altitude, or 11 am. Unless the painting company will release me the actual RGB or CMYK color values, this is the best we can do.

Computer screens will always depict color differently than what is printed unless you modify the computer screen through a strict and lengthy color correction process. Once we get closer to finalizing the photo simulations, a number of filters and techniques can be utilized to subdue the vivid colors.

Trent

From: Debby Kriegel [mailto:dkriegel@fs.fed.us]
Sent: Friday, July 23, 2010 11:51 AM
To: Trent Reeder; Marcie Bidwell
Cc: Debby Kriegel
Subject: RE: Rosemont 3D Facilities Example

Thanks, this is very helpful. My initial reaction is that one is too light, the other too dark. Unfortunately, there is no color in between shown on the color chart.

However, when I print out the color chart, Patrician Bronze is much lighter than it appears on a computer screen and what's shown on your simulation...more of a medium brown. You might want to do this too. Rosemont will be sending me an actual sample of the metal siding in this color. I don't think it's as dark as you've shown, but an actual sample will help confirm that. Also, I know that even very dark metal reflects light and often looks whitish. Does this model/simulation incorporate this effect?

"Trent Reeder" <treeder@swca.com>
07/21/2010 08:59 AM

To "Debby Kriegel" <dkriegel@fs.fed.us>, "Marcie Bidwell" <mbidwell@swca.com>
cc
Subject RE: Rosemont 3D Facilities Example

Thanks Debby. Here is an updated simulation with both examples on one page.

Trent

From: Debby Kriegel [mailto:dkriegel@fs.fed.us]
Sent: Wednesday, July 21, 2010 8:59 AM
To: Trent Reeder; Marcie Bidwell
Subject: Re: Rosemont 3D Facilities Example

Trent and Marcie,

This looks really good.

I spoke with Clarissa at Rosemont about plant building colors. She referred me to this color chart, and from my experience, something like Patrician Bronze will blend in with landscape colors better than light stone. Can you model the plant using this color as an option? Can you drop each of the 2 colors into just one simulation and let me review it? Then I can help verify which to proceed with for all the sims.

http://www.vp.com/Portals/0/PDF%20downloads/6021%20WallRoof%20Colors%2007green.pdf

Thanks.

~~~~~~~~~~~~~~~~~~~~~~~~~~

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dkriegel@fs.fed.us

"Trent Reeder" <treeder@swca.com>

07/19/2010 03:21 PM

To"Krizek, David" <David.Krizek@tetratech.com>, "Marcie Bidwell" <mbidwell@swca.com>, "Jonathan Rigg" <jrigg@swca.com>, "Kathy Arnold" <karnold@rosemontcopper.com>, "Debby Kriegel" <dkriegel@fs.fed.us>, "Beverley A Everson" <beverson@fs.fed.us>, "Tom Furgason" <tfurgason@swca.com>, "Melissa Reichard" <mreichard@swca.com>, <tjchute@msn.com>, "Carrasco, Joel" <Joel.Carrasco@tetratech.com>

cc

SubjecRosemont 3D Facilities Example
t
~~~~~~~~~~~~~~~~~~~~~~~~~~

Hello all,

I have attached a 3D "box model" rendering of the proposed facilities. David, Joel, Marcie, and I collaborated on which facilities were important to model for this exercise. I've bulleted some additional information below:

- 3D Scene is from KOP 2 - MM 44, Scenic Pull Off with pit in background
- Model information was derived from the Rosemont Copper Project Building Elevations and Height July 12, 2010 document.
- Models were generated using the Plant Site shapefile as a guide to the building footprints.
- Tallest building is the Mill Building at ~160 ft tall with a base elevation of 5019 ft.
- Color: Light Stone SR .50 SRI 58
- Model illumination: 11am - Azimuth 140 degrees and Altitude 31 degrees
- Facility grading has been represented in a transparent white

Please let me know if you have any questions. Thanks.

Trent Reeder
GIS Specialist
SWCA Environmental Consultants
treeder@swca.com
130 Rock Point Dr. Suite A
Durango, Colorado 81303
Work (970) 385-8566
Fax (970) 385-1938
www.swca.com
[attachment "Facilities_3D_labeled.jpg" deleted by Debby Kriegel/R3/USDAFS] [attachment "Facilities_3D_labeled.jpg" deleted by Debby Kriegel/R3/USDAFS]

"Tom Furgason"
<tfurgason@swca.com>
11/10/2009 04:00 PM

To "Beverley A Everson" <beverson@fs.fed.us>
cc "Melinda D Roth" <mroth@fs.fed.us>, "Salek Shafiqullah" <sshafiqullah@fs.fed.us>, "Debby Kriegel" <dkriegel@fs.fed.us>, "Dale Ortman PE"
bcc
Subject FW: Golder Involvement

Bev and Salek,

I asked Dale to start looking around at a variety of consultants that could possibly assist us with the issues surrounding stormwater management and land-forming. Dale recommended that we speak with George Annandale, an engineer with substantial experience with scouring and sediment transport. His firm, Hydrosystems Inc., was recently acquired by Golder Associates. I'd like to recommend that the Coronado consider talking to Dr. Annandale regarding is participation in the Rosemont Project. His engineering expertise and resume (along with a lot of peer reviewed publications) will bring a great deal of credibility to the team. I envision George working directly with Horst and Rosemont's Engineers to solve the issues surrounding stormwater management.

Would you please review the attached resume and let me know if the Coronado considers him to be qualified. I'd like your confirmation prior to seriously engaging Dr. Annandale in any discussions. Also, the portion of the analysis that we'll need him on is critical path and I want to get moving on this ASAP. Please note that I copied Jamie Sturgess on this email so that I can get a concurrent review from the company.

Golder Associates previously declined to submit a Statement of Qualifications to be considered for the Rosemont Project; however, Dale seems to have made some headway with getting Golder on board.

Tom

From: Dale Ortman PE [mailto:daleortmanpe@live.com]
Sent: Tuesday, November 10, 2009 3:27 PM
To: Tom Furgason
Subject: Golder Involvement

Tom,

Dave Kidd with Golder here in Tucson is on board with the possible project. George Annandale and I have had email exchanges as he heads home from India via London; he should be back in Denver on the 14th and we'll get together. Attached is George's resume.

Dale

Dale Ortman PE PLLC
Consulting Engineer

(520) 896-2404 - Arizona Office
(520) 449-7307 - Mobile
(435) 682-2777 - Utah Office

daleortmanpe@live.com

PO Box 1233
Oracle, AZ 85623
[attachment "George Annandale - Resume.pdf" deleted by Debby Kriegel/R3/USDAFS]

"Trent Reeder"
<treeder@swca.com>
05/20/2010 03:20 PM

To "Marcie Bidwell" <mbidwell@swca.com>, "Debby Kriegel" <dkriegel@fs.fed.us>
cc
bcc
Subject RE: Sent the wrong list!! Sorry, RE: List of Data Outstanding

History: This message has been replied to.

Sounds good. I'm on it.

Trent

From: Marcie Bidwell
Sent: Thursday, May 20, 2010 4:19 PM
To: Debby Kriegel; Trent Reeder
Subject: RE: Sent the wrong list!! Sorry, RE: List of Data Outstanding

Debby, thanks for your quick response and a few quick points. See below.

Trent,

We need to test how important these different elements are going to be. This is a BIG PRIORITY, for ASAP if possible.

1. Debby asked that we show a **BIG RED BOX at 50ft high** for the entire facility footprint, so that we can just test if its visible and how visible from SR 83 (start with KOP 2) and Hilton Road.

2. Second, could you "paint" a **BRIGHT YELLOW "perimeter channel"** that would be a 30-foot buffer draped around the footprint of the MPO? Then we would like to drape that onto the 3D Model as seen from KOP 2.

3. Third, paint a 100-ft wide **LIGHT GREEN** line in the middle of the powerline ROW coming over Gunsight or Lopez Pass?

ThANK YOU!!!

From: Debby Kriegel [mailto:dkriegel@fs.fed.us]
Sent: Thursday, May 20, 2010 3:40 PM
To: Marcie Bidwell
Cc: Debby Kriegel
Subject: RE: Sent the wrong list!! Sorry, RE: List of Data Outstanding

Questions in item #1: I would like all of these items shown in the simulations. However.....
1. If you get all of the other data you need for the simulations except the perimeter roads, let's talk. The vegetation clearing for the tailings/waste rock pile will likely include the perimeter road area anyway, right? Therefore, the road itself is unlikely to be much of an effect in itself. Or am I wrong on this? Just doesn't seem like this single item should hold up the schedule. The road is not included on the drawings that Trent and I have. I am checking with Lara, but I suspect its the same thing. If it has been given to SWCA, its as a line file and not graded into the topography.

2. Large drainage channels must be shown in the simulations where they appear. I assume you'll get this data from Tetra Tech. Is this not correct? Drainage channels have not been included in any of the drawings either on or off of the Tailings. Thats why I kept bringing it up yesterday. Kathy was suggesting that resources just consider the 700 ft buffer around the footprint "fair game" for disturbance, and for resources that care about the surface, thats enough. However, for 3D purposes, that does not account for the fact that they are trying to route water uphill if they want it all into Barrel Drainage in some places.

3. If you don't have the 3D data for the plant, show it as a big box in the first simulation as we discussed yesterday. I will be happy to show this first simulation to Rosemont, and hopefully it will make it crystal clear that we need more detail. Trent and I will discuss this.

Please plan to let me review each simulation as it is created/drafted. I'd like to discuss each with other FS folks and Rosemont so we can work out the bugs as we go along. If the first simulation(s) clearly show that the perimeter roads, channels, plant, or other items aren't looking correct, I would like to resolve these things before you proceed to other simulations. Agreed. Would you like to review the 3D model that comes out of GIS or after its into the photograph?

Thanks.

"Marcie Bidwell" <mbidwell@swca.com>

05/20/2010 02:17 PM

To "Debby Kriegel" <dkriegel@fs.fed.us>, "Trent Reeder" <treeder@swca.com>
cc
Subject RE: Sent the wrong list!! Sorry, RE: List of Data Outstanding

Debby,

I meant to send this document.....

From: Debby Kriegel [mailto:dkriegel@fs.fed.us]
Sent: Thursday, May 20, 2010 3:11 PM
To: Marcie Bidwell; Melinda D Roth
Cc: Debby Kriegel
Subject: Re: List of Data Outstanding

Marcie: You gave me your comments on this document on April 16, and I incorporated them and sent the list to Mindee to give to Rosemont. It's organized a little differently now (per Mindee's request), but same content. If you have added anything since April 16 (or if Trent adds anything), I need to know, so we can get a revised list to Rosemont. And if you think it would be helpful to organize the list on a spreadsheet and add the "received" column, please go ahead.

Mindee: Do you have a record of when this officially went to Rosemont? I can't find one in my records. I'm pretty sure it was on April 21 or 22.

~~~~~~~~~~~~~~~~~~~~~~~~~~

Debby Kriegel, RLA
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www.fs.fed.us/r3/coronado/
dkriegel@fs.fed.us

"Marcie Bidwell" <mbidwell@swca.com>

05/20/2010 01:47 PM

To "Trent Reeder" <treeder@swca.com>, "Debby Kriegel" <dkriegel@fs.fed.us>
cc "Jonathan Rigg" <jrigg@swca.com>
Subject List of Data Outstanding

Hello Trent and Debby,

This is the file that I mentioned to both of you that I tried to update/simplify what we still need and why.

Trent, could you add anything that you know of to it?

Also, would this be better to put it into the xls format or a table, so that it can have a "received" column that lets folks know when we receive it and why its still the same request, not a new one.

Thoughts are welcome,
Marcie <<Rosemont_Data_Gaps_2010-05-17.docx>>

Marcie Demmy Bidwell
Environmental Planner
130 Rock Point Drive, Suite A
Durango, Colorado 81301
Office: 970.385.8566
Fax: 970.385.1938
www.swca.com [attachment "Rosemont_Data_Gaps_2010-05-17.docx" deleted by Debby Kriegel/R3/USDAFS]
~~~~~~~~~~~~~~~~~~~~~~~~~~

"Marcie Bidwell"
<mbidwell@swca.com>
03/08/2010 05:42 PM

To "Horst" <hjschor@jps.net>, "Debby Kriegel" <dkriegel@fs.fed.us>
cc "Tom Furgason" <tfurgason@swca.com>, "Melissa Reichard" <mreichard@swca.com>
bcc
Subject RE: USFS Key Observation Points (KOPs) for Rosemont Copper Project

Hello Horst,

After our call, I asked our GIS folks to help package the KOPs in a CAD or PDF format for you. Stand by.

Additionally, here are two tools for understanding the viewsheds and screening.

SH83 VS DZ Existing-notes.pdf is a linear viewshed analysis for the Scenic 83 corridor that shows the landscape that is visible from the highway and screening areas as well. The Red, orange and yellow show different distance zones that are USFS standards for management for activities (detailed in the legend).

Site Analysis.pdf shows the main KOPs (all have new numbers now) and their viewshed directions. Additinally, I have shown the main screening areas as green.

Let me know if you have any questions.

Marcie

<<11204_Site Analysis.pdf>> <<11204_SH83_VSb_DZ_Existing-notes.pdf>>

From: Marcie Bidwell
Sent: Monday, March 08, 2010 4:40 PM
To: 'Horst'; 'Debby Kriegel'
Cc: Tom Furgason; Melissa Reichard
Subject: USFS Key Observation Points (KOPs) for Rosemont Copper Project

Hello Horst,

Please find attached the shapefiles for the Key Observation Points (KOPs) for the Visual Analysis. These locations were choosen by the Forest Service as the best representation of views in the project area.

These are the KOPs that SWCA will be using to represent the typical views for the most sensitive viewers. The KOPs along Scenic Road 83 are the places with the "most visible" conditions for views of the storage areas and the pit (should it not be blocked from view by the storage areas).

Let me know if you have any questions regarding these locations.
Cheers,
Marcie

<< File: UpdatedKOPs.zip >>

Marcie Demmy Bidwell
Environmental Planner
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Durango, Colorado 81301
Office: 970.385.8566
Fax: 970.385.1938
www.swca.com [attachment "11204_Site Analysis.pdf" deleted by Debby Kriegel/R3/USDAFS] [attachment "11204_SH83_VSb_DZ_Existing-notes.pdf" deleted by Debby Kriegel/R3/USDAFS]

"Marcie Bidwell"
<mbidwell@swca.com>
04/19/2010 08:47 AM

To "Debby Kriegel" <dkriegel@fs.fed.us>
cc "Michael Andres" <mandres@swca.com>
bcc
Subject RE: Line of Sight for Duval Overpass Road KOP (old KOP 2, new KOP 10)

Debby,

We are looking into the data details that would make an I-19 linear viewshed possible. If I remember correctly, the highway is raised along most of its corridor (compared with existing topography). If that shows up in the DEM, then it would be possible.

If not, then it would be much harder to accomplish with defensible results, unless we can find elevations for the road at the interval for conducting the viewshed.

If we did the linear viewshed, I am assuming that you would be substituting the KOPs along the I-19 corridor for this linear viewshed? To do both seems like duplication and over analysis. I like the fact that using the linear viewshed would reduce the process to 1 page for west side views, rather than having multiple maps for each and every KOP.

I will report back once Mike looks into the data availability.
Marcie

From: Debby Kriegel [mailto:dkriegel@fs.fed.us]
Sent: Tuesday, April 13, 2010 1:28 PM
To: Marcie Bidwell
Cc: Debby Kriegel
Subject: Re: FW: Line of Sight for Duval Overpass Road KOP (old KOP 2, new KOP 10)

This is very helpful. The overall style is good, but it brings up some additional thoughts and questions...
1. Someone could ask whether visibility from one point confirms that there is no part of the project that is visible from anywhere on the west side. For example, the existing mountain ridge is lower in some areas (such as Gunsight Pass and Box Canyon) and the project is taller in others (such as the south end of the waste/tails pile). How difficult would it be to convert Interstate-19 to points (every 1/2 mile or so) and run visibility for the whole thing?
2. If both the plan and elevation are used together (i.e., if the I-19 idea above isn't possible), it would be nice if they used the same color for "visible". But since they overlap on the plan view, they would have to be somewhat different colors to show up (like light/dark pink or light/dark green). Or minimally, make the pit outline a different color (like blue) so it's not the same color as "not visible" on the elevation.
3. What is the blue dot?
4. Edit the legend to read "Tailings and Waste Rock" and "Visible Areas" (instead of "Tailings" and "Viewshed").

Thanks!

"Marcie Bidwell" <mbidwell@swca.com>

04/13/2010 11:48 AM

To "Debby Kriegel" <dkriegel@fs.fed.us>

cc

Subject FW: Line of Sight for Duval Overpass Road KOP (old KOP 2, new KOP 10)

Debby,

Mike and I have been working on outputs for the non-visible diagrams that we can do from GIS and how to show them graphically.

We discussed several options- herre is one that combines the viewshed analysis (showing nothing visible on the east side of the ridge for MPO) and the line of sight process that Trent has shown us earlier.

The map and graphics are still rough, but I was curious if this is the type of information that you were looking for for these KOPs.

Thanks for the comments,

Marcie

From: Michael Andres
Sent: Tuesday, April 13, 2010 12:38 PM
To: Marcie Bidwell
Subject: Line of Sight

Mike Andres
GIS Specialist
SWCA Environmental Consultants
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Durango, Colorado 81301
970.385.8566 (Office)
970.385.1938 (Fax)
mandres@swca.com

[attachment "11204_Line_of_Sight_ALT_2.pdf" deleted by Debby Kriegel/R3/USDAFS]

"Krizek, David"
<David.Krizek@tetratech.com
>

02/10/2010 08:11 AM

To Debby Kriegel <dkriegel@fs.fed.us>, Kathy Arnold <karnold@rosemontcopper.com>
cc Marcie Bidwell <mbidwell@swca.com>, Tom Furgason <tfurgason@swca.com>, Trent Reeder <treeder@swca.com>, Beverley A Everson
bcc
Subject RE: For USFS direction: RCC Viewshed analysis

All,

I spoke with Marcie yesterday. I am in the process of preparing a description of possibilities depending on the alternative. Not all the alternatives can be treated equally and it depended on the stack height, etc.

I can also look at Golder's report and supplement the options with their analysis.

Sincerely,

David Krizek | Principal
Main: 520-297-7723 | Mobile: 520-260-3490 | Fax: 520-297-7724

Tetra Tech
3031 West Ina Road | Tucson, AZ 85741 | www.tetratech.com

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From: Debby Kriegel [mailto:dkriegel@fs.fed.us]
Sent: Wednesday, February 10, 2010 8:04 AM
To: Kathy Arnold
Cc: Krizek, David; Marcie Bidwell; Tom Furgason; Trent Reeder; Debby Kriegel; Beverley A Everson; Melinda D Roth
Subject: Re: For USFS direction: RCC Viewshed analysis

Hmmm. Sounds like there is a need to confirm what is possible for each alternative. Is this something that Tetra Tech can help with? Could they start with Golder's report next week? Alternatives like the McCleary/Scholefield ("perched on the top of a hill") might need very different treatment, huh?!

Kathy Arnold
<karnold@rosemontcopper.com>

02/10/2010 07:44 AM

To Debby Kriegel <dkriegel@fs.fed.us>, Marcie Bidwell <mbidwell@swca.com>
cc David Krizek <david.krizek@tetratech.com>, Tom Furgason <tfurgason@swca.com>, Trent Reeder <treeder@swca.com>
Subject Re: For USFS direction: RCC Viewshed analysis

Debby -
I agree with everything that you are saying (in concept) my concern is that Horst and Golder's work is being developed on a landform in a drainage – supported on several sides by the natural ground and not a free-form structure perched on the top of a hill or a drainage. That effects the stability and the stormwater management requirements. I do not think that you can evenly apply ALL grading on all shapes – it will give an indication yes, but needs to be judiciously applied. I am hoping that you get the disclaimers from Golder and Horst as to the applicability of applying their design techniques to other drainages or other locations – possibilities aren't necessarily reality.

Cheers!
Kathy

Katherine Ann Arnold, P.E. | Director of Environmental and Regulatory Affairs
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From: Debby Kriegel <dkriegel@fs.fed.us>
Date: Wed, 10 Feb 2010 08:34:47 -0600
To: Marcie Bidwell <mbidwell@swca.com>
Cc: David Krizek <david.krizek@tetratech.com>, Katherine Arnold <karnold@rosemontcopper.com>, Tom Furgason <tfurgason@swca.com>, Trent Reeder <treeder@swca.com>, Debby Kriegel <dkriegel@fs.fed.us>
Subject: Re: For USFS direction: RCC Viewshed analysis

Simulations created for visual resource analysis and the EIS must be honest and accurate depictions of what the alternative would look like. They need to include stormwater management features, such as benches, if these features would be required. It is not appropriate to simulate 3:1 smooth top-to-bottom slopes if benches will be necessary (I'm assuming that this is what you're calling "angular grading" from Tetra Tech).

Golder's work will be complete on Monday, and the results may indicate that fewer benches are required. Horst Schor's work is expected to create more natural forms to deal with stormwater. Both of these would lessen effects to visual quality and should be incorporated as much as possible into alternatives and resulting simulations.

The exception would be the MPO, which doesn't have a stormwater grading plan. I recommend printing a disclaimer statement regarding this on the MPO simulations.

Thanks.

Debby Kriegel

"Marcie Bidwell" <mbidwell@swca.com> 02/09/2010 02:36 PM

To

"Krizek, David" <David.Krizek@tetratech.com>, "Debby Kriegel" <dkriegel@fs.fed.us>, "Tom Furgason" <tfurgason@swca.com>, "Kathy Arnold" <karnold@rosemontcopper.com>, "Trent Reeder" <treeder@swca.com>

cc

Subject

For USFS direction: RCC Viewshed analysis

Hello Debby and Kathy,

I wanted to check in with you for direction to SWCA and Tetra Tech regarding what level of engineering resolution that we should all use in visual analysis and supporting efforts.

Please see David's message below and use the two attachments to place the questions in reference.

1. David has sent a pdf map of the Barrel only alternative that shows the angular grading of the "raw process."
2. I have attached a GIS view of the MPO with the benches etc, rather than smoothing, i.e. the "Raw process.

Due to the level of engineering development of the alternatives, David is proposing that both companies work from the raw version of the alternatives.

It is my understanding that working from the "raw" images would provide the "typical stormwater and benching" design that the Visual Coordination Meeting directed us to use (see KOP 12 attached).

Debby, Please confirm that we should all be working on the "raw" data that shows benching, to create a fair comparison.

David, I am still waiting for response to the questions that I submitted to Tt on Feb. 2 regarding the presentation of the MPO; I think my questions overlap with yours.

From Marcie to SWCA, Tt, and USFS on 2/2/2010: RE: Visualization Coordination Follow Up and Minutes.

MPO- Specific Questions-

1. Please confirm **which presentation of the MPO grading** we should use for **vizualizations at Y10** is as presented in **Figure 9** of the Reclamation and Closure Plan (RCP).

2. Please confirm **which presentation of the MPO grading** we should use for **visualizations at Y20-** should the MPO be shown as **Figure 11 or Figure 12** of the RCP.

3. Please indicate what the **geodatabase layer name** is that will have the **"composite of yearly reclamation areas"** in the data provided by Tt.

4. SWCA understands that the MPO should show benches as the following: waste rock, as 100 ft running slopes for each bench and approximately 100 ft wide road/bench surface; and tailings as 50 ft benches and running surface; the attached KOP 12 image shows the output from the MPO with benches as submitted. **Please confirm if this is what we should use for final grading.**

From: Krizek, David [mailto:David.Krizek@tetratech.com]
Sent: Tuesday, February 09, 2010 11:59 AM
To: Marcie Bidwell
Cc: Keepers, Ashley; Carrasco, Joel
Subject: RCC Viewshed analysis

Marcie,

This e-mail is being sent just to clarify the shapes we are using for our viewshed analysis.

Depending on the alternative, the various alternatives have been developed to three different stages. These stages are:

1. Raw Stage
2. Smoothed Stage
3. Advanced Stage

For the ultimate footprint, the following stages have been done:

1. Barrel and McCleary Alternative raw stage advanced design
2. MPO raw stage smoothed shape
3. Barrel Only Alternative raw stage
4. Sycamore Tailings and Barrel Waste Alternative raw stage
5. Scholefield Tailings and McCleary Waste Alternative raw stage

For the Year 10 footprint, the following stages have been done:

1. Barrel and McCleary Alternative raw stage
2. MPO raw stage
3. Barrel Only Alternative raw stage
4. Sycamore Tailings and Barrel Waste Alternative raw stage
5. Scholefield Tailings and McCleary Waste Alternative raw stage

For the viewshed analysis, we are just planning on using the raw stage for all (Barrel Only Alternative attached for example). The raw stage is the angular version used to determine volumes, etc. Otherwise it won't be an equal analysis.

Is this what you were anticipating?

Sincerely,

David Krizek | Principal
Main: 520-297-7723 | Mobile: 520-260-3490 | Fax: 520-297-7724

Debby Kriegel/R3/USDAFS
05/25/2010 09:44 AM

To Beverley A Everson/R3/USDAFS@FSNOTES, Melinda D Roth/R3/USDAFS@FSNOTES, tfurgason@swca.com, mbidwell@swca.com
cc Debby Kriegel/R3/USDAFS@FSNOTES
bcc
Subject Rosemont - Visual Resources SOW

I have reviewed SWCA's scope of work for visual resources, discussed many items with Marcie, and made some relatively minor edits to the original document.

I approve the attached Scope of Work with the following disclaimers:

1. Much of the work described here is not currently funded. This concerns me and needs to be resolved.

2. I would like Marcie to focus efforts on the specialist report. Writing the EIS should follow.

3. Although this scope describes the majority of the tasks needed for visual resources, there may some unforseen items that would need to be added, such as:

- Attendance at special meetings when Marcie's participation is desired and/or additional trip(s) to Tucson if needed to complete all work.
- Site visits to other mines or reclamation projects, if appropriate and needed to collect information appropriate for the Rosemont project.
- Additional simulations, if necessary for effects analysis.

Scope_Visual_Resources_2010_05_25.doc

~~~~~~~~~~~~~~~~~~~~~~~~~~

Debby Kriegel, RLA
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Beverley A Everson/R3/USDAFS

Beverley A Everson/R3/USDAFS
04/07/2010 02:17 PM

To Debby Kriegel/R3/USDAFS@FSNOTES
cc
Subject Fw: Visual Resources SOW

Beverley A. Everson
Forest Geologist
Coronado National Forest
300 W. Congress Street, 6th Floor
~~~~~~~~~~~~~~~~~~~~~~~~~~

Tucson, AZ. 85701

Voice: 520-388-8428
Fax: 520-388-8305

----- Forwarded by Beverley A Everson/R3/USDAFS on 04/07/2010 02:17 PM -----

"Tom Furgason"
<tfurgason@swca.com>
03/03/2010 03:50 PM

To "Beverley A Everson" <beverson@fs.fed.us>
cc
Subject Visual Resources SOW

Bev,

I'm sorry to make you ask again. Here is the visual SOW that we are authorized to work on. Please keep in mind that any violations in assumptions will likely require more money from Rosemont.

Tom[attachment "Doc1.docx" deleted by Debby Kriegel/R3/USDAFS]

Debby Kriegel/R3/USDAFS
08/24/2010 12:40 PM

To tjchute@msn.com, Melinda D Roth/R3/USDAFS@FSNOTES, tfurgason@swca.com
cc Beverley A Everson/R3/USDAFS@FSNOTES, mbidwell@swca.com, Debby Kriegel/R3/USDAFS@FSNOTES
bcc
Subject Rosemont Chapter 2 comments (and EIS organization)

A week or two ago, I had a phone conversation with Marcie Bidwell. Normally in a NEPA document/process, there is a proposal, and then alternatives to the proposal (no action and other actions). Marcie and I had different understandings of whether Rosemont's EIS would be organized this way.

After scanning chapter 2, I'm still confused. I also immediately noticed some typos, inconsistencies, and more:

- The first heading reads "Alternatives, Including the Proposed Action". Is the proposed action really an alternative? If so, what is everything an alternative to?
- On page 2, there is a list of "Alternatives Considered in Detail", which lists No Action, Barrel-Mcleary (misspelled), Upper Barrel Only (I thought we dropped the word "Upper" a long time ago), and Scholefield-McCleary (I thought we dropped the word McCleary, now that waste rock will not be placed in McCleary creek).
- I have many comments on the Visual Quality, Recreation, and Reclamation sections (see attached).

Chapter_2_Comments_Kriegel_082410.docx

----- Forwarded by Debby Kriegel/R3/USDAFS on 08/24/2010 12:02 PM -----

Beverley A Everson/R3/USDAFS
08/24/2010 10:50 AM

To Debby Kriegel/R3/USDAFS@FSNOTES
cc
Subject Chapter 2, June 21, 2010 version.docx

As promised.

Beverley A. Everson
Forest Geologist
Coronado National Forest
300 W. Congress Street, 6th Floor
Tucson, AZ. 85701

Voice: 520-388-8428
Fax: 520-388-8305

[attachment "Chapter 2, June 21, 2010 version.docx" deleted by Debby Kriegel/R3/USDAFS]

1. On the legend, change "Viewable area" to "Areas with potential views of projects"
2. On the legend, change "Proposed Construction Area" to "Proposed Project Area"
3. The BOR land color is almost white and difficult to see
4. The FS color on legend doesn't match the map

"Marcie Bidwell" <mbidwell@swca.com>

07/29/2010 02:46 PM

To "Debby Kriegel" <dkriegel@fs.fed.us>
cc
Subject Vegetation changes to simulations - 1 of 3

Hello Debby,

I am sending you a few simulations for you to review for changes in veg and pit colors.

We are still working on the diversion channels and roads that Rosemont said would connect the two lobes of the pit. However, any comments on the pit looking "more connected" and less "in front of" the mountain ridge?

I think it is working better, I will be sending my comments in as well.

Thanks!
Marcie <<KOP_1_MPO_20YR.jpg>>

Marcie Demmy Bidwell

Environmental Planner

130 Rock Point Drive, Suite A

Durango, Colorado 81301

Office: 970.385.8566

Fax: 970.385.1938

www.swca.com[attachment "KOP_1_MPO_20YR.jpg" deleted by Debby Kriegel/R3/USDAFS]

"Trent Reeder"
<treeder@swca.com>
04/09/2010 02:14 PM

To "Debby Kriegel" <dkriegel@fs.fed.us>
cc "Marcie Bidwell" <mbidwell@swca.com>
bcc
Subject RE: Viewshed Example

Here are a couple of new images with TT's Scholefield/McCleary KOP 2 viewshed analysis results (in red) overlaying ours (in green). The orange viewshed color is where the two viewsheds overlap.

Regarding in how TT delineated these viewsheds using the Global Mapper GIS software, I am not exactly sure how this software computes viewshed. What I do know, their base viewshed analysis layer is the same resolution as ours. Meaning, a 10 foot resolution elevation map. The big unknown is how they constructed their base surface with the proposed construction alternative surface to generate the viewshed analysis. So, not only does the different software have different ways in computing viewsheds, but likely the two GIS software packages differ in how the base surface and proposed alternative surfaces are constructed.

What does all this mean? Well, I cannot give a definitive answer to say whose analysis is more accurate. Both viewsheds depict areas on the map that the others did not.

Debby, would you still like to talk about the results over the phone?

Thanks,
Trent

From: Debby Kriegel [mailto:dkriegel@fs.fed.us]
Sent: Wednesday, April 07, 2010 2:51 PM
To: Trent Reeder
Cc: Marcie Bidwell; Debby Kriegel
Subject: Re: Viewshed Example

Trent: Thanks for doing this. Your results look more like what I'd expect to see, though you're right that it's not wildly different from Tetra Tech's map.

Marcie: Trent's version shows at least 2 additional benches (100 ft vertical), and this is just from one KOP, so this supports my concern about Tetra Tech's visibility results inside the pit. Do you think I ought to include these examples in my response? Can we ask Tetra Tech to use the GIS software Trent is using? Or do you have other recommendations?

"Trent Reeder" <treeder@swca.com>

04/07/2010 12:58 PM

To "Debby Kriegel" <dkriegel@fs.fed.us>
cc "Marcie Bidwell" <mbidwell@swca.com>
Subject Viewshed Example

Hi Debby,

Here are two images from the same KOP 2 location showing the viewshed analysis results for Scholefiled/McCleary. The first image is a plan view of our viewshed results. The green color represents viewable terrain from KOP 2. The second image shows a 3D version from KOP 2 with the viewshed results (in green) overlaying the 3D terrain.

Reviewing TT's KOP 2 Alt 5 viewshed analysis, their viewhsed analysis is not too different than the attached images we created. I believe TT is using different GIS software to generate their viewsheds. Because we are using two different GIS software to generate these viewsheds, both software algorithms may differ in how they compute viewsheds.

Another thing to point out in their Scholefield/McCleary viewshed PDF, we noticed that the Heap Pile southeast of the pit was not turned on, but it looks like they did take that Heap Pile into account in their viewshed analysis and this does obscure some of the pit.

Please let me know if you have additional questions. Thanks!

Trent Reeder
GIS Specialist
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treeder@swca.com
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Durango, Colorado 81303
Work (970) 385-8566
Fax (970) 385-1938
www.swca.com
[attachment "ALT5_YR20.jpg" deleted by Debby Kriegel/R3/USDAFS] [attachment "ALT5_ScholefielMcCleary_YR20.jpg" deleted by Debby Kriegel/R3/USDAFS] [attachment "ALT5_YR20_TT.jpg" deleted by Debby Kriegel/R3/USDAFS] [attachment "ALT5_YR20_TT_zoom.jpg" deleted by Debby Kriegel/R3/USDAFS]

Debby Kriegel/R3/USDAFS
02/22/2010 02:53 PM

To Terry L Austin/R3/USDAFS@FSNOTES, mbidwell@swca.com, Walter Keyes/R3/USDAFS@FSNOTES
cc Debby Kriegel/R3/USDAFS@FSNOTES
bcc
Subject Rosemont Roads and Trails

Attached is the latest map of concern levels for travelways in and around the Santa Ritas.

[attachment "cl_map_feb_2010.pdf" deleted by Debby Kriegel/R3/USDAFS]

Terry: Would you please send this shapefile to Marcie?
J\fsfiles\office\gisprojects\sup_off\dkriegel\rosemont\conclev\SantaRitaConcernLevels2010.shp

Marcie: Please be sure you're using this version for SMS analysis.

Walt: This map shows the relative scenery/rec importance of roads and trails in the Santa Ritas. Will you be working on recommendations for reconnecting some of the roads around the project area? Rosemont proposed doing this in the MPO (see section 3-5 and figure 3-7), but the actual locations they show on their maps really don't connect much (Kathy says these maps are conceptual). Each alternative will need some new road segments, and we might also want a post-mine road map of some sort. Let's talk about this when you have a few minutes.

Thanks.

Debby Kriegel/R3/USDAFS
06/03/2009 01:24 PM

To "Marcie Bidwell" <mbidwell@swca.com>
cc Debby Kriegel/R3/USDAFS@FSNOTES
bcc
Subject Re: Analysis Criteria and Bounds of Analysis~

Marcie,

Good start!

See 2 attached documents and my comments on your email below.

Once you're done editing, please email the evaluation criteria to Bev Everson (beverson@fs.fed.us) and ask her to forward it to Kathy Arnold, so Kathy can forward it to David at Tetra Tech and Joy at Sage.

Thanks!!

Issue_statement_84_visual_impact_040209.doc Evaluation_Criteria_Working_Draft_Kriegel_Comments.doc

~~~~~~~~~~~~~~~~~~~~~~~~~~

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"Marcie Bidwell" <mbidwell@swca.com>

"Marcie Bidwell" <mbidwell@swca.com>
06/03/2009 01:38 AM

To "Debby Kriegel" <dkriegel@fs.fed.us>
cc "Trent Reeder" <treeder@swca.com>, "Charles Coyle" <ccoyle@swca.com>
Subject Analysis Criteria and Bounds of Analysis~

Debby,

In preparing for both this weeks meeting and making progress while you are on vacation, here are a few things.
<<Evaluation Criteria- working draft.doc>>

1. EVALUATION CRITERIA:

Here is a draft of starting to role the Issue Statements into Analysis Questions into Indicators of Change.

Please feel free to edit a way; its just a stab at it.
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2. BOUNDS OF ANALYSIS:
Charles asked that all SWCA and USFS specialists work together to define the following (here are my thoughts). If you agree with this basic outline, I can convert this to a paragraph format quickly. If you would recommend something else, please let me know. Edits are welcomed!

These are his specific requests on bounds:

1. Bounds of analysis: define geographic and temporal parameters of what will be analyzed for visual resources?

- Geographic, will depend on the alternatives and where the viewsheds are in my opinion, but I would say that the bounds would be related to a clear sky view of the Santa Rita Mountains (or project area) on a good air quality day, so would include Tucson, views from 19 and 10, Hwy 83, Sonoita, Sahaurita, etc. 3.1.1
- Scales of Analysis- in our Chapter 3 outline, we had discussed using three: Project Viewshed, Santa Rita Mountains, and Coronado National Forest. Generally, I see these as appropriate to tie them to the distance zones that we are using (1) foreground viewsheds (project area and immediate viewsheds), and (2) middleground (close range, Santa Rita mountain views), and far/background (far Santa Ritas, Coronado, Tucson, etc views). Note that the 3rd level (Coronado National Forest) is not necessarily tied to any specific viewshed or distance zone, but rather an analysis of valued scenic landscapes for residents and tourists to Tucson and southeastern Arizona. It's a critical scale of analysis for cumulative effects.
- Temporal- Dale Ortman proposed that we all consider construction, operation, reclamation, post-closure. But he did not indicate when Construction and operations would break. I think we have discussed the following: (1) Initial Construction is 0-5 years (construction might be less than 5 years...check on this); (2) Operation includes Installation of the reclaimed berm 5-15 years; Reclamation begins at Final form 20 years, and Post Closure, I would argue should be at a reasonable expectation for a reclamation stage at 20, 50 or 100 (?) years.

Marcie Demmy Bidwell
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www.swca.com [attachment "Evaluation Criteria- working draft.doc" deleted by Debby Kriegel/R3/USDAFS]

Debby Kriegel/R3/USDAFS
07/28/2010 12:18 PM

To "Trent Reeder" <treeder@swca.com>
cc mbidwell@swca.com, Debby Kriegel/R3/USDAFS@FSNOTES
bcc
Subject RE: Coronado Forest Service Boundary

The forest boundary here looks fine. Most (all?) of my other comments still apply (see earlier message).

This is a new map that I had not seen until just now. Comments on this one:
1. The 2 trailheads shown on this map and others are OHV trailheads (not hiking trails). I recommend that you use a different symbol (not a hiker), and correct the legend to read "OHV trailhead".
2. Concern levels are shown in the legend but not on the map. There is no need to show CLs on this map.
3. Delete "Scenic/Sightseeing Route" text in legend.
4. In the legend, change "Scenic Integrity Observed" to "Existing Scenic Integrity".
5. Add Patagonia to the map.

Thanks!

"Trent Reeder" <treeder@swca.com>

"Trent Reeder" <treeder@swca.com>
07/28/2010 12:03 PM

To "Debby Kriegel" <dkriegel@fs.fed.us>
cc
Subject RE: Coronado Forest Service Boundary

Here's what we are using for the boundary. The map that you have is an older map using the landownership layer to delineate the FS boundary. That boundary is not being used anymore.

Trent

From: Debby Kriegel [mailto:dkriegel@fs.fed.us]
Sent: Wednesday, July 28, 2010 12:46 PM
To: Trent Reeder
Subject: Re: Coronado Forest Service Boundary

See attached areas with thick black lines

"Trent Reeder" <treeder@swca.com>

07/28/2010 11:32 AM

To "Debby Kriegel" <dkriegel@fs.fed.us>, "Marcie Bidwell" <mbidwell@swca.com>
cc "Tom Furgason" <tfurgason@swca.com>, "Jonathan Rigg" <jrigg@swca.com>
Subject Coronado Forest Service Boundary

Hi Debby,

I have been comparing a number of different data sets depicting the Coronado NF boundary and the Santa Rita area and they all look the same to me. I download the Coronado Administrative Boundary GIS layer from the Coronado USFS website a few days ago which depicted the same boundary that Lara from the SWCA Tucson office sent me to compare with. Then today, I placed Terry's Santa Rita GIS layer over my two Coronado layers showing the Santa Rita area, and they all depict the same boundary.

Please let me know if you have any questions.

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[attachment "11204_SIO_USFS.pdf" deleted by Debby Kriegel/R3/USDAFS]

Debby Kriegel/R3/USDAFS
07/22/2010 01:43 PM

To "Trent Reeder" <treeder@swca.com>
cc "Beverley A Everson" <beverson@fs.fed.us>, "Krizek, David" <David.Krizek@tetratech.com>, "Katherine Arnold" <karnold@rosemontcopper.com>, "Marcie Bidwell"
bcc
Subject Re: Scholefield Conveyor 3D

Trent,

Why does the perimeter road appear to zigzag all across the south foothills? I thought that the perimeter road was always around the toe of the tailings and waste rock piles. Please get Rosemont to confirm the location.

Also, get confirmation from Rosemont and Tetra Tech on the distance between conveyor and power line.

And I'm pretty sure that the conveyor has a road on each side of it.

Otherwise looks good to me!

~~~~~~~~~~~~~~~~~~~~~~~~

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"Trent Reeder" <treeder@swca.com>

"Trent Reeder" <treeder@swca.com>
07/22/2010 10:57 AM

To "Krizek, David" <David.Krizek@tetratech.com>, "Katherine Arnold" <karnold@rosemontcopper.com>, "Tom Furgason" <tfurgason@swca.com>, "Beverley A Everson" <beverson@fs.fed.us>, "Debby Kriegel" <dkriegel@fs.fed.us>, "Marcie Bidwell" <mbidwell@swca.com>
cc
Subject Scholefield Conveyor 3D

Hello,

I've attached a composite 3D scene from KOP 2 depicting a model of the conveyor system. You will have to zoom in to see some detail, but because of the large landscape the features start to lose detail due to their size compared to the whole scene. Below are notes about the scene:

- Scene is from KOP 2 , but I turned the camera to show the conveyor system. Basically
~~~~~~~~~~~~~~~~~~~~~~~~

sweeping from west (left) to northwest (right)

- Conveyor "tube" is 6 ft. diameter.
- Conveyor pillars are 21 ft. tall and 10 ft. wide with the conveyor tube on top. (From the conveyor specs sheet from M3, the pillars range from 16-26ft tall)
- Conveyor pillars are spaced 60ft' apart. (also from the conveyor spec sheet which depicted only a couple of pillars)
- Conveyor Transmission route was offset the conveyor route by 30ft in between the conveyor line and perimeter road edge. (This was my idea)
- Transmission poles are 50 ft. tall and spaced 400 ft. apart.
- Transmission poles represent a wooden monopole.
- Perimeter road is in orange depicted 12 ft. wide (used the width from Phased Tailings perimeter road)
- The Scholefield perimeter road center line follows the same conveyor alignment, but was offset the conveyor alignment by 162 ft.

Please let me know if you have any questions. Thanks

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[attachment "Scholefield_Conveyor_3D.JPG" deleted by Debby Kriegel/R3/USDAFS]

Date: Wed, 10 Feb 2010 08:34:47 -0600
To: Marcie Bidwell <mbidwell@swca.com <mbidwell@swca.com> >
Cc: David Krizek <david.krizek@tetratech.com <david.krizek@tetratech.com> >, Katherine Arnold < karnold@rosemontcopper.com <karnold@rosemontcopper.com> >, Tom Furgason < tfurgason@swca.com <tfurgason@swca.com> >, Trent Reeder <treeder@swca.com < treeder@swca.com> >, Debby Kriegel <dkriegel@fs.fed.us <dkriegel@fs.fed.us> >
Subject: Re: For USFS direction: RCC Viewshed analysis

Simulations created for visual resource analysis and the EIS must be honest and accurate depictions of what the alternative would look like. They need to include stormwater management features, such as benches, if these features would be required. It is not appropriate to simulate 3:1 smooth top-to-bottom slopes if benches will be necessary (I'm assuming that this is what you're calling "angular grading" from Tetra Tech).

Golder's work will be complete on Monday, and the results may indicate that fewer benches are required. Horst Schor's work is expected to create more natural forms to deal with stormwater. Both of these would lessen effects to visual quality and should be incorporated as much as possible into alternatives and resulting simulations.

The exception would be the MPO, which doesn't have a stormwater grading plan. I recommend printing a disclaimer statement regarding this on the MPO simulations.

Thanks.

Debby Kriegel

"Marcie Bidwell" <mbidwell@swca.com <mbidwell@swca.com> > 02/09/2010 02:36 PM
To
"Krizek, David" <David.Krizek@tetratech.com <David.Krizek@tetratech.com> >, "Debby Kriegel" < dkriegel@fs.fed.us <dkriegel@fs.fed.us> >, "Tom Furgason" <tfurgason@swca.com < tfurgason@swca.com> >, "Kathy Arnold" <karnold@rosemontcopper.com < karnold@rosemontcopper.com> >, "Trent Reeder" <treeder@swca.com <treeder@swca.com> >
cc
Subject
For USFS direction: RCC Viewshed analysis

Hello Debby and Kathy,

I wanted to check in with you for direction to SWCA and Tetra Tech regarding what level of engineering resolution that we should all use in visual analysis and supporting efforts.

Please see David's message below and use the two attachments to place the questions in reference.

1. David has sent a pdf map of the Barrel only alternative that shows the angular grading of the "raw process."
2. I have attached a GIS view of the MPO with the benches etc, rather than smoothing, i.e. the "Raw process.

Due to the level of engineering development of the alternatives, David is proposing that both companies work from the raw version of the alternatives.

It is my understanding that working from the "raw" images would provide the "typical stormwater and benching" design that the Visual Coordination Meeting directed us to use (see KOP 12 attached).

Debby, Please confirm that we should all be working on the "raw" data that shows benching, to create a fair comparison.

David, I am still waiting for response to the questions that I submitted to Tt on Feb. 2 regarding the presentation of the MPO; I think my questions overlap with yours.

From Marcie to SWCA, Tt, and USFS on 2/2/2010: RE: Visualization Coordination Follow Up and Minutes.

MPO- Specific Questions-

1. Please confirm **which presentation of the MPO grading** we should use for **vizualizations at Y10** is as presented in **Figure 9** of the Reclamation and Closure Plan (RCP).

2. Please confirm **which presentation of the MPO grading** we should use for **visualizations at Y20-** should the MPO be shown as **Figure 11 or Figure 12** of the RCP.

3. Please indicate what the **geodatabase layer name** is that will have the **"composite of yearly reclamation areas"** in the data provided by Tt.

4. SWCA understands that the MPO should show benches as the following: waste rock, as 100 ft running slopes for each bench and approximately 100 ft wide road/bench surface; and tailings as 50 ft benches and running surface; the attached KOP 12 image shows the output from the MPO with benches as submitted. **Please confirm if this is what we should use for final grading.**

From: Krizek, David [mailto:David.Krizek@tetratech.com <mailto:David.Krizek@tetratech.com>]
Sent: Tuesday, February 09, 2010 11:59 AM
To: Marcie Bidwell
Cc: Keepers, Ashley; Carrasco, Joel
Subject: RCC Viewshed analysis

Marcie,

This e-mail is being sent just to clarify the shapes we are using for our viewshed analysis.

Depending on the alternative, the various alternatives have been developed to three different stages. These stages are:

1. Raw Stage
2. Smoothed Stage
3. Advanced Stage

For the ultimate footprint, the following stages have been done:

1. Barrel and McCleary Alternative raw stage
advanced design
2. MPO raw stage smoothed shape
3. Barrel Only Alternative raw stage
4. Sycamore Tailings and Barrel Waste Alternative raw stage
5. Scholefield Tailings and McCleary Waste Alternative raw stage

For the Year 10 footprint, the following stages have been done:

1. Barrel and McCleary Alternative raw stage
2. MPO raw stage
3. Barrel Only Alternative raw stage
4. Sycamore Tailings and Barrel Waste Alternative raw stage
5. Scholefield Tailings and McCleary Waste Alternative raw stage

For the viewshed analysis, we are just planning on using the raw stage for all (Barrel Only Alternative attached for example). The raw stage is the angular version used to determine volumes, etc. Otherwise it won't be an equal analysis.

Is this what you were anticipating?

Sincerely,

David Krizek | Principal
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recipient, please notify the sender by replying to this message and then delete it from your system.
[attachment "Barrel Only_raw shape.pdf" deleted by Debby Kriegel/R3/USDAFS] [attachment "11204_KOP12_PAb.jpg" deleted by Debby Kriegel/R3/USDAFS]