

AGENDA
**DRAINAGE DISTRICT 3 CONTINUATION OF PUBLIC HEARING ON ENGINEERS REPORT ON
REPAIRS OR IMPROVEMENTS TO MAIN TILE TO DD 3**

Monday, November 01, 2021 10:00 AM

Large Conference Room

This meeting will be held electronically and in-person.

To access the meeting call: 1-(312)-626-6799, when prompted enter meeting

ID code: 820 7567 2007

You can also access the meeting online at:

<https://us02web.zoom.us/j/82075672007>

1. Open Meeting
2. Approve Agenda
3. Approve Minutes

Documents:

[DD 3 - PUBLIC HEARING MINUTES 08-16-21.PDF](#)

4. Introductions/Attendance
5. DD 3 - Discuss W Possible Action - Engineer's Report On Repairs & Improvements To Main Tile Of DD 3 & Supplement To Engineer's Report

Documents:

[DD 3 - SUPPLEMENT TO ENGINEERS REPORT 6904.4 - 09_03_21.PDF](#)
[DD 3 ENGINEERS REPORT ON REPAIRS AND IMPROVEMENTS TO MAIN TILE 05_17_21.PDF](#)

6. DD 3 WO 304- Discuss W Possible Action - Landowner Request For Update
7. Discuss W Possible Action - New Work Order Requests

Documents:

[DD 3 WO 321.PDF](#)
[DD 3 FARIS- BEAVER DAM - 10-26-21 \(2\).PDF](#)
[DD 3 FARIS- BEAVER DAM - 10-26-21 \(1\).PDF](#)

8. Comments/Discussion
9. Possible Action

10. Other Business

11. Adjourn Meeting

DRAINAGE DISTRICT 3 PUBLIC HEARING
ON ENGINEER'S REPORT ON REPAIRS OR IMPROVEMENTS TO MAIN TILE OF DD
3
Monday, August 16, 2021 10:00 AM

8/16/2021 - Minutes

1. Open Meeting

Drainage District 3 Chairperson Gary Rabe opened the meeting. Also present were Trustee Denny Prochaska; Trustee Jeff Heinzeroth; Dave Johnson, Attorney Lee Gallentine, Clapsaddle-Garber Associates (CGA); Mike Nissly; Gloria Lange; John Barlow; Michael Pearce, Network Specialist; and Denise Smith, Clerk.

2. Approve Agenda

Motion by Prochaska to approve the agenda. Second by Heinzeroth. All ayes. Motion carried.

3. Approve Minutes

Motion by Heinzeroth to approve the minutes of Drainage District 3 Minutes for meeting dated 06-01-2021. Second by Prochaska. All ayes. Motion carried.

4. Introductions/Attendance

Introductions were made and attendance verified.

5. DD 3 - Discuss W Possible Action - Engineer's Report On Repairs And Improvements To Main Tile Of DD 3

Gallentine stated he would go through the report briefly, will use the report as an outline and a guide, Zeb Stanbrough of CGA signed the report, so we will talk about it. Gallentine stated page 1 provides some introduction and background. Gallentine stated DD Trustees became aware of issues on the main tile, of DD 3, reported by a landowner at the time, as a result of that the Trustees directed CGA to draft this report for possible repairs or improvements. Gallentine stated this started last fall back in November, Gehrke was out there and they were hired to do some of those repairs, and when they were out there they stated hey this is beyond this small repair, and we need to look at the bigger picture. Gallentine referenced the map in the report and talked about the location, Gallentine stated the area on the map is on the main tile, on the existing tiles we didn't do any investigation on, this green color is the area we did investigation on is red in color. Gallentine stated the area that the railroad runs through here, that is I Ave right there, just east of I Ave 3/8ths of a mile, and that is the downstream limits and then you go upstream, and we end up crossing I Ave and we end up west of I Ave approximately 1/4 mile, so that is the area of the main tile we are talking about, Gallentine stated he knows there have been emails come through that are talking about other portions of the main tile, those are not contained within this report, but we can sure talk about them too. Gallentine stated that is the area we concentrated on, and that is the issue where the blowouts and the issues were, and as you can see there was 3 sinkhole blowouts, area of concern down in here, one right east and one more up in this bend where that tile takes a hoo, that is the rough area we are talking about and asked if anyone has questions on that.

Gallentine moved on to page 3 to touch a little bit on history, this is transitioned into DD 3, so it was the third district established in the County so it has been around a long time, originally this was filed back in 1906, and in 1907, the Board of Supervisors at that time decided to go ahead and establish the district, and originally this district was designed as an open ditch district, this was not tiled at the upper end, originally it had an open ditch all the way from the beginning to this upper edge, and that is 1908 that is how they awarded the construction contract for this was to build the entire open ditch. Gallentine stated but by 1913, this upper end here, some landowners want to fill in the open ditch and put in tile, they requested that and had a hearing on that around the 1913 era. Gallentine stated it gets kind of murky and ugly from about 1913 to 1917, they wen through about three different engineers and about 3 or 4 contractors, but the end result was this upper end got filled in and they installed tile, and instead of the original open ditch up there they filled it in and if Gallentine remembers right this tile goes all the way to JJ Ave, and then that is where the open ditch picks up. Gallentine stated the open ditch in this area is pretty short lived less than 20 years, but it was established at one time. Gallentine stated then as far as the tile goes, it was pretty quiet after 1917, there has been a few repairs, at least one back in the 1990's, not a whole lot to talk about on the tile, the open ditch had some work done and there has been some cleanouts, there was a pretty major cleanout 6 years ago, but the tile itself has been pretty quiet, we don't necessarily view that as a lack of work being done on the tile, we probably view that as a lack of documentation on the work, back in the 1950's and

1960's they just went out and did it, especially if the Secondary Road crew did it, they just went out and fixed it, you might see an occasional bill at most, but even hose kind of got lost sometimes. Gallentine stated we think that there has been some work done out there in the past, especially with the conditions we found, but it hasn't been very well documented.

Gallentine stated what we did for our investigation, Gehrke investigated at the sinkholes, and CGA was out to observe, we surveyed the location of the sinkholes, we also took some pictures upstream, that type of thing. Gallentine stated roughly this is 4,800' in here that we covered with those, so that is what we did for investigation, moving on to page 7, and what we found in this tile itself is not in good shape, every spot we dug it up there is obviously a sinkhole reflected at the surface, and all of them were cracked, most every one of them the top is starting to vee down a little bit, the cracked tile don't bother Gallentine as much, because they kind of support each other but when the top starts to vee down one side or the other is going to start to come in, others the top is coming down and the bottom is coming up, because you have cracks on the top, bottom and sides, and if you go up, we can see some of those pictures here that Gallentine can show, this shows the top is coming down and the bottom is starting to come up a little, this one is not as bad as some of them we have seen, this was down in area where it is not being farmed. Gallentine stated you can tell it is just a matter of time before it doesn't have enough support and it comes down and makes a sinkhole. Gallentine stated here is another photo very similar where the side is trying to come in and it is starting to come down on the top and the bottom is starting to point up or hinge up, usually you don't see the bottoms hinging up like that it must have enough force downward on it that it is to starting to churn that up. Gallentine referenced another photo that he states is less severe, it is cracked on the sides and bottom and the top is just starting to vee down just a little bit and you can see there is some soil exposed. Gallentine stated what happens when this tile gets surcharged, this soil gets wet, when it gets wet this soil gets heavier, and that is usually when you end up with a collapse of some kind, this one wasn't as severe but is still a point of concern for collapse potential. Gallentine referenced another photo and stated this one is really, really bad because you can see this one here, and over here, is cracking on the sides, and the cracks aren't even lined up, so any time you don't get those cracks lined up and it starts veeing down, you have more of a chance of soil infiltration, Gallentine stated he should have pointed out that the images were from these areas, every spot we dug it up at, conditions were pretty similar.

Gallentine asked if there were questions on what we found. A landowner asked how big the was. Gallentine stated it was 26" to 24" tile. Gallentine stated there may have been some 28" tile, when it gets that distorted it is really hard to tell. Gallentine stated they never really made them perfectly round anyway, we have seen ones that are cracked and side to side versus up and down, they have been off 1" to 2", just the way they manufactured them. Gallentine asked if there were other questions about what we found. Gallentine stated if not we will move on. Gallentine stated their concern with the tile condition is you are going to get more sinkholes, as you get more sinkholes, you have a chance for more soil to get washed into the tile, eventually it will flush, if you have enough flow, but we are a mile from the open ditch. Gallentine stated it is going to take a long time to flush out into the open ditch, and eventually when it does, we will have to clean out the open ditch because of it, and the landowner up here at the top, will never get that topsoil back, when we clean it out, it will just go right next to the top of the open ditch. Gallentine stated there will be restrictions in drainage capacity if something isn't done, let alone the fact that the tile like this with all the sharp chards sticking up in there does not flow near as efficiently as a nice round pipe, you have a reduction in capacity just because of the shape and friction.

Gallentine stated for repairs, the method we are suggesting in replacing the tile is pretty straight forward, whatever the existing tile route is, just replace it along the same tile route, and we would do it with equal or comparable size, they don't make 26" pipe or they don't make 28" pipe any more so we would go to whatever is available or the next size larger that is available one of the two. Gallentine stated we would put it alongside the same route, it may not be in the same trench, it may be offset 10' to 15', a lot of contractors do that for ease of construction, that way they don't have to fight the water that is coming down the old tile as they are constructing the new tile, but we would end up pulling out the old tile as they go or when they are done, any private tile that were hooked to it, those would be located and hooked to the new tile, so when Gallentine says same route, it may not be the exact same spot, but it is pretty close, within 20' or so. Gallentine stated the other thing he would like to add, in regard to the NRCS and jurisdictional wetlands, they have typically regarded repairs as not impacting jurisdictional wetlands however, we recommend any time a drainage project is talked about, go talk to the NRCS, under federal guidelines, jurisdictional wetlands are treated just like your medical records, they are confidential, Gallentine can't get a copy of them, the only people that can get a copy of them is either the landowner or the tenant, nobody else can. Gallentine asked if there were questions on the proposed repair. Rabe asked if some of this are in question was in a wetland. Landowner stated it is in CRP actually, it is a new 10 year contract, theoretically it is farmable. Gallentine stated CRP is pretty much the same route, it is all confidential and they won't disclose any of that, that is just the way the programs are set up. Gallentine stated it isn't the fault of the people in Iowa Falls, it was the people in DC that determined all that.

Gallentine stated so that was the repair option that we covered, the second option we called an improvement option, and Gallentine will explain a little bit of difference in that one, those terms are IOWA Code definitions, a

repair is where you are trying to put something back to it's original state or efficiency if you can, an improvement option is where you try to improve capacity, or enlarge capacity so that it can convey more water, and those are State definitions in Code, so the first one is definitely a repair, because we are just trying to put pipe back the way it was, the second one, we called this an improvement just to be safe, it isn't necessarily to increase capacity, it is just to give you another option for construction instead of putting in pipe, so that would be an open ditch option for the red area on the map. Gallentine stated what we would do is remove the main tile where it sets, and then we would install an open ditch there, so essentially what we are doing is going back to the original design of 1906, whatever tile we encounter, whether they are district tile or private tile, we outlet them into the open ditch. Gallentine stated this option may require taking or paying for right of way, we will have to look back in the records, if back in 1906 these landowners were paid for right of way at the time, and we are still working within that right of way today, they probably wouldn't be paid right of way, now if we expand beyond those limits, there would probably be right of way that would need to be taken, so that is something we haven't done yet. It was asked by a landowner how many landowners are involved in this. Gallentine asked, if the landowners could tell us, he knows how many forty acres there are but doesn't want to mis-speak. BA a landowner stated he lives on the west side on the other side is another owner with a couple of heirs. Gallentine stated so two landowners.

Gallentine stated traditionally when you have increase capacity that is regarded as an improvement however that isn't really the purpose of this project, the purpose of this project is to offer you another option to get you a longer life on your facility, we just labeled it an improvement just to be safe, Gallentine does not know if attorney Johnson has any thoughts on the matter. Johnson stated we wanted to do it that way so that if someone wanted to vote against it, they could vote against it, and if we didn't treat it that way they could object that we didn't give them the opportunity to object to it, so we are just playing it careful, so that we don't have to go back and do anything over. Gallentine stated he should have made sure, that he explained things a little bit, on a repair, the landowners always have input to the district, but on a repair there isn't much a landowner can do to stop the repair in it's tracks. Gallentine stated on an improvement, Code allows a certain percentage of landowners who own a certain percentage of ground within the district to sign a remonstrance, and if they get those percentages met on an improvement project, they just stop, there is no more talk about it, it may seem like a subtle distinction but there is different ramifications to landowner rights there, Gallentine stated he did not think we have had a remonstrance filed. Smith stated we have not had a remonstrance filed, Smith did receive comments today, that are a protest to the assessment costs associated with either the repair or the improvement option. Gallentine stated he has seen a remonstrance done a few times, on a district this large, it is really tough you have to get a lot of people you have to get signed up who have to own a lot of ground, Gallentine stated we usually see this in smaller districts.

Gallentine stated the other thing he would say is that on improvements typically NRCS deems an improvement to affect jurisdictional wetlands, because you have improved the drainage capacity beyond what is existing already there, this case is a little different because in 1906 you had an open ditch and you decreased capacity when you put in a tile, NRCS will let you go back to the greatest drainage you had prior to 1985 or 1984, so they will probably let us go back to the 1906 design without deeming it an effect on jurisdictional wetlands, you would have to talk to NRCS and verify that, we did not prior to this because that is typically a conversation that takes several months, they have their staff down in Des Moines and when yours gets to the top they will say okay and respond to this question when you get that back and say okay now I have this question, your is back to the bottom. Gallentine stated we did this in Franklin County where the original design was an open ditch and after everything settled out, they were okay with that and they didn't deem that it affected jurisdictional wetlands. Gallentine stated but again, always recommend landowners and tenants go and talk to the NRCS about things if something is sorted out at today's meeting. Gallentine asked if there were questions on what we are proposing for the different options. No questions were posed.

Gallentine stated next we will move on to costs, they are in the very back of the report, on page 9. Gallentine stated this is for the repair, taking the red sections on the map and replacing with equivalent or the next size available, so we went ahead and drew up these opinions of costs, Gallentine stated he would say that in the last years prices are kind of all over the place. Gallentine stated especially on anything that involves a product like pipe or tile, along with availabilities and all that, COVID is just wreaking havoc on the supply chains in general, but it is CGA's opinion that the district's portion of the cost in replacing the tile would be \$444,395.94, that is what the district would pay through it's assessment. Gallentine stated this down here is just the crossing costs, so to cross that road, I Avenue Gallentine believes, per Code that cost is assigned to the highway authorities, that would be paid by Secondary Roads or the County Engineer, their portion of what we are estimating would be \$35,362.50. Gallentine stated we separate those, that way people are aware of who gets what. Gallentine asked if there were questions on those, hearing none, Gallentine moved on to the next page for the open ditch costs.

Gallentine stated if we put in the open ditch instead of replacing the main tile with tile, CGA's opinion is the cost for the district is \$409,780.94, not a huge difference there, actually a decrease of \$30,000. Gallentine stated the road crossing portion costs, because we would put a box culvert underneath there, the cost to the Road Authority is \$174,886.25, so definitely a swing in their price, but it is Gallentine's understanding that they are notified of these things, like anyone else they have the right to respond, whether it is the DOT or the County Engineer, they

typically don't voice an opinion one way or another. Gallentine stated those are our opinion of costs and asked if there were questions on those, and again those are based on what we have seen on previous bid lettings, we are not the guy out on the backhoe, therefore we would have to draw up plans and specs, it would all have to go through a public bid process, lowest responsible bidder would end up with the project. It was asked by a landowner if you went to an open ditch for that segment, what happens if you get more water coming down the open ditch than what the tile that is buried on the succeeding land can handle. Gallentine stated it is always interesting when you try to take water from something that is open and try to put it into a pipe, that is always a point of even if you have similar flows, it is just trying to get that configuration, at the railroad we would put some riprap around there to try to prevent erosion. Gallentine stated if you have enough water that comes down there gets to the railroad, and gets to that pipe and that pipe can't handle it, it would fill the ditch up and get to the point where it flows overland, Gallentine believes the railroad has a bridge there, underneath that bridge, and onto the next landowner downstream, no different than if you have ever been to the point where a road culvert can't handle it and it starts to overtopping the road and goes over the top, it would do the same thing.

Rabe stated even on the other side of that it is kind if like a ditch anyway, going down to the east to the railroad, the water would, there is a way for the water to travel where they put that road crossing. Gallentine stated he was sure where they put that tile at was a low spot 100 and some years ago, and that is probably where the water is still going to want to go, when the water gets to that point when the open ditch overtakes the tile. Smith asked if there was a section of closed tile on the east side of the tracks. Gallentine stated yes, that we did not investigate and none of this is proposing to do anything with from the railroad tracks to approximately a mile downstream to JJ Ave, that would still be tile, that section and what is upstream of this project would be the only main tile left in this, we didn't investigate anything downstream of that, Gallentine doesn't know if it is any better or worse. It was asked by a landowner why the inspection stopped there. Gallentine stated those were the only sinkholes we had, were on that side of the tracks, we hit the end of the day and Gallentine stated he told Gehrke, do you want to go on the other side of the tracks, and Gehrke stated there are no sinkholes over there, so Gallentine stated well we have to stop somewhere. The landowner asked if they stopped not necessarily because they found better tile or you just had to make a stopping point. Gallentine stated he does not know anything about the tile over there, on some accounts it is the same age and you kind of get a little bit concerned but we also know the stuff on the west of the tracks didn't have much cover, Gallentine stated he did not know if the stuff on the east side of the tracks has more cover or not, it is broken, Gallentine assumed it, and it is another thing that it is a balance of how much do you spend with a backhoe digging holes, and show up at a meeting and you guys tell me it is broken. Rabe stated at the time when they were inspecting it, they said well where is our stopping and starting point, we didn't even think about going any further, Rabe stated he knows we replaced some tile on the east side a couple of times, he does not know what size it is but we replaced some. Gallentine stated he imagines it is the same stuff. Rabe stated that is why we left off right there, once again dealing with the railroad we didn't want to get them going again. Gallentine stated it is a pretty easy stopping point because Gehrke has to either track around or load up, not because the tracks can't be gone over but because it really gets appetizing to move on to the next job. It was stated by a landowner is that all we know from that point is is what the farmer has to say. Gallentine stated truthfully we have done our investigation, but you guys have been out there for years, Gallentine stated he has been working with this district for 6 years, but that was on the open ditch and not necessarily on the tile, so Gallentine stated he always liked it when the landowners can tell him more about the tile than he knows. Gallentine asked for other questions on the costs, hearing none Gallentine moved on to page 9 to discuss the classification.

Gallentine stated if he remembered right it was reclassified most recently a few years ago when we did work on the open ditch so it is a fairly recent classification, we did talk about different code requirements when we reclassify things, so Gallentine will leave that up to Johnson, but it is a fairly recent reclassification.

Gallentine stated moving on to page 10, recommendations, we feel that there is a definite need to do one of the two recommended actions, if neither one of these options moves forward we will have a lot more repairs in the future and there is probably more repairs out there now that you could walk out and find. Gallentine stated if one of those options moves forward, it will remove a lot of your restrictions and you will get a lot longer life span, that type of thing, so we recommend the District Trustees approve the report, which they did, talk to Johnson about whether the open ditch alternate is a repair or an improvement, which they did, have the hearing, which we are doing today and then adopt one of our recommendations of the report, direct CGA to draw up plans and specs, for whichever option, and then proceed to bid letting, and receive bids from contractors. Gallentine would recommend we try and shoot for a winter bid letting, we tend to get better prices in the January, February, March range, and then construction would be next year. Gallentine asked if there were questions on that, he has seen quite a few of you folks at different hearings, he know quite a few of you have been through this before. Rabe asked about the wetlands thing, it takes quite a while to get a determination of their findings, how does that affect schedules. Gallentine stated if you said go ahead to day we could email the NRCS right away, and say this is what we have going on today, what do you think. Gallentine stated he did run some rough numbers, some landowners had talked about why don't we run the whole thing to JJ Ave., for the district portion, that stretches a little bit longer, you are probably going to add \$500,000. Gallentine stated if you wanted to go all along the red line on the map. A

landowner asked if that would be adding \$500,000 to the numbers Gallentine has there, Gallentine stated yes, because that portion is a little bit longer than what we had there, and if that is the option you folks want to look at and you want to pursue, we would have to draw up a supplement to our report and have another hearing. Gallentine asked if that is what Johnson thought, Johnson replied absolutely. Gallentine stated and the road crossing costs would double, Gallentine stated he does know that probably won't affect anyone in this room directly but we have another culvert at JJ Ave we would have to put in. A landowner stated two more road crossings actually, Gallentine stated he saw that and was hoping we could get a little creative on the reroute. It was asked by a landowner, whose costs were where it crosses the railroad. Gallentine stated he would let Johnson chime in if he is mistating anything, railroads are always an interesting beast, and what Gallentine would envision if we go all the way across or all the way to JJ Ave. Gallentine stated you have a couple of options, you can tell the railroad we want to put a bridge there, with the understanding that if you put a bridge at a natural watercourse, the railroad bears that whole expense, not the district, that will probably take time to get through that process, the other option in Gallentine's mind is to at each side of the railroad right of way, we stop, we put riprap around the tile that is there and we just leave the tile that is there through the railroad right of way, and if the water gets too high it flows up over it and goes under the bridge that is there, and when it drops back down it goes back into the open ditch, and we don't do any work inside the railroad right of way and we don't ask them to do any work. Gallentine stated those are two different options.

Gallentine asked Johnson if he had any comments on the railroad, Johnson stated you are right on, if we decided we needed a bridge, we could notify them of that and give them the opportunity to do that themselves, and they would submit that as a claim, but the Code is very clear, this has been litigated, if it is a bridge or a culvert on their dime, so if it is a bridge or a culvert they have to pay for it, just like it he roads have to pay for their crossings, so if we put closed tile through their land, then it would be on the district, at least we are not going, through an embankment if there is already a bridge there, that is where the costs get ridiculous is going through their bed, so Johnson is encouraged by the fact that we don't have a bed to drill through. Gallentine stated they will make us drill if we put tile in, Johnson stated yes, but we wouldn't have all those extra casings, Gallentine stated hopefully not. Johnson stated it is never easy, Gallentine stated he didn't say this, this is isn't Gallentine's quote, but had a landowner tell him one time you don't have railroad going through your property, you have a little sliver of North Korea, good luck dealing with it. Gallentine stated that isn't his quote, but that was what a landowner told him, if you want to work that out, NRCS is fast compared to the railroad, the last railroad project that we worked on the railroad started out with 5 questions, we answered those, they came back with 10 questions, we answered those they came back with 15, about that time the attorneys got involved because the number of questions involved kept mushrooming. Johnson stated maybe doing it in two separate projects might be best, if you come back and investigate the rest of that tile and find out it is just as bad, if we do this project first we could stop right at the right of way of the railroad, and then have that in there, we could do it to explain to firm it up, then a year later you could do the east side open ditch and just not do anything under the railroad, they don't usually beg for an improvement to go under the railbed, they can do a mandamus action that says you repaired everything else, you need to come back and repair the rest, they frankly don't care about the effectiveness of your drain, they don't really care about your drain, as long as there is not a sinkhole under their part. Johnson stated there is a good chance if we did the west half first, and then you did the east half second, and just left the rest alone, Johnson doubts they would do a mandamus that says fix what is underneath our bed as well, so as long as there is no obvious problems, Gallentine stated he is not aware of any problems in the right of way, and even usually what the railroad complains about most is the bill, so Gallentine does not know even if you did it all in one project if they would complain, it is hard to say. Johnson stated even if you didn't have any tile in their right of way anyway, it is in the location of a natural waterway, with that, they have to put up a bridge to span that distance, that is one solution to not having a wet roadbed, is to put a bridge across it. Gallentine stated they already have a bridge there, and our tile is underneath that bridge. Gallentine stated he does not think it is very long. Johnson asked is it a railroad car or two long. Rabe stated he would say it is more like 50'. Johnson asked if the bridge was wood or steel, Gallentine stated it was wood, like every other one, old and dilapidated, truthfully. Rabe stated there is a big pole on either side. Gallentine stated in the early 1900's the railroad put a bridge in there and drove one of the pilings directly through the tile, so they were demanded upon to appear before the Supervisors to explain that.

A landowner asked as we talk about extending this or on any other project, the road costs are not paid by the district, is that correct. Gallentine stated yes, whether it is a bridge, culvert or tile, those are strictly the road authority, railroads are the only ones that don't have to pay directly for the tile but they do for bridges and culverts, if you put it at a natural water crossing. A landowner asked if you make it an open ditch, whereas right now with tile, it is shallow enough you can just drive right across it, but if you make that an open ditch you have to have a crossing and put a bridge or a culvert underneath, and that costs is the drainage districts. Gallentine stated none of those costs are in here, and he supposes those costs need to be talked about or discussed as far as if landowners feel they need that and if so, is that a district expense. It was stated by a landowner it has to be on here, Gallentine stated there is no hard and fast law. Landowner stated he is not clear what he is asking. Rabe stated he did not think you could put in a culvert for an open ditch, you would have to go over it with a bridge. Gallentine stated this might be small enough up in here you might get by with a culvert. Rabe stated he knows we had that problem with Vierkandt. Gallentine stated if this farmer states he really needs access from one side or the other, and I put a culvert or a crossing in here, who pays for that, do I pay for that or does the district pay for that.

Johnson stated that is a sensitive issue, and we are dealing with that in Wright County, and there are different perspectives on it, one perspective is that you have a 40 acres tract that you can get across right now without a problem, then they put an open ditch in and you are landlocked and you can't access your land, there is an argument that the district's supervisors should give you a way to the other side of your property so it is not made useless. Johnson stated then if a person wants more than one crossing, that is more of a convenience than an necessity, Johnson stated you have to look at it on a case by case basis to see how much it really effects that property, if they really are landlocked and cut off or not. Johnson tries to be neutral on that, some districts try to be really hard on that and say that is your private crossing, Johnson does not necessarily agree with that philosophy, and he really doesn't try to go all the way to the other extreme either, Johnson just looks at it case by case and tries to see what is fair. Gallentine stated the one thing he sees pretty consistently is, maybe you see it differently, once that crossing is put in no matter who pays for it, typically after that point, it's upkeep and replacement is all that landowner. Johnson stated he is not sure of that philosophy either, because there are cases where there is a land bridge, and you have a 36" tile and the district wants to upgrade everything to a 48" tile so should the landowner have to put in a 48" when that is what the district wants. Johnson stated there is an exception to every rule, but is the district responsible for putting the gravel across it every 5 or 10 years, well it depends on how nice you want your crossing to be, that's the landowners, so there is some give and take. Gallentine stated we did a project up in Franklin, where we did a crossing like this and we actually used a tanker car that was around 7-1/2' in diameter, and the crossing was only about 5' deep so they actually dug it down and buried it into the muck about a foot, foot and a half, so that might be something that we could possibly do here, depending on the depth, it was a pretty reasonable length. A landowner asked what was done on Vierkandt's. Rabe stated there is supposed to be a bridge, it is on Hanson's ground over there. Gallentine stated that is the problem, if you get to be too deep a ditch, those things come in pretty much one length, and if you have too deep a ditch and too high an embankment then it gets really narrow so you can't travel across them, it really isn't too economical to try and weld two of them together, I have this one size lincoln log that needs to just fit in this one spot, so that might be an option.

Gallentine asked if there were any other questions. Johnson asked he would like to know how many of the landowners think they might need a crossing over the open ditch so that might be included in the cost. Gallentine stated we have one of these two owners here, and you are on the west side, Gallentine asked are you thinking you will need a crossing or not. The landowner stated while we are doing this, yes that there is 450' of deep ditch so I can't get across coming west from the road, and the lowest area, when it is dry out, I can cross that, and would like to be able to do that in the future, where exactly would you put that crossing, he is not agnostic about that. Gallentine asked if you are west of I Ave, is that correct. The landowner stated yes, that is correct. Gallentine stated so your are right here, with some in CRP. The landowner stated yes, immediately west of the road, which has a deeper ditch with the tile in the bottom of it, where I cannot cross, but in that lowest area described in the illustration that has the CRP, that is flat, enough to cross it when it is dry enough. Johnson asked if the filed entrances on both sides of I Ave., there is a crossing almost at the railroad there, and then it is a half mile north to get back into the field. Gallentine asked if the owner owned a 40 acre plot or 80 acres or 160 acres. The landowner stated he he owned 306 there in total. Johnson asked if there was a crossing north of I Ave, in the other 40 acre parcel. Gallentine stated no he said it was a half mile, so it is up here on the other side of the screen. Gallentine asked if instead of a crossing on the open ditch, what if we put in a couple of driveways on the roadside because that is cheaper, and some landowners would be happier with that, assuming the County Engineer is on board. The landowner stated that would probably work, you still have to get us 30" head down the road, it is too short it doesn't work. Gallentine stated sometimes you have to adjust the angle or make them wider if they are too short, especially on this one. The landowner stated that was doable. Gallentine stated those are cheaper and they are easier to maintain as they are out of more water flow. Gallentine asked if the landowner on the east side was here, it was stated by a landowner that no, he lives in Kentucky and there are two other heirs in Kansas City, and one may be local, this landowner used to rent that on the east side, and dealt only with the Kentucky owner. Gallentine asked if his tenant was here. Landowner stated his tenant is Todd Kjormoe, not here. Johnson asked if the landowner knew any about those field entrances to the east on I Ave. Landowner stated they are just south of the ditch, here is a crossing and pointed out the other entrances, we have never been able to cross that, that is relatively deep. Gallentine stated there is a waterway there, and that is deep enough you just don't cross it. The landowner stated that was correct, we have not been able to cross that since 1979. Gallentine stated you have some good history there. Johnson stated we can't put it on the district to make things better, we just have to make sure it works. Gallentine stated we just have to make people whole again, that is a good point.

Gallentine stated if we put access points on both sides of the the ditch, versus crossing in the ditch, that would be cheaper, plus they are easier to maintain and less likely to wash out. Johnson stated the County will complain because the cost will be on them, but we may be able to find a compromise on that. Gallentine stated Engineer Roll is pretty good to deal with, the one we did in Franklin County, we did a few of those too, and the Engineer in Franklin County just said he would build those himself, because they are pretty easy to build. It was asked how deep would the ditch be. Gallentine stated we would have to go back to the 1906 design, and he would assume the 1906 flowline was the same as the tile. A landowner asked if something wasn't working would it have been the depth of the ditch or their engineering and would we even know that now. Gallentine stated this happens somewhat in the early time frame, where maybe it was dry, and they just said hey we need to be able to farm over this, Gallentine stated it is a pain to farm around an open ditch now, he could not imagine how hard that would

have been with a team of mules, or a steam engine or F20 or something how long it would take to track around, so Gallentine stated he thinks it was more a lot of access issues than anything.

A landowner asked why we have to dig up the old tile, why can't it be collapsed, why do we have to dig it up, what does it mean in the report that we have to remove the old tile. Gallentine stated typically we remove the old tile when we install the new tile because if you have this 26" or 28" void, Gallentine does not want someone in the future driving along out there, and all of sudden it collapses, to Gallentine it is a safety factor, we have done a few of these where we haven't removed a tile, but those are 8" or 10" if something like collapses it is just gone, but when you start talking about 2' it can cause issues. Gallentine is sure the Trustees don't want to be taking calls for the next 10 years, hey I have a sinkhole the size of semi, come fill it in for me, if you don't remove that old tile, there is some liability and expense there, that is just Gallentine's thinking. A landowner asked if the old tile would be crushed when the new tile is installed. Gallentine stated this is big enough it would be installed with backhoe. The landowner asked if they can run a plow through the old tile and let it collapse. Gallentine stated that is an option, the nice thing about digging up and removing the old tile, you can see all the private tile coming in, if you collapse it, it becomes a jumble of clay pieces and you can't tell if that was a 6" or if that was off of this. Gallentine stated Engineer's try to make things a little bit more bulletproof or complicated maybe, but we want to make sure all of those private tile are hooked back up, and that gets back to the district trying to make people back whole how they were prior to the project.

Rabe asked if there were any more questions for Gallentine. Smith stated we have some public comments that were received prior to the hearing, if you don't mind, maybe we can go over those. Rabe stated sure. Smith stated we received some questions from Jon Hamilton and Scott Bahrite about the land east of the tracks, the question was is it a possibility to remove the closed tile east of the tracks and continue on down to the open ditch where the tile currently outlets in the open ditch to the southeast. Smith stated if you look at the image on the right side of the tracks, that closed tile will continue about 1 mile to the east where it outlets into the open ditch. Smith will let Gallentine address that, and maybe we can go down each question as we go through. Gallentine stated that is what we talked about, if you wanted to extend the project east of the railroad right of way, make that also open ditch, a continuous open ditch, you are going to add about \$500,000 to the district costs, and about another \$175,000 for the Secondary Roads costs, but we would have to draw up a supplement report and have another hearing and everyone has a chance to voice their thoughts and opinions on that, and that is about a mile. Johnson stated they didn't really say that there was a problem did they. Smith stated there was a concern that currently we received a comment today from Dianne Hamilton who is Trustee on the Dorothy Bahrite parcels to the east which we are pulling up on the map, Dorothy's concern was concerning the assessment for this, she is protesting the assessment of the costs for this parcel, because she has two spots on the east side of the tracks, totalling about 8 acres, 20% of the parcel which is readily seen on Beacon, she states that the proposed repair is entirely upstream of this location and the repair will most likely only compound the problem. by putting more water into the county tile, the problem is also compounded by additional pattern tiling that has happened upstream of her site, which is also adding additional water, there seems to be no credit for the acres that have been lost to support the drainage system through these parcels. Smith stated when we view the map and turn on our drainage districts and parcels, you see here that on the north part of this parcel, that contains the letters DD 3, that is a closed tile that continues on slightly to the southeast there and will go to the open ditch a little bit further down.

Gallentine stated essentially what we are talking about now and what we talked about before, upstream of the railroad tracks, is what we were talking about before, and what we talking about now is east of the tracks, right there at JJ Ave, at the T intersection, just southeast there, that is where the open ditch starts. Gallentine stated people have concerns about the closed tile which starts right there that we did not look at. Johnson stated on one instance that is kind of an objection, and in another instance it is a request for a repair, because whenever there is a repair that needs to be made, Code says they have to make it so that everyone can have a good system, so that kind of opens the door to do you want to do one project and then do the second project so will you have two different assessments or do you want to do them both at the same time, Johnson stated he should say we would have to task the Engineers officially to appoint them to do go and check into that, this is something that the Trustees will have to decide, and it kind of has to be done because of that letter, they are going to have to task an Engineer to go out and look at that and find out what is going on out there. Smith stated that was received today just prior to the meeting. Gallentine stated under some certain circumstances he thinks it would flow ok once the flow is enough that the 36" or whatever size the tile is can handle, but definitely under other circumstances that tile will not handle as much as the open ditch and you will have overland flow, it just depends on how much.

Smith stated the other public comment we received prior to the hearing was from George loerger, and he asks if the DD 3 project moves forward and would be completed, would it be assessed on the existing 2016 classification or would the district be reclassified and the project assessed under a new classification. Johnson asked if CGA was involved in the reclassification. Gallentine stated yes, we did that reclassification. Johnson stated just because there is a project, doesn't mean there has to be a reclassification just because it costs money, but if there are any factors that might affect the fairness of the 2016 reclassification, if they were brought to the attention of the Board or the Engineer, that would be on thing that would compel us to do another reclassification, so the question is, is

anybody aware of anything unusual that has changed that would justify a reclassification. Johnson stated you can plug in a \$400,000 project cost and you are not going to like it no matter what, and you could say what is this going to result in me paying, so you already have an idea, you may not like the dollar amount. Rabe stated we already have and it is right here in the estimate. Johnson asked if anyone sees anything glaring or inequitable about how that came out. Gallentine asked if everyone knew what a classification and a reclassification was and if not would you like Gallentine to cover some of this. Gallentine stated he has seen a lot of these folks at other hearings and meetings and does not want to bore them to death, but can bore them a little.

It was asked by a landowner if this is going to be an open ditch at the upper end, and its costs are called an improvement, then it needs to be voted on by the district, or can be objected to. Gallentine stated it can be objected, but it is not voted on by the district, that objection had to have a certain percentage of landowners, who 70% of the land need to sign it and file it. Johnson stated that was correct. Gallentine stated it can be done, but on a district this big, it gets to be tough, some are out of stated landowners and the DOT will never sign because they don't want to interfere with local government affairs, and some landowners just won't. Johnson stated he hates to open up this door, but Johnson wants the landowners to get what they want, if you come to a meeting and you hear about what this project involves for the first time, there are a lot of people that really just don't want it and you have some questions that maybe we want to get answers to, Johnson is not opposed to suggesting the Board continue it another 4 weeks, because if there is a majority of landowners that own 70% of the ground and they don't want it, it shouldn't happen in Johnson's opinion regardless of procedure. Johnson stated if there is a huge ground-swelling of adversity to the project, we want to know about it. Gallentine stated he agrees with that, and technically if this was all supposed to be filed today but a remonstrance was made tomorrow, Gallentine stated he could tell the Board wait a minute, he knows it wasn't technically correct, but you need to pay attention to this, would be Gallentine's opinion and he is sure Johnson agrees. Johnson stated the rules are not supposed to be so technical that you are procedured out of something you wanted. Gallentine stated in his opinion these facilities are the district's facilities and you folks compose the district, and that is what it is there for is to serve you folks.

Johnson asked what was Gallentine's response to the fact that we now have a landowner on record saying they want to at least investigate some problems in that tile, Johnson has to advise the Trustees and they all recognize that they have to task the Engineer to go out and study that, how does that play into, doing it in one stage versus two stages. Gallentine stated recommending doing it in two stages. Gallentine does not think many land owners like getting an assessment this year, getting another one next year and getting one the year after, Gallentine would just as soon present the total package just so no one goes well you split this up so we wouldn't know what the total cost was going to be, but that is just his opinion. Johnson asked you mean two stages of one project. Gallentine stated yes you would probably get more interest if you bid it in bigger projects so if you want to do both of them, let's bid it both together, the reports would have to be separate obviously on the front end, but Gallentine stated he thinks if we combined them at the bid phase. Johnson asked if time was a huge factor, how much damage is it causing by the sinkholes if you wait. Gallentine stated we already did temporary repairs, as far as Gallentine knows they are all current, and nothing is sucking in dirt from the surface, so that is not an issue. Johnson asked if we would have time to get new reports and bid it together. Gallentine stated we would do a supplemental report for this one, and you are looking at probably a month to get that supplemental done, Gallentine would not do a huge amount of investigation, he would not go out and dig the tile up, rely on what we have found so far, these crops may not be what people want but Gallentine does not want to tear them down, we can wait till harvest.

Heinzerth asked if any of the landowners object to an open ditch, is any of that formable right now. It was stated by a landowner that this crop was so wet, it is in CRP right now and he is happy to have it that way, and is in favor of an open ditch, and we just establish it in it's 1913 capacity with all of the tile that has been added, that may not be what we want to live with for the next 100 years. Rabe stated Sialaf's was too, it was deep down there and he said you can't really get through it, you are not going to disturb a whole lot down there either because it all grass, the center of the tile is probably 20' on each side of it or more. A landowner stated yes the section we are talking about is basically no crop to worry about it is either closed ditch that can't be farmed or CRP, you could start tomorrow as far as he is concerned. Gallentine stated we would end up a little wider by the time you take those spoils and spread them out so they are halfway flat. Johnson asked how detailed are the engineer's plans from 1913, is there a map on file with their designs. Gallentine stated there is, it is a little shaky, it gives you a bottom width, we haven't found how steep the side slopes were yet so we would be bound to that bottom width, Gallentine believes it is a 4' bottom, sides if Gallentine had to guess, from back then would be a 1:1 so for every foot you go up you go over 1 foot, or maybe 1-1/2:1 so you go up a foot and go out a foot and half, if we build them today we really like 2:1's because they don't slough as bad, but at least there is enough of a design to prove to the NRCS this was an open ditch.

Johnson asked as far as easement is concerned. Gallentine stated that we haven't dug into. Gallentine stated the report didn't specify an easement width and Gallentine has not dug into the damage claims enough to see what people were paid, Gallentine stated he saw that some claims were paid out. Rabe asked if there were any more comments or questions. Hearing none, the Trustees moved on to the Discussion.

6. Comments/Discussion

Rabe asked what the Trustees thought and what is Johnson's recommendation, can we table this for 4 weeks or out. Rabe asked what time it takes Gallentine to generate a supplement report, can we table this for another stretch, and come back to it in a few weeks. Johnson stated there would be a motion to table this and a motion to go out and study part of it and have him file his report as soon as he can, and then you can schedule the next hearing, we would like to be able to schedule the next hearing while you are all here in the room, because then we don't have to publish and mail it again, so that way we don't have to give Gallentine too little time, so we could go out 6 weeks, from this meeting so we don't have to republish and re-mail. Prochaska asked if we do this in one project, how is that going to affect the railroad crossing, can we discuss that at all. Gallentine stated we can discuss both those options in the next report, talk about either tasking the railroad to put in a whole new bridge to whatever the flowline is the same as the open ditch, or not touching anything in the right of way, you guys can make that call, the landowners have spoken. Johnson asked if we can give the railroad the option of saying we are just keeping it closed under the bridge, it is your bridge you can do whatever you want, but if they want us to put an open ditch underneath them they are not going to like the costs, we are not going to like the hassle. Johnson stated maybe we can give them the option to maybe leave it alone, why would they want us to dig the open ditch under the bridge. Gallentine stated he did not know why they would want that. Johnson asked if we can run it open and then close it and go back to open. Gallentine stated he is fine with that.

Heinzeroth stated just so it does not go through the railroad property around to someone else's property to do damage. Gallentine stated he does not think it will, because obviously right now any water that doesn't go through the tile goes over the surface anyway, and that bridge has been adequate and it hasn't washed out yet. Heinzeroth stated he doesn't necessarily worry about the railroad just as long as we don't drown out the Bartlett's down below with something we made into a dam. Gallentine stated what we would probably do on the downstream side of the railroad tracks, to get that surface water, we would have a little bit of a riprap stilling area, so we would install riprap, in a pool shape, and then have an intake to try and slow that energy and probably have a headwall there too, that way it doesn't erode back. Heinzeroth stated that would probably add a little bit of cost, but not tremendous. Gallentine stated he didn't think so as long as steel doesn't go out of sight like copper and everything else, I mean lumber, we don't build it out of wood that's for sure. Prochaska asked Gallentine if he could give them an option for either way. Gallentine stated that there could be an option for either way. Rabe asked if we had anyone had issues with an open ditch. Rabe stated that one objection is that we fix it but that's not really an objection because water is going over in her field if we do an open ditch that would take care of it. Heinzeroth stated that we would be doubling the cost but that is something that has to be done in the future anyway. Heinzeroth stated all we'd be doing is delaying it. Heinzeroth stated he knows it needs to be done and he knows it will cost a lot of money. Gallentine stated that CGA's field investigation is not going to be the same on this portion.

Motion by Heinzeroth to continue the hearing for the Engineer's report to September 13th at 10:00 AM. Second by Prochaska. All ayes. Motion carried.

In additional discussion, Johnson asked the Trustees to move to appoint GBA to be the Engineers to investigate the condition of the Main tile to the East of the railroad to JJ Avenue and report back to us by September 13th.

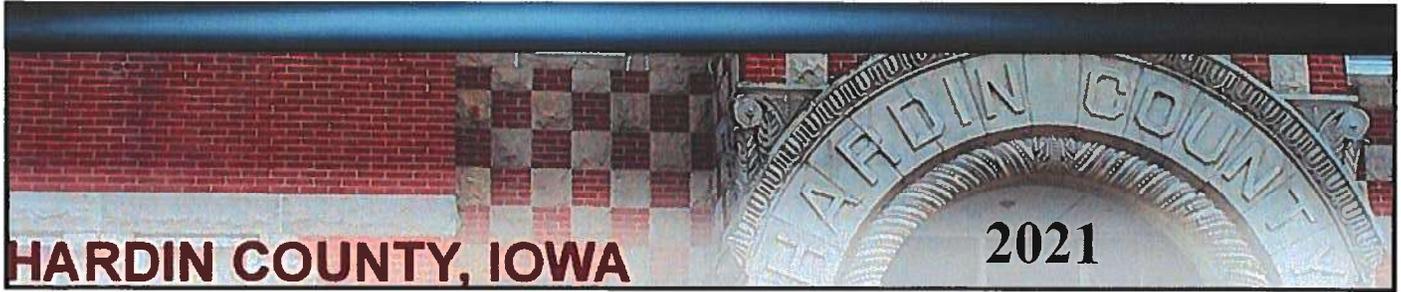
Motion by Prochaska to appoint GBA to be the Engineers to investigate the condition of the Main tile East of the railroad to JJ Avenue and report back. Second by Heinzeroth. All ayes. Motion Carried.

7. Possible Action

8. Other Business

9. Adjourn Meeting

Motion by Heinzeroth to adjourn. Second by Prochaska. All ayes. Motion carried.



**SUPPLEMENT TO
ENGINEER'S REPORT
ON IMPROVEMENTS TO
THE MAIN TILE
DRAINAGE DISTRICT
NO. 3
HARDIN COUNTY,
IOWA**

	<p>I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA</p>
	<p><i>Zeb J. Stanbrough</i> <i>9-3-2021</i> ZEB J. STANBROUGH, P.E. DATE</p> <p>LICENSE NUMBER: 19957 MY LICENSE RENEWAL DATE IS DECEMBER 31, 2021 PAGES OR SHEETS COVERED BY THIS SEAL: SHOWN ON TABLE OF CONTENTS</p>

	<p>CLAPSADDLE-GARBER ASSOCIATES OFFICE LOCATIONS 16 East Main Street, PO Box 754 Marshalltown, IA 50158 1523 S. Bell Avenue, Suite 101 Ames, IA 50010 5106 Nordic Drive Cedar Falls, IA 50613 739 Park Avenue Ackley, IA 50601 511 Bank Street Webster City, IA 50595</p>	<p>Project Office 739 Park Avenue Ackley, IA. 50601 Phone: 641-847-3273 Fax: 641-847-2303</p>
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**Supplement to Engineer's Report on Improvements
to the Main Tile, Drainage District No. 3
Hardin County, Iowa**

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Supplement to Engineer's Report on Improvements To the Main Tile, Drainage District No. 3 Hardin County, Iowa

1.0 INTRODUCTION

- SCOPE OF WORK – The District Trustees, requested Clapsaddle-Garber Associates to investigate and report concerning improvements to the Main Tile of Drainage District No. 3. At the Public Hearing for the Engineer's report on repairs or improvements to Main Tile of Drainage District 3 held on August 16, 2021, the original Engineer's Report was discussed and reviewed by the District Trustees. As a result of this meeting, the District Trustees requested Clapsaddle-Garber Associates to move ahead with a supplemental report concerning reversion of a portion of the Main tile back to an open ditch.
- LOCATION – The area of investigation was limited to a portion of Main tile. Said Main tile is located in Sections 26, 27, and 35, Township 89 North (T89N), Range 21 West (R21W), Hardin County, Iowa. Specifically, the downstream limit of investigation for the Main tile is from the tile outlet in Section 35 approximately 70 feet south of 150th Street and 400 feet east of JJ Avenue. Going upstream, the tile then proceeds northwesterly and then crosses 150th Street approximately 220 feet east of JJ Avenue. The tile then continues northwesterly across Section 26 then crosses JJ Avenue approximately 75 feet north of 150th Street. The tile then continues northwesterly for approximately ½ mile across Section 26 before turning westerly across Section 27, approximately ¼ mile west of JJ Avenue and a ⅝ mile south of 140th Street. The tile then proceeds westerly across Section 27 for approximately ½ mile before turning northwesterly, with the upstream limits of the investigation ending at the south railroad right of way in Section 27, approximately ¾ mile west of JJ Avenue and ⅝ mile south of 140th Street. For reference, a map showing the limits of investigation is included in Appendix F.

2.0 INVESTIGATION –The field investigation for this report was performed at the request of the Drainage District Trustees. Said investigation was limited to visual observation only along with survey data and pictures gathered. No tile blowouts could be located as the entire length of the investigation area was covered with tall vegetation, hindering the investigation. For reference, a copy of the pictures is included in Appendix E and a map showing the investigation limits is included in Appendix F.

3.0 IMPROVEMENT METHOD – To improve the drainage capacity for the existing Main tile, the following option is the most straight forward available:

Open Ditch

- Remove and replace 5,682± feet of the Main tile with a Main Open Ditch.
- Typically, the Main Open Ditch would be in the same location as the existing Main tile in order to locate and outlet private tile and district lateral tile. For reference, the route and locations are shown on the map included in Appendix F.
- Outlet all private and lateral tile encountered to discharge into the Main Open Ditch.

With the above-mentioned possible improvement, the following should be noted in addition to the notes in repair methods section:

- This option would probably involve obtaining of right of way.
- The replacement of the Main tile with a Main Open Ditch increases drainage capacity, which has traditionally fit the Iowa Code definition of improvement. However, the replacement is not being suggested to increase drainage capacity, but is being offered solely to extend the lifecycle of the district facility and the original design for the Main in this area was an open ditch. Legal counsel should be consulted to provide advice concerning this.
- If this option is deemed a repair by legal counsel, repairs have historically been viewed as not having an impact on jurisdictional wetlands. As such, individual landowners should consult with applicable staff at the Hardin County NRCS offices to verify the existence of said jurisdictional wetlands and that there will be no impact on them.
- If this option is deemed an improvement by legal counsel, improvements have historically been viewed as having an impact on jurisdictional wetlands. As such, individual landowners should consult with applicable staff at the Hardin County NRCS offices to verify the existence of said jurisdictional wetlands and what said impact may be on them.

If legal counsel considers the above option a repair, it is our opinion that the following is applicable. A hearing will be required. Per Iowa Code Chapter 468.126.1.g, the right of remonstrance does not apply to the proposed repairs.

If legal counsel considers the above option an improvement, it is our opinion that the following is applicable. A hearing will be required. Per Iowa Code Chapter 468.126.4.e, the right of remonstrance may apply to the proposed improvements.

4.0 OPINION OF PROBABLE CONSTRUCTION COSTS – Using the above method of improvement, an itemized list of project quantities and associated opinions of probable construction cost for each option were compiled and are included in Appendix G of this report. A summary of said costs are as follows:

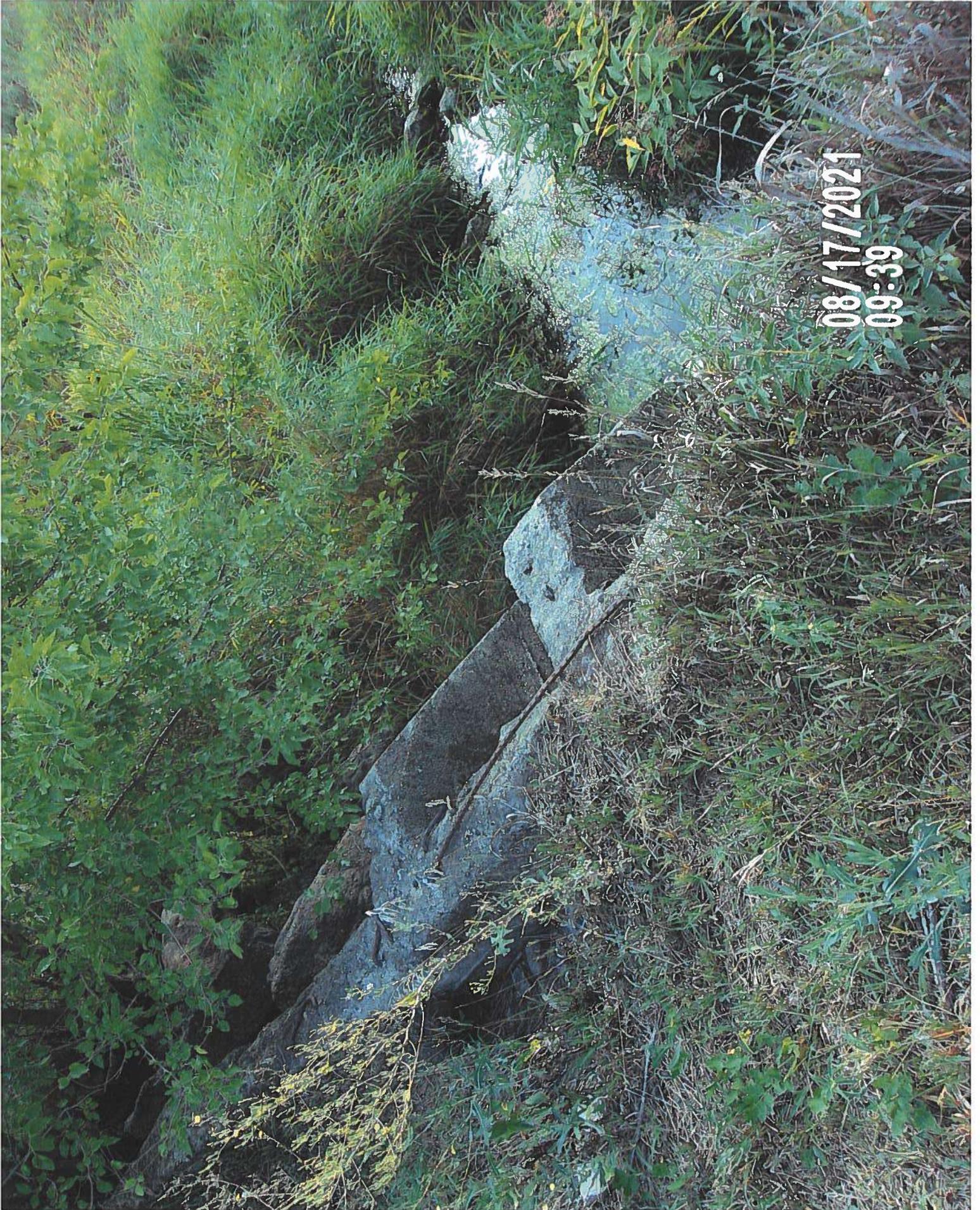
METHOD	TOTAL COST	CONSTRUCTION COST	ROAD CROSSING COST
Improvement - Open Ditch	\$1,330,240.94	\$466,490.31	\$863,750.63

It should be noted that said costs include materials, labor, and equipment supplied by the contractor to complete the necessary repair or improvement and include applicable engineering, construction observation, and project administration fees by Clapsaddle-Garber Associates. However, said costs do not include any interest, legal fees, county administrative fees, crop damages, other damages, previous repairs, engineering fees to date, wetland mitigation fees, or reclassification fees (if applicable). As always, all costs shown are opinions of Clapsaddle-Garber Associates based on previous lettings on other projects. Said costs are just a guideline and are not a guarantee of actual costs.

5.0 RECOMMENDATIONS – There is a need to perform the above-mentioned actions. The actions would remove the current restrictions to the Main tile and extend the lifespan of the same. Therefore, it is recommended that the District Trustees, should take action to accomplish the following:

- Approve the Supplement Engineer’s Report as prepared by Clapsaddle-Garber Associates.
- Seek advice from legal counsel as to whether the Open Ditch is a repair or improvement.
- Hold the required hearing on the proposed improvement.
- Adopt of the recommendations of the Supplement Engineer’s Report.
- Seek advice from NRCS and the County Engineer to see if an alternate route from the Main Open ditch around the intersection of JJ Avenue and 150th Street is acceptable.
- Direct plans and specifications for the proposed improvement be prepared by Clapsaddle-Garber Associates.
- Proceed with receiving bids from interested contractors by Clapsaddle-Garber Associates.
- Award contract to the lowest responsible contractor.
- If desired or required by Iowa Code, proceed with reclassification proceedings after seeking legal advice concerning the same.

Top Old HOWL @ TIVE OUTLET



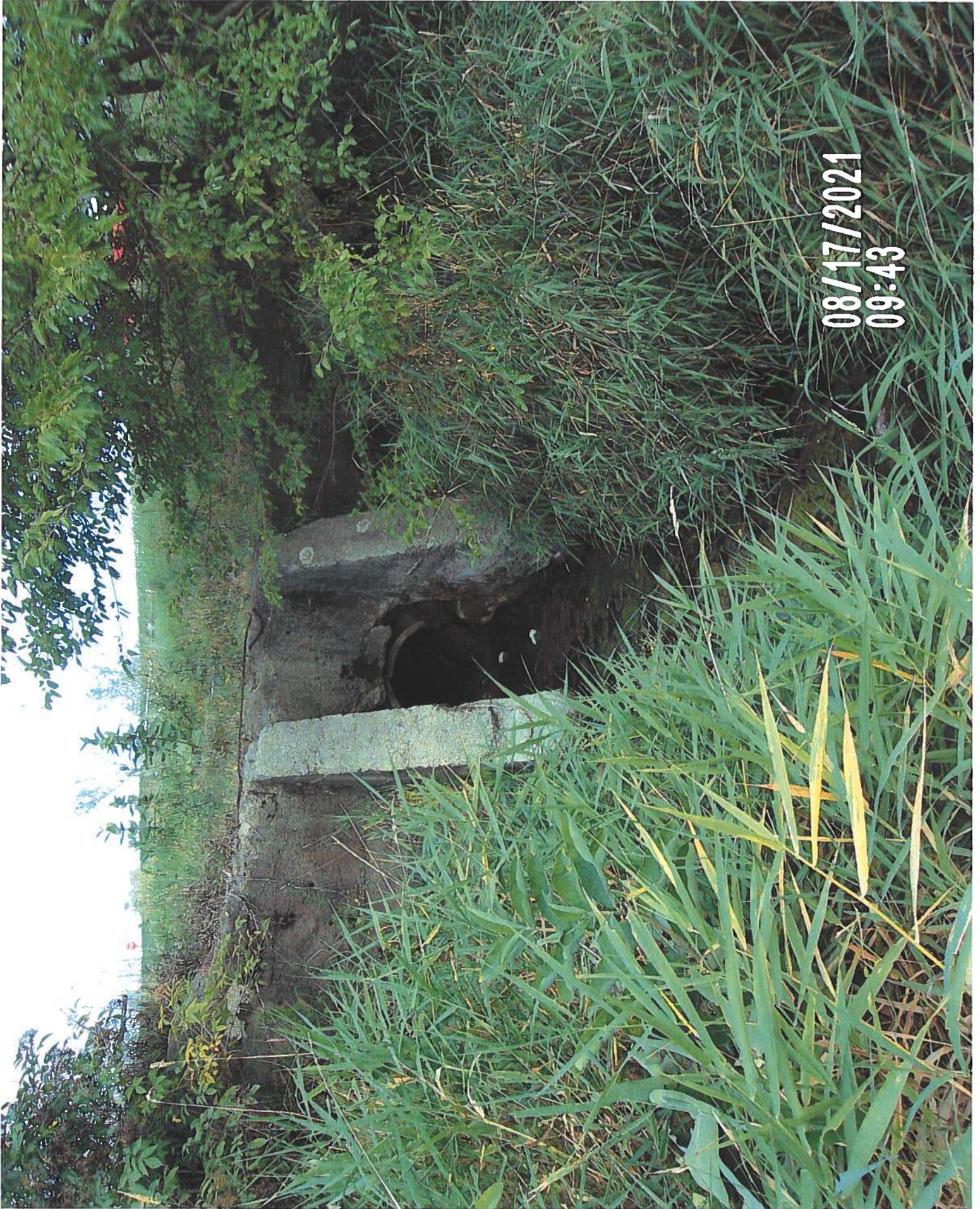
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09:39

LOOKING DOWN @ OUTLET



TIDE OUTLET DD3 MAIN

08/17/2021
09:43



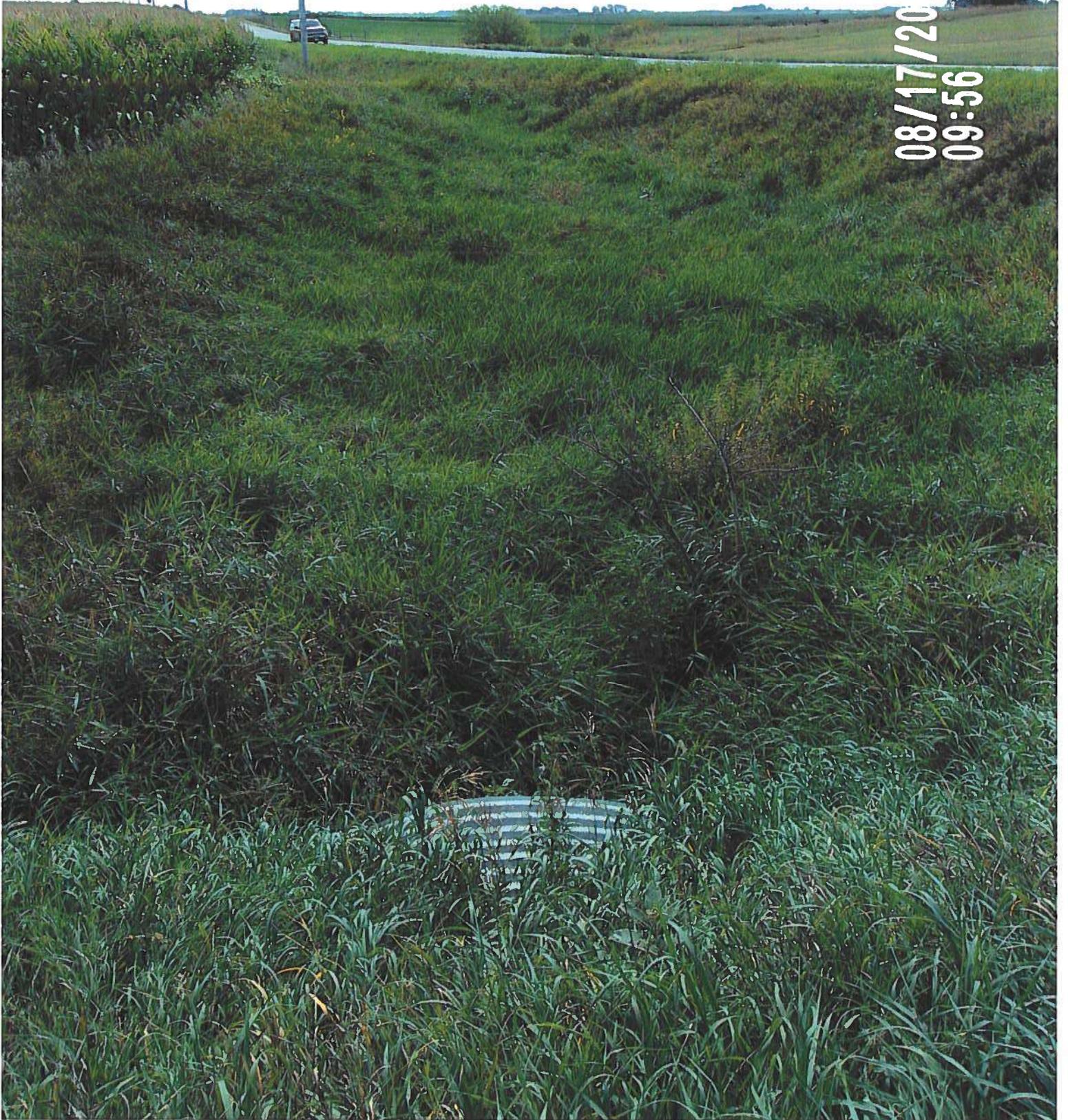
LOOKING UPSTREAM @ JB AVE.



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09:56

Looking downstream From JJ Ave.

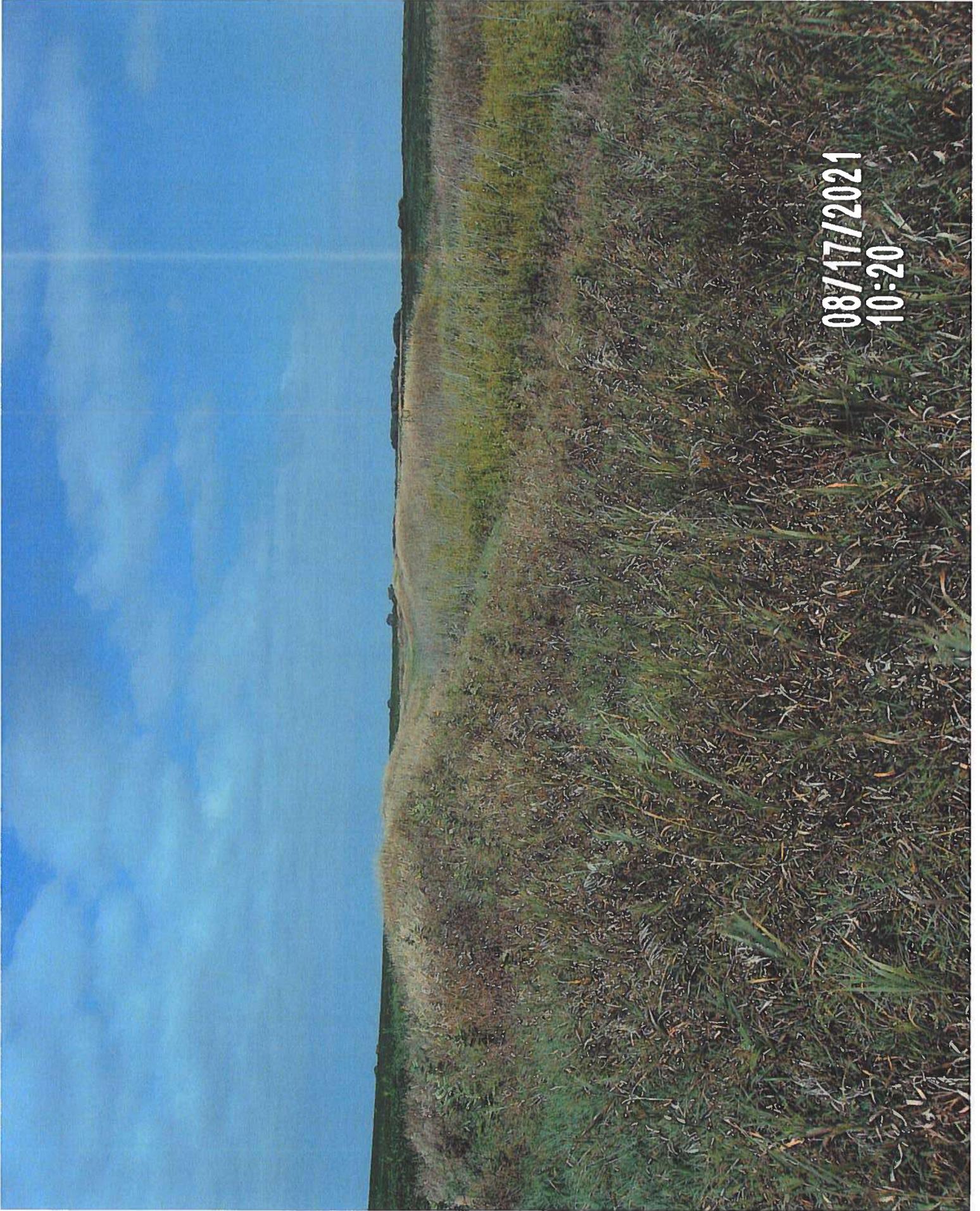
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LOOKING UPSTREAM

08/17/2021
10:17

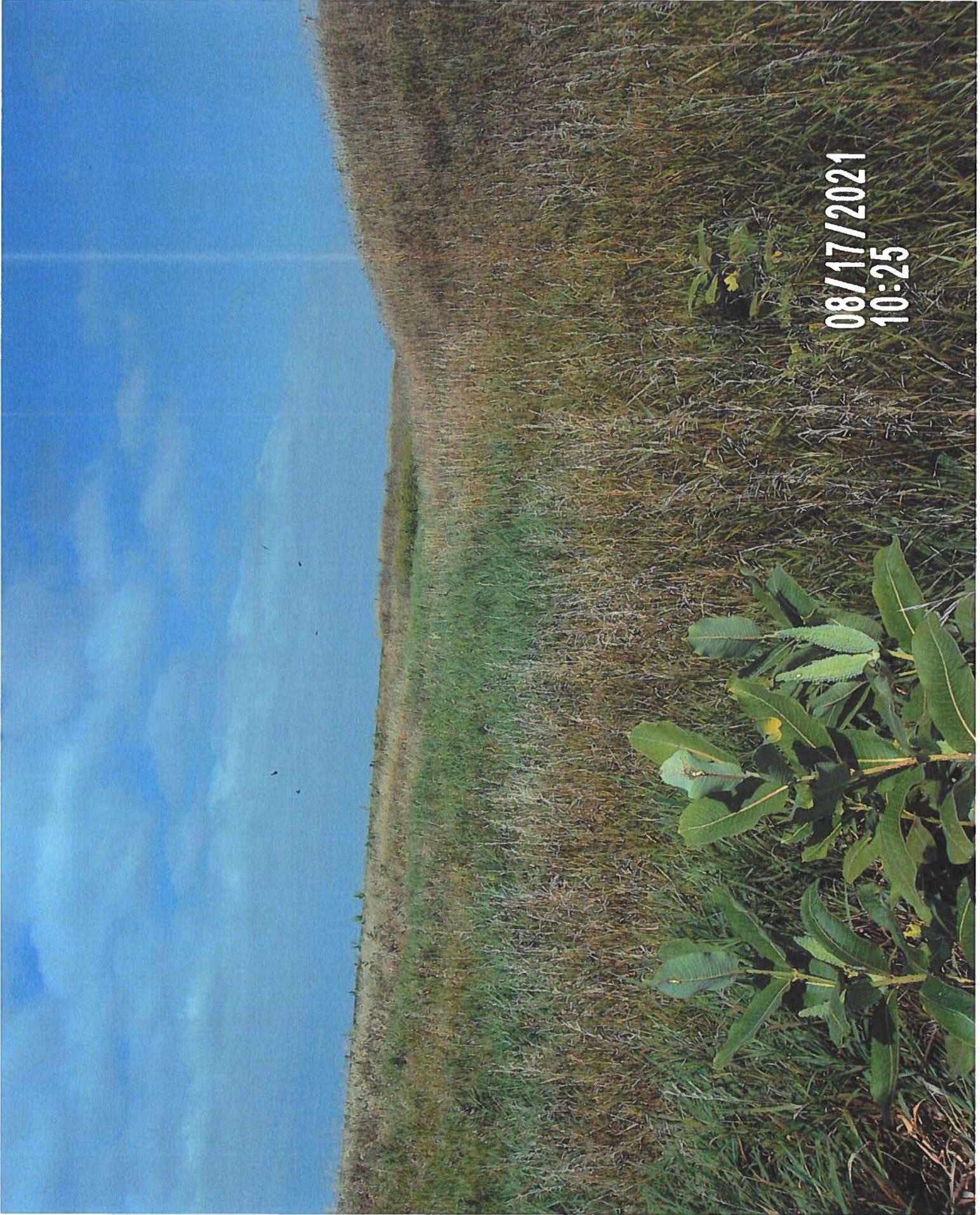




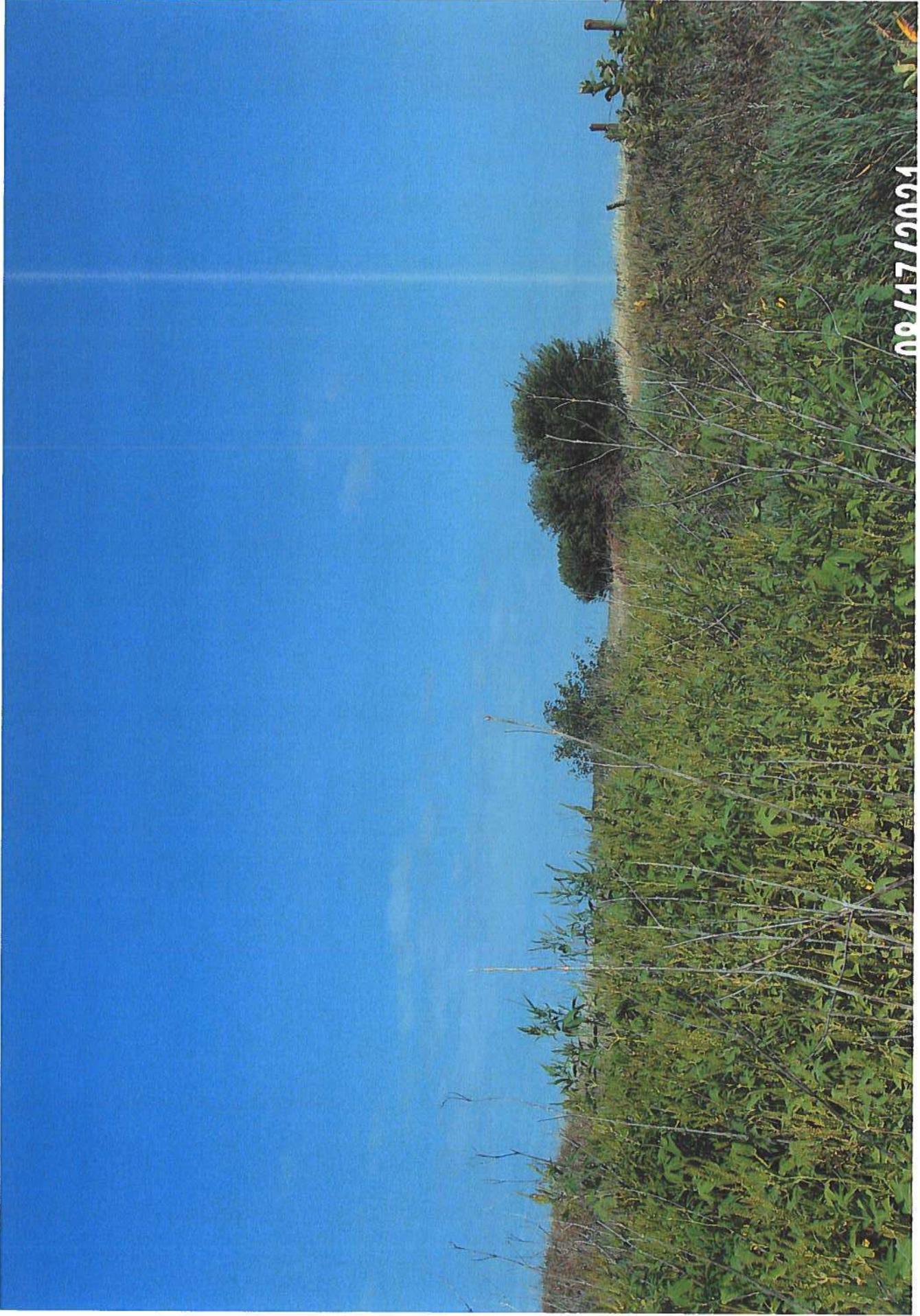
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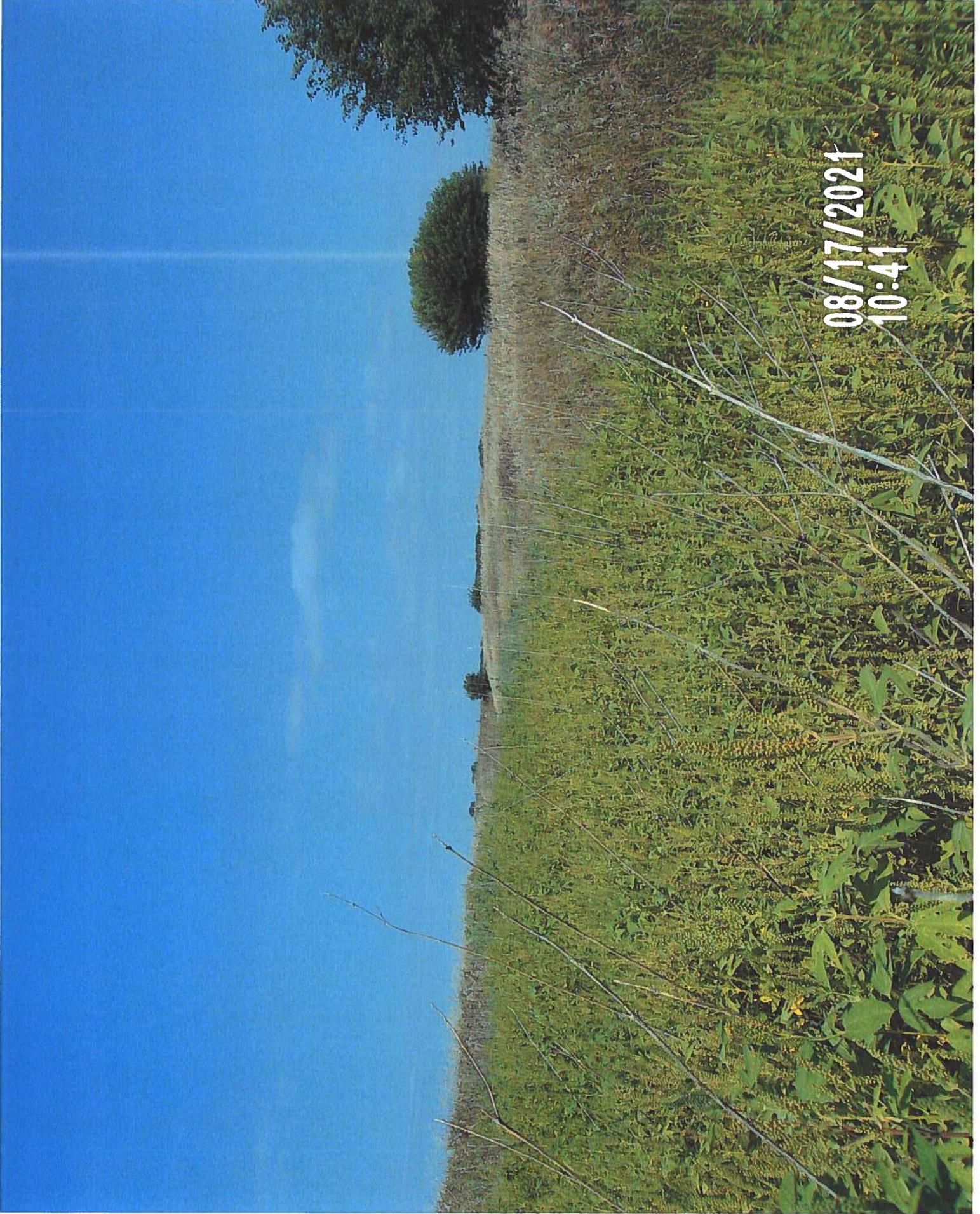




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09/17/2021



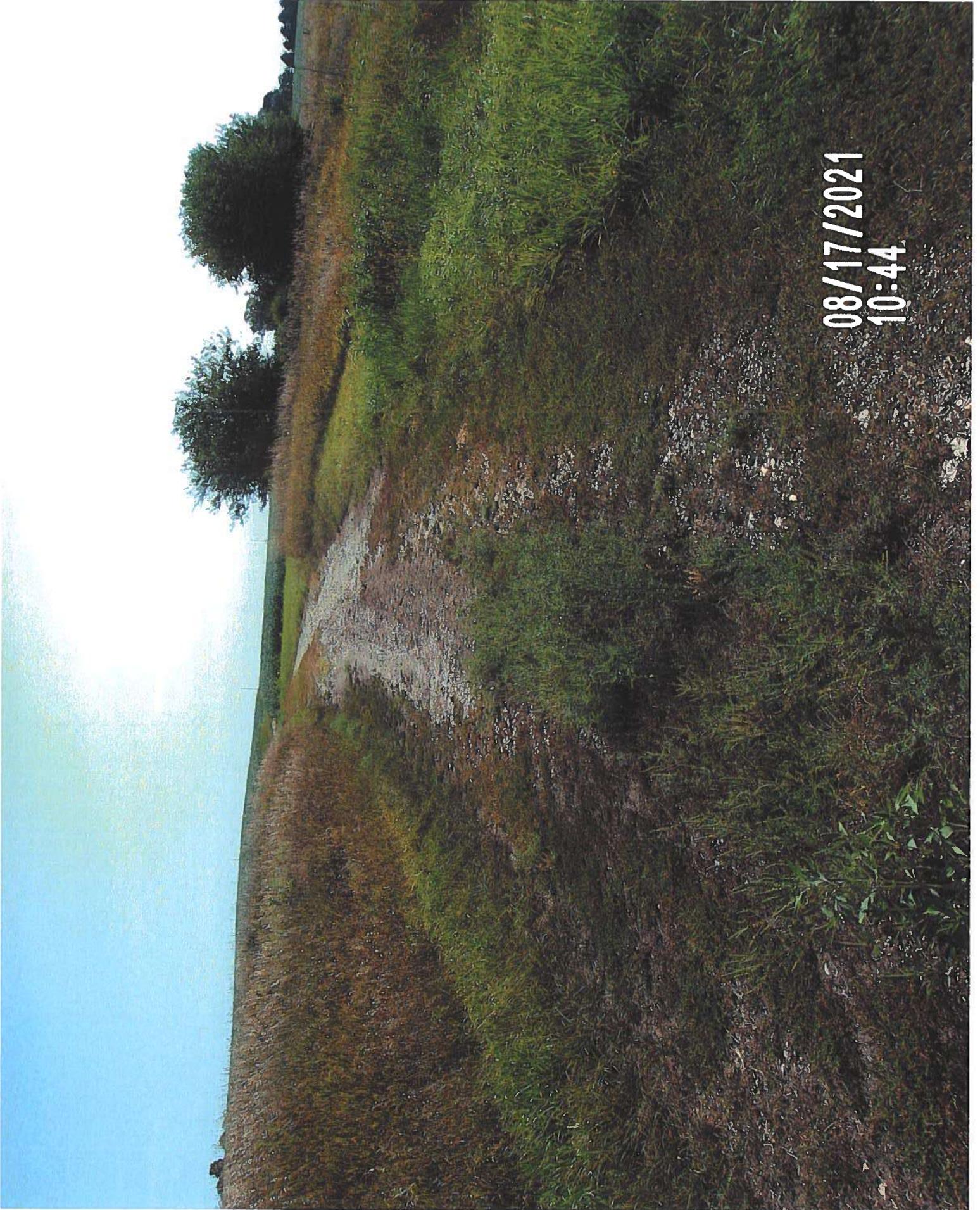
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10:41

FIELD DRIVE (E-W) SOUTH OF TURN TO WEST



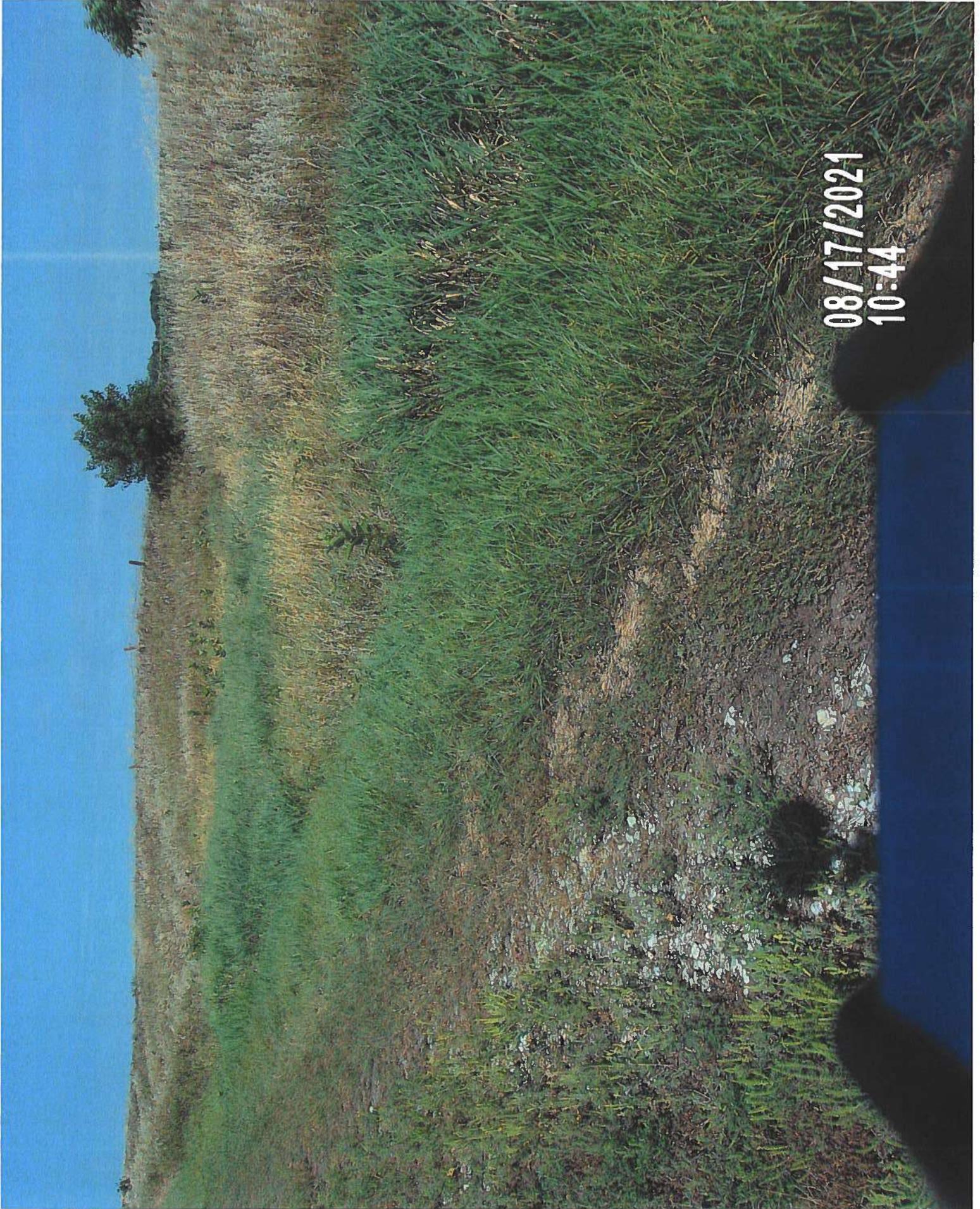
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LOOKING EAST @ DRIVE



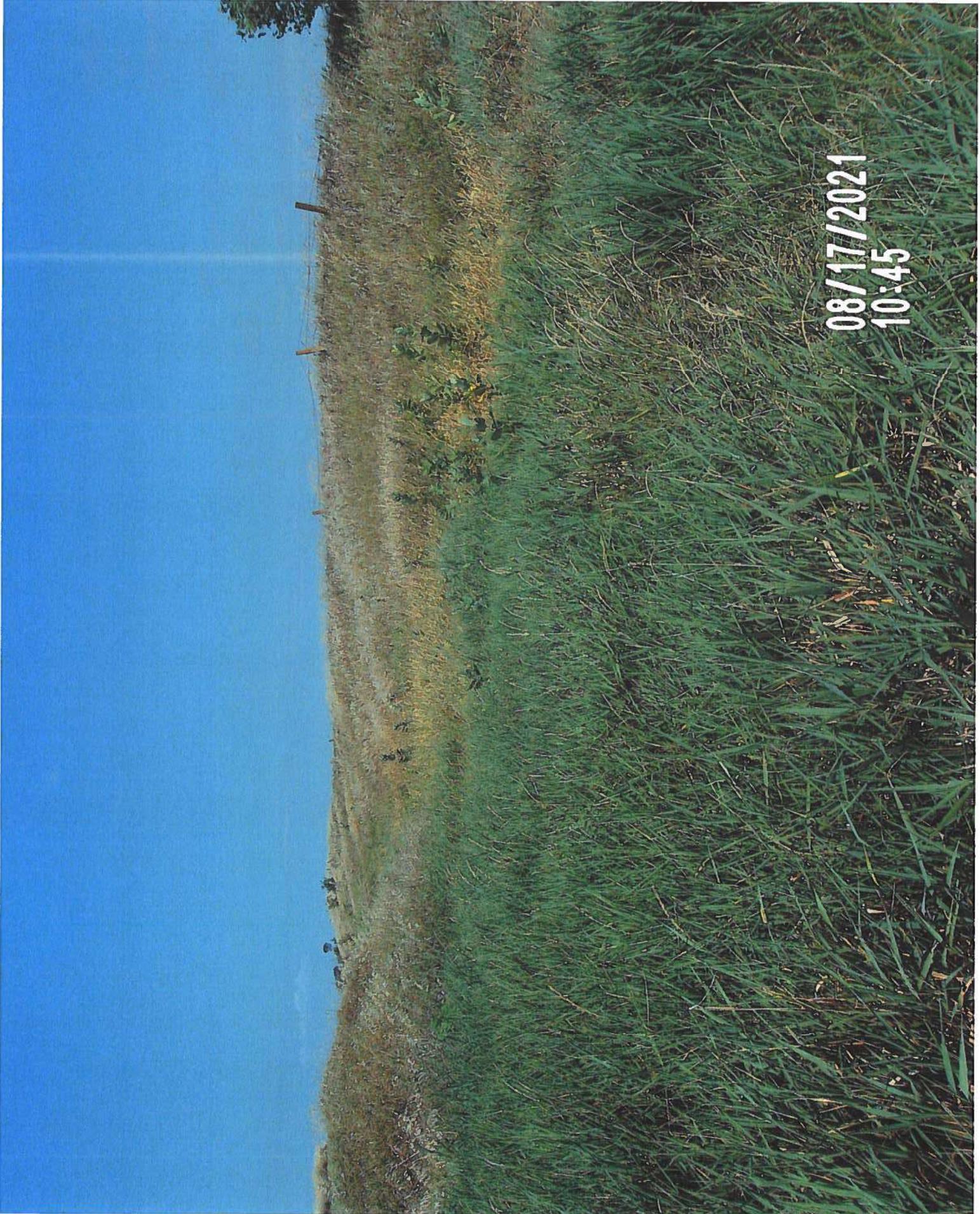
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STANDING ON DRIVE LOOKING NW @ TURN TO WEST



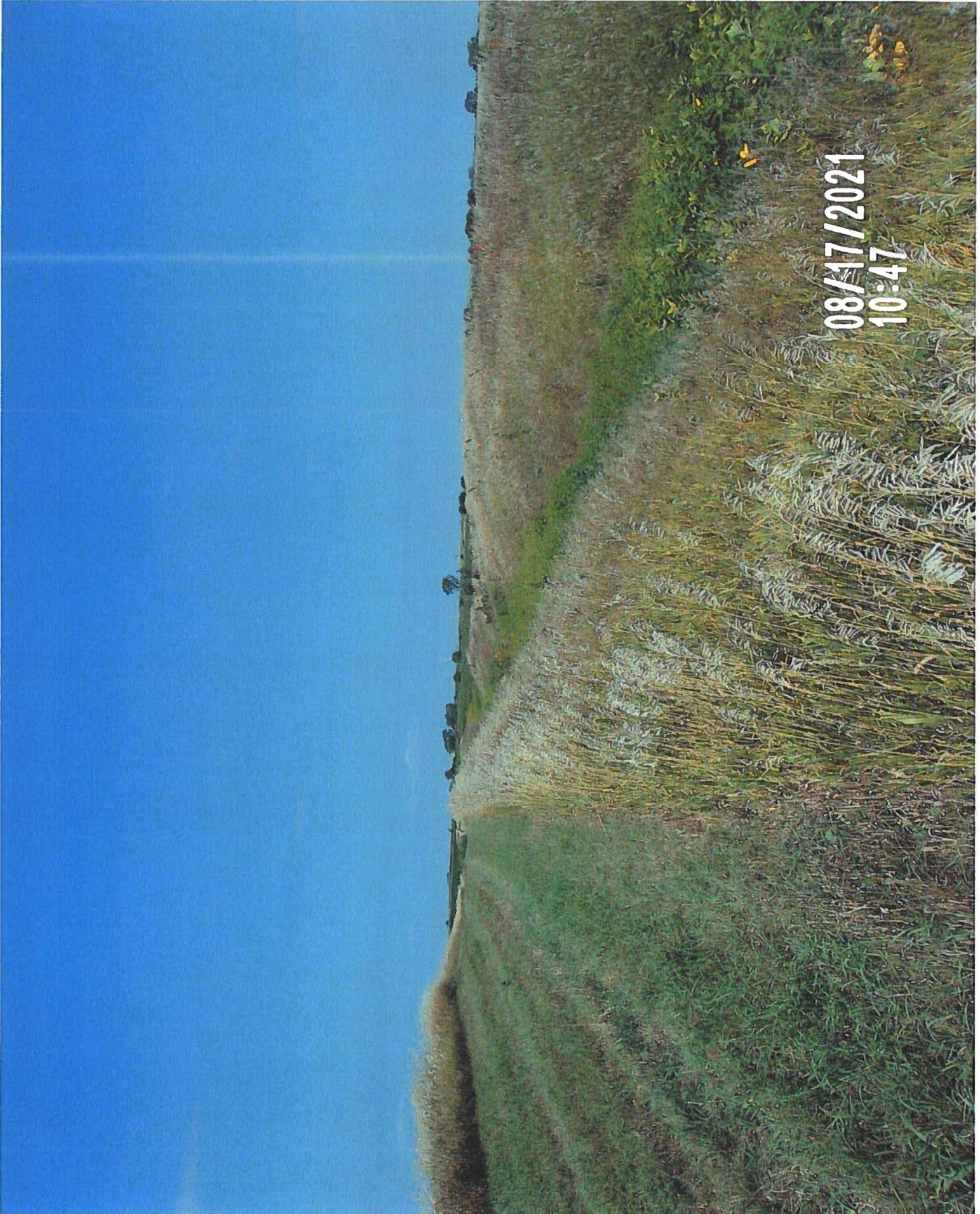
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LOOKING due West, upstream

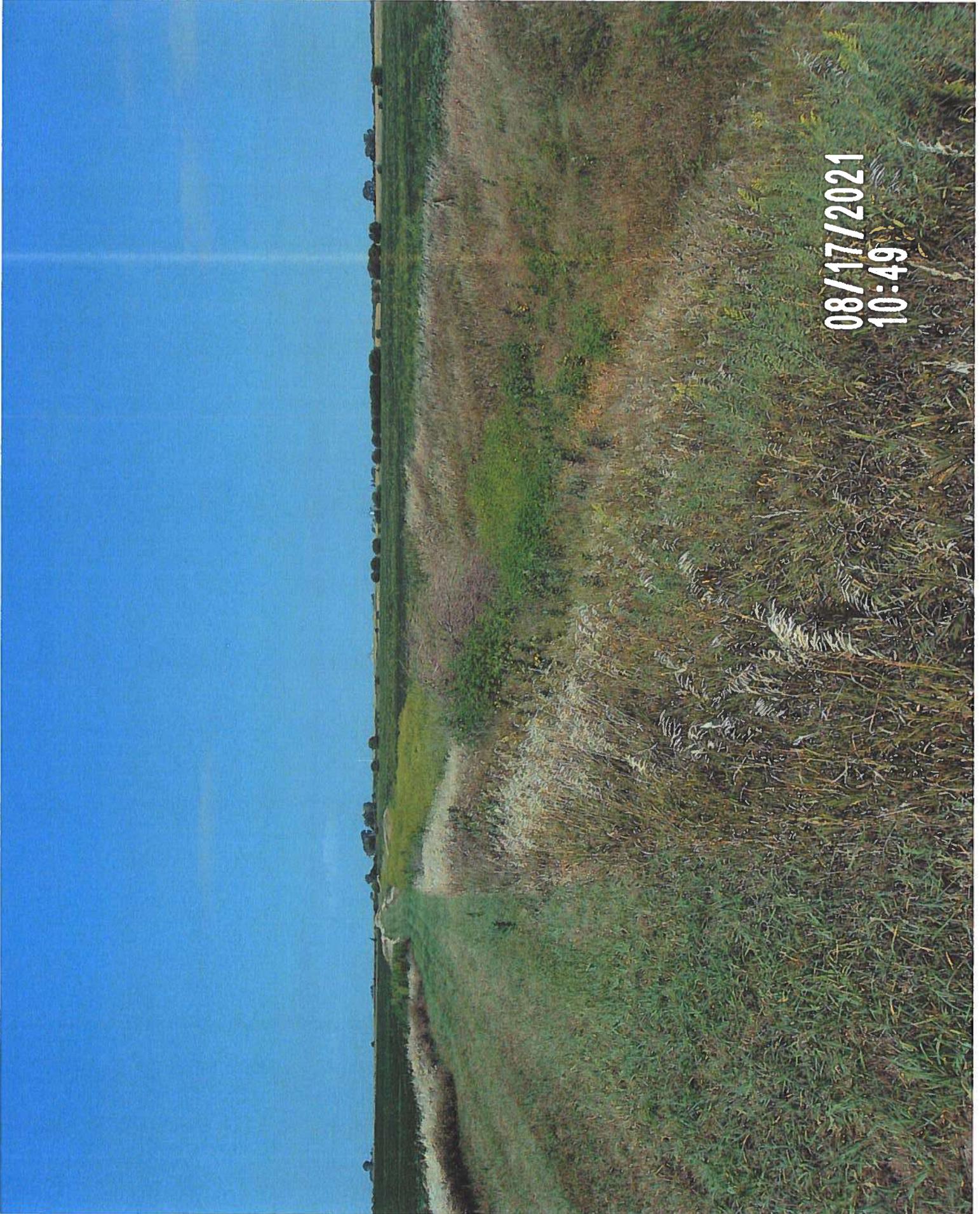


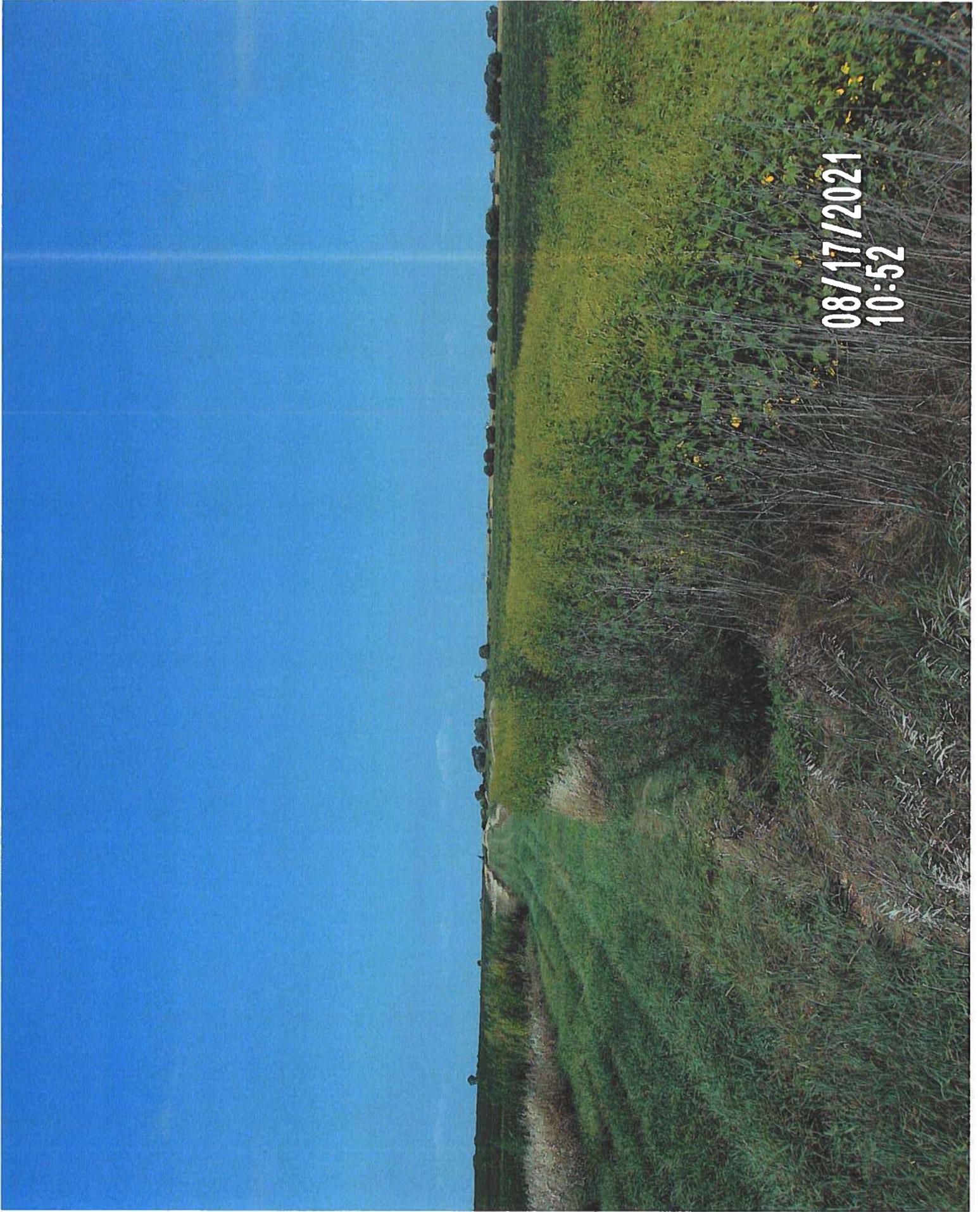
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10:49



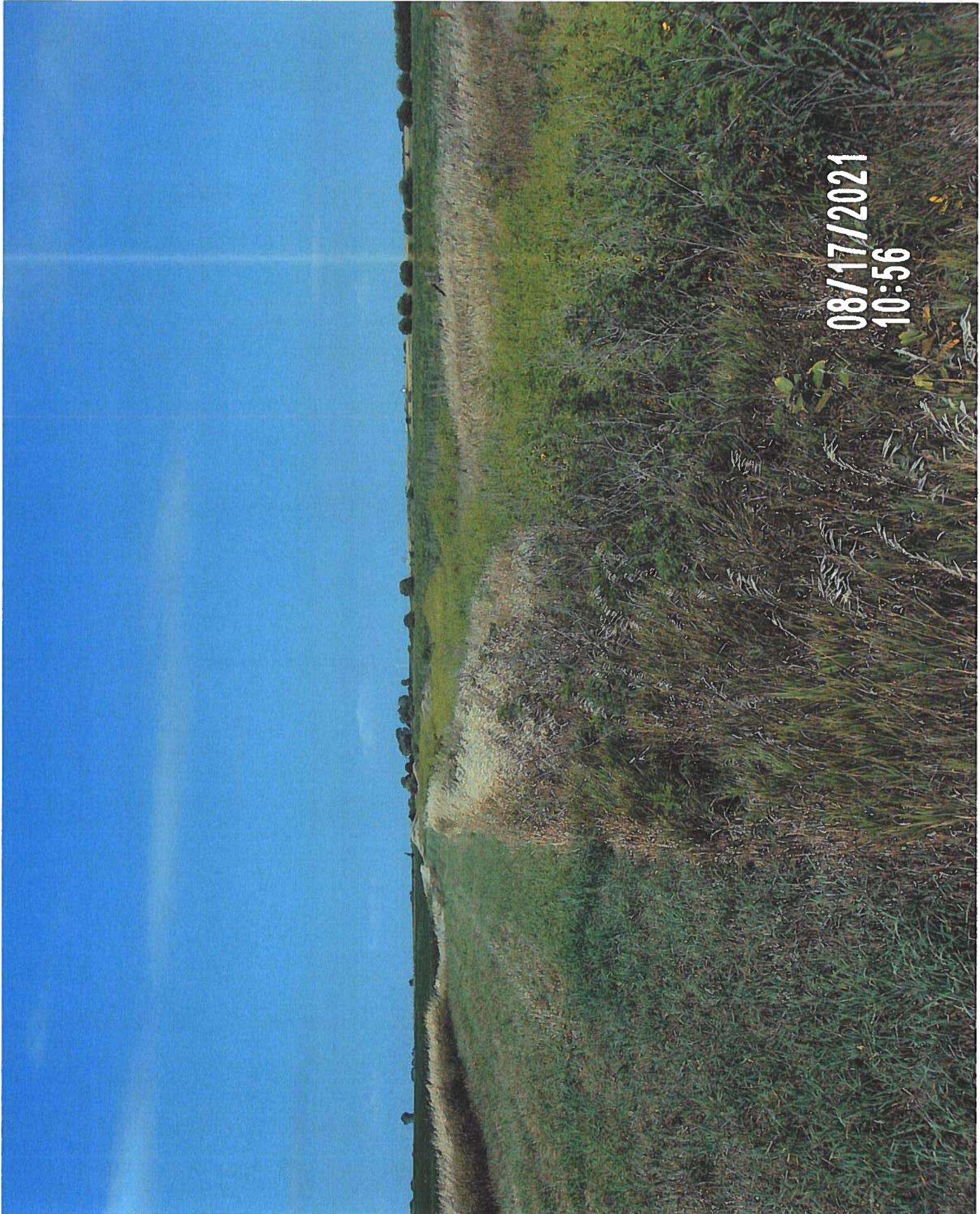


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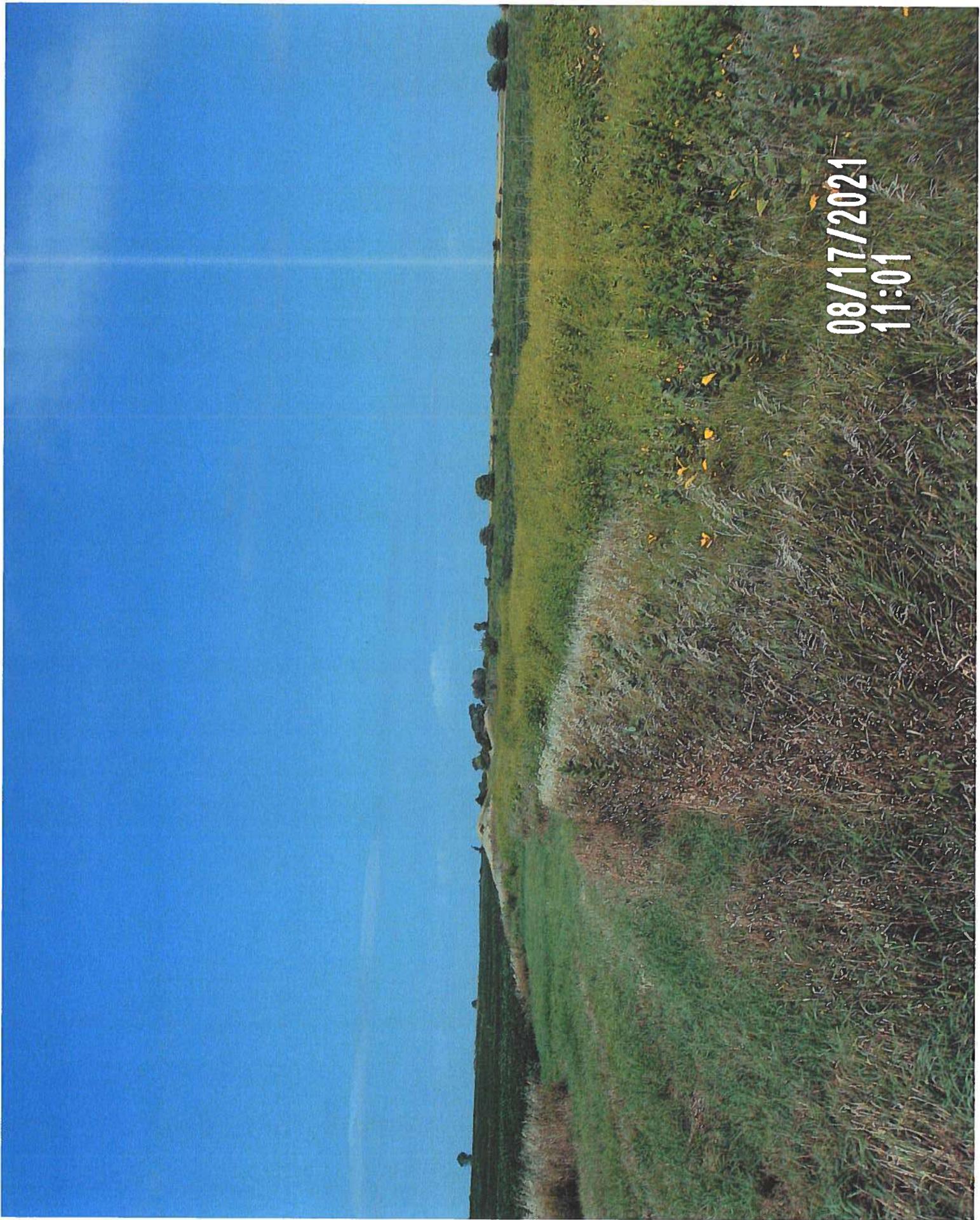
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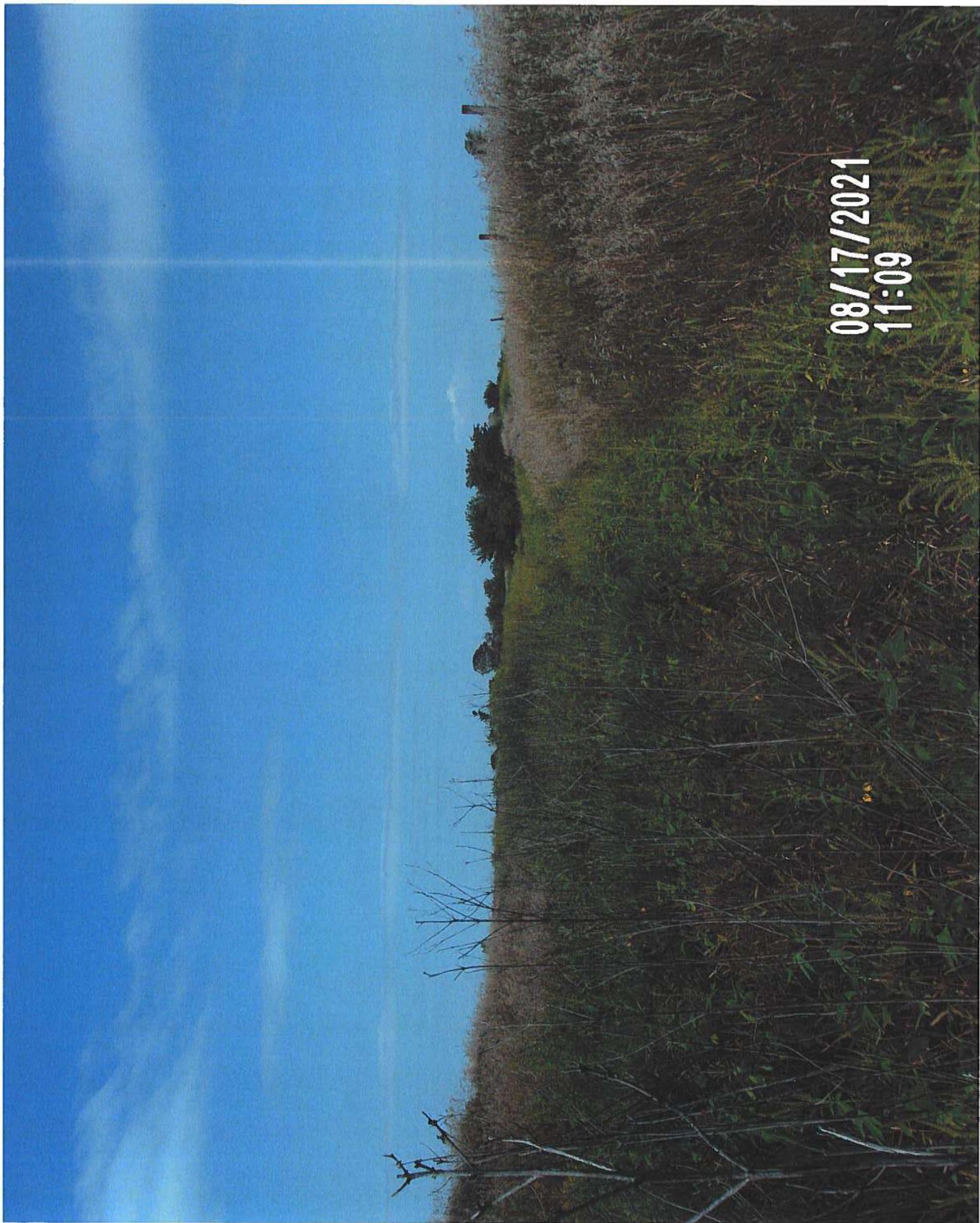
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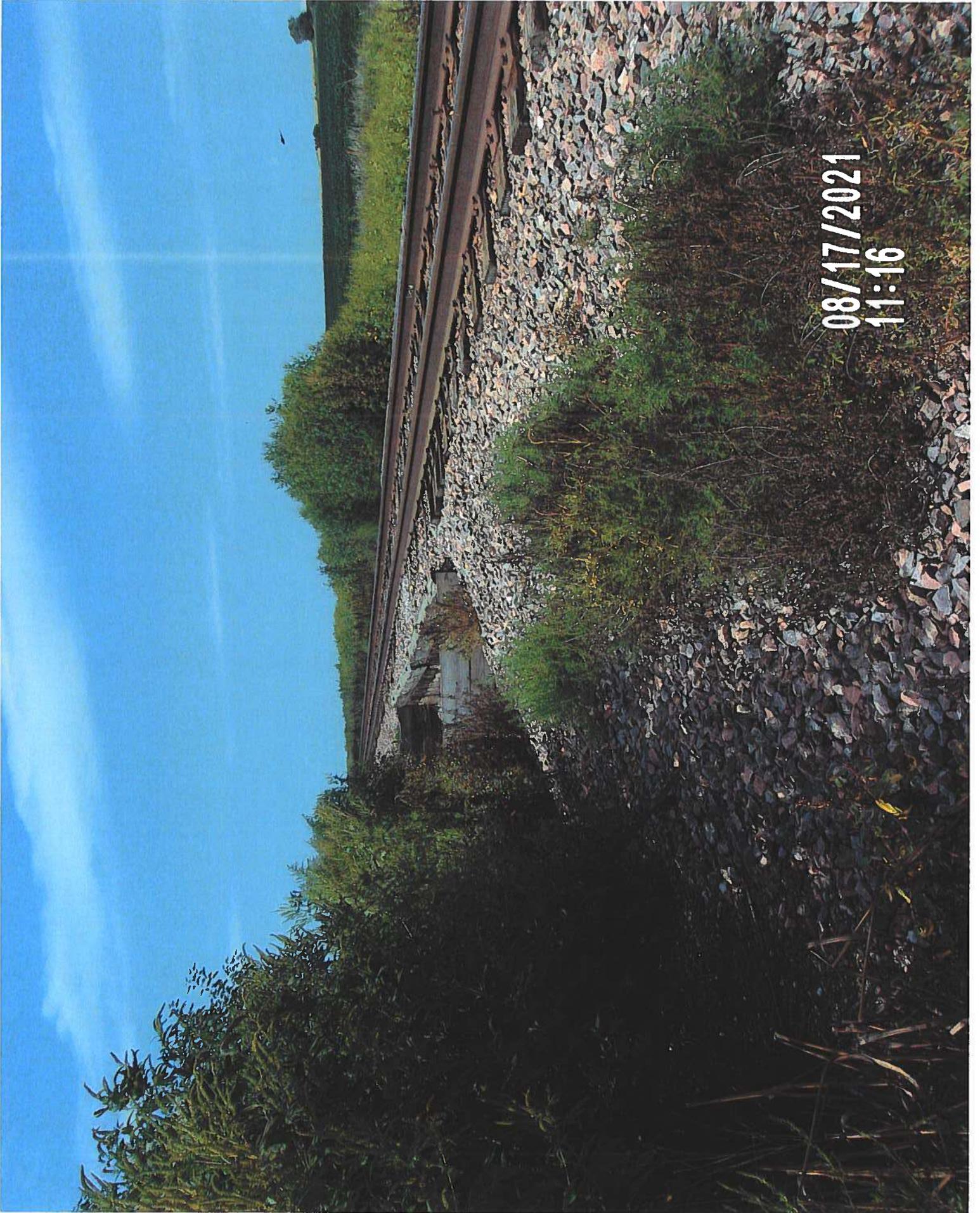
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08/17/2021
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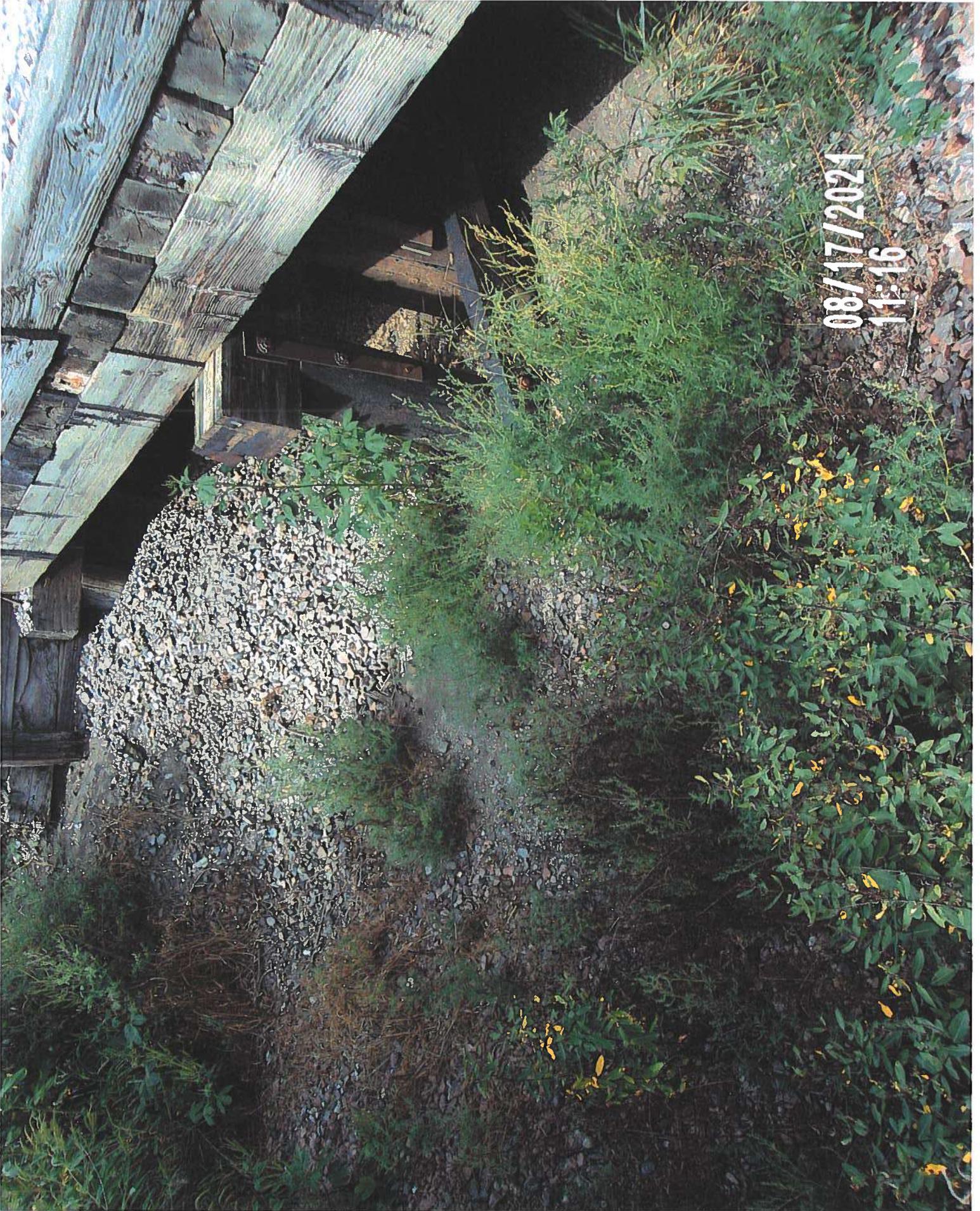


SOUTH SIDE OF RR BRIDGE



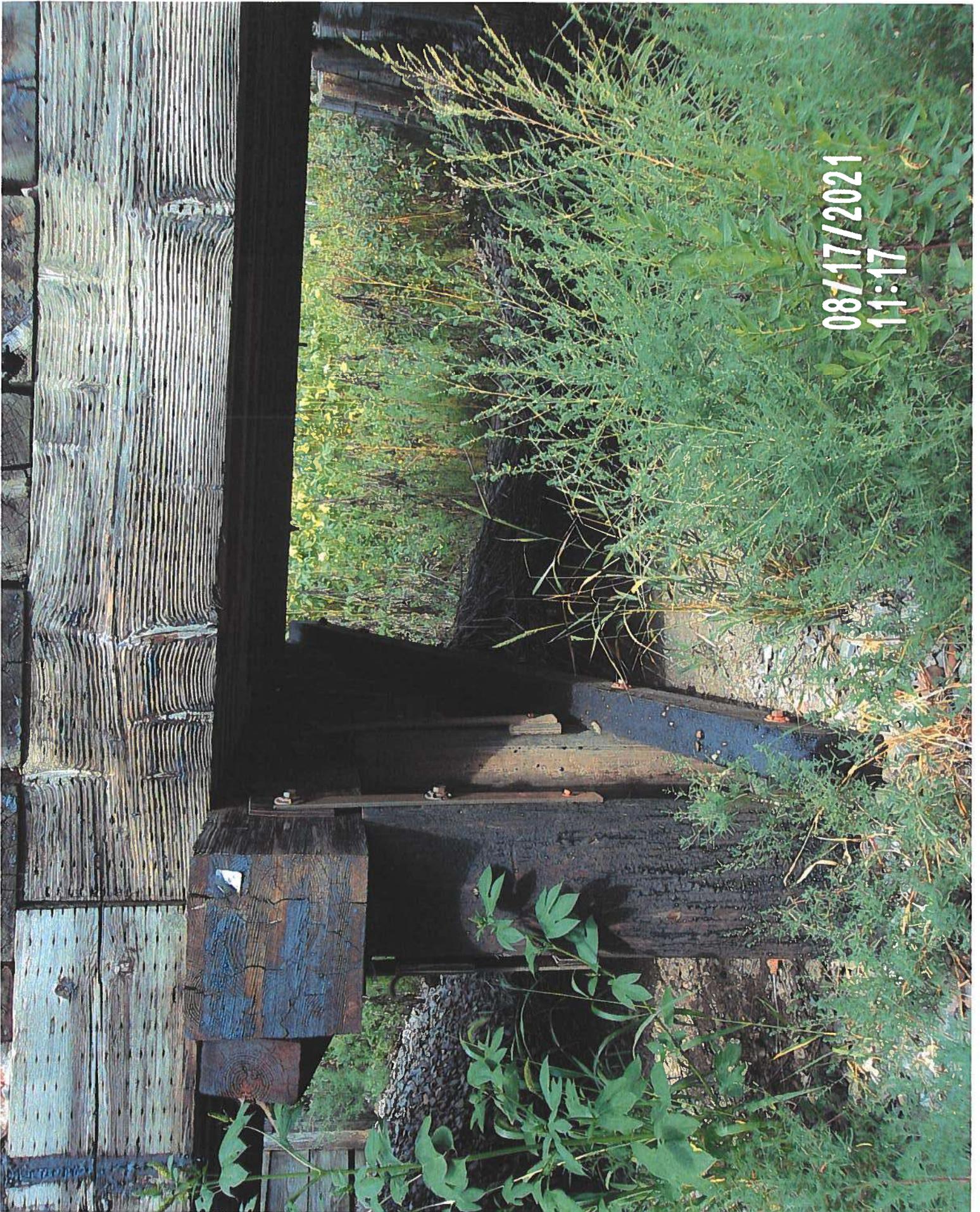
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SOUTH SIDE RR BRIDGE



08/17/2021
11:16

SE BENT, LOOKING UPSTREAM

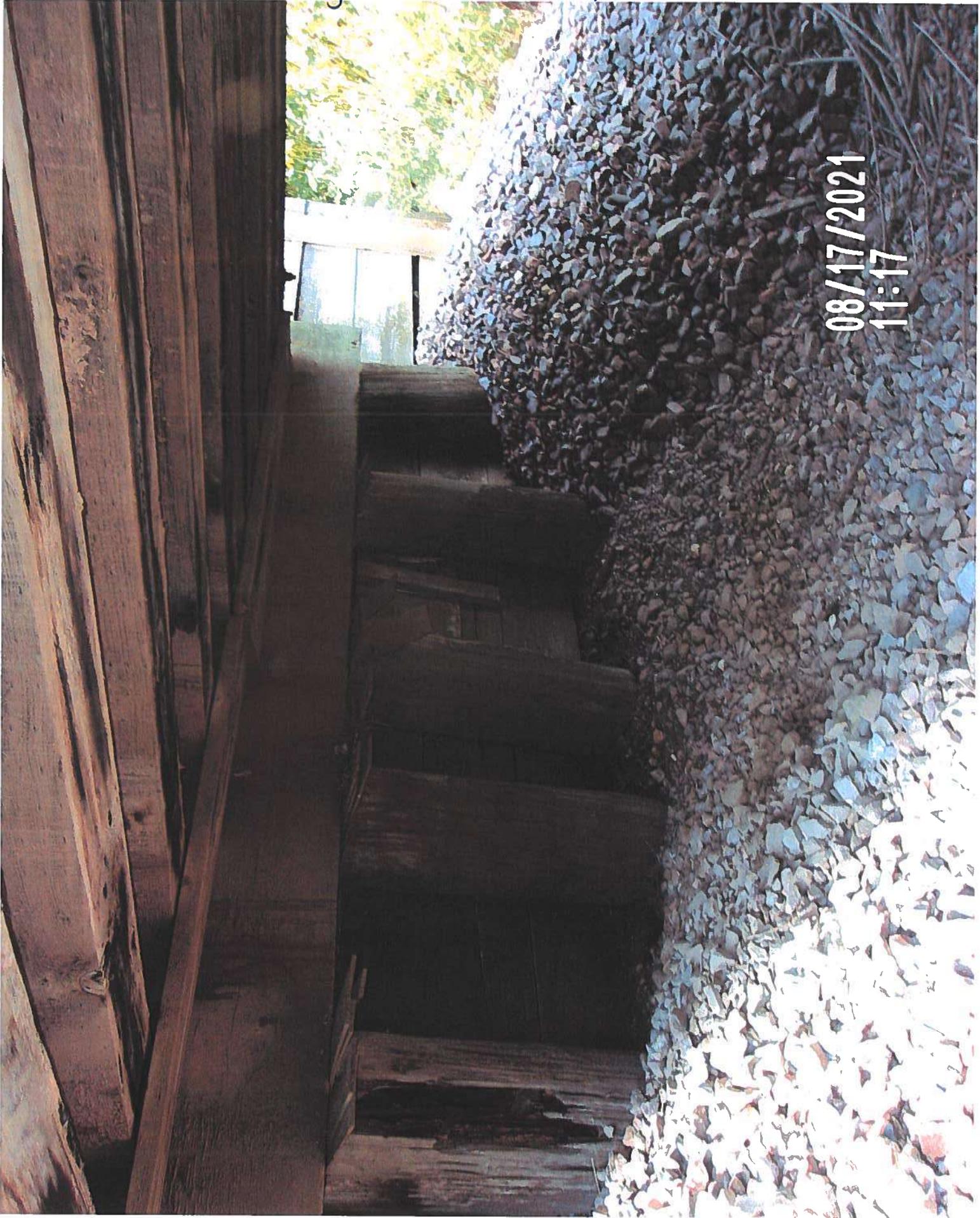


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11:17

EASTERLY ABUTMENT



WESTERLY ACQUITTMENT, BAD SHADE



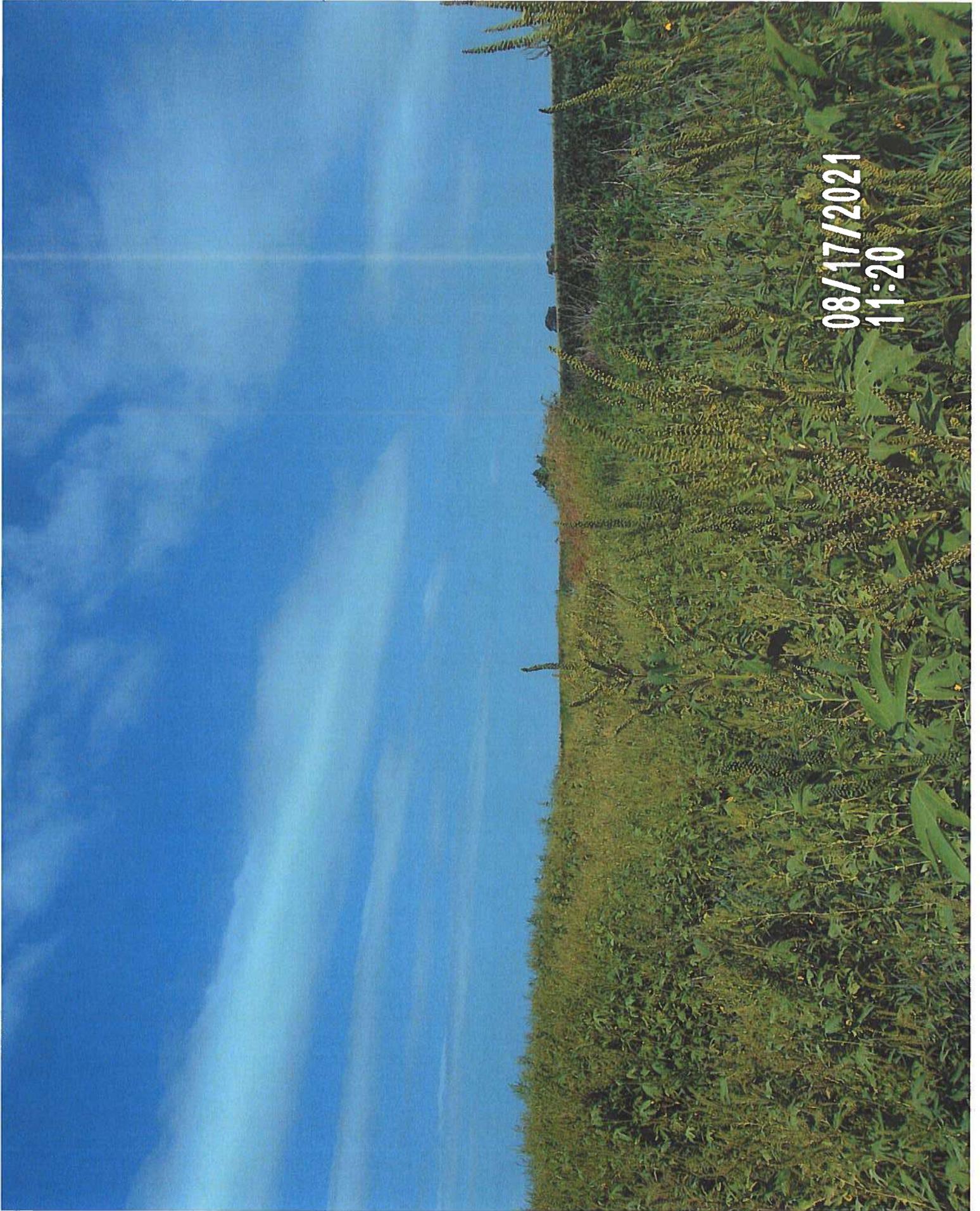
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LOOKING DOWNSTREAM @ BRIDGE



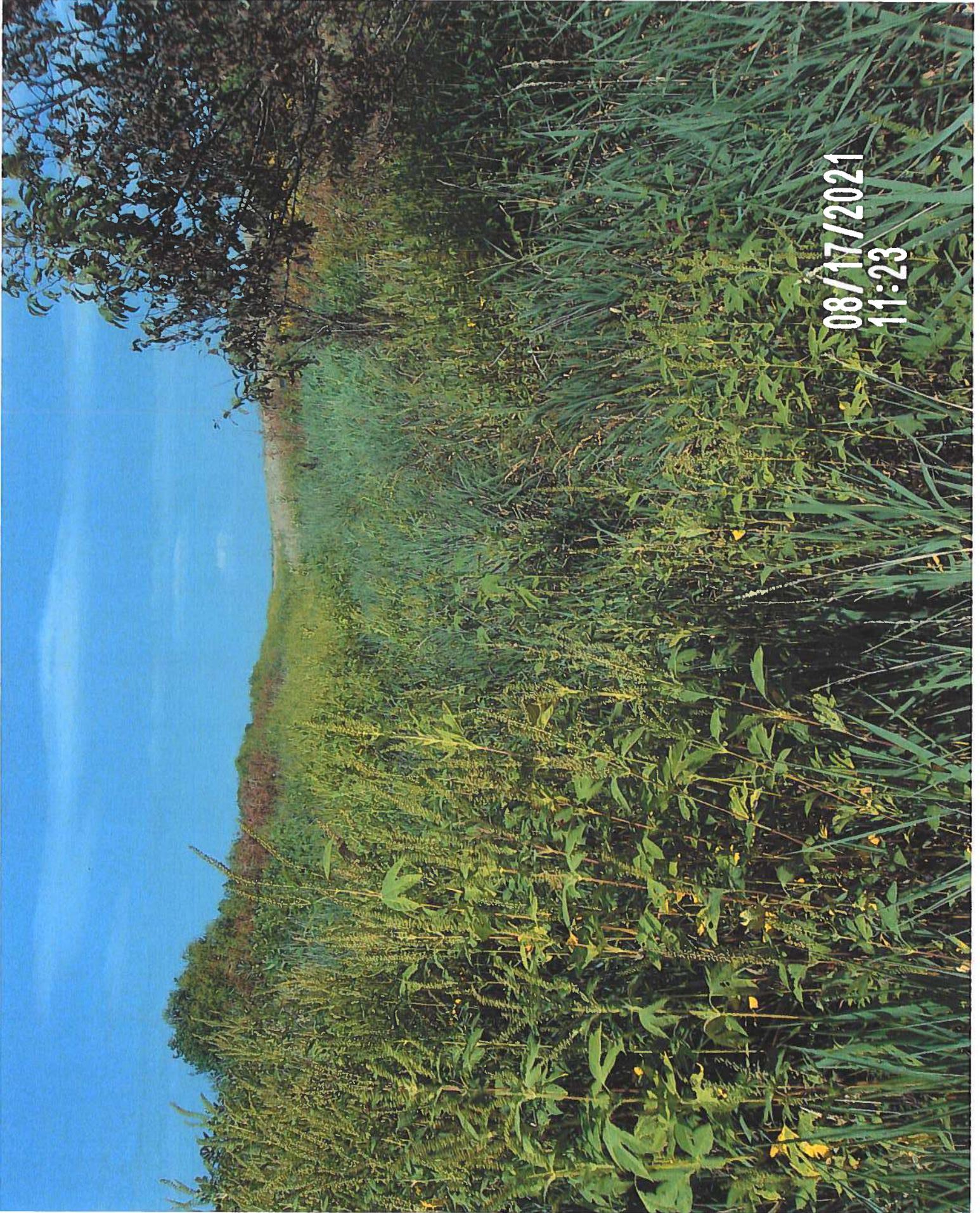
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LOOKING UPSTREAM FROM BRIDGE



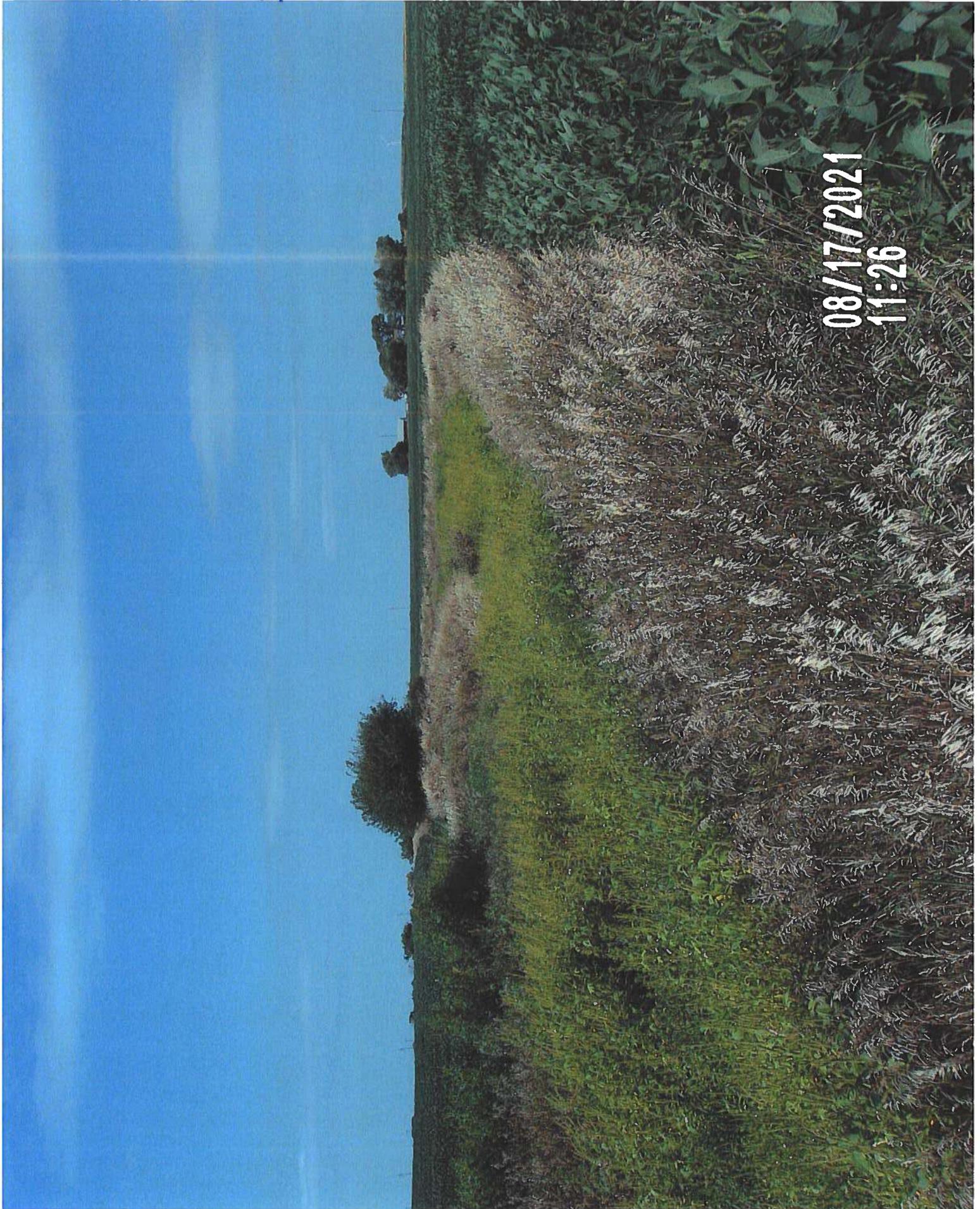
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LOOKING UPSTREAM



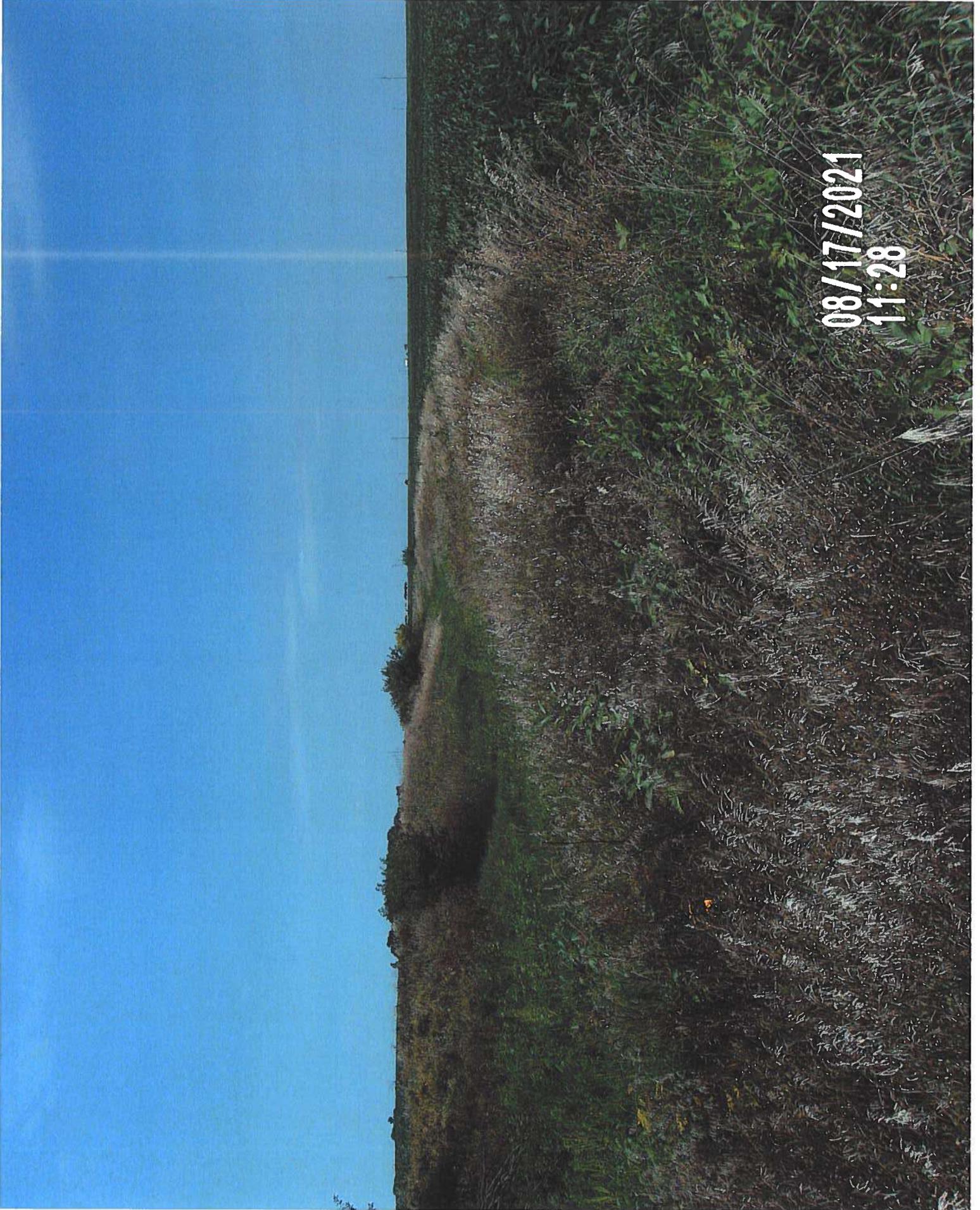
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11:23

LOOKING UPSTREAM @ CURVE IN SWALE/TILE



08/17/2021
11:26

CURVE TO SW



08/17/2021
11:28

LOOKING SW down UPRR



08/17/2021
11:42

Looking downstream From RR Bridge



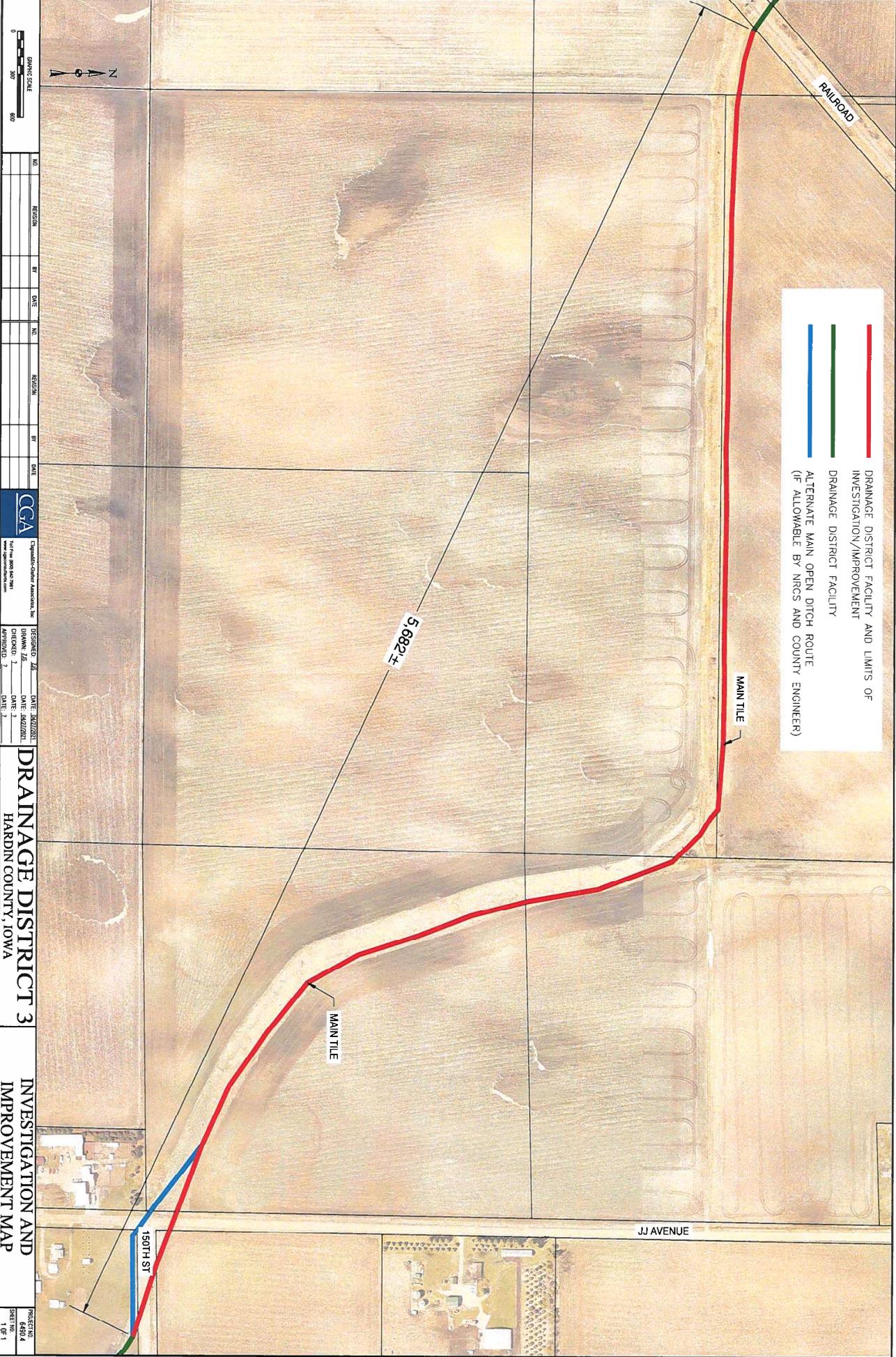
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6490 DD3 8-17-21RB

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4007,3639924.039,4976436.191,1136.795,513 TOP CMP 48"ELIPT
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6490 DD3 8-17-21RB

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- DRAINAGE DISTRICT FACILITY AND LIMITS OF INVESTIGATION/IMPROVEMENT
- DRAINAGE DISTRICT FACILITY
- ALTERNATE MAIN OPEN DITCH ROUTE (IF ALLOWABLE BY NRCS AND COUNTY ENGINEER)

NO.	REGION	BR.	DATE	NO.	REGION	BR.	DATE

CGA
 Certified Geomatics Associates, Inc.
 1001 First Street, Suite 200
 Des Moines, Iowa 50319
 Phone: 515.281.1111
 Fax: 515.281.1112

DESIGNED BY	DATE	DESIGNED BY	DATE
JES	08/27/21	JES	08/27/21
CHECKED BY	DATE	CHECKED BY	DATE
JES	08/27/21	JES	08/27/21
APPROVED BY	DATE	APPROVED BY	DATE

DRAINAGE DISTRICT 3
 HARDIN COUNTY, IOWA

INVESTIGATION AND IMPROVEMENT MAP

PROJECT NO.	6490 4
SHEET NO.	1 OF 1



By: Z.J.S.
 Date: 9/1/2021
 Checked By: L.O.G.
 Date: 9/2/2021

Engineer's Opinion of Probable Construction Cost
Project: Main tile Improvement for D.D. #3
 Location: Sections 26, 27 and 35, T89N, R21W, Hardin County, Iowa

ITEM #	DESCRIPTION	Unit Cost	Units	Quantity	Units	Total Cost
OPEN DITCH CONSTRUCTION COSTS						
301	OPEN DITCH CONSTRUCTION	\$ 2,000.00	STA	53.15	STA	\$ 106,300.00
302	30" CMP OUTLET	\$ 75.00	LF	80	LF	\$ 6,000.00
303	SHEET PILE HEADWALL	\$ 35,000.00	EA	1	EA	\$ 35,000.00
304	RIP-RAP	\$ 50.00	TN	250	TN	\$ 12,500.00
305	SURFACE DRAINS	\$ 2,000.00	EA	16	EA	\$ 32,000.00
306	PRIVATE TILE OUTLETS	\$ 1,500.00	EA	26	EA	\$ 39,000.00
307	PERMANENT SEEDING AND WARRANTY	\$ 1,000.00	STA	53.95	STA	\$ 53,950.00
308	HEADWALL REMOVAL	\$ 2,000.00	EA	1	EA	\$ 2,000.00
309	TILE REMOVAL	\$ 7.00	LF	5395	LF	\$ 37,765.00
CONSTRUCTION SUBTOTAL						\$ 324,515.00
Contingency (15%)						\$ 48,677.25
CONSTRUCTION TOTAL						\$ 373,192.25
Engr. & Const. Observation (25%)						\$ 93,298.06
TOTAL COST						\$ 466,490.31
ROAD CROSSING CONSTRUCTION COSTS						
310	RCP BOX CULVERT (JJ AVE.)	\$ 2,000.00	LF	70	LF	\$ 140,000.00
311	RCP BOX CULVERT (150TH ST.)	\$ 2,000.00	LF	139	LF	\$ 278,000.00
312	OPEN DITCH CONSTRUCTION	\$ 2,000.00	STA	78	STA	\$ 156,000.00
313	TILE REMOVAL	\$ 10.00	LF	287	LF	\$ 2,870.00
314	SURFACE DRAINS	\$ 2,000.00	EA	4	EA	\$ 8,000.00
315	PERMANENT SEEDING AND WARRANTY	\$ 3,000.00	LOC	2	LOC	\$ 6,000.00
316	TRAFFIC CONTROL	\$ 5,000.00	LOC	2	LOC	\$ 10,000.00
CONSTRUCTION SUBTOTAL						\$ 600,870.00
Contingency (15%)						\$ 90,130.50
CONSTRUCTION TOTAL						\$ 691,000.50
Engr. & Const. Observation (25%)						\$ 172,750.13
TOTAL COST						\$ 863,750.63

OPEN DITCH REPLACEMENT

Note: Per Iowa Code, road crossings (highlighted red) are not typically district expense

HARDIN COUNTY, IOWA

2021



**ENGINEER'S REPORT
ON REPAIRS AND
IMPROVEMENTS TO
THE MAIN TILE
DRAINAGE DISTRICT
NO. 3
HARDIN COUNTY,
IOWA**



I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA

ZEB J. STANBROUGH, P.E.

DATE

LICENSE NUMBER: 19957
MY LICENSE RENEWAL DATE IS DECEMBER 31, 2021
PAGES OR SHEETS COVERED BY THIS SEAL:
SHOWN ON TABLE OF CONTENTS

5-17-2021



CLAPSADDLE-GARBER ASSOCIATES OFFICE LOCATIONS

16 East Main Street, PO Box 754 | Marshalltown, IA 50158
1523 S. Bell Avenue, Suite 101 | Ames, IA 50010
5106 Nordic Drive | Cedar Falls, IA 50613
739 Park Avenue | Ackley, IA 50601
511 Bank Street | Webster City, IA 50595

Project Office
739 Park Avenue
Ackley, IA. 50601
Phone: 641-847-3273
Fax: 641-847-2303

**Engineer's Report on Repairs and Improvements
to the Main Tile, Drainage District No. 3
Hardin County, Iowa**

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Engineer's Report on Repairs and Improvements To the Main Tile, Drainage District No. 3 Hardin County, Iowa

1.0 INTRODUCTION

- **SCOPE OF WORK** – The District Trustees, requested Clapsaddle-Garber Associates to investigate and report concerning repairs and improvements to the Main Tile of Drainage District No. 3. This report will detail the feasibility of said repairs and improvements, and present opinions of probable construction costs associated with said repairs and improvements. In November 2020, the District Trustees requested Clapsaddle-Garber Associates to move ahead with an investigation and report concerning repairs and improvements to the Main Tile after deficiencies with had been identified.

- **LOCATION** – The area of investigation was limited to a portion of Main tile. Said Main tile is located in Sections 27 and 28, Township 89 North (T89N), Range 21 West (R21W), Hardin County, Iowa. Specifically, the downstream limit of investigation for the Main tile is upstream of the railroad right of way in Section 27 approximately ½ mile west of I Avenue and ½ mile south of the 140th Street. Going upstream, the tile then proceeds northwesterly for a short run before turning southwesterly across Section 27. It crosses I Avenue approximately 1 mile south of 140th Street. The tile then continues southwesterly across Section 28 for ¼ mile and then turns westerly, with the upstream limits of the investigation being approximately ¼ mile west of I Avenue. For reference, a map showing the limits of investigation is included in Appendix B.

2.0 DISTRICT HISTORY – The following is a brief summary of the pertinent history of Drainage District No. 3 as obtained from the Hardin County Engineer’s Field Books and the Hardin County Auditor’s drainage minutes and records.

- 1906, Mar. 5 Original petition filed in the County Auditor's Office.
- 1906, Aug. 7-14 "The Iowa falls Sentinel" published Notice of petition.
- 1906, Sept. 4 Hearing
- 1906, Oct. 13 "THE SEMI-WEEKLY HERALD" published Notice for Drain District.
- 1906, Nov. 12 Hearing for damages
- 1907, Jan. 21 Amended and substituted petition was filed for a Drainage District No. 3.
- 1907, Feb. 2 Engineer's Report by Geo L. Mechem was filed.
- 1907, Nov. 7 Board of Supervisors - resolved to establish Drainage District No. 3.
- 1908, Mar. 4 Board of Supervisors rerecorded November 7, 1907 minutes, proceedings, and resolutions to fix errors in the establishment of Drainage District No. 3.
- 1908, Mar. 20 Commissioner Report of the permanent survey of Drainage District No. 3
- 1908, Apr. 23 Notice to Contractors for construction of Drainage District No.3 - Total Cu.Ydr. 209,654.
- 1908, Jun. 28 C.H. Sternbery & Sons Drainage Contractors bid submitted.
- 1908, Jun. 30 Indiana Drainage County bid submitted.
- 1908, Jul. 22 Northern Construction Company request to withdraw bid
- 1908, Jul. 23 Letter from County Auditor's Office to Elkhart Ind. stating they could not consider their bid.
- 1908, Oct. 14 Notice of assessment for Drainage District No. 3.
- 1908, Nov. 9 Awarded Construction Contract to Dilley & Berdine
- 1908, Nov. 14 Hearing for assessment for Drainage District No. 3.
- 1908, Dec. 11 Contract with Dilley & Berdine signed.
- 1912, Aug. 3 Letter from Clerk of the District Court to E.L. Marriage about fixing the upper end of the Drainage Ditch.
- 1913, Jan. 7 Engineer's Report by S.B. Gardner - Drainage Ditch needs to be deepened to drain properly.
- 1913, Aug. 3 Petition to change upper end of Drainage District from Station 352 to Station 476.
- 1913, Aug. 9 Drain Bound - Bond for Costs
- 1913, Oct. 7 Engineer's Report by S.B. Gardner - Cleaning from Station 80 to Station 338+50 and from Station 338+50 to Station 485.
- 1913, Nov. 28 Notice published in "HARDIN COUNTY CITIZEN" to convert the upper end of the Drainage District No. 3 from open ditch to tile.
- 1913, Dec. 16 Claim of Damages - \$1000
- 1913, Dec. 17 Claim of Damages - \$1000
- 1913, Dec. 22 Claim of Damages - \$300
- 1913, Dec. 22 Claim of Damages - \$500
- 1913, Dec. 22 Claim of Damages - \$1000
- 1913, Dec. 22 Claim of Damages - \$1000
- 1913, Dec. 22 Claim of Damages - \$200
- 1913, Dec. 27 Hearing for the notice for drain district and drain to convert the upper end of the Drainage District No. 3 from open ditch to tile.
- 1913, Dec. 29 Received list of damages for the reconstruction of the Drain District No. 3.
- 1914, Jan. 7 Engineer's Report by S.B. Gardner - Clean ditch from Station 80 to Station 315 & open ditch converted into closed drain from station 351 to station 185

1914, Jan. 7 Specifications for Drainage District No. 3. Improvements
 1914, Jan. 7 Agreement to Pay Damages on Account of Ditch.
 1914, Jan. 12 Notice to Contractors for reconstruction of Drainage District No. 3.
 1914, Jan. 15-22 Notice to Contractors for reconstruction of Drainage District No. 3 published
 in "The Eldora Herald"
 1914, Feb. 3 Bids to be open for reconstruction of Drainage District No. 3
 1914, Feb. 3 Contract for Construction of Drains
 1914, Feb. 3 Proposal Bond \$2300 from Lion Bonding Surety Co.
 1914, Feb. 21 Tile Contract - What Cheer Clay Products Company - \$11607.50
 1914, Mar. 7 Loin Bonding & Surety County Bond No. 26218 - \$1000
 1914, Mar. 7 Drain Tile Bond - \$2902
 1914, Jun. 3 Letter to William & Huff, Attorneys from What Cheer Clay Products
 1914, Jun. 3 Letter to O.L. Olson (winning bidder for drainage work) from Williams &
 Huff (attorneys)
 1914, Jun. 11 Letter to O.L. Olson (winning bidder for drainage work) from William & Huff
 (attorneys) - demanding work to start on the 20th or forfeit the contract.
 1915, Jan. 13 Notice of Labor Lien on improvement in Drainage District No. 3.
 1915, Feb. 8 Final Settlement with What Cheer Clay Products having completed their
 contract.
 1915, Feb. 15 O.L. Olson has sublet a portion of his contract to Hogan & Badgerow.
 1915, Apr. 1 Warrant Issued.
 1915, Mar. 12 O.L. Olson assign \$768.00 to E.P. Davis for completion of Contract.
 1915, Mar. 20 Notice of Claim and Lien by H.A. Kline on Drainage Ditch No. 3.
 1915, Apr. 1 Lion Bonding & Surety County No. 12775 - \$1000
 1915, Apr. 21 S.B. Gardner resigns as Engineer in charge
 1915, May 5 E.W. Edwards (civil engineer), William Dunning and J.B. Starr Jr. were
 appointed Commissioners to assess benefits on the repair of drainage district
 No. 3
 1915, Jul. 2 Official Bond No. 38488 - \$1000 - the Fidelity & Deposit Company of
 Maryland.
 1915, Jul. 2 Final Report by Engineer G.B. Gardner - E.W. Edwards appointed engineer in
 charge.
 1915, Sep. 29 Subcontract accepted from O.L. Olson to Hogan & Badgerow.
 1915, Oct. 18 Engineer (E.W. Edwards) does not recommend that the work be accepted and
 steps need to taken to make him complete the work.
 1915, Dec. 16 E.W. Edwards resigns as Engineer for Drainage District.
 1915, Dec. 17 W.S. Porter was appointed Engineer for Drainage District.
 1916, Jan. 1 Official Bond - W.S. Porter Construction Engineer \$500
 1916, Apr. 17 Commission to inspect Drainage District - W.S. Porter
 1916, Jun. 8 Notice to Proceed with work on "Cleanout Work " to O.L. Olson (principal
 contractor) or show cause why the work should not be relet.
 1916, Jun. 13 O.L. Olson was request to appear before the board to show cause why the
 work should be delayed, if not it would be relet for bid.
 1916, Jun. 16 Notice to Contractors for reconstruction of Drainage District No. 3.
 1916, Jun. 29 Notice to Contractors for reconstruction of Drainage District No. 3 published
 in "The Eldora Herald"
 1916, Jul. 10 Proposal on Drainage District No. 3 - received.
 1916, Jul. 12 Notice to Contractors for reconstruction of Drainage District No. 3.
 1916, Jul. 13-7 Notice to Contractors for reconstruction of Drainage District No. 3 published
 in "The Eldora Herald"

1916, Jul. 27 Proposal on Drainage District No. 3 - received.

1916, Jul. 27 Contract for Construction of Drains - A.S. White - \$10,150.00

1916, Jul. 27 Contractor's Drainage Bond - A.S. White - \$2,536.00

1916, Dec. 28 Engineer's Report - W.S. Porter - Bulk-head at tiles ends is being undermined and needs to be replaced.

1916, Dec. 28 Engineer's Report - W.S. Porter - C.R.I & P Railway put piling through 28" tile line and destroyed the drain. Company to attend to this matter at once.

1916, Dec. 29 District Court of Iowa - Lion Bonding & Surety Co. pay \$1,724.00 for bond NO. 27618

1917, Aug. 6 Engineer's Report - W.S. Porter - Reconstruction work by A.S. White has been completed - full payment of \$10,150.00

1917, Aug. 8 Official Bond - W.S. Porter - Preliminary Engineer - \$1000 - for Drainage District No. 3.

1917, Aug. 17 Petition for Drainage District and Drain - Sections 31 & 32, Township 89 North, Range 20 West.

1917, Nov. 8 Engineer's Report - W.S. Porter - unfinished construction on the land of Mr. Geo. Robertson, to be fix at once.

1918, May 25 Court Decree - Plaintiffs: Lois W. Bloomquist and Fannie W. Emeny VS. Board of Supervisors and Drainage District No. 3 - Findings - Reduce assessments by 33 1/3%

1932, Jul. 30 Engineer's Report - J.R. Mahur - repairs need for Drainage District No. 3 in Section 27, Township 89 North, Range 21 West. - Remove trees, fix tiles and Bulk heads.

1943, Jul. 21 Request for Drainage Repairs - The open ditch from the tile outlet be cleaned.

1945, Apr. 3 Contract - Drainage Cleanout - Howard O. Young (contractor) - \$4,000.00

1956, Dec. 17 Engineer's Report - F.J. Reigles - Recommend tree removal, stumps be sprayed and some clean out work be done - estimate \$2,000.00.

1956, Dec. 18 Notice to Bidders - Clearing trees, brush and cleaning out Drainage District No. 3.

1956, Dec. 28 Notice published in "THE HARDIN COUNTY INDEX" for Bidders on Clearing trees, brush and cleaning out Drainage District No. 3.

1957, Jan. 9 Minutes of Board Meeting - Accepted A.L. Bock bid of \$3,802.87 solely for trees and Brush removal and did not include cleaning out the ditch.

1957, Dec. 23 Contract for Excavation- Wesley McDaniel - Excavate 800 Cubic Yards in Section 7, Township 88 North, Range 20 West - \$480.00

1958, Feb. 3 Contract for Excavation - Wesley McDaniel - Excavate 500 Cubic Yards in Section 8, Township 88 North, Range 20 West - \$375.00

1958, Mar. 4 Minutes of Board Meeting - \$6,000.00 was deemed necessary to pay for completion of repairs to Drainage District No. 3 and assessment of 30%.

1983, Apr. 1 Notice of Drainage Hearing - Hollis E. Ryken (Engineer) - recommends repairs or improvement to Drainage District.

1983, Jun. 30 Notice for Construction of Drainage Repair - (Main Open Channel) Clear, spray and dispose of all brush and trees in drainage ditch.

1983, Jun. 30 Notice published in "THE ACKLEY WORLD-JOURNAL" for Construction of Drainage Repair of Drainage District No. 3.

1983, Oct. 19 Engineer's Report - Hollis E. Ryken - Repairs are needed to Drainage District No. 3

1983, Nov. 28 Notice of Report by Hollis E. Ryken (Engineer) - regarding repairs of Drainage District No. 3.

- 1983, Dec. 7 Notice published in "THE IOWA FALLS CITIZEN" regarding repairs of Drainage District No. 3.
- 1984, Jan. Notice to Contractors - for restoration of 0.4 miles to Drainage District No. 3.
- 1984, Jan. 18-25 Notice published in "THE IOWA FALLS CITIZEN" regarding construction repairs to Drainage District No. 3 - restoration of 0.4 miles.
- 1984, Apr. 7 Petition - Request to proceed to advertise for bids on the repairs that Hollis E. Ryken stated in his October 19, 1983 Engineer's Report.
- 1984, Apr. 12 Proceeding of Trustees - No bids were received for construction repairs to Drainage District No. 3 - "Latch Outlet" in Section 8, low bid was Robert Gherke \$2,750.00
- 1984, Apr. 25 Drainage District No. 3 Clerk's Record, Proceedings of Trustees
 - Center of Section 7 - Blown out tile lines, Trees growing over tile & surface water cutting ground - Robert Gherke to repair for \$1,500-\$1,700
 - Bank wash out repair on the M.G. Clark farm at district expense
 - tree cutting is into penalty period
 - DD #149 has received no bids and would have to use other less expensive means.
- 1996, Aug. 19 Board of Trustees Meeting Held - maintain 5-year interval spraying the ditch
- 1997, Dec. 22 Board of Trustees Meeting Held
 - Sub 1 repairs made on Bernie Miller farm
 - Main tile checked for cotton wood roots (found) - \$280.41
 - Repair blow out D.D. 3 main tile - Meade Martlett farm Section 28, Alden Township - \$341.54
 - Removing Silt for D.D. 3 main ditch at Sub 149 main tile outlet - \$525.0
 - Bill from Control Services Inc. Spraying brush along length of D.D. 3 - \$3,900.00
 - Assess D.D. 3 \$8,000 to pay outstanding bills.
- 1998, Dec. 17 Board of Trustees Meeting Held
 - Repair Blow sub district #111 - \$234.60
 - Tile repair of sub district #64 - \$745.35
 - Place Concrete rip-rap on Main ditch bank of D.D. 3 Thelke farm Section 1, Ellis Township - \$1,672.5
 - Purchase 15 feet of tile to repair sub district #64 - \$70.50
 - Levy sub district #64 \$1,100.00

3.0 **INVESTIGATION** – Review of the district history indicates that the Main tile of Drainage District 3 has had few previous repairs. It is assumed that there have been more repairs, but the details of them have just been lost to time. The field investigation for this report was performed at the request of the Drainage District Trustees. Said investigation was limited to visual observation (with limited excavation) along with survey data, and pictures gathered. During the investigation, there were 5 sinkholes found on the Main tile along with the Main tile being in various states of collapse over the course of 4,745± feet. For reference, a copy of the observation report with pictures is included in Appendix A and a map showing the investigation limits is included in Appendix B.

4.0 DISCUSSION AND CONCLUSIONS – Based on the above, it is obvious that the existing Main tile, in the area of investigation is in various states of collapse and is restricting drainage capacity in the area. If repairs or improvements are not performed, the Main tile will continue to have poor drainage performance, the upstream landowners will continue to experience overland flow, ponding, and additional sinkholes will form over the Main tile. This will continue to affect productivity of the farmed ground upstream of these issues and will get worse as the tile ages. When all these issues are combined, it will lead to further reduced drainage and liability exposure by the drainage district.

5.0 REPAIR METHOD – To repair the existing Main tile, the following option is the most straight forward available:

Partial Tile Replacement

- Remove and replace the entire Main tile for the entire investigation limits with new Main tile of equal or comparable size.
- Typically, the replacement Main tile would be in the same location as the existing Main tile in order to locate and reconnect private tile and district lateral tile. For reference, the route and locations are shown on the map included in Appendix B.

With the above-mentioned repair method, the following should be noted:

- The pipe sizes used are those that are currently manufactured that most closely meet or exceed the current Main tile size.
- The Partial Tile Replacement option would allow for lower maintenance costs in the future as the entire Main tile is new.
- The Partial Tile Replacement option would remove all soil and debris in the existing Main tile.
- Repairs have historically been viewed as not having an impact on jurisdictional wetlands. As such, individual landowners should consult with applicable staff at the Hardin County NRCS offices to verify the existence of said jurisdictional wetlands and that there will be no impact on them.

Per Iowa Code Chapter 468.126, any of the above actions that do not increase capacity would be considered a repair. As such, Subsection 1, paragraph c of Chapter 468.126 states "If the estimated cost of the repair does not exceed fifty thousand dollars, the board may order the work done without conducting a hearing on the matter. Otherwise, the board shall set a date for a hearing. . ." The opinion of probable construction cost contained in the next section of this report exceeds said \$50,000 limit. Therefore, a hearing will be required. Per Iowa Code Chapter 468.126.1.g, the right of remonstrance does not apply to the proposed repairs.

6.0 IMPROVEMENT METHOD – To improve the drainage capacity for the existing Main tile, the following option is the most straight forward available:

Open Ditch

- Remove and replace 4,745± feet of the Main tile with a Main Open Ditch.
- Typically, the Main Open Ditch would be in the same location as the existing Main tile in order to locate and outlet private tile and district lateral tile. For reference, the route and locations are shown on the map included in Appendix B.
- Outlet all private and lateral tile encountered to discharge into the Main Open Ditch.

With the above-mentioned possible improvement, the following should be noted in addition to the notes in repair methods section:

- This option would probably involve obtaining of right of way.
- The replacement of the Main tile with a Main Open Ditch increases drainage capacity, which has traditionally fit the Iowa Code definition of improvement. However, the replacement is not being suggested to increase drainage capacity, but is being offered solely to extend the lifecycle of the district facility and the original design for the Main in this area was an open ditch. Legal counsel should be consulted to provide advice concerning this.
- If this option is deemed a repair by legal counsel, repairs have historically been viewed as not having an impact on jurisdictional wetlands. As such, individual landowners should consult with applicable staff at the Hardin County NRCS offices to verify the existence of said jurisdictional wetlands and that there will be no impact on them.
- If this option is deemed an improvement by legal counsel, improvements have historically been viewed as having an impact on jurisdictional wetlands. As such, individual landowners should consult with applicable staff at the Hardin County NRCS offices to verify the existence of said jurisdictional wetlands and what said impact may be on them.

If legal counsel considers the above option a repair, it is our opinion that the following is applicable. Subsection 1, paragraph c of Chapter 468.126 states "If the estimated cost of the repair does not exceed fifty thousand dollars, the board may order the work done without conducting a hearing on the matter. Otherwise, the board shall set a date for a hearing. . ." The opinion of probable construction cost contained in the next section of this report exceeds said \$50,000 limit. Therefore, a hearing will be required. Per Iowa Code Chapter 468.126.1.g, the right of remonstrance does not apply to the proposed repairs.

If legal counsel considers the above option an improvement, it is our opinion that the following is applicable. Subsection 4, paragraph c of Chapter 468.126 states "If the estimated cost of the improvement does not exceed fifty thousand dollars, the board may order the work done without conducting a hearing on the matter. Otherwise, the board shall set a date for a hearing on whether to construct the proposed improvement and whether there shall be a reclassification of benefits for the cost of the proposed improvement." The opinion of probable construction cost contained in the next section of this report exceeds said \$50,000 limit. Therefore, a hearing will be required. Per Iowa Code Chapter 468.126.4.e, the right of remonstrance may apply to the proposed improvements.

7.0 OPINION OF PROBABLE CONSTRUCTION COSTS – Using the above methods of repair and improvement, an itemized list of project quantities and associated opinions of probable construction cost for each option were compiled and are included in Appendices C and D of this report. A summary of said costs are as follows:

METHOD	TOTAL COST	CONSTRUCTION COST	ROAD CROSSING COST
Repair - Partial Tile Replacement	\$479,758.44	\$444,395.94	\$35,362.50
Improvement - Open Ditch	\$584,667.19	\$409,780.94	\$174,886.25

It should be noted that said costs include materials, labor, and equipment supplied by the contractor to complete the necessary repair or improvement and include applicable engineering, construction observation, and project administration fees by Clapsaddle-Garber Associates. However, said costs do not include any interest, legal fees, county administrative fees, crop damages, other damages, previous repairs, engineering fees to date, wetland mitigation fees, or reclassification fees (if applicable). As always, all costs shown are opinions of Clapsaddle-Garber Associates based on previous lettings on other projects. Said costs are just a guideline and are not a guarantee of actual costs.

8.0 OWNERSHIP AND CLASSIFICATIONS – Any and all information concerning ownership of lands and classifications of said lands within Drainage District No. 3 can be obtained from the Hardin County Auditor’s office.

It should be noted that Iowa Code Chapter 468.65 states “When, after a drainage . . . district has been established . . .” and “. . . a repair . . . has become necessary, the board may consider whether the existing assessments are equitable as a basis for payment of the expense of . . . making the repair . . .” and “If they find the same to be inequitable in any particular . . . they shall . . . order a reclassification . . .” Based on this, it is our opinion that a reclassification may be required if the repair were to move forward.

It should also be noted that Iowa Code Chapter 468.131 states “When an assessment for improvements . . . exceeds twenty-five percent of the original assessment and the original or subsequent assessment . . . did not designate separately the amount each tract should pay for the main ditch and tile lateral drains then the board shall order a reclassification . . .” Based on this, it appears that a reclassification separating laterals may be required if any of the above options were deemed to be an improvement, said improvement were to move forward, and the laterals had not already been separated. Since the proposed project does not involve the laterals, it is not clear if this portion of code is applicable, and it is our recommendation that the District Trustees seek advice from their legal counsel.

9.0 RECOMMENDATIONS – There is a definite need to perform one of the above-mentioned actions. The actions would remove the current restrictions to the Main tile and extend the lifespan of the same. Therefore, it is recommended that the District Trustees, should take action to accomplish the following:

- Approve the Engineer’s Report as prepared by Clapsaddle-Garber Associates.
- Seek advice from legal counsel as to whether the Open Ditch alternative is a repair or improvement.
- Hold the required hearing on the proposed repair or improvement.
- Adopt one of the recommendations of the Engineer’s Report.
- Direct plans and specifications for the proposed repair or improvement be prepared by Clapsaddle-Garber Associates.
- Proceed with receiving bids from interested contractors by Clapsaddle-Garber Associates.
- Award contract to the lowest responsible contractor.
- If desired or required by Iowa Code, proceed with reclassification proceedings after seeking legal advice concerning the same.

CONSTRUCTION ENGINEERING
OBSERVATION REPORT

DATE:

11-17-20

DAYS OF WEEK:

S M T W T F S

SHEET NO.

1 OF

PROJECT NUMBER:

6490.4

COUNTY, ROUTE, ROAD:

I Ave & 155th

LOCATION:

Hardin County DD # 3

DESCRIPTION OF WORK AND MATERIAL USED FOR EACH OPERATION, INCLUDING CONTRACTOR/SUB NAME, ITEM NO. AND LOCATION

10:30 a.m. = Arrived at job site after locating control points and setting up GPS on C.P.T # 34. Checked into C.P.T # 38. Horizontal was good but vertical was off 0.23.

10:44 a.m. = Crew was exposing tile at Northern most sink hole, in surface ditch. 26" VCP removed, 1 section, took pictures upstream and down and shot top pipe. GPS Pt # 5550. Contractor replaced tile and placed fabric over joints.

11:00 a.m. = Met foreman at southern most sink hole, which had been excavated previously. Point # ~~5551~~⁵⁵⁵¹, took pictures, tile was completely collapsed upstream and downstream.

11:34 a.m. = Contractor is excavating approximately 100' +/- North west of Northern most sink hole West of I Ave. Pt. # 5552, Tile is broken and egg shaped upstream and downstream.

Shot top of tile at sink hole # 5553, could not get pictures.

1:30 p.m. = Crew removed tile at Pt # 5554, tile 24" ? broke into 3 pieces. 24" VCP upstream and downstream broke, and beginning to collapse.

1:35 p.m. = Crew is excavating further west, 24" VCP at Point # 5555 is oval shaped upstream and downstream. Took pictures.

2:00 p.m. = Discovered another sink hole, south of fence line and west of Pt # 5555. shot top of pipe # 5556 and took pictures.

2:30 p.m. = Crew excavated west of # 5556. Located tile end removed 1 section, Pt # 5557. 24" VCP appears to be in good condition looking West, possible 1 section cracked, the rest are in good condition as far as I could see. Looking East 24" VCP is oval shaped as far as visible. Not collapsing.

I Certify that the work described in this report was incorporated into this contract unless otherwise noted.

Observer's Signature:

James Van Hove

Date Prepared:

11-18-20

Reviewed by:

Engineer

Date Reviewed

CONSTRUCTION ENGINEERING
OBSERVATION REPORT

DATE:

11-17-20

DAYS OF WEEK:

S M T W T F S

SHEET NO.

2 OF

PROJECT NUMBER:

6490.4

COUNTY, ROUTE, ROAD:

I Ave & 155th

LOCATION:

Hardin County DD #3

DESCRIPTION OF WORK AND MATERIAL USED FOR EACH OPERATION, INCLUDING CONTRACTOR/SUB NAME, ITEM NO. AND LOCATION

2:45 p.m. = Shot pts # 5558 and # 5559 directly South west of intake structure with sink hole around. GPS shots are top of 24" and 18" VCP connected to structure which has settled 0.5' to 0.75'. Structure is in very bad shape, may have originally had a bee hive intake now missing.

3:45 p.m. = shot top of pipe at sinkhole. Pt # 5560, could not get pictures.

4:00 p.m. = Crew exposed tile West of railroad Row, and removed 1 section, section was cracked and broke into several pieces during removal. Pt # 5561 top 28" VCP, VCP is oval shaped both directions from # 5561, as far as C.O. could see. Crew repaired tile with 24" dual wall HDPE, placed fabric over joints and tile bats over new tile.

left for day and tore down G.P.S.

I Certify that the work described in this report was incorporated into this contract unless otherwise noted.

Observer's Signature:

James Van Hove

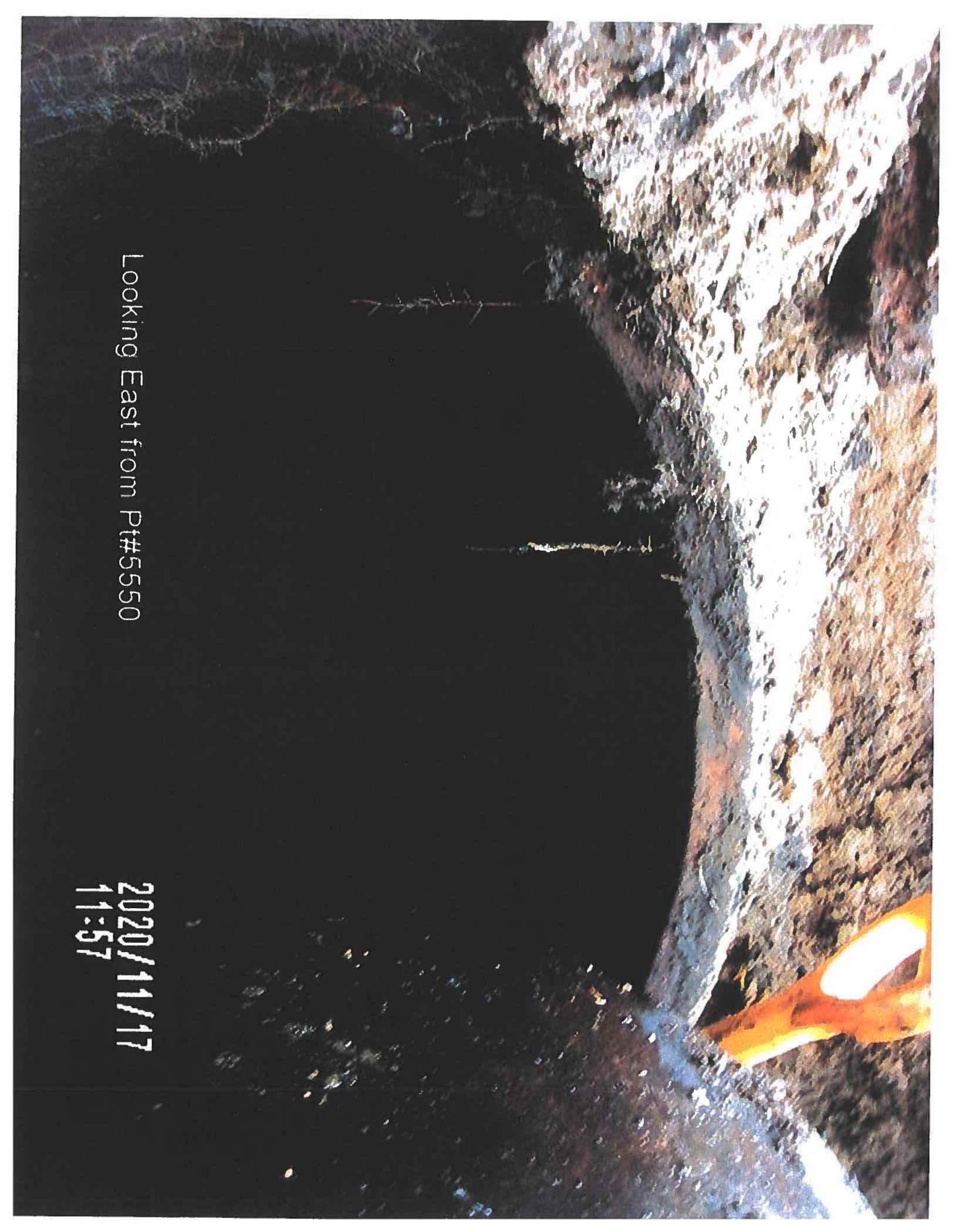
Date Prepared:

11-18-20

Reviewed by:

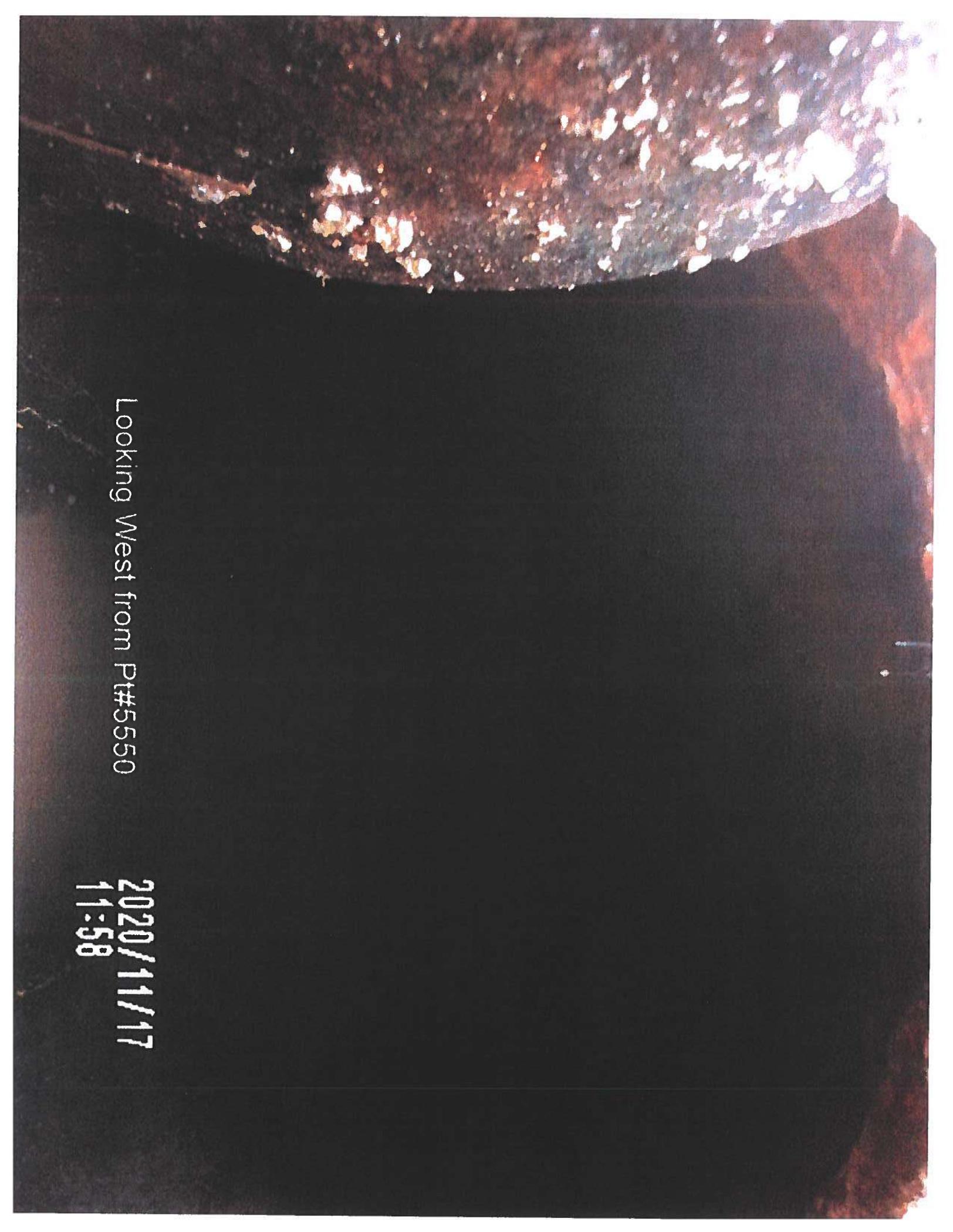
Engineer

Date Reviewed



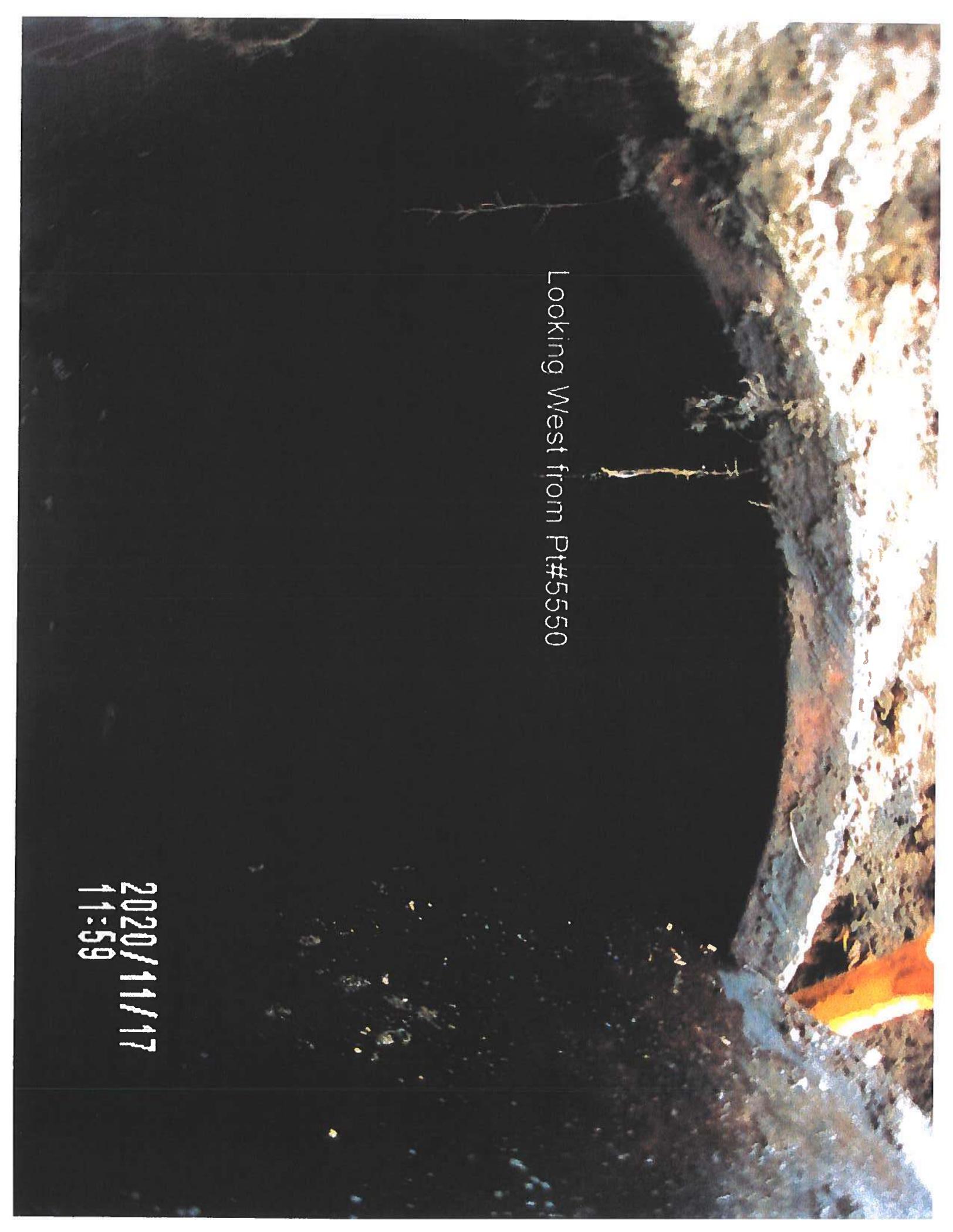
Looking East from Pt#5550

2020/11/17
11:57

A night photograph showing a dark, silty landscape. In the upper right corner, there is a prominent, bright ridge of rocks and debris, possibly a volcanic vent or a rocky outcrop, illuminated by a light source. The rest of the scene is mostly black, with some faint, scattered light spots.

Looking West from Pt#55550

2020/11/17
11:58



Looking West from Pt#5550

2020/11/17
11:59

Looking West from Pt#5550

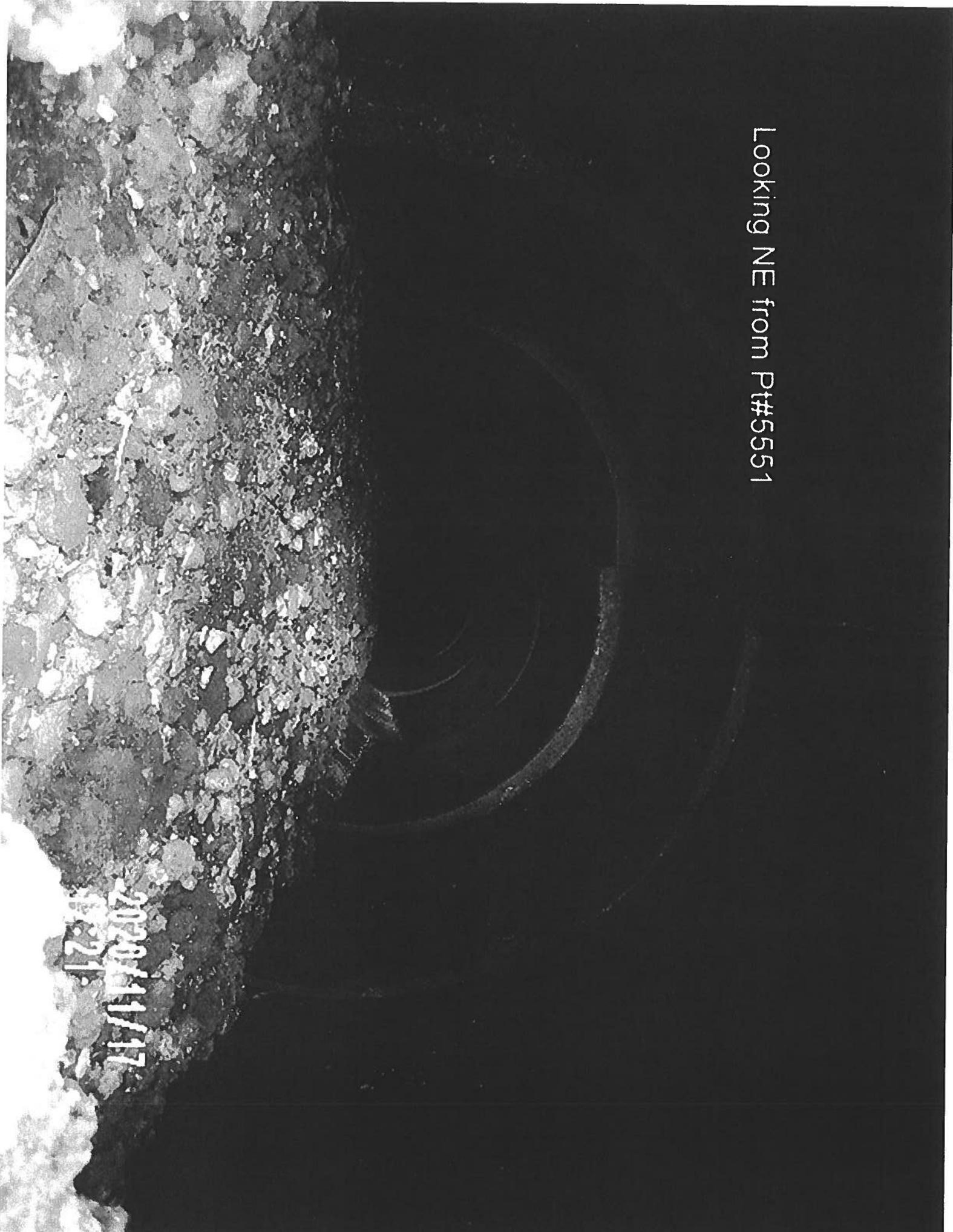
2020/11/17
11:59

Looking NE from Pt#5551



2020/11/17
12:29

Looking NE from Pt#5551



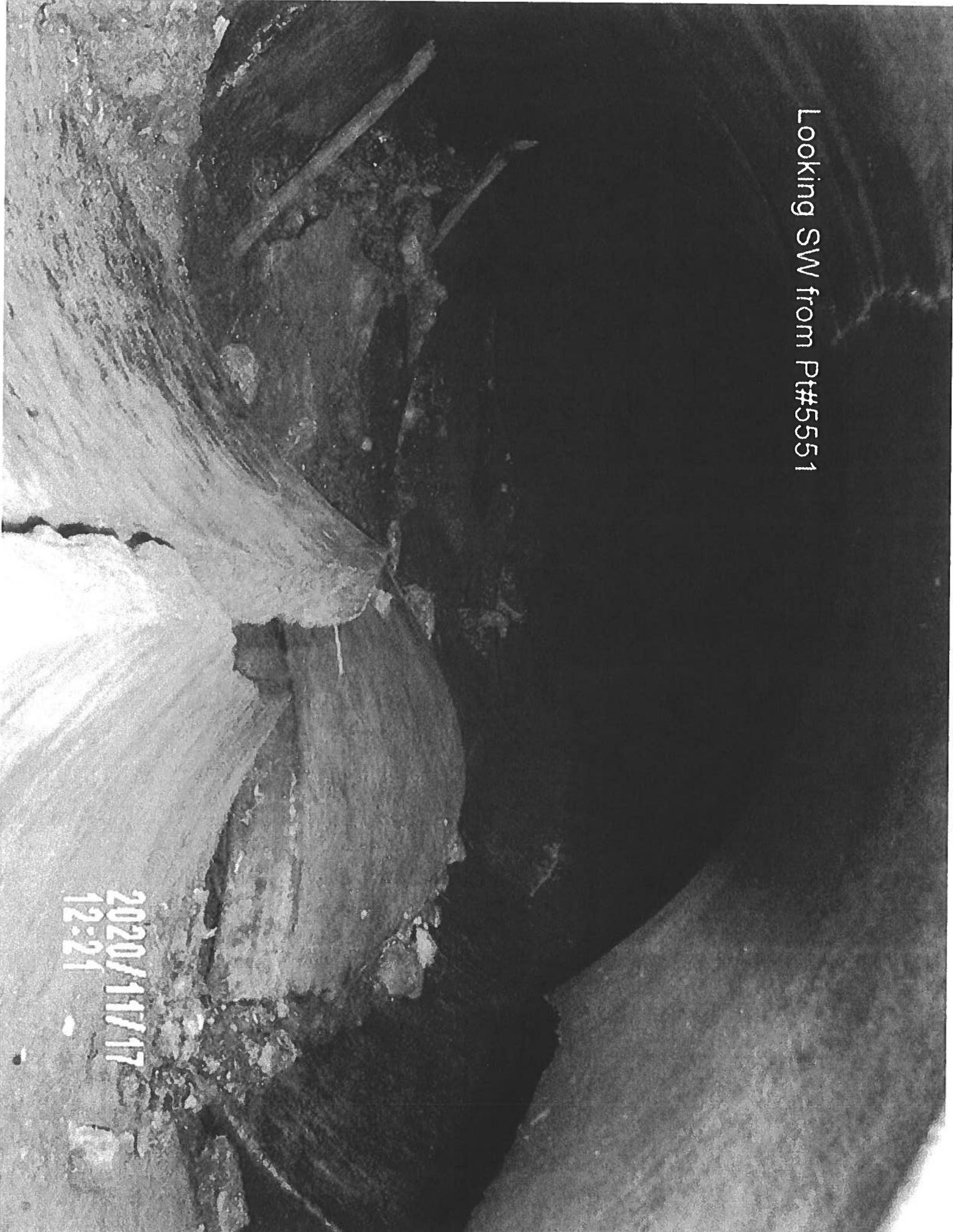
2020/11/17
14:21

Looking SW from Pt#5551

2020/11/17
12:21

Looking SW from Pt#5551

2020/11/17
12:21



Looking SW from Pt#55553



Looking NE from Pt#5553

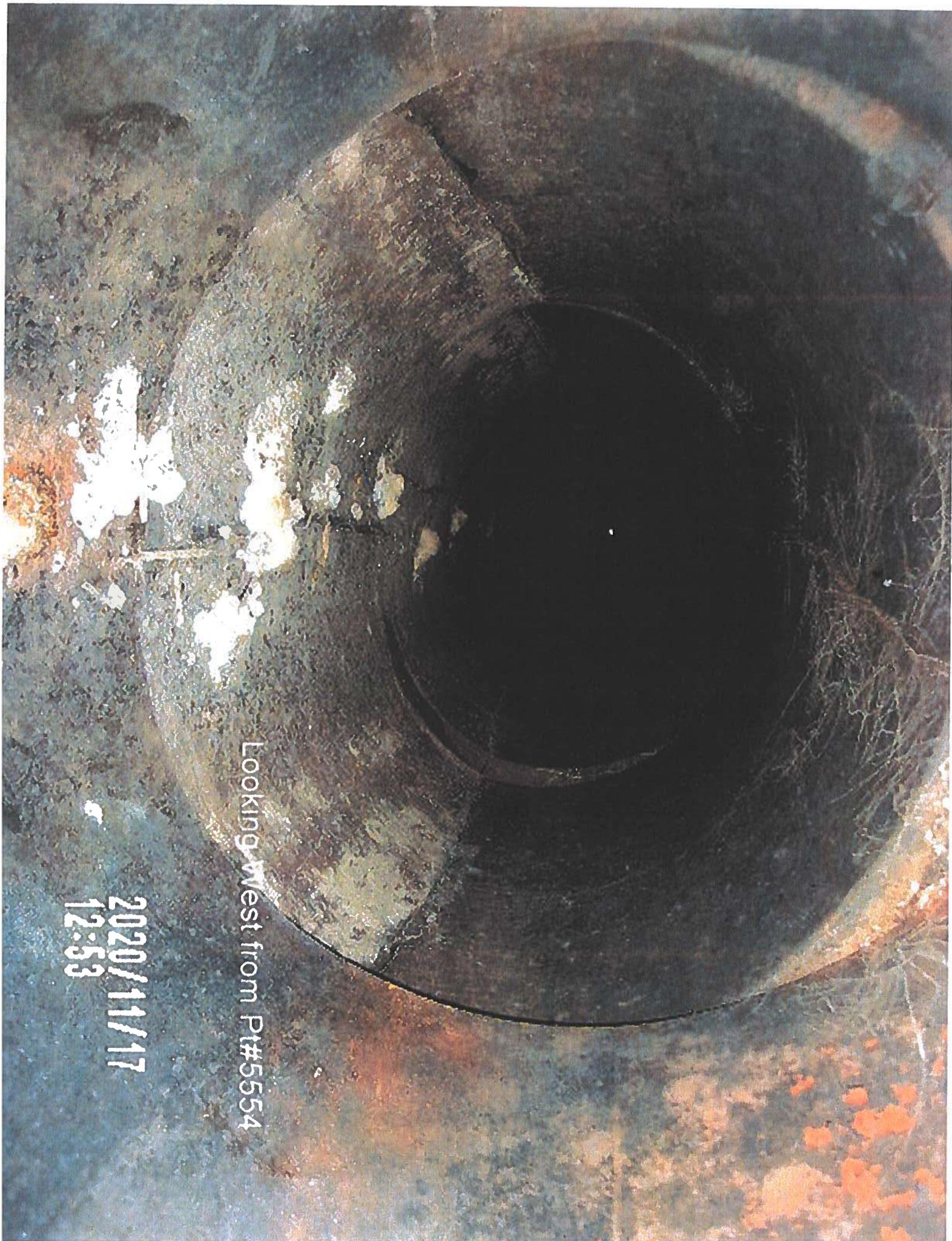
2020/11/17
12:25

Looking Ne from Pt#5553

2020/11/17
12:26

Looking West from Pt#5554

2020/11/17
12:53



Looking West from Pt#5554

2020/11/17
12:53



Looking East from Pt#55554

2020/11/17
12:53



Looking East from Pt#55554

2020/11/17
12:53

Looking East from Pt#55555

2020/11/17
14:26



Looking East from Pt#55555

2020/11/17
Pt#26

Looking West from Pt#55555

2020/11/17
14:26

Looking West from Pit#5555

2020/11/17
14:26



Looking East from Pt#55556

2020/11/17
14:48



Looking East from Pt#55556

2020/11/17
14:48

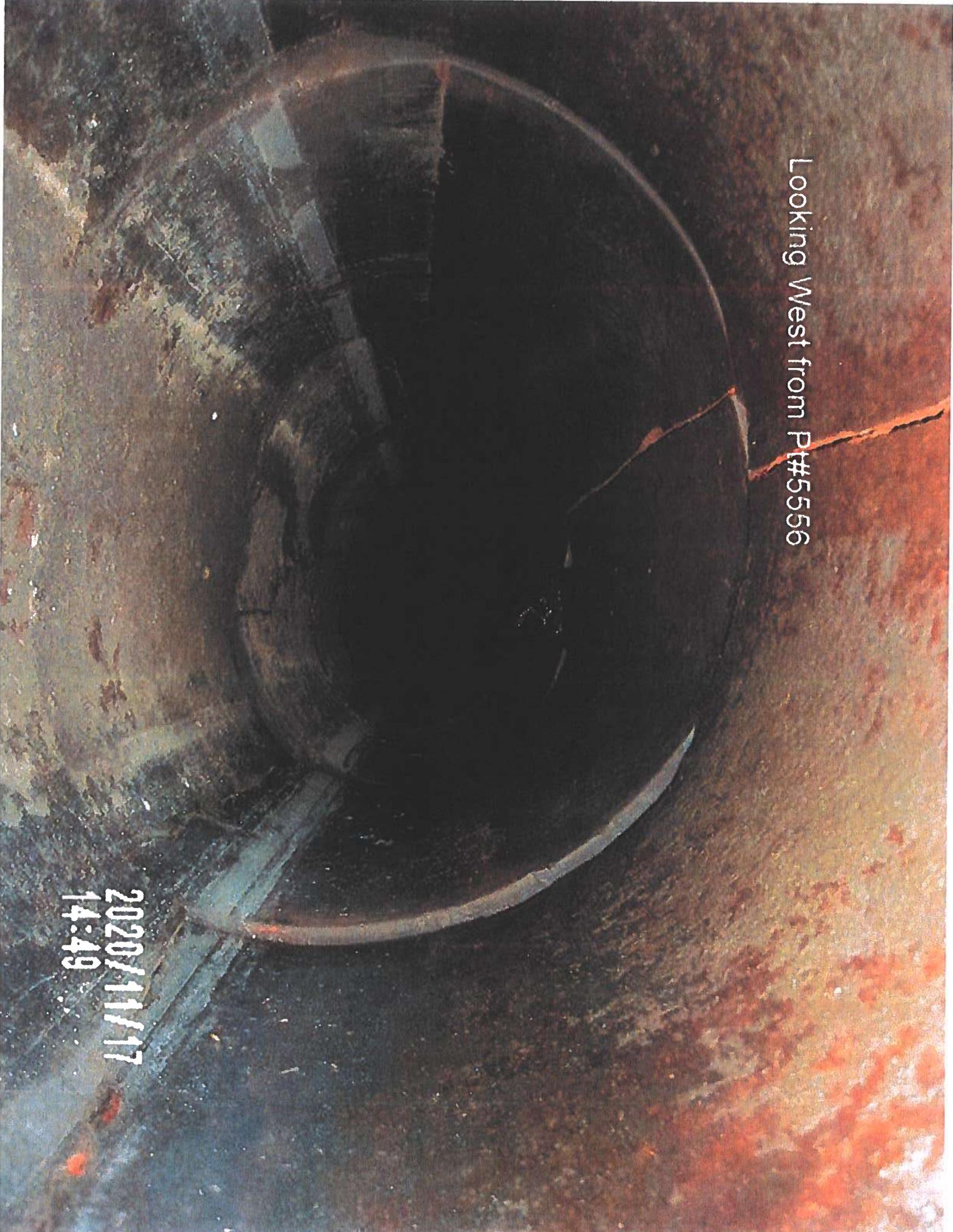
Looking West from Pt#55556

2020/11/17
14:48



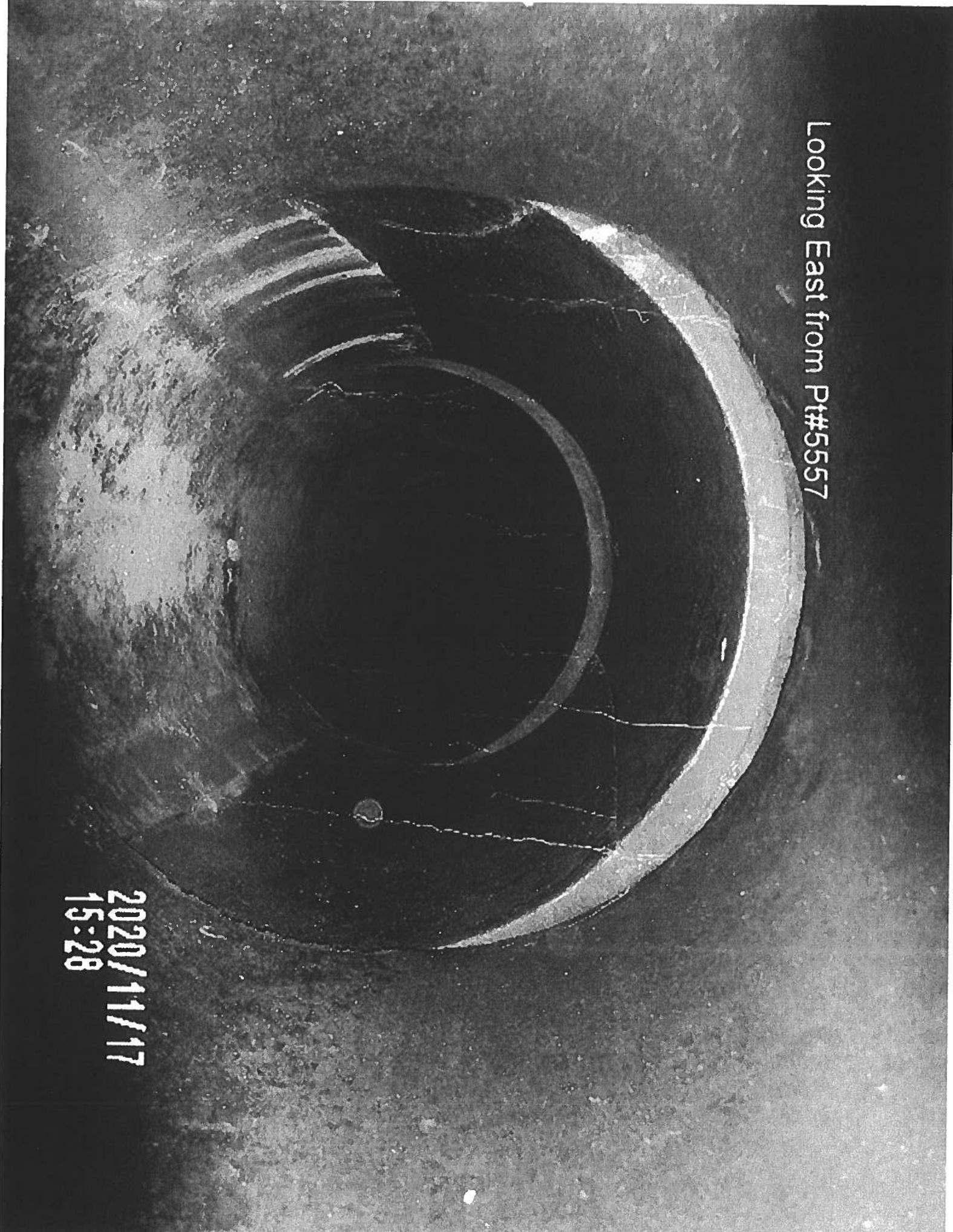
Looking West from Pt#55556

2020/11/17
14:49



Looking East from Pt#5557

2020/11/17
15:28

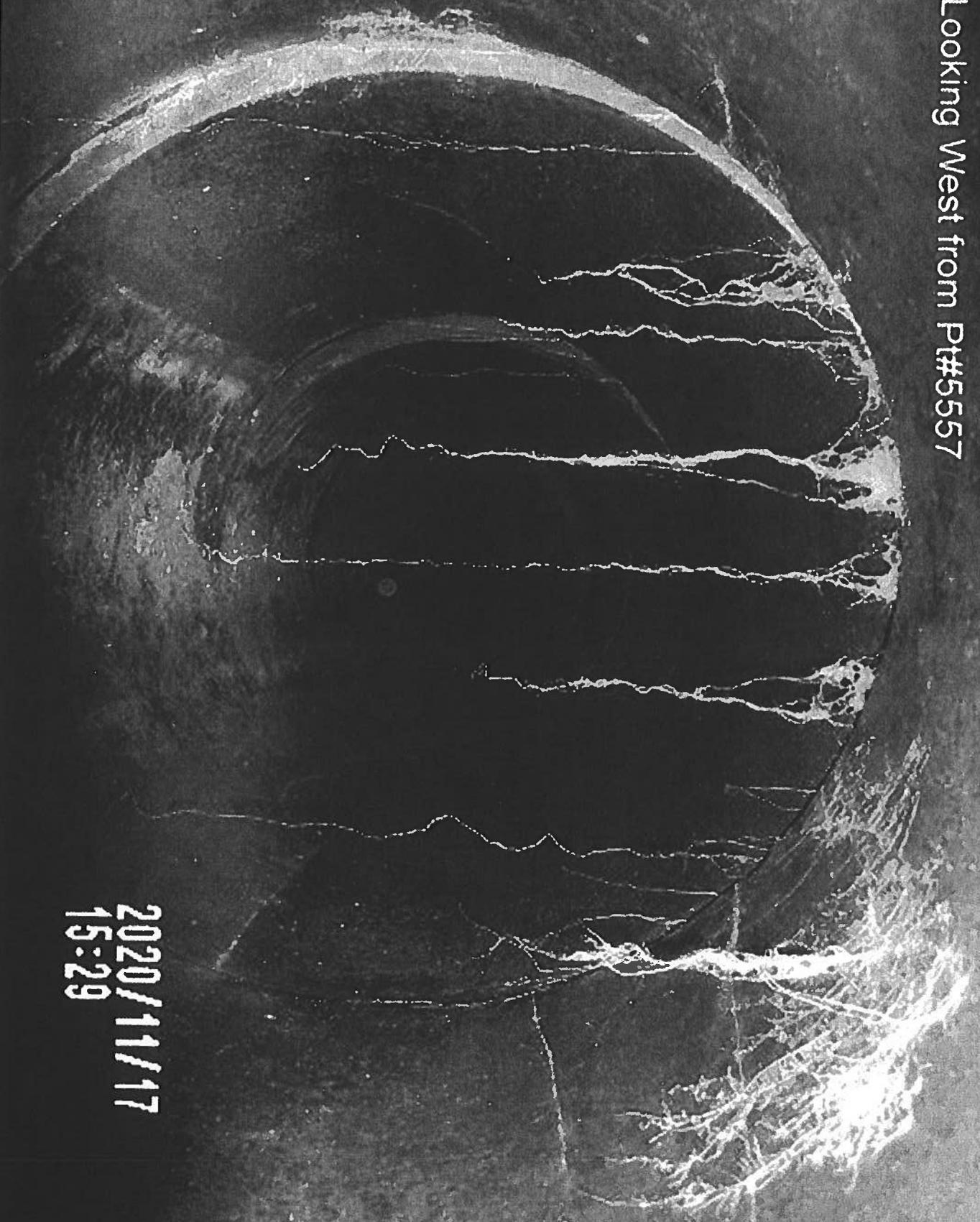


Looking East from Pt#55557

2020/11/17
15:28

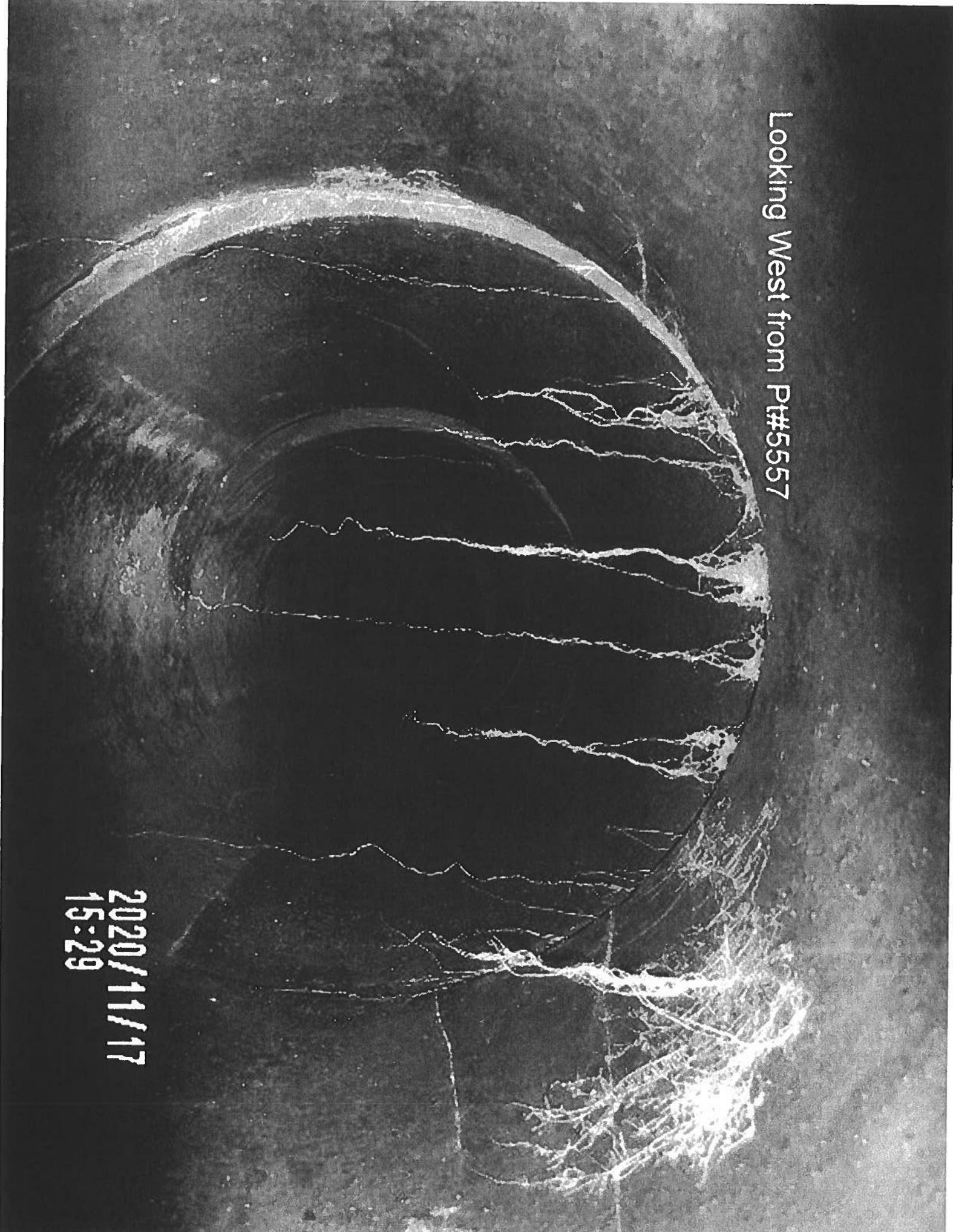
Looking West from Pt#5557

2020/11/17
15:29



Looking West from Pt#55557

2020/11/17
15:29



Top of intake maybe beehive by PI 5558

2020/11/17
15:55



Hydake structure at P#55558

2020/11/17
15:55



Intake structure at Pt#5559

2020/11/17
15:55



Intake structure at Pt#5558

2020/11/17
15:55



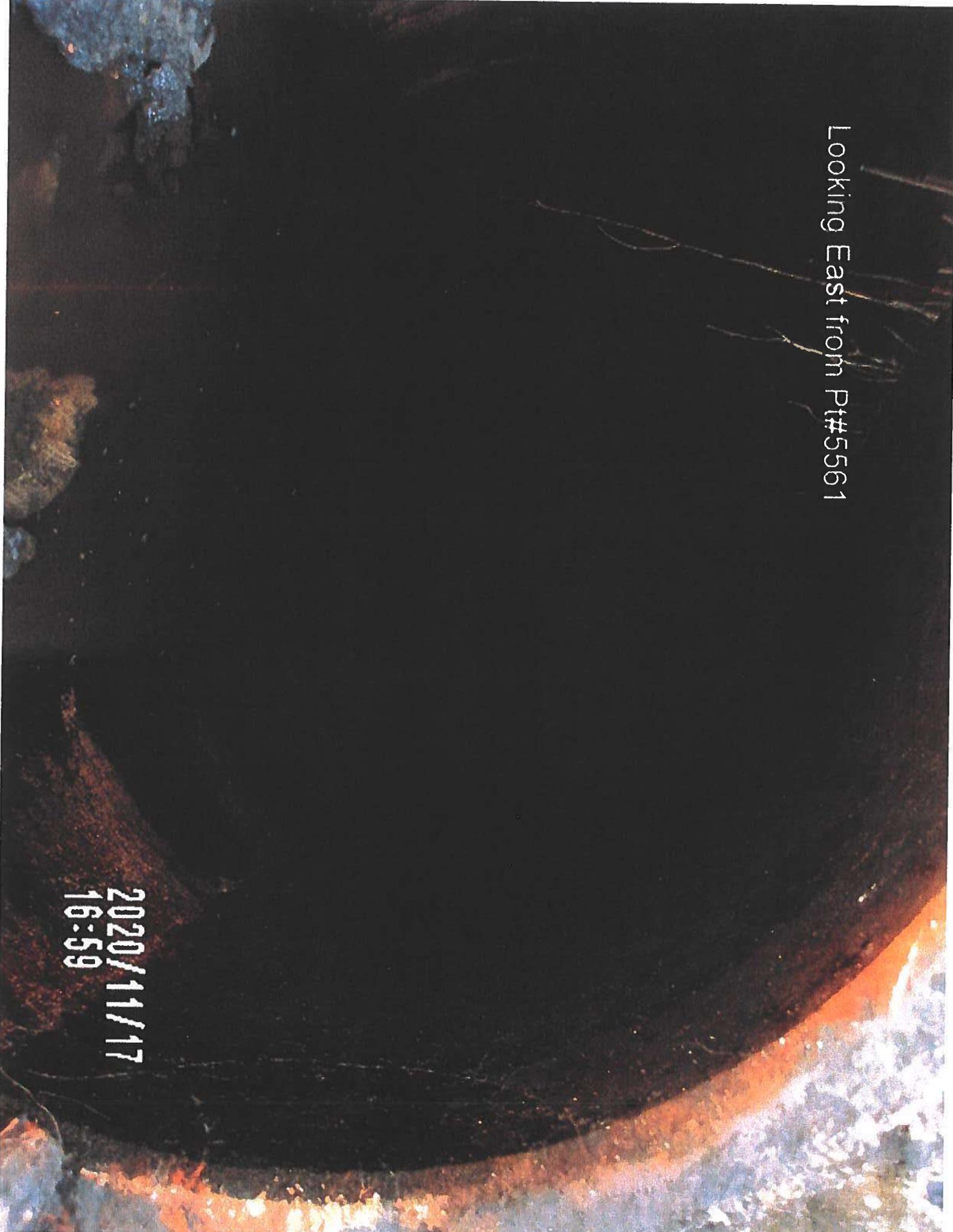
Looking East from Pt#5561

2020/11/17
16:58



Looking East from Pt#5561

2020/11/17
16:59



Looking West from Pt#5561

2020/11/17
16:59

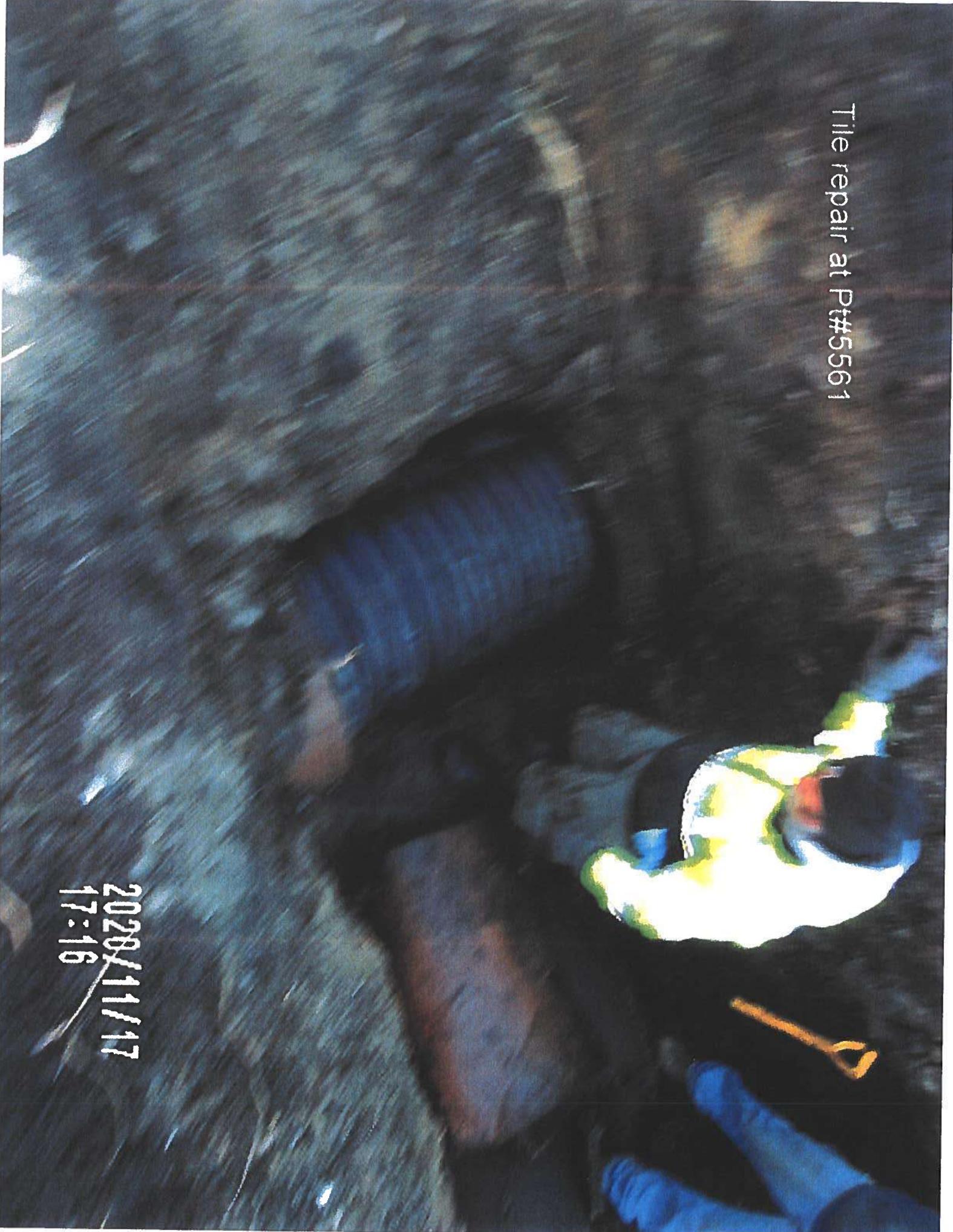
Looking West from Pt#5561

2020/11/17
16:59



Tile repair at Pt#55561

2028/11/17
17:16

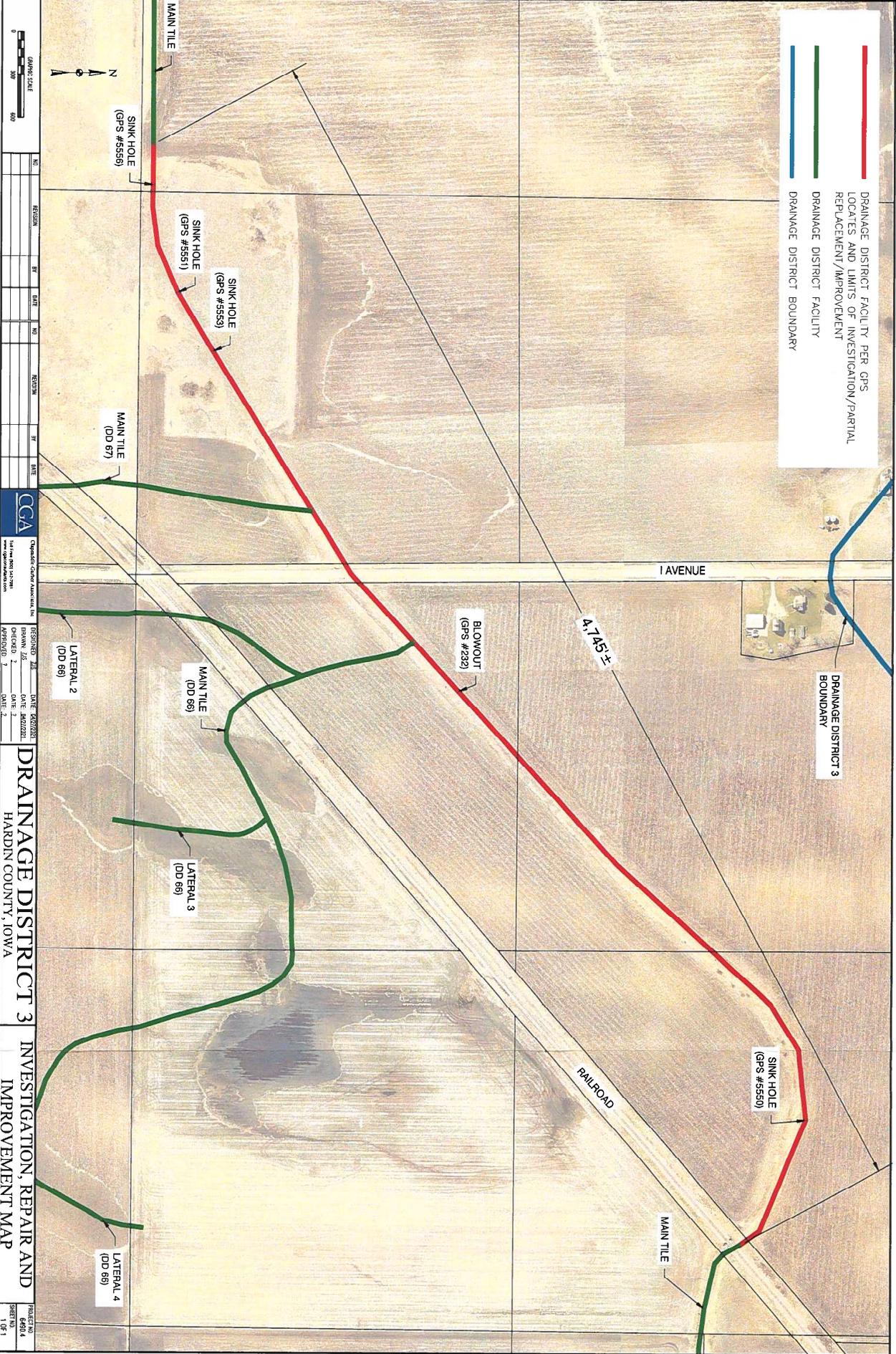




Tile repair at Pt#5561

2020/11/17
17:21

— DRAINAGE DISTRICT FACILITY PER GPS
— LOCATES AND LIMITS OF INVESTIGATION/PARTIAL
— REPLACEMENT/IMPROVEMENT
— DRAINAGE DISTRICT FACILITY
— DRAINAGE DISTRICT BOUNDARY



NO.	REVISION	BY	DATE	NO.	REVISION	BY	DATE



CONSULTANT: **CGA**
 CONSULTANT: **CGA**
 CONSULTANT: **CGA**

DESCRIPTION	DATE	DATE
DESIGNED		
DRAWN		
CHECKED		
APPROVED		

DRAINAGE DISTRICT 3
HARDIN COUNTY, IOWA

**INVESTIGATION, REPAIR AND
IMPROVEMENT MAP**

PROJECT NO.	6490.4
SHEET NO.	1 OF 1

Engineer's Opinion of Probable Construction Cost
Project: Main tile Repair for D.D. #3
 Location: Sections 27 and 28, T89N, R21W, Hardi County, Iowa

ITEM #	DESCRIPTION	Unit Cost	Units	Quantity	Units	Total Cost
CONSTRUCTION COSTS						
101	30" RCP OR DUAL WALL TILE	\$ 60.00	FT	3536	FT	\$ 212,160.00
102	24" RCP OR DUAL WALL TILE	\$ 40.00	FT	1143	FT	\$ 45,720.00
103	30" x 24" RCP OR DUAL WALL REDUCER	\$ 1,250.00	EA	1	EA	\$ 1,250.00
104	RCP OR DUAL WALL LATERAL CONNECTIONS	\$ 1,600.00	EA	2	EA	\$ 3,200.00
105	PRIVATE TILE CONNECTIONS	\$ 600.00	EA	20	EA	\$ 12,000.00
106	CONCRETE COLLARS	\$ 400.00	EA	4	EA	\$ 1,600.00
107	REMOVAL OF EXISTING TILE	\$ 7.00	LF	4745	LF	\$ 33,215.00
CONSTRUCTION SUBTOTAL						\$ 309,145.00
Contingency (15%)						\$ 46,371.75
CONSTRUCTION TOTAL						\$ 355,516.75
Engr. & Const. Observation (25%)						\$ 88,879.19
TOTAL COST						\$ 444,395.94
ROAD CROSSING CONSTRUCTION COSTS						
108	30" RCP OR DUAL WALL TILE (1 AVE.)	\$ 90.00	LF	66	LF	\$ 5,940.00
109	TILE REMOVAL	\$ 10.00	LF	66	LF	\$ 660.00
110	HICKENBOTTOM INTAKE	\$ 1,500.00	EA	2	EA	\$ 3,000.00
111	PERMANENT SEEDING AND WARRANTY	\$ 1,500.00	LOC	2	LOC	\$ 3,000.00
112	TRAFFIC CONTROL	\$ 4,000.00	LOC	3	LOC	\$ 12,000.00
CONSTRUCTION SUBTOTAL						\$ 24,600.00
Contingency (15%)						\$ 3,690.00
CONSTRUCTION TOTAL						\$ 28,290.00
Engr. & Const. Observation (25%)						\$ 7,072.50
TOTAL COST						\$ 35,362.50

PARTIAL TILE REPLACEMENT

Note: Per Iowa Code, road crossings (highlighted red) are not typically district expense



By: Z.J.S.
 Date: 5/1/2021
 Checked By: L.O.G.
 Date: 5/3/2021

Engineer's Opinion of Probable Construction Cost
Project: Main tile Improvement for D.D. #3
 Location: Sections 27 and 28, T89N, R21W, Hardin County, Iowa

ITEM #	DESCRIPTION	Unit Cost	Units	Quantity	Units	Total Cost
OPEN DITCH CONSTRUCTION COSTS						
201	OPEN DITCH CONSTRUCTION	\$ 2,000.00	STA	46.55	STA	\$ 93,100.00
202	30" CMP OUTLET WITH RODENT GUARD	\$ 80.00	LF	40	LF	\$ 3,200.00
203	30" CMP INLET	\$ 75.00	LF	40	LF	\$ 3,000.00
204	30" CMP FLARDED END	\$ 500.00	EA	1	EA	\$ 500.00
205	SHEET PILE HEADWALL	\$ 35,000.00	EA	1	EA	\$ 35,000.00
206	RIP-RAP	\$ 50.00	TN	250	TN	\$ 12,500.00
207	SURFACE DRAINS	\$ 2,000.00	EA	12	EA	\$ 24,000.00
208	PRIVATE TILE OUTLETS	\$ 1,500.00	EA	20	EA	\$ 30,000.00
209	LATERAL TILE OUTLETS	\$ 2,000.00	EA	2	EA	\$ 4,000.00
210	PERMANENT SEEDING AND WARRANTY	\$ 1,000.00	STA	46.55	STA	\$ 46,550.00
211	TILE REMOVAL	\$ 7.00	LF	4745	LF	\$ 33,215.00
CONSTRUCTION SUBTOTAL						\$ 285,065.00
Contingency (15%)						\$ 42,759.75
CONSTRUCTION TOTAL						\$ 327,824.75
Engr. & Const. Observation (25%)						\$ 81,956.19
TOTAL COST						\$ 409,780.94
ROAD CROSSING CONSTRUCTION COSTS						
212	RCP BOX CULVERT (I AVE.)	\$ 2,000.00	LF	50	LF	\$ 100,000.00
213	TILE REMOVAL	\$ 10.00	LF	66	LF	\$ 660.00
214	SURFACE DRAINS	\$ 2,000.00	EA	4	EA	\$ 8,000.00
215	PERMANENT SEEDING AND WARRANTY	\$ 3,000.00	LOC	1	LOC	\$ 3,000.00
216	TRAFFIC CONTROL	\$ 10,000.00	LOC	1	LOC	\$ 10,000.00
CONSTRUCTION SUBTOTAL						\$ 121,660.00
Contingency (15%)						\$ 18,249.00
CONSTRUCTION TOTAL						\$ 139,909.00
Engr. & Const. Observation (25%)						\$ 34,977.25
TOTAL COST						\$ 174,886.25

OPEN DITCH REPLACEMENT

Note: Per Iowa Code, road crossings (highlighted red) are not typically district expense



Drainage Work Order Request For Repair

Hardin County

Date: 10/26/2021

Work Order #: WO00000321

Drainage District: DDs\DD 3 (Trustee 51003)

Sec-Twp-Rge: _____ **Qtr Sec:** _____

Location/GIS: 88-20-07-400-005

Requested By: Jeff Faris

Contact Phone: (641) 373-2158

Contact Email: N/A

Landowner (if different): State of Iowa

Description: DD 3 - Jeff Faris reported 2 beaver dams in the open ditch on parcel # 882007400005 (Owned by the State of Iowa). According to Faris the beaver dams can be seen from HWY 20 South of Owasa bridge. Faris's address 17687 O Ave connects to parcel where dams are located.

Repair labor, materials and equipment _____

Repaired By: _____ **Date:** _____

Please reference work order # and send statement for services to: Hardin County Auditor's Office
Attn: Drainage Clerk
1215 Edgington Ave, Suite 1
Eldora, IA 50627
Phone (641) 939-8111
Fax (641) 939-8245

For Office Use Only

Approved: _____ **Date:** _____



Beaver Dam



D.D. No. 3

Open Ditch



Beaver Dam



882007400005

Open Ditch

D.D. No. 3