

Agenda

Santa Cruz County Advisory Panel Meeting April 19, 2023

Meeting Location: Santa Cruz Provisional Community College,
2021 N Grand Ave., Nogales

<i>Timing</i>	<i>Focus</i>	<i>Task/Action</i>	<i>Who</i>
11:00 60 min	Lunch is served		
12:00 5 min	Welcome		Catherine
12:05 5 min	February & March Minutes	Approve	Catherine
12:10 15 min	Project Updates	Share information, Q & A	South32
12:25 30 min	• Track out – Part 3	Presentation on Panel questions	South32
12:55 10 min	Community Group Updates		Panel Members
1:05 50 min	Workforce	Share information, Q & A	Skylie/Natasha
1:55 5 min	Wrap Up	Identify next steps/draft focus for May	Catherine
2:00	End		All

Meeting Minutes
Santa Cruz County Advisory Council
April 19, 2023
Santa Cruz Provisional Community College
2021 N Grand Avenue, Nogales

1. Meeting called to order at 12:02 pm - Catherine.

2. Meeting Minutes - Catherine

2.1 February's minutes.

The corrected minutes were approved by consensus and will be posted on the new South32 Hermosa website by South32 personnel.

2.2 March's minutes.

The March minutes were not approved. Concerns were expressed about the brevity of Dr. Ferre's presentation on the Newfields report because it did not include the questions posed by the Panel and the responses by Dr. Ferre. Catherine gives all presenters the opportunity to review their presentation in the draft minutes to ensure the accuracy of the information. Dr. Ferre approved of this version.

Motion: Moved/Second/Passed that the questions and comments from the transcript be included in Dr. Ferre's presentation.

Catherine will provide a revised version to Dr. Ferre for his review prior to including it in the minutes.

Attendance:

Meeting Facilitators (Interfuse Associates):
 Catherine Tombom, Joanne Lamb

South32 Hermosa:

Melanie Lawson, Matt Novak, Natasha Sonntaga

Panel Members Present:

Olivia Ainza-Kramer, Elizabeth Collier, Maureen De La Ossa, John Fanning (Zoom), Ruth Ann LeFebvre, Ben Lomeli, Damian Rawoot, Fritz Sawyer, Carolyn Shafer, Linda Shore, Guillermo Valencia, Marcelino Varona, Christopher Young

Panel Members Absent:

Gerry Isaac, Michael Young

Consultants/Guests/Visitors:

None

3. Project Updates - Melanie:

3.1 Harshaw Road Detour:

You can see on the map that there are three creek crossings, and we are avoiding disturbance within the ordinary high water mark (OHWM.) The road detour signs have been in place for several weeks now. I think it's going well. There's also a designated bike lane, which I've seen people use. As discussed last time, emergency services have been notified. I think given the extent of this project I feel like the detour has been going well. But if people hear otherwise, please let me know.

Questions/Answers:

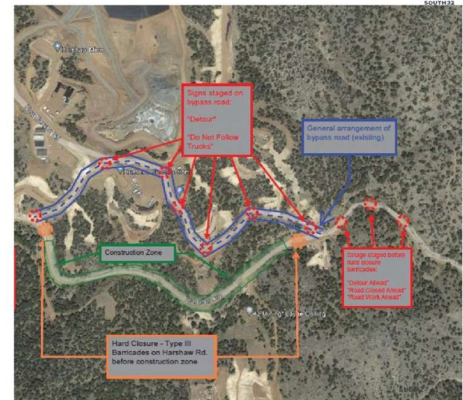
Question: Ordinary high watermark applies to 404 permitting for Corp of Engineers. How is that related to the Flood Insurance Rate Map?

Melanie: That's a question for one of our technical experts. I'll get an answer for you.

3.2 Cross Creek Area Road: We will begin clearing and grubbing this week in the Cross Creek area. Information about this work was also in our community newsletter, which was distributed last

HARSHAW ROAD DETOUR

- Improvements include:
 - Three creek crossings (multi-plate, avoid disturbance within OHWM)
 - Widening road (gabions, rip-rap)
- Road detour signs have been placed where the road intersects with the north and south edges of the Hermosa Project site.
- A detour around the construction zone is available for public use during this time
 - Have a designated bike route
- Emergency services have been notified.



week. We will also begin some demolition of a couple of structures. Once we complete that, the county is currently reviewing the detailed designs and the plans. When that is complete, then we can kick off some of those engagements that we discussed, such as doing the walk with county staff and doing the walk with Red Rock acres that we've been talking about for over a year.

Questions, Comments & Answers:

Linda: I would like it on the record that it would be nice if the Red Rock people could walk with the county staff.

Liz: I got a call from two people who live in the Cross Creek area reporting that the gate has a lock on it. That's the access needed during the monsoon season because nobody can get across it when the wash is running. They'd have to go in the back way. And that's been cut off by the mine and so that's going to isolate the people in that neighborhood.

CROSS CREEK AREA ROAD

Current plan:

- Clearing, grubbing, demolition beginning this week
- County reviewing plans, once complete:
 - Walk with County staff
 - Walk with Red Rock Acres neighbors
- Additional permit submissions
 - ADOT encroachment permit (end of April)
 - > Permit submission includes a traffic study
 - Floodplain use permits (May)
- Estimated completion date is November 2024
 - Additional schedule details will be shared as they are finalized



Melanie: Okay, I will ask about the gate on Emily Lane. Now that the property has been turned over to the county, I will see if it is construction related or related to the county.

Liz: Either way, just so they know that the neighbors need to be able to get in and out.

Carolyn: I'd like clarification, please. ADOT already has documents from South32 that we received because of a public records request. Have you submitted a traffic study?

Melanie: We submitted an easement modification. Our contractor was looking to change the easement or modify the encroachment, so they didn't have to drive some of the heavy equipment over the cattle guard. Our formal ADOT encroachment permit with the traffic study will be submitted at the end of April.

Carolyn: Will you be able to commit to sharing those documents, including the traffic study with this panel at the same time they are submitted to ADOT, please.

Melanie: Yes, after it is submitted to ADOT.

Ben: With your floodplain use permits, and it's plural there. Does this mean you're crossing more than one watercourse?

Melanie: Yes, there are three: Red Rock Creek, Harshaw Creek and Sonoita Creek.

3.3. Ongoing Permits:

This is the list of ongoing permitting activities. We've provided an update on several of these during previous meetings but wanted to have them here for status update.

ONGOING PERMITTING & SITE ACTIVITIES

1. Flux Drilling Plan
 - USFS Review
2. Small Tracts Act
 - Anticipate approval in the next few months and summer implementation
3. AZPDES Permit
 - Permit renewed by ADEQ - decision appealed by PARA
4. Site Exploration
 - Exploration shaft sinking (increasing activity on site, increased deliveries)
 - > Contractor controls in place & adherence to Town of Patagonia Trucking Ordinance
5. Air Permit
 - Application filed with ADEQ



3.3.1 Flux Drilling Plan:

The flux drilling plan is for limited minerals exploration drilling. It's about 1.8 acres of unpatented claims near the historic flux mine. The total duration for that project is about 12 months. Once approved, the start date is dependent on factors like equipment availability. It's under Forest Service Review right now.

3.3.2 Small Tracts:

This project is the transfer of ownership of about 13 acres to connect our parcels on the north side of Harshaw. We expect approval in the next few months.

Carolyn: If I may, the small tracks allows for the sale of minor acreage. This track falls in that category because it's just under 14 acres. This is one of the remnants of the 1872 mining law. It used to be that the tract couldn't be valued at more than \$150,000. In the last year the mining industry lobbied and got that increased to \$500,000. But the

comments that organizations filed with respect to the application are two key things. It must be comparable real estate value. And the closest comparable real estate value is 20 acres that was purchased by the former owner of the Hermosa project for \$970,000 with a very small house on it. Plus, the second factor is that a report from South32 identified that particular area as having a high concentration of minerals, which also influences the price. So, the question is what the Forest Service will do to value the property. We (PARA) support the idea that the property exceeds the \$500,000 limit and should not be transferred. The decision might be made in May.

3.3.3 AZPDES Permit: The AZPDES permit was renewed by ADEQ. And the decision was appealed by PARA. I think there's some information on their fact sheet.

3.3.4 Site Exploration: We will begin exploration shafts sinking which will increase some activity on site and increase deliveries. But we do have contractor controls in place, and we adhere to the Town of Patagonia's trucking ordinance.

Carolyn: Is it correct that that will involve blasting?

Melanie: We did get a lot of comments or questions about booms that people hear in Patagonia. And we hear them too. That has not been our blasting. We have site bulletins that have the blasting times that I've shared with the Town of Patagonia's Town Manager just so he knows if he hears a boom, whether it's us or not. It's very localized. We shouldn't be able to hear it in town.

Carolyn: Okay, is that updated on a regular basis?

Melanie: Yes. It is a daily report if there is blasting. When the site activity is scheduled, the bulletin is issued, and I send it to Ron. Typically, the blasting schedule comes out that morning because there are many factors that go into it, such as weather.

Carolyn: And what chemicals are involved?

Melanie: It's typically an ammonium nitrate fuel oil and I am looking to Fritz to expand on that.

Fritz: It depends on what they're doing. How are they trying to control the fractures, how much damage they need to do to the rock. Sometimes they do hydro blasting. There are other chemicals that expand and crack and there are explosives. There's a whole menagerie of stuff.

Melanie: What I can do for the next meeting, maybe, is to go into more detail on the shaft sinking process.

Linda: Do you have any idea what the other blast is where they're coming from?

Melanie: I don't.

Carolyn: I'd like the APP Appeal added to your update slide on permits.

Ben: *I thought that was not an appeal.*

Carolyn: Yes, PARA appealed. The bottom line is that the Department of Environmental Quality defined Resolution Copper, and is defining the Hermosa project, as an existing active mine site. PARA does not agree. They are new mine sites. If recognized as a new mine site, the agency must do specific baseline testing before they issue these permits. And that's the reason PARA has appealed. Unfortunately, the reality is that ADEQ is years behind doing it for other locations.

3.3.5 Air Permit: We gave an update in October and November of last year. We filed a class one air permit application with ADEQ. And this is a result of the need to self-generate power as a backup under any scenario.

Ben: Will you be using diesel generators or something that requires power?

Melanie: Yes, as a backup to line power. If people are underground and the line power goes out, you need air and ventilation to keep going.

Fritz: They need them to keep the process going. Yes.

Carolyn: When did you file that with ADEQ?

Melanie: Recently, I can get you a date.

Fritz: Great slide. Thank you. Would you add one more permit: The APP aquifer protection permit. This will help Panel members understand what permits are required - here is what they are supposed to do, here's what the Panel needs to look at. We don't necessarily need to go into PARA activities.

Linda: In the spirit of bringing rumors to the Panel to refute or confirm, I was told by a reliable source in Nogales that the feasibility study has been completed. And that the management from Australia are flying into Tucson in May, to approve it.

Melanie: Here is how it works. There's an Internal Peer Review (IPR) that will happen in May. All of us have been finishing a summary and report of our work to present to the IPR team, and they have certain standards for something within this level of the project.

Linda: I heard Graham was coming to officially move it ahead. It doesn't sound like an internal review.

Melanie: Graham comes a lot. Our internal review presentations will occur in May. I don't know if Graham's coming for that or not. He does come to check on us periodically.

Linda: So, you are still on the June-July time limit for absolutely, to go or not go.

Melanie: Yes.

4. Track Out – Part 3 – Matt Novak & Melanie:

Melanie: The questions that the panel members asked in February's meeting were used to synthesize the answers from Matt's presentation. We will use Matt slides for visual clarification.

All right, so we will get this into the Excel file. For now, this is what we have. So, what I did is I took the document from the February meeting. That was all the panels' questions. We synthesize the answers from Matt's presentation. I still have the slides here that Matt can talk to just for any visual clarification.

Matt: How would you all like to go through the questions and answers? Do you want us to skim through and then we can discuss specific questions, or I can go back through the slides. We can read one by one through the questions and answers.

Melanie: Do you want to go bullet by bullet?

Fritz: Let's get to it.

Melanie: What actions have been taken in other locations to manage and mitigate track out? So, Matt talked about all the various design factors. Do we want to go through on the screen?

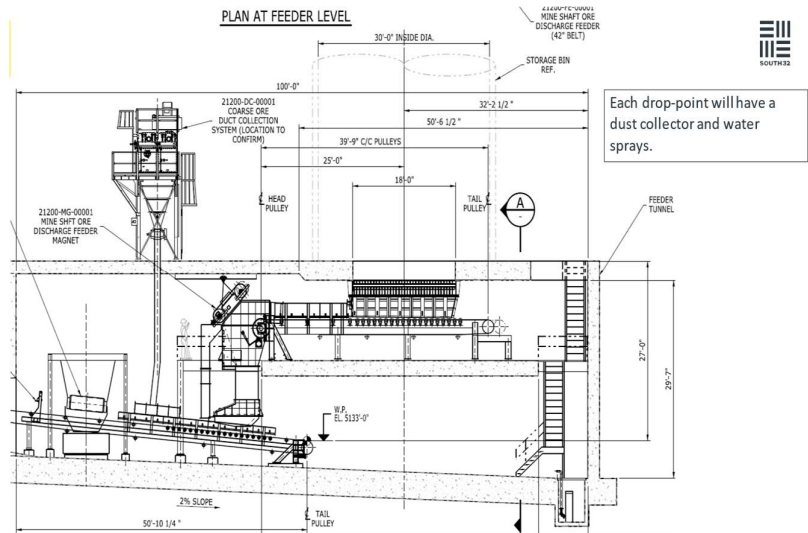
Fritz: The screen would be good.

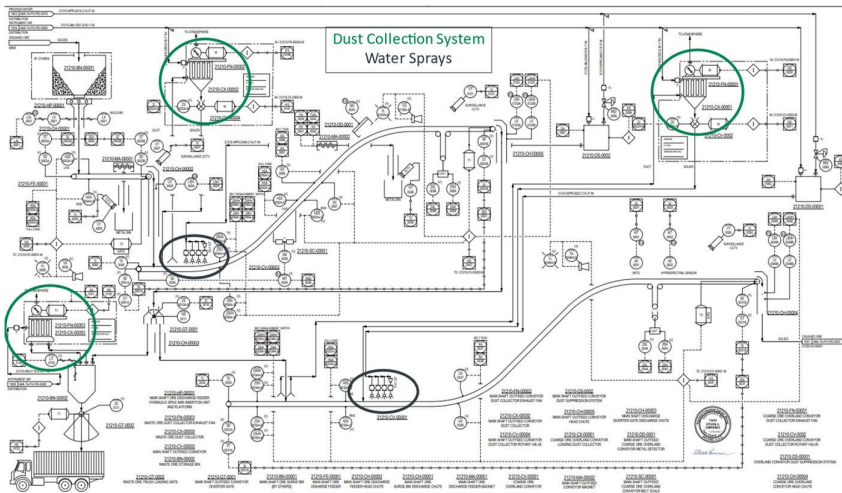
Ruth Ann: This is what we did last time, right?

Matt: Yes, these are the same slides as last time.

Melanie: So, we talked about dust suppression, vehicle washing, and the sump. So here was the conveyor. The best to talk about enclosed strong points.

Matt: Okay. So, this is an example of one of the drop points in the processing plant. This is from one of the core store bins on two subsequent conveyors. So over here we can see we have pickup point directly after the drop, there is an apron over the top, that goes to that drop point.





This is an example of one of the drop points in the processing plant. This is from one of the core store bins on two subsequent conveyors. So over here we can see is we have pickup point directly after the drop, there is an apron over the top, that goes to that drop point. And we have our dust collector system over the top, any of the drop points, any of the silos and bins have a dust collector over the top. There'll be control limits for grain loading for

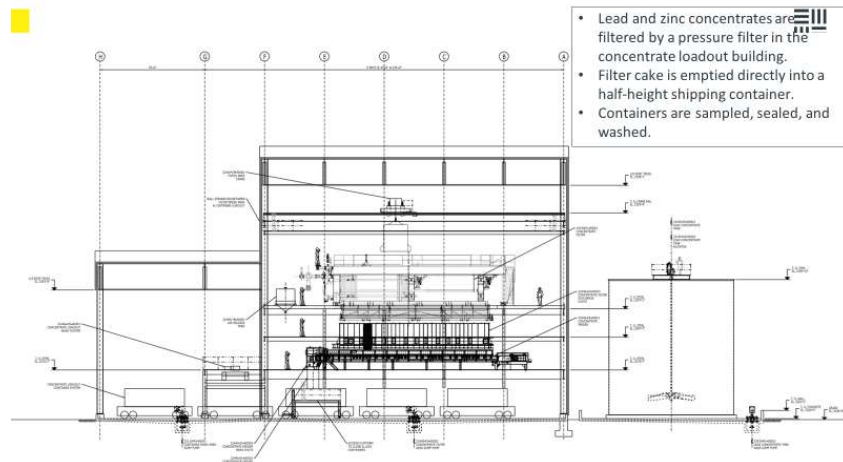
those dust collectors. The conveyors also have dust suppression on them. So, their water sprays over the top of that conveyor. To keep everything down, as well as dust flashers.

Melanie: Other questions on that one? Or do you want to talk about some of the controls here? We also talked about the washing once it's put into the enclosed container, the containers are washed before they are put on the truck.

Fritz: So, you're not going over those point by point.

Melanie: I think we can go through it point by point on the sheet. But all the visuals are the same slides from last time to talk about the different points.

Matt: Yes, I think this is the most important one. So, if there was going to be exposure, the most consequential exposure could have had to the concentration that was dusting if there is ingestion, or exposure to that. This is our concentrate dewatering area. Out of the processing plant, it's a slurry. So, it's 30% solids, the rest of its water, it goes into thickeners, which takes some of that water, and then it goes to a



- Lead and zinc concentrates are filtered by a pressure filter in the concentrate loadout building.
- Filter cake is emptied directly into a half-height shipping container.
- Containers are sampled, sealed, and washed.

pressure filter to that makes it to a mostly dry cake. It's about 8% residual moisture in that cake by weight. That drops down into that half height container directly. So, filter press opens, drops onto a discharge conveyor, which is enclosed, and then goes into a chute into that half height container. What we have here in the design is that container, once it's full, it's about 20 to 22 short tons of concentrate, there will be a technician that takes a sample so he can assay it for moisture and quality. It will close that container, seal it. And then here is the wash for that area. So, this entire perimeter is concrete lined with kind of a curve up there to contain all the water there. It will wash every single one of those containers, the water will go into the sump, and that sump goes back into the process water loop. So, everything there is contained. And that that's just one of the examples for the truck washing but I think that this is the most impactful

Carolyn: Do I understand correctly that that's a large volume of water that's being extracted in order to get to a concentrate.

Matt: Yes.

Carolyn: At what point in time does it move to one of the water treatment plants?

Matt: It does not.

Fritz: The way that the water balance ends up working is the process water loop is a closed loop. So, any of your products, the zinc concentrates, the light concentrate, we dewater that to high degree, it goes back into the process water loop. And then the outlet for any of the freshwater will have lesser amounts of freshwater in addition to the processing plant mostly for reagent addition. So, things that must be dissolved before addition. That is the in. And then the out is essentially the trapped moisture in the cake. And that's how those balances. So that water just keeps going in the loop.

Olivia: Are you using laundry services for the uniforms?

Matt: There'll be a laundry service for the uniforms for everybody. That will be taken off site.

Melanie: Typically, how I've seen it in the industry is the laundry is done off site.

Fritz: FYI. Elko laundry services got contaminated by doing that. You're taking a guy's clothing, who's been working underground, that is contaminated. They throw it in a truck and haul it down to somebody in Nogales who washes them. They don't have a grit trap and all that mineralization goes into the sewer system. The sewer system then becomes contaminated because then it goes to the sewer plant, they have to report 503 metals for the bile salts. We traced it back to laundromats and carwashes. Anything that was going offsite that had mud on it was contaminated to some degree. And then we found out that fine microscopic stuff, like facial powder, was high.

Melanie: Yes, and that's the thing we haven't worked out yet. So, we will get some more information and share that with the group.

Ben: Everyone should know that sewage treatment plants cannot deal with heavy metals. They are not built or designed to.

Fritz: I don't know the mineralogy of what you're digging up. I can only relate to what's in Elko. We couldn't remove it because it was so fine. So, we had to take all the biosolids from the anaerobic digesters, and we had to landfill it. That was the way we got around. Everything was contaminated.

Ben: Under design factors, it says porous materials coming up from the underground, so minimal dust, but at some point, you got to crush it to get to this point where it's a slurry or cake. I'm worried about contamination at the crusher.

Matt: Yes, so the primary crusher is located underground, with the appropriate dust collection system over the top of that.

Ben: You're saying the crushing is done underground.

Matt: It's a sequential size reduction. We'll do the primary crushing underground where the mine blasted material is taken it down to three to six inches, get skipped up to the surface, and then fed to our aggregate mill that takes that from three to six inches down to about 150 microns.

Ben: So, you're going from boulder size to cobble size. All right, and then you're saying it's coarse material with minimal dust. I guess minimum is the key word there.

Fritz: I can help you out a little bit here. They're going to primary crush underground through the Crusher. Take it down to six inch minus whatever they screen it and they're going to hoist it up and put it in silos. Then they're going to go from silos over to an ag mill. Once it hits that ag mill it's wet. What they've done is at every drop point, we're either going to have dust suppression, which is water, or we're going to put a dust collector over it.

Matt: And for those conveyors, coming from the shaft to the ag mill, it's both at the drop points, there is dust suppression through water sprays, and there's a dust collector in front of it.

Ben: So right where it's coming up from underground. It sounds like you got, you know, cobble size stuff now, yes, six inch or less. But there's got to be some powder associated with that, or are you just leaving that underground?

Matt: No, you're right, it is a distribution. It's going to be skewed more towards the course. Because with the selection of an ag mill, we don't want those fines in there. The whole thing works on the principle that that the rocks will break themselves. It's a more energy efficient way of handling things. And it prevents us from having to bring in those five-inch steel balls to help with the crush. So, if we blast too fine or crush too fine, we lose all our grinding in the mill, it'll just slosh around. As it's conveyed, there will be fines there. It's going to tend to sit under the course material, which is one way in which the potential for dusting is going to be minimized. There will be dust collector pickup

points. There'll be sprays. And, you know, these are short conveyors. So, after that water spray, you know, 30 seconds to a minute before it goes to the next drop point. And then to the silos.

Ben: So that spray happens before you put it on the conveyor belt?

Matt: It'll drop onto the conveyor and then immediately, there's the dust collector pickup point. And then there's the spray right after it.

Linda: Can I skip down to number three from the bottom? How can track out issues be monitored and publicly reported to the community? The answer says we don't anticipate them tracking out with the controls in place, which doesn't answer the question. So now I'm putting my GNA hat back on.

Melanie: Yes. That's perfect for the group discussion as part of the GNA. Determine what kind of monitoring can be done.

Fritz: Typically, where you're going to park your vehicles, you're going to see track out. We should probably check out the laundromat in Patagonia and then in the sewer plant.

Carolyn: There are two laundromats. The one at the RV park and Ted Piper's.

Fritz: I have pictures of track out. I mean, it's already evident that there's track out, from the mine, but it's not mineralized yet. For me this is air permit stuff. Track out is laundry, vehicle, vendors, trucks coming and going, you know, anything that's being transported in and out, that's track out.

Matt: What I want to highlight, and you're right, trucks will go in and out, as you said. The design intent is to make sure this stuff does not go on the ground. So, the mud that falls should not be mineralized.

Fritz: Well, conveyor belts are going to fail, you're going to get dust collection that's going to fail, you're going to get slurry lines that fail, that place is going to get slowly contaminated. And it's like we went up for that tour in January. Yes, and we're walking in the mud. And then we drove off. You can't tell me you're going to have a perfect mine site.

Ruth Ann: And the point is, it should be monitored.

Melanie: Yes, I think that kind of monitoring is something that can go into the GNA. We will have dedicated underground equipment, it's a shaft access, so you don't have portals where vehicles are driving in and out and having mineralization on light vehicle truck that then is driving into town. No one is saying it won't ever happen. But we've learned from previous sites, and there's a lot of design factors. And the biggest one being, there's no surface ore stockpiles, there's nothing that's touched the ground. So, the exposure is limited to get it on the truck.

Ben: Yes, so I think Fritz's point is very valid. South32 Hermosa project builds itself as a first of its kind in the world. Right. So why can't we make tracking track out the first of its kind in the world? In the Good Neighbor Agreement, we should follow the precautionary principle. Err on the safe side. I know what you're saying, let's keep it off the surface of the ground, let's keep it in the sheds and in the shafts, and whatever, but sometimes it's going to get on the ground, and we need to deal with that.

Matt: I want to highlight the concentrate filter. That is, in my experience, much better than what's typically done. I'm not familiar with the gold operations in Nevada, but I am familiar with what goes on here in Arizona.

Fritz: If you really want to do this right you have a security guard. He dictates whether a truck goes back. How does the security guard become familiar with all the minerals? Training! It's our job to educate.

Ben: That's where you're going to stop it. Yes, redundant control.

Ruth Ann: If I'm a vendor, and I'm coming on site for something, will my truck or my vehicle automatically go through a carwash?

Melanie: Currently? No. The plan is to have light vehicle washes.

Ruth Ann: When people come on mine tours in the van, that van will go through the carwash on the way out.

Melanie: If it went into an area that was mineralized. The Overlook is staying in the same spot. So, then we just go up and go back. At this point, I don't know what the procedure would be if I'm required to go through the carwash.

Ruth Ann: Can I ask where's the water coming from that's going to do all these cars washing and clothes washing?

Melanie: For the carwash on site, it would likely come from the water treatment plant. That's to be worked out.

Marcelino: As a point of clarity here, you're not taking any water for the mine from the town of Patagonia, not disturbing any of their wells or anything like that?

Melanie: No and we have monitoring in place so that we have baseline data to make sure we don't do that. If we dried up a private property owner's domestic well, we would drill it deeper or replace it, we would make sure they had access to water. We would never leave someone without access to water. That's why we have this program in place so that we have baseline information before we get started. So, we do know if we affect something for both water level and water quality.

Ben: When you say if we dry up a neighboring well, we'll deepen it for them. How are you going to make sure they're still getting the same water quality? Because the deeper you go, the less the quality is, and then the pumping cost increases. You got to pump it from farther down. So, are they fully compensated with a new deeper well, or will with good water quality? And, you know, some compensation for their increased electric bill? Or is it just well, we'll drill deeper for you.

Melanie: It hasn't happened yet, so I can't go into detail. If it does, we would never leave someone with added costs and poor water quality, that wouldn't be acceptable.

Marcelino: Melanie, I love your response. But what happens if you're not here?

Melanie: Those are company values and that's not that's not my opinion.

Ben: And that is something we could put into a Good Neighbor Agreement.

5. Community Group Updates – See attached reports from PARA and Town of Patagonia Flood & Flow Committee

Carolyn: The Town of Patagonia has asked for two years for a comprehensive groundwater study so we can understand what is there. I will ask here aloud, I want South32 to pay to have a comprehensive ground water study done. And the entire study is made available at once to the town of Patagonia. All we know is they have a permit to treat and discharge up to 6.5 million gallons of water per day into Harshaw Creek. How much water are you going to be taking out? Because you've also said you're going to be recirculating some of the water that you take out, we need a plan of operations with full information.

Questions & Answers:

Damian: Ben, is it fair to say that a lot of the data that could be used to generate that sort of thing is tied up in South32's Newfields comprehensive model?

Ben: If at least some of the data is made public. It needs to be looked at and analyzed and some conclusions made public. To set the baseline and see where we're at.

Linda: Why would you not release a water report for the current conditions for the town to look at? Is there a reason?

Melanie: I'm not sure I'm informed enough in these areas to answer so I will have to go back and find the answers for you. It may be a proprietary model. What I do know is the competition risk. There is another mineral mining company adjacent to us that doesn't necessarily have the resources and capacity to get this information.

6. Good Neighbor Agreement (GNA) – Damian

We have a concise and to the point RFP draft and there are things that need to be tweaked. The GNA is framed around the idea that it will be an open dialogue about how to address future impacts or potential impacts. I think that in my summation, one of the critical issues is that we need to ultimately have a discussion with South32 on what they are willing to share about the feasibility study and we don't have a ground water study. I understand the proprietary piece of some of the information from South32 perspective, but there's an information vacuum, I think, for the Good

Neighbor Agreement to be an effective tool, it must be that we're negotiating in good faith and with the same information with specific details. And it's not just an academic exercise. So that's why we had an aggressive timeline to finish this RFP, the subcommittee would approve it, we would share it with the Panel and then put it out there.

Ruth Ann: You're not doing the whole Good Neighbor Agreement, you're just...

Liz: Yes, we're just writing the proposal to hire somebody to do it.

Damian: We're recognizing that the contractor producing the GNA would need that information. And ultimately, the people who were reviewing it, whether it's the town of Patagonia or Santa Cruz County, whoever's a signatory to it, would also want to look at that information.

Melanie: I think it'll be good if we have a subgroup discussion. We don't want to rush it. But at the same time, I don't want us to be behind. The contractor selected through the RFP can help guide us through a process similar to the Stillwater GNA. It says what information is shared and with whom.

Fritz: On the flip side why doesn't South32 take charge of this and come back to us with it?

Melanie: The RFP?

Fritz: Yes, you do it. You come back to us, and then we negotiate with you. It's just looking at from the opposite approach.

Damian: No, I think it's a two-pronged approach. I think the Panel must think through that as well. And the subcommittee can do that.

7. Workforce Update – Natasha Sonntaga

I am giving a project update on where we are in terms of workforce development. The first couple of points set the context. As mentioned earlier, we are completing the feasibility study for the project. As part of the feasibility study, there's an HR chapter and so we partnered up with each of the department leaders to look at their workforce needs. What are they going to need through the full course of life of the mine? Starting from the beginning at the point of construction, execution and onwards. What are some of the technical design details that each group is going to have? What type of equipment are we going to be using, and balancing the automation piece, and then our execution strategy, and then also looking at the community commitments that we've made as a key enabler for those decisions?

PROJECT STATUS – WORKFORCE DEVELOPMENT

Hermosa is currently working to complete the feasibility study for the project

- Complete detailed design and detailed financial modeling
 - Provides context that our Corporate Investment Committee and the South32 Board of Directors will require in order to make the Final Investment Decision (FID) on the project
 - This is an internal decision-making process
- As part of feasibility Human Resources partnered with each department to complete life of mine workforce needs analysis
 - Informed headcount determination
 - How many of each type of job is required to operate the mine
- Looked at resourcing needs based on technical design decisions, balancing automation and Hermosa's execution strategy with community commitments being a key enabler for these decisions.



WHAT DOES THE WORKFORCE LOOK LIKE?

Mid-2023 could see a ramp up in Construction and Project Controls teams which would consist of subject matter experts (SMEs) to ensure safe delivery of the project. We are seeing success in hiring locally and currently over 50% of the site-based workforce is from Santa Cruz County.

As we move into steady state operations, we intend to maximize available workforce and minimum aspiration is to have 80% of the total workforce come from Santa Cruz County.

At peak operations, we would have approximately 685 employees distributed amongst the offices, remote operating center and the mine site.



Work Area	Peak Number of Employees
Mining Operations	312
Maintenance & Site Services	185
Processing	81
Technical Services	46
Supply Chain	24
Other: HR, HSS, IT, Finance, Administration	25

This graph gives you a breakdown of roughly what those numbers will be within each kind of work group. So, they're big buckets, but obviously, the mining operations will be the largest group of employees, and the maintenance and site services processing team. So, you know Matt has been talking about technical services, supply chain, and then you know, other administrative HR health and safety, IT, and finances.

Ben: In the supply chain category are these actual employees, or are these people in the community delivering supplies that are not employees?

Natasha: These numbers are only employees. This does not include any type of contractors. And I'm going to go through each group and show you what type of jobs are within each of those buckets.

Ruth Ann: What is the process to apply? Where are they applying?

Natasha: They're all applying via our website. Sometimes people reach out via email and then they are directed to the website.

Marcelino: Natasha, what's your definition of a workforce from Santa Cruz County?

Natasha: It's people who are originally already here based in Santa Cruz County. If we relocate somebody, they wouldn't count on that percentage.

TECHNICAL SERVICES



Roles within the Technical Services department would be spread amongst the remote operating center and mine site. Roles would include:

- Geologists
- Drill specialists
- Planning & design- short, mid and long range
- Slope design, drill & blast & development design
- Long range ventilation, paste design, short range vent, and power & infrastructure
- Geotechnical engineers & technicians- short & medium range
- Surveyors – surface and underground

Marcelino: So, if I live in Coconino County, and there's a job opportunity, but it says there, your workforce from Santa Cruz got it and I move into Sonoita and say, well, I live in Sonoita.

Natasha: Okay, yes. So, it's to make sure that we're pulling from the group of people that are already here. There will be subject matter experts that do move in, especially to help facilitate training.

Ben: Is there a cutoff date for already here? How long you've lived here?

Natasha: We've not moved you. We've not physically asked you to relocate.

Olivia: When people move here, they become residents. They're going to be permanent residents once they get employed through South32. So, I think that it will be a good thing.

Natasha: Yes, we want to maximize on the workforce that is already here and available.

Carolyn: This is a 24/7 operation. So how many shifts are there?

Natasha: It's going to depend a lot on the workgroup. There'll be roles that are Monday through Friday, there'll be roles that will depend on the shifts. Some areas would be the mining operation.

Marcelino: Just something that I'm wondering on your first slide there. I know there's a huge financial investment so far in the mine. What are the chances that they're going to say no?

Natasha: It's important that they look at everything. It might be that they want more clarity in some areas. It's important to get feedback from the review committee.

Marcelino: I'm still concerned about the remote operating center. As to its location.

Melanie: It will be in western Santa Cruz County.

Natasha: These next slides give you an idea of what type of roles are in within each of the bigger buckets. I tried to list as many as possible.

Mining operations will be our largest group of employees and some of the roles are listed to the right.

MINING OPERATIONS



Mining Operations would be the largest group of employees during future operations, roles that fall within this group would be:

- Load Haul Dump (LHD) Operators, Autonomous LHD Operator'
- Haul Truck Operators
- Jumbo Operators
- Bolter Operators
- Utility Crew
- Blasting Crew
- Longhole Drillers
- Backfill and Paste crew

We're posting jobs right now that are available to start immediately. When we look at each of these roles, we look at when are they going to be needed physically to be able to do the job and then we look back and say when do we need them to come on board so that we can make sure they are adequately trained.

The maintenance group provides support across the project from surface to underground and then also within the processing facility. Within the larger bucket the roles are listed in the slide below.

Marcelino: There have been a lot of individual merchants who are in the tire business that have been trying to contact you. They would like to get onto the vendor list.

Melanie: We're working with the chamber and trying to do local procurement kind of activities to support the local businesses and get them into the pipeline.

Natasha: Processing will have the responsible tailings engineer chemists, they'll be concentrator operator lab technicians, process control engineers, metallurgists, metallurgy technicians, water treatment plants, their operators, and paste plant operators.

MAINTENANCE

Maintenance would provide support across the project and operations from surface, underground and the processing facility. Roles include:

- Planners- mobile maintenance, electrical, fixed maintenance, logistics
- Fixed Maintenance – surface fixed maintenance technicians/ Millwrights, underground fixed maintenance technicians, fixed equipment preventative maintenance technicians, fridge plant technicians
- Hoistman & deck personnel
- Shaft Maintenance
- Surface/ UG electricians, surface/ UG PC Technicians, Surface/ UG I & E Technicians
- Mobile Maintenance- Surface/UG Mobile maintenance technicians, tire technicians, entry level mobile maintenance technicians and support technicians, field maintenance technicians

PROCESSING

Processing team would be made up of:

- Responsible Tailings Engineer
- Chemist
- Concentrator Operator
- Lab technicians
- Process Control Engineers
- Metallurgist
- Metallurgy Technicians
- Water Treatment Plant Operators
- Paste Plant Operators

Ben: Do we have mineralogists in Santa Cruz County?

Natasha: This department will be spread across the remote operating center and the mine site, or they'll be working a combination like 75 to 50%. And depending on the role, this would include your geologists and drill specialists, those would be engineering roles. Same with the terms of scope, design, drill, glass design, or development design. Also, geotechnical engineers, technicians, long range ventilation, past plant design, and surveyors for both surface and underground.

The supply chain includes the list of roles to the right. There'll be several roles that are there to support the business and the operations team, including health, safety, and security. From a Human Resources perspective, there'll be a talent acquisition and training department, finance, External Affairs. In terms of all the technology that's going to be utilized, there'll be a big group of people supporting from an IT perspective, and then document control.

SUPPLY CHAIN

Supply chain would be responsible for the inbound and outbound logistics, on/ off site material management and procurement. Roles include:

- Contract/ Procurement Specialists
- Logistics Coordinators
- Materials Coordinators
- Material Technicians
- Equipment Operators

Ben: That's where your track out specialist is going to come, Fritz.

Melanie: Yes, within health, safety, and security, we do have an industrial hygienist, currently.

Natasha: Now that the headcount determination is complete, we're starting to build out those role profiles, we're looking at each position and looking at what are the qualifications, experience, knowledge, training, that's going to be required for each of them. We've begun the training needs analysis, but it will be a continual process as we look to develop the training plan for each position. And then once those needs are identified, we'll be able to implement competency-based training and development initiatives. So that could be formal training programs. That can be courses, on-the-job training, computer-based training, and we'll probably be using several simulators. We'll get training support from the original equipment manufacturers (OEMs) and then other formalized education programs.

CRITICAL SKILLS & COMPETENCIES

Several critical skills have been identified through discussion with the project areas. Skills range from certifications, experience, knowledge to understanding mindsets and behaviors required to safely and successfully execute role responsibilities. Some of the critical skills identified are:

- Leadership- taking accountability and supporting decision making at the right level, valuing differences in skills & experiences and being present & visible in the field
- Critical thinking/ openness to technology- digital/ computer skills and openness to new technology will be a skill required of all operators. Many roles will need to ensure base data is correct, on-time, effective and utilized by the processing and mining operations.
- Emotional intelligence and technical aptitude
- Shaft hoist, winder operating skills and equipment maintenance- operational legislative requirement
- Trades- in particular electricians, technicians and heavy-duty maintenance operators

I'd like to talk about the kind of mechanical skills and competencies. Part of the workforce development work that we've done is look at what are some of the critical skills we are going to need. What are we going to need for programming? And we've talked a lot about that with each of our department leads and teams about what type of experience,

certifications, and knowledge they are going to need. Equally as important are going to be the mindsets and the behaviors that we want to see. Because that's key to be able to safely perform tasks.

Some of those critical skills that we've identified as leadership, are finding employees that can take accountability, that they support decision making at the right level, that they value, difference and experience, and that they're also present and visible in the field, especially for those skill-based roles. We're going to need to look

for people who are critical thinkers and open to technology. There is going to be a need for digital computer skills as a lot of the roles that are at the remote operating center are going to be all computer based.

WORKFORCE DEVELOPMENT – HEADCOUNT DETERMINATION



Now that the Headcount Determination is complete, we are:

- beginning to create role profiles for each position looking at what specific qualifications, experience, knowledge, and training would be required for each position.
- then will conduct a training needs analysis and develop a training plan for each role
- once training needs are identified would implement competency-based training and development initiatives, including formal training, short courses, on the job training and mentoring, computer-based training, simulation, original equipment manufacturing and formalized education programs with alignment to the internal Workforce Development Strategy to ensure we have a competent and skilled workforce for operations.

People who can look at data, and then use that data for their decision-making processes, because the data that will come into remote operating centers is going to inform those that are in the operation, doing the work. We'll be looking for emotional intelligence and technical aptitude.

Ruth Ann: Is this information on the website so when people want to apply, they know what you're looking for?

Natasha: Yes. When we post a role on the website, it gives a full breakdown of what the roles and the responsibilities of that position are. And then it talks about what type of qualifications they need to have.

Melanie: All the roles that Natasha has mentioned are for operations. So, the target production data will be for the fiscal year 2027.

Marcelino: This example that you put up on this slide, is very enlightening. It's just great to see that what you're looking for in transferable skills says a lot for the value of the company.

TRANSFERABLE SKILLS



A crucial element of skills sourcing would be to look at transferable existing skillsets that will require minimal training to move into operational roles. Non-industry areas such as trades, remote operations, health services, agriculture and logistics would be potential areas where transferable skills/ behaviors may exist. Starting point would be from the previously developed skills cross-walk report.

For example- a positive attitude towards safety, previous work experience in industrial settings, confidence and demonstrated ability to solve problems, made decisions and take ownership for the delivery of work.

Natasha: I think this is the most important. A critical element of sourcing skills is to look at what is transferable within other non-industry areas. There are a lot of very skilled people here already in Santa Cruz County, the roles may not be mining focused, but the work that they do now will translate to a mining role with additional training. If they have the right basic skills, mindsets, ways of thinking, it's not difficult to train someone to do a job. A positive attitude, working previously in an industrial setting, and then having the confidence in the ability to say when they need help, to speak up and take ownership of their role.

What are the next steps? We want to put together a county-wide workforce development task force. We would like to include Panel members as well as members from outside the panel.

Questions and Answers:

Marcelino: If we have a recommendation, do we tell it to you right now?

Melanie: Email it to me. I will pass it on to Natasha.

Ruth Ann: Are you going to be working with the Workforce Development Group on the Santa Cruz visioning project?

Melanie: Yes, the Vision and Action plan

Marcelino: There's a good person for that committee. Natasha, I'd like to recommend Jaime Chamberlain. He's very knowledgeable and a good businessman.

Natasha: I also want to note, we are working to hire a training and learning person. That will be a role specifically to work and partner with the different educational institutions and different community stakeholders.

Damian: Could you say that again, you're going to hire somebody to be a liaison between the company and the schools?

Natasha: No, they're not a liaison, but they'll work with each other. So, they're going to be helping us build the actual training programs that we're going to need. And that will be in partnership with institutions and high schools and build out the work with the OEMs. They will address what are the SOPs? How do we get the task training done? Or what are we going to need from a safety perspective? The other part of it, though, that's important, is there'll be a big need for some operations experience with that position, because they're going to work directly with our operational readiness group.

Marcelino: So how does that latter comment of yours relate to the community college being involved?

Melanie: I think that's part of the County Wide Task Force. Skyline is putting together the strategy for the task force and will coordinate between all these institutions so that we can get the right people in the room to help now that we know the number of people we need and their skills and competencies, how we can use existing programs and sort of match the two.

8. **Communication Discussion:** There was a brief discussion about the challenges of trying to meet the needs of the Panel to hear information first from South32, and the need to respect the needs of local government who also wants to hear the information first. Also, the best way for the Panel to communicate with local government and community groups. No specific action was suggested.

9. **Wrap-Up – Catherine:**

9.1. **Meeting agenda:** The tentative May meeting agenda items will include, in addition to the normal agenda items: Standing Reports, Project Updates, Community Group Updates, GNA Subcommittee Update, Dewatering Alternatives. It will be emailed seven days prior to the May meeting.

9.2. **Meeting time:** The lunch will be served at 11:30 a.m. to accommodate the meeting starting on time at 12:00 noon.

9.3. **Meeting location:** Meeting will be held in Patagonia on May 17.

NEXT STEPS

Need a volunteer(s) / nomination from panel to participate in workforce development task force. Will provide input into the initiative and be responsible for sharing progress back with the panel.

- Will be a county wide task force and include members from outside the panel.

In process of hiring a Training and Learning professional who will partner with education institution and key community stakeholders to assist in the delivery of workforce development for Hermosa.

Cross-industry aligned training in support of regional economic development opportunities



4 Attachments:

- 1 – PARA Update
- 2 – Town of Patagonia Flood & Flow Committee Update
- 3 – Track Out – Part 3 Questions & Answers
- 4 – Workforce Briefing Slides

Attachment 1

PARA Update



Facilitation Provided by Interfuse Associates
www.interfuseassociates.com
Catherine@interfuseassociates.com

**INFORMATION for the Santa Cruz County Advisory Panel on Hermosa Project
Presented by Panelist Carolyn Shafer as a PARA Board Member
April 19, 2023**

These are three sources for information relative to water issues in the Sonoita Creek Watershed that I recommend:

- The [Town of Patagonia “Sonoita Creek Flood & Flow Committee”](#) (“F&F”) which conducts (currently via Zoom) monthly public meetings the second Thursday of each month at 10 a.m.
- [Friends of Sonoita Creek](#) (“FOSC”)
- [Patagonia Area Resource Alliance](#) (“PARA”)

UPDATES:

AQUIFER PROTECTION PERMIT: WAITING FOR Court decisions:

The Court heard Oral Arguments from PARA, ADEQ and AMI during a March 7 virtual hearing (I have a recording of the one hour meeting and will share with anyone who wants to listen to it). It is expected that the Judge will rule on PARA’s Motion to Stay any discharge of treated water into the Harshaw Creek until the Appeal itself is concluded.

All parties have filed Briefs with respect to the Appeal issue. The Court will assign a Hearing Date for Oral Arguments. See previous updates for background information or visit PARA’s website (www.PatagoniaAlliance.org) and sign up for newsletter updates.

ARIZONA POLLUTANT DISCHARGE ELIMINATION SYSTEM (AZPDES) PERMIT: WAITING FOR RESPONSE from Office of Administrative Hearing setting date(s) for Administrative Appeal hearing.

On Friday, March 10, ADEQ released its decision regarding the permit renewal. That document is being reviewed by PARA during the 30-day comment period that started on Friday.

The 2018 AZPDES permit had an expiration date of January 7, 2023 so the mining company filed a request to renew the permit. Comments were filed by PARA and other organizations. The agency has not yet filed its responses to the comments and the status of the permit is unknown. See previous updates for background information or visit PARA’s website (www.PatagoniaAlliance.org) and sign up for newsletter updates

BIODIVERSITY IN THE HEART OF THE SKY ISLANDS: Here is a link for a two minute trailer of the film: https://drive.google.com/file/d/1WZ2zN0l6C0ukGbnU3_AoGl_7tdb8hvB4/view

The film will be shown at the Nogales Oasis Cinema on May 15 at 6 p.m.

AZ DEPARTMENT OF TRANSPORTATION: In response to a Public Records Request, ADOT forwarded documents filed by South32 for entrance onto Hwy 82 from the to be constructed Cross Creek Connector. South32 stated that the intersection would be temporary and gated. Here is the letter to ADOT from local citizens, including PARA Board members: <https://patagoniaregionaltimes.org/concerns-about-south32-road-safety-plans-brought-to-adot/>

TRANSMISSION LINE: Unisource electric has been hosting meetings about the proposed transmission line to serve South32’s Hermosa site. PARA will comment at the April 17 meeting of the Corporation Committee Line and Siting Committee that this line should be underground due to the high biological diversity in the area and due to the growing concerns about such lines starting wildfires. In 2022, Pacific Gas & Electric agreed to pay more than \$55 million to avoid criminal prosecution for two major wildfires started by Northern California power lines. In 2023, it was announced that Pacific Gas & Electric must face trial for its role in a 2020 wildfire that killed four people in California. Pacific Gas & Electric was responsible for over 1,500 California fires between 2013 and 2019.

PATAGONIA AREA RESOURCE ALLIANCE collaborates with Strategic Partners to protect the water, land and wildlife of the Patagonia Mountains and the Sonoita Creek Watershed from the negative impacts of modern industrialized mining, works to assure that any mining activities meet the highest science-based standards of protection of our region’s natural assets, and supports the expansion of the nature-based restorative economy that depends on the remarkable biodiversity and cultural heritage of our region.

Attachment 2

Town of Patagonia Flood & Flow Committee Update



Facilitation Provided by Interfuse Associates
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**Town of Patagonia Flood & Flow Committee Update
for the Santa Cruz County Advisory Panel on Hermosa Project
Presented by Panelist Carolyn Shafer as a Flood & Flow Committee Member
April 19, 2023**

The [Town of Patagonia “Sonoita Creek Flood & Flow Committee”](#) (“F&F”) which conducts (currently via Zoom) monthly public meetings the second Thursday of each month at 10 a.m.

CURRENT PROJECTS

This is a summary report of Flood & Flow (F&F) Committee activity during April 2023.

1. With respect to the Patagonia Regional Flood Control Project Feasibility Study, Chairperson and Town Engineer Bill O'Brien advises that the County has not yet provided an update to the Flood & Flow Committee.
2. With respect to the flood control permit application by South32, Carolyn advises that South32 Melanie Lawson advises that South32 has submitted its road plans to the County and are waiting for design approval before submitting the flood plain application. South32 will provide that application to the Town so that the Town can review and make comments to the County.
3. With respect to the UofAZ Water Resources Research Center's work with the Town on preparing a Drought Responsible Plan for a Water Resilient Community, Ashley Hullinger gives a brief update on the project.
4. With respect to the meeting with the Coronado National Forest, Carolyn advises that Forest Service is gathering the underlying data necessary to begin a conversation about drafting a Watershed Restoration Action Plan for the Harshaw Creek sub-watershed.
5. There were three items that were discussed and moved to the active agenda:
 - Comprehensive groundwater study: the Town has been asking for a comprehensive groundwater study for several years now.
 - Town of Patagonia Municipal Watershed Plan: the Town drafted Phase 1 of a plan in 2017.
 - Watershed Stakeholders Group: an application for funds to move forward on this project is being monitored for a future application.
 - Community Database of Water Studies: The Nature Conservancy, Tucson Audubon, Borderlands Restoration Network, and Friends of Sonoita Creek are creating a database of water studies and monitoring.

The next Committee meeting is scheduled for May 11, 2023.

SOUTH32 HERMOSA

Project Update
April 2023



HARSHAW ROAD DETOUR

- Improvements include:
 - Three creek crossings (multi-plate, avoid disturbance within OHWM)
 - Widening road (gabions, rip-rap)
- Road detour signs have been placed where the road intersects with the north and south edges of the Hermosa Project site.
- A detour around the construction zone is available for public use during this time
 - Have a designated bike route
- Emergency services have been notified.



CROSS CREEK AREA ROAD



Current plan:

- Clearing, grubbing, demolition beginning this week
- County reviewing plans, once complete:
 - Walk with County staff
 - Walk with Red Rock Acres neighbors
- Additional permit submissions
 - ADOT encroachment permit (end of April)
 - > Permit submission includes a traffic study
 - Floodplain use permits (May)
- Estimated completion date is November 2024
 - Additional schedule details will be shared as they are finalized

ONGOING PERMITTING & SITE ACTIVITIES

1. Flux Drilling Plan

- USFS Review

2. Small Tracts Act

- Anticipate approval in the next few months and summer implementation

3. AZPDES Permit

- Permit renewed by ADEQ – decision appealed by PARA

4. Site Exploration

- Exploration shaft sinking (increasing activity on site, increased deliveries)
 - > Contractor controls in place & adherence to Town of Patagonia Trucking Ordinance

5. Air Permit

- Application filed with ADEQ

Attachment 3

Track Out - Part 3 Questions & Answers



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Agenda Item #4 - Track Out Considerations

The panel was put into small groups and were tasked by Catherine to identified key questions to be addressed for inclusion in the Q & A document and March Presentation by South32. The following is a list of the questions.

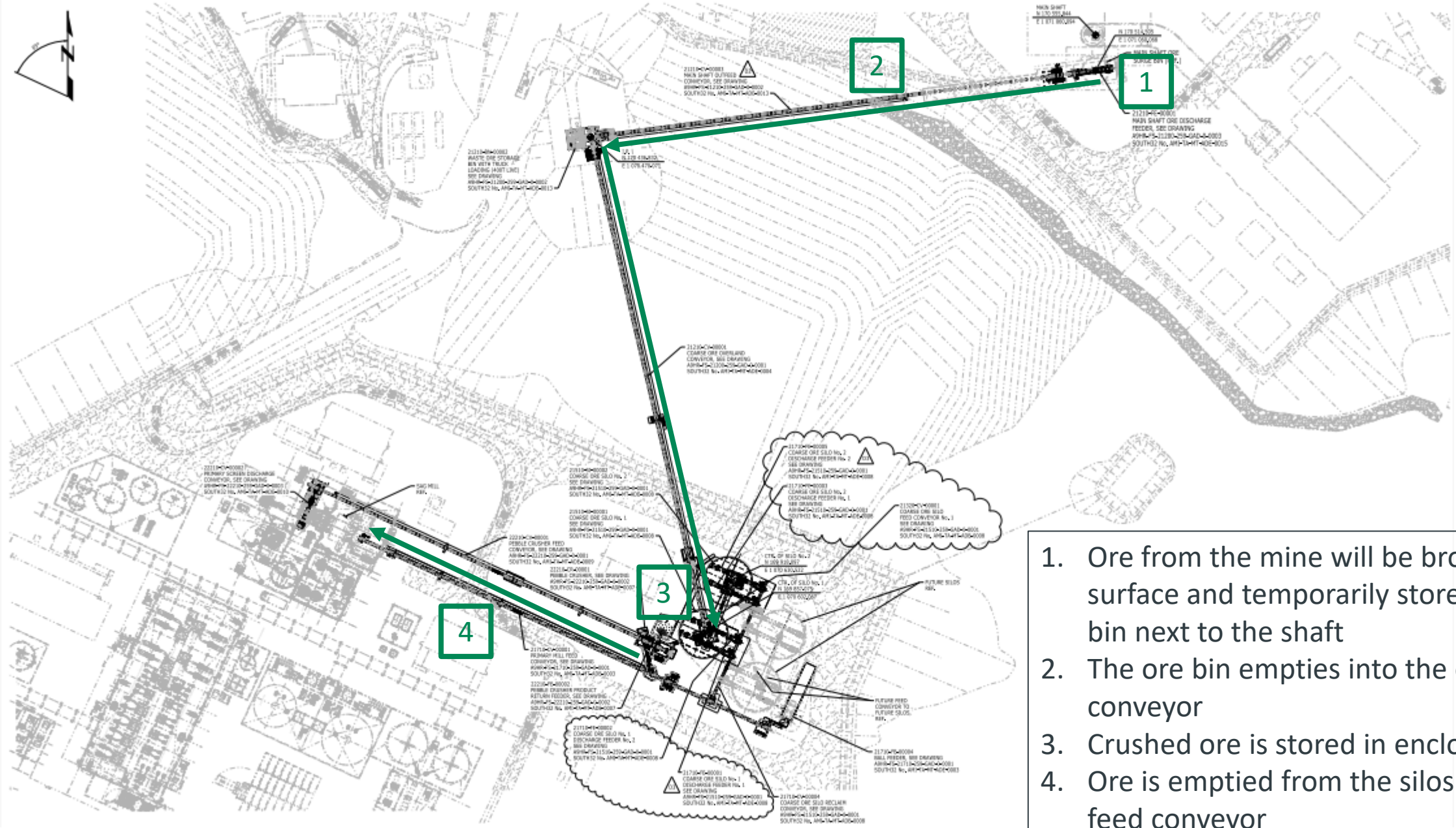
- What actions have been taken in other locations to manage/mitigate track out?
 - Design factors
 - Dust suppression
 - Vehicle washing
 - Sump (water collection and treatment)
 - Light vehicle washes
 - Laundry service for uniforms
 - Mine dry with showers
- What substances are of concern on the mine site (entering or leaving)?
 - Materials come up from the mine could include various particles that contain minerals and elements including lead, zinc, manganese,
 - Limited exposure of the above minerals to the vehicles and surface environment due to the design factors (no surface stockpiles and dedicated underground equipment)
- What plans do South32 have to manage/mitigate track out?
 - Design factors
 - Ore transport designed to never touch the ground
 - Coarse material coming up from the underground (minimal dust)
 - Overland conveyors will have sprayers and dust collectors and will feed directly to closed silos with covered drop points
 - Controlled enclosed loading points with sealed container washing prior to departing site.
 - Monitoring points along the way feeding information to a control room
 - Light vehicle washes once in operation
 - Laundry service for underground uniforms/PPE
 - Mine dry with showers
- How can track out issues be monitored and publicly reported to the community?
 - We do not anticipate track out with the above controls in place.
- Is South32 monitoring and sampling the water along Harshaw Creek?
 - We have been monitoring seeps and springs in various catchments, including Harshaw for the past several years
- Will South32 implement a Storm Water Pollution Prevention Plan (SWPPP) with washout including Egress/Ingress?
 - Yes, South32 has SWPPP

- Is track out limited to “Mine Mud”?
 - More discussion is likely needed to understand the question. South32 is establishing controls as described above to minimize the risk of track out (sealed concentrate haulage, dedicated underground equipment, etc.)
- How will clean-up be handled?
 - The goal is to prevent track out as discussed above.
- How is track out identified? (Discussed track out from USFS lands vs. Hermosa)
 - Controls are being implemented to avoid track out
- Who has jurisdiction?
 - Controls are being implemented to avoid track out
- Will South32 provide mitigation for all track out?
 - The goal is to prevent track out as discussed above
- Will South32 consult with/hire an industrial hygienist?
 - Yes, South32 currently has an industrial hygienist on staff
- How will South 32 prevent track out from entering water ways?
 - The goal is to prevent track out altogether. Factors discussed above will help prevent mineralized material from leaving site on vehicles.
- What mined minerals leaving the mine site will be of concern if ingested or inhaled?
 - Mined minerals leaving the mine site will be in the form of concentrate which will be in a closed/sealed container that is washed prior to departure which will prevent ingestion or inhalation.



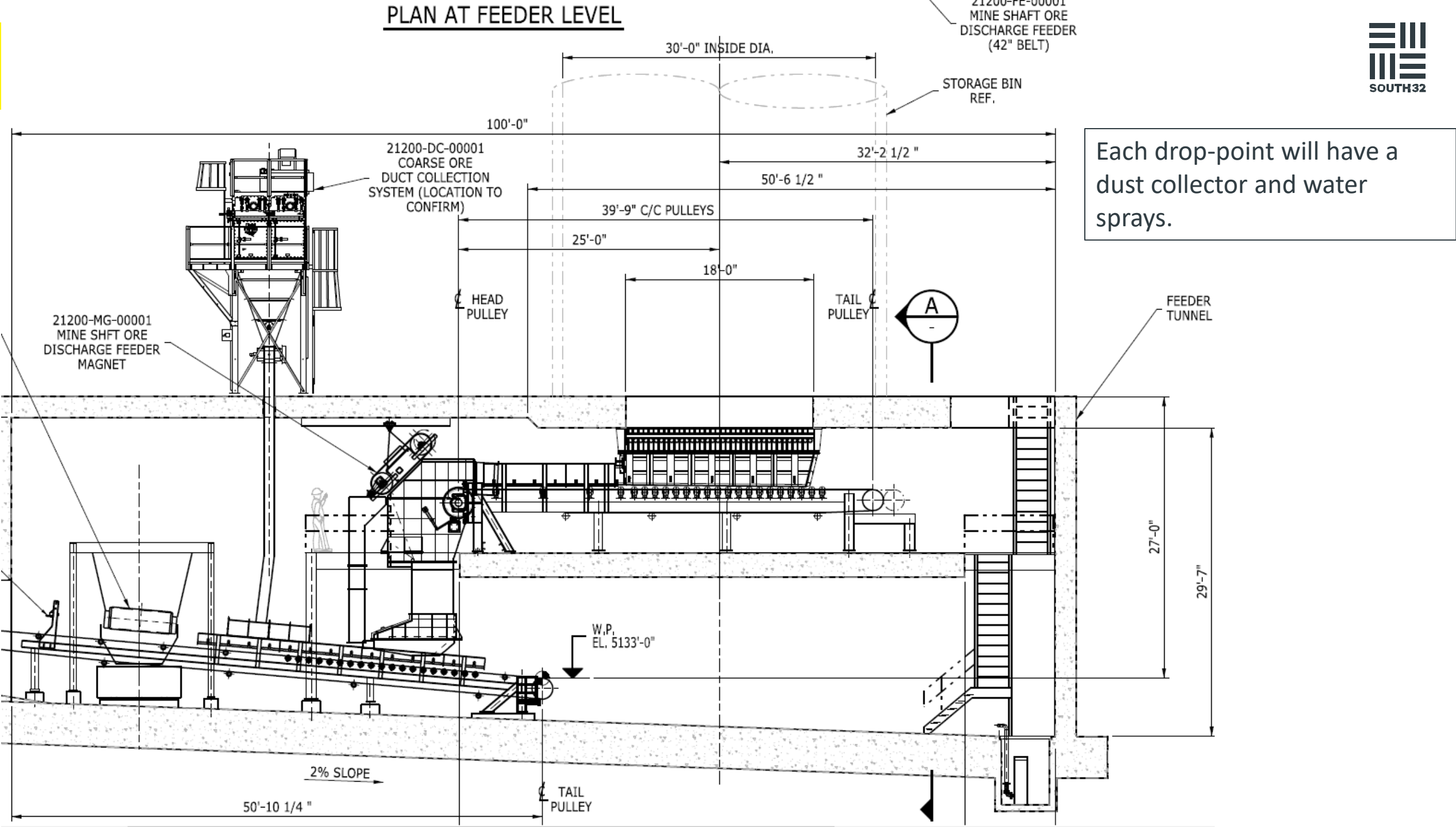
TRACK OUT DISCUSSION

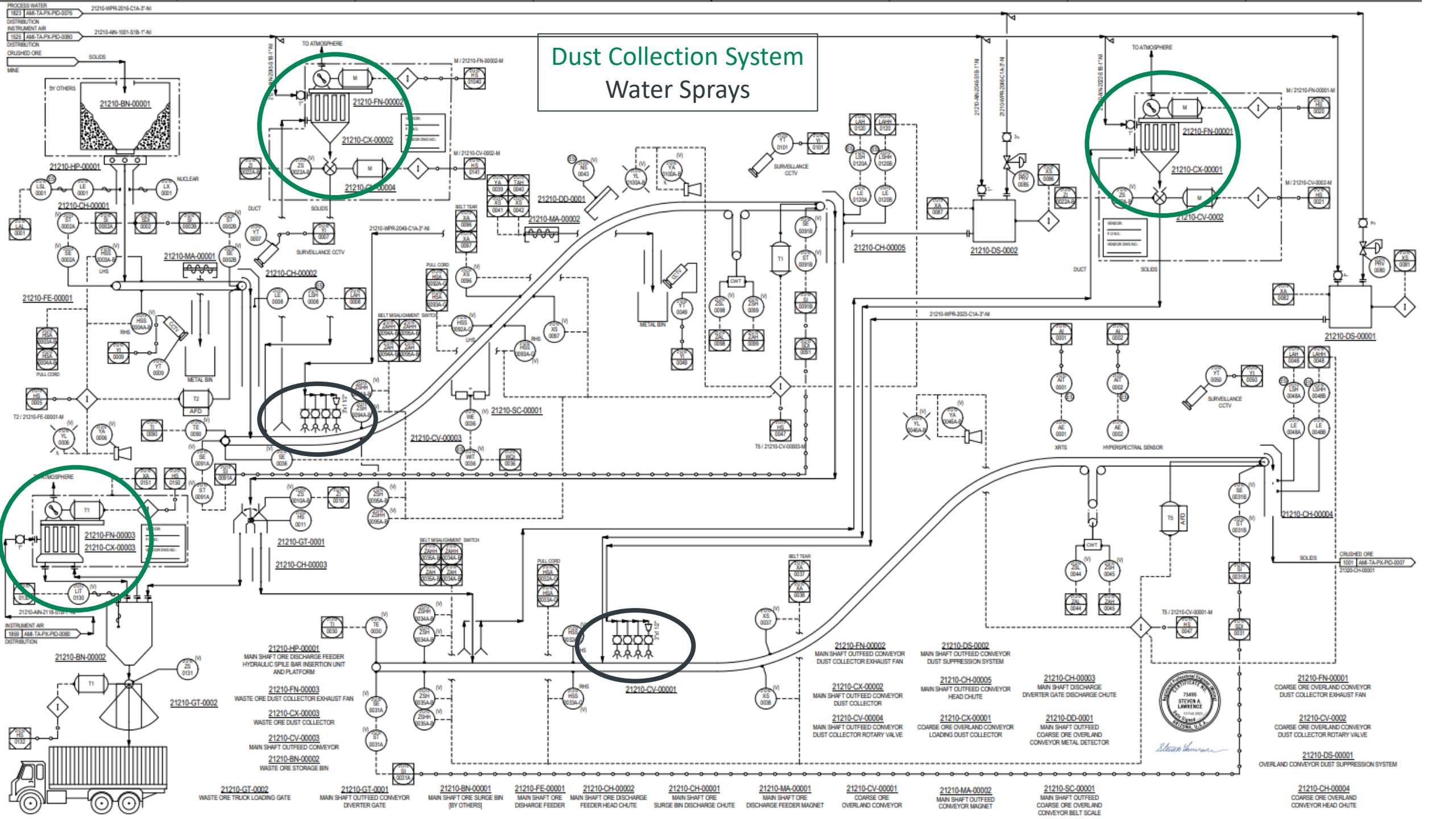
March 2023



1. Ore from the mine will be brought to the surface and temporarily stored in an ore bin next to the shaft
 2. The ore bin empties into the overland conveyor
 3. Crushed ore is stored in enclosed ore silos
 4. Ore is emptied from the silos onto the mill feed conveyor
- Ore will **NOT** be placed on the ground

PLAN AT FEEDER LEVEL





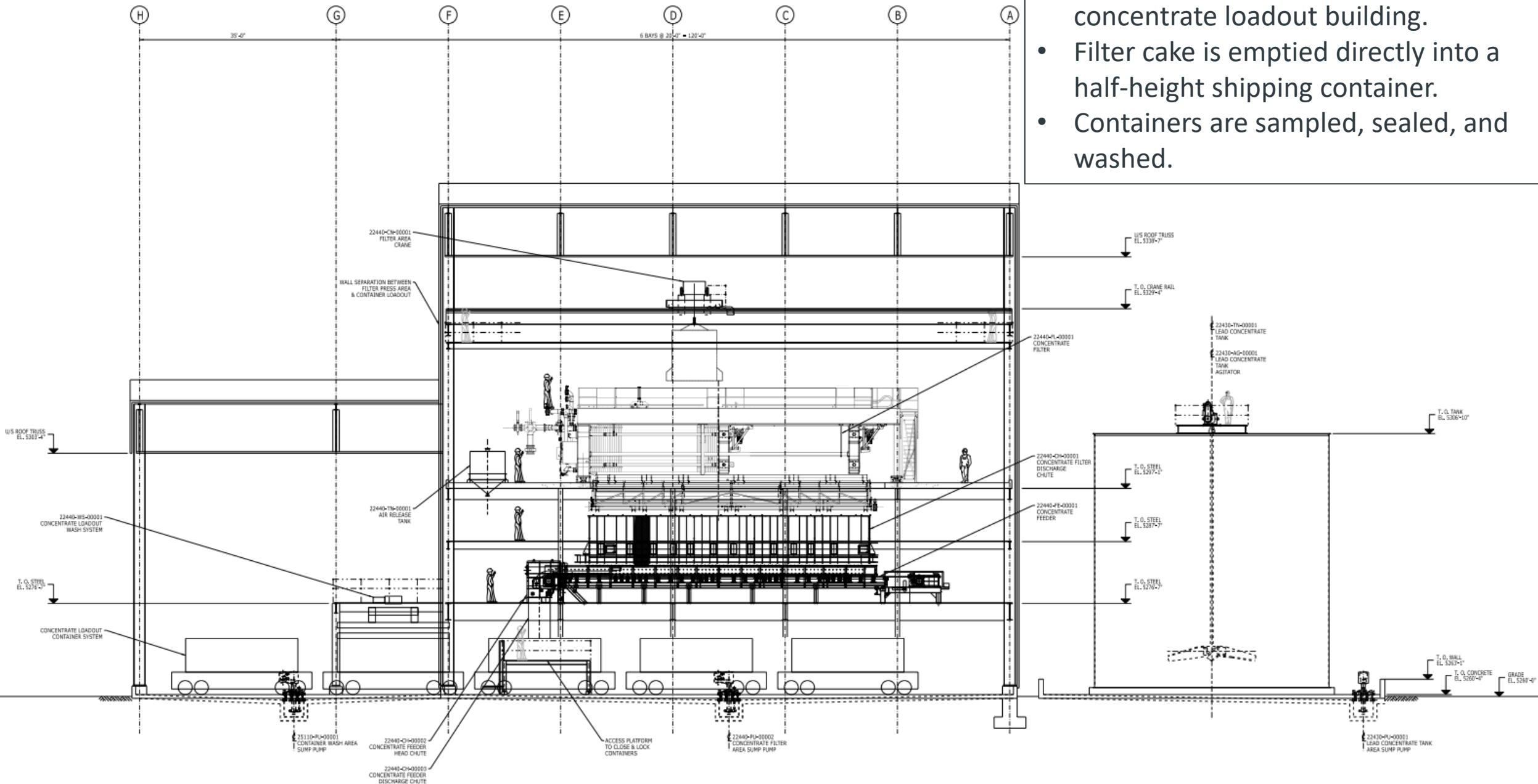
Dust Collection System Water Sprays

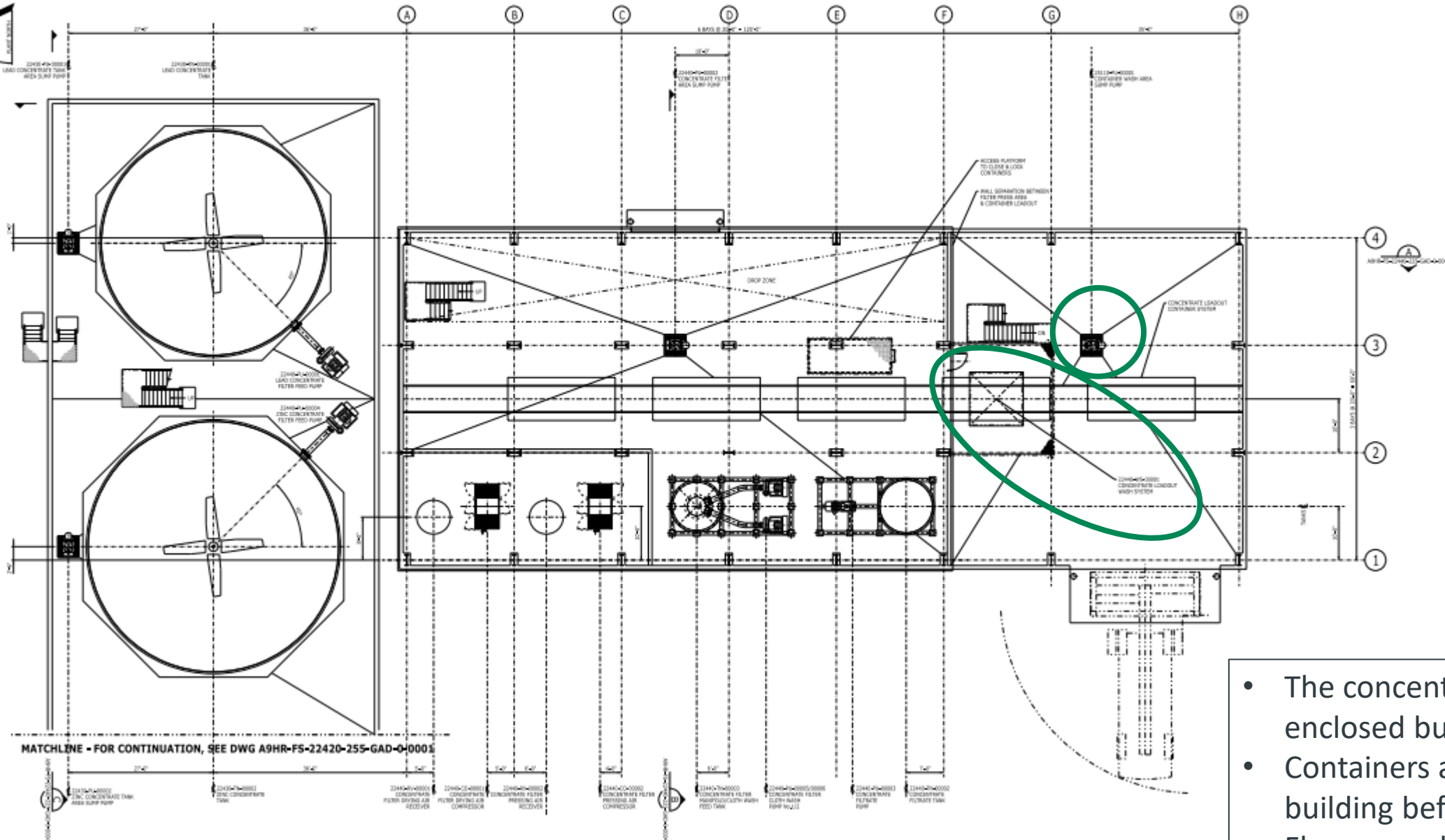
- 21210-GT-0002 WASTE ORE TRUCK LOADING GATE
- 21210-GT-0001 MAIN SHAFT OUTFEED CONVEYOR DIVERTER GATE
- 21210-BN-00001 MAIN SHAFT ORE SURGE BIN (BY OTHERS)
- 21210-FE-00001 MAIN SHAFT ORE DISCHARGE FEEDER
- 21210-CH-00002 MAIN SHAFT ORE DISCHARGE FEEDER HEAD CHUTE
- 21210-CH-00001 MAIN SHAFT ORE SURGE BIN DISCHARGE CHUTE
- 21210-MA-00001 MAIN SHAFT ORE DISCHARGE FEEDER MAGNET
- 21210-CV-00001 COARSE ORE OVERLAND CONVEYOR
- 21210-MA-00002 MAIN SHAFT OUTFEED CONVEYOR MAGNET
- 21210-SC-00001 MAIN SHAFT OUTFEED CONVEYOR COARSE ORE OVERLAND CONVEYOR BELT SCALE
- 21210-GT-0001 MAIN SHAFT ORE DISCHARGE FEEDER
- 21210-CH-00003 MAIN SHAFT OUTFEED CONVEYOR DIVERTER GATE DISCHARGE CHUTE
- 21210-SC-00001 MAIN SHAFT OUTFEED CONVEYOR COARSE ORE OVERLAND CONVEYOR METAL DETECTOR
- 21210-FN-00002 MAIN SHAFT OUTFEED CONVEYOR DUST COLLECTOR EXHAUST FAN
- 21210-DS-00002 MAIN SHAFT OUTFEED CONVEYOR DUST SUPPRESSION SYSTEM
- 21210-CH-00005 MAIN SHAFT OUTFEED CONVEYOR HEAD CHUTE
- 21210-CH-00001 COARSE ORE OVERLAND CONVEYOR LOADING DUST COLLECTOR
- 21210-DD-0001 COARSE ORE OVERLAND CONVEYOR METAL DETECTOR
- 21210-FN-00001 MAIN SHAFT OUTFEED CONVEYOR DUST COLLECTOR EXHAUST FAN
- 21210-FN-00003 WASTE ORE DUST COLLECTOR EXHAUST FAN
- 21210-CX-00003 WASTE ORE DUST COLLECTOR
- 21210-CV-00003 MAIN SHAFT OUTFEED CONVEYOR
- 21210-BN-00002 WASTE ORE STORAGE BIN
- 21210-DS-00001 OVERLAND CONVEYOR DUST SUPPRESSION SYSTEM
- 21210-CH-00004 COARSE ORE OVERLAND CONVEYOR HEAD CHUTE
- 21210-CH-00002 COARSE ORE OVERLAND CONVEYOR DUST COLLECTOR ROTARY VALVE



Steven Lawrence

- Lead and zinc concentrates are filtered by a pressure filter in the concentrate loadout building.
- Filter cake is emptied directly into a half-height shipping container.
- Containers are sampled, sealed, and washed.





- The concentrate loadout is an enclosed building
- Containers are washed in the building before leaving
- Floors are sloped to a sump and water is collected and returned to the system

OVER-THE-ROAD TRANSPORT

Half-height containers will briefly be stored on-surface next to the concentrate load-out building.

Containers will be loaded onto trucks to ship to port.



FIGURE 1 – TRACTOR, TRAILER & HALF-HEIGHT CONTAINER

Attachment 4

Workforce Briefing Slides



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WORKFORCE DEVELOPMENT

Human Resources
April 19, 2023

PROJECT STATUS – WORKFORCE DEVELOPMENT

Hermosa is currently working to complete the feasibility study for the project

- Complete detailed design and detailed financial modeling
 - Provides context that our Corporate Investment Committee and the South32 Board of Directors will require in order to make the Final Investment Decision (FID) on the project
 - This is an internal decision-making process

As part of feasibility Human Resources partnered with each department to complete life of mine workforce needs analysis

- Informed headcount determination
 - How many of each type of job is required to operate the mine
- Looked at resourcing needs based on technical design decisions, balancing automation and Hermosa's execution strategy with community commitments being a key enabler for these decisions.

WHAT DOES THE WORKFORCE LOOK LIKE?

Mid-2023 could see a ramp up in Construction and Project Controls teams which would consist of subject matter experts (SMEs) to ensure safe delivery of the project. We are seeing success in hiring locally and currently over 50% of the site-based workforce is from Santa Cruz County.

As we move into steady state operations, we intend to maximize available workforce and minimum aspiration is to have 80% of the total workforce come from Santa Cruz County.

At peak operations, we would have approximately 685 employees distributed amongst the offices, remote operating center and the mine site.

Work Area	Peak Number of Employees
Mining Operations	312
Maintenance & Site Services	185
Processing	81
Technical Services	46
Supply Chain	24
Other: HR, HSS, IT, Finance, Administration	25

MINING OPERATIONS

Mining Operations would be the largest group of employees during future operations, roles that fall within this group would be:

- Load Haul Dump (LHD) Operators, Autonomous LHD Operator'
- Haul Truck Operators
- Jumbo Operators
- Bolter Operators
- Utility Crew
- Blasting Crew
- Longhole Drillers
- Backfill and Paste crew

MAINTENANCE

Maintenance would provide support across the project and operations from surface, underground and the processing facility. Roles include:

- Planners- mobile maintenance, electrical, fixed maintenance, logistics
- Fixed Maintenance – surface fixed maintenance technicians/ Millwrights, underground fixed maintenance technicians, fixed equipment preventative maintenance technicians, fridge plant technicians
- Hoistman & deck personnel
- Shaft Maintenance
- Surface/ UG electricians, surface/ UG PC Technicians, Surface/ UG I & E Technicians
- Mobile Maintenance- Surface/UG Mobile maintenance technicians, tire technicians, entry level mobile maintenance technicians and support technicians, field maintenance technicians

PROCESSING

Processing team would be made up of:

- Responsible Tailings Engineer
- Chemist
- Concentrator Operator
- Lab technicians
- Process Control Engineers
- Metallurgist
- Metallurgy Technicians
- Water Treatment Plant Operators
- Paste Plant Operators

TECHNICAL SERVICES

Roles within the Technical Services department would be spread amongst the remote operating center and mine site. Roles would include:

- Geologists
- Drill specialists
- Planning & design- short, mid and long range
- Stope design, drill & blast & development design
- Long range ventilation, paste design, short range vent, and power & infrastructure
- Geotechnical engineers & technicians- short & medium range
- Surveyors – surface and underground

SUPPLY CHAIN

Supply chain would be responsible for the inbound and outbound logistics, on/ off site material management and procurement.

Roles include:

- **Contract/ Procurement Specialists**
- **Logistics Coordinators**
- **Materials Coordinators**
- **Material Technicians**
- **Equipment Operators**

ADDITIONAL ROLES

There will be a variety of roles to support the business and operations teams. These include:

- Health, Safety & Security
- Human resources, talent acquisition and training
- Finance Analyst
- External Affairs
- Network & Infrastructure specialists, automation & control specialists, database administrator
- Document Control

WORKFORCE DEVELOPMENT – HEADCOUNT DETERMINATION



Now that the Headcount Determination is complete, we are:

- beginning to create role profiles for each position looking at what specific qualifications, experience, knowledge, and training would be required for each position.
- then will conduct a training needs analysis and develop a training plan for each role
- once training needs are identified would implement competency-based training and development initiatives, including formal training, short courses, on the job training and mentoring, computer-based training, simulation, original equipment manufacturing and formalized education programs with alignment to the internal Workforce Development Strategy to ensure we have a competent and skilled workforce for operations.

CRITICAL SKILLS & COMPETENCIES

Several critical skills have been identified through discussion with the project areas. Skills range from certifications, experience, knowledge to understanding mindsets and behaviors required to safely and successfully execute role responsibilities. Some of the critical skills identified are:

- Leadership- taking accountability and supporting decision making at the right level, valuing differences in skills & experiences and being present & visible in the field
- Critical thinking/ openness to technology- digital/ computer skills and openness to new technology will be a skill required of all operators. Many roles will need to ensure base data is correct, on-time, effective and utilized by the processing and mining operations.
- Emotional intelligence and technical aptitude
- Shaft hoist, winder operating skills and equipment maintenance- operational legislative requirement
- Trades- in particular electricians, technicians and heavy-duty maintenance operators

TRANSFERABLE SKILLS

A crucial element of skills sourcing would be to look at transferable existing skillsets that will require minimal training to move into operational roles. Non-industry areas such as trades, remote operations, health services, agriculture and logistics would be potential areas where transferable skills/ behaviors may exist. Starting point would be from the previously developed skills cross-walk report.

For example- a positive attitude towards safety, previous work experience in industrial settings, confidence and demonstrated ability to solve problems, made decisions and take ownership for the delivery of work.

NEXT STEPS

Need a volunteer(s) / nomination from panel to participate in workforce development task force. Will provide input into the initiative and be responsible for sharing progress back with the panel.

- Will be a county wide task force and include members from outside the panel.

In process of hiring a Training and Learning professional who will partner with education institution and key community stakeholders to assist in the delivery of workforce development for Hermosa.

Cross-industry aligned training in support of regional economic development opportunities

