

PLANNING COMMISSION

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Chairperson
Larry Fox

Vice-Chairperson
Jeff Newsom

Secretary
Keith Voight

Joseph Colaianne
Sue Grissim
Michael Mitchell
Tom Murphy

**PLANNING COMMISSION AGENDA
THURSDAY, MAY 23, 2019
7:00 PM**

1. Call to Order
2. Pledge of Allegiance
3. Roll Call
4. Approval of Meeting Agenda
5. Approval of Meeting Minutes
 - a. Planning Commission - Regular Meeting - Apr 11, 2019 7:00 PM
 - b. Planning Commission - Regular Meeting - Apr 25, 2019 7:00 PM
6. Call to Public
7. Old and New Business
 - a. Site Plan #19-004, Kubota/Bobcat Dealership
 - b. Site Plan #19-005, Livingston County Drain Commission Septic Receiving Station
8. Call to Public
9. Planner's Report
10. Committee Reports
11. Adjournment

1. **Call to Order** - THE MEETING WAS CALLED TO ORDER BY CHAIRMAN LARRY FOX AT 7:00 PM

2. **Pledge of Allegiance**

3. **Roll Call**

PRESENT: Joe Colaianne, Thomas Murphy, Larry Fox, Sue Grissim, Michael Mitchell, Keith Voight
ABSENT: Jeff Newsom

4. **Approval of Meeting Agenda**

Motion to Approve Meeting Agenda

A Motion to approve the Meeting Agenda was made by Commissioner Grissim and seconded by Commissioner Colaianne. Motion carried unanimously.

RESULT:	APPROVED [UNANIMOUS]
MOVER:	Sue Grissim, Commissioner
SECONDER:	Joe Colaianne, Trustee
AYES:	Colaianne, Murphy, Fox, Grissim, Mitchell, Voight
ABSENT:	Newsom

5. **Approval of Meeting Minutes**

a. Planning Commission - Regular Meeting - Feb 28, 2019 7:00 PM

A Motion to approve the Meeting Minutes of February 28, 2019 was made by Commissioner Mitchell and seconded by Commissioner Voight. Motion carried unanimously.

RESULT:	ACCEPTED [UNANIMOUS]
MOVER:	Michael Mitchell, Commissioner
SECONDER:	Keith Voight, Secretary
AYES:	Colaianne, Murphy, Fox, Grissim, Mitchell, Voight
ABSENT:	Newsom

6. **Call to Public**

Chris Turner, Hartland Township; Mr. Turner shared concerns about traffic and speed control on East Street before and after school.

7. **Old and New Business**

a. Retail Market Analysis

Director Langer explained the impetus for the Retail Market Analysis.

- Planning Commission is reviewing the quantity and location of commercial zoned property.
- Retail is changing moving away from big box sellers.
- Township was approached by a developer that wanted to use a commercial zoned property for their residential project stating that the area could not support the amount of commercially zoned property Hartland has available.
- Planning Commission and Township Board desired to have more information before making any adjustments.
- Gibbs Planning Group was selected to perform a Retail Market Analysis.
- One of many steps the Township will utilize as it plans for the future.

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- This information will be used to update the Future Land Use Map and Comprehensive Plan.
- Planning Commission will have work to do after this to meet the demands of commercial and make any changes needed to ensure Hartland is successful in the future.

Robert Gibbs, Gibbs Planning Group presented the Retail Market Analysis stating the following:

- Useful for business owners looking for information about expanding their business and who their customers are.
- Useful for landlords and real estate developers to help determine what use might be best suited for a particular property.
- Large amount of their business is working with the private sector, real estate developers, banks, financial institutions and universities to help them realize the market potentials for various locations.
- Good policy tool for the community to help determine long range zoning and to get a sense for what the market will do in the next fifteen or twenty years.

Mr. Gibbs presented the Retail Market Analysis

- Approximately sixty percent (60%) of the retail dollars spent are being spent outside of Hartland, including ten percent (10 %) online shopping.
- Believe they can capture approximately \$35 million of additional retail sales.
- Demographics show the primary and secondary population areas have a solid population with an above-average household income to support retail in Hartland.
- Surprised to find out people in other communities drive to Hartland because they prefer the Hartland store(s) even though they may drive past one in their community to shop.
- Emagine Theatre has already impacted the area in a positive way and will continue to draw more retail, restaurants and supporting businesses.
- Found an usually high demand (117,000 square feet) for Retail-Restaurant in this market at this time on 15 acres of land.
- By 2035, it is anticipated the need for commercial land will be approximately 35 acres and 160,000 square feet of retail.
- Found higher than the national average of dollars spent per square foot of retail sales: average is \$220 per square foot; Hartland is \$300 per square foot across the board in every category.
- It is anticipated that twenty-five percent (25%) of shopping malls will close by 2022. Retail trends are changing. Strip malls with large parking areas are on the decline. Walkable mixed shopping areas are desirable. Millennials are more inclined to spend their resources on experiences rather than hard goods in a brick and motor building.
- Cautioned the Planning Commission about rezoning commercially zoned land. Some communities keep two to three times the acreage reserved for future commercial development.
- Mixed Use developments are popular with commercial on the lower level and multi-family residential units above.

Chair Fox asked if the additional 117,000 square feet of retail in the report includes the already approved retail developments such as the RAMCO project that has 200,000 square feet approved for that site.

Mr. Gibbs stated it is in addition to what is already approved.

Commissioner Voight asked if the population numbers used were based on historical data.

Mr. Gibbs stated they used US Census data and two other data sources to estimate the projected population and job growth.

Director Langer asked how much the focus groups added to the data collection and the value of the focus groups.

Mr. Gibbs replied the focus groups were really helpful. He was surprised at the number of people that come to Hartland from other communities. They added to the amount of retail the area could capture.

Director Langer asked if there was something specific the focus groups mentioned that appealed to them, something we could grab on to and make sure we continue to do.

Mr. Gibbs replied yes. They stated they felt comfortable and safe shopping here. Also the buildings were more beautiful, the landscaping nicer, the buildings look prettier, they felt like there was a higher standard here. Even though it may be the same brand of store, they preferred the Hartland location and felt it was a better store. Even though they all sell the same product, they felt like they were getting a higher quality product and better service here. He thinks that is because Hartland does have higher building standards with nice materials and signage. He would encourage continuing with the standards that have been used.

Commissioner Voight mentioned he has a hard time visualizing 160,000 square feet but Silver Point is a 160,000, so if you look at how it is spread down the road in Fenton, as Mr. Gibbs said, we may need more than 25 acres available because the way a developer might want to build could be different.

Chair Fox stated Meijer is about 190,000 and Rural King is about the same. That is what you are equating it to if you chopped it up.

Commissioner Voight stated we may not want one big 160,000 square foot building; the other option would be if it were spread out across 25 to 35 acres.

Chair Fox asked about residential growth data. Is the source of the data looking at current projects in the pipeline or other sources?

Mr. Gibbs stated he does not put a lot of weight into the data we buy so we add to it. The population growth is based on the US Census data and two other databases based on job growth. We had to use the number as it was the only number we had but we thought it was very, very conservative. For example, we met a lot of empty nesters moving here from Ann Arbor, Royal Oak, Birmingham; people are moving here because they can get a nice home and a nice community. That does not show up under the growth. We publish the numbers but built our model assuming those are very conservative. It is not just Hartland; it is Fenton, Grand Blanc, Howell and Brighton. We weighed those numbers very conservatively.

Chair Fox stated we have a constant battle as do other communities with expectations; people saying the commercial should be built out by now, what is taking so long. It's been ten years since that development has been approved. So much seems to be driven by "rooftops". We hear that if you want development you have to get the people here.

Mr. Gibbs stated the site selection criteria used today is much stricter than it was before the recession. Even though there is a demand for retail, it may not happen because the retailers are dialing up their criteria. There are areas where there is very high demand but no one will go to because the stores have tripled their demand for rooftops they want. That could happen here too. It's going that direction quickly.

Chair Fox stated he believes that is why you see the power retail centers like Novi still exploding with growth. They are gobbling up the smaller markets that are the 15 or 20 minutes drive. We may have all of the components but we still have to convince the retailer to come when there are other stores within a 20 or 30 drive in either direction.

Mr. Gibbs stated it was common for retailers to open one store per day before the recession. Now they have cut back to one per month. Our job is to tell you what the market demand is but it is totally plausible with the severe changes in the industry that retailers may not come. Or it's possible someone will come along with a new concept, they like where the two highways cross, and see the potential. The studies we do today are much more conservative that they were 10 years ago.

An unidentified member of the public asked are there any areas that were close to being saturated.

Mr. Gibbs replied just groceries which is highly unusual. There are some very good grocery stores here now in the market.

Communications Director Jean McLeod asked how influential this study is as a tool for attracting new development.

Mr. Gibbs stated it can be influential. Other studies, when they become public, can induce a lot of interest. It's plausible. Some communities, after having a study, change their zoning to remove all commercial zoning because they do not want the growth and others say they want more. It is a very real, serious tool you have engaged us to do.

Commissioner Colaianne asked in reality how successful have some of the projections been in other communities.

Mr. Gibbs stated their projections are usually very close.

- New Dowagiac Bakery opened and sales were within one-percent of what was projected.
- Whole database where communities report back the sales.

Commissioner Colaianne stated he was looking at the specific commercial enterprises, so that is what you are referring to.

Mr. Gibbs stated yes, they looked at 52 different categories. He does not want to oversell his study. It is based on what the market demand is and we are assuming you could capture between four and nine percent of the leakage. It is always possible someone could build a beautiful store and not be very good at retail or someone could over perform. We do not have a crystal ball; it is based on what the market will bear. It is a great location with great demographics. Hartland is double the national sales and income, very strong demographics, and really high standards. One criterion some retailers have now is they only want to go to communities that have high standards. They will not go to communities where the Planning Commission is too lenient because they are going to put a lot of money into their store and they want the other stores around them to be of high quality.

Chair Fox stated the Planning Commission looked at an interviewed several companies for the Retail Market Analysis. Speaking to the quality of Gibbs Planning Group, any of the others would have been sufficient but we selected them for particular reasons and hope we can use this to further our goals in the Township. There is a lot of credibility behind it. Any of the organizations carry weight reporting anything that has their name on it.

Mr. Gibbs stated all of the demand could be absorbed with existing businesses by increasing their sales or expanding their product lines or hours.

Chair Fox stated this is something we can share with the Chamber. He supports shopping locally and if we can offer the people more and campaign that, he thinks they can all be successful.

Commissioner Colaianne stated it should be shared with the schools too. With the opportunity and demand; this is all about bringing enterprise here, we want those home-grown businesses too. That young person who has an idea that wants to start an enterprise, maybe they never thought of starting that in Hartland. There is a joint meeting coming up and this is something we could share with them.

An unidentified member of the public asked with so much room for additional retail, nearly three-quarters of a million square feet, what is keeping investors from coming to Hartland? Is it standards versus our strategy? At M59 and US 23 if the visibility of the businesses is far off the road rather than up to the road, are they not creating enough excitement that we can encourage these businesses to invest here? Recently, Wilson Marine opened a huge facility in Wixom and said he would not come here because of our restrictive ordinances and not allowing for outside storage. He also stated the procedure here to get approved is very long whereas Wixom is approving businesses in 30 days or less. Could we up our game a little bit and maybe get some more businesses? Is there something we can change to make this area more attractive so that we can build a 717,000 deficit?

Mr. Gibbs stated they can certainly talk after the meeting but his experience is Hartland's high standards and beautiful location is more desirable with retailers today. They are competing with the internet. Shoppers today are looking for an experiential activity not just a commodity; they are looking for a nice experience.

Commissioner Voight stated he thought it was a very thorough and professional report. He appreciated the focus groups being included. Some of the other companies did not include this in their process. They are helpful not only for the report but the information put in the report.

Mr. Gibbs stated he would be around after the meeting to answer questions.

RESULT:	INFORMATIONAL
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8. Call to Public

Frank Crouse, Ore Valley Drive, Hartland Township;

- Shopping centers listed in the report were the Kroger center and the former Wal-Mart site.
- Asked why RAMCO pr Fountain Square were not listed as shopping centers.
- The report stated it is important to have very good visibility and signage and those are two debatable areas in Hartland Township as to if anyone has very good visibility or signage.
- Why does RAMCO after trying for 10 years have a 500,000 square foot shortfall?

Doug Coon.

- Stated Hartland has been the hole in the donut for 45 years.
- Mixed Use approach is 400 years old as practiced in Williamsburg, Virginia. Today this approach is considered modern.
- He would recommend doing more of that.
- World is changing drastically.
- Go forward carefully.
- Look at industrial development as that is an area that brings high paying jobs.

Julia Upfal, Ann Arbor SPARK, local economic service provider for Livingston County, offered assistance in connecting the Retail Market Analysis with local brokers and the commercial/real estate market. Retail is not typically their focus, typically it is industrial, but they view this as the third leg in the stool: retail, industrial/manufacturing, health care. They want to support it any way they can. If there is anything they can do to provide assistance in making sure the study gets into the right hands, they are happy to do so.

9. Planner's Report

Director Langer stated he had forwarded information regarding some new legislation that has passed regarding the new 5G small cell wireless antenna limiting local control. Michigan Municipal League forwarded a draft ordinance which has been sent to you. He is curious if that topic is something the Planning Commission is interested in looking at.

Director Langer offered a brief explanation of 5G.

The general consensus of the Planning Commission is they would like to take a look at it.

10. Committee Reports

None

11. Adjournment

Motion to Adjourn

A Motion to adjourn was made by Commissioner Colaianne and seconded by Commissioner Murphy. Motion carried unanimously. The meeting was adjourned at approximately 8:14 PM.

RESULT:	APPROVED [UNANIMOUS]
MOVER:	Joe Colaianne, Trustee
SECONDER:	Thomas Murphy, Commissioner
AYES:	Colaianne, Murphy, Fox, Grissim, Mitchell, Voight
ABSENT:	Newsom

Submitted by,

Keith Voight
Planning Commission Secretary

1. **Call to Order** - THE MEETING WAS CALLED TO ORDER BY CHAIRMAN LARRY FOX AT 7:00 PM

2. **Pledge of Allegiance**

3. **Roll Call**

PRESENT: Joe Colaianne, Thomas Murphy, Larry Fox, Michael Mitchell
ABSENT: Jeff Newsom, Sue Grissim, Keith Voight

4. **Approval of Meeting Agenda**

Motion to Approve Meeting Agenda

A Motion to approve the Meeting Agenda was made by Commissioner Colaianne and seconded by Commissioner Mitchell. Motion carried unanimously.

RESULT:	APPROVED [UNANIMOUS]
MOVER:	Joe Colaianne, Trustee
SECONDER:	Michael Mitchell, Commissioner
AYES:	Colaianne, Murphy, Fox, Mitchell
ABSENT:	Newsom, Grissim, Voight

5. **Call to Public**

None

6. **Public Hearing**

a. Rezoning #19-001

Chair Fox opened the Public Hearing at 7:03 PM and gave an overview of the Public Hearing process.

Director Langer summarized the request stating the following:

- Indicated the location.
- Applicant is required to submit an application, a legal description and a written explanation of how they feel the requested rezoning is merited. A site plan is not required.
- Staff prepares a report outlining all of the possible uses that would be permitted in the new zoning category.
- The Future Land Use Map (FLUM) and the Comprehensive Plan are part of the review criteria. The FLUM indicates this property is designated as Planned Industrial / Research & Development.
- Three potential zoning categories that could be in this area are Research & Development, Light Industrial and Industrial.
- The Planning Commission makes a recommendation; the Township Board makes the final decision.
- The Planning Staff, in their report, has recommended denial of this request.

The Applicant, Pat Kehoe, with ACE Civil Engineering and Tony Biddix's representative, stated the following:

- Property is in the vicinity of other Industrial properties and abuts the expressway.
- Looking for some kind of industrial use.
- No plan at this time but is interested in the rezoning to allow some flexibility in moving forward with the site plan process for something more industrial related.

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- Wants to listen to the comments, work with the Township and community.
- Feels the Industrial zoning category would be more compatible with the uses to the north and west.
- Difficult to use the property as currently zoned with those surrounding uses and the abutting expressway present.

Call to the Public

Patrician Single, W. Peterson Drive, Hartland Township, President of the Pleasant Valley Home Owners Association;

- Has there been an Environmental Impact study done on the impact on the wetlands and water table?
- The residential zoning is acting as a buffer now for the existing neighborhood to the south.
- Concerned having heavy industry abutting residential properties.
- Road access is not adequate for the current residential use.
- Wallace Lake Drive is the bus stop for the school children.
- Concerned about the impact to the water quality of the lake and quality of life.

Ken Pritchard, W. Peterson Drive, Hartland Township;

- PIRD zoning category states the desire is for businesses that do not create dust, noise, and heavy truck traffic.
- I Industrial zoning would allow the cement plant to expand.
- Property does not have the required road frontage for this zoning category.
- Large area of wetland on the property and should never be developed.
- Portions of the lot could be developed for some other more compatible use.

Don Milner, Wallace Lake Drive, Hartland Township;

- All access from W. Peterson is a private drive key-holed through Wallace Lake Drive to exit onto Old US 23. An industrial complex would have to share that as well. The road is not well maintained as it is.
- Concerned about the lack of public sewer at this location for an industrial use.

Deb Milner, Wallace Lake Drive, Hartland Township;

- Concerned about environmental impact; wetlands, and wells.
- Concerned about traffic, noise and dust as is already present with the cement factory.

[Unknown]

- Must be a buffer between the industrial use and the residential.
- Concerned with additional traffic in an area where there are children and no sidewalks.

Joe Taylor, Deign Ct., Hartland Township;

- Concerned about additional noise.

Mike Ryan, W. Peterson Drive, Hartland Township;

- Shared photos and information about the wetlands and flooding on the property.
- Area already has drainage issues during times of snow melt or heavy rain.
- Shared photos and information about Wallace Lake Drive.
- Should not be rezoned to Industrial and risk contaminating the drains and wetland.
- Previous administration indicated the Industrial use should stop with the Livingston Concrete property.
- During drier times of the year, the marsh area still has cattails; the water is coming out from the ground.

Paul Adams, N Old US 23, Hartland Township;

- Environmental study should be done as an industrial use will impact the wetland filter system.
- Access should be off of Old 23, not Wallace Lake Drive.
- Asked for more information about documents and procedure/timing.

Bill Hershey, W. Peterson Drive, Hartland Township;

- Would like an Environmental study completed.
- Concerned about additional traffic.
- Concerned about the impact on his property value.

Paul Black, W. Peterson Drive, Hartland Township;

- Agreed with the other residents who have commented and the staff recommendation.
- Concerned about not having a buffer between the uses.

Yvonne Merkel, W. Peterson Drive, Hartland Township;

- Agreed with the other residents who have commented.
- Concerned with additional noise during the night, traffic and wetlands.

Aaron Krese, W. Peterson Drive, Hartland Township;

- Concerned about additional traffic with new drivers.
- Appreciates the wildlife present in the area.

Nicole Johnson, W. Peterson Drive, Hartland Township;

- Concerned about additional water run-off.

Tom Ferguson, W. Peterson Drive, Hartland Township;

- Concerned about additional cost for sewer, noise and inadequate road access.

Chair Fox closed the Public Hearing at 7:55 PM

Chair Fox and Director Langer gave a brief demonstration of how to find meeting materials on the Township website.

Chair Fox referred to the staff memo dated April 18, 2019.

Zoning Ordinance Rezoning Criteria

Section 7.4.3.A. Consistency with the adopted Comprehensive Plan.

Director Langer gave an overview of the three zoning categories; I Industrial, LI Light Industrial, PIRD Planned Industrial Research and Development, that fall under the purple color on the Future Land Use Map. In this portion of the purple area, staff has determined the I Industrial zoning category would not be consistent with the Comprehensive Plan.

Section 7.4.3.B. Compatibility with the site's physical, geological, hydrological and other environmental features.

Chair Fox stated the report mentions the wetlands, open water and a possible stream.

Commissioner Colaianne stated these all fall within Part 303 of the Michigan Natural Resources and Environmental Protection Act requirements; his question to the Applicant is has a wetland delineation been done?

The Applicant replied no, it has not been done. They are only looking for the zoning change. By virtue of the comments tonight, we recognize the property is Master Planned for some type of industrial, surrounded on a few sides by industrial, subject to existing noise already. They feel an industrial use is more compatible with what the property really is. They realize when they go through Site Plan Review

they will have to delineate wetlands, do drainage studies, detailed designs, realistically not all of the 35 acres will be developed. They are just looking for the use which is more compatible with industrial than it is with residential.

Commissioner Colaianne encouraged the members of the public to share their comments during the next Call to the Public later in the meeting.

Commissioner Colaianne stated the reason he brought the question forward is to try and understand what portion of the property is usable space and intended for development. He is concerned about the wetlands that are present as they serve as a natural drainage and filtering system for the tributaries which is the lake. This property is providing a buffer for the concrete plant. The wetland looks like a high quality wetland but we do not have any information about it.

The Applicant stated no matter how the property is developed, the wetland will have to be delineated and storm drainage will have to be designed around it. All of these items will be worked out during the site plan process if it gets to that point.

Chair Fox stated you can understand the concern looking at the map. The high and dry area is close to the existing residential and a small strip by the concrete plant with the wetland area in the middle. Their concerns, and ours, would be if the wetland were to remain, and the little strip of high and dry developable land abutting people's backyards were developed, the buffer will be lost. The request is for Industrial, the heaviest use, with what the Ordinance describes as "obnoxious odors and noise permitted" in their backyards. He understands what they are saying. That piece of information would help people understand where the project would really go. Right now, it looks like it would go in their backyard or next to the concrete plant with a wetland in the middle.

Commissioner Mitchell stated the way he reviewed it, the available property to build on is being forced toward the residential.

Commissioner Murphy stated he would agree completely and that is without considering the study that has to be done to find out how close they can get to those wetlands. If that is a fairly accurate display of the wetland, it is going to be pushed closer and closer to the residential.

Section 7.4.3.C. Reasonable return on investment with current classification of SR.

The Applicant stated with the wetlands, the addition of a road, the distance to get to the area where you could build, in an area that is probably not going to generate real high home sales, the return on the investment for a residential developer does not look favorable.

Chair Fox asked, to help him understand the reasonable return on the investment, how long has the property owner owned this property?

The Applicant stated he did not know.

Chair Fox stated the property has been zoned SR Suburban Residential, using the word very loosely, forever. His comment on the reasonable rate of return would be one purchased the property with an understanding it was zoned residential. The return should be based upon the investment they made in the SR category, which it has always been to the best of his knowledge, and what it is today. Not to consider using the thought if I flip it to an industrial property without consideration of the other 13 points for purposes of improving my return; that does not work as well for me, particularly when it was purchased under that zoning.

Section 7.4.3.D. Compatibility of all potential uses allowed in the proposed I District with surrounding uses and zoning.

Chair Fox clarified asking the Applicant if he was saying it should be zoned I Industrial because of the concrete facility to the north, and a smaller piece of industrial to the west.

The Applicant added there is an expressway on the east.

Commissioner Colaianne stated again there is SR Suburban Residential to the south. It needs to be compatible with the neighboring parcel to the south which is a sensitive area.

Commissioner Murphy stated the residential is built up against the freeway as well.

Chair Fox stated there is also a piece of CA Conservation Agriculture which is residential also.

Section 7.4.3.E. Capacity of infrastructure and other public services and street system

The Applicant stated without knowing the specifics of the actual development it is hard to comment on that. Anything that is developed there would have to adhere to current regulations. His understanding is that sewer and water are not a reasonable distance there, but there is some area on the property that perks. Depending on the type of facility that goes in, they should be able to make that work for a water well. The road access is what it is. It would be hard to deny this user access to his own site.

Commissioner Murphy stated he does not think there is any question of denying the owner access to his site.

Chair Fox agreed stating the question is what is that access? What is that property being used for? There is a difference on load on the road for residential. What is being asked for is the heaviest industrial use. There are other opportunities: research and development, office, it could stay SR. There are many opportunities that exist that would not fall in this heavy industrial category. Only addressing what was requested, can we change this to I Industrial? The use of the road that is in conflict with a school bus stop and an entrance to a residential area is concerning.

Section 7.4.3.F. Capability of the street system to accommodate the expected traffic generated by uses allowed in the requested zoning district.

Chair Fox stated that for I Industrial zoning, 300 feet of street frontage is required. This site has 166 feet on Wallace Lake Drive.

Director Langer stated there is 1100 feet of frontage on US 23 but he cannot access it. That is a question the Planning Commission will need to decide; is it frontage for access or frontage on a public street even if one cannot access it?

Chair Fox stated one must take all of the points being discussed and not focus on one. There are 13 points that must be looked at in totality not just one.

Section 7.4.3.G. Apparent demand for uses permitted in the requested zoning district.

Director Langer stated the applicant has not provided information regarding the demand for uses in the I Industrial district. The Township is not aware of any industrial uses that have expressed an interest in development in the Township.

The Applicant stated there is nothing in the works at this point.

Chair Fox stated there must have been something that caused it to be a request for Industrial rather than a less intense zoning category.

The Applicant stated they are aware the Planning Commission can recommend a lesser zoning category. They wanted to get the discussion going on this and see where it led. They feel it is a tough property to be zoned SR Suburban Residential. If you look at the Master Plan and the surrounding zoning, it fits that it should be something different than it is. They are willing to work through those items to obtain and end result that is a better fit for everyone.

The Planning Commission briefly discussed their options and how to proceed.

Director Langer encouraged the Planning Commission to answer the question that is being asked. If the Applicant chooses to seek a different zoning category, then that opens the Planning Commission up for additional discussion. Right now the question is being asked and he has to prepare them. This goes well beyond the Township level. His advice is the Planning Commission should create an affirmative record here that answers that question.

Section 7.4.3.H. Ability to comply with zoning regulations.

Director Langer referred to the Michigan Department of Environmental Quality (MDEQ) wetland map and stated the MDEQ is the only entity in the State that can determine what a regulated wetland is and where the boundary of the wetland is. Maps have been provided to indicate areas of concern. The maps are a guide. The map for this location indicates there may be some regulated wetlands on this property that should be investigated. Because of that, he cannot ascertain how much of this land is buildable and would meet the required setbacks, provide adequate parking, screening and everything else.

Section 7.4.3.I. Appropriateness of the requested zoning district.

Director Langer referred to the Future Land Use Map indicating the surrounding zoning and the areas of conflict. He stated there are many questions due to features that are not known. It is for the Planning Commission to decide but staff has recommended it is not appropriate.

Chair Fox stated his reaction to this request is that it is not appropriate due to the amount of residential on both sides of US 23. He is concerned with maintaining a buffer between different uses of differing intensities. The Applicant has requested the Township's highest and most intense use. The concrete factory is our highest and most intense use. They are placed there and are fine but that does not mean that type of use should come any closer to existing residential areas. This property is wonderful looking and could potentially provide wonderful uses besides our highest and most intense use. He would ask the Applicant to consider what is going on along US 23 and not assume just because there is a concrete plant north of the site that everything below it would not work with what he wants to do. He is concerned about buffering and about the appropriateness of the request. He cannot support this request.

Commissioner Colaianne stated he agrees with Chair Fox and is also concerned about the sensitivity of the watershed at that location, the lake, and the tributaries. Bringing an intense use like the Industrial zoning designation, he would be surprised at what use would not impact the watershed there in an adverse manner. He is aware that impacts to wetlands can be mitigated in a variety of ways, but there is no reason to develop this property in light of the role it plays in the watershed system. Hartland sits at the headwaters of two watersheds; the Shiawassee and the Huron. When we impact the watershed, we are impacting an area larger than just the Township. He feels we need to be sensitive to that.

Commissioner Mitchell stated he is struggling with not being able to comprehend how much of the property is suitable to build on. There are wetland setbacks but the location of the wetlands has not been determined. There is a lot of water in that area headed to the lake system. He agrees with other comments and is sensitive to the possible impact to the wetland especially without having any idea what the development might be.

Commissioner Murphy stated he agrees with the other comments and referred to the Zoning Ordinance Section 3.1.17.A. Intent "*The intent of the I, Industrial District is to accommodate manufacturing, assembling, and fabrication activities including large scale or specialized industrial operations, which have the potential for emitting obnoxious odors, generating heavy truck traffic, producing noises, displaying bright light and other external physical effects which may impact surrounding districts. The I District is structured to permit the manufacturing, processing and compounding of semifinished or finished products from raw materials as well as from previously prepared materials,*" he continued stating that is what could end up being here. He does not think this piece of property should be rezoned to Industrial for that purpose.

Section 7.4.3.J. Amendment of permitted or special uses versus rezoning.

Chair Fox stated there is no information.

Section 7.4.3.K. Exclusionary and Spot Zoning Issues.

Director Langer stated this is not an exclusionary or spot zoning issue where the zoning would exclude an otherwise lawful use of land or where one lot is like an island completely surrounded by a different zoning category. There is Industrial to the north and slightly to the west.

Section 7.4.3.L. Submittal of similar request within one year.

Chair Fox stated this is not applicable.

Section 7.4.3.M. Other Factors.

Chair Fox stated there are no other factors.

The Applicant stated, after all that has been said, he would ask that this request be tabled to give them the opportunity to review the other zoning options that might be available. This might be a better transitional zoning area. They would request the opportunity to discuss that before a decision is made, come back again and maybe offer some suggestions, if that is appropriate.

The Planning Commission discussed the options going forward.

The Applicant stated it is his understanding the Planning Commission can recommend a different zoning category.

Chair Fox asked for the Director's advice and if he stands by what he said earlier in the meeting.

Director Langer stated he does. There can be discussion but his advice is that it comes from the Applicant to consider something else, then the Planning Commission could consider that. He is looking at this as going beyond the Township's role and his advice is to always answer the question that was asked. Right now the question is to rezone it to Industrial. His advice is to make a decision based on that request. That would put the Planning Commission in the best case scenario to defend that decision. There is also a question whether you can hold off making a decision tonight to allow the Applicant to regroup and put together a proposal, is what he is hearing.

Commissioner Colaianne stated the other option is the Applicant can withdraw the application.

Director Langer stated that if the application is withdrawn, that would close the matter. If they wanted to come back with something else they would have to reapply. He continued, if the Planning Commission postpones or tables this discussion and the Applicant modifies the request to something else, would it have to be re-noticed and a new Public Hearing scheduled? That is venturing into some gray area. His understanding is that re-noticing may not be required but the Township may want to send new notices.

Chair Fox asked could the Applicant request the application be withdrawn. If Mr. Biddix is truly interested in communicating with everyone, he is going to want that notice as that is the only means of communication with the neighboring properties.

Director Langer clarified if the application is withdrawn, it is done.

Chair Fox stated the Applicant could come back in a month or two and reapply.

The Applicant stated he would prefer the request be tabled so they can speak to Mr. Biddix personally and explore other options.

Commissioner Colaianne stated the suggestion to withdraw might allow the residents to be noticed as the notification costs are part of the application fee.

Director Langer clarified, if the question was would the Applicant have to pay an additional fee for re-noticing, He answered that is not clearly identified.

Commissioner Colaianne stated his problem is the due process of all parties; there is the due process of the Applicant and the due process for the neighboring property owners within 300 feet. If this were tabled, the property owners would not get the notice unless they are paying attention to the website. He is not comfortable with that.

Chair Fox agreed.

Commissioner Murphy stated he is not comfortable with that either and reminded the Planning Commission of the Director's advice to answer the question set before them.

Chair Fox stated the issue with doing that is the Applicant cannot return with another request for one year.

Director Langer clarified that is one of the review criteria; it does not necessarily prevent the Applicant from coming back with another request within a year.

Chair Fox gave the Applicant the option to withdraw the application or they would vote on the request this evening. If a new application were brought forth, new notices would then be sent. Tabling would not allow for the noticing process.

The Applicant stated it is very common to table projects after a Public Hearing has been held for a development. The public has been notified because they are here. He does not see how that is an issue.

Chair Fox stated we do not know when the issue would come back and be on the agenda again.

The Applicant asked if it could be tabled with that specified as part of the motion.

Chair Fox stated when applications have been tabled, which is very rare, we have set the date so the people in the audience know when it is coming back, but we do not know what day that is because we do not know what the Applicant is going to do, or how many informal meetings there might be, or conversations with the Director. People have a right to know and they need to know when it is going to happen. We have always tabled with a date.

The Applicant again requested the item be tabled.

The Planning Commission briefly discussed the options.

The Applicant stated the Planning Commission could recommend a different zoning category.

Commissioner Colaianne responded the information contained in this application would not merit doing such a thing if they have the authority to do that; there is not sufficient information. For the same reasons as discussed today, he would not consider Light Industrial or Research and Development. There are a lot of wetlands here and it does not appear to be accommodating the buffer strips that need to be taken care of with respect to the residential properties to the south. At this time, there is not enough information. He would not consider that as well.

Commissioner Colaianne offered the following motion:

Motion to recommend denial of Rezoning Application #19-001, a request to rezone approximately 35 acres, from SR (Suburban Residential) to I (Industrial), located west of US-23,

east of Old US-23, and north of Wallace Lake Drive and West Peterson Drive in Section 33 of Hartland Township (Parcel ID #4708-33-401-090) property owner/applicant Tony Biddix.

Seconded by Commissioner Murphy

Planning Commission briefly discussed including the basis for the denial.

Commission Colaianne revised his motion to include the following:

The basis for the motion to deny is based on the findings in the staff report dated April 18, 2019 and the information shared at this meeting. The basis is as follows:

1. The requested rezoning of the subject property to the I (Industrial) zoning classification is not consistent with the Township’s Comprehensive Development Plan, which indicates the property should be developed as Light Industrial or Planned Development.
2. The site is not adequately served by services, such as water, sewer, and roads, which would better suit the uses permitted in the I (Industrial) zoning district.
3. The only access to the subject property appears to be from a road that provides access to a single family residential area
4. There are significant wetland features on the subject property; and it is not clear how the property could be developed in the I (Industrial) zoning classification without negatively impacting those features.

The Maker and Seconder agreed. Motion carried unanimously.

RESULT:	RECOMMENDED TO DENY [UNANIMOUS]	Next: 5/21/2019 7:00 PM
MOVER:	Joe Colaianne, Trustee	
SECONDER:	Thomas Murphy, Commissioner	
AYES:	Colaianne, Murphy, Fox, Mitchell	
ABSENT:	Newsom, Grissim, Voight	

7. Old and New Business

a. Use Determination Kubota-Bobcat Dealership

Director Langer summarized the use determination as follows:

- Originally looked at the LaFontaine site at 9990 Highland, zoned GC General Commercial.
- It was determined the use could be permitted but no outdoor storage would be allowed.
- Business plan changed requiring outdoor storage which was not compatible with the previous use determination.
- Found a new location at 948 Old US 23 zoned PD Planned Development.
- No established standards for this particular PD.
- First step is to have a use determination. If the use is determined to comply at this location as staff is recommending, they would be able to proceed with Site Plan Review, get into the site, and the property will be rezoned to LI Light Industrial at a later time to clear up the zoning for the future.

Chair Fox stated there was an informal Site Plan Review Committee meeting and he would support this use at this location with the outdoor display component. He stated it feels like it fits in the LI district.

Commissioner Mitchell stated he agrees it looks very nice, fits well, and may provide more opportunity than the previous choice.

Commission Murphy asked how the two zoning districts compared; PD versus GC.

Minutes Acceptance: Minutes of Apr 25, 2019 7:00 PM (Approval of Meeting Minutes)

Director Langer stated the previous site was GC General Commercial with automobile sales. A car could be displayed in a lot but no other equipment, accessories or outdoor storage.

Commissioner Murphy stated he was fine with it also.

Commissioner Colaianne offered the following Motion:

MOTION: The Planning Commission finds the proposed use to be similar in nature and compatible to uses of the same nature or class as uses listed in the LI district.

Seconded by Commissioner Murphy. Motion carried unanimously.

RESULT:	APPROVED AS AMENDED [UNANIMOUS]
MOVER:	Joe Colaianne, Trustee
SECONDER:	Thomas Murphy, Commissioner
AYES:	Colaianne, Murphy, Fox, Mitchell
ABSENT:	Newsom, Grissim, Voight

8. Call to Public

Paul Adams, N Old US 23, Hartland Township;

- Thanked the Planning Commission for their thoughtful consideration.
- Thinks an Environmental Impact Statement should be part of the Rezoning application process.
- Appreciated the question about length of time the property has been owned by this party.
- The parcel has access, it is not being denied, and thinks once a property is rezoned improving the road access should be part of that process.
- Access to road frontage is important not just road frontage.
- Thinks the FLU Map designation could be a mistake.

9. Planner's Report

Director Langer reported Panda Express has received a Land Use Permit and once a building permit has been obtained from Livingston County construction should begin shortly after.

10. Committee Reports

None

11. Adjournment

Motion to Adjourn

A Motion to adjourn was made by Commissioner Mitchell and seconded by Commissioner Colaianne. Motion carried unanimously. The meeting was adjourned at approximately 9:02 PM.

RESULT:	APPROVED [UNANIMOUS]
MOVER:	Michael Mitchell, Commissioner
SECONDER:	Joe Colaianne, Trustee
AYES:	Colaianne, Murphy, Fox, Mitchell
ABSENT:	Newsom, Grissim, Voight

Minutes Acceptance: Minutes of Apr 25, 2019 7:00 PM (Approval of Meeting Minutes)

Submitted by,

Keith Voight
Planning Commission Secretary

Minutes Acceptance: Minutes of Apr 25, 2019 7:00 PM (Approval of Meeting Minutes)



Board of Trustees

William J. Fountain, Supervisor
 Larry N. Ciofu, Clerk
 Kathleen A. Horning, Treasurer

Joseph W. Colaianne, Trustee
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 Glenn E. Harper, Trustee
 Joseph M. Petrucci, Trustee

MEMORANDUM

Date: May 16, 2019

To: Hartland Township Planning Commission

From: Planning Department

Subject: **Kubota/Bobcat Dealership at 948 Old US-23
 Site Plan Application #19-004**
 Request to establish a Kubota/Bobcat dealership at an existing commercial site, 948 Old US-23, is zoned PD-Planned Development (Parcel ID #4708-33-100-016).

Applicant Information

Applicant: Ryan Wurtzel
 Carleton Equipment Company

Site Description

The subject site is located on the east side of Old-US 23, south of Bergin Road, and bounded by Old US-23 on the west and US-23 on the east, in Section 33 of Hartland Township. The approximate 3.09 acre site is zoned PD-Planned Development. The site is currently occupied by Beauchamp Landscape and Supply, which has operated at the site since approximately 2000 (approved under Site Plan #300 and Special Use Permit #196).

Two driveways on Old US-23 provide access to the site, with the northern driveway serving as the public entrance to the site. The southern driveway is an "exit only" driveway. The site layout includes two buildings; an approximate 2,520 square foot building for retail/office uses on the west side of the site; and an approximate 5,175 square foot truck storage/warehouse building with several bays and a service area for truck repairs in the northeast corner. Outdoor display and storage areas, concrete block storage bins, parking, and a seasonal greenhouse are currently present on the site.

Background Information

The applicant proposes to establish a Kubota and Bobcat business at the subject site (948 Old US-23), utilizing the existing buildings, parking areas, and outdoor display areas for Kubota and Bobcat equipment. The business includes the sale and support of new and used compact equipment for Kubota and Bobcat. New and late model equipment could include lawn mowers, utility tractors, utility vehicles, compact loaders, and excavator. Additionally a variety of attachments and implements will be available for purchase. Rental opportunities are offered for new implements, attachments, and specialty products, which comprises approximately 5% of the yearly business.

The proposed business operates Monday through Friday from 7:30 a.m. to 5:00 p.m. Saturday hours are seasonal and are from 8:00 a.m. to noon. Approximately 6 to 8 employees will be on staff. Daily UPS delivery and pickups are anticipated as well as five trucking deliveries per week. As to traffic generation, besides employees coming and going, the dealership averages 15 to 20 customer visits per day.

The subject site has been occupied by several businesses since 1991 under several applications. The current business, Beauchamp Landscape and Supply (formerly Beauchamp Lawn and Snow Service), was approved under Site Plan Application #300 and Special Land Use Application #196 in 2000.

The site is zoned PD (Planned Development). In general when land is in the PD category, the Township approves a PD Agreement that outlines the uses that are permitted in that designated area, as well as other development standards. However, in this case, the subject property, although in the PD designation, does not have specific uses listed in the PD. In fact, there is no PD Agreement. It appears in the past, the Light Industrial (LI) and Industrial (I) zoning categories were used for the applicable zoning regulations. Although, the Planning Department staff is not sure how they arrived at those being the applicable zoning standards; other than neighboring lands are in those zoning classifications.

In light of the fact a PD Agreement was not adopted for this property, and specific uses were not identified, a use determination for the Kubota/Bobcat business was presented to the Planning Commission on April 25, 2019. The Planning Commission determined the proposed use is similar in nature and compatible to uses of the same nature or class as uses listed in the LI (Light Industrial) zoning district.

As noted in the staff report for the Use Determination, dated April 18, 2019, the Township will initiate a rezoning of this property to LI (Light Industrial) to be more compatible with the zoning in the area and the Comprehensive Development Plan of Hartland Township. Staff would also recommend the property immediately north of the subject site be rezoned from GC-General Commercial to LI (Light Industrial) for the same reasons.

Request

The applicant is proposing to establish a Kubota and Bobcat business at an existing commercial site, 948 Old US-23, utilizing the existing buildings and current site layout with slight modifications. A site plan has been provided showing the proposed outdoor display and storage areas for the Kubota/Bobcat equipment, attachments, and implements.

Approval Procedure

Due to the fact the subject site is zoned PD, and specific standards have not been provided as part of the PD, a site plan application has been required, to be reviewed by the Planning Commission, who will make a final decision on the site plan. If approved by the Planning Commission, an approved zoning compliance application and land use permit will be required prior to the applicant occupying the site.

SITE PLAN REVIEW – Applicable Site Standards

The applicant intends to utilize the existing buildings and site layout with slight modifications. As previously noted, the site is zoned PD (Planned Development) but specific standards are not provided. As a result, the site plan review will be limited in scope in this memorandum. Comments by general topic are provided below.

Attachment: Kubota staff report 05.16.2019 (3055 : Site Plan #19-004, Kubota/Bobcat Dealership)

Intended Uses of Existing Site Features

The existing site layout includes two (2) buildings, a parking area in the northwest corner of the site, storage bins interior to the site, and paved outdoor storage areas around the buildings. The site is bounded on the west by a decorative metal fence with stone columns and a security gate. A second fence is located interior to the site between the two buildings.

Per the applicant, the concrete block storage bins along the south property line and interior to the site will be removed. Those areas, labeled as “interior yard equipment areas” on the submitted plan, will be used for outdoor storage of new machines, attachments, and implements; however the area will be open to the public.

Two (2) equipment staging areas are shown along the west side of the property, facing Old US-23, where Bobcat and Kubota equipment will be displayed. One display area is between the parking area and the decorative fencing. Currently this area has a temporary greenhouse and gravel surfacing. Compact loaders and compact tractors will be displayed here. A second display area is in front of the retail/office building where new residential and commercial lawn mowing equipment will be displayed. Renderings submitted by the applicant show additional areas for equipment storage behind the retail/office building and along east side of the property, noted as the rear lot in the email dated April 25, 2019.

The retail/office building will continue to function in similar manner with no changes proposed to the building’s exterior. New parts and accessories for Kubota/Bobcat equipment will be available for purchase, and will be stored inside the building to await installation or customer pick-up or delivery.

Service of the equipment is limited to preventative maintenance such as filters, minor repairs, and prepping new compact equipment for sale. This will take place in larger building (northeast corner of site), previously used for truck storage/warehousing by the landscape business. Modifications to the building’s exterior are not proposed.

Off-Street Parking (Section 5.8, parking standards for retail store)

Changes to the existing parking lot are not proposed. Currently twenty-three (23) parking spaces are provided. A parking formula for the proposed use is not specifically provided in the PD or in the parking regulations in Section 5.8.4.H of the Zoning Ordinance; however staff can apply the parking formula for a retail store, for the sales/office building.

- Required – 1 space per 300 square feet of gross floor area; 2,520 SF retail store ÷ 300 = 8 parking spaces
- Existing – 23 parking spaces
- Meets Requirement? –Yes
- Comment – employees will park in the north end of the parking area (6 to 8 employees)

Landscaping and Screening (Sec. 5.11)

The applicant does not intend to change the existing landscaping. Currently landscaping is provided on the north, east, and west borders. A decorative metal fence with stone columns is in place near the west boundary of the site, facing Old US-23. A variety of shrubs, perennial plants, and trees are placed in front of the fence to provide screening.

Lighting (Sec. 5.13)

Changes to the existing site lighting are not proposed at this time.

Architecture/Building Materials (Sec. 5.24)

Exterior changes to the existing buildings are not proposed at this time.

Other Requirements-Zoning Ordinance Standards

Nothing additional at this time.

Hartland Township DPW Review

No comments at this time.

Hartland Township Engineer's Review (HRC)

No comments at this time.

Hartland Deerfield Fire Authority Review

No comments at this time.

Recommended motion for Site Plan Application #19-004 (Kubota and Bobcat Dealership)

The Planning Department recommends the following motion for the Planning Commission's consideration:

Move to approve Site Plan Application #19-004 a request to establish a Kubota and Bobcat dealership at 948 Old US-23. Approval is subject to the following conditions:

1. The applicant shall adequately address the outstanding items noted in the Planning Department's memorandum, dated May 16, 2019, subject to an administrative review by the Planning staff prior to the issuance of a land use permit.
2. Applicant complies with any requirements of the Department of Public Works Director and Hartland Deerfield Fire Authority.
3. (Any other conditions the Planning Commission deems necessary)

Attachments:

1. Carleton Equipment Business Plan-PDF version
2. Email with renderings for front lot-PDF version
3. Email with renderings for rear lot-PDF version
4. Bobcat Attachments Picture-PDF version
5. Bobcat Attachments-PDF version
6. Kubota Attachments Email-PDF version
7. Tractor with Tiller-PDF version
8. Tractor without Tiller-PDF version
9. Site Plan

T:\PLANNING DEPARTMENT\PLANNING COMMISSION\2019 Planning Commission Activity\SP #19-004 Kubota Dealership\Staff reports\Kubota staff report 05.16.2019.docx

Overview

Carleton Equipment Company is a family-owned and operated business with five (5) locations throughout Michigan. 2018 marked our 80th year in business. Our company is focused on the sale and support of new compact equipment. Our products are used by a wide range of customers. From small contractors to residential customers will larger acreage (typically 5 acres and above), we take great pride in providing a quality sales experience from top to bottom.

Sales

Much of our business is focused on the sale of new compact equipment. Our sales approach is different than some other similarly situated businesses in that we not only welcome customers to our physical locations to shop and get pricing, but we also have territory sales managers that drive to customer businesses and homes upon request to provide pricing and information. This sales approach is helpful to customers and it allows us to lessen foot traffic to the dealership which assists with proper staffing that can be difficult to manage in a traditional retail sales environment.

From a new sales perspective, we do require a new compact equipment display lot. This part of our business does not differ from that of an automotive dealership. For customers that do want to visit the dealership, we need to be able to present various models of new compact equipment for display. This display lot will also house machines that leave the dealership with one of our territory sales managers on a truck and trailer for off-site presentation and demonstration.

Used Equipment sales is a small percentage of our business and we only deal in late-model products of the same brands as well sell from our new lot. Much like an automotive dealer, the used compact machines are displayed in a designated area of the equipment display. As a percentage, our used machine fleet at each dealership makes up less than 5% of the entire machine fleet on the ground at any given time.

Parts

In addition to new compact equipment, we focus on the sale of new parts and accessories. Once we have hopefully be able to earn a customer's business through the sale of a new compact machine, we support that machine with the sale of maintenance parts, accessories and any other replacement parts they should need during the life of the machine. Our parts are stored inside of our facilities to await installation or customer pick-up and/or delivery.

Service

From time to time, customer machines need to be serviced and we offer both off-site (at customer's location) and on-site (at our dealership) service support. Off-site service has grown significantly over the years and this trend lessens the burden of large space requirements at our physical locations. Any maintenance performed at our location is limited to preventative maintenance such as filter changes, minor repairs and prepping new compact equipment for sale. The disposal of service products such as used filters and used oils are handled by contracted firms that focus on this type of activity and log removal of these products in accordance with State law.

Rental

Our business does offer equipment rental opportunities for our customers. Rental makes up approximately 5% of our yearly business. Because our compact equipment offers such a wide array of attachments and implements, we offer our customers an opportunity to rent new implements, attachments and specialty products that may be too expensive to justify purchasing for use 1-2 times per year. As with our used equipment, these items are intermingled with our product display.

Operations

Our businesses operate Monday through Friday from 7:30 a.m. – 5:00 p.m. We also maintain limited Saturday hours from 8:00 a.m. – Noon and Saturday hours are seasonal. For this prospective location, proper staffing would mean 6-8 new jobs to open the doors and operate properly. As to traffic generation, besides employees coming and going, our dealerships average 15-20 customer visits per day. We would have a daily UPS delivery and pick-up as well. On average, we also receive approximately 5 LTL or Full Load trucking deliveries per week. Our business is very specialized and does not have the volume of automotive dealers as an example.

Closing

We appreciate the Township taking the time to review our proposed use and business roadmap. We are a strong and stable company that has always maintained good relationships with the local communities that we reside in. We are looking forward to becoming a member of the Hartland Township community for many years to come. If you have any questions, do not hesitate to contact me at any time.

Troy Langer

From: Troy Langer
Sent: Wednesday, April 17, 2019 5:28 PM
To: Troy Langer
Subject: FW: Beauchamp's / Carleton Equipment -- 948 North Old US 23

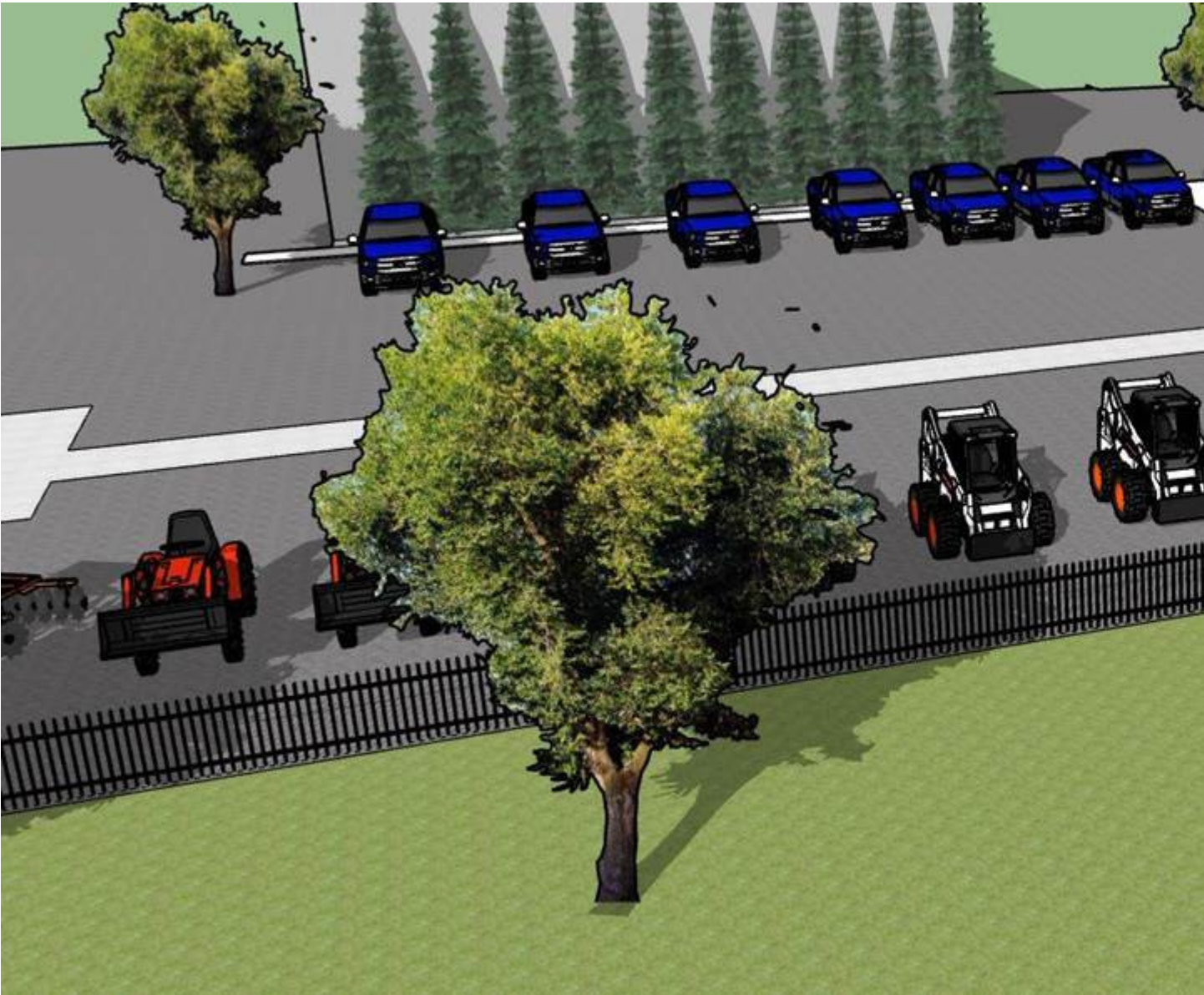
Importance: High

Troy,

Here are some renderings that we created for the forward portion of the property to show the extent of the equipment display. I will forward you our business plan overview shortly so you can review that as well. Let me know if you have any questions on the rendering. Thanks again for your assistance!



Attachment: 2. Email with renderings for front lot (3055 : Site Plan #19-004, Kubota/Bobcat Dealership)



Attachment: 2. Email with renderings for front lot (3055 : Site Plan #19-004, Kubota/Bobcat Dealership)



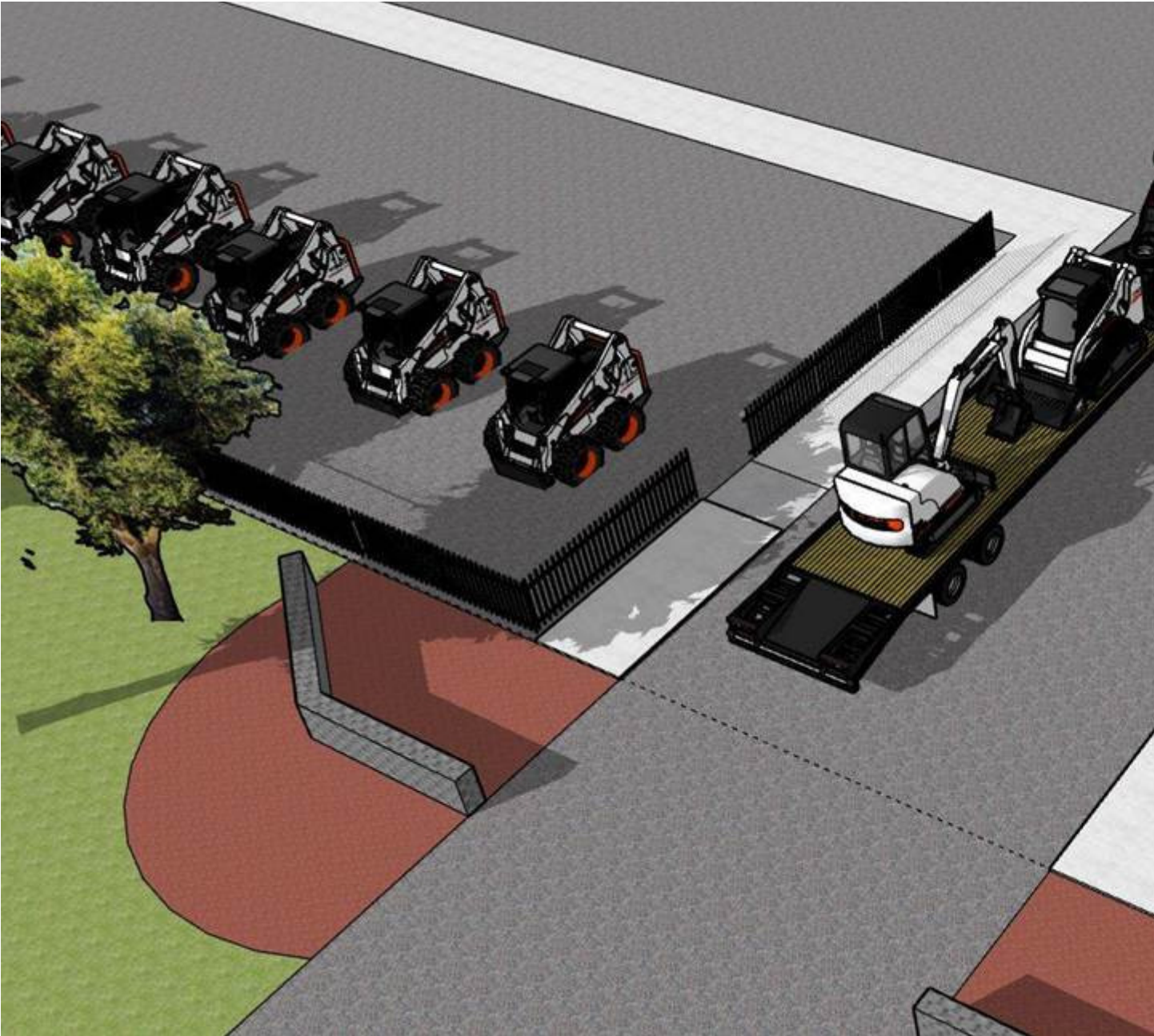
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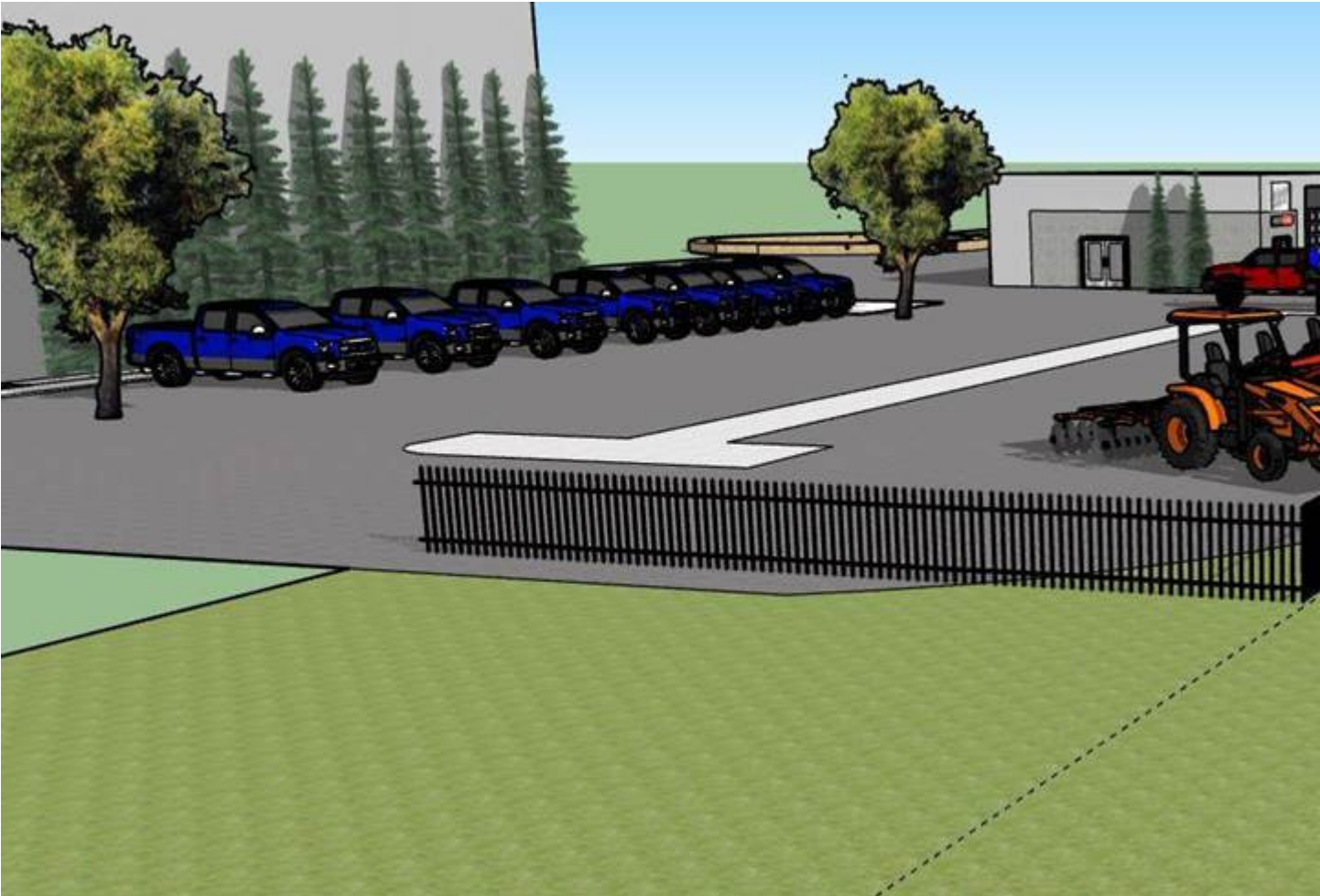
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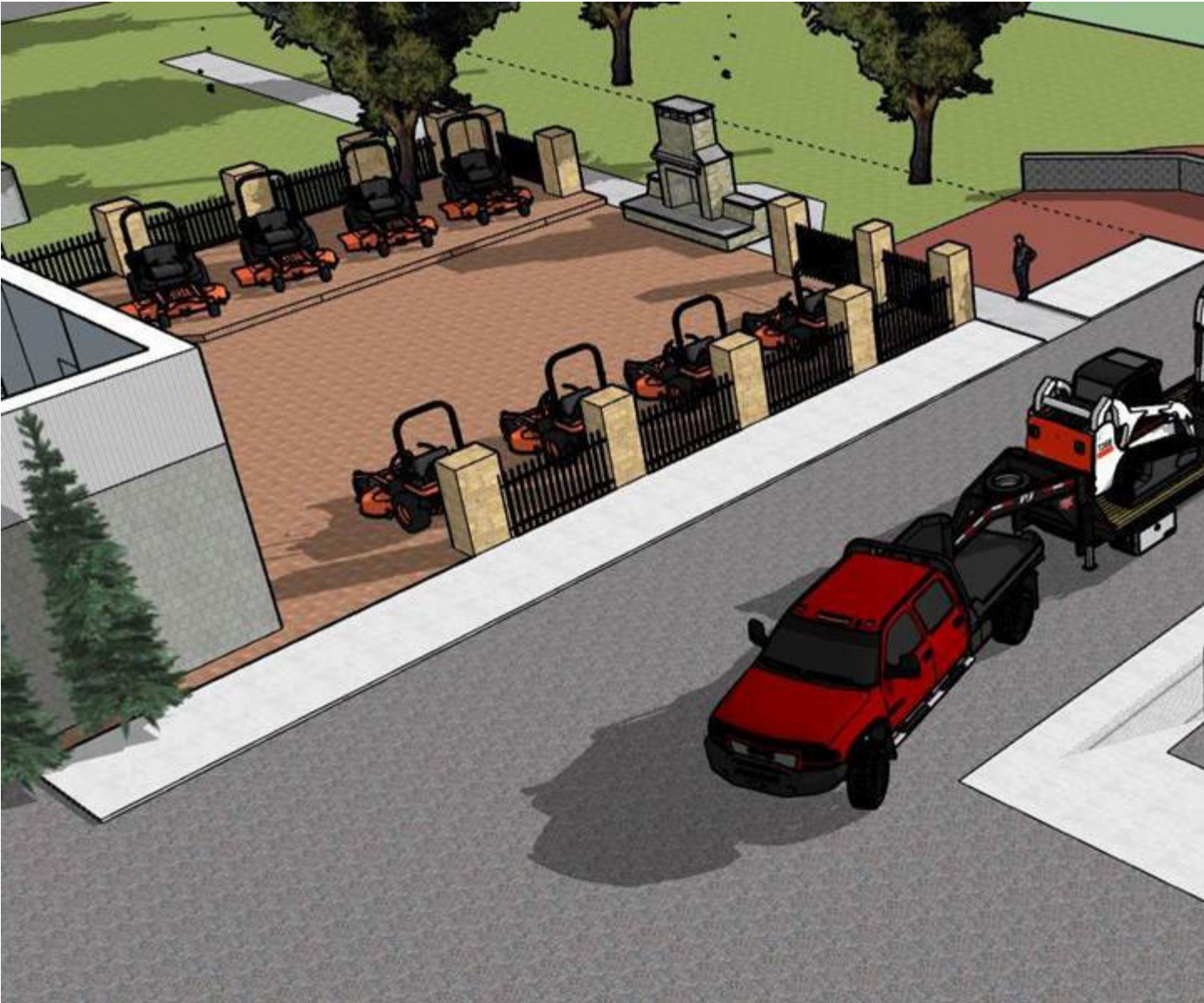
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Attachment: 2. Email with renderings for front lot (3055 : Site Plan #19-004, Kubota/Bobcat Dealership)

Troy Langer

From: Troy Langer
Sent: Thursday, April 25, 2019 3:26 PM
To: Troy Langer
Subject: FW: Howell Renderings Back Lot

Importance: High

Troy / Martha:

I know the packet for the meeting this evening went out already, but I did want to forward a general rendering that we had done of the lot that will face US23 to the east. This represents both machines and attachments / implements set-up for interior rear display.

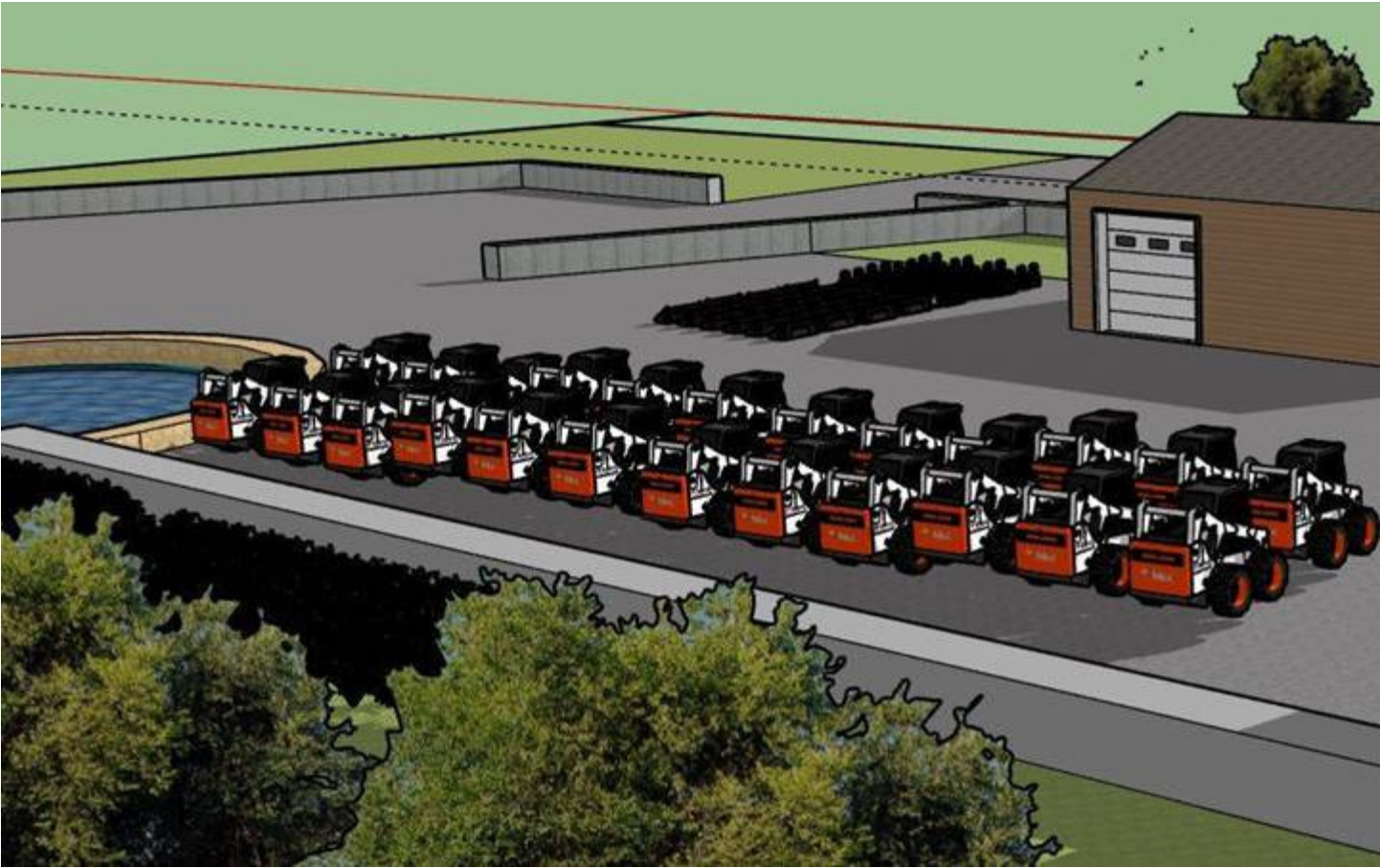
Best Regards,

Ryan Wurtzel

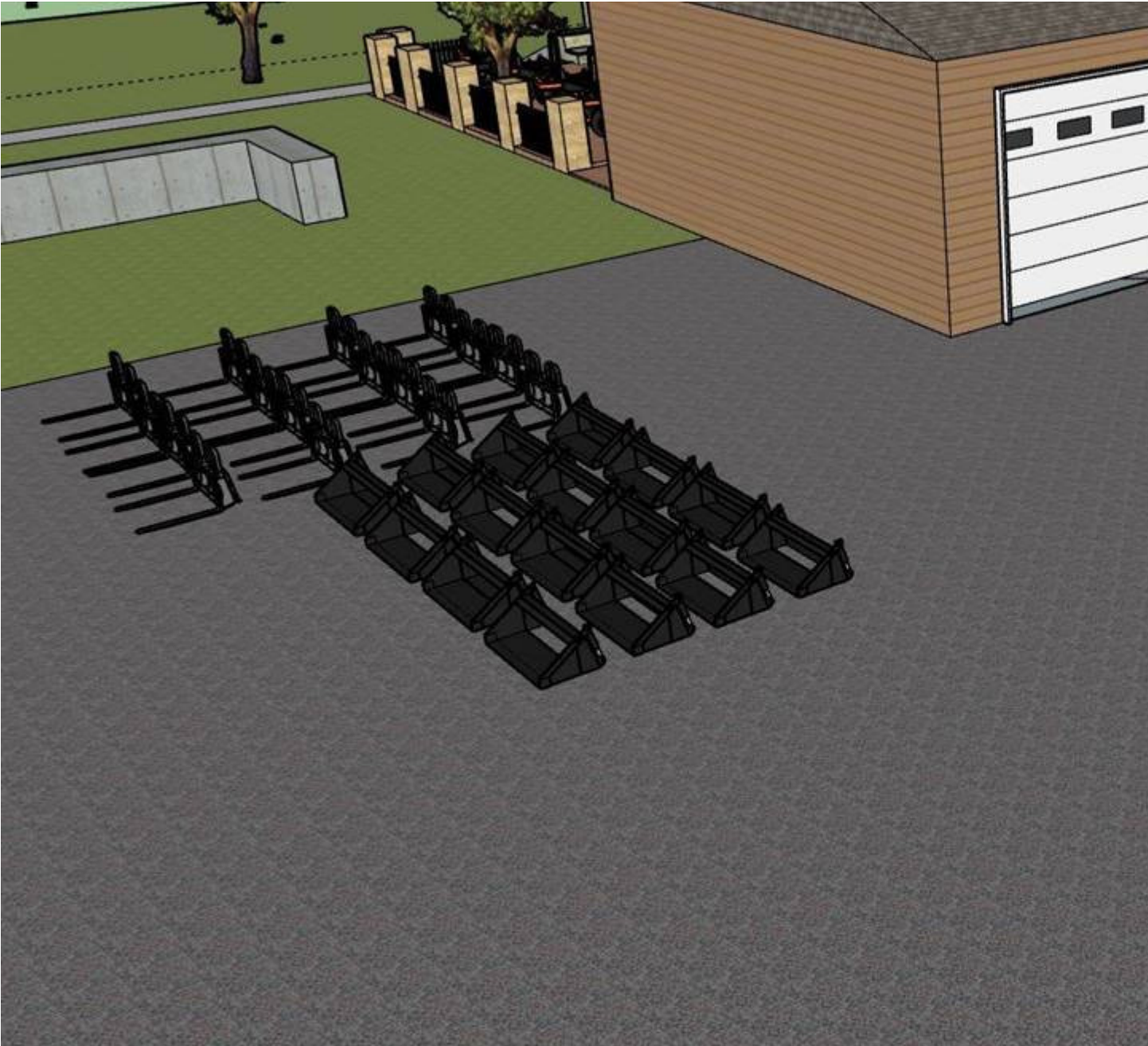
Attachment: 3. Email with renderings for rear lot (3055 : Site Plan #19-004, Kubota/Bobcat Dealership)



Attachment: 3. Email with renderings for rear lot (3055 : Site Plan #19-004, Kubota/Bobcat Dealership)



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Attachment: 3. Email with renderings for rear lot (3055 : Site Plan #19-004, Kubota/Bobcat Dealership)



Attachment: 4. Bobcat Attachment Picture (3055 : Site Plan #19-004, Kubota/Bobcat Dealership)



Martha Wyatt

From: Martha Wyatt
Sent: Wednesday, April 17, 2019 5:34 PM
To: Martha Wyatt
Subject: FW: Planning Commission meeting on April 25
Attachments: Tractor without Tiller.jpg; Tractor with Tiller.jpg; Bobcat Attachments.jpg; Bobcat Attachment Pic.png

From: Ryan Wurtzel
Sent: Thursday, March 28, 2019 5:10 PM
To: Martha Wyatt
Subject: RE: Planning Commission meeting on April 25

Martha,

Yes, we will have attachments / implements on site that will be stored on the interior portion of the property (i.e. thru the entry gates behind the retail center building). I attached some pictures of our Bobcat attachments (a full array and also a Bobcat with an attachment mounted on the front) and also a tractor with an implement on the rear and without an implement.

Hope this helps!

Attachment: 6. Kubota attachments email (3055 : Site Plan #19-004, Kubota/Bobcat Dealership)



Attachment: 7. Tractor with Tiller (3055 : Site Plan #19-004, Kubota/Bobcat Dealership)

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Attachment: 8. Tractor without Tiller (3055 : Site Plan #19-004, Kubota/Bobcat Dealership)



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2303 Pipestone Road
Benton Harbor, MI 49022
Phone: 269.927.0100

KALAMAZOO
433 East Ransom Street
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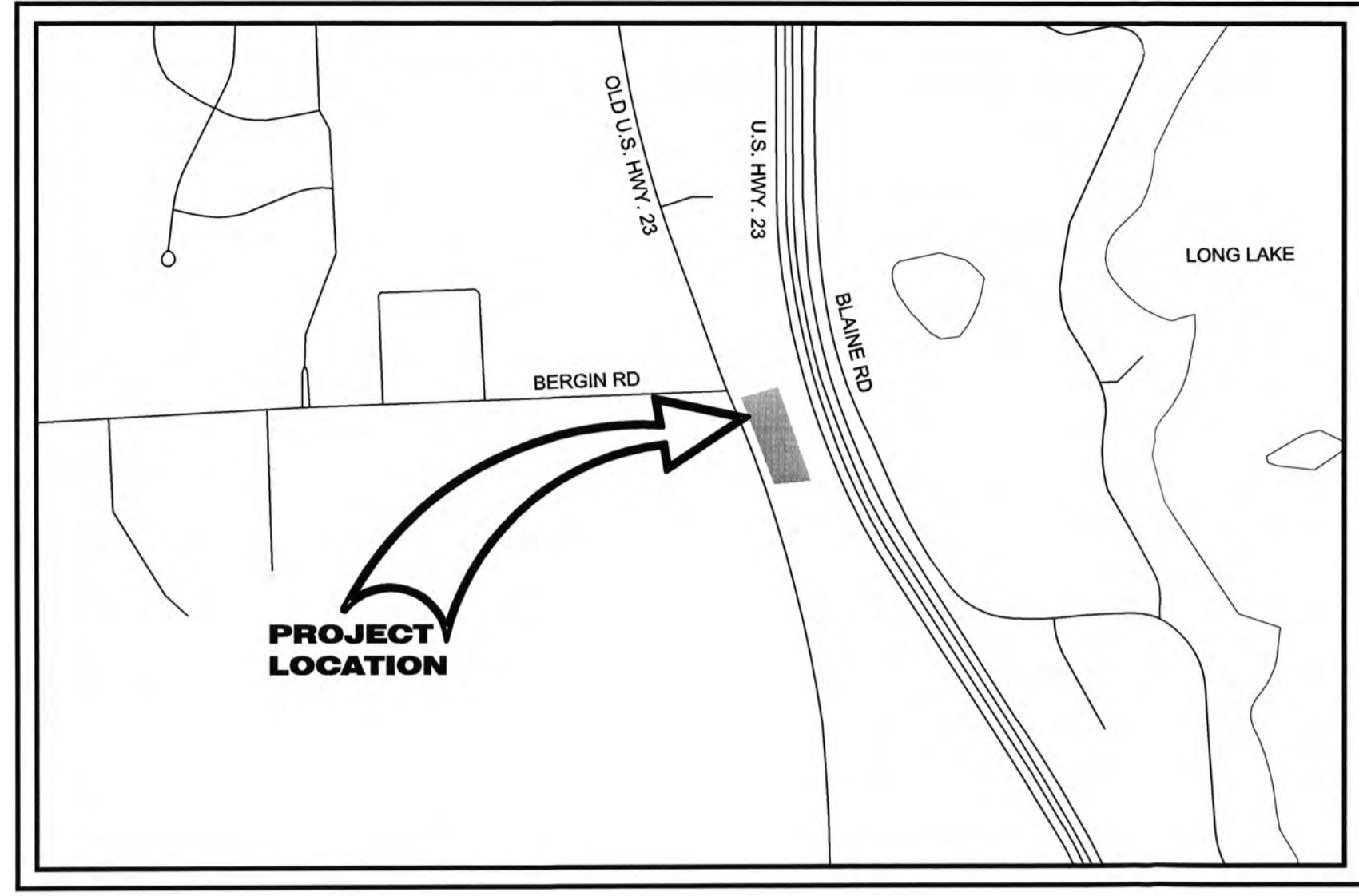
ALLEGAN
1670 Lincoln Road
Allegan, MI 49010
Phone: 269.673.8465

www.gowightman.com

PROJECT NAME:
**CARLETON
EQUIPMENT**
948 NORTH OLD US HIGHWAY
23
BRIGHTON, MI 48114

**CARLETON
EQUIPMENT**

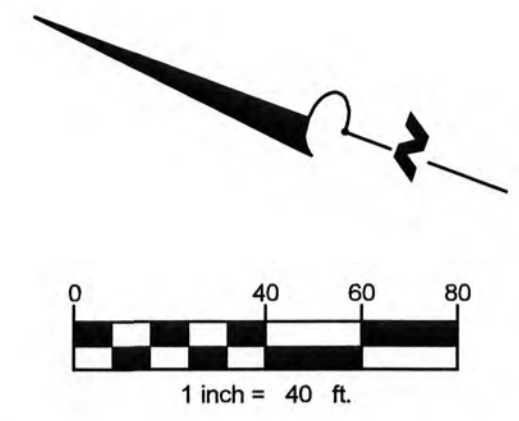
Attachment: 9. Site Plan #19-004, Kubota/Bobcat Dealership



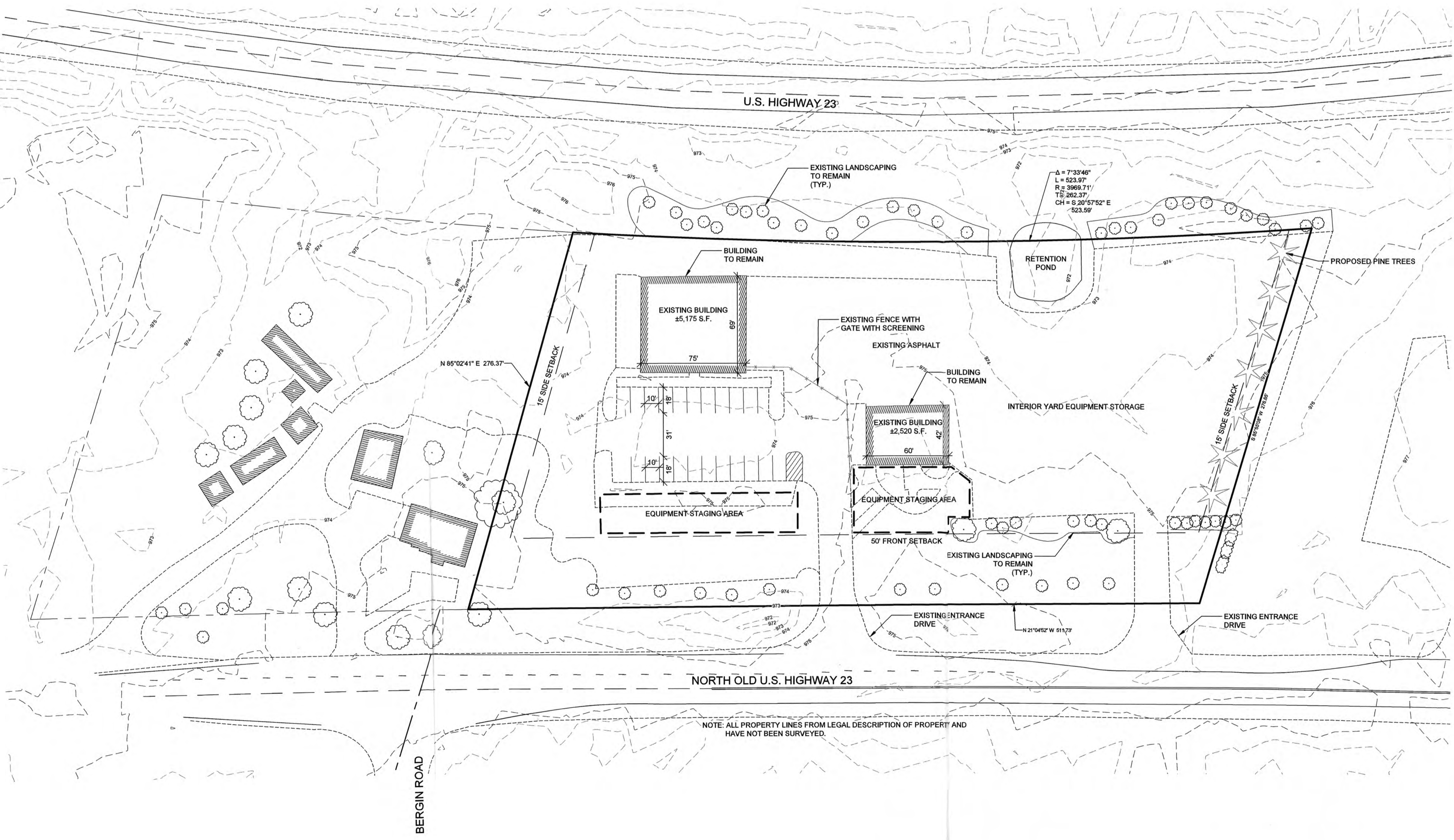
LOCATION MAP
N.T.S.

LEGAL DESCRIPTION

PARCEL 4708-33-100-016
LAND IN THE TOWNSHIP OF HARTLAND LIVINGSTON COUNTY, MICHIGAN, DESCRIBED AS FOLLOWS:
PART OF THE NORTHWEST 1/4 SECTION 33 LYING BETWEEN THE WESTERLY RIGHT-OF-WAY LINE OF US 23 FREEWAY AND THE EASTERLY RIGHT-OF-WAY LINE OF WHITMORE LAKE ROAD (OLD US 23), TOWN 3 NORTH, RANGE 6 EAST, HARTLAND TOWNSHIP, LIVINGSTON COUNTY, MICHIGAN, DESCRIBED AS: BEGINNING AT A POINT DISTANT NORTH 87 DEGREES 52 MINUTES 23 SECONDS EAST ALONG THE NORTH LINE OF SAID SECTION 33 AND CENTERLINE OF BERGIN ROAD, 1875.22 FEET TO THE CENTERLINE OF WHITMORE LAKE ROAD (120 FOOT RIGHT-OF-WAY), SOUTH 20 DEGREES 31 MINUTES 39 SECONDS EAST ALONG SAID CENTERLINE OF WHITMORE LAKE ROAD, 21.51 FEET, NORTH 87 DEGREES 10 MINUTES 58 SECONDS EAST 52.98 FEET, AND SOUTH 20 DEGREES 31 MINUTES 39 SECONDS EAST ALONG THE EASTERLY RIGHT-OF-WAY LINE OF SAID WHITMORE LAKE ROAD, 8.04 FEET FROM THE NORTHWEST CORNER OF SAID SECTION 33, THENCE NORTH 85 DEGREES 34 MINUTES 55 SECONDS EAST 274.16 FEET ON THE ARC OF A CURVE CONCAVE TO THE EAST, CENTRAL ANGLE 07 DEGREES 38 MINUTES 16 SECONDS, RADIUS 3969.71 FEET, CHORD BEARING SOUTH 20 DEGREES 21 MINUTES 31 SECONDS EAST 528.80 FEET; THENCE SOUTH 87 DEGREES 36 MINUTES 15 SECONDS WEST 274.41 FEET TO THE EASTERLY RIGHT-OF-WAY LINE OF SAID WHITMORE LAKE ROAD; THENCE ALONG SAID EASTERLY RIGHT-OF-WAY LINE OF WHITMORE LAKE ROAD NORTH 19 DEGREES 15 MINUTES 53 SECONDS WEST 7.74 FEET AND NORTH 20 DEGREES 31 MINUTES 39 SECONDS WEST 511.73 FEET TO THE POINT OF BEGINNING.



SITE INFORMATION	
Applicant Name	Ryan Wurtzel
Applicant Address	4704 S 29th Street, Kalamazoo, MI 49048
Site Address	948 North Old US Highway 23, Brighton, MI, USA
Tax Parcel Numbers	4708-33-100-016
Current Zoning	Planned Development (PD)
Current Use	Flower Shop
Proposed Use	Commercial Equipment Sales
Site Area (S.F.)	135,215
Gross Usable Floor Area (S.F.)	7,600
Total Ground Floor Area (S.F.)	7,600
Lot Coverage	5.62%
Parking Spaces Required	8 Spaces
Parking Spaces Provided	23 Spaces



LEGEND

- | | | | |
|--|--------------------------------------|--|-------------------------------|
| | CABLE | | = PAVEMENT/SOIL BORING |
| | ELECTRIC LINE | | = PROPOSED HYDRANT |
| | ELECTRIC LINE (OVERHEAD) | | = PROPOSED GATE VALVE & BOX |
| | FIBER OPTIC LINE | | = PROPOSED GATE VALVE & VAULT |
| | GAS LINE | | = PROPOSED REDUCER |
| | TELEPHONE LINE | | = PROPOSED SANITARY MANHOLE |
| | FENCE | | = PROPOSED STORM MANHOLE |
| | FORCE MAIN | | = STORM MANHOLE |
| | GUARDRAIL | | = TELEPHONE MANHOLE |
| | SANITARY SEWER | | = TELEPHONE RISER BOX |
| | STORM SEWER | | = TURNING POINT/TRaverse |
| | WATER MAIN | | = UTILITY POLE |
| | CENTER LINE | | = VAULT |
| | EXISTING TREE LINE | | = WATER ELEVATION |
| | EXISTING DITCH LINE | | = WATER MANHOLE |
| | EASEMENT LINE/GRADING PERMIT | | = WATER METER |
| | GRADING LIMITS/LIMITS OF DISTURBANCE | | = WATER VALVE |
| | PROPERTY LINE | | = WATER SPIGOT |
| | RIGHT-OF-WAY LINE | | = WELL |
| | SECTION LINE | | |
| | TO BE ABANDONED | | |

TREE DESIGNATORS

- | | | | |
|--|-------------------------------|--|------------------------------|
| | BUSH | | STUMP |
| | CONIFEROUS TREE | | DECIDUOUS TREE |
| | CONIFEROUS TREE TO BE REMOVED | | DECIDUOUS TREE TO BE REMOVED |

REVISIONS

DATE: APRIL, 2019
SCALE: 1" = 40'

SITE LAYOUT

RECEIVED
APR 25 2019
HARTLAND TOWNSHIP

JOB No. 194037
C101



Board of Trustees

William J. Fountain, Supervisor
 Larry N. Ciofu, Clerk
 Kathleen A. Horning, Treasurer

Joseph W. Colaianne, Trustee
 Matthew J. Germane, Trustee
 Glenn E. Harper, Trustee
 Joseph M. Petrucci, Trustee

MEMORANDUM

Date: May 16, 2019

To: Hartland Township Planning Commission

From: Planning Department

Subject: **Proposed expansion of Livingston County Drain Commission Septage Receiving Station (SRS) Site Plan Application #19-005**
 Request to amend a previously approved site plans and expand the existing Livingston County Drain Commission (LCDC) septage receiving station at 4682 Runyan Lake Road. The improvements include the construction of an approximate 5,776 square foot building for septage pretreatment (press building), two storage tanks, detached accessory building, and expanded paved areas. The subject site is zoned GC-General Commercial (Parcel ID #4708-09-100-017).

Applicant Information

Applicant: Brian Jonckheere
 Drain Commissioner, Livingston County Drain Commission

Site Description

The Livingston County Drain Commission (LCDC) septage receiving station, addressed as 4682 Runyan Lake Road, is south of Clyde Road and east of US-23, in Section 9 of Hartland Township. The approximate 3.64 acre site acre parcel is zoned GC-General Commercial. The existing site includes an approximate 4,300 square foot building that serves as an indoor unloading facility for truck-in septage and has two (2) truck bays. The site also has below grade septage equalization tanks; detention ponds; and paved areas for internal circulation. The site is accessed by two (2) driveways from Runyan Lake Road. Each access drive is one-way. Traffic enters the site from the northern driveway and exits out the southern driveway. The site was developed in 2006.

Overview and Background Information

The site plan for the LCDC septage receiving station was approved by the Planning Commission in 2005 under Site Plan Application #407. Following is a summary of applications associated with the subject site.

Site Plan Application #407

This application was a request from the Livingston County Drain Commission (LCDC) to construct a septage receiving station. The facility has an approximate 4,300 square foot building with two (2) truck bays, serves an indoor unloading facility for truck-in septage. Other site items include below grade septage equalization tanks; detention ponds; and paved areas for internal

vehicular circulation. The Planning Commission approved Site Plan Application #407 on December 15, 2005.

PLU #7620

Land Use Permit #7620 was issued on September 29, 2006 for the construction of the septage receiving station.

LD #17-013

On December 27, 2017, the Township approved a LD #17-013, a request from the LCDC to split off approximately 3.64 acres from the parent parcel, to create a new parcel for the LCDC septic receiving station. The size of the remaining parcel is approximately 38.56 acres (Parcel ID #4708-09-100-018).

Request

The applicant is requesting to amend the previously approved site plans to expand the existing LCDC septage receiving station (SRS). The facility is allowed as a Permitted Principal Use, under Section 3.1.14.B.ix., in GC-General Commercial, which allows “*Public buildings, post offices, libraries, community centers, but not including warehouses, garages, or storage areas*”.

The purpose of the expanded septage receiving station is to provide septage pretreatment process equipment to remove and press the septage for landfill. The project includes a second building (press building), approximately 5,776 square feet in size; two septic equalization storage tanks with a valve and pump building between the tanks; a detached accessory building; additional paved surfacing to provide internal vehicular circulation to and around the new building; redesigned stormwater detention ponds; and new landscaping.

The proposed press building provides a third receiving bay for truck-in septage (the original building has two receiving bays). Trucks enter the site from the north driveway, enter the press building, and exit the site via the south driveway. Each driveway allows for on-way traffic only.

The mean height of the building is 29 feet. The architecture and building materials (color and type) for the press building are intended to be similar to the existing building. The building materials include split-faced block at the base of the building. The remainder of the building is comprised of face brick and brick accent bands. Vinyl siding is used in the gables. Asphalt roof shingles are shown and are similar to the existing building.

Two (2) septic equalization storage tanks are proposed, which serve to create a steady stream of flow to feed the pretreatment process. Each tank is lined with stainless steel and has a galvanized exterior finish (light grey). The mean height of each tank is approximately 25'-6" feet and each tank is 28 feet in diameter. The holding capacity of each tank is approximately 100,000 gallons. The tanks are approximately 16 feet apart. A valve and pump building is located between the tanks and is comprised of split face block on the west façade. The remainder of the building is comprised of concrete masonry and those facades are shielded by the tanks and press building (north, south, and west facades).

The proposed detached accessory building (labeled as storage barn), approximately 600 square feet in area, is located in the southwest corner of the site. The vinyl sided building is approximately 12'-6" in height (mean height) and has a garage door opening and man door on the north façade. The storage barn will be used to house empty polymer totes that are used in the proposed press building. Other items could include mechanical equipment (pump parts, valves, and hoses).

Additional site improvements include expansion of the paved areas for vehicular circulation and redesigned detention ponds to accommodate stormwater runoff for the new site layout. The plans also show the removal of twenty-three (23) existing trees. Forty-five (45) replacement conifer trees are shown on the proposed landscape plan.

A regulated wetland is partially present within the site along the south side of the site. The wetland extends off-site to the south. The proposed project includes filling a portion of the regulated wetland to accommodate construction of additional paved areas associated with the overall expansion plan. The site plans dated May 2, 2019 which were submitted to the Township with the site plan application, show the proposed fill in the wetland on the grading plan (Sheet 5). The landscape plan shows seven (7) new conifer trees to be planted in this area (Sheet 6). Staff has noted this plan set as Option 1 to distinguish it from another option under consideration by the applicant as noted below, designated as Option 2.

The applicant is in the process of applying for a permit from the EGLE (Department of Environment, Great Lakes and Energy-formerly MDEQ), for proposed work in the regulated wetland; however the plans have not been finalized. The applicant has explained they are looking at two different options at this time. Option 1 is the proposal to place fill into the regulated wetland as shown on the plans submitted with the site plan application. Option 2 is a proposal to reduce the amount of fill placed into the wetland and construct a retaining wall along the southern edge of the new internal paved drive and abutting the regulated wetland. The retaining wall could vary in height from two (2) feet on the west end to ten (10) feet on the east end. If this option were employed, the south line of seven (7) conifer trees would not be planted. The applicant has provided a concept plan of Option 2.

The applicant is currently in discussions with EGLE as to the options and has not formally submitted an application to EGLE. As a result approvals and permits from EGLE have not been issued as of the date of this memorandum.

Staff is presenting the two options for the Planning Commission's consideration for the proposed work in the wetland so that the project could be approved for either option and provide flexibility to the applicant.

Approval Procedure

The request is considered an amendment to an approved site plan and the project requires site plan approval. The Planning Commission has Site Plan Review authority and will make a final decision on Site Plan Application #19-005. Although the plans show future improvements such as "Future building and drive extensions" and "Future storage tank" (on Sheet 7), those items are not part of the current request. Separate applications and approvals are required for those items or any future expansions of the facility.

SITE PLAN REVIEW – Applicable Site Standards

Applicable site standards for GC-General Commercial zoning district and site development standards are discussed below.

Site Description

The subject site is located at Runyan Lake Road, which is south of Clyde Road and east of US-23, in Section 9 of Hartland Township. The 3.64 acre parcel, zoned GC-General Commercial, was developed as the LCDC septage receiving station in 2006.

The surrounding properties to the north, east, and south are zoned GC-General Commercial.

Impact Assessment

An Impact Assessment was not required.

Traffic Generation

Traffic Generation was not required.

Dimensional Requirements (GC-General Commercial)

Lot Size (Sec. 3.1.14)

- Required – 20,000 sq. ft. (with sewer)
- Proposed – 3.64 acres
- Meets Requirement? – Yes
- Comment – (none)

Frontage (Sec. 3.1.14)

- Required – minimum lot width of 120 ft.
- Proposed – lot width is approximately 339 ft.
- Meets Requirement? – Yes
- Comment – (none)

Building Setbacks (Sec. 3.1.14)

Press Building

Setback	Required	Proposed	Meets Requirements? (Y / N)
Front (west)	50'	208'	Yes
Rear (east) (w/ sewer)	40'	76'	Yes
Side (north)	15'	84'	Yes
Side (south)	15'	150'	Yes

Storage tank #1

Setback	Required	Proposed	Meets Requirements? (Y / N)
Front (west)	50'	190'	Yes
Rear (east) (w/ sewer)	40'	165'	Yes
Side (north)	15'	158'	Yes
Side (south)	15'	150'	Yes

Storage tank #2

Setback	Required	Proposed	Meets Requirements? (Y / N)
Front (west)	50'	215'	Yes
Rear (east) (w/ sewer)	40'	152'	Yes
Side (north)	15'	200'	Yes
Side (south)	15'	110'	Yes

Storage Barn (accessory building)

Setback	Required	Proposed	Meets Requirements? (Y / N)
Front (west)	50'	350'	Yes
Rear (east) (w/ sewer)	40'	45'	Yes
Side (north)	15'	265'	Yes
Side (south)	15'	53'	Yes

Detached Accessory Building Setbacks (Sec. 3.24.21.A.)- For 2 storage tanks and detached accessory storage barn

- Required – no closer than 10 ft. to principal building (proposed press building)
- Proposed – 11 ft. (storage tank #1); 15 ft. (storage tank #2); 120 ft. (storage barn)
- Meets Requirement? – Yes
- Comment – (none)

Building Height (Sec. 3.1.14.E., GC-General Commercial)

- Required – 35 feet or 2.5 stories, whichever is less
- Proposed – Press building: approximately 29 ft. (mean ht.); each storage tank: 25'-6" (mean ht.); storage barn: 12'-6" (mean height)
- Meets Requirement? – Yes
- Comment – (none)

Lot Coverage (Sec. 3.1.14)

- Required – principal structure: 75% max.
- Proposed – 6.4% (existing bldg. footprint SF + press bldg. SF ÷ 3.64 acres = 6.4%)
- Meets Requirement? – Yes
- Comment – (none)

Site Requirements

Off-Street Parking

Off-street parking calculations were not provided in 2006 when the septage receiving station was originally approved. Per the applicant, it is not required to have personnel on site to operate the facility, however typically there are one to two vehicles parked on site on weekdays. Additional paved surfacing is proposed as part of the current project and should provide sufficient areas for short-term parking even though striped parking spaces are not provided.

Landscaping and Screening (Sec. 5.11)

Approximately twenty-three (23) existing trees will be removed as part of the expansion project. Approximately forty-five (45) new conifer trees will be planted on the site, along the north, east, and south borders. A mix of spruce, fir, and pine trees are proposed, 8 feet in height at the time of planting. The trees will be planted in a staggered fashion. The specific tree species are not listed on the landscape plan. Staff would suggest this information be provided on the construction set of plans.

Lighting (Sec. 5.13)

Wall-mounted, LED light fixtures are proposed on the press building (9 light fixtures) and accessory building (1 light fixture). The light fixture is shielded and aimed downward. A photometric plan was not required at this time.

Water Supply and Wastewater Disposal (Sec. 5.16)

The proposed development will be served by an on-site well and public sanitary sewer.

Architecture / Building Materials (Sec. 5.24)

Architecture Comments: Proposed Press Building

- Façade Materials Calculation – façade materials must comply with the specifications for Façade Materials Group #1; percentages are proposed as follows:

Materials Group #1: Proposed Façade Materials by Percentage by Elevation

Press Building

Group #1	Brick 30% (Min)	Split faced Masonry unit 25% (max)	4" vinyl siding 10% (max)
North	28%	5%	7%
South	22%	5%	7%
East	43%	12%	32%
West	43%	12%	6%

- Colors: the renderings illustrate earth tone colors as required; colors are intended to match the existing SRS building.
- Materials: percentages are listed for each elevation side; specifications on the type of each material are provided; however the specific product name and color of each product should be provide on the construction set of plans.
- Meets Requirement? – **TBD**
- Comment – **Planning Commission to determine if the proposed façade materials are acceptable. The intent is to have proposed building match the façade materials on the existing septage receiving building (type and color).**

The proposed façade material percentages, for each elevation of the press building, are generally consistent with the façade material percentages for the existing building. The proposed façade materials are similar in color and product type as those used on the existing building.

Architectural Comments: Proposed two (2) storage tanks and detached accessory building/storage barn

The storage tanks and storage barn could be considered as utility buildings and therefore be allowed to deviate from the façade materials standards required in Materials Group #1. Due to the intended use of storage tanks are stainless steel lined. The exterior is sheathed with bands of galvanized steel in a light grey color (not painted).

The storage barn is sided with vinyl siding on all four (4) facades, except for the garage door and man door on the north façade.

Although not stated on the elevation drawings, staff assumes the siding and roof shingles match those same materials used on the press building. This information should be provided on the construction set of plans,

Other Requirements-Zoning Ordinance Standards

Nothing additional at this time.

Hartland Township DPW Review

No comments at this time.

Hartland Township Engineer's Review (HRC)

The Township's Engineer (Hebbel, Roth, and Clark) has reviewed the plans and recommends site plan approval subject to items being addressed in the letter dated May 16, 2019.

Hartland Deerfield Fire Authority Review

Please see the letter from the Hartland Deerfield Fire Authority dated May 15, 2019. The Fire Authority approves the project subject to the contingencies noted in the letter.

Recommended motion for Site Plan Application #19-005 (Expansion of LCDC Septage Receiving Station)

The Planning Department recommends the following motion for the Planning Commission's consideration:

Move to approve Site Plan Application #19-005 a request to amend the previously approved site plan and expand the existing septage receiving station at 4682 Runyan Lake Road. The improvements include the construction of an approximate 5,776 square foot building for septage pretreatment (press building), two storage tanks, detached accessory building, expanded paved areas, and the potential for a retaining wall on the south side of the property (Option 2 plan). Approval is subject to the following conditions:

1. The applicant shall adequately address the outstanding items noted in the Planning Department's memorandum, dated May 16, 2019, on the Construction Plan set, subject to an administrative review by the Planning staff prior to the issuance of a land use permit.
2. Applicant shall apply for and receive all applicable approvals and permits from the EGLE (Department of Environment, Great Lakes and Energy-formerly MDEQ), for proposed work in the regulated wetland. Copies of the approvals and permits shall be submitted to the Township prior to the issuance of land use permit.
3. Applicant complies with any requirements of the Department of Public Works Director, Township Engineering Consultant, Hartland Deerfield Fire Authority, and all other governmental agencies.
4. (Any other conditions the Planning Commission deems necessary)

Attachments:

1. Hartland Township Engineer (HRC), Review letter dated May 16, 2019-*PDF version*
2. Hartland Deerfield Fire Authority, Review letter dated May 15, 2019-*PDF version*
3. Project Summary- *PDF version*
4. Color Renderings of Press Building-*PDF version*
5. Example 1 of Storage Tank-*PDF version*
6. Example 2 of Storage Tank-*PDF version*
7. Option 2 Site Plan with retaining wall-*PDF version*
8. Site Plans, dated May 2, 2019

CC:
Brian Jonckheere
Drain Commissioner, Livingston County Drain Commission

HRC, Twp Engineer (via email)
R. West, Twp DPW Director (via email)
A. Carroll, Hartland FD Fire Chief (via email)

T:\PLANNING DEPARTMENT\PLANNING COMMISSION\2019 Planning Commission Activity\SP #19-005 LCDC expansion project\Staff reports\SP 19-005 Septage Receiving Station Expansion staff report 05.16.2019.docx

Attachment: SP 19-005 Septage Receiving Station Expansion staff report 05.16.2019 (3058 : Site Plan #19-005, Livingston County Drain

**PRINCIPALS**

Daniel W. Mitchell
 Nancy M. D. Faught
 Jesse B. VanDeCreek
 Roland N. Alix
 Michael C. MacDonald
 James F. Burton
 Charles E. Hart
 Todd J. Sneathen

CONTROLLER

Donna M. Martin

SENIOR ASSOCIATES

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 Robert F. DeFrain
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 Michael P. Darga
 Brian K. Davies
 Matthew G. Slicker
 James J. Surhigh
 Trevor S. Wagenmaker
 Adrianna M. Melchior
 Jesse M. Morgan

HUBBELL, ROTH & CLARK, INC.

STREET: 105 W. Grand River
 Howell, MI 48843

PHONE: 517-552-9199

WEBSITE: hrcengr.com

OTHER OFFICE LOCATIONS

Bloomfield Hills
 Delhi Township
 Detroit
 Grand Rapids
 Jackson
 Kalamazoo
 Lansing

May 16, 2019

Hartland Township
 2655 Clark Road
 Hartland, MI 48353

Attn: Mr. Troy Langer, Planning Director

Re: Site Plan Review
 Septic Receiving Station Improvements
 Section 9, Hartland Township

HRC Job No. 20190485.20

Dear Mr. Langer:

As requested, this office has reviewed the site plan for the above project as prepared by Moore & Bruggink (plans dated May 2, 2019). It is noted that this review only includes the proposed site improvements, sheets 1 through 7. The process of the septage receiving improvements were not reviewed. The following items will need to be addressed:

General

1. All permits are to be obtained prior to the start of construction. At this time, the permits for this development may include Livingston County Building & Utility Services, LCDC Soil Erosion and an EGLE wetland construction permit.
2. Include a legal description of the property including total acreage, parcel ID number and bearing and lengths of property lines.

Water Supply

1. It appears that no new potable water improvements are proposed. Any improvements for non-potable water supply will need to be approved by the appropriate agency.

Sanitary Sewer

1. There does not appear to be any new public sanitary sewer improvements proposed.

Storm Drainage

1. The proposed storm water collection and detention systems must be designed in accordance with Hartland Township and Livingston County Engineering Design Standards.

Paving & Grading

1. The proposed paving and grading improvements must be designed in accordance with Hartland Township Engineering Design Standards.

Attachment: 1. Hartland Township Engineer (HRC), review letter dated May 16, 2019 (3058 : Site Plan #19-005, Livingston County Drain

Mr. Troy Langer, Planning Director
Septage Receiving Station Improvements
May 16, 2019
HRC Job Number 20190845.20
Page 2 of 2

2. It appears that grading is proposed within the regulated wetland limits. Review and approval from the Department of Environment, Great Lakes and Energy will be required.
3. Offsite drainage from the north and east will need to reach the low area south of the site. The proposed grading may restrict or cutoff this offsite drainage.
4. The aggregate base material will need to be 21AA aggregate.

Subject to these items being addressed in the construction plans, we have no objection to the approval of the preliminary site plan. One (1) complete set of the construction plans should be submitted to the Township Planning Department for review.

If you have any questions or require any additional information, please contact the undersigned.

Very truly yours,

HUBBELL, ROTH & CLARK, INC.



Michael P. Darga, P.E.

MPD/mpd

pc: Hartland Twp; M. Wyatt, B. West
HRC; R. Alix, File



FIRE MARSHALS OFFICE

Hartland Area Fire Dept.
3205 Hartland Road
Hartland, MI. 48353-1825

Voice: (810) 632-7676
Fax: (810) 632-2176

E-Mail: jwhitbeck@hartlandareafire.com

May 15, 2019

TO: Planning Commission
Attn: Zoning Department
Hartland Township
2655 Clark Road
Hartland, MI 48353

RE: Expansion for HCDC Septage Receiving Facility Site Plan.

We have reviewed the conceptual layout plans for the above project as prepared by, Moore & Bruggink Consulting Engineers, (revised plans dated May 6, 2019). We have the following comments:

1. All emergency lighting shall be on dedicated circuit(s) so they may be tested without disrupting business. The circuit(s) shall be labeled in the breaker box(es). **(AHJ Requirement)**
2. A fire alarm system is required for this building.
3. Duct Detectors shall report as a **supervisory** or **trouble**
4. A strobe or horn strobe shall be located on the exterior of the building, and visible from the centerline of Runyan Lake Road. **(AHJ Requirements)**
5. A remote enunciation sub panel shall be located at the main entrance of the building if the main panel is not easily accessible. **(AHJ Requirement)**
6. A Supra brand lock box to be installed prior to obtaining the certificate of occupancy from Livingston County Building Department. An order form has been attached with this review. **(Hartland Township Ordinance #77-506.1.1)**
7. A LadderPort™ Ladder Receiver (Type 1, Type 2, Type3 or Type 4) to be installed for equipment and/or appliances are installed on the roof top, on the North facing side of the occupancy with year round accessibility by ground ladders. A catalog and order form has been attached with this review. **(MBC 306.5 & Hartland Twp. Ordinance #77-504.1.1)**
8. Service drives shall meet 33,000lbs per axle. Weight and turning radius performance cut sheet for our most restrictive apparatus has been attached with this review. Please see that all turning radiuses and clearances are met. **(County and Local Requirement)**
9. Locations and quantities of Hazardous Materials (if any) shall be included. An HMIS form is included with this letter. **(AHJ Requirement)**
10. A Contact Sheet and a map of the occupancy shall be filled out and provided to the AHJ along with a key to be kept inside the Rapid Entry box on the building. **(AHJ Requirement)**
11. A site inspection upon completion is required before calling in for Certificate of Occupancy **(Zoning Ordinance Requirement)**

Attachment: 2. Hartland Deerfield Fire Authority review letter dated May 15, 2019 (3058 : Site Plan #19-005, Livingston County Drain

The Fire Marshals Office approves with the above contingencies the submittal. Any revised drawings affecting the Fire Department must be submitted for review.

Yours In Fire Safety,

Jenn Whitbeck
Fire Inspector

Project Summary

The septage receiving station (SRS) collects and delivers two sources of wastewater, municipal waste from Hartland Township and area septage. The municipal waste stream from the Township flows by gravity directly into the main effluent wet well where the three available effluent pumps deliver the flow to the Linden Wastewater Treatment Plant (WWTP) in Genesee County.

The SRS was originally designed to handle 12 million gallons per year of septage flow. Over the course of time, the facility's flows have doubled that value. Along with this, the permit limits provided by the Linden WWTP have brought heavy surcharges upon Livingston County, and have prompted septage pretreatment to decrease organic loadings.

Following an extensive feasibility study to potentially create a second SRS within the county, and pilot study on pretreatment process equipment to remove solids, the best course of action for the County was determined to be an expansion at the existing site with equipment to remove and press the septage for landfill.

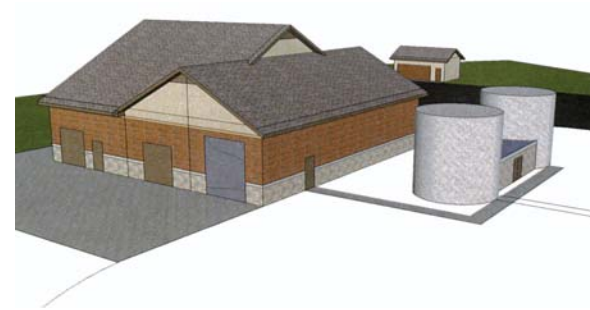
The expansion of the project will also allow more septage to be taken (designed for 40 million gallons per year) with less traffic impacts to Runyan Lake Dr. by adding a third receiving bay. The proposed, two storage tanks are necessary to create a steady stream of flow to feed the process.



EXISTING BUILDING SOUTH ELEVATION



EXISTING BUILDING FROM NORTHWEST



PROPOSED BUILDING FROM NORTHWEST



PROPOSED BUILDING FROM NORTHEAST



PROPOSED BUILDING FROM SOUTHWEST

Attachment: 4. Color renderings of press building (3058 : Site Plan #19-005, Livingston County Drain



PLAN SCALE: AS NOTED



PLAN REVISIONS	
1	SITE PLAN REVIEW
CCN	MAY 6, 2019

CENTURY A&E
 Facilities Design
 2777 Cedar Avenue NE - Grand Rapids, MI 49525
 Telephone: (616) 963-2277 Fax: (616) 963-2278 Web: www.centuryae.com

Moore + Bruggink
 Consulting Engineers
 1000 Lakeside
 Grand Rapids, MI 49506
 (616) 335-8861 mbruggink@moore.com

BUILDING MATERIALS
 IN
SRS IMPROVEMENTS
 LIVINGSTON COUNTY DRAIN COMMISSION
 LIVINGSTON COUNTY, MICHIGAN

FIELD SURVEY / DATE	N/A
PROJECT NO. /	18038 / AM045
DESIGN DRAWN BY:	CCN
DESIGNED BY:	CCN
CHECKED BY:	CCN
PLAN DATE:	5/2/2019
SHEET NUMBER	22
OF	28

P:\Projects\MBR\616\cad\Arch\MBR\4\presentation.dwg, 5/2/2019 9:31:54 AM, CHARLES SWINSON





7.b.g

Attachment: 6. Example 2 of storage tank (3058 :

Packet Pg. 59



PLAN SCALE: 1" = 20'
 PROFILE SCALES:
 HORIZ: 1" = 20'
 VERT: 1" = 10'



PLAN REVISIONS
 1 SITE PLAN REVIEW JSL MAY 6, 2019

Moore+Bruggink
 Consulting Engineers
 2020 Monroe Ave. W. #205
 Grand Rapids, MI 49503
 (616) 963-9801 mbr@moorebruggink.com



LANDSCAPING PLAN
 IN
SRS IMPROVEMENTS
 LIVINGSTON COUNTY DRAIN COMMISSION,
 LIVINGSTON COUNTY, MICHIGAN

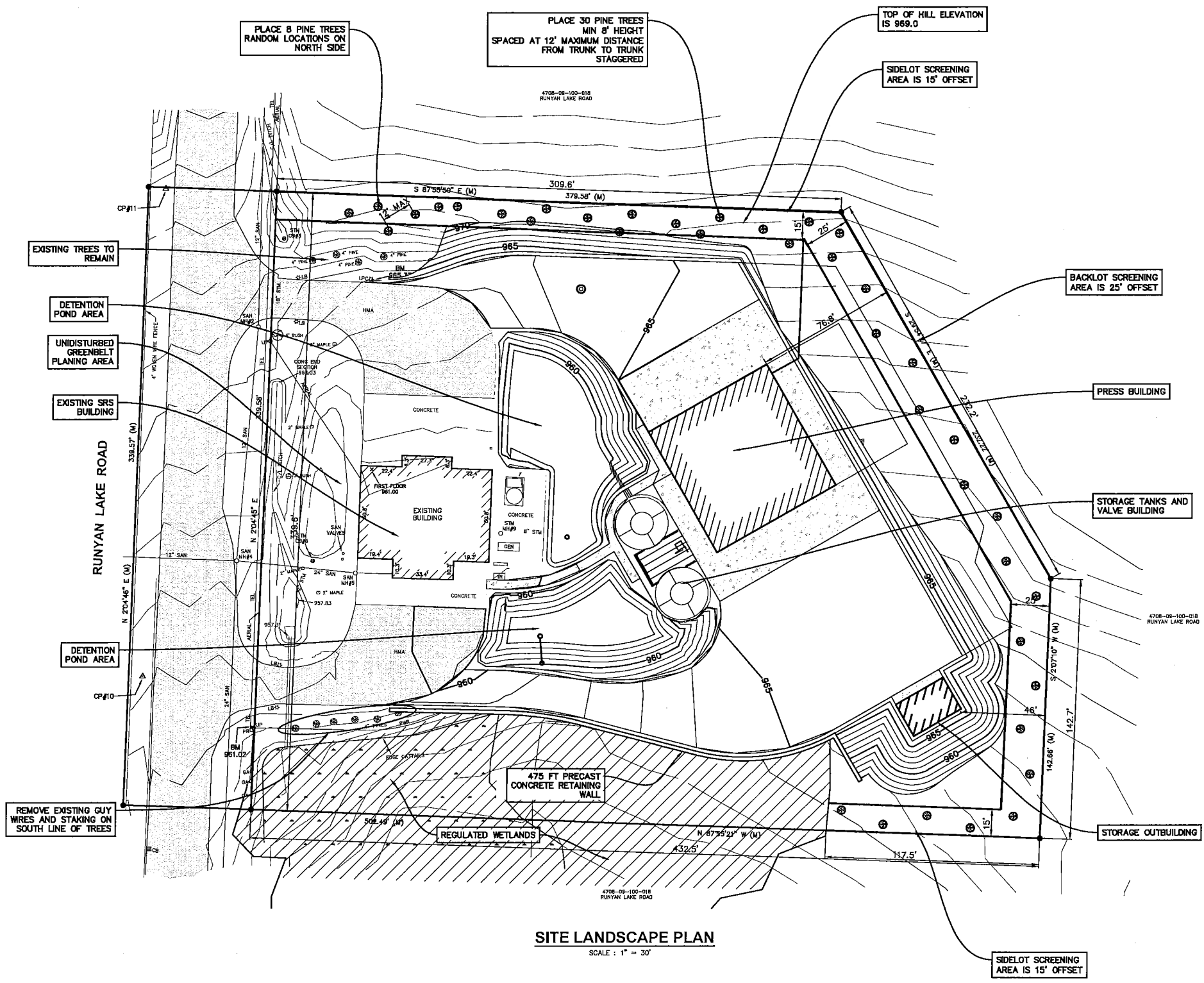
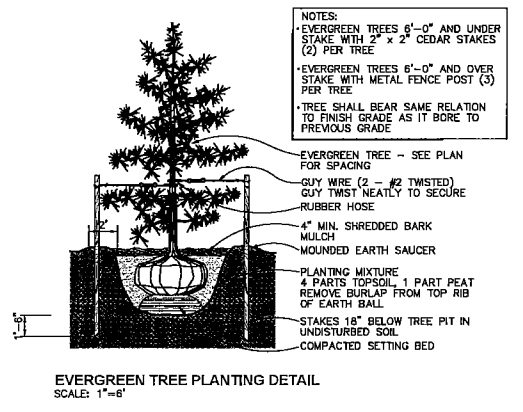
FIELD SURVEY / DATE	M+B
PROJECT NO.	180208.1
DESIGN DRAWN BY:	JSL
DESIGNED BY:	JSL
CHECKED BY:	JSL
PLAN DATE:	5/2/2019
SHEET NUMBER	6 OF 28

LANDSCAPING NOTES:

- SITE IS ZONED GENERAL COMMERCIAL (GC) BY HARTLAND TOWNSHIP.
- THE CONTRACTOR SHALL PROVIDE LANDSCAPING ACCORDING TO THE HARTLAND TOWNSHIP ORDINANCE, AND AS APPROVED THROUGH THE HARTLAND TOWNSHIP SITE PLANNING COMMISSION.
- ALL DISTURBED, UNPAVED AREAS TO BE TOP SOILED, SEEDED AND FERTILIZED ACCORDING TO THE APPROVED SESC PLANS. SEE SHEET 4 NOTES.
- LANDSCAPING TREE SPECIES TO BE RANDOMLY ORDERED. CONTRACTOR SHALL SUBMIT TREE SPECIES TO ENGINEER FOR FINAL APPROVAL BEFORE PURCHASE.

Common Name	Genus	Quantity
Fir	Abies	15
Pine	Pinus	15
Spruce	Picea	15

Total Property area	135,062	sqft
Area 1	71,939	sqft
Area 2	5,767	sqft
Area 3	7,598	sqft
Total Impervious Area	58,574	sqft
Total Pervious Area	76,488	sqft
Percent Impervious	43%	
Percent Pervious	57%	



SITE LANDSCAPE PLAN
 SCALE: 1" = 30'

Option 2

P:\180208.1\CDCC - SRS Solids Handling Facility - Pre Design Phase\CADD\DWG\180208.01 Design - Grading\2019\dwg_511472019 11:38:30 AM_JEFF LANDERS



LIVINGSTON COUNTY DRAIN COMMISSION

LIVINGSTON COUNTY, MICHIGAN

SEPTAGE RECEIVING STATION

IMPROVEMENTS

-2019-

UTILITY COMPANIES

AT&T (TELEPHONE)
54 N. MILL ST, 4TH FLOOR
PONTIAC, MI 48342
(248) 456-8256
CONTACT: LINDA DENNISUK

CONSUMERS ENERGY (GAS)
1000 GRAND OAKS DR.
HOWELL, MI 48843
(517) 545-8737
CONTACT: BOB MCLACHLAN

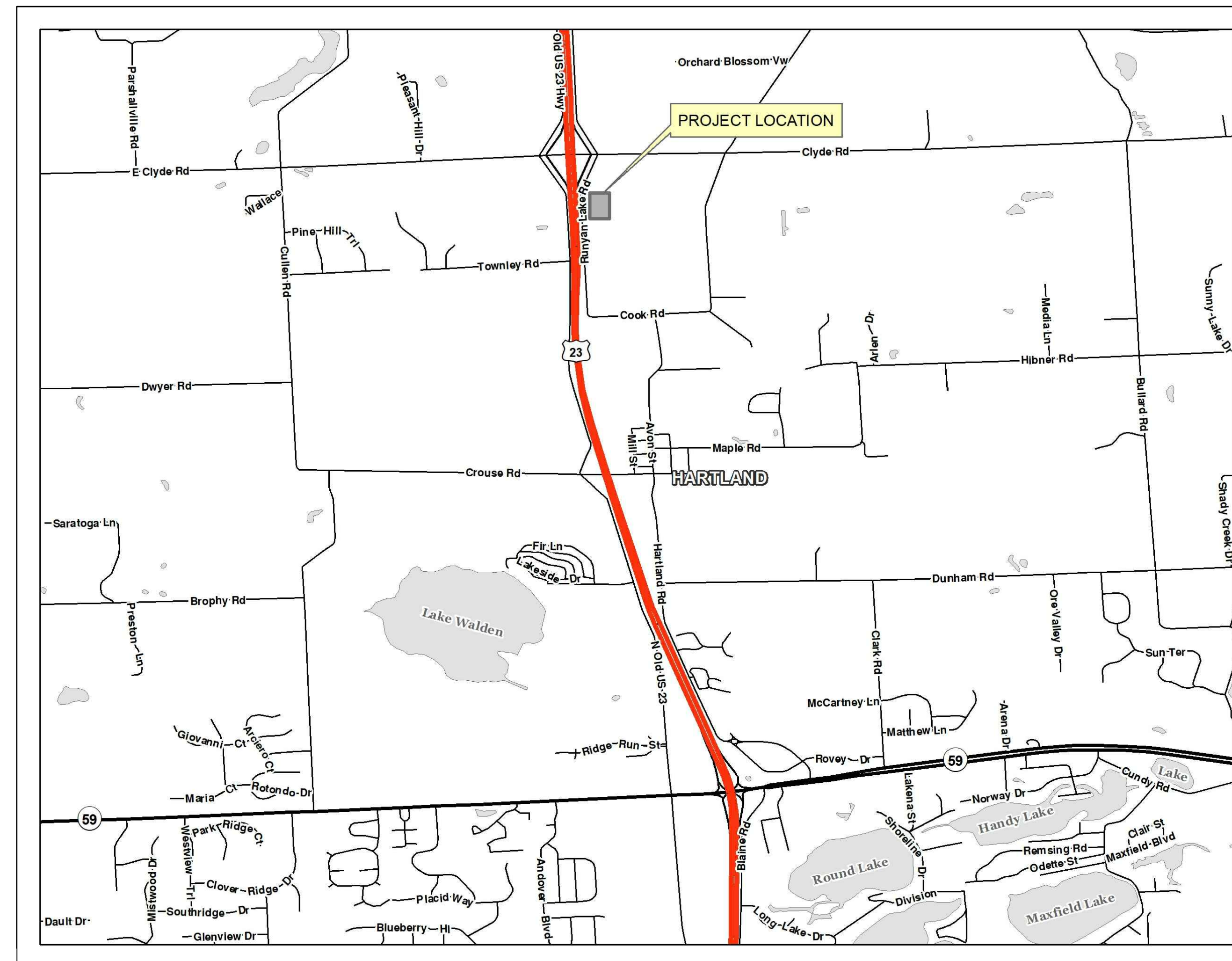
COMCAST (CABLE)
25626 TELEGRAPH
SOUTHFIELD, MI 48034
(248) 809-2715
CONTACT: CRAIG PUDAS

DETROIT EDISON (ELECTRIC)
ONE ENERGY PLAZA, 518 SB
DETROIT, MI 48226
(313) 235-5632

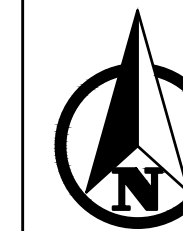
LIVINGSTON COUNTY DRAIN COMMISSION
2300 E. GRAND RIVER, STE #105
HOWELL, MI 48843
(517) 546-0040



STATE MAP



PROJECT LOCATION MAP



PROJECT DESCRIPTION:
CONSTRUCTION OF NEW SEPTAGE STORAGE TANKS,
SEPTAGE PROCESS EQUIPMENT, AND BUILDING FOR
RECEIVING AND PROCESSING.

ADDRESS: 4862 RUNYAN LAKE RD. FENTON, MI
48430

SRS IMPROVEMENTS

SURVEYED & DESIGNED BY:

Moore+Bruggink
Consulting Engineers
2020 Monroe Ave.
Grand Rapids, MI 49505
(616) 363-9801 mailbox@mbce.com

LIVINGSTON COUNTY DRAIN COMMISSION APPROVAL

BRIAN JONCKHEERE, DRAIN COMMISSIONER

DATE

PREPARED UNDER SUPERVISION OF

JEFF LANDERS, P.E.

ENGINEER, P.E.

60327

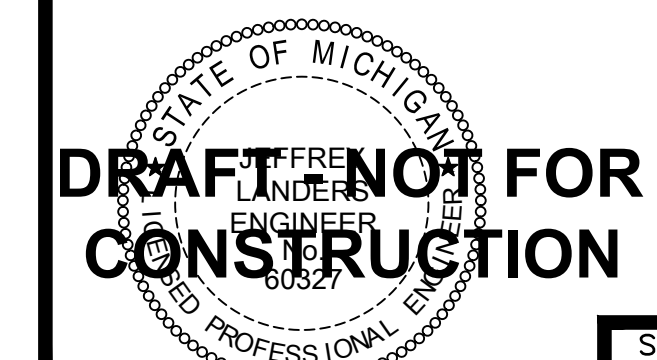
REGISTRATION NO.

Moore+Bruggink

ORGANIZATION

2020 MONROE NW GRAND RAPIDS, MI 49505

ADDRESS



**DRAFT NOT FOR
CONSTRUCTION**

SHEET NUMBER

1

DATE: 5/2/2019

JOB NUMBER: 180208.1



Know what's below.
Call before you dig.

PLAN INDEX
SHEET NO. DESCRIPTION

- GENERAL**
- 1 COVER
- 2 GENERAL NOTES
- 3 MISC DETAILS
- 4 SESC & REMOVALS
- SITE IMPROVEMENTS**
- 5 GRADING PLAN
- 6 LANDSCAPING PLAN
- 7 SITE UTILITIES AND YARD PIPING
- 8 SITE ELECTRICAL
- P&IDS**
- 9 PROCESS FLOW DIAGRAM
- 10 ISOMETRIC DIAGRAMS
- 11 INSTRUMENTATION DIAGRAMS
- EXISTING SRS IMPROVEMENTS**
- 12 EXISTING SRS DEMO & IMPROVEMENTS
- 13 EXISTING SRS ELECTRICAL
- TANK BUILDING**
- 14 3D ISOMETRIC
- 15 BUILDING SECTIONS
- 16 BUILDING SECTIONS 2
- 17 BUILDING SECTIONS 3
- 18 TANK BUILDING ELECTRICAL AND HVAC
- PRESS BUILDING**
- 19 BUILDING STRUCTURAL PLANS
- 20 BUILDING STRUCTURAL SECTIONS 2
- 21 MISC STRUCTURAL DETAILS
- 22 BUILDING MATERIALS
- 23 ARCHITECTURAL FLOOR PLANS
- 24 EXTERIOR ELEVATIONS 1
- 25 EXTERIOR ELEVATIONS 2
- 26 EXTERIOR LIGHTING PLAN
- STORAGE BUILDING**
- 27 BUILDING STRUCTURAL
- 28 ARCHITECTURAL PLANS

SITE PLAN GENERAL NOTES:
PERMITS

THE CONTRACTOR SHALL OBTAIN ALL PERMITS AND SURETY AS PART OF THIS WORK.

CONSTRUCTION STAKING

THE CONTRACTOR SHALL REQUEST CONSTRUCTION STAKING BY USING THE MOORE & BRUGGINK, INC. CONTRACTORS CONSTRUCTION STAKING REQUEST FORM. ONLY COMPLETED REQUESTS WILL BE SCHEDULED. NOTE THE PROJECT OWNER WILL PAY THE SURVEYOR TO PLACE STAKES ONLY ONCE. ALL LOST AND DAMAGED STAKES ARE THE CONTRACTORS RESPONSIBILITY.

UNDERGROUND UTILITIES

THE CONTRACTOR SHALL LOCATE ALL ACTIVE UNDERGROUND UTILITIES PRIOR TO STARTING WORK AND SHALL CONDUCT THEIR OPERATIONS IN SUCH A MANNER AS TO ENSURE THAT THOSE UTILITIES NOT REQUIRING RELOCATION WILL NOT BE DISTURBED.

FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 53, 1974, THE CONTRACTOR SHALL DIAL 1-800-482-7171 OR 811 A MINIMUM OF THREE FULL WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL THUS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.

SOIL BORINGS

THE SOIL BORING LOGS AND/OR PAVEMENT CORES REPRESENT POINT INFORMATION ONLY. NO INFERENCE SHOULD BE MADE THAT SUBSURFACE OF PAVEMENT CONDITIONS ARE THE SAME AT OTHER LOCATIONS.

SOIL EROSION CONTROL MEASURES

TEMPORARY SOIL EROSION CONTROLS SHALL BE PLACED PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR WEEKLY INSPECTION, MAINTENANCE, AND CLEANING OF ALL SOIL EROSION CONTROLS. TEMPORARY SOIL EROSION CONTROLS NOT SPECIFICALLY CALLED FOR ON THE DRAWINGS SHALL BE PLACED BY THE CONTRACTOR AS DEEMED NECESSARY BY THE ENGINEER, OR THE ENGINEER'S REPRESENTATIVE. TEMPORARY EROSION CONTROLS SHALL REMAIN IN PLACE UNTIL PERMANENT EROSION CONTROLS HAVE BEEN ESTABLISHED.

EXISTING WATERMAINS AND SEWERS

THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING WATERMAINS AND/OR EXISTING SANITARY SEWERS AND/OR EXISTING STORM SEWERS DURING THE CONSTRUCTION OF THIS PROJECT.

CATCH BASINS AND MANHOLES

ALL CATCH BASINS AND MANHOLES SHALL BE MINIMUM 4' DIAMETER PRECAST CONCRETE, UNLESS NOTED OTHERWISE.

ASPHALT PAVEMENT AREAS

THE PAVED AREAS SUBJECT TO TRUCK TRAFFIC SHALL BE CONSTRUCTED WITH:
12" MDOT CL-2 SAND SUBBASE (C.I.P)
8" 22-A GRAVEL BASE (C.I.P)
2"-3C HMA BASE COURSE
2"-3C HMA LEVELING COURSE
2"-4C HMA WEARING COURSE

RESTORATION

ALL AREAS GRADED FLATTER THAN 1 VERTICAL TO 3 HORIZONTAL SHALL BE RESTORED WITH 4" OF TOPSOIL, COMPOST, SEED, FERTILIZER, & HYDRO-MULCH MATERIALS AS SPECIFIED IN THE SPECIAL PROVISION FOR TURF ESTABLISHMENT. ALL AREAS GRADED AT 1 VERTICAL TO 3 HORIZONTAL OR STEEPER SHALL BE RESTORED WITH 4" TOPSOIL, COMPOST, SEED, FERTILIZER, HYDRO-MULCH MATERIALS AND MULCH BLANKET

TRENCH PROTECTION

THE CONTRACTOR SHALL SCHEDULE WORK SO THAT NO TRENCHES ARE LEFT OPEN OVERNIGHT. IN THE EVENT THAT TRENCHES MUST REMAIN OPEN THE CONTRACTOR SHALL PROTECT ANY OPEN TRENCHES WITH FENCING. THE COST TO FURNISH AND INSTALL SAID BARRICADES AND FENCING SHALL BE CONSIDERED INCLUDED IN THE CONTRACT.

UTILIZING EXISTING GRANULAR SOILS FOR SUBBASE

ONCE THE SURFACE TOP SOIL HAS BEEN REMOVED, THE ENGINEER WILL DETERMINE WHETHER THE EXISTING GRANULAR MATERIAL MEETS SUBBASE REQUIREMENTS. IF IT MEETS SPECIFICATION, THEN THE EXISTING MATERIAL WILL BE GRADED AND COMPACTED TO AT LEAST 95% OF ITS MAXIMUM UNIT WEIGHT TO A MINIMUM DEPTH OF 10 INCHES.

IF THE MATERIAL DOES NOT MEET SUBBASE REQUIREMENTS OR THE ENGINEER DETERMINES THAT AN UNDERCUT IS NEEDED, THEN THE GRADE WILL BE EXCAVATED TO A WIDTH AND DEPTH DETERMINED BY THE ENGINEER.

IT IS THE INTENT OF THE PROJECT TO UTILIZE AS MUCH OF THE EXISTING GRANULAR SOILS AS POSSIBLE FOR SUBBASE. WHERE ADDITIONAL SUBBASE IN FILL AREAS IS NEEDED,

SEE THE SOIL BORING LOGS FOR EXISTING GRANULAR MATERIAL TYPE.

SITE MAINTENANCE

NO BURNING OR INCINERATION OF RUBBISH WILL BE PERMITTED ON SITE.

THE FACILITY WILL REMAIN IN OPERATION DURING CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE FOR THE SAFE AND ORDERLY PASSAGE OF TRAFFIC AND FACILITY STAFF, AND PROPERLY COORDINATE SITE CONDITIONS WHEN APPROPRIATE.

CONSTRUCTION OPERATIONS SHALL BE CONDUCTED IN SUCH A WAY AS TO PREVENT TRACKING OF MUD OR SOIL ONTO PUBLIC THOROUGHFARES, AT THE END OF EACH DAY THE CONTRACTOR SHALL CLEAN UP ALL MUD OR SOIL WHICH HAS BEEN TRACKED ONTO THE PUBLIC STREETS. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT WILL BE CONSIDERED AS HAVING BEEN INCLUDED IN THE CONTRACT.

FOR DISPOSAL OF EXCESS OR UNSUITABLE MATERIAL OR STORAGE OF MATERIAL OR EQUIPMENT (TEMP CONSTRUCTION YARD), THE CONTRACTOR WILL BE REQUIRED TO PROVIDE TO THE ENGINEER A WRITTEN CONSENT FROM THE PROPERTY OWNER FOR THE USE OF THE SITE AND A RELEASE FROM THE OWNER AFTER RESTORATION OF THE SITE.

ALL TREES TO REMAIN SHALL BE PROTECTED FROM DAMAGE TO TRUNKS, BRANCHES AND ROOTS. NO EXCAVATING, FILLING, OR GRADING IS TO BE DONE INSIDE THE DRIP LINE OF TREES UNLESS OTHERWISE INDICATED.

ALL DEWATERING PERFORMED DURING CONSTRUCTION SHALL BE AT THE CONTRACTOR'S EXPENSE AND WILL NOT BE MEASURED OR PAID FOR SEPARATELY.

ALL APPLICABLE PROVISIONS OF THE CURRENT OCCUPATIONAL SAFETY AND HEALTH ACT ARE HEREIN INCORPORATED BY REFERENCE. THE MICHIGAN DEPARTMENT OF TRANSPORTATION "2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION", AND ALL ADDENDA THERETO, SHALL GOVERN THE EARTHWORK, PAVING AND UNDERGROUND WORK UNDER THIS CONTRACT, EXCEPT AS MODIFIED BY THE SPECIFICATIONS.

ALL EXISTING SITE TOPOGRAPHY, UTILITIES, RIGHT-OF-WAY AND HORIZONTAL CONTROL SHOWN ON THE DRAWINGS WERE OBTAINED FROM SURVEY DATA

PREPARED BY:
MOORE & BRUGGINK, INC.
2020 MONROE AVE NW
(616) 363-9801
MBCE.COM

COPIES OF THE SURVEY ARE AVAILABLE FROM THE ENGINEER.

ALL EXISTING TOPOGRAPHY, UNDERGROUND UTILITIES, STRUCTURES AND ASSOCIATED FACILITIES SHOWN ON THESE DRAWINGS HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS, THEREFORE, THEIR LOCATIONS AND ELEVATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE OTHER FACILITIES, THE EXISTENCE OF WHICH ARE NOT PRESENTLY KNOWN. CONTRACTOR IS TO VERIFY ALL EXISTING STRUCTURES AND FACILITIES AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO STARTING WORK.

PRIOR TO NEW WORK THE CONTRACTOR SHALL FIELD CHECK ALL DIMENSIONS AND ELEVATIONS AND VERIFY THE LOCATION AND ELEVATION OF EXISTING UTILITY LINES AND STRUCTURES TO BE CONNECTED TO PROPOSED WORK. DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY IN WRITING.

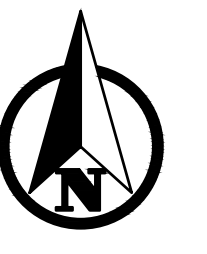
BEFORE EXCAVATING OVER OR ADJACENT TO ANY EXISTING UTILITIES, NOTIFY THE OWNER OF SUCH UTILITIES TO ENSURE THAT PROTECTIVE WORK WILL BE COORDINATED AND PERFORMED BY THE CONTRACTOR IN ACCORDANCE WITH THE SERVICE LINES. ANY UTILITIES AND UTILITY STRUCTURES WHICH ARE TO REMAIN IN SERVICE AND UNCOVERED OR ENCOUNTERED DURING THIS OPERATION SHALL BE SAFEGUARDED, PROTECTED FROM DAMAGE AND SUPPORTED IF NECESSARY.

PAVING TO REMAIN SHALL BE PROTECTED FROM DAMAGE AND IF DAMAGED, SHALL BE REPLACED PROMPTLY. PROPOSED ELEVATIONS INDICATE FINISHED CONDITIONS. FOR ROUGH GRADING ELEVATIONS ALLOW FOR THICKNESS OF PROPOSED PAVING (ROADS, WALKS, DRIVES, ETC.) OR TOPSOIL AS SHOWN.

CONSTRUCTION SCHEDULE	2019												2020											
	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
BEGIN CONSTRUCTION																								
MOBILIZATION, SESC																								
CLEARING, GRADING AND FILL																								
WELL INSTALLATIONS																								
SITE PIPING																								
SITE UTILITIES																								
STORAGE BLDG FOUNDATIONS																								
STORAGE BLDG PLUMBING																								
STORAGE BLDG AND TANKS																								
SOLIDS HANDLING BLDG FOUNDATIONS																								
SOLIDS HANDLING BLDG PLUMBING																								
SOLIDS HANDLING BLDG FLOORS																								
GRIT COLLECTOR AND PS																								
SOLIDS HANDLING BLDG ARCHITECTURAL																								
ROAD GRADING AND APPROACHES																								
ASPHALT																								
ODOR CONTROL SYSTEMS																								
HVAC																								
ELECTRICAL AND MECHANICAL																								
STARTUP																								
PAINTING																								
SECURITY/SCADA																								
PROJECT COMPLETION																								

UTILITY LEGEND

- EXISTING STORM SEWER
- EXISTING SANITARY SEWER
- EXISTING WATERMAIN
- EXISTING UG ELECTRIC
- EXISTING FORCEMAIN
- EXISTING UG PHONE
- EXISTING GASMAIN
- PROPOSED STORM SEWER
- PROPOSED SANITARY SEWER
- PROPOSED WATERMAIN
- PROPOSED UG ELECTRIC
- PROPOSED UG PHONE
- PROPOSED GASMAIN
- MANHOLE
- CATCH BASIN
- HYDRANT
- CLEAN OUT
- ▲ BLDG MOUNT LIGHTING
- LIGHT POLE



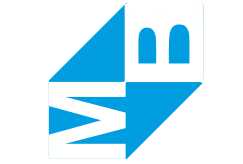
PLAN SCALE: 1" = 40'
PROFILE SCALES:
HORIZ: 1" = 40'
VERT: 1" = 10'



Know what's below.
Call before you dig.

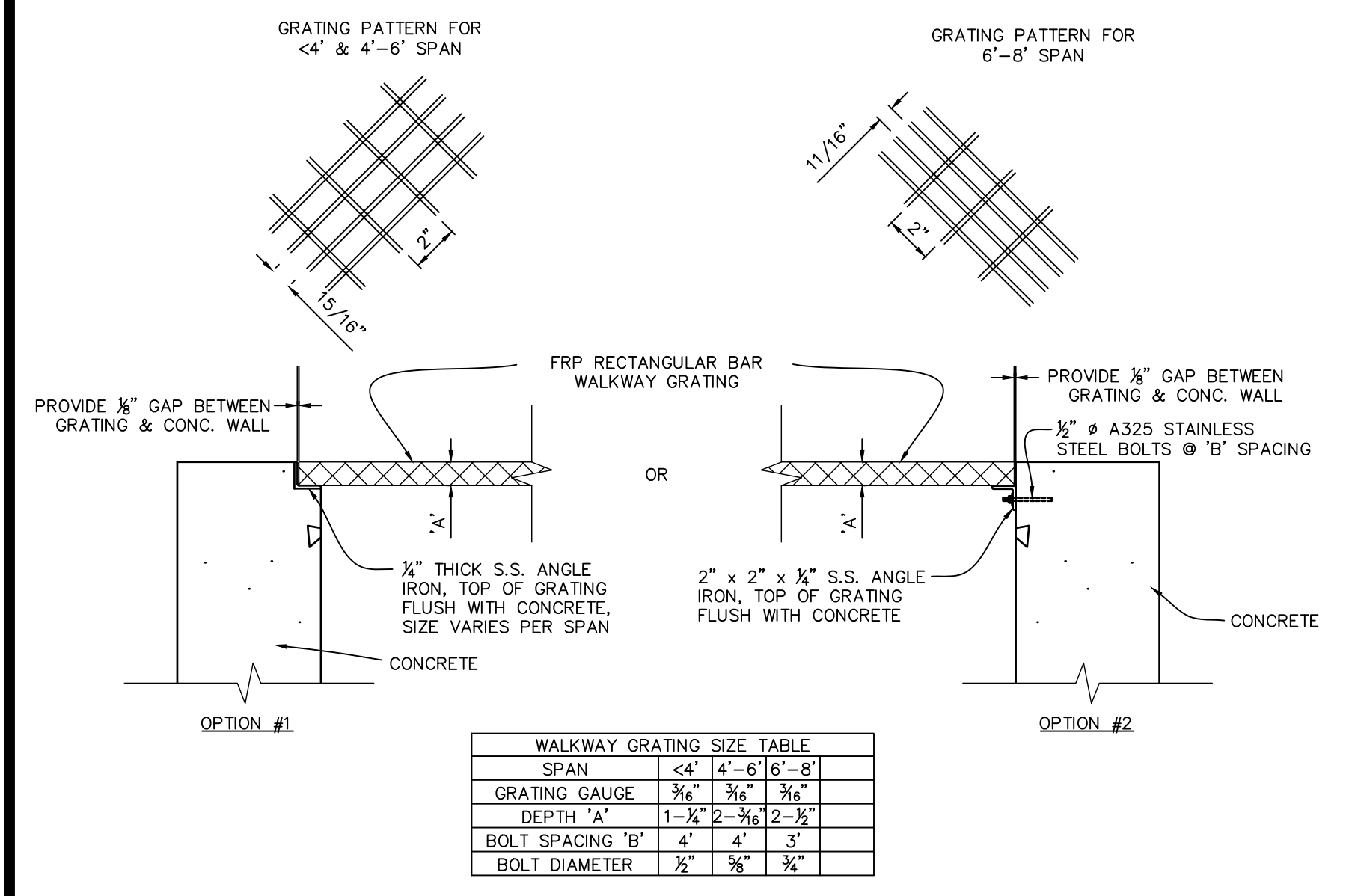
PLAN REVISIONS
1 SITE PLAN REVIEW JSL MAY 6, 2019

Moore+Bruggink
Consulting Engineers
2020 Monroe Ave.
Grand Rapids, MI 49505
(616) 363-9801
mailto:mail@mbce.com



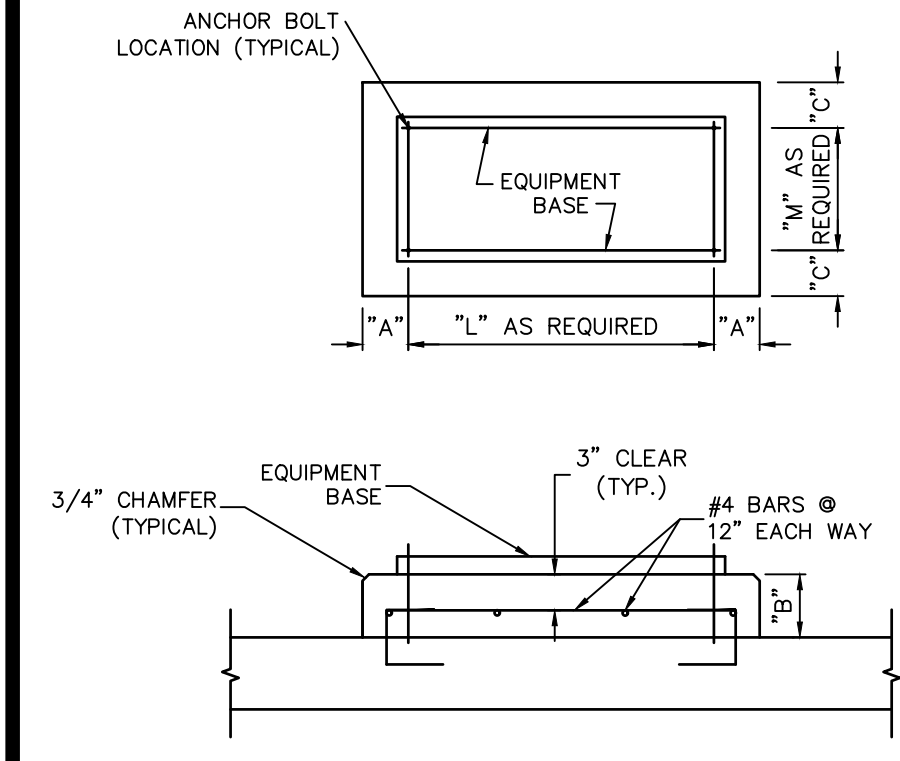
GENERAL NOTES
IN
SRS IMPROVEMENTS
LIVINGSTON COUNTY DRAIN COMMISSION,
LIVINGSTON COUNTY, MICHIGAN

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PLAN DATE: 5/2/2019
SHEET NUMBER
2 OF 28

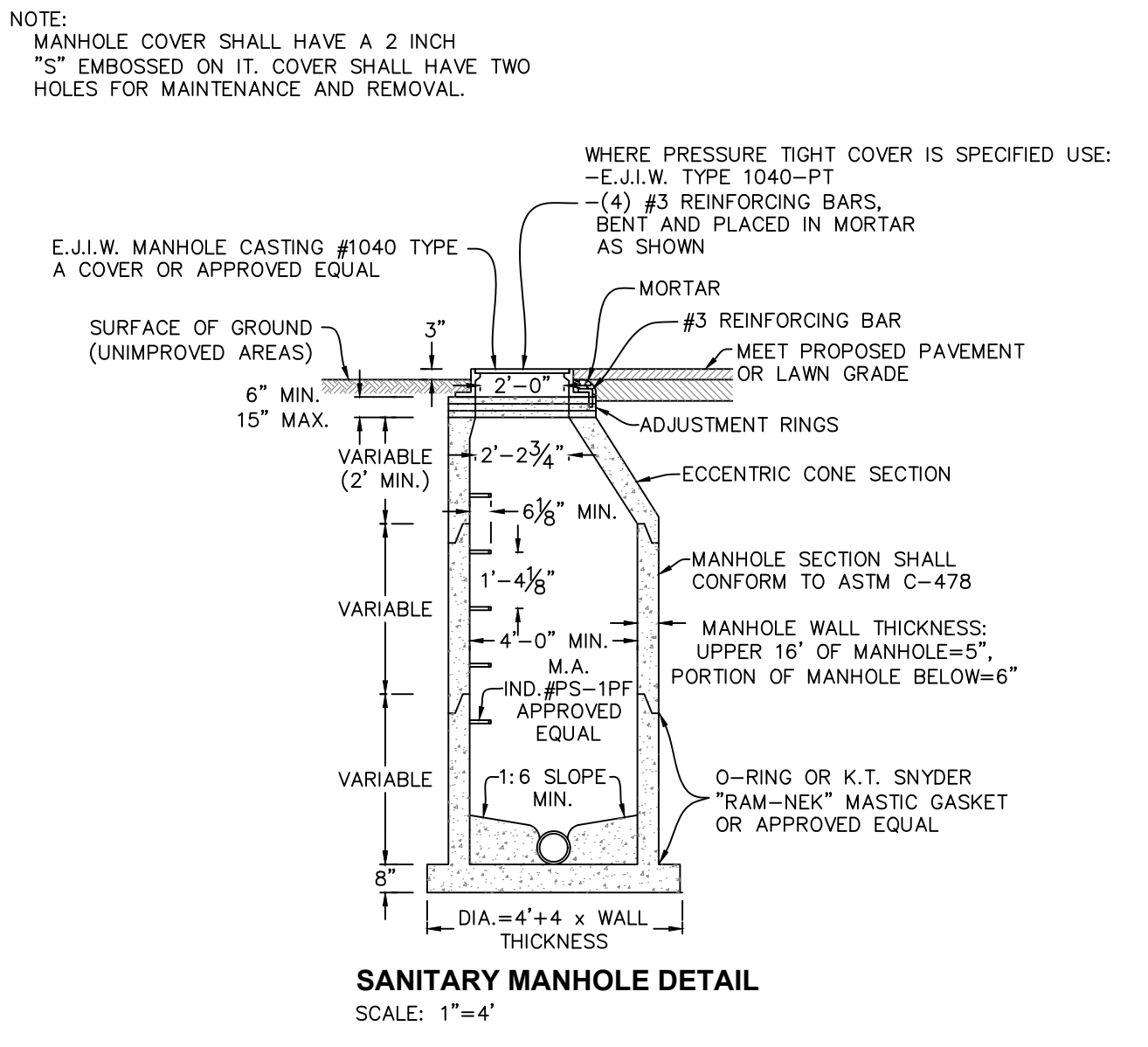


SPAN	<4'	4'-6'	6'-8'
GRATING GAUGE	3/8"	3/8"	3/8"
DEPTH 'A'	1-1/4"	2-3/4"	2-3/4"
BOLT SPACING 'B'	4'	4'	3'
BOLT DIAMETER	1/2"	3/8"	3/4"

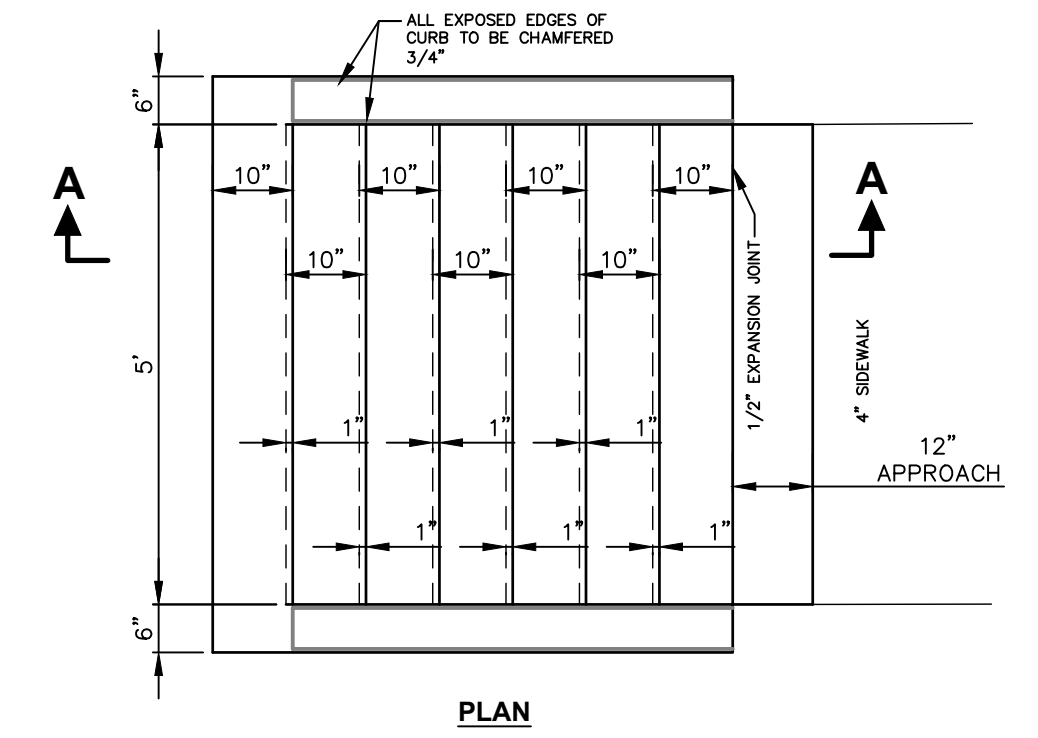
GRATING DETAIL
SCALE: 1"=1'



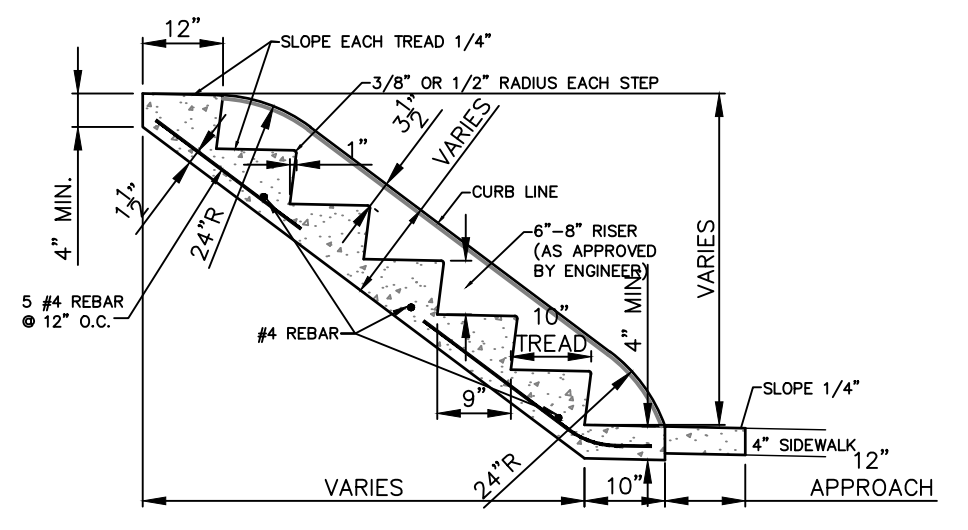
STANDARD EQUIPMENT MOUNTING PAD DETAIL (TYP.)
SCALE: N.T.S.



SANITARY MANHOLE DETAIL
SCALE: 1"=4'



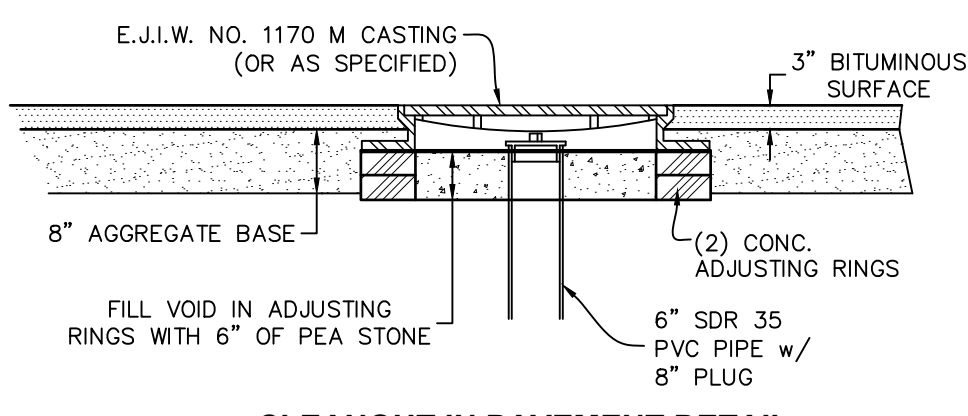
PLAN



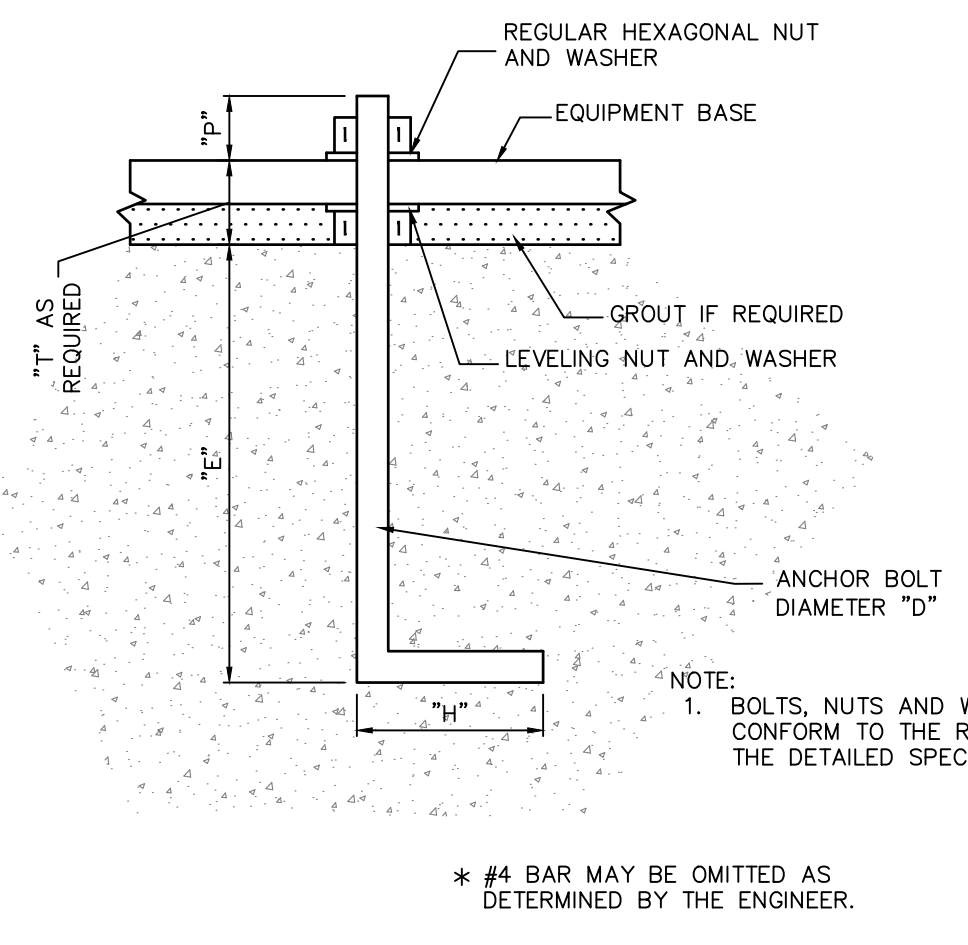
SECTION A-A

- NOTES:
1. THE NUMBER OF STEPS IN EACH SET OF STEPS SHALL BE AS SHOWN ON THE DRAWINGS, OR AS DIRECTED BY THE ENGINEER, BUT NOT MORE THAN SIX NOR LESS THAN THREE STEPS SHALL BE CONSTRUCTED ACCORDING TO THIS DESIGN.
 2. STEPS SHALL BE CONSTRUCTED OF GRADE A CONCRETE
 3. APPROX. SLOPE IS 1.76:1. THE BANK SHALL BE TRIMMED TO FIT THE SLOPE OF THE STEPS FOR A DISTANCE OF NOT LESS THAN 10 FEET, EACH SIDE OF THE STEPS.
 4. THE TREADS AND TOP OF CURB SHALL BE BRUSH-FINISHED AS REQUIRED FOR SIDEWALK. THE RISERS AND FACE OF CURBS SHALL BE RUBBED TO REMOVE FORM MARKS AND FILL THE PORES.

CONCRETE STEPS DETAIL
N.T.S.

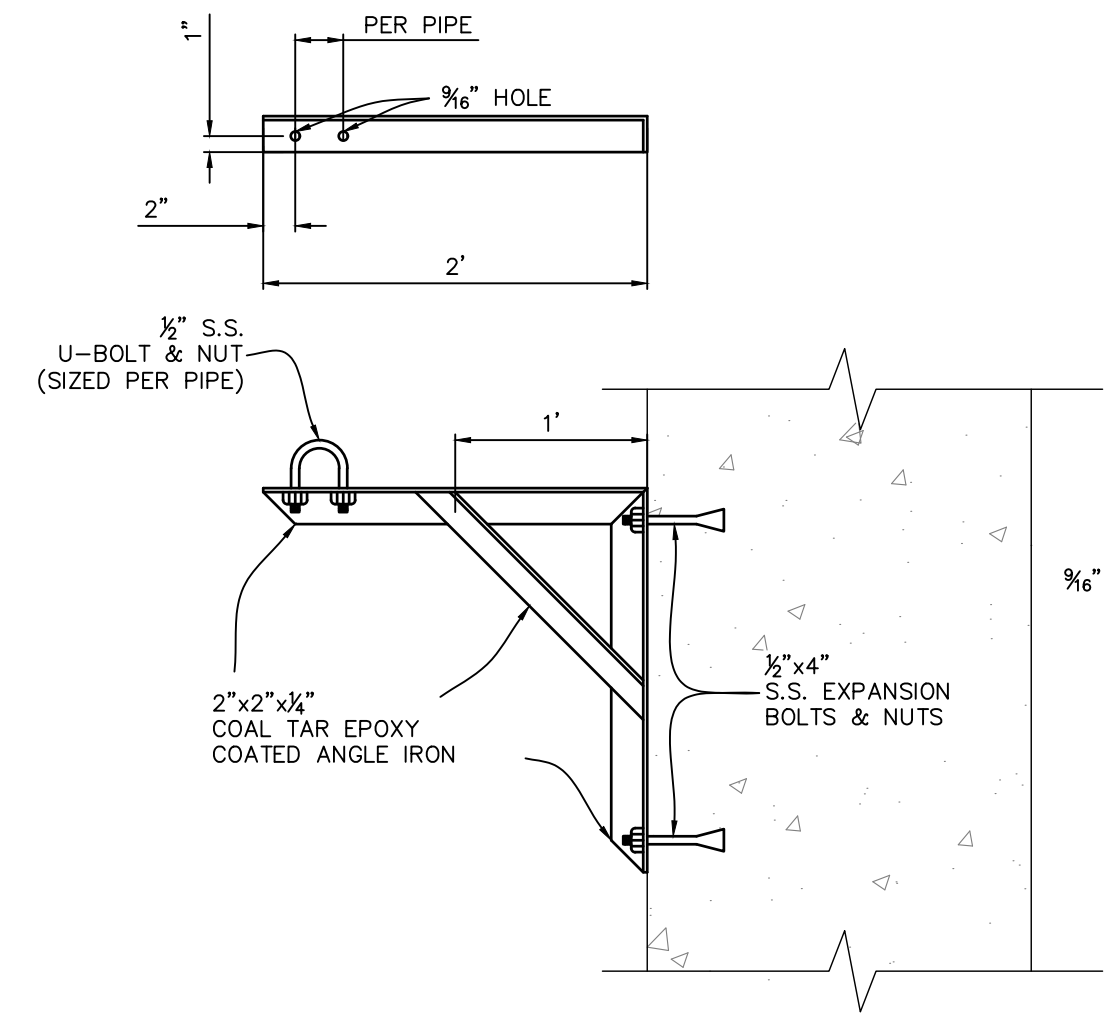


CLEANOUT IN PAVEMENT DETAIL
SCALE: 1"=2'

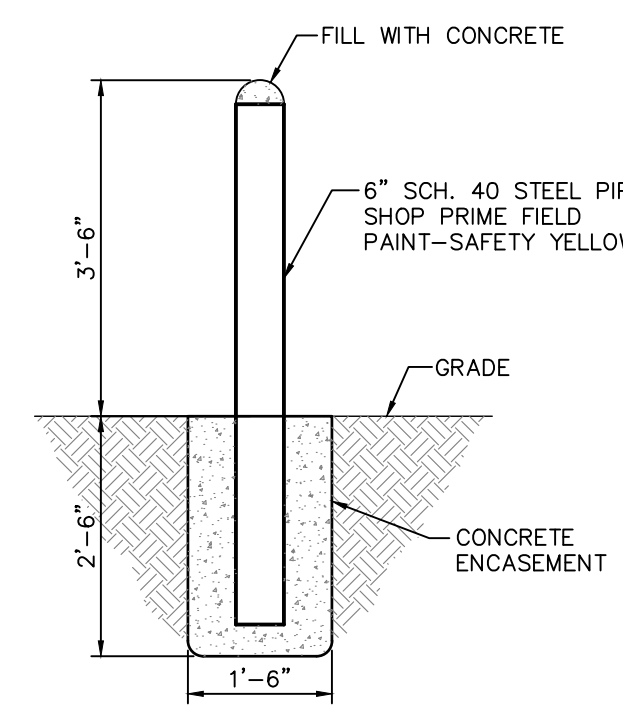


EQUIPMENT MOUNTING ANCHOR BOLT DETAIL (TYP.)
SCALE: N.T.S.

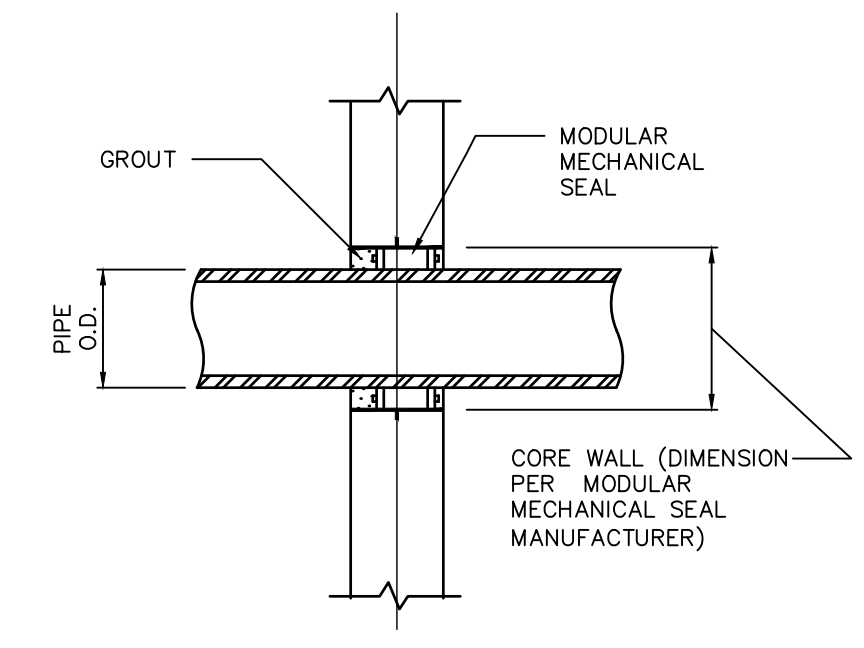
"D"	"P"	"E"	"H"
1/4"	3/4"	6"	4"
3/8"	3/4"	9"	6"
1/2"	1"	12"	8"
5/8"	1"	1'-3"	10"
3/4"	1-1/4"	1'-8"	12"
7/8"	1-1/4"	2'-8"	12"
1"	1-1/4"	3'-0"	12"
1-1/4"	1-1/2"	4'-6"	12"
1-1/2"	1-3/4"	6'-6"	12"



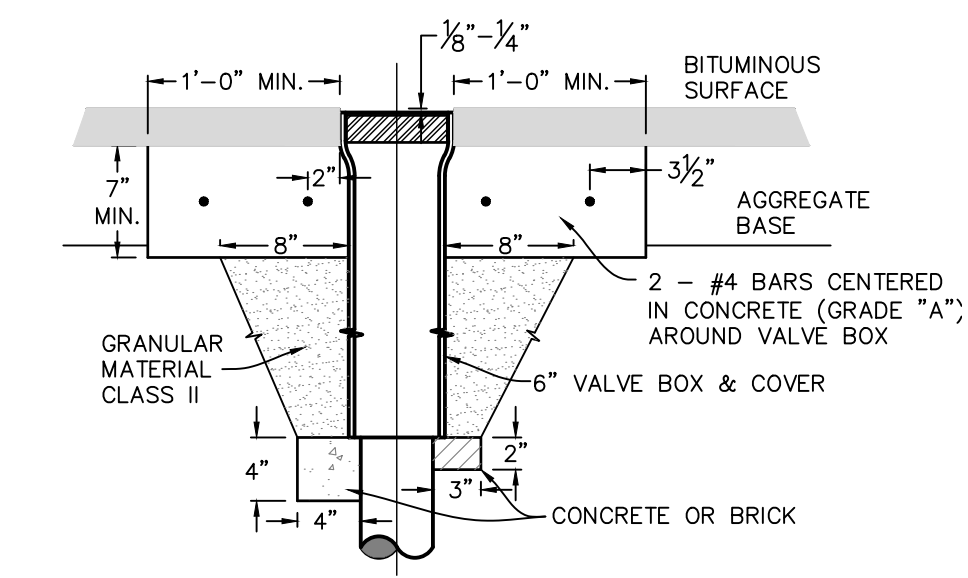
PIPE WALL SUPPORT DETAIL (TYP.)
SCALE: N.T.S.



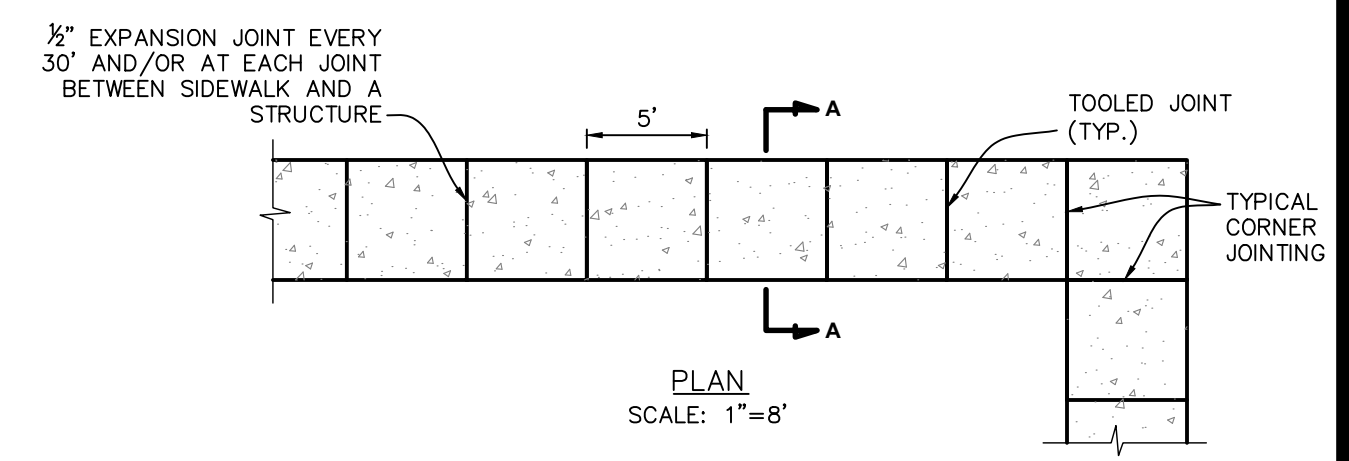
BOLLARD (BUMPER) POST
SCALE: 1"=2'



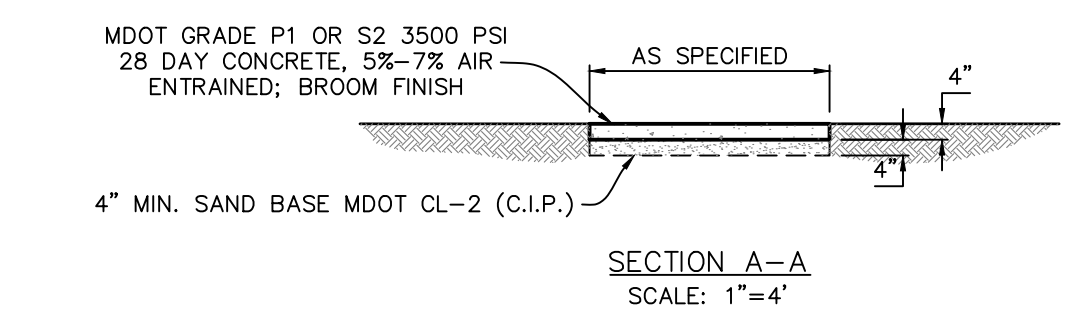
WALL PENETRATION DETAIL (EXISTING WALL PENETRATION TYP.)
SCALE: N.T.S.



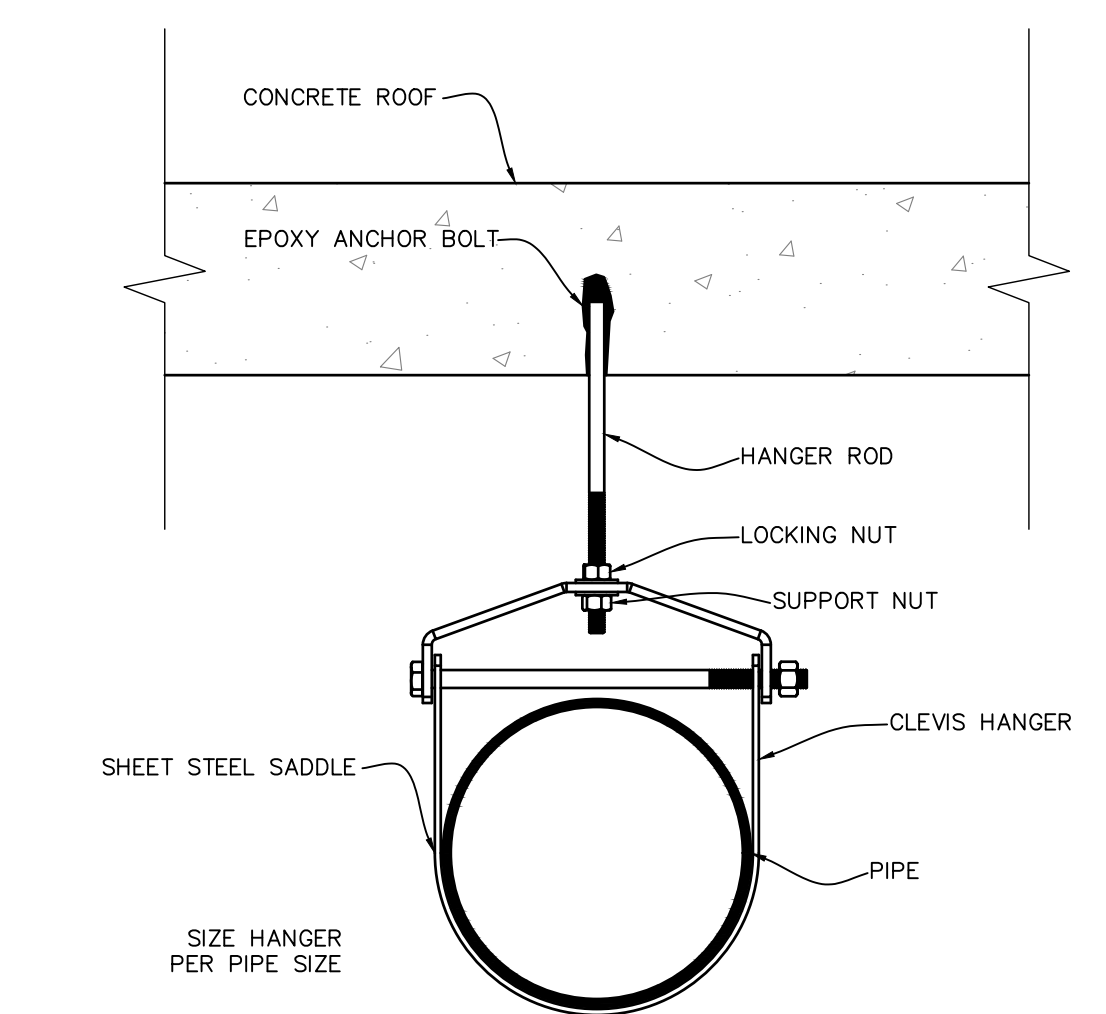
VALVE BOX IN PAVEMENT DETAIL
SCALE: 1"=1'



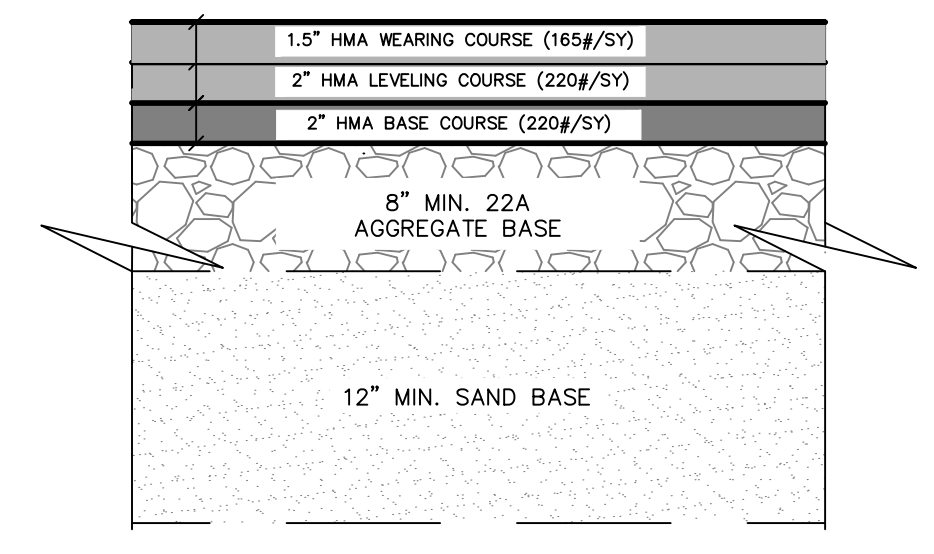
4" CONCRETE SIDEWALK DETAIL
SCALE: 1"=8'



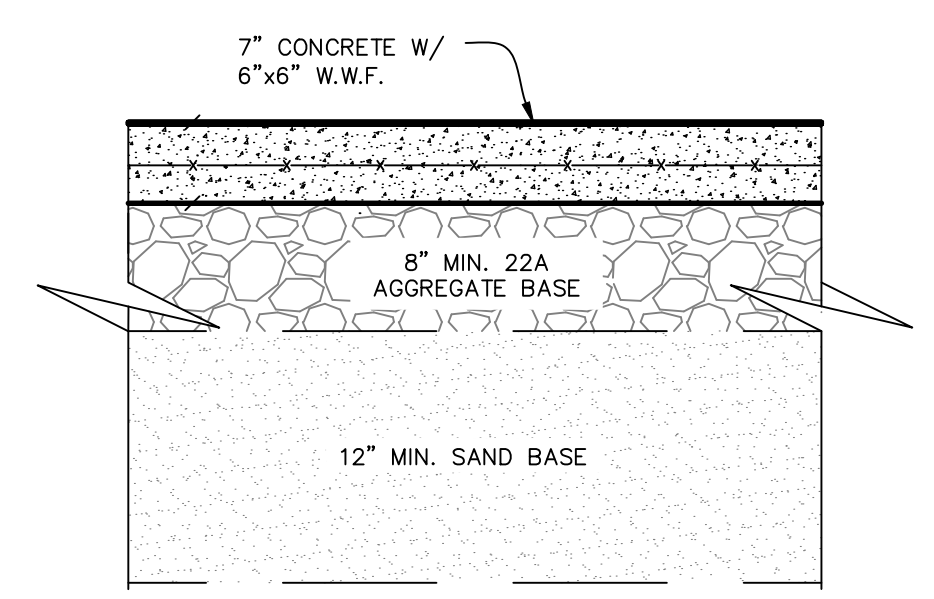
SECTION A-A
SCALE: 1"=4'



PIPE HANGER SUPPORT DETAIL (TYP.)
SCALE: N.T.S.



ASPHALT AREA PAVEMENT
NO SCALE



CONCRETE APPROACH AREA PAVEMENT
NO SCALE

P:\180208_1.LCDC - SRS Solidis Handling Facility - Pre Design Phase\CADD\DWG\180208.01 Details (2019).dwg_5/3/2019 3:52:23 PM_JEFF LANDERS

PLAN SCALE: 1" = 40'

811 Know what's below. Call before you dig.

1 SITE PLAN REVIEW JSL MAY 6, 2019

PLAN REVISIONS

Moore+Bruggink Consulting Engineers
2020 Monroe Ave.
Grand Rapids, MI 49505
(616) 363-9801
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MISC DETAILS IN SRS IMPROVEMENTS

FROM STREET NAME TO STREET NAME

LIVINGSTON COUNTY DRAIN COMMISSION, LIVINGSTON COUNTY, MICHIGAN

FIELD SURVEY / DATE: M 180208

PROJECT NO.: 180208

DESIGN DRAWN BY: JSL

DESIGNED BY: JSL

CHECKED BY: JSL

PLAN DATE: 5/2/2019

SHEET NUMBER 3 OF 28

Attachment: 8. Site plans dated May 2, 2019 (3059 - Site Plan #19-005, Livingston County Drain Commission Septic Receiving Station)

Packet Pg. 63

BENCHMARKS
 ELEVATION - 965.33
 SE BOLT TO LIGHT POLE, LOCATED 10' NORTH OF NORTH DRIVE TO HANDLING FACILITY AND 92± EAST OF C/L RUNYAN LAKE ROAD.
 ELEVATION - 961.02
 RAILROAD SPIKE IN NW SIDE OF UTILITY POLE, LOCATED 23' SOUTH OF C/L SOUTH DRIVE TO HANDLING FACILITY AND 37± EAST OF C/L RUNYAN LAKE ROAD.

CONTROL POINTS
 CP#10 CP#11
 M&B RED CAP M&B RED CAP
 N 18446.9033 N 18714.4652
 E 20184.0539 E 20165.6522
 ELEV 961.29 ELEV 968.59

EXISTING UNDERGROUND UTILITY DATA

SANITARY MH#2
 RIM 965.96
 12" PVC INV N 955.31
 12" DIA RIM
 4" DIA PRECAST STRUCTURE

STORM CB#3
 RIM 964.35
 18" CONC INV S 962.45
 BOTTOM STRUCTURE 961.05
 2" DIA BEEHIVE RIM
 4" DIA PRECAST STRUCTURE

SANITARY MH#4
 RIM 962.20
 12" CONC INV N 952.80
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 24" CONC INV S 952.25
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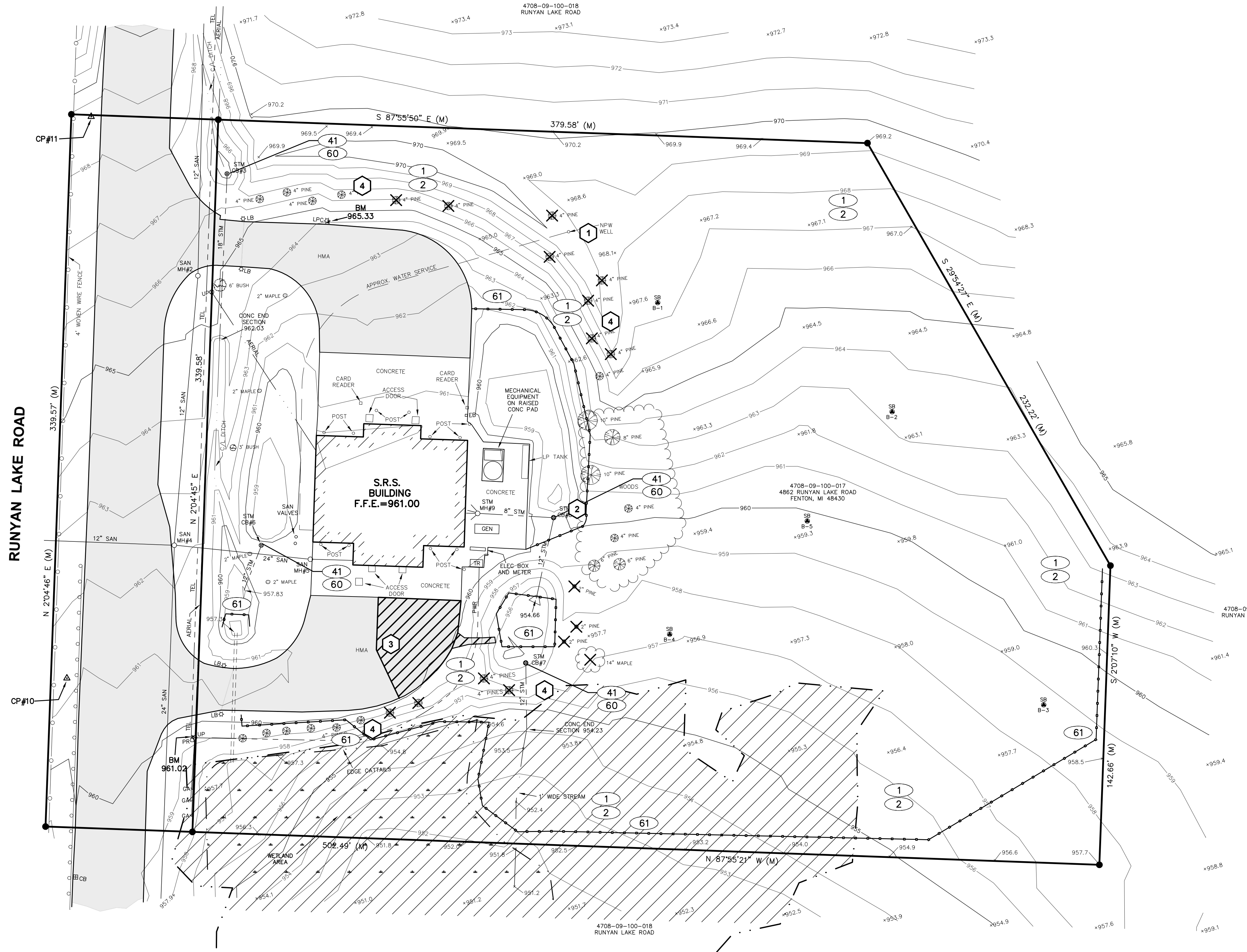
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 6" PVC INV SW 954.98
 8" PVC INV E 954.78
 BOTTOM STRUCTURE 952.83
 2" DIA RIM
 4" DIA PRECAST STRUCTURE



GENERAL DEMOLITION NOTES:

1. THE CONTRACTOR SHALL OBTAIN ALL PERMITS & SURETY AS PART OF THIS WORK.
2. THE CONTRACTOR SHALL CALL MISS DIG 3 WORKING DAYS PRIOR TO THE START OF CONSTRUCTION.
3. THE CONTRACTOR SHALL REMOVE ALL CONCRETE, BIT PAVEMENT, STORM SEWER STRUCTURES, STORM SEWER PIPE, LIGHT POLES, FENCING, UNDERGROUND ELECTRIC, VEGETATION & SO ON TO PREPARE THE SITE FOR IMPROVEMENTS. CASTINGS, VALVE BOXES AND/OR OTHER UTILITY STRUCTURES TO REMAIN SHALL BE ADJUSTED & PROTECTED FROM DAMAGE.
4. ALL SOIL EROSION CONTROL MEASURES SHALL COMPLY ACT 451 OF PUBLIC ACTS OF 1997, SOIL EROSION & SEDIMENTATION CONTROL, NATURAL RESOURCES & ENVIRONMENTAL PROTECTION ACT.
5. ALL SOIL EROSION CONTROL MEASURE SHALL BE IN PLACE PRIOR TO COMMENCEMENT OF EARTHWORK ACTIVITIES.
6. THE CONTRACTOR SHALL CLEAN PUBLIC STREETS DAILY OF ANY DIRT AND/OR DEBRIS FROM CONSTRUCTION SITE.

KEYED NOTES:

- 1 PROPERLY ABANDON EXISTING NPW WELL AFTER INSTALLING PROPOSED NPW#1
- 2 APPROXIMATELY 0.1 ACRES OF CLEARING AND GRUBBING.
- 3 REMOVE EXISTING ASPHALT PAVEMENT AS NEEDED TO MAKE GRAVITY CONNECTION TO WET WELL AS SHOWN ON SHEET 7.
- 4 REMOVE APPROXIMATELY 18 TREES AS NEEDED TO DO THE WORK.

SOIL EROSION CONTROL NOTES:

1. THE CONTRACTOR SHALL OBTAIN ALL PERMITS AND SURETY AS PART OF THIS WORK.
2. THE CONTRACTOR SHALL CALL MISS DIG 3 WORKING DAYS PRIOR TO THE START OF CONSTRUCTION.
3. THE CONTRACTOR SHALL REQUEST CONSTRUCTION STAKING USING THE MOORE & BRUGGINK, INC. CONTRACTORS CONSTRUCTION STAKING REQUEST FORM. ONLY COMPLETED REQUESTS WILL BE SCHEDULED. NOTE THE PROJECT OWNER WILL PAY THE SURVEYOR TO PLACE STAKES ONLY ONCE. ALL LOST AND DAMAGED STAKES ARE THE CONTRACTORS RESPONSIBILITY.
4. THE CONTRACTOR SHALL REMOVE ALL CONCRETE, BIT PAVEMENT, STORM SEWER STRUCTURES, STORM SEWER PIPE, LIGHT POLES, FENCING, UNDERGROUND ELECTRIC, VEGETATION AND SO ON TO PREPARE THE SITE FOR IMPROVEMENTS. CASTINGS, VALVE BOXES AND/OR OTHER UTILITY STRUCTURES TO REMAIN SHALL BE ADJUSTED AND PROTECTED FROM DAMAGE.
5. NORTH AMERICAN GREEN DS-150 EROSION CONTROL BLANKET SHALL BE PLACED ON ALL SLOPES 1:3 OR GREATER. SECURE BLANKET TO SLOPE PER MANUFACTURERS SPECIFICATIONS.
6. ALL SILT FENCING SHALL BE TRENCHED IN PRIOR TO COMMENCEMENT OF EARTHWORK ACTIVITIES.
7. SILT FENCING IS REQUIRED ALONG ALL DOWNSTREAM EDGES OF THE GRADING LIMITS AND MUST REMAIN IN PLACE UNTIL VEGETATION IS UNIFORMLY RE-ESTABLISHED.
8. ALL SOIL EROSION CONTROL MEASURES SHALL COMPLY WITH THE LIVINGSTON COUNTY DRAIN COMMISSION PERMIT, ACT 451 OF PUBLIC ACTS OF 1997, SOIL EROSION AND SEDIMENTATION CONTROL, NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION ACT.
9. NEW & EXISTING STORM SEWER INLET POINTS SHALL BE PROTECTED FROM SEDIMENT INFILTRATION WITH INLET FABRIC DROP (SILT SACK) PER APPROVED MANUFACTURERS. CONTRACTOR SHALL PROVIDE PRODUCT INFORMATION TO THE COUNTY PRIOR TO INSTALLATION.
10. ALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSPECTED AND MAINTAINED ON A DAILY BASIS, AND IMMEDIATELY FOLLOWING EVERY SIGNIFICANT RAINFALL EVENT.
11. ALL EXCESS SPOILS ARE TO BE REMOVED FROM THE SITE. OTHERWISE STOCKPILES MUST BE PROVIDED WITH TEMPORARY AND PERMANENT STABILIZATION MEASURES.
12. IF EXCESS DIRT IS TO BE PLACED ON SITE, THE LOCATION SHALL BE APPROVED BY THE PROPERTY OWNER & ENGINEER.
13. ALL TEMPORARY EROSION CONTROLS MUST REMAIN IN PLACE UNTIL VEGETATION IS UNIFORMLY RE-ESTABLISHED.
14. DUST CONTROL SHALL BE PROVIDED BY MEANS OF WATER DISTRIBUTION ON A REGULAR BASIS OVER AREAS THAT COULD POTENTIALLY PRODUCE DUST CONDITIONS.
15. A TRACKING PAD MUST BE PROVIDED AT CONSTRUCTION ACCESS POINTS TO PREVENT SOILS FROM BEING TRACKED OFF-SITE.
16. CONTRACTOR SHALL SWEEP PAVED AREAS EACH DAY (OR MORE AS NEEDED) BY MECHANICAL MEANS FOR ALL PAVED AREAS IN AND AROUND THE PERIMETER OF THE PROJECT AFFECTED BY TRUCKING OPERATIONS.
17. FINAL SEEDING, FERTILIZER AND MULCH BARE GROUND RATIO
 TOP SOIL 3" IN DEPTH
 GRASS SEED 217.84 LBS/AC
 FERTILIZER 150 LBS/AC
 STRAW MULCH 3" IN DEPTH (ALL MULCHING MUST HAVE TIE DOWN VIA ASPHALT TACKIFIER, NET BINDING, ETC.)
 HYDROSEEDING IS NOT ACCEPTABLE FOR SLOPES EXCEEDING 1%. IN SUCH AREAS STABILIZATION SHALL BE DONE WITH SEED AND STRAW MULCH WITH A TACKIFIER.
18. CONSTRUCTION AREA = 2.7 AC.
19. DETENTION/RETENTION PONDS SHALL BE MULCHED AND TACKED PRIOR TO THE START OF MASSIVE EARTH DISRUPTION.
20. ALL SESC MEASURES SHALL CONFORM TO LIVINGSTON COUNTY DRAIN COMMISSION STANDARDS.

SESC AND REMOVALS PLAN

SCALE: 1" = 30'

CURRENT SOIL BORINGS

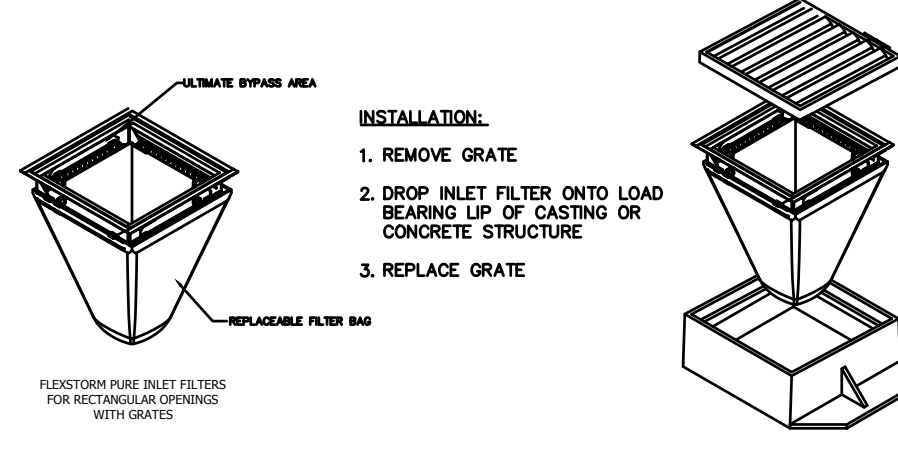
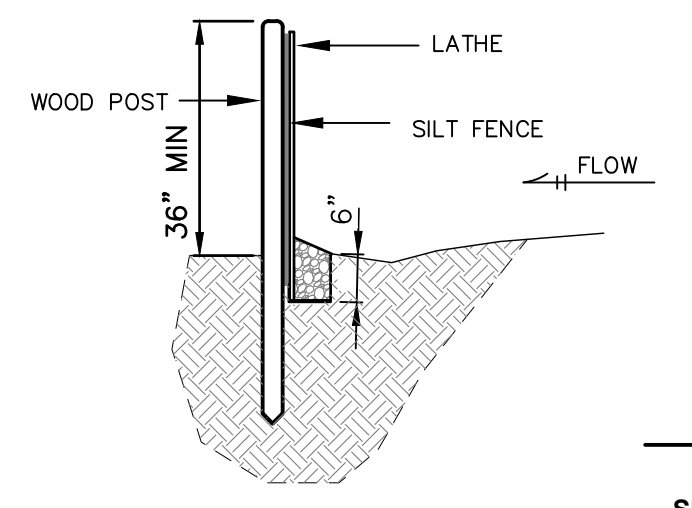
SOIL BORING NO.	DEPTH	DESCRIPTION
NO. B-1	0' TO 0.8'	TOP SOIL, DARK BROWN, CLAYEY
	0.8' TO 5.5'	BROWN MOTTLED CLAY, MOSTLY CLAYEY FINES, FEW COARSE TO FINE SAND, TRACE COARSE TO FINE GRAVEL, MOIST. GRADES WITH FEW COARSE TO FINE GRAVEL & VERTICAL SANDY SILT SEAMS.
	5.5' TO 9.0'	BROWN LEAN CLAY WITH SAND; MOSTLY CLAYEY FINES, LITTLE COARSE TO FINE SAND, TRACE COARSE TO FINE GRAVEL, MOIST, WITH SAND SEAMS.
	9.0' TO 27'	GRAY LEAN CLAY WITH SAND; MOSTLY CLAYEY FINES, LITTLE COARSE TO FINE SAND, TRACE COARSE TO FINE GRAVEL, MOIST. GRADES WITH TRACE COARSE FINE GRAVEL, GRADES WITH SAND SEAM. GRADES WITH OCCASIONAL WET SAND SEAMS AT 24'.
	27' TO 30'	GRAY TO BROWN MOTTLED POORLY GRADED SAND WITH GRAVEL; MOSTLY COARSE TO FINE SAND, LITTLE COARSE TO FINE GRAVEL, WET.
	END OF BORING	
NO. B-2	0' TO 0.4'	5" DARK BROWN SANDY TOPSOIL.
	0.4' TO 8.0'	BROWN SANDY LEAN CLAY; MOSTLY CLAYEY FINES, SOME COARSE TO FINE SAND, TRACE COARSE TO FINE GRAVEL, MOIST. GRADES BROWN TO GRAY MOTTLED WITH LITTLE COARSE TO FINE SAND.
	8' TO 9.7'	GRAY LEAN CLAY WITH SAND; MOSTLY CLAYEY FINES, LITTLE COARSE TO FINE SAND, TRACE COARSE TO FINE GRAVEL, WET.
	9.7' TO 17'	GRAY LEAN CLAY WITH SAND; MOSTLY CLAYEY FINES, LITTLE COARSE TO FINE SAND, TRACE COARSE TO FINE GRAVEL, MOIST.
	17' TO 22'	GRAY BROWN POORLY GRADED SAND; MOSTLY FINE SAND, TRACE COARSE TO FINE SAND, TRACE COARSE TO FINE GRAVEL, MOIST. POSSIBLE COBBLE FROM 20' TO 22'. GRADES GRAY.
	22' TO 30'	GRAY TO BROWN MOTTLED POORLY GRADED SAND WITH GRAVEL; MOSTLY COARSE TO FINE SAND, LITTLE COARSE TO FINE GRAVEL, TRACE CLAYEY FINES, WET.
END OF BORING		
NO. B-3	0' TO 1'	12" DARK BROWN CLAYEY TOPSOIL.
	1' TO 4.5'	GRADES WITH CLAY LENSES AT 4.5'. BROWN POORLY GRADED SAND; MOSTLY COARSE TO FINE SAND, FEW COARSE TO FINE GRAVEL, TRACE CLAYEY FINES, WET.
	4.5' TO 5.5'	BROWN LEAN CLAY; MOSTLY CLAYEY FINES, FEW COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST, WITH SAND LENS 6.5' TO 7.3'.
	5.5' TO 7.3'	GRAY SANDY SILT, MOSTLY SILTY FINES, SOME COARSE TO FINE SAND, MOIST WITH FREQUENT WET SAND SEAMS & LENSES.
	7.3' TO 17'	GRAY SANDY SILT, MOSTLY SILTY FINES, SOME COARSE TO FINE SAND, MOIST WITH FREQUENT WET SAND SEAMS & LENSES.
	17' TO 24.5'	BROWN POORLY GRADED SAND; MOSTLY COARSE TO FINE SAND, TRACE COARSE TO FINE GRAVEL, WET.
24.5' TO 27'	TRACE COARSE TO FINE GRAVEL, WET.	
27' TO 30'	BROWN SANDY LEAN CLAY; CLAYEY FINES, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST WITH FREQUENT WET SAND SEAMS & LENSES.	
END OF BORING		

SOIL BORING NO. B-4

DEPTH	DESCRIPTION
0' TO 0.3'	4" TOPSOIL.
0.3' TO 2.5'	BROWN CLAYEY SAND; MOSTLY FINE SAND, LITTLE CLAYEY FINES, MOIST.
2.5' TO 8'	LIGHT BROWN POORLY GRADED SAND; MOSTLY COARSE TO FINE SAND, TRACE CLAYEY FINES, TRACE FINE GRAVEL, WET.
8' TO 12'	BROWN SANDY LEAN CLAY; MOSTLY CLAYEY FINES, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.
12' TO 17'	GRAY LEAN CLAY WITH SAND; MOSTLY CLAYEY FINES, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.
17' TO 22'	GRAY BROWN CLAYEY SAND; MOSTLY COARSE TO FINE SAND, SOME CLAYEY FINES, WET.
22' TO 29'	BROWN POORLY GRADED SAND; MOSTLY COARSE TO FINE SAND, TRACE SILTY FINES, WET. GRADES WITH FEW COARSE TO FINE GRAVEL.
29' TO 30'	GRAY SILTY SAND; MOSTLY FINE SAND, FEW COARSE TO MEDIUM SAND, SOME SILTY FINES, TRACE FINE GRAVEL, WET. END OF BORING.

SOIL BORING NO. B-5

DEPTH	DESCRIPTION
0' TO 2'	DARK BROWN SILTY SAND; MOIST TOPSOIL.
2' TO 9.8'	BROWN WITH GRAY MOTTLED LEAN CLAY WITH SAND; MOSTLY CLAYEY FINES, LITTLE COARSE TO FINE SAND, TRACE COARSE TO FINE GRAVEL, MOIST.
9.8' TO 11.5'	BROWN POORLY GRADED SAND; MOSTLY MEDIUM TO FINE GRAVEL, WET.
11.5' TO 20'	GRAY LEAN CLAY WITH SAND; MOSTLY CLAYEY FINES, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, WET.
20' TO 29'	BROWN POORLY GRADED SAND; MOSTLY COARSE TO FINE SAND, TRACE COARSE TO FINE GRAVEL, WET. WITH FREQUENT GRAVEL, POSSIBLE COBBLE FROM 20' TO 22'. GRADES GRAY.
29' TO 32'	GRAY SANDY LEAN CLAY; MOSTLY CLAYEY FINES, SOME COARSE TO FINE SAND, TRACE COARSE TO FINE GRAVEL, MOIST.
32' TO 35'	GRAY BROWN POORLY GRADED SAND; MOSTLY COARSE TO FINE SAND, FEW COARSE TO FINE GRAVEL, WET.
END OF BORING	



S.E.S.C. EROSION CONTROL MEASURES

KEY	SESC MEASURE	SYMBOL	WHERE USED
1	SEEDING		When bare soil is exposed, temporarily or permanently, to erode forces from wind and or water on flat areas, mild slopes, grassed waterways and spillways, diversion ditches and dikes, borrow and stockpile areas, and spoil piles.
2	MULCH		On flat areas, mild slopes, grassed waterways and spillways, diversion ditches and dikes, borrow and stockpile areas, and spoil piles when areas are subject to raindrop impact, and erode forces from wind or water.
7	RIPRAP		Along drain banks, shorelines, or where concentrated flows occur. Slows velocity, reduces erosion and sediment load.
40	CHECK DAM		In constructed and existing flow corridors to reduce flow velocities.
41	CATCH BASIN		Where surface water accumulates and needs an outlet or an open drain discharges to a stream or drain at erode velocities. Within an enclosed drain system to provide an inlet and a sump.
60	STORM DRAIN INLET PROTECTION		Around the entrance to a newly constructed catch basin or an inlet that will capture runoff from an earth change activity.
61	SILT FENCE		As a temporary measure used to capture sediment from sheet flow. May also divert small volumes of sheet flow to protected outlets.
66	STABILIZED CONSTRUCTION ACCESS		All locations where construction equipment will enter and exit the drain easement and tracking of soil is anticipated.

811
Know what's below. Call before you dig.

PLAN SCALE: 1" = 30'

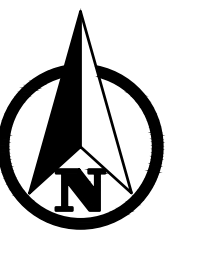
PLAN REVISIONS
1 SITE PLAN REVIEW JSL MAY 6, 2019

Moore + Bruggink
Consulting Engineers
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mailto:mail@mbce.com

SESC & REMOVALS IN SRS IMPROVEMENTS
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Attachment: 8. Site plans dated May 2, 2019 (3059 - Site Plan #19-005, Livingston County Drain Commission Septic Receiving Station)

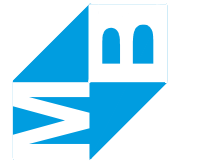


PLAN SCALE: 1" = 20'
PROFILE SCALES:
HORIZ: 1" = 30'
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GRADING PLAN
IN
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LIVINGSTON COUNTY DRAIN COMMISSION,
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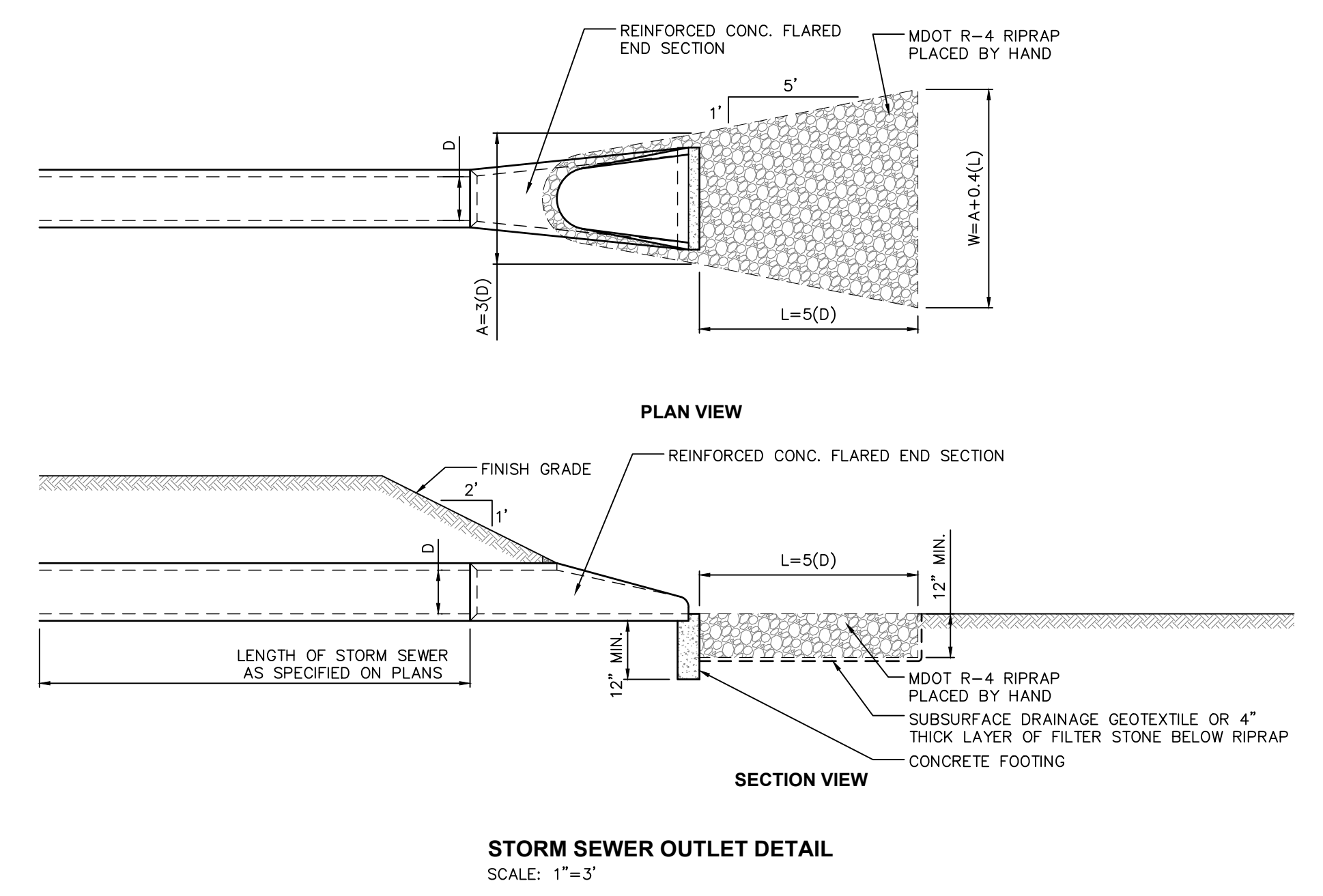
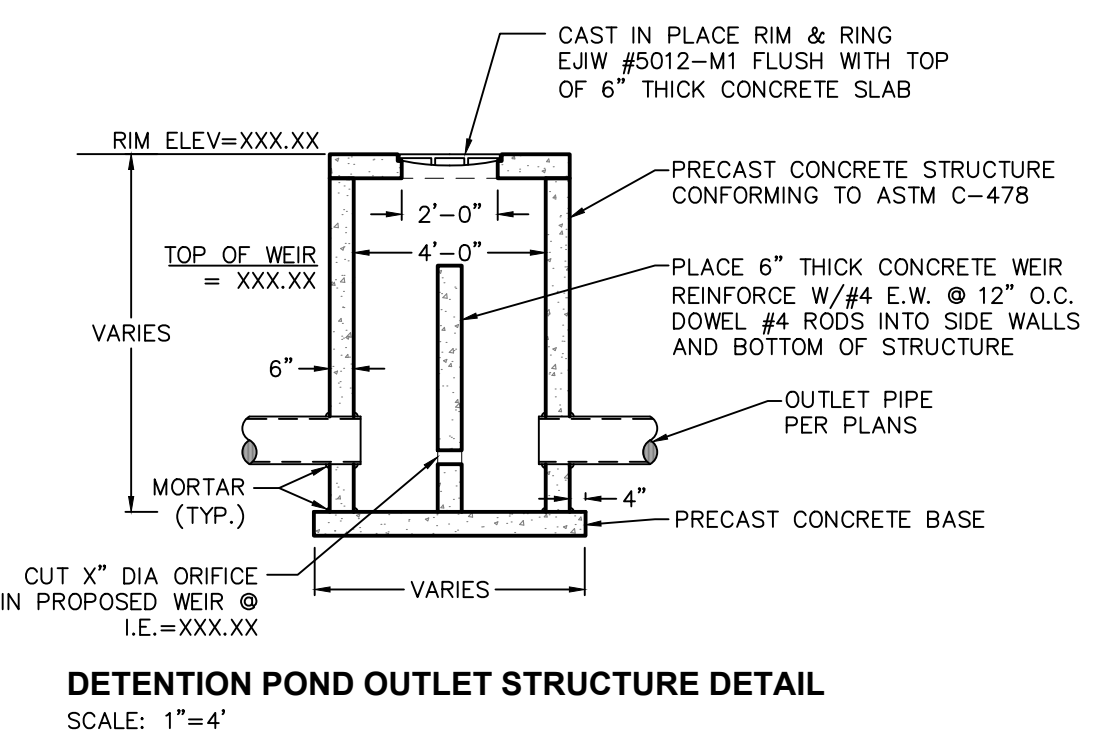
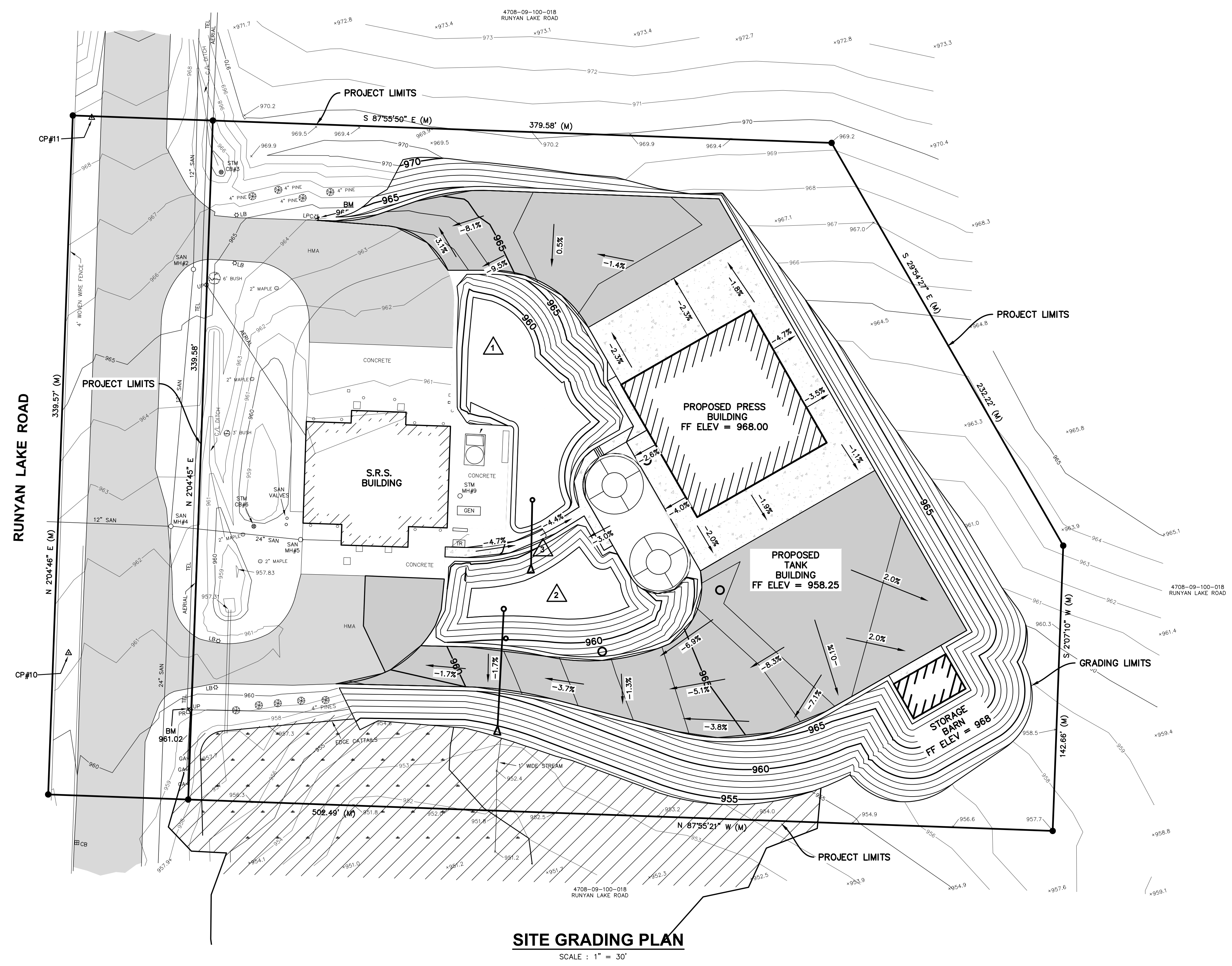
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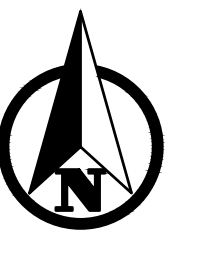
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KEYED SITE GRADING NOTES:

- 1 NORTH DETENTION POND VOLUME = 25,440 GAL (3401 CFT)
- 2 SOUTH DETENTION POND VOLUME = 49,846 GAL (6664 CFT)
- 3 EXTEND STORM PIPE WITH OUTLET ELEVATION AT 959.0. SEE OUTLET DETAIL THIS SHEET
- 4 INSTALL NEW STORM CONTROL STRUCTURE AND OUTLET. SEE DETAILS THIS SHEET. INLET ELEVATION AT 960.0 AND OUTLET ELEVATION AT 957.0



P:\180208.1\CD-C-SRS Solids Handling Facility - Pre Design Phase\CADD\DWG\180208.01 Design - Grading(2019).dwg, 5/3/2019 3:53:24 PM, JEFF LANDERS



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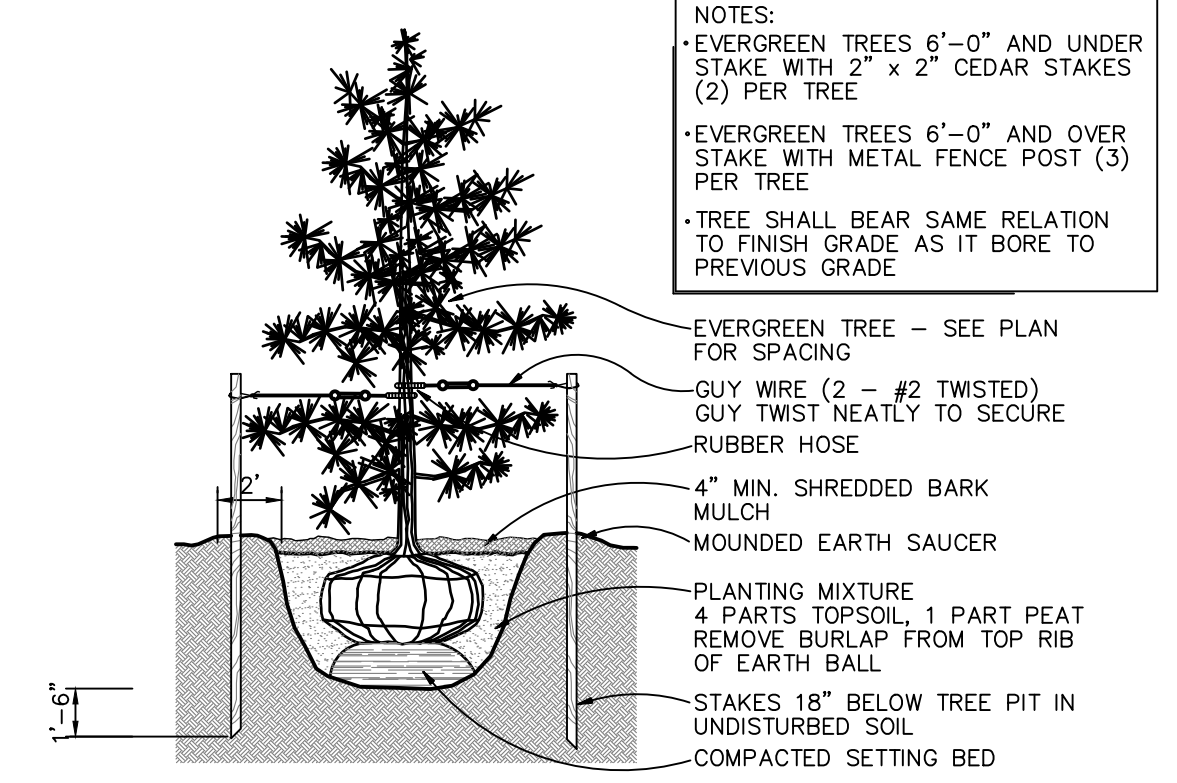
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LANDSCAPING NOTES:

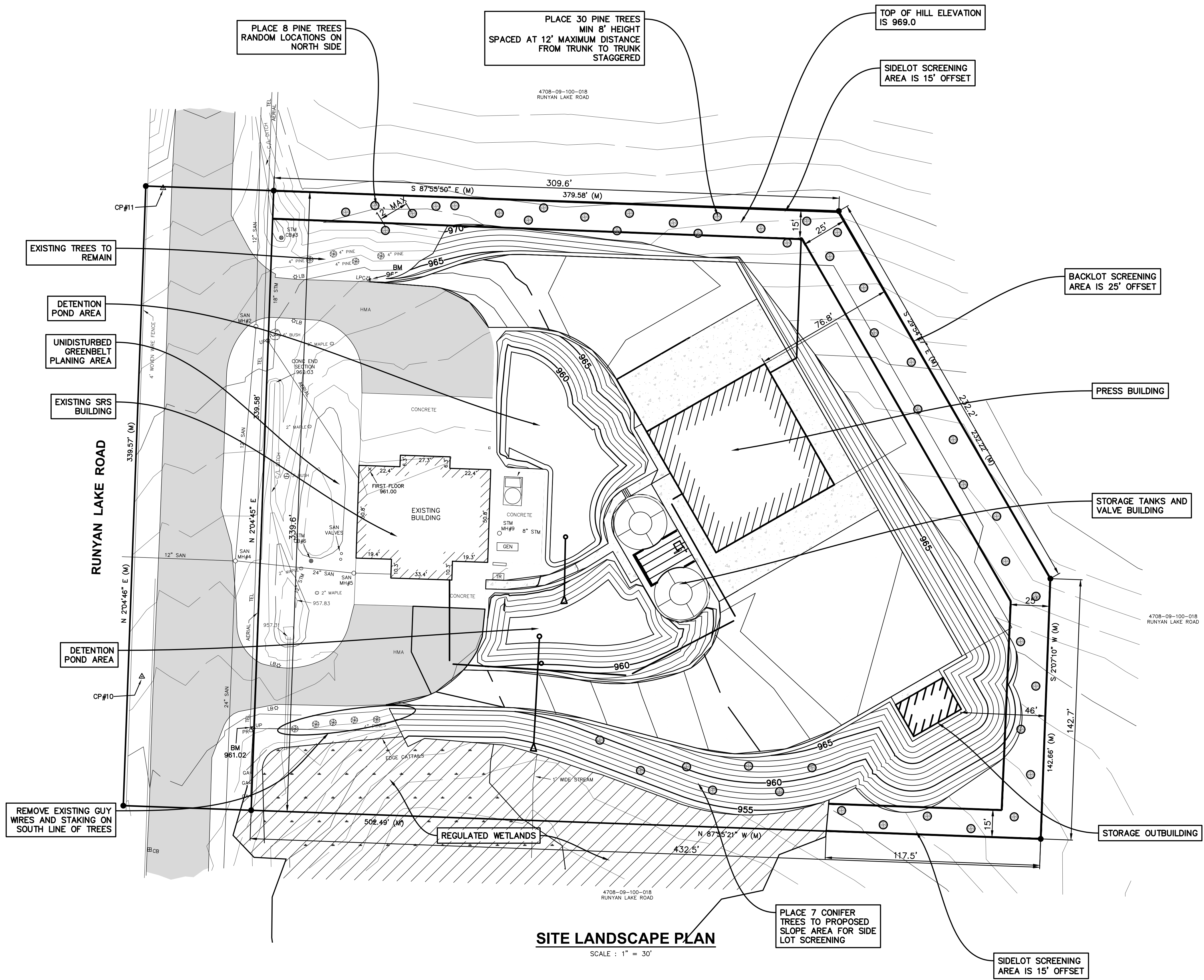
1. SITE IS ZONED GENERAL COMMERCIAL (GC) BY HARTLAND TOWNSHIP.
2. THE CONTRACTOR SHALL PROVIDE LANDSCAPING ACCORDING TO THE HARTLAND TOWNSHIP ORDINANCE, AND AS APPROVED THROUGH THE HARTLAND TOWNSHIP SITE PLANNING COMMISSION.
3. ALL DISTURBED, UNPAVED AREAS TO BE TOP SOILED, SEEDED AND FERTILIZED ACCORDING TO THE APPROVED SESC PLANS. SEE SHEET 4 NOTES.
4. LANDSCAPING TREE SPECIES TO BE RANDOMLY ORDERED. CONTRACTOR SHALL SUBMIT TREE SPECIES TO ENGINEER FOR FINAL APPROVAL BEFORE PURCHASE.

Common Name	Genus	Quantity
Fir	Abies	15
Pine	Pinus	15
Spruce	Picea	15

Total Property area	135,062	sft
Area 1	71,939	sft
Area 2	5,767	sft
Area 3	7,598	sft
Total Impervious Area	58,574	sft
Total Pervious Area	76,488	sft
Percent Impervious	43%	
Percent Pervious	57%	



EVERGREEN TREE PLANTING DETAIL
SCALE: 1"=6"



SITE LANDSCAPE PLAN
SCALE: 1" = 30'

P:\180208_1\CD\CD - SRS Solids Handling Facility - Pre Design Phase\CADD\DWG\180208_01 Design - Grading(2019).dwg, 5/3/2019 3:53:29 PM, JEFF LANDERS

LANDSCAPING PLAN
IN
SRS IMPROVEMENTS
LIVINGSTON COUNTY DRAIN COMMISSION,
LIVINGSTON COUNTY, MICHIGAN

FIELD SURVEY / DATE
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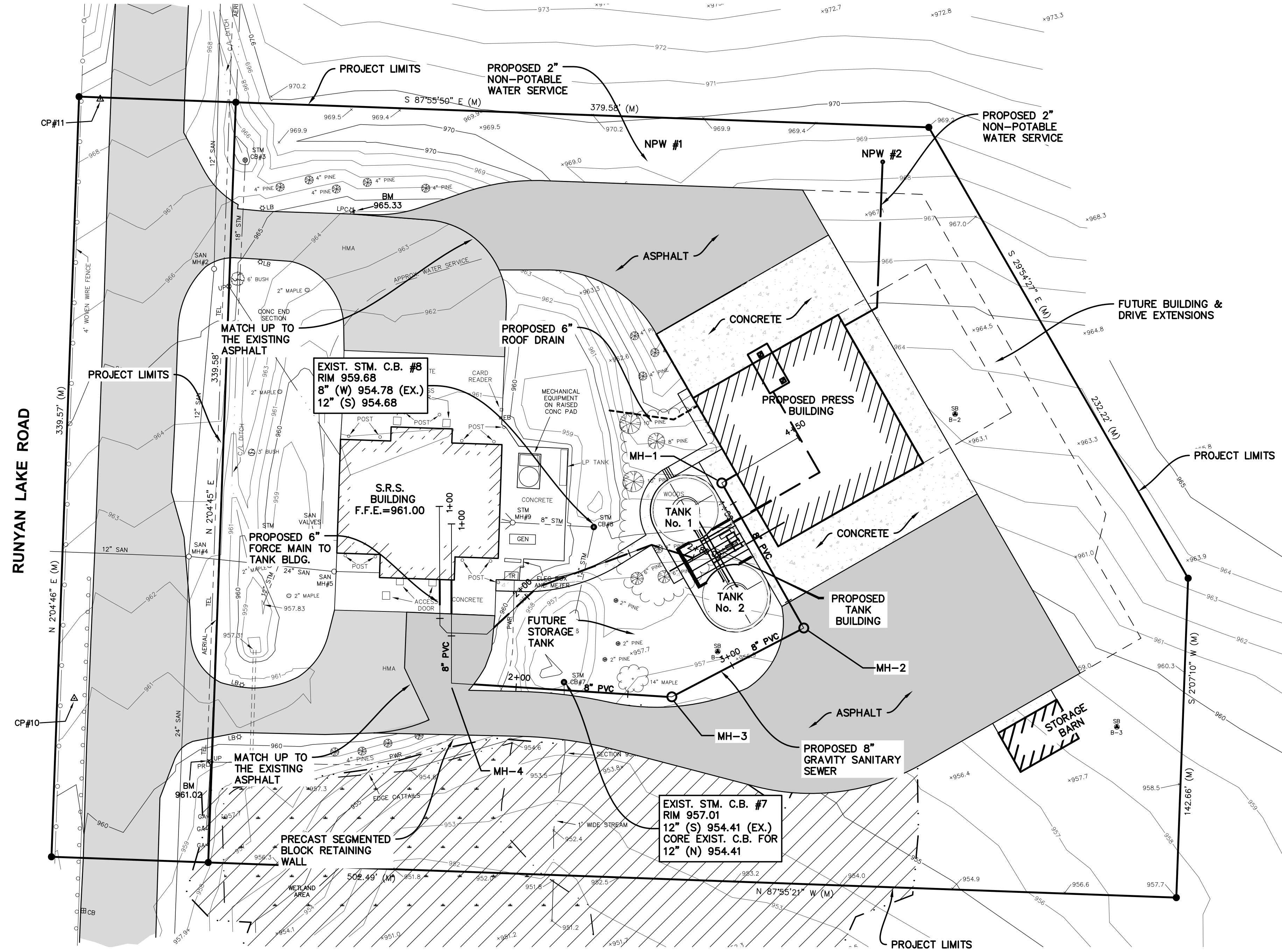
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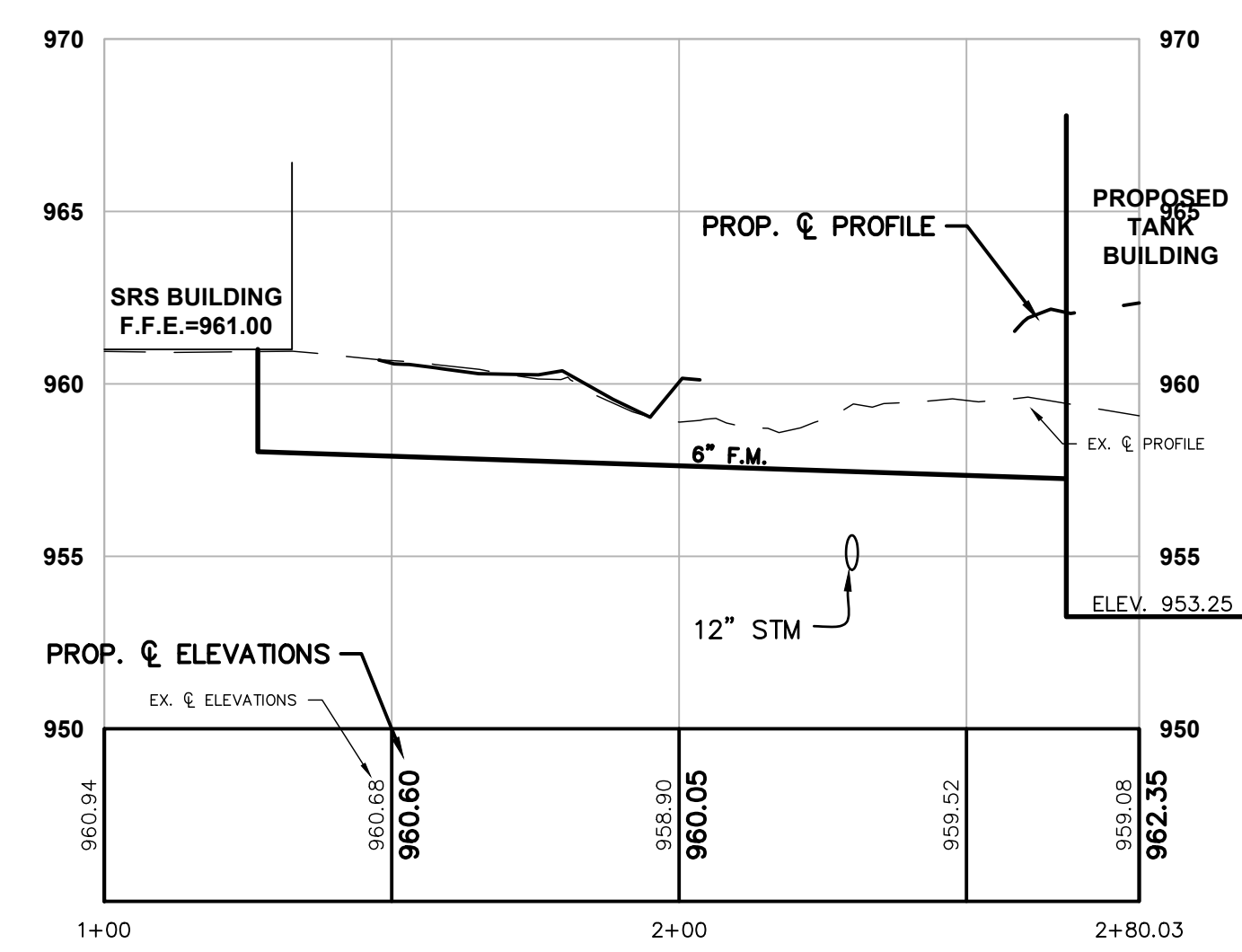
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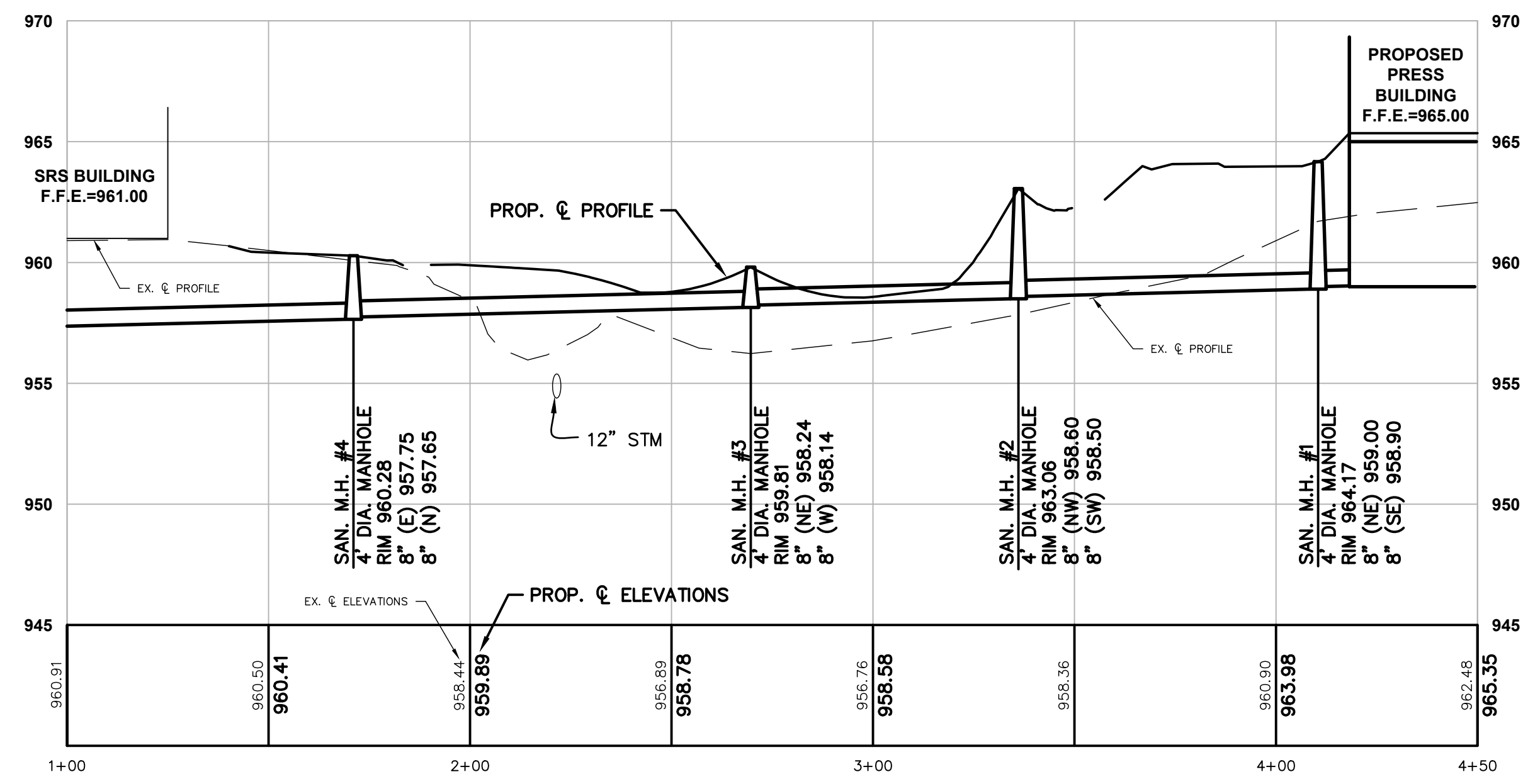
STORM MH#9
 RIM 960.83
 6" PVC INV NW 954.98
 6" PVC INV WNW 954.98
 6" PVC INV W 954.98
 6" PVC INV SW 954.98
 8" PVC INV E 954.78
 BOTTOM STRUCTURE 952.83
 2" DIA RIM
 4" DIA PRECAST STRUCTURE



SITE PIPING PLAN VIEW
 SCALE : 1" = 20'



6" FORCE MAIN - FROM SRS BUILDING TO TANK BUILDING
 SCALE : HORIZ. 1" = 30'
 VERT. 1" = 5'



8" GRAVITY SEWER - FROM PROPOSED PRESS BUILDING TO EXISTING S.R.S. BUILDING
 SCALE : HORIZ. 1" = 30'
 VERT. 1" = 5'

P:\180208_1\CDC - SRS Solids Handling Facility - Pre Design Phase\CADD\DWG\180208.01 Design (2019).dwg, 5/3/2019 3:51:56 PM, JEFF LANDERS

MOORE+BRUGGINK
 Consulting Engineers
 2020 Monroe Ave.
 Grand Rapids, MI 49505
 (616) 363-9801 mailbox@mbcae.com

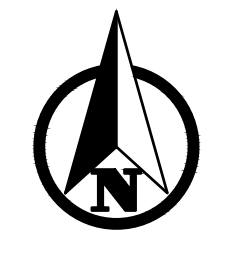
MB
 MICHIGAN COUNTY DRAIN COMMISSION, LIVINGSTON COUNTY, MICHIGAN

SITE UTILITIES AND YARD PIPING
SRS IMPROVEMENTS
 FROM STREET NAME TO STREET NAME
 180208.01

FIELD SURVEY / DATE: M / 180208.01
 PROJECT NO.: 180208.01
 DESIGN DRAWN BY: JSL
 DESIGNED BY: JSL
 CHECKED BY: JSL
 PLAN DATE: 5/2/2019
 SHEET NUMBER: 7 OF 28

PLAN REVISIONS
 1 SITE PLAN REVIEW JSL MAY 6, 2019

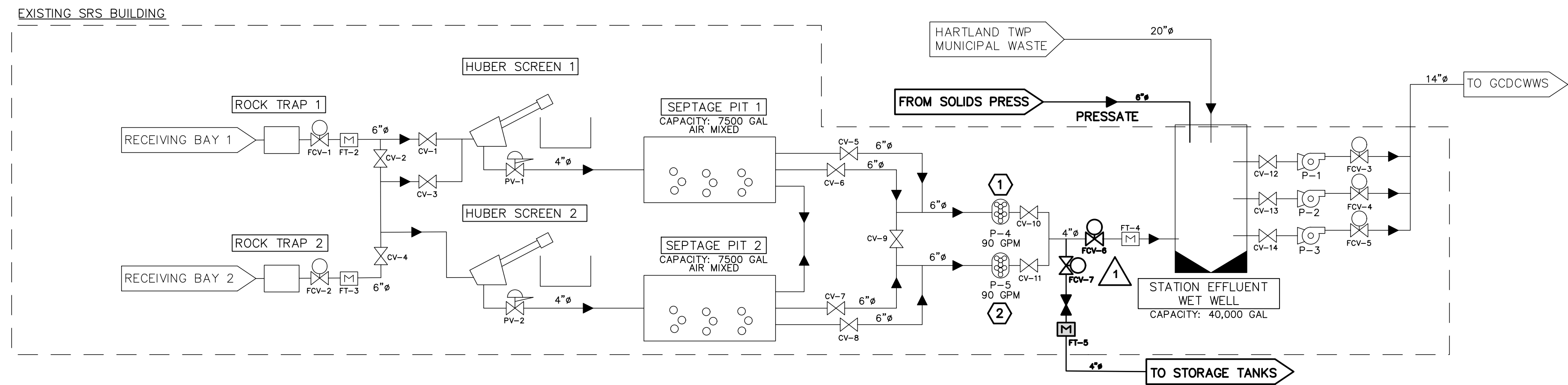
Attachment: 8. Site plans dated May 2, 2019 (3059 - Site Plan #19-005, Livingston County Drain Commission Septic Receiving Station)



PLAN SCALE: 1" = 40'

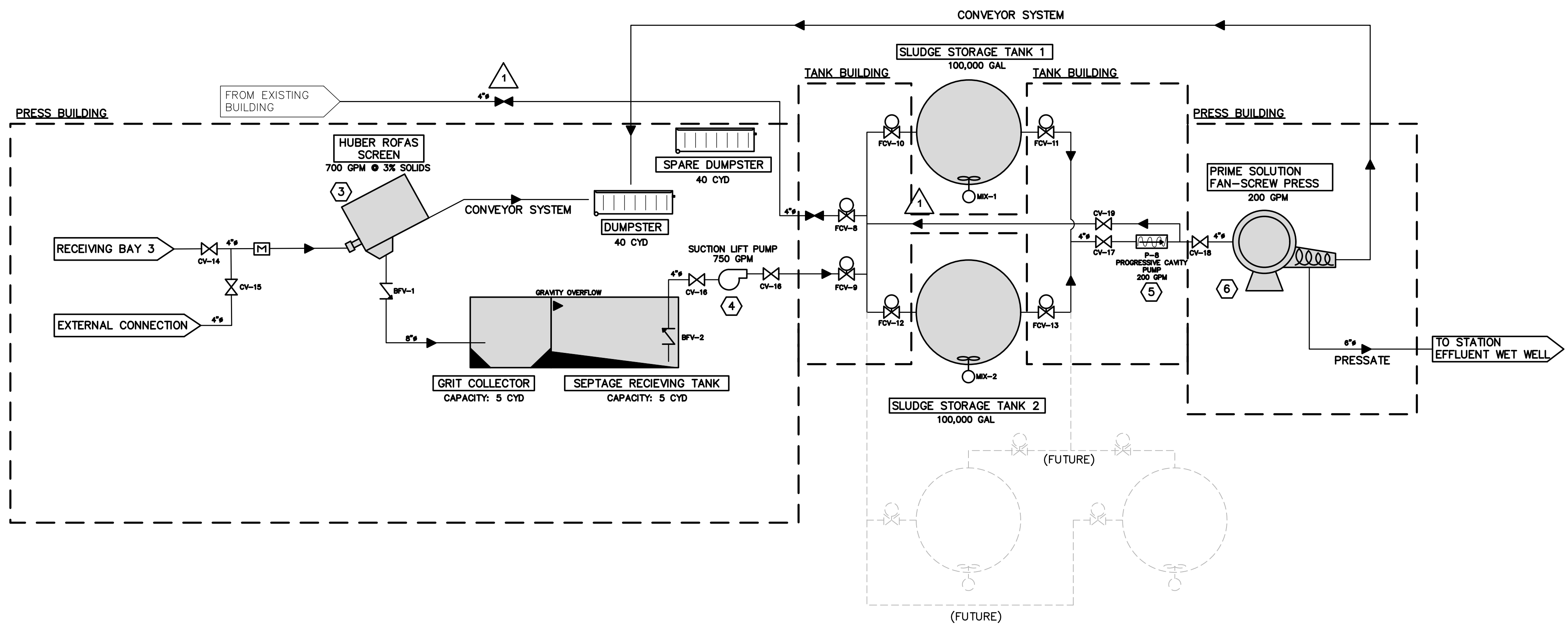


PLAN REVISIONS
1 SITE PLAN REVIEW JSL MAY 6, 2019



LEGEND

- EXISTING PIPING
- PROPOSED PIPING
- VALVE
- AUTOMATIC VALVE
- PRESSURE VALVE
- FLOW DIRECTION
- EXISTING EQUIPMENT
- PROPOSED EQUIPMENT
- EQUIPMENT LABEL
- ROTARY LOBE PUMP
- CENTRIFUGAL PUMP
- POSITIVE DISPLACEMENT PUMP
- MECHANICAL MIXER
- MAGNETIC FLOW METER



- KEYED NOTES:**
1. TO EMPTY STORAGE TANKS AND BYPASS DIRECTLY TO MAIN WET WELL USING THE PRESS FEED PUMP, FOLLOW THE SEQUENCE.
 2. CLOSE CV-9, 10 AND 12
 3. OPEN CV-10, 11 AND 18
 4. OPEN CV-6, 7, AND 8
 5. OPEN CV-19

PROCESS FLOW DIAGRAM
SCALE: N.T.S.

	1	2	3	4	5	6
DESCRIPTION	SEPTAGE TRANSFER PUMP 1	SEPTAGE TRANSFER PUMP 2	SEPTAGE SCREEN	RECEIVING BAY 3 PS PUMP 1	PRESS FEED PUMP	SOLIDS PRESS
MANUFACTURER	VOGELSANG	VOGELSANG	HUBER	GORMAN RUPP	SEPEX	PRIME SOLUTION
TYPE	ROTARY LOBE	ROTARY LOBE	ROFAS	SUCTION LIFT	SCREW	FAN-SCREW
EXISTING SIZE/FLOW RATE	90 GPM	90 GPM				
PROPOSED SIZE/FLOW RATE	150 GPM	150 GPM	700 GPM	300 GPM	200 GPM	200 GPM
LEAD TIME	8-9 WEEKS	8-9 WEEKS	40 WEEKS			14 WEEKS

P:\180208_1.LCDC - SRS Solids Handling Facility - Pre Design Phase\CADD\DWG\180208_01 Design - PFD (2019).dwg, 5/2/2019 3:54:03 PM, JEFF LANDERS

Moore+Bruggink
Consulting Engineers
2020 Monroe Ave.
Grand Rapids, MI 49505
(616) 363-9801
mailto:mail@mbcae.com

PROCESS FLOW DIAGRAM IN SRS IMPROVEMENTS
LIVINGSTON COUNTY DRAIN COMMISSION,
LIVINGSTON COUNTY, MICHIGAN

FIELD SURVEY / DATE: M+B

PROJECT NO.: 180208.1

DESIGN DRAWN BY: JSL

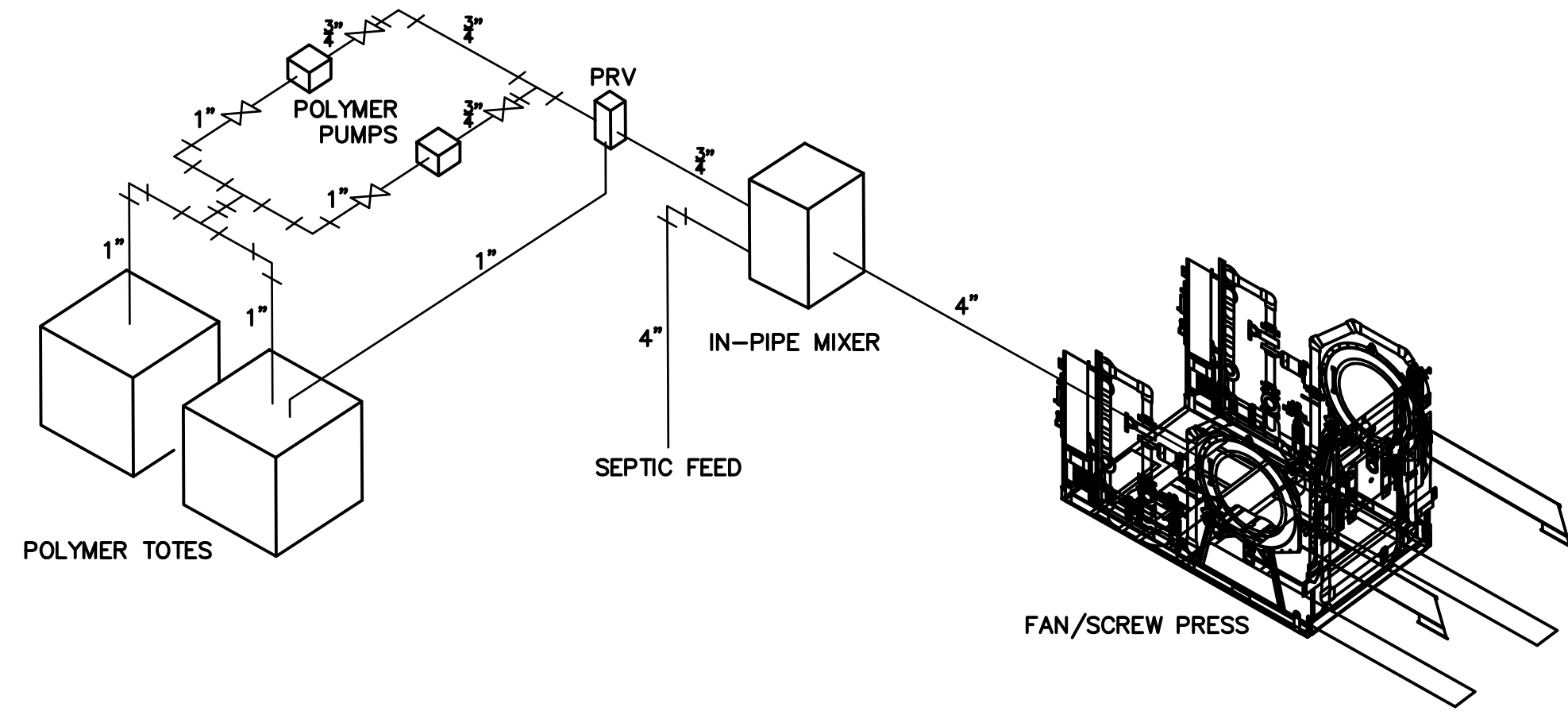
DESIGNED BY: JSL

CHECKED BY: JSL

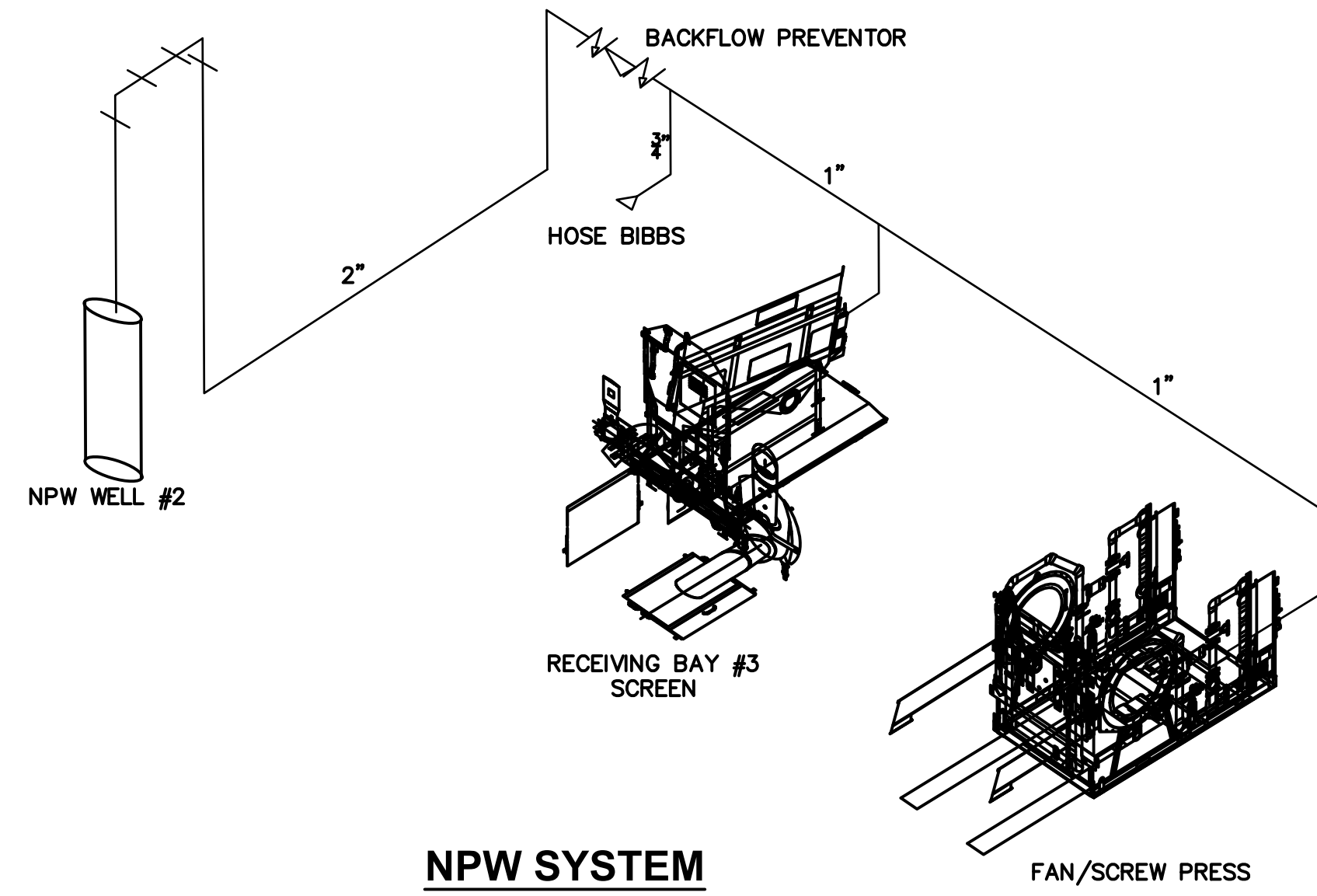
PLAN DATE: 5/2/2019

SHEET NUMBER: 9 OF 28

Attachment: 8. Site plans dated May 2, 2019 (3059 - Site Plan #19-005, Livingston County Drain Commission Septic Receiving Station)

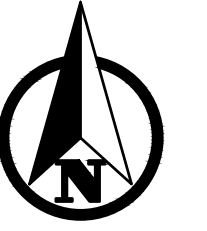


POLYMER FEED SYSTEM
SCALE : NONE



NPW SYSTEM
SCALE : NONE

P:\180208_1\CDC - SRS Solids Handling Facility - Pre Design Phase\CADD\DWG\180208_01 Design - PFD (2019).dwg 5/2/2019 3:54:12 PM JEFF LANDERS



PLAN SCALE: 1" = 40'



Know what's below.
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PLAN REVISIONS
1 SITE PLAN REVIEW JSL MAY 6, 2019

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ISOMETRIC DIAGRAMS
IN
SRS IMPROVEMENTS
LIVINGSTON COUNTY DRAIN COMMISSION,
LIVINGSTON COUNTY, MICHIGAN

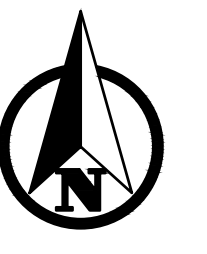
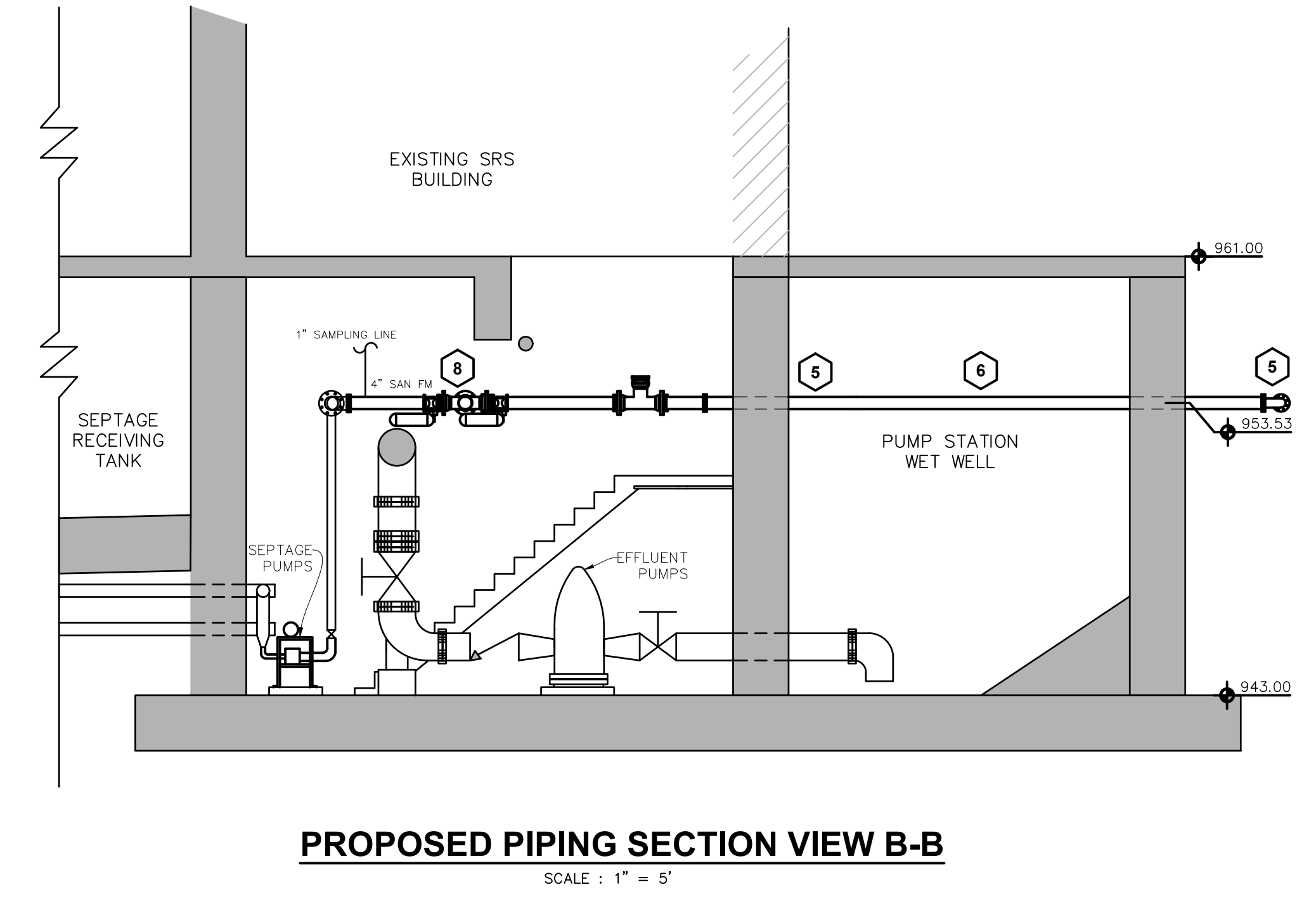
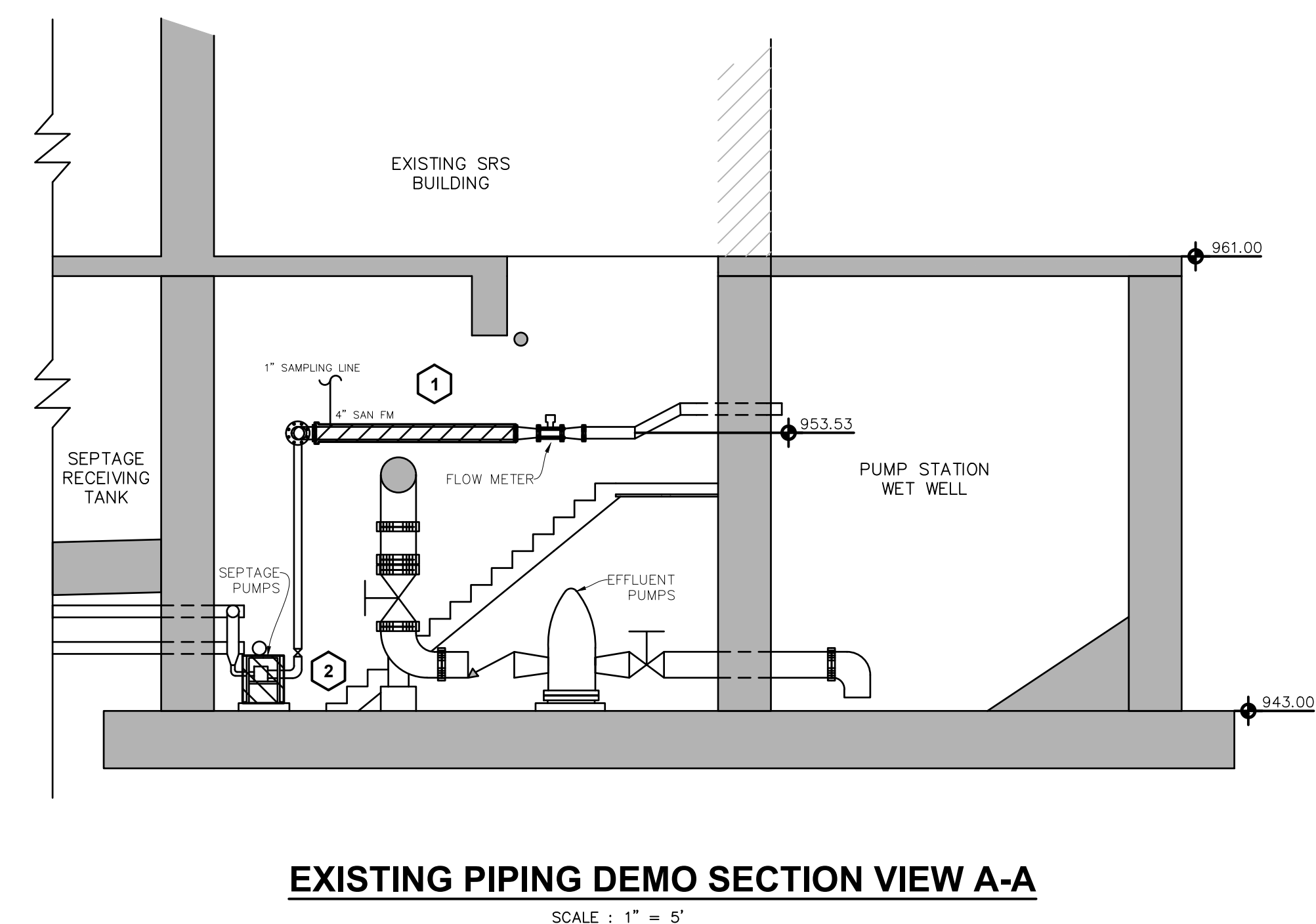
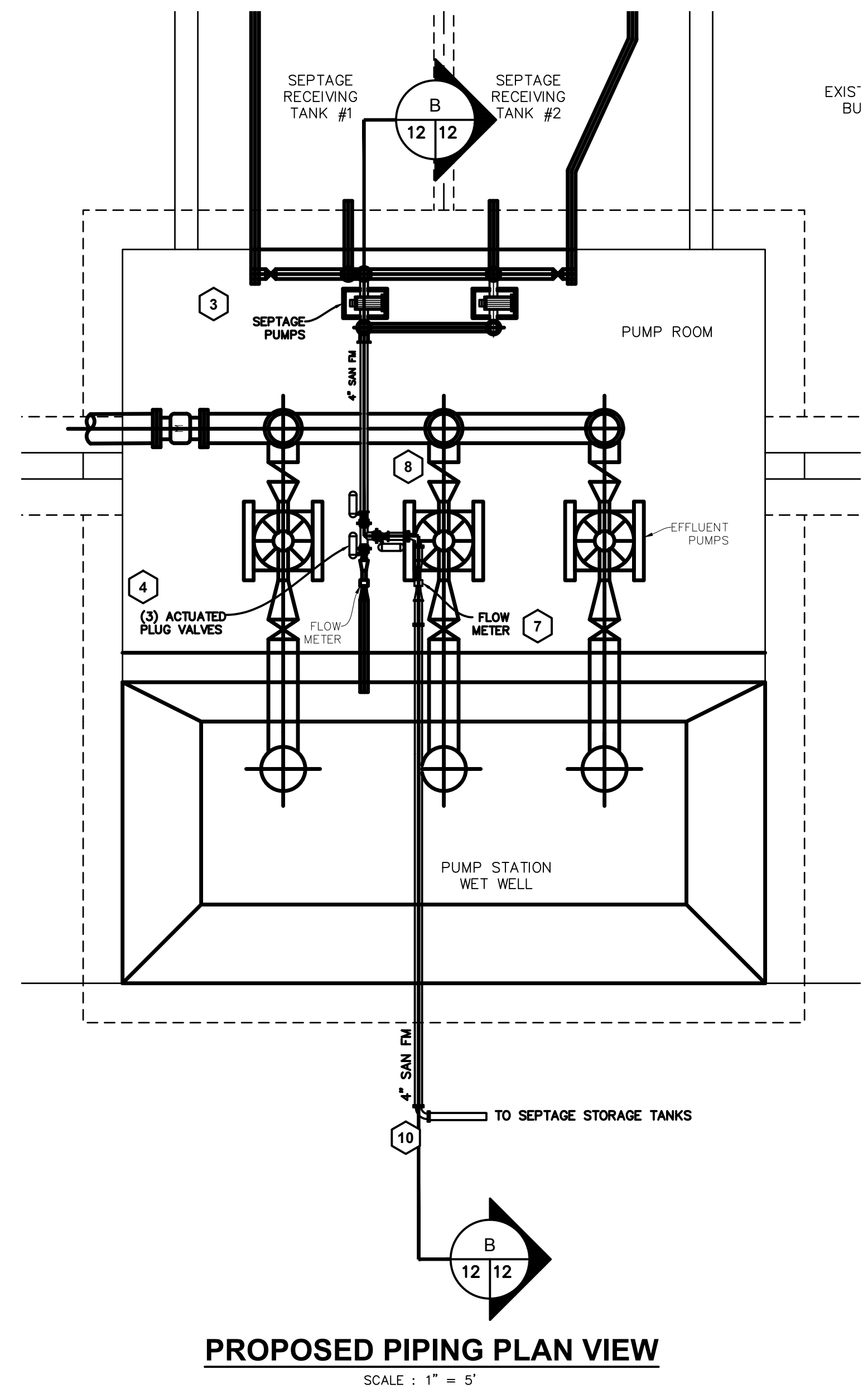
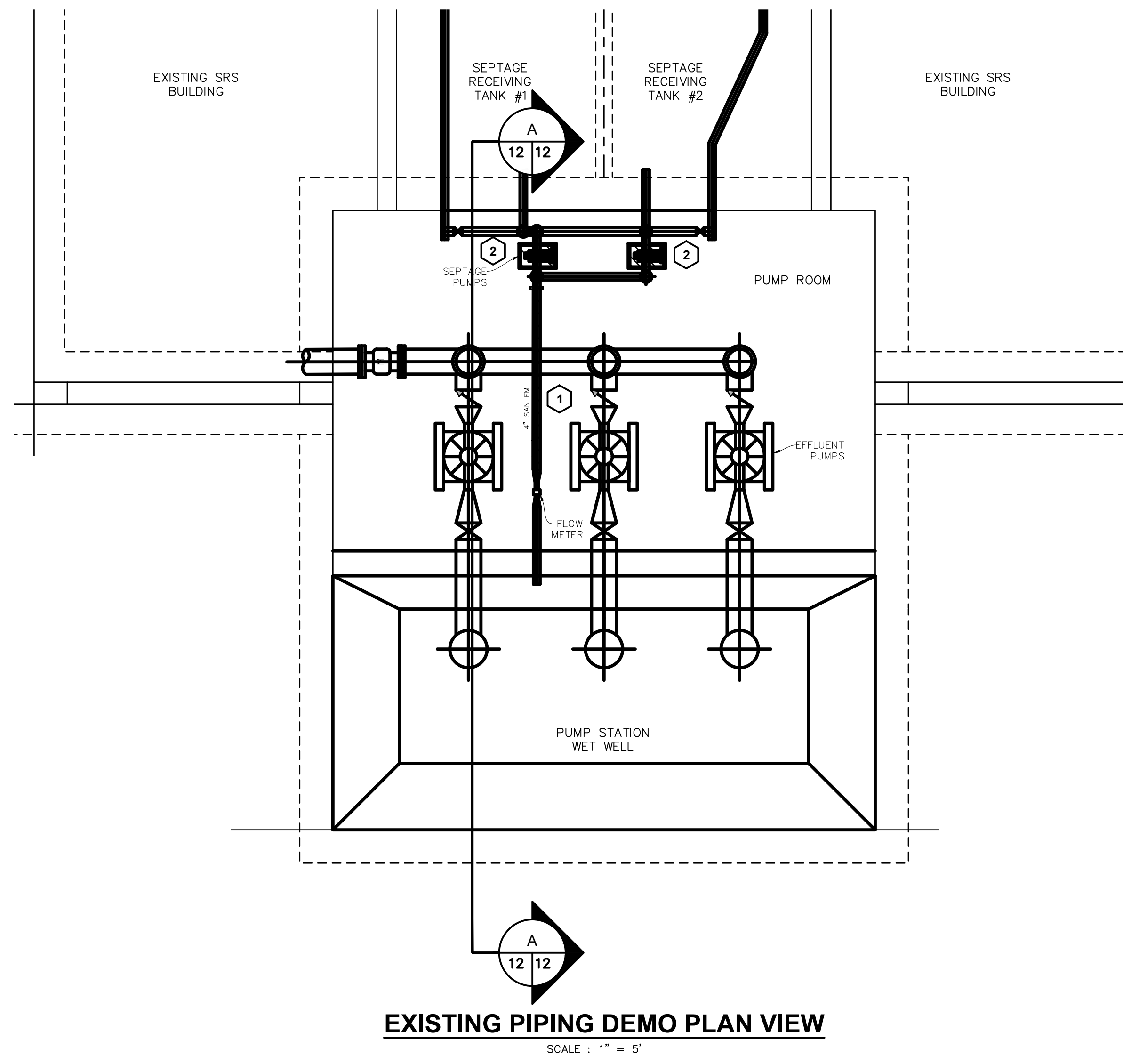
FIELD SURVEY / DATE
M+B
PROJECT NO.:
180208.1
DESIGN DRAWN BY:
JSL
DESIGNED BY:
JSL
CHECKED BY:
JSL
PLAN DATE:
5/2/2019

SHEET NUMBER
10 OF 28

Attachment: 8. Site plans dated May 2, 2019 (3059 - Site Plan #19-005, Livingston County Drain Commission Septic Receiving Station)

KEYED NOTES:

- 1 REMOVE APPROXIMATELY 11 FOOT SPOOL PIECE OF EXISTING FORCEMAIN TO MAKE CONNECTION.
- 2 REMOVE EXISTING SEPTAGE TRANSFER PUMPS.
- 3 SHALL BE VOGELSANG PUMPS.
- 4 (3) 4" ACTIVATED PLUG VALVES
- 5 (3) 4" ACTIVATED PLUG VALVES
- 6 ONE FULL STICK TO BE USED FOR PENETRATION. SHALL BE COAL TAR EPOXY COATED FOLLOWING INSTALLATION.
- 7 4" FLOW METER
- 8 CORP & REINSTALL SAMPLING LINE
- 9 INSTALL BLIND FLANGE ON TEE WITH 2" CORP FOR JET CLEANING ACCESS.
- 10 INSTALL CLEANOUT TO SURFACE, SEE DETAIL, SHEET 3.

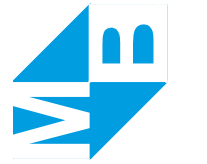


PLAN SCALE: 1" = 30'
PLAN SCALE: 1" = 5'



PLAN REVISIONS
1 SITE PLAN REVIEW JSL MAY 6, 2019

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Consulting Engineers
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(616) 363-9801 mail@mbce.com

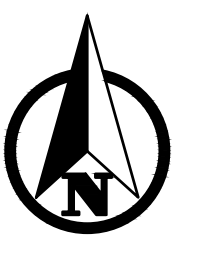


EXISTING SRS DEMO & IMPROVEMENTS
SRS IMPROVEMENTS
LIVINGSTON COUNTY DRAIN COMMISSION,
LIVINGSTON COUNTY, MICHIGAN

FIELD SURVEY / DATE
M+B
PROJECT NO.: 180208.1
DESIGN DRAWN BY: JSL
DESIGNED BY: JSL
CHECKED BY: JSL
PLAN DATE: 5/2/2019

SHEET NUMBER
12 OF 28

Attachment: 8. Site plans dated May 2, 2019 (3059 - Site Plan #19-005, Livingston County Drain Commission Septic Receiving Station)



OR AS NOTED

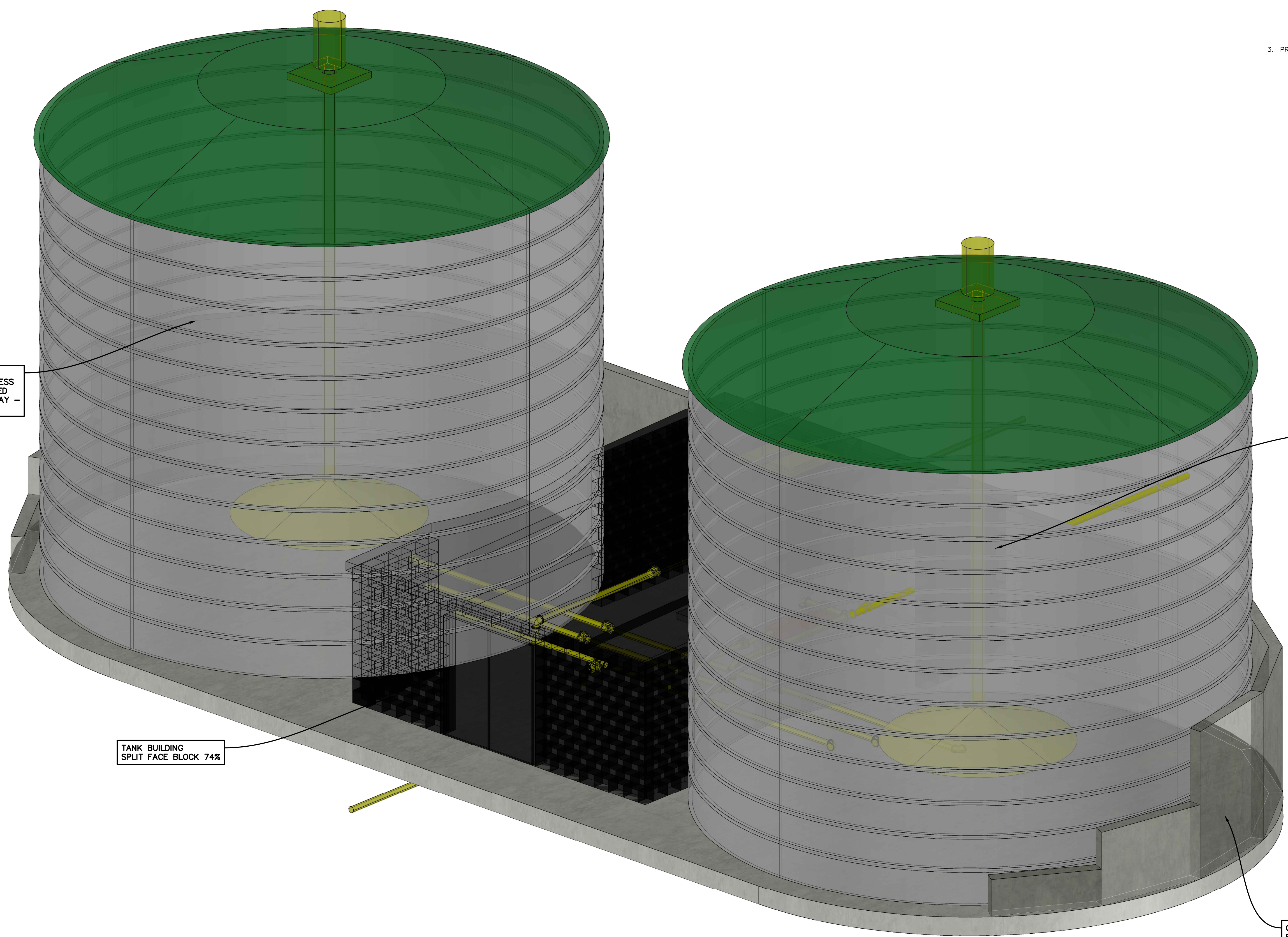
PLAN SCALE: NTS



PLAN REVISIONS
1 SITE PLAN REVIEW JSL MAY 6, 2019

TANK BUILDING GENERAL NOTES:

1. PIPE ELEVATIONS AND DIMENSIONS ARE APPROXIMATE. CONTRACTOR TO VERIFY ALL PIPING, VALVE AND PUMP FITMENT AND LOCATIONS PRIOR TO ORDERING MATERIALS.
2. TANK DESIGNED USING LIPP TANK SYSTEMS. SEE SPECIFICATIONS. THE FOLLOWING ITEMS SHALL BE INCLUDED WITH AN ENGINEER'S SEAL AS PART THE TANK SUBMITTAL:
 - 2.1. STRUCTURAL DESIGN OF INTEGRAL SPREAD FOOTING AND RETAINING WALL.
 - 2.2. DESIGN USING INVERT 7.5 HP MIXING UNITS, STRUCTURALLY SUPPORTED BY THE TOP.
 - 2.3. SAFETY LADDERS, SIDE ACCESS, PENETRATIONS AS SHOWN IN THE PLANS AND SPECIFICATIONS.
 - 2.4. SCOPE TO INCLUDE FLANGES AND FLASHING TO MATING MASONRY WALLS AND ROOF TO THE TANK, AND ALL APPURTENANCES REQUIRED TO CREATE A CLEAN AND WATERTIGHT SEAL.
3. PROVIDE PROPER FLOOR PIPE SUPPORTS WHERE NECESSARY.



TANK #1
FOLDED COMPOSITE STAINLESS
STEEL INTERIOR, GALVANIZED
STEEL EXTERIOR. LIGHT GRAY -
UNPAINTED

TANK #2
FOLDED COMPOSITE STAINLESS
STEEL INTERIOR, GALVANIZED
STEEL EXTERIOR. LIGHT GRAY -
UNPAINTED

TANK BUILDING
SPLIT FACE BLOCK 74%

CAST IN PLACE, CONCRETE
RETAINING WALL FOR EXTERIOR
ELEVATION CHANGES

ISOMETRIC VIEW FROM SOUTH

SCALE : NTS

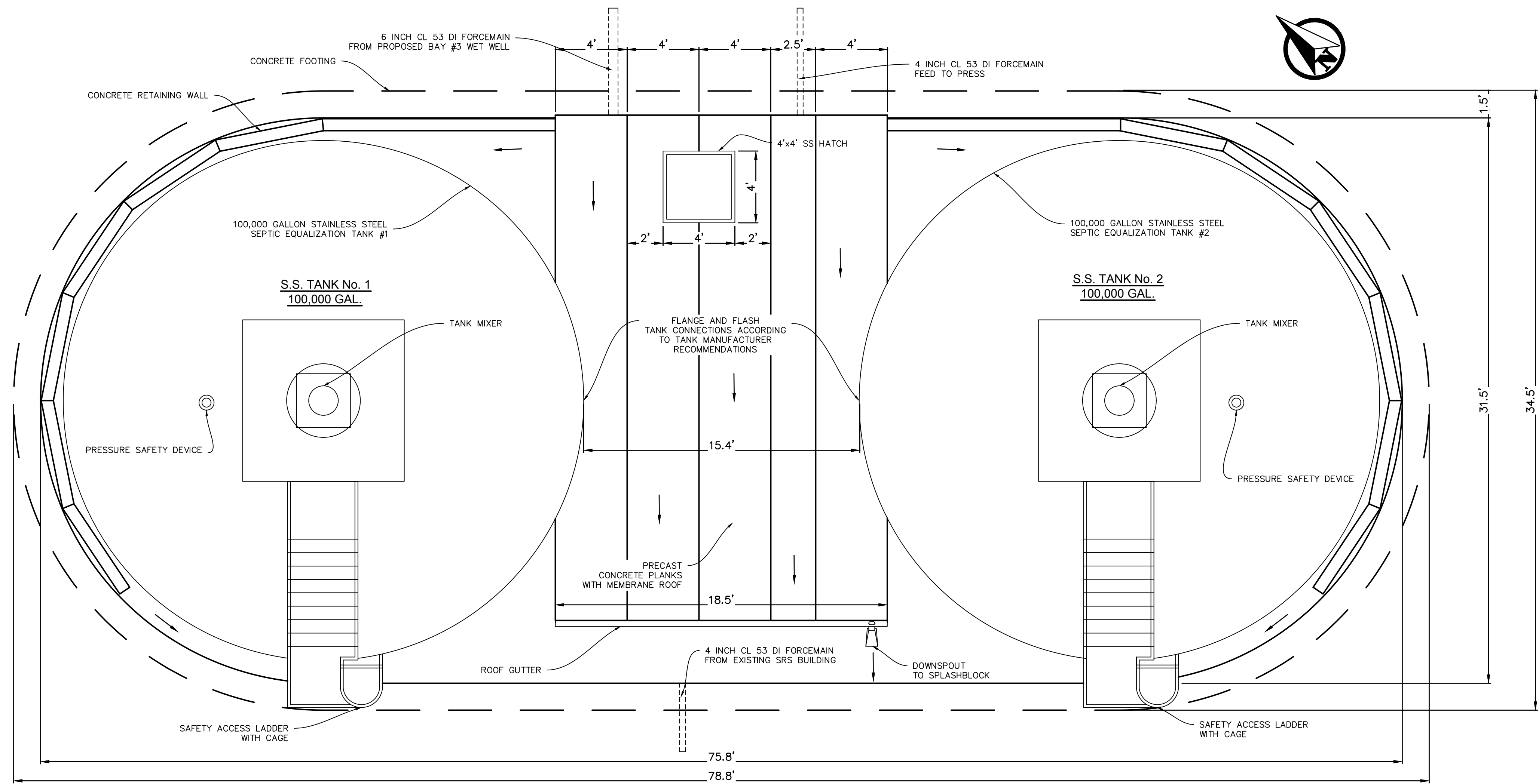
P:\180208_1\CDC - SRS Solids Handling Facility - Pre Design Phase\CADD\DWG\180208_01 Design - Sections (2019).dwg 5/3/2019 3:55:12 PM, JEFF LANDERS

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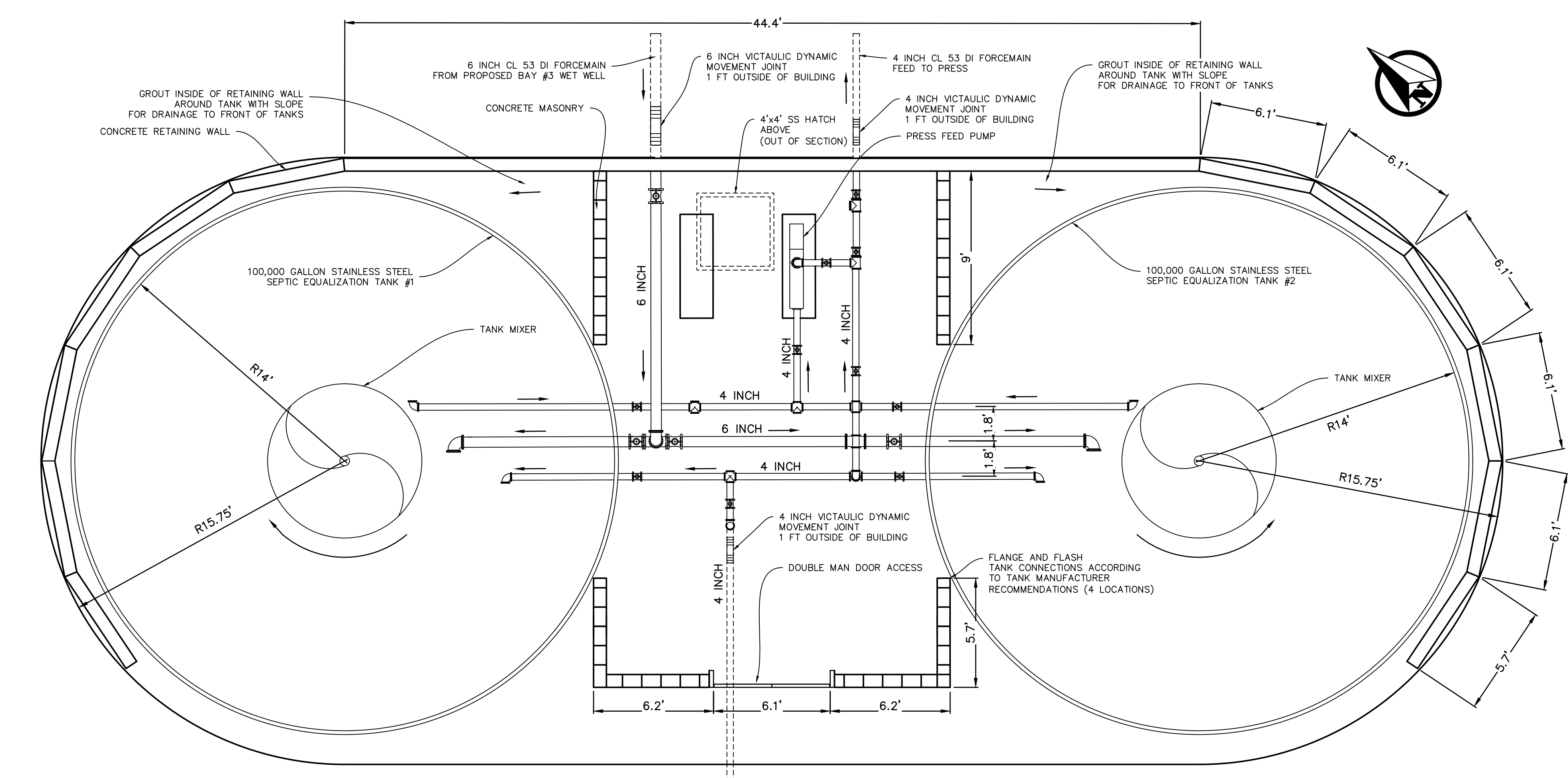
**3D ISOMETRIC
IN
SRS IMPROVEMENTS**
LIVINGSTON COUNTY DRAIN COMMISSION
LIVINGSTON COUNTY, MICHIGAN

FIELD SURVEY / DATE	M+B
PROJECT NO.:	180208.1
DESIGN DRAWN BY:	JSL
DESIGNED BY:	JSL
CHECKED BY:	JSL
PLAN DATE:	3/19/2019
SHEET NUMBER	14 OF 28

Attachment: 8. Site plans dated May 2, 2019 (3059 - Site Plan #19-005, Livingston County Drain Commission Septic Receiving Station)

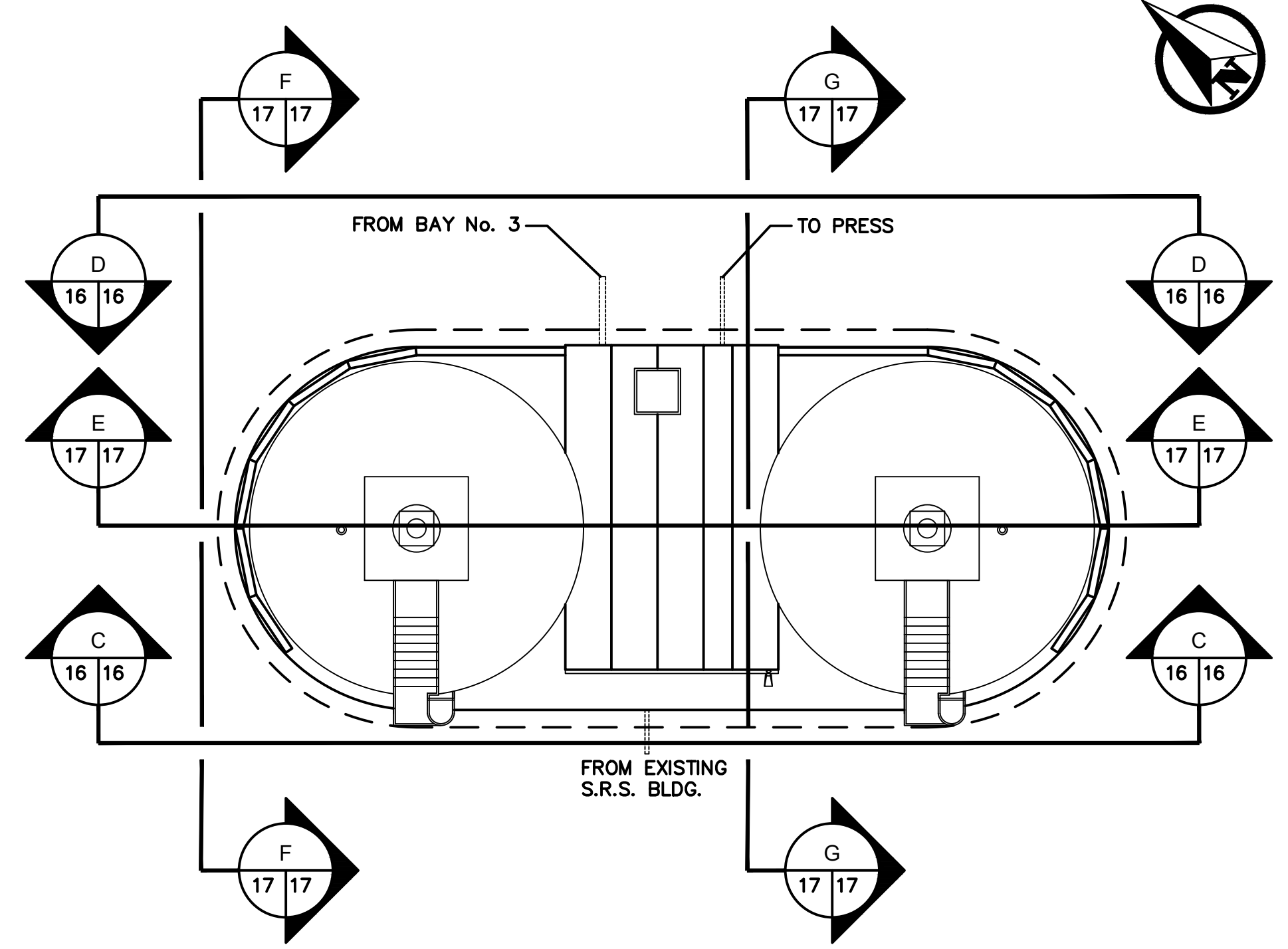
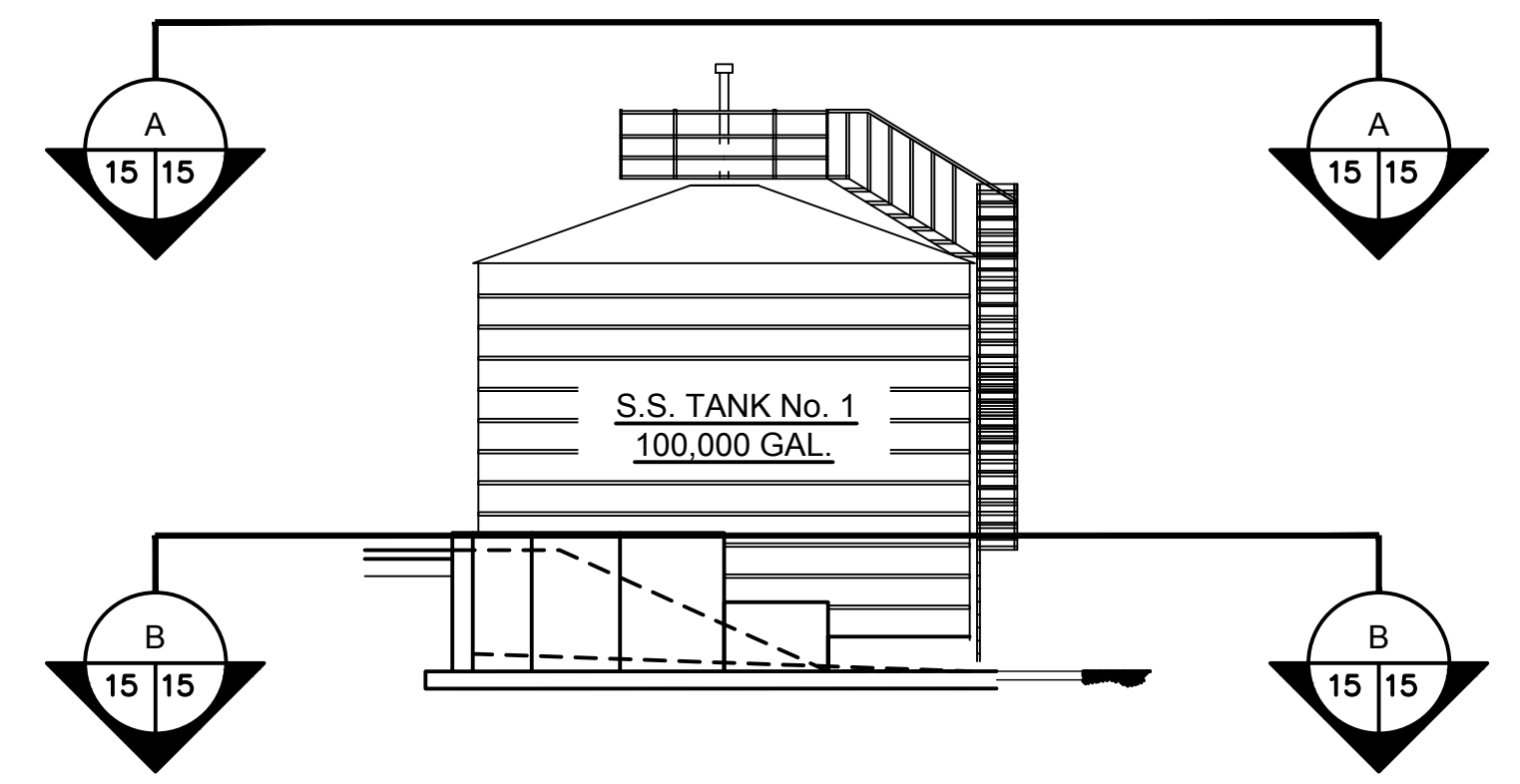


SECTION A-A
SCALE : 1" = 4'



SECTION B-B
SCALE : 1" = 4'

NOTES:
1. SEE VALVE SCHEDULE IN SPECIFICATIONS SECTION 220523



S.S. TANK PLAN VIEW
SCALE : 1" = 10'

P:\180208_1\CDC - SRS Solids Handling Facility - Pre Design Phase\CADD\DWG\180208.01 Design - Sections (2019).dwg 5/3/2019 3:55:19 PM JEFF LANDERS

OR AS NOTED

PLAN SCALE: AS NOTED

Know what's below.
Call before you dig.

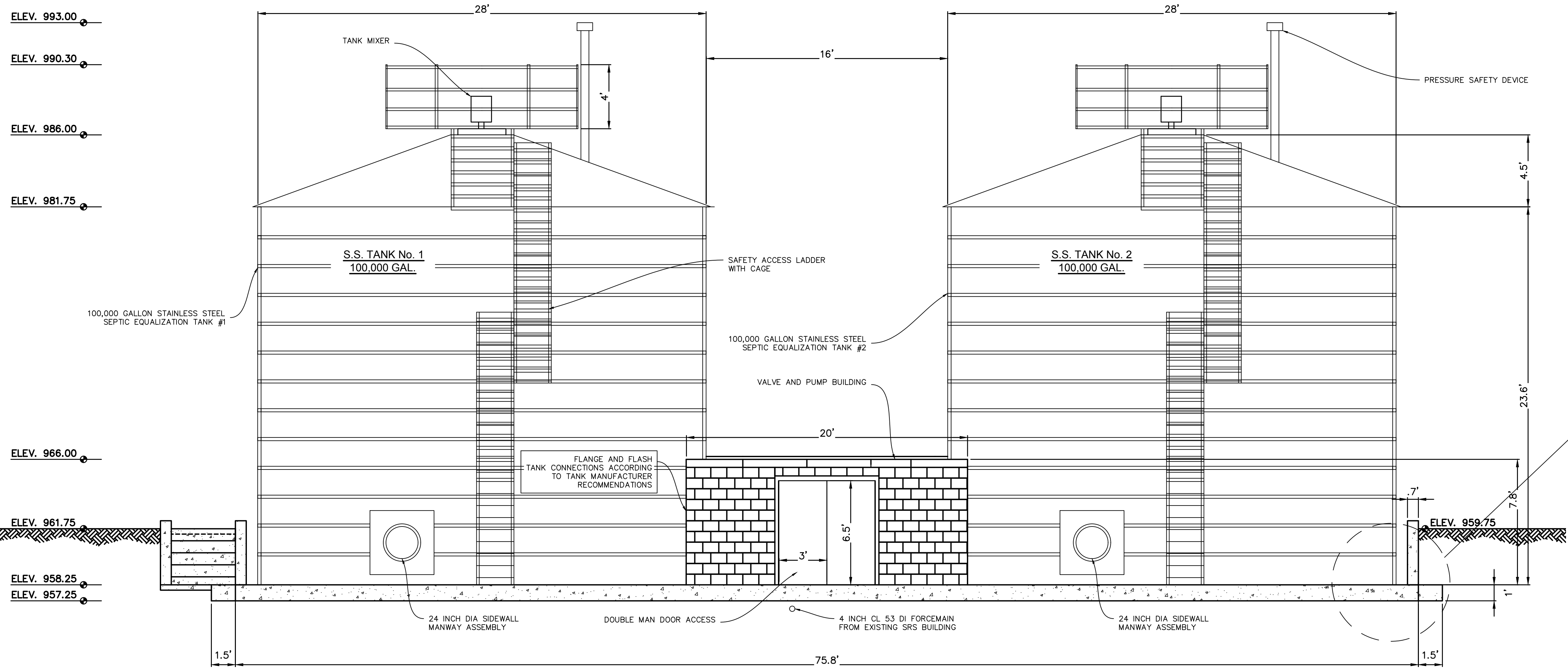
PLAN REVISIONS
1 SITE PLAN REVIEW JSL MAY 6, 2019

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Consulting Engineers
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(616) 363-9801 mail@mbcae.com

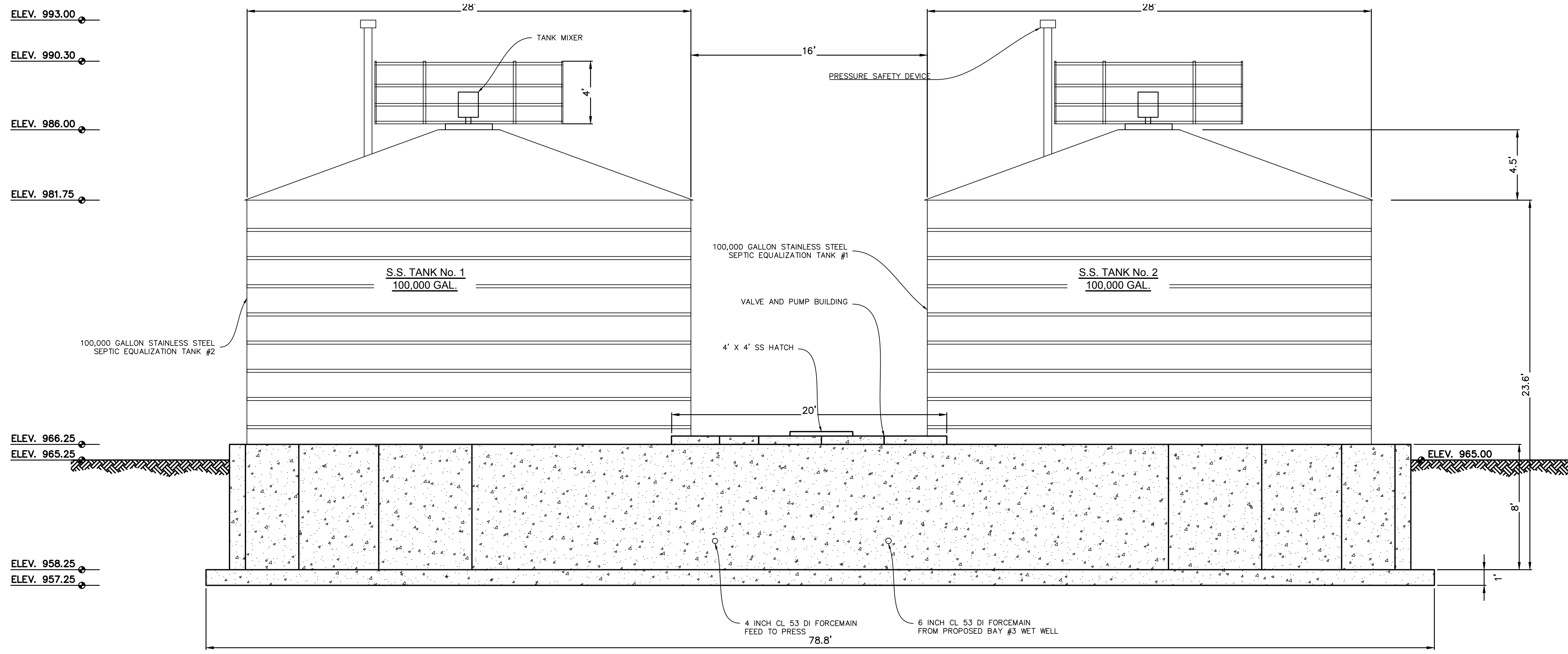
EQ TANK SECTIONS IN SRS IMPROVEMENTS
LIVINGSTON COUNTY DRAIN COMMISSION
LIVINGSTON COUNTY, MICHIGAN

FIELD SURVEY / DATE	M+B
PROJECT NO.:	180208.1
DESIGN DRAWN BY:	JSL
DESIGNED BY:	JSL
CHECKED BY:	JSL
PLAN DATE:	3/19/2019
SHEET NUMBER	15 OF 28

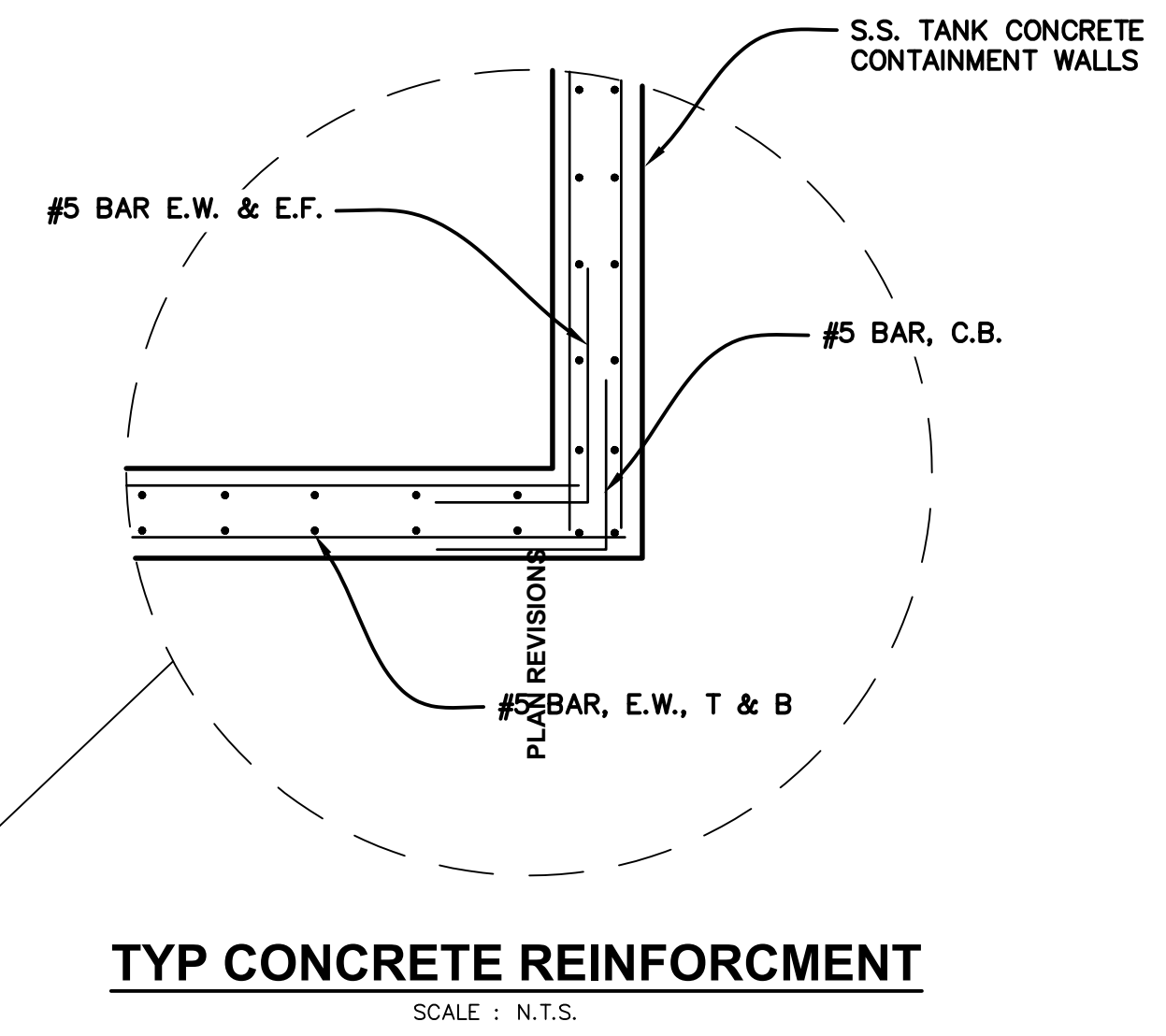
Attachment: 8. Site plans dated May 2, 2019 (3059 - Site Plan #19-005, Livingston County Drain Commission Septic Receiving Station)



SECTION C-C
SCALE : 1" = 4'



SECTION D-D
SCALE : 1" = 4'



TYP CONCRETE REINFORCEMENT
SCALE : N.T.S.

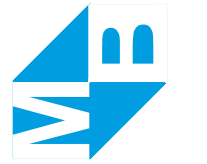


PLAN SCALE: AS NOTED



1 SITE PLAN REVIEW JSL MAY 6, 2019

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Consulting Engineers
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Grand Rapids, MI 49505
(616) 363-9801
mailto:info@mbce.com

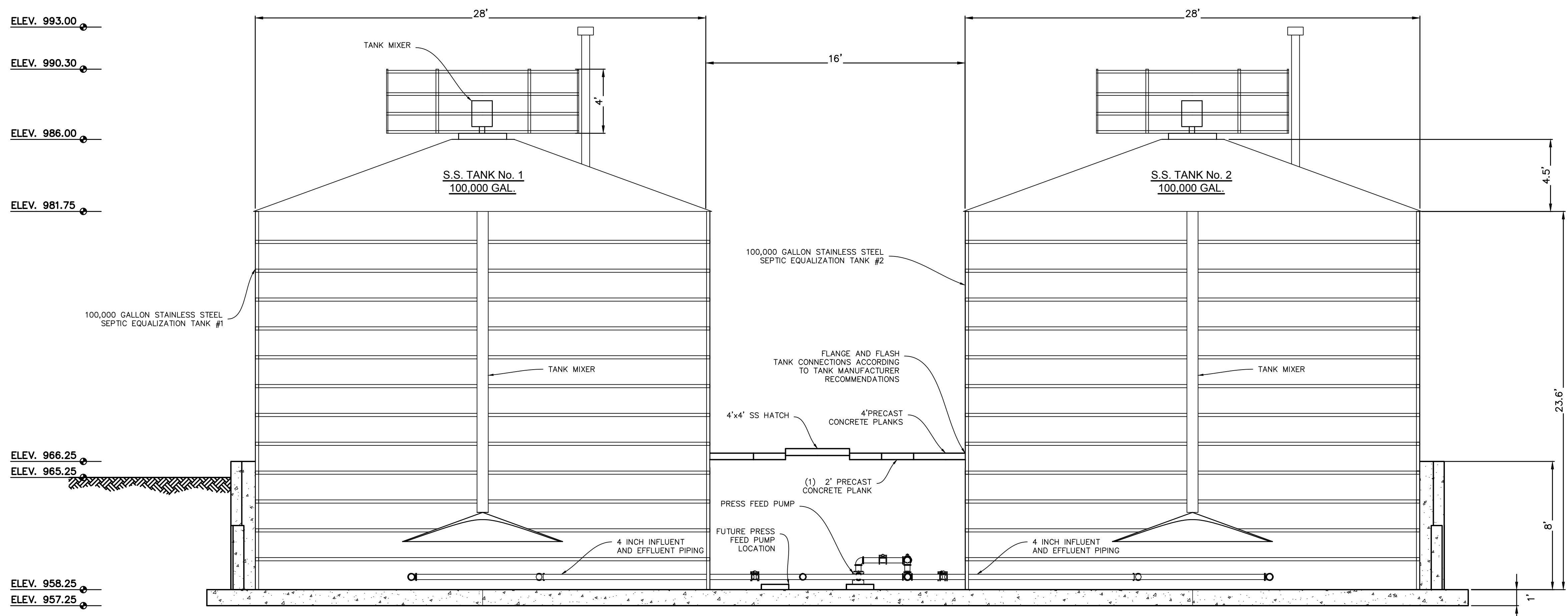


EQ TANK SECTIONS
SRS IMPROVEMENTS
LIVINGSTON COUNTY DRAIN COMMISSION
LIVINGSTON COUNTY, MICHIGAN

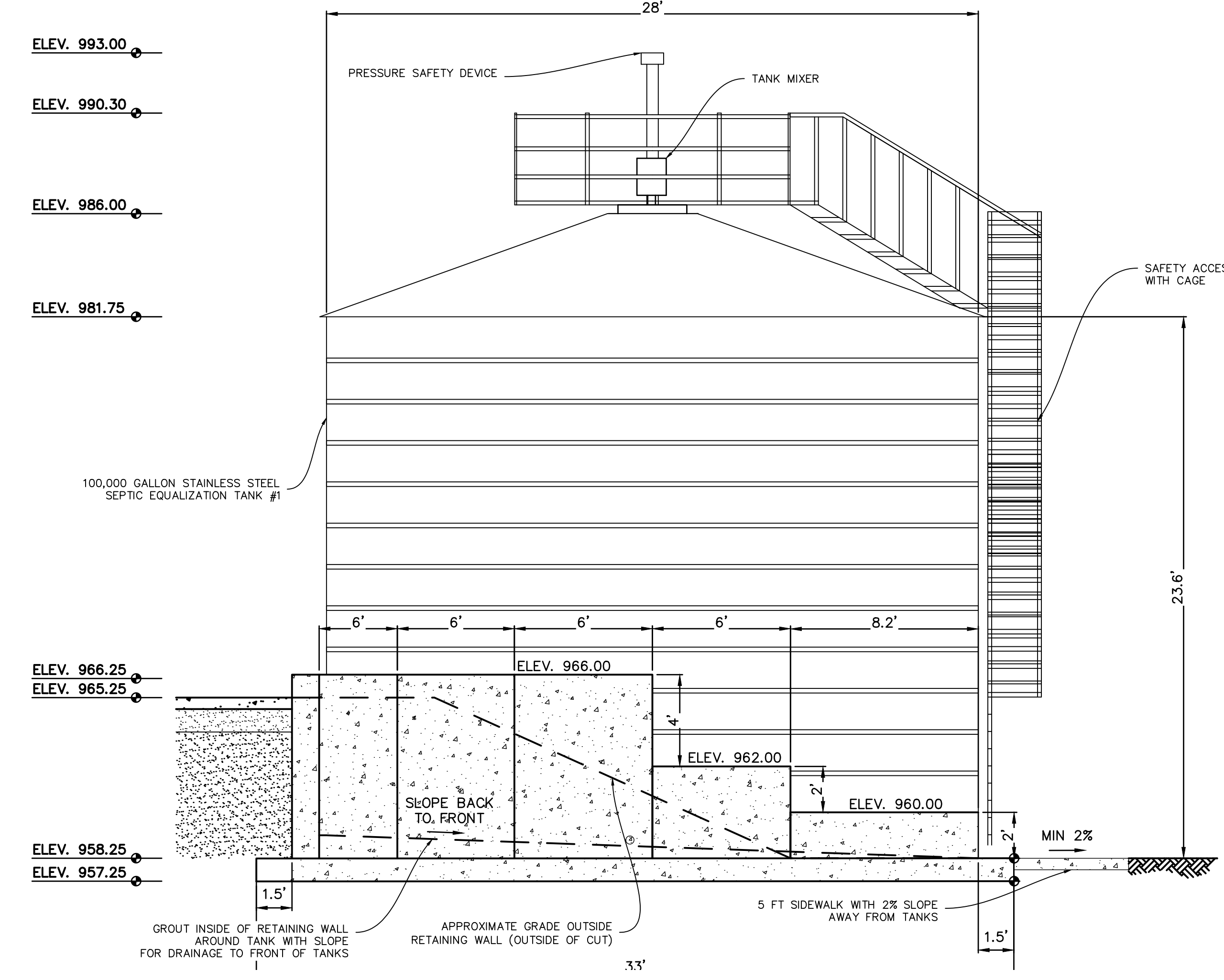
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PROJECT NO.:	180208.1
DESIGN DRAWN BY:	JSL
DESIGNED BY:	JSL
CHECKED BY:	JSL
PLAN DATE:	3/19/2019
SHEET NUMBER	16 OF 28

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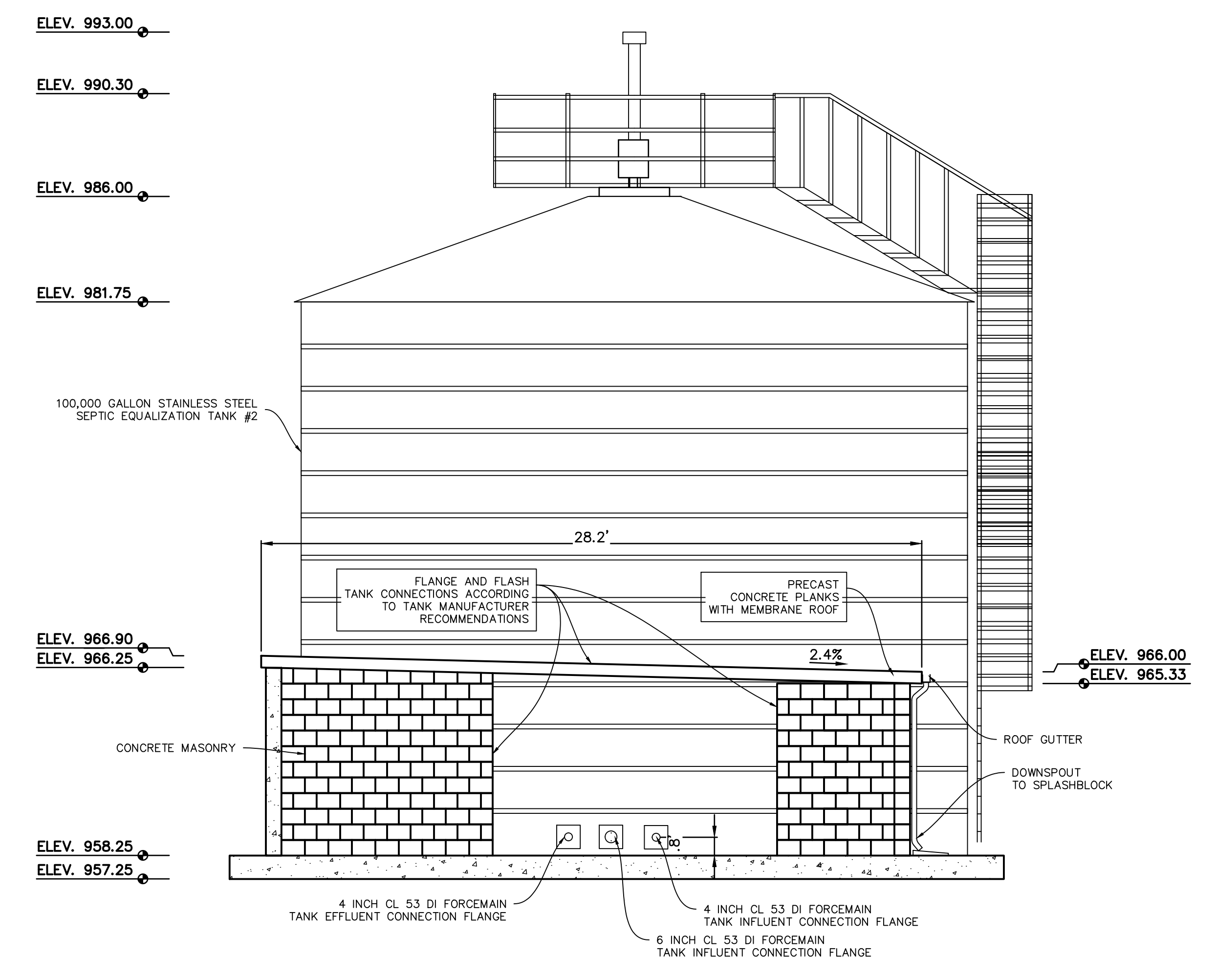
Attachment: 8. Site plans dated May 2, 2019 (3059 - Site Plan #19-005, Livingston County Drain Commission Septic Receiving Station)



SECTION E-E
SCALE : 1" = 4'

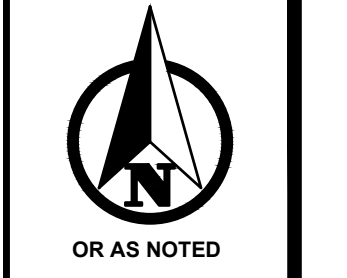


VIEW F-F
SCALE : 1" = 4'



VIEW G-G
SCALE : 1" = 4'

P:\180208_1\CDC - SRS Solids Handling Facility - Pre Design Phase\CADD\DWG\180208.01 Design - Sections (2019).dwg 5/3/2019 3:55:28 PM, JEFF LANDERS



OR AS NOTED
PLAN SCALE: AS NOTED



PLAN REVISIONS

1	SITE PLAN REVIEW	JSL	MAY 6, 2019
---	------------------	-----	-------------

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Grand Rapids, MI 49505
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mailto:mail@mbcae.com

EQ TANK SECTIONS
SRS IMPROVEMENTS
LIVINGSTON COUNTY DRAIN COMMISSION
LIVINGSTON COUNTY, MICHIGAN

FIELD SURVEY / DATE	M+B
PROJECT NO.:	180208.1
DESIGN DRAWN BY:	JSL
DESIGNED BY:	JSL
CHECKED BY:	JSL
PLAN DATE:	3/19/2019
SHEET NUMBER	17 OF 28

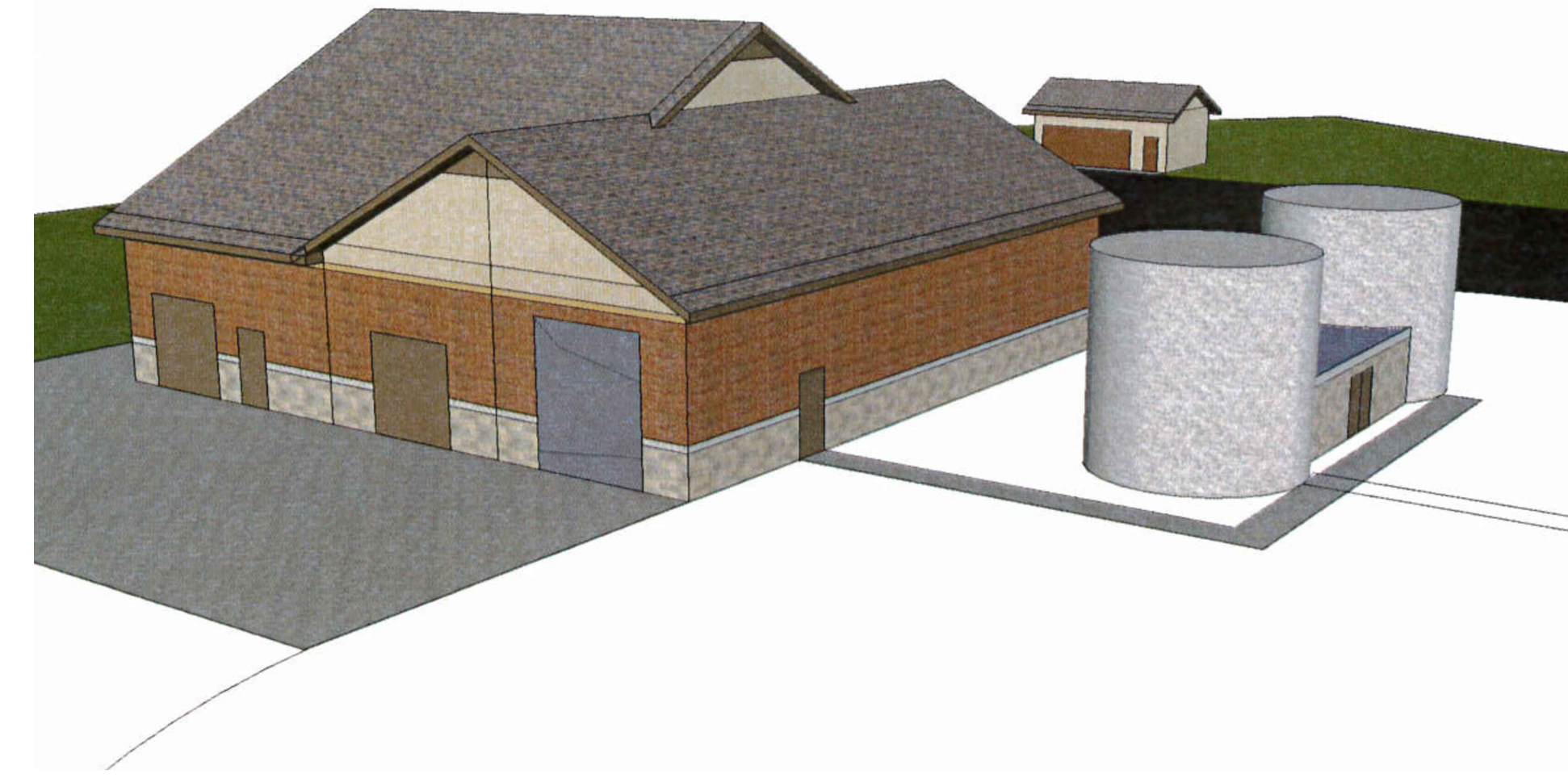
Attachment: 8. Site plans dated May 2, 2019 (3059 - Site Plan #19-005, Livingston County Drain Commission Septic Receiving Station)



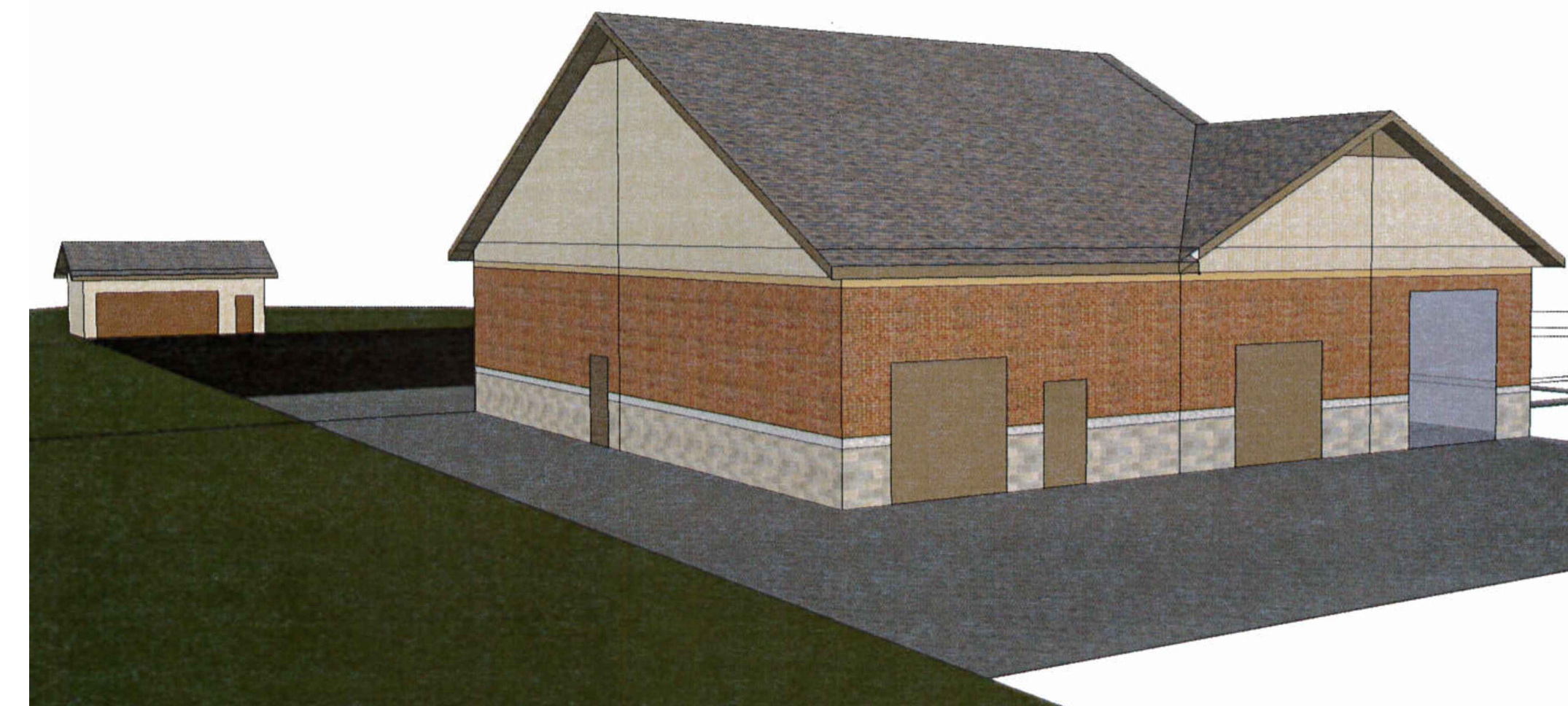
EXISTING BUILDING SOUTH ELEVATION



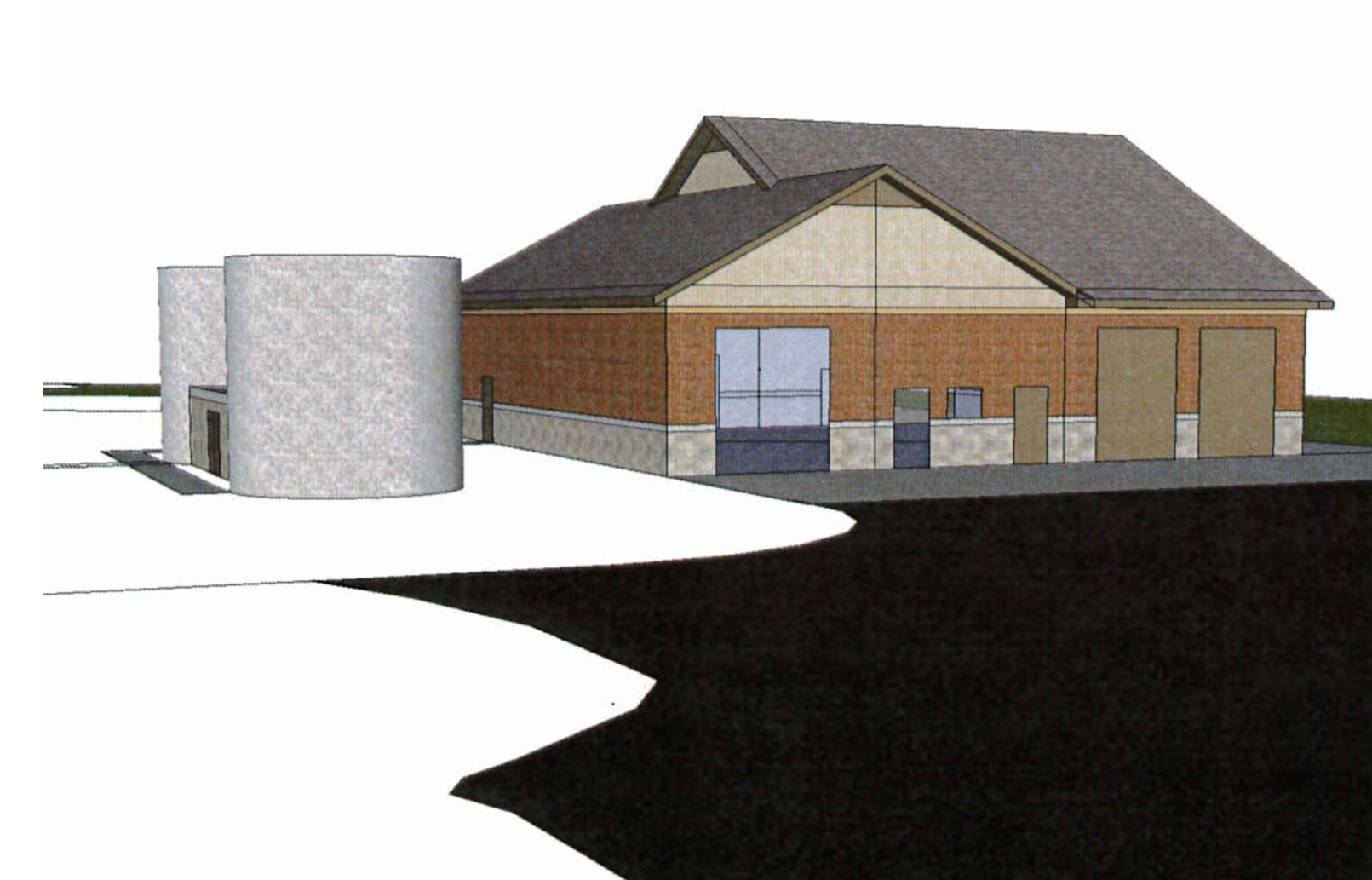
EXISTING BUILDING FROM NORTHWEST



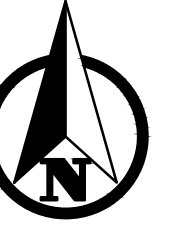
PROPOSED BUILDING FROM NORTHWEST



PROPOSED BUILDING FROM NORTHEAST



PROPOSED BUILDING FROM SOUTHWEST



PLAN SCALE: AS NOTED

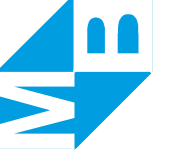


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PLAN REVISIONS	
1	SITE PLAN REVIEW CCN MAY 6, 2019

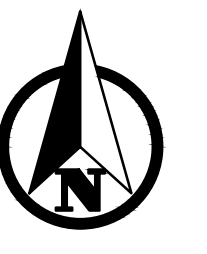
CENTURY A&E
Facilities Design
277 Crahan Avenue NE - Grand Rapids, MI 49525
Telephone: (616) 456-5227 / Fax: (616) 456-5228 / Web: www.centuryae.com

Moore + Bruggink
Consulting Engineers
2020 Monroe Ave.
Grand Rapids, MI 49505
(616) 363-9801 mailbox@mbcoe.com



BUILDING MATERIALS
IN
SRS IMPROVEMENTS
LIVINGSTON COUNTY DRAIN COMMISSION
LIVINGSTON COUNTY, MICHIGAN

FIELD SURVEY / DATE	N/A
PROJECT NO.:	180208-1/MBI046
DESIGN DRAWN BY:	CWN
DESIGNED BY:	CCN
CHECKED BY:	CCN
PLAN DATE:	5/2/2019
SHEET NUMBER	22 OF 28



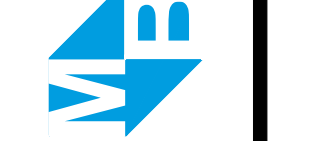
PLAN SCALE: AS NOTED



NO.	REVISION	DATE
1	SITE PLAN REVIEW	MAY 6, 2019

CENTURY A & F
Facilities Design
277 Crahan Avenue NE - Grand Rapids, MI 49525
Telephone: (616) 456-5227 / Fax: (616) 456-5228 / Web: www.centuryaef.com

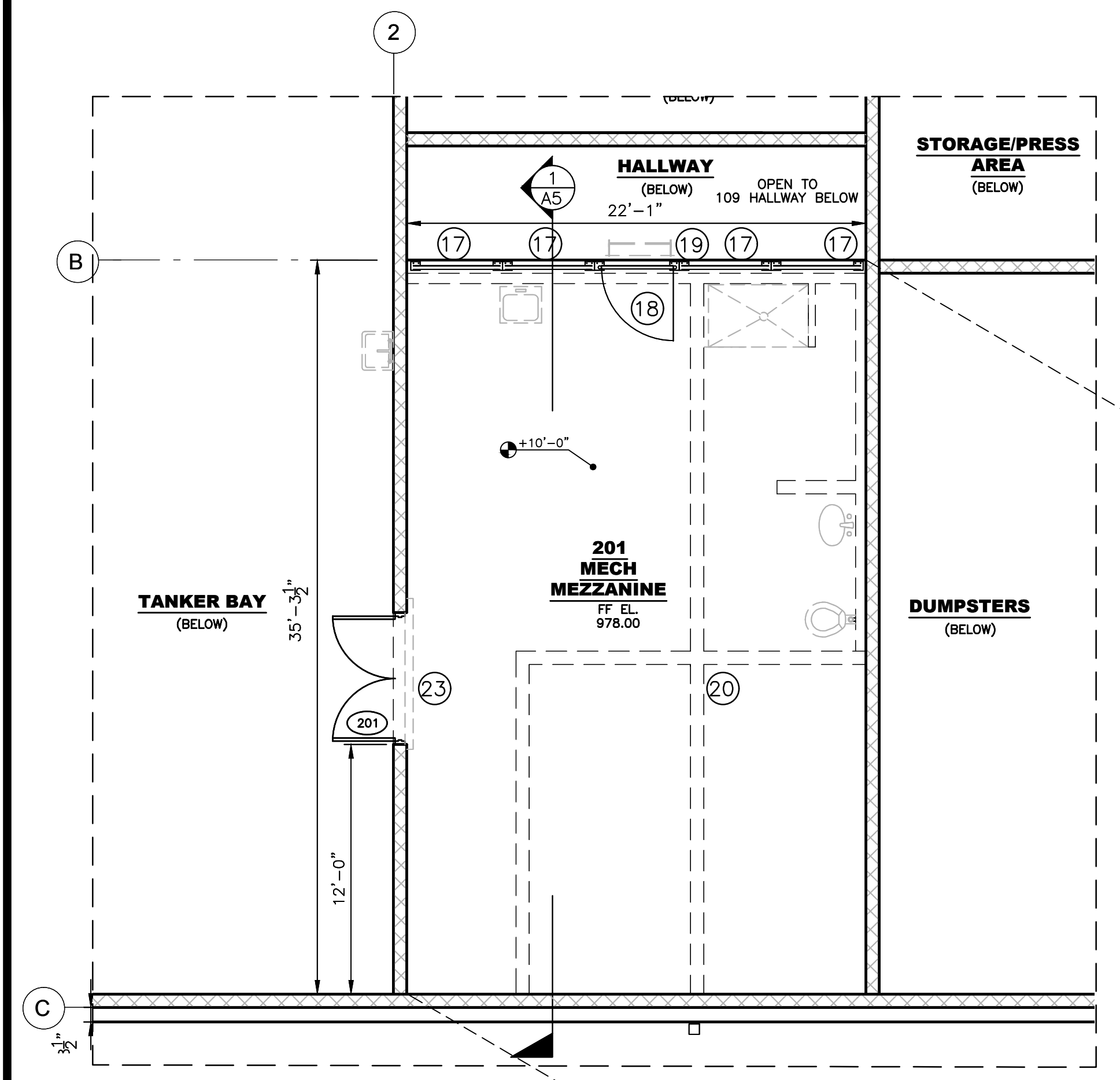
Moore+Bruggink
Consulting Engineers
2020 Monroe Ave.
Grand Rapids, MI 49505
(616) 363-9801
mailto:mb@mbce.com



ARCHITECTURAL FLOOR PLANS
SRS IMPROVEMENTS
LIVINGSTON COUNTY DRAIN COMMISSION
LIVINGSTON COUNTY, MICHIGAN

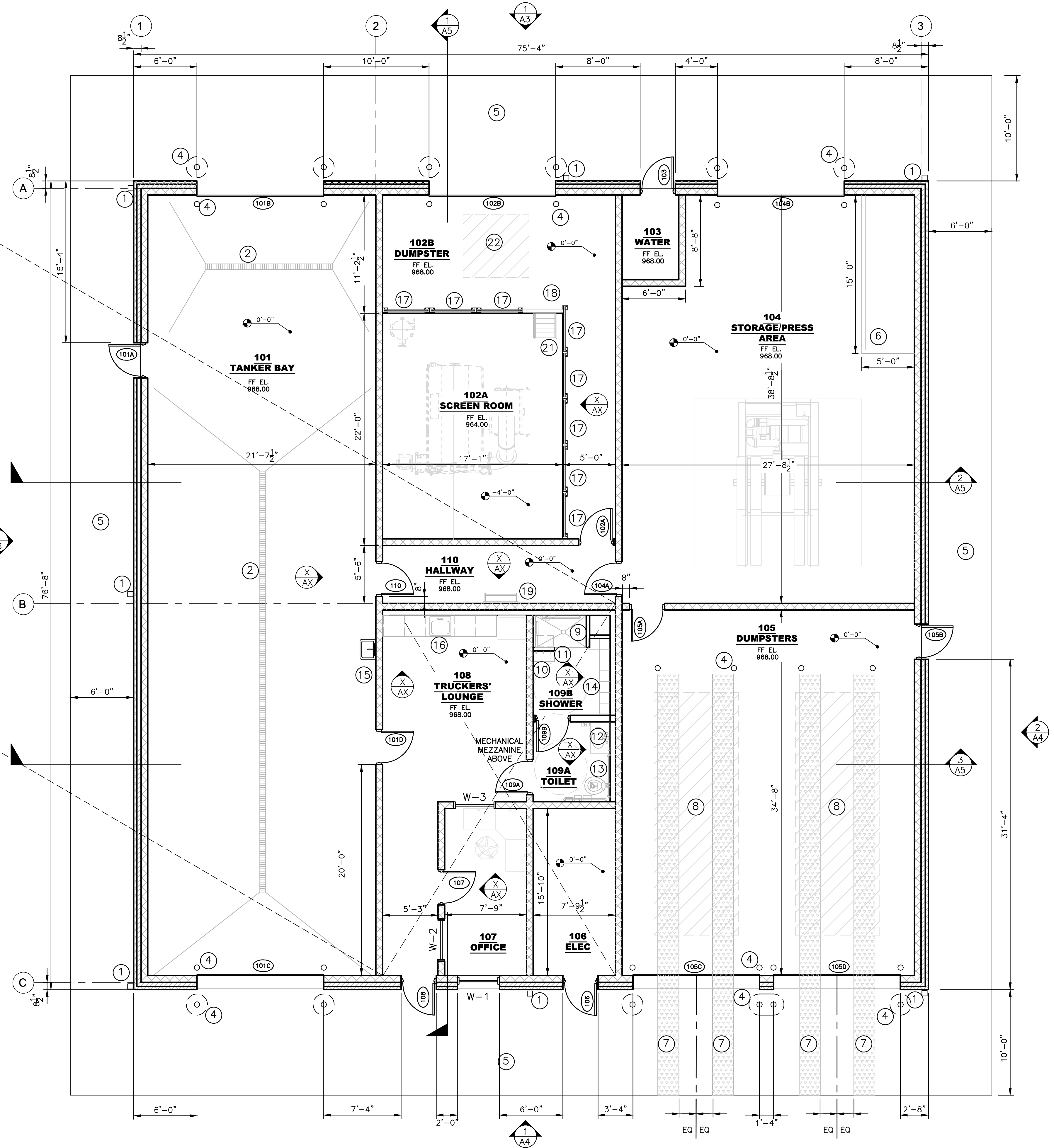
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PROJECT NO.:	180208.1/MB1046
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DESIGNED BY:	
CHECKED BY:	
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SHEET NUMBER	23 OF 28

Attachment: 8. Site plans dated May 2, 2019 (3059 - Site Plan #19-005, Livingston County Drain Commission Septic Receiving Station)



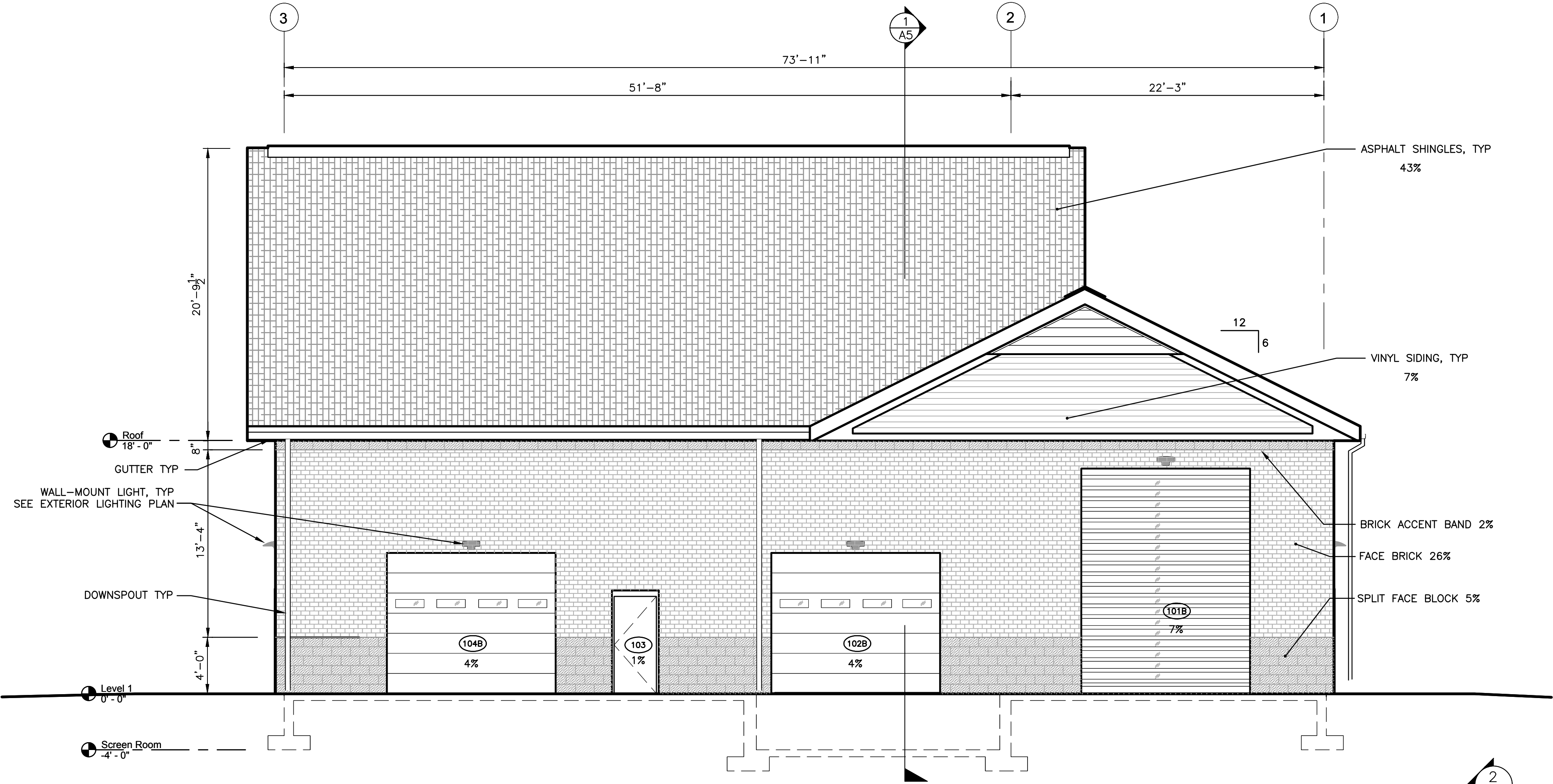
2 PRESS BUILDING MECH MEZZANINE
SCALE: 3/16" = 1'-0"

- # PLAN KEY
1. DOWNSPOUT
 2. TRENCH DRAIN
 3. FIRE EXTINGUISHER
 4. STEEL BOLLARD, 6" X SCHEDULE 40 PIPE, FILLED WITH CONCRETE WITH VINYL SLEEVE, EXTERIOR AND INTERIOR, TYP
 5. CONCRETE SIDEWALK/APRON
 6. CONCRETE CURB
 7. 24" X METAL PLATE OVER CONCRETE FLOOR
 8. 30 YARD DUMPSTER, 22'L x 8'W x 6'H, TYP
 9. A.D.A. SHOWER
 10. BENCH, 12"D x 24"W
 11. CLOTHES HOOKS, TYP
 12. BATHROOM SINK WITH CABINET
 13. A.D.A. FLOOR-MOUNT TOILET
 14. LOCKERS, TYP
 15. SAMPLE SINK
 16. KITCHEN SINK WITH CABINETS
 17. GUARDRAIL 4'-5" SECTION, TYP
 18. GUARDRAIL GATE
 19. WALL LADDER
 20. LINE OF WALL BELOW
 21. FIBERGLASS SHIPS LADDER
 22. 6 YARD DUMPSTER
 23. SAFETY GUARD CHAIN, WARNING SIGN

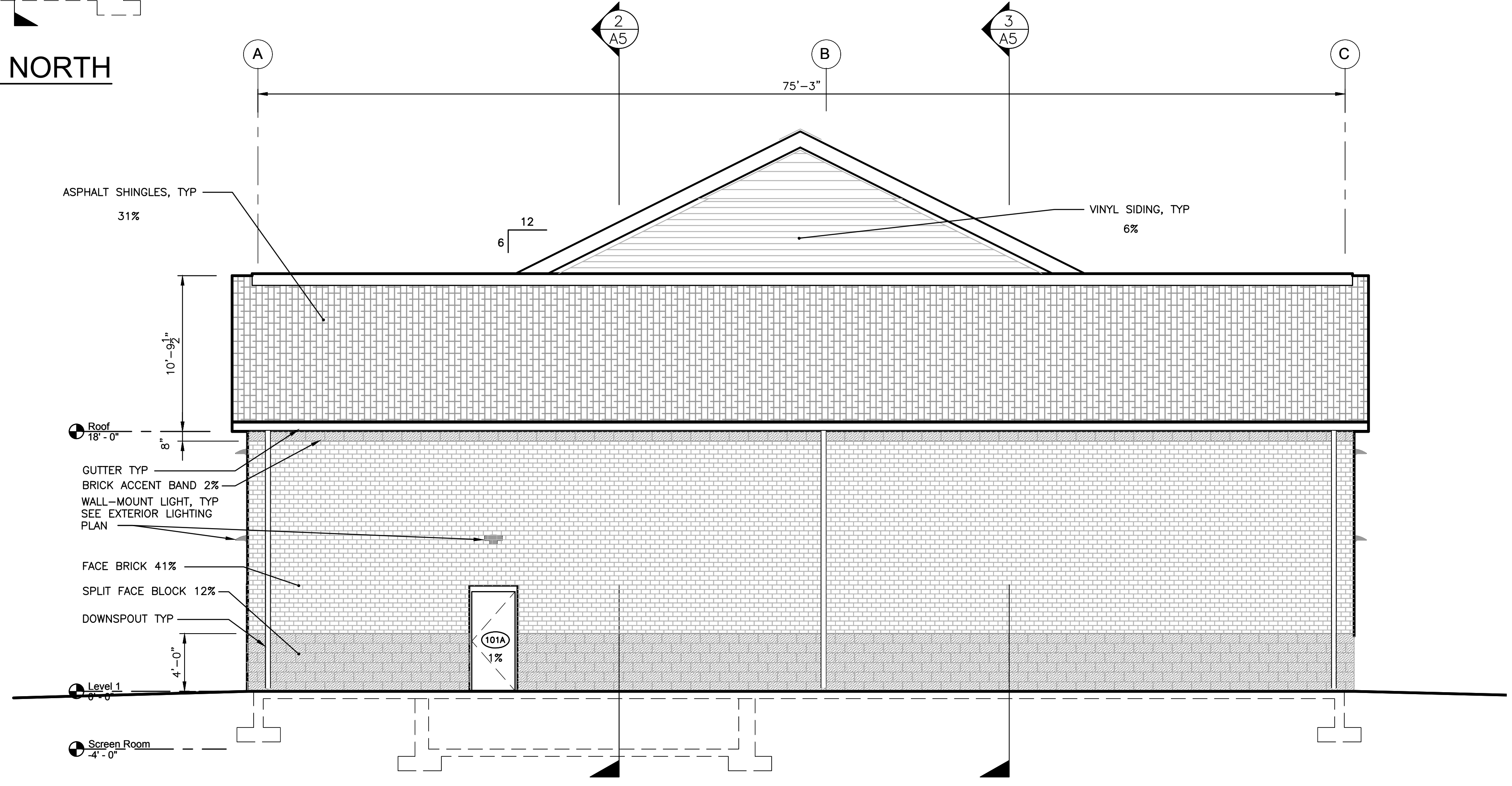


1 PRESS BUILDING FLOOR PLAN
SCALE: 3/16" = 1'-0"

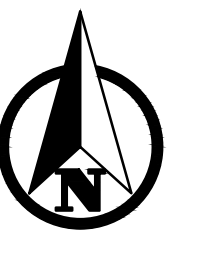
F:\Projects\MB1046\Cadd\Arch\MB1046_A.dwg, 5/2/2019 12:01:50 PM, CLAIRE.NOIL



1 EXTERIOR ELEVATION - NORTH
SCALE: 3/16" = 1'-0"



2 EXTERIOR ELEVATION - WEST
SCALE: 3/16" = 1'-0"



PLAN SCALE: AS NOTED



PLAN REVISIONS

1	SITE PLAN REVIEW	CCN	MAY 6, 2019
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277 Crahan Avenue NE - Grand Rapids, MI 49525
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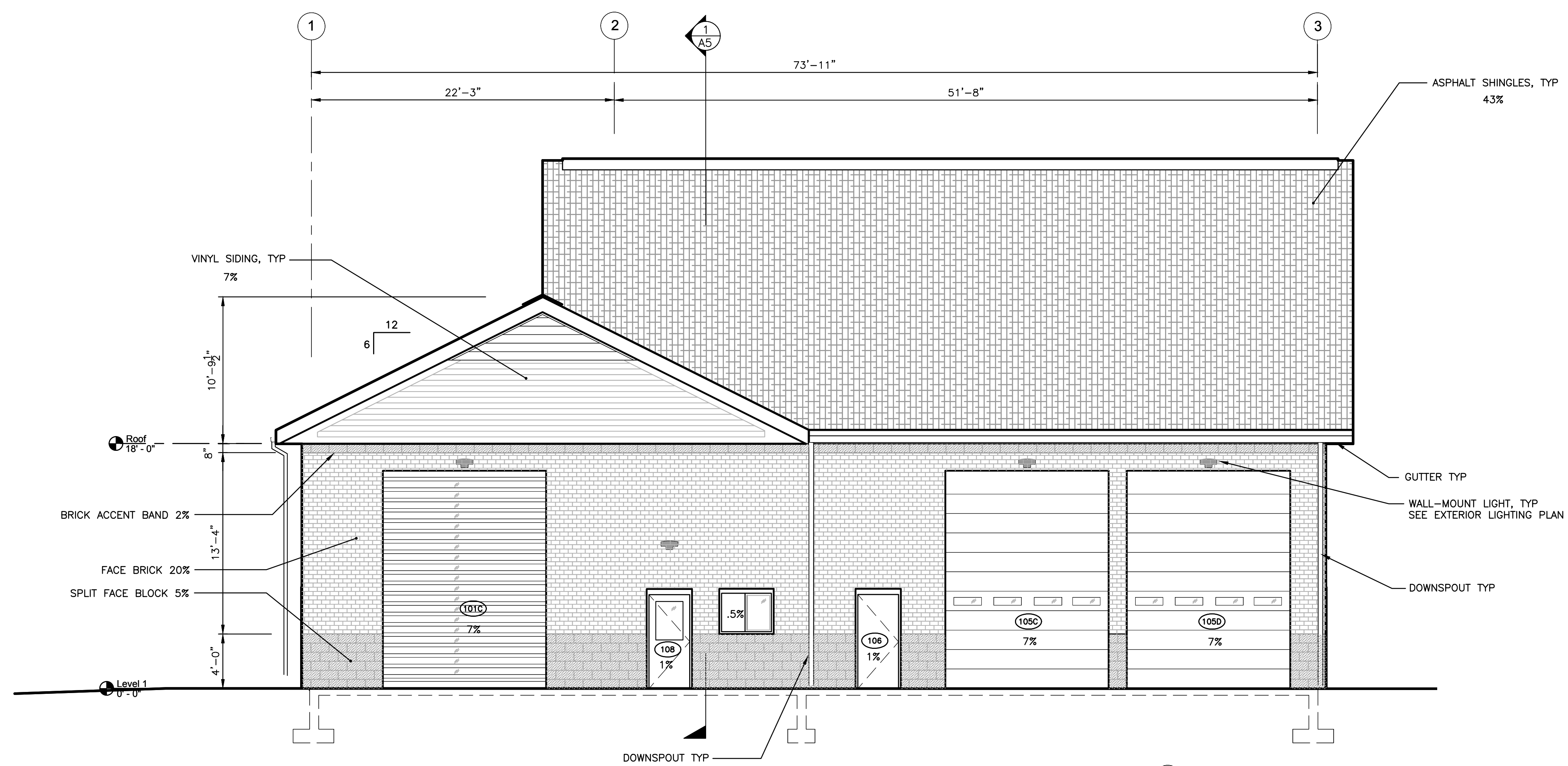
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Consulting Engineers
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Grand Rapids, MI 49505
(616) 363-9801 mail@mbce.com

EXTERIOR ELEVATIONS IN IMPROVEMENTS
SRS IMPROVEMENTS
LIVINGSTON COUNTY DRAIN COMMISSION
LIVINGSTON COUNTY, MICHIGAN

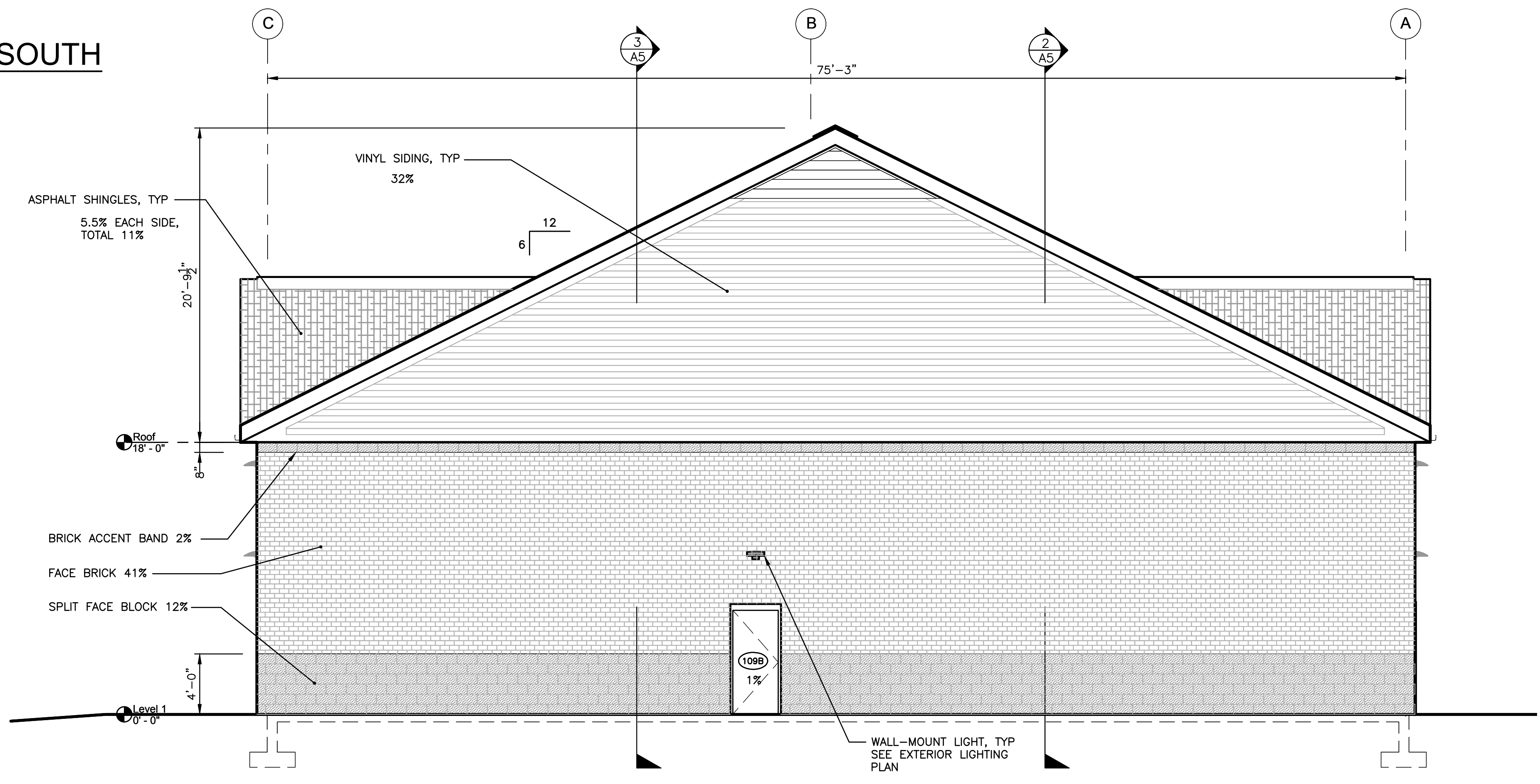
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PROJECT NO.:	180208.1/MB1046
DESIGN DRAWN BY:	
DESIGNED BY:	
CHECKED BY:	
PLAN DATE:	5/2/2019
SHEET NUMBER	24 OF 28

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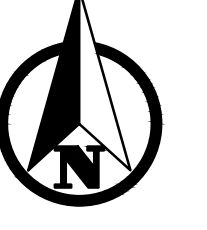
Attachment: 8. Site plans dated May 2, 2019 (3059 - Site Plan #19-005, Livingston County Drain Commission Septic Receiving Station)




1 EXTERIOR ELEVATION - SOUTH
SCALE: 3/16" = 1'-0"



2 EXTERIOR ELEVATION - EAST
SCALE: 3/16" = 1'-0"



PLAN SCALE: AS NOTED



Know what's below.
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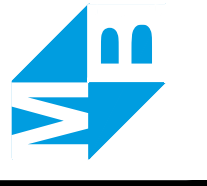
PLAN REVISIONS	
1 SITE PLAN REVIEW	CCN MAY 6, 2019

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EXTERIOR ELEVATIONS IN SRS IMPROVEMENTS	
LIVINGSTON COUNTY DRAIN COMMISSION LIVINGSTON COUNTY, MICHIGAN	
FIELD SURVEY / DATE	N/A
PROJECT NO.:	180208.1/MB1046
DESIGN DRAWN BY:	
DESIGNED BY:	
CHECKED BY:	
PLAN DATE:	5/2/2019
SHEET NUMBER	25 OF 28

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Attachment: 8. Site plans dated May 2, 2019 (3059 - Site Plan #19-005, Livingston County Drain Commission Septic Receiving Station)

LUMINAIRE LEGEND							
MARK	DESCRIPTION	MANUFACTURER	MODEL NUMBER	APPROVED EQUALS	LAMP	COMMENTS	MARK
A	LED WALL LUMINAIRE	LITHONIA	DSXW1-LED-10C-350-40K-T2S-MVOLT		4000K LED 1520 LUMENS 13W 120-277V	MOUNT AT 10'-6" ABOVE GRADE	A
B	LED WALL LUMINAIRE	LITHONIA	DSXW1-LED-10C-530-40K-T2S-MVOLT		4000K LED 2220 LUMENS 19W 120-277V	MOUNT AT 10'-6" ABOVE GRADE	B
C	LED WALL LUMINAIRE	LITHONIA	DSXW1-LED-20C-350-40K-T2S-MVOLT		4000K LED 3028 LUMENS 23W 120-277V	MOUNT 16'-6" ABOVE GRADE	C
D	LED WALL LUMINAIRE	LITHONIA	DSXW1-LED-20C-530-40K-T2S-MVOLT		4000K LED 4380 LUMENS 35W 120-277V	MOUNT 16'-6" ABOVE GRADE	D



D-Series Size 1 LED Wall Luminaire

Specifications

Luminaire
Width: 13-3/4" (34.9 cm) | Weight: 12 lbs (5.4 kg)
Depth: 10" (25.4 cm)
Height: 6-3/8" (16.2 cm)

Back Box (BBW, ELCW)
Width: 13-3/4" (34.9 cm) | Weight: 5 lbs (2.3 kg)
Depth: 4" (10.2 cm) | Weight: 10 lbs (4.5 kg)
Height: 6-3/8" (16.2 cm)

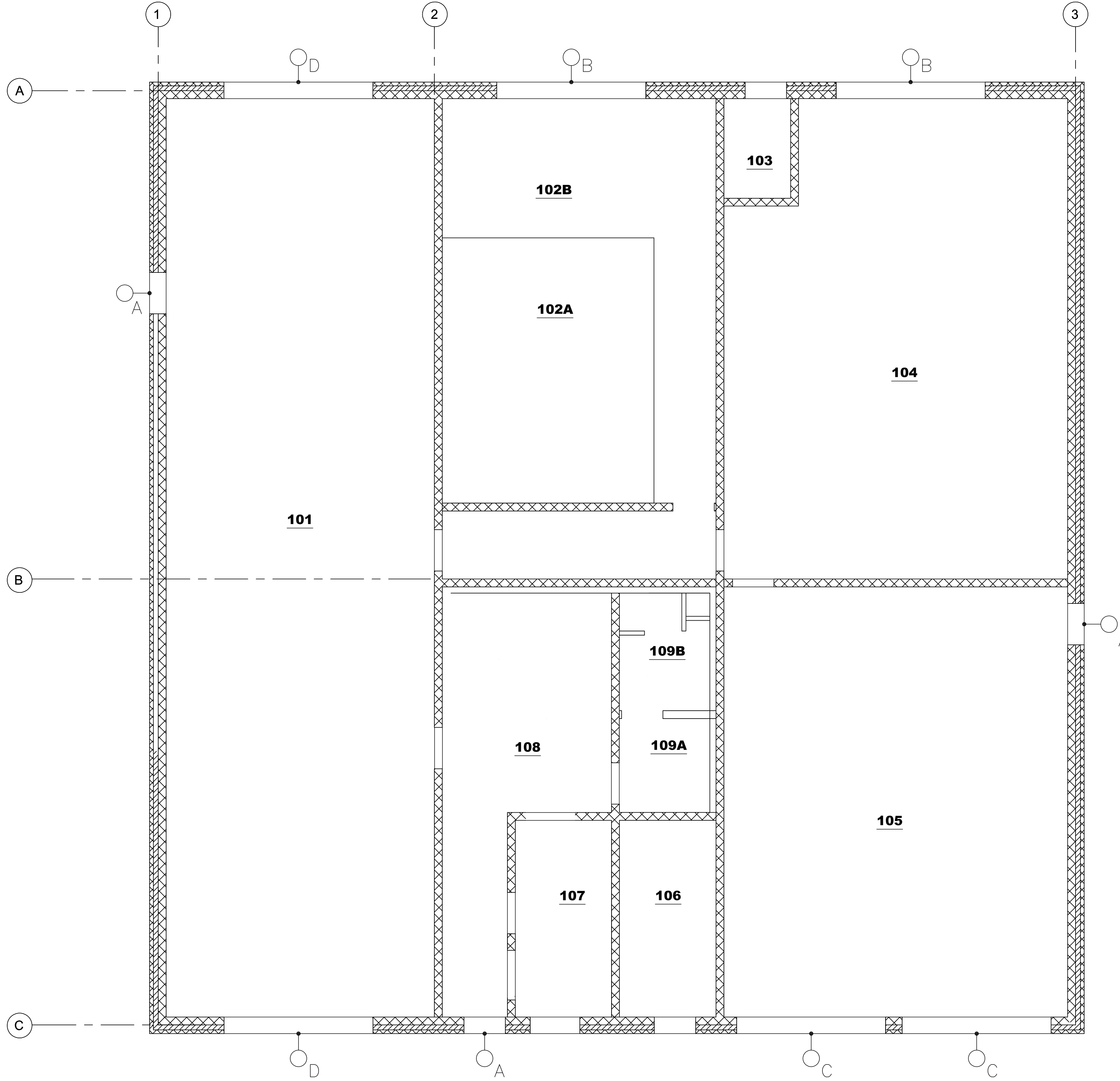
Introduction

The D-Series Wall luminaire is a stylish, fully integrated LED solution for building-mount applications. It features a sleek, modern design and is carefully engineered to provide long-lasting, energy-efficient lighting with a variety of optical and control options for customized performance.

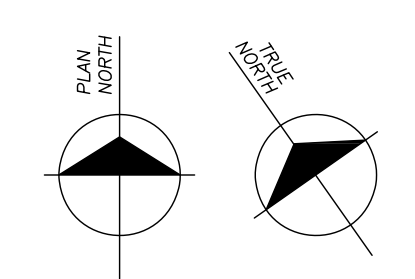
With an expected service life of over 20 years of nighttime use and up to 74% in energy savings over comparable 250V metal halide luminaires, the D-Series Wall is a reliable, low-maintenance lighting solution that produces sites that are exceptionally illuminated.

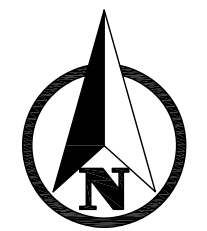
Ordering Information **EXAMPLE: DSXW1 LED 20C 1000 40K T3M MVOLT DDBTXD**

Series	LEDs	Drive Current	Color Temperature	Distribution	Voltage	Mounting	Control Options
DSXW1 LED	10C 10 LEDs (one edge) 20C 20 LEDs (two edges) ¹	350 350 mA 530 530 mA 700 700 mA 1000 1000 mA (1 A) ¹	30K 3000 K 40K 4000 K 50K 5000 K AMBPC Ambient color	T2S Type II Short T2M Type II Medium T2S Type II Short T3M Type III Medium T4M Type IV Medium T5M Type V Medium T6M Type VI Medium T7M Type VII Medium T8M Type VIII Medium T9M Type IX Medium T10M Type X Medium T11M Type XI Medium T12M Type XII Medium T13M Type XIII Medium T14M Type XIV Medium T15M Type XV Medium T16M Type XVI Medium T17M Type XVII Medium T18M Type XVIII Medium T19M Type XIX Medium T20M Type XX Medium T21M Type XXI Medium T22M Type XXII Medium T23M Type XXIII Medium T24M Type XXIV Medium T25M Type XXV Medium T26M Type XXVI Medium T27M Type XXVII Medium T28M Type XXVIII Medium T29M Type XXIX Medium T30M Type XXX Medium	MVOLT ² 120 ³ 208 ⁴ 240 ⁵ 277 ⁶ 347 ^{4,6} 480 ^{4,6}	Shipped included (blank) Surface mounting bracket BBW Surface-mounted back box (conduit entry) ⁷ ELCW	Shipped installed PE Photometric cell, button type ⁸ DMS 0-10' dimming wire pulled outside frame (for use with optional control system accessories) PIR 180° motion/ambient light sensor, <15' range ^{9,10} PIR 180° motion/ambient light sensor, 15-30' range ^{9,10} PIR/FCV Motion/ambient sensor, 0-12' mounting height, ambient sensor disabled at 10' ¹¹ PIR/FCV Motion/ambient sensor, 15-30' mounting height, ambient sensor disabled at 10' ¹¹ ELCW Emergency battery backup (includes external components enclosure, 1 Year 52-hour warranty) ¹²




1 PRESS BUILDING
REFLECTED CEILING PLAN
SCALE: 3/16" = 1'-0"





PLAN SCALE: AS NOTED



Know what's below. Call before you dig.

PLAN REVISIONS

1	SITE PLAN REVIEW	CCN	MAY 6, 2019
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EXTERIOR LIGHTING PLAN
IN
SRS IMPROVEMENTS
LIVINGSTON COUNTY DRAIN COMMISSION
LIVINGSTON COUNTY, MICHIGAN

FIELD SURVEY / DATE: N/A

PROJECT NO.: 180208.1/MB1046

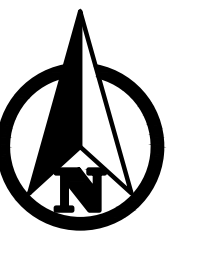
DESIGN DRAWN BY:

DESIGNED BY:

CHECKED BY:

PLAN DATE: 5/2/2019

SHEET NUMBER **26** OF **28**



PLAN SCALE: AS NOTED



PLAN REVISIONS	
1	SITE PLAN REVIEW
	CCN MAY 6, 2019

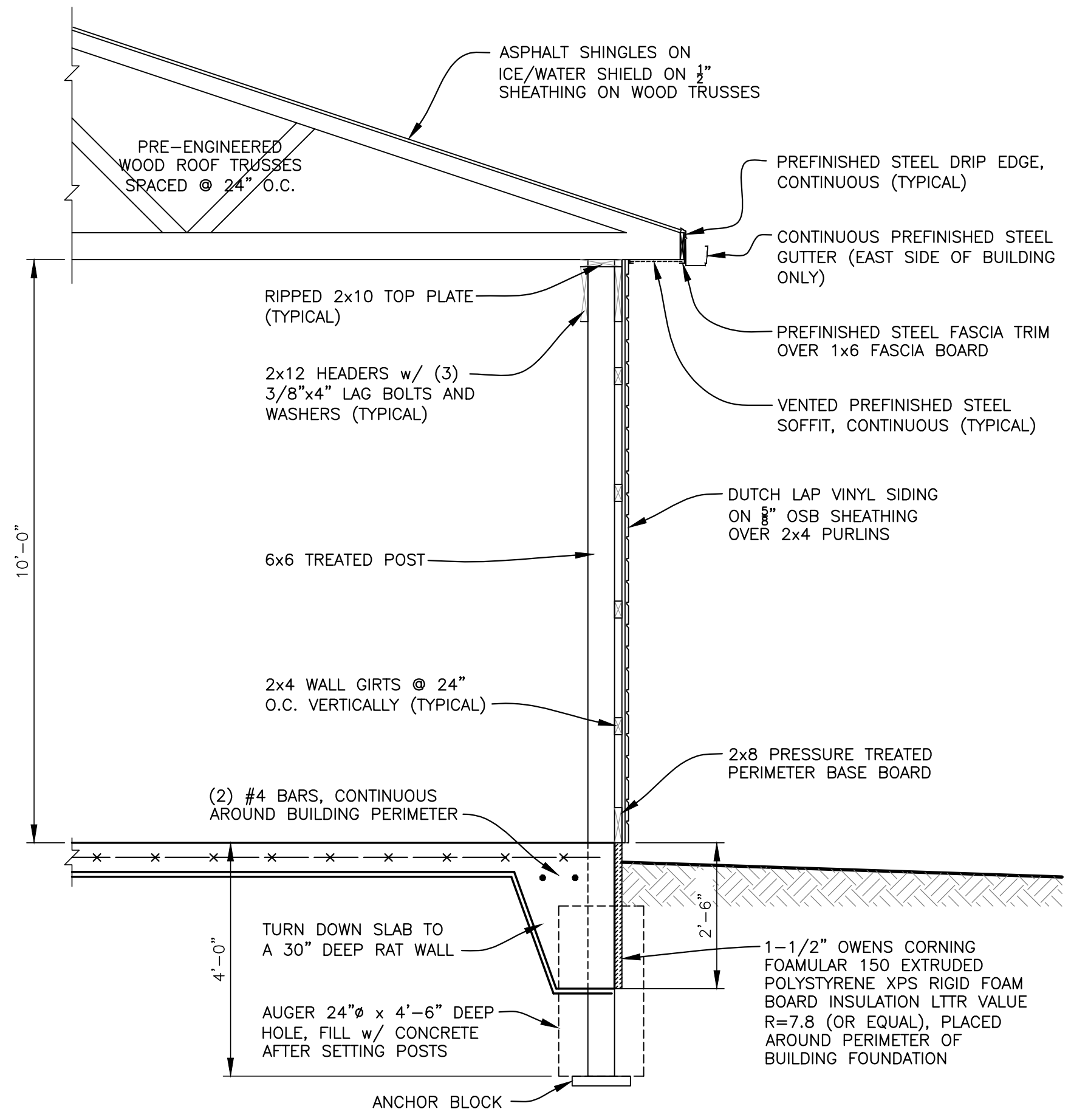
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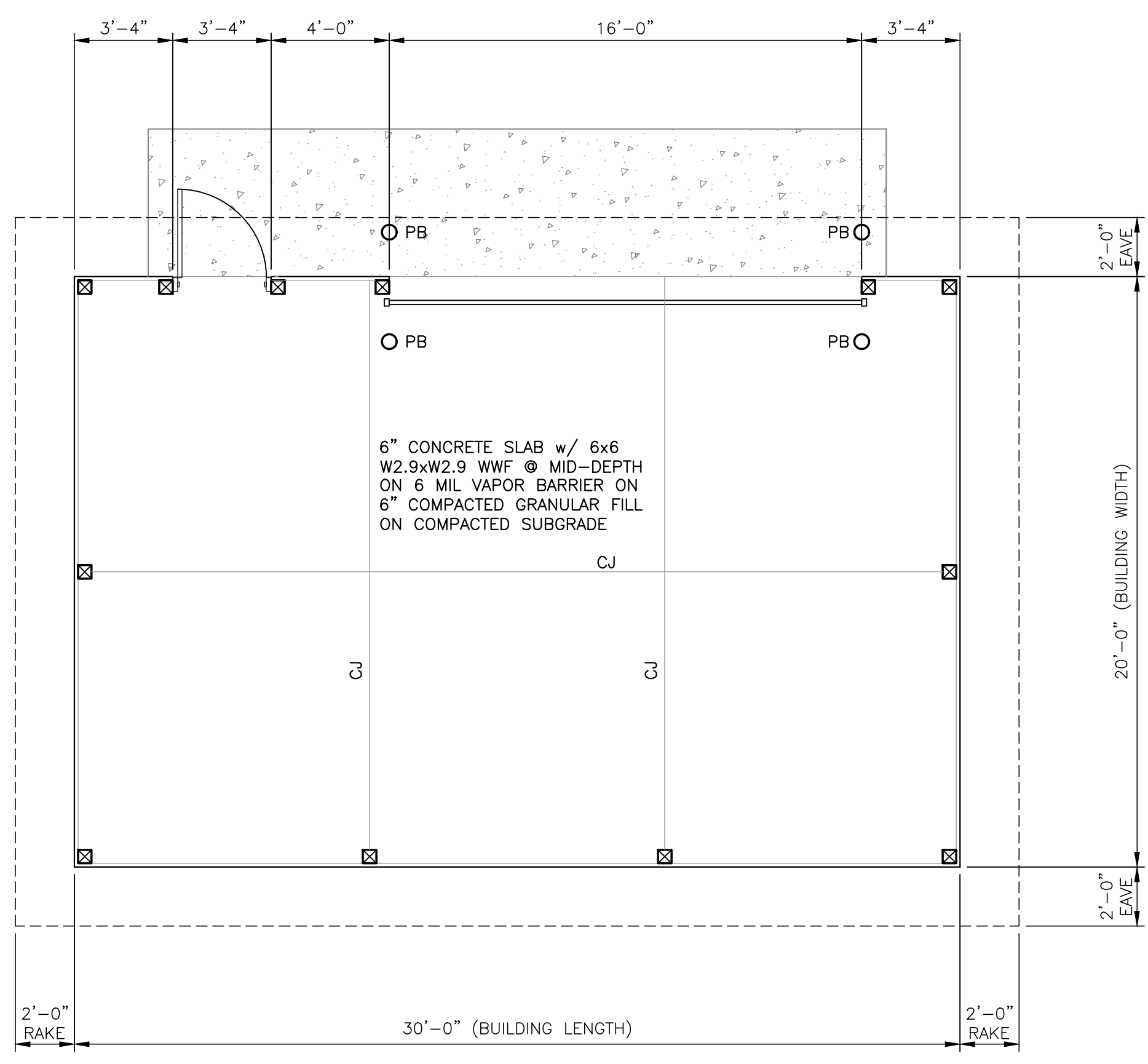


STORAGE BUILDING
IN
SRS IMPROVEMENTS
LIVINGSTON COUNTY DRAIN COMMISSION
LIVINGSTON COUNTY, MICHIGAN

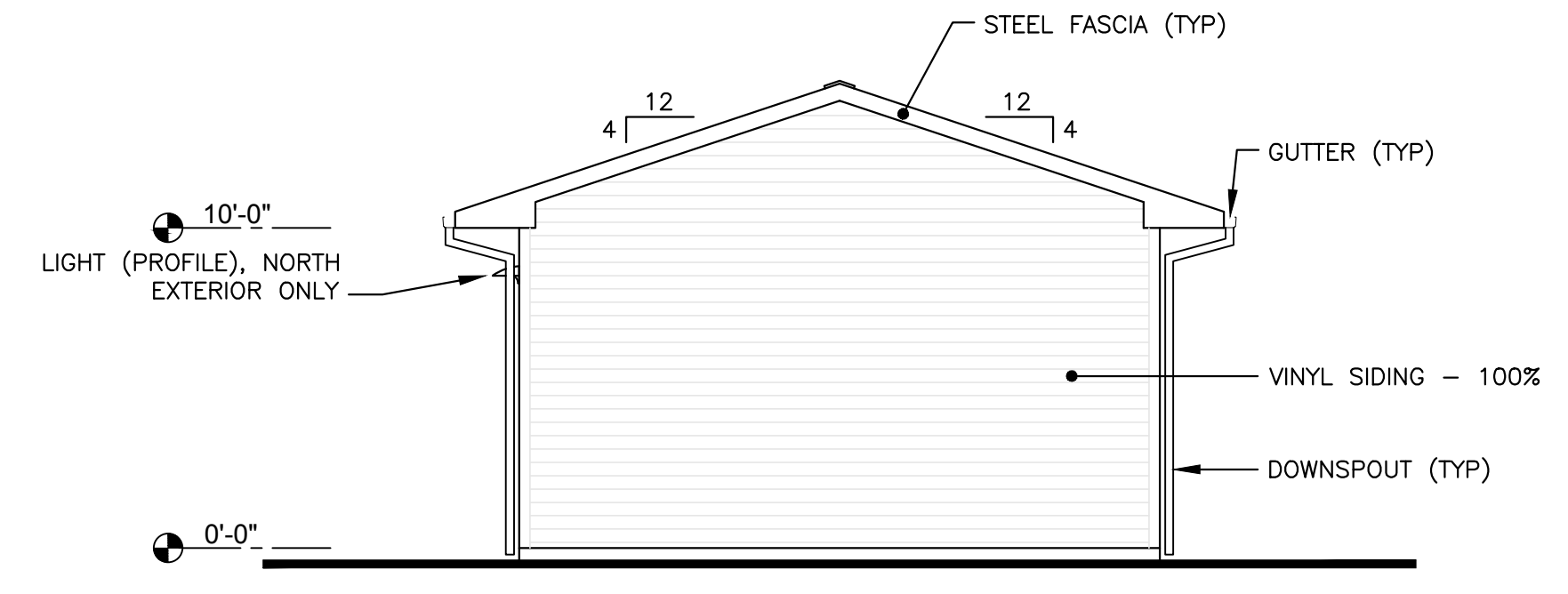
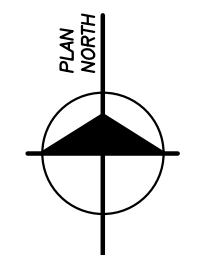
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PROJECT NO.:	180208.1/MB1046
DESIGN DRAWN BY:	
DESIGNED BY:	
CHECKED BY:	
PLAN DATE:	5/2/2019
SHEET NUMBER	28 OF 28



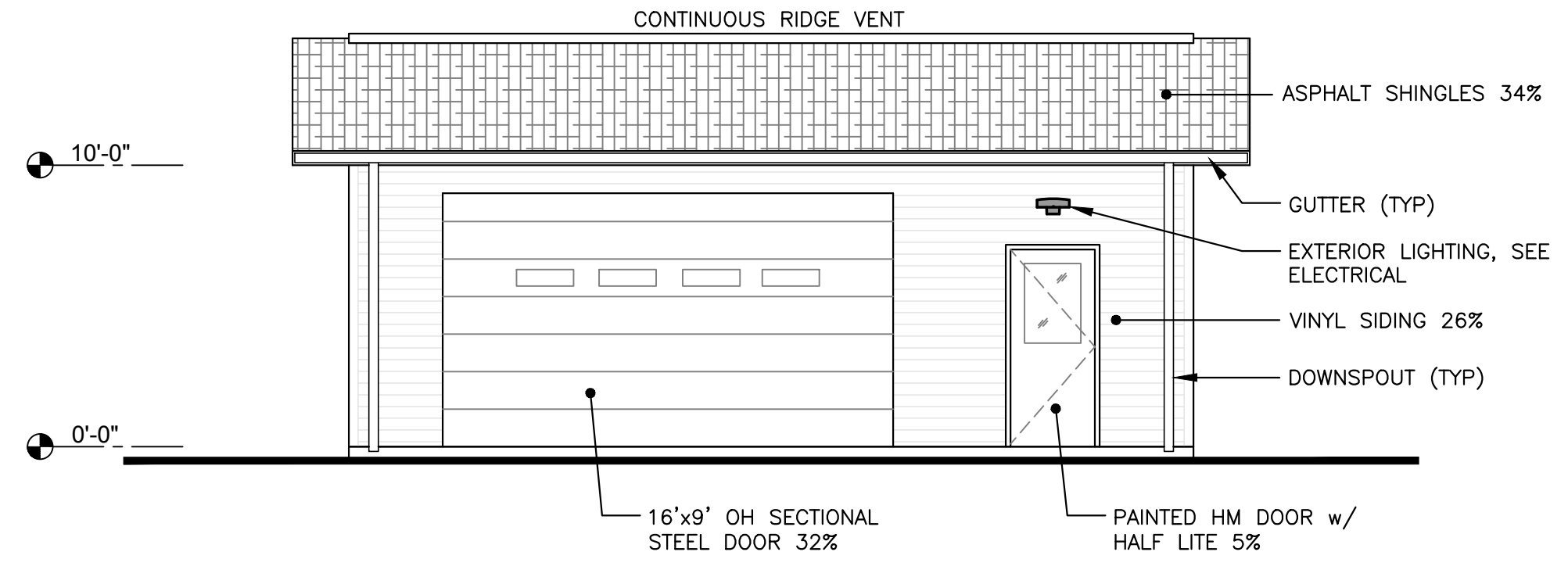
A TYPICAL WALL SECTION
SCALE: 1/2" = 1'-0"



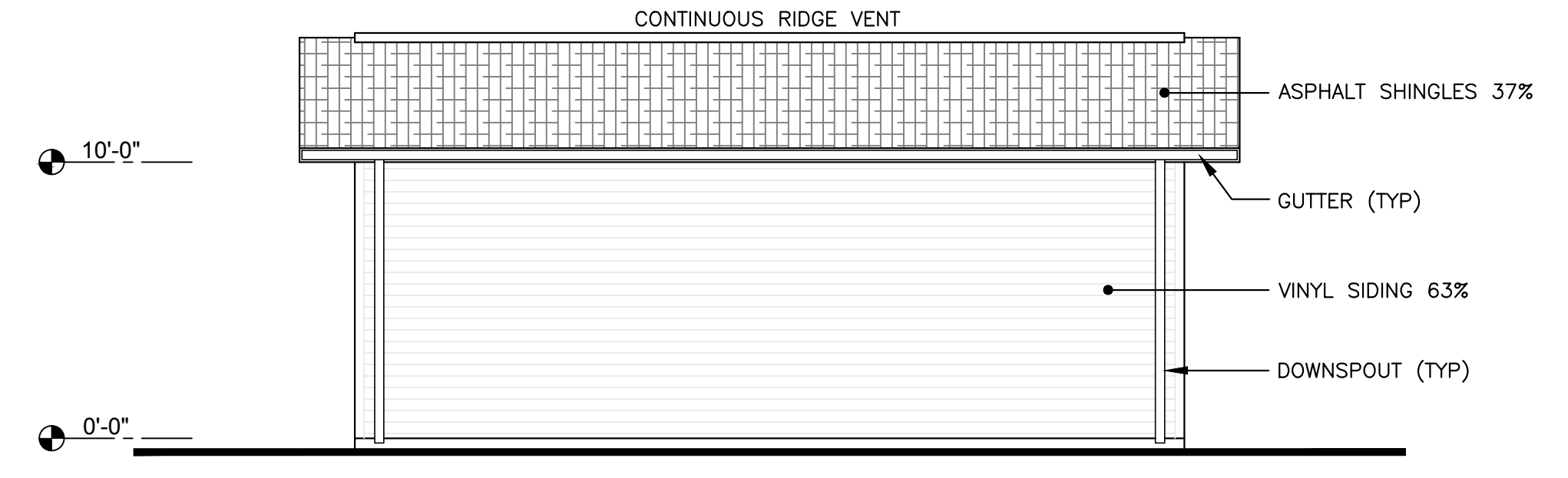
1 STORAGE BUILDING FLOOR PLAN
SCALE: 1/4" = 1'-0"



4 EXTERIOR ELEVATION - EAST & WEST
SCALE: 3/16" = 1'-0"



3 EXTERIOR ELEVATION - NORTH
SCALE: 3/16" = 1'-0"



2 EXTERIOR ELEVATION - SOUTH
SCALE: 3/16" = 1'-0"

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Attachment: 8. Site plans dated May 2, 2019 (3059 - Site Plan #19-005, Livingston County Drain Commission Septic Receiving Station)