MANDAN REMEDIATION TRUST (MRT)
April 5, 2016

Meeting: 270th Official Meeting
Date: April 5, 2016
Location: Mandan City Hall, 205 2nd Ave. NW
Time: 10:00 A.M.

The MRT meeting was called to order by Jim Neubauer. Dave Glatt and Francis Schwindt were present. Scott Radig and Marilyn Mertz, North Dakota Department of Health, were present. LeAnn Eckroth, reporter for *The Bismarck Tribune* was present.

Minutes. The March 1, 2016 MRT minutes, as amended, were discussed.

Motion. Schwindt moved to approve the March 1, 2016 minutes as amended; second by Glatt. All ayes. Motion carried.

BND. The current balance of the BND statement is $6,599,329.85. All payments approved in February have been processed through. There were no questions.

Pay Request. Pay request 387 for LBG's statement dated March 22, 2016 for $16,249.13. Radig had no comments.

Motion. Schwindt moved to approve; second by Glatt LBG's based on the March 22, 2016 invoice of $16,249.13; second by Neubauer. All ayes. Motion carried.

Brady Martz & Associates PC – Pay Request to Brady Martz in the amount of $300 for preparation of the 2015 income tax return. No comments.

Motion. Glatt moved to approve payment to Brady Martz in the amount of $300 for the preparation of the 2015 tax return; second by Schwindt. All ayes. Motion carried.

Pay Request. PR 389 to the city of Mandan billing dated March 31, 2016 for the first quarter utilities at the buildings in the amount of $14,457.12. No comments.

Motion. Schwindt moved to approve payment to the city of Mandan for the first quarter utilities for the remediation sites; second by Glatt. All ayes. Motion carried.

Pay Request. City of Mandan wastewater industrial charges for February 1 through 29, 2016 for the statement dated March 31, 2016 for $1,328.02 for 83,001 cu. ft. of water.

Motion. Glatt moved to approve payment of $1,028.02 to the city of Mandan for the treatment of the industrial wastewater charges; second by Schwindt. All ayes.

Motion carried

Radig noted that the volume has been going up since last fall for the wastewater either they are not adjusting the drop tubes and water is coming out. I'm not sure.

Schwindt – When I talked to Rusty Krikava last fall he said they don't adjust them over the winter because the well caps tend to freeze in so there is more damage trying to chip the ice off to get the PVC cap off so they kind of discontinued doing that.

SEP. We also have the tax returns for the SEP from Brady Martz on a flash drive. I do have an approval from Schwindt and Helbling to pay the SEP tax return. Schwindt's signature will be on the check and it will be paid today.

Master Services Agreement. The budget for 2016 was $268,000 and change. Were there any issues on the plan for 2016 as presented?

Schwindt – I thought we were only doing 3 fluid level measurements. Apparently, we are doing 4. I thought we were doing spring, summer and fall, but they have 4 indentified in there.

Radig – Something left from a previous one.

Glatt – I think they are having a tough time getting into the wells. In the winter time I can understand that they wouldn't.

Schwindt – Full events in the spring and fall and the summer and winter are partial events.

Radig – They probably put it in just if it is feasible to get at. I don't think they have been typically been doing that.

Discussion of 2016 Plan. Glatt noted with clarification that like anything else I don't know if we need any pre-notification if anything might come up if we want to have some input at that time, whether or not if it really needs to come up. Schwindt agreed.

Motion. Schwindt moved to approve the 2016 Operating Plan presented by LBG with one amendment. That would be to question whether they actually do the winter fluid level monitoring event. Second by Glatt. All ayes. Motion carried.

MRT Update to the Commission. Glatt will provide an update from the State and MRT perspective at the May 3, 2016 City Commission meeting at 5:30 in the north side room.

Neubauer – I have updated the Commission on the 70 well closures that are coming up.

Schwindt – When was the last time those product maps were updated? Last summer is what I remember.

Radig – This is the one that shows the different zones the end of last summer before they did the recommendation for well closures.

Glatt – Can we get an update on that? Might be giving a couple historical initially when we started and kind of where it has gone. Another one kind of in the middle and where we are now as far as the free-product liability map. The zones of the ones we closed out and the ones we are looking at closing out.

Radig will provide a copy to Neubauer for the meeting. They will have 10 available.

LeAnn Eckroth Interview. LeAnn Eckroth previously provided a list of questions for her interview regarding the update of MRT Remediation activity in downtown Mandan.

LBG Letter. Schwindt – If we were going to follow the recommendations, I don't know if we have sufficient funds left to complete the project.

Radig – Especially, if you are talking about re-plugging the lines. That is a lot.

Glatt – When I looked at it first and foremost are they going to be a conduit? If they are a conduit what would the interceptor be? Their recommendation to fill in all the laterals I don't think is appropriate. I do think for some of those wells we have in buildings we may want to look at those a little differently. Maybe we do plug a portion of those if we have any pipes under buildings. It would be something to look at and have some guidance that if construction does go forward and they run into the pipes maybe we want them capped in the future--something to that point. I don't see the need to fill them right off hand. I would look at the individual buildings that we have operations in to make sure just plugging the wells sufficiently. We may want to do a little bit more.

Schwindt – It does seem we do need to. It wasn't addressed particularly well here. I don't know how you would be able to plug the pipelines. The laterals going into a building we can certainly remove the piping that we have inside the building and put a cap on right where it exits the building, but I don't know if I want to be putting a concrete pump on one end of a pipe pumping concrete that runs into a basement of a building. Even just trying to get a tremie pipe down there to hook onto the pipe and then pumping it backwards what happens if you lose that connection?

Glatt – I don't know if there is a bigger risk really because these are fairly shallow trenches. I don't know if it would be any more of a risk than your gas line or water line and we are not doing anything to that. I would say I like the idea of capping them. You expose the well down 2.5 feet, put a plastic cap on it and bentonite around it. I think that would be sufficient.

Radig – Putting the caps on the laterals is going to require a good sized excavation around that well.

Schwindt – Especially on the south side of Main. Those are 6 or 7 feet deep.

Radig – That would be a pretty significant undertaking to do that.

Schwindt – I'm not sure I want to be part of disrupting, tearing up downtown again.

Glatt – I don't want to do that. But those don't concern me as much as the ones that disconnect—any pipe that goes underneath a building I don't know if there is additional consideration. It may not take much more than what we are planning to do anyway.

Schwindt – We have several types of pipe I guess. We have those that come from a well back to a manifold and then they are manifolded additionally. Then we have some of the deeper pipes that run from the fire station over to the building behind Furniture First. Pipes that run from there over to the treatment building. We have some bigger, deeper pipes there and perhaps we should consider plugging those.

Glatt – I am open to that. I am just trying to determine what additional protection would that provide? They are not perforated.

Neubauer – But they are not going to collapse.

Schwindt – I guess if you had some kind of contamination that would get in by the fire station, it could show up way over here 2 blocks away.

Glatt – It is a quick conduit. That's why if there is some way we could figure at least at the ends plugging them rather than just leaving them open.

Schwindt – If we were to fill with the flowable fill they are talking about I don't think we are looking at huge quantities to fill those couple of pipe that run from south of Main over to Furniture First, but I do think they are 12- or 14-inch pipe.

Neubauer – 17-inch pipe. I thought they were pretty good size.

Schwindt – I thought they were 12- or 14-inches.

Glatt – That is a good size.

Schwindt – You could pack them I guess.

Radig – There are commercial packers you can use to plug pipes. They go in

and they expand and then you can drill that. A smaller distance you can fill with grout. I don't know how much those things cost or who does that kind of work.

Glatt -- Once you seal the rest of it with grout then that will set.

Schwindt – Then we have the old, old ones that were put in—they are the perforated ones that go down. I think the recommendation from LBG was a long time ago was to plug those. I guess I would be open to that idea of plugging. Were there 6 horizontal wells that we put in?

Radig – They were going to be the original vapor extraction system.

Glatt – That was prior to LBG.

Radig – High Plains.

Glatt – Ray Butler.

Neubauer – Those are perforated, right?

Radig – Those I do agree should be plugged 6- or 8-inches.

Neubauer – They kind of go from the fire station to Wells Fargo parking lot.

Radig – I think there were 3 sets of 2 pipes.

Glatt – What I am kind of hearing is plugging all of them and filling all of the laterals doesn't make any sense. Disconnecting them from the well, recovery well, filling the recovery well, finding some way whether it is just going with bentonite as they lose connection. I still feel that should be plugged somehow**.** There is a subset of those—a couple of wells that we are thinking about will either pack or fully abandon them to the length. Do we identify those and then try to get some costs associated with that?

Schwindt – To fill the pipe. We are not ready to abandon those yet so it doesn't pay to get any costs as of now. If we wanted to plug the deeper horizontal ones that can happen anytime.

Glatt – I'm still thinking we don't have to abandon the entire length. I'm still thinking of packing.

Radig: Well, those are perforated so if there is contamination it could move through those pipes.

Neubauer – Run a camera through those and see what's in that….

Radig – You could.

Schwindt – Wasn't the upper tier above the water table?

Radig – The upper tier was above the water table and the lower one was supposed to be below. What it is at now I'm not sure.

Glatt – Pumping air into the one and sucking out of the other.

Schwindt – Do you have any concerns about what we are talking about Jim?

Neubauer – We are talking about the individual lateral lines to the individual wells to the manifolds. Is there a way to get a stopper or a plug in or a cap? I think we talked about taking a can of spray foam if you can get a mechanism that hits the button and fills that end up so we know that the bentonite isn't running in there and continuing to run down other lines somewhere. Use to fill them up. If a contractor comes in and wants to dig in that area you either put a cap on that—a PVC cap or a plug or you fill it full of spray foam and that hopefully minimize the amount of infiltration at any filling port. And that is simple.

Glatt – I see where the city is at. We can do that kind of stuff. I think we can get the abandonment and as the city develops downtown as you run into these pipes I still think having some guidance for contractors that do work in this area run into these pipes. This is where they are located and this is what we want you to do. Just cap them off.

Neubauer – Just cut them off and make sure wherever you open one up. If this is your pipe and you cut out this section you need to plug both ends. I don't think that adds anyone's major cost or anything like that, if that is an acceptable way.

Glatt – I think it would be. What you end up doing is providing that cutoff trench too and fill it back in with clay or bentonite. The way I look at this is they just gave us all the universal stuff and they are just saying whatever.

Schwindt -- I don't doubt that what they are proposing is very protective.

Glatt – Oh yeah, but at the end of the day I think we can do what is prudent. Make some common sense to provide protection. I think when they want to take a look at how the individual wells and manifolds are set up inside some of the buildings and make sure it wouldn't become a conduit. We may want to do some extra there.

Neubauer – I'm thinking if we are going to plug a well on the interior of a building, I assume we are going to remove the pipes and everything like that. Where that pipe exits that building again you cut it off. That is an easy PVC. Pop on, glue it on and you are done. That would be the simplest way to do that. Take all the pipe out, cut it off and plug it and the way you go. It sounds easy.

Glatt – I go back to when we initially had all the contamination and there wasn't a lot of work going on downtown. Now that we are significantly reduced in the amount of contamination, the soil has been cleaned up significantly, I don't anticipate any issues. But something as simple as plugging it off maybe seal with some foam around it or whatever.

Neubauer – Even when we take the manifolds out there is going to be pipe going down, turning 90 degrees and going somewhere. Are we going to fill those too somewhere down below the surface.

Schwindt – Are you talking about the pipe between the manifolds?

Neubauer -- If I have a well here that's coming to my manifold over here coming up, obviously, there is a pipe going down lateral over so you seal this end and will want to seal all of these ends too under the same theory to minimize the amount of any infiltration.

Schwindt – What I was thinking we would put some kind of a cap on those.

Neubauer – However, that works just the same.

Glatt – Just a PVC cap or whatever and just glue it on there and pop it on there.

Schwindt – Well, it's going to be HDPE pipe so you wouldn't be able to glue a PVC cap on.

Glatt – But there is a cap.

Schwindt – You can slip it on or it's a Fernco, it's a rubber cap that you put on, so I don't know which one would be better.

Neubauer – The rubber stopper -- the beaker back in high school.

Glatt – I think we can look into that. I think just setting out that process for those. Do you want to cap both ends? Do you want the wells abandoned according to the well code, all the laterals capped at both ends where we can? In the buildings we will do a little bit extra but make sure that we don't have any infiltrating.

Neubauer – A cap with a red "x" on it.

Schwindt – So basically what you are talking about is Option Number 1 that they had talked about in here.

Neubauer – Do we need an amendment to the Site Strategy or code in how we deal with this? I think LBG would put this part in and this is going to part of your second

closure strategy on how you abandon the wells but if we are not going to go as far as they are recommending. The Health Department would say we would accept this as an acceptable form. Whether we can take it to a contractor that might be digging in an area and says I broke through a pipe. OK. We need to close up, would you let us know.

Schwindt – Do we want to talk about this with LBG included in detail? Paul Donovan and Tim Kenyon are available. I said about 10:30 a.m., but we are past that.

Glatt – We can. I get the sense that it will just go their way. They did the universal of possibilities here. You guys have to respond to this. We recommend obviously the most protective. We recommend the Cadillac. I can see them saying that.

Schwindt – And that's really what the letter says.

Glatt – As far as all those trenches being conduits. I'm just trying to think conduits for what.

Radig – The trench itself? The bedding material.

Glatt – They are shallow. They are about 3 feet.

Schwindt – Most of them are going to be about 4 or 5 feet deep at the bottom.

Radig – A few shallow ones about 3 feet. There were some areas where they had to go above or below other lines.

Glatt – So a conduit is if you have to have some contaminant like an underground storage tank. There aren't any other storage tanks downtown. I'm just saying what the risk is. That would be if you had a tanker truck spill all of its contents. I don't know where the risk would be for migration--vapors maybe. I just don't see them.

Schwindt – If MDU had a gas line break you could get natural gas moving along that porous material.

Glatt – I guess that's true. You are going to have that anyway with the gas line there.

Neubauer – Something cuts into the one.

Glatt – I don't see it. There is obviously a risk, but I don't see it as a great risk based on how shallow they are. Where we know that there is still contaminated water.

Neubauer – So really Option 2 which is to abandon, replace, dig and cap, which we are talking about. Correct?

Radig – No. We want to kind of seal the ends of the laterals. Whether we can do it interiorly. You are talking about putting a tube down and filling it with foam and then you put your bentonite up and it will backfill in there a certain distance. That would work, but then you don't need to over excavate that.

Neubauer – That's why I would consider a cap. To me that would be a caviar – plug it at both ends versus just taking and cutting off and filling with bentonite and hoping that the bentonite still keeps on rolling down. I don't know how bentonite works.

Schwindt – I guess I'm not sure you gain anything by doing that by putting some kind of foam into the end of that because if you have the bentonite covering the end of the lateral coming in. If this is covered with bentonite, it's already plugged.

Radig – You will fill up that well bore, the casing with bentonite chips, pack them in or whatever. A few may roll out into those laterals, but then they will hydrate it and it will swell and will squeeze out into that.

Glatt – So physically you are putting a cap on there anyway. It is just the issue that putting the foam in there, the concern is that you will have a bunch running into.

Radig –You don't pump them with liquid grout.

Neubauer – Right. How do they get the water to make it swell? Do they put a little bit in, add a little water, put a little in, add a little water? How do they process that?

Schwindt – I think the way Roger was doing it. He puts the chips in, pours water into the well, let's it hydrate and the chips soak up the water and they start to expand and he comes back again hours later. I don't know the time frame. Then he adds additional water to hydrate it some more and then he leaves it.

Neubauer – How well did that work over at the LEC? I thought over at the LEC they were supposed to put a layer of bentonite down to keep….

Schwindt – The bentonite doesn't stop migration of the fuel. It is meant to stop water.

Neubauer – What we do should set the tone for what Scott Radig contractor does on a lot where he fills in most of the digs that he has cut through both lines. How would we have him do those? He is not going to come and fill them with bentonite and do that?

Schwindt – I guess to me when you fill them with bentonite you kind of seal off those horizontal lines and then you put a cap on the well. Now that cap caps these other 2 at the same time.

Neubauer – Are we going to physically cap that with a PVC cap on that well? We break it off and fill with bentonite.

Schwindt – What I would like to see based on this is that we need to have the contractor go in and do a square cut on top of the pipe and glue a PVC cap on top. They make 4-inch PVC caps that you glue on.

Glatt – So you are at the well and you have the laterals coming in are they going to physically disconnect these laterals? They wouldn't have too. They just cut down here and by filling this in.

Schwindt – In order to cut those laterals off you have to get down 3 or 4 feet. In order to get down there 3 or 4 feet you have to dig a big hole because the top of the first lateral according to the information Rusty had over there is between 2.5 and 3.5 feet below the surface of the top of the well. So you are down here 3.5 feet and then the other one is another foot below that and get to the top of that one you have to be at 1.5 feet.

Glatt – So you will be digging out 2.5 feet down to abandon the well. You will be going down 2.5 feet to cut off that well casing. But that doesn't take long.

Schwindt -- No. You are talking--you can shovel that out and clean it out by hand digging it to put a cap on it.

Neubauer – Roger is not going to do that? He will fill this thing up to above the top lateral? Roger goes to our sidewalk contractor or whoever comes in and says I have to dig around here, excavate around here and you can either cut or break that top off and then cap. Cut, cap and fill.

Schwindt – We want them to cut.

Neubauer -- Even later on if Scott Radig contractor cuts a lateral between the buildings downtown go buy a 4-inch cap or plug and plug those 2 laterals coming in and that would be the process for that. Right?

Radig – The lateral lines themselves are HDPE, right?

Schwindt – They are all that.

Glatt – Not that I would advocate this at all, but I would also use plugging all those laterals at anytime in the future we need to come in and put in some type of a passing venting or however you could do that. Maybe if we want to communicate because I don't know how we do that because we are going to have to respond.

Schwindt – We are going to have to respond somehow.

Glatt – Maybe we should draft up a response based on the modification.

Neubauer – Modification of one.

Glatt – Modification of the needs of the downtown area to be protected of public health. Have that in writing. Are we clear on what we are going to do?

Radig – On the wells I am clear. We haven't fully decided the lateral transfer pipes for the old sparging system.

Schwindt – Thinking back to what you said earlier, maybe I could try to visit with some contractors to see what their thoughts are on how difficult that would be to even put flowable fill into those bigger pipes and just have that as a further discussion in the future sometime.

Glatt – OK, that works.

Schwindt – As far as the manifolds, I guess I don't have a problem with capping each one of those pipes, cutting them below grade at 2.5 feet and putting a cap on those either.

Glatt – I'm just going back to the risk and how big is that risk. I would say if there is any risk it would be south of Main Street from existing operations from the railroad. Anyway you can cut that pathway to the north might be an improvement.

Schwindt – I think there were 3 lines that were put in.

Neubauer – Do they make caps for those big ones? They would be coming to the main remediation building.

Glatt – I think just as a conduit going across especially if they are perforated.

Radig – No those aren't.

Glatt – I guess you could if you wanted to fill that in by the barrier if it's a risk of becoming a conduit. I may be over thinking.

Schwindt – What about the piping from manifold to manifold? Do we just want to cap them as well?

Glatt – Do you see any issues with that pros or cons?

Schwindt – It's just bigger pipes so you have greater opportunity for stuff to move is about all. I think if we capped them on both ends, it would move from this one to this one that is about all. The city guys were concerned about if they had a water main break so they don't provide a conduit for water forming and flooding basements. To me

that speaks to why we want to leave those intact at the well because if you go down and separate them from the well now you have 3 potential openings into that pipeline system rather than just 1 if you cap the well.

Glatt – You're still going to have the travel bed.

Neubauer – I think they mention that in here the bedding material that the pipes sit on could be a conduit. In short of digging all those up, there is nothing that you can do.

Glatt – I would say as you do work in the downtown area as they intersect these things you may want to start putting gravel back in there just as development downtown. Does somebody want to put this down in writing?

Radig – I can try writing a summary of that.

Glatt -- And route it.

Phone call to Tim Kenyon, LBG, to discuss the abandonment of the laterals.

Neubauer – I know the letter you guys put together is all encompassing. We (Dave, Fritz and Scott) have been talking about it for the last half hour what option the abandonment, fill in place, well side grout, cap the ends and all those things. I think we are leaning toward Option 1.

Tim Kenyon – OK.

Schwindt – A couple of things we are not sure on is some of the larger pipes. Maybe we should consider plugging those with flowable fill like the ones that come from the treatment building over to the building No. 2 and then from there over to the fire station as well.

Kenyon -- We could. Part of this assumes that those would—since those are so accessible at the surface those would be capped. This letter really focused on the laterals to the wells. That certainly would not be a bad idea.

Schwindt – Do they need to be capped or do they need to be capped and filled with flowable material.

Kenyon – Filling them with fillable material is kind of a gold standard of doing this. That is the best route. Again, this letter kind of focused on the wells and the laterals. Those other ones filling them with fill and humping the fill on one end and making sure you are getting returns at the other end that's kind of the gold standard.

Schwindt – OK. What about manifold to manifold?

Kenyon -- That would be the same thing. Shovel that with flowable fill and make sure you get returns at the other end. Make sure that the pipe is actually full.

Glatt -- Tim, this is Dave. In your experience have you kind of seen the full range of alternatives looked at? Some people do fill them all the way up, some don't.

Kenyon – I have to tell you this – this is kind of a unique project. Most of the other ones that we have abandoned have been on privately owned property, like a pipeline terminal and since they have control of the property they generally don't move anything. This is unique in that it is in a municipal environment owned by lots of different people without specific control of the property if you will. This is also unusual the reason we went to this step is in the future there is still going to be development downtown for a long, long, time. Inevitably, these pipes are going to be drilled into, busted and cracked and smashed and so on. We also recognize that there is going to be some methane in the subsurface certainly as time goes on and will be there for a very long time. And we wanted to make absolutely sure that these pipes don't become conduits of migration. Occasionally, people hit natural gas lines in the subsurface as well. It is just a utility accident. And we wanted to make sure that all of these pipes in the ground don't become a conduit for something like that as well. We just wanted it to be as safe as we could. We recognize that pumping all of these with flowable fill just might not be practicable. For one thing, pumping that distance flowable fill is kind of a mastic material and you might not be able to literally pump it that far because friction of pumping may overcome the ability to pump. That's kind of how we came up with what we did. Fortunately, those larger diameter lines from manifold to manifold, building to building those might be a little easier to stop with flowable fill. There is still a little bit of an unknown there. The other reason we looked at the impracticality of pumping everything to completely full is the humongous volume of stuff that would be necessary. There is a lot of volume of pipe underground.

Schwindt – I guess I am just concerned about digging down and cutting off the laterals from the individual wells. I am not sure we are gaining anything by doing that. If we plug the well completely with bentonite and hydrate it and glue a cap on top of the well I'm not sure that digging down and cutting those laterals off is going to get us any more protection.

Kenyon -- And that is probably where we may have an agreement to disagree. As far as putting your recommendation out there that will last for a very long time. In a certain amount of protecting ourselves is to recommend what we did. We recognize that you all were going to do certainly what is best for the project and the best for your perspective liabilities. We kind of had to do what we had to do.

Schwindt – OK

Kenyon – Hope you understand that.

Glatt – That's kind of how I took the letter. You have to look after your interest

as well.

Kenyon – And because this is going to be a very—these pipes will be in the ground essentially forever.

Glatt – OK.

Schwindt – What we talked about was the city instituting some kind of controls as well as far if there is future excavation that they require contractors when they sever these pipes wherever they may that they be plugged and capped wherever they are severed during the construction activity.

Kenyon – That's a very good idea. That should also include oversight from some third party and I'm not suggesting that we do it. OK. And if things froze up for the winter just wait till spring. That didn't happen, fortunately. South of Main Street it is a little bit different circumstance and those could be filled using Option 1 and the reason for that is those are located only on property that is owned by the city and controlled by the city and those pipes don't go across the street and they don't go onto private property so a modification of this. Again, I apologize for that oversight.

Schwindt – OK.

Glatt – Do we want to put something together and kind of see how that works?

Schwindt – Are you looking for a response from us for this letter?

Kenyon – Not necessarily a response. If there is something you want us to do, we would like to know what it is that you want us to do.

Glatt – Alright.

Schwindt – What kind of role do you see yourself or your company playing in this? Do you need to be involved in the abandonment to oversee it?

Kenyon – I think it is to the city's benefit and MRT's benefit, yes, to have us involved. If I can describe how I kind of see it going. First of all to address the surface restoration where there are sidewalks you probably want to take out a panel of sidewalk and pin it back to the adjacent panels so you don't end up with a tripping hazard and differential settlement, which inevitably happens.

Schwindt – Right.

Kenyon -- Where there are traffic areas of concrete, I think you want to cut a big enough hole to be able to pin the patch back to the adjacent concrete so again you don't get some differential settlement and end up hooking it with a snow plow and hurting somebody or a tripping hazard. In asphalt a little less is needed. Certainly

compact the underlying soils back to a standard and replace with either hot or cold patches depending on what the city wants. Check the surface and I think when you do that there needs to be some engineering oversight on how those patches go back in, what's taken out, it is for future liability when somebody comes back and says MRT had a problem. They didn't fix it. Well, the MRT may not be around anymore and just to cover that …. As far as the well abandonment itself, obviously, a registered well driller and a contractor that is going to do that abandonment surface. I would expect the MRT would want to maximize a bang for the buck and give maybe not a formal bidding process but a competitor cost estimates in order to do that. That would require the generations of specifications of these guys to get a viable cost estimate for. The well driller could provide actual abandonment oversight. Whoever is doing oversight on the surface patch could certainly look at how they are doing the abandonment to make sure that if they are capping you have a cap placed. If you are doing flowable fill, to make sure how the flowable fill was placed and if it was hydrated and all of those kind of issues. Either LBG could do that oversight or a local engineering company. We have worked with Ulteig before in the past and they are very successful and they are very competent. To have a contractor on board that is going to start on one end of downtown and work together on manifold by manifold that works out there is going to be some serious economies of scale. Purchasing all the plugging materials as well as a learning curve as they are going to come up on pretty quickly and I think it will go fairly smoothly. Something that needs to be addressed also. This document doesn't address it because it just addresses laterals is all of those half of gazillion monitoring wells are downtown that all have manholes and all those issues. I think it is to everyone's benefit is to have those gone as well. That could and should be part of this process.

Schwindt – We agree. When we looked at these 70 wells that we are getting rid of we included all the monitoring wells in the area as well.

Kenyon – I completely agree. You don't need to have those around. So the next step in this if I see it would be some sort of…state approval that says yeah, it is time to do this and some sort of read on if there are any wells or manifolds the state feels should remain in service or specific wells that should remain in service. It would be nice to have a listing of that and just where the state stands on this issue. I am suggesting that certainly not for my benefit but for the longer term of benefit to the city and to the dissolution of the MRT at some point.

Radig – I wrote a letter to that effect.

Schwindt – I think we sent you guys a letter on that Tim.

Kenyon – If we have that, I'm sorry.

Radig – Brad should have that.

Kenyon -- Brad probably has that. The next step would be to put together the specifications for our contractor to do the abandonment. I would imagine there are a lot

of hungry contractors in ND right now.

Neubauer – Yes, the projects are coming in quite favorably.

Kenyon – In that process I would like to get MRT a reading on exactly what it is that you want done, which of these options you want chosen or if there are any modifications or whatever so we have something to work from. What is your desired time frame, gentlemen?

Schwindt – We would like to get all this stuff abandoned this summer some time. As far as the 70 wells and the associated manifolds and things like that we would like to give that a shot this summer and see how it goes.

Kenyon – So the idea is when this process starts the remediation system we push the big red button and stop it.

Neubauer – Are you talking about the whole system Tim or just these 70?

Kenyon – I guess that's the question?

Radig – We haven't reached the criteria for however many wells there were left in your recommendation from last December.

Kenyon – I apologize I'm working a little bit in the dark, I haven't seen the letter you put together and I apologize for that. I will look at that and have the troops look at that.

Neubauer – Do we have a monitoring or measuring event coming up this spring?

Kenyon – I believe we do, yes. It wouldn't surprise me if it is underway.

Schwindt – What we had done earlier is I think the city was going out for bids on repairing the concrete in the streets and the sidewalks, so have you gotten those bids already, Jim?

Neubauer – Yes, we thought about using our municipal sidewalk contractor to do that work and then our engineering folks come up with here is the standard, which we have already talked about as doing the pinning and how big of a sheet you have to take out of the concrete and the asphalt pads and what's going to be the acceptable repair for those. Our municipal sidewalk contractors should be awarded tonight at the City Commission meeting. I think we had gone around with our engineering folks and said OK here is the list of the 70 wells we are looking at. Initially, some were asphalt, some were concrete. Concrete would be with the sidewalk contractor and asphalt we might be able to change order onto a contractor that has an existing street project with us, but our engineering guys were working on it. I told them about a month ago that they had to come up with here is the spec for how you repair that concrete, pinning in, and how big

of a piece you need to take out and also the asphalt spec too. I haven't seen those yet, but they should be coming shortly.

Kenyon – And we would certainly have no objection of taking advantage of that and using that contractor.

Schwindt – The only thing we didn't include so far is how we – the specifications for cutting the wells off and we were waiting for the correspondence from you to kind of figure that out and how we go about doing that as well so we appreciate you getting the letter to us.

Kenyon – Let us know what you all end up coming up with what process you would like to see implemented?

Schwindt – OK. Very good, thanks for your time.

Kenyon – It was good talking to you gentlemen. I miss coming up to see you guys.

Call ended.

Neubauer – Was he saying on the well like this that there should be a sever?

Radig – And then put a cap on each of the individual laterals.

Glatt – That's the gold standard. At the end of the day. It is additional protection. I just don't know where the additional protection is….

Schwindt – I don't either.

Neubauer – My standpoint is if the Health Department comes up and says that this is an acceptable way to do it.

Glatt -- What is the Health Department going to say? Just take care of it. I think this will be protected and with the other guidance that the city develops and does construction.

Neubauer – You have a line going here, you cut it here and you plug in or cap.

Radig -- I think due to the depth of the one south of Main there is actually more risk for those because they are deeper, but yet they are saying on the deeper ones it's OK to do it just from the inside. If it is OK on those, it should be OK on the shallower ones.

Schwindt – As far as contaminants coming in from the pipeline and going down and contaminating the well, I don't see that.

Radig – That's not going to happen. The well itself is going to be plugged. The concern about that thing moving through that is the biggest concern.

Neubauer – How does anything get in there if your pipe is solid.

Radig – If the pipe is solid, but he is saying over time somebody is going to bust through the pipe somewhere here and there and nobody is going to report it.

Schwindt – I don't see how putting a cap on here solves any of that problem.

Glatt – No. The only way you solve all of those issues is if you pull everything out, pull out all of the gravel and do all that stuff. It is going to be the same cost as putting it in.

Radig – And nobody is going to do that.

Schwindt – And equal amount of disruption.

Glatt – I think I would provide adequate protection by not including…. So draft something up.

Schwindt – Like I said that's one thing that we don't have in the bids that you went out for is fixing the concrete or the asphalt, but we don't have digging down or cutting off so that would have to be some kind of negotiation whichever contractors we end up with.

Glatt – Get a price on that per well because well management is going to be pretty much the same.

Schwindt – At the last meeting I think we agreed that we would hire Roger as long as his rates were similar and he indicated that so he will take care of that. When I talked to him about filling that up and stuff like that he wasn't sure. He can leave the bentonite chips at whatever level we want them in here. What he was talking about is bringing them up here above the lateral lines and then hydrating everything and then putting maybe 6-inches of sand on top so that when the contractor goes down in there to cut the pipe off he's not dealing with all the bentonite goop.

Radig – How far above the lateral should the bentonite go if the shallowest pipe is how deep?

Schwindt – Generally, about 3.5 feet.

Radig – I think the bentonite should be at least a foot above that lateral.

Schwindt – I guess what we could do is have him.

Neubauer – Three feet below the surface because that is what he is going to go by so if he fills up to here and whoever is going to do the take out do they just put in a spinning blade and that cuts this from the inside out?

Schwindt – They actually do make one of those because I bought one. I was going to do some work on my daughter's house and I found one. It's a little plate about like this with a sawtooth out.

Radig – Do you put it on a drill?

Schwindt – Yes, you put it on a drill and cut away so they do make one.

Radig – They will have to dig down some to get that cap off.

Neubauer – Does someone have to come and dig that sand out or do they say just leave it? What would an adequate depth be 2 or 2,5 feet below surface?

Schwindt – They are talking about cutting it off at 2.5 feet in here. I guess 2 or 2.5 feet. I don't know whether it makes a lot of difference.

Neubauer -- …you put your cap over the top. Cut it off or fill it full of bentonite up to here. The next guy comes in and an engineer cuts the well off and leaves enough room to see that cap. Then they come back to fill them up. They will do a good job at $4.85 a foot.

Schwindt – When you think about it it's probably not even necessary that he do that because the contractor can throw a little sand in there when he is cutting the pipe off too.

Neubauer – And they compact it too.

Glatt – All Roger has to do is put the bentonite in.

Next Meeting. May 3, 2016.

Radig will provide a draft for review with a diagram.

Motion to Adjourn. Glatt moved to adjourn the meeting; second by Schwindt. All ayes. Motion carried.

Reopened the Meeting. Neubauer reopened the MRT meeting on April 5, 2016 to consider Amendment 18 Task 2005-1-11a, which provides LBG $20,000 for Out-of-Scope Tasks.

Motion. Schwindt moved approval of Amendment 18 to Task 2005-1-11a in the

amount of $20,000. Second by Glatt. All ayes. Motion carried.

Motion to Adjourn. Glatt moved to adjourn at 12:00 o'clock; second by Schwindt. All ayes. Motion carried.