CITY OF HANOVER
PLANNING COMMISSION MEETING
DECEMBER 17, 2018
AGENDA

CHAIR	**BOARD MEMBERS**
STAN KOLASA	**JIM SCHENDEL**
	MICHAEL CHRISTENSON
COUNCIL LIAISON	**MICHELLE ARMSTRONG**
DOUG HAMMERSENG	**DEAN KUITUNEN**

1. **Call to Order and Pledge of Allegiance: 7:00 p.m.**

2. **Approval of Agenda**

3. **Approval of Minutes from November 26, 2018, Regular Meeting**

4. **Citizen's Forum**

5. **Public Hearing**
    a. **Rezoning, Planned Unit Development and Preliminary Plat for the Development to be known as Hanover Cove**

6. **Unfinished Business**

7. **New Business**
    a. **2019 Meeting Dates and Application Deadlines**

8. **Reports and Announcements**
    a. **Planning Commission Reports**
    b. **Liaison Report**
    c. **Staff Reports**

9. **Adjournment**

CITY OF HANOVER
PLANNING COMMISSION MEETING
NOVEMBER 26, 2018
DRAFT MINUTES

Call to Order/Pledge of Allegiance
Stan Kolasa called the November 26, 2018, Planning Commission Meeting to order at 7:00 pm. Members present were Stan Kolasa, Jim Schendel, Dean Kuitunen and Mike Christenson. Also present City Planner Cindy Nash, Council Liaison Doug Hammerseng and Administrative Assistant Amy Biren. Absent: Michelle Armstrong. Several guests were present.

Approval of Agenda
MOTION by Schendel to approve the agenda, seconded by Christenson.
Motion carried unanimously.

Approval of Minutes from the October 22, 2018 Regular Meeting
MOTION by Schendel to approve the October 22, 2018, minutes, seconded by Kuitunen.
Motion carried unanimously.

Citizen's Forum
None

Public Hearing
Amendments to the Zoning Ordinance Related to Home Occupations

Kolasa closed the Planning Commission meeting at 7:01 pm and opened the Public Hearing for the Amendments to the Zoning Ordinance Related to Home Occupations review and to receive public comment.

Nash reviewed what the Planning Commission members had discussed at previous meetings and quickly went through the red-lined version. She pointed out the clarification of a commercial vehicle and that regular delivery trucks such as UPS and FedEx would not be considered commercial vehicles. The new section related to a home occupation being allowed under an IUP (interim use permit) was reviewed and changes pointed out that included requiring the property to be two acres or more and that two vehicles would be allowed. Outdoor storage would not be allowed.

Nash said that the Commission has three choices: first, to recommend the amendments as written and presented; second, to recommend with additional changes; or lastly, to recommend no changes and leave the ordinance as it is currently.

She reminded the Commission that the property owner that generated this amendment would still need to go through the IUP process and that approval of the amendment by Council would not guarantee issuing the IUP to them.

Hammerseng asked what the discussion was regarding the decrease of acreage down to two acres. Nash replied that when preparing the information for the amendment and looking at maps generated by staff, it was determined that the property in question was under the 2.5 acre requirement that was first proposed. Hammerseng responded that the amendment would affect the entire city, not just this property. He asked how many additional properties would fall under this lower acreage. Biren responded that is was under a

dozen with most falling along CSAH 19 heading south toward Corcoran and a few along Beebe Lake Road, also known as Wright County Highway 34.

Hammerseng asked if a property not meeting the acreage requirement could apply for an IUP and still qualify. Nash replied no, the property would have to meet the acreage requirement.

Commission members agreed that the drafted amendment included everything discussed previously.

No one from the public commented.

Kolasa closed the public hearing and re-opened the Planning Commission meeting at 7:08 pm.

MOTION by Kuitunen to send the drafted amendment of the Zoning Ordinance Related to Home Occupations forward to Council for approval, seconded by Schendel.
Motion carried unanimously.

Amendment to an Interim Use Permit Extending the End Date for the Mining Operation known as the Mahler Pit

Kolasa closed the Planning Commission meeting at 7:10 pm and opened the public hearing.

Nash explained that the IUP for the Mahler Pit is set to expire on December 31, 2018. Fehn Companies which operates the mine is asking for an extension to August 31, 2019, in order to decide if they would like to continue the mining operation or to stop mining and reclaim the site. Since the mining ordinance had been revised and updated earlier this year, it seemed logical for the IUP to be brought up to current standards. To do so, Fehn would need to have site plans prepared along with the other requirements outlined in the current ordinance which would include future reclamation of the site. Staff recommends extending the IUP until the end of August.

Nash read correspondence received at City Hall related to the extension of the IUP:

Darlene Dehmer, 12013 17th St NE, St. Michael: I am against giving out another permit unless the haul roads are kept wet to keep dust down and the hours are kept to 7 am to 5 pm daily.

Leslie Brown, 8109 29th Ave N, New Hope: She owns property at 11355 16th St NE, St. Michael, where her daughter and granddaughters live. She explained that when the townhome was purchased in 2006, they were unaware of the proposed mining operation. The noise and additional traffic since then has been tolerated. She requests that the use of 15th Street as a hauling road be reviewed, including looking at provisions to repair the road as well as looking at alternate plans for hauling.

Linda Burke, 1420 Esterly Oaks Drive: The hauling traffic on 15th Street is very disruptive and noisy. Burke gave examples of the rumbling noise of the trucks and the jake-braking that occurs. She commented that the disrepair of the street adds to the noise level. She asked about the allowed hauling time and if it was being followed along with the possibility of a sound barrier being created such as rows of pine trees.

Ed Hunter, 1430 Esterly Oaks Drive: He lives next door to Burke and says that he doesn't hear the noise during the day as he is at work. His concern is that the road needs repair and that a bike path needs to be installed for pedestrians and the safety of the neighborhood.

An audience member reminded the Commission that there was another mine in St. Michael that was also using 15th Street to haul.

The speed limit on 15th Street was asked and that it be reviewed when repairing the road. Biren said that this had been asked recently of the Wright County Sheriff's Department and the answer determined was that it is a 45 mph speed limit.

Dean Hiller, 1283 Irvine Drive: He is concerned about the traffic and the need for a bike path as it is not safe for kids or walkers.

Burke also asked why Pearson Bros uses 15th Street instead of 5th Street and is there any consideration for a light at these intersections. Nash responded that all of the streets being discussed are collector streets and businesses can use any of these roads.

Nash also spoke to the Comprehensive Plan 2040 which recognizes the need for a trail along 15th Street.

Another audience member suggested working with the City of St. Michael for the trail as there are fields on the north side of 15th Street which would be suitable for the trail. Nash replied that Brian Hagen, Hanover City Administrator, has been in contact with Steve Bot, St. Michael City Administrator, about working together on this street.

Nash explained that this is a challenging discussion because with the original IUP, the street would be repaired by now, but with unexpected things happening such as the housing market crashing, it delayed the end of the mining operation. She went on to explain that mining operators usually can gauge the life expectancy of a mine by determining the type of materials coming out of the mine and how the housing market is behaving.

Gary Fehn, Fehn Companies: It is hard to know exactly when the Mahler Pit will be finished. The truck hauling traffic varies from day to day. One day there may not be any hauling done and on a really good day, 100 trucks may be hauling.

Hunter asked about the life expectancy of the pit in St. Michael. Staff said they did not know and would contact St. Michael to obtain that information.

Hammerseng said that the conversation about 15th Street has started and that everyone had very valid points. He suggested getting the traffic counts from the two mines and also stated that the St. Michael side of 15th Street was actually getting the heavier truck loads than the Hanover side.

Nash explained that this amendment is a two-step process that allows for making an informed decision on whether to go forward with updating the IUP to current standards or to start a reclamation plan and be done mining.

Hammerseng asked Fehn about the materials still available in the mine. Fehn said that the goal is to keep the mine open and work through the winter months. Hammerseng inquired about the August 31st extension date. Fehn said this would allow him the time to get the ordinance requirements completed and to work through the process. Nash also responded that she set the deadline since there were items required for either option that cannot be completed during the winter. For example, a wetland determination needs to be done and this cannot be done when the ground is frozen. Also, it will take time for the IUP to go through the process of coming to Planning Commission and then to Council.

Kuitunen asked Nash to explain to the audience why the IUP will need to go through the newly amended ordinance.

Nash said that the City amended its mining ordinance earlier this year. Permitting of mines has become more sophisticated than in the past and more detailed. For example, the reclamation of the Mahler pit was for it to become a large lot development, but that is not possible since large lot developments on well and septic require the land to be undisturbed by heavy equipment in order for it to be suitable for well and septic. This reclamation plan does not allow it to become re-usable.

Hammerseng said that it is better to give them the time to decide and is there a way to tie the reclamation to the extension.

Nash responded that Hanover has had some mines where reclamation was not really completed. She gave the example of the proposed Hanover Cove development where there was no reclamation done and the issues caused by the way the site was left.

Hammerseng asked if the property where the Mahler Pit is located was in the floodplain or shoreland district. Nash said that yes, there are portions of the property in both of those areas, but that the mine itself is located outside of it. She outlined on the aerial photo where the floodplain was and said that St. Michael's floodplain has not been updated yet unlike the Hanover update that occurred a couple of years ago.

Burke said that repairs to 15th Street would satisfy many of the residents and wondered if the mining operators are financially responsible for any of the repairs. Nash said that is somewhat difficult to answer. Fehn has been paying towards the repair of the road, but not in any amount that would fully cover the repairs. This amount was determined in the original IUP. This would be something that would be reviewed during the new IUP process.

Kolasa closed the public hearing and re-opened the Planning Commission meeting at 7:44 pm. He asked Nash what is the next step. Nash replied that staff is recommending that the time frame be extended to August 31, 2019, and other temporary conditions or changes be added after conferring with the City Attorney.

Kolasa said that he understands why this needs to be done and thinks the Commission should go with the recommendation.

Christenson asked if anyone knew the times of operation and hauling for the St. Michael pit. Nash replied that the Mahler pit has hours of operation from 7 am to 7 pm with truck hauling taking place from 7:30 am to 5 pm. The Mahler pit is open on Saturdays from 8 am to 5 pm for residential traffic only. She did not know what the hours were for the St. Michael pit. Schendel said that the hours of operation and hauling for the St. Michael pit were 7 am to 7 pm. Christenson asked who did the enforcement of those hours as he has personally seen hauling taking place outside of those hours. Nash said staff would contact St. Michael to get the mine's information.

MOTION by Schendel to move the extension amendment for the Mahler Pit forward to Council for approval, seconded by Kuitunen.
Motion carried unanimously.

Nash said that she will take the home occupation amendments to Council on December 4th, but the mining extension would more than likely be at the December 18th meeting since she needed to work with the City Attorney on it.

Unfinished Business

None

New Business

None

Reports

Nash said that the City has received revised plans for the Hanover Cove development. She and Justin Messner, City Engineer, are reviewing them to determine completeness. What they determine will dictate the December Planning Commission meeting.

Biren said that Fieldstone Family Homes has joined the builders in Crow River Heights West Third Addition.

The Crow River Lions will be hosting their Stuffed Hash Brown Breakfast on Sunday, December 2nd at City Hall.

Adjournment

MOTION by Schendel to adjourn, seconded by Christenson.
Motion carried unanimously.
Meeting adjourned at 7:54 pm.

ATTEST:

_____

Amy L. Biren
Administrative Assistant

Collaborative Planning, LLC

MEMORANDUM

TO: Planning Commission

FROM: Cindy Nash, AICP, City Planner

DATE: December 12, 2018

SUBJECT: **Hanover Cove** for (1) Rezoning; (2) Planned Unit Development; and (3) Preliminary Plat

APPLICANT: Paxmar

LOCATION: Generally located east of River Road, and south of 8th Street

COMPREHENSIVE PLAN: Neighborhood Residential

Description of Request

Paxmar has submitted applications for a rezoning, planned residential development and preliminary plat. The property consists of approximately 84.1 acres and is located east of River Road and south of 8th Street.

The Developer is proposing to develop the site into 285 detached residential units. There are proposed to be 128 single-family homes, 136 patio homes, and 20 flex lots that may be either patio homes or multi-level homes. The villas would have associated-maintained yards and driveways. The single-family homes are not currently planned to be a part of a homeowner's association. The proposed builder has not been identified.

This development is requesting the following approvals:

1. Rezoning of part of the property from I-1 and I-2 to R-1A
2. Planned Unit Development
3. Preliminary Plat.

Paxmar is proposing the construction of two types of housing units. Single-family homes will occupy lots on the northern portion of the site.

Patio homes will occupy lots on the southern portion of the site. A characteristic of this type of development is that not only are the lots smaller, but the homes are constructed closer together with a reduced side yard setback. This is a type of unit that allows for higher density construction, but in an ownership that does not share walls as a townhome neighborhood would. A homeowner's association provides exterior maintenance of snow removal and lawn care. The buildings are maintained by the property owner.

The following items are included in the packet for review:

1. City Engineer Comment letter
2. City Planner Comment letter
3. Project Narrative
4. Preliminary Plat and Plan Set
5. Traffic Impact Study.

Item 1: Rezoning

Public Hearing: December 17, 2018 Planning Commission

Request

The Developer is requesting to rezone the southern portion of the property from I-1 and I-2 (both Industrial zoning districts) to R-1A. A rezoning is an amendment to the zoning map, which changes the zoning district that a particular property is located within.

In Spring 2018, this portion of the property was reguided in the Comprehensive Plan from Industrial to Neighborhood Residential. The Comprehensive Plan that was recently adopted by the City Council in November 2018 also guided this entire property as Neighborhood Residential.

Analysis

The City Council may adopt an ordinance amending the Zoning Map (rezoning) as a means to reflect change in the goals and policies of the community as reflected in the Comprehensive Plan.

The existing I-1 and I-2 zoning district designations for the southern portion of this parcel is not compatible with a future land use guidance of neighborhood residential. The most consistent zoning district for the neighborhood residential land use category is R-1A.

Staff Recommendation

Staff recommends approving the rezoning subject to the conditions below:

1. Adoption and publication of the ordinance as required by law.

Item 1: Planned Unit Development (PUD)

Public Hearing: December 17, 2018 Planning Commission

Request

The Developer is proposing to construct a 285-lot subdivision for the site. The properties surrounding the proposed development have all been previously developed. The subject property contains an unreclaimed gravel mine, consisting of significant existing slopes, volunteer vegetation, and the berm that was constructed to screen existing adjacent single-family homes and River Road from the former mining operation. The property is proposed to be zoned R-1A, and the review of the proposed project was conducted based on the project's conformance with the requirements of that zoning district.

Analysis

Density

Per the City's ordinances, the total number of dwelling units allowed in a planned unit development shall be determined by either:

> *"a. The standards of the applicable base zoning or overlay district in which the proposed development is to be located; or*
> *b. The density specified by the City Council consistent with the intent of the comprehensive plan. A plan may provide for a greater number of dwelling units per acre than would otherwise be permitted by the regulations otherwise applicable to the site; however, the applicant shall show that such excess will not have an undue and adverse impact on existing public facilities and on the reasonable enjoyment of neighboring property. The council, in determining the reasonableness of the increase in the authorized dwelling units per acre, shall recognize that increase density may be compensated for by additional private amenities and by increase efficiency in public facilities and services to be achieved by:*
>
> ***1) The location, amount and proposed use of common open space;***
> ***2) The location, design and type of dwelling units; and***
> ***3) The physical characteristics of the site."***

The Developer is proposing that the density in a manner consistent with the Comprehensive Plan, which would permit between 2 to 4 dwelling units per acre. At the density proposed, this amount is greater than the regulations would otherwise permit. The standards that are in bold above should be considered by the Planning Commission and advise as to whether any additional information or changes may be needed. Regarding these items, some general comments are as follows:

1. Common open space as proposed consists of Outlot A, which is an irregular and unusable piece of property near the main entrance. Its location being setback from River Road even makes it less desirable for an entrance monument or signage.
2. Additional information related to architecture and specifically which types of homes would be built on each type of lot is needed. In addition, it still needs to be verified if each of these homes shown can even be constructed on these lots while still meeting setbacks as proposed. Please refer to the City Planner's comment memo for additional detail. The architecture and streetscape view that were submitted should be reviewed and comments provided.
3. The site is an unreclaimed gravel mine, with low quality natural resources present on the site. There are no areas of the site that staff is recommending should be preserved in their current state.

PUD Generally

A PUD is intended to allow for the development of residential areas under a flexible regulatory process that allows for a joint planning design effort by the developer and the City. This process should result in benefits that preserve natural resources and amenities, assure a higher quality living environment, and develop a variety of housing types and densities as a single planned entity. The City may authorize departures from the strict requirements of the underlying zoning district after finding that the proposal is consistent with the Comprehensive Plan, the general purposes of the Zoning Ordinance, and if the project complies with the requirements outlined below (discussion should occur on each of these items, along with feedback for redesign that would bring the plan into greater compliance with these standards).

1. The consistency of the proposed PUD with the comprehensive plan.

2. The extent to which the proposed PUD is designed to form a desirable and unified environment within its own boundaries in terms of relationship of structure and open space, circulation patterns, visual character and sufficiency of drainage and utilities.

3. The extent to which the proposed uses will be compatible with present and planned uses in the surround area.

4. That any exceptions to this article are justified by the design or the development.

5. The sufficiency of each planned unit development phase's size, composition, and arrangement in order that its construction, and operation is feasible without dependence upon subsequent phases.

6. The burden or impact created by the PUD on parks, schools, streets, and other public facilities and utilities.

7. The impact of the PUD on environmental quality and on the reasonable enjoyment of the surrounding properties.

Variances from Zoning Requirements in Planned Unit Developments

The City may vary the regulations of the Zoning Ordinance in PUDs, and the development is requesting the following variations from the standard zoning requirements:

Performance Standards		Requested PUD Minimums		
	R-1A	**Single Family**		**Flex**
(Minimum)		Large SF (80' +)	Medium SF (58'-80')	38' - 50'
Lot Area	12,000 SF	9,840-16,330 SF	6,815-20,280 SF	4,940-9,085 SF
Lot Width (at front setback)	80 FT	80 FT	58 FT	38 FT
Side Yard Setback	10 FT	7.5 FT	7.5 FT	6 FT
corner lot abutting street	30 FT	20 FT	20 FT	20 FT
Front Yard Setback	30 FT	25 FT	25 FT	25 FT
Rear Yard Setback	30 FT	30 FT	30 FT	20 FT
Garage Area	576 SF	576 SF	576 SF	480 SF
Home Floor Area	1000 SF	1,600 SF	1,300 SF	1,200 SF

		Requested PUD Minimums		
	R-1A	**Patio Home**		
(Minimum)		Large Patio (75'+)	Medium Patio (50'-75')	Narrow Patio (36'-50')
Lot Area	12,000 SF	8,315-20,730 SF	5,750-21,175 SF	5,250-19,275 SF
Lot Width (at front setback)	80 FT	75 FT	50 FT	36 FT
Side Yard Setback	10 FT	6 FT	6 FT	6 FT
corner lot abutting street	30 FT	20 FT	20 FT	20 FT
Front Yard Setback	30 FT	25 FT	25 FT	25 FT
Rear Yard Setback	30 FT	20 FT	20 FT	20 FT
Garage Area	576 SF	576 SF	480 SF	480 SF
Home Floor Area	1000 SF	1,500 SF	1,400 SF	1,200 SF

An analysis of why the applicant feels these changes are necessary is included within the narrative. Note that although typically an applicant only requests that standards be decreased, in this case they are requesting that home floor areas be increased from the current standard.

Staff is requesting various clarifications and revisions as outlined in the City Planner's memo prior to a complete review to determine if the proposed homes could be constructed on the proposed lots. As such, a staff recommendation on many of the requested changes cannot be made until additional information is provided for review. However, staff is at this time recommending that the following variations to the underlying zoning district of R-1A not be approved:

1. Garage area minimum
2. Corner side setback should not be less than the corresponding front yard setback.

<u>Staff Recommendation</u>

Staff does not make a recommendation at this time as additional changes need to be made to the plans to address the City Planner and City Engineer's comment memos. In addition, it is recommended that preliminary comments made by the Planning Commission be considered by the Developer when updating the plans. Staff recommends that the Planning Commission provide feedback to the Developer after the public hearing and then table the discussion to a future meeting.

Item 3: Recommendation on Preliminary Plat

Public Hearing: December 17, 2018 Planning Commission

Preliminary plats provide the layout for lots and blocks for future sale and ownership of specific parcels. The preliminary plat is "preliminary", however approval of a preliminary plat gives the property rights by State law.

Land Use

The proposed land use is 285 single-family lots, and outlots for stormwater ponding and trail connections.

Access, Roads, Guest Parking Pedestrian Circulation

Six streets are proposed to be constructed, including two that provide ingress/egress from the neighborhood. Only one cul-de-sac is proposed.

With the narrow lot sizes, it is anticipated that guests will need to park in the driveway as there will be little room for street parking due to driveways. The proposed 25-foot front yard setbacks will typically provide room for 2 cars to park on the driveway.

A traffic study was included as part of the Environmental Assessment Worksheet (EAW).

Street names are not being reviewed at this time.

Utilities

Utilities are proposed to be installed within the rights of way.

Ponding is located in outlots that will be deeded to the City.

Park Dedication

Park dedication is required for this plat, and will be calculated at the time of execution of the developers agreement.

Landscaping and Tree Preservation

Sheets LA1 through LA5 contains the proposed landscaping plan. The landscaping plans generally identify 1 tree per lot, where the ordinance requires 2 trees per lot. In addition, additional information is required to review conformance with tree preservation requirements as noted in the City Planner's memo.

Fire Department

The Fire Department is reviewing the plans. Comments will be provided when available.

Engineering and Planning

The development should comply with the requirements of the City Engineer's and City Planner's memos.

Staff Recommendation on Preliminary

Staff does not make a recommendation at this time as additional changes need to be made to the plans to address the City Planner and City Engineer's comment memos. In addition, it is recommended that preliminary comments made by the Planning Commission be considered by the Developer when updating the plans. Staff recommends that the Planning Commission provide feedback to the Developer after the public hearing and then table the discussion to a future meeting.

178 East 9th Street Suite #200 | St. Paul, MN 55101 | (651) 286-8450

Memorandum

To: ***Cindy Nash – Hanover City Planner***

From: ***Justin Messner, PE – Hanover City Engineer***

Cc: ***Brian Hagen – Hanover City Administrator***
Jason Versteeg, PE – Duininck, Inc.

Date: ***December 5, 2018***

Re: ***Hanover Cove Preliminary Plat Review***
WSB Project No. 012261-000

As requested, we have reviewed the revised Hanover Cove preliminary plat documents as prepared by Duininck, dated November 16, 2018, and we offer the following comments:

Preliminary Plat Comments

1. Show all easements on the preliminary plat.
2. Provide a minimum 10' drainage and utility easement on all property lines adjacent to a street. Provide a minimum 6' easement on all other property lines.
3. Combine overlapping drainage and utility easements.
4. Note that easements would supersede and increase the minimum required building setbacks where applicable.
5. Dimension all irregular easements
6. Dimension Public Street B
7. Label whether the area adjacent to Lots 10 and 11 Block 5 is part of Lot 10 or Lot 11
8. Provide additional easement for the storm sewer pipe from CBMH #6 to FES #3
9. Provide additional easement for the storm sewer pipe from CB #74 to CBMH #24 to CB#75
10.

Typical Section Comments

1. The proposed street width (16' to back of curb) does not meet City standard (18' to gutter). See City Standard Plate STR-01 for typical residential street section.
2. Provide all street designations on all sheets (include River Road and 8th Street).
3. Utilize 2018 City of Hanover Standard Detail Plates whenever possible.

Grading and Drainage Plan Comments

1. Provide all street designations on all sheets (include River Road and 8th Street).
2. Provide driveway grades (consider adjacent sidewalks).
3. Provide flow arrows.
4. Provide all drainage and utility easements.
5. Provide high points and low points in the road.
6. Provide Lowest Opening Elevations for all 'lookout' lots.
7. The lowest openings of houses must be a minimum of 1' above the EOF elevations (Lots 32, 33 Block 7).
8. The lowest floors for Lots 9-17 Block 1 do not meet adequate 3' freeboard from the observed water from Soil Boring PB #2 (912.5). Note this water may be perched.
9. The proposed contours do not always appear to agree with the elevation at the back of the proposed house type (e.g. Lots 17-47 Block 4, etc.). Revise as necessary.
10. Verify that drainage in the rear of Block 8 flows between the houses and not across the back of the lots necessitating additional drainage and utility easements.

11. See attached blue-lined plan sheets for locations of grading issues including the following;
    a. Several areas have drainage directed at building pads or the drainage from the building pad is unable to flow away and down the lot lines.
    b. Several areas have less than the required 2% minimum grade
    c. Several drainage swales are shown running across private property without drainage and utility easements

Subcatchment/Stormwater Plan Comments

1. Provide all street designations on all sheets (include River Road and 8th Street).
2. Provide 3' sumps to last accessible structures prior to ponds.
3. Provide draintile along the roadway at all low points.
4. There is an existing catch basin in conflict with the proposed driveway for Lot 5 Block 1
5. There is an existing catch basin in conflict with the turn lane on River Road.

Stormwater Management Comments

1. An operations and maintenance plan for the proposed stormwater management system should be included with future submittals.

Stormwater Basins

1. Pretreatment is required prior to discharge into an infiltration basin per the Minnesota Stormwater Manual. Applicant should provide information on how pretreatment will be provided for the infiltration basin.
2. The bottom contour for the infiltration basin is shown at a 893 on the plans. Soil boring PB 5 shows SM soils at and below an elevation of 893. The Minnesota Stormwater Manual recommends an infiltration rate of 0.45 inches per hour for SM soils. Applicant should update the HydroCAD model for SM soils or evidence should be provided justifying the modeled infiltration rate of 0.8 inches per hour. Additionally, a note should be added stating that the exfiltration rate of the infiltration basins will be tested at the end of construction to ensure rates are meeting or exceeding the design rate. If the design rate is not being met, soils will be amended until it can meet or exceed the design rate.
3. A note should be added stating that the infiltration basin shall be kept offline until impervious area construction is completed and vegetation has been established, per the Minnesota Stormwater Manual.

Storm Sewer

1. There are multiple proposed connections to existing storm sewer. Applicant should provide evidence that there is capacity in the existing storm sewer for the additional flow from the proposed development or show that the proposed flow routed to the existing storm sewer is equal to or less than the flow routed to the existing storm sewer under existing conditions at each of the proposed connections.
    a. Additional information should be provided for the proposed connection into storm sewer along 8th Street. It is unclear if structure STMH 77 is a proposed structure being built over existing storm sewer or if STMH 77 is an existing structure the development is tying into.
2. There are multiple pipes shown to be designed under capacity in the rational calculations provided. Applicant should update plans to ensure all pipes are sized to handle the runoff from the 10-year storm event.
3. The City adopts MnDOT guidance that all storm sewer should be designed such that velocities of flow will not be less than 3 feet per second at full flow to deter settling of particles. Table 8.8 in the MnDOT Drainage Manual provides the minimum grades required for differing pipe diameters to meet the 3 feet per second requirement. Applicant should update storm sewer to confirm this requirement is met.
4. Storm sewer from STMH 80 to STMH 81 should be changed to RCP.
5. Update plans so that structure CB 62 and the connection to existing storm sewer on River Road NE is showing.
6. Rip rap should be shown at the outlets of the storm sewer into the infiltration basin and stormwater pond.
7. Callouts should be added for all pipes from lead structures at the low points in the roadway.
8. Structure STMH 48 should be moved into the roadway.

9. Change the arrow directions on the storm sewer of the following pipes:
    a. CB 7 to CBMH 53
    b. CBMH 82 to STMH 83

Utility Plan Comments

1. Provide all street designations on all sheets (include River Road and 8th Street).
2. Identify the locations where the proposed watermain connects to the existing watermain
3. Provide a plan that shows 250' radius circles to show fire protection covering the lots.
4. Provide additional hydrants to meet fire protection requirements as well as for flushing, air release, etc. as necessary
5. SDR 26 pipe would not need to be used from SANMH #2 to SANMH #50 to SANMH #51
6. SANMH #3, 18 and 25 are not on the centerline of the road
7. The utility services in the Public Street C cul de sac appear to be in conflict with one another. Consider revising
8. Sanitary services in the Public Street C cul de sac exceeding 75' will require a cleanout.
9. Note hydrant leads are ductile iron (see standard detail plate WAT-01).

Plan and Profile Comments

1. Provide all street designations on all sheets (include River Road and 8th Street).
2. Show the disturbance area and restoration at all connections to existing utilities particularly outside the development limits.
3. Show the storm sewer (ghosted or gray) in the profile. Include all crossings.
4. Provide the size and material of existing utilities.
5. Provide the sanitary sewer pipe material
6. Provide a hydrant for or remove the high point of the watermain in Block 1.
7. Provide sanitary service risers when the depth exceeds 14.5'
8. The watermain on Public Street F crosses the sanitary sewer twice within 60'
9. The sanitary sewer is only 6.4' and 7.0' deep at SANMH #24 and #40.
10. There appears to be numerous places of potential conflict between the storm, sanitary, and water utilities including;
    a. (near storm structures STMH 78, CBMH 22, STMH 48, and STMH 36).
    b. Public Street A - STA 5+50-6+50; 11+00-21+00;
    c. Public Street B - STA 3+00-11+50
    d. Public Street C - STA 0+50
    e. Public Street D - STA 9+50
    f. Public Street E - STA 1+00-11+00
    g. Public Street F - STA 6+50-9+00;12+00-14+00
    h. Public Street G - STA 0+00-4+50

    The City requires at least 18" of vertical separation between the watermain and storm sewer (See Standard Detail Plate WAT-06). Applicant should update plans to confirm this requirement is being met.

Miscelaneous Comments

1. Provide curb radii dimensions for intersections.
2. Provide vertical curves with all street grade transitions that meet a 30-mph stopping sight distance.

PRELIMINARY PLAT/
PRELIMINARY ENGINEERING
PLAN SUBMITTAL

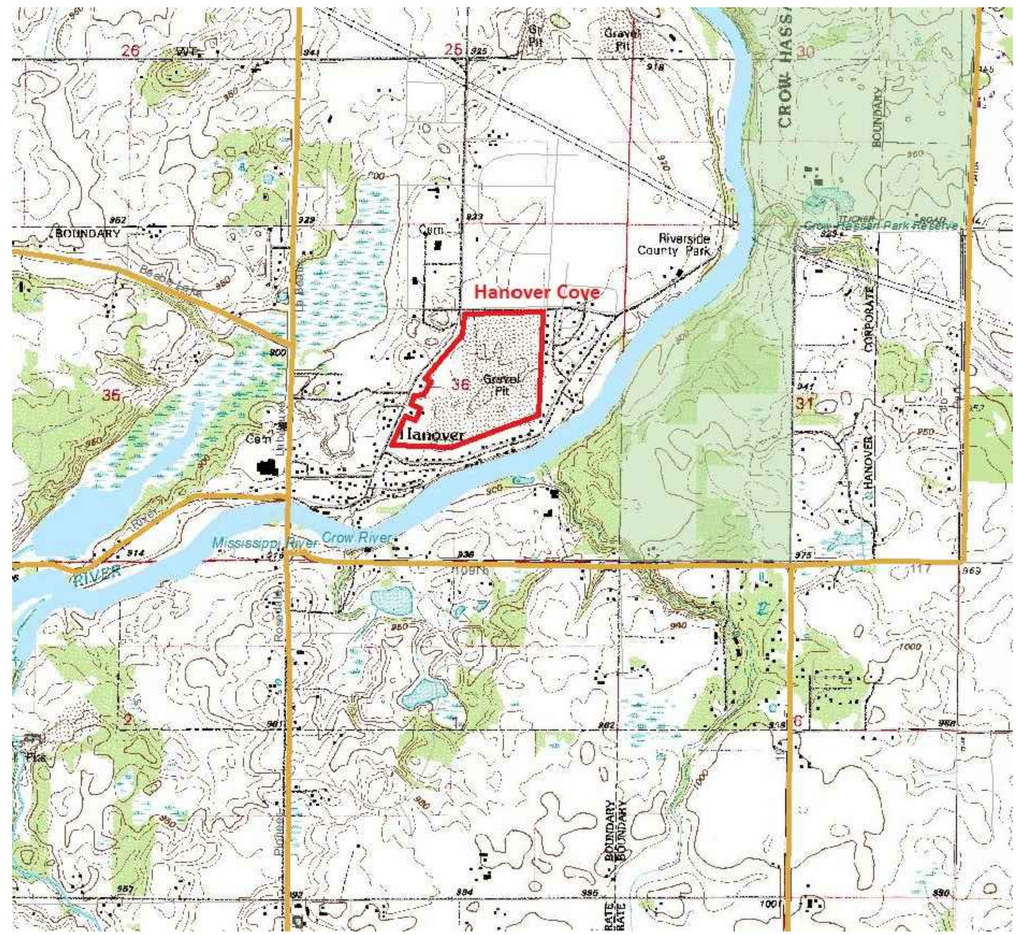
FOR

HANOVER COVE

CALL 48 HOURS BEFORE DIGGING:

GOPHER STATE ONE CALL

MN TOLL FREE 1-800-252-1166



DEVELOPER: PAXMAR, LLC
2850 CUTTERS GROVE AVE.
SUITE 207
ANOKA, MN 55303

SHEET INDEX

TITLE PAGE
ALTA SURVEY
PRELIMINARY PLAT
CONCEPT PLAN
PHASING PLAN
TYPICAL SECTION
OVERALL DRAINAGE MAP
GRADING AND DRAINAGE PLAN
SUBCATCHMENT / EOF MAP
UTILITY PLAN
PLAN AND PROFILE SHEETS
STORMWATER POLLUTION PREVENTION PLAN
EROSION CONTROL PLAN
TREE INVENTORY
TREE REMOVAL PLAN
LANDSCAPE/SCREENING PLAN

© DUININCK INC. 2018. ANY USE OR REUSE OF THIS PLAN/DRAWING AND THE CORRESPONDING COMPUTER AIDED DESIGN/DRAFTING FILES WITHOUT THE EXPRESS WRITTEN CONSENT OF DUININCK INC. IS PROHIBITED. DUININCK INC. SHALL NOT BE RESPONSIBLE FOR ANY UNAUTHORIZED USE OR REUSE OF THESE MATERIAL, OR DAMAGES RESULTING THEREFROM.

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: DATE: 11/16/2018

NAME: JASON VERSTEEG LIC. NO. 26505

DUININCK
PHONE: (320)978-6011 FAX: (320)978-4978
P.O. BOX 208 408 SIXTH STREET
PRINSBURG, MN 56281

HANOVER COVE
PRELIMINARY ENGINEERING PLAN
TITLE PAGE

HANOVER, MN

CHECKED BY: JVS	DRAWN BY: JVS

SCALE
GRAPHIC

DATE
NOV 16, 2018

SHEET
TITLE

This is a survey of the Land Description as found on Schedule A of
Commitment No. 566416, 3rd Supplemental
issued by Stewart Title Guaranty Company
Issued by its Agent, Land Title, Inc.
dated December 15, 2017

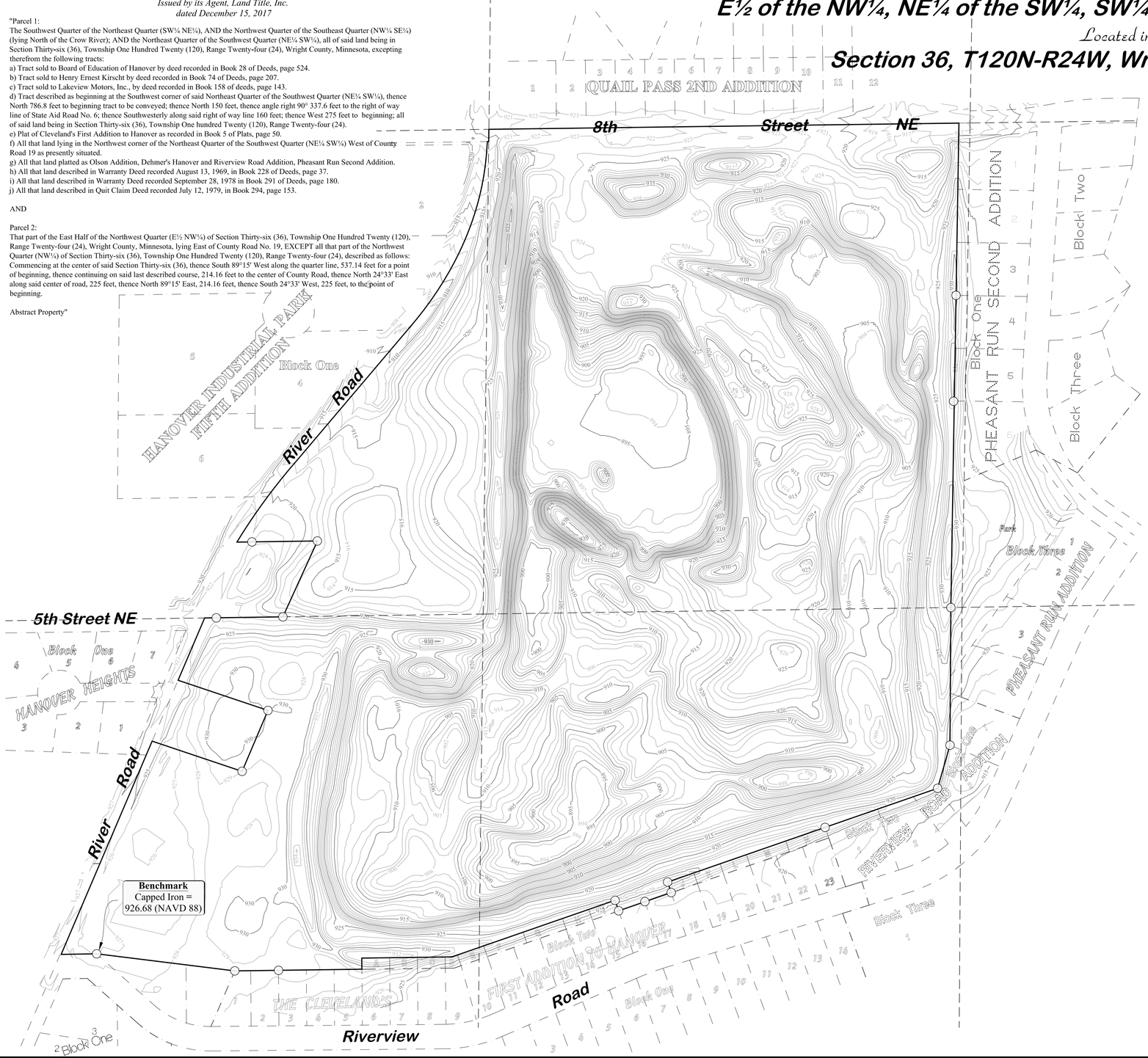
"Parcel 1:
The Southwest Quarter of the Northeast Quarter (SW¼ NE¼), AND the Northwest Quarter of the Southeast Quarter (NW¼ SE¼) (lying North of the Crow River); AND the Northeast Quarter of the Southwest Quarter (NE¼ SW¼), all of said land being in Section Thirty-six (36), Township One Hundred Twenty (120), Range Twenty-four (24), Wright County, Minnesota, excepting therefrom the following tracts:
a) Tract sold to Board of Education of Hanover by deed recorded in Book 28 of Deeds, page 524.
b) Tract sold to Henry Ernest Kirscht by deed recorded in Book 74 of Deeds, page 207.
c) Tract sold to Lakeview Motors, Inc., by deed recorded in Book 158 of deeds, page 143.
d) Tract described as beginning at the Southwest corner of said Northeast Quarter of the Southwest Quarter (NE¼ SW¼), thence North 786.8 feet to beginning tract to be conveyed; thence North 150 feet, thence angle right 90° 337.6 feet to the right of way line of State Aid Road No. 6; thence Southwesterly along said right of way line 160 feet; thence West 275 feet to beginning; all of said land being in Section Thirty-six (36), Township One hundred Twenty (120), Range Twenty-four (24).
e) Plat of Cleveland's First Addition to Hanover as recorded in Book 5 of Plats, page 50.
f) All that land lying in the Northwest corner of the Northeast Quarter of the Southwest Quarter (NE¼ SW¼) West of County Road 19 as presently situated.
g) All that land platted as Olson Addition, Dehmer's Hanover and Riverview Road Addition, Pheasant Run Second Addition.
h) All that land described in Warranty Deed recorded August 13, 1969, in Book 228 of Deeds, page 37.
i) All that land described in Warranty Deed recorded September 28, 1978 in Book 291 of Deeds, page 180.
j) All that land described in Quit Claim Deed recorded July 12, 1979, in Book 294, page 153.

AND

Parcel 2:
That part of the East Half of the Northwest Quarter (E½ NW¼) of Section Thirty-six (36), Township One Hundred Twenty (120), Range Twenty-four (24), Wright County, Minnesota, lying East of County Road No. 19, EXCEPT all that part of the Northwest Quarter (NW¼) of Section Thirty-six (36), Township One Hundred Twenty (120), Range Twenty-four (24), described as follows: Commencing at the center of said Section Thirty-six (36), thence South 89°15' West along the quarter line, 537.14 feet for a point of beginning, thence continuing on said last described course, 214.16 feet to the center of County Road, thence North 24°33' East along said center of road, 225 feet, thence North 89°15' East, 214.16 feet, thence South 24°33' West, 225 feet, to the point of beginning.

Abstract Property"

This is an ALTA / NSPS Land Title Survey of:
part of:
E½ of the NW¼, NE¼ of the SW¼, SW¼ of the NE¼, and NW¼ of the SE¼
Located in:
Section 36, T120N-R24W, Wright County, Minnesota



North

This drawing prepared by:

Bonnema Runke Stern Inc.
Professional Land Surveyors
1809 22nd St SW - Suite 104
Willmar, MN 56201
Office (320) 231-2844 Fax (320) 231-2827

Requested by: ***Duininck Inc.***
C/O Jason Ver Steeg
408 6th St
Prinsburg, MN 56281

0 150 300 450
Scale in Feet

LEGEND

- Found Iron Monument from former survey
- Bonnema Runke Stern Inc. Placed Capped Iron Monument
- Cast Iron Monument
- Course Change - No monument set
- Sanitary manhole
- Water Gate Valve
- Telephone Pedestal
- Electric Transformer
- Fire Hydrant
- Power Pole
- SAN — Sanitary Sewer
- STM — Storm Sewer
- WL — Water Line
- Road Right of way
- GAS — Gas Line
- FO — Buried Fiber Optic
- BE — Buried Electric
- BT — Buried Telephone
- OH — Overhead Power
- Occupation / Farm Tillage
- X — Fence
- (D = XX.XX) Deed Dimension
- (P = XX.XX) Platted Dimension
- Tree Row
- Existing Building

TABLE A ITEMS

Item 1:
Monuments placed or found at all major property boundary corners: As shown on this survey

Item 4:
Area of property as shown on this survey. SEE SHEETS 2 & 3

Item 5:
Vertical relief, as shown on this survey is derived from a ground survey done by Duininck Inc. on 12-14-2017, and has a contour interval of 1 foot. The datum used for this survey is the North American Vertical Datum of 1988 (NAVD 88) using MNDOT Geodetic control point BACKES, which has an NAVD 88 elevation of 922.08.

Item 7a
Exterior dimension of buildings at ground level, as shown on this survey. SEE SHEETS 2 & 3

Item 8:
Substantial features observed in the process of conducting our field work, as shown on this survey.

Item 11:
The Gopher State One Call Utility location system was notified for this survey (Ticket #173312608 on 11-27-2017, submitted by, and utilities located by Duininck Inc.). The following utility companies were notified and are required by Minnesota Statute 7560.0250 to respond.

- Comcast - MARKED 800-762-0592
- Veolia Water - MARKED 763-497-3611
- Centurylink - MARKED 800-283-4237
- Center Point Energy - MARKED 608-223-2014
- Xcel Energy - MARKED 800-848-7558
- Zayo Bandwidth - MARKED 888-267-1063

Some of the utility companies may not have responded to the locate request. There are also various private facilities that do not participate in the Gopher State One Call utility location system and may have utilities located on this property that we are not aware of. Before any excavating is done in this area, the utilities should be re-notified. The utilities shown on this survey are based on information provided by the utility companies and field observations. SEE SHEETS 2 & 3

Item 19:
Plottable offsite easements or servitudes, as shown on this survey. SEE SHEETS 2 & 3

Schedule B - Part 2 Exceptions

Items 1&2:
Are not survey issues and were not addressed as a part of this survey.

Item 3
Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the land.
AS SHOWN ON THIS SURVEY SEE SHEETS 2 & 3

Items 4-11:
Are not survey issues and were not addressed as a part of this survey.

Item 12:
Permanent Drainage, Utility & Pathway Easement filed as Document Number A954819.
AS SHOWN ON THIS SURVEY SEE SHEETS 2 & 3

Item 13:
Is not a survey issue and was not addressed as a part of this survey.

Item 14:
Subject to road(s) as shown by available maps.
AS SHOWN ON THIS SURVEY SEE SHEETS 2 & 3

Item 15:
Current Legal description appears to encroach on to the Plat of Pheasant Run Second Addition. Assuming Document No. A1358544 is the current deed referred to , this description does overlap with Pheasant Run Second Addition, however, the Schedule A land description referred to on this survey DOES NOT overlap with Pheasant Run Section Addition.

Items 16:
Current legal description appears to except out too much property in exception "i)" of Warranty Deed filed as Document Number A1358544. The current legal description (Doc. #A1358544) does except out too much property for exception i, however, the Schedule A land description fits with the found survey monuments and land use.

The distances shown from improvements to the property lines are shown for references purposes only and are NOT intended for determining the property line location. Property corner monuments shall always be used when establishing the property line.

To Paxmar, LLC, Duininck Inc., Stewart Title Guaranty Company, and Land Title, Inc:

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2016 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes items 1, 4, 5, 7a, 8, 11, and 19 of Table A thereof. The fieldwork was completed on December 18, 2017.

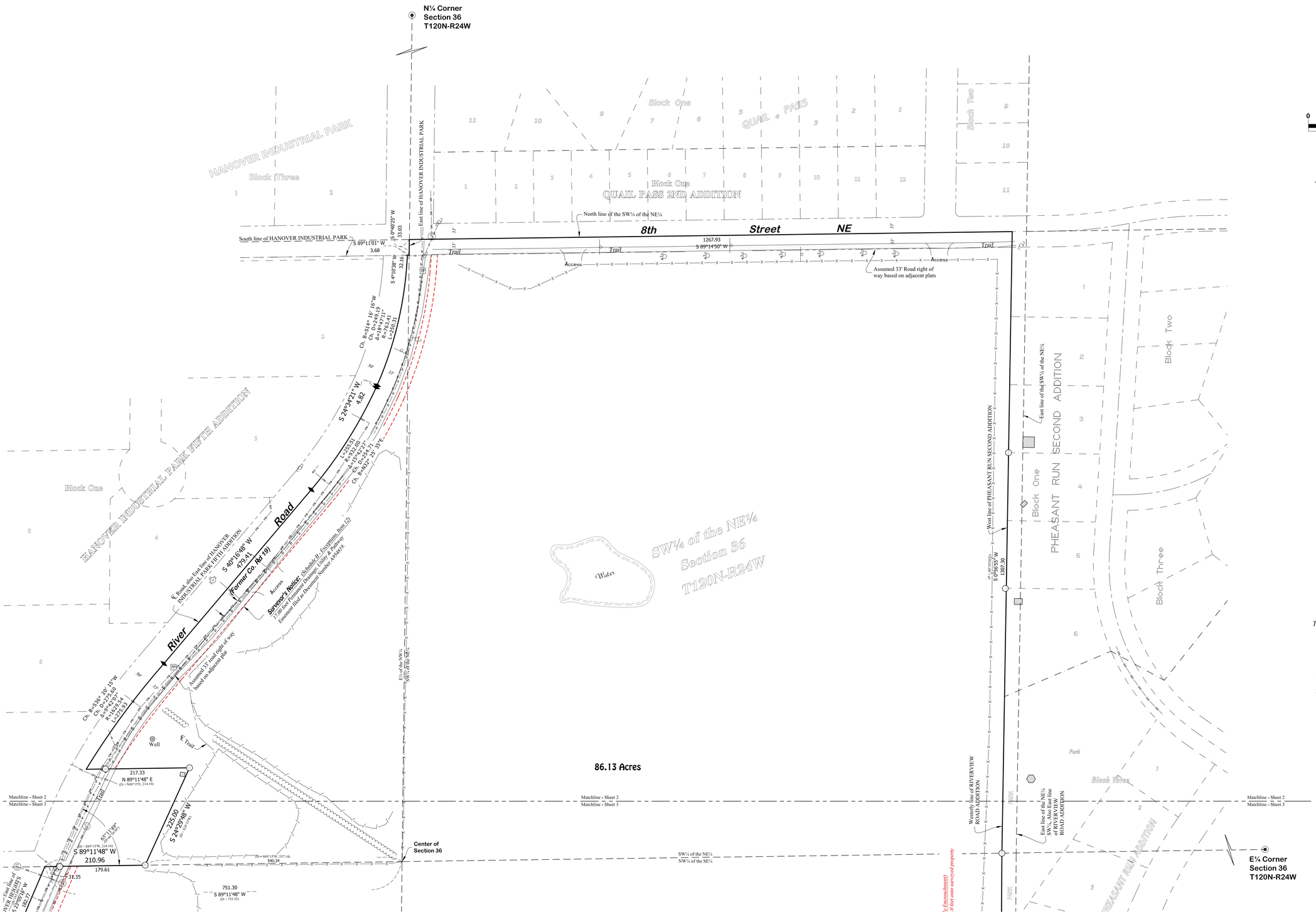
Matthew D. Runke

Date ***July 23, 2018*** License No. 46169

Sheet 1 of 3

Survey Requested By: **Duininck Inc.**
© BONNEMA RUNKE STERN INC 2018

36-120-24



North

0 100 200 300

Scale in Feet

LEGEND

- Found Iron Monument from former survey
- Bonnema Runke Stern Inc. Placed Capped Iron Monument
- Cast Iron Monument
- Course Change - No monument set
- Sanitary manhole
- Water Gate Valve
- Telephone Pedestal
- Electric Transformer
- Fire Hydrant
- Power Pole
- Sanitary Sewer
- Storm Sewer
- Water Line
- Road Right of way
- Gas Line
- Buried Fiber Optic
- Buried Electric
- Buried Telephone
- Overhead Power
- Occupation / Farm Tillage
- Fence
- (D = XX.XX) Deed Dimension
- (P = XX.XX) Platted Dimension
- Tree Row
- Existing Building

Elevation Datum:

The Elevation Datum used for this survey is the North American Vertical Datum of 1988 (NAVD 88)

MnDOT Geodetic Control Point
BACKES = 922.081 (NAVD 88)

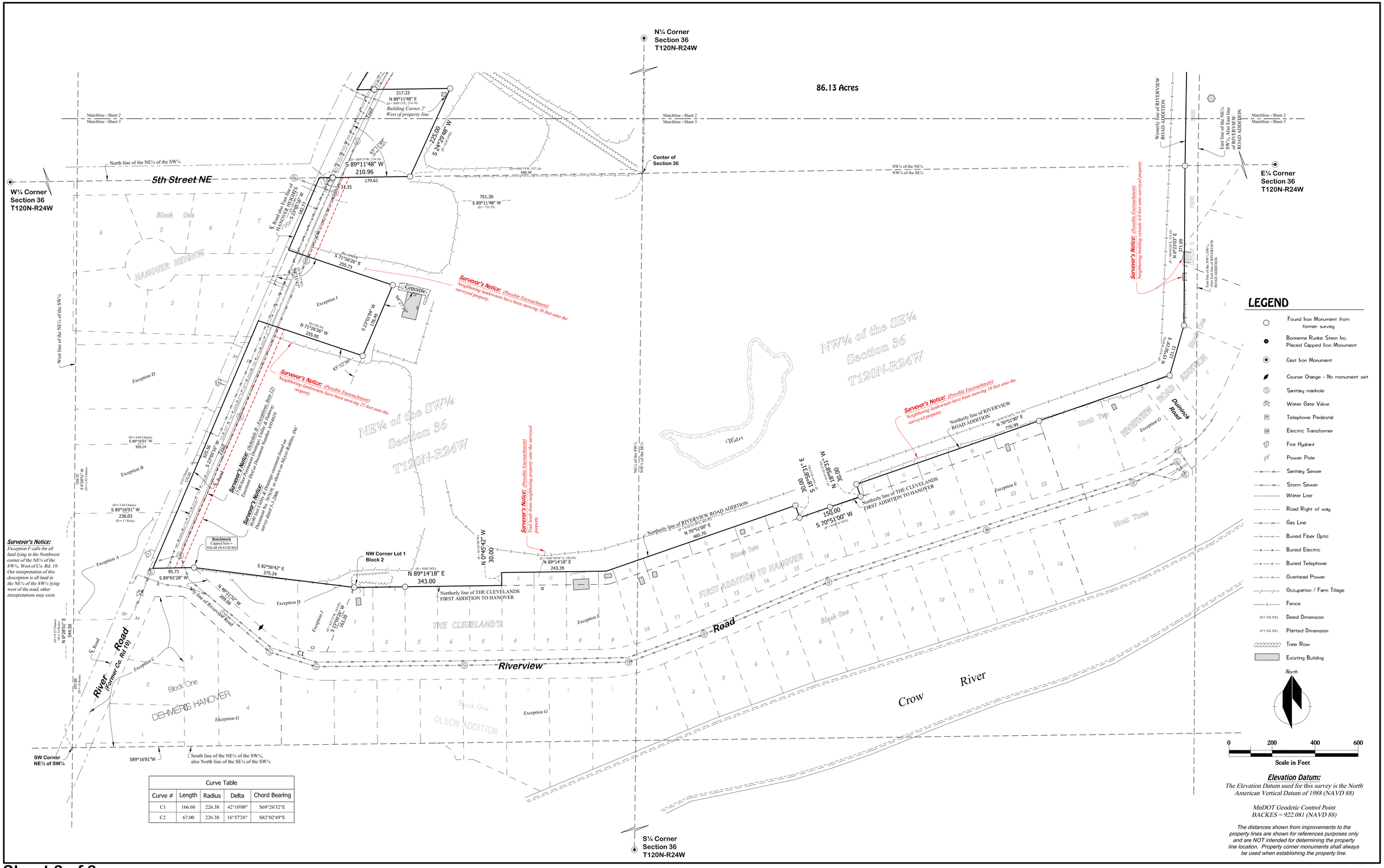
The distances shown from improvements to the property lines are shown for references purposes only and are NOT intended for determining the property line location. Property corner monuments shall always be used when establishing the property line.

Sheet 2 of 3

Survey Requested By: **Duininck Inc.**

© BONNEMA RUNKE STERN INC 2018

36-120-24



Curve Table				
Curve #	Length	Radius	Delta	Chord Bearing
C1	166.60	226.38	42°10'00"	S69°26'32"E
C2	67.00	226.38	16°57'26"	S82°02'49"E

LEGEND

- Found Iron Monument from former survey
- Bonnema Runke Stern Inc. Placed Capped Iron Monument
- Cast Iron Monument
- Course Change - No monument set
- Sanitary manhole
- Water Gate Valve
- Telephone Pedestal
- Electric Transformer
- Fire Hydrant
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- Fence
- (D = XX.XX) Deed Dimension
- (P = XX.XX) Platted Dimension
- Tree Row
- Existing Building

North

0 200 400 600

Scale in Feet

Elevation Datum:

The Elevation Datum used for this survey is the North American Vertical Datum of 1988 (NAVD 88)

MnDOT Geodetic Control Point
BACKES = 922.081 (NAVD 88)

The distances shown from improvements to the property lines are shown for references purposes only and are NOT intended for determining the property line location. Property corner monuments shall always be used when establishing the property line.

Sheet 3 of 3

Survey Requested By: **Duininck Inc.**

© BONNEMA RUNKE STERN INC 2018

36-120-24

Preliminary Plat of:

HANOVER COVE

A Planned Unit Development

Located In:

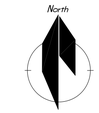
E½ of the NW¼, NE¼ of the SW¼, SW¼ of the NE¼ and the NW¼ of the SE¼, Section 36, Township 120 North, Range 24 West, Wright County, MN

Curve Table				
Curve #	Length	Radius	Delta	Chord Bearing
C1	17.82	1579.54	0°38'47"	S40°51'55"W
C2	46.00	1579.54	1°40'08"	S39°42'28"W
C3	58.56	1579.54	2°07'27"	S37°48'41"W
C4	19.79	1129.00	1°00'15"	N39°53'17"E
C5	21.75	1129.00	1°06'14"	N27°37'32"E
C6	43.29	360.00	6°53'25"	S30°31'08"W
C7	3.80	360.00	0°36'19"	S88°56'40"W
C8	31.49	1189.00	1°31'03"	N39°37'52"E
C9	25.02	1189.00	1°12'20"	N38°16'11"E
C10	29.49	1189.00	1°25'16"	N27°47'03"E
C11	44.10	300.00	8°25'18"	S31°17'04"W
C12	8.51	300.00	1°37'33"	S88°26'04"W
C13	8.51	182.50	2°40'23"	S87°54'38"W
C14	26.08	182.50	8°11'14"	S31°10'02"W
C15	34.62	1306.50	1°31'06"	N27°49'58"E
C16	31.49	1306.50	1°22'52"	N39°41'58"E
C17	42.55	322.50	7°33'34"	S53°23'23"E
C18	72.14	322.50	12°49'01"	S63°34'41"E
C19	39.82	322.50	7°04'25"	S87°21'33"E
C20	42.79	440.00	5°34'18"	S52°23'45"E
C21	100.88	140.00	41°17'09"	S19°44'49"W
C22	15.55	140.00	6°21'44"	S2°17'06"W
C23	6.35	500.00	0°43'41"	N89°28'05"E
C24	41.43	200.00	11°52'10"	N6°53'03"E
C25	26.79	200.00	7°40'29"	N67°00'46"E
C26	66.40	300.00	12°40'52"	N77°11'26"E
C27	29.81	300.00	5°41'34"	N86°22'39"E
C28	96.21	300.00	18°22'26"	S80°02'13"W
C29	115.45	360.00	18°22'26"	N80°02'13"E
C30	11.52	260.00	2°32'21"	N69°34'49"E
C31	38.03	360.00	6°03'09"	N73°52'34"E
C32	77.42	360.00	12°19'17"	N83°03'47"E
C33	56.35	45.00	71°44'45"	N34°58'37"E
C34	131.48	105.00	71°44'45"	N34°58'37"E
C35	21.52	45.00	27°24'05"	N12°48'17"E
C36	34.83	45.00	44°20'40"	N48°40'40"E
C37	22.35	105.00	12°11'44"	N64°45'08"E
C38	45.15	105.00	24°38'19"	N46°20'06"E
C39	46.30	105.00	25°15'58"	N21°22'58"E
C40	17.68	105.00	9°38'44"	N3°55'37"E
C41	124.70	66.00	108°15'15"	S55°01'23"E
C42	30.71	140.00	12°34'01"	S84°29'34"E
C43	45.33	200.00	12°59'09"	S84°17'00"E
C44	32.85	200.00	9°24'38"	S73°05'03"E
C45	32.30	200.00	9°15'15"	S63°45'07"E
C46	33.44	200.00	9°34'48"	S54°20'02"E
C47	40.13	200.00	11°29'44"	S43°47'46"E
C48	47.95	200.00	13°44'14"	S31°10'44"E
C49	31.35	200.00	8°58'50"	S18°31'39"W
C50	53.97	40.00	77°18'15"	S61°40'11"W
C51	134.92	100.00	77°18'15"	S61°40'11"W
C52	50.71	100.00	29°03'12"	S85°47'43"W
C53	30.16	100.00	17°16'47"	S62°38'05"W
C54	30.34	100.00	17°22'58"	S45°18'35"W
C55	23.75	100.00	13°36'24"	S29°49'16"W
C56	35.12	27.00	74°32'02"	S14°14'57"E
C57	102.67	246.00	23°54'49"	N11°03'39"E
C58	77.63	186.00	23°54'49"	N11°03'39"E
C59	6.13	186.00	1°53'20"	N22°04'24"E
C60	39.82	246.00	9°16'29"	N3°44'29"E
C61	45.70	246.00	10°38'40"	N13°42'04"E
C62	17.15	246.00	3°59'40"	N21°01'14"E
C63	35.92	126.00	16°19'54"	N79°00'57"E
C64	30.48	126.00	13°51'38"	S7°49'35"E
C65	28.49	486.00	3°21'33"	S78°38'57"E
C66	38.35	486.00	4°31'16"	S74°42'32"E
C67	44.52	486.00	5°14'56"	S69°49'26"E
C68	176.19	426.00	23°41'47"	S79°02'52"E
C69	50.27	426.00	6°45'42"	S87°30'54"E
C70	125.91	426.00	16°56'06"	S75°40'01"E
C71	81.57	140.00	33°23'04"	S22°09'30"W
C72	27.99	982.00	1°37'58"	N39°27'50"E

Line Table				
Line #	Length	Direction		
L1	32.16	N4°10'38"E	167750.993	558698.350
L2	5.61	N24°34'21"E	167484.317	558680.389
L3	36.66	N4°10'38"E	167746.741	558748.172
L4	2.78	S89°14'50"W	167658.132	558738.436
L5	24.52	N89°06'15"E	166877.345	559019.711
L6	26.39	S89°06'15"W	166760.243	559046.061
L7	23.59	S49°36'36"E	166969.458	558787.727
L8	8.56	S49°36'36"E	166824.495	558682.283
L9	47.59	S19°45'47"W	166304.619	559649.224
L10	18.84	N0°53'45"W	166192.139	559438.198
L11	0.70	S70°51'00"W	165773.553	558621.466
L12	1.68	N23°05'16"E	166497.128	558006.395
L13	14.53	S0°56'58"W	166322.909	559824.551
L15	4.18	S89°14'13"W	165696.754	558527.265
L16	21.78	S89°14'43"W	165694.684	558375.103
L17	46.06	N77°33'53"W	165881.795	558339.048
L18	7.39	S23°01'04"W	166090.706	558042.011
L19	29.42	S3°06'40"W	165899.874	558435.092
L20	11.35	S0°53'45"E	166259.525	558108.735
L21	23.72	S23°01'04"W	166248.180	558108.912
L22	26.73	N89°01'28"E	165591.081	557620.162
L23	30.00	S0°45'42"E	165580.007	558361.858
L24	14.80	N89°14'18"E	165580.007	558361.858
L25	15.84	N70°51'00"E	166032.941	559900.220
L26	30.00	S18°58'31"E	165785.219	559186.858
L27	30.00	N18°58'31"W	165707.642	559054.913
L28	6.87	S23°01'04"W	165909.261	557905.783
L29	18.36	N67°11'58"W	166434.819	557999.788
L30	18.06	N67°11'58"W	166490.131	558023.039
L31	41.84	S6°10'51"W	166500.667	558149.094
L32	18.35	S1°08'25"E	166229.666	558309.842
L33	22.99	N40°23'24"E	166705.533	558250.871
L34	17.98	N70°51'00"E	166082.216	558717.742
L35	16.82	N0°53'45"W	166199.274	558550.424
L36	48.61	S23°01'04"W	165885.800	557961.006
L37	17.81	S0°23'03"W	166525.683	559950.934
L38	24.22	N0°23'03"E	166483.651	559950.652
L39	25.44	S0°57'31"W	166509.912	559827.654
L40	20.49	N17°36'29"E	166615.272	558445.469
L41	22.65	N17°36'29"E	166634.803	558451.668
L42	15.04	N40°23'24"E	166656.388	558458.518

Vicinity Sketch
City of Hanover, MN

Section 36, T120N-R24W



This drawing prepared by:

Bonnema Runke Stern Inc.
Professional Land Surveyors
1809 22nd St SW - Suite 104
Willmar, MN 56201
Office (320) 231-2844
Fax (320) 231-2827

Requested by: **Duininck Inc.**
C/O Jason Ver Steeg
408 6th St
Prinsburg, MN 56281

Dated: **November 12, 2018**

0 100 200 300
Scale in Feet

LEGEND

- Found Iron Monument from Former Survey
- Bonnema Runke Stern Inc. placed a 3/8" Iron Rod with a 46169-46171-14895 stamped Plastic Cap
- Cast Iron Monument
- Building Setbacks
- Proposed Building Footprint
- Existing Building Footprint
- Course Change - No Monument Set
- 9840 s.f. Total Lot Area in Square Feet
- 3895 Buildable Lot Area in Square Feet
- Open Water / Low Area
- Drainage / Utility Easement Lines

The Orientation of this bearing system is assumed. The West line of PHEASANT RUN SECOND ADDITION is assumed to bear N 0°56'55" E

DEDICATION

KNOW ALL MEN BY THESE PRESENTS that Marah, Co. as owners and proprietors of the following described property, situated in the County of Wright, State of Minnesota, to wit:

"Parcel 1:
The Southwest Quarter of the Northeast Quarter (SW¼ NE¼), AND the Northwest Quarter of the Southeast Quarter (NW¼ SE¼) (lying North of the Crow River); AND the Northeast Quarter of the Southwest Quarter (NE¼ SW¼), all of said land being in Section Thirty-six (36), Township One Hundred Twenty (120), Range Twenty-four (24), Wright County, Minnesota, excepting therefrom the following tracts:
a) Tract sold to Board of Education of Hanover by deed recorded in Book 28 of Deeds, page 524.
b) Tract sold to Henry Ernest Kirscht by deed recorded in Book 74 of Deeds, page 207.
c) Tract sold to Lakeview Motors, Inc., by deed recorded in Book 158 of deeds, page 143.
d) Tract described as beginning at the Southwest corner of said Northeast Quarter of the Southwest Quarter (NE¼ SW¼), thence North 786.8 feet to beginning tract to be conveyed; thence North 150 feet, thence angle right 90° 337.6 feet to the right of way line of State Aid Road No. 6; thence Southwesterly along said right of way line 160 feet; thence West 275 feet to beginning; all of said land being in Section Thirty-six (36), Township One hundred Twenty (120), Range Twenty-four (24).
e) Plat of Cleveland's First Addition to Hanover as recorded in Book 5 of Plats, page 50.
f) All that land lying in the Northwest corner of the Northeast Quarter of the Southwest Quarter (NE¼ SW¼) West of County Road 19 as presently situated.
g) All that land platted as Olson Addition, Dehmer's Hanover and Riverview Road Addition, Pheasant Run Second Addition.
h) All that land described in Warranty Deed recorded August 13, 1969, in Book 228 of Deeds, page 37.
i) All that land described in Warranty Deed recorded September 28, 1978 in Book 291 of Deeds, page 180.
j) All that land described in Quit Claim Deed recorded July 12, 1979, in Book 294, page 153.

AND

Parcel 2:
That part of the East Half of the Northwest Quarter (E½ NW¼) of Section Thirty-six (36), Township One Hundred Twenty (120), Range Twenty-four (24), Wright County, Minnesota, lying East of County Road No. 19, EXCEPT all that part of the Northwest Quarter (NW¼) of Section Thirty-six (36), Township One Hundred Twenty (120), Range Twenty-four (24), described as follows: Commencing at the center of said Section Thirty-six (36), thence South 89°15' West along the quarter line, 537.14 feet for a point of beginning, thence continuing on said last described course, 214.16 feet to the center of County Road, thence North 24°33' East along said center of road, 225 feet, thence North 89°15' East, 214.16 feet, thence South 24°33' West, 225 feet, to the point of beginning.

Has caused the same to be surveyed and platted as HANOVER COVE, and does hereby dedicate to the public for public use the public way(s) and/or the drainage and utility easement(s) as created by this plat.

In witness whereof said Marah, Co. have hereunto set their hands this ____ day of _____ 20 __

_____
OWNER NAME

STATE OF MINNESOTA
COUNTY OF_____

This instrument was acknowledged before me this____ day of _____ 20___ by Marah, Co.

_____
Notary Signature
Notary Public, _____ County, Minnesota
My Commission Expires _____

Land Surveyor

I Matthew D. Runke hereby certify that this plat was prepared by me or under my direct supervision; that I am a duly Licensed Land Surveyor in the State of Minnesota; that this plat is a correct representation of the boundary survey; that all mathematical data and labels are correctly designated on this plat; that all monuments indicated on this plat have been, or will be set within one year; that all water boundaries and wet lands, as defined Minnesota Statutes, Section 505.01, Subd. 3, as of the date of this certificate are shown and labeled on this plat; and all public ways are shown and labeled on this plat.

Dated this ____ day of _____ 20 ____

_____
Matthew D. Runke, Licensed Land Surveyor
Minnesota License No. (46171)

STATE OF MINNESOTA
COUNTY OF _____

This instrument was acknowledged by me this ____ day of _____ 20___, by Matthew D. Runke, Licensed Land Surveyor, Minnesota License No. 46171.

_____
Notary Signature
Notary Public, _____ County, Minnesota
My Commission Expires_____

City Planning Commission

Approved by the Planning Commission of the City of Hanover, this____ day of _____ 20_____.

Signed:_____
Chair

ATTEST: _____
Secretary

City Council

Passed and adopted this _____ day of _____ 20___.

Signed:_____
Mayor

ATTEST: _____
City Clerk

County Surveyor

Approved this _____ day of _____, 20_____, A.D.

_____
Wright County Surveyor

County Auditor/Treasurer

TAX STATEMENT
I hereby certify that all taxes for 20 ___ on the land described herein are paid; and no delinquent taxes are due and transfer entered this _____ day of _____ 20____ .

_____
Wright County Auditor / Treasurer

County Recorder

I hereby certify that this instrument was filed for record in the office of the County Recorder in and for Wright County, Minnesota on this _____ day of _____, 20___, at _____ o'clock __.M., as Folder No._____, and as Document No. _____.

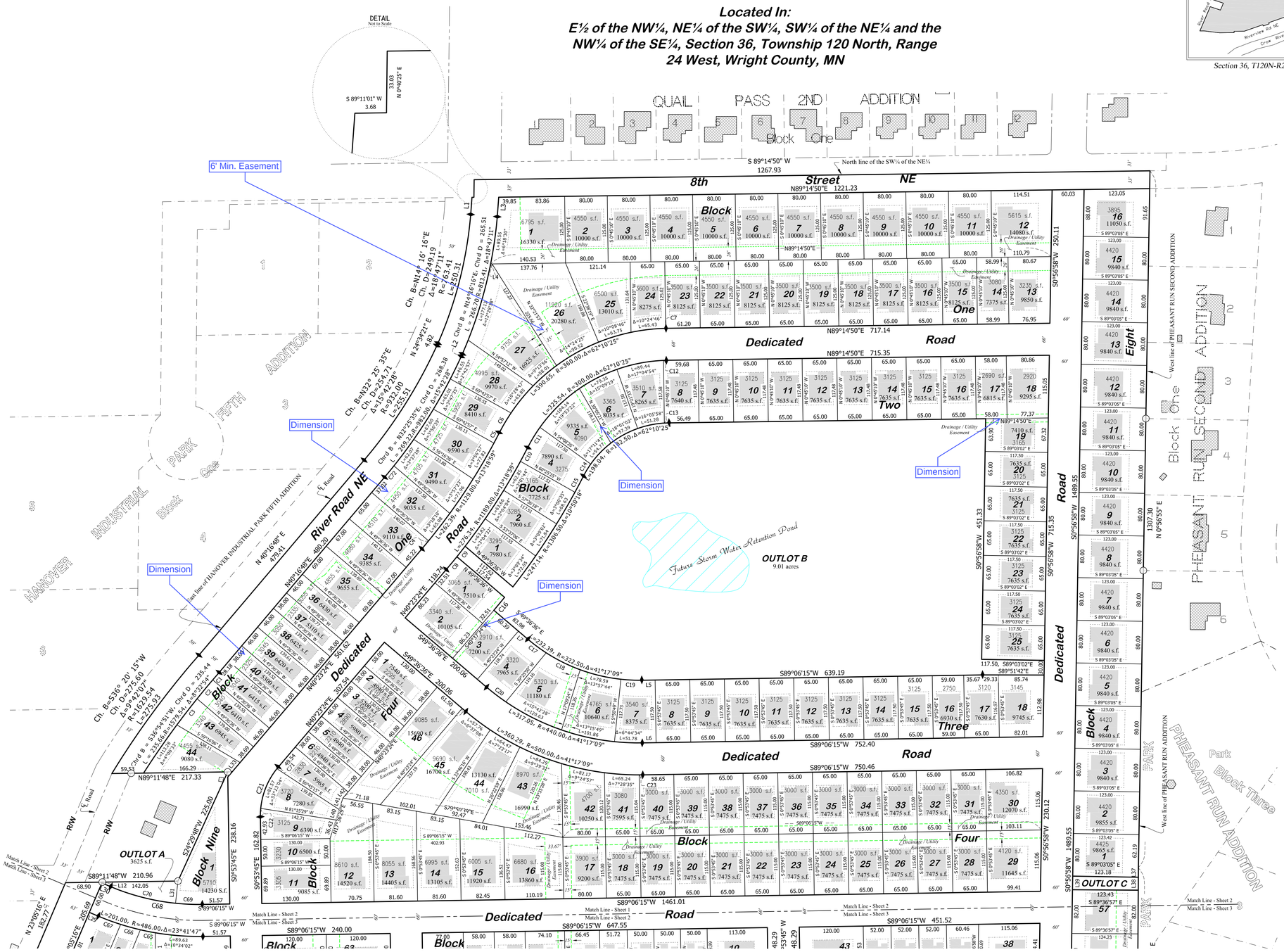
_____
Wright County Recorder

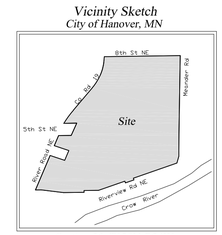
Preliminary Plat of:

HANOVER COVE

A Planned Unit Development

Located In:
E½ of the NW¼, NE¼ of the SW¼, SW¼ of the NE¼ and the NW¼ of the SE¼, Section 36, Township 120 North, Range 24 West, Wright County, MN





Section 36, T120N-R24W

North

This drawing prepared by:

Bonnema Runke Stern Inc.
Professional Land Surveyors
1809 22nd St SW - Suite 104
Willmar, MN 56201
Office (320) 231-2844
Fax (320) 231-2827

Requested by: **Duininck Inc.**
C/O Jason Ver Steeg
408 6th St
Prinsburg, MN 56281

Dated: **November 12, 2018**

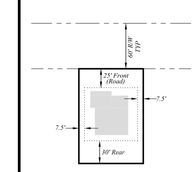
0 100 200 300
Scale in Feet

LEGEND

- Found Iron Monument from Former Survey
- Bonnema Runke Stern Inc. placed a 5/8" Iron Rod with a 46169-46171-14895 stamped Plastic Cap
- Cast Iron Monument
- Building Setbacks
- Proposed Building Footprint
- Existing Building Footprint
- Course Change - No Monument Set
- 9840 s.f. — Total Lot Area in Square Feet
- 3895 — Buildable Lot Area in Square Feet
- Open Water / Low Area
- Drainage / Utility Easement Lines

The Orientation of this bearing system is assumed. The West line of PHEASANT RUN SECOND ADDITION is assumed to bear N 0°56'55" E

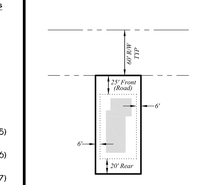
Typical Single Family Home Building Setbacks



Single Family Homes

Block 1:
Lots 1-35
Block 2:
Lots 1-25 (all of Block 2)
Block 3:
Lots 1-18 (all of Block 3)
Block 4:
Lots 12-46
Block 5:
None
Block 6:
None
Block 7:
None
Block 8:
Lots 1-16 (all of Block 8)
Block 9:
None

Typical Patio Home Building Setbacks



Patio Homes

Block 1:
Lots 30-44
Block 2:
None
Block 3:
None
Block 4:
Lots 1-11
Block 5:
Lots 1-16 (all of Block 5)
Block 6:
Lots 1-63 (all of Block 6)
Block 7:
Lots 1-57 (all of Block 7)
Block 8:
None
Block 9:
Lot 1 (all of Block 9)

Preliminary Plat of:

HANOVER COVE

A Planned Unit Development

Located In:
E½ of the NW¼, NE¼ of the SW¼, SW¼ of the NE¼ and the NW¼ of the SE¼, Section 36, Township 120 North, Range 24 West, Wright County, MN

Vicinity Sketch
City of Hanover, MN

Section 36, T120N-R24W

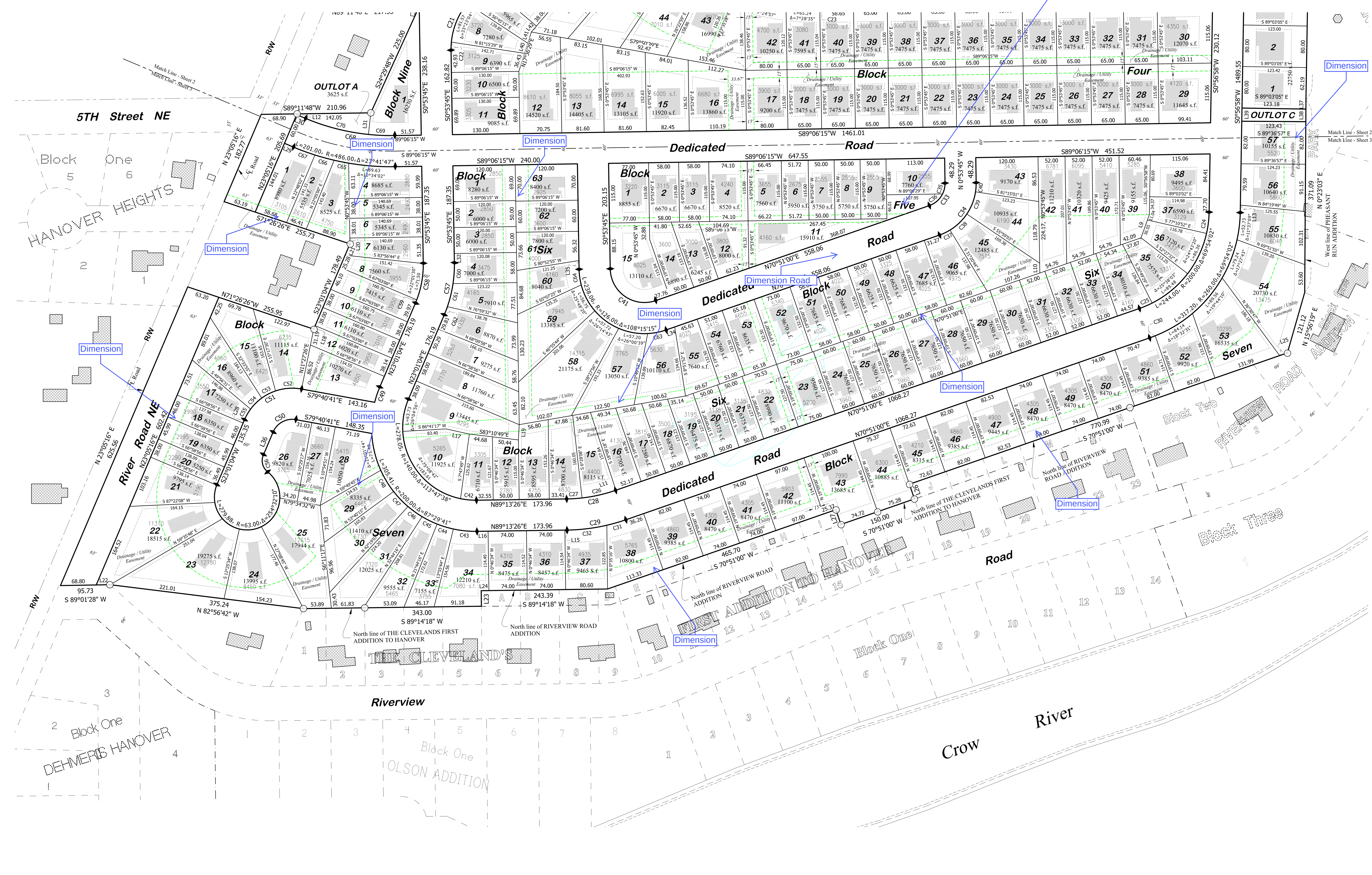
This drawing prepared by:

Bonnema Runke Stern Inc.
Professional Land Surveyors
1809 22nd St SW - Suite 104
Willmar, MN 56201
Office (320) 231-2844
Fax (320) 231-2827

Requested by: **Duininck Inc.**
C/O Jason Ver Steeg
408 6th St
Prinsburg, MN 56281

Dated: **November 12, 2018**

0 100 200 300
Scale in Feet



LEGEND

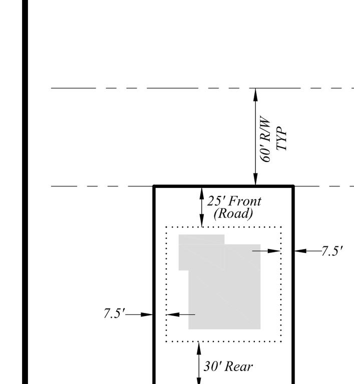
- Found Iron Monument from Former Survey
- Bonnema Runke Stern Inc. placed a ⅝" Iron Rod with a 46169-46171-14895 stamped Plastic Cap
- Cast Iron Monument
- Building Setbacks
- Proposed Building Footprint
- Existing Building Footprint
- Course Change - No Monument Set
- 9840 s.f. Total Lot Area in Square Feet
- 3895 Buildable Lot Area in Square Feet
- Open Water / Low Area
- Drainage / Utility Easement Lines

The Orientation of this bearing system is assumed. The West line of PHEASANT RUN SECOND ADDITION is assumed to bear N 0°56'55" E

Single Family Homes

Block 1:
Lots 1-35
Block 2:
Lots 1-25 (all of Block 2)
Block 3:
Lots 1-18 (all of Block 3)
Block 4:
Lots 12-46
Block 5:
None
Block 6:
None
Block 7:
None
Block 8:
Lots 1-16 (all of Block 8)
Block 9:
None

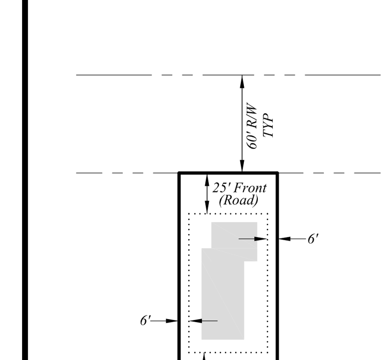
Typical Single Family Home Building Setbacks



Patio Homes

Block 1:
Lots 36-44
Block 2:
None
Block 3:
None
Block 4:
Lots 1-11
Block 5:
Lots 1-16 (all of Block 5)
Block 6:
Lots 1-63 (all of Block 6)
Block 7:
Lots 1-57 (all of Block 7)
Block 8:
None
Block 9:
Lot 1 (all of Block 9)

Typical Patio Home Building Setbacks



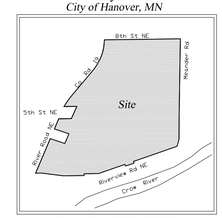
Preliminary Plat of:

HANOVER COVE

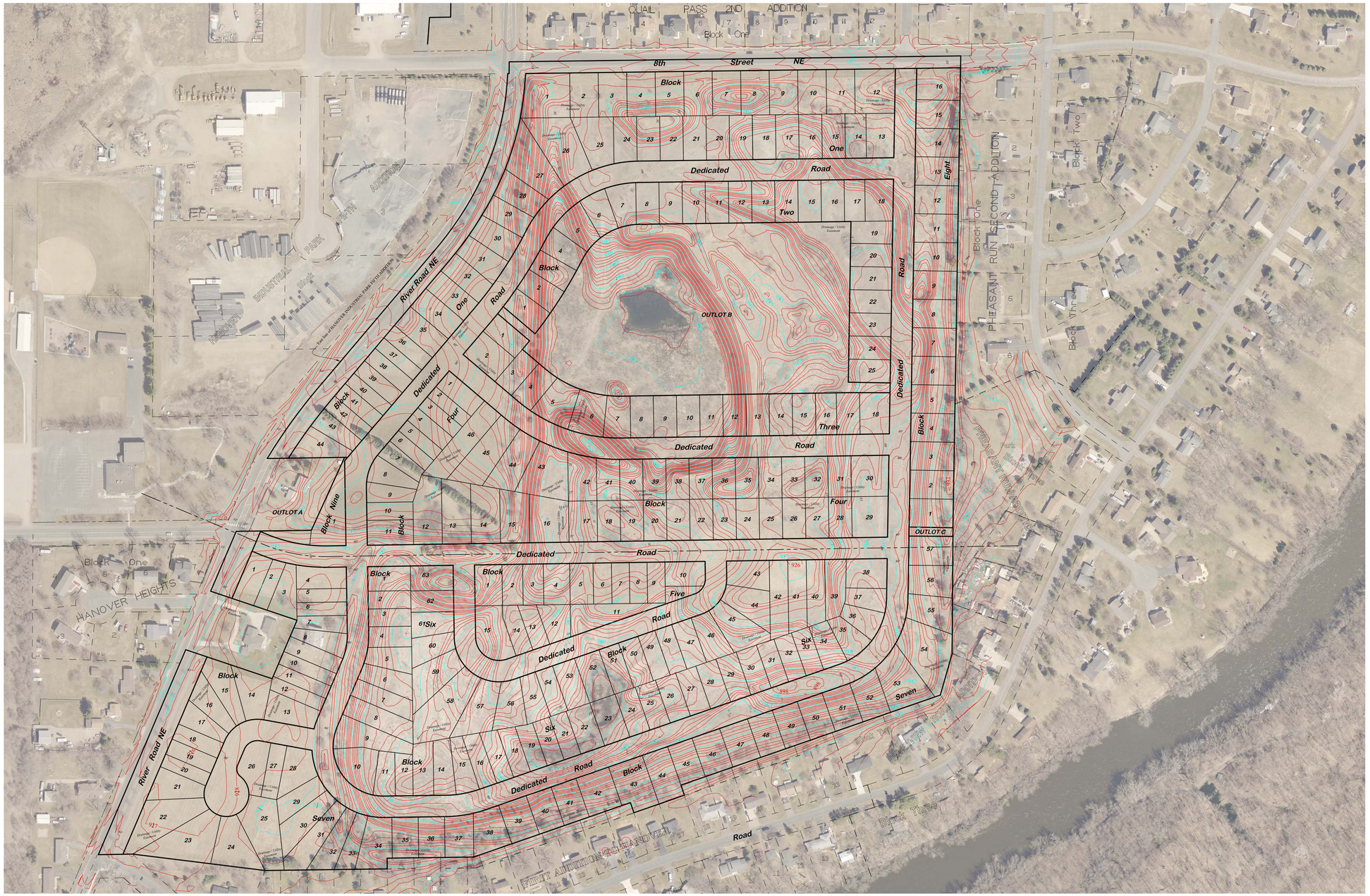
A Planned Unit Development

Located In:
E½ of the NW¼, NE¼ of the SW¼, SW¼ of the NE¼ and the NW¼ of the SE¼, Section 36, Township 120 North, Range 24 West, Wright County, MN

Vicinity Sketch
City of Hanover, MN



Section 36, T120N-R24W



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Requested by: **Duininck Inc.**
C/O Jason Ver Steeg
408 6th St
Prinsburg, MN 56281

Dated: **November 12, 2018**

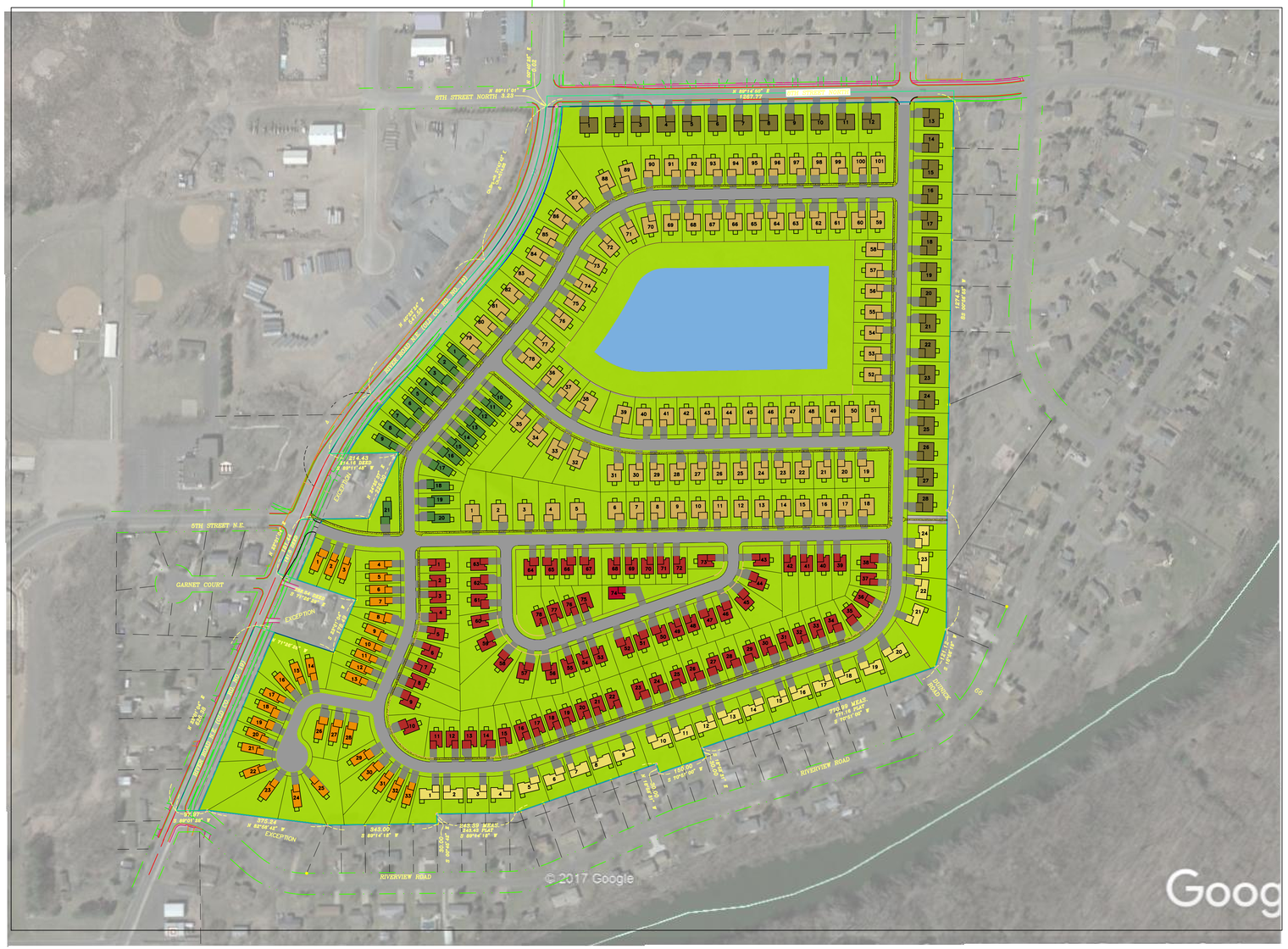
0 100 200 300
Scale in Feet

LEGEND

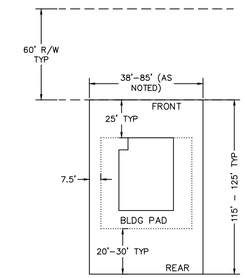
- ○ Found Iron Monument from Former Survey
- ● Bonnema Runke Stern Inc. placed a ½" Iron Rod with a 46169-46171-14895 stamped Plastic Cap
- ⊙ Cast Iron Monument

The Orientation of this bearing system is assumed. The West line of PHEASANT RUN SECOND ADDITION is assumed to bear N 0°56'55" E

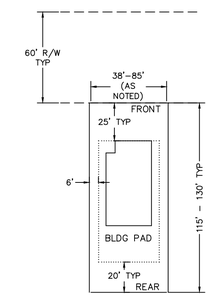
Sheet 4 of 4



PRELIMINARY LOT CONFIGURATIONS



SINGLE FAMILY HOMES



PATIO/FLEX HOMES

DEVELOPER:

PAXMAR, LLC
3495 NORTHDALE BLVD
SUITE 210
COON RAPIDS, MN 55448

0 200 400 Feet

CONCEPT DATA

GROSS SITE AREA: 82.6 ACRES
LOT AREA: 58.6 ACRES
R/W AREA: 14.8 ACRES
PONDING/OPEN AREA: 9.2 ACRES

LOT LEGEND	# OF LOTS
75-85' SINGLE FAMILY LOTS	28
75'-85' PATIO HOME LOTS	24
65'-75' SINGLE FAMILY LOTS	101
50-60' PATIO HOME LOTS	78
38'-46' PATIO HOME LOTS	33
38'-46' PATIO HOMES/MULTI LEVEL HOMES FLEX LOTS	21
TOTAL	285

DATE	REVISIONS	NO.	BY

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DUININCK
P.O BOX 208
408 SIXTH STREET
PRINSBURG, MN 56281
PHONE: (320) 978-6011
FAX: (320) 978-4978

SCALE GRAPHIC
DRAWN BY: JVS
CHECKED BY: JVS
SURVEYED BY: KVD

HANOVER COVE
CONCEPT PLAN

HANOVER, MN

DATE REVISED: NOVEMBER 16, 2018

SHEET 1 OF 1

Lot List by Phase

Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8	Phase 9
Block 1, Lot 1	Block 1, Lot 13	Block 6, Lot 10	Block 3, Lot 3	Block 6, Lot 23	Block 2, Lot 19	Block 5, Lot 10	Block 4, Lot 12	Block 1, Lot 36
Block 1, Lot 2	Block 1, Lot 14	Block 6, Lot 11	Block 3, Lot 4	Block 6, Lot 24	Block 2, Lot 20	Block 5, Lot 11	Block 4, Lot 13	Block 1, Lot 37
Block 1, Lot 3	Block 1, Lot 15	Block 6, Lot 12	Block 3, Lot 5	Block 6, Lot 25	Block 2, Lot 21	Block 5, Lot 12	Block 4, Lot 14	Block 1, Lot 38
Block 1, Lot 4	Block 1, Lot 16	Block 6, Lot 13	Block 3, Lot 6	Block 6, Lot 26	Block 2, Lot 22	Block 5, Lot 13	Block 4, Lot 15	Block 1, Lot 39
Block 1, Lot 5	Block 1, Lot 17	Block 6, Lot 14	Block 3, Lot 7	Block 6, Lot 27	Block 2, Lot 23	Block 5, Lot 14	Block 4, Lot 16	Block 1, Lot 40
Block 1, Lot 6	Block 1, Lot 18	Block 6, Lot 15	Block 3, Lot 8	Block 6, Lot 28	Block 2, Lot 24	Block 5, Lot 15	Block 4, Lot 17	Block 1, Lot 41
Block 1, Lot 7	Block 1, Lot 19	Block 6, Lot 16	Block 3, Lot 9	Block 6, Lot 29	Block 2, Lot 25	Block 6, Lot 43	Block 4, Lot 18	Block 1, Lot 42
Block 1, Lot 8	Block 1, Lot 20	Block 6, Lot 17	Block 3, Lot 10	Block 6, Lot 30	Block 8, Lot 1	Block 6, Lot 44	Block 4, Lot 19	Block 1, Lot 43
Block 1, Lot 9	Block 1, Lot 21	Block 6, Lot 18	Block 3, Lot 11	Block 6, Lot 31	Block 8, Lot 2	Block 6, Lot 45	Block 4, Lot 20	Block 1, Lot 44
Block 1, Lot 10	Block 1, Lot 22	Block 6, Lot 19	Block 3, Lot 12	Block 6, Lot 32	Block 8, Lot 3	Block 6, Lot 46	Block 4, Lot 21	Block 4, Lot 1
Block 1, Lot 11	Block 1, Lot 23	Block 6, Lot 20	Block 3, Lot 13	Block 6, Lot 33	Block 8, Lot 4	Block 6, Lot 47	Block 4, Lot 22	Block 4, Lot 2
Block 1, Lot 12	Block 1, Lot 24	Block 6, Lot 21	Block 3, Lot 14	Block 6, Lot 34	Block 8, Lot 5	Block 6, Lot 48	Block 4, Lot 23	Block 4, Lot 3
Block 1, Lot 27	Block 1, Lot 25	Block 6, Lot 22	Block 3, Lot 15	Block 6, Lot 35	Block 8, Lot 6	Block 6, Lot 49	Block 4, Lot 24	Block 4, Lot 4
Block 1, Lot 28	Block 1, Lot 26	Block 7, Lot 29	Block 3, Lot 16	Block 6, Lot 36	Block 8, Lot 7	Block 6, Lot 50	Block 4, Lot 25	Block 4, Lot 5
Block 1, Lot 29	Block 2, Lot 6	Block 7, Lot 30	Block 3, Lot 17	Block 6, Lot 37	Block 8, Lot 8	Block 6, Lot 51	Block 4, Lot 26	Block 4, Lot 6
Block 1, Lot 30	Block 2, Lot 7	Block 7, Lot 31	Block 3, Lot 18	Block 6, Lot 38	Block 8, Lot 9	Block 6, Lot 52	Block 4, Lot 27	Block 4, Lot 7
Block 1, Lot 31	Block 2, Lot 8	Block 7, Lot 32	Block 4, Lot 30	Block 7, Lot 43	Block 8, Lot 10	Block 6, Lot 53	Block 4, Lot 28	Block 4, Lot 8
Block 1, Lot 32	Block 2, Lot 9	Block 7, Lot 33	Block 4, Lot 31	Block 7, Lot 44	Block 8, Lot 11	Block 6, Lot 54	Block 4, Lot 29	Block 4, Lot 9
Block 1, Lot 33	Block 2, Lot 10	Block 7, Lot 34	Block 4, Lot 32	Block 7, Lot 45	Block 8, Lot 12	Block 6, Lot 55	Block 5, Lot 1	Block 4, Lot 10
Block 1, Lot 34	Block 2, Lot 11	Block 7, Lot 35	Block 4, Lot 33	Block 7, Lot 46	Outlot C	Block 6, Lot 56	Block 5, Lot 2	Block 4, Lot 11
Block 1, Lot 35	Block 2, Lot 12	Block 7, Lot 36	Block 4, Lot 34	Block 7, Lot 47		Block 6, Lot 57	Block 5, Lot 3	
Block 2, Lot 1	Block 2, Lot 13	Block 7, Lot 37	Block 4, Lot 35	Block 7, Lot 48		Block 6, Lot 58	Block 5, Lot 4	
Block 2, Lot 2	Block 2, Lot 14	Block 7, Lot 38	Block 4, Lot 36	Block 7, Lot 49		Block 6, Lot 59	Block 5, Lot 5	
Block 2, Lot 3	Block 2, Lot 15	Block 7, Lot 39	Block 4, Lot 37	Block 7, Lot 50		Block 6, Lot 60	Block 5, Lot 6	
Block 2, Lot 4	Block 2, Lot 16	Block 7, Lot 40	Block 4, Lot 38	Block 7, Lot 51		Block 6, Lot 61	Block 5, Lot 7	
Block 2, Lot 5	Block 2, Lot 17	Block 7, Lot 41	Block 4, Lot 39	Block 7, Lot 52		Block 6, Lot 62	Block 5, Lot 8	
Block 3, Lot 1	Block 2, Lot 18	Block 7, Lot 42	Block 4, Lot 40	Block 7, Lot 53		Block 6, Lot 63	Block 5, Lot 9	
Block 3, Lot 2	Block 6, Lot 1		Block 4, Lot 41	Block 7, Lot 54			Block 6, Lot 39	
Block 7, Lot 1	Block 6, Lot 2		Block 4, Lot 42	Block 7, Lot 55			Block 6, Lot 40	
Block 7, Lot 2	Block 6, Lot 3		Block 4, Lot 43	Block 7, Lot 56			Block 6, Lot 41	
Block 7, Lot 3	Block 6, Lot 4		Block 4, Lot 44	Block 7, Lot 57			Block 6, Lot 42	
Block 9, Lot 1	Block 6, Lot 5		Block 4, Lot 45					
Outlot A	Block 6, Lot 6		Block 4, Lot 46					
Outlot B	Block 6, Lot 7		Block 7, Lot 14					
	Block 6, Lot 8		Block 7, Lot 15					
	Block 6, Lot 9		Block 7, Lot 16					
	Block 7, Lot 4		Block 7, Lot 17					
	Block 7, Lot 5		Block 7, Lot 18					
	Block 7, Lot 6		Block 7, Lot 19					
	Block 7, Lot 7		Block 7, Lot 20					
	Block 7, Lot 8		Block 7, Lot 21					
	Block 7, Lot 9		Block 7, Lot 22					
	Block 7, Lot 10		Block 7, Lot 23					
	Block 7, Lot 11		Block 7, Lot 24					
	Block 7, Lot 12		Block 7, Lot 25					
	Block 7, Lot 13		Block 7, Lot 26					
	Block 8, Lot 13		Block 7, Lot 27					
	Block 8, Lot 14		Block 7, Lot 28					
	Block 8, Lot 15							
	Block 8, Lot 16							

Phasing Summary

Phase	# of Lots / Dwelling Units	Total Area (Acres)	Buildable Area (Acres)	Roadway / Utility Construction	
Phase 1	32	17.8	3.31	Street "D"	Sta 0+00 - 3+88
				Street "F"	Sta 0+00 - 12+25
Phase 2	50	12.3	4.39	Street "F"	Sta 12+25 - 21+75
				Street "A"	Sta 0+00 - 5+65
				Street "G"	Sta 10+25 - 13+79
Phase 3	27	6.6	2.86	Street "A"	Sta 5+65 - 14+75
Phase 4	48	13.1	5.11	Street "E"	Sta 0+00 - 13+50
				Street "C"	Sta 0+00 - 4+75
Phase 5	31	8.3	3.52	Street "A"	Sta 14+75 - 25+93
Phase 6	19	5.1	1.72	Street "G"	Sta 0+00 - 10+25
Phase 7	27	7.6	3.02	Street "B"	Sta 0+00 - 11+45
Phase 8	31	7.9	2.95	Street "D"	Sta 3+88 - 18+71
Phase 9	20	3.8	1.33		

NOTE:

TREE REMOVAL AND MASS GRADING (INCLUDING EROSION CONTROL) WILL BE COMPLETED ON ENTIRE DEVELOPMENT, PRIOR TO COMMENCEMENT OF PHASE 1 IMPROVEMENTS.

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I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: DATE: 11/16/2018

NAME: JASON VERSTEEG LIC. NO. 26505

DUININCK
PHONE: (320)978-6011 FAX: (320)978-4978
P.O. BOX 208 408 SIXTH STREET
PRINSBURG, MN 56281

HANOVER COVE
PRELIMINARY ENGINEERING PLAN
PHASING PLAN

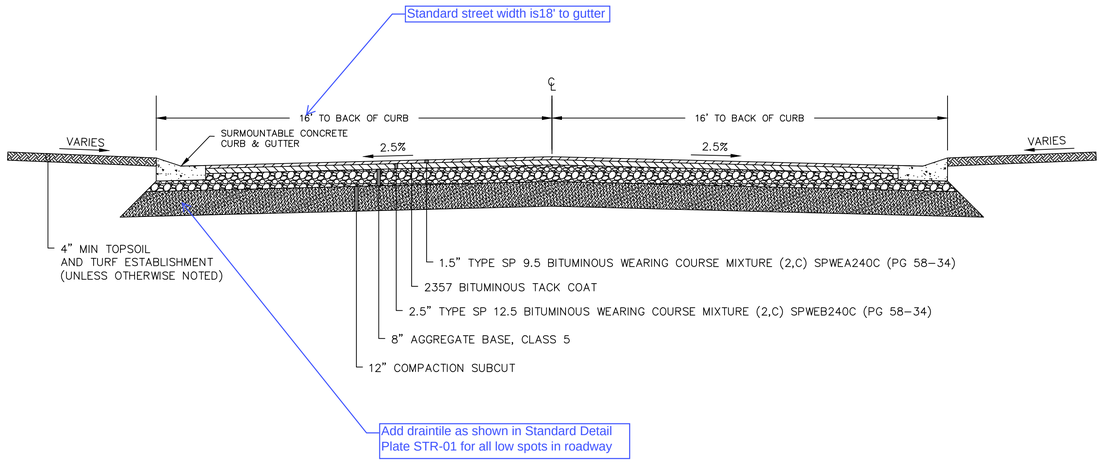
HANOVER, MN

CHECKED BY: JVS	DRAWN BY: JVS

SCALE
GRAPHIC

DATE
NOV 16, 2018

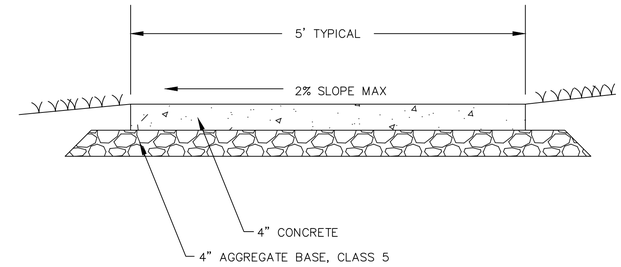
SHEET
PHASING



ROADWAY TYPICAL SECTION

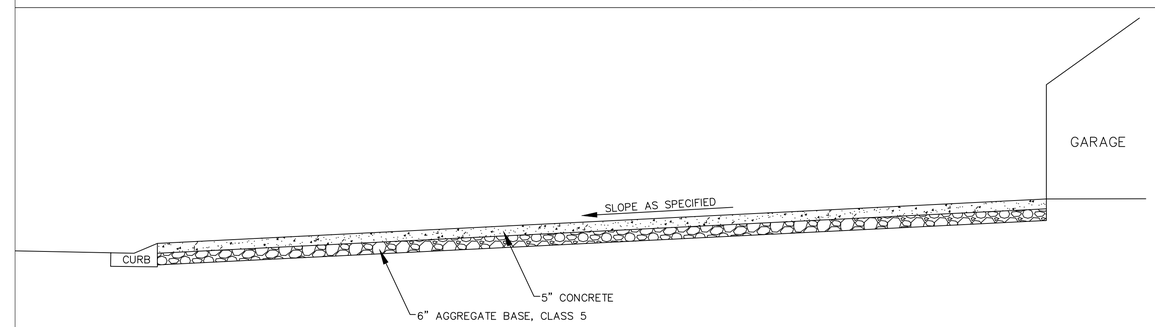
N.T.S.

NOTE: ALL CURB RADIUSES ARE 20' UNLESS OTHERWISE NOTED.



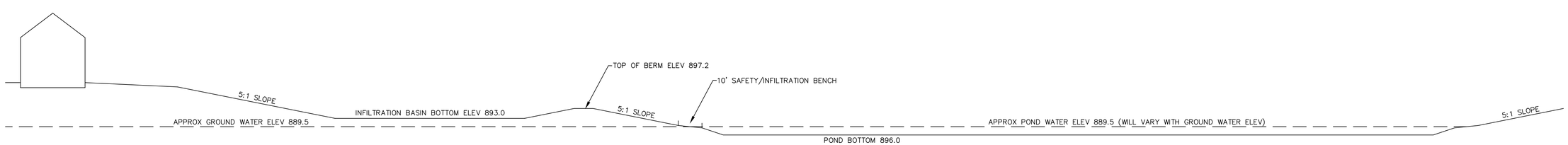
SIDEWALK TYPICAL SECTION

N.T.S.



DRIVEWAY TYPICAL SECTION

N.T.S.



PONDING TYPICAL SECTION

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SIGNATURE: DATE: 11/16/2018

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HANOVER COVE
PRELIMINARY ENGINEERING PLAN
TYPICAL SECTIONS

HANOVER, MN

CHECKED BY: JVS	DRAWN BY: JVS

SCALE
GRAPHIC

DATE
NOV 16, 2018

SHEET
TYP1

DRAINAGE AREA SUMMARY

DRAINS OFFSITE	12.8 ACRES
INFILTRATES ONSITE	69.7 ACRES
TOTAL	82.5 ACRES

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HANOVER COVE
PRELIMINARY ENGINEERING PLAN
OVERALL EXISTING DRAINAGE MAP

HANOVER, MN

CHECKED BY:	DRAWN BY:
JVS	JVS

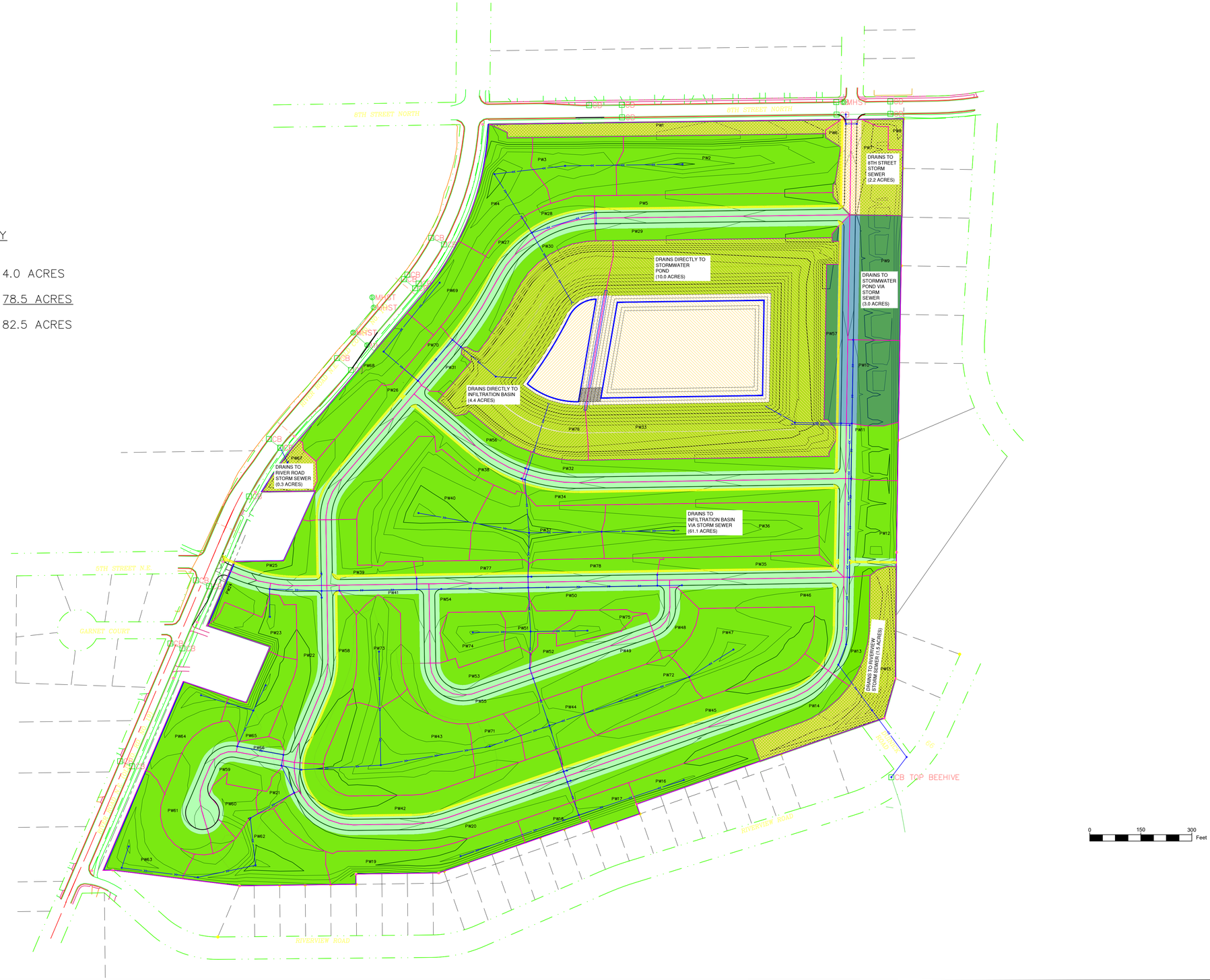
SCALE
GRAPHIC

DATE
NOV 16, 2108

SHEET
EXDRN

DRAINAGE AREA SUMMARY

DRAINS OFFSITE	4.0 ACRES
INFILTRATES ONSITE	78.5 ACRES
TOTAL	82.5 ACRES



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HANOVER COVE
PRELIMINARY ENGINEERING PLAN
OVERALL PROPOSED DRAINAGE MAP

HANOVER, MN

CHECKED BY:	DRAWN BY:
JVS	JVS

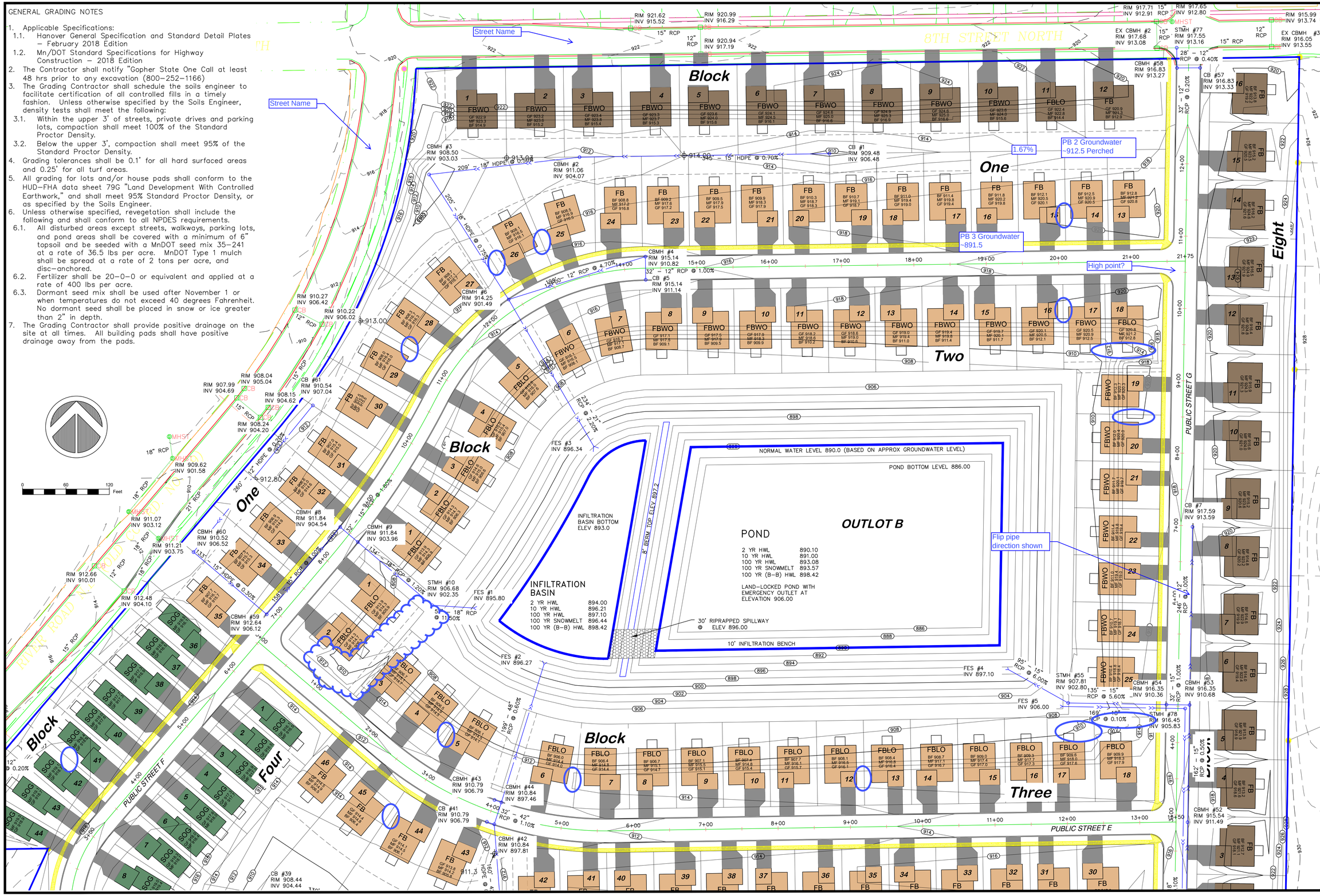
SCALE
GRAPHIC

DATE
NOV 16, 2108

SHEET
PRODRN

GENERAL GRADING NOTES

1. Applicable Specifications:
   1.1. Hanover General Specification and Standard Detail Plates – February 2018 Edition
   1.2. Mn/DOT Standard Specifications for Highway Construction – 2018 Edition
2. The Contractor shall notify "Gopher State One Call at least 48 hrs prior to any excavation (800–252–1166)
3. The Grading Contractor shall schedule the soils engineer to facilitate certification of all controlled fills in a timely fashion. Unless otherwise specified by the Soils Engineer, density tests shall meet the following:
   3.1. Within the upper 3' of streets, private drives and parking lots, compaction shall meet 100% of the Standard Proctor Density.
   3.2. Below the upper 3', compaction shall meet 95% of the Standard Proctor Density.
4. Grading tolerances shall be 0.1' for all hard surfaced areas and 0.25' for all turf areas.
5. All grading for lots and/or house pads shall conform to the HUD–FHA data sheet 79G "Land Development With Controlled Earthwork," and shall meet 95% Standard Proctor Density, or as specified by the Soils Engineer.
6. Unless otherwise specified, revegetation shall include the following and shall conform to all NPDES requirements.
   6.1. All disturbed areas except streets, walkways, parking lots, and pond areas shall be covered with a minimum of 6" topsoil and be seeded with a MnDOT seed mix 35–241 at a rate of 36.5 lbs per acre. MnDOT Type 1 mulch shall be spread at a rate of 2 tons per acre, and disc–anchored.
   6.2. Fertilizer shall be 20–0–0 or equivalent and applied at a rate of 400 lbs per acre.
   6.3. Dormant seed mix shall be used after November 1 or when temperatures do not exceed 40 degrees Fahrenheit. No dormant seed shall be placed in snow or ice greater than 2" in depth.
7. The Grading Contractor shall provide positive drainage on the site at all times. All building pads shall have positive drainage away from the pads.



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HANOVER COVE
PRELIMINARY ENGINEERING PLAN
GRADING AND DRAINAGE PLAN (NORTH)

HANOVER, MN

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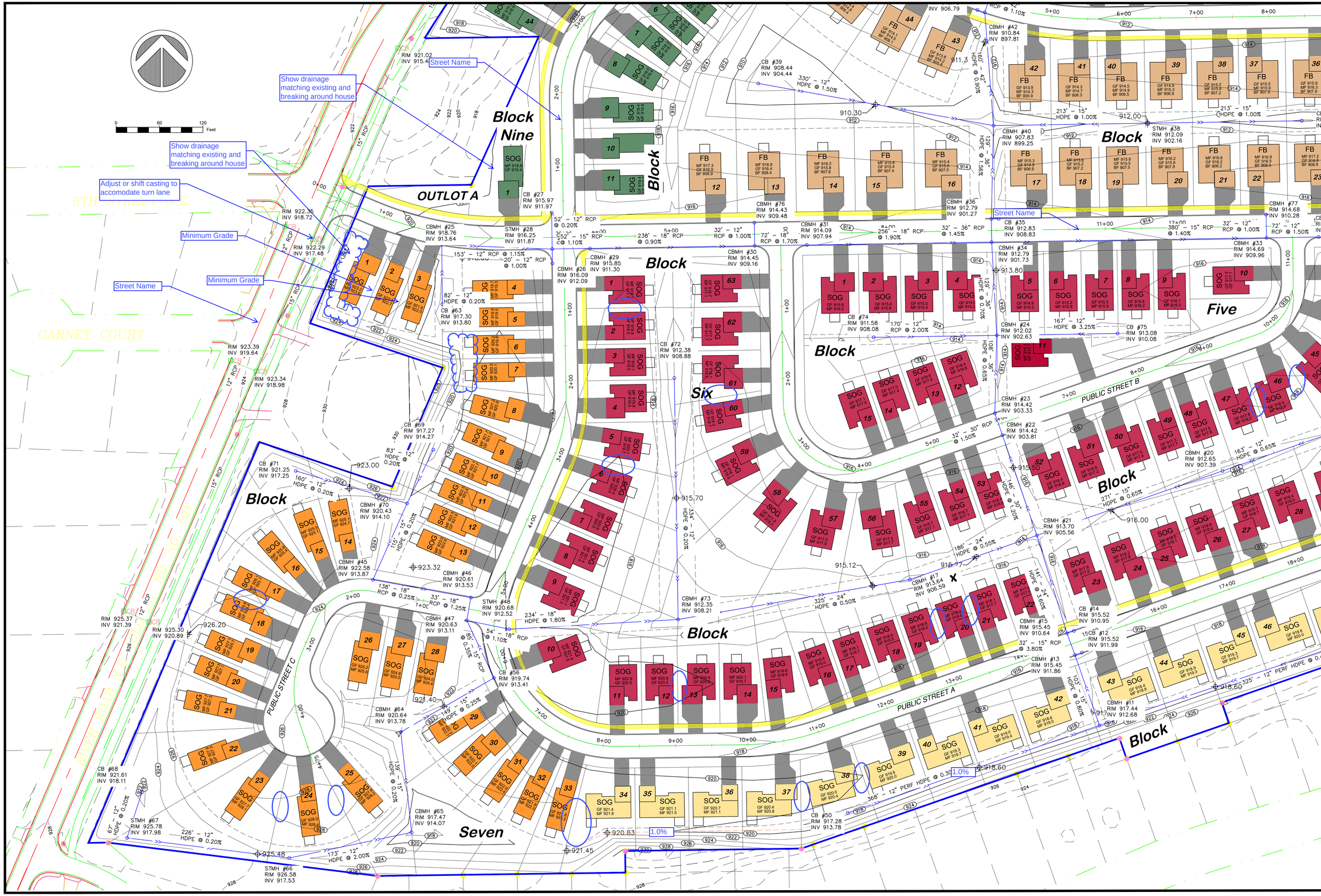
SCALE GRAPHIC	
DATE NOV 16, 2018	
SHEET DRAIN1	



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HANOVER COVE
PRELIMINARY ENGINEERING PLAN
GRADING AND DRAINAGE PLAN (SOUTHWEST)

HANOVER, MN

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SCALE
GRAPHIC

DATE
NOV 16, 2018

SHEET
DRAIN2

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HANOVER COVE
PRELIMINARY ENGINEERING PLAN
GRADING AND DRAINAGE PLAN (SOUTHEAST)

HANOVER, MN

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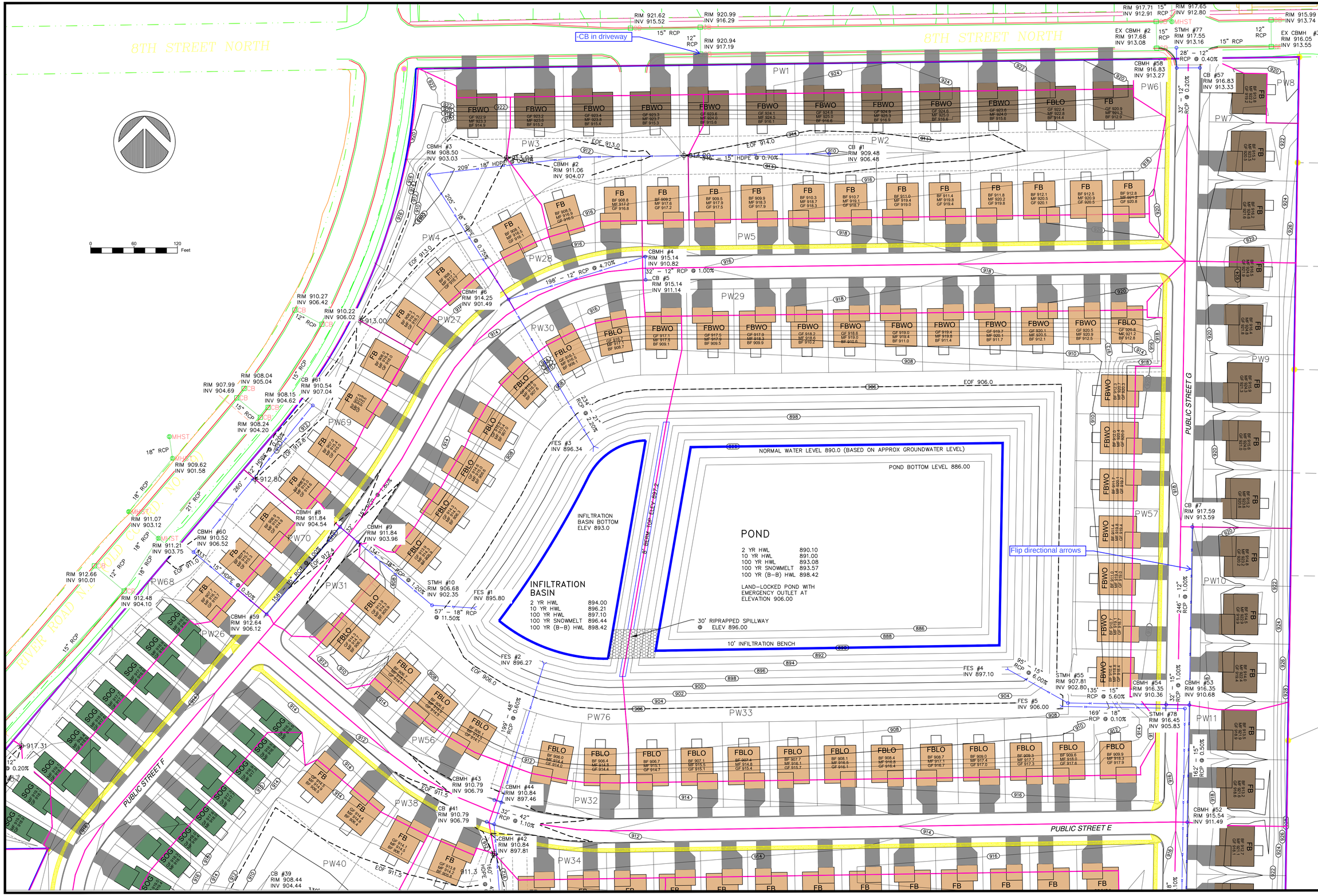
SCALE GRAPHIC	
DATE NOV 16, 2018	
SHEET DRAIN3	



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HANOVER COVE
PRELIMINARY ENGINEERING PLAN
SUBCATCHMENT / EOF MAP (NORTH)

HANOVER, MN

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SCALE GRAPHIC	
DATE NOV 16, 2018	
SHEET SUB1	

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HANOVER COVE
PRELIMINARY ENGINEERING PLAN
SUBCATCHMENT / EOF MAP (SOUTHWEST)

HANOVER, MN

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SCALE: GRAPHIC

DATE: NOV 16, 2018

SHEET: SUB2

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HANOVER COVE
PRELIMINARY ENGINEERING PLAN
SUBCATCHMENT / EOF MAP (SOUTHEAST)

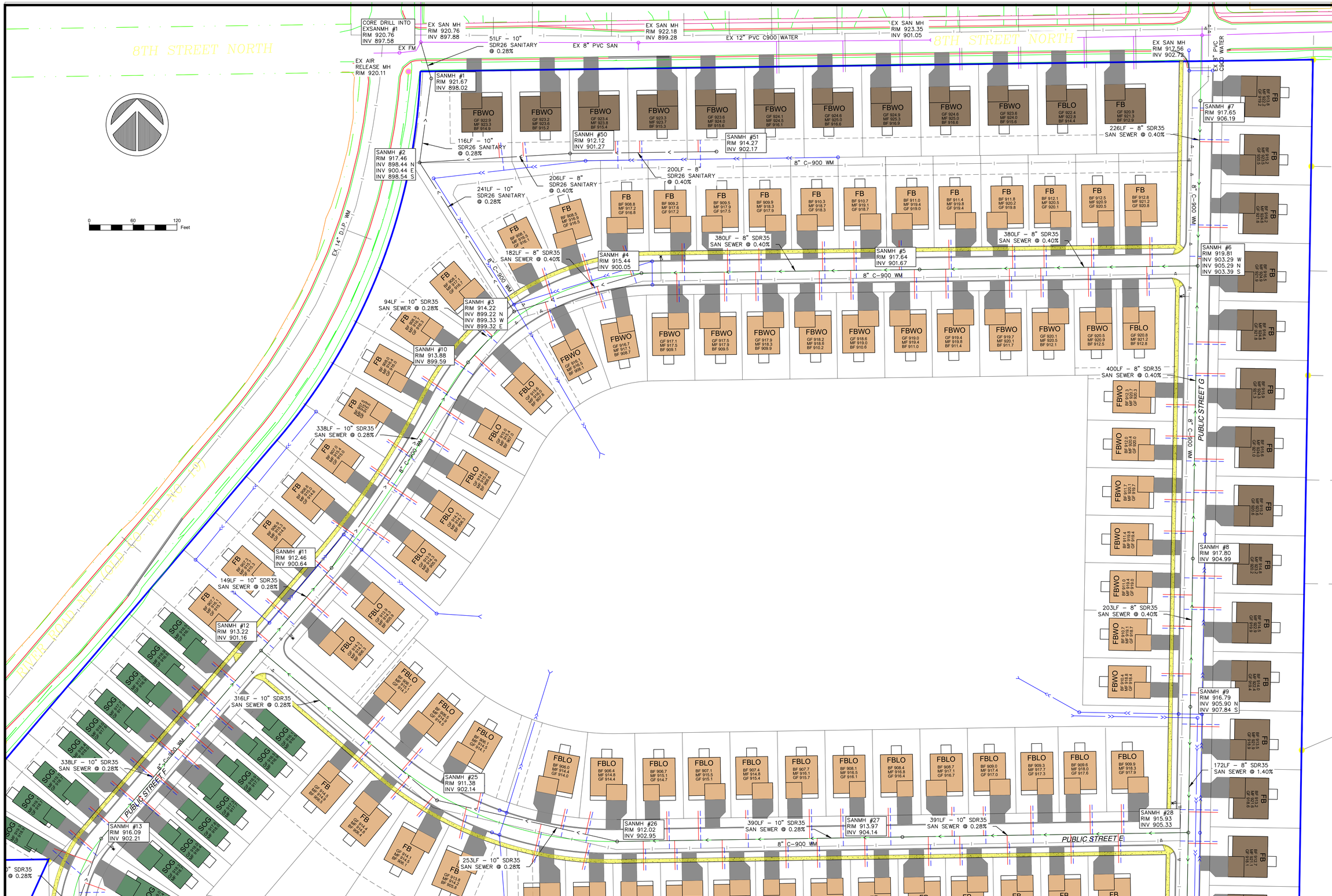
HANOVER, MN

CHECKED BY:	DRAWN BY:
JVS	JVS

SCALE
GRAPHIC

DATE
NOV 16, 2018

SHEET
SUB3



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HANOVER COVE
PRELIMINARY ENGINEERING PLAN
UTILITY PLAN (NORTH)

HANOVER, MN

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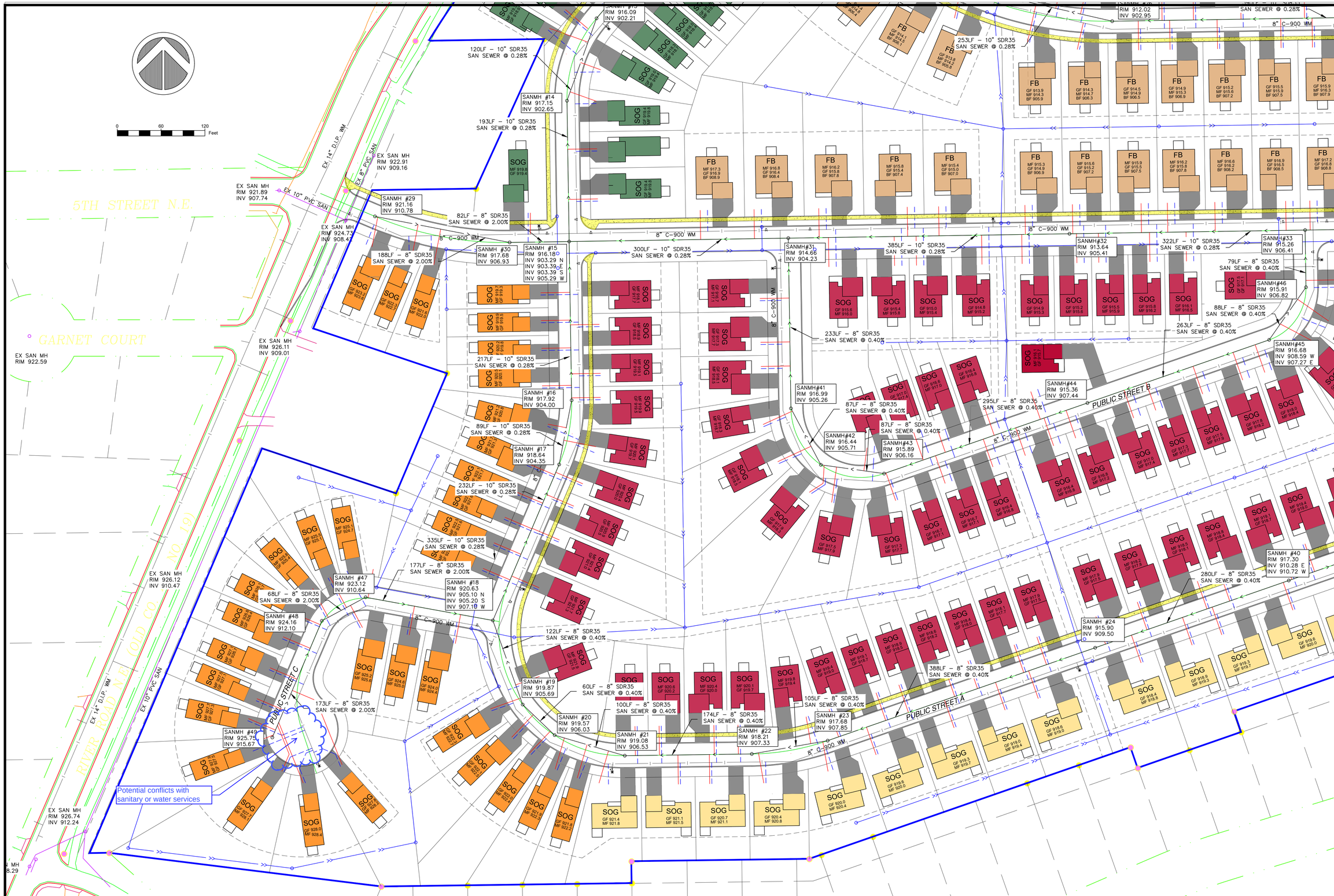
DATE NOV 16, 2018	
SHEET UTIL1	



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HANOVER COVE
PRELIMINARY ENGINEERING PLAN
UTILITY PLAN (SOUTHWEST)

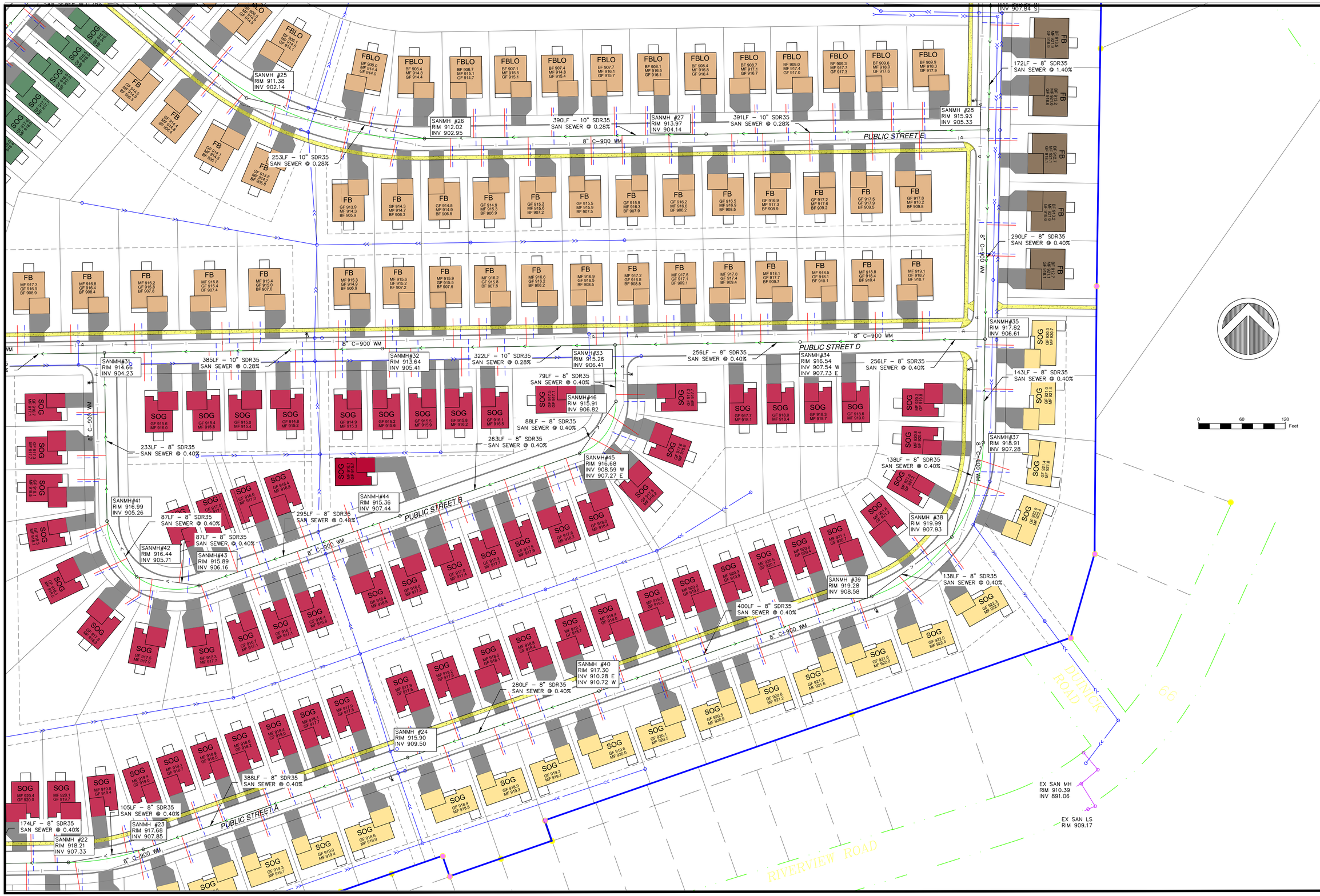
HANOVER, MN

CHECKED BY:	DRAWN BY:
JVS	JVS

SCALE
GRAPHIC

DATE
NOV 16, 2018

SHEET
UTIL2



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HANOVER COVE
PRELIMINARY ENGINEERING PLAN
UTILITY PLAN (SOUTHEAST)

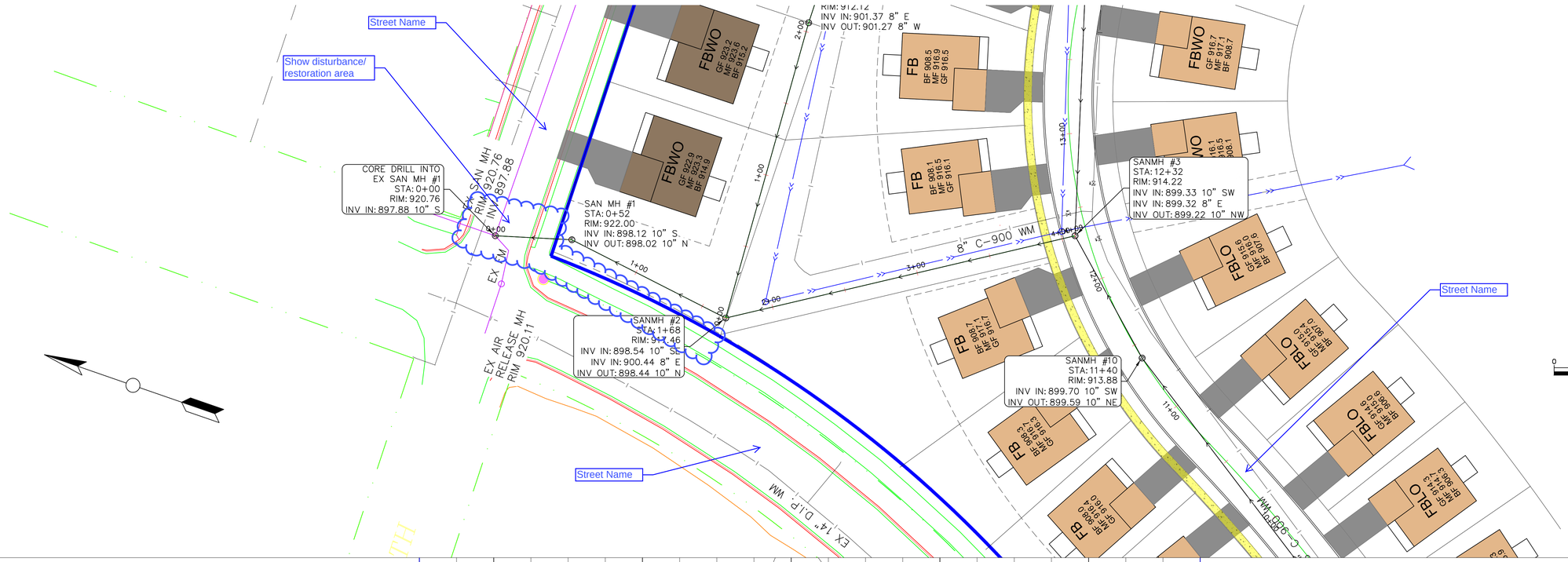
HANOVER, MN

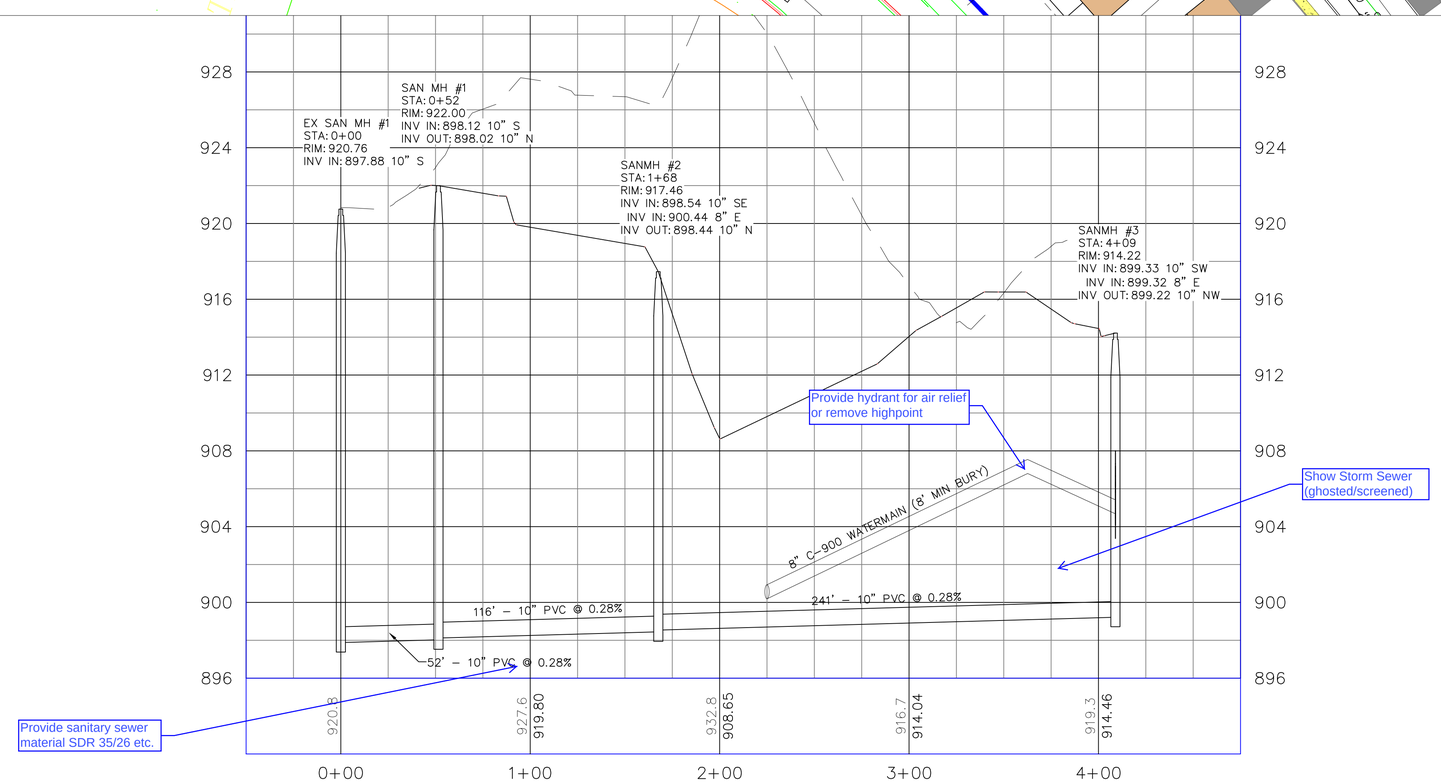
CHECKED BY:	DRAWN BY:
JVS	JVS

SCALE: GRAPHIC

DATE: NOV 16, 2018

SHEET: UTIL3





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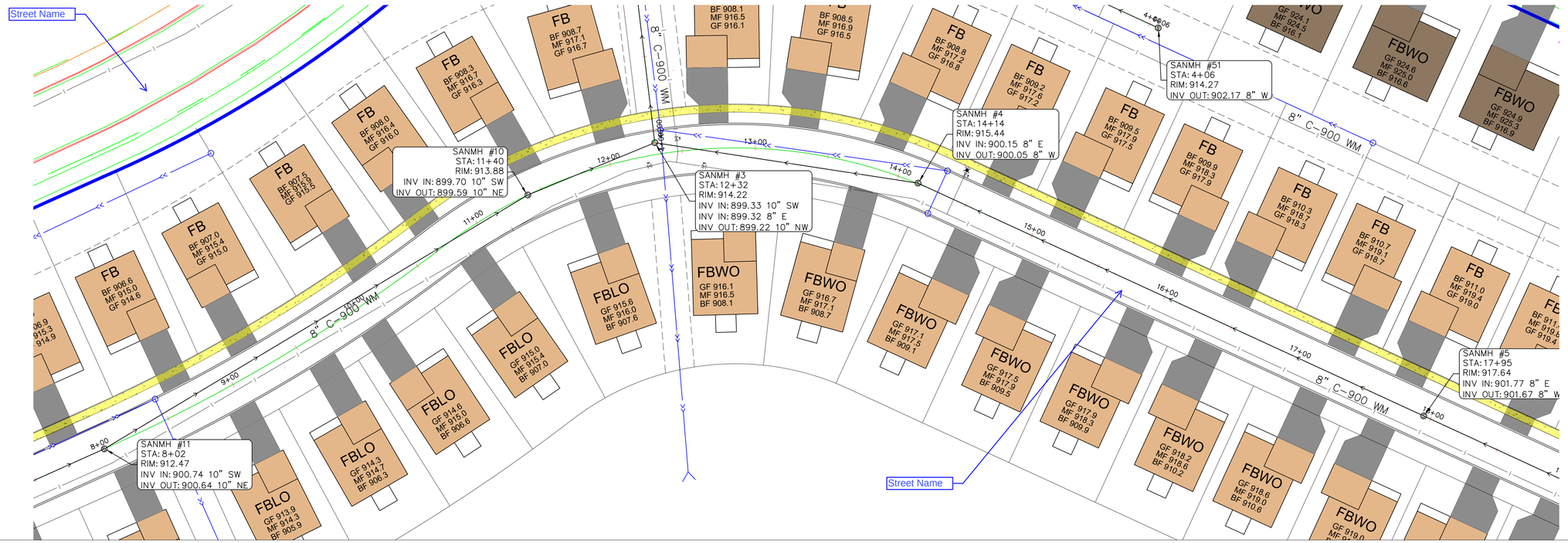
HANOVER COVE
PRELIMINARY ENGINEERING PLAN
PLAN AND PROFILE
HANOVER, MN

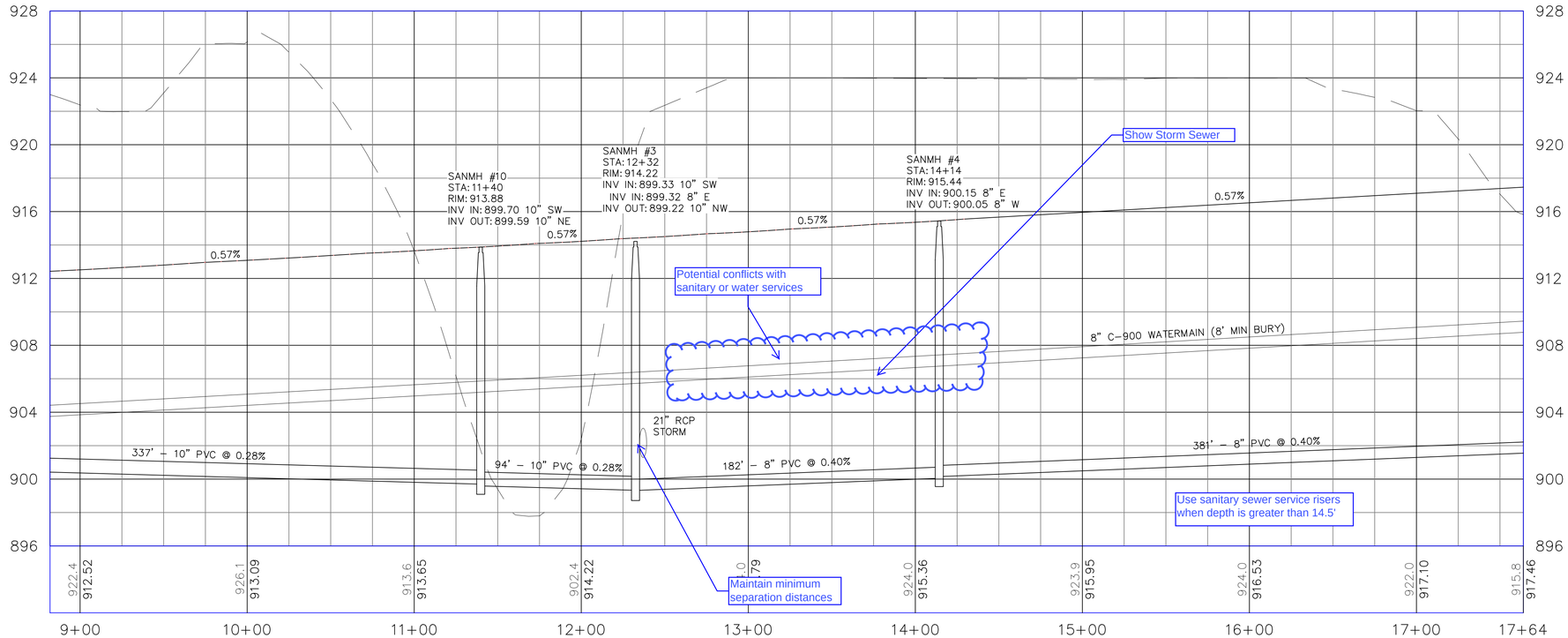
CHECKED BY:	DRAWN BY:
JVS	JVS

SCALE: GRAPHIC

DATE: NOV 16, 2018

SHEET: PP1





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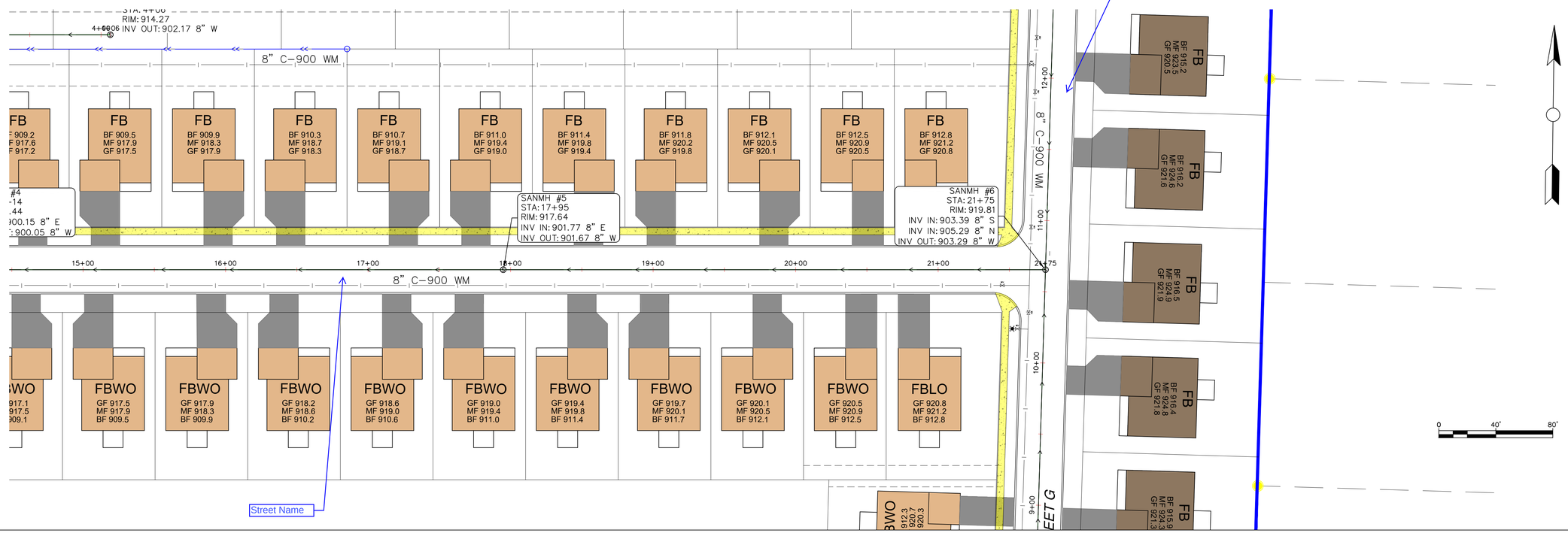
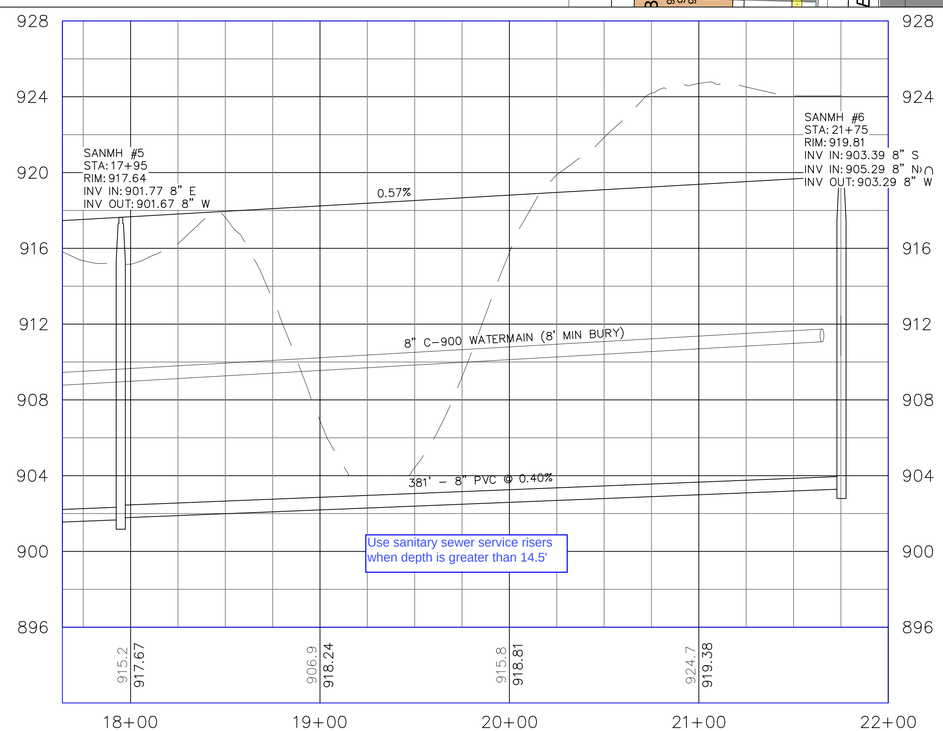
HANOVER COVE
PRELIMINARY ENGINEERING PLAN
PLAN AND PROFILE

HANOVER, MN

CHECKED BY: JVS	DRAWN BY: JVS
SCALE	GRAPHIC
DATE	NOV 16, 2018
SHEET	PP2





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HANOVER COVE
PRELIMINARY ENGINEERING PLAN
PLAN AND PROFILE - STREET F

HANOVER, MN

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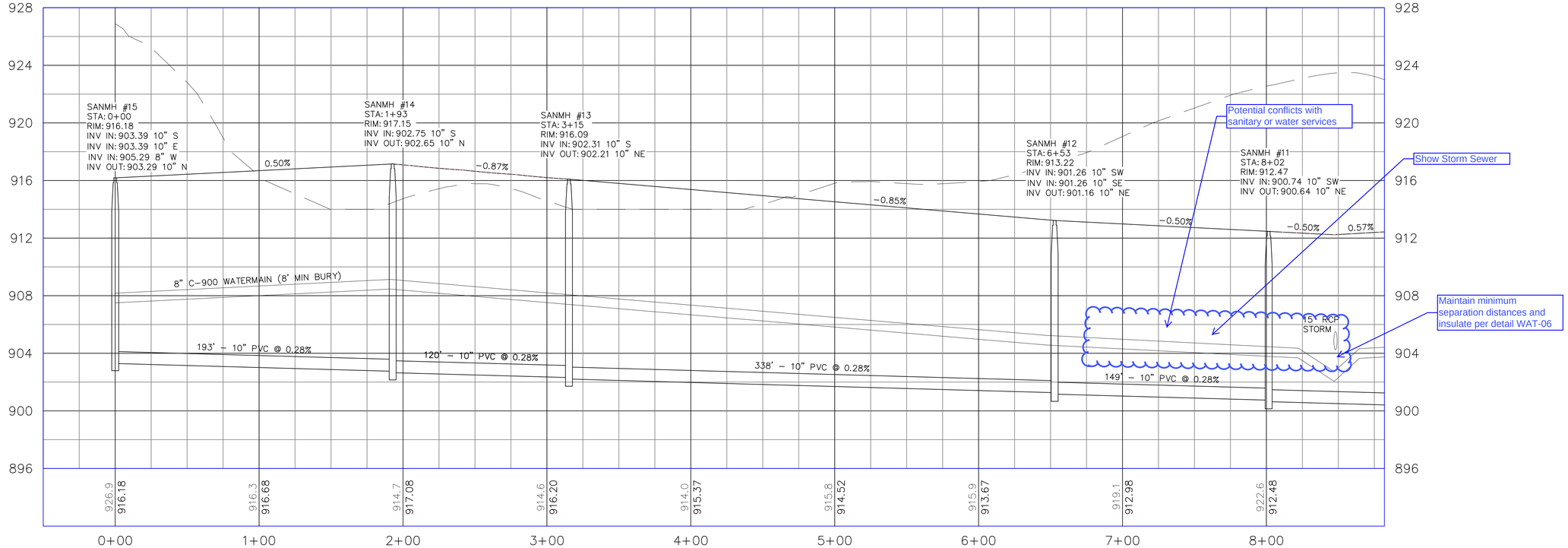
SCALE GRAPHIC	
DATE NOV 16, 2018	
SHEET PP3	



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HANOVER COVE
PRELIMINARY ENGINEERING PLAN
PLAN AND PROFILE - STREET F

HANOVER, MN

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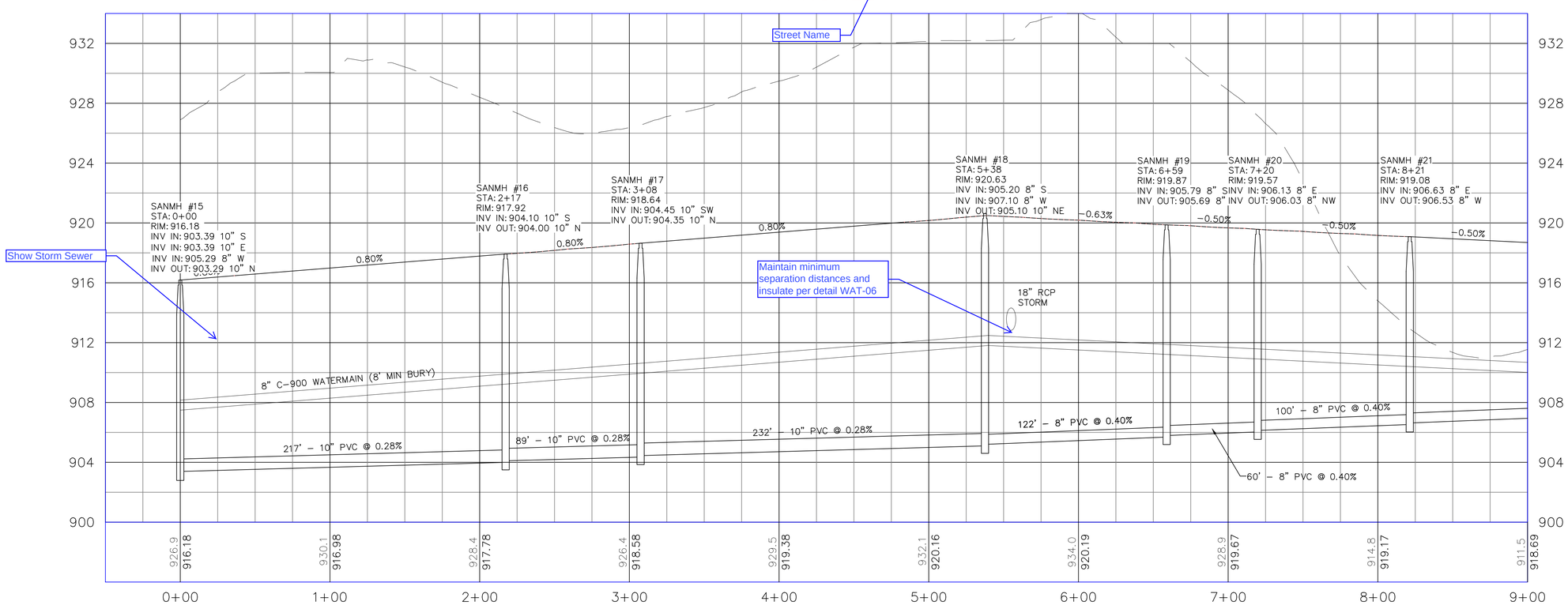
SCALE GRAPHIC	
DATE NOV 16, 2018	
SHEET PP4	



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PRINSBURG, MN 56281

HANOVER COVE
PRELIMINARY ENGINEERING PLAN
PLAN AND PROFILE - STREET A

HANOVER, MN

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SCALE
GRAPHIC

DATE
NOV 16, 2018

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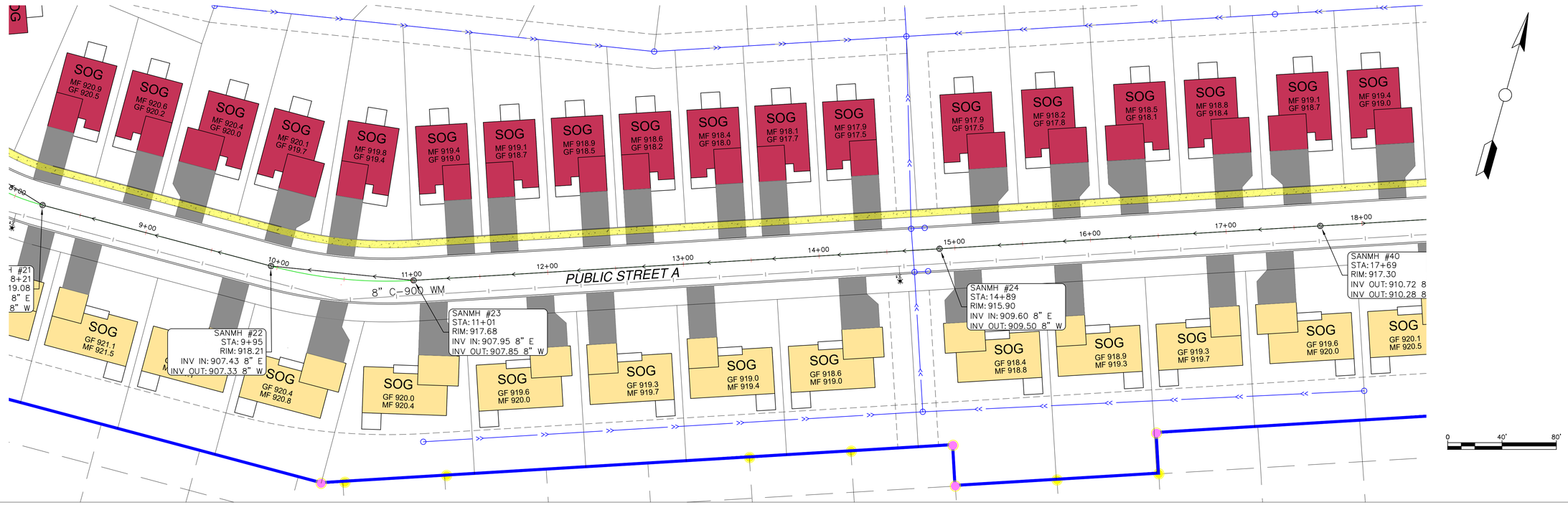

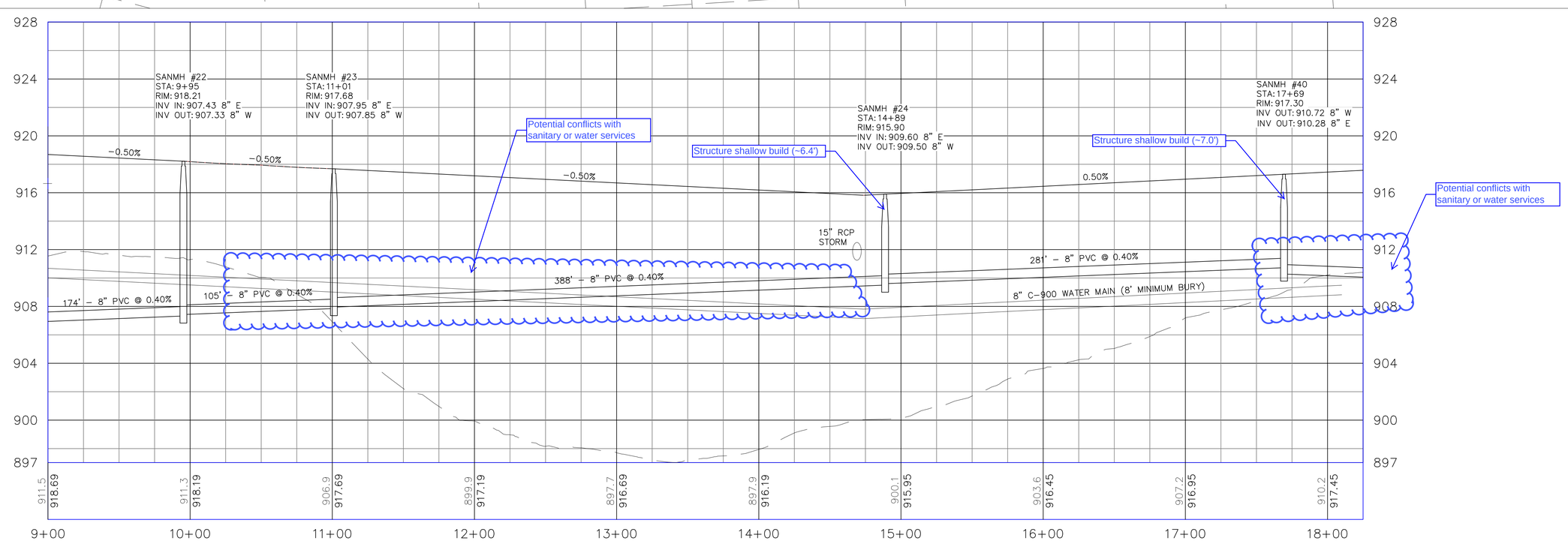

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HANOVER, MN

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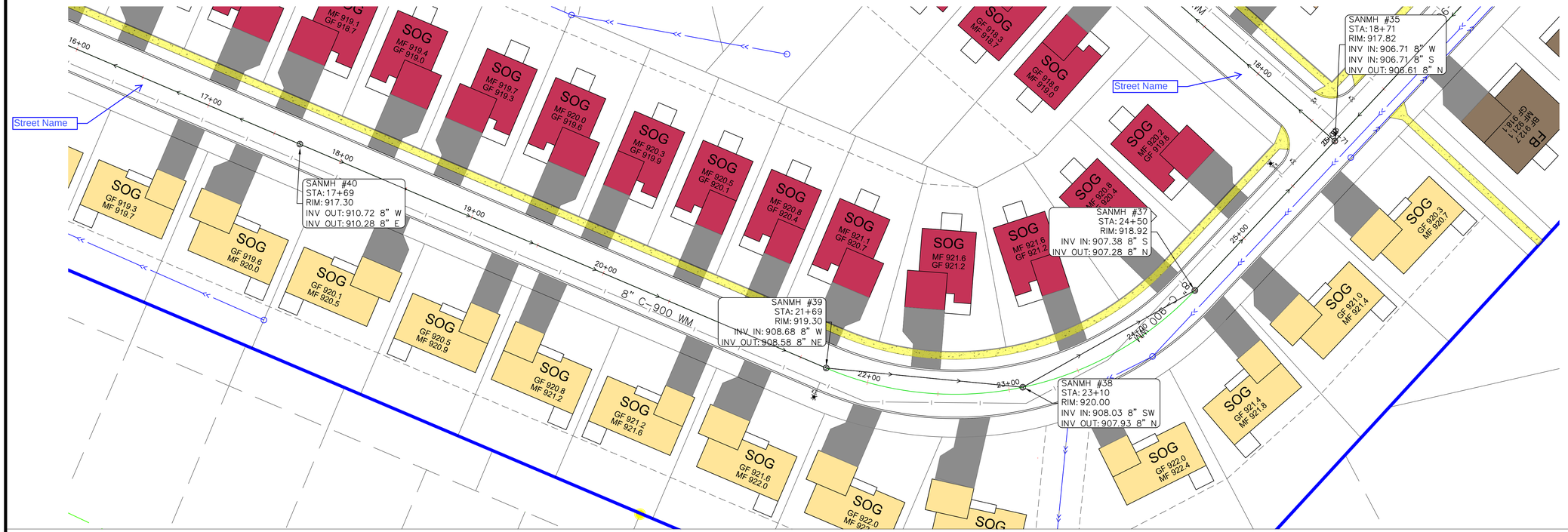

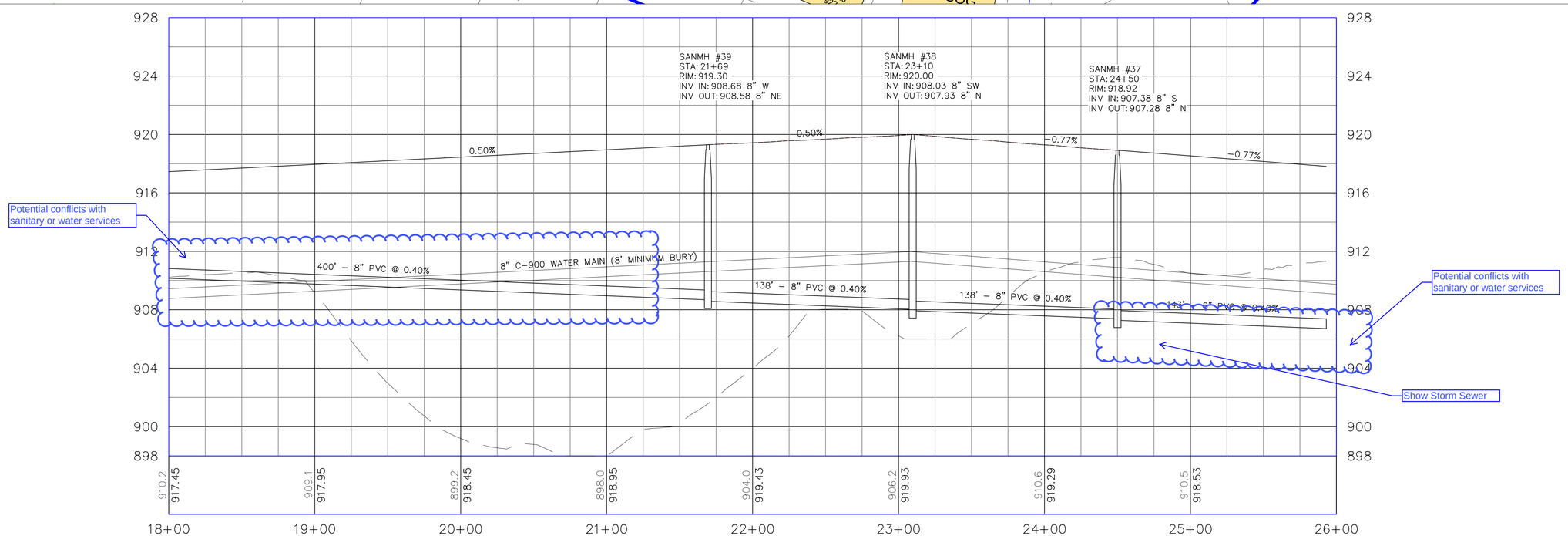

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HANOVER, MN

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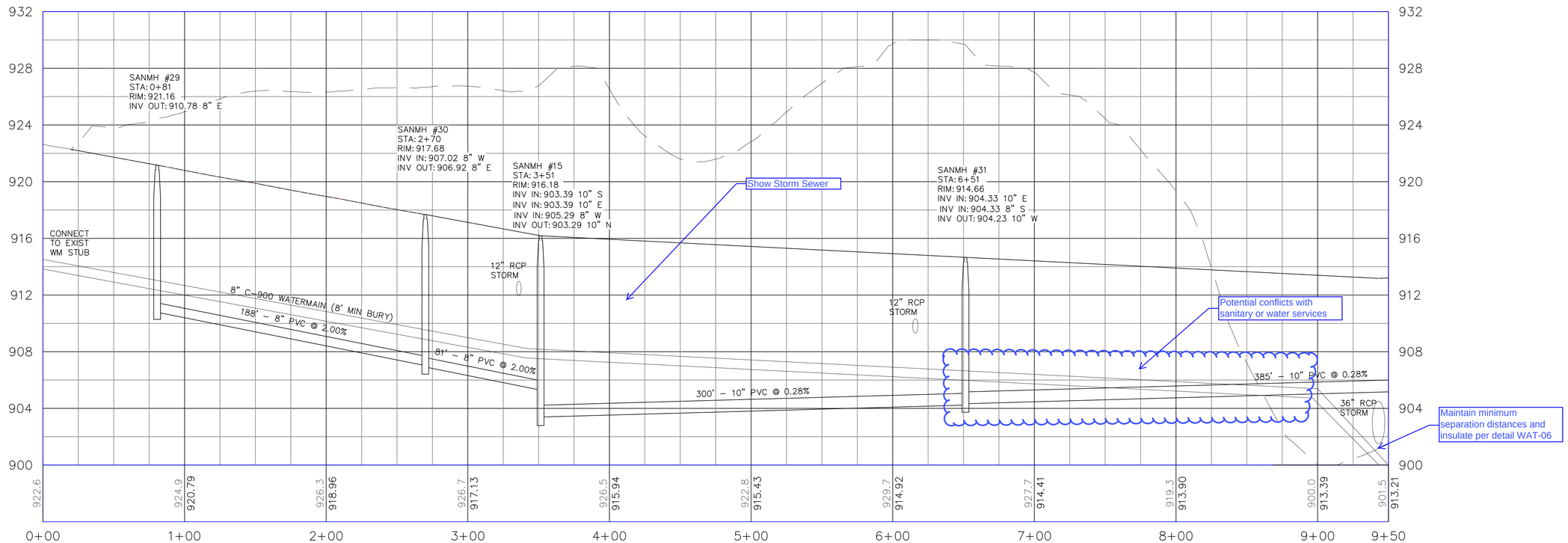

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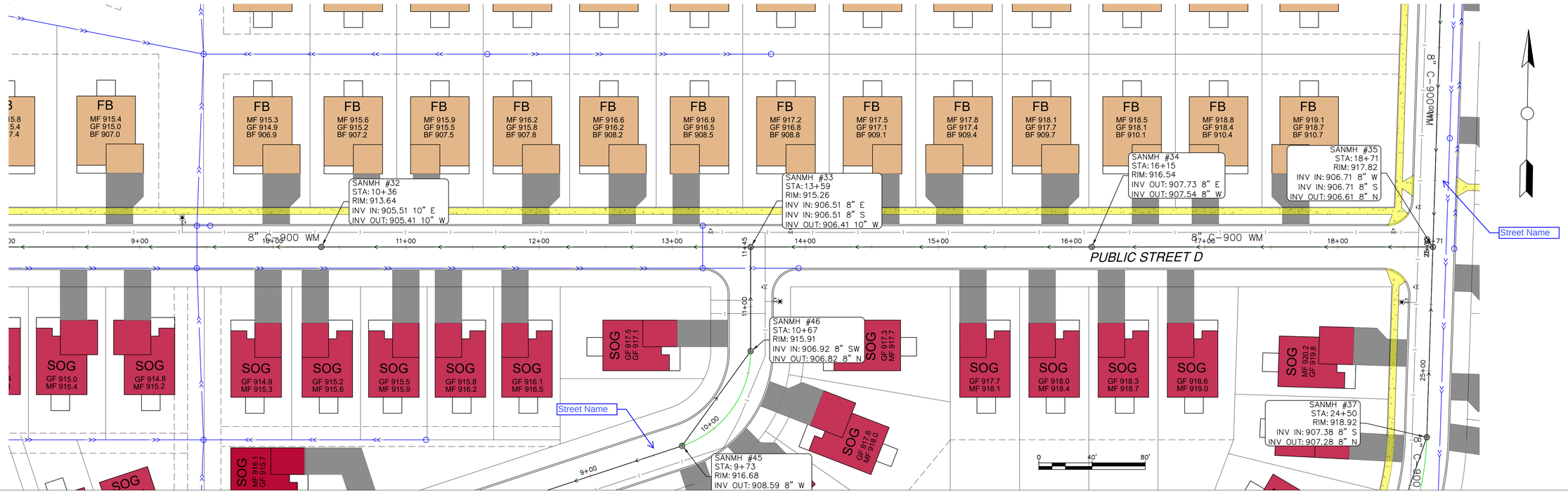

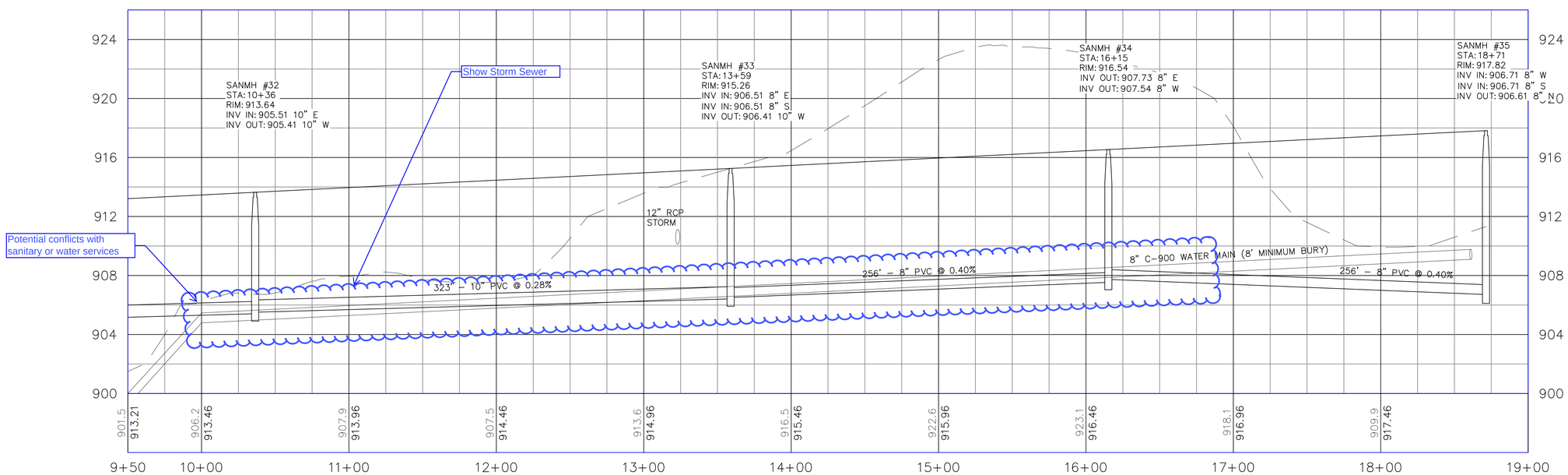

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HANOVER COVE
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PLAN AND PROFILE - STREET D

HANOVER, MN

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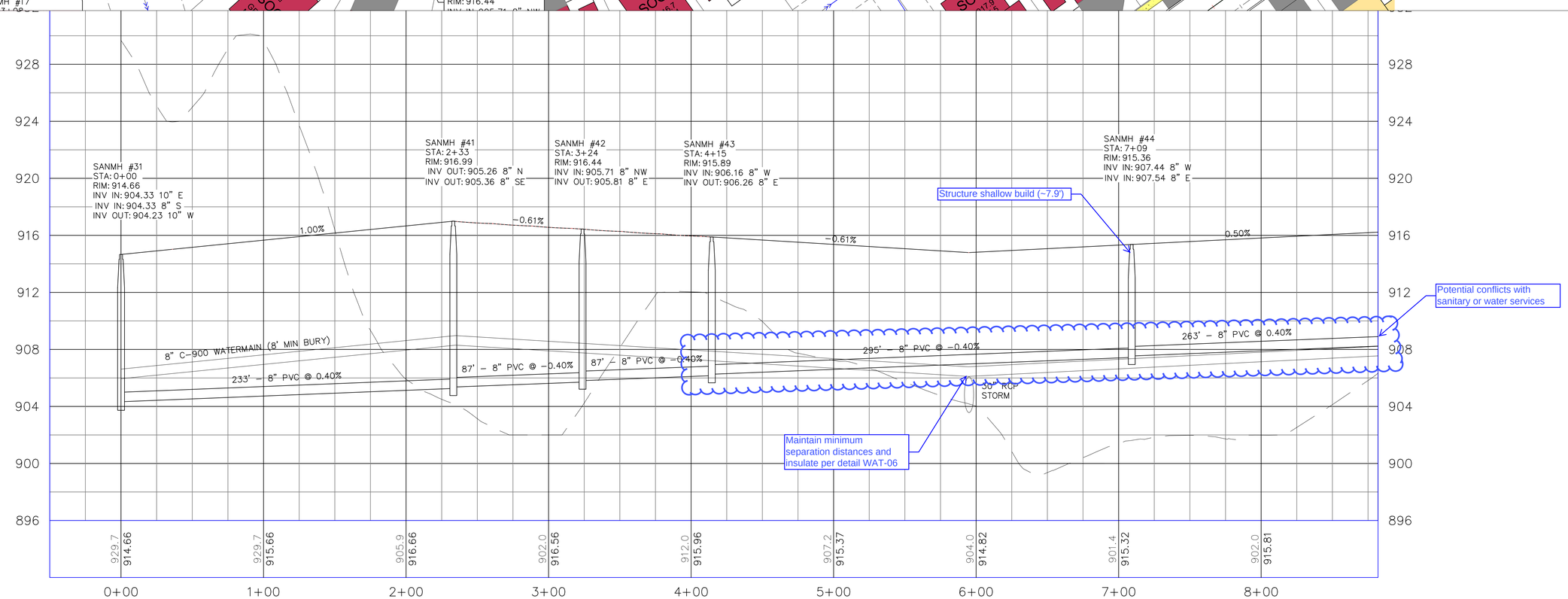

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HANOVER COVE
PRELIMINARY ENGINEERING PLAN
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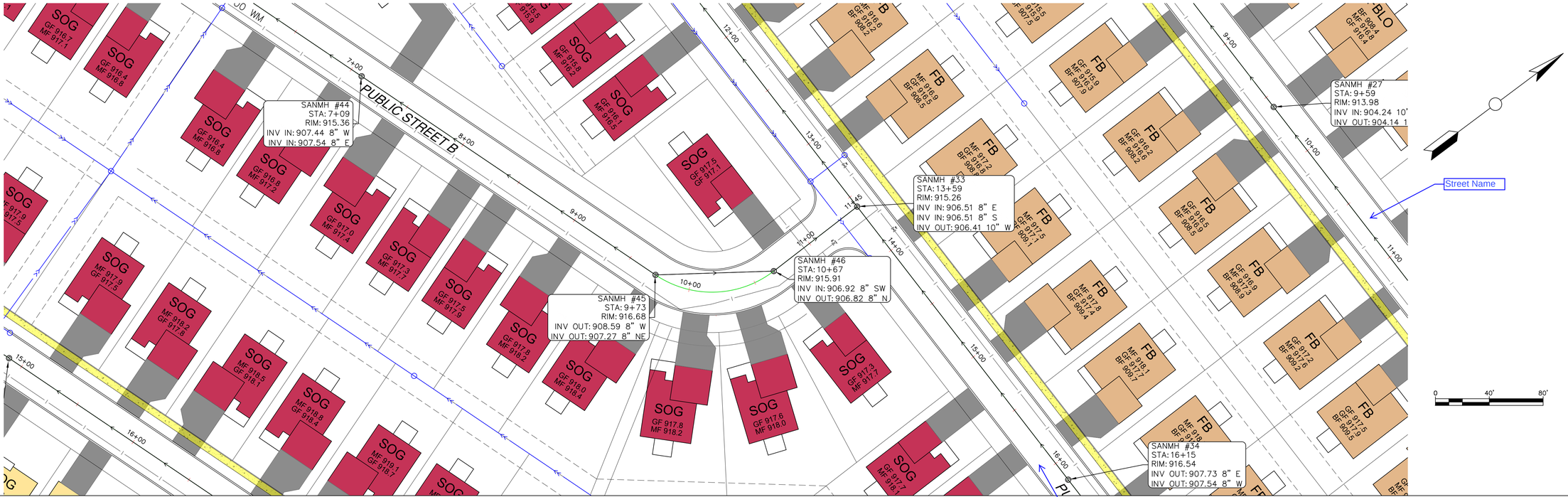

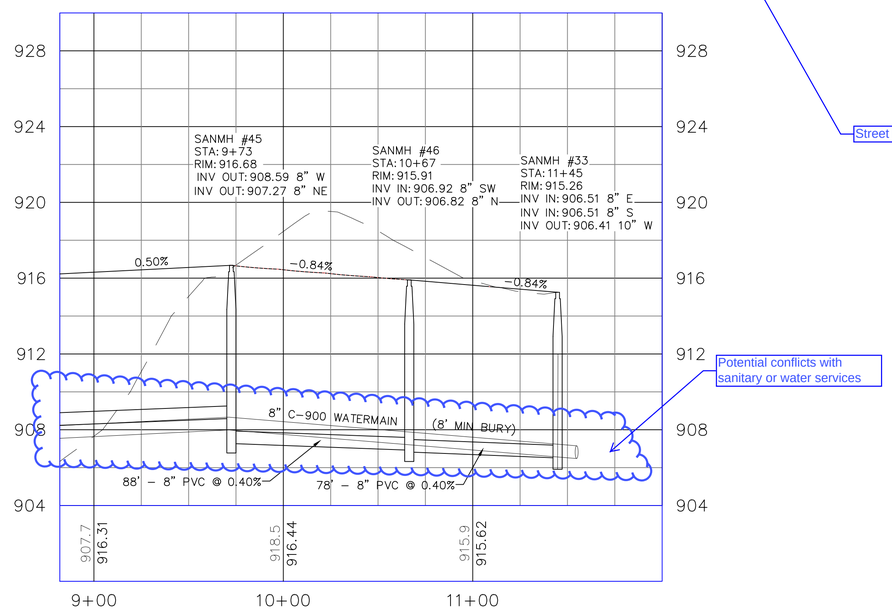

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HANOVER COVE
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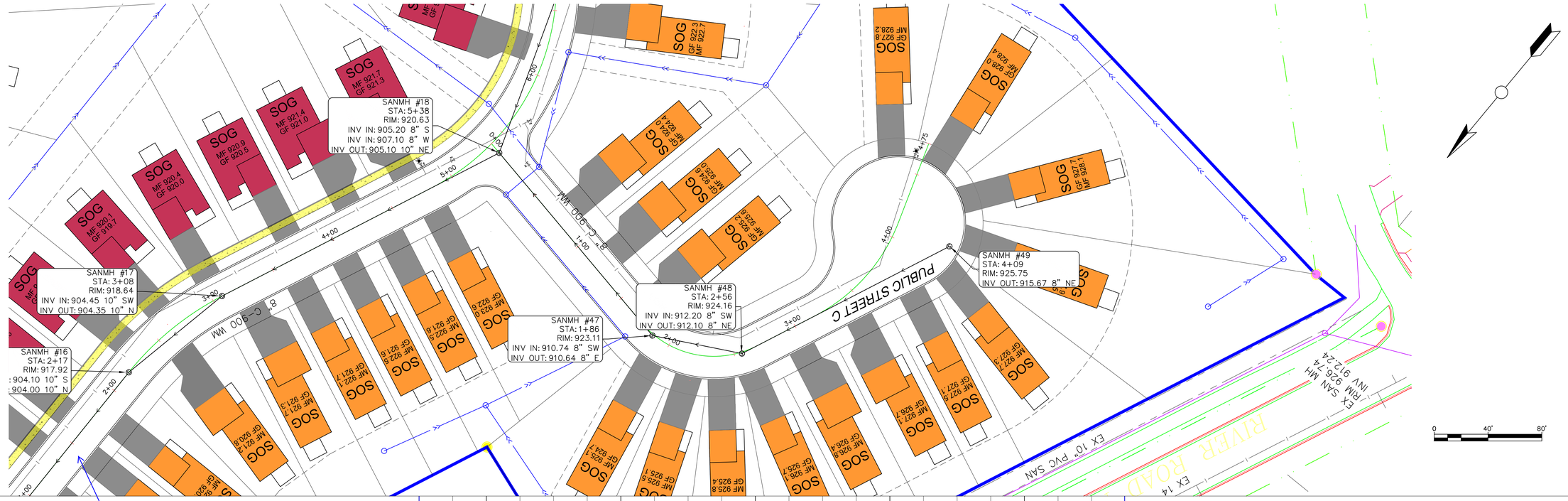

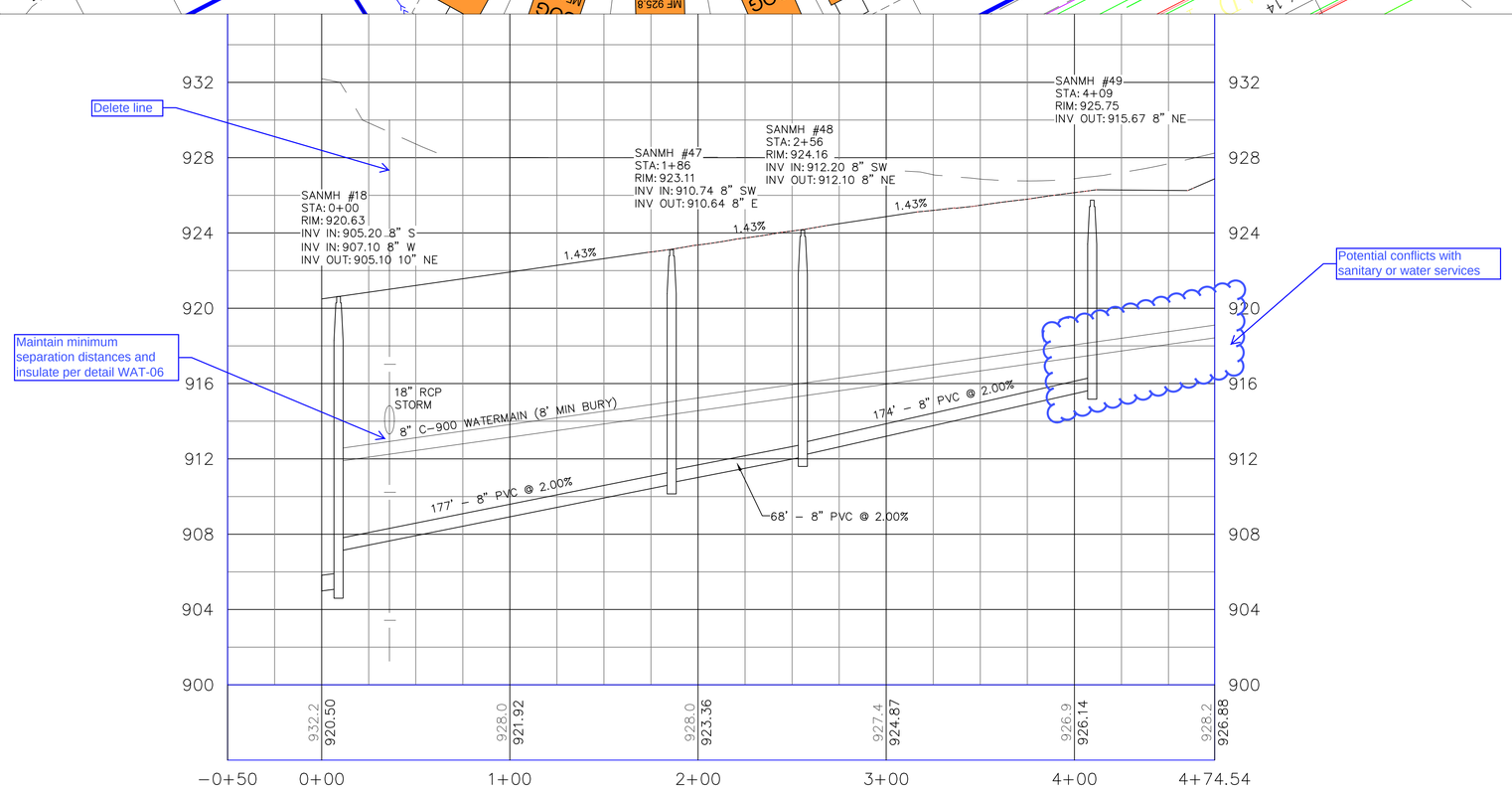

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HANOVER COVE
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PLAN AND PROFILE - STREET C

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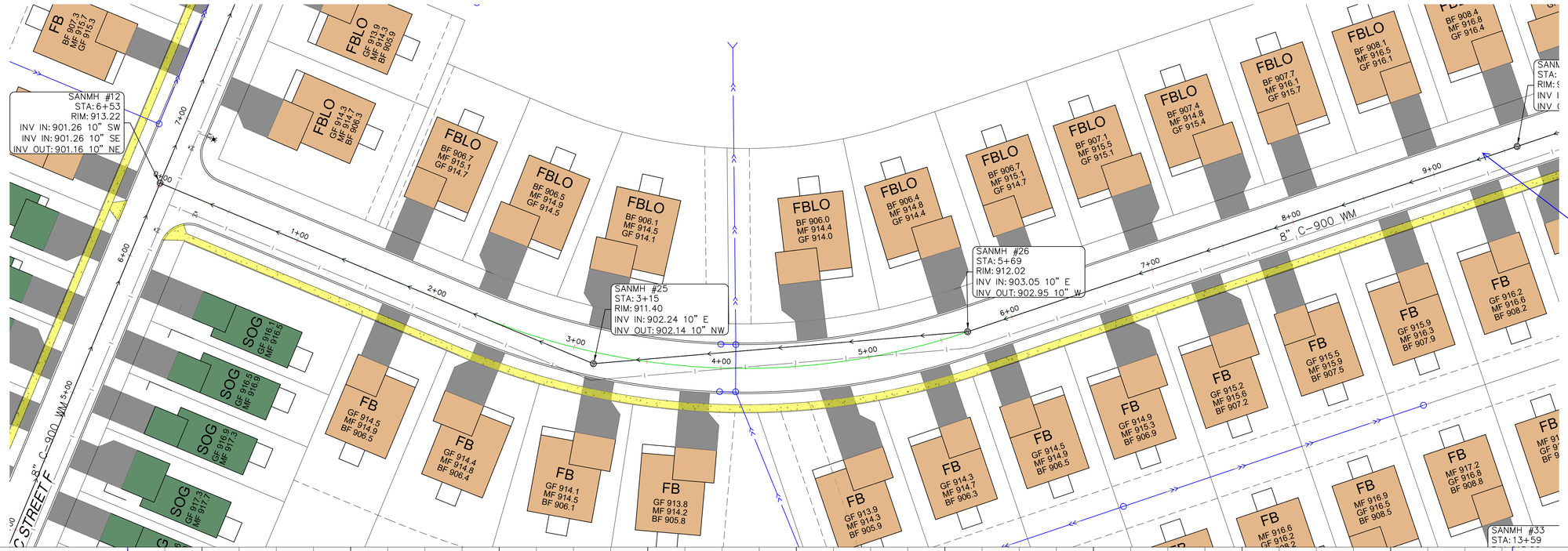

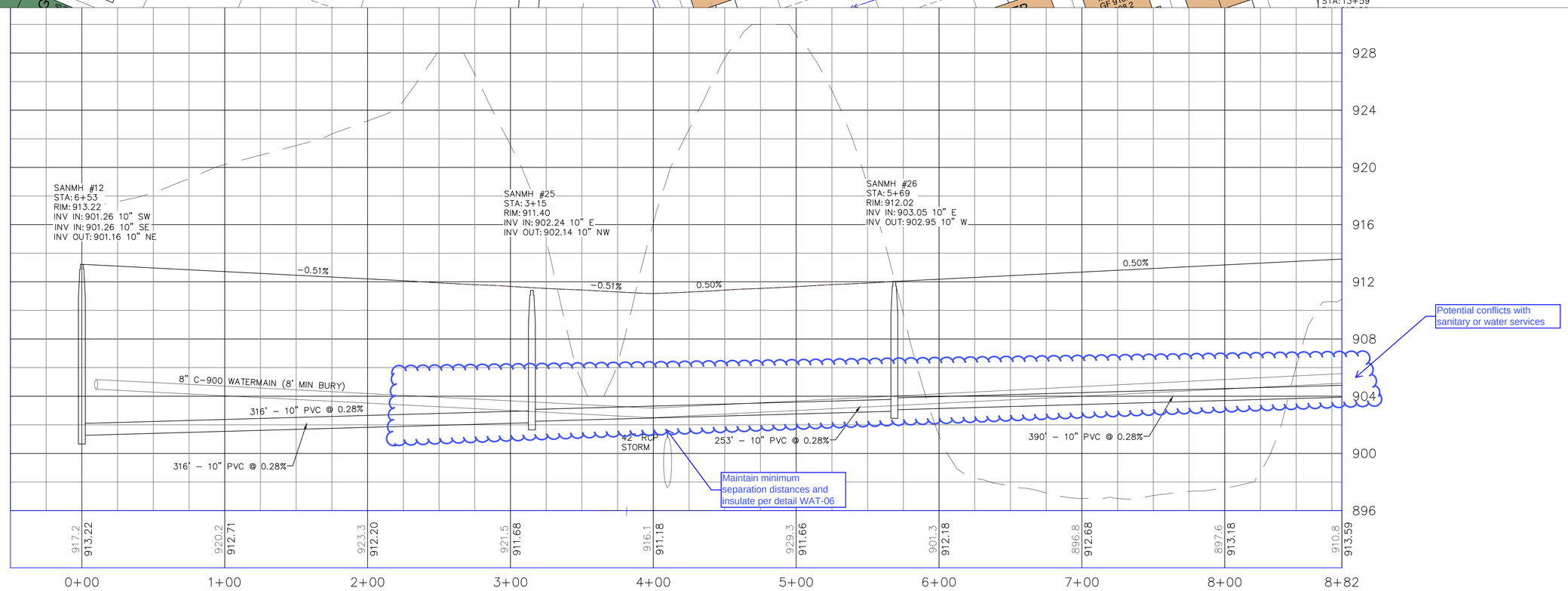

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HANOVER COVE
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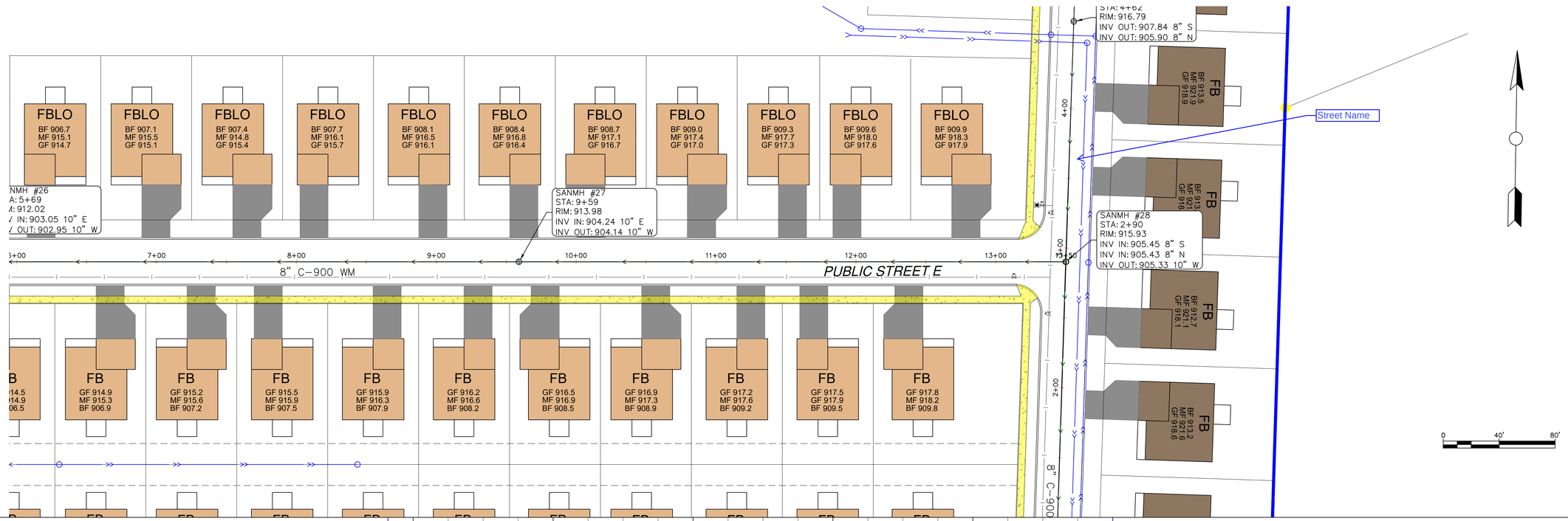

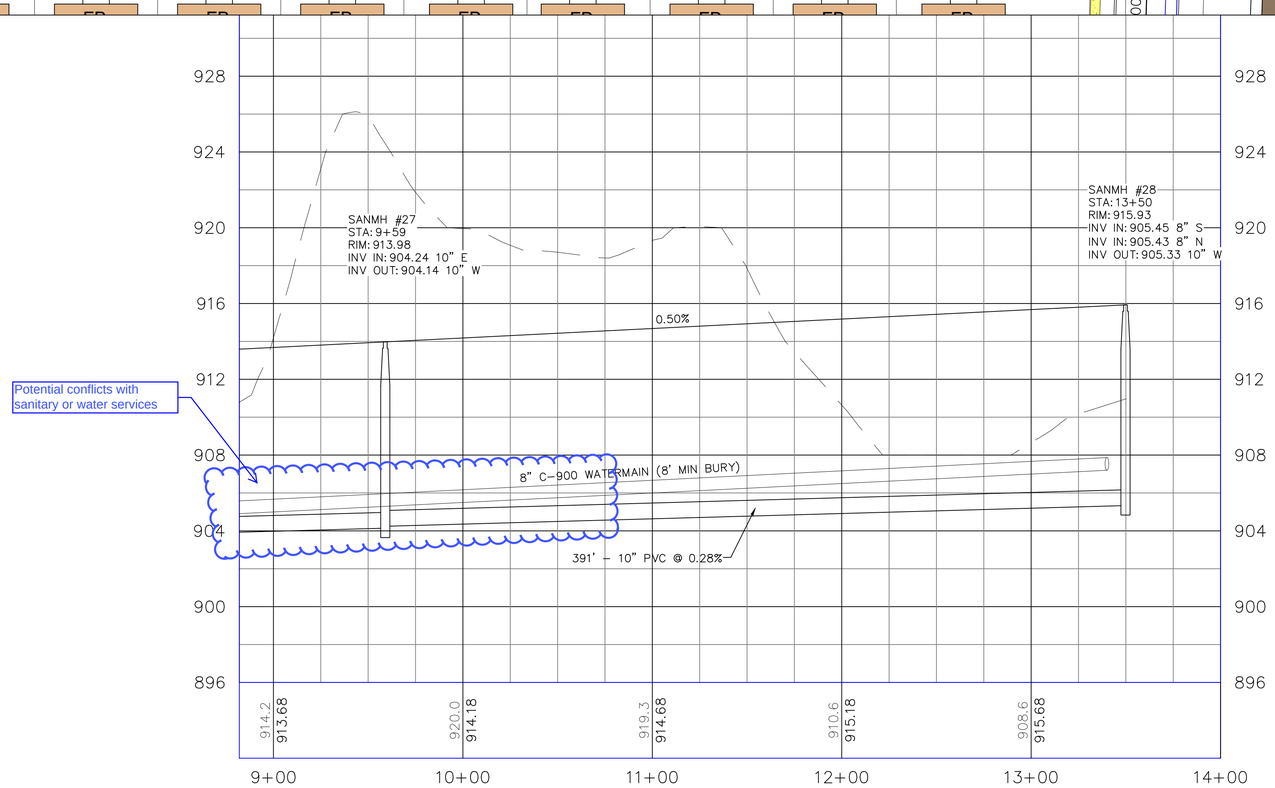

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HANOVER COVE
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PLAN AND PROFILE - STREET E
HANOVER, MN

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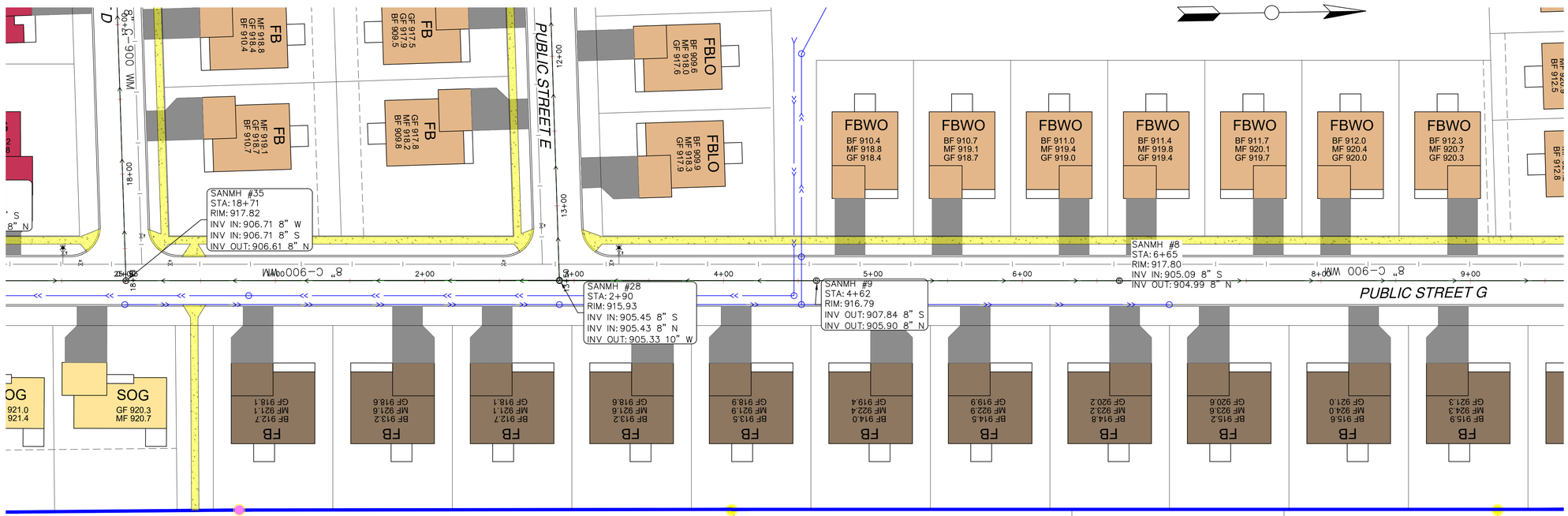

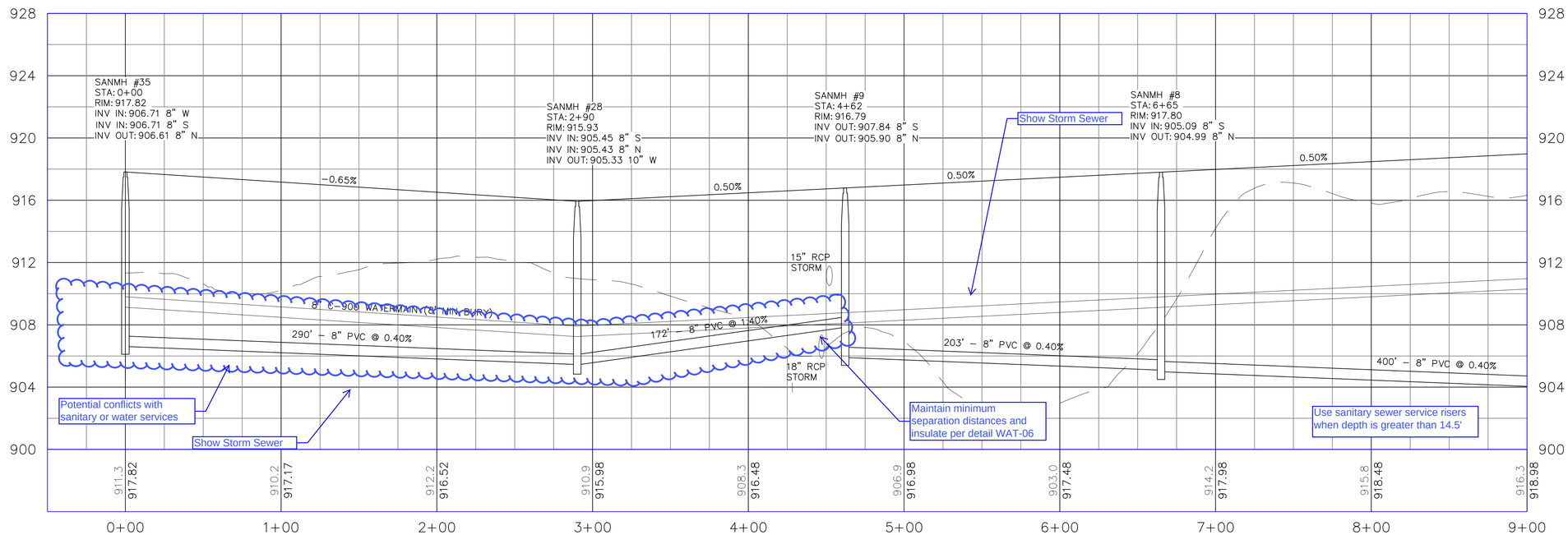

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HANOVER COVE
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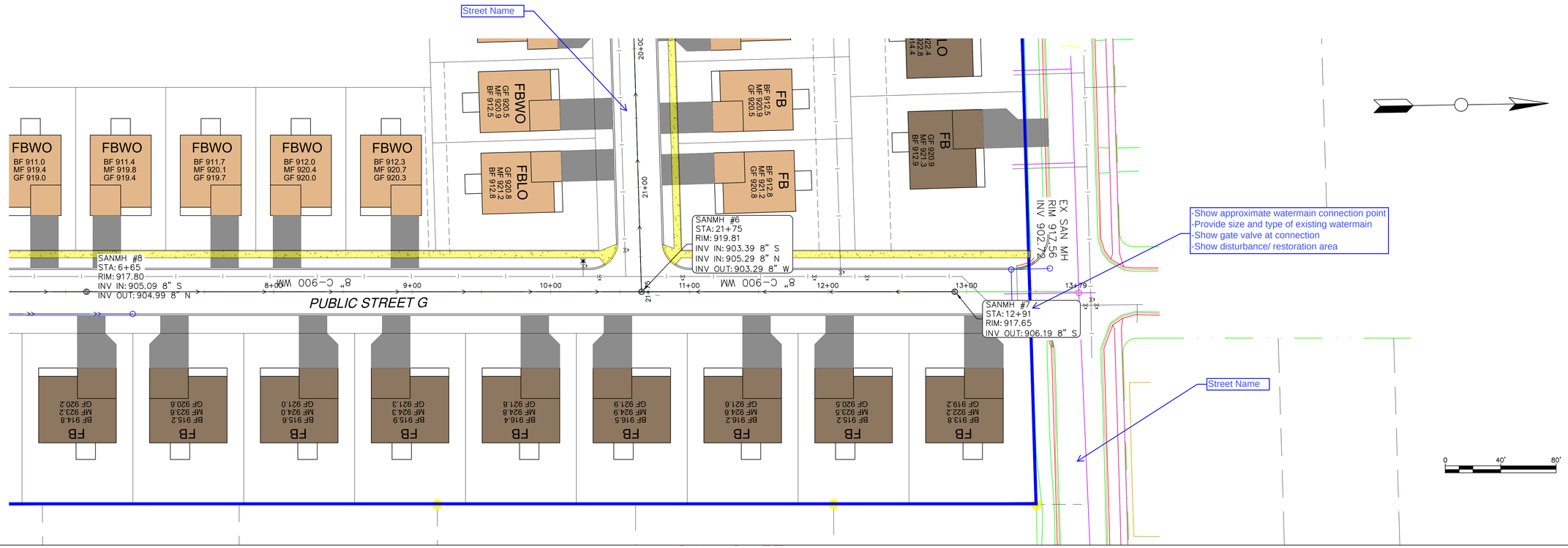

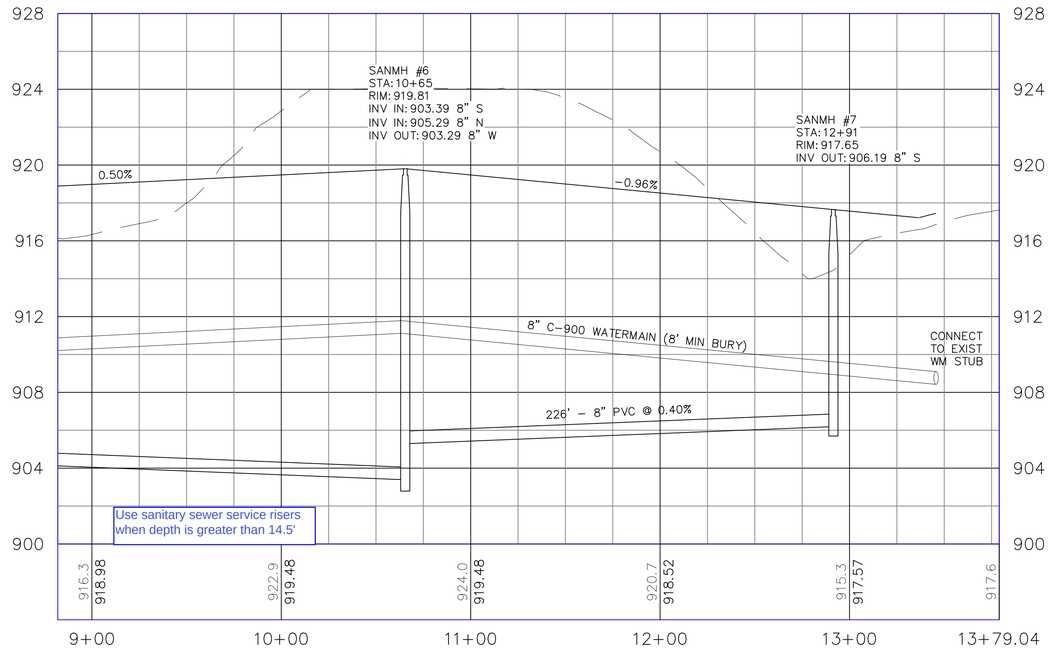

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HANOVER COVE
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PLAN AND PROFILE - STREET G

HANOVER, MN

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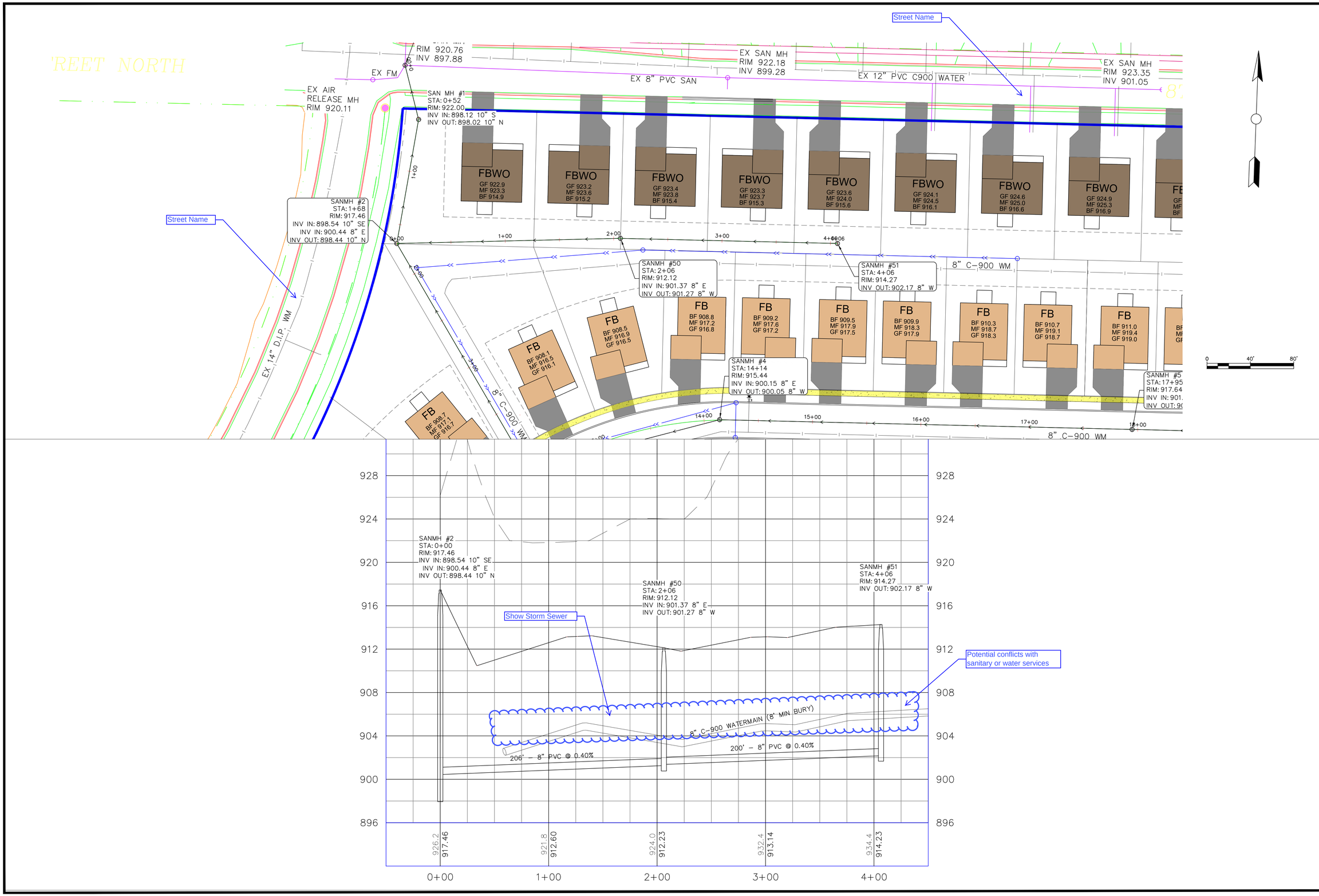

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HANOVER COVE
PRELIMINARY ENGINEERING PLAN
PLAN AND PROFILE - N BACKYARDS

HANOVER, MN

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GRAPHIC

DATE
NOV 16, 2018

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PP17

GENERAL PROJECT INFORMATION

PROJECT NAME: HANOVER COVE
Hanover, MN COUNTY: Wright

DESCRIPTION OF CONSTRUCTION ACTIVITY

This project includes construction of land disturbance of 1.03 acres to realign an existing township road on land owned by Al Ranta. Work includes removals, grading, gravel surfacing, and turf establishment.

KNOWLEDGEABLE PERSON / CHAIN OF RESPONSIBILITY

Owner: Paxmar, LLC Phone: 952-250-9895

SWPPP Preparer: Duininck, Inc. Contact Person: Jason Ver Steeg Phone: 320-212-9339

Contractor: _____ Contact Person: _____ Phone: _____

Person Responsible for SWPPP Inspections/Maintenance: _____ Phone: _____

Long-term O&M: Paxmar, LLC and City of Hanover

TRAINING

The individual(s) listed as the SWPPP preparer must be trained. The individual(s) overseeing implementation of, revising, and amending the SWPPP, as well as performing inspections must be trained and also must be available for an onsite inspection within 72 hours upon request by the MPCA. The individual(s) performing or supervising the installation, maintenance and repair of BMP's must be trained.

Required Documentation:

1. Names of trained personnel assigned to this project.
2. Dates of training and entity providing the training.
3. Content of training course or workshop.
4. As an alternative to 1, 2, and 3, a photocopy of a current Erosion and Stormwater Management card, issued by the University of Minnesota can be attached to the SWPPP.

SPECIAL ENVIRONMENTAL CONCERNS

An Environmental Assessment Worksheet (EAW) was prepared for this site, and any applicable findings were incorporated into this Stormwater Pollution Prevention Plan.

The Contractor should be aware of the potential to impact the Blandings Turtle and the Rusty Patch Bumblebee. If either of these species are encountered, special care must be taken to avoid any impact and the Engineer must be notified. No protected archeological features were identified in the EAW.

This site does not drain to a Calcareous Fen.

PROJECT LOCATION

County: Wright Township: 120 N Range: 22 W Section(s): 36

Latitude: 45° 09' 35" Longitude: -93° 39' 21"

PROJECT AREA CALCULATIONS

Total Project Area: 82.56 Acres

Total Disturbed Area: 82.56 Acres

Existing Impervious Area: 0.06 Acres

Post- construction Impervious Area: 31.59 Acres

New Impervious Surface Area Created: 31.53 Acres

NPDES Permit Required?: Yes (Apply at least 7 days prior to land disturbance)

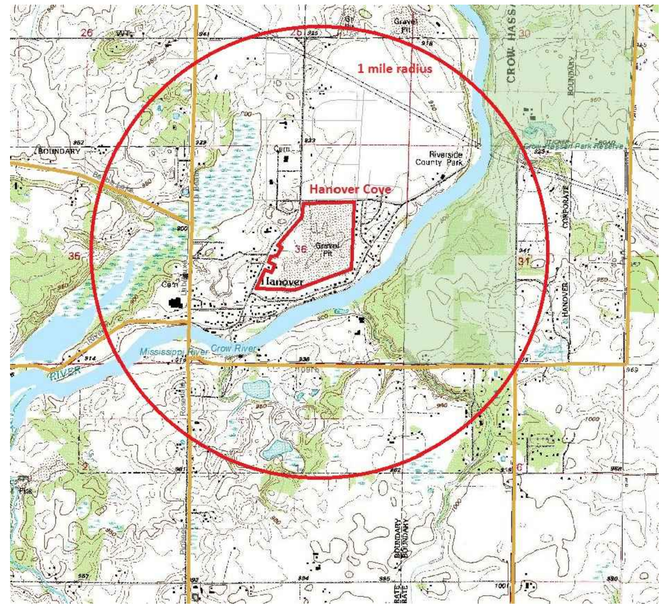
Permanent Storm Water Management Required?: No

PROJECT TIMING

Estimated Construction Start Date: JANUARY 1, 2019

Estimated Construction Completion Date: December 31, 2025

USGS QUAD MAP



RECEIVING WATERS

Receiving water (including surface water, wetlands, or stormwater ponds) within 1 mile are shown on the USGS 7.5 min quad map above and further identified in the list below, including whether the surface water is a special or impaired water. All special measures required by the NPDES permit or TMDL study to address runoff into special or impaired waters have been incorporated into the plan.

Name of Water Body	Type (ditch, pond, wetland, lake, etc.)	Appendix A Special Water	Flows to Impaired Water within 1 mi?	USEPA Appr. TMDL?
Crow River	River	No	Yes	No

PERMANENT STORMWATER MANAGEMENT SYSTEM

Type of permanent storm water management:

Wet sedimentation basin X

Infiltration / Filtration X

Regional Pond ____

Not required ____

All design calculations required to comply with Part III of the Permit are on file at the office of the Civil Engineer of record. In cases where compliance with temporary or permanent storm water management design requirements are infeasible, documentation of infeasibility is also on on file at the office of the Civil Engineer of record.

PLAN SHEETS

The following sheets are incorporated into the SWPPP by reference:

Grading and Drainage Plan
Erosion Control Plan

USDA SCS SOIL SURVEY MAP

SOIL TYPE SUMMARY:

Map Unit Symbol	Map Unit Name	Hyd Soil Group
1015	Udipsamments (cut and fill land)	A
1033	Pits, gravel-Udipsamments complex	A
1066B	Malardi-Hawick complex, 1 to 6 percent slopes	A

BMP QUANTITIES

Construction Entrance	2 LS
Silt Fence (Machine-Sliced)	8,580 LF
Inlet Protection	78 EACH
Seeding	54.0 ACRES

ORDER OF CONSTRUCTION ACTIVITIES

- Install Erosion Control Items
- Install Temporary Tracking Control
- Clearing and Grubbing
- Mass Site Grading
- Sanitary Sewer, Storm Sewer, Watermain Installation
- Aggregate Base Installation
- Curb and Gutter Installation
- Bituminous Pavement Installation
- Turf Establishment
- Individual Lot/House Construction

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SIGNATURI DATE: 8/18/2018

NAME: JASON VERSTEEG LIC. NO. 26505

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PRINSBURG, MN 56281

HANOVER COVE
PRELIMINARY ENGINEERING PLAN
STORMWATER POLLUTION PREVENTION PLAN
HANOVER, MN

CHECKED BY:	DRAWN BY:
JVS	JVS

SCALE
GRAPHIC

DATE
NOV 16, 2018

SHEET
SWPPP1

EROSION CONTROL NOTES

- Appropriate BMPs such as construction phasing, vegetative buffer strips, horizontal slope grading, inspection and maintenance of Part IV.E. and other construction practices that minimize erosion as necessary must be planned and implemented
- The location of areas not to be disturbed must be delineated (e.g.,with flags, stakes, signs, silt fence etc.) on the project site before work begins.
- Disturbance of portions of the project that have steep slopes must be minimized. In locations that steep slopes must be disturbed, techniques such as phasing and stabilization practices designed for steep slopes (e.g., slope draining and terracing) must be used.
- All exposed soil areas (including stockpiles) must be stabilized. Stabilization must be initiated immediately to limit soil erosion whenever any construction activity has permanently or temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days. Stabilization must be completed no later than 14 calendar days after the construction activity in that portion of the site has temporarily or permanently ceased. For Public Waters that the Minnesota Department of Natural Resources has promulgated "work in water restrictions" during specified fish spawning time frames, all exposed soil areas that are within 200 feet of the water's edge, and drain to these waters must complete the stabilization activities within 24 hours during the restriction period. Temporary stockpiles without significant silt, clay or organic components (e.g., clean aggregate stockpiles, demolition concrete stockpiles, sand stockpiles) and the constructed base components of roads, parking lots and similar surfaces are exempt from this requirement but must comply with the requirements of "Sediment Control Practices, Item 3."
- Stormwater conveyance channels must be routed around unstabilized areas on the site to reduce erosion, unless infeasible.
- Erosion controls and velocity dissipation devices such as check dams, sediment traps, riprap, or grouted riprap at outlets shall be used within and along the length of any constructed stormwater conveyance channel, and at any outlet.
- The normal wetted perimeter of any temporary or permanent drainage ditch or swale that drains water from any portion of the construction site, or diverts water around the site, within 200 lineal feet from the property edge, or from the point of discharge into any surface water must be stabilized. Stabilization of the last 200 lineal feet must be completed within 24 hours after connecting to a surface water or property edge. Stabilization of the remaining portions of any temporary or permanent ditches or swales must be stabilized within 14 calendar days after connecting to a surface water or property edge and construction in that portion of the ditch has temporarily or permanently ceased. Temporary or permanent ditches or swales that are being used as a sediment containment system during construction (with properly designed rock ditch checks, bio rolls, silt dikes, etc.) do not need to be stabilized during the temporary period of its use as a sediment containment system. These areas must be stabilized within 24 hours after no longer being used as a sediment containment system. Applying mulch, hydromulch, tackifier, polyacrylamide or similar erosion prevention practices is not acceptable stabilization in any part of a temporary or permanent drainage ditch or swale.
- Pipe outlets must be provided with temporary or permanent energy dissipation within 24 hours after connection to a surface water.
- Unless infeasible due to lack of pervious or vegetated areas, discharges from BMPs must be directed to vegetated areas of the site (including any natural buffers). The Permittee(s) must use velocity dissipation devices if necessary to prevent erosion when directing stormwater to vegetated areas.

RECORD RETENTION

The SWPPP (original or copies) including, all changes to it, and inspections and maintenance records must be kept at the site during construction by the party who has/have operational control of that portion of the site. The SWPPP can be kept in either the field office or in an on-site vehicle during normal working hours. All owner(s) must keep the following records on file for three (3) years after submittal of the NOT:

1. The final SWPPP
2. Any other stormwater related permits required for the project
3. Records of all inspection and maintenance conducted during construction
4. All permanent operation and maintenance agreements that have been implemented, including all right-of-way, contracts, covenants and other binding requirements regarding perpetual maintenance
5. All required calculations for design of the temporary and permanent Stormwater Management Systems identified in the SWPPP.

SEDIMENT CONTROL PRACTICES

- Sediment control practices shall be employed as necessary to minimize sediment from entering surface waters, including curb and gutter systems and storm sewer inlets.
- Sediment control practices must be established on all down gradient perimeters and be located upgradient of any buffer zones. The perimeter sediment control practice must be in place before any upgradient land-disturbing activities begin. These practices shall remain in place until final stabilization has been established.
- Sediment control practices that have been adjusted or removed to accommodate short-term activities such as cleaning or grubbing, or passage of vehicles, shall be re-installed immediately after the short-term activity has been completed, or before the next precipitation event, whichever comes first.
- All storm drain inlets must be protected by appropriate BMPs during construction until all sources with potential for discharging to the inlet have been stabilized. Inlet protection may be removed for a particular inlet if a specific safety concern (street flooding/freezing) has been identified by the permittee or the jurisdictional authority (e.g., city/county/township/MnDOT engineer). Documentation of the need for removal must be included in the SWPPP.

SEDIMENT CONTROL PRACTICES (cont)

- Temporary soil stockpiles must have silt fence or other effective sediment controls, and cannot be placed in any natural buffers or surface waters, including stormwater conveyances such as curb and gutter systems, or conduits and ditches unless there is a bypass in place for the stormwater.
- Where vehicle traffic leaves any part of the site (or onto paved roads within the site),a vehicle tracking BMP to minimize the track out of sediment from the construction site. Examples of vehicle tracking BMPs include (but are not limited to) rock pads, mud mats, slash mulch, concrete or steel wash racks, or equivalent systems. Where such vehicle tracking BMPs are not adequate to prevent sediment from being tracked onto the street, street sweeping shall be used.
- Soil compaction shall be minimized in all areas except where the function of a specific area of the site dictates that it be compacted.
- All topsoil shall be preserved, unless infeasible.
- A 50 foot natural buffer shall be maintained, or (if a buffer is infeasible on the site) redundant sediment controls provided, when a surface water is located within 50 feet of the project's earth disturbances and stormwater flows to the surface water. Natural buffers are not required adjacent to road ditches, judicial ditches, county ditches, stormwater conveyance channels, storm drain inlets, and sediment basins.
- The use of polymers, flocculants, or other sedimentation treatment chemicals on the project site must comply with the following minimum requirements: 1) Conventional erosion and sediment controls must be used prior to chemical addition to ensure effective treatment. Chemicals may only be applied where treated stormwater is directed to a sediment control system which allows for filtration or settlement of the floc prior to discharge. 2) Chemicals must be selected that are appropriately suited to the types of soils likely to be exposed during construction, and to the expected turbidity, pH, and flow rate of stormwater flowing into the chemical treatment system or area. 3) Chemicals must be used in accordance with accepted engineering practices, and with dosing specifications and sediment removal design specifications provided by the manufacturer or provider/supplier of the applicable chemicals.

DEWATERING AND BASIN DRAINING

- Turbid or sediment-laden waters related to dewatering or basin draining (e.g., pumped discharges, trench/ditch cuts for drainage) must be discharged to a temporary or permanent sedimentation basin on the project site unless infeasible. The temporary or permanent sedimentation basins may discharge to surface waters if the basin water has been visually checked to ensure adequate treatment has been obtained in the basin and that nuisance conditions will not result from the discharge. If the water cannot be discharged to a sedimentation basin prior to entering the surface water, it must be treated with the appropriate BMPs, such that the discharge does not adversely affect the receiving water or downstream properties. If water containing oil or grease must be discharged, an oil-water separator or suitable filtration device (e.g. cartridge filters, absorbents pads) must be used prior to discharging the water.
- Discharge points must be adequately protected from erosion and scour by dispersion over natural rock riprap, sand bags, plastic sheeting, or other accepted energy dissipation measures.
- All water from dewatering or basin-draining activities must be discharged in a manner that does not cause nuisance conditions, erosion in receiving channels or on downslope properties, or inundation in wetlands causing significant adverse impact to the wetland.
- If filters with backwash water are being used, the backwash water must be hauled away for disposal, returned to the beginning of the treatment process, or incorporated into the site in a manner that does not cause erosion. Backwash water may be discharged to the sanitary sewer if permission is granted by the sanitary sewer authority. The filter media used in the dewatering device must be replaced and cleaned when required to retain adequate function.

POLLUTION PREVENTION MANAGEMENT MEASURES

- Building products that have the potential to leach pollutants must be under cover (e.g., plastic sheeting or temporary roofs) to prevent the discharge of pollutants or protected by a similarly effective means designed to minimize contact with stormwater.
- Pesticides, herbicides, insecticides, fertilizers, treatment chemicals, and landscape materials must be under cover (e.g., plastic sheeting or temporary roofs) to prevent the discharge of pollutants or protected by similarly effective means designed to minimize contact with stormwater.
- Hazardous materials, toxic waste, (including oil, diesel fuel, gasoline, hydraulic fluids, paint solvents, petroleum-based products, wood preservatives, additives, curing compounds, and acids) must be properly stored in sealed containers to prevent spills, leaks or other discharge. Restricted access storage areas must be provided to prevent vandalism. Storage and disposal of hazardous waste or hazardous materials must be in compliance with Minn. R. ch. 7045 including secondary containment as applicable.
- Solid waste must be stored, collected and disposed of properly in compliance with Minn. R. ch. 7035.
- Portable toilets must be positioned so that they are secure and will not be tipped or knocked over. Sanitary waste must be disposed of properly in accordance with Minn. R. ch. 7041.

POLLUTION PREVENTION MANAGEMENT MEASURES (cont)

- Fueling and Maintenance of Equipment or Vehicles; Spill Prevention and Response: Reasonable steps must be taken to prevent the discharge of spilled or leaked chemicals, including fuel, from any area where chemicals or fuel will be loaded or unloaded, including the use of drip pans or absorbents, and fueling in a contained area, unless infeasible. Adequate supplies must be available at all times to clean up discharged materials and an appropriate disposal method must be available for recovered spilled materials. Spills must be reported and cleaned up immediately as required by Minn. Stat. § 115.061, using dry clean up measures where possible.
- Vehicle and equipment washing: Washing the exterior of vehicles or equipment on the project site must be limited to a defined area of the site. Runoff from the washing area must be contained in a sediment basin or other similarly effective controls and waste from the washing activity must be properly disposed of. Soaps, detergents, or solvents must be properly used. No engine degreasing is allowed on site.
- Concrete and other washouts waste: Effective containment must be provided for all liquid and solid wastes generated by washout operations (concrete, stucco, paint, form release oils, curing compounds and other construction materials) related to the construction activity. The liquid and solid washout wastes must not contact the ground, and the containment must be designed so that it does not result in runoff from the washout operations or areas. Liquid and solid wastes must be disposed of properly and in compliance with MPCA rules. A sign must be installed adjacent to each washout facility that requires site personnel to utilize the proper facilities for disposal of concrete and other washout wastes.

TEMPORARY SEDIMENTATOIN BASINS

Where ten (10) or more acres of disturbed soil drain to a common location, a temporary sediment basin must be provided to treat the runoff before it leaves the construction site or enters surface waters. A temporary sediment basin may be converted to a permanent basin after construction is complete. The temporary basin is no longer required when permanent cover has reduced the acreage of disturbed soil to less than ten (10) acres draining to a common location. The basins must be designed and constructed according to the following requirements:

1. The basins must provide live storage for a calculated volume of runoff from a two-year, 24-hour storm from each acre drained to the basin, except that in no case shall the basin provide less than 1,800 cubic feet of live storage from each acre drained to the basin.
2. Where this calculation has not been performed, a temporary sediment basin providing 3,600 cubic feet of live storage per acre drained to the basin shall be provided for the entire drainage area of the temporary basin.
3. Temporary basin outlets must be designed to prevent short-circuiting and the discharge of floating debris. The basin must be designed with the ability to allow complete basin drawdown for maintenance activities, and must include a stabilized emergency overflow to prevent failure of pond integrity. The outlet structure must be designed to withdraw water from the surface in order to minimize the discharge of pollutants, except that the use of a surface withdrawal mechanism for discharge of the basin may be temporarily suspended during frozen conditions. Energy dissipation must be provided for the basin outlet.
4. Sediment Basins must be situated outside of surface waters and any required buffer zone required and must be designed to avoid draining water from wetlands unless the impact to the wetland.
5. The temporary basins must be constructed and made operational prior to 10 or more acres of disturbed soil draining to a common location.
6. Where a temporary sediment basin meeting the requirements of this part is infeasible, equivalent sediment controls such as smaller sediment basins, and/or sediment traps, silt fences, vegetative buffer strips, or any appropriate combination of measures are required for all down-]slope boundaries of the construction area and for side-slope boundaries as dictated by individual site conditions. In determining whether installing a sediment basin is infeasible, public safety must be considered, as well as other factors such as site soils, slope, and available area on site. This determination of infeasibility must be documented in the SWPPP

INSPECTIONS AND MAINTENANCE

- A properly trained person must routinely inspect the entire construction site at least once every seven (7) days during active construction and within 24 hours after a rainfall event greater than 0.5 inches in 24 hours. Following an inspection that occurs within 24 hours after a rainfall event, the next inspection must be conducted within seven (7) days after the rainfall event.
- All inspections and maintenance conducted during construction must be recorded within 24 hours in writing and these records must be retained with the SWPPP. Records of each inspection and maintenance activity shall include: a.) Date and time of inspections b.) Name of person(s) conducting inspections c.) Findings of inspections, including the specific location where corrective actions are needed d.) Corrective actions taken (including dates, times, and party completing maintenance activities) e.) Date and amount of all rainfall events greater than 1/2 inch (0.5 inches) in 24 hours. Rainfall amounts must be obtained by a properly maintained rain gauge installed onsite, a weather station that is within 1 mile of your location or a weather reporting system that provides site specific rainfall data from radar summaries. f.) If any discharge is observed to be occurring during the inspection, a record of all points of the property from which there is a discharge must be made, and the discharge should be described (i.e., color, odor, floating, settled, or suspended solids, foam, oil sheen, and other obvious indicators of pollutants) and photographed. g.) Any amendments to the SWPPP proposed as a result of the inspection must be documented within seven (7) calendar days.

INSPECTIONS AND MAINTENANCE (cont)

Inspection Frequency Adjustment: Where parts of the project site have permanent cover, but work remains on other parts of the site, the Permittee(s) may reduce inspections of the areas with permanent cover to once per month. Where construction sites have permanent cover on all exposed soil areas and no construction activity is occurring anywhere on the site, the site must be inspected during non-frozen ground conditions at least once per month for a period of twelve (12) months. Following the twelfth month of permanent cover and no construction activity, inspections may be terminated until construction activity is once again initiated unless the Permittee(s) is/are notified in writing by the MPCA that erosion issues have been detected at the site and inspections need to resume. Where work has been suspended due to frozen ground conditions, the inspections may be suspended. The required inspections and maintenance schedule must begin within 24 hours after runoff occurs at the site or 24 hours prior to resuming construction, whichever comes first.

The temporary and permanent water quality management BMPs must be inspected, as well as all erosion prevention and sediment control BMPs, until responsibility for inspections and maintenance has been transferred by submitting notice to the MPCA, or the project has undergone Final Stabilization, and an NOT has been submitted to the MPCA.

As part of each and every routine and post-rainfall event inspection, all erosion prevention and sediment control BMPs and Pollution Prevention Management Measures must be inspected to ensure integrity and effectiveness. All nonfunctional BMPs must be repaired, replaced, or
supplemented with functional BMPs by the end of the next business day after discovery, or as
soon as field conditions allow access, unless another time frame is specified below:

a. All perimeter control devices must be repaired, replaced, or supplemented when they become nonfunctional or the sediment reaches one-half (1/2) of the height of the device. These repairs must be made by the end of the next business day after discovery, or thereafter as soon as field conditions allow access.

b. Temporary and permanent sedimentation basins must be drained and the sediment removed when the depth of sediment collected in the basin reaches one-half (1/2) the storage volume. Drainage and removal must be completed within 72 hours of discovery, or as soon as field conditions allow access

c. Surface waters, including drainage ditches and conveyance systems, must be inspected for evidence of erosion and sediment deposition during each inspection. All deltas and sediment deposited in surface waters, including drainage ways, catch basins, and other drainage systems, must be removed and restabilized. The removal and stabilization must take place within seven (7) days of discovery unless precluded by legal, regulatory, or physical access constraints. All reasonable efforts must be used to obtain access. If precluded, removal and stabilization must take place within seven (7) calendar days of obtaining access. All applicable local, regional, state and federal authorities must be contacted and any applicable permits received, prior to conducting any work in surface waters.

d. Construction site vehicle exit locations must be inspected for evidence of off-site sediment tracking onto paved surfaces. Tracked sediment must be removed from all paved surfaces both on and off site within 24 hours of discovery.

e. Streets and other areas adjacent to the project must be inspected for evidence of off-site accumulations of sediment. If sediment is present, it must be removed in a manner and at a frequency sufficient to minimize off-site impacts (e.g., fugitive sediment in streets could be washed into storm sewers by the next rain and/or pose a safety hazard to users of public streets).

- All infiltration areas must be inspected to ensure that no sediment from ongoing construction activity is reaching the infiltration area. All infiltration areas must be inspected to ensure that equipment is not being driven across the infiltration area.

FINAL STABILIZATION

Final Stabilization of the site must be assured. Final Stabilization is not complete until all of the following requirements are complete:

1. All soil disturbing activities at the site have been completed and all soils are stabilized by a uniform perennial vegetative cover with a density of 70 percent of its expected final growth density over the entire pervious surface area, or other equivalent means necessary to prevent soil failure under erosive conditions.
2. The permanent stormwater management system is constructed according to the plans and is operating as designed. Temporary or permanent sedimentation basins that are to be used as permanent water quality management basins have been cleaned of any accumulated sediment. All sediment has been removed from conveyance systems and ditches are stabilized with permanent cover.
3. All temporary synthetic and structural erosion prevention and sediment control BMPs (such as silt fence) have been removed. BMPs designed to decompose on site (such as some compost logs) may be left in place.
4. For residential construction only, individual lots are considered finally stabilized if the structure(s) are finished and temporary erosion protection and down-gradient perimeter control has been completed and the residence has been sold to the homeowner. Additionally, the MPCA's "Homeowner Fact Sheet" must be delivered to the homeowner to inform the homeowner of the need for, and benefits of, permanent cover.
5. For construction projects on agricultural land (e.g., pipelines across crop, field pasture or range land) the disturbed land has been returned to its pre-construction agricultural use.

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SIGNATURE: DATE: 11/16/2018

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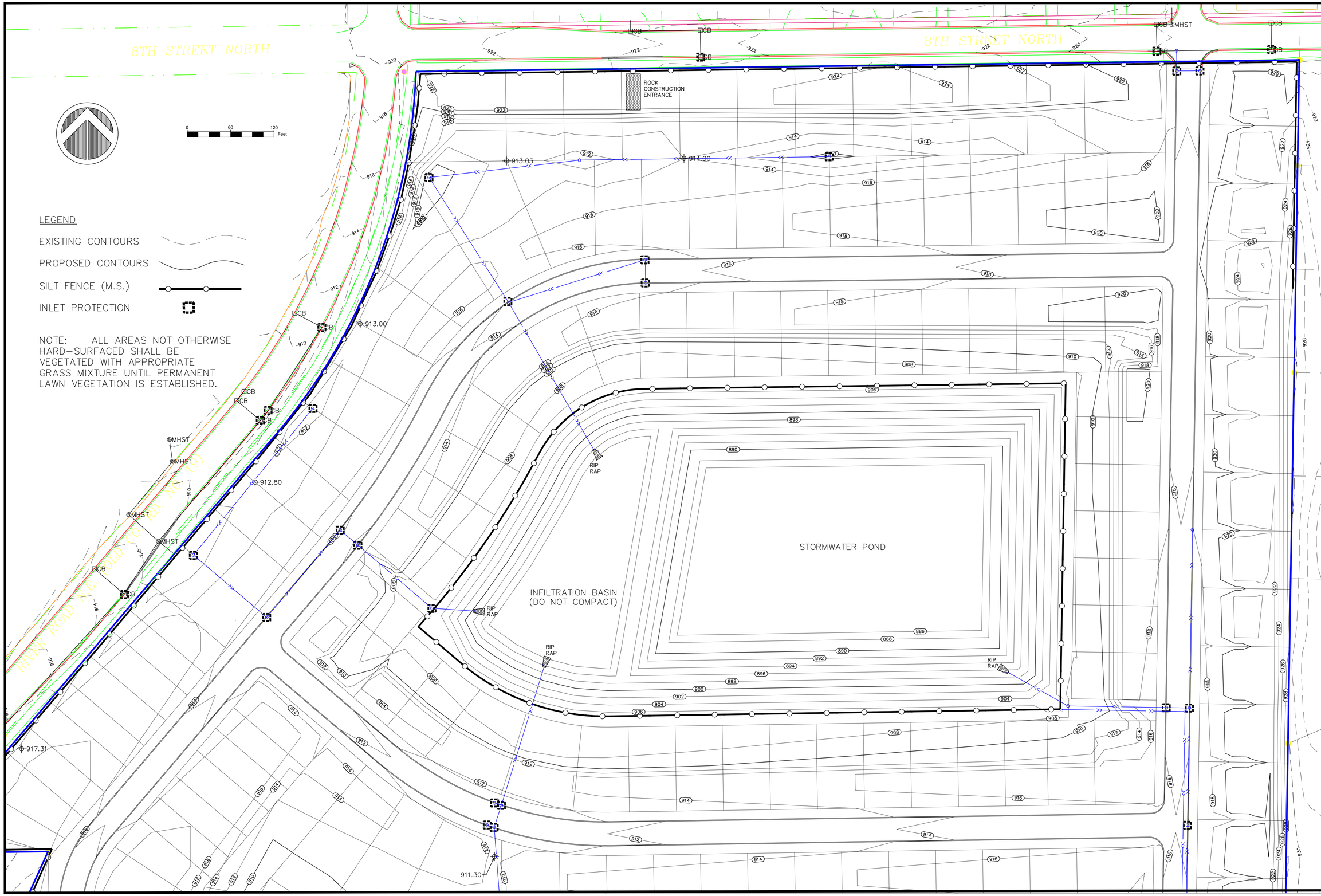
HANOVER COVE
PRELIMINARY ENGINEERING PLAN
STORMWATER POLLUTION PREVENTION PLAN
HANOVER, MN

CHECKED BY:	DRAWN BY:
JVS	JVS

SCALE
GRAPHIC

DATE
NOV 16, 2018

SHEET
SWPPP2



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HANOVER COVE
PRELIMINARY ENGINEERING PLAN
EROSION CONTROL PLAN (NORTH)

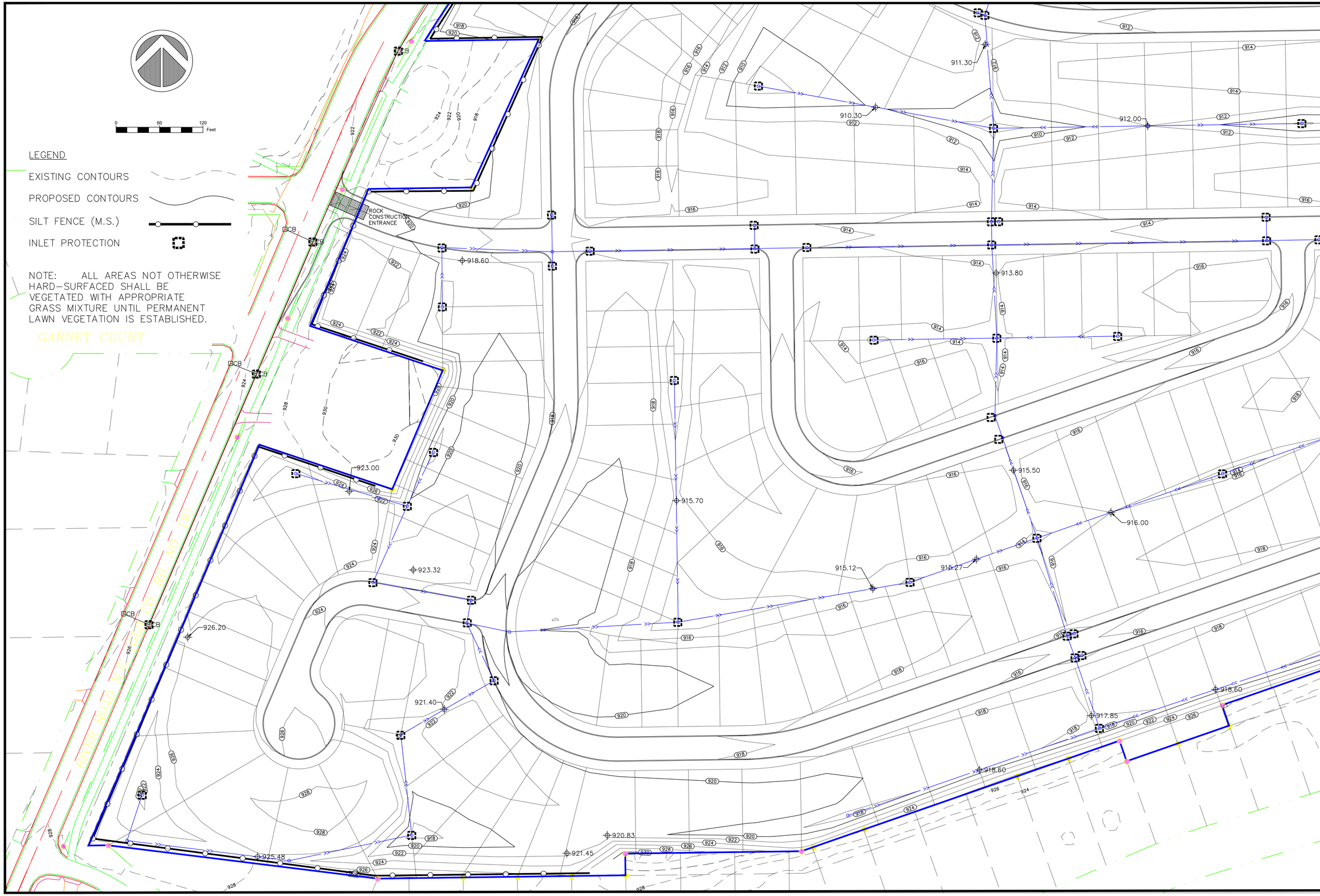
HANOVER, MN

CHECKED BY:	DRAWN BY:
JVS	JVS

SCALE
GRAPHIC

DATE
NOV 16, 2018

SHEET
EC1



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SIGNATURE: DATE: 11/16/2018

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HANOVER COVE
PRELIMINARY ENGINEERING PLAN
EROSION CONTROL PLAN (SOUTHWEST)

HANOVER, MN

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JVS	JVS

SCALE
GRAPHIC

DATE
NOV 16, 2018

SHEET
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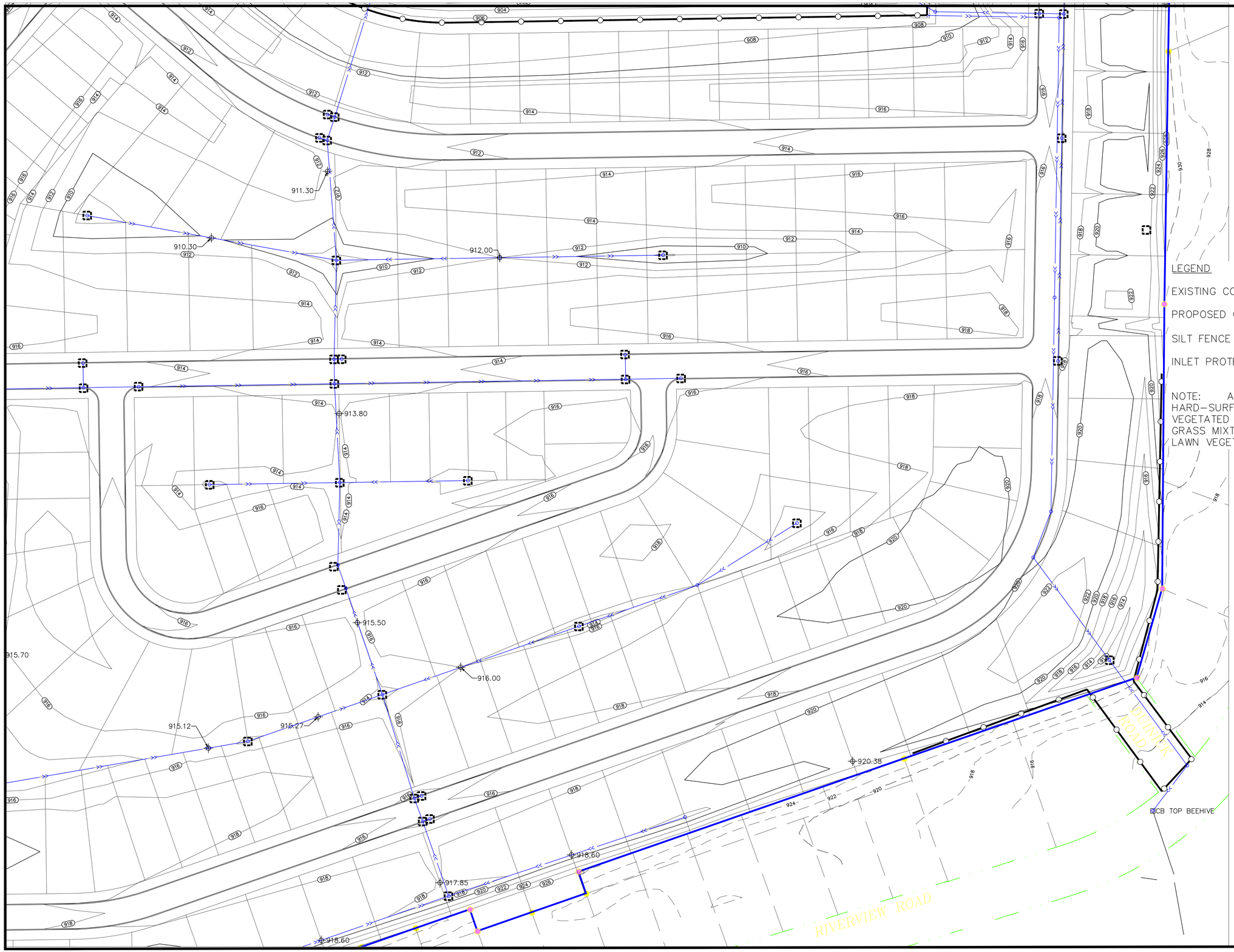

LEGEND

EXISTING CONTOURS

PROPOSED CONTOURS

SILT FENCE (M.S.)

INLET PROTECTION

NOTE: ALL AREAS NOT OTHERWISE HARD-SURFACED SHALL BE VEGETATED WITH APPROPRIATE GRASS MIXTURE UNTIL PERMANENT LAWN VEGETATION IS ESTABLISHED.

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HANOVER COVE

PRELIMINARY ENGINEERING PLAN

EROSION CONTROL PLAN (SOUTHEAST)

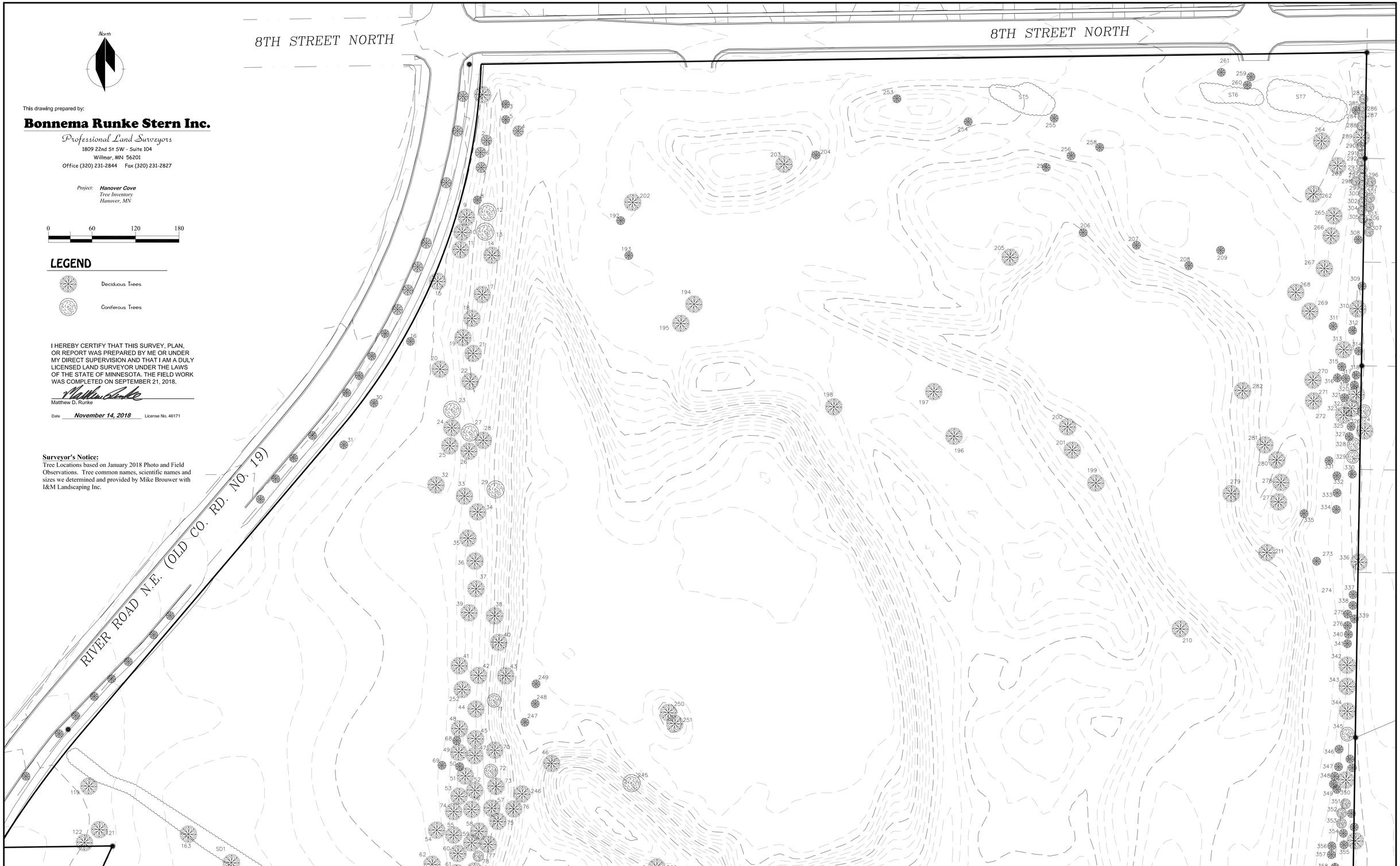
HANOVER, MN

CHECKED BY:	DRAWN BY:
JVS	JVS

SCALE
GRAPHIC

DATE
NOV 16, 2018

SHEET
EC3



North

This drawing prepared by:

Bonnema Runke Stern Inc.

Professional Land Surveyors

1809 22nd St SW - Suite 104
Willmar, MN 56201
Office (320) 231-2844 Fax (320) 231-2827

Project: ***Hanover Cove***
Tree Inventory
Hanover, MN

0 60 120 180

LEGEND

Deciduous Trees

Coniferous Trees

I HEREBY CERTIFY THAT THIS SURVEY, PLAN, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MINNESOTA. THE FIELD WORK WAS COMPLETED ON SEPTEMBER 21, 2018.

Matthew D. Runke

Date ***November 14, 2018*** License No. 46171

Surveyor's Notice:
Tree Locations based on January 2018 Photo and Field Observations. Tree common names, scientific names and sizes we determined and provided by Mike Brouwer with I&M Landscaping Inc.

Survey Requested By: **Duininck Inc.**

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Tree Inventory - Sheet 1 of 5

Survey Requested By: **Duininck Inc.**

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Tree Inventory - Sheet 2 of 5

This drawing prepared by:

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Project: ***Hanover Cove***
Tree Inventory
Hanover, MN

Survey Requested By: **Duininck Inc.**

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Tree Inventory - Sheet 3 of 5

ID#	Size	common name	Scienfic Name
1	8"	Green Ash	Fraxinus Pennsylvanica
2	8"	Flowering Crab apple	Malus "Hopa"
3	6-8"	Lombardy Popluar	Populus Tremula
4	12"	Cottonwood	Populus Deltoides
5	10"	Lombardy Popluar	Populus Tremula
6	6"	Lombardy Popluar	Populus Tremula
7	10"	Green Ash	Fraxinus Pennsylvanica
8	8"	Green Ash	Fraxinus Pennsylvanica
9	6"	Flowering Crabapple	Malus "Hopa"
10	6"	Green Ash	Fraxinus Pennsylvanica
11	8"	Green Ash	Fraxinus Pennsylvanica
12	7"	Scotch Pine	Pinus Sylvestris
13	9"	Scotch Pine	Pinus Sylvestris
14	6"	Cotton Wood	Populus Deltoides
15	8"	Flowering Crabapple	Malus "Hopa"
16	6"	Flowering Crabapple	Malus "Hopa"
17	8"	Green Ash	Fraxinus Pennsylvanica
18	9"	Green Ash	Fraxinus Pennsylvanica
19	6"	Flowering Crabapple	Malus "Hopa"
20	20"	Chinese Elm	Ulmus Parvifolia
21	6"	Green Ash	Fraxinus Pennsylvanica
22	8"	Green Ash	Fraxinus Pennsylvanica
23	8"	Scotch Pine	Pinus Sylvestris
24	8"	Green Ash	Fraxinus Pennsylvanica
25	7"	Green Ash	Fraxinus Pennsylvanica
26	8"	Flowering Crabapple	Malus "Hopa"
27	6"	Eastern Red Cedar	Juniperus Virginiana
28	6"	Lombardy Popluar	Populus Tremula
29	5"	Eastern Red Cedar	Juniperus Virginiana
30	10"	Green Ash	Fraxinus Pennsylvanica
31	8"	Chinese Elm	Ulmus Parvifolia
32	7"	Box Elder	Acer Negundo
33	7"	Flowering Crabapple	Malus "Hopa"
34	6"	Flowering Crabapple	Malus "Hopa"
35	6"	Green Ash	Fraxinus Pennsylvanica
36	8"	Box Elder	Acer Negundo
37	6"	Flowering Crabapple	Malus "Hopa"
38	8"	Green Ash	Fraxinus Pennsylvanica
39	12"	Box Elder	Acer Negundo
40	8"	Box Elder	Acer Negundo
41	10"	Box Elder	Acer Negundo
42	8"	Flowering Crabapple	Malus "Hopa"
43	6"	Green Ash	Fraxinus Pennsylvanica
44	9"	Box Elder	Acer Negundo
45	12"	Box Elder	Acer Negundo
46	7"	Chinese Elm	Ulmus Parvifolia
47	10"	American Elm	Ulmus Americana
48	12"	Box Elder	Acer Negundo
49	8"	Box Elder	Acer Negundo
50	8"	Box Elder	Acer Negundo
51	6"	Box Elder	Acer Negundo
52	6"	Flowering Crabapple	Malus "Hopa"
53	18"	Box Elder	Acer Negundo
54	8"	Box Elder	Acer Negundo
55	6"	Box Elder	Acer Negundo
56	8"	Box Elder	Acer Negundo
57	8"	Box Elder	Acer Negundo
58	6"	Box Elder	Acer Negundo
59	8"	Box Elder	Acer Negundo
60	8"	Box Elder	Acer Negundo
61	8"	Box Elder	Acer Negundo
62	8-10"	Box Elder	Acer Negundo
63	7-8"	Flowering Crabapple	Malus "Hopa"
64	6"	Chinese Elm	Ulmus Parvifolia
65	12 dia	Eastern Red Cedar	Juniperus Virginiana
66	12 dia	Eastern Red Cedar	Juniperus Virginiana
67	12 dia	Eastern Red Cedar	Juniperus Virginiana
68	7"	Box Elder	Acer Negundo
69	8"	Flowering Crabapple	Malus "Hopa"
70	6"	Flowering Crabapple	Malus "Hopa"
71	12 dia	Eastern Red Cedar	Juniperus Virginiana
72	12 dia	Eastern Red Cedar	Juniperus Virginiana
73	6-7"	Flowering Crabapple	Malus "Hopa"
74	7-8"	Flowering Crabapple	Malus "Hopa"
75	6"	Green Ash	Fraxinus Pennsylvanica
76	6"	American Elm	Ulmus Americana
77	6"	Green Ash	Fraxinus Pennsylvanica
78	12 dia	Eastern Red Cedar	Juniperus Virginiana
79	8"	Chinese Elm	Ulmus Parvifolia
80	6"	Flowering Crabapple	Malus "Hopa"
81	8-10"	Box Elder	Acer Negundo
82	6"	Chinese Elm	Ulmus Parvifolia
83	10"	American Elm	Ulmus Americana
84	8"	Green Ash	Fraxinus Pennsylvanica
85	6"	Flowering Crabapple	Malus "Hopa"
86	7-8"	American Elm	Ulmus Americana
87	8"	American Elm	Ulmus Americana
88	10"	Box Elder	Acer Negundo
89	12"	Green Ash	Fraxinus Pennsylvanica
90	8-10"	Box Elder	Acer Negundo

ID#	Size	common name	Scienfic Name
91	10"	Hackberry	Celtis occidentali
92	6-7"	Green Ash	Fraxinus Pennsylvanica
93	9"	Green Ash	Fraxinus Pennsylvanica
94	6-7"	Cotton Wood	Populus Deltoides
95	8"	Cotton Wood	Populus Deltoides
96		Green Ash	Fraxinus Pennsyvanica
97	12 dia	Eastern Red Cedar	Juniperus Virginiana
98	8"	Green Ash	Fraxinus Pennsyvanica
99	18 clump	Silver Maple	Acer saccharinum
100	7-8"	Green Ash	Fraxinus Pennsyvanica
101	12 dia	Eastern Red Cedar	Juniperus Virginiana
102	10"	Cotton Wood	Populus Deltoides
103	8"	Cotton Wood	Populus Deltoides
104	18"	Cotton Wood	Populus Deltoides
105	14"	Cotton Wood	Populus Deltoides
106	7"	Chinese Elm	Ulmus Parvifolia
107	12"	Cotton Wood	Populus Deltoides
108	20 dia	Eastern Red Cedar	Juniperus Virginiana
109	7"	Chinese Elm	Ulmus Parvifolia
110	14 dia	Eastern Red Cedar	Juniperus Virginiana
111	12 dia	Eastern Red Cedar	Juniperus Virginiana
112	12 dia	Eastern Red Cedar	Juniperus Virginiana
113	12 dia	Eastern Red Cedar	Juniperus Virginiana
114	7-9"	Chinese Elm	Ulmus Parvifolia
115	7"	Box Elder	Acer Negundo
116	12"	Cotton Wood	Populus Deltoides
117	12"	Cotton Wood	Populus Deltoides
118	12 dia	Black Hills Spruce	Picea glauca densatta
119	12 dia	Green Ash	Fraxinus Pennsyvanica
120	8"	Box Elder	Acer Negundo
121	2' clump	Silver Maple	Acer saccharinum
122	6"	Chinese Elm	Ulmus Parvifolia
123	8"	White Spruce	Picea Glauca
124	10"	Silver Maple	Acer saccharinum
125	8"	American Elm	Ulmus Americana
126	10"	Cotton Wood	Populus Deltoides
127		Tartarian Maple	Acer Tataricum
128	8"	Green Ash	Fraxinus Pennsyvanica
129	12 dia	Eastern Red Cedar	Juniperus Virginiana
130	12 dia	Eastern Red Cedar	Juniperus Virginiana
131	12 dia	Eastern Red Cedar	Juniperus Virginiana
132	12 dia	Eastern Red Cedar	Juniperus Virginiana
133	12 dia	Eastern Red Cedar	Juniperus Virginiana
134	12 dia	Eastern Red Cedar	Juniperus Virginiana
135	12 dia	Eastern Red Cedar	Juniperus Virginiana
136	12 dia	Eastern Red Cedar	Juniperus Virginiana
137	12 dia	Eastern Red Cedar	Juniperus Virginiana
138	10"	Chinese Elm	Ulmus Parvifolia
139	7"	Green Ash	Fraxinus Pennsyvanica
140	14 clump	Silver Maple	Acer saccharinum
141	8"	Silver Maple	Acer saccharinum
142	12"	American Elm	Ulmus Americana
143	6"	Swamp White Oak	Quercus Bicolor
144	10"	Hackberry	Celtis occidentali
145	8"	Chinese Elm	Ulmus Parvifolia
146	10"	American Elm	Ulmus Americana
147	14 dia	Eastern Red Cedar	Juniperus Virginiana
148	10"	Tartarian Maple	Acer Tataricum
149	8"	Flowering Crabapple	Malus "Hopa"
150	14 dia	Eastern Red Cedar	Juniperus Virginiana
151	14 dia	Eastern Red Cedar	Juniperus Virginiana
152	7-8"	Chinese Elm	Ulmus Parvifolia
153	6"	Tartarian Maple	Acer Tataricum
154	2' dia	Cottonwood	Populus Deltoides
155	10"	Box Elder	Acer Negundo
156	10"	Apple Tree	Malus
157	10"	Apple Tree	Malus
158	6"	Apple Tree	Malus
159	8"	Apple Tree	Malus
160	8"	Black Walnut	Juglans Nigra
161	6-7"	Chinese Elm	Ulmus Parvifolia
162	10"	Chinese Elm	Ulmus Parvifolia
163	10"	Chinese Elm	Ulmus Parvifolia
164	12"	Chinese Elm	Ulmus Parvifolia
165	18"	Green Ash	Fraxinus Pennsyvanica
166	18" clump	Chinese Elm	Ulmus Parvifolia
167	18"	Green Ash	Fraxinus Pennsyvanica
168	18"	Green Ash	Fraxinus Pennsyvanica
169	8"	Green Ash	Fraxinus Pennsyvanica
170	8"	Chinese Elm	Ulmus Parvifolia
171	16"	Chinese Elm	Ulmus Parvifolia
172	12" clump	Silver Maple	Acer Saccharinum
173	16" clump	Silver Maple	Acer Saccharinum
174	18" clump	Silver Maple	Acer Saccharinum
175	18"	Flowering Crabapple	Malus "Hopa"
176	10"	Flowering Crabapple	Malus "Hopa"
177	7"	Black Hills Spruce	Picea Glauca
178	10"	Green Ash	Fraxinus Pennsyvanica
179	10"	Flowering Crabapple	Malus "Hopa"
180	8"	Green Ash	Fraxinus Pennsyvanica

ID#	Size	common name	Scienfic Name
181	7-8"	Green Ash	Fraxinus Pennsyvanica
182	10"	Flowering Crabapple	Malus "Hopa"
183	12"	Green Ash	Fraxinus Pennsyvanica
184	2' clump	Chinese Elm	Ulmus Parvifolia
185	14"	Green Ash	Fraxinus Pennsyvanica
186	12"	Flowering Crabapple	Malus "Hopa"
187	8"	Flowering Crabapple	Malus "Hopa"
188	18"	Chinese Elm	Ulmus Parvifolia
189	10"	Flowering Crabapple	Malus "Hopa"
190	7"	Flowering Crabapple	Malus "Hopa"
191	12' dia	Eastern Red Cedar	Juniperus Virginiana
192	6"	Cottonwood	Populus Deltoides
193	6"	Chinese Elm	Ulmus Parvifolia
194	6"	Chinese Elm	Ulmus Parvifolia
195	6-7"	Chinese Elm	Ulmus Parvifolia
196	6"	Chinese Elm	Ulmus Parvifolia
197	6"	Chinese Elm	Ulmus Parvifolia
198	6"	Cotoonwood	Populus Deltoides
199	6"	Green Ash	Fraxinus Pennsyvanica
200	6"	Cottonwood	Populus Deltoides
201	6"	Cottonwood	Populus Deltoides
202	8"	Cottonwood	Populus Deltoides
203	8"	Cottonwood	Populus Deltoides
204	6"	Cottonwood	Populus Deltoides
205	6"	Cottonwood	Populus Deltoides
206	6"	Chinese Elm	Ulmus Parvifolia
207	6"	Chinese Elm	Ulmus Parvifolia
208	7"	Chinese Elm	Ulmus Parvifolia
209	7"	Cottonwood	Populus Deltoides
210	8"	Chinese Elm	Ulmus Parvifolia
211	6"	Chinese Elm	Ulmus Parvifolia
212	6-7"	Cottonwood	Populus Deltoides
213	6"	Cottonwood	Populus Deltoides
214	6"	Cottonwood	Populus Deltoides
215	6"	Cottonwood	Populus Deltoides
216	6"	Chinese Elm	Ulmus Parvifolia
217	6"	Swamp Willow	Salix Nigra
218	6-8"	Cottonwood	Populus Deltoides
219	6-8"	Cottonwood	Populus Deltoides
220	8"	Chinese Elm	Ulmus Parvifolia
221	8"	Chinese Elm	Ulmus Parvifolia
222	8"	Chinese Elm	Ulmus Parvifolia
223	8"	Chinese Elm	Ulmus Parvifolia
224	10"	Chinese Elm	Ulmus Parvifolia
225	8"	Cottonwood	Populus Deltoides
226	6"	Cottonwood	Populus Deltoides
227	6"	Chinese Elm	Ulmus Parvifolia
228	6"	Chinese Elm	Ulmus Parvifolia
229	6"	Chinese Elm	Ulmus Parvifolia
230	6"	Cottonwood	Populus Deltoides
231	6"	Chinese Elm	Ulmus Parvifolia
232	6" clump	Chinese Elm	Ulmus Parvifolia
233	6" clump	Cottonwood	Populus Deltoides
234	6" clump	Cottonwood	Populus Deltoides
235	6-7" clump	Cottonwood	Populus Deltoides
236	7-8"	Cottonwood	Populus Deltoides
237	6"	Cottonwood	Populus Deltoides
238	6"	Chinese Elm	Ulmus Parvifolia
239	6"	Cottonwood	Populus Deltoides
240	7"	Cottonwood	Populus Deltoides
241	6"	Cottonwood	Populus Deltoides
242	6"	Cottonwood	Populus Deltoides
243	7"	Cottonwood	Populus Deltoides
244	10"	Chinese Elm	Ulmus Parvifolia
245	8"	Chinese Elm	Ulmus Parvifolia
246	8"	Cottonwood	Populus Deltoides
247	10"	Cottonwood	Populus Deltoides
248	10"	Cottonwood	Populus Deltoides
249	10"	Cottonwood	Populus Deltoides
250	8"	Cottonwood	Populus Deltoides
251	6"	Cottonwood	Populus Deltoides
252	6"	Lombardy Popluar	Populus Tremula
253	6"	Chinese Elm	Ulmus Parvifolia
254	6"	Chinese Elm	Ulmus Parvifolia
255	6"	Chinese Elm	Ulmus Parvifolia
256	6"	Chinese Elm	Ulmus Parvifolia
257	6"	Chinese Elm	Ulmus Parvifolia
258	8"	Chinese Elm	Ulmus Parvifolia
259	7"	Cottonwood	Populus Deltoides
260	8"	Cottonwood	Populus Deltoides
261	8"	Cottonwood	Populus Deltoides
262	6"	Chinese Elm	Ulmus Parvifolia
263	8"	Chinese Elm	Ulmus Parvifolia
264	8"	Chinese Elm	Ulmus Parvifolia
265	8"	Box Elder	Acer Negundo
266	6"	Box Elder	Acer Negundo
267	8" clump	Box Elder	Acer Negundo
268	8" clump	Box Elder	Acer Negundo
269	8"	Box Elder	Acer Negundo
270	6"	Lombardy Popluar	Populus Tremula

ID#	Size	common name	Scienfic Name
271	6"	Lombardy Popluar	Populus Tremula
272	6" clump	Box Elder	Acer Negundo
273	10"	Lombardy Popluar	Populus Tremula
274	6"	Cottonwood	Populus Deltoides
275	6"	Cottonwood	Populus Deltoides
276	6"	Chinese Elm	Ulmus Parvifolia
277	6"	Chinese Elm	Ulmus Parvifolia
278	6"	Chinese Elm	Ulmus Parvifolia
279	6"	Chinese Elm	Ulmus Parvifolia
280	6"	Box Elder	Acer Negundo
281	6"	American Elm	Ulmus Americana
282	6"	Chinese Elm	Ulmus Parvifolia
283	14' tall	Colorado Blue Spruce	Picea Pungens
284	10"	Lombardy Popluar	Populus Tremula
285	14' tall	Colorado Green Spruce	Picea Pungens
286	16' tall	Colorado Blue Spruce	Picea Pungens
287	12' tall	White Spruce	Picea Glauca
288	12' tall	Eastern Red Cedar	Juniperus Virginiana
289	10"	Green Ash	Fraxinus Pennsyvanica
290	12"	Scotch Pine	Pinus Sylvestris
291	14"	Scotch Pine	Pinus Sylvestris
292	14"	Scotch Pine	Pinus Sylvestris
293	18"	Scotch Pine	Pinus Sylvestris
294	8"	Scotch Pine	Pinus Sylvestris
295	14"	Scotch Pine	Pinus Sylvestris
296	16"	Scotch Pine	Pinus Sylvestris
297	14"	Scotch Pine	Pinus Sylvestris
298	6"	Scotch Pine	Pinus Sylvestris
299	16"	Scotch Pine	Pinus Sylvestris
300	16-20'	Colorado Blue Spruce	Picea Pungens
301	16-20'	Colorado Blue Spruce	Picea Pungens
302	16-20'	Colorado Blue Spruce	Picea Pungens
303	16-20'	Colorado Blue Spruce	Picea Pungens
304	16-20'	Colorado Blue Spruce	Picea Pungens
305	16-20'	Colorado Blue Spruce	Picea Pungens
306	16-20'	Colorado Blue Spruce	Picea Pungens
307	16-20'	Colorado Blue Spruce	Picea Pungens
308	12"	Flowering Crabapple	Malus "Hopa"
309	14' tall	Amur Maple	Acer Ginnala
310	14' tall	Amur Maple	Acer Ginnala
311	12"	Flowering Crabapple	Malus "Hopa"
312	12"	Flowering Crabapple	Malus "Hopa"
313	10" clump	Silver Maple	Acer Saccharinum
314	14' tall	Amur Maple	Acer Ginnala
315	10"	Silver Maple	Acer Saccharinum
316	10"	Silver Maple	Acer Saccharinum
317	6"	Hackberry	Celtis occidentali
318	6"	Silver Maple	Acer Saccharinum
319	16" clump	Silver Maple	Acer Saccharinum
320	12"	Flowering Crabapple	Malus "Hopa"
321	8"	Green Ash	Fraxinus Pennsyvanica
322	8"	Silver Maple	Acer Saccharinum
323	10"	Green Ash	Fraxinus Pennsyvanica
324	20' tall	Colorado Blue Spruce	Picea Pungens
325	10" clump	Green Ash	Fraxinus Pennsyvanica
326	10" clump	Silver Maple	Acer Saccharinum
327	10"	Silver Maple	Acer Saccharinum
328	14"	Scotch Pine	Pinus Sylvestris
329	16"	Scotch Pine	Pinus Sylvestris
330	14" clump	Silver Maple	Acer Saccharinum
331	14" clump	Silver Maple	Acer Saccharinum
332	14" clump	Silver Maple	Acer Saccharinum
333	14" clump	Silver Maple	Acer Saccharinum
334	8"	Green Ash	Fraxinus Pennsyvanica
335	6"	Hackberry	Celtis occidentali
336	8" clump	Silver Maple	Acer Saccharinum
337	8"	Green Ash	Fraxinus Pennsyvanica
338	10"	Silver Maple	Acer Saccharinum
339	6"	Green Ash	Fraxinus Pennsyvanica
340	8"	Flowering Crabapple	Malus "Hopa"
341	12" clump	Silver Maple	Acer Saccharinum
342	6"	Flowering Crabapple	Malus "Hopa"
343	10"	Canada Red Cherry	Prunus Virginiana
344	6"	Flowering Crabapple	Malus "Hopa"
345	14"	Scotch Pine	Pinus Sylvestris
346	6"	Green Ash	Fraxinus Pennsyvanica
347	8"	Green Ash	Fraxinus Pennsyvanica
348	6"	Green Ash	Fraxinus Pennsyvanica
349	8"	Flowering Crabapple	Malus "Hopa"
350	6"	Green Ash	Fraxinus Pennsyvanica
351	12"	Scotch Pine	Pinus Sylvestris
352	8"	Scotch Pine	Pinus Sylvestris
353	12"	Scotch Pine	Pinus Sylvestris
354	6"	Green Ash	Fraxinus Pennsyvanica
355	8"	Flowering Crabapple	Malus "Hopa"
356	8"	Flowering Crabapple	Malus "Hopa"
357	6"	Flowering Crabapple	Malus "Hopa"
358	8"	Flowering Crabapple	Malus "Hopa"
359	12"	Green Ash	Fraxinus Pennsyvanica
360	8"	Green Ash	Fraxinus Pennsyvanica

ID#	Size	common name	Scienfic Name
361	8"	Green Ash	Fraxinus Pennsyvanica
362	10" clump	Silver Maple	Acer Saccharinum
363	6"	Green Ash	Fraxinus Pennsyvanica
364	6"	Green Ash	Fraxinus Pennsyvanica
365	7"	Green Ash	Fraxinus Pennsyvanica
366	6"	Green Ash	Fraxinus Pennsyvanica
367	14' tall	Eastern Red Cedar	Juniperus Virginiana
368	12' tall	Eastern Red Cedar	Juniperus Virginiana
369	8"	Green Ash	Fraxinus Pennsyvanica
370	6"	Green Ash	Fraxinus Pennsyvanica
371	10"	Green Ash	Fraxinus Pennsyvanica
372	8"	Green Ash	Fraxinus Pennsyvanica
373	8"	Flowering Crabapple	Malus "Hopa"
374	6"	Green Ash	Fraxinus Pennsyvanica
375	8"	Flowering Crabapple	Malus "Hopa"
376	8"	Scotch Pine	Pinus Sylvestris
377	12"	Scotch Pine	Pinus Sylvestris
378	6"	Flowering Crabapple	Malus "Hopa"
379	12' tall	Eastern Red Cedar	Juniperus Virginiana
380	10"	Green Ash	Fraxinus Pennsyvanica
381	12"	Green Ash	Fraxinus Pennsyvanica
382	12"	Flowering Crabapple	Malus "Hopa"
383	8"	Lombardy Popluar	Populus Tremula
384	12"	Lombardy Popluar	Populus Tremula
385	12"	Lombardy Popluar	Populus Tremula
386		Green Ash	Fraxinus Pennsyvanica
387	8"	Lombardy Popluar	Populus Tremula
388	12" clump	Silver Maple	Acer Saccharinum
389	6"	American Elm	Ulmus Americana
390	6"	Green Ash	Fraxinus Pennsyvanica
391	8"	Lombardy Popluar	Populus Tremula
392	8"	Flowering Crabapple	Malus "Hopa"
393	8"	Flowering Crabapple	Malus "Hopa"
394	10"	Lombardy Popluar	Populus Tremula
395	10"	Lombardy Popluar	Populus Tremula
396	8"	Green Ash	Fraxinus Pennsyvanica
397	14' tall	Scotch Pine	Pinus Sylvestris
398	6"	Flowering Crabapple	Malus "Hopa"
399	8"	Green Ash	Fraxinus Pennsyvanica
400	8"	American Elm	Ulmus Americana
401	6"	eastern Red Cedar	Juniperus Virginiana
402	6"	Flowering Crabapple	Malus "Hopa"
403	6"	Flowering Crabapple	Malus "Hopa"
404	14"	Scotch Pine	Pinus Sylvestris
405	10"	Scotch Pine	Pinus Sylvestris
406	8"	Flowering Crabapple	Malus "Hopa"
407	7"	Green Ash	Fraxinus Pennsyvanica
408	10"	Green Ash	Fraxinus Pennsyvanica
409	16"	Scotch Pine	Pinus Sylvestris
410	8"	Green Ash	Fraxinus Pennsyvanica
411	6"	Green Ash	Fraxinus Pennsyvanica
412	8"	Green Ash	Fraxinus Pennsyvanica
413	10"	Flowering Crabapple	Malus "Hopa"
414	10"	Flowering Crabapple	Malus "Hopa"
415	8"	Scotch Pine	Pinus Sylvestris
416	8"	Green Ash	Fraxinus Pennsyvanica
417	12"	Box Elder	Acer Negundo
418	6"	Flowering Crabapple	Malus "Hopa"
419	10"	Flowering Crabapple	Malus "Hopa"
420	6"	Green Ash	Fraxinus Pennsyvanica
421	10"	Flowering Crabapple	Malus "Hopa"
422	10"	Green Ash	Fraxinus Pennsyvanica
423	6"	Green Ash	Fraxinus Pennsyvanica
424	14"	Scotch Pine	Pinus Sylvestris
425	12"	Green Ash	Fraxinus Pennsyvanica
426	6"	Flowering Crabapple	Malus "Hopa"
427	6"	Green Ash	Fraxinus Pennsyvanica
428	8"	Green Ash	Fraxinus Pennsyvanica
429	10"	Green Ash	Fraxinus Pennsyvanica
430	7"	Green Ash	Fraxinus Pennsyvanica
431	9"	Green Ash	Fraxinus Pennsyvanica
432	8"	Green Ash	Fraxinus Pennsyvanica
433	6"	Green Ash	Fraxinus Pennsyvanica
434	10"	Green Ash	Fraxinus Pennsyvanica
435	10"	Green Ash	Fraxinus Pennsyvanica
436	6"	Box Elder	Acer Negundo
437	7"	Green Ash	Fraxinus Pennsyvanica
438	10"	Green Ash	Fraxinus Pennsyvanica
439	10"	Green Ash	Fraxinus Pennsyvanica
440	10"	Flowering Crabapple	Malus "Hopa"
441	8"	Green Ash	Fraxinus Pennsyvanica
442	8"	Box Elder	Acer Negundo
443	8"	Flowering Crabapple	Malus "Hopa"
444	10"	Green Ash	Fraxinus Pennsyvanica
445	10"	Black Cherry	Prunus Serotina
446	8"	Green Ash	Fraxinus Pennsyvanica
447	8"	Green Ash	Fraxinus Pennsyvanica
448	8"	Green Ash	Fraxinus Pennsyvanica
449	10"	Box Elder	Acer Negundo
450	10"	Green Ash	Fraxinus Pennsyvanica

North

This drawing prepared by:

Bonnema Runke Stern Inc.

Professional Land Surveyors

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Project: ***Hanover Cove***
Tree Inventory
Hanover, MN

Survey Requested By: **Duininck Inc.**

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Tree Inventory - Sheet 4 of 5

ID#	Size	common name	Scienfic Name
451	6"	Green Ash	Fraxinus Pennsyvanica
452	8"	Green Ash	Fraxinus Pennsyvanica
453	8"	Green Ash	Fraxinus Pennsyvanica
454	6"	Flowering Crabapple	Malus "Hopa"
455	20"	Chinese Elm	Ulmus Parvifolia
456	8"	Green Ash	Fraxinus Pennsyvanica
457	12"	Norway Maple	Acer Platanoides
458	10"	Green Ash	Fraxinus Pennsyvanica
459	10"	Green Ash	Fraxinus Pennsyvanica
460	8"	Flowering Crabapple	Malus "Hopa"
461	12"	Green Ash	Fraxinus Pennsyvanica
462	8"	Green Ash	Fraxinus Pennsyvanica
463	10"	Green Ash	Fraxinus Pennsyvanica
464	8"	Flowering Crabapple	Malus "Hopa"
465	10"	Flowering Crabapple	Malus "Hopa"
466	10"	Norway Maple	Acer Platanoides
467	8' clump	Service Berry	Amelanchier Arborea
468	10"	Flowering Crabapple	Malus "Hopa"
469	8"	Scotch Pine	Pinus Sylvestris
470	8"	Green Ash	Fraxinus Pennsyvanica
471	10"	Flowering Crabapple	Malus "Hopa"
472	8" clump	Tartarian Maple	Acer Tataricum
473	8"	Amur Maple	Acer Ginnala
474	8"	Tartarian Maple	Acer Tataricum
475	12"	Green Ash	Fraxinus Pennsyvanica
476	6"	Green Ash	Fraxinus Pennsyvanica
477	6"	Service Berry	Amelanchier Arborea
478	6" clump	Tartarian Maple	Acer Tataricum
479	6" clump	Black Cherry	Prunus Serotina
480	8"	Flowering Crabapple	Malus "Hopa"
481	10" clump	Tartarian Maple	Acer Tataricum
482	8"	Tartarian Maple	Acer Tataricum
483	10"	Green Ash	Fraxinus Pennsyvanica
484	12"	Green Ash	Fraxinus Pennsyvanica
485	10"	Box Elder	Acer Negundo
486	8"	Box Elder	Acer Negundo
487	8"	Box Elder	Acer Negundo
488	18"	Box Elder	Acer Negundo
489	6"	Box Elder	Acer Negundo
490	6"	Mulberry	Morus Nigra
491	8"	Box Elder	Acer Negundo
492	10"	Green Ash	Fraxinus Pennsyvanica
493	10"	Green Ash	Fraxinus Pennsyvanica
494	20"	Honey Locust	Gleditsia triacanthos
495	10"	Flowering Crabapple	Malus "Hopa"
496	8"	Green Ash	Fraxinus Pennsyvanica
497	10"	Box Elder	Acer Negundo
498	8"	Green Ash	Fraxinus Pennsyvanica
499	8"	Green Ash	Fraxinus Pennsyvanica
500	6"	Chinese Elm	Ulmus Parvifolia
501	12"	Box Elder	Acer Negundo
502	8"	Green Ash	Fraxinus Pennsyvanica
503	8"	Flowering Crabapple	Malus "Hopa"
504	8-10"	Green Ash	Fraxinus Pennsyvanica
505	8-10"	Green Ash	Fraxinus Pennsyvanica
506	10"	Box Elder	Acer Negundo
507	10"	Green Ash	Fraxinus Pennsyvanica
508	10"	Flowering Crabapple	Malus "Hopa"
509	10"	Green Ash	Fraxinus Pennsyvanica
510	12"	Green Ash	Fraxinus Pennsyvanica
511	8"	Flowering Crabapple	Malus "Hopa"
512	10"	Green Ash	Fraxinus Pennsyvanica
513	12"	Green Ash	Fraxinus Pennsyvanica
514	16"	Green Ash	Fraxinus Pennsyvanica
515	24" clump	Silver Maple	Acer Saccharinum
516	8"	Green Ash	Fraxinus Pennsyvanica
517	10"	Green Ash	Fraxinus Pennsyvanica
518	8"	Tartarian Maple	Acer Tataricum
519	12"	Green Ash	Fraxinus Pennsyvanica
520	8"	Green Ash	Fraxinus Pennsyvanica
521	10"	Green Ash	Fraxinus Pennsyvanica
522	8"	Green Ash	Fraxinus Pennsyvanica
523	8"	Tartarian Maple	Acer Tataricum
524	8" clump	Tartarian Maple	Acer Tataricum
525	8"	Tartarian Maple	Acer Tataricum
526	10"	Green Ash	Fraxinus Pennsyvanica
527	14"	Colorado Blue Spruce	Picea Glauca
528	10"	Scotch Pine	Pinus Sylvestris
529	10"	Green Ash	Fraxinus Pennsyvanica
530	12"	Flowering Crabapple	Malus "Hopa"
531	16'	Colorado Blue Spruce	Picea Pungens
532	16'	Colorado Blue Spruce	Picea Pungens
533	16'	Colorado Blue Spruce	Picea Pungens
534	14"	Green Ash	Fraxinus Pennsyvanica
535	10"	Lombardy Popluar	Populus Tremula
536	18"	Silver Maple	Acer Saccharinum
537	14'	Eastern Red Cedar	Juniperus Virginiana
538	8"	Flowering Crabapple	Malus "Hopa"
539	8"	Flowering Crabapple	Malus "Hopa"
540	12"	Flowering Crabapple	Malus "Hopa"

ID#	Size	common name	Scienfic Name
541	6"	Flowering Crabapple	Malus "Hopa"
542	8"	Flowering Crabapple	Malus "Hopa"
543	16'	Eastern Red Cedar	Juniperus Virginiana
544	16'	Eastern Red Cedar	Juniperus Virginiana
545	10"	Green Ash	Fraxinus Pennsyvanica
546	6"	Lombardy Popluar	Populus Tremula
547	6"	Chinese Elm	Ulmus Parvifolia
548	8"	Cottonwood	Populus Deltoides
549	10"	Chinese Elm	Ulmus Parvifolia
550	12"	Chinese Elm	Ulmus Parvifolia
551	6"	Green Ash	Fraxinus Pennsyvanica
552	7"	Green Ash	Fraxinus Pennsyvanica
553	12"	Scotch Pine	Pinus Sylvestris
554	6"	Green Ash	Fraxinus Pennsyvanica
555	18"	Scotch Pine	Pinus Sylvestris
556	8"	Green Ash	Fraxinus Pennsyvanica
557	10-12"	Flowering Crabapple	Malus "Hopa"
558	10-12"	Flowering Crabapple	Malus "Hopa"
559	10-12"	Flowering Crabapple	Malus "Hopa"
560	8"	Flowering Crabapple	Malus "Hopa"
561	12"	Green Ash	Fraxinus Pennsyvanica
562	8"	Green Ash	Fraxinus Pennsyvanica
563	10"	Flowering Crabapple	Malus "Hopa"
564	6"	Green Ash	Fraxinus Pennsyvanica
565	6"	White Spruce	Picea Glauca
566	16"	Scotch Pine	Pinus Sylvestris
567	10"	Flowering Crabapple	Malus "Hopa"
568	10"	Flowering Crabapple	Malus "Hopa"
569	10"	Flowering Crabapple	Malus "Hopa"
570	8"	Russian Olive	Elaeagnus Angustifolia
571	6-8"	Green Ash	Fraxinus Pennsyvanica
572	6-8"	Green Ash	Fraxinus Pennsyvanica
573	6-8'	Green Ash	Fraxinus Pennsyvanica
574	7"	Box Elder	Acer Negundo
575	12'	Eastern Red Cedar	Juniperus Virginiana
576	12"	Chinese Elm	Ulmus Parvifolia
577	14"	Scotch Pine	Pinus Sylvestris
578	10"	Chinese Elm	Ulmus Parvifolia
579	8"	American Linden	Tilia Americana
580	14'	Eastern Red Cedar	Juniperus Virginiana
581	6"	Black Walnut	Juglans Nigra
582	8"	American Linden	Tilia Americana
583	8"	Green Ash	Fraxinus Pennsyvanica
584	10"	Flowering Crabapple	Malus "Hopa"
585	12"	Chinese Elm	Ulmus Parvifolia
586	12"	White Oak	Quercus alba
587	12"	Flowering Crabapple	Malus "Hopa"
588	8"	Catalpa	Catalpa Speciosa
589	6"	Chinese Elm	Ulmus Parvifolia
590	22"	Chinese Elm	Ulmus Parvifolia
591	8"	Flowering Crabapple	Malus "Hopa"
592	10"	Chinese Elm	Ulmus Parvifolia
593	12"	Box Elder	Acer Negundo
594	12"	Box Elder	Acer Negundo
595	6"	Green Ash	Fraxinus Pennsyvanica
596	8"	Green Ash	Fraxinus Pennsyvanica
597	8"	Chinese Elm	Ulmus Parvifolia
598	6"	Black Cherry	Prunus Serotina
599	6"	American Linden	Tilia Americana
600	14"	Scotch Pine	Pinus Sylvestris
601	12"	Chinese Elm	Ulmus Parvifolia
602	6"	American Elm	Ulmus Americana
603	12"	Tartarian Maple	Acer Tataricum
604	10"	Flowering Crabapple	Malus "Hopa"
605	12"	White Pine	Pinus Strobus
606	10"	Chinese Elm	Ulmus Parvifolia
607	18"	Chinese Elm	Ulmus Parvifolia
608	6"	American Elm	Ulmus Americana
609	12"	Green Ash	Fraxinus Pennsyvanica
610	12"	White Pine	Pinus Strobus
611	6"	Mulberry	Morus Nigra
612	12"	White Pine	Pinus Strobus
613	8"	Chinese Elm	Ulmus Parvifolia
614	18"	Scotch Pine	Pinus Sylvestris
615	6"	Chinese Elm	Ulmus Parvifolia
616	8"	Tartarian Maple	Acer Tataricum
617	12"	American Elm	Ulmus Americana
618	10"	Chinese Elm	Ulmus Parvifolia
619	8'	Black Cherry	Prunus Serotina
620	6"	Chinese Elm	Ulmus Parvifolia
621	6"	Flowering Crabapple	Malus "Hopa"
622	12"	Box Elder	Acer Negundo
623	12"	Box Elder	Acer Negundo
624	6"	Box Elder	Acer Negundo
625	12"	Box Elder	Acer Negundo
626	10"	Box Elder	Acer Negundo
627	14"	Box Elder	Acer Negundo
628	25-30'	Colorado Blue Spruce	Picea Pungens
629	25-30'	Colorado Blue Spruce	Picea Pungens
630	25-30'	Colorado Blue Spruce	Picea Pungens

631	25-30'	Colorado Blue Spruce	Picea Pungens
632	25-30'	Colorado Blue Spruce	Picea Pungens
633	25-30'	Colorado Blue Spruce	Picea Pungens
634	25-30'	Colorado Blue Spruce	Picea Pungens
635	25'	White Pine	Pinus Strobus
636	25'	White Pine	Pinus Strobus
637	25'	White Pine	Pinus Strobus
638	6"	Apple	Malus
639	25'	White Pine	Pinus Strobus
640	8"	Flowering Crabapple	Malus "Hopa"
641	24"	American Linden	Tilia Americana
642	18"	Green Ash	Fraxinus Pennsyvanica
643	18"	American Linden	Tilia Americana
644	12"	Colorado Blue Spruce	Picea Pungens
645	18"	Box Elder	Acer Negundo
646	18"	Colorado Blue Spruce	Picea Glauca
647	6"	Lombardy Popluar	Populus Tremula
648	6"	Eastern Red Cedar	Juniperus Virginiana
649	8"	Chinese Elm	Ulmus Parvifolia
650	6"	Chinese Elm	Ulmus Parvifolia
651	10"	Chinese Elm	Ulmus Parvifolia
652	10"	Chinese Elm	Ulmus Parvifolia
653	8"	Green Ash	Fraxinus Pennsyvanica
654	18"	Box Elder	Acer Negundo
655	8"	Chinese Elm	Ulmus Parvifolia
656	6"	Chinese Elm	Ulmus Parvifolia
657	14"	Box Elder	Acer Negundo
658	12"	Green Ash	Fraxinus Pennsyvanica
659	6"	Chinese Elm	Ulmus Parvifolia
660	12"	Box Elder	Acer Negundo
661	12"	Box Elder	Acer Negundo
662	10"	Flowering Crabapple	Malus "Hopa"
663	6"	Green Ash	Fraxinus Pennsyvanica
664	6"	Chinese Elm	Ulmus Parvifolia

Tree Stand Areas

ID#	# of Trees	Tree Stand Area (Acres)	common name	Scienfic Name
ST 1	96	0.27	Colorado Blue Spruce	Picea Glauca
ST 2	8	0.03	Flowering Crab	Malus "Hopa"
ST 3	16	0.03	Green Ash	Fraxinus Pennsyvanica
ST 4	116	0.46	Chinese Elm	Ulmus Parvifolia
ST 5	48	0.07	Box Elder	Acer Negundo
ST 6	28	0.05	Box Elder	Acer Negundo
ST 7	79	0.10	Chinese Elm	Ulmus Parvifolia
ST 8	20	0.05	Chinese Elm	Ulmus Parvifolia

SUMMARY

	# OF INDIVIDUAL TREES ON OR ADJ TO PROPERTY	# OF TREES IN SIGNIFICANT TREE STANDS	TOTAL TREES
DECIDUOUS	561	315	876
CONIFEROUS	103	96	199
TOTAL	664	411	1065

North

This drawing prepared by:

Bonnema Runke Stern Inc.

Professional Land Surveyors

1809 22nd St SW - Suite 104

Willmar, MN 56201

Office (320) 231-2844 Fax (320) 231-2827

Project: ***Hanover Cove***
Tree Inventory
Hanover, MN

Survey Requested By: **Duininck Inc.**

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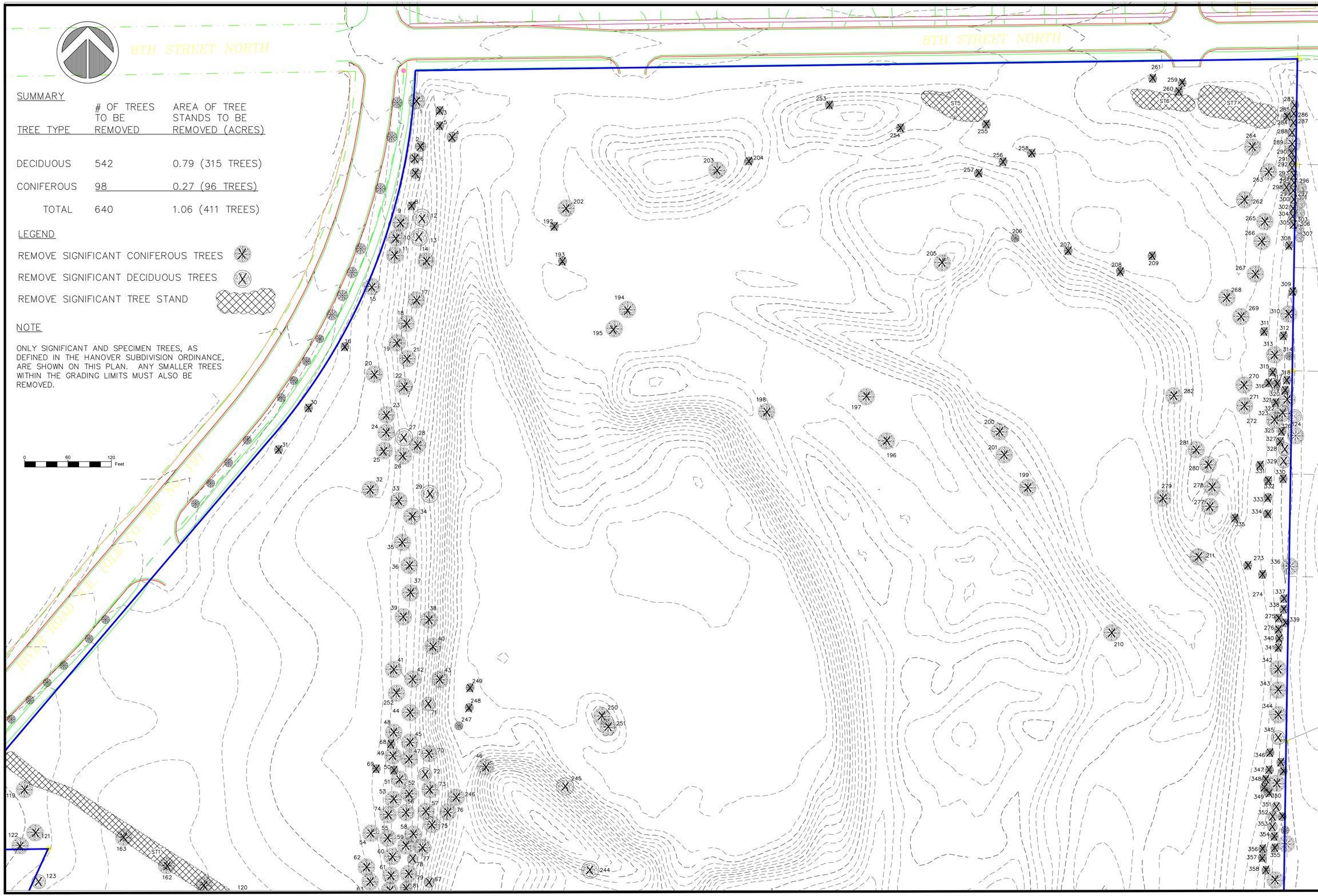
Tree Inventory - Sheet 5 of 5



SUMMARY

TREE TYPE	# OF TREES TO BE REMOVED	AREA OF TREE STANDS TO BE REMOVED (ACRES)
DECIDUOUS	542	0.79 (315 TREES)
CONIFEROUS	98	0.27 (96 TREES)
TOTAL	640	1.06 (411 TREES)

LEGEND

REMOVE SIGNIFICANT CONIFEROUS TREES

REMOVE SIGNIFICANT DECIDUOUS TREES

REMOVE SIGNIFICANT TREE STAND

NOTE

ONLY SIGNIFICANT AND SPECIMEN TREES, AS DEFINED IN THE HANOVER SUBDIVISION ORDINANCE, ARE SHOWN ON THIS PLAN. ANY SMALLER TREES WITHIN THE GRADING LIMITS MUST ALSO BE REMOVED.

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SIGNATURE: DATE: 11/16/2018

NAME: JASON VERSTEEG LIC. NO. 26505

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P.O. BOX 208 408 SIXTH STREET
PRINSBURG, MN 56281

HANOVER COVE
PRELIMINARY ENGINEERING PLAN
TREE REMOVAL PLAN

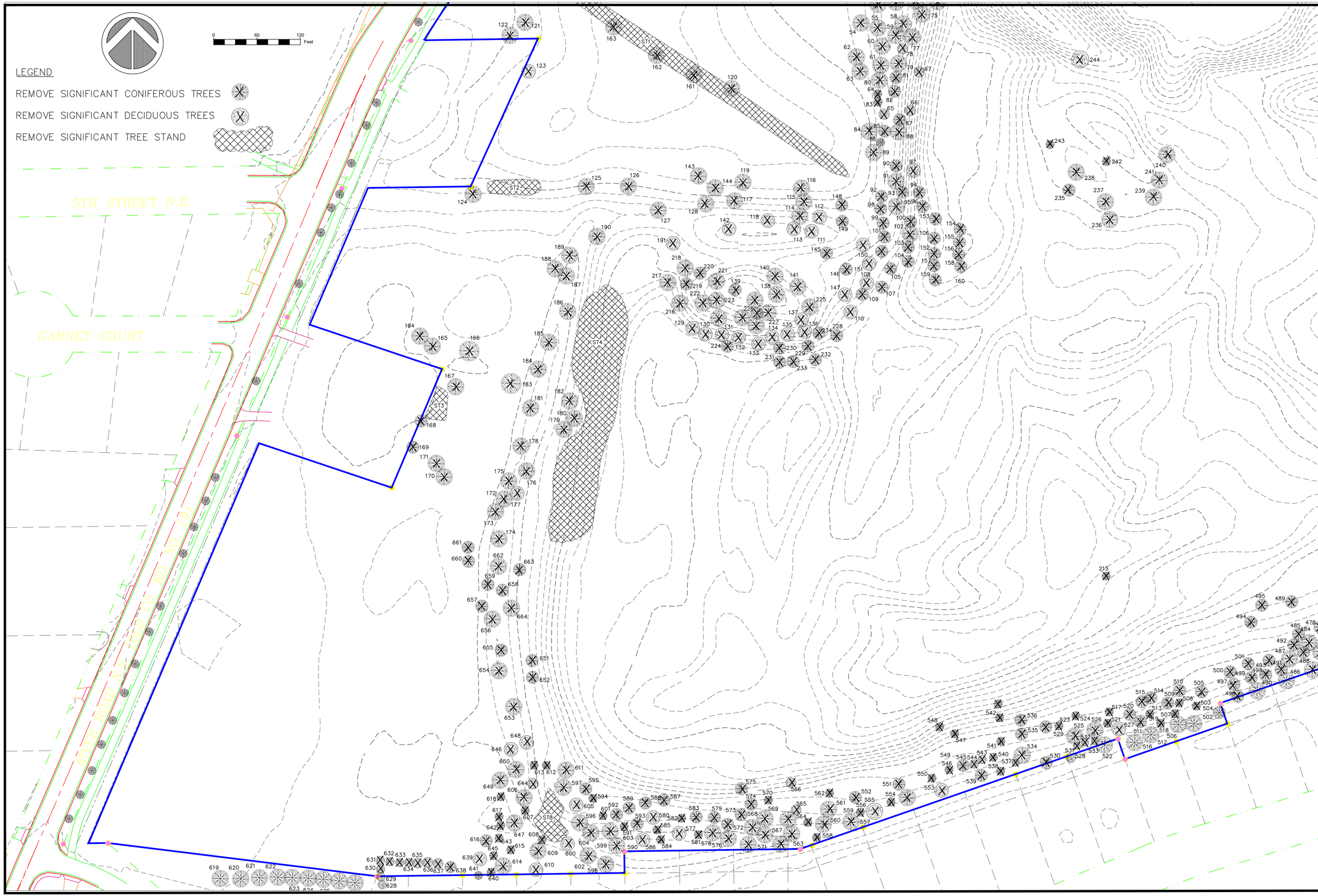
HANOVER, MN

CHECKED BY:	DRAWN BY:
JVS	JVS

SCALE
GRAPHIC

DATE
NOV 16, 2018

SHEET
TREEREM1



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HANOVER COVE
PRELIMINARY ENGINEERING PLAN
TREE REMOVAL PLAN

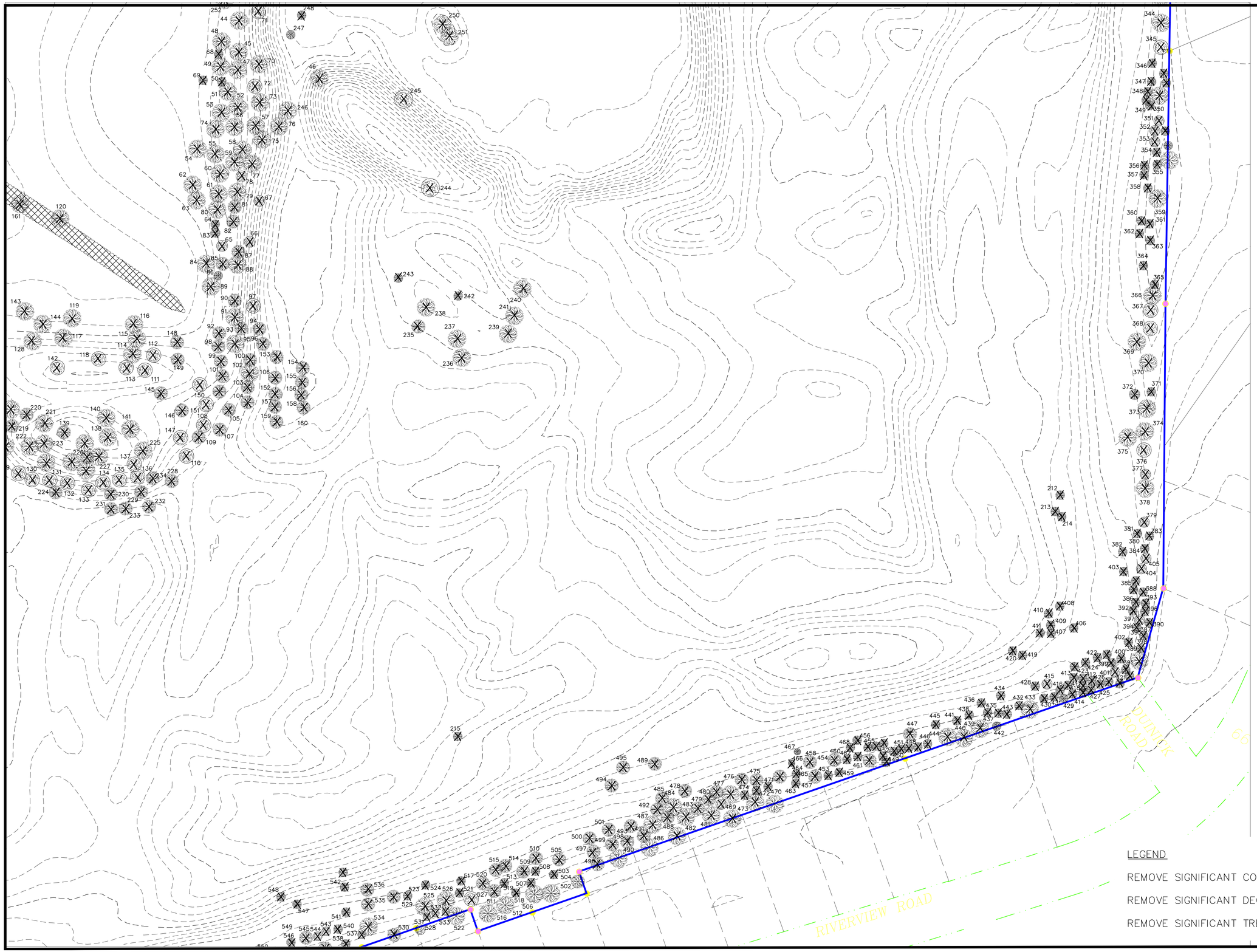
HANOVER, MN

CHECKED BY:	DRAWN BY:
JVS	JVS

SCALE
GRAPHIC

DATE
NOV 16, 2018

SHEET
TREEREM2



LEGEND

REMOVE SIGNIFICANT CONIFEROUS TREES

REMOVE SIGNIFICANT DECIDUOUS TREES

REMOVE SIGNIFICANT TREE STAND

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HANOVER COVE

PRELIMINARY ENGINEERING PLAN

TREE REMOVAL PLAN

HANOVER, MN

CHECKED BY:	DRAWN BY:
JVS	JVS

SCALE
GRAPHIC

DATE
NOV 16, 2018

SHEET
TREEREM3

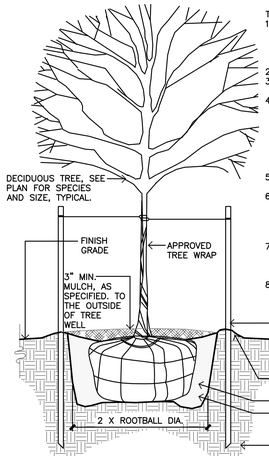
PLANT SCHEDULE

TREES	CODE	QTY	BOTANICAL NAME / COMMON NAME	CONT	CAL	DETAIL
	ACE APO	70	Acer saccharum 'Apollo' TM / Apollo Sugar Maple	B & B	2"Cal	
	MAL R42	72	Malus x 'Royal Raindrops' / Royal Raindrops Crabapple	B & B	2"Cal	
	PRU PI2	77	Prunus sargentii 'Pink Flair' / Sargent Cherry	B & B	2"Cal	
	PYR CLE	61	Pyrus calleryana 'Cleveland Select' / Cleveland Select Pear	B & B	2"Cal	
STREET TREES	**CODE**	**QTY**	**BOTANICAL NAME / COMMON NAME**	**CONT**	**CAL**	**DETAIL**
	ACE STA	68	Acer miyabei 'State Street' / Miyabei Maple	B & B	2.5"Cal	
	GIN AUT	62	Ginkgo biloba 'Autumn Gold' TM / Maidenhair Tree	B & B	2.5"Cal	
	POP PR2	53	Populus tremuloides 'Prairie Gold' / Prairie Gold Aspen	B & B	2.5"Cal	
	TIL BOU	56	Tilia americana 'Boulevard' / Boulevard Linden	B & B	2.5"Cal	
	ULM PRI	55	Ulmus americana 'Princeton' / American Elm	B & B	2.5"Cal	

NOTES:
1. ANY BROKEN OR CRUMBLING ROOTBALLS WILL BE REJECTED. REMOVING CONTAINERS WILL NOT BE AN EXCUSE FOR DAMAGED ROOTBALLS.
2. LAY PLANTS OUT ON THE GROUND IN THE CONTAINER FOR LANDSCAPE ARCHITECT TO REVIEW LAYOUT PRIOR TO PLANTING.

DETAIL: SHRUB PLANTING
SCALE: 1" = 1'-0"

EACH UNIT SHOULD HAVE AT A MINIMUM (6) SHRUBS PLANTED IN A LAYOUT SIMILAR TO WHAT IS INDICTED IN THIS PLAN. INSTALL 5" ALUMINUM EDGING THE LENGTH OF THE PLANTING BED AS SHOWN. SPECIMENS SHALL BE COLD HARDY TO ZONE 4a AND NOT BE PRESENT ON THE INVASIVE SPECIES LIST. SOME ACCEPTABLE PLANTINGS ARE: 'WALKERS LOW' CATMINT 'KARL FOERSTER' FEATHER REED GRASS SUMAC 'LOW GROW' 'GOLDSTAR' POTENTILLA 'SNOWBOUND' SPIREA 'GOLD TIDE' FORSYTHIA



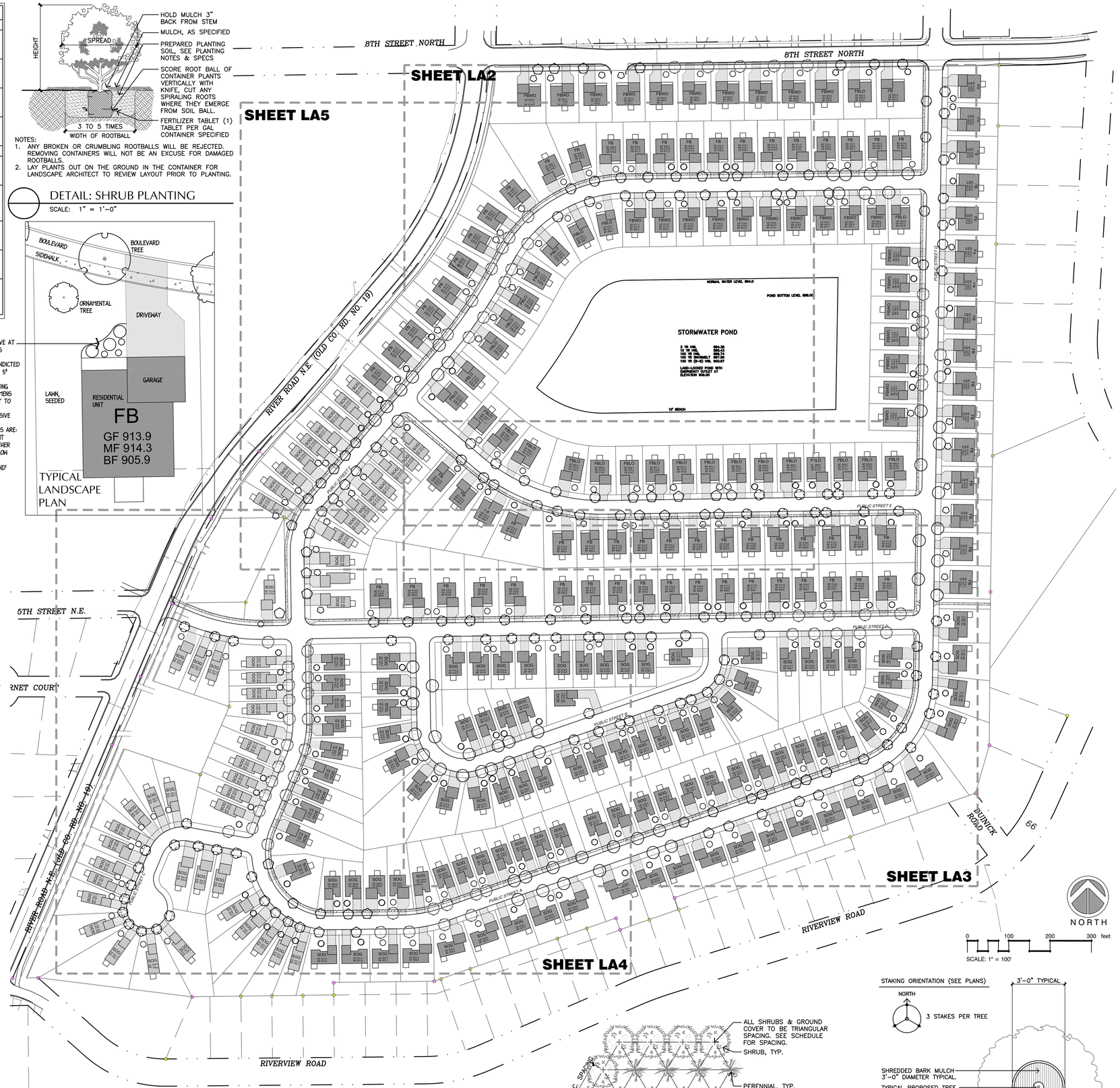
TREE PLANTING NOTES:
1. INSTALL ROOT COLLAR AT OR SLIGHTLY ABOVE GRADE. FINISH GRADE AS IT GREW IN NURSERY. THE GRAFT SHALL BE INSTALLED ABOVE GRADE REGARDLESS OF HOW TREE WAS PLANTED FROM THE NURSERY.
2. DO NOT CUT OR DAMAGE LEADER.
3. PRUNE DAMAGED LIMBS IMMEDIATELY PRIOR TO PLANTING.
4. PLANT SHALL BE SET PLUMB AND SHALL BE CENTERED IN PLANTING PIT. REMOVE ALL BURLAP, TWINE, ROPE, WIRE & WIRE BASKET FROM ROOT BALL. IF TREE IS IN FIBER POT, REMOVE PRIOR TO PLANTING. BROKEN OR CRUMBLING ROOTBALLS WILL BE REJECTED. REMOVING THE WIRE WILL NOT BE AN EXCUSE FOR A DAMAGED ROOTBALL.
5. IF TREE IS PLANTED IN A TURF AREA, EARTH SAUCER IS NOT NEEDED.
6. INSTALL AGSAFE 20-10-5 FERTILIZER TABLETS AT EACH PLANTING. PLACE (1) TABLET FOR EVERY 1/2" OF TRUNK DIAMETER (CALIPER). DEEP SOAK PLANTING AT TIME OF PLANTING TO ENSURE ACTIVATION.
7. PLANTING PITS: PRIOR TO PLANTING, APPROVED PLANTING SOIL SHALL BE THOROUGHLY MIXED WITH 25% PEAT BY VOLUME. CO-COMPOST FROM THE CITY LANDFILL IS NOT ACCEPTABLE.
8. INSTALL CEDAR MULCH AT BASE OF ALL PLANTINGS UNDER CANOPY OF PLANT BUT NOT WITHIN 2" OF THE TRUNK OF THE TREE.

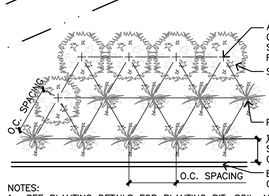
SECTION: TYPICAL B&B DECIDUOUS TREE
SCALE: 1/2" = 1'-0"

PLANTING NOTES:

1. ALL GRADED, UNPAVED AREAS SHALL BE REVEGETATED. SEEDED AREAS ARE TO RECEIVE 4" MINIMUM DEPTH OF CLEAN TOPSOIL. TOPSOIL SHALL BE FREE OF ROCKS, CLODS, BRANCHES & DEBRIS. UPON REVIEW OF THE STOCKPILED TOPSOIL, THE LANDSCAPE ARCHITECT MAY REQUIRE THE TOPSOIL TO BE SCREENED WITH A 1" SCREEN AT CONTRACTORS COST. LANDSCAPE BEDS WHERE TREES, SHRUBS, PERENNIALS & GRASSES ARE PLANNED SHALL BE AMENDED AS FOLLOWS:
- USE STOCKPILED SITE TOPSOIL FOR TOP 8" OF SOIL (MAY NEED TO BE SCREENED)
- REFER TO PLANTING DETAILS FOR FERTILIZER TABLETS TO BE INSTALLED IN THE PLANTING PIT.

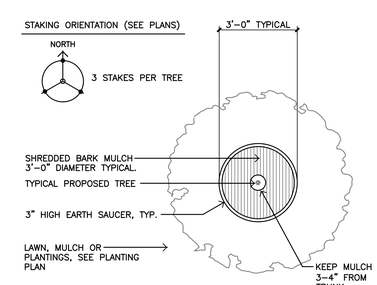
2. TREES ARE TO BE PLANTED AT THE COMPLETION OF THE RESIDENTIAL CONSTRUCTION ON EACH LOT.
3. TREES IN LAWN AND BOULEVARD AREAS ARE TO RECEIVE A 48" DIA. SHREDDED CEDAR MULCH RING WITH A MIN. DEPTH OF 4". MULCH SHALL BE INSTALLED IMMEDIATELY UPON PLANTING TREE. FORM EARTH SAUCER AROUND BASE OF TREE PER DETAIL PRIOR TO PLACING MULCH. INSTALL PLANTING MIX IN PIT & USE MIX AS BACKFILL.
4. LIMITS OF SOIL PREPARATION ARE DEFINED BY FENCELINES, LIMITS OF GRADING OPERATIONS, FACES OF WALLS, OR BUILDINGS, AND EDGES OF PAVEMENTS, OR CURBING, AS SHOWN ON PLAN.
5. COORDINATE STOCK-PILING OF TOPSOIL FROM THE SITE WITH GENERAL CONTRACTOR PRIOR TO EXCAVATIONS & ROUGH GRADING OPERATIONS. LANDSCAPE CONTRACTOR SHALL ENSURE THAT NO PONDING OR STANDING WATER CONDITIONS OCCUR IN ANY UNPAVED AREAS WITHIN THE SCOPE OF THIS CONTRACT & THAT ALL SURFACE WATER FLOWS FREELY TO DESIGNATED SWALES, DRAINAGE INLETS, & AWAY FROM BUILDINGS.
6. ALL LAWN, BOULEVARDS AND DISTURBED AREAS ARE TO BE HYDRO-SEEDED AND MULCHED WITH A TACKIFIER. ALL SEEDING AND MULCHING SHALL BE INSTALLED PER CITY OF MINNEAPOLIS STANDARD SPECIFICATION.
7. ALL SEED MIXES SPECIFIED ARE AVAILABLE AT TWIN CITY SEED. PH: 952-944-7105. SEEDING RATES PER SUPPLIER.
   7.1. BOULEVARD SEEDING SHALL BE: BOULEVARD MIX
   7.2. LAWNS (WITHIN PROPERTY LINE) SHALL BE: OVERSEED MIXTURE
   7.3. ALL OTHER DISTURBED AREAS (EXCLUDING THE DETENTION AREA) SHALL BE: TUFF TURF MIX
   7.4. DETENTION / STORMWATER TREATMENT AREAS: 33-261 STORMWATER SOUTH & WEST
8. CONTRACTOR SHALL PROVIDE IRRIGATION FOR ALL BOULEVARD AREAS. IRRIGATION SYSTEM TO BE DESIGN/BUILD. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL OF THE SYSTEM LAYOUT AND DETAILS. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING AVAILABLE PSI, SIZE OF ALL EQUIPMENT INCLUDING METER, BACKFLOW, PIPE, RAIN SENSOR, ROTORS, ETC. ALL BOULEVARD AREAS TO RECEIVE SPRAY IRRIGATION WITH HEAD TO HEAD COVERAGE. ALL BOULEVARDS TO RECEIVE 1" OF WATER PER WEEK.
8. IRRIGATION AT EACH UNIT: IRRIGATION WILL BE INSTALLED AT THE COMPLETED OF THE RESIDENTIAL UNIT CONSTRUCTION. CONTRACTOR SHALL PROVIDE IRRIGATION FOR EACH UNIT. IRRIGATION SYSTEM TO BE DESIGN/BUILD. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL OF THE SYSTEM LAYOUT AND DETAILS. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING AVAILABLE PSI, SIZE OF ALL EQUIPMENT INCLUDING METER, BACKFLOW, PIPE, RAIN SENSOR, ROTORS, ETC. ALL LAWN AREAS TO RECEIVE SPRAY IRRIGATION WITH HEAD TO HEAD COVERAGE. ALL BOULEVARDS TO RECEIVE 1" OF WATER PER WEEK. ALL SHRUB BEDS SHALL HAVE DRIP IRRIGATION AND RECEIVE .25" OF WATER / WEEK.
9. CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE. MAINTENANCE SHALL BEGIN IMMEDIATELY AFTER EACH PORTION OF THE WORK IS IN PLACE. PLANT MATERIAL SHALL BE PROTECTED AND MAINTAINED UNTIL THE INSTALLATION OF THE PLANTS IS COMPLETE, INSPECTION HAS BEEN MADE, AND PLANTINGS ARE ACCEPTED EXCLUSIVE OF THE GUARANTEE. MAINTENANCE SHALL INCLUDE WATERING, CULTIVATING, MULCHING, REMOVAL OF DEAD MATERIALS, RE-SETTING PLANTS TO PROPER GRADE AND KEEPING PLANTS IN A PLUMB POSITION. AFTER ACCEPTANCE, THE OWNER SHALL ASSUME MAINTENANCE RESPONSIBILITIES. HOWEVER, THE CONTRACTOR SHALL CONTINUE TO BE RESPONSIBLE FOR KEEPING THE TREES PLUMB THROUGHOUT THE GUARANTEE PERIOD.
10. THE LAWN SHALL MEET FINAL ACCEPTANCE WHEN:
a. A HEALTHY ACTIVE TURF PROVIDES AT LEAST 95% COVERAGE WITHIN ANY 10 FOOT SQUARE AREA, AND
b. THE GRASS COVER IS ESSENTIALLY FREE OF WEEDS
9. SHRUB BEDS TO RECEIVE 4" DEPTH OF SHREDDED CEDAR MULCH. MULCH SHALL BE APPLIED IN A WAY THAT MINIMIZES OR ELIMINATES DAMAGE TO PLANT MATERIAL. IF PLANTS ARE DAMAGED DURING MULCH INSTALLATION THEY SHALL BE REPLACED AT NO COST TO OWNER.
10. CONTRACTOR SHALL LOCATE AND PROTECT ALL EXISTING UTILITIES. CONTRACTOR SHALL REPAIR OR REPLACE ANY DAMAGED UTILITIES AT NO COST TO OWNER.
11. ALL PLANT MATERIAL SHALL CONFORM TO THE GUIDELINES ESTABLISHED BY THE CURRENT AMERICAN STANDARD FOR NURSERY STOCK, PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSEYMEN.
12. ALL TREE & SHRUB LOCATIONS SHALL BE STAKED OR LAID OUT BY CONTRACTOR & APPROVED BY OWNER REPRESENTATIVE.
13. ALL PLANT SUBSTITUTIONS SHALL BE COORDINATED WITH LANDSCAPE ARCHITECT PRIOR TO PLANTING.
14. ALL PLANTS SHALL BEAR THE SAME RELATIONSHIP TO FINISHED GRADE AS THE PLANT'S ORIGINAL GRADE AT HARVESTING.
15. PLANTING SEASONS SHALL BE FROM APRIL 15 TO JUNE 15 AND FROM SEPTEMBER 1 TO NOVEMBER 1 UNLESS OTHERWISE COORDINATED. EXCEPTIONS SHALL BE COORDINATED THROUGH THE LANDSCAPE ARCHITECT AND OWNER.
14. REMOVE UNSATISFACTORY PLANT MATERIAL WITHIN (7) DAYS OF NOTIFICATION, REPLACE WITH LANDSCAPE ARCHITECT APPROVED REPLACEMENT TREE.
15. TREES SHALL BE WRAPPED WITH NURSERYMAN'S STANDARD CREPE TAPE NOT LESS THAN 4" WIDE, CONSISTING OF TWO LAYERS OF CRINKLED PAPER CEMENTED TOGETHER WITH BITUMINOUS MATERIAL.
16. DECIDUOUS TREES WITH SOFT TISSUE BARK TO BE PROTECTED BY THE LANDSCAPE CONTRACTOR BY MEANS BEST TO PREVENT "BUCK RUB". 6' WIRE FENCING AROUND THE T-POSTS IS PERMITTED. FAILURE BY THE CONTRACTOR PROTECT TREES & ARE DAMAGED BY DEER SHALL BE REPLACED AT CONTRACTORS EXPENSE WITHIN THE WARRANTY PERIOD.
17. GUY/ANCHOR TREES IMMEDIATELY UPON PLANTING TREE.
18. CONTRACTOR SHALL PROVIDE A ONE (1) YEAR WARRANTY FOR ALL PLANT MATERIAL. REPLACEMENT PLANT MATERIAL IS SUBJECT TO THE SAME ONE (1) YEAR WARRANTY. LIMITED TO (1) REPLACEMENT.





NOTES:
1. SEE PLANTING DETAILS FOR PLANTING PIT, SOIL, MULCH & FERTILIZING.
2. REFER TO PLANTING SCHEDULE AND NOTES FOR SPACING.

DETAIL: PERENNIAL OR SHRUB SPACING
SCALE: 1" = 1'-0"



PLAN: TYPICAL MULCH RING DETAIL
SCALE: 1/4" = 1'-0"

Wyss Associates, Inc.
Landscape Architecture
Golf Course Architecture
Parks & Recreation Design
728 Sixth Street Rapid City, South Dakota 57701-3670
Phone: 605.348.2268 Fax: 605.348.6506 email:admin@wyssassociates.com

Project Name
Hanover Cove Residential Development
Hanover, MN

Sheet Title
Overall Planting Plan

DESIGNED BY:	PHW
DRAWN BY:	CMW
APPROVED BY:	PHW
PROJECT NO.	18111
DATE:	

NO.	REVISION	DATE

Sub Sheet
LA1
Sheet ____ OF ____

Ownership of Instruments of Service: All reports, plans, specifications, computer files, field data, notes and instruments prepared by the design professional as instruments of service shall remain the property of the design professional. All common law, statutory and other reserved rights including the copyright thereto.

8TH STREET NORTH

PUBLIC STREET F

PUBLIC STREET G

PUBLIC STREET E

NORMAL WATER LEVEL 894.0

POND BOTTOM LEVEL 898.00

STORMWATER POND

2 YR HWL	894.38
10 YR HWL	895.43
100 YR HWL	896.74
100 YR SNOWMELT	897.55
100 YR (B-B) HWL	900.87

LAND-LOCKED POND WITH
EMERGENCY OUTLET AT
ELEVATION 906.00

10' BENCH

NORTH

0 40 80 120 feet

SCALE: 1" = 40'

Wyss Associates, Inc.
Landscape Architecture
Golf Course Architecture
Parks & Recreation Design
728 Sixth Street Rapid City, South Dakota 57701-3670
Phone: 605.348.2268 Fax: 605.348.6506 email:admin@wyssassociates.com

Project Name

Hanover Cove Residential Development

Hanover, MN

Sheet Title

Enlarged Planting Plan

DESIGNED BY:	PHW
DRAWN BY:	CMW
APPROVED BY:	PHW
PROJECT NO.	18111
DATE:	

NO.	REVISION	DATE

Sub Sheet

LA2

Sheet ____ OF ____

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Sub Sheet
LA3
Sheet
OF

NO.	REVISION	DATE

DATE:
PROJECT NO. 18111
APPROVED BY: PHW
DRAWN BY: CAW
DESIGNED BY: PHW

Sheet Title

Enlarged Planting Plan

Project Name

Hanover Cove Residential Development

Hanover, MN

Wyss Associates, Inc.
Landscape Architecture
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Sub Sheet
LA4
Sheet
OF

NO.	REVISION	DATE

DATE:
PROJECT NO. 18111
APPROVED BY: PHW
DRAWN BY: CMW
DESIGNED BY: PHW

Sheet Title
Enlarged Planting Plan

Project Name
Hanover Cove Residential Development
Hanover, MN

Wyss Associates, Inc.
Landscape Architecture
Golf Course Architecture
Parks & Recreation Design
728 Sixth Street Rapid City, South Dakota 57701-3670
Phone: 605.348.2268 Fax 605.348.6506 email:admin@wyssassociates.com

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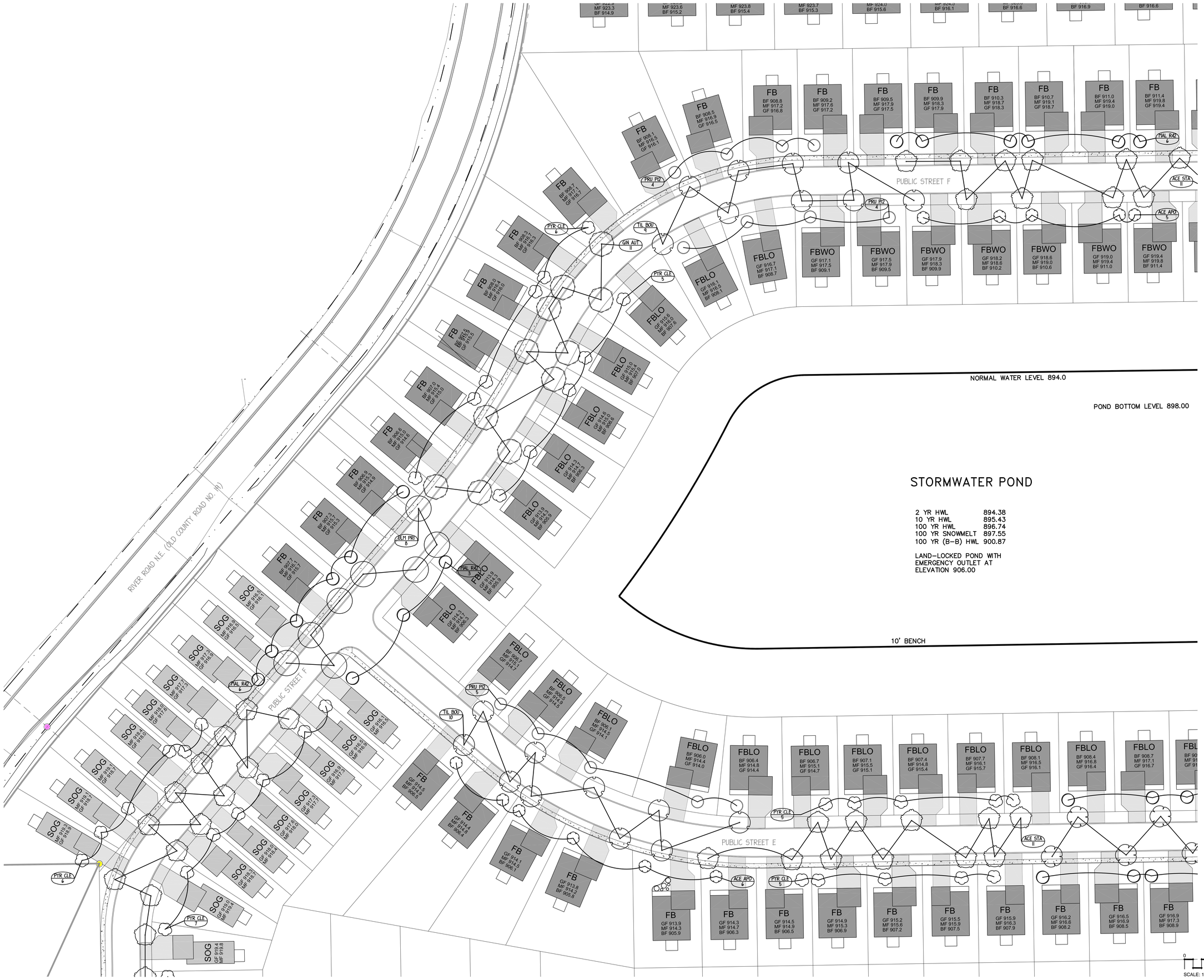

Wyss Associates, Inc.
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728 Sixth Street Rapid City, South Dakota 57701-3670
Phone: 605.348.2268 Fax: 605.348.6506 email:admin@wyssassociates.com

Project Name
Hanover Cove Residential Development
Hanover, MN

Sheet Title
Enlarged Planting Plan

DESIGNED BY:	PHW
DRAWN BY:	CMW
APPROVED BY:	PHW
PROJECT NO.	18111
DATE:	

NO.	REVISION	DATE

Sub Sheet
LA5
Sheet
OF

Ownership of Instruments of Service: All reports, plans, specifications, computer files, field data, notes and instruments prepared by the design professional as instruments of service shall remain the property of the design professional. All common law, statutory and other reserved rights including the copyright thereto.

Collaborative Planning, LLC

MEMORANDUM

To: Brian Hagen, City Administrator

From: Cindy Nash, City Planner

Date: December 12, 2018

Subj: Planning Review Comments – Hanover Cove
Preliminary Plat and Plans dated November 16, 2018

I have reviewed the preliminary plat and plans dated November 16, 2018 and have the following comments.

1. Density is preliminarily calculated at 3.88 units per acre, which is less than the maximum allowed under the Comprehensive Plan (2 to 4 units per net acre in Neighborhood Residential). Comments in this memo and the City Engineer's memo may impact the density calculation, which will be recalculated at resubmission.

2. The right of way for River Road is proposed to be dedicated in an amount in excess of the area encompassing River Road and the trail. This extra area is then landscaped, providing some screening to the properties that are proposed to back on River Road. This would provide an additional maintenance burden on the City and should instead be maintained by the HOA. The right of way for River Road is recommended to include that area from the eastern edge of the trail to the western edge of the subject property.

3. The location of existing easements should be shown on the preliminary plat.

4. The narrative describes 20 of the lots as being flex lots. Please identify which lots are flex lots.

5. The scales for the printed plan sheets are not correct and when plans are resubmitted this should be corrected. The plans may also need to be printed at a different scale to ensure the plans are able to show all information and are legible.

6. Given that the plans are at 120, 180 and 300 scale, even if the printed plan sheets had the correct scales it is not possible to accurately verify that setbacks can be met and the proposed homes can be accommodated on each lot. Dimensions for setbacks, easements and lot widths should be noted on the plans for each lot.

7. The preliminary plat and plans should show all setbacks and the easements for each lot to facilitate review. It is not clear at this time that all lots would be buildable without either substituting smaller house plans or entertaining requests for variances. For example, it appears that Block 8 may need a larger than typical rear yard drainage easement based on how the drainage easement is shown on Block 7. A larger drainage easement in this location could impact the ability for a homeowner to later construct a deck.

8. The architecture and sample floor plans submitted require clarification and additional information in order to review for potential conformance. A patio home is typically considered to be a one-level home.
    a. Please submit a map of the plan that is coded to identify which typical home elevations and floor plans would be constructed on which lots. Some of the plans indicate a color coding, but a color-coded map was not provided (the original concept plan could serve this purpose).
    b. No building plans were submitted for a home that would be a one-story patio home on a narrow lot. The street rendering implies that the patio homes would be one-story and typically on narrow lots, with the exception of the flex lots which may have 2 story homes. The facades in the one-story patio homes in the streetscape view are dominated by the garage.
    c. Please verify if the homes on the southern portion of the site which are labeled as patio homes on the preliminary plat will actually be patio homes or whether they will be two-story homes. For the majority of the patio homes, the one-level home plans submitted will not fit on the lots designated as patio lots.
    d. The St. Joseph home is indicated as being for the narrow lots. This is a 32-foot wide home. This home would not fit on the narrowest lots in the proposed neighborhood based on the PUD narrative.
    e. The plan narrative indicates a PUD request for as low as a 36-foot-wide narrow patio lot at the front yard setback with 6-foot side yard setbacks. This would result in a home that is 24 feet wide. No sample home plans and elevations were provided for a patio home of that width.
    f. The floor plan for the St. Andrew does not match the elevation provided.

9. Additional comments for specific lots may be provided once revised plans and additional architecture are submitted.

10. Architectural requirements would be included as a condition of a PUD if approved by the Council. Please submit a proposed set of architectural guidelines to be followed if not submitting specific home elevation plans to be approved.

11. The narrative identifies that a Homeowner's Association will be provided for the patio homes.
    a. Please confirm whether there will or will not be an HOA for the single-family homes.
    b. Are the flex lots a part of the HOA?

12. Lot 11, Block 5 is recommended to be removed. The home is not oriented towards the street, no rear setback is provided in a location that is similar to other homes on the lot, and there is a portion of the lot that is practically disconnected from the other lots. Lot 10, Block 5 is also recommended to be removed following the elimination of Lot 11, Block 5 as this lot also has a different orientation than other lots on the block and following removal of Lot 11 will be a double-frontage lot.

13. In the PUD, it is requested that corner side setbacks be reduced to an amount that is less than the requested reduced front setback amount. It will be recommended that the corner side setback should not be less than the front yard setback (in whatever distance may be approved in the PUD).

14. It will be recommended that no reduction in garage area be permitted under the PUD. No explanation or example plans were provided identifying a need for a reduction in required garage space to the amount requested. An explanation of why a reduction in garage space is requested should be provided for consideration.

15. The setbacks of all lots abutting the perimeter of the subject property shall not be less than those allowed in the R-1A zoning district.
    a. Lots 1-12, Block 1 must have not less than a 30-foot front setback.
    b. Lot 16, Block 8 must have not les than a 30-foot corner side setback.
    c. All other lots adjacent to perimeter must similarly meet the R-1A setback on the side that is adjacent to the perimeter.

16. The plat shows home footprints that do not meet the setback shown on the lot (examples are Lot 16, Block 8; Lot 44, Block 1). All homes must be able to be

constructed in a manner that will meet setback requirements and be located outside of easements.

17. Grading contours need to tie into existing contours on the perimeter of the property. No grading is proposed to be completed off-site, and the proposed on-site grading contours are not matching into those on the perimeter.

18. The future use, ownership and maintenance of Outlot A needs to be identified.

19. Please provide all items required by the tree preservation and replacement portion of the ordinance (30-08-14). As an example, and not meant to be inclusive of missing information:

    a. The tree preservation should be superimposed on the grading plan.
    b. Verify that trees that will be saved, including off-site trees, can be protected by the installation of snow fencing or safety netting at the drip line or critical root zones. This may require the adjustment of grading near property lines to protect the dripline of trees that are off-site.
    c. Identify number of trees that are being removed, and verify compliance of the plan with the tree replacement requirements in the ordinance.
    d. Per ordinance, replacement trees shall not be placed on easements or street rights-of-way.

20. Two trees per lot are required to be installed.

21. Verify that all street trees are at least 30 feet from the any intersection. In addition, on the side of any street without a sidewalk, street trees must be at least five feet from the curb.

22. The existing curb cut from River Road into the project site that will not be used should be removed, new curb installed, and boulevard plantings installed consistent with existing plantings on the River Road boulevard.

23. Advise as to how encroachments on the property that were identified on the ALTA survey will be addressed.

24. Sidewalks should be shown on one side of every street (Public Street B).

25. Locations for mailbox clusters should be identified on the plans.

26. A foundation and grading as-built for each home will be required as a condition of approval of the Planned Residential Development.

27. Signage approved by the City will need to be placed along lot lines or corners next to storm ponds or wetlands.

28. Deeds for conveyance of the outlots to the City shall be coordinated with final plat recording.

cc: Justin Messner, WSB

PAXMAR©

PROJECT NARRATIVE

November 14, 2018

Ms. Cindy Nash, City Planner
Hanover City Council, Planning Commission & Staff
City of Hanover
11250 5th Street NE
Hanover, MN 55341

Re: Application for Preliminary Plat, Residential Planned Unit Development
Hanover Cove

Dear Ms. Nash, Members of the Council, Planning Commission and Staff:

Paxmar, LLC is pleased to submit this application for preliminary plat and residential Planned Unit Development review and approval of Hanover Cove. This narrative is intended to generally describe the project and address specific development topics.

Location

The Hanover Cove site is located north of the Crow River. The site is bound on the west by River Road NE, the north by 8th Street, on the East by the Pheasant Run housing addition (along Meander Road), and on the south by the Cleveland's 1st Addition (along Riverview Road).

Land Use / Development History

Based upon historic aerial photographs, the subject property and all adjoining properties were in agricultural production from at least 1937 until sometime between 1957 and 1963. Around this time, Riverview Road was constructed, and single-family residences were constructed on the adjoining property to the south. The subject property and adjoining properties to the north, east, and west remained in agricultural production. Between 1959 and 1979, a gravel mine was excavated northwest of the subject property but has since been converted into industrial use. Between 1984 and 1991, the adjoining property to the east was developed as single-family residential land use. Around the same time, the adjoining property to the northwest was developed as commercial and industrial. Between 1997 and 2003, the adjoining property to the north was developed as single-family residential land use. Today, all adjoining properties have been developed.

Between 1984 and 1991, mining of sand and gravel began on the subject property. Mining ceased at the site around 2005; however, the site remains unreclaimed to date. As such, the terrain where gravel has been removed is steep, with approximately 45' of elevation difference between the high point to low point in the middle of the site. The vegetation in the mined areas consists of volunteer grasses and trees. The western portion of the site has not been mined and consists of various grasses and legumes, with a few trees interspersed.

In 2006, a preliminary plat entitled Hanover Commons was approved by the Hanover City Council which sought to develop this property into a residential housing development. In anticipation of this development, the city did plan for and install infrastructure, including streets and underground utilities to serve this development. Ultimately, because of outside housing market conditions, this development did not materialize, and so the site remains as an unreclaimed gravel pit and is not being used for any other commercial, industrial, or residential purposes.

PAXMAR©

Proposed Planned Unit Development (PUD)

Paxmar, LLC is proposing to construct a 285-unit residential development in the City of Hanover. This proposed development lies on two parcels, totaling 84.1 acres, the majority of which currently consists of unreclaimed gravel pit and agricultural grass land. These parcels will be developed into a residential planned-unit development, consisting of several different residential housing types throughout the property, including approximately 128 traditional single-family homes, 136 patio homes, and 20 flex lots that may be patio homes or multi-level homes, depending on market factors.

An infiltration basin and a large engineered pond (approx. 5 acres combined) are proposed to serve as the storm water management basins for the residential site. The pond will be landlocked but will have an emergency overflow to the southeast at an approximate 906.0 elevation which will connect to the Crow River through an 18" pipe.

Approximately 10,855 LF of public roads will be constructed to serve this project, along with all required storm sewer, sanitary sewer, and water main utilities. One aged pole shed (60'x40') will need to be demolished to accommodate the project.

The project will be completed in several (possibly 7-9) phases; however, the mass grading of the entire development will be completed in one project prior to the construction of the remaining improvements. The proposer anticipates completing all phases of the project within 6-8 years with mass grading commencing in spring of 2019.

Typical construction methods will be used to complete this project, incorporating City of Hanover standard plans and specifications. A total of approximately 600,000 CY of earth will be moved, all of which will originate onsite, as the project will be set up to balance the cuts and fills. All underground utilities and surfacing materials will be trucked into the site for installation using standard industry practices.

Consistency with the Comprehensive Plan Principles

The Hanover Cove housing proposal provides a practical solution for meeting the current and projected demographics of the city, and conforms to the stated objectives, goals and zoning outlined in the 2040 Comprehensive Plan and Chapter 10 of the Hanover Code of Ordinances. Specifically, Hanover Cove supports the Planning Principles of the Hanover 2040 Comprehensive Plan in the following way:

1. Residents and businesses take pride in Hanover and are engaged in improving the community, volunteering, and supporting each other.

No direct impact from proposal.

2. Downtown Hanover will be a vibrant community gathering place with thriving businesses leveraging the natural beauty of the Crow River and a walkable development pattern.

Hanover Cove will include an extensive trail/sidewalk system, connecting to the existing Hanover trail system, that will allow future and current residents the ability to traverse the community while walking or biking.

3. Expansion of commercial, office and light industrial uses are encouraged to diversify the tax base and expand service options to residents.

Many businesses base locations on "number of rooftops" in a community. Hanover Cove will create additional customer base to support local businesses and attract new businesses to the area**.** Housing

production will increase the demand for trade services, much of which may be supplied by local businesses.

4. Housing development that provides a wide range of housing choices and styles are encouraged to meet the needs of a growing community and to enable existing residents to find housing that permits them to stay in Hanover.

The statistics outlined in the 2040 Comprehensive Plan suggest that more families are moving to the city and that older residents may be having a difficult time remaining in Hanover potentially because of a lack in suitable housing to meet their current needs. To address these trends, the Hanover Cove development is designed to meet the needs of every age demographic, from millennials to young families to empty nesters. The proposal consists of six lot "types", with a mixture of typical single-family homes and patio homes. Proposed home pricing will align with local demographics and positively impact surrounding existing properties. The 2016 Median Property Value in Hanover was $270,600*. Homes in Hanover Cove will likely range from $200,000 – $500,000, with an estimated median property value of $350,000.

** Source: Census Bureau; Dataset: ACS 5-year Estimate*

Hanover already has several larger-lot residential neighborhoods and typical suburban style single-family neighborhoods. Research shows that very little of the existing development pattern consists of housing types to meet the needs of single individuals and older age residents. Hanover Cove specifically addresses this gap in the current housing inventory by designating 45% of the development's lot type to patio homes.

Demographics and historical development patterns both support the need for smaller patio homes. This design will not only fill an immediate need in the community, but it will prepare the community to meet the needs of the aging baby boomer population. Currently the age group with the highest population is adults age 45-54; From 2000-2016, the largest increase was among adults age 60-64 (856%). These populations will likely be looking to downsize in the next 5-10 years and Hanover Cove will provide them with housing options that will make it possible for them to remain in the community. To also accommodate the growing percentage of young families, the remaining lot types (55%) will be larger, traditional single-family homes.

5. Hanover will continue to collaborate with other agencies to achieve outcomes that improve the quality of life or the efficiency of service delivery.

No direct impact from proposal.

6. Hanover will strive to minimize the tax burden on properties while maintaining a quality level of service. Development and redevelopment will have the largest impact on future tax rate, so development of types that provides a cost-effective balance between increased tax base and future cost of service provision is encouraged.

Hanover Cove will help strengthen the community for years to come through bolstered property values and significant new tax revenue to support city maintenance of local infrastructure and services. The development is expected to add $80 million to the city's overall tax base, generating more funding to support schools, infrastructure and municipal services for Hanover. Utilizing denser communities with less frontage is a great way to be cost-effective in terms of cost of service per unit.

By following the guidance of the City's residential growth objectives, Hanover Cove can be effectively served by public facilities and positively contribute to the existing character of the community. Sewers and water main utilities will be constructed to serve the new residential community. The Joint Powers agreement between Hanover, St. Michael and Albertville already has adequate water supply to serve the needs of this development. The plant capacity is 9 million gallons per day (MGD). In 2017 the total Joint Powers average water usage was 1.99 MGD with the City contributing an average of 0.209 MGD to the total. Based on the residential usage of 280 gallons/day/household of water, it is estimated that the Hanover Cove site would use 0.080 MDG upon full development.

The proposed development, in lieu of park land dedication, will be contributing cash, which the City can use to upgrade existing facilities or expand its park plan.

These additional units will also generate additional funds for the school district with property taxes, which may reduce the need for future levies.

7. New development will be constructed in a manner that does not burden existing property owners with the associated costs.

This proposal is not asking for any type of tax incentives or Municipal bonding to help with any of the infrastructure improvements. It is not foreseen that any direct costs should arise for the existing property owners.

8. The existing rural character and natural environment defined by open space and natural resources will be protected, enhanced and integrated as an amenity in the community.

The Hanover City Council performed a stringent environmental review and approved a "Negative Declaration" resolution for the proposed Hanover Cove site, determining there is no potential for significant environmental impacts that would otherwise necessitate an Environmental Impact Statement. The site contains two excavated ponds/wet areas that were not present prior to mining. They are not natural and were incidentally-created by mining activity, and therefore any impacts to these wetlands constitute a no-loss per WCA Rule 8420.0415 A. While the majority of the site has already been disturbed from the former industrial use, all recommendations made by the Department of Natural Resources' report will be followed throughout the development of this property such that no adverse impacts to wildlife habitats are anticipated.

9. Opportunities will be created to better connect the community through trails and sidewalks.

Hanover Cove will include an extensive trail/sidewalk system, connecting to the existing Hanover trail system, that will allow future and current residents the ability to traverse the community while walking or biking.

PAXMAR©

How the Proposal Varies from straight Zoning

Guided in the Future Land Use Map as Neighborhood Residential, the Hanover Cove proposal falls within the outlined net density range of 2-4 units per acre, meeting the desired land use guidelines. The development proposal consists of 285 individual housing units, with a density ratio of 3.88.

The underlying zoning requirements for the R-1A Neighborhood Residential zone will be utilized, along with a PUD overlay to reflect the original planning concept. The following is a comparison of the R-1A standards are requested as part of the PUD request:

Performance Standards		Requested PUD Minimums		
	R-1A	**Single Family**		**Flex**
(Minimum)		Large SF (80' +)	Medium SF (58'-80')	38' - 50'
Lot Area	12,000 SF	9,840-16,330 SF	6,815-20,280 SF	4,940-9,085 SF
Lot Width (at front setback)	80 FT	80 FT	58 FT	38 FT
Side Yard Setback	10 FT	7.5 FT	7.5 FT	6 FT
corner lot abutting street	30 FT	20 FT	20 FT	20 FT
Front Yard Setback	30 FT	25 FT	25 FT	25 FT
Rear Yard Setback	30 FT	30 FT	30 FT	20 FT
Garage Area	576 SF	576 SF	576 SF	480 SF
Home Floor Area	1000 SF	1,600 SF	1,300 SF	1,200 SF

		Requested PUD Minimums		
	R-1A	**Patio Home**		
(Minimum)		Large Patio (75'+)	Medium Patio (50'-75')	Narrow Patio (36'-50')
Lot Area	12,000 SF	8,315-20,730 SF	5,750-21,175 SF	5,250-19,275 SF
Lot Width (at front setback)	80 FT	75 FT	50 FT	36 FT
Side Yard Setback	10 FT	6 FT	6 FT	6 FT
corner lot abutting street	30 FT	20 FT	20 FT	20 FT
Front Yard Setback	30 FT	25 FT	25 FT	25 FT
Rear Yard Setback	30 FT	20 FT	20 FT	20 FT
Garage Area	576 SF	576 SF	480 SF	480 SF
Home Floor Area	1000 SF	1,500 SF	1,400 SF	1,200 SF

To further enhance the units above what is allowed in current zoning, the developer proposes the following:

Restrictive Covenants to govern the exterior material types to enhance the streetscape and view from the street. Homes will be required to use Stone, Brick, Stucco, Cultured/Polymer stone products on the fronts of homes, as well as utilizing shakes, batten board, hardi board, vinyl siding and stucco to go above and beyond what is allowable in a straight zoning development and eliminate one-type siding fronts. Homes will have a 2-car garage at minimum and a street facing front door.

PAXMAR©

To manage and maintain the Patio homes, we propose a Homeowner's Association. The association will maintain yards/landscaping, maintain irrigation system, remove snow from driveways, entryways and sidewalks (those which are units owner's responsibility to maintain), maintain Cluster Mailboxes and ensure each property does not fall into disrepair. If an owner fell behind on exterior maintenance or a unit became unsightly, the HOA would have the power to step in and rectify the issue.

An extensive Landscaping plan has also been developed to add additional aesthetics to this community. A line of evergreen trees along River Road is proposed to beautify and act as a natural buffer between the development and the road. All units will have appropriate amounts of landscaping and non-tree plantings.

Thank you for your consideration of the Hanover Cove Preliminary Plat and PUD. We look forward to working with the City throughout its development.

Sincerely,

Alan Roessler
Paxmar, LLC

Narrow Lot Street View Example

STREET VIEW
SCALE: 1" = 10'-0"

Flex – if not used for Narrow Patio

Narrow Patio

STREET VIEW
SCALE: 1" = 10'-0"

HOUSING EXAMPLES

Large Single-Family

Traditional Single-Family

Flex(if not used for patio)

HOUSING EXAMPLES

Large Patio

Medium Patio

Narrow Patio

651 LOTS.

NOTE:

☐ THIS PLAN IS FOR CLIMATE ZONE #6

☐ THIS PLAN IS FOR CLIMATE ZONE #7

ST. PAISLEY

NOTE:
TRUSS MANUFACTURER TO PROVIDE TRUSS SETS FOR ALL ROOF GABLES

GABLE ENDS EXTENDED OUT TO 16" OVERHANG (TYPICAL)

4" GABLE END BOX OUT (TYPICAL)

PATIO HOME

ARCHITECTURAL ASPH SHINGLES
ALUMINUM SOFFIT & FASCIA

BOARD & BATTEN
(PER ELEVATION)

SHAKES
(PER ELEVATION)

2'-0" OVERHANGS @ EAVES
1'-0" OVERHANGS @ GABLE ENDS
(UNLESS NOTED OTHERWISE)

5½" WINDOW & DOOR TRIM
(FRONT ELEVATION ONLY)

HARD BOARD SIDING
(FRONT ELEVATION ONLY)

VINYL LAP SIDING
(SIDE AND REAR ELEVATIONS)

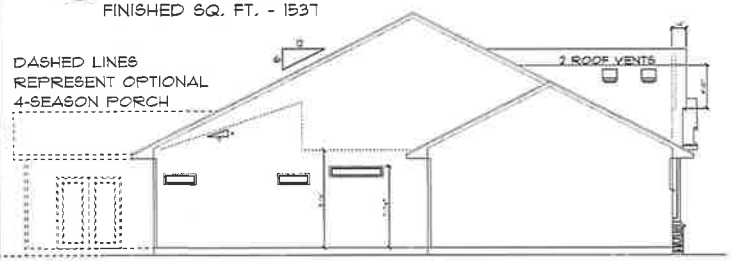
STONE PER ELEVATION
(VERIFY BRAND & COLOR)

GRADE LINES ON PLAN DO NOT REFLECT ACTUAL GRADE

1 / A1 FRONT ELEVATION
SCALE: 1/4" = 1'-0"
FINISHED SQ. FT. - 1346
UTILITY/UNFINISHED SQ. FT. - 38
(NOTE: SQ. FT. IS MEASURED FROM EXT. OF SHEATHING)

5 / A1 FRONT ELEV. (OPTION 1 & 2)
SCALE: 1/8" = 1'-0"
FINISHED SQ. FT. - 1537

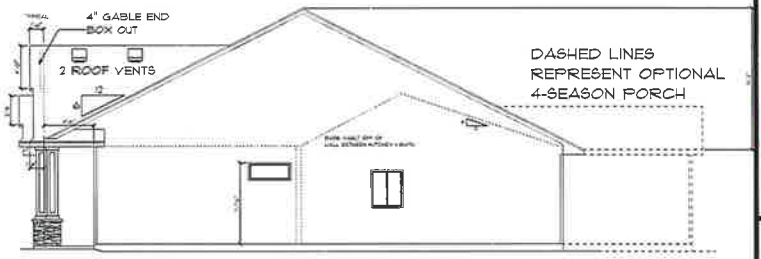
6 / A1 FRONT ELEV. (4 CAR GAR.)
SCALE: 1/8" = 1'-0"



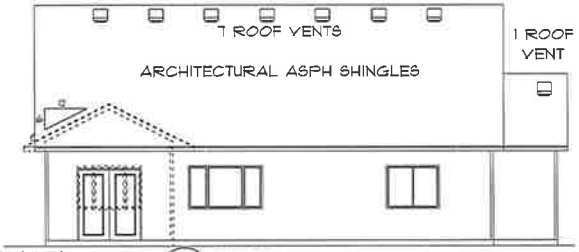
2 / A1 LEFT ELEVATION
SCALE: 1/8" = 1'-0"

FLASHING NOTE:
ALL OPENINGS TO EXTERIOR MUST BE CAULKED & FLASHED
FLASHING IS REQUIRED WHERE ALL ROOF & VERTICAL SURFACES MEET, OR WHERE SIDING MATERIAL CHANGES

ATTIC VENTILATION:
NET FREE AREA TO BE EQUAL TO 1/150TH OF THE ATTIC AREA OR 1/300TH OF ATTIC AREA PROVIDED WITH AT LEAST 50% IN THE UPPER PORTION OF ROOF WITH THE BALANCE IN VENTED SOFFIT



4 / A1 RIGHT ELEVATION
SCALE: 1/8" = 1'-0"



DASHED LINES REPRESENT OPTIONAL 4-SEASON PORCH

3 / A1 REAR ELEVATION
SCALE: 1/8" = 1'-0"

R Home
"make r home your home"
3495 Northdale Blvd NW
Suite 210
Coon Rapids, MN 55448
612-324-5760

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P.O. BOX 343,
ZIMMERMAN, MN 55398
www.DistinctiveDrafting.com

Distinctive Drafting & Design

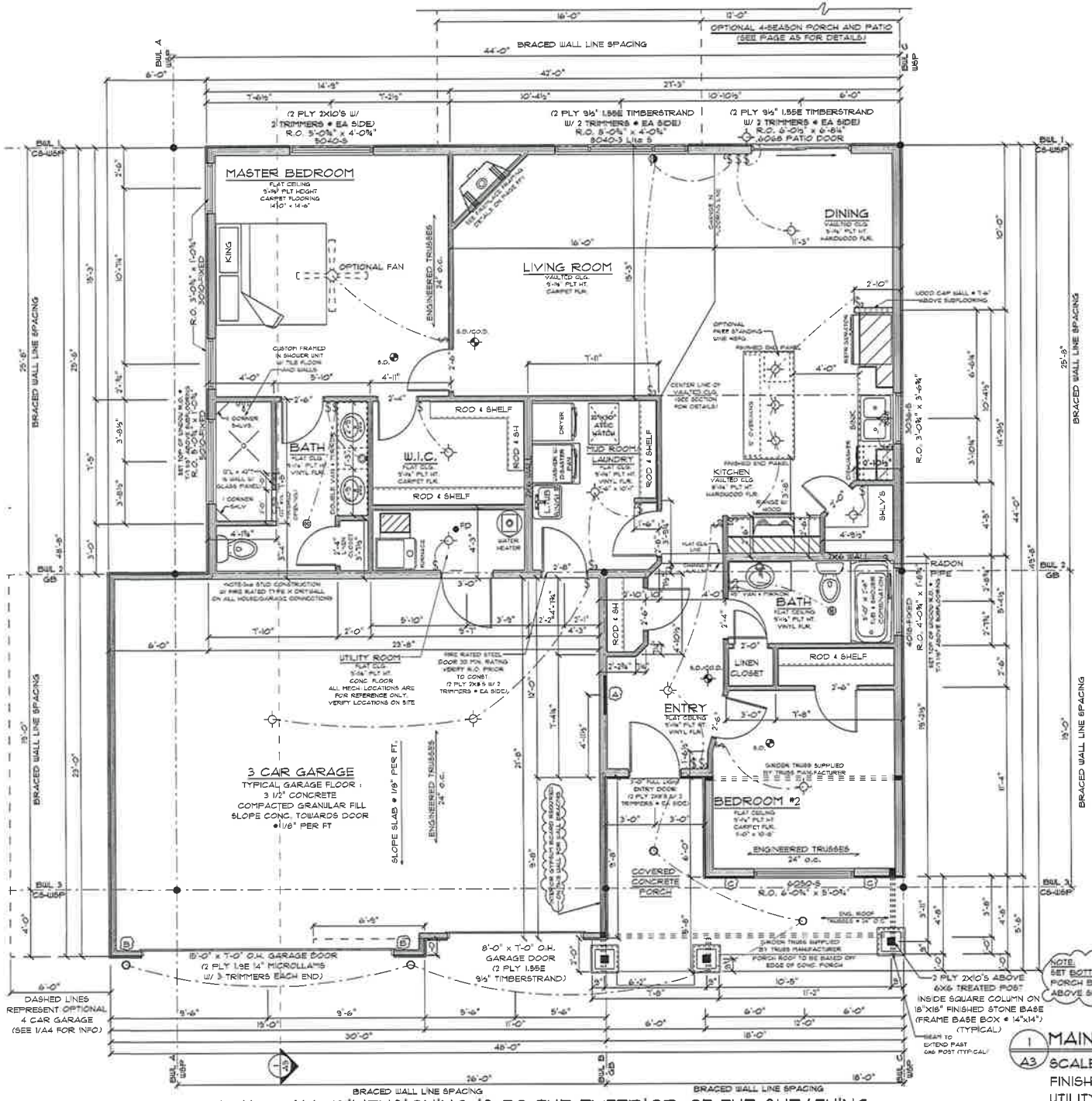
PROJECT #: 17-213 St. Paisley

REVISED AS OF: 3/19/2018

DRAWN BY: NICOLE ELLIOTT

APPROVED BY:

SHEET A1 OF 6



NOTE... ALL DIMENSIONING IS TO THE EXTERIOR OF THE SHEATHING

GENERAL CONSTRUCTION NOTES:

SOLID SHADED AREAS REP. SOLID BEARING DOWN TO CONC.

INTERIOR BEARING WALLS HAVE BLOCKING @ MIDPOINT

TOP OF WINDOW R.O. TO BE SET AT 6'-11⅝" ABOVE SUBFLOOR, UNLESS NOTED OTHERWISE

ALL WINDOW AND DOOR HEADERS TO BE 2 PLY 2X8'S UNLESS NOTED OTHERWISE

ADD ADDITIONAL STAIR STRINGER SUPPORT AS NEEDED, VERIFY ON SITE

⊕ - EXHAUST FAN VENTED TO EXTERIOR

ROOF/FLOOR TRUSS & GIRDER TRUSS LOCATIONS ARE FOR REFERENCE ONLY, REFER TO FINAL TRUSS LAYOUTS FOR ACTUAL LOCATIONS

(A) RECESSED GYP BD. NOOK W/ ARCHED TOP - 36"w x 42"h x 2½"d W/ R-20 SPRAY FOAM @ EXTERIOR SET BOTTOM OF NOOK 42" ABOVE SUBFLOOR

ELECTRICAL NOTES:

All outlets per MN Electrical Code

All fixtures, openings, GFCI, CO & Smoke Detectors per MN Electrical code

All fixture locations are for reference only

○ = LED SPOT LIGHT

BRACED WALL LINE NOTES:

ALL BRACED WALL PANELS TO BEGIN WITHIN 10'-0" FROM EACH END OF A BRACED WALL LINE

DISTANCE BETWEEN ADJACENT EDGES OF A BRACED WALL PANEL SHALL BE NO GREATER THAN 20'-0"

BRACED WALL LINES CALCULATIONS ASSUME SEISMIC DESIGN CATEGORY A, 90 MPH BASIC WIND SPEED, & EXPOSURE CATEGORY B

BRACED WALL PANEL KEY:

(B) CS-PF WALL PANEL IN THIS AREA ONLY (16" MIN.) -SEE BRACED WALL DETAIL ON PG. A6 FOR FRAMING DETAILS

(C) (27" MIN.) BRACED WALL PANEL 7/16" O.S.B. SHEATHING NAILED @ 6" O.C. @ EDGES AND 12" O.C. IN FIELD

NOTE... ALL WINDOWS & PATIO DOORS SPECIFIED ON THIS PRINT ARE: SIMONTON (VERIFY ALL WINDOW R.O.'S PRIOR TO CONSTRUCTION) (WINDOWS TO MEET FALL PROTECTION REQUIREMENTS)

ALL BEAMS & HEADERS ON THIS PLAN ARE GETERHABSER TRUS JOIST ENGINEERED WOOD PRODUCTS IF DIFFERENT BRAND IS USED, VERIFY SIZE & DEPTH PRIOR TO CONST.

BEAM/HEADER SUPPLIER TO VERIFY THAT ALL BEAMS AND HEADERS WILL SUPPORT ROOF AND FLOOR TRUSS LOADS PRIOR TO CONSTRUCTION

1 / A3 MAIN FLOOR PLAN

SCALE: 1/4" = 1'-0"

FINISHED SQ. FT. - 1346

UTILITY SQ. FT. - 38

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Suite 210
Coon Rapids, MN 55448
612-524-5760

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www.Distinctive-Drafting.com
Distinctive Drafting & Design

PROJECT # 17-213 St. Paisley

REVISED AS OF: 3/19/2018

DRAWN BY: NICOLE ELLIOTT

APPROVED BY:

SHEET A3 OF 6

ST. HENRY
(STANDARD ELEVATION)

NOTE:

☐ THIS PLAN IS FOR CLIMATE ZONE #6

☐ THIS PLAN IS FOR CLIMATE ZONE #7

FLASHING NOTE:
ALL OPENINGS TO EXTERIOR MUST BE CAULKED & FLASHED
FLASHING IS REQUIRED WHERE ALL ROOF & VERTICAL SURFACES MEET, OR WHERE SIDING MATERIAL CHANGES

2 BR WNDW. LOC. (PG. A7)

2x4 CORNER TRIM

1'-0" OVERHANGS @ EAVES
1'-0" OVERHANGS @ GABLE ENDS
(UNLESS NOTED OTHERWISE)

ARCHITECTURAL ASPH SHINGLES
ALUMINUM SOFFIT & FASCIA

VINYL BOARD & BATTEN / SHAKES
(PER ELEVATION)

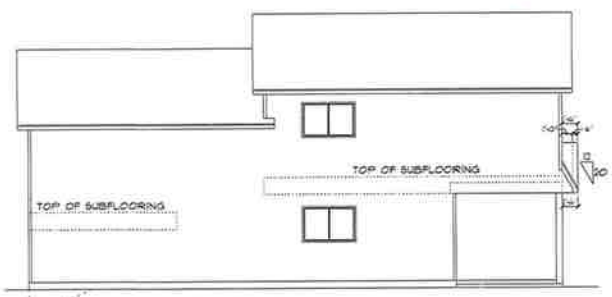
4" CORNER TRIM
4" WINDOW & DOOR TRIM
(FRONT ELEVATION ONLY)

VINYL LAP SIDING
(ALL ELEVATIONS,
UNLESS NOTED OTHERWISE)

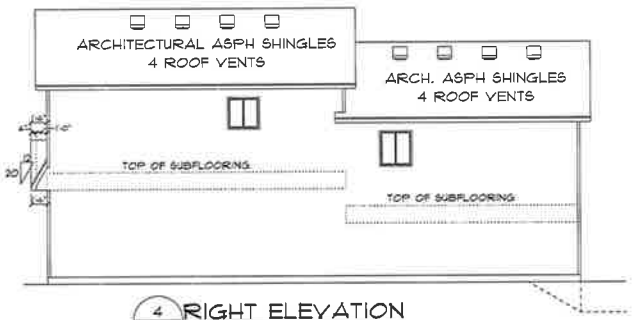
STONE PER ELEVATION
(VERIFY BRAND & COLOR)

GRADE LINES ON PLAN DO NOT REFLECT ACTUAL GRADE

1 / A1 FRONT ELEVATION
SCALE: 1/4" = 1'-0"
1896 TOTAL FINISHABLE SQ. FT.
FINISHED SQ. FT. - 1445
FUTURE FINISHABLE SQ. FT. - 451
(NOTE: SQ. FT. IS MEASURED FROM EXT. OF SHEATHING)



2 / A1 LEFT ELEVATION
SCALE: 1/8" = 1'-0"



4 / A1 RIGHT ELEVATION
SCALE: 1/8" = 1'-0"

ATTIC VENTILATION:
NET FREE AREA TO BE EQUAL TO 1/150TH OF THE ATTIC AREA OR 1/300TH OF ATTIC AREA PROVIDED WITH AT LEAST 50% IN THE UPPER PORTION OF ROOF WITH THE BALANCE IN VENTED SOFFIT

DASHED LINES REPRESENT WALK-OUT FOUNDATION OPTION

3 / A1 REAR ELEVATION
SCALE: 1/8" = 1'-0"

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Douglas K. Whitney, P.E.
Date: April 10, 2017 Reg. No. 15910

R Home
"make r home your home"
3459 Nordhaven Blvd NE
Suite 210
Cedar Rapids, IA 52402
612-524-5760

SQ. FT. & FLOOR AREAS ARE FOR CONSTRUCTION PURPOSES ONLY. SQ. FT. & AREAS ARE NOT TO BE USED FOR MARKETING PURPOSES

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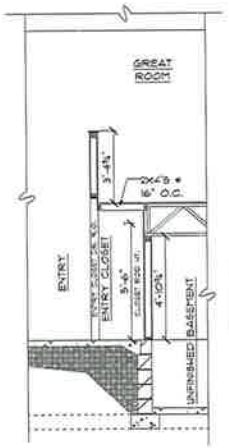
PROJECT #: 16-106 (Standard)
ST. HENRY GR
REVISED AS OF: 4/10/2017

DRAWN BY: NICOLE ELLIOTT
APPROVED BY:

SHEET A1 OF 9



2 ENTRY CLOSET
A4 SCALE: 1/4" = 1'-0"

NOTE... ALL WINDOWS & PATIO DOORS SPECIFIED ON THIS PRINT ARE:
SIMONTON (SLIDER U-VALUE = .30, & 3LITE SLIDER U-VALUE = .31, PATIO DR. U-VALUE = .28)
A SHGC = .30 B SHGC = .29 C SHGC = .26
(VERIFY ALL WINDOW R.O.'S PRIOR TO CONSTRUCTION)
(WINDOWS TO MEET FALL PROTECTION REQUIREMENTS)

ALL BEAMS & HEADERS ON THIS PLAN ARE
WEYERHAEUSER TRUS JOIST
ENGINEERED WOOD PRODUCTS
IF DIFFERENT BRAND IS USED,
VERIFY SIZE & DEPTH PRIOR TO CONST.

BEAM/HEADER SUPPLIER TO VERIFY THAT ALL
BEAMS AND HEADERS WILL SUPPORT
ROOF AND FLOOR TRUSS LOADS
PRIOR TO CONSTRUCTION

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Douglas K. Whitney, P.E.
Date: April 10, 2017 Reg. No. 15910

ZONE #6 FOUNDATION NOTES:

- (A) 2X6 STUDS @ 16" O.C. 1 CRSE 6" CONC. BLK (SOLID ON HOUSE/GAR. WALL) 4 CRSE 12" CONC. BLK (2" INT. LEDGE / 4" EXT. LEDGE) ON 20"X8" CONC. FTG
- (B) 2X4 STUDS @ 16" O.C. 1 CRSE 6" CONC. BLK 4 CRSE 8" CONC. BLK ON 16"X8" CONC. FTG
- (C) 2X6 STUDS @ 16" O.C. 1 CRSE 6" CONC. BLK 4 CRSE 12" CONC. BLK ON 20" X 8" CONC. FTG
- (F) 2X4 STUDS @ 16" O.C. 1 CRSE 4" CURB BLK ON 16"X8" CONC. FTG
- (I) 2X6 STUDS @ 16" O.C. 5 CRSE 8" CONC. BLK ON 16" X 8" CONC. FTG
- (J) 2X6 STUDS @ 16" O.C. 1 CRSE 6" CURB, BLK 5 CRSE 12" CONC. BLK ON 20"X8" CONC. FTG
- (L) STRUCTURAL POST ON 4 CRSE 12"X12" BLK. PIER (CORE FILLED) ON 24" X 24" X 8" CONC. FTG. MIN. 42" BELOW GRADE
- (M) 2X6 STUDS @ 16" O.C. 1 CRSE 6" CONC. BLK (SOLID) 4 CRSE 8" CONC. BLK ON 16"X8" CONC. FTG
- (N) 1 CRSE 6" CONC. BLK (SOLID) 4 CRSE 8" CONC. BLK ON 16"X8" CONC. FTG
- (O) 2X6 STUDS @ 16" O.C. 1 CRSE 6" CONC. BLK 4 CRSE 12" CONC. BLK (4" INT. LEDGE / 2" EXT. LEDGE) ON 20"X8" CONC. FTG

ZONE #7 FOUNDATION NOTES:

- (A) 2X6 STUDS @ 16" O.C. 1 CRSE 6" CONC. BLK (SOLID ON HOUSE/GAR. WALL) 6 CRSE 12" CONC. BLK (2" INT. LEDGE / 4" EXT. LEDGE) ON 20"X8" CONC. FTG
- (B) 2X4 STUDS @ 16" O.C. 1 CRSE 6" CONC. BLK 6 CRSE 8" CONC. BLK ON 16"X8" CONC. FTG
- (C) 2X6 STUDS @ 16" O.C. 1 CRSE 6" CONC. BLK 6 CRSE 12" CONC. BLK ON 20" X 8" CONC. FTG
- (F) 2X4 STUDS @ 16" O.C. 1 CRSE 4" CURB BLK ON 16"X8" CONC. FTG
- (I) 2X6 STUDS @ 16" O.C. 7 CRSE 8" CONC. BLK ON 16" X 8" CONC. FTG
- (J) 2X6 STUDS @ 16" O.C. 1 CRSE 6" CURB, BLK 7 CRSE 12" CONC. BLK ON 20"X8" CONC. FTG
- (L) STRUCTURAL POST ON 6 CRSE 12"X12" BLK. PIER (CORE FILLED) ON 24" X 24" X 8" CONC. FTG. MIN. 60" BELOW GRADE
- (M) 2X6 STUDS @ 16" O.C. 1 CRSE 6" CONC. BLK (SOLID) 6 CRSE 8" CONC. BLK ON 16"X8" CONC. FTG
- (N) 1 CRSE 6" CONC. BLK (SOLID) 6 CRSE 8" CONC. BLK ON 16"X8" CONC. FTG
- (O) 2X6 STUDS @ 16" O.C. 1 CRSE 6" CONC. BLK 6 CRSE 12" CONC. BLK (4" INT. LEDGE / 2" EXT. LEDGE) ON 20"X8" CONC. FTG

GENERAL CONSTRUCTION NOTES:

SOLID SHADED AREAS REP. SOLID BEARING DOWN TO CONC.

INTERIOR BEARING WALLS HAVE BLOCKING @ MIDPOINT

CONCRETE CONTRACTOR TO POUR 5,000 PSI FOOTINGS OR EQUIVALENT AND ALL OTHER CONC. TO CODE

ALL LOWER LEVEL WNDW. & DR. HEADERS TO BE 3 PLY 2X8'S UNLESS NOTED OTHERWISE

½" LIGHTWEIGHT SHEETROCK ON UNDERSIDE OF FLR. TRUSSES TO MEET FIRE PROTECTION OF FLOORS CODE IN ALL AREAS OTHER THAN MECH. ROOM (INCLUDING ACCESSIBLE SPACE UNDER STAIRS)
*FIRE BLOCKING TO CODE ON CLG.

ADD ADDITIONAL STAIR STRINGER SUPPORT AS NEEDED, VERIFY ON SITE

ALL POST FOOTING SIZES ASSUME 2000 PSF SOIL BEARING CAPACITY (MIN.)

(A) PROVIDE PASSIVE RADON SYSTEM: VENT UP 3" GASTIGHT PVC PIPE THRU ROOF (TERMINATE 12" ABOVE ROOF SURFACE) 3" GASTIGHT PVC PIPE INSTALLED INTO ROCK/SAND W/ A "T" FITTING. A 10' SECTION OF PERFORATED DRAIN TILE MUST CONNECT TO EACH SIDE OF "T" FITTING (VERIFY EXACT LOCATION OF PIPE PRIOR TO CONST.)
*ROUGH WIRE IN SOFFIT FOR FUTURE ROOF TOP FAN

NOTE: SILL PLATE TO HANG PAST FOUNDATION EDGE BY 1½" SO THAT EXT. OF SHEATHING IS FLUSH WITH EXT. OF RIGID INSULATION (IN ALL AREAS EXCEPT WALK-OUT & ENTRY DOOR WALL (WALL "J" & "O"))

ELECTRICAL NOTES:

All outlets per MN Electrical Code

All fixtures, openings, GFCI, CO & Smoke Detectors per MN Electrical code

All fixture locations are for reference only

BRACED WALL LINE NOTES:

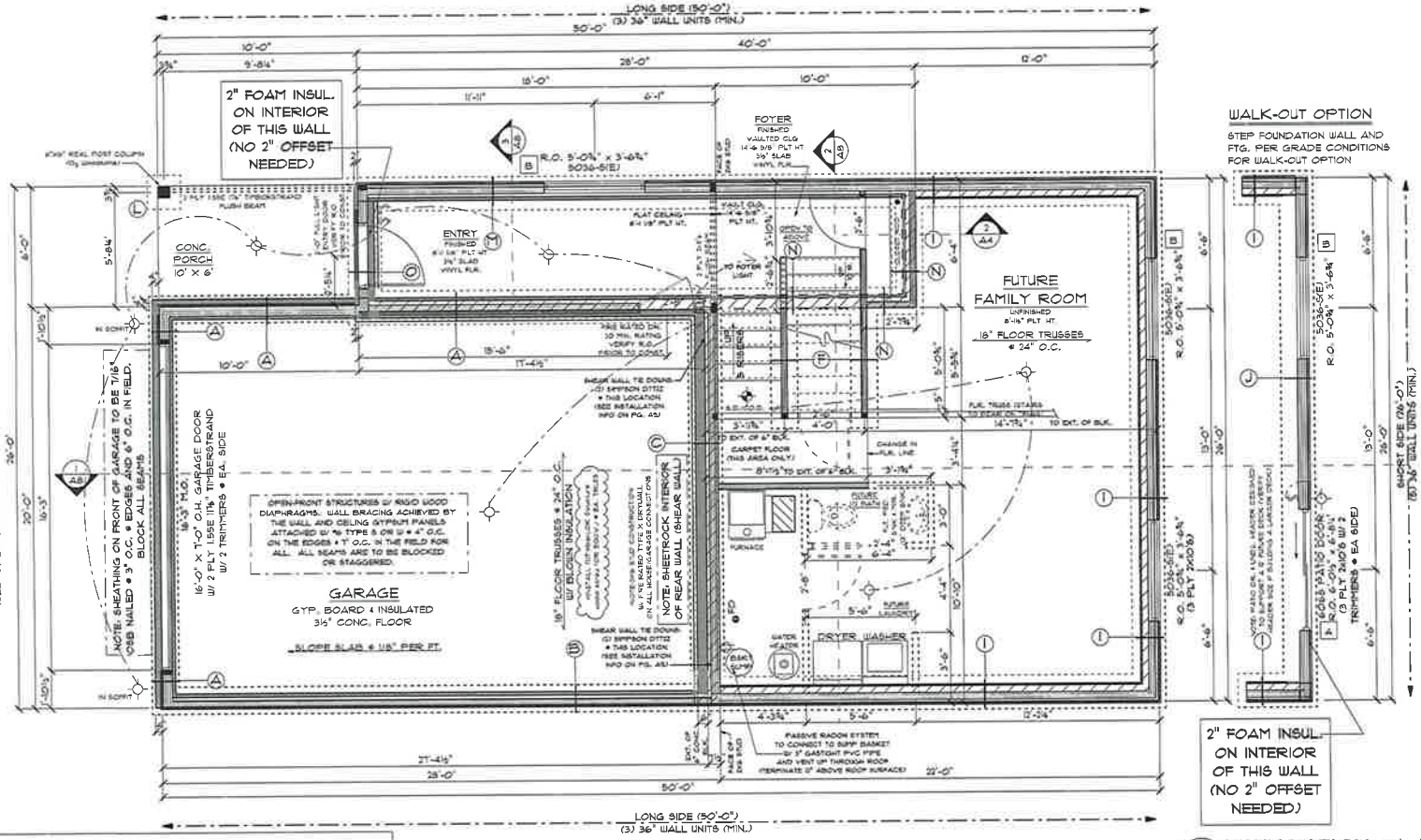
ALL BRACED WALL PANELS TO BEGIN WITHIN 12'-0" FROM EACH END OF A BRACED WALL LINE

DISTANCE BETWEEN ADJACENT EDGES OF A BRACED WALL PANEL SHALL BE NO GREATER THAN 20'-0"

BRACED WALL LINES CALCULATIONS ASSUME SEISMIC DESIGN CATEGORY A, 90 MPH BASIC WIND SPEED, & EXPOSURE CATEGORY B
*USING SIMPLIFIED WALL
* BRACING ON ALL HOUSE WALLS *
(UNLESS NOTED OTHERWISE)

WALK-OUT OPTION

STEP FOUNDATION WALL AND FTG. PER GRADE CONDITIONS FOR WALK-OUT OPTION



1 FOUNDATION PLAN
A4 SCALE: 1/4" = 1'-0"

TOTAL FINISHABLE SQ. FT. - 488
FINISHED SQ. FT. - 37
FUTURE FINISHABLE SQ. FT. - 451

CONC. FDN. WALLS TO BE HELD IN 2" FROM MAIN LEVEL FRAMING ON EXT. BSMNT. WALLS ONLY & TO BE MEASURED FROM EXT. OF SHEATHING SO EXT. OF SHEATHING IS FLUSH W/ EXT. OF FOAM INSUL. (IN ALL BSMNT. AREAS EXCEPT WALK-OUT & ENTRY DOOR WALL (WALL "J" & "O"))

NOTE: ALL EXTERIOR DIMENSIONS ARE TO THE OUTSIDE OF EXT. FOAM INSUL. OR SHEATHING (UNLESS NOTED OTHERWISE)

WAIVER

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PROJECT: 16-106 (Fdn. Plan)
ST. HENRY GR
REVISED A6 OF: 4/10/2017

DRAWN BY: NICOLE ELLIOTT
APPROVED BY:

SHEET A4 OF 9

R Home "make r home your home"
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612-524-5760

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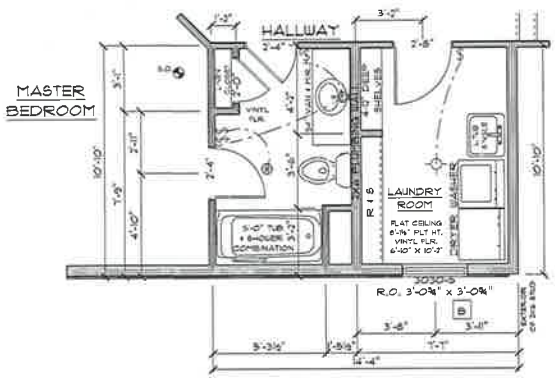
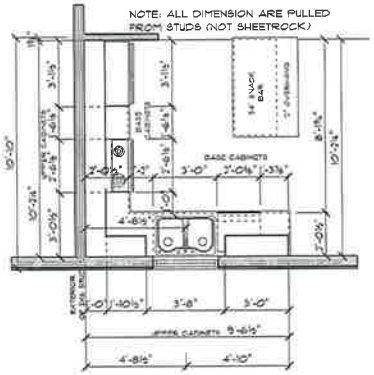


3 / A5 OPTIONAL BATH LAYOUT
SCALE: 1/4" = 1'-0"



2 / A5 KITCHEN PLAN
SCALE: 1/4" = 1'-0"

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

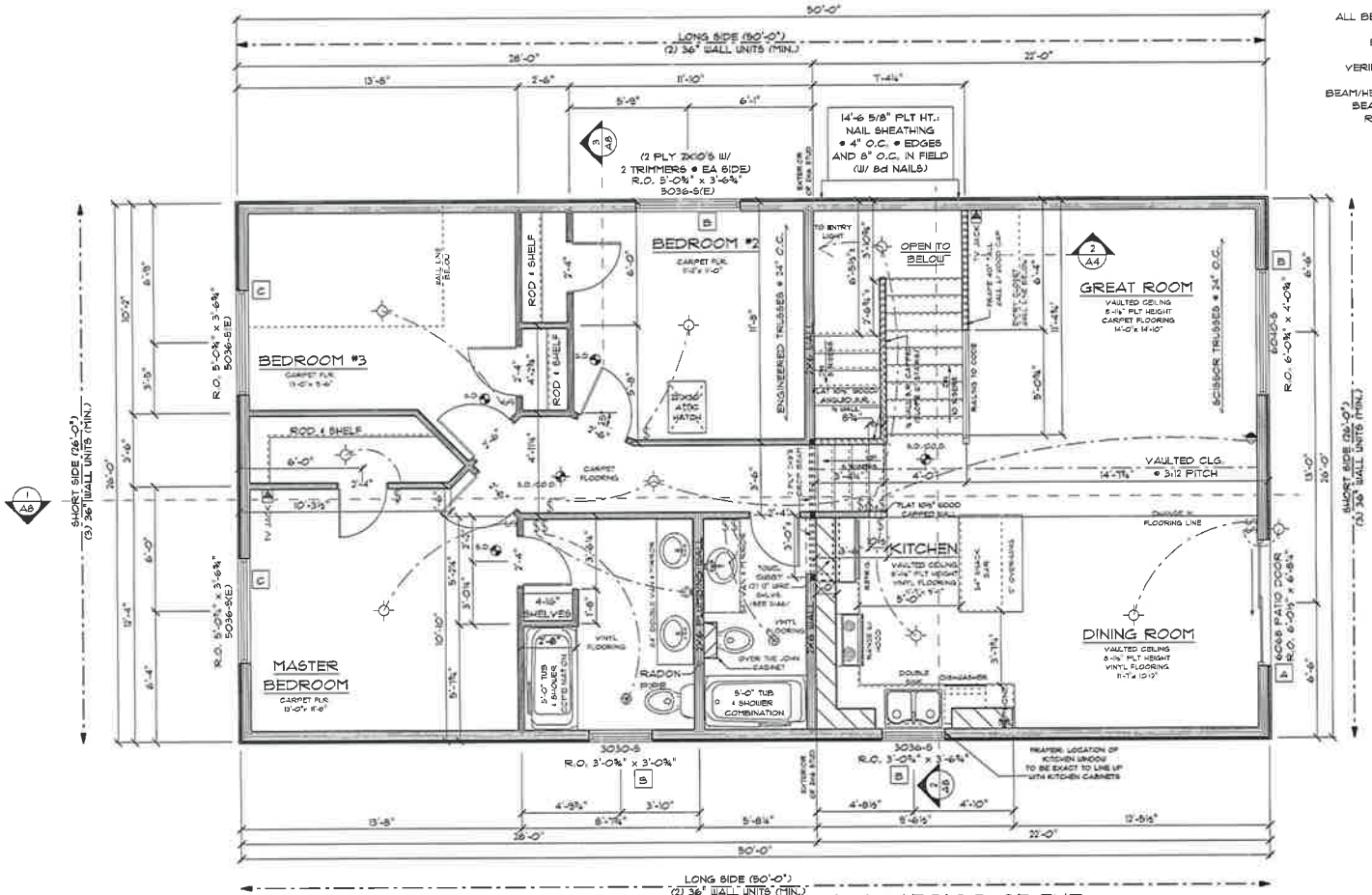
Douglas K. Whitney, P.E.
Date: April 10, 2011 Reg. No. 15910

NOTE... ALL WINDOWS & PATIO DOORS SPECIFIED ON THIS PRINT ARE:
SIMONTON (SLIDER U-VALUE = .30, 4 3LITE SLIDER U-VALUE = .31, PATIO DR. U-VALUE = .28)
A SHGC = .30 B SHGC = .29 C SHGC = .26

(VERIFY ALL WINDOW R.O.'S PRIOR TO CONSTRUCTION)
(WINDOWS TO MEET FALL PROTECTION REQUIREMENTS)

ALL BEAMS & HEADERS ON THIS PLAN ARE WEYERHAEUSER TRUS JOIST ENGINEERED WOOD PRODUCTS
IF DIFFERENT BRAND IS USED, VERIFY SIZE & DEPTH PRIOR TO CONST.

BEAM/HEADER SUPPLIER TO VERIFY THAT ALL BEAMS AND HEADERS WILL SUPPORT ROOF AND FLOOR TRUSS LOADS PRIOR TO CONSTRUCTION



NOTE... ALL DIMENSIONING IS TO THE EXTERIOR OF THE SHEATHING (UNLESS NOTED OTHERWISE)

1 / A5 MAIN FLOOR PLAN
SCALE: 1/4" = 1'-0"
MAIN LEVEL & ENTRY SQ. FT. - 1408

GENERAL CONSTRUCTION NOTES:

SOLID SHADED AREAS REP. SOLID BEARING DOWN TO CONC.

INTERIOR BEARING WALLS HAVE BLOCKING @ MIDPOINT

ALL MAIN FLR. WNDW. & DR. HEADERS TO BE 2 PLY 2X8'S UNLESS NOTED OTHERWISE

ADD ADDITIONAL STAIR STRINGER SUPPORT AS NEEDED, VERIFY ON SITE

⊕ - EXHAUST FAN VENTED TO EXTERIOR

ELECTRICAL NOTES:

All outlets per MN Electrical Code

All fixtures, openings, GFCI, CO & Smoke Detectors per MN Electrical code

All fixture locations are for reference only

BRACED WALL LINE NOTES:

ALL BRACED WALL PANELS TO BEGIN WITHIN 12'-0" FROM EACH END OF A BRACED WALL LINE

DISTANCE BETWEEN ADJACENT EDGES OF A BRACED WALL PANEL SHALL BE NO GREATER THAN 20'-0"

BRACED WALL LINES CALCULATIONS ASSUME SEISMIC DESIGN CATEGORY A, 90 MPH BASIC WIND SPEED, & EXPOSURE CATEGORY B

USING SIMPLIFIED WALL BRACING ON ALL HOUSE WALLS (UNLESS NOTED OTHERWISE)

WAIVER

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PROJECT: 16-106 (Floor Plan) ST. HENRY GR
REVIEWED AS OF: 4/10/2011

DRAWN BY: NICOLE ELLIOTT
APPROVED BY:

SHEET A5 OF 9

R Home "make r home your home"
3495 Northdale Blvd NW
Suite 210
Coon Rapids, MN 55448
612-924-5160

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I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Douglas K. Whitney, P.E.
Date: May. 29, 2015 Reg. No. 15910

ST. ANDREW - 2 CAR GARAGE
(ELEVATION B)

FLASHING NOTE:
ALL OPENINGS TO EXTERIOR MUST BE CAULKED & FLASHED
FLASHING IS REQUIRED WHERE ALL ROOF & VERTICAL SURFACES MEET, OR WHERE SIDING MATERIAL CHANGES

TOTAL SQ. FT. OF FRONT WITHOUT GARAGE DOOR = 327.7

64.6 SQ. FT. OF STONE + 2nd SIDE OF POST (5.4) = 70 SQ. FT. (21.4% OF TOTAL)

INSTALL HOUSE NUMBERS:
4" MINIMUM, VISIBLE FROM STREET

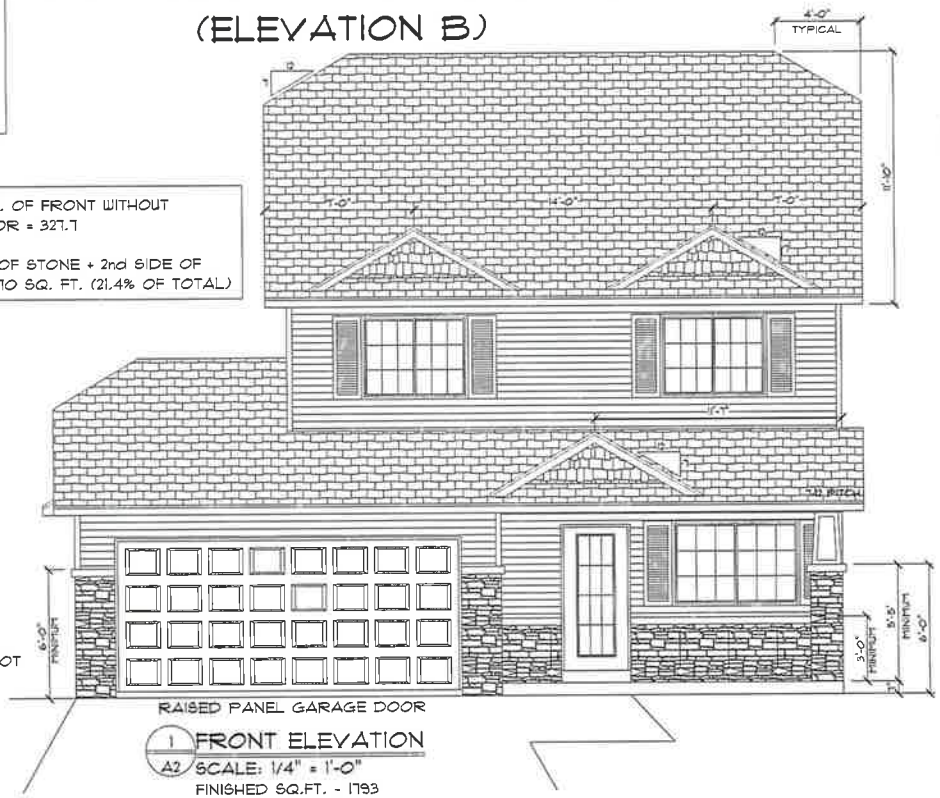
Post Address Card:
On Site, Visible from the Street
Maintain Until House Numbers are Installed

S. FAMILY

1'-6" OVERHANG @ EAVES
1'-0" OVERHANG @ GABLE ENDS

DUE TO VARIOUS SITE CONDITIONS OF INDIVIDUAL LOTS, THE GRADE LINES REPRESENTED BY THIS PRINT ARE FOR ILLUSTRATIVE PURPOSES ONLY. THEY DO NOT REFLECT ACTUAL FINISHED GRADE

1 NAILED
51 7.5-7.5
7.5
SK



RAISED PANEL GARAGE DOOR

1 A2 FRONT ELEVATION
SCALE: 1/4" = 1'-0"
FINISHED SQ.FT. - 1793
11:10 AM
Monday, August 24, 2015

Notice
This Building Must Not Be Occupied Until a Certificate of Occupancy Has Been Issued.

Final Building, Plumbing and heating Inspections: Must be complete Prior to Occupancy. Owner or Contractor Must be Present for Final Building Inspection.

ALL JOB DEBRIS MUST BE CONTAINED ON-SITE AND IN A DUMPSTER OR COVERED, FENCED AREA

Building Official Review and Authorization Required Prior To Changes, Modifications, or Alterations

EROSION CONTROLS REQUIRED
Install erosion controls per proposed survey prior to foundation inspection. Rock construction entrance and site perimeter controls such as silt fence are required. Maintain erosion controls until landscaping is completed.

WARNING:
CALL BEFORE YOU DIG! Gopher State One call 651-454-0002

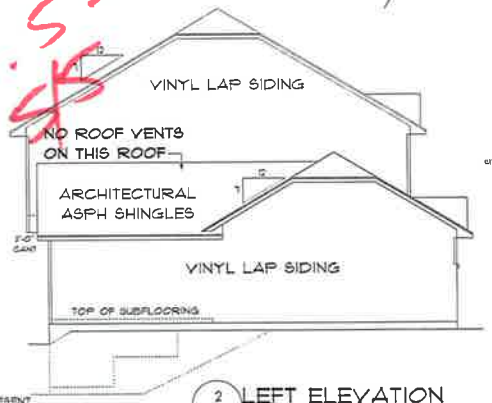
ARCHITECTURAL ASPH SHINGLES
ALUMINUM SOFFIT & FASCIA

VINYL LAP SIDING

SHAKES PER ELEVATION

STONE PER ELEVATION
(VERIFY BRAND & COLOR)

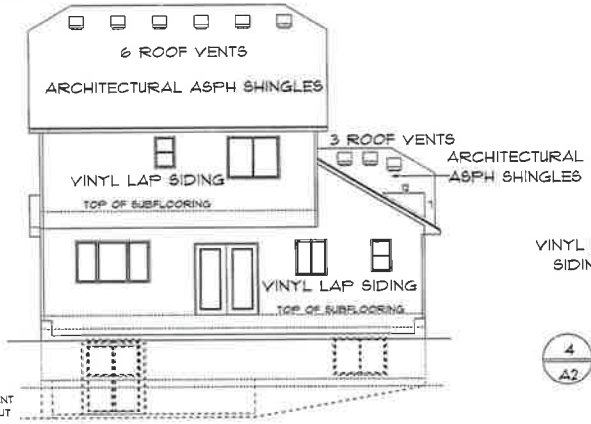
HOME TO BE BUILT TO THE NEW 2012 IRC AS MODIFIED BY THE STATE OF MINNESOTA IN THE 2015 MINNESOTA RESIDENTIAL CODE. IT IS THE RESPONSIBILITY OF ALL SUBCONTRACTORS & SUPPLIERS TO MEET MINIMUM CODE REQUIREMENTS



DASHED LINES REPRESENT LOOK-OUT AND WALK-OUT OPTION

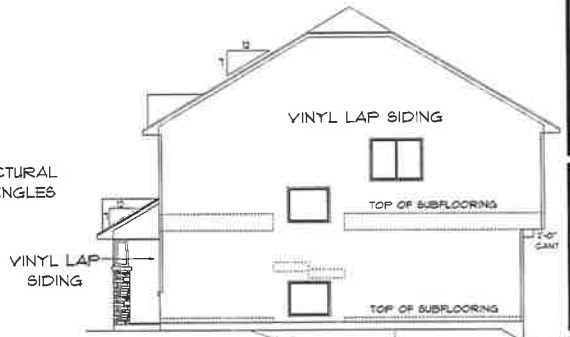
2 A2 LEFT ELEVATION
SCALE: 1/8" = 1'-0"

ATTIC VENTILATION:
NET FREE AREA TO BE EQUAL TO 1/150TH OF THE ATTIC AREA OR 1/300TH OF ATTIC AREA PROVIDED WITH AT LEAST 50% IN THE UPPER PORTION OF ROOF WITH THE BALANCE IN VENTED SOFFIT



DASHED LINES REPRESENT LOOK-OUT AND WALK-OUT OPTION

3 A2 REAR ELEVATION
SCALE: 1/8" = 1'-0"



4 A2 RIGHT ELEVATION
SCALE: 1/8" = 1'-0"

DASHED LINES REPRESENT LOOK-OUT AND WALK-OUT OPTION

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NO UNAUTHORIZED REPRODUCTION WITHOUT WRITTEN CONSENT
(CONTACT 763-753-6176)

WAIVER
EVERY EFFORT HAS BEEN MADE TO MAKE SURE THESE PLANS ARE CORRECT IN EVERY WAY. BUILDER, GENERAL CONTRACTOR & HOMEOWNER SHOULD REVIEW THESE PLANS TO MAKE SURE ALL SIZES, DIMENSIONS, ERRORS AND OMISSIONS ARE CORRECT BEFORE CHASE BEGINS. ALL PARTIES, BUILDER, GENERAL CONTRACTOR(S), & HOMEOWNER TO VERIFY HOUSE MEETS ALL STATE AND LOCAL BUILDING CODES. Distinctive Drafting and Design, LLC IS NOT RESPONSIBLE FOR ERRORS AND OMISSIONS ON THESE PLANS.

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www.Distinctive-Drafting.com

PROJECT: 13-130 (ELEV. B) (ST. ANDREW-2 CAR GAR.)
REVISED AS OF: 8/21/2015

DRAWN BY: NICOLE ELLIOTT
APPROVED BY:

SHEET A2 OF 10

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Douglas K. Whitney, P.E.
Date: May. 29, 2015 Reg. No. 15910

Property Owner/Applicant shall verify all existing private and public easements.

Building Official Review and Authorization Required Prior To Changes, Modifications, or Alterations

EROSION CONTROLS REQUIRED
Install erosion controls per proposed survey prior to foundation inspection. Rock construction entrance and silt perimeter controls such as silt fence are required. Maintain erosion controls until landscaping is completed.

NOTE: 2X8 SILL PLATE TO HANG PAST FDN. EDGE BY 1½" SO THAT EXT. OF SHEATHING IS FLUSH WITH EXT. OF RIGID INSULATION

(A) 1 CRSE 6" CONC. BLK
4 CRSE 12" CONC. BLK
ON 16"X8" CONC. FTG

(B) 1 CRSE 6" CONC. BLK
4 CRSE 8" CONC. BLK
ON 16"X8" CONC. FTG

(C) 1 CRSE 8" CONC. BLK
12 CRSE 12" CONC. BLK
ON 20" X 8" CONC. FTG

(D) 13 CRSE 12" CONC. BLK
ON 20" X 8" CONC. FTG

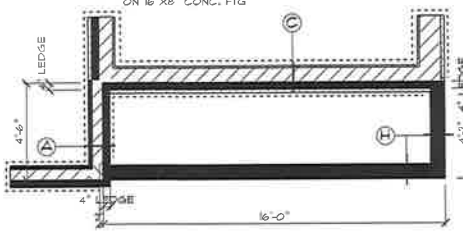
(E) 2X4 STUDS @ 16" O.C.
1 CRSE 4" CURB BLK
ON 16"X8" CONC. FTG

(F) 2X6 STUDS @ 16" O.C.
5 CRSE 12" CONC. BLK
ON 20" X 8" CONC. FTG

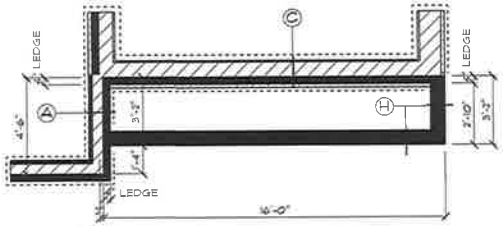
(G) 2X6 STUDS @ 16" O.C.
1 CRSE 6" CURB. BLK
5 CRSE 12" CONC. BLK
ON 20"X8" CONC. FTG

(H) 12 CRSE 8" CONC. BLK
ON 16" X 8" CONC. FTG

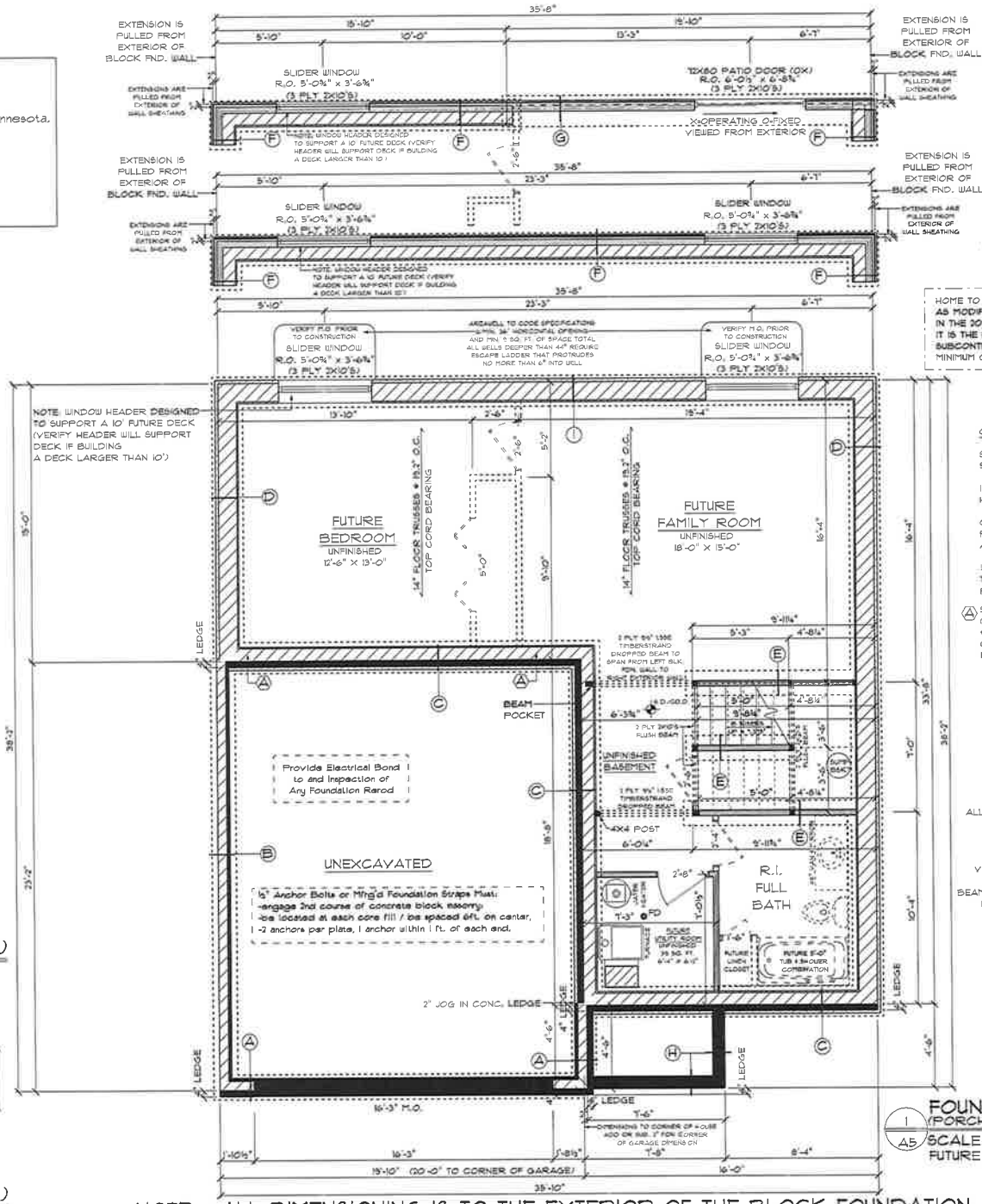
(I) 11 CRSE 12" CONC. BLK
ON 20" X 8" CONC. FTG



2 PORCH FOUNDATION (ELEV. B)
A5 SCALE: 1/4" = 1'-0"



3 PORCH FOUNDATION (ELEV. C)
A5 SCALE: 1/4" = 1'-0"



NOTE... ALL DIMENSIONING IS TO THE EXTERIOR OF THE BLOCK FOUNDATION (UNLESS NOTED OTHERWISE)

1 FOUNDATION PLAN (PORCH PLAN ELEVATIONS A & D)
A5 SCALE: 1/4" = 1'-0"
FUTURE FINISHED SQ. FT. - 876

WALKOUT OPTION
SCALE: 1/4" = 1'-0"

STEP FOUNDATION AND FOOTINGS PER GRADE CONDITIONS FOR WALKOUT AND LOOKOUT OPTIONS

LOOKOUT OPTION
SCALE: 1/4" = 1'-0"

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GENERAL CONSTRUCTION NOTES:

SOLID SHADED AREAS REP. SOLID BEARING DOWN TO CONC.

INTERIOR BEARING WALLS HAVE BLOCKING @ MIDPOINT

CONCRETE CONTRACTOR TO INSTALL REBAR IN FOUNDATION WALLS & FOOTINGS AS NEEDED PER CODE

½" SHEETROCK ON UNDERSIDE OF FLOOR TRUSSES TO MEET FIRE PROTECTION OF FLOORS CODE

(A) SHEAR WALL TIE DOWNS:
(2) SIMPSON DTT2Z
@ THESE LOCATIONS
(SEE INSTALLATION INFO ON PG. A10)

NOTE... ALL WINDOWS & PATIO DOORS SPECIFIED ON THIS PRINT ARE: SIMONTON (WINDOWS TO MEET FALL PROTECTION REQUIREMENTS)

ALL BEAMS & HEADERS ON THIS PLAN ARE WEYERHAEUSER TRUS JOIST ENGINEERED WOOD PRODUCTS (UNLESS NOTED OTHERWISE) IF DIFFERENT BRAND IS USED, VERIFY SIZE & DEPTH PRIOR TO CONST.

BEAM/HEADER SUPPLIER TO VERIFY THAT ALL BEAMS AND HEADERS WILL SUPPORT ROOF AND FLOOR TRUSS LOADS PRIOR TO CONSTRUCTION

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WAIVER
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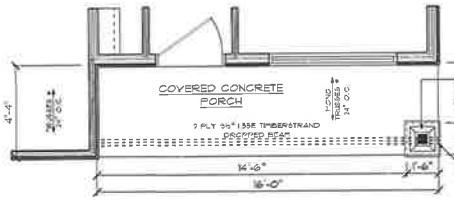
WWW.Distinctive-Drafting.com

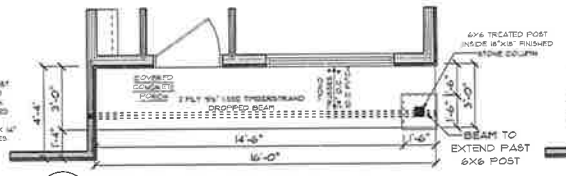
PROJECT # 13-130 (ST. ANDREW-2 CAR GAR.)
REVISED AS OF: 8/21/2015

DRAWN BY: NICOLE ELLIOTT
APPROVED BY:

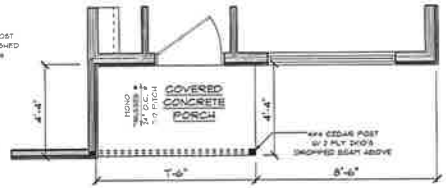
SHEET A5 OF 10



4 PORCH PLAN (ELEV. B)
A6 SCALE: 1/4" = 1'-0"



5 PORCH PLAN (ELEV. C)
A6 SCALE: 1/4" = 1'-0"



6 PORCH PLAN (ELEV. D)
A6 SCALE: 1/4" = 1'-0"

HOME TO BE BUILT TO THE NEW 2012 IRC AS MODIFIED BY THE STATE OF MINNESOTA IN THE 2013 MINNESOTA RESIDENTIAL CODE. IT IS THE RESPONSIBILITY OF ALL SUBCONTRACTORS & SUPPLIERS TO MEET MINIMUM CODE REQUIREMENTS

Building Official Review and Authorization Required Prior To Changes, Modifications, or Alterations

GENERAL CONSTRUCTION NOTES

SOLID SHADED AREAS REP. SOLID BEARING DOWN TO CONC.

O.S.B. SUBFLOORING AT ALL FLOORING AREAS OTHER THAN CARPET

INTERIOR BEARING WALLS HAVE BLOCKING @ MIDPOINT

(A) SHEAR WALL TIE DOWNS: (2) SIMPSON DTT2Z @ THESE LOCATIONS (SEE INSTALLATION INFO ON PG. A10)

USING SIMPLIFIED WALL BRACING ON ALL HOUSE WALLS (UNLESS NOTED OTHERWISE)

NOTE... ALL WINDOWS & PATIO DOORS SPECIFIED ON THIS PRINT ARE SIMONTON (WINDOWS TO MEET FALL PROTECTION REQUIREMENTS)

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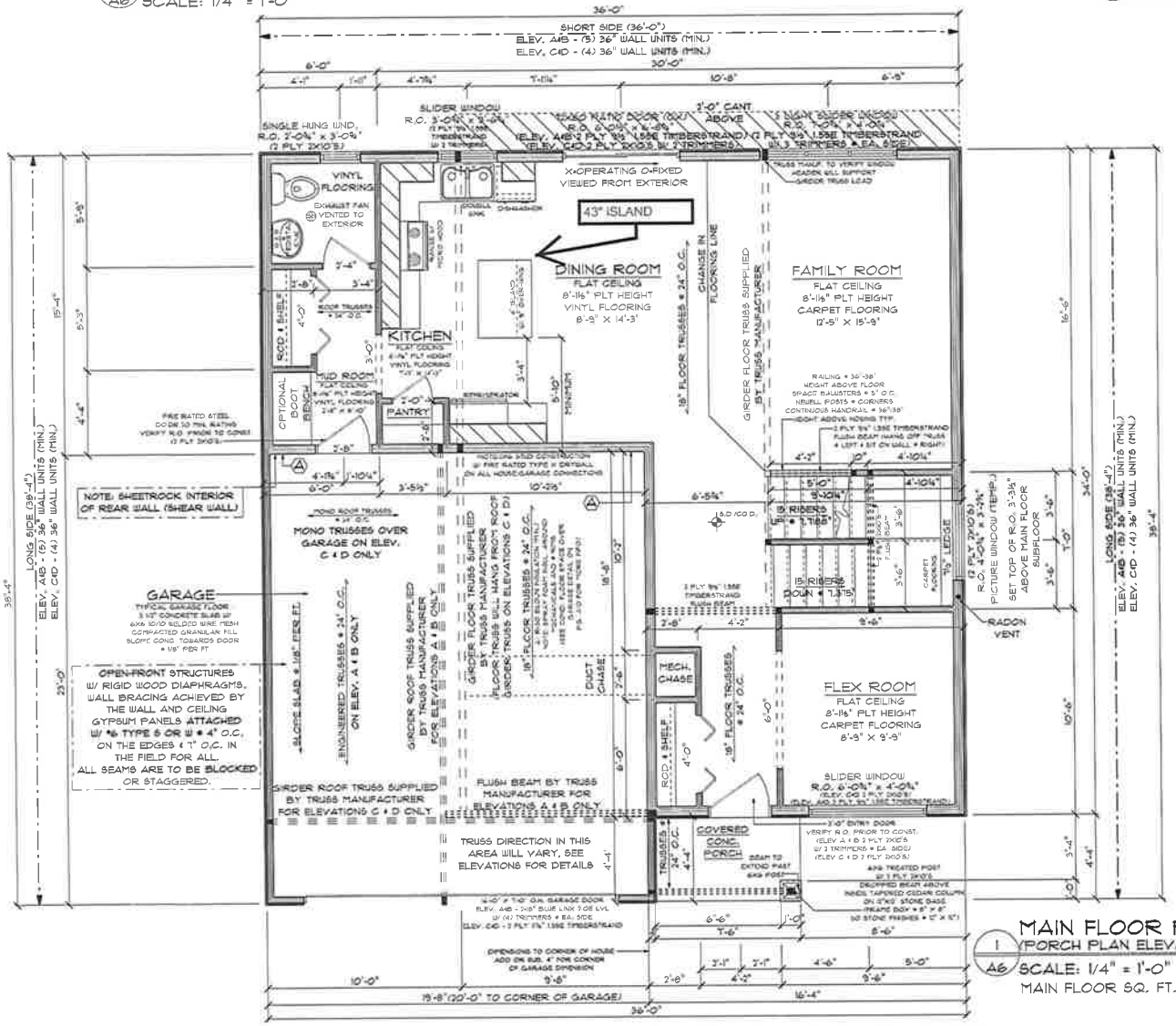
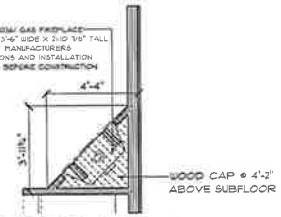
BEAM/HEADER SUPPLIER TO VERIFY THAT ALL BEAMS AND HEADERS WILL SUPPORT ROOF AND FLOOR TRUSS LOADS PRIOR TO CONSTRUCTION



NOTE... ALL DIMENSIONING IS TO THE EXTERIOR OF THE SHEATHING

1 MAIN FLOOR PLAN (PORCH PLAN ELEVATION A)
A6 SCALE: 1/4" = 1'-0"
MAIN FLOOR SQ. FT. - 857



3 FIREPLACE OPTION
A6 SCALE: 1/4" = 1'-0"

2 FRENCH DOOR OPTION
A6 SCALE: 1/4" = 1'-0"

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Douglas K. Whitney, P.E.
Date: May. 29, 2015 Reg. No. 15910

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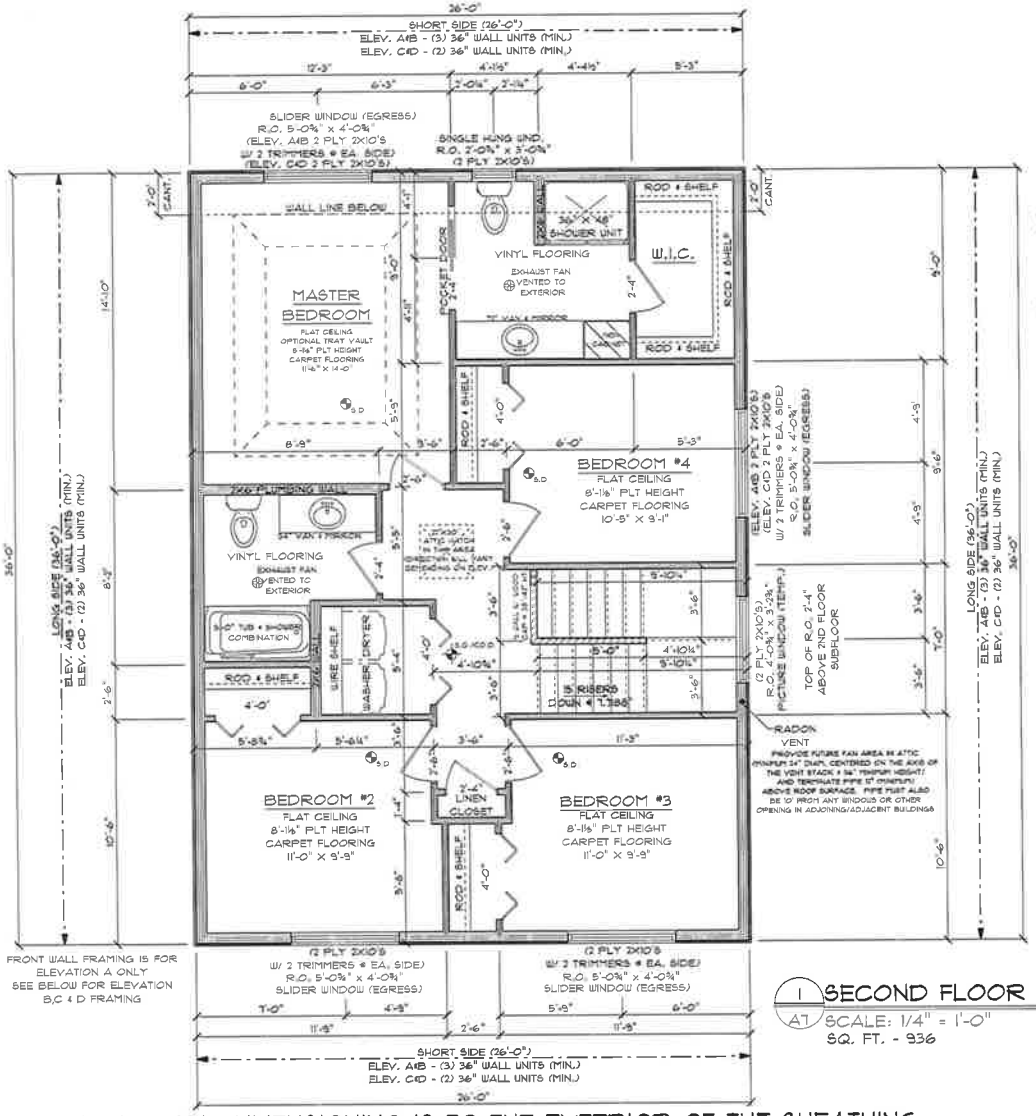
PROJECT # 13-130 (ST. ANDREW-2 CAR GAR.)
REVISED AS OF: 8/21/2015

DRAWN BY: NICOLE ELLIOTT
APPROVED BY:

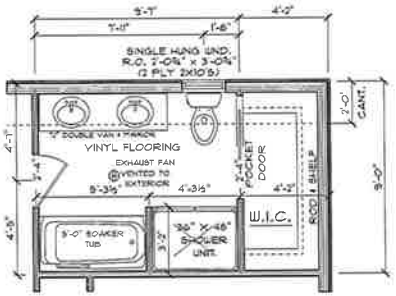
SHEET A6 OF 10



FRONT WALL FRAMING IS FOR ELEVATION A ONLY
SEE BELOW FOR ELEVATION B,C & D FRAMING

1 SECOND FLOOR PLAN (ELEV. A)
A7 SCALE: 1/4" = 1'-0"
SQ. FT. - 936

NOTE... ALL DIMENSIONING IS TO THE EXTERIOR OF THE SHEATHING



2 MASTER SUITE OPTION
A7 SCALE: 1/4" = 1'-0"

Building Official Review and Authorization Required Prior To Changes, Modifications, or Alterations

GENERAL CONSTRUCTION NOTES

SOLID SHADED AREAS REP. SOLID BEARING DOWN TO CONC.

O.S.B. SUBFLOORING AT ALL FLOORING AREAS OTHER THAN CARPET

INTERIOR BEARING WALLS HAVE BLOCKING @ MIDPOINT

USING SIMPLIFIED WALL BRACING ON ALL HOUSE WALLS (UNLESS NOTED OTHERWISE)

ROOF TRUSSES TO RUN FRONT TO BACK ON ELEVATIONS A & B AND SIDE TO SIDE ON ELEVATIONS C & D

NOTE... ALL WINDOWS & PATIO DOORS SPECIFIED ON THIS PRINT ARE: SIMONTON (WINDOWS TO MEET FALL PROTECTION REQUIREMENTS)

ALL BEAMS & HEADERS ON THIS PLAN ARE WEYERHAEUSER TRUS JOIST ENGINEERED WOOD PRODUCTS (UNLESS NOTED OTHERWISE) IF DIFFERENT BRAND IS USED, VERIFY SIZE & DEPTH PRIOR TO CONST.

BEAM/HEADER SUPPLIER TO VERIFY THAT ALL BEAMS AND HEADERS WILL SUPPORT ROOF AND FLOOR TRUSS LOADS PRIOR TO CONSTRUCTION

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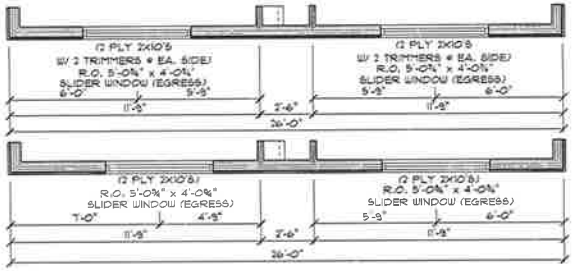
Douglas K. Whitney, P.E.
Date: May. 29, 2015 Reg. No. 15910



FRONT WALL FRAMING FOR ELEV. B ONLY

FRONT WALL FRAMING FOR ELEV. C & D ONLY

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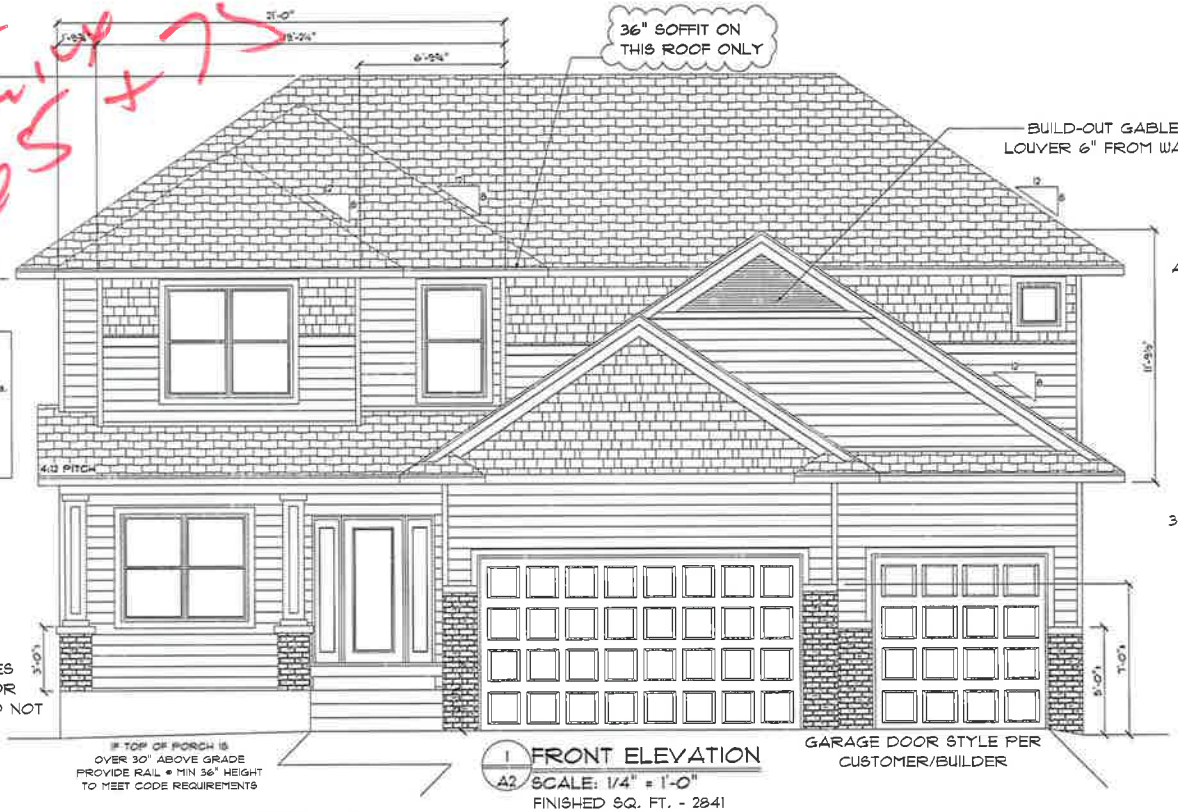
PROJECT #: 13-130 (ST. ANDREW'S CAR GAR.)
REVISED AS OF: 8/21/2015
DRAWN BY: NICOLE ELLIOTT
APPROVED BY:
SHEET A7 OF 10

ST. STEVEN (PREMIUM)

Simple Rambler 65 + 75



2'-0" OVERHANG @ EAVES
1'-0" OVERHANG @ GABLE ENDS

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Douglas K. Whitney, P.E.
Date: March 2, 2016 Reg. No. 15910

NOTE:
-THIS PLAN IS FOR CLIMATE ZONE #6 HOME TO BE BUILT TO THE NEW 2012 IRC AS MODIFIED BY THE STATE OF MINNESOTA IN THE 2015 MINNESOTA RESIDENTIAL CODE. IT IS THE RESPONSIBILITY OF ALL SUBCONTRACTORS & SUPPLIERS TO MEET MINIMUM CODE REQUIREMENTS

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FLASHING IS REQUIRED WHERE ALL ROOF & VERTICAL SURFACES MEET, OR WHERE SIDING MATERIAL CHANGES

ARCHITECTURAL ASPH SHINGLES
ALUMINUM SOFFIT & FASCIA

SHAKES
(PER ELEVATION)

5½" FRIEZE BOARD AND HORIZONTAL TRIM BOARDS
(FRONT ELEVATION ONLY)

3½" WINDOW & GARAGE DOOR TRIM
(ALL ELEVATIONS)

HARD BOARD SIDING
(FRONT OF HOUSE ONLY)

STONE PER ELEVATION
(VERIFY BRAND & COLOR)

DUE TO VARIOUS SITE CONDITIONS OF INDIVIDUAL LOTS, THE GRADE LINES REPRESENTED BY THIS PRINT ARE FOR ILLUSTRATIVE PURPOSES ONLY. THEY DO NOT REFLECT ACTUAL FINISHED GRADE

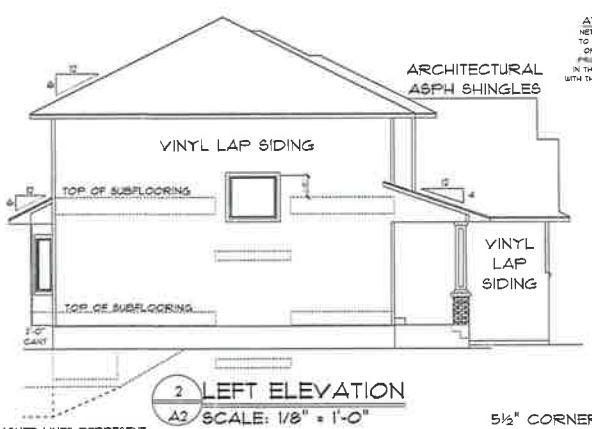
IF TOP OF PORCH IS OVER 30" ABOVE GRADE PROVIDE RAIL @ MIN 36" HEIGHT TO MEET CODE REQUIREMENTS

GARAGE DOOR STYLE PER CUSTOMER/BUILDER

1 FRONT ELEVATION
A2 SCALE: 1/4" = 1'-0"

FINISHED SQ. FT. - 2841
FUTURE FINISHABLE SQ. FT. - 1256
(NOTE: SQ. FT. IS MEASURED FROM EXT. OF SHEATHING)
01:51 PM
Wednesday, March 02, 2016

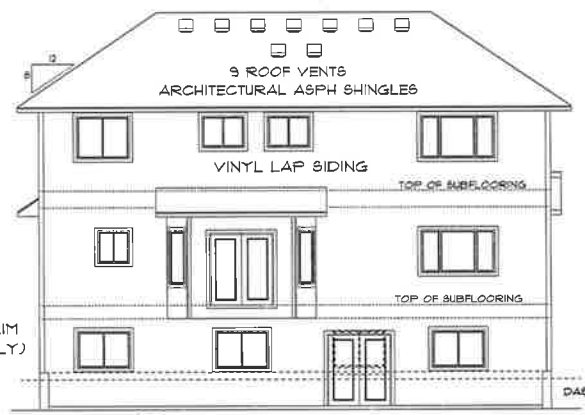
ATTIC VENTILATION:
NET FREE AREA TO BE EQUAL TO 1/300TH OF THE ATTIC AREA OR 1/300TH OF ATTIC AREA PROVIDED WITH AT LEAST 50% IN THE UPPER PORTION OF ROOF WITH THE BALANCE IN VENTED SOFFIT



DASHED LINES REPRESENT LOOK-OUT OPTION

2 LEFT ELEVATION
A2 SCALE: 1/8" = 1'-0"

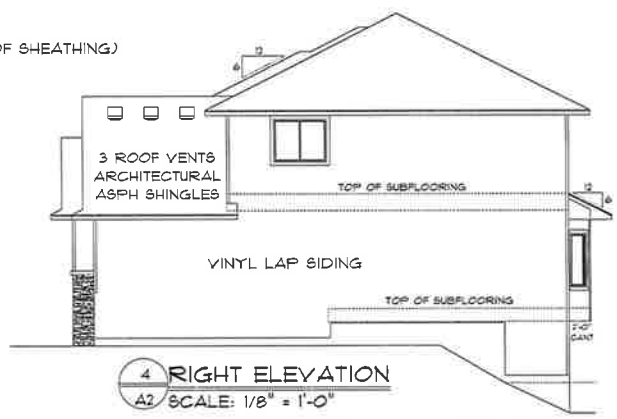
STEP FOUNDATION WALL & FOOTING PER GRADE CONDITIONS



5½" CORNER TRIM (REAR ELEV. ONLY)

DASHED LINES REPRESENT LOOK-OUT OPTION

3 REAR ELEVATION
A2 SCALE: 1/8" = 1'-0"



4 RIGHT ELEVATION
A2 SCALE: 1/8" = 1'-0"

STEP FOUNDATION WALL & FOOTING PER GRADE CONDITIONS

DASHED LINES REPRESENT LOOK-OUT OPTION

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WAIVER
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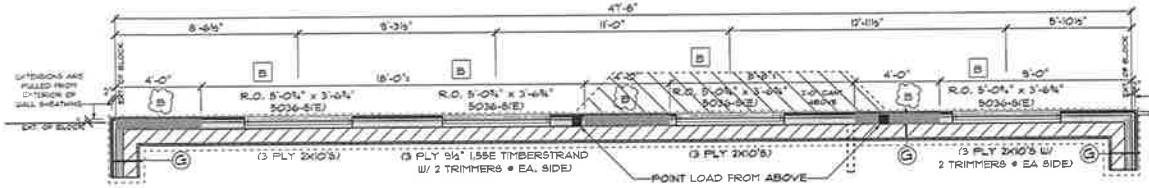
PROJECT #: 14-213
ST. STEVEN (PREMIUM)
REVISED AS OF: 3/2/2016

DRAWN BY: NICOLE ELLIOTT
APPROVED BY:

SHEET A2 OF 7



LOOKOUT OPTION

SCALE: 1/4" = 1'-0"

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Douglas K. Whitney, P.E.
Date: March 2, 2016 Reg. No. 15910

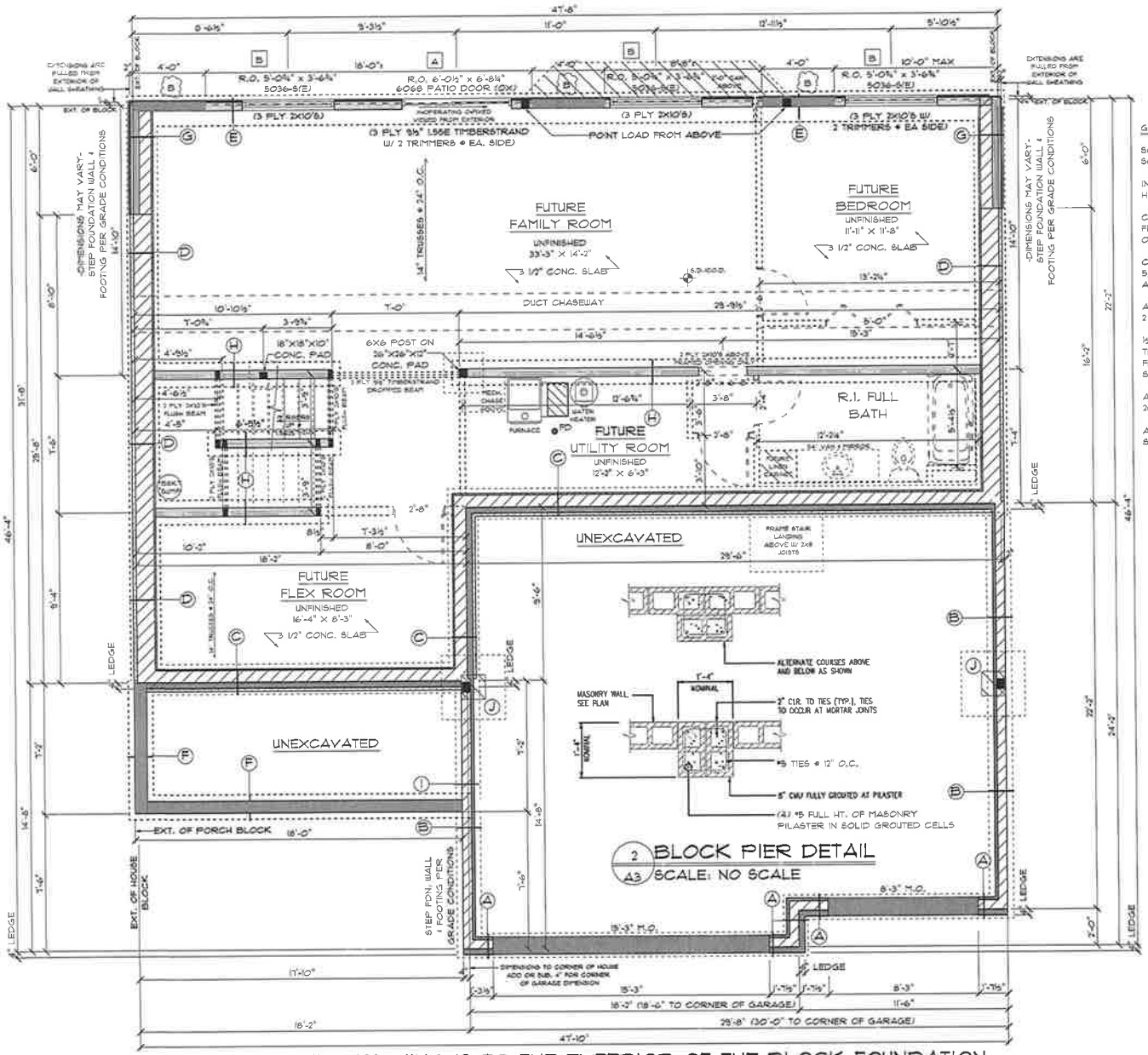
NOTE... ALL WINDOWS & PATIO DOORS SPECIFIED ON THIS PRINT ARE:
SIMONTON
(SLIDER = .54 U-VALUES = .30 / PICTURE
U-VALUE = .29 / PATIO DR. U-VALUE = .28)

A SHGC = .30 B SHGC = .29 C SHGC = .26

(VERIFY ALL WINDOW R.O.'S PRIOR TO CONSTRUCTION)
(WINDOWS TO MEET FALL PROTECTION REQUIREMENTS)

ALL BEAMS & HEADERS ON THIS PLAN ARE
WEYERHAUSER TRUS JOIST
ENGINEERED WOOD PRODUCTS
IF DIFFERENT BRAND IS USED,
VERIFY SIZE & DEPTH PRIOR TO CONST.

BEAM/HEADER SUPPLIER TO VERIFY THAT ALL BEAMS AND HEADERS WILL SUPPORT ROOF AND FLOOR TRUSS LOADS
PRIOR TO CONSTRUCTION



2 / A3 BLOCK PIER DETAIL

SCALE: NO SCALE

1 / A3 FOUNDATION PLAN

SCALE: 1/4" = 1'-0"

FUTURE FINISHABLE SQ. FT. - 1256
(NOTE: SQ. FT. IS TO EXT. OF SHEATHING)

NOTE... ALL DIMENSIONING IS TO THE EXTERIOR OF THE BLOCK FOUNDATION (UNLESS NOTED OTHERWISE)

GENERAL CONSTRUCTION NOTES

SOLID SHADED AREAS REP. SOLID BEARING DOWN TO CONC.

INTERIOR BEARING WALLS HAVE BLOCKING @ MIDPOINT

CONCRETE CONTRACTOR TO CORE FILL W/ (1) #4 REBAR @ 4' O.C. ON ALL WALLS 12 CRSE BLK. OR MORE

CONCRETE CONTRACTOR TO POUR 5,000 PSI FOOTINGS OR EQUIVALENT AND ALL OTHER CONC. TO CODE

ALL WINDOW AND DOOR HEADERS TO BE 2 PLY 2X10'S UNLESS NOTED OTHERWISE

½" SHEETROCK ON UNDERSIDE OF FLOOR TRUSSES TO MEET FIRE PROTECTION OF FLOORS CODE (INCLUDING ACCESSIBLE SPACE UNDER STAIRS)

ALL POST FOOTING SIZES ASSUME 2000 PSF SOIL BEARING CAPACITY (MIN.)

ADD ADDITIONAL STAIR STRINGER SUPPORT AS NEEDED, VERIFY ON SITE

BRACED WALL LINE NOTES:

ALL BRACED WALL PANELS TO BEGIN WITHIN 10'-0" FROM EACH END OF A BRACED WALL LINE

DISTANCE BETWEEN ADJACENT EDGES OF A BRACED WALL PANEL SHALL BE NO GREATER THAN 20'-0"

BRACED WALL LINES CALCULATIONS ASSUME SEISMIC DESIGN CATEGORY A, 90 MPH BASIC WIND SPEED, & EXPOSURE CATEGORY B

BRACED WALL PANEL KEY:

B 4'-0" (MIN.) BRACED WALL PANEL 7/16" O.S.B. SHEATHING NAILED @ 6" O.C. @ EDGES AND 12" O.C. IN FIELD

(A) 1 CRSE 6" CONC. BLK
4 CRSE 12" CONC. BLK
ON 16"X8" CONC. FTG
NOTE: TOP OF BLK. IS DROPPED 2 CRSE FROM TOP OF HOUSE BLK.

(B) 1 CRSE 8" CONC. BLK
4 CRSE 8" CONC. BLK
ON 16"X8" CONC. FTG
NOTE: TOP OF BLK. IS DROPPED 2 CRSE FROM TOP OF HOUSE BLK.

(C) 3 CRSE 8" CONC. BLK
9 CRSE 12" CONC. BLK
ON 20" X 8" CONC. FTG

(D) 12 CRSE 12" CONC. BLK
ON 20" X 8" CONC. FTG

(E) 2X6 STUDS @ 16" O.C.
1 CRSE 6" CURB. BLK.
5 CRSE 12" CONC. BLK
ON 20"X8" CONC. FTG

(F) 4 CRSE 8" CONC. BLK
ON 16" X 8" CONC. FTG
NOTE: TOP OF BLK. IS DROPPED 3 CRSE FROM TOP OF HOUSE BLK.

(G) 2X6 STUDS @ 16" O.C.
5 CRSE 12" CONC. BLK
ON 20" X 8" CONC. FTG

(H) 2X6 STUDS @ 16" O.C.
1 CRSE 6" CURB BLK
ON 16"X8" CONC. FTG

(I) 3 CRSE 6" CONC. BLK
4 CRSE 8" CONC. BLK
ON 16"X8" CONC. FTG

(J) 11 CRSE 16"x16" BLOCK PIER ON 42"X42"X12" CONC. FTG.
(NO REBAR IN FTG.)
*SEE DETAIL 2 ON PG. A3 FOR PIER CONSTRUCTION DETAILS

NOTE: 2X8 SILL PLATE TO HANG PAST FDN. EDGE BY 1½" SO THAT EXT. OF SHEATHING IS FLUSH WITH EXT. OF RIGID INSULATION

NOTE:
-THIS PLAN IS FOR CLIMATE ZONE #6
HOME TO BE BUILT TO THE NEW 2012 IRC AS MODIFIED BY THE STATE OF MINNESOTA IN THE 2015 MINNESOTA RESIDENTIAL CODE. IT IS THE RESPONSIBILITY OF ALL SUBCONTRACTORS & SUPPLIERS TO MEET MINIMUM CODE REQUIREMENTS

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(CONTACT 763-753-6716)

WAIVER

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www.DistinctiveDrafting.com

PROJECT #: 14-213
ST. STEVEN
REVISED AS OF: 3/2/2016

DRAWN BY: NICOLE ELLIOTT
APPROVED BY:

SHEET A3 OF 7

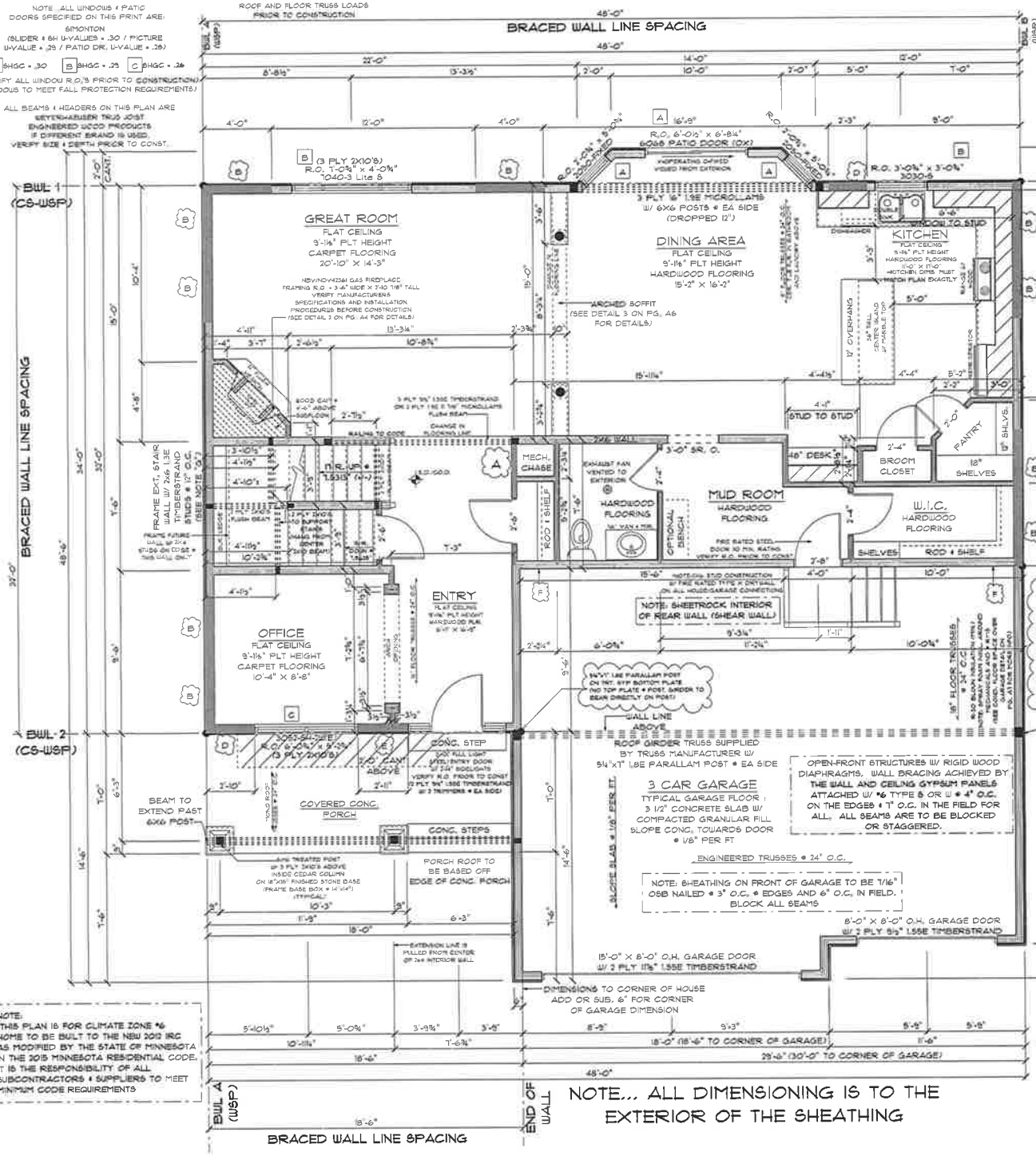
NOTE: ALL WINDOWS & PATIO DOORS SPECIFIED ON THIS PRINT ARE: SIMONTON (SLIDER & SH U-VALUES = .30 / PICTURE U-VALUE = .29 / PATIO DR. U-VALUE = .28)

A SHGC = .30 B SHGC = .29 C SHGC = .26

(VERIFY ALL WINDOW R.O.'S PRIOR TO CONSTRUCTION) (WINDOWS TO MEET FALL PROTECTION REQUIREMENTS)

ALL BEAMS & HEADERS ON THIS PLAN ARE WEYERHAEUSER TRUS JOIST ENGINEERED WOOD PRODUCTS IF DIFFERENT BRAND IS USED, VERIFY SIZE & DEPTH PRIOR TO CONST.

BEAM/HEADER SUPPLIER TO VERIFY THAT ALL BEAMS AND HEADERS WILL SUPPORT ROOF AND FLOOR TRUSS LOADS PRIOR TO CONSTRUCTION

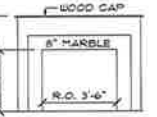


NOTE... ALL DIMENSIONING IS TO THE EXTERIOR OF THE SHEATHING

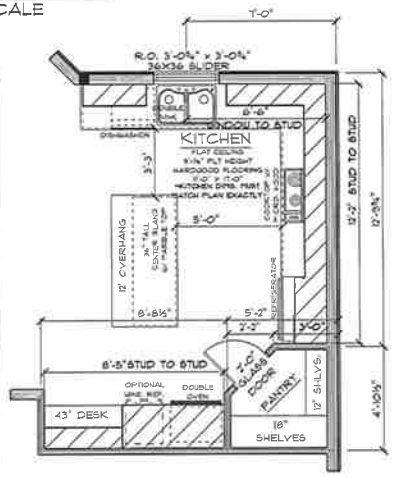
NOTE:
-THIS PLAN IS FOR CLIMATE ZONE #6 HOME TO BE BUILT TO THE NEW 2012 IRC AS MODIFIED BY THE STATE OF MINNESOTA IN THE 2015 MINNESOTA RESIDENTIAL CODE. IT IS THE RESPONSIBILITY OF ALL SUBCONTRACTORS & SUPPLIERS TO MEET MINIMUM CODE REQUIREMENTS

1 MAIN FLOOR PLAN
A4 SCALE: 1/4" = 1'-0"

FINISHED SQ. FT. - 1280
(NOTE: SQ. FT. IS MEASURED FROM EXT. OF SHEATHING)



2 FIREPLACE DETAIL
A4 SCALE: NO SCALE



OPTIONAL KITCHEN LAYOUT

END OF WALL

GENERAL CONSTRUCTION NOTES:

SOLID SHADED AREAS REP. SOLID BEARING DOWN TO CONC.

INTERIOR BEARING WALLS HAVE BLOCKING @ MIDPOINT

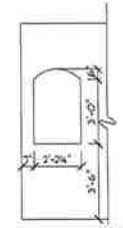
TOP OF WINDOW R.O. TO BE SET AT 6'-1⅛" ABOVE SUBFLOOR, UNLESS NOTED OTHERWISE

ALL WINDOW AND DOOR HEADERS TO BE 2 PLY 2X10'S UNLESS NOTED OTHERWISE

ADD ADDITIONAL STAIR STRINGER SUPPORT AS NEEDED, VERIFY ON SITE

A ARCHED TOP NOOK SET BOTTOM @ 42" ABOVE SUBFLOORING SEE DETAIL 3 ON PG. A4

G Fasten studs to plates w/ (2) 16d nails at ea. end (TALL WALL IS DESIGNED FOR EXPOSURE CATEGORY B ONLY)



DIMENSIONS ARE TO FRAMING

3 NOOK DETAIL
A4 SCALE: NO SCALE

BRACED WALL LINE NOTES:

ALL BRACED WALL PANELS TO BEGIN WITHIN 10'-0" FROM EACH END OF A BRACED WALL LINE

DISTANCE BETWEEN ADJACENT EDGES OF A BRACED WALL PANEL SHALL BE NO GREATER THAN 20'-0"

BRACED WALL LINES CALCULATIONS
ASSUME SEISMIC DESIGN CATEGORY A, 90 MPH BASIC WIND SPEED, & EXPOSURE CATEGORY B

BRACED WALL PANEL KEY:

B 4'-0" (MIN.) BRACED WALL PANEL 7/16" O.S.B. SHEATHING NAILED @ 6" O.C. @ EDGES AND 12" O.C. IN FIELD

D 2'-3" (MIN.) BRACED WALL PANEL 7/16" O.S.B. SHEATHING NAILED @ 3" O.C. @ EDGES AND 6" O.C. IN FIELD

E 2'-6" (MIN.) BRACED WALL PANEL 7/16" O.S.B. SHEATHING NAILED @ 3" O.C. @ EDGES AND 6" O.C. IN FIELD

F SHEAR WALL TIE DOWNS: (2) SIMPSON DTT2Z @ THIS LOCATION (SEE INSTALLATION INFO ON PG. A7)

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I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota

Douglas K. Whitney, P.E.
Date: March 3, 2016 Reg. No. 15810

WAIVER

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PROJECT # 14-213
ST. STEVEN
REVISED AS OF: 3/2/2016

DRAWN BY: NICOLE ELLIOTT
APPROVED BY:

SHEET A4 OF 7

NOTE...ALL WINDOWS & PATIO DOORS SPECIFIED ON THIS PRINT ARE:
SIMONTON
(SLIDER & SH U-VALUES = .30 / PICTURE U-VALUE = .29 / PATIO DR. U-VALUE = .28)

A SHGC = .30 B SHGC = .29 C SHGC = .26

(VERIFY ALL WINDOW R.O.'S PRIOR TO CONSTRUCTION)
(WINDOWS TO MEET FALL PROTECTION REQUIREMENTS)

ALL BEAMS & HEADERS ON THIS PLAN ARE WEYERHAUSER TRUS JOIST ENGINEERED WOOD PRODUCTS IF DIFFERENT BRAND IS USED, VERIFY SIZE & DEPTH PRIOR TO CONST.

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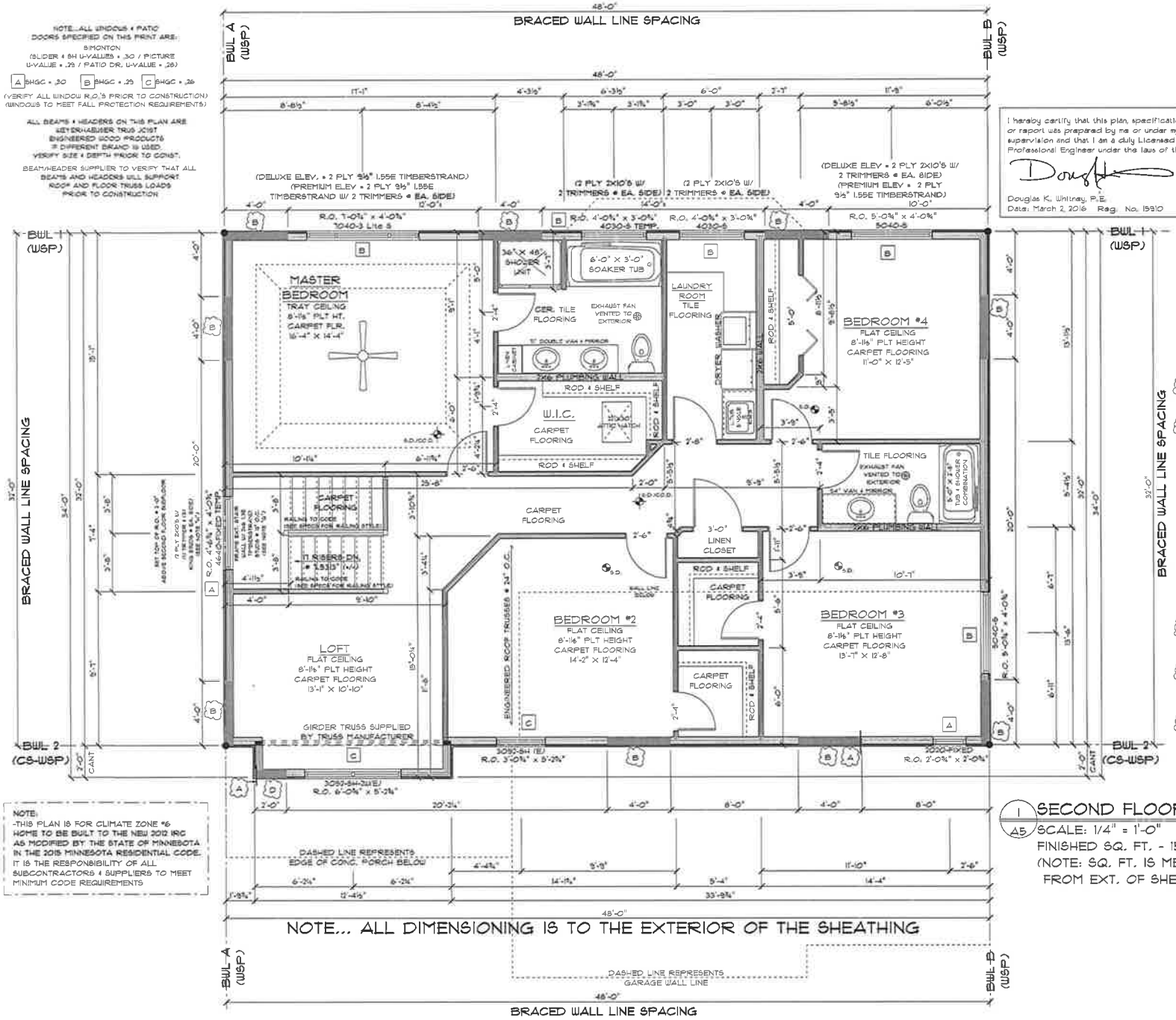

NOTE...ALL DIMENSIONING IS TO THE EXTERIOR OF THE SHEATHING

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Douglas K. Whitney, P.E.
Date: March 2, 2016 Reg. No. 15910

GENERAL CONSTRUCTION NOTES:

SOLID SHADED AREAS REP. SOLID BEARING DOWN TO CONC.

INTERIOR BEARING WALLS HAVE BLOCKING @ MIDPOINT

ALL WINDOW AND DOOR HEADERS TO BE 2 PLY 2X10'S UNLESS NOTED OTHERWISE

ADD ADDITIONAL STAIR STRINGER SUPPORT AS NEEDED, VERIFY ON SITE

G Fasten studs to plates w/ (2) 16d nails at ea. end (TALL WALL IS DESIGNED FOR EXPOSURE CATEGORY B ONLY)

H Fasten 3-ply 2x6 king studs w/ (2) 16d nails per ply at each end & Fasten 2x10 header to king studs w/ (4) 16 nails per ply at each end

BRACED WALL LINE NOTES:

ALL BRACED WALL PANELS TO BEGIN WITHIN 10'-0" FROM EACH END OF A BRACED WALL LINE

DISTANCE BETWEEN ADJACENT EDGES OF A BRACED WALL PANEL SHALL BE NO GREATER THAN 20'-0"

BRACED WALL LINES CALCULATIONS ASSUME SEISMIC DESIGN CATEGORY A, 90 MPH BASIC WIND SPEED, & EXPOSURE CATEGORY B

A PROVIDE 800# HOLD-DOWN @ THIS LOCATION

BRACED WALL PANEL KEY:

B 4'-0" (MIN.) BRACED WALL PANEL (WSP) 7/16" O.S.B. SHEATHING NAILED @ 6" O.C. @ EDGES AND 12" O.C. IN FIELD

D 2'-0" (MIN.) BRACED WALL PANEL (CS-WSP) 7/16" O.S.B. SHEATHING NAILED @ 6" O.C. @ EDGES AND 12" O.C. IN FIELD

NOTE:
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HOME TO BE BUILT TO THE NEW 2012 IRC AS MODIFIED BY THE STATE OF MINNESOTA IN THE 2015 MINNESOTA RESIDENTIAL CODE.
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1 SECOND FLOOR PLAN
A5 SCALE: 1/4" = 1'-0"
FINISHED SQ. FT. - 1561
(NOTE: SQ. FT. IS MEASURED FROM EXT. OF SHEATHING)

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WWW.Distinctive-Drafting.com

PROJECT # 14-213
ST. STEVEN
REVISED AS OF: 3/2/2016

DRAWN BY: NICOLE ELLIOTT
APPROVED BY:

SHEET A5 OF 7

ST. BENEDICT
(DELUXE ELEVATION)

NOTE:

☐ THIS PLAN IS FOR CLIMATE ZONE #6

☐ THIS PLAN IS FOR CLIMATE ZONE #7

FLASHING NOTE:
ALL OPENINGS TO EXTERIOR MUST BE CAULKED & FLASHED
FLASHING IS REQUIRED WHERE ALL ROOF & VERTICAL SURFACES MEET, OR WHERE SIDING MATERIAL CHANGES

2'-0" OVERHANGS @ EAVES
1'-0" OVERHANGS @ GABLE ENDS
(UNLESS NOTED OTHERWISE)

ARCHITECTURAL ASPH SHINGLES
ALUMINUM SOFFIT & FASCIA

BKT 17x17 FYPON BRACKETS (6 TOTAL)

VINYL BOARD & BATTEN / SHAKES (PER ELEVATION)

VINYL LAP SIDING
(ALL SIDES UNLESS NOTED OTHERWISE)

4" CORNER TRIM
(ALL ELEVATIONS)

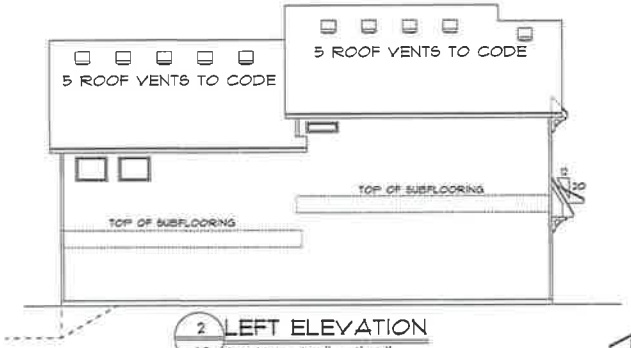
4" WINDOW & DOOR TRIM
(FRONT ELEVATION ONLY)

STONE PER SELECTION

GRADE LINES ON PLAN DO NOT REFLECT ACTUAL GRADE

1 A2 FRONT ELEVATION
SCALE: 1/4" = 1'-0"
2467 TOTAL FINISHABLE SQ. FT.
FINISHED SQ. FT. - 1769
FUTURE FINISHABLE SQ. FT. - 698
(NOTE: SQ. FT. IS MEASURED FROM EXT. OF SHEATHING)

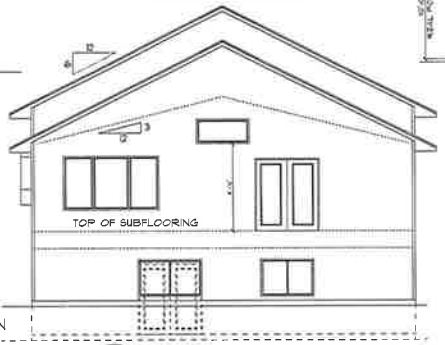
SINGLE FAMILY LOTS & 50' LOTS, TAKES 51' LOT TO GET 7.5 & 7.5 IN SINGLE FAMILY.



2 A2 LEFT ELEVATION
SCALE: 1/8" = 1'-0"

ATTIC VENTILATION:
NET FREE AREA TO BE EQUAL TO 1/150TH OF THE ATTIC AREA OR 1/300TH OF ATTIC AREA PROVIDED WITH AT LEAST 50% IN THE UPPER PORTION OF ROOF WITH THE BALANCE IN VENTED SOFFIT

4 A2 RIGHT ELEVATION
SCALE: 1/8" = 1'-0"



DASHED LINES REPRESENT WALK-OUT FOUNDATION OPTION

3 A2 REAR ELEVATION
SCALE: 1/8" = 1'-0"

NO. FT. & FLOOR AREAS ARE FOR CONSTRUCTION PURPOSES ONLY. NO. FT. & AREAS ARE NOT TO BE USED FOR MARKETING PURPOSES

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R Home
"make r home your home"
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Suite 210
Coon Rapids, MN 55448
612-524-5760

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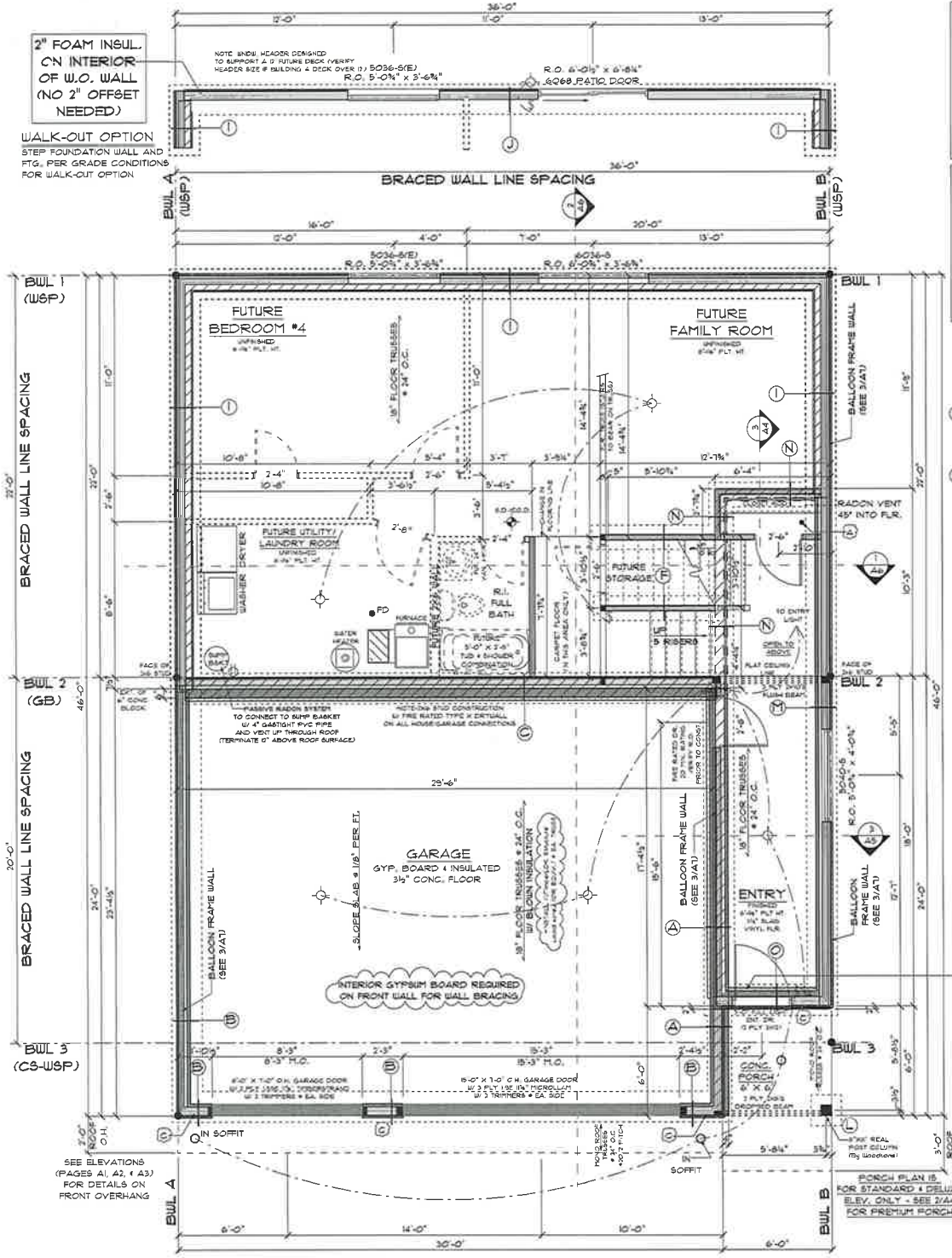
PROJECT: 17-105 (Deluxe) ST. BENEDICT GL
REVISED AS OF: 2/5/2018

DRAWN BY: NICOLE ELLIOTT
APPROVED BY:

SHEET A2 OF 7



NOTE: ALL EXTERIOR DIMENSIONS ARE TO THE OUTSIDE OF EXT. FOAM INSUL. OR SHEATHING (UNLESS NOTED OTHERWISE)

ZONE #6 FOUNDATION NOTES:

(A) 2X6 STUDS @ 16" O.C.
1 CRSE 6" CONC. BLK
(SOLID ON HOUSE/GAR. WALL)
4 CRSE 12" CONC. BLK
(2" INT. LEDGE / 4" EXT. LEDGE)
ON 20"X8" CONC. FTG

(B) 2X4 STUDS @ 16" O.C.
1 CRSE 6" CONC. BLK
4 CRSE 8" CONC. BLK
ON 16"X8" CONC. FTG

(C) 2X6 STUDS @ 16" O.C.
1 CRSE 6" CONC. BLK
4 CRSE 12" CONC. BLK
ON 20" X 8" CONC. FTG

(F) 2X4 STUDS @ 16" O.C.
1 CRSE 4" CURB BLK
ON 16"X8" CONC. FTG

(I) 2X6 STUDS @ 16" O.C.
5 CRSE 8" CONC. BLK
ON 16" X 8" CONC. FTG

(J) 2X6 STUDS @ 16" O.C.
1 CRSE 6" CURB. BLK
5 CRSE 12" CONC. BLK
ON 20"X8" CONC. FTG

(L) STRUCTURAL POST
ON 4 CRSE 12"X12" BLK. PIER
(CORE FILLED)
ON 24" X 24" X 8" CONC. FTG.
MIN. 42" BELOW GRADE

(M) 2X6 STUDS @ 16" O.C.
1 CRSE 6" CONC. BLK (SOLID)
4 CRSE 8" CONC. BLK
ON 16"X8" CONC. FTG

(N) 1 CRSE 6" CONC. BLK (SOLID)
4 CRSE 8" CONC. BLK
ON 16"X8" CONC. FTG

(O) 2X6 STUDS @ 16" O.C.
1 CRSE 6" CONC. BLK
4 CRSE 12" CONC. BLK
(4" INT. LEDGE / 2" EXT. LEDGE)
ON 20"X8" CONC. FTG

ZONE #7 FDN. NOTES:

(A) 2X6 STUDS @ 16" O.C.
1 CRSE 6" CONC. BLK
(SOLID ON HOUSE/GAR. WALL)
6 CRSE 12" CONC. BLK
(2" INT. LEDGE / 4" EXT. LEDGE)
ON 20"X8" CONC. FTG

(B) 2X4 STUDS @ 16" O.C.
1 CRSE 6" CONC. BLK
6 CRSE 8" CONC. BLK
ON 16"X8" CONC. FTG

(C) 2X6 STUDS @ 16" O.C.
1 CRSE 6" CONC. BLK
6 CRSE 12" CONC. BLK
ON 20" X 8" CONC. FTG

(F) 2X4 STUDS @ 16" O.C.
1 CRSE 4" CURB BLK
ON 16"X8" CONC. FTG

(I) 2X6 STUDS @ 16" O.C.
7 CRSE 8" CONC. BLK
*SEE ALT. 5 CRSE FDN. DETAIL ON A7
ON 16" X 8" CONC. FTG

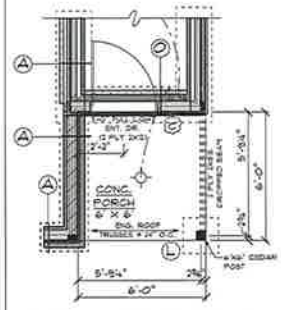
(J) 2X6 STUDS @ 16" O.C.
1 CRSE 6" CURB. BLK
7 CRSE 12" CONC. BLK
*SEE ALT. 5 CRSE FDN. DETAIL ON A7
ON 20"X8" CONC. FTG

(L) STRUCTURAL POST
ON 6 CRSE 12"X12" BLK. PIER
(CORE FILLED)
ON 24" X 24" X 8" CONC. FTG.
MIN. 60" BELOW GRADE

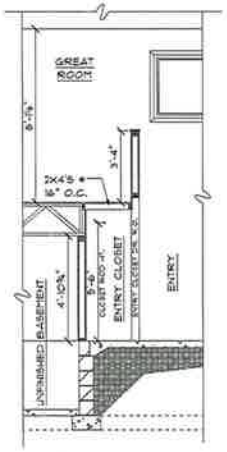
(M) 2X6 STUDS @ 16" O.C.
1 CRSE 6" CONC. BLK (SOLID)
6 CRSE 8" CONC. BLK
ON 16"X8" CONC. FTG

(N) 1 CRSE 6" CONC. BLK (SOLID)
6 CRSE 8" CONC. BLK
ON 16"X8" CONC. FTG

(O) 2X6 STUDS @ 16" O.C.
1 CRSE 6" CONC. BLK
6 CRSE 12" CONC. BLK
(4" INT. LEDGE / 2" EXT. LEDGE)
ON 20"X8" CONC. FTG



2/A4 PREMIUM ELEV.
SCALE: 1/4" = 1'-0"



3/A4 ENTRY CLOSET
SCALE: 1/4" = 1'-0"

NOTE... ALL WINDOWS & PATIO DOORS SPECIFIED ON THIS PRINT ARE SIMONTON
(VERIFY ALL WINDOW R.O.'S PRIOR TO CONSTRUCTION)
(WINDOWS TO MEET FALL PROTECTION REQUIREMENTS)

ALL BEAMS & HEADERS ON THIS PLAN ARE WEYERHAEUSER TRUS JOIST ENGINEERED WOOD PRODUCTS
IF DIFFERENT BRAND IS USED, VERIFY SIZE & DEPTH PRIOR TO CONST.

BEAM/HEADER SUPPLIER TO VERIFY THAT ALL BEAMS AND HEADERS WILL SUPPORT ROOF AND FLOOR TRUSS LOADS PRIOR TO CONSTRUCTION

CONC. FDN. WALLS TO BE HELD IN 2" FROM MAIN LEVEL FRAMING ON EXT. BSMNT. WALLS ONLY & TO BE MEASURED FROM EXT. OF SHEATHING SO EXT. OF SHEATHING IS FLUSH W/ EXT. OF FOAM INSUL. (IN ALL BSMNT. AREAS EXCEPT WALK-OUT & ENTRY DOOR WALL (WALL "J" & "O"))

1/A4 FOUNDATION PLAN
SCALE: 1/4" = 1'-0"
TOTAL FINISHABLE SQ. FT. - 739
FINISHED SQ. FT. - 41
FUTURE FINISHABLE SQ. FT. - 698
SLAB ON GRADE SQ. FT. - 184

NOTE: SILL PLATE TO HANG PAST FOUNDATION EDGE BY 1½" SO THAT EXT. OF SHEATHING IS FLUSH WITH EXT. OF RIGID INSULATION (IN ALL AREAS EXCEPT WALK-OUT & ENTRY DOOR WALL (WALL "J" & "O"))

GENERAL CONSTRUCTION NOTES:

SOLID SHADED AREAS REP. SOLID BEARING DOWN TO CONC.

INTERIOR BEARING WALLS HAVE BLOCKING @ MIDPOINT

CONCRETE CONTRACTOR TO POUR 5,000 PSI FOOTINGS OR EQUIVALENT AND ALL OTHER CONC. TO CODE

ALL LOWER LEVEL UNDW. & DR. HEADERS TO BE 3 PLY 2X10'S UNLESS NOTED OTHERWISE

½" LIGHTWEIGHT SHEETROCK ON UNDERSIDE OF FLR. TRUSSES TO MEET FIRE PROTECTION OF FLOORS CODE IN ALL AREAS OTHER THAN MECH. ROOM (INCLUDING ACCESSIBLE SPACE UNDER STAIRS)
*FIRE BLOCKING TO CODE ON CLG.

ADD ADDITIONAL STAIR STRINGER SUPPORT AS NEEDED, VERIFY ON SITE

ALL POST FOOTING SIZES ASSUME 2000 PSF SOIL BEARING CAPACITY (MIN.)

(A) PROVIDE PASSIVE RADON SYSTEM:
VENT UP 3" GASTIGHT PVC PIPE THRU ROOF (TERMINATE 12" ABOVE ROOF SURFACE)
4" GASTIGHT PVC PIPE INSTALLED INTO ROCK/SAND W/ A "T" FITTING. A 10' SECTION OF PERFORATED DRAIN TILE MUST CONNECT TO EACH SIDE OF "T" FITTING
(VERIFY EXACT LOCATION OF PIPE PRIOR TO CONST.)
*ROUGH WIRE IN SOFFIT FOR FUTURE ROOF TOP FAN

ELECTRICAL NOTES:

All outlets per MN Electrical Code

All fixtures, openings, GFCI, CO & Smoke Detectors per MN Electrical code

All fixture locations are for reference only

O = LED SPOT LIGHT

BRACED WALL LINE NOTES:

ALL BRACED WALL PANELS TO BEGIN WITHIN 10'-0" FROM EACH END OF A BRACED WALL LINE

DISTANCE BETWEEN ADJACENT EDGES OF A BRACED WALL PANEL SHALL BE NO GREATER THAN 20'-0"

BRACED WALL LINES CALCULATIONS ASSUME SEISMIC DESIGN CATEGORY A, 90 MPH BASIC WIND SPEED, & EXPOSURE CATEGORY B

(C) CS-PF WALL PANEL IN THIS AREA ONLY (18" MIN.)
*SEE BRACED WALL DETAIL ON PG. A6 FOR FRAMING DETAILS

WAIVER

EVERY EFFORT HAS BEEN MADE TO MAKE SURE THESE PLANS ARE CORRECT IN EVERY WAY. BUILDER, GENERAL CONTRACTOR(S), & HOMEOWNER SHOULD REVIEW THESE PLANS TO MAKE SURE ALL NOTES, DIMENSIONS, ERRORS AND OMISSIONS ARE CORRECT BEFORE CONSTRUCTION STARTS. BUILDER, GENERAL CONTRACTOR(S), & HOMEOWNER TO VERIFY HOUSE MEETS ALL STATE AND LOCAL BUILDING CODES. Distinctive Drafting and Design, LLC IS NOT RESPONSIBLE FOR ERRORS AND OMISSIONS ON THESE PLANS

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PROJECT # 17-105
ST. BENEDICT GL
REVISED AS OF: 2/5/2018

DRAWN BY: NICOLE ELLIOTT
APPROVED BY:

SHEET A4 OF 7

R Home "make r home your home"
3450 Nanndale Blvd NE
Suite 210
Coon Rapids, MN 55448
612-524-5160

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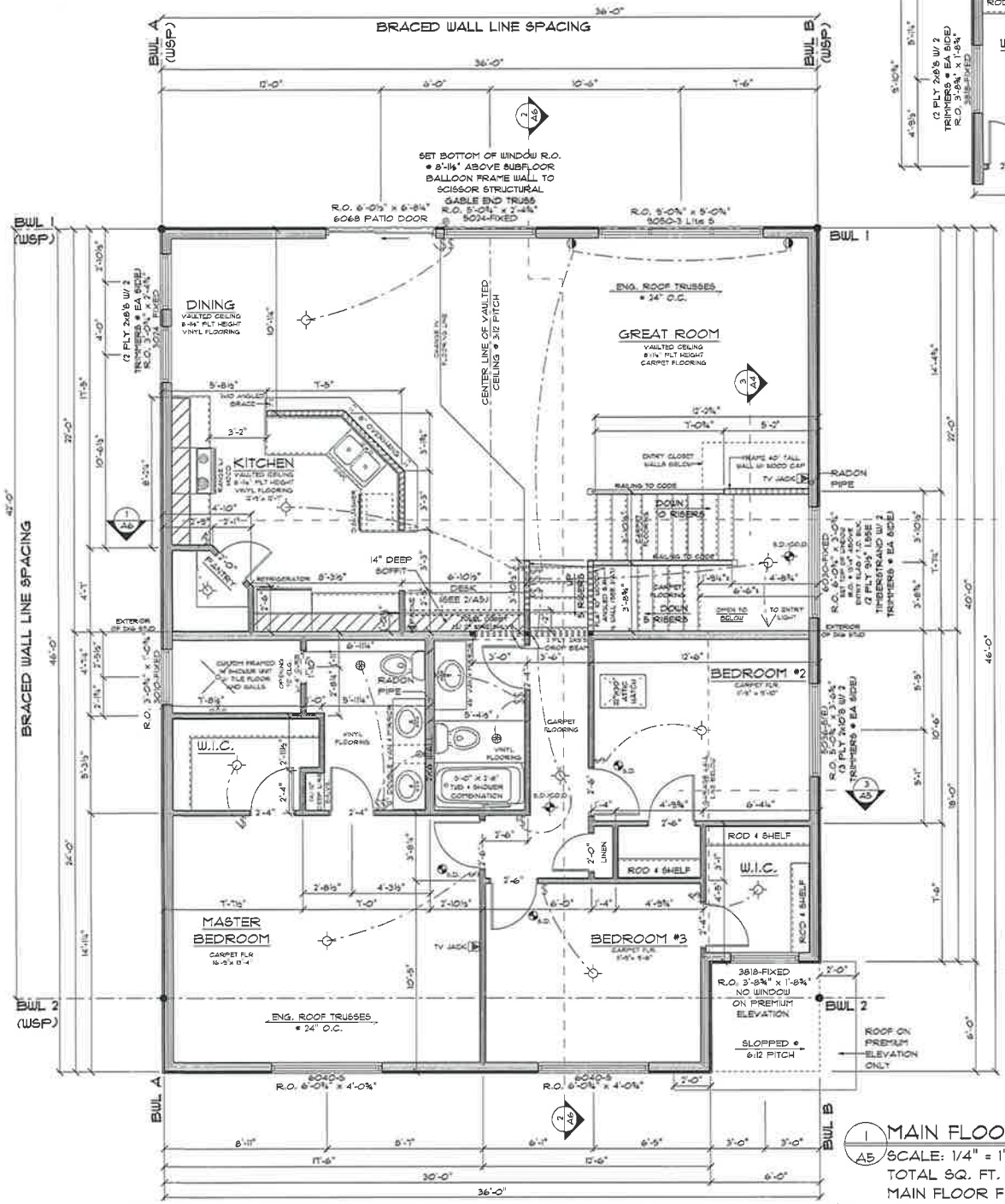
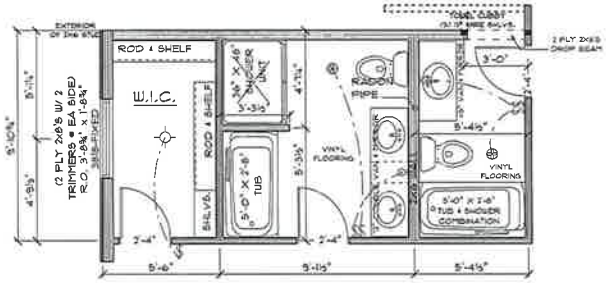


NOTE... ALL DIMENSIONING IS TO THE EXTERIOR OF THE SHEATHING

1 / A5 MAIN FLOOR PLAN
SCALE: 1/4" = 1'-0"
TOTAL SQ. FT. - 1728
MAIN FLOOR FINISHED SQ. FT. - 1620
ENTRY SQ. FT. - 108



BATH OPTION #2

GENERAL CONSTRUCTION NOTES:

SOLID SHADED AREAS REP. SOLID BEARING DOWN TO CONC.

INTERIOR BEARING WALLS HAVE BLOCKING @ MIDPOINT

ALL MAIN FLR. WNDW. + DR. HEADERS TO BE 2 PLY 2X8'S UNLESS NOTED OTHERWISE

ADD ADDITIONAL STAIR STRINGER SUPPORT AS NEEDED, VERIFY ON SITE

⊕ - EXHAUST FAN VENTED TO EXTERIOR

ELECTRICAL NOTES:

All outlets per MN Electrical Code

All fixtures, openings, GFCI, CO + Smoke Detectors per MN Electrical code

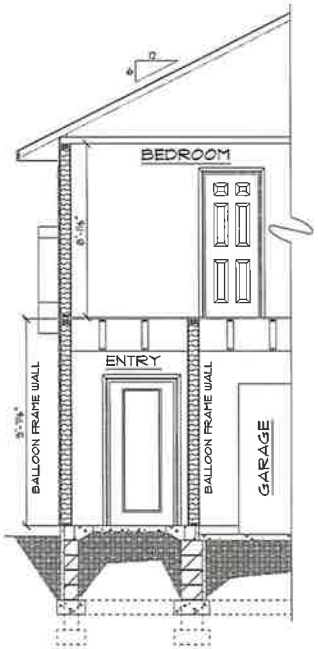
All fixture locations are for reference only

BRACED WALL LINE NOTES:

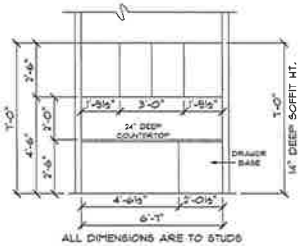
ALL BRACED WALL PANELS TO BEGIN WITHIN 10'-0" FROM EACH END OF A BRACED WALL LINE

DISTANCE BETWEEN ADJACENT EDGES OF A BRACED WALL PANEL SHALL BE NO GREATER THAN 20'-0"

BRACED WALL LINES CALCULATIONS ASSUME SEISMIC DESIGN CATEGORY A, 90 MPH BASIC WIND SPEED, + EXPOSURE CATEGORY B



3 / A5 ENTRY SECTION
SCALE: 1/4" = 1'-0"



2 / A5 DESK DETAIL
SCALE: 1/4" = 1'-0"

NOTE... ALL WINDOWS + PATIO DOORS SPECIFIED ON THIS PRINT ARE SIMONTON (VERIFY ALL WINDOW R.O.'S PRIOR TO CONSTRUCTION) (WINDOWS TO MEET FALL PROTECTION REQUIREMENTS)

ALL BEAMS + HEADERS ON THIS PLAN ARE WEYERHAEUSER TRUS JOIST ENGINEERED WOOD PRODUCTS IF DIFFERENT BRAND IS USED, VERIFY SIZE + DEPTH PRIOR TO CONST.

BEAM/HEADER SUPPLIER TO VERIFY THAT ALL BEAMS AND HEADERS WILL SUPPORT ROOF AND FLOOR TRUSS LOADS PRIOR TO CONSTRUCTION

R Home
"make r home your home"
3455 Nebraska Blvd NE
Suite 210
Coon Rapids MN 55448
612-504-5160

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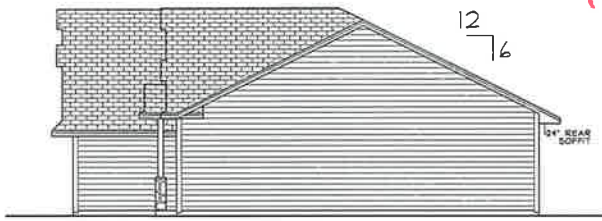
PROJECT # 17-105
ST. BENEDICT GL
REVISED AS OF: 2/15/2018

DRAWN BY: NICOLE ELLIOTT
APPROVED BY:

SHEET A5 OF 7

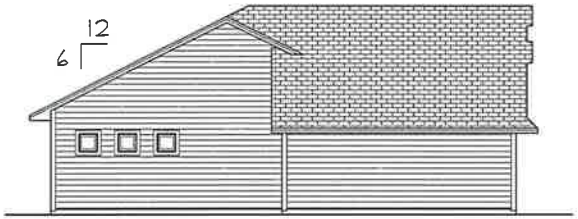
YELLOW LOTS



RIGHT ELEVATION
SCALE: 1/8" = 1'-0"

REAR ELEVATION
SCALE: 1/8" = 1'-0"

NOTE: USING ZONE 6 FOOTING/BLOCK/FROST PROTECTION W/24" R-10 HORIZONTAL FOAM AT FOOTING



LEFT ELEVATION
SCALE: 1/8" = 1'-0"

FRONT ELEVATION
SCALE: 1/4" = 1'-0"

NOTES:

- ARCHITECTURAL ASPHALT SHINGLES
- VINYL SHAKES A SHOWN
- VINYL LAP SIDING W/4" TRIM WHERE SHOWN
- BOARD & BATTEN SIDING

6/12 ROOF PITCH UNLESS NOTED OTHERWISE

1'-0" OVERHANG AT EAVES
1'-0" RAKES AT GABLE ENDS
(UNLESS NOTED OTHERWISE)

ALUMINUM SOFFIT & FACIA

GRADES WILL VARY PER SITE CONDITIONS

ALL OPENINGS TO EXTERIOR MUST BE CAULKED AND FLASHED. FLASHING IS REQUIRED WHERE ALL ROOF AND VERTICAL SURFACES MEET OR WHERE SIDING MATERIAL CHANGES.

ATTIC VENTILATION-NET FREE AREA TO BE EQUAL TO 1/150TH OF THE ATTIC AREA PROVIDED WITH AT LEAST 50% IN THE UPPER PORTION OF THE ROOF WITH THE BALANCE IN VENTED SOFFIT.

HOUSE NUMBERS. THE APPROVED ADDRESS SHALL BE DISPLAYED, PLAINLY VISIBLE AND LEGIBLE FROM THE STREET FRONTING THE PROPERTY. 4" HIGH NUMBERS WILL BE USED, SUBJECT TO CITY REQUIREMENTS.

ICE DAM PROTECTION: 1 LAYER OF 40# COATED ROOFING OR COATED GLASS G BASE SHEET SHALL BE APPLIED FROM THE EAVES TO A LINE 24" INSIDE THE EXTERIOR WALL LINE WITH ALL LAPS CEMENTED TOGETHER.

FLASHING: ALL OPENINGS TO EXTERIOR MUST BE CAULKED AND FLASHED. FLASHING IS REQUIRED WHERE ALL ROOF AND VERTICAL SURFACES MEET, OR WHERE SIDING MATERIAL CHANGES.

PROVIDE PROPER DRAINAGE AWAY FROM BUILDING.

NO OCCUPANCY OR USE ALLOWED UNTIL FINAL INSPECTION AND APPROVAL.

PRIOR TO ISSUANCE OF PERMIT, CODE OFFICIAL/ CITY SHALL VERIFY COMPLIANCE OF PLAN AND DETAILS.

☐ ZONE 6 CLIMATE:

ALL SUBCONTRACTORS ARE RESPONSIBLE FOR BUILDING THIS HOME TO THE 2012 IRC CODE AS MODIFIED IN THE 2015 MN RESIDENTIAL CODE

- 42" FROST PROTECTION FOOTING
- 5 COURSES 8" CONCRETE BLOCK
- R-19 INSULATION IN WALLS
- 40 LB SNOW LOAD ROOF TRUSSES
- R-49 CEILING INSULATION

☐ ZONE 7 CLIMATE:

ALL SUBCONTRACTORS ARE RESPONSIBLE FOR BUILDING THIS HOME TO THE 2012 IRC CODE AS MODIFIED IN THE 2015 MN RESIDENTIAL CODE

- 60" FROST PROTECTION FOOTING
- 7 COURSES 8" CONCRETE BLOCK
- R-21 INSULATION IN WALLS
- 60 LB SNOW LOAD ROOF TRUSSES
- R-49 CEILING INSULATION

R Home
"make it home you home"
3495 NORTHDALE BLVD NW
SUITE 210
COON RAPIDS, MN 55448
(612) 524-5760

DATE:

ADDRESS:

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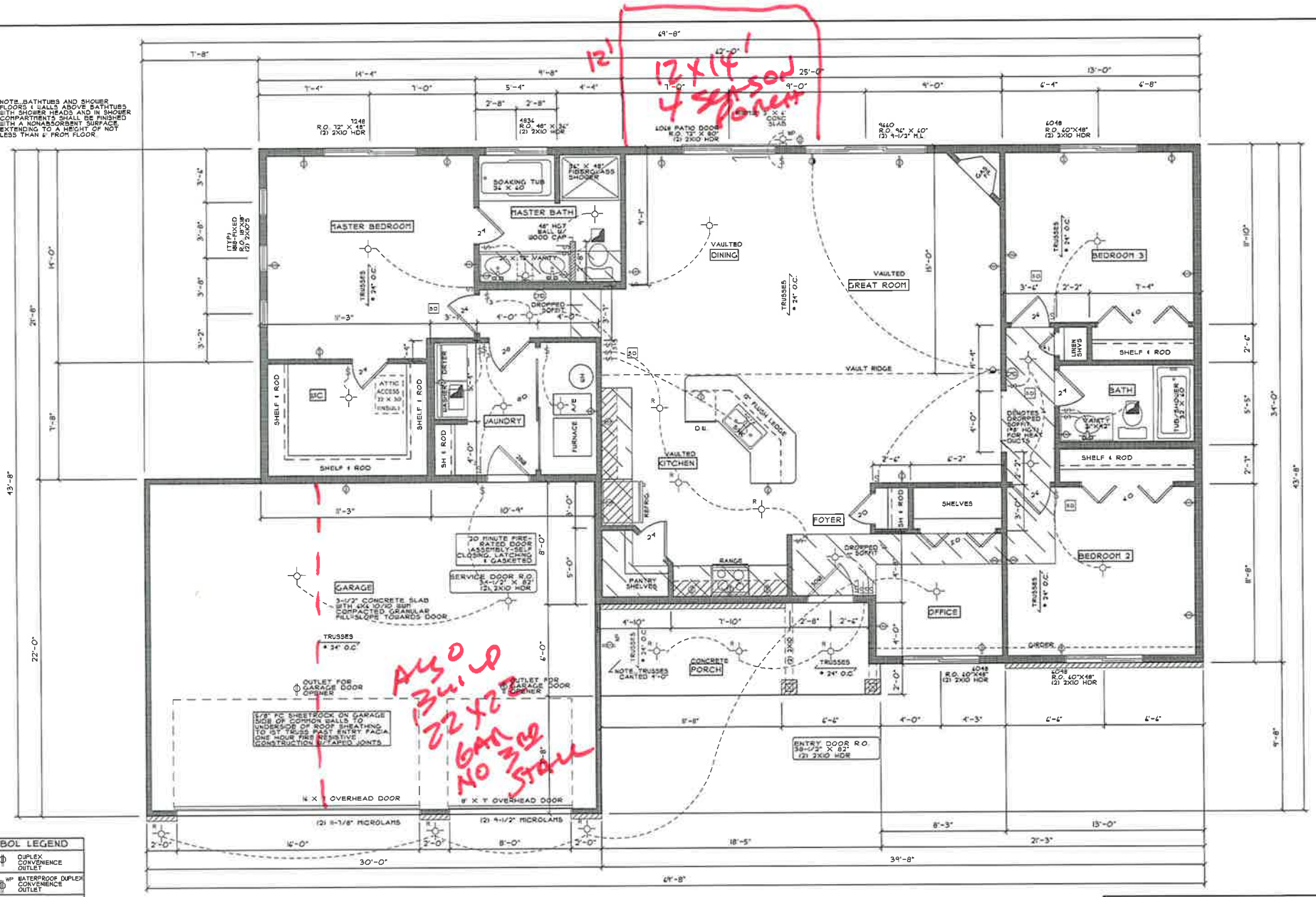
PLAN NAME: ST FRANCIS

SHEET # 1 OF 6

106



MECHANICAL SYMBOL LEGEND

CEILING MOUNTED LIGHT FIXTURE	DUPLEX CONVENIENCE OUTLET
WALL MOUNTED LIGHT FIXTURE	WP WATERPROOF DUPLEX CONVENIENCE OUTLET
R RECESSED LIGHT FIXTURE	FLOOR MOUNT DUPLEX CONVENIENCE OUTLET
PC CEILING LIGHT FIXTURE WITH PULL-CHAIN	HALF HOT DUPLEX CONVENIENCE OUTLET
FLUORESCENT LIGHT FIXTURE	SD SMOKE DETECTOR WITH BATTERY BACKUP
SINGLE POLE SWITCH	TV CABLE T.V. OUTLET
3 THREE WAY SWITCH	WA WARM AIR VENT
4 FOUR WAY SWITCH	RA RETURN AIR VENT
CEILING PADDLE FAN	EXHAUST FAN
	TELEPHONE
CO CARBON MONOXIDE DETECTOR	

MAIN FLOOR PLAN

SCALE: 1/4" = 1'-0"

FINISHED SQUARE FOOTAGE THIS FLOOR: 1772

R Home "make it home your home"

3495 NORTHDALE BLVD NW
SUITE 210
COON RAPIDS, MN 55448
(612) 524-5760

DATE:

ADDRESS:

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PLAN NAME: ST FRANCIS

SHEET # 4 OF 6

ST. JOSEPH
(ELEVATION "D")

NARROW LOTS.

NOTE:

☐ THIS PLAN IS FOR CLIMATE ZONE #6

☐ THIS PLAN IS FOR CLIMATE ZONE #7

FLASHING NOTE:
ALL OPENINGS TO EXTERIOR MUST BE CAULKED & FLASHED
FLASHING IS REQUIRED WHERE ALL ROOF & VERTICAL SURFACES MEET, OR WHERE SIDING MATERIAL CHANGES

1'-0" OVERHANGS @ EAVES
1'-0" OVERHANGS @ GABLE ENDS

ARCHITECTURAL ASPH SHINGLES
ALUMINUM SOFFIT & FASCIA

6" FRIEZE BOARD IN ALL FRONT GABLES

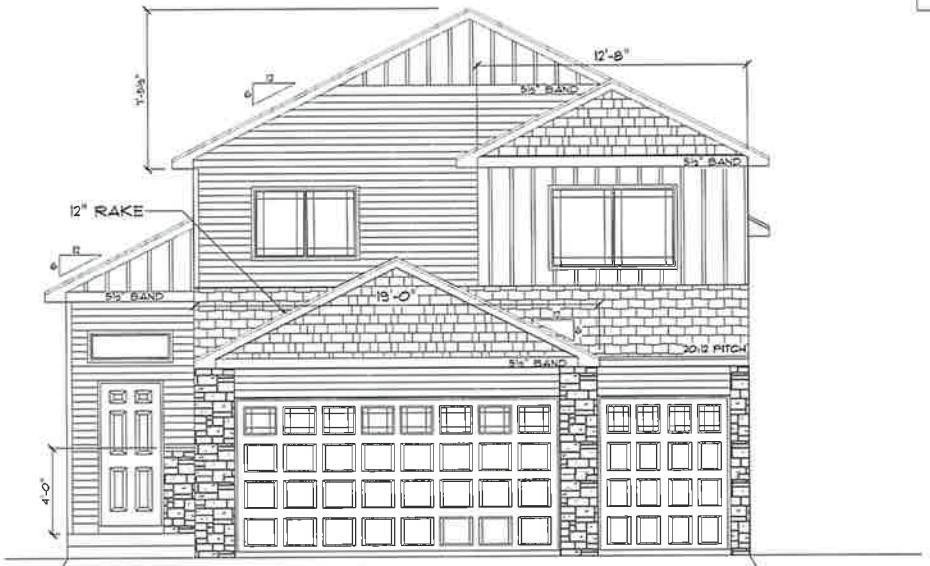
VINYL BOARD & BATTEN / SHAKES (PER ELEVATION)

VINYL LAP SIDING (ALL SIDES UNLESS NOTED OTHERWISE)

4" CORNER TRIM (ALL ELEVATIONS)

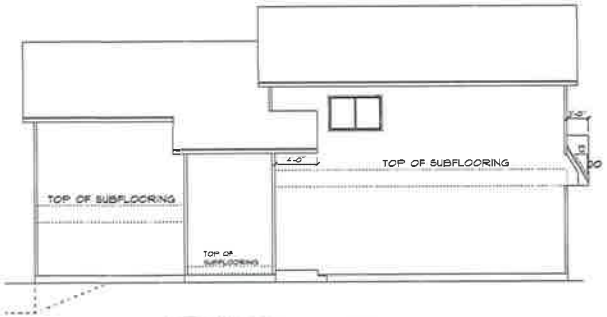
STONE PER SELECTION

GRADE LINES ON PLAN DO NOT REFLECT ACTUAL GRADE

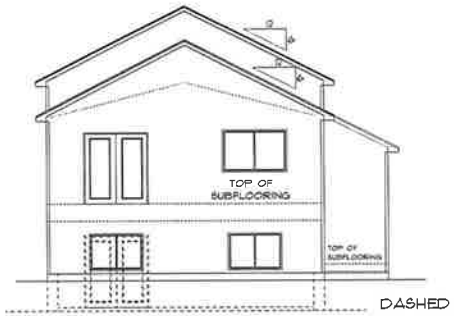


1 A4 FRONT ELEVATION
SCALE: 1/4" = 1'-0"

2001 TOTAL FINISHABLE SQ. FT.
FINISHED SQ. FT. - 1399
FUTURE FINISHABLE SQ. FT. - 616
(NOTE: SQ. FT. IS MEASURED FROM EXT. OF SHEATHING)



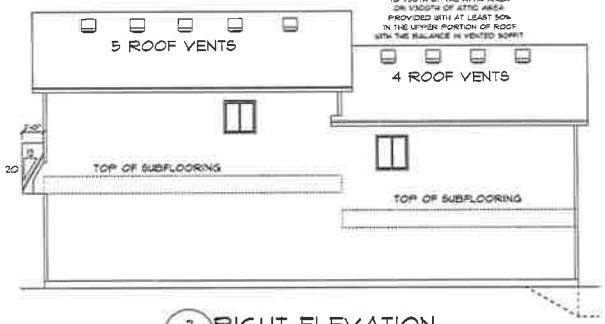
4 A4 LEFT ELEVATION
SCALE: 1/8" = 1'-0"



DASHED LINES REPRESENT WALK-OUT FOUNDATION OPTION

3 A4 REAR ELEVATION
SCALE: 1/8" = 1'-0"

ATTIC VENTILATION:
NET FREE AREA TO BE EQUAL TO 1/150TH OF THE ATTIC AREA OR 1/300TH OF ATTIC AREA PROVIDED WITH AT LEAST 50% IN THE UPPER PORTION OF ROOF WITH THE BALANCE IN VENTED SOFFIT



2 A4 RIGHT ELEVATION
SCALE: 1/8" = 1'-0"

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Douglas K. Whitney, P.E.
Date: June 29, 2017 Reg. No. 15910

SQ. FT. & FLOOR AREAS ARE FOR CONSTRUCTION PURPOSES ONLY. SQ. FT. & AREAS ARE NOT TO BE USED FOR MARKETING PURPOSES

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PROJECT # 16-110 (Elev. "D")
ST. JOSEPH
REVISED AS OF: 6/29/2017

DRAWN BY: NICOLE ELLIOTT
APPROVED BY:

SHEET A4 OF 9

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Douglas K. Whitney, P.E.
Date: June 29, 2017 Reg. No. 15910

NOTE: USE ZONE 6 FOOTING/BLOCK/FROST PROTECTION ON FOUNDATION W/24" HORZONTAL R-10 FOAM AT FOOTING

ELECTRICAL NOTES:

All outlets per MN Electrical Code

All fixtures, openings, GFCI, CO & Smoke Detectors per MN Electrical code

All fixture locations are for reference only

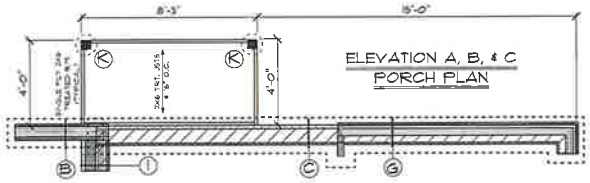
BRACED WALL LINE NOTES:

ALL BRACED WALL PANELS TO BEGIN WITHIN 12'-0" FROM EACH END OF A BRACED WALL LINE

DISTANCE BETWEEN ADJACENT EDGES OF A BRACED WALL PANEL SHALL BE NO GREATER THAN 20'-0"

BRACED WALL LINES CALCULATIONS ASSUME SEISMIC DESIGN CATEGORY A, 90 MPH BASIC WIND SPEED, & EXPOSURE CATEGORY B

USING SIMPLIFIED WALL BRACING ON ALL HOUSE WALLS (UNLESS NOTED OTHERWISE)



ELEVATION A, B, & C
PORCH PLAN

CONC. FDN. WALLS TO BE HELD IN 2" FROM MAIN LEVEL FRAMING ON EXT. BSMNT. WALLS ONLY & TO BE MEASURED FROM EXT. OF SHEATHING SO EXT. OF SHEATHING IS FLUSH W/ EXT. OF FOAM INSUL. (IN ALL BSMNT. AREAS EXCEPT WALK-OUT WALL (WALL "H"))

NOTE... ALL WINDOWS & PATIO DOORS SPECIFIED ON THIS PRINT ARE SIMONTON
(VERIFY ALL WINDOW R.O.'S PRIOR TO CONSTRUCTION)
(WINDOWS TO MEET FALL PROTECTION REQUIREMENTS)

ALL BEAMS & HEADERS ON THIS PLAN ARE WEYERHAEUSER TRUS JOIST ENGINEERED WOOD PRODUCTS IF DIFFERENT BRAND IS USED, VERIFY SIZE & DEPTH PRIOR TO CONST.

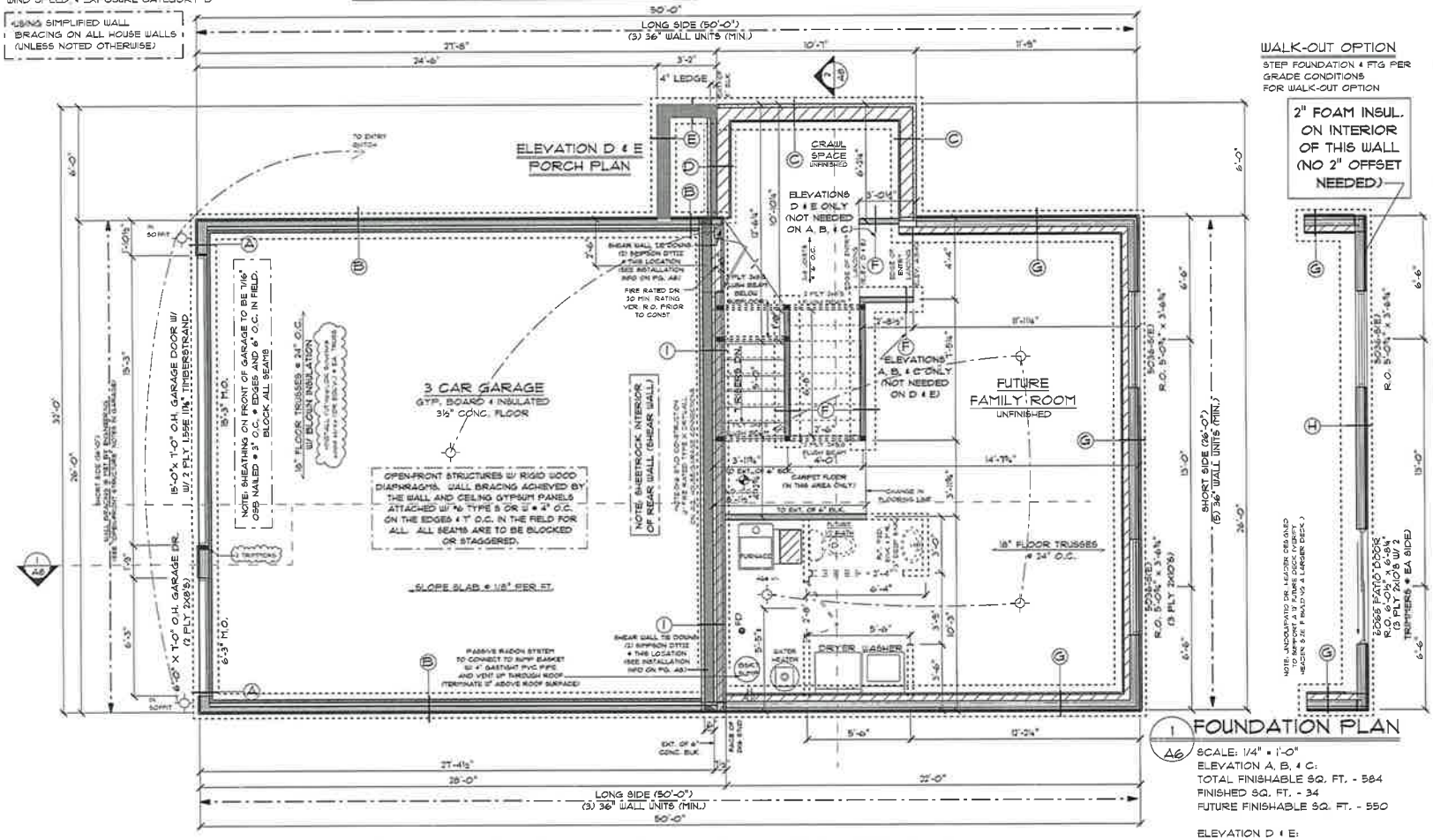
BEAM/HEADER SUPPLIER TO VERIFY THAT ALL BEAMS AND HEADERS WILL SUPPORT ROOF AND FLOOR TRUSS LOADS PRIOR TO CONSTRUCTION

ZONE #6 FOUNDATION NOTES:

- (A) 2X6 STUDS @ 16" O.C. 1 CRSE 6" CONC. BLK 4 CRSE 8" CONC. BLK ON 16"X8" CONC. FTG
- (B) 2X4 STUDS @ 16" O.C. 1 CRSE 6" CONC. BLK 4 CRSE 8" CONC. BLK ON 16"X8" CONC. FTG
- (C) 5 CRSE 8" CONC. BLK ON 16" X 8" CONC. FTG
- (D) 1 CRSE 8" CONC. BLK 4 CRSE 12" CONC. BLK ON 20" X 8" CONC. FTG
- (E) 4 CRSE 8" CONC. BLK ON 16" X 8" CONC. FTG
- (F) 2X4 STUDS @ 16" O.C. 1 CRSE 4" CURB BLK ON 16"X8" CONC. FTG
- (G) 2X6 STUDS @ 16" O.C. 5 CRSE 8" CONC. BLK ON 16" X 8" CONC. FTG
- (H) 2X6 STUDS @ 16" O.C. 1 CRSE 6" CURB. BLK 5 CRSE 12" CONC. BLK ON 20"X8" CONC. FTG
- (I) 2X6 STUDS @ 16" O.C. 1 CRSE 6" CONC. BLK 4 CRSE 12" CONC. BLK ON 20" X 8" CONC. FTG
- (K) 6X6 GREEN TREATED POST ON 16"X16"X8" (MIN.) CONC. FTG, MIN. 42" BELOW GRADE

ZONE #7 FOUNDATION NOTES:

- (A) 2X6 STUDS @ 16" O.C. 1 CRSE 6" CONC. BLK 6 CRSE 8" CONC. BLK ON 16"X8" CONC. FTG
- (B) 2X4 STUDS @ 16" O.C. 1 CRSE 6" CONC. BLK 6 CRSE 8" CONC. BLK ON 16"X8" CONC. FTG
- (C) 7 CRSE 8" CONC. BLK ON 16" X 8" CONC. FTG
- (D) 1 CRSE 8" CONC. BLK 6 CRSE 12" CONC. BLK ON 20" X 8" CONC. FTG
- (E) 6 CRSE 8" CONC. BLK ON 16" X 8" CONC. FTG
- (F) 2X4 STUDS @ 16" O.C. 1 CRSE 4" CURB BLK ON 16"X8" CONC. FTG
- (G) 2X6 STUDS @ 16" O.C. 7 CRSE 8" CONC. BLK ON 16" X 8" CONC. FTG
- (H) 2X6 STUDS @ 16" O.C. 1 CRSE 6" CURB. BLK 7 CRSE 12" CONC. BLK ON 20"X8" CONC. FTG
- (I) 2X6 STUDS @ 16" O.C. 1 CRSE 6" CONC. BLK 6 CRSE 12" CONC. BLK ON 20" X 8" CONC. FTG
- (K) 6X6 GREEN TREATED POST ON 16"X16"X8" (MIN.) CONC. FTG, MIN. 60" BELOW GRADE



WALK-OUT OPTION

STEP FOUNDATION & FTG PER GRADE CONDITIONS FOR WALK-OUT OPTION

2" FOAM INSUL. ON INTERIOR OF THIS WALL (NO 2" OFFSET NEEDED)

GENERAL CONSTRUCTION NOTES:

SOLID SHADED AREAS REP. SOLID BEARING DOWN TO CONC.

INTERIOR BEARING WALLS HAVE BLOCKING @ MIDPOINT

CONCRETE CONTRACTOR TO POUR 3,000 PSI FOOTINGS OR EQUIVALENT AND ALL OTHER CONC. TO CODE

ALL LOWER LEVEL WNDW. & DR. HEADERS TO BE 3 PLY 2X8'S UNLESS NOTED OTHERWISE

½" LIGHTWEIGHT SHEETROCK ON UNDERSIDE OF FLR. TRUSSES TO MEET FIRE PROTECTION OF FLOORS CODE IN ALL AREAS OTHER THAN MECH. ROOM (INCLUDING ACCESSIBLE SPACE UNDER STAIRS)
*FIRE BLOCKING TO CODE ON CLG.

ADD ADDITIONAL STAIR STRINGER SUPPORT AS NEEDED, VERIFY ON SITE

ALL POST FOOTING SIZES ASSUME 2000 PSF SOIL BEARING CAPACITY (MIN.)

NOTE: SILL PLATE TO HANG PAST FOUNDATION EDGE BY 1½" SO THAT EXT. OF SHEATHING IS FLUSH WITH EXT. OF RIGID INSULATION (IN ALL AREAS EXCEPT WALK-OUT WALL (WALL "H"))

NOTE: ALL EXTERIOR DIMENSIONS ARE TO THE OUTSIDE OF EXT. FOAM INSUL. OR SHEATHING (UNLESS NOTED OTHERWISE)

1 FOUNDATION PLAN
A6

SCALE: 1/4" = 1'-0"
ELEVATION A, B, & C:
TOTAL FINISHABLE SQ. FT. - 584
FINISHED SQ. FT. - 34
FUTURE FINISHABLE SQ. FT. - 550

ELEVATION D & E:
TOTAL FINISHABLE SQ. FT. - 650
FINISHED SQ. FT. - 34
FUTURE FINISHABLE SQ. FT. - 616

WAIVER

EVERY EFFORT HAS BEEN MADE TO MAKE SURE THESE PLANS ARE CORRECT IN EVERY WAY. BUILDER, GENERAL CONTRACTOR(S), & HOMEOWNER SHOULD REVIEW THESE PLANS TO MAKE SURE ALL NOTES, DIMENSIONS, ERRORS AND OMISSIONS ARE CORRECT BEFORE CONSTRUCTION STARTS. BUILDER, GENERAL CONTRACTOR(S), & HOMEOWNER TO VERIFY HOUSE MEETS ALL STATE AND LOCAL BUILDING CODES. Distinctive Drafting and Design, LLC IS NOT RESPONSIBLE FOR ERRORS AND OMISSIONS ON THESE PLANS.

Distinctive Drafting and Design, LLC
"Where Dream Homes Start"
www.Distinctive-Drafting.com
OFFICE - 763.744.3552 - FAX - 1.763.715.1031 - P.O. BOX 343, ZIMMERMAN, MN 55398

PROJECT: 16-110 (Fdn. Plan) ST. JOSEPH
REVISED AS OF: 6/29/2017

DRAWN BY: NICOLE ELLIOTT
APPROVED BY:

SHEET A6 OF 9

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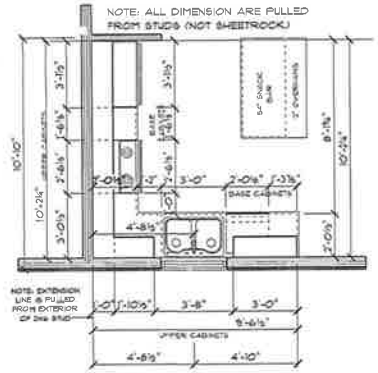
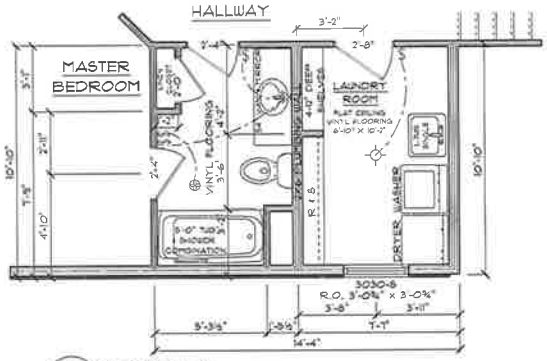
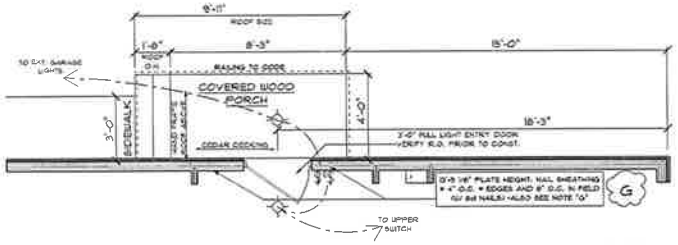


2 A7 KITCHEN PLAN
SCALE: 1/4" = 1'-0"



3 A7 OPTIONAL BATH
SCALE: 1/4" = 1'-0"



ELEVATION A, B, & C PORCH PLANS
(SEE PAGE A1 FOR ELEV. A ROOF INFO)

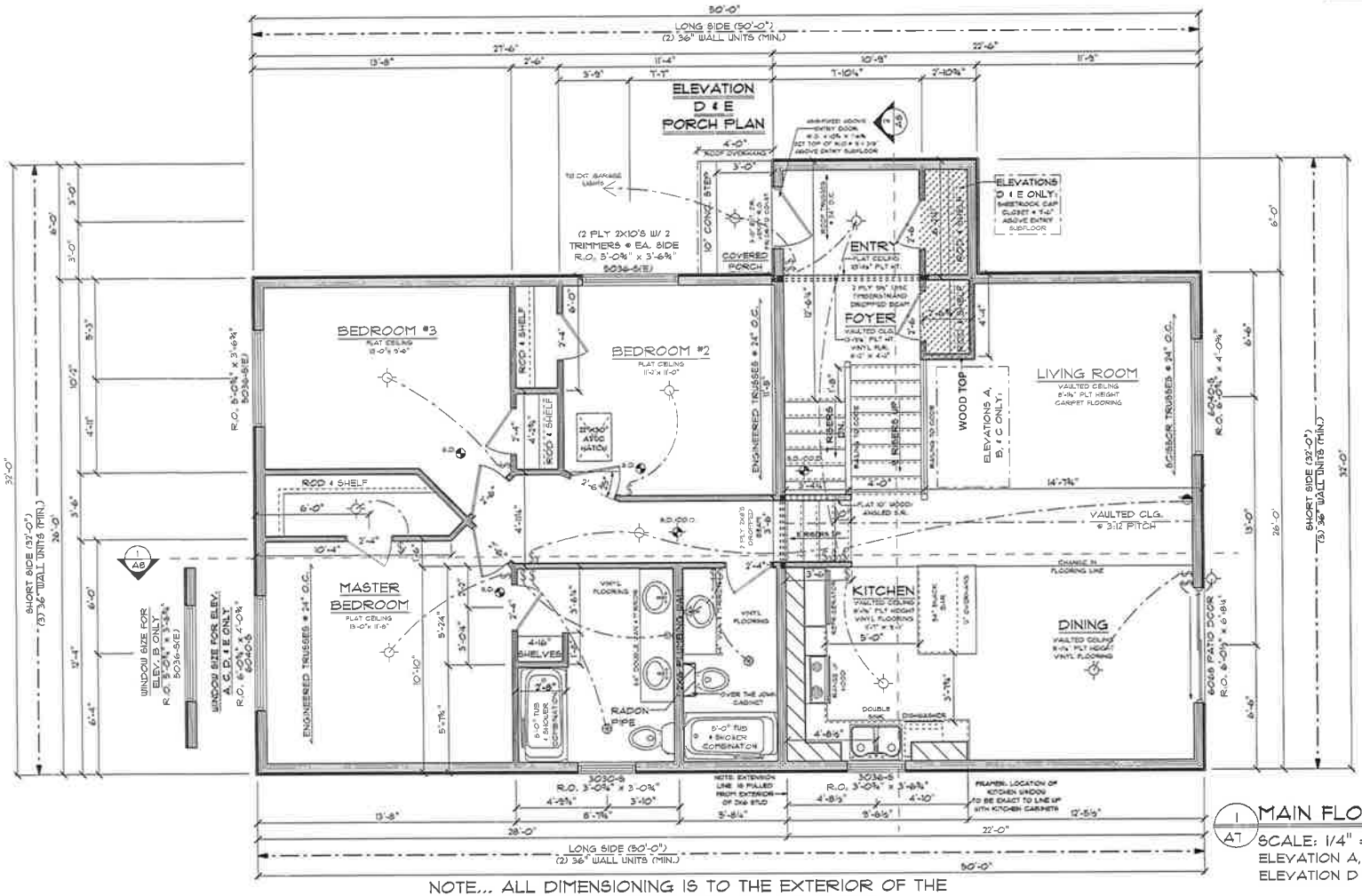
NOTE... ALL WINDOWS & PATIO DOORS SPECIFIED ON THIS PRINT ARE:
SIMONTON
(VERIFY ALL WINDOW R.O.'S PRIOR TO CONSTRUCTION)
(WINDOWS TO MEET FALL PROTECTION REQUIREMENTS)

ALL BEAMS & HEADERS ON THIS PLAN ARE
WEYERHAEUSER TRUS JOIST
ENGINEERED WOOD PRODUCTS
IF DIFFERENT BRAND IS USED
VERIFY SIZE & DEPTH PRIOR TO CONST.

BEAM/HEADER SUPPLIER TO VERIFY THAT ALL
BEAMS AND HEADERS WILL SUPPORT
ROOF AND FLOOR TRUSS LOADS
PRIOR TO CONSTRUCTION

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Douglas K. Whitney, P.E.
Date: June 29, 2017 Reg. No. 15910



1 A7 MAIN FLOOR PLAN
SCALE: 1/4" = 1'-0"
ELEVATION A, B, & C SQ. FT. - 1300
ELEVATION D & E SQ. FT. - 1365

NOTE... ALL DIMENSIONING IS TO THE EXTERIOR OF THE SHEATHING (UNLESS NOTED OTHERWISE)

GENERAL CONSTRUCTION NOTES:

SOLID SHADED AREAS REP. SOLID BEARING DOWN TO CONC.

INTERIOR BEARING WALLS HAVE BLOCKING @ MIDPOINT

ALL MAIN FLR. WINDW. & DR. HEADERS TO BE 2 PLY 2X8'S UNLESS NOTED OTHERWISE

ADD ADDITIONAL STAIR STRINGER SUPPORT AS NEEDED. VERIFY ON SITE

⊕ - EXHAUST FAN VENTED TO EXTERIOR

G Fasten studs to plates w/ (2) 16d nails @ ea. end (TALL WALL IS DESIGNED FOR EXPOSURE CATEGORY B ONLY)

ELECTRICAL NOTES:

All outlets per MN Electrical Code

All fixtures, openings, GFCI, CO & Smoke Detectors per MN Electrical code

All fixture locations are for reference only

BRACED WALL LINE NOTES:

ALL BRACED WALL PANELS TO BEGIN WITHIN 12'-0" FROM EACH END OF A BRACED WALL LINE

DISTANCE BETWEEN ADJACENT EDGES OF A BRACED WALL PANEL SHALL BE NO GREATER THAN 20'-0"

BRACED WALL LINES CALCULATIONS ASSUME SEISMIC DESIGN CATEGORY A, 90 MPH BASIC WIND SPEED, & EXPOSURE CATEGORY B

USING SIMPLIFIED WALL BRACING ON ALL HOUSE WALLS (UNLESS NOTED OTHERWISE)

WAIVER

EVERY EFFORT HAS BEEN MADE TO MAKE SURE THESE PLANS ARE CORRECT IN EVERY WAY. BUILDER, GENERAL CONTRACTOR(S), & HOMEOWNER SHOULD REVIEW THESE PLANS TO MAKE SURE ALL NOTES, DIMENSIONS, ERRORS AND OMISSIONS ARE CORRECT BEFORE CONSTRUCTION STARTS. BUILDER, GENERAL CONTRACTOR(S), & HOMEOWNER TO VERIFY HOUSE MEETS ALL STATE AND LOCAL BUILDING CODES. Distinctive Drafting and Design, LLC IS NOT RESPONSIBLE FOR ERRORS AND OMISSIONS ON THESE PLANS.

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PROJECT: 16-110 (Main Flr.) ST. JOSEPH
REVISED AS OF: 6/29/2017

DRAWN BY: NICOLE ELLIOTT
APPROVED BY:

SHEET A7 OF 9

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PRELIMINARY PLAT/
PRELIMINARY ENGINEERING
PLAN SUBMITTAL

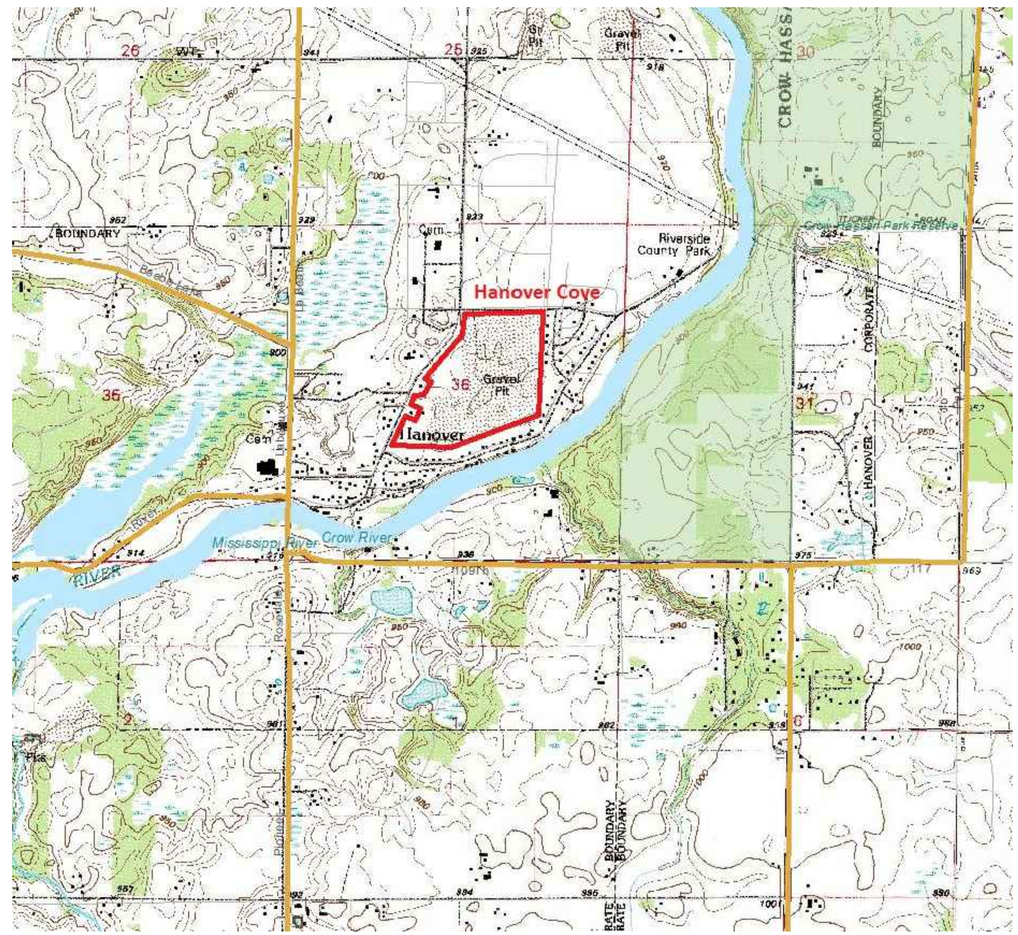
FOR

HANOVER COVE

CALL 48 HOURS BEFORE DIGGING:

GOPHER STATE ONE CALL

MN TOLL FREE 1-800-252-1166



DEVELOPER: PAXMAR, LLC
2850 CUTTERS GROVE AVE.
SUITE 207
ANOKA, MN 55303

SHEET INDEX

TITLE PAGE
ALTA SURVEY
PRELIMINARY PLAT
CONCEPT PLAN
PHASING PLAN
TYPICAL SECTION
OVERALL DRAINAGE MAP
GRADING AND DRAINAGE PLAN
SUBCATCHMENT / EOF MAP
UTILITY PLAN
PLAN AND PROFILE SHEETS
STORMWATER POLLUTION PREVENTION PLAN
EROSION CONTROL PLAN
TREE INVENTORY
TREE REMOVAL PLAN
LANDSCAPE/SCREENING PLAN

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I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: DATE: 11/16/2018

NAME: JASON VERSTEEG LIC. NO. 26505

DUININCK
PHONE: (320)978-6011 FAX: (320)978-4978
P.O. BOX 208 408 SIXTH STREET
PRINSBURG, MN 56281

HANOVER COVE
PRELIMINARY ENGINEERING PLAN
TITLE PAGE

HANOVER, MN

CHECKED BY:	DRAWN BY:
JVS	JVS

SCALE
GRAPHIC

DATE
NOV 16, 2018

SHEET
TITLE

This is a survey of the Land Description as found on Schedule A of

Commitment No. 566416, 3rd Supplemental

issued by Stewart Title Guaranty Company
Issued by its Agent, Land Title, Inc.
dated December 15, 2017

"Parcel 1:
The Southwest Quarter of the Northeast Quarter (SW¼ NE¼), AND the Northwest Quarter of the Southeast Quarter (NW¼ SE¼) (lying North of the Crow River); AND the Northeast Quarter of the Southwest Quarter (NE¼ SW¼), all of said land being in Section Thirty-six (36), Township One Hundred Twenty (120), Range Twenty-four (24), Wright County, Minnesota, excepting therefrom the following tracts:
a) Tract sold to Board of Education of Hanover by deed recorded in Book 28 of Deeds, page 524.
b) Tract sold to Henry Ernest Kirscht by deed recorded in Book 74 of Deeds, page 207.
c) Tract sold to Lakeview Motors, Inc., by deed recorded in Book 158 of deeds, page 143.
d) Tract described as beginning at the Southwest corner of said Northeast Quarter of the Southwest Quarter (NE¼ SW¼), thence North 786.8 feet to beginning tract to be conveyed; thence North 150 feet, thence angle right 90° 337.6 feet to the right of way line of State Aid Road No. 6; thence Southwesterly along said right of way line 160 feet; thence West 275 feet to beginning; all of said land being in Section Thirty-six (36), Township One hundred Twenty (120), Range Twenty-four (24).
e) Plat of Cleveland's First Addition to Hanover as recorded in Book 5 of Plats, page 50.
f) All that land lying in the Northwest corner of the Northeast Quarter of the Southwest Quarter (NE¼ SW¼) West of County Road 19 as presently situated.
g) All that land platted as Olson Addition, Dehmer's Hanover and Riverview Road Addition, Pheasant Run Second Addition.
h) All that land described in Warranty Deed recorded August 13, 1969, in Book 228 of Deeds, page 37.
i) All that land described in Warranty Deed recorded September 28, 1978 in Book 291 of Deeds, page 180.
j) All that land described in Quit Claim Deed recorded July 12, 1979, in Book 294, page 153.

AND

Parcel 2:
That part of the East Half of the Northwest Quarter (E½ NW¼) of Section Thirty-six (36), Township One Hundred Twenty (120), Range Twenty-four (24), Wright County, Minnesota, lying East of County Road No. 19, EXCEPT all that part of the Northwest Quarter (NW¼) of Section Thirty-six (36), Township One Hundred Twenty (120), Range Twenty-four (24), described as follows: Commencing at the center of said Section Thirty-six (36), thence South 89°15' West along the quarter line, 537.14 feet for a point of beginning, thence continuing on said last described course, 214.16 feet to the center of County Road, thence North 24°33' East along said center of road, 225 feet, thence North 89°15' East, 214.16 feet, thence South 24°33' West, 225 feet, to the point of beginning.

Abstract Property"

This is an ALTA / NSPS Land Title Survey of:

part of:

E½ of the NW¼, NE¼ of the SW¼, SW¼ of the NE¼, and NW¼ of the SE¼

Located in:

Section 36, T120N-R24W, Wright County, Minnesota

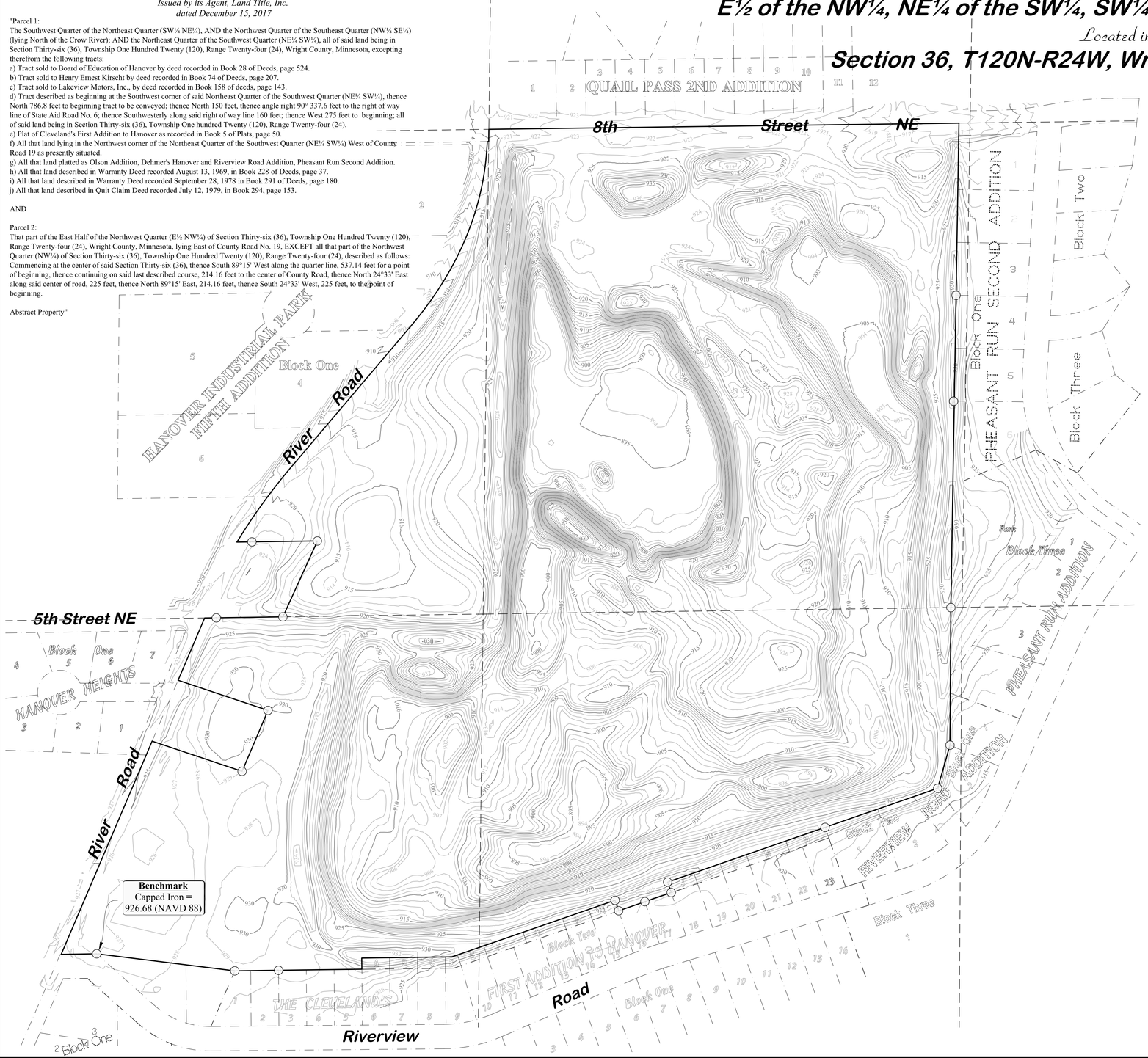

TABLE A ITEMS

Item 1:
Monuments placed or found at all major property boundary corners: As shown on this survey

Item 4:
Area of property as shown on this survey. SEE SHEETS 2 & 3

Item 5:
Vertical relief, as shown on this survey is derived from a ground survey done by Duininck Inc. on 12-14-2017, and has a contour interval of 1 foot. The datum used for this survey is the North American Vertical Datum of 1988 (NAVD 88) using MNDOT Geodetic control point BACKES, which has an NAVD 88 elevation of 922.08.

Item 7a
Exterior dimension of buildings at ground level, as shown on this survey. SEE SHEETS 2 & 3

Item 8:
Substantial features observed in the process of conducting our field work, as shown on this survey.

Item 11:
The Gopher State One Call Utility location system was notified for this survey (Ticket #173312608 on 11-27-2017, submitted by, and utilities located by Duininck Inc.). The following utility companies were notified and are required by Minnesota Statute 7560.0250 to respond.

- Comcast - MARKED 800-762-0592
- Veolia Water - MARKED 763-497-3611
- Centurylink - MARKED 800-283-4237
- Center Point Energy - MARKED 608-223-2014
- Xcel Energy - MARKED 800-848-7558
- Zayo Bandwidth - MARKED 888-267-1063

Some of the utility companies may not have responded to the locate request. There are also various private facilities that do not participate in the Gopher State One Call utility location system and may have utilities located on this property that we are not aware of. Before any excavating is done in this area, the utilities should be re-notified. The utilities shown on this survey are based on information provided by the utility companies and field observations. SEE SHEETS 2 & 3

Item 19:
Plottable offsite easements or servitudes, as shown on this survey. SEE SHEETS 2 & 3

Schedule B - Part 2 Exceptions

Items 1&2:
Are not survey issues and were not addressed as a part of this survey.

Item 3
Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the land.
AS SHOWN ON THIS SURVEY SEE SHEETS 2 & 3

Items 4-11:
Are not survey issues and were not addressed as a part of this survey.

Item 12:
Permanent Drainage, Utility & Pathway Easement filed as Document Number A954819.
AS SHOWN ON THIS SURVEY SEE SHEETS 2 & 3

Item 13:
Is not a survey issue and was not addressed as a part of this survey.

Item 14:
Subject to road(s) as shown by available maps.
AS SHOWN ON THIS SURVEY SEE SHEETS 2 & 3

Item 15:
Current Legal description appears to encroach on to the Plat of Pheasant Run Second Addition. Assuming Document No. A1358544 is the current deed referred to , this description does overlap with Pheasant Run Second Addition, however, the Schedule A land description referred to on this survey DOES NOT overlap with Pheasant Run Section Addition.

Items 16:
Current legal description appears to except out too much property in exception "i)" of Warranty Deed filed as Document Number A1358544. The current legal description (Doc. #A1358544) does except out too much property for exception i, however, the Schedule A land description fits with the found survey monuments and land use.

North

This drawing prepared by:

Bonnema Runke Stern Inc.
Professional Land Surveyors
1809 22nd St SW - Suite 104
Willmar, MN 56201
Office (320) 231-2844 Fax (320) 231-2827

Requested by: ***Duininck Inc.***
C/O Jason Ver Steeg
408 6th St
Prinsburg, MN 56281

0 150 300 450
Scale in Feet

LEGEND

- Found Iron Monument from former survey
- Bonnema Runke Stern Inc. Placed Capped Iron Monument
- Cast Iron Monument
- Course Change - No monument set
- Sanitary manhole
- Water Gate Valve
- Telephone Pedestal
- Electric Transformer
- Fire Hydrant
- Power Pole
- SAN — Sanitary Sewer
- STM — Storm Sewer
- WL — WL — Water Line
- Road Right of way
- GAS — Gas Line
- FO — FO — Buried Fiber Optic
- BE — BE — Buried Electric
- BT — BT — Buried Telephone
- OH — OH — Overhead Power
- Occupation / Farm Tillage
- X — Fence
- (D = XX.XX) Deed Dimension
- (P = XX.XX) Platted Dimension
- Tree Row
- Existing Building

The distances shown from improvements to the property lines are shown for references purposes only and are NOT intended for determining the property line location. Property corner monuments shall always be used when establishing the property line.

To Paxmar, LLC, Duininck Inc., Stewart Title Guaranty Company, and Land Title, Inc:

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2016 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes items 1, 4, 5, 7a, 8, 11, and 19 of Table A thereof. The fieldwork was completed on December 18, 2017.

Matthew D. Runke

Date ***July 23, 2018*** License No. 46169

Survey Requested By: **Duininck Inc.**

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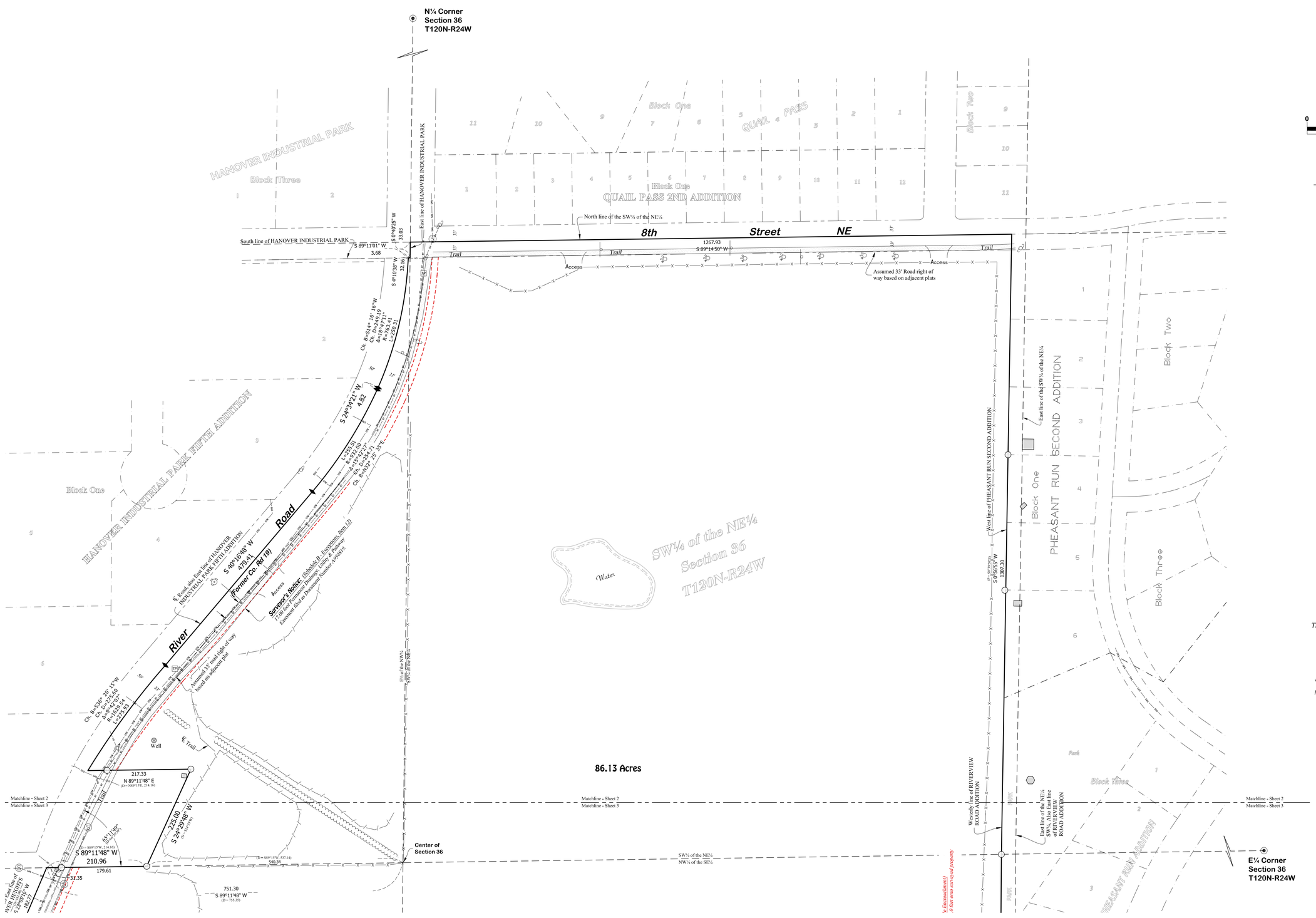
36-120-24



LEGEND

- Found Iron Monument from former survey
- Bonnema Runke Stern Inc. Placed Capped Iron Monument
- Cast Iron Monument
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- Gas Line
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- Buried Electric
- Buried Telephone
- Overhead Power
- Occupation / Farm Tillage
- Fence
- (D = XX.XX) Deed Dimension
- (P = XX.XX) Plattted Dimension
- Tree Row
- Existing Building

Elevation Datum:

The Elevation Datum used for this survey is the North American Vertical Datum of 1988 (NAVD 88)

MnDOT Geodetic Control Point
BACKES = 922.081 (NAVD 88)

The distances shown from improvements to the property lines are shown for references purposes only and are NOT intended for determining the property line location. Property corner monuments shall always be used when establishing the property line.

Sheet 2 of 3

Survey Requested By: **Duininck Inc.**
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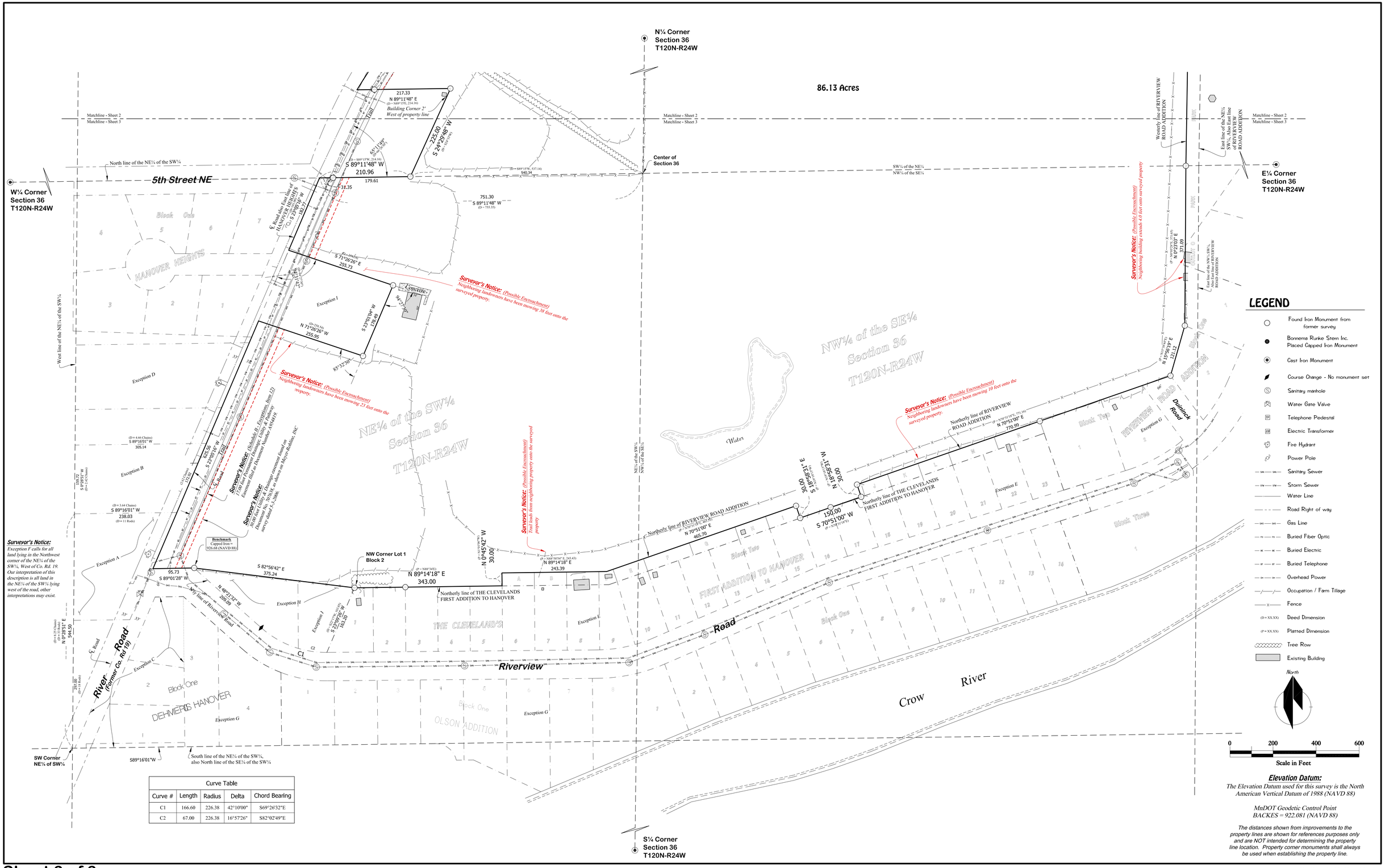
36-120-24



Curve Table				
Curve #	Length	Radius	Delta	Chord Bearing
C1	166.60	226.38	42°10'00"	S69°26'32"E
C2	67.00	226.38	16°57'26"	S82°02'49"E

Elevation Datum:

The Elevation Datum used for this survey is the North American Vertical Datum of 1988 (NAVD 88)

MnDOT Geodetic Control Point
BACKES = 922.081 (NAVD 88)

The distances shown from improvements to the property lines are shown for references purposes only and are NOT intended for determining the property line location. Property corner monuments shall always be used when establishing the property line.

Sheet 3 of 3

Survey Requested By: **Duininck Inc.**

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36-120-24

Preliminary Plat of:

HANOVER COVE

A Planned Unit Development

Located In:

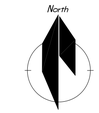
E½ of the NW¼, NE¼ of the SW¼, SW¼ of the NE¼ and the NW¼ of the SE¼, Section 36, Township 120 North, Range 24 West, Wright County, MN

Curve Table				
Curve #	Length	Radius	Delta	Chord Bearing
C1	17.82	1579.54	0°38'47"	S40°51'55"W
C2	46.00	1579.54	1°40'08"	S39°42'28"W
C3	58.56	1579.54	2°07'27"	S37°48'41"W
C4	19.79	1129.00	1°00'15"	N39°53'17"E
C5	21.75	1129.00	1°06'14"	N27°37'32"E
C6	43.29	360.00	6°53'25"	S30°31'08"W
C7	3.80	360.00	0°36'19"	S88°56'40"W
C8	31.49	1189.00	1°31'03"	N39°37'52"E
C9	25.02	1189.00	1°12'20"	N38°16'11"E
C10	29.49	1189.00	1°25'16"	N27°47'03"E
C11	44.10	300.00	8°25'18"	S31°17'04"W
C12	8.51	300.00	1°37'33"	S88°26'04"W
C13	8.51	182.50	2°40'23"	S87°54'38"W
C14	26.08	182.50	8°11'14"	S31°10'02"W
C15	34.62	1306.50	1°31'06"	N27°49'58"E
C16	31.49	1306.50	1°22'52"	N39°41'58"E
C17	42.55	322.50	7°33'34"	S53°23'23"E
C18	72.14	322.50	12°49'01"	S63°34'41"E
C19	39.82	322.50	7°04'25"	S87°21'33"E
C20	42.79	440.00	5°34'18"	S52°23'45"E
C21	100.88	140.00	41°17'09"	S19°44'49"W
C22	15.55	140.00	6°21'44"	S2°17'06"W
C23	6.35	500.00	0°43'41"	N89°28'05"E
C24	41.43	200.00	11°52'10"	N6°53'03"E
C25	26.79	200.00	7°40'29"	N67°00'46"E
C26	66.40	300.00	12°40'52"	N77°11'26"E
C27	29.81	300.00	5°41'34"	N86°22'39"E
C28	96.21	300.00	18°22'26"	S80°02'13"W
C29	115.45	360.00	18°22'26"	N80°02'13"E
C30	11.52	260.00	2°32'21"	N69°34'49"E
C31	38.03	360.00	6°03'09"	N73°52'34"E
C32	77.42	360.00	12°19'17"	N83°03'47"E
C33	56.35	45.00	71°44'45"	N34°58'37"E
C34	131.48	105.00	71°44'45"	N34°58'37"E
C35	21.52	45.00	27°24'05"	N12°48'17"E
C36	34.83	45.00	44°20'40"	N48°40'40"E
C37	22.35	105.00	12°11'44"	N64°45'08"E
C38	45.15	105.00	24°38'19"	N46°20'06"E
C39	46.30	105.00	25°15'58"	N21°22'58"E
C40	17.68	105.00	9°38'44"	N3°55'37"E
C41	124.70	66.00	108°15'15"	S55°01'23"E
C42	30.71	140.00	12°34'01"	S84°29'34"E
C43	45.33	200.00	12°59'09"	S84°17'00"E
C44	32.85	200.00	9°24'38"	S73°05'03"E
C45	32.30	200.00	9°15'15"	S63°45'07"E
C46	33.44	200.00	9°34'48"	S54°20'02"E
C47	40.13	200.00	11°29'44"	S43°47'46"E
C48	47.95	200.00	13°44'14"	S31°10'44"E
C49	31.35	200.00	8°58'50"	S18°31'39"W
C50	53.97	40.00	77°18'15"	S61°40'11"W
C51	134.92	100.00	77°18'15"	S61°40'11"W
C52	50.71	100.00	29°03'12"	S85°47'43"W
C53	30.16	100.00	17°16'47"	S62°38'05"W
C54	30.34	100.00	17°22'58"	S45°18'35"W
C55	23.75	100.00	13°36'24"	S29°49'16"W
C56	35.12	27.00	74°32'02"	S14°14'57"E
C57	102.67	246.00	23°54'49"	N11°03'39"E
C58	77.63	186.00	23°54'49"	N11°03'39"E
C59	6.13	186.00	1°53'20"	N22°04'24"E
C60	39.82	246.00	9°16'29"	N3°44'29"E
C61	45.70	246.00	10°38'40"	N13°42'04"E
C62	17.15	246.00	3°59'40"	N21°01'14"E
C63	35.92	126.00	16°19'54"	N79°00'57"E
C64	30.48	126.00	13°51'38"	S7°49'35"E
C65	28.49	486.00	3°21'33"	S78°38'57"E
C66	38.35	486.00	4°31'16"	S74°42'32"E
C67	44.52	486.00	5°14'56"	S69°49'26"E
C68	176.19	426.00	23°41'47"	S79°02'52"E
C69	50.27	426.00	6°45'42"	S87°30'54"E
C70	125.91	426.00	16°56'06"	S75°40'01"E
C71	81.57	140.00	33°23'04"	S22°09'30"W
C72	27.99	982.00	1°37'58"	N39°27'50"E

Line Table				
Line #	Length	Direction		
L1	32.16	N4°10'38"E	167750.993	558698.350
L2	5.61	N24°34'21"E	167484.317	558680.389
L3	36.66	N4°10'38"E	167746.741	558748.172
L4	2.78	S89°14'50"W	167658.132	558738.436
L5	24.52	N89°06'15"E	166877.345	559019.711
L6	26.39	S89°06'15"W	166760.243	559046.061
L7	23.59	S49°36'36"E	166969.458	558787.727
L8	8.56	S49°36'36"E	166824.495	558682.283
L9	47.59	S19°45'47"W	166304.619	559649.224
L10	18.84	N0°53'45"W	166192.139	559438.198
L11	0.70	S70°51'00"W	165773.553	558621.466
L12	1.68	N23°05'16"E	166497.128	558006.395
L13	14.53	S0°56'58"W	166322.909	559824.551
L15	4.18	S89°14'13"W	165696.754	558527.265
L16	21.78	S89°14'43"W	165694.684	558375.103
L17	46.06	N77°33'53"W	165881.795	558339.048
L18	7.39	S23°01'04"W	166090.706	558042.011
L19	29.42	S3°06'40"W	165899.874	558435.092
L20	11.35	S0°53'45"E	166259.525	558108.735
L21	23.72	S23°01'04"W	166248.180	558108.912
L22	26.73	N89°01'28"E	165591.081	557620.162
L23	30.00	S0°45'42"E	165580.007	558361.858
L24	14.80	N89°14'18"E	165580.007	558361.858
L25	15.84	N70°51'00"E	166032.941	559900.220
L26	30.00	S18°58'31"E	165785.219	559186.858
L27	30.00	N18°58'31"W	165707.642	559054.913
L28	6.87	S23°01'04"W	165909.261	557905.783
L29	18.36	N67°11'58"W	166434.819	557999.788
L30	18.06	N67°11'58"W	166490.131	558023.039
L31	41.84	S6°10'51"W	166500.667	558149.094
L32	18.35	S1°08'25"E	166229.666	558309.842
L33	22.99	N40°23'24"E	166705.533	558250.871
L34	17.98	N70°51'00"E	166082.216	558717.742
L35	16.82	N0°53'45"W	166199.274	558550.424
L36	48.61	S23°01'04"W	165885.800	557961.006
L37	17.81	S0°23'03"W	166525.683	559950.934
L38	24.22	N0°23'03"E	166483.651	559950.652
L39	25.44	S0°57'31"W	166509.912	559827.654
L40	20.49	N17°36'29"E	166615.272	558445.469
L41	22.65	N17°36'29"E	166634.803	558451.668
L42	15.04	N40°23'24"E	166656.388	558458.518

Vicinity Sketch
City of Hanover, MN

Section 36, T120N-R24W



This drawing prepared by:

Bonnema Runke Stern Inc.
Professional Land Surveyors
1809 22nd St SW - Suite 104
Willmar, MN 56201
Office (320) 231-2844
Fax (320) 231-2827

Requested by: **Duininck Inc.**
C/O Jason Ver Steeg
408 6th St
Prinsburg, MN 56281

Dated: **November 12, 2018**

0 100 200 300
Scale in Feet

LEGEND

- Found Iron Monument from Former Survey
- Bonnema Runke Stern Inc. placed a 3/8" Iron Rod with a 46169-46171-14895 stamped Plastic Cap
- Cast Iron Monument
- Building Setbacks
- Proposed Building Footprint
- Existing Building Footprint
- Course Change - No Monument Set
- 9840 s.f. Total Lot Area in Square Feet
- 3895 Buildable Lot Area in Square Feet
- Open Water / Low Area
- Drainage / Utility Easement Lines

The Orientation of this bearing system is assumed. The West line of PHEASANT RUN SECOND ADDITION is assumed to bear N 0°56'55" E

DEDICATION

KNOW ALL MEN BY THESE PRESENTS that Marah, Co. as owners and proprietors of the following described property, situated in the County of Wright, State of Minnesota, to wit:

"Parcel 1:
The Southwest Quarter of the Northeast Quarter (SW¼ NE¼), AND the Northwest Quarter of the Southeast Quarter (NW¼ SE¼) (lying North of the Crow River); AND the Northeast Quarter of the Southwest Quarter (NE¼ SW¼), all of said land being in Section Thirty-six (36), Township One Hundred Twenty (120), Range Twenty-four (24), Wright County, Minnesota, excepting therefrom the following tracts:
a) Tract sold to Board of Education of Hanover by deed recorded in Book 28 of Deeds, page 524.
b) Tract sold to Henry Ernest Kirscht by deed recorded in Book 74 of Deeds, page 207.
c) Tract sold to Lakeview Motors, Inc., by deed recorded in Book 158 of deeds, page 143.
d) Tract described as beginning at the Southwest corner of said Northeast Quarter of the Southwest Quarter (NE¼ SW¼), thence North 786.8 feet to beginning tract to be conveyed; thence North 150 feet, thence angle right 90° 337.6 feet to the right of way line of State Aid Road No. 6; thence Southwesterly along said right of way line 160 feet; thence West 275 feet to beginning; all of said land being in Section Thirty-six (36), Township One hundred Twenty (120), Range Twenty-four (24).
e) Plat of Cleveland's First Addition to Hanover as recorded in Book 5 of Plats, page 50.
f) All that land lying in the Northwest corner of the Northeast Quarter of the Southwest Quarter (NE¼ SW¼) West of County Road 19 as presently situated.
g) All that land platted as Olson Addition, Dehmer's Hanover and Riverview Road Addition, Pheasant Run Second Addition.
h) All that land described in Warranty Deed recorded August 13, 1969, in Book 228 of Deeds, page 37.
i) All that land described in Warranty Deed recorded September 28, 1978 in Book 291 of Deeds, page 180.
j) All that land described in Quit Claim Deed recorded July 12, 1979, in Book 294, page 153.

AND

Parcel 2:
That part of the East Half of the Northwest Quarter (E½ NW¼) of Section Thirty-six (36), Township One Hundred Twenty (120), Range Twenty-four (24), Wright County, Minnesota, lying East of County Road No. 19, EXCEPT all that part of the Northwest Quarter (NW¼) of Section Thirty-six (36), Township One Hundred Twenty (120), Range Twenty-four (24), described as follows: Commencing at the center of said Section Thirty-six (36), thence South 89°15' West along the quarter line, 537.14 feet for a point of beginning, thence continuing on said last described course, 214.16 feet to the center of County Road, thence North 24°33' East along said center of road, 225 feet, thence North 89°15' East, 214.16 feet, thence South 24°33' West, 225 feet, to the point of beginning.

Has caused the same to be surveyed and platted as HANOVER COVE, and does hereby dedicate to the public for public use the public way(s) and/or the drainage and utility easement(s) as created by this plat.

In witness whereof said Marah, Co. have hereunto set their hands this ____ day of _____ 20 __

_____
OWNER NAME

STATE OF MINNESOTA
COUNTY OF_____

This instrument was acknowledged before me this____ day of _____ 20___ by Marah, Co.

_____
Notary Signature
Notary Public, _____ County, Minnesota
My Commission Expires _____

Land Surveyor

I Matthew D. Runke hereby certify that this plat was prepared by me or under my direct supervision; that I am a duly Licensed Land Surveyor in the State of Minnesota; that this plat is a correct representation of the boundary survey; that all mathematical data and labels are correctly designated on this plat; that all monuments indicated on this plat have been, or will be set within one year; that all water boundaries and wet lands, as defined Minnesota Statutes, Section 505.01, Subd. 3, as of the date of this certificate are shown and labeled on this plat; and all public ways are shown and labeled on this plat.

Dated this ____ day of _____ 20 ____

_____
Matthew D. Runke, Licensed Land Surveyor
Minnesota License No. (46171)

STATE OF MINNESOTA
COUNTY OF _____

This instrument was acknowledged by me this ____ day of _____ 20___, by Matthew D. Runke, Licensed Land Surveyor, Minnesota License No. 46171.

_____
Notary Signature
Notary Public, _____ County, Minnesota
My Commission Expires_____

City Planning Commission

Approved by the Planning Commission of the City of Hanover, this____ day of _____ 20_____.

Signed:_____
Chair

ATTEST: _____
Secretary

City Council

Passed and adopted this _____ day of _____ 20___.

Signed:_____
Mayor

ATTEST: _____
City Clerk

County Surveyor

Approved this _____ day of _____, 20_____, A.D.

_____
Wright County Surveyor

County Auditor/Treasurer

TAX STATEMENT
I hereby certify that all taxes for 20 ___ on the land described herein are paid; and no delinquent taxes are due and transfer entered this _____ day of _____ 20____ .

_____
Wright County Auditor / Treasurer

County Recorder

I hereby certify that this instrument was filed for record in the office of the County Recorder in and for Wright County, Minnesota on this _____ day of _____, 20___, at _____ o'clock __.M., as Folder No._____, and as Document No. _____.

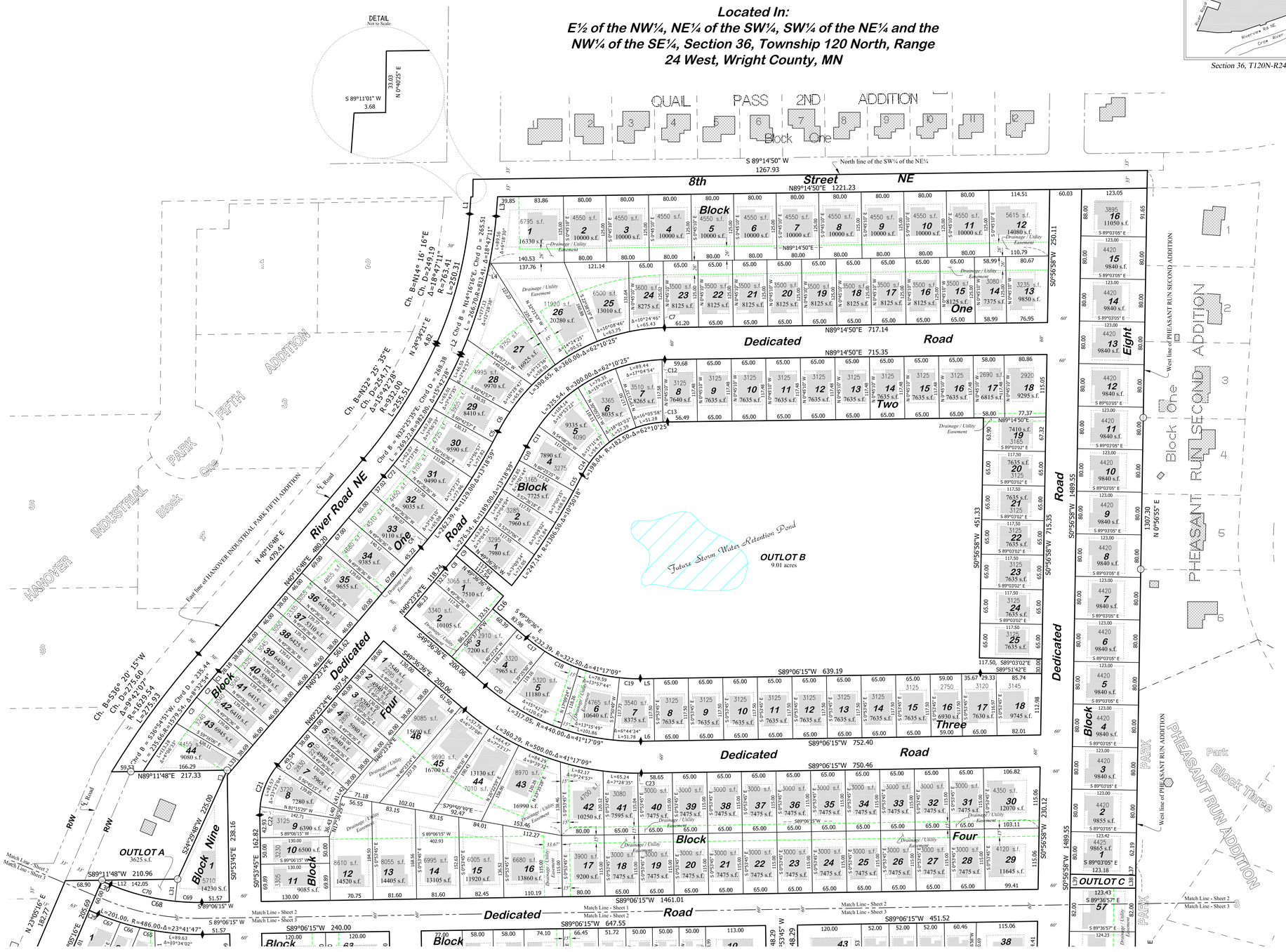
_____
Wright County Recorder

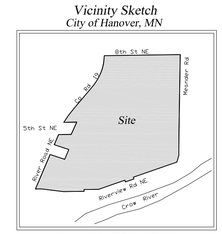
Preliminary Plat of:

HANOVER COVE

A Planned Unit Development

Located In:
E½ of the NW¼, NE¼ of the SW¼, SW¼ of the NE¼ and the NW¼ of the SE¼, Section 36, Township 120 North, Range 24 West, Wright County, MN





Section 36, T120N-R24W

North

This drawing prepared by:

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Professional Land Surveyors
1809 22nd St SW - Suite 104
Willmar, MN 56201
Office (320) 231-2844
Fax (320) 231-2827

Requested by: **Duininck Inc.**
C/O Jason Ver Steeg
408 6th St
Prinsburg, MN 56281

Dated: **November 12, 2018**

0 100 200 300
Scale in Feet

LEGEND

- Found Iron Monument from Former Survey
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- Building Setbacks
- Proposed Building Footprint
- Existing Building Footprint
- Course Change - No Monument Set
- 9840 s.f. — Total Lot Area in Square Feet
- 3895 — Buildable Lot Area in Square Feet
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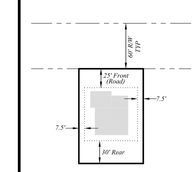
- Drainage / Utility Easement Lines

The Orientation of this bearing system is assumed. The West line of PHEASANT RUN SECOND ADDITION is assumed to bear N 0°56'55" E

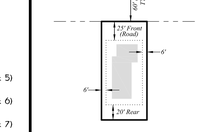
Typical Single Family Home Building Setbacks



Single Family Homes

Block 1:
Lots 1-35
Block 2:
Lots 1-25 (all of Block 2)
Block 3:
Lots 1-18 (all of Block 3)
Block 4:
Lots 12-46
Block 5:
None
Block 6:
None
Block 7:
None
Block 8:
Lots 1-16 (all of Block 8)
Block 9:
None

Typical Patio Home Building Setbacks



Patio Homes

Block 1:
Lots 30-44
Block 2:
None
Block 3:
None
Block 4:
Lots 1-11
Block 5:
Lots 1-16 (all of Block 5)
Block 6:
Lots 1-63 (all of Block 6)
Block 7:
Lots 1-57 (all of Block 7)
Block 8:
None
Block 9:
Lot 1 (all of Block 9)

Preliminary Plat of:

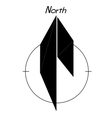
HANOVER COVE

A Planned Unit Development

Located In:
E½ of the NW¼, NE¼ of the SW¼, SW¼ of the NE¼ and the NW¼ of the SE¼, Section 36, Township 120 North, Range 24 West, Wright County, MN

Vicinity Sketch
City of Hanover, MN

Section 36, T120N-R24W



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C/O Jason Ver Steeg
408 6th St
Prinsburg, MN 56281

Dated: **November 12, 2018**

0 100 200 300
Scale in Feet

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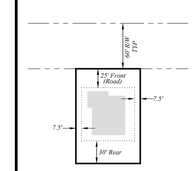
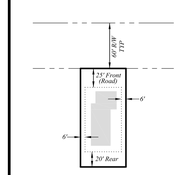
Typical Single Family Home Building Setbacks



Single Family Homes

Block 1:
Lots 1-35
Block 2:
Lots 1-25 (all of Block 2)
Block 3:
Lots 1-18 (all of Block 3)
Block 4:
Lots 12-46
Block 5:
None
Block 6:
None
Block 7:
None
Block 8:
Lots 1-16 (all of Block 8)
Block 9:
None

Typical Patio Home Building Setbacks



Patio Homes

Block 1:
Lots 30-44
Block 2:
None
Block 3:
None
Block 4:
Lots 1-11
Block 5:
Lots 1-16 (all of Block 5)
Block 6:
Lots 1-63 (all of Block 6)
Block 7:
Lots 1-57 (all of Block 7)
Block 8:
None
Block 9:
Lot 1 (all of Block 9)

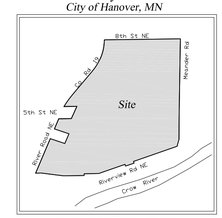
Preliminary Plat of:

HANOVER COVE

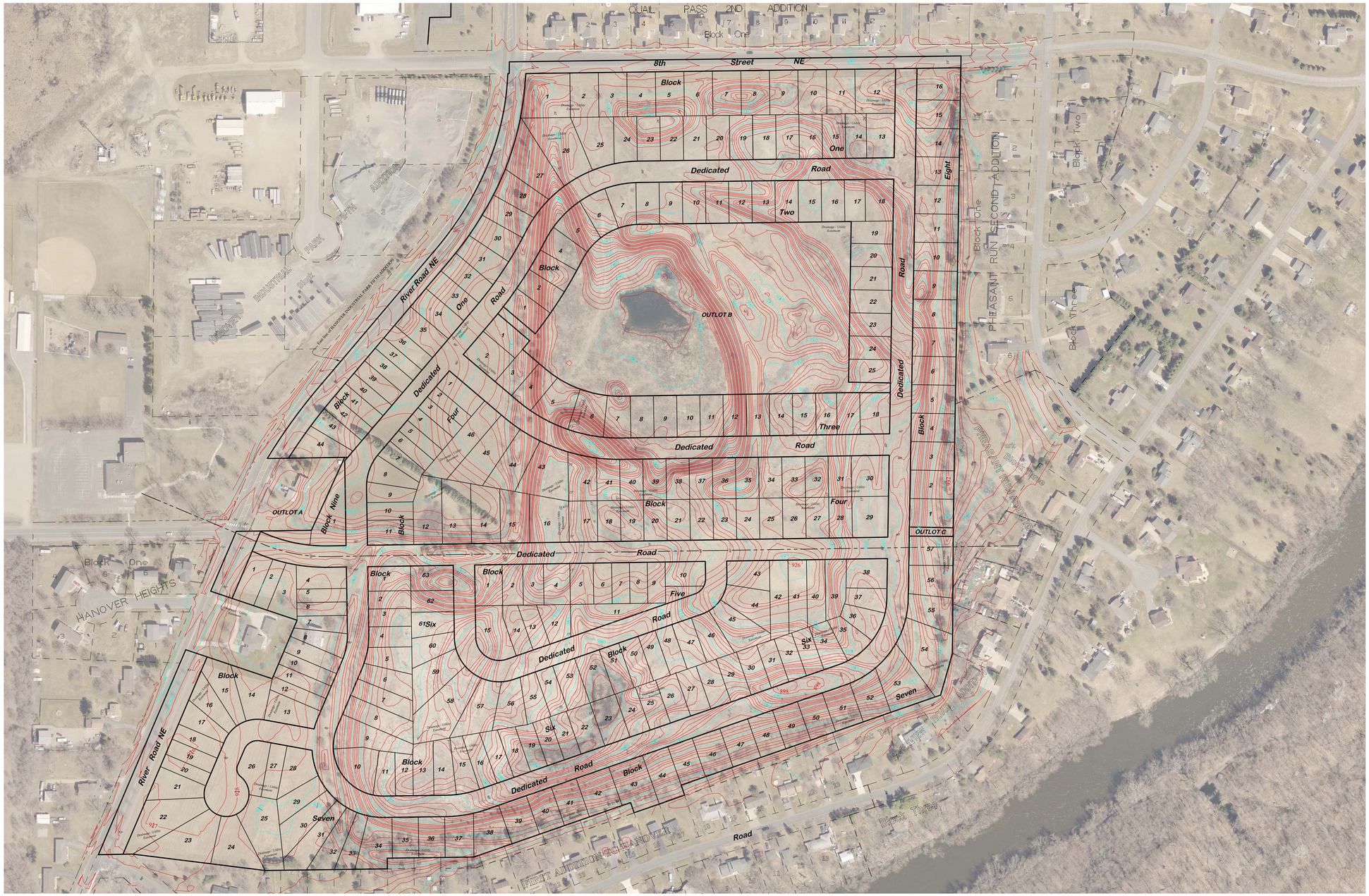
A Planned Unit Development

Located In:
E½ of the NW¼, NE¼ of the SW¼, SW¼ of the NE¼ and the NW¼ of the SE¼, Section 36, Township 120 North, Range 24 West, Wright County, MN

Vicinity Sketch
City of Hanover, MN



Section 36, T120N-R24W



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Dated: **November 12, 2018**

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- ◉ Cast Iron Monument

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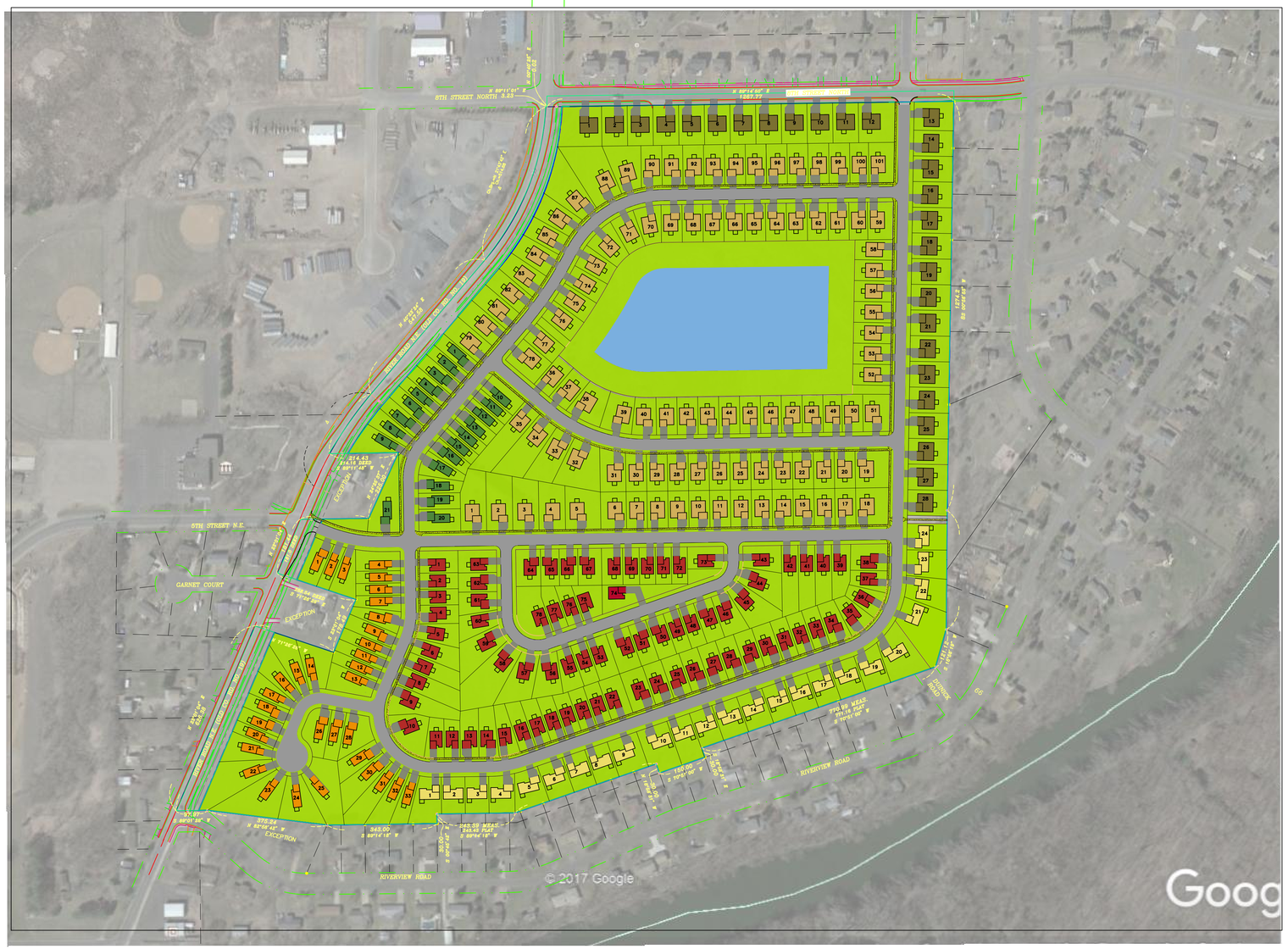
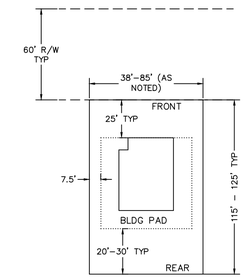
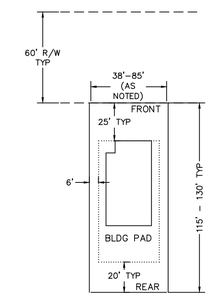
Sheet 4 of 4



PRELIMINARY LOT CONFIGURATIONS



SINGLE FAMILY HOMES



PATIO/FLEX HOMES

CONCEPT DATA

GROSS SITE AREA: 82.6 ACRES
LOT AREA: 58.6 ACRES
R/W AREA: 14.8 ACRES
PONDING/OPEN AREA: 9.2 ACRES

LOT LEGEND	# OF LOTS
75-85' SINGLE FAMILY LOTS	28
75'-85' PATIO HOME LOTS	24
65'-75' SINGLE FAMILY LOTS	101
50-60' PATIO HOME LOTS	78
38'-46' PATIO HOME LOTS	33
38'-46' PATIO HOMES/MULTI LEVEL HOMES FLEX LOTS	21
TOTAL	285

DEVELOPER:

PAXMAR, LLC
3495 NORTHDALE BLVD
SUITE 210
COON RAPIDS, MN 55448

0 200 400 Feet

DATE	REVISIONS	NO.	BY

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DUININCK
P.O BOX 208
408 SIXTH STREET
PRINSBURG, MN 56281
PHONE: (320) 978-6011
FAX: (320) 978-4978

SCALE GRAPHIC
DRAWN BY: JVS
CHECKED BY: JVS
SURVEYED BY: KVD

HANOVER COVE
CONCEPT PLAN

HANOVER, MN

DATE
REVISED: NOVEMBER 16, 2018

SHEET 1 OF 1

Lot List by Phase

Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8	Phase 9
Block 1, Lot 1	Block 1, Lot 13	Block 6, Lot 10	Block 3, Lot 3	Block 6, Lot 23	Block 2, Lot 19	Block 5, Lot 10	Block 4, Lot 12	Block 1, Lot 36
Block 1, Lot 2	Block 1, Lot 14	Block 6, Lot 11	Block 3, Lot 4	Block 6, Lot 24	Block 2, Lot 20	Block 5, Lot 11	Block 4, Lot 13	Block 1, Lot 37
Block 1, Lot 3	Block 1, Lot 15	Block 6, Lot 12	Block 3, Lot 5	Block 6, Lot 25	Block 2, Lot 21	Block 5, Lot 12	Block 4, Lot 14	Block 1, Lot 38
Block 1, Lot 4	Block 1, Lot 16	Block 6, Lot 13	Block 3, Lot 6	Block 6, Lot 26	Block 2, Lot 22	Block 5, Lot 13	Block 4, Lot 15	Block 1, Lot 39
Block 1, Lot 5	Block 1, Lot 17	Block 6, Lot 14	Block 3, Lot 7	Block 6, Lot 27	Block 2, Lot 23	Block 5, Lot 14	Block 4, Lot 16	Block 1, Lot 40
Block 1, Lot 6	Block 1, Lot 18	Block 6, Lot 15	Block 3, Lot 8	Block 6, Lot 28	Block 2, Lot 24	Block 5, Lot 15	Block 4, Lot 17	Block 1, Lot 41
Block 1, Lot 7	Block 1, Lot 19	Block 6, Lot 16	Block 3, Lot 9	Block 6, Lot 29	Block 2, Lot 25	Block 6, Lot 43	Block 4, Lot 18	Block 1, Lot 42
Block 1, Lot 8	Block 1, Lot 20	Block 6, Lot 17	Block 3, Lot 10	Block 6, Lot 30	Block 8, Lot 1	Block 6, Lot 44	Block 4, Lot 19	Block 1, Lot 43
Block 1, Lot 9	Block 1, Lot 21	Block 6, Lot 18	Block 3, Lot 11	Block 6, Lot 31	Block 8, Lot 2	Block 6, Lot 45	Block 4, Lot 20	Block 1, Lot 44
Block 1, Lot 10	Block 1, Lot 22	Block 6, Lot 19	Block 3, Lot 12	Block 6, Lot 32	Block 8, Lot 3	Block 6, Lot 46	Block 4, Lot 21	Block 4, Lot 1
Block 1, Lot 11	Block 1, Lot 23	Block 6, Lot 20	Block 3, Lot 13	Block 6, Lot 33	Block 8, Lot 4	Block 6, Lot 47	Block 4, Lot 22	Block 4, Lot 2
Block 1, Lot 12	Block 1, Lot 24	Block 6, Lot 21	Block 3, Lot 14	Block 6, Lot 34	Block 8, Lot 5	Block 6, Lot 48	Block 4, Lot 23	Block 4, Lot 3
Block 1, Lot 27	Block 1, Lot 25	Block 6, Lot 22	Block 3, Lot 15	Block 6, Lot 35	Block 8, Lot 6	Block 6, Lot 49	Block 4, Lot 24	Block 4, Lot 4
Block 1, Lot 28	Block 1, Lot 26	Block 7, Lot 29	Block 3, Lot 16	Block 6, Lot 36	Block 8, Lot 7	Block 6, Lot 50	Block 4, Lot 25	Block 4, Lot 5
Block 1, Lot 29	Block 2, Lot 6	Block 7, Lot 30	Block 3, Lot 17	Block 6, Lot 37	Block 8, Lot 8	Block 6, Lot 51	Block 4, Lot 26	Block 4, Lot 6
Block 1, Lot 30	Block 2, Lot 7	Block 7, Lot 31	Block 3, Lot 18	Block 6, Lot 38	Block 8, Lot 9	Block 6, Lot 52	Block 4, Lot 27	Block 4, Lot 7
Block 1, Lot 31	Block 2, Lot 8	Block 7, Lot 32	Block 4, Lot 30	Block 7, Lot 43	Block 8, Lot 10	Block 6, Lot 53	Block 4, Lot 28	Block 4, Lot 8
Block 1, Lot 32	Block 2, Lot 9	Block 7, Lot 33	Block 4, Lot 31	Block 7, Lot 44	Block 8, Lot 11	Block 6, Lot 54	Block 4, Lot 29	Block 4, Lot 9
Block 1, Lot 33	Block 2, Lot 10	Block 7, Lot 34	Block 4, Lot 32	Block 7, Lot 45	Block 8, Lot 12	Block 6, Lot 55	Block 5, Lot 1	Block 4, Lot 10
Block 1, Lot 34	Block 2, Lot 11	Block 7, Lot 35	Block 4, Lot 33	Block 7, Lot 46	Outlot C	Block 6, Lot 56	Block 5, Lot 2	Block 4, Lot 11
Block 1, Lot 35	Block 2, Lot 12	Block 7, Lot 36	Block 4, Lot 34	Block 7, Lot 47		Block 6, Lot 57	Block 5, Lot 3	
Block 2, Lot 1	Block 2, Lot 13	Block 7, Lot 37	Block 4, Lot 35	Block 7, Lot 48		Block 6, Lot 58	Block 5, Lot 4	
Block 2, Lot 2	Block 2, Lot 14	Block 7, Lot 38	Block 4, Lot 36	Block 7, Lot 49		Block 6, Lot 59	Block 5, Lot 5	
Block 2, Lot 3	Block 2, Lot 15	Block 7, Lot 39	Block 4, Lot 37	Block 7, Lot 50		Block 6, Lot 60	Block 5, Lot 6	
Block 2, Lot 4	Block 2, Lot 16	Block 7, Lot 40	Block 4, Lot 38	Block 7, Lot 51		Block 6, Lot 61	Block 5, Lot 7	
Block 2, Lot 5	Block 2, Lot 17	Block 7, Lot 41	Block 4, Lot 39	Block 7, Lot 52		Block 6, Lot 62	Block 5, Lot 8	
Block 3, Lot 1	Block 2, Lot 18	Block 7, Lot 42	Block 4, Lot 40	Block 7, Lot 53		Block 6, Lot 63	Block 5, Lot 9	
Block 3, Lot 2	Block 6, Lot 1		Block 4, Lot 41	Block 7, Lot 54			Block 6, Lot 39	
Block 7, Lot 1	Block 6, Lot 2		Block 4, Lot 42	Block 7, Lot 55			Block 6, Lot 40	
Block 7, Lot 2	Block 6, Lot 3		Block 4, Lot 43	Block 7, Lot 56			Block 6, Lot 41	
Block 7, Lot 3	Block 6, Lot 4		Block 4, Lot 44	Block 7, Lot 57			Block 6, Lot 42	
Block 9, Lot 1	Block 6, Lot 5		Block 4, Lot 45					
Outlot A	Block 6, Lot 6		Block 4, Lot 46					
Outlot B	Block 6, Lot 7		Block 7, Lot 14					
	Block 6, Lot 8		Block 7, Lot 15					
	Block 6, Lot 9		Block 7, Lot 16					
	Block 7, Lot 4		Block 7, Lot 17					
	Block 7, Lot 5		Block 7, Lot 18					
	Block 7, Lot 6		Block 7, Lot 19					
	Block 7, Lot 7		Block 7, Lot 20					
	Block 7, Lot 8		Block 7, Lot 21					
	Block 7, Lot 9		Block 7, Lot 22					
	Block 7, Lot 10		Block 7, Lot 23					
	Block 7, Lot 11		Block 7, Lot 24					
	Block 7, Lot 12		Block 7, Lot 25					
	Block 7, Lot 13		Block 7, Lot 26					
	Block 8, Lot 13		Block 7, Lot 27					
	Block 8, Lot 14		Block 7, Lot 28					
	Block 8, Lot 15							
	Block 8, Lot 16							

Phasing Summary

Phase	# of Lots / Dwelling Units	Total Area (Acres)	Buildable Area (Acres)	Roadway / Utility Construction	
Phase 1	32	17.8	3.31	Street "D"	Sta 0+00 - 3+88
				Street "F"	Sta 0+00 - 12+25
Phase 2	50	12.3	4.39	Street "F"	Sta 12+25 - 21+75
				Street "A"	Sta 0+00 - 5+65
				Street "G"	Sta 10+25 - 13+79
Phase 3	27	6.6	2.86	Street "A"	Sta 5+65 - 14+75
Phase 4	48	13.1	5.11	Street "E"	Sta 0+00 - 13+50
				Street "C"	Sta 0+00 - 4+75
Phase 5	31	8.3	3.52	Street "A"	Sta 14+75 - 25+93
Phase 6	19	5.1	1.72	Street "G"	Sta 0+00 - 10+25
Phase 7	27	7.6	3.02	Street "B"	Sta 0+00 - 11+45
Phase 8	31	7.9	2.95	Street "D"	Sta 3+88 - 18+71
Phase 9	20	3.8	1.33		

NOTE:

TREE REMOVAL AND MASS GRADING (INCLUDING EROSION CONTROL) WILL BE COMPLETED ON ENTIRE DEVELOPMENT, PRIOR TO COMMENCEMENT OF PHASE 1 IMPROVEMENTS.

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HANOVER COVE
PRELIMINARY ENGINEERING PLAN
PHASING PLAN

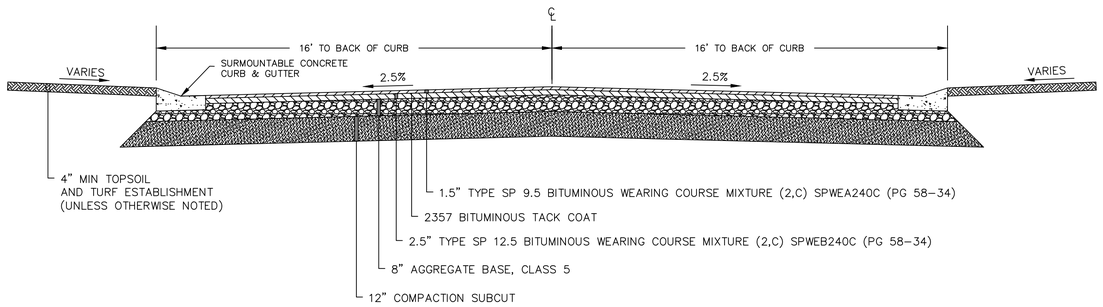
HANOVER, MN

CHECKED BY: JVS	DRAWN BY: JVS

SCALE
GRAPHIC

DATE
NOV 16, 2018

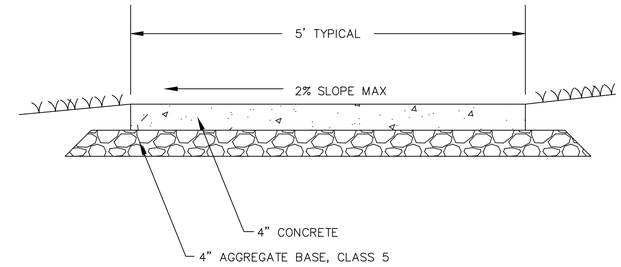
SHEET
PHASING



ROADWAY TYPICAL SECTION

N.T.S.

NOTE: ALL CURB RADIUSES ARE 20' UNLESS OTHERWISE NOTED.



SIDEWALK TYPICAL SECTION

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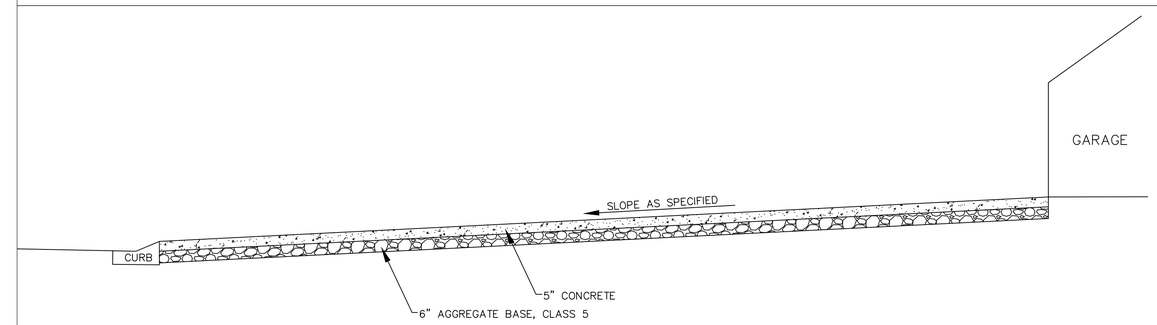

DRIVEWAY TYPICAL SECTION

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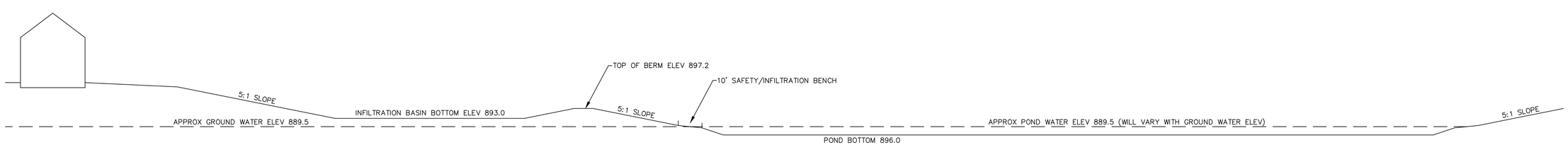

PONDING TYPICAL SECTION

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HANOVER COVE
PRELIMINARY ENGINEERING PLAN
TYPICAL SECTIONS

HANOVER, MN

CHECKED BY: JVS	DRAWN BY: JVS

SCALE
GRAPHIC

DATE
NOV 16, 2018

SHEET
TYP1

DRAINAGE AREA SUMMARY

DRAINS OFFSITE	12.8 ACRES
INFILTRATES ONSITE	69.7 ACRES
TOTAL	82.5 ACRES

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HANOVER COVE
PRELIMINARY ENGINEERING PLAN
OVERALL EXISTING DRAINAGE MAP

HANOVER, MN

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JVS	JVS

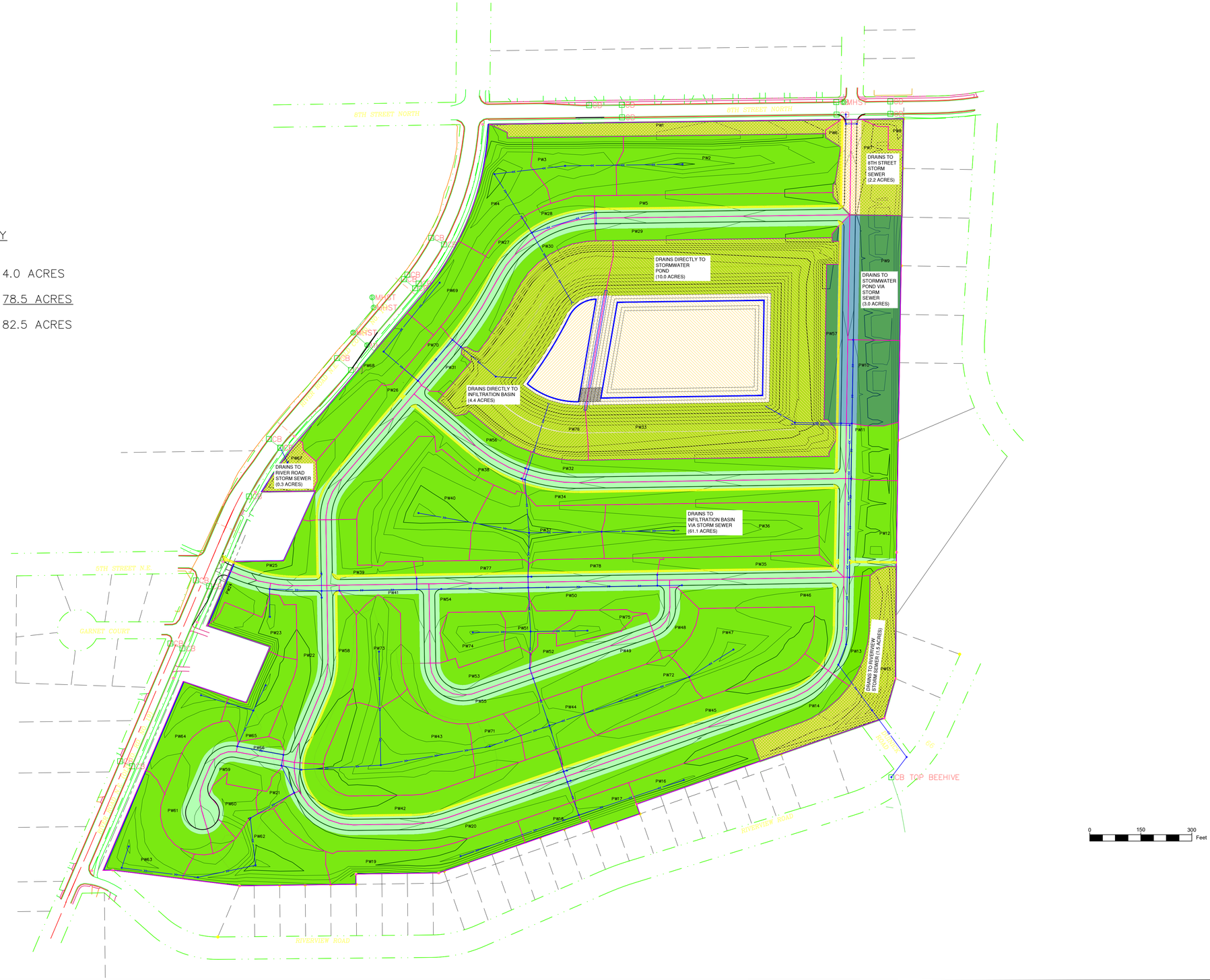
SCALE
GRAPHIC

DATE
NOV 16, 2108

SHEET
EXDRN

DRAINAGE AREA SUMMARY

DRAINS OFFSITE	4.0 ACRES
INFILTRATES ONSITE	78.5 ACRES
TOTAL	82.5 ACRES



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HANOVER COVE
PRELIMINARY ENGINEERING PLAN
OVERALL PROPOSED DRAINAGE MAP

HANOVER, MN

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JVS	JVS

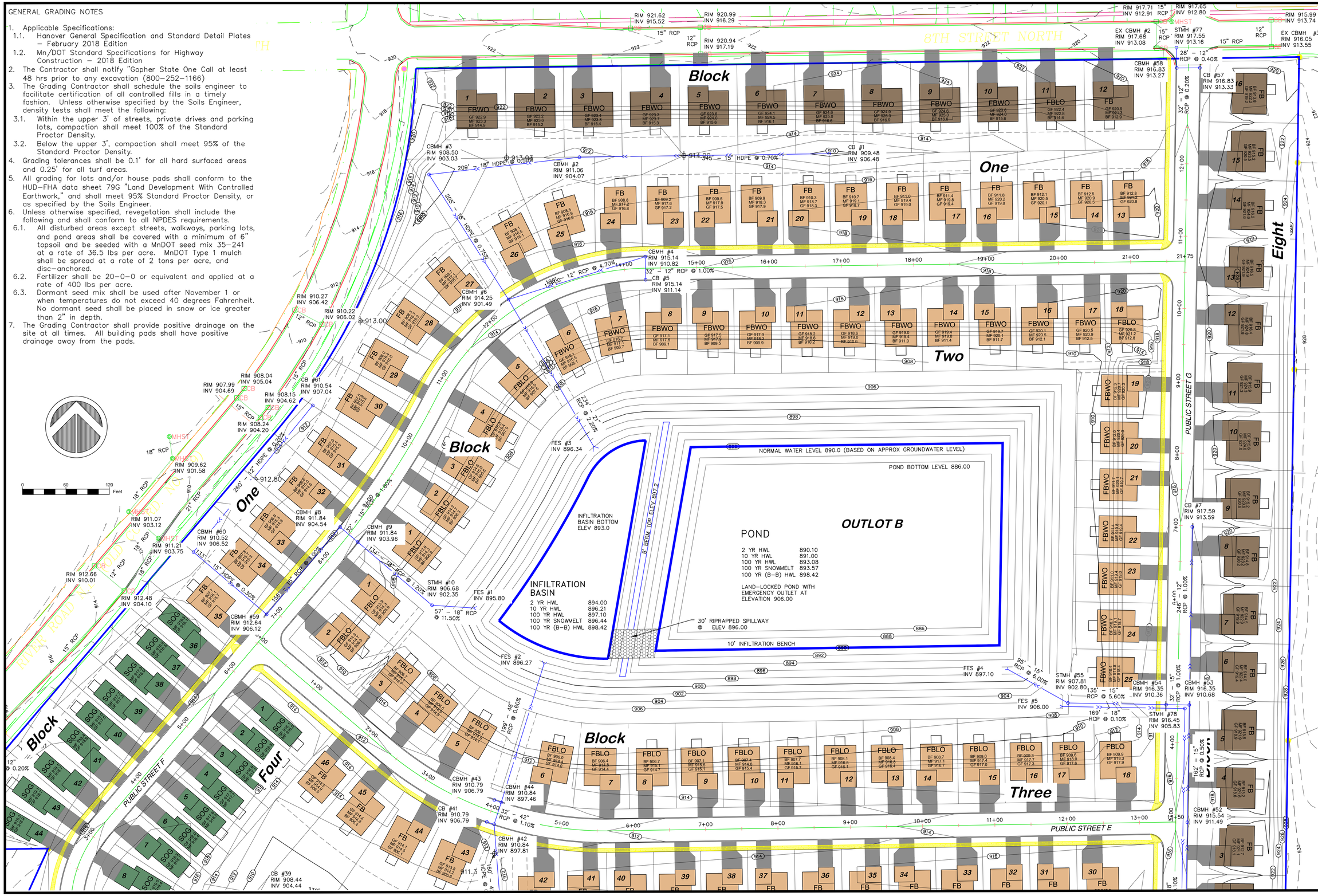
SCALE
GRAPHIC

DATE
NOV 16, 2108

SHEET
PRODRN

GENERAL GRADING NOTES

1. Applicable Specifications:
   1.1. Hanover General Specification and Standard Detail Plates – February 2018 Edition
   1.2. Mn/DOT Standard Specifications for Highway Construction – 2018 Edition
2. The Contractor shall notify "Gopher State One Call at least 48 hrs prior to any excavation (800–252–1166)
3. The Grading Contractor shall schedule the soils engineer to facilitate certification of all controlled fills in a timely fashion. Unless otherwise specified by the Soils Engineer, density tests shall meet the following:
   3.1. Within the upper 3' of streets, private drives and parking lots, compaction shall meet 100% of the Standard Proctor Density.
   3.2. Below the upper 3', compaction shall meet 95% of the Standard Proctor Density.
4. Grading tolerances shall be 0.1' for all hard surfaced areas and 0.25' for all turf areas.
5. All grading for lots and/or house pads shall conform to the HUD–FHA data sheet 79G "Land Development With Controlled Earthwork," and shall meet 95% Standard Proctor Density, or as specified by the Soils Engineer.
6. Unless otherwise specified, revegetation shall include the following and shall conform to all NPDES requirements.
   6.1. All disturbed areas except streets, walkways, parking lots, and pond areas shall be covered with a minimum of 6" topsoil and be seeded with a MnDOT seed mix 35–241 at a rate of 36.5 lbs per acre. MnDOT Type 1 mulch shall be spread at a rate of 2 tons per acre, and disc–anchored.
   6.2. Fertilizer shall be 20–0–0 or equivalent and applied at a rate of 400 lbs per acre.
   6.3. Dormant seed mix shall be used after November 1 or when temperatures do not exceed 40 degrees Fahrenheit. No dormant seed shall be placed in snow or ice greater than 2" in depth.
7. The Grading Contractor shall provide positive drainage on the site at all times. All building pads shall have positive drainage away from the pads.



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HANOVER COVE
PRELIMINARY ENGINEERING PLAN
GRADING AND DRAINAGE PLAN (NORTH)

HANOVER, MN

CHECKED BY:	DRAWN BY:
JVS	JVS

SCALE: GRAPHIC

DATE: NOV 16, 2018

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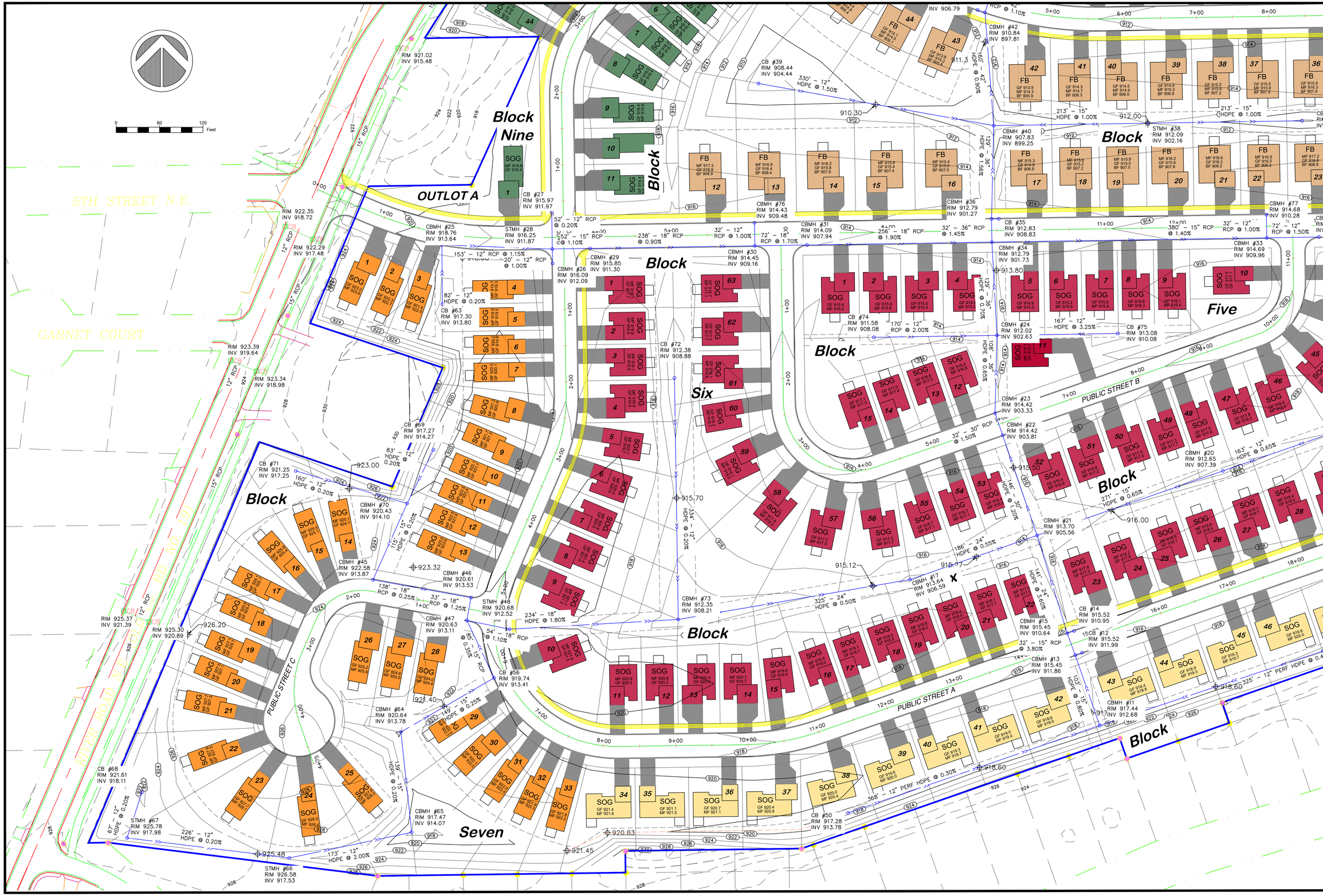

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HANOVER COVE
PRELIMINARY ENGINEERING PLAN
GRADING AND DRAINAGE PLAN (SOUTHWEST)

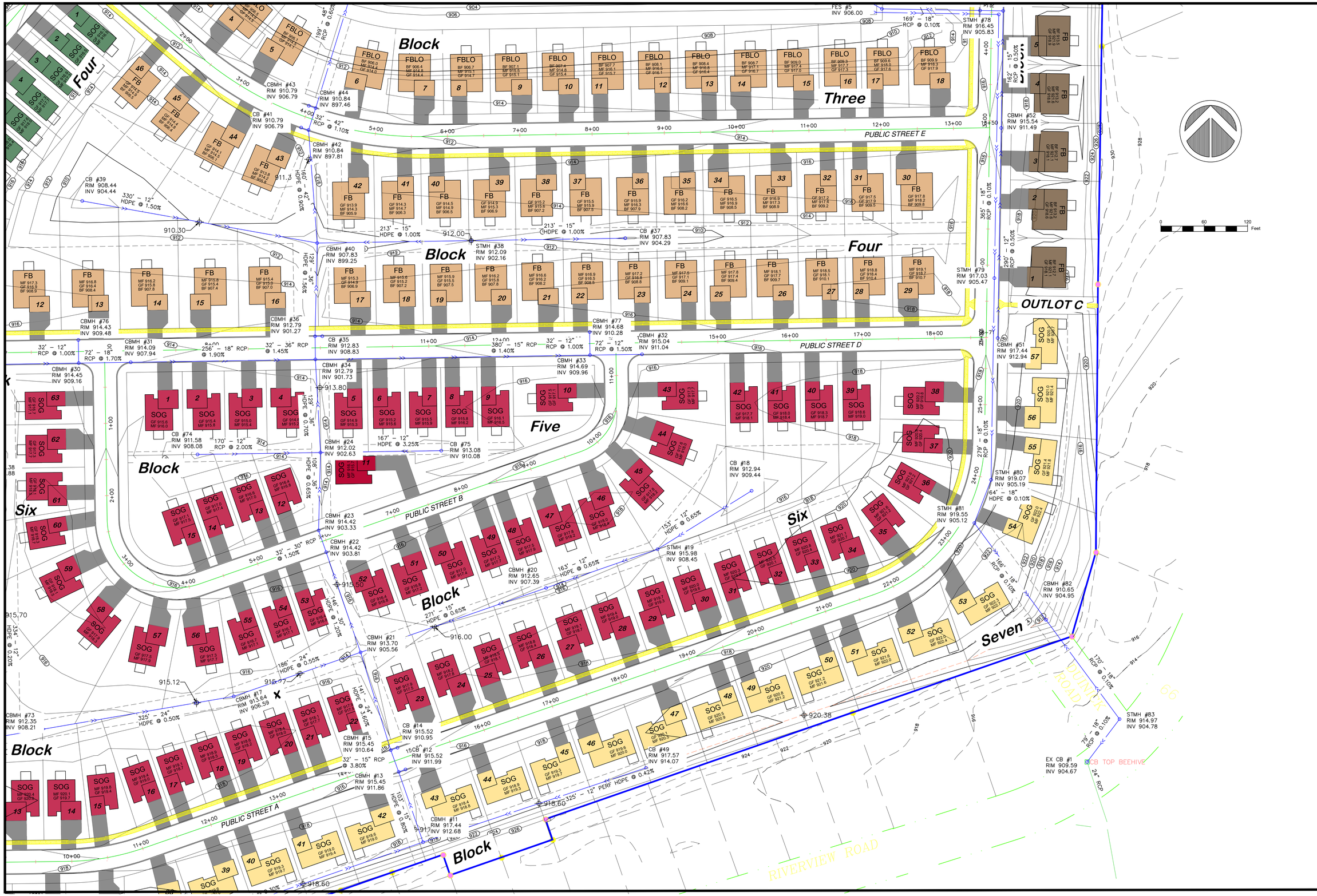
HANOVER, MN

CHECKED BY:	DRAWN BY:
JVS	JVS

SCALE
GRAPHIC

DATE
NOV 16, 2018

SHEET
DRAIN2



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HANOVER COVE
PRELIMINARY ENGINEERING PLAN
GRADING AND DRAINAGE PLAN (SOUTHEAST)

HANOVER, MN

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JVS	JVS

SCALE
GRAPHIC

DATE
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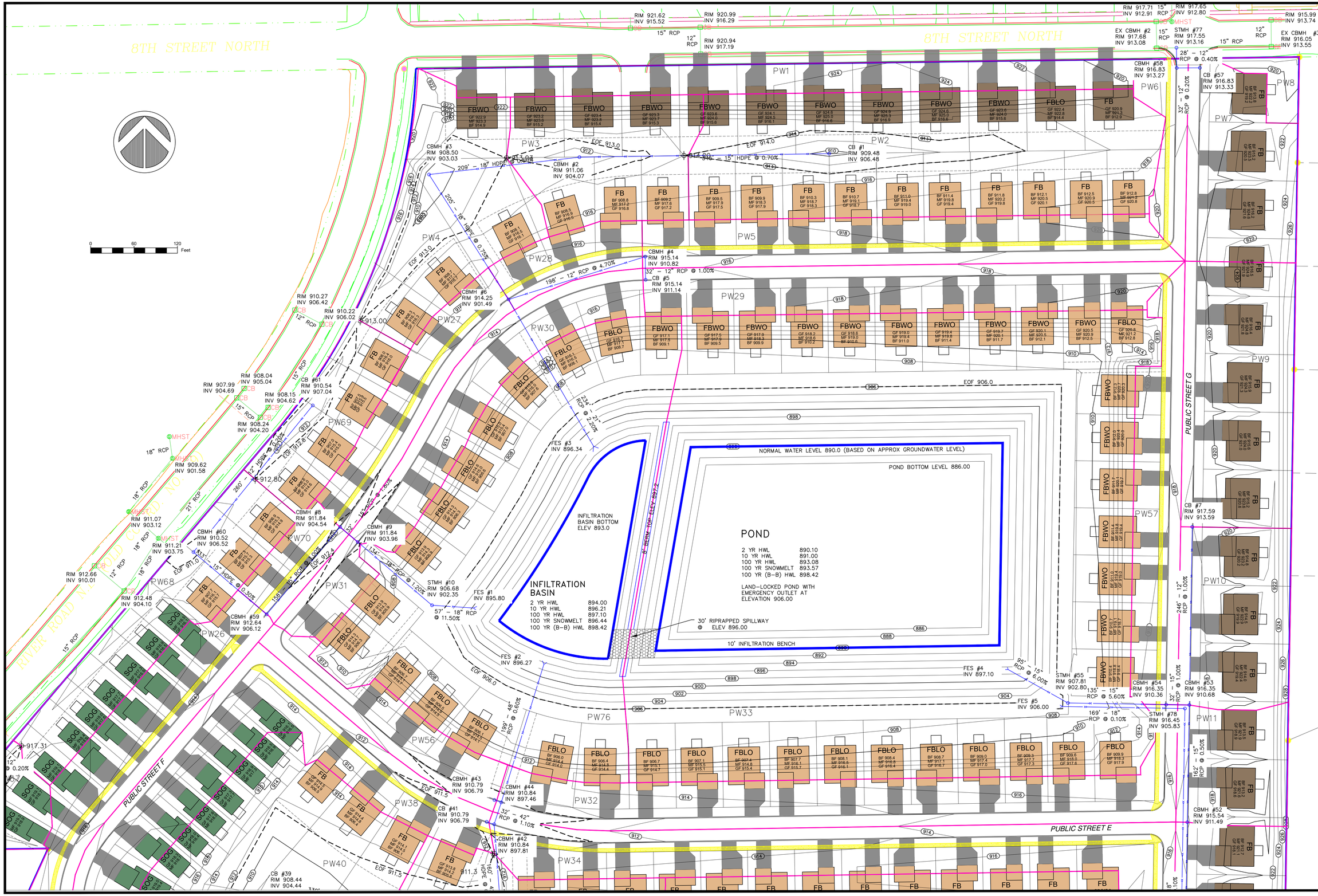

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HANOVER COVE
PRELIMINARY ENGINEERING PLAN
SUBCATCHMENT / EOF MAP (NORTH)

HANOVER, MN

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SCALE GRAPHIC	
DATE NOV 16, 2018	
SHEET SUB1	

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HANOVER COVE

PRELIMINARY ENGINEERING PLAN

SUBCATCHMENT / EOF MAP (SOUTHWEST)

HANOVER, MN

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SCALE
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SUB2

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HANOVER COVE
PRELIMINARY ENGINEERING PLAN
SUBCATCHMENT / EOF MAP (SOUTHEAST)

HANOVER, MN

CHECKED BY:	DRAWN BY:
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DATE
NOV 16, 2018

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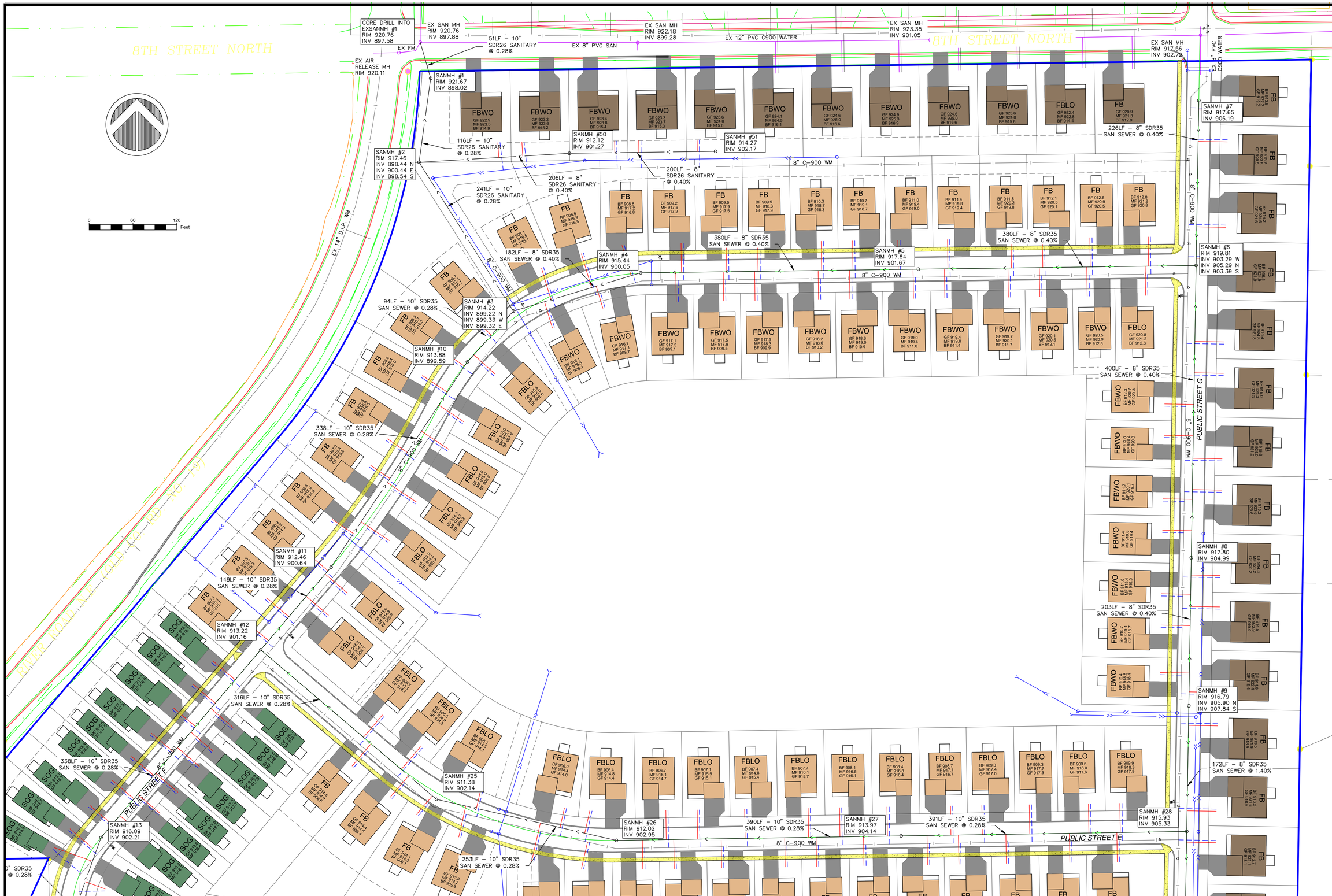

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HANOVER COVE
PRELIMINARY ENGINEERING PLAN
UTILITY PLAN (NORTH)

HANOVER, MN

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HANOVER COVE
PRELIMINARY ENGINEERING PLAN
UTILITY PLAN (SOUTHWEST)

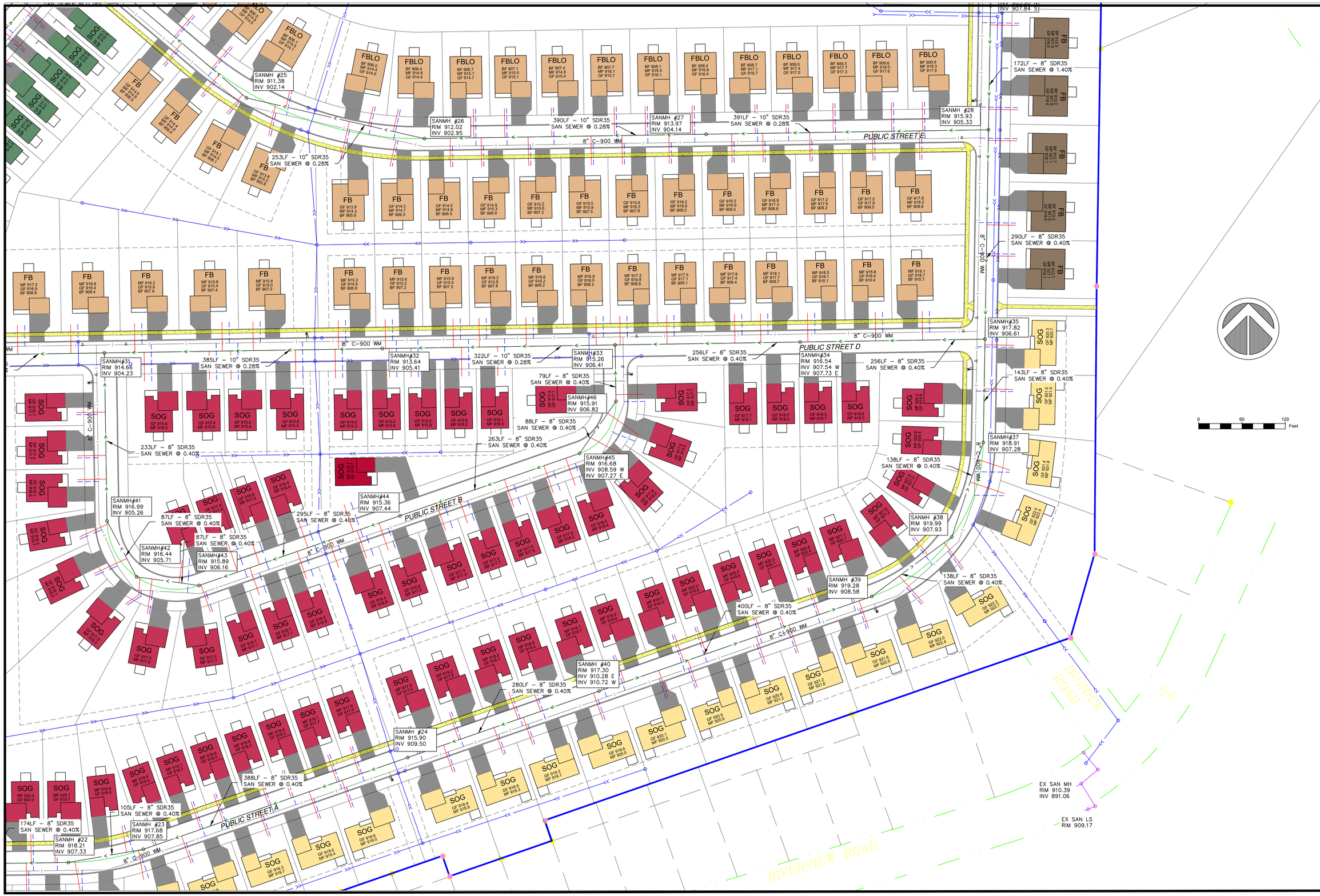
HANOVER, MN

CHECKED BY:	DRAWN BY:
JVS	JVS

SCALE
GRAPHIC

DATE
NOV 16, 2018

SHEET
UTIL2



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HANOVER COVE
PRELIMINARY ENGINEERING PLAN
UTILITY PLAN (SOUTHEAST)

HANOVER, MN

CHECKED BY:	DRAWN BY:
JVS	JVS

SCALE: GRAPHIC

DATE: NOV 16, 2018

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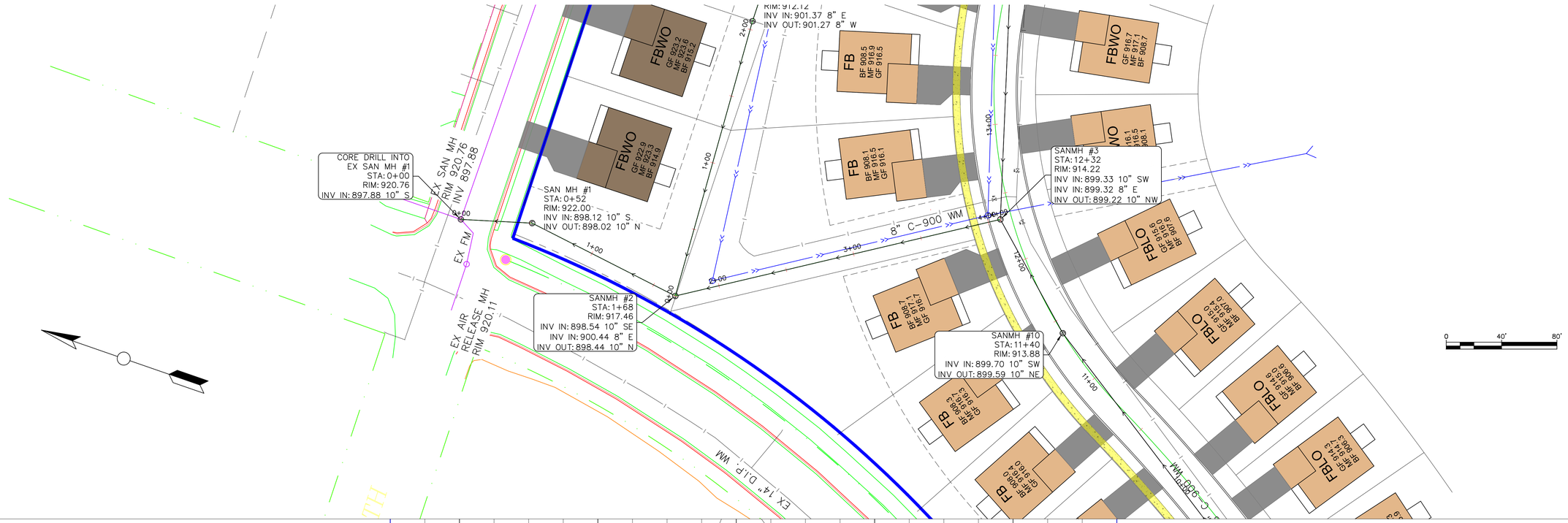

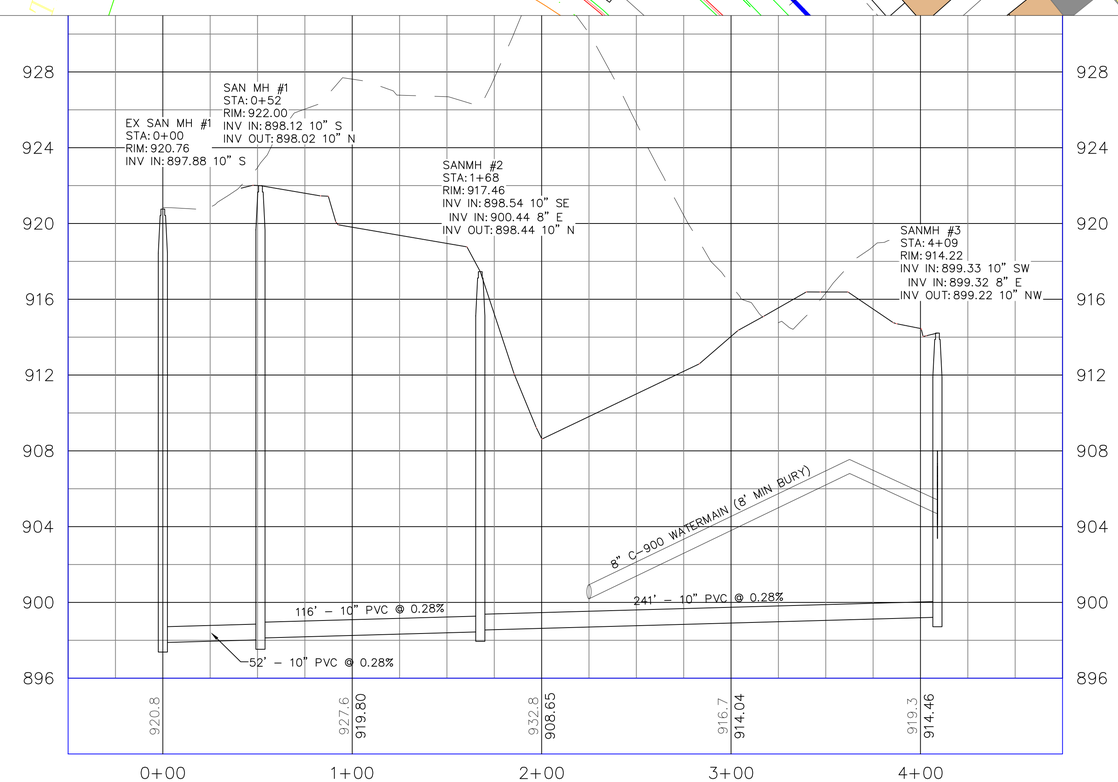

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HANOVER COVE
PRELIMINARY ENGINEERING PLAN
PLAN AND PROFILE

HANOVER, MN

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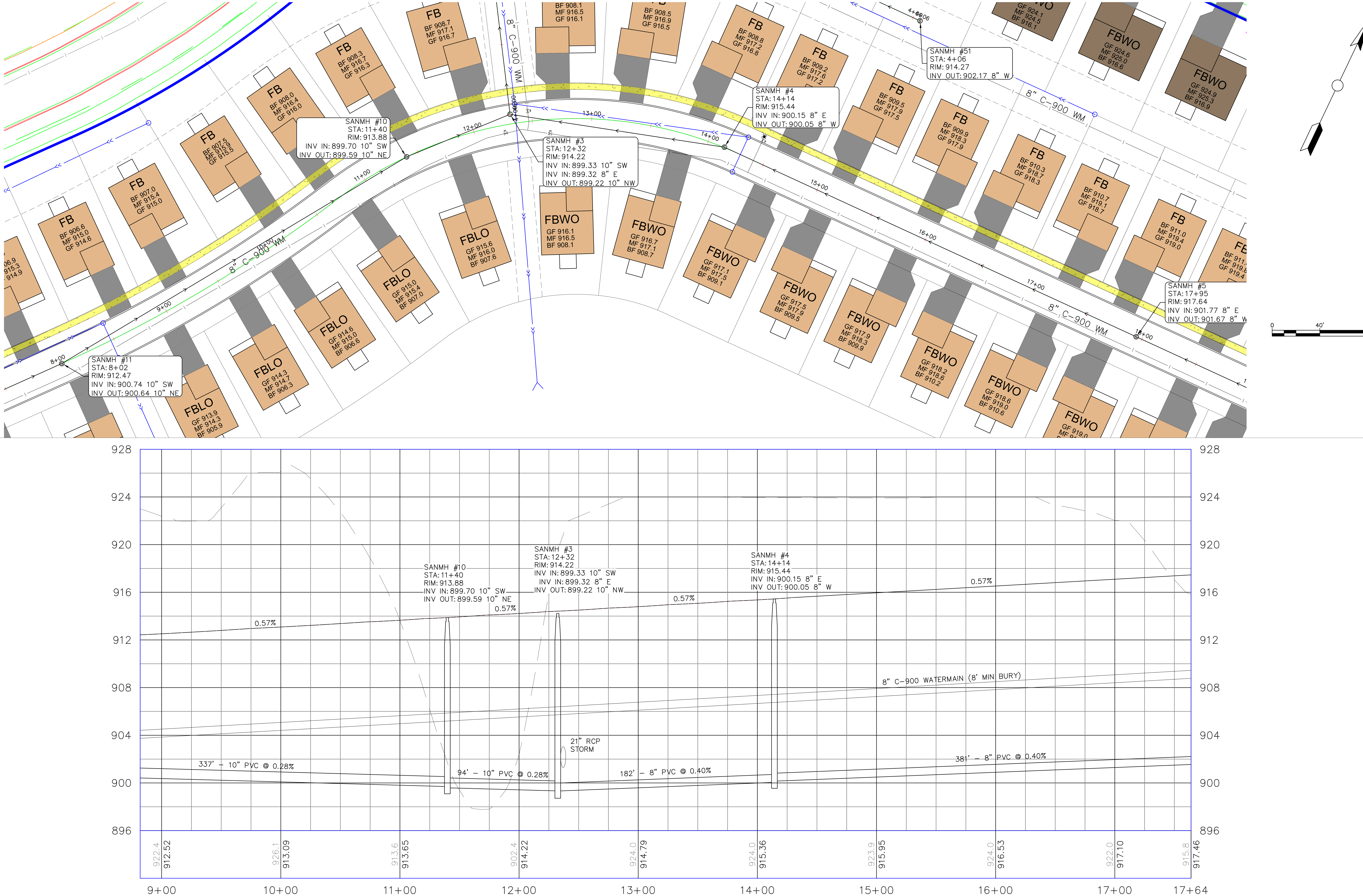
SCALE	GRAPHIC
DATE	NOV 16, 2018
SHEET	PP1



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HANOVER COVE
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HANOVER, MN

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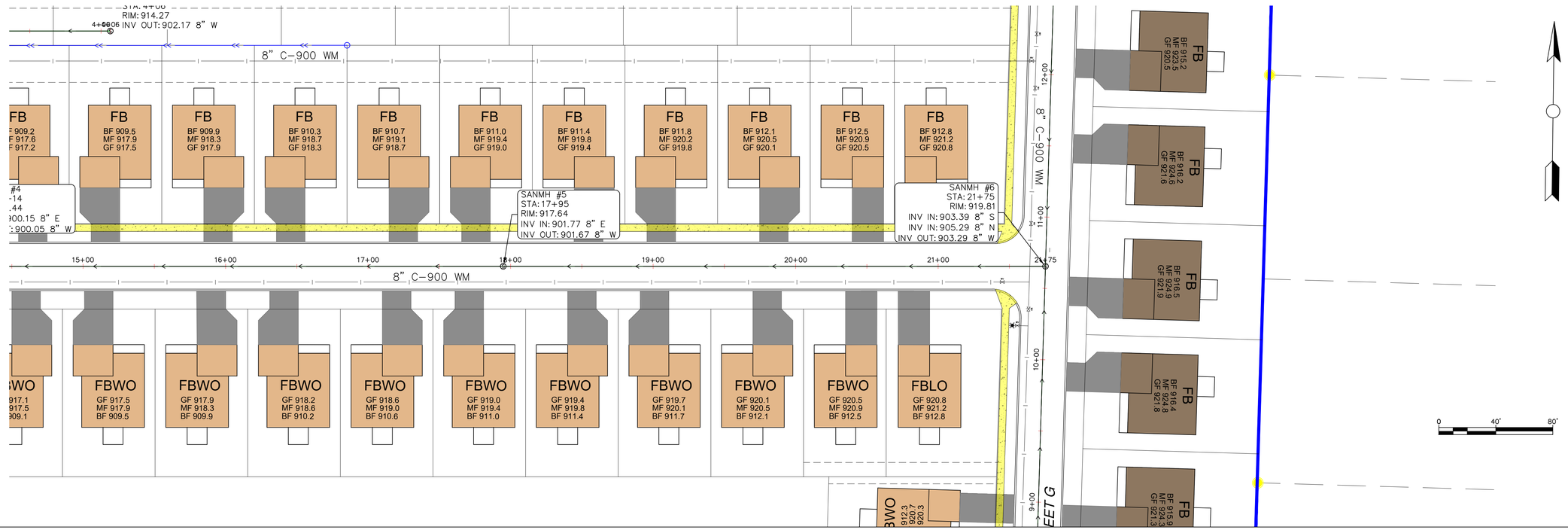

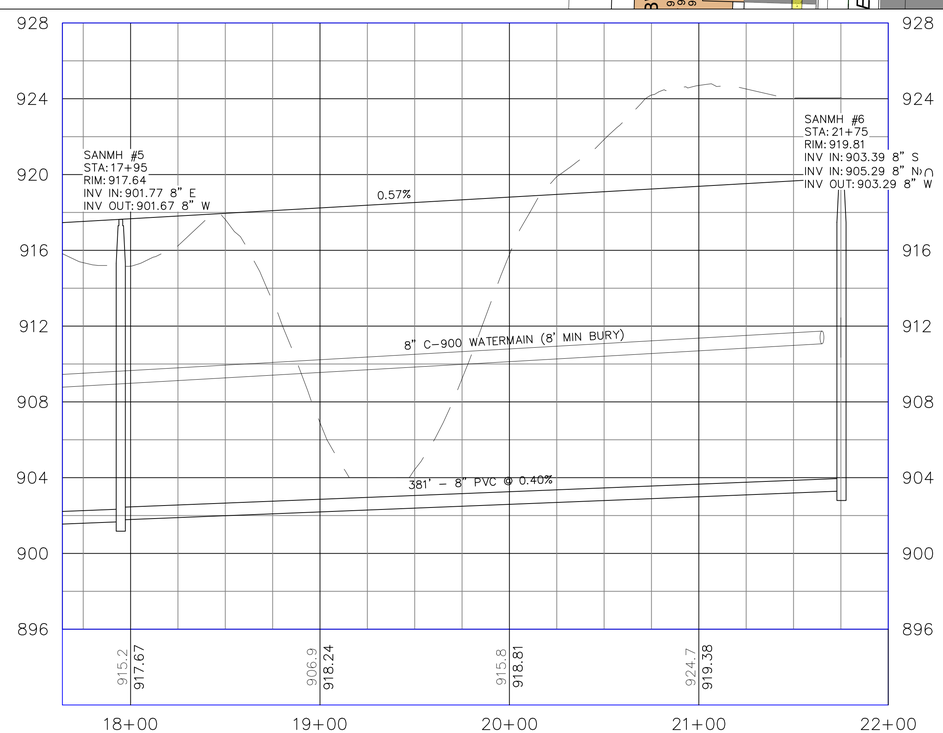

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HANOVER COVE
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PLAN AND PROFILE - STREET F

HANOVER, MN

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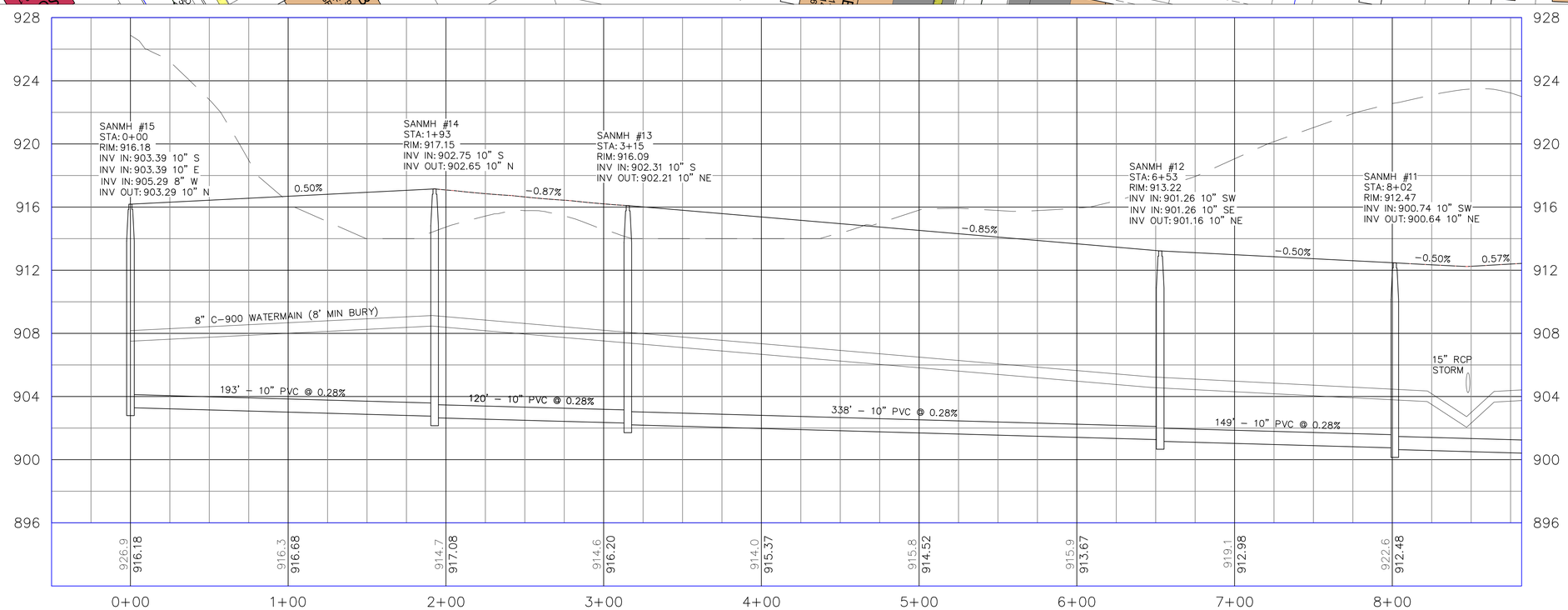

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HANOVER, MN

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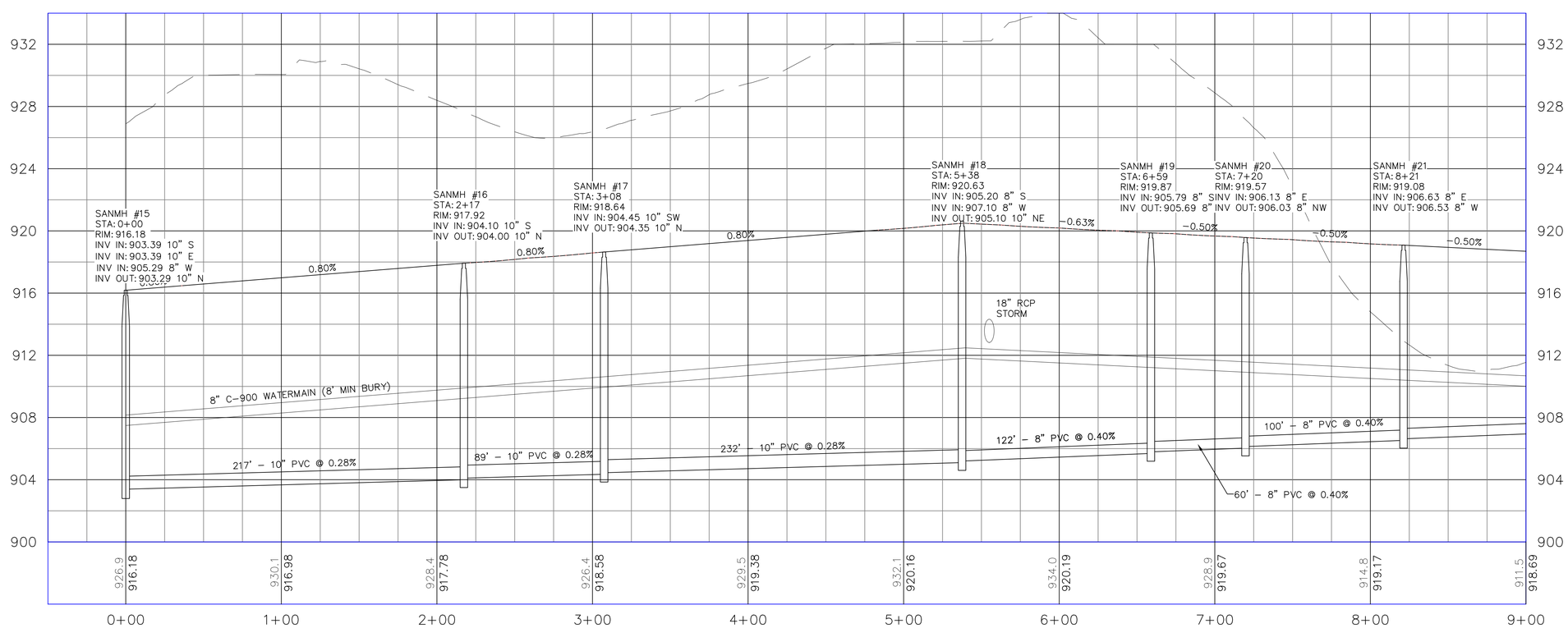

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HANOVER COVE
PRELIMINARY ENGINEERING PLAN
PLAN AND PROFILE - STREET A
HANOVER, MN

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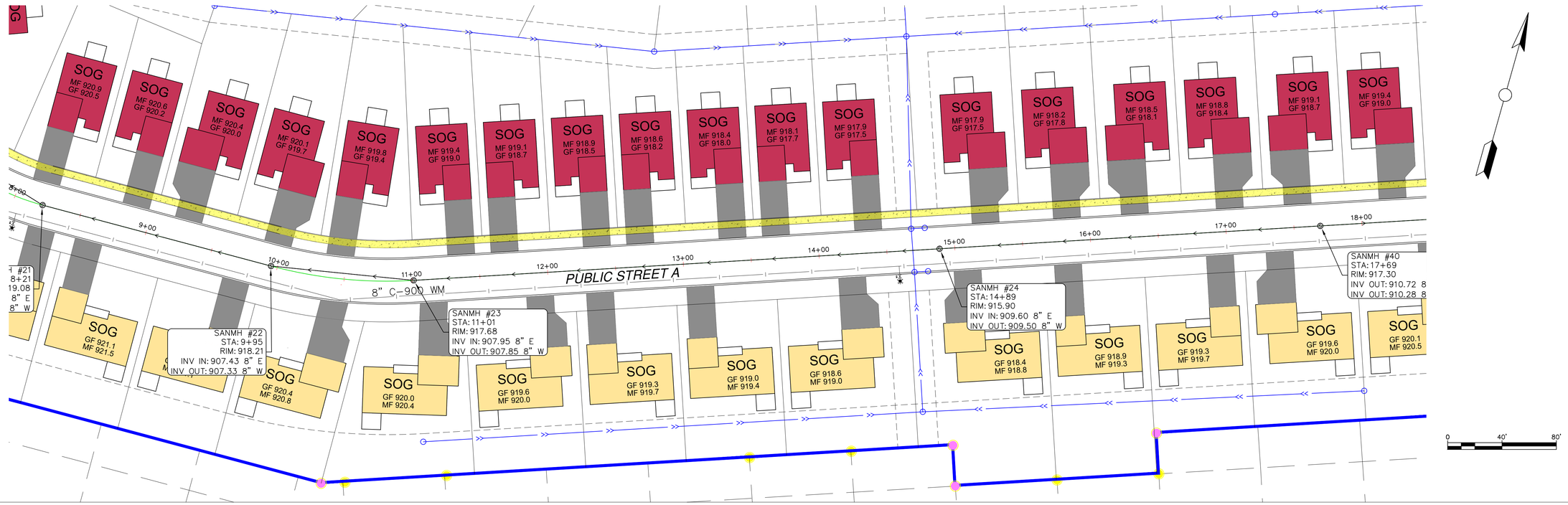

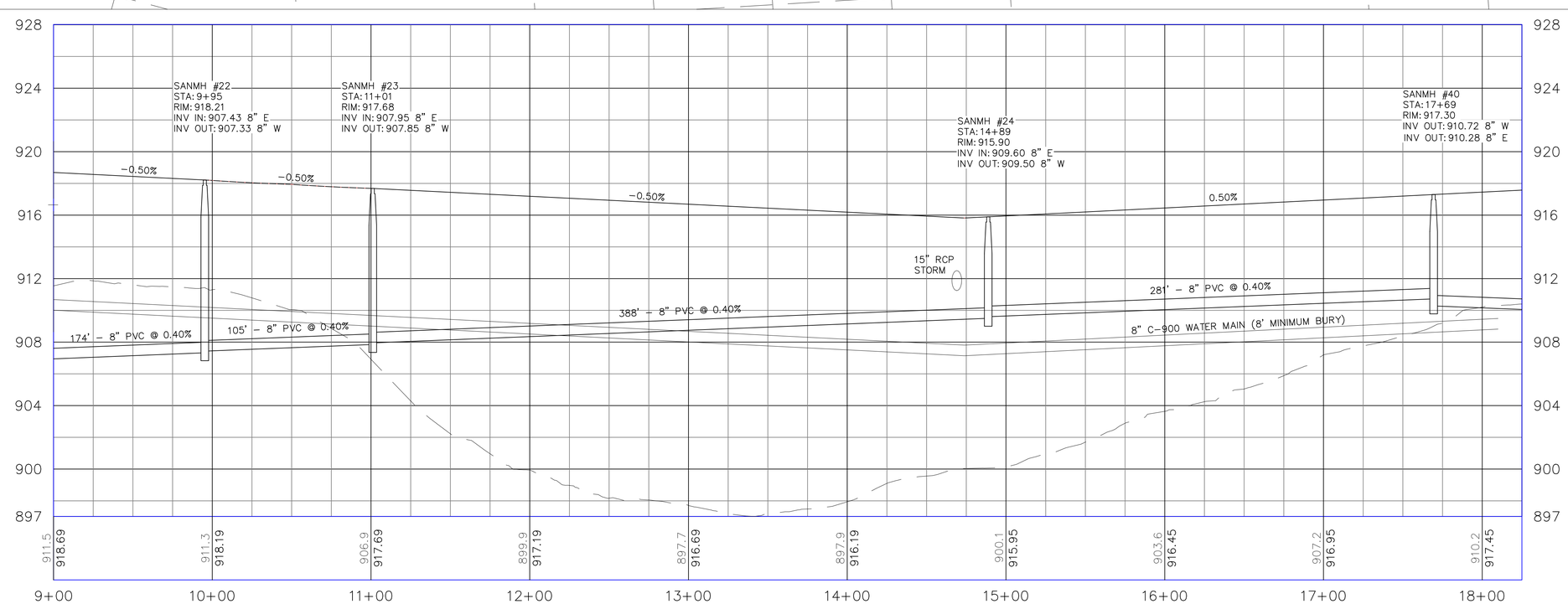

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PLAN AND PROFILE - STREET A

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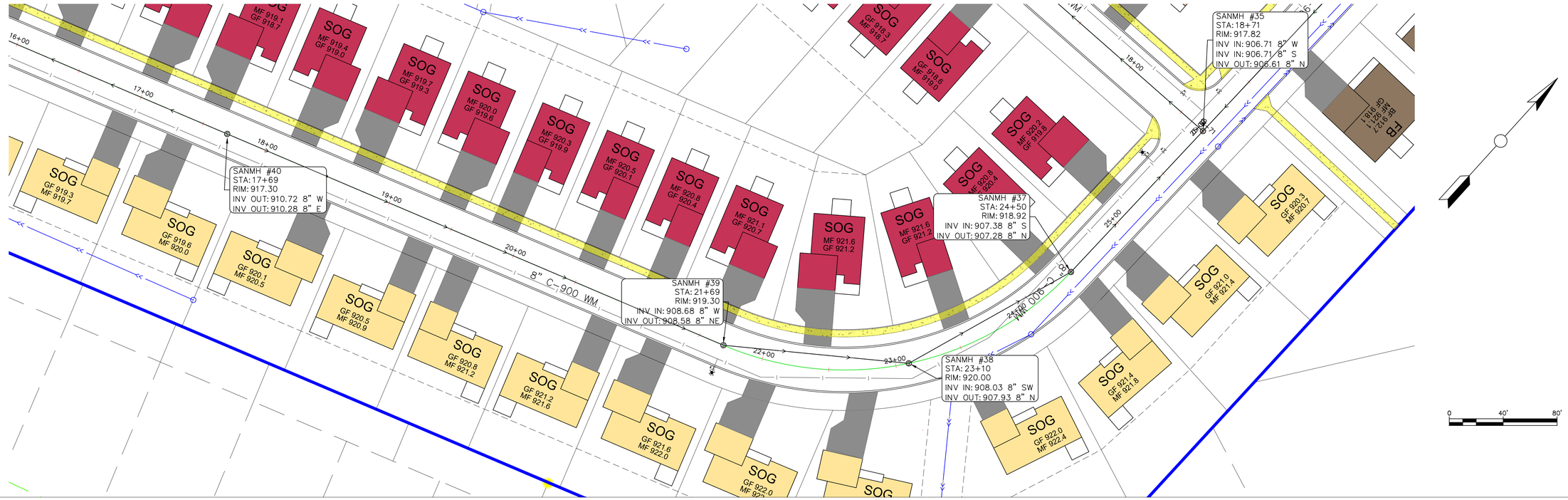

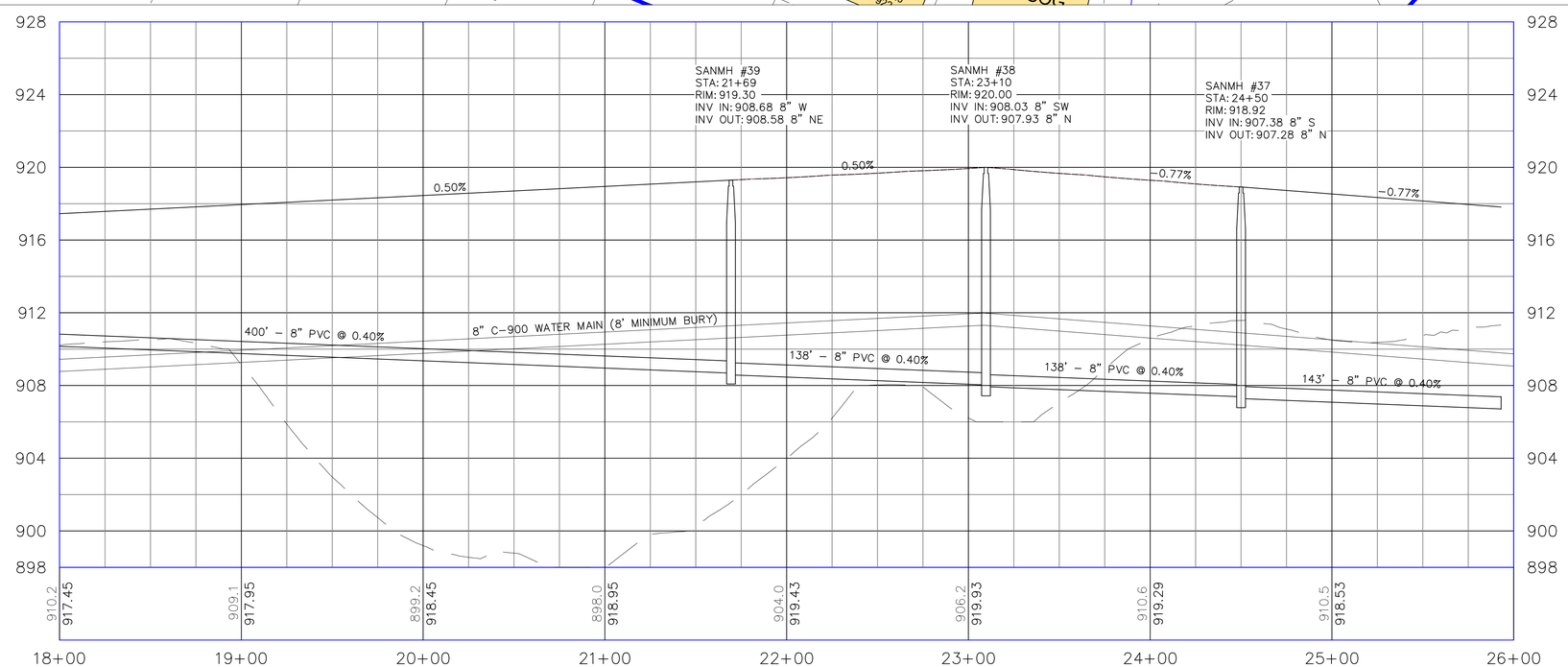

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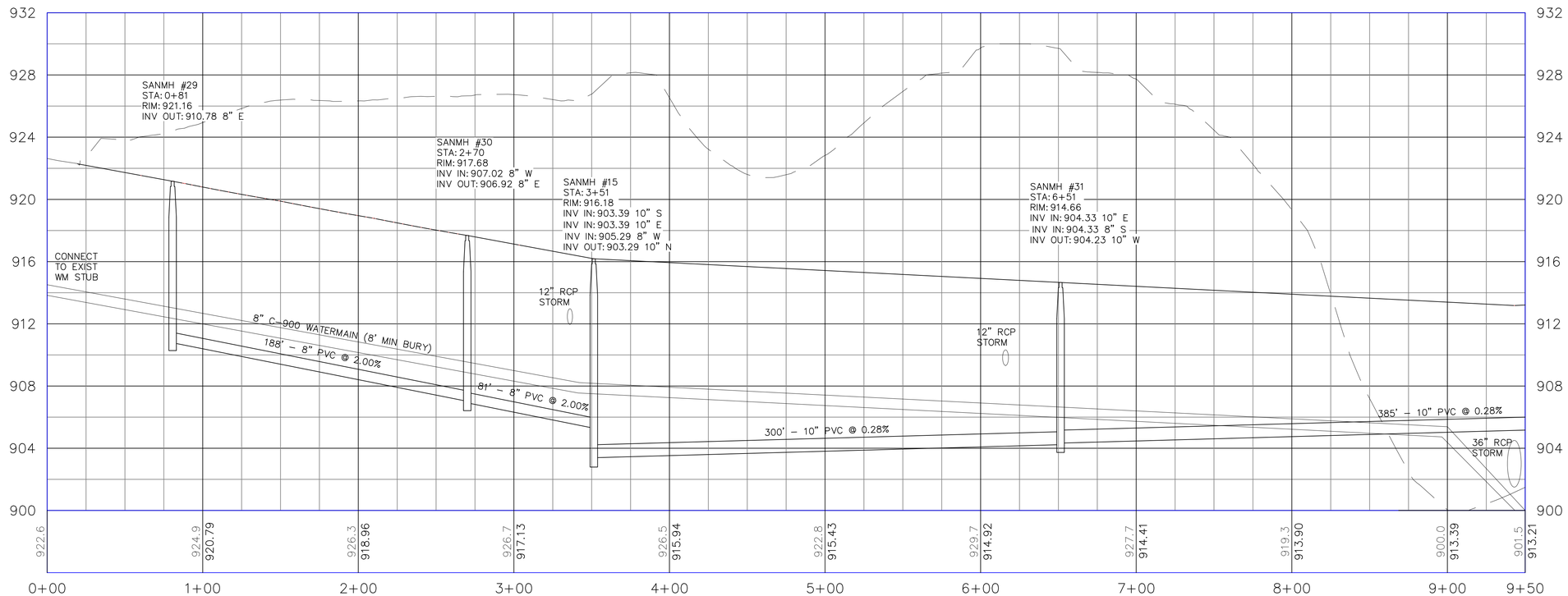

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HANOVER, MN

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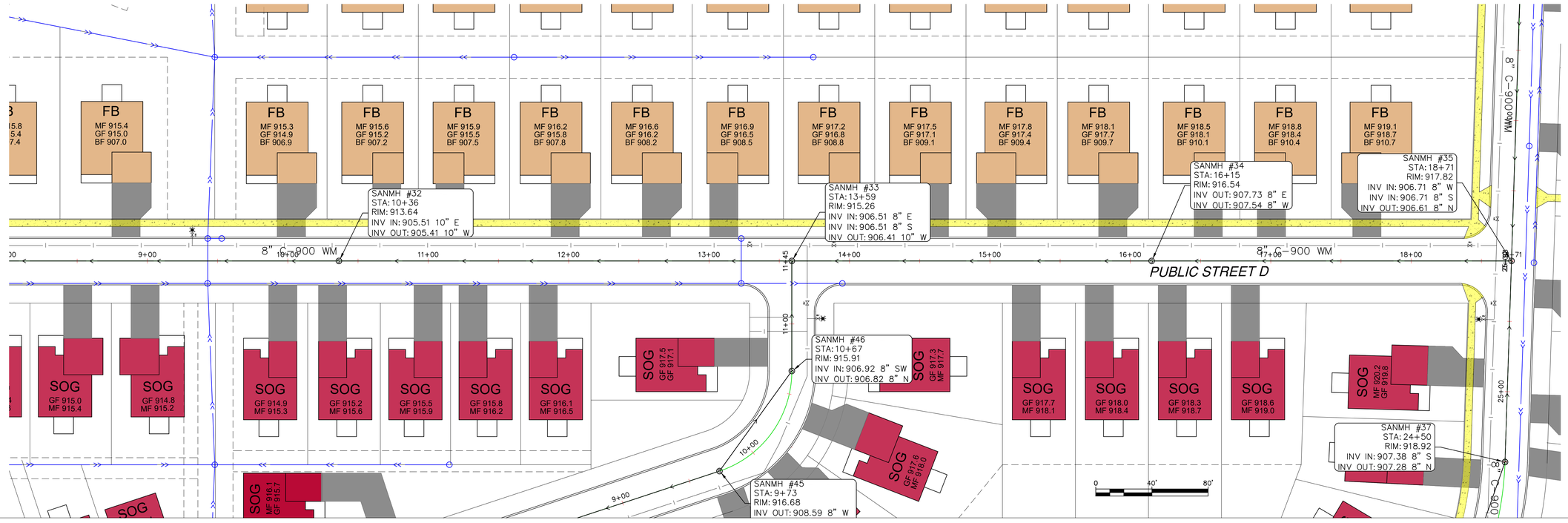

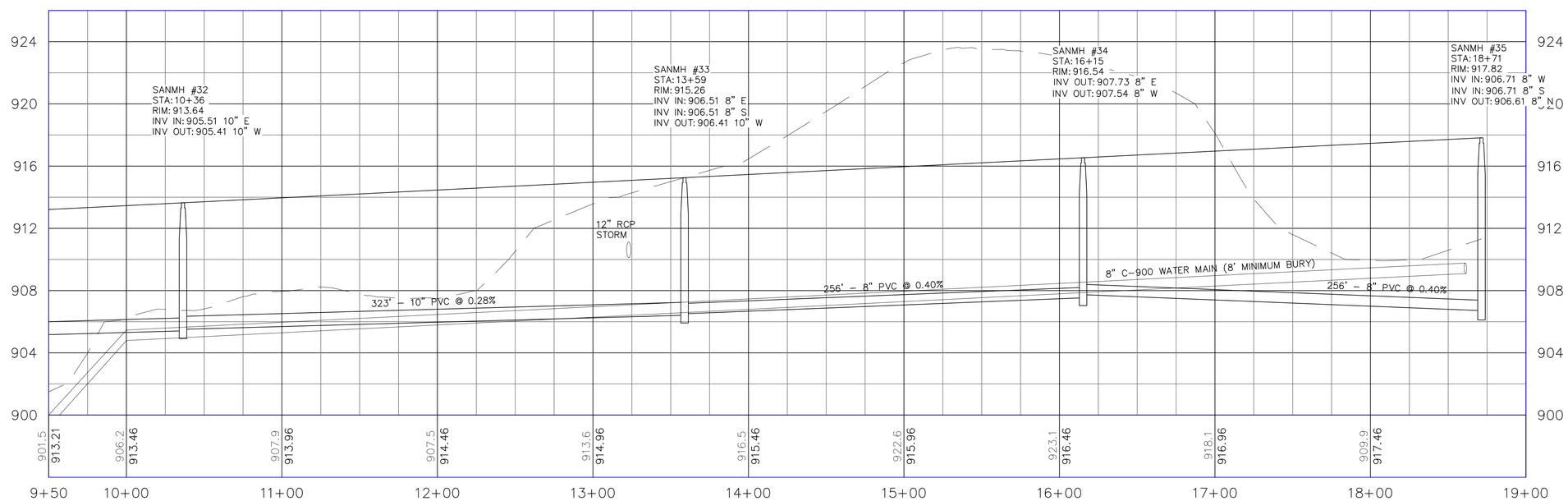

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HANOVER, MN

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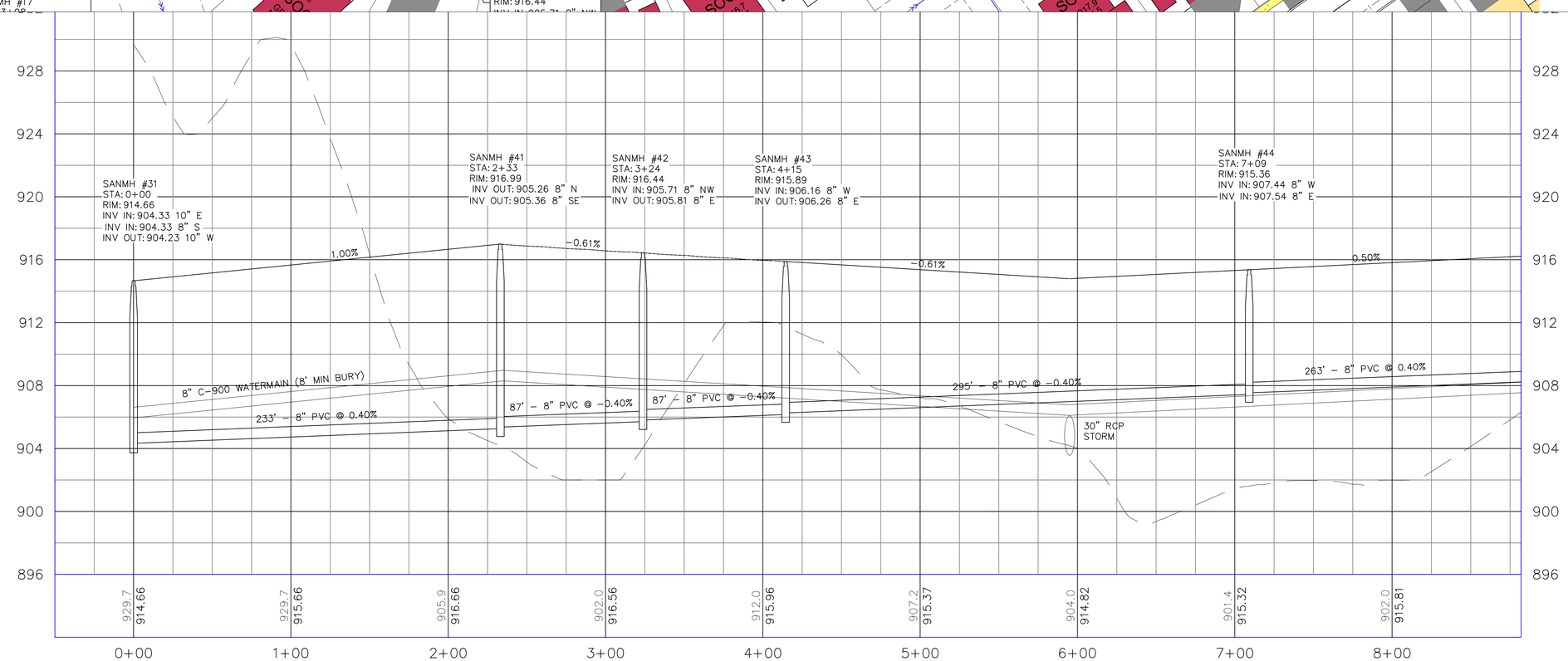
SHEET	PP9



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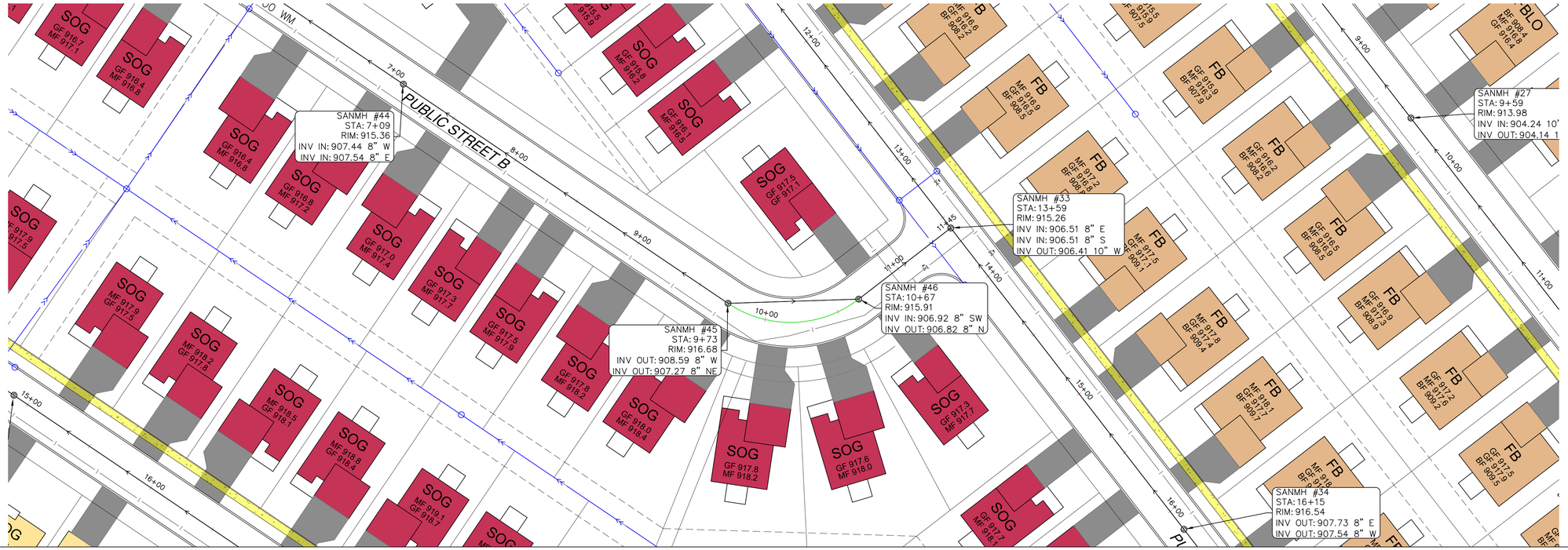

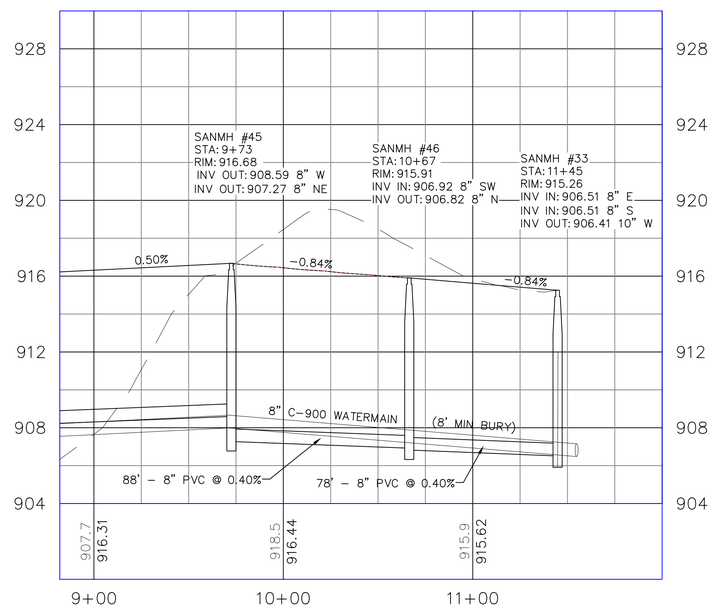

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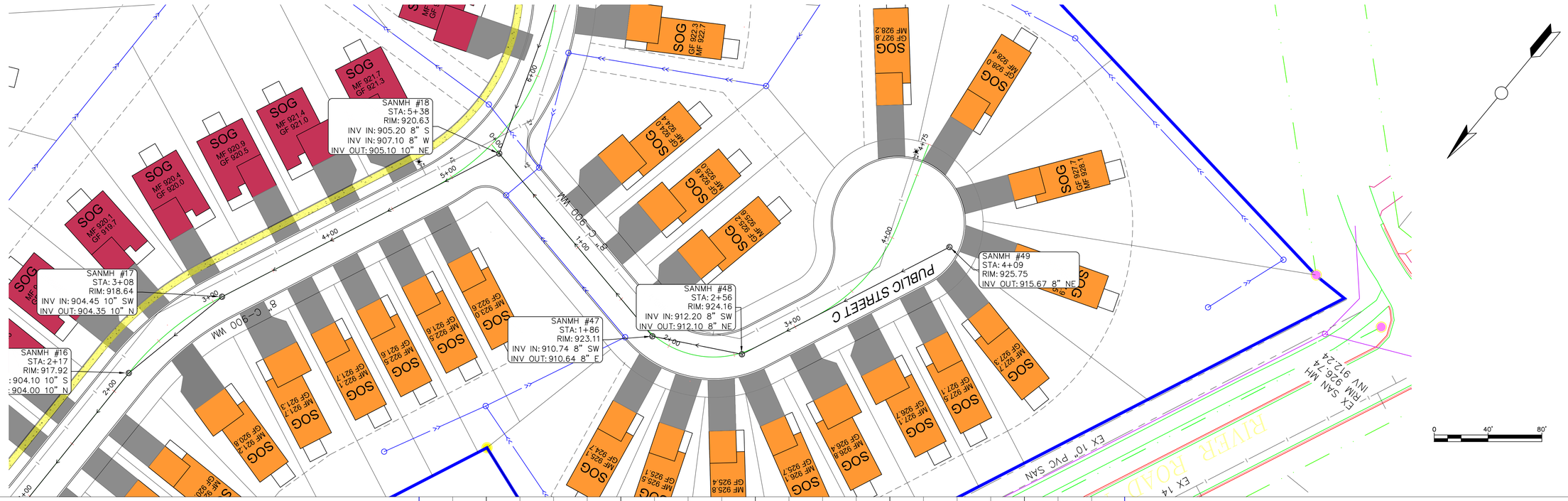

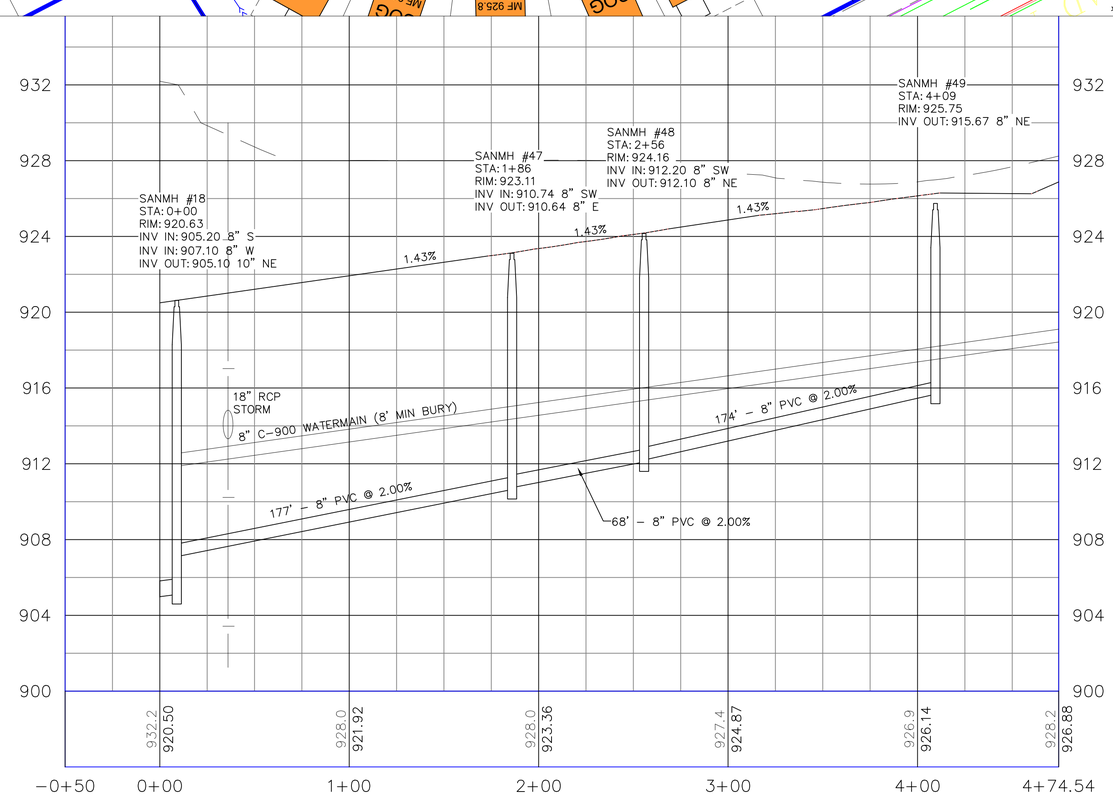

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PLAN AND PROFILE - STREET C

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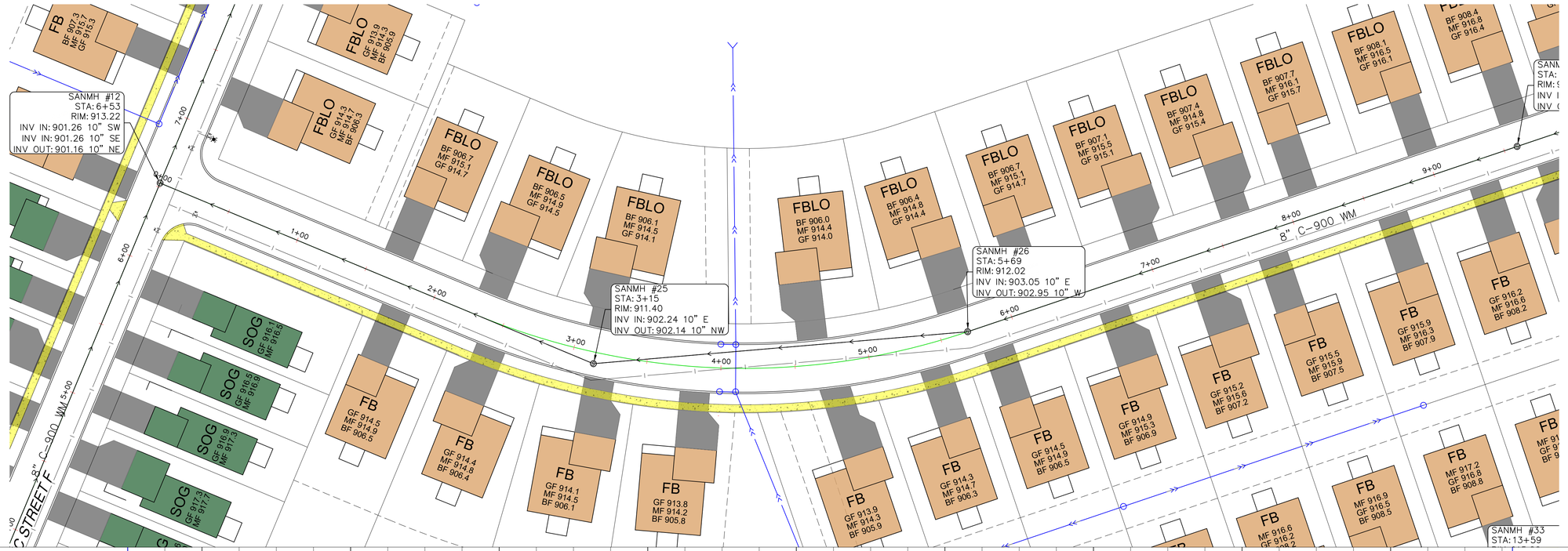

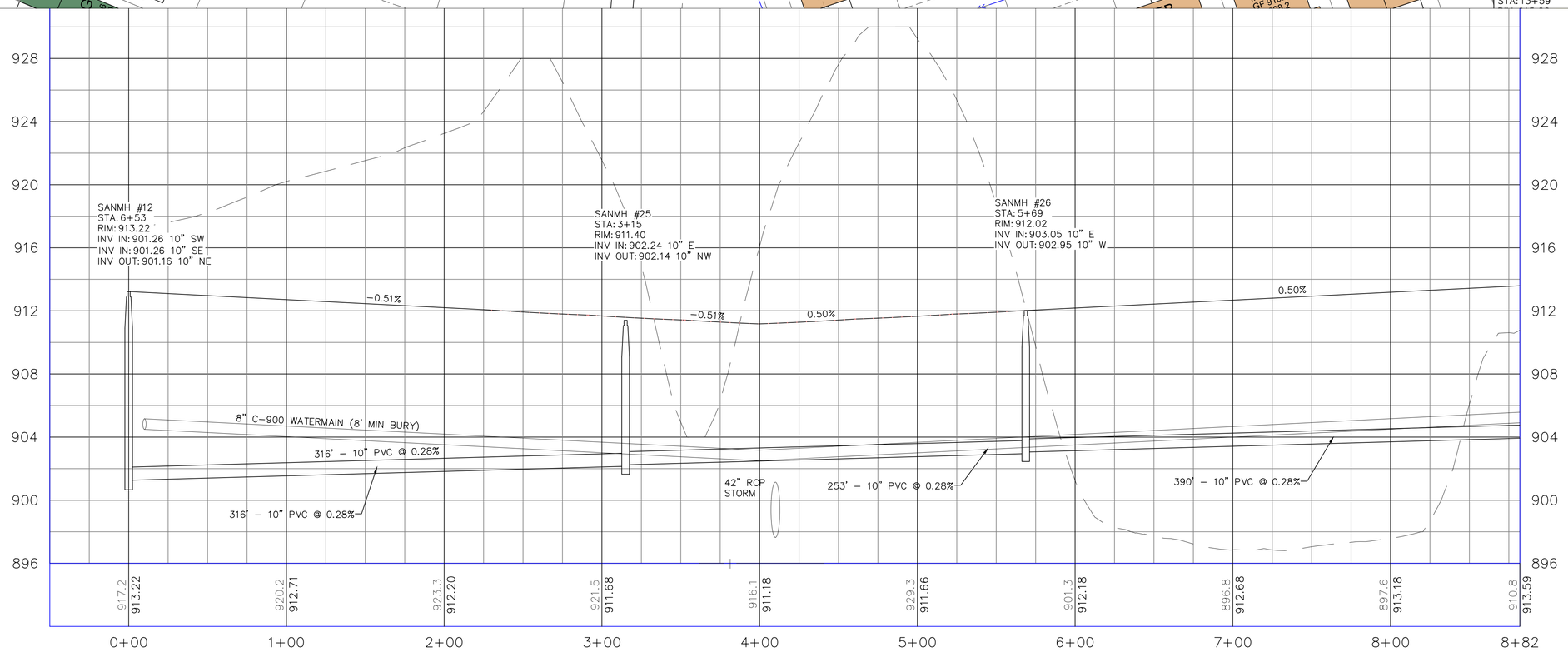

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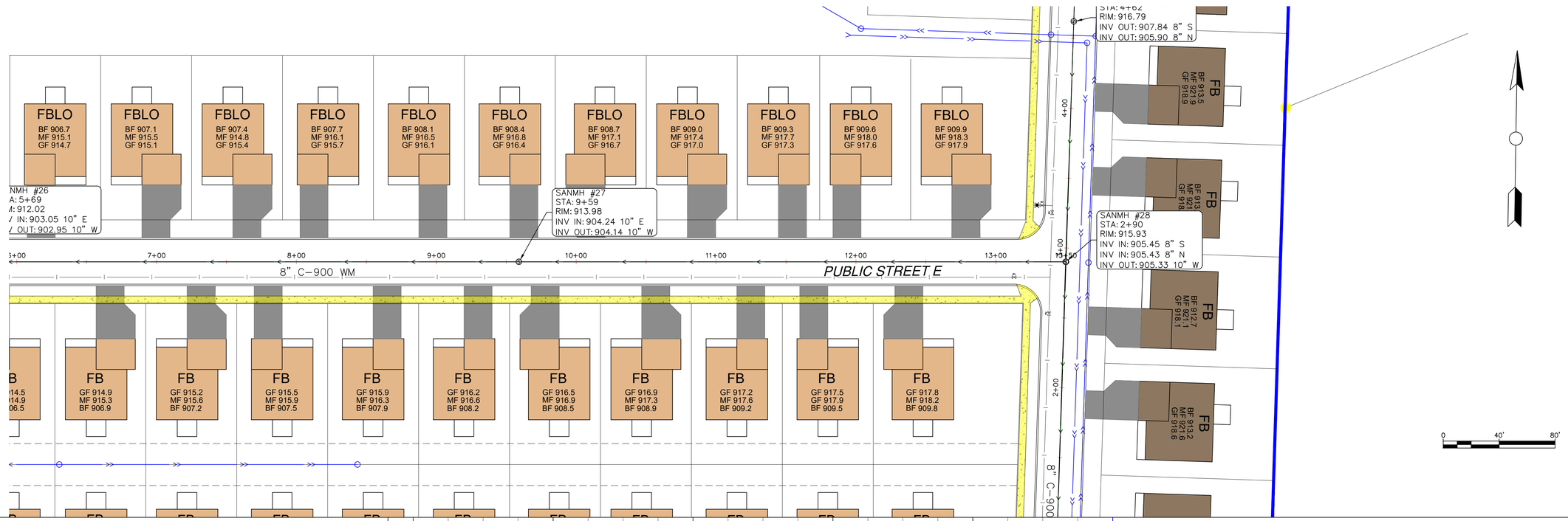

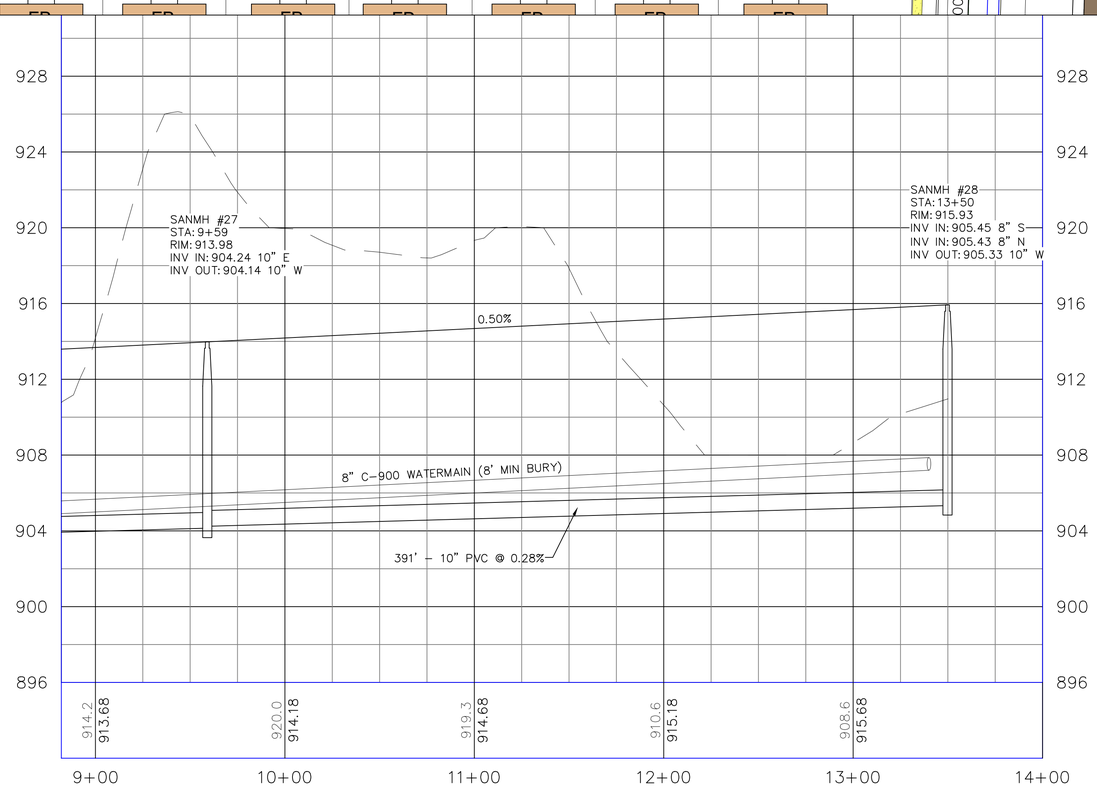

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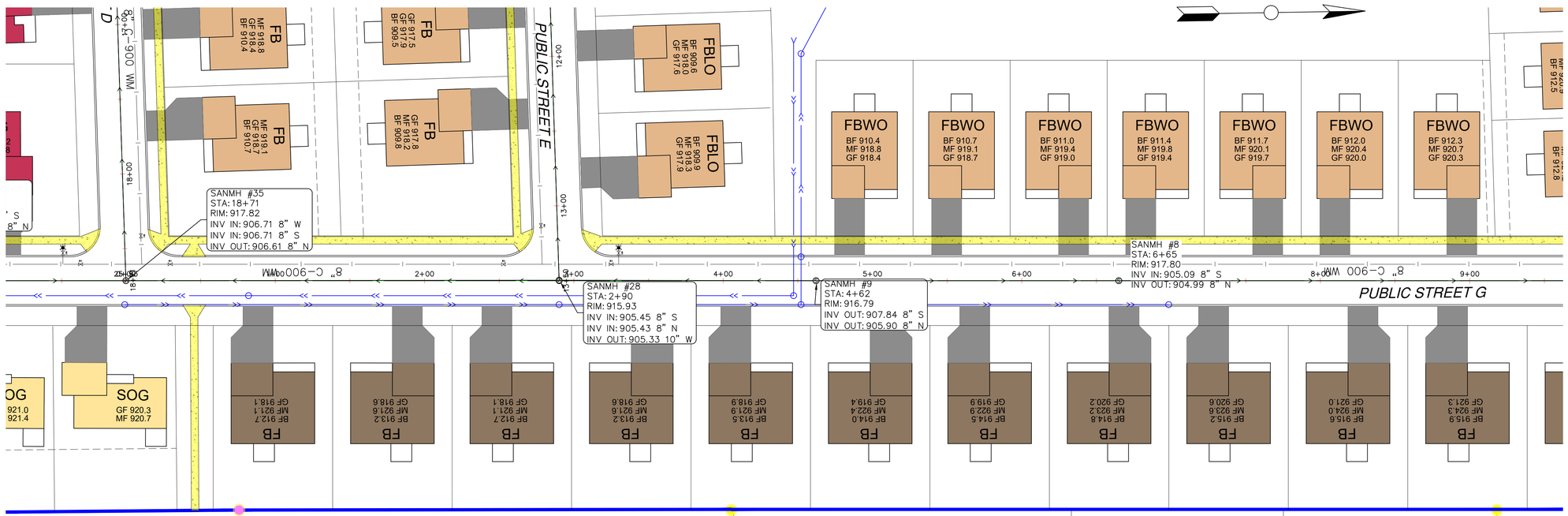

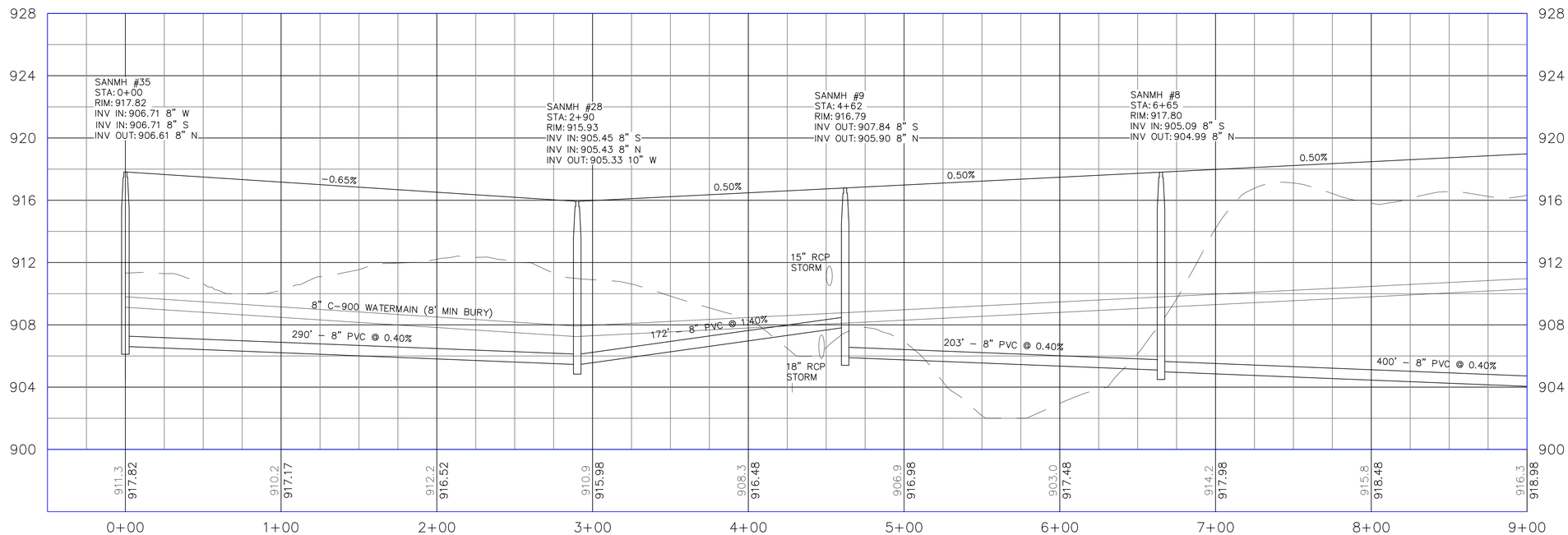

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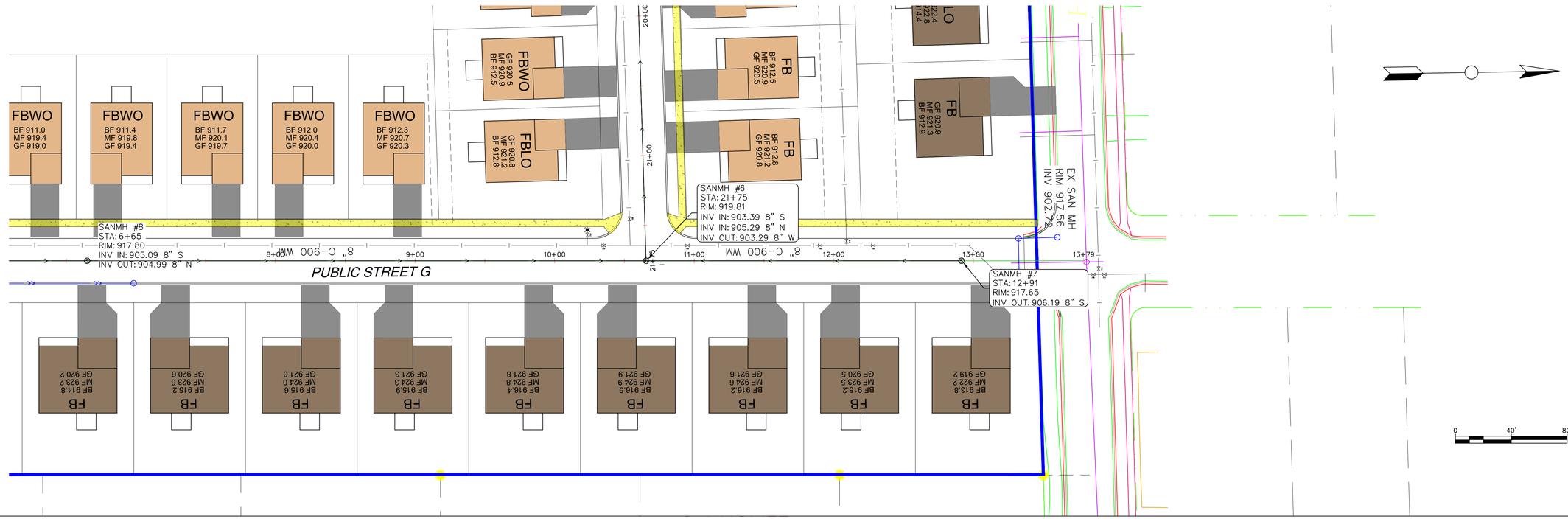

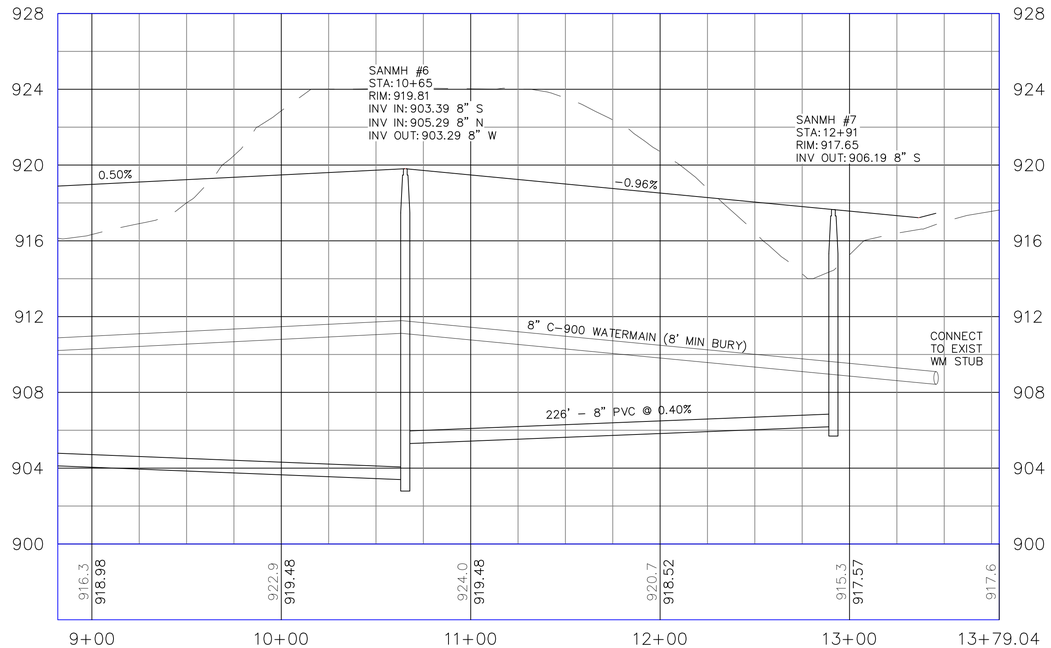

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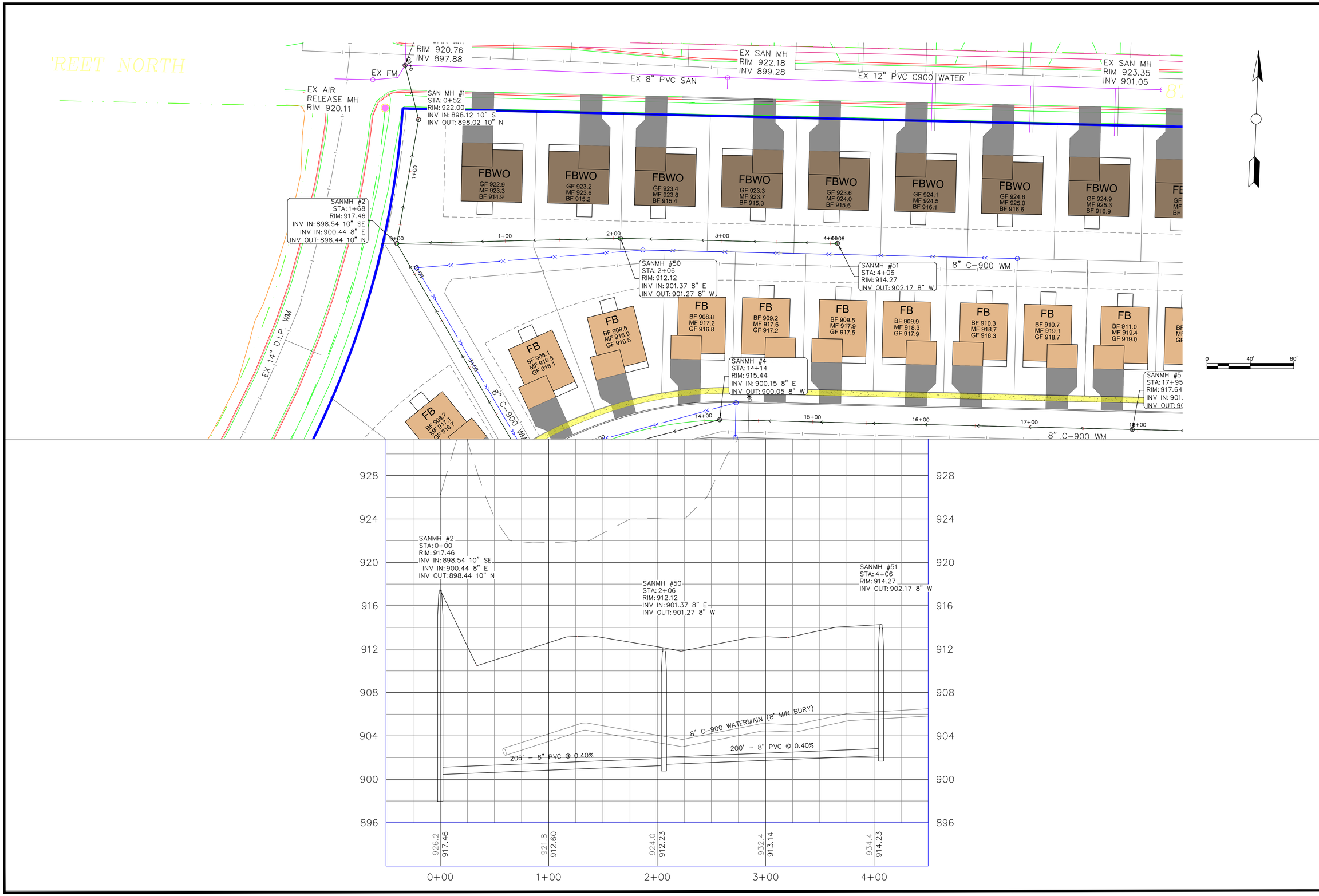

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SIGNATURE: DATE: 11/16/2018

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P.O. BOX 208 408 SIXTH STREET
PRINSBURG, MN 56281

HANOVER COVE
PRELIMINARY ENGINEERING PLAN
PLAN AND PROFILE - N BACKYARDS

HANOVER, MN

CHECKED BY: JVS	DRAWN BY: JVS
SCALE	GRAPHIC
DATE	NOV 16, 2018
SHEET	PP17

GENERAL PROJECT INFORMATION

PROJECT NAME: HANOVER COVE
Hanover, MN COUNTY: Wright

DESCRIPTION OF CONSTRUCTION ACTIVITY

This project includes construction of land disturbance of 1.03 acres to realign an existing township road on land owned by Al Ranta. Work includes removals, grading, gravel surfacing, and turf establishment.

KNOWLEDGEABLE PERSON / CHAIN OF RESPONSIBILITY

Owner: Paxmar, LLC Phone: 952-250-9895

SWPPP Preparer: Duininck, Inc. Contact Person: Jason Ver Steeg Phone: 320-212-9339

Contractor: _____ Contact Person: _____ Phone: _____

Person Responsible for SWPPP Inspections/Maintenance: _____ Phone: _____

Long-term O&M: Paxmar, LLC and City of Hanover

TRAINING

The individual(s) listed as the SWPPP preparer must be trained. The individual(s) overseeing implementation of, revising, and amending the SWPPP, as well as performing inspections must be trained and also must be available for an onsite inspection within 72 hours upon request by the MPCA. The individual(s) performing or supervising the installation, maintenance and repair of BMP's must be trained.

Required Documentation:

1. Names of trained personnel assigned to this project.
2. Dates of training and entity providing the training.
3. Content of training course or workshop.
4. As an alternative to 1, 2, and 3, a photocopy of a current Erosion and Stormwater Management card, issued by the University of Minnesota can be attached to the SWPPP.

SPECIAL ENVIRONMENTAL CONCERNS

An Environmental Assessment Worksheet (EAW) was prepared for this site, and any applicable findings were incorporated into this Stormwater Pollution Prevention Plan.

The Contractor should be aware of the potential to impact the Blandings Turtle and the Rusty Patch Bumblebee. If either of these species are encountered, special care must be taken to avoid any impact and the Engineer must be notified. No protected archeological features were identified in the EAW.

This site does not drain to a Calcareous Fen.

PROJECT LOCATION

County: Wright Township: 120 N Range: 22 W Section(s): 36

Latitude: 45° 09' 35" Longitude: -93° 39' 21"

PROJECT AREA CALCULATIONS

Total Project Area: 82.56 Acres

Total Disturbed Area: 82.56 Acres

Existing Impervious Area: 0.06 Acres

Post- construction Impervious Area: 31.59 Acres

New Impervious Surface Area Created: 31.53 Acres

NPDES Permit Required?: Yes (Apply at least 7 days prior to land disturbance)

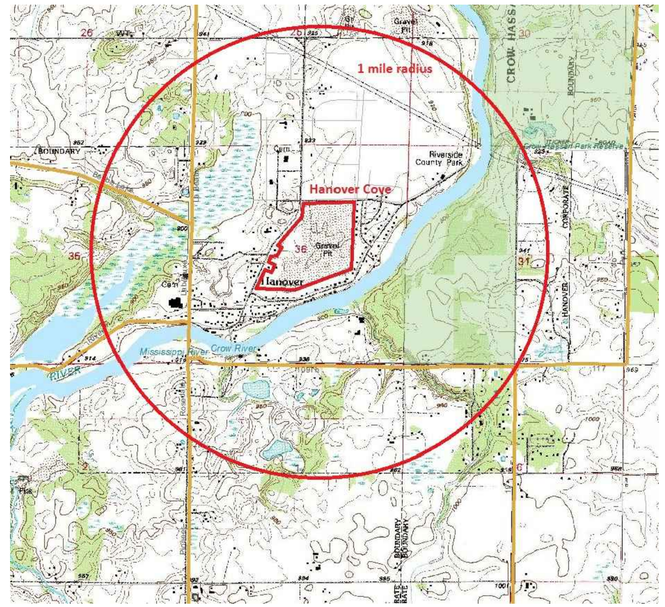
Permanent Storm Water Management Required?: No

PROJECT TIMING

Estimated Construction Start Date: JANUARY 1, 2019

Estimated Construction Completion Date: December 31, 2025

USGS QUAD MAP



RECEIVING WATERS

Receiving water (including surface water, wetlands, or stormwater ponds) within 1 mile are shown on the USGS 7.5 min quad map above and further identified in the list below, including whether the surface water is a special or impaired water. All special measures required by the NPDES permit or TMDL study to address runoff into special or impaired waters have been incorporated into the plan.

Name of Water Body	Type (ditch, pond, wetland, lake, etc.)	Appendix A Special Water	Flows to Impaired Water within 1 mi?	USEPA Appr. TMDL?
Crow River	River	No	Yes	No

PERMANENT STORMWATER MANAGEMENT SYSTEM

Type of permanent storm water management:

Wet sedimentation basin X

Infiltration / Filtration X

Regional Pond ____

Not required ____

All design calculations required to comply with Part III of the Permit are on file at the office of the Civil Engineer of record. In cases where compliance with temporary or permanent storm water management design requirements are infeasible, documentation of infeasibility is also on on file at the office of the Civil Engineer of record.

PLAN SHEETS

The following sheets are incorporated into the SWPPP by reference:

Grading and Drainage Plan
Erosion Control Plan

USDA SCS SOIL SURVEY MAP

SOIL TYPE SUMMARY:

Map Unit Symbol	Map Unit Name	Hyd Soil Group
1015	Udipsamments (cut and fill land)	A
1033	Pits, gravel-Udipsamments complex	A
1066B	Malardi-Hawick complex, 1 to 6 percent slopes	A

BMP QUANTITIES

Construction Entrance	2 LS
Silt Fence (Machine-Sliced)	8,580 LF
Inlet Protection	78 EACH
Seeding	54.0 ACRES

ORDER OF CONSTRUCTION ACTIVITIES

- Install Erosion Control Items
- Install Temporary Tracking Control
- Clearing and Grubbing
- Mass Site Grading
- Sanitary Sewer, Storm Sewer, Watermain Installation
- Aggregate Base Installation
- Curb and Gutter Installation
- Bituminous Pavement Installation
- Turf Establishment
- Individual Lot/House Construction

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SIGNATURE DATE: 8/18/2018

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HANOVER COVE
PRELIMINARY ENGINEERING PLAN
STORMWATER POLLUTION PREVENTION PLAN
HANOVER, MN

CHECKED BY: JVS	DRAWN BY: JVS

SCALE: GRAPHIC

DATE: NOV 16, 2018

SHEET: SWPPP1

EROSION CONTROL NOTES

- Appropriate BMPs such as construction phasing, vegetative buffer strips, horizontal slope grading, inspection and maintenance of Part IV.E. and other construction practices that minimize erosion as necessary must be planned and implemented
- The location of areas not to be disturbed must be delineated (e.g.,with flags, stakes, signs, silt fence etc.) on the project site before work begins.
- Disturbance of portions of the project that have steep slopes must be minimized. In locations that steep slopes must be disturbed, techniques such as phasing and stabilization practices designed for steep slopes (e.g., slope draining and terracing) must be used.
- All exposed soil areas (including stockpiles) must be stabilized. Stabilization must be initiated immediately to limit soil erosion whenever any construction activity has permanently or temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days. Stabilization must be completed no later than 14 calendar days after the construction activity in that portion of the site has temporarily or permanently ceased. For Public Waters that the Minnesota Department of Natural Resources has promulgated "work in water restrictions" during specified fish spawning time frames, all exposed soil areas that are within 200 feet of the water's edge, and drain to these waters must complete the stabilization activities within 24 hours during the restriction period. Temporary stockpiles without significant silt, clay or organic components (e.g., clean aggregate stockpiles, demolition concrete stockpiles, sand stockpiles) and the constructed base components of roads, parking lots and similar surfaces are exempt from this requirement but must comply with the requirements of "Sediment Control Practices, Item 3."
- Stormwater conveyance channels must be routed around unstabilized areas on the site to reduce erosion, unless infeasible.
- Erosion controls and velocity dissipation devices such as check dams, sediment traps, riprap, or grouted riprap at outlets shall be used within and along the length of any constructed stormwater conveyance channel, and at any outlet.
- The normal wetted perimeter of any temporary or permanent drainage ditch or swale that drains water from any portion of the construction site, or diverts water around the site, within 200 lineal feet from the property edge, or from the point of discharge into any surface water must be stabilized. Stabilization of the last 200 lineal feet must be completed within 24 hours after connecting to a surface water or property edge. Stabilization of the remaining portions of any temporary or permanent ditches or swales must be stabilized within 14 calendar days after connecting to a surface water or property edge and construction in that portion of the ditch has temporarily or permanently ceased. Temporary or permanent ditches or swales that are being used as a sediment containment system during construction (with properly designed rock ditch checks, bio rolls, silt dikes, etc.) do not need to be stabilized during the temporary period of its use as a sediment containment system. These areas must be stabilized within 24 hours after no longer being used as a sediment containment system. Applying mulch, hydromulch, tackifier, polyacrylamide or similar erosion prevention practices is not acceptable stabilization in any part of a temporary or permanent drainage ditch or swale.
- Pipe outlets must be provided with temporary or permanent energy dissipation within 24 hours after connection to a surface water.
- Unless infeasible due to lack of pervious or vegetated areas, discharges from BMPs must be directed to vegetated areas of the site (including any natural buffers). The Permittee(s) must use velocity dissipation devices if necessary to prevent erosion when directing stormwater to vegetated areas.

RECORD RETENTION

The SWPPP (original or copies) including, all changes to it, and inspections and maintenance records must be kept at the site during construction by the party who has/have operational control of that portion of the site. The SWPPP can be kept in either the field office or in an on-site vehicle during normal working hours. All owner(s) must keep the following records on file for three (3) years after submittal of the NOT:

1. The final SWPPP
2. Any other stormwater related permits required for the project
3. Records of all inspection and maintenance conducted during construction
4. All permanent operation and maintenance agreements that have been implemented, including all right-of-way, contracts, covenants and other binding requirements regarding perpetual maintenance
5. All required calculations for design of the temporary and permanent Stormwater Management Systems identified in the SWPPP.

SEDIMENT CONTROL PRACTICES

- Sediment control practices shall be employed as necessary to minimize sediment from entering surface waters, including curb and gutter systems and storm sewer inlets.
- Sediment control practices must be established on all down gradient perimeters and be located upgradient of any buffer zones. The perimeter sediment control practice must be in place before any upgradient land-disturbing activities begin. These practices shall remain in place until final stabilization has been established.
- Sediment control practices that have been adjusted or removed to accommodate short-term activities such as cleaning or grubbing, or passage of vehicles, shall be re-installed immediately after the short-term activity has been completed, or before the next precipitation event, whichever comes first.
- All storm drain inlets must be protected by appropriate BMPs during construction until all sources with potential for discharging to the inlet have been stabilized. Inlet protection may be removed for a particular inlet if a specific safety concern (street flooding/freezing) has been identified by the permittee or the jurisdictional authority (e.g., city/county/township/MnDOT engineer). Documentation of the need for removal must be included in the SWPPP.

SEDIMENT CONTROL PRACTICES (cont)

- Temporary soil stockpiles must have silt fence or other effective sediment controls, and cannot be placed in any natural buffers or surface waters, including stormwater conveyances such as curb and gutter systems, or conduits and ditches unless there is a bypass in place for the stormwater.
- Where vehicle traffic leaves any part of the site (or onto paved roads within the site),a vehicle tracking BMP to minimize the track out of sediment from the construction site. Examples of vehicle tracking BMPs include (but are not limited to) rock pads, mud mats, slash mulch, concrete or steel wash racks, or equivalent systems. Where such vehicle tracking BMPs are not adequate to prevent sediment from being tracked onto the street, street sweeping shall be used.
- Soil compaction shall be minimized in all areas except where the function of a specific area of the site dictates that it be compacted.
- All topsoil shall be preserved, unless infeasible.
- A 50 foot natural buffer shall be maintained, or (if a buffer is infeasible on the site) redundant sediment controls provided, when a surface water is located within 50 feet of the project's earth disturbances and stormwater flows to the surface water. Natural buffers are not required adjacent to road ditches, judicial ditches, county ditches, stormwater conveyance channels, storm drain inlets, and sediment basins.
- The use of polymers, flocculants, or other sedimentation treatment chemicals on the project site must comply with the following minimum requirements: 1) Conventional erosion and sediment controls must be used prior to chemical addition to ensure effective treatment. Chemicals may only be applied where treated stormwater is directed to a sediment control system which allows for filtration or settlement of the floc prior to discharge. 2) Chemicals must be selected that are appropriately suited to the types of soils likely to be exposed during construction, and to the expected turbidity, pH, and flow rate of stormwater flowing into the chemical treatment system or area. 3) Chemicals must be used in accordance with accepted engineering practices, and with dosing specifications and sediment removal design specifications provided by the manufacturer or provider/supplier of the applicable chemicals.

DEWATERING AND BASIN DRAINING

- Turbid or sediment-laden waters related to dewatering or basin draining (e.g., pumped discharges, trench/ditch cuts for drainage) must be discharged to a temporary or permanent sedimentation basin on the project site unless infeasible. The temporary or permanent sedimentation basins may discharge to surface waters if the basin water has been visually checked to ensure adequate treatment has been obtained in the basin and that nuisance conditions will not result from the discharge. If the water cannot be discharged to a sedimentation basin prior to entering the surface water, it must be treated with the appropriate BMPs, such that the discharge does not adversely affect the receiving water or downstream properties. If water containing oil or grease must be discharged, an oil-water separator or suitable filtration device (e.g. cartridge filters, absorbents pads) must be used prior to discharging the water.
- Discharge points must be adequately protected from erosion and scour by dispersion over natural rock riprap, sand bags, plastic sheeting, or other accepted energy dissipation measures.
- All water from dewatering or basin-draining activities must be discharged in a manner that does not cause nuisance conditions, erosion in receiving channels or on downslope properties, or inundation in wetlands causing significant adverse impact to the wetland.
- If filters with backwash water are being used, the backwash water must be hauled away for disposal, returned to the beginning of the treatment process, or incorporated into the site in a manner that does not cause erosion. Backwash water may be discharged to the sanitary sewer if permission is granted by the sanitary sewer authority. The filter media used in the dewatering device must be replaced and cleaned when required to retain adequate function.

POLLUTION PREVENTION MANAGEMENT MEASURES

- Building products that have the potential to leach pollutants must be under cover (e.g., plastic sheeting or temporary roofs) to prevent the discharge of pollutants or protected by a similarly effective means designed to minimize contact with stormwater.
- Pesticides, herbicides, insecticides, fertilizers, treatment chemicals, and landscape materials must be under cover (e.g., plastic sheeting or temporary roofs) to prevent the discharge of pollutants or protected by similarly effective means designed to minimize contact with stormwater.
- Hazardous materials, toxic waste, (including oil, diesel fuel, gasoline, hydraulic fluids, paint solvents, petroleum-based products, wood preservatives, additives, curing compounds, and acids) must be properly stored in sealed containers to prevent spills, leaks or other discharge. Restricted access storage areas must be provided to prevent vandalism. Storage and disposal of hazardous waste or hazardous materials must be in compliance with Minn. R. ch. 7045 including secondary containment as applicable.
- Solid waste must be stored, collected and disposed of properly in compliance with Minn. R. ch. 7035.
- Portable toilets must be positioned so that they are secure and will not be tipped or knocked over. Sanitary waste must be disposed of properly in accordance with Minn. R. ch. 7041.

POLLUTION PREVENTION MANAGEMENT MEASURES (cont)

- Fueling and Maintenance of Equipment or Vehicles; Spill Prevention and Response: Reasonable steps must be taken to prevent the discharge of spilled or leaked chemicals, including fuel, from any area where chemicals or fuel will be loaded or unloaded, including the use of drip pans or absorbents, and fueling in a contained area, unless infeasible. Adequate supplies must be available at all times to clean up discharged materials and an appropriate disposal method must be available for recovered spilled materials. Spills must be reported and cleaned up immediately as required by Minn. Stat. § 115.061, using dry clean up measures where possible.
- Vehicle and equipment washing: Washing the exterior of vehicles or equipment on the project site must be limited to a defined area of the site. Runoff from the washing area must be contained in a sediment basin or other similarly effective controls and waste from the washing activity must be properly disposed of. Soaps, detergents, or solvents must be properly used. No engine degreasing is allowed on site.
- Concrete and other washouts waste: Effective containment must be provided for all liquid and solid wastes generated by washout operations (concrete, stucco, paint, form release oils, curing compounds and other construction materials) related to the construction activity. The liquid and solid washout wastes must not contact the ground, and the containment must be designed so that it does not result in runoff from the washout operations or areas. Liquid and solid wastes must be disposed of properly and in compliance with MPCA rules. A sign must be installed adjacent to each washout facility that requires site personnel to utilize the proper facilities for disposal of concrete and other washout wastes.

TEMPORARY SEDIMENTATOIN BASINS

Where ten (10) or more acres of disturbed soil drain to a common location, a temporary sediment basin must be provided to treat the runoff before it leaves the construction site or enters surface waters. A temporary sediment basin may be converted to a permanent basin after construction is complete. The temporary basin is no longer required when permanent cover has reduced the acreage of disturbed soil to less than ten (10) acres draining to a common location. The basins must be designed and constructed according to the following requirements:

1. The basins must provide live storage for a calculated volume of runoff from a two-year, 24-hour storm from each acre drained to the basin, except that in no case shall the basin provide less than 1,800 cubic feet of live storage from each acre drained to the basin.
2. Where this calculation has not been performed, a temporary sediment basin providing 3,600 cubic feet of live storage per acre drained to the basin shall be provided for the entire drainage area of the temporary basin.
3. Temporary basin outlets must be designed to prevent short-circuiting and the discharge of floating debris. The basin must be designed with the ability to allow complete basin drawdown for maintenance activities, and must include a stabilized emergency overflow to prevent failure of pond integrity. The outlet structure must be designed to withdraw water from the surface in order to minimize the discharge of pollutants, except that the use of a surface withdrawal mechanism for discharge of the basin may be temporarily suspended during frozen conditions. Energy dissipation must be provided for the basin outlet.
4. Sediment Basins must be situated outside of surface waters and any required buffer zone required and must be designed to avoid draining water from wetlands unless the impact to the wetland.
5. The temporary basins must be constructed and made operational prior to 10 or more acres of disturbed soil draining to a common location.
6. Where a temporary sediment basin meeting the requirements of this part is infeasible, equivalent sediment controls such as smaller sediment basins, and/or sediment traps, silt fences, vegetative buffer strips, or any appropriate combination of measures are required for all down-]slope boundaries of the construction area and for side-slope boundaries as dictated by individual site conditions. In determining whether installing a sediment basin is infeasible, public safety must be considered, as well as other factors such as site soils, slope, and available area on site. This determination of infeasibility must be documented in the SWPPP

INSPECTIONS AND MAINTENANCE

- A properly trained person must routinely inspect the entire construction site at least once every seven (7) days during active construction and within 24 hours after a rainfall event greater than 0.5 inches in 24 hours. Following an inspection that occurs within 24 hours after a rainfall event, the next inspection must be conducted within seven (7) days after the rainfall event.
- All inspections and maintenance conducted during construction must be recorded within 24 hours in writing and these records must be retained with the SWPPP. Records of each inspection and maintenance activity shall include: a.) Date and time of inspections b.) Name of person(s) conducting inspections c.) Findings of inspections, including the specific location where corrective actions are needed d.) Corrective actions taken (including dates, times, and party completing maintenance activities) e.) Date and amount of all rainfall events greater than 1/2 inch (0.5 inches) in 24 hours. Rainfall amounts must be obtained by a properly maintained rain gauge installed onsite, a weather station that is within 1 mile of your location or a weather reporting system that provides site specific rainfall data from radar summaries. f.) If any discharge is observed to be occurring during the inspection, a record of all points of the property from which there is a discharge must be made, and the discharge should be described (i.e., color, odor, floating, settled, or suspended solids, foam, oil sheen, and other obvious indicators of pollutants) and photographed. g.) Any amendments to the SWPPP proposed as a result of the inspection must be documented within seven (7) calendar days.

INSPECTIONS AND MAINTENANCE (cont)

Inspection Frequency Adjustment: Where parts of the project site have permanent cover, but work remains on other parts of the site, the Permittee(s) may reduce inspections of the areas with permanent cover to once per month. Where construction sites have permanent cover on all exposed soil areas and no construction activity is occurring anywhere on the site, the site must be inspected during non-frozen ground conditions at least once per month for a period of twelve (12) months. Following the twelfth month of permanent cover and no construction activity, inspections may be terminated until construction activity is once again initiated unless the Permittee(s) is/are notified in writing by the MPCA that erosion issues have been detected at the site and inspections need to resume. Where work has been suspended due to frozen ground conditions, the inspections may be suspended. The required inspections and maintenance schedule must begin within 24 hours after runoff occurs at the site or 24 hours prior to resuming construction, whichever comes first.

The temporary and permanent water quality management BMPs must be inspected, as well as all erosion prevention and sediment control BMPs, until responsibility for inspections and maintenance has been transferred by submitting notice to the MPCA, or the project has undergone Final Stabilization, and an NOT has been submitted to the MPCA.

As part of each and every routine and post-rainfall event inspection, all erosion prevention and sediment control BMPs and Pollution Prevention Management Measures must be inspected to ensure integrity and effectiveness. All nonfunctional BMPs must be repaired, replaced, or
supplemented with functional BMPs by the end of the next business day after discovery, or as
soon as field conditions allow access, unless another time frame is specified below:

a. All perimeter control devices must be repaired, replaced, or supplemented when they become nonfunctional or the sediment reaches one-half (1/2) of the height of the device. These repairs must be made by the end of the next business day after discovery, or thereafter as soon as field conditions allow access.

b. Temporary and permanent sedimentation basins must be drained and the sediment removed when the depth of sediment collected in the basin reaches one-half (1/2) the storage volume. Drainage and removal must be completed within 72 hours of discovery, or as soon as field conditions allow access

c. Surface waters, including drainage ditches and conveyance systems, must be inspected for evidence of erosion and sediment deposition during each inspection. All deltas and sediment deposited in surface waters, including drainage ways, catch basins, and other drainage systems, must be removed and restabilized. The removal and stabilization must take place within seven (7) days of discovery unless precluded by legal, regulatory, or physical access constraints. All reasonable efforts must be used to obtain access. If precluded, removal and stabilization must take place within seven (7) calendar days of obtaining access. All applicable local, regional, state and federal authorities must be contacted and any applicable permits received, prior to conducting any work in surface waters.

d. Construction site vehicle exit locations must be inspected for evidence of off-site sediment tracking onto paved surfaces. Tracked sediment must be removed from all paved surfaces both on and off site within 24 hours of discovery.

e. Streets and other areas adjacent to the project must be inspected for evidence of off-site accumulations of sediment. If sediment is present, it must be removed in a manner and at a frequency sufficient to minimize off-site impacts (e.g., fugitive sediment in streets could be washed into storm sewers by the next rain and/or pose a safety hazard to users of public streets).

- All infiltration areas must be inspected to ensure that no sediment from ongoing construction activity is reaching the infiltration area. All infiltration areas must be inspected to ensure that equipment is not being driven across the infiltration area.

FINAL STABILIZATION

Final Stabilization of the site must be assured. Final Stabilization is not complete until all of the following requirements are complete:

1. All soil disturbing activities at the site have been completed and all soils are stabilized by a uniform perennial vegetative cover with a density of 70 percent of its expected final growth density over the entire pervious surface area, or other equivalent means necessary to prevent soil failure under erosive conditions.
2. The permanent stormwater management system is constructed according to the plans and is operating as designed. Temporary or permanent sedimentation basins that are to be used as permanent water quality management basins have been cleaned of any accumulated sediment. All sediment has been removed from conveyance systems and ditches are stabilized with permanent cover.
3. All temporary synthetic and structural erosion prevention and sediment control BMPs (such as silt fence) have been removed. BMPs designed to decompose on site (such as some compost logs) may be left in place.
4. For residential construction only, individual lots are considered finally stabilized if the structure(s) are finished and temporary erosion protection and down-gradient perimeter control has been completed and the residence has been sold to the homeowner. Additionally, the MPCA's "Homeowner Fact Sheet" must be delivered to the homeowner to inform the homeowner of the need for, and benefits of, permanent cover.
5. For construction projects on agricultural land (e.g., pipelines across crop, field pasture or range land) the disturbed land has been returned to its pre-construction agricultural use.

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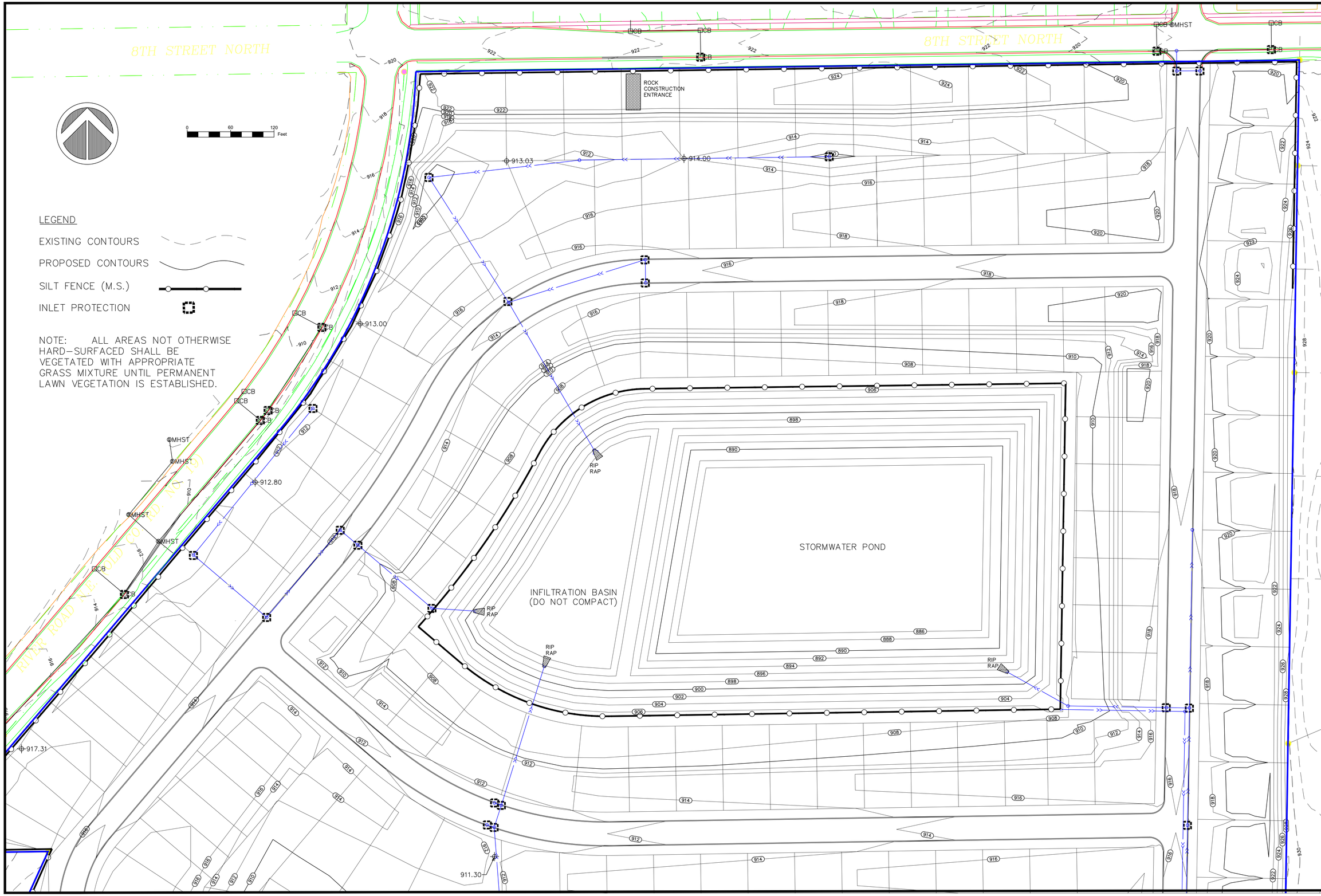
HANOVER COVE
PRELIMINARY ENGINEERING PLAN
STORMWATER POLLUTION PREVENTION PLAN
HANOVER, MN

CHECKED BY: JVS	DRAWN BY: JVS

SCALE: GRAPHIC

DATE: NOV 16, 2018

SHEET: SWPPP2



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HANOVER COVE
PRELIMINARY ENGINEERING PLAN
EROSION CONTROL PLAN (NORTH)

HANOVER, MN

CHECKED BY:	DRAWN BY:
JVS	JVS

SCALE
GRAPHIC

DATE
NOV 16, 2018

SHEET
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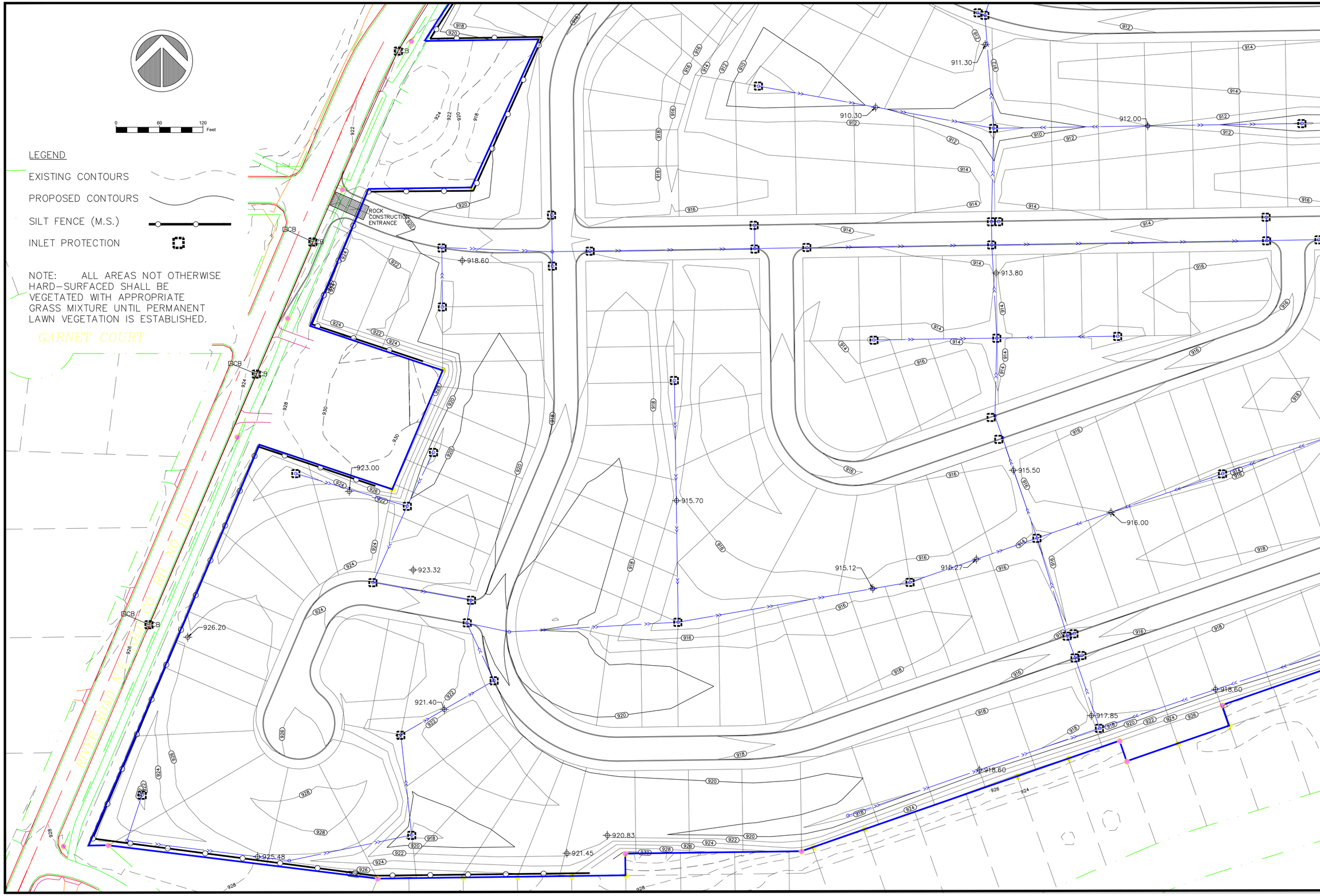

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HANOVER COVE
PRELIMINARY ENGINEERING PLAN
EROSION CONTROL PLAN (SOUTHWEST)

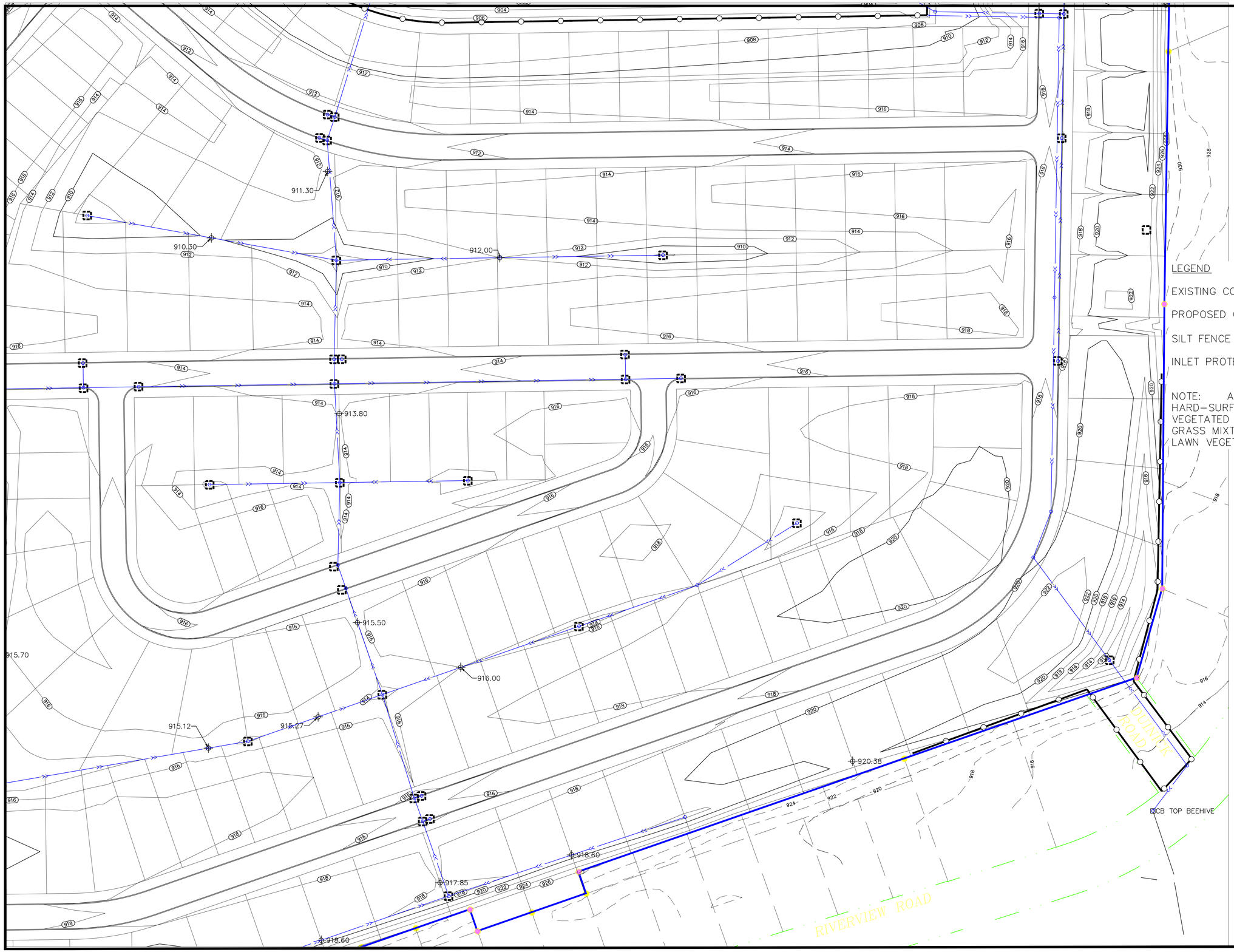
HANOVER, MN

CHECKED BY:	DRAWN BY:
JVS	JVS

SCALE
GRAPHIC

DATE
NOV 16, 2018

SHEET
EC2



LEGEND

EXISTING CONTOURS

PROPOSED CONTOURS

SILT FENCE (M.S.)

INLET PROTECTION

NOTE: ALL AREAS NOT OTHERWISE HARD-SURFACED SHALL BE VEGETATED WITH APPROPRIATE GRASS MIXTURE UNTIL PERMANENT LAWN VEGETATION IS ESTABLISHED.

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I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: DATE: 11/16/2018

NAME: JASON VERSTEEG LIC. NO. 26505

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P.O. BOX 208 408 SIXTH STREET
PRINSBURG, MN 56281

HANOVER COVE

PRELIMINARY ENGINEERING PLAN

EROSION CONTROL PLAN (SOUTHEAST)

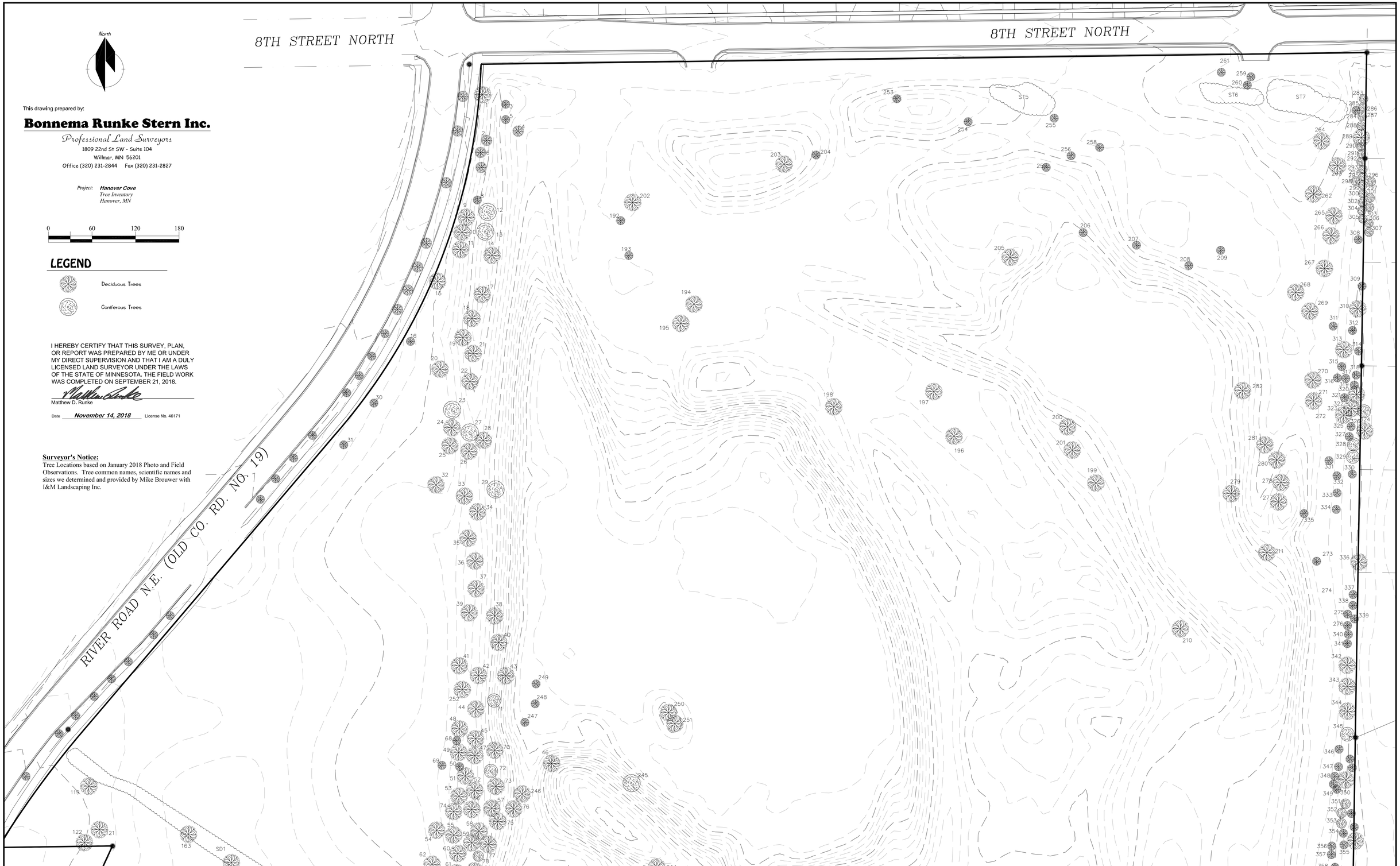
HANOVER, MN

CHECKED BY:	DRAWN BY:
JVS	JVS

SCALE
GRAPHIC

DATE
NOV 16, 2018

SHEET
EC3



North

This drawing prepared by:

Bonnema Runke Stern Inc.

Professional Land Surveyors

1809 22nd St SW - Suite 104
Willmar, MN 56201
Office (320) 231-2844 Fax (320) 231-2827

Project: ***Hanover Cove***
Tree Inventory
Hanover, MN

0 60 120 180

LEGEND

Deciduous Trees

Coniferous Trees

I HEREBY CERTIFY THAT THIS SURVEY, PLAN, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MINNESOTA. THE FIELD WORK WAS COMPLETED ON SEPTEMBER 21, 2018.

Matthew D. Runke

Date ***November 14, 2018*** License No. 46171

Surveyor's Notice:
Tree Locations based on January 2018 Photo and Field Observations. Tree common names, scientific names and sizes we determined and provided by Mike Brouwer with I&M Landscaping Inc.

Survey Requested By: **Duininck Inc.**

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Tree Inventory - Sheet 1 of 5

Survey Requested By: **Duininck Inc.**

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Tree Inventory - Sheet 2 of 5

This drawing prepared by:

Bonnema Runke Stern Inc.

Professional Land Surveyors

1809 22nd St SW - Suite 104
Willmar, MN 56201
Office (320) 231-2844 Fax (320) 231-2827

Project: ***Hanover Cove***
Tree Inventory
Hanover, MN

Survey Requested By: **Duininck Inc.**

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Tree Inventory - Sheet 3 of 5

ID#	Size	common name	Scienfic Name
1	8"	Green Ash	Fraxinus Pennsylvanica
2	8"	Flowering Crab apple	Malus "Hopa"
3	6-8"	Lombardy Popluar	Populus Tremula
4	12"	Cottonwood	Populus Deltoides
5	10"	Lombardy Popluar	Populus Tremula
6	6"	Lombardy Popluar	Populus Tremula
7	10"	Green Ash	Fraxinus Pennsylvanica
8	8"	Green Ash	Fraxinus Pennsylvanica
9	6"	Flowering Crabapple	Malus "Hopa"
10	6"	Green Ash	Fraxinus Pennsylvanica
11	8"	Green Ash	Fraxinus Pennsylvanica
12	7"	Scotch Pine	Pinus Sylvestris
13	9"	Scotch Pine	Pinus Sylvestris
14	6"	Cotton Wood	Populus Deltoides
15	8"	Flowering Crabapple	Malus "Hopa"
16	6"	Flowering Crabapple	Malus "Hopa"
17	8"	Green Ash	Fraxinus Pennsylvanica
18	9"	Green Ash	Fraxinus Pennsylvanica
19	6"	Flowering Crabapple	Malus "Hopa"
20	20"	Chinese Elm	Ulmus Parvifolia
21	6"	Green Ash	Fraxinus Pennsylvanica
22	8"	Green Ash	Fraxinus Pennsylvanica
23	8"	Scotch Pine	Pinus Sylvestris
24	8"	Green Ash	Fraxinus Pennsylvanica
25	7"	Green Ash	Fraxinus Pennsylvanica
26	8"	Flowering Crabapple	Malus "Hopa"
27	6"	Eastern Red Cedar	Juniperus Virginiana
28	6"	Lombardy Popluar	Populus Tremula
29	5"	Eastern Red Cedar	Juniperus Virginiana
30	10"	Green Ash	Fraxinus Pennsylvanica
31	8"	Chinese Elm	Ulmus Parvifolia
32	7"	Box Elder	Acer Negundo
33	7"	Flowering Crabapple	Malus "Hopa"
34	6"	Flowering Crabapple	Malus "Hopa"
35	6"	Green Ash	Fraxinus Pennsylvanica
36	8"	Box Elder	Acer Negundo
37	6"	Flowering Crabapple	Malus "Hopa"
38	8"	Green Ash	Fraxinus Pennsylvanica
39	12"	Box Elder	Acer Negundo
40	8"	Box Elder	Acer Negundo
41	10"	Box Elder	Acer Negundo
42	8"	Flowering Crabapple	Malus "Hopa"
43	6"	Green Ash	Fraxinus Pennsylvanica
44	9"	Box Elder	Acer Negundo
45	12"	Box Elder	Acer Negundo
46	7"	Chinese Elm	Ulmus Parvifolia
47	10"	American Elm	Ulmus Americana
48	12"	Box Elder	Acer Negundo
49	8"	Box Elder	Acer Negundo
50	8"	Box Elder	Acer Negundo
51	6"	Box Elder	Acer Negundo
52	6"	Flowering Crabapple	Malus "Hopa"
53	18"	Box Elder	Acer Negundo
54	8"	Box Elder	Acer Negundo
55	6"	Box Elder	Acer Negundo
56	8"	Box Elder	Acer Negundo
57	8"	Box Elder	Acer Negundo
58	6"	Box Elder	Acer Negundo
59	8"	Box Elder	Acer Negundo
60	8"	Box Elder	Acer Negundo
61	8"	Box Elder	Acer Negundo
62	8-10"	Box Elder	Acer Negundo
63	7-8"	Flowering Crabapple	Malus "Hopa"
64	6"	Chinese Elm	Ulmus Parvifolia
65	12 dia	Eastern Red Cedar	Juniperus Virginiana
66	12 dia	Eastern Red Cedar	Juniperus Virginiana
67	12 dia	Eastern Red Cedar	Juniperus Virginiana
68	7"	Box Elder	Acer Negundo
69	8"	Flowering Crabapple	Malus "Hopa"
70	6"	Flowering Crabapple	Malus "Hopa"
71	12 dia	Eastern Red Cedar	Juniperus Virginiana
72	12 dia	Eastern Red Cedar	Juniperus Virginiana
73	6-7"	Flowering Crabapple	Malus "Hopa"
74	7-8"	Flowering Crabapple	Malus "Hopa"
75	6"	Green Ash	Fraxinus Pennsylvanica
76	6"	American Elm	Ulmus Americana
77	6"	Green Ash	Fraxinus Pennsylvanica
78	12 dia	Eastern Red Cedar	Juniperus Virginiana
79	8"	Chinese Elm	Ulmus Parvifolia
80	6"	Flowering Crabapple	Malus "Hopa"
81	8-10"	Box Elder	Acer Negundo
82	6"	Chinese Elm	Ulmus Parvifolia
83	10"	American Elm	Ulmus Americana
84	8"	Green Ash	Fraxinus Pennsylvanica
85	6"	Flowering Crabapple	Malus "Hopa"
86	7-8"	American Elm	Ulmus Americana
87	8"	American Elm	Ulmus Americana
88	10"	Box Elder	Acer Negundo
89	12"	Green Ash	Fraxinus Pennsylvanica
90	8-10"	Box Elder	Acer Negundo

ID#	Size	common name	Scienfic Name
91	10"	Hackberry	Celtis occidentali
92	6-7"	Green Ash	Fraxinus Pennsylvanica
93	9"	Green Ash	Fraxinus Pennsylvanica
94	6-7"	Cotton Wood	Populus Deltoides
95	8"	Cotton Wood	Populus Deltoides
96		Green Ash	Fraxinus Pennsyvanica
97	12 dia	Eastern Red Cedar	Juniperus Virginiana
98	8"	Green Ash	Fraxinus Pennsyvanica
99	18 clump	Silver Maple	Acer saccharinum
100	7-8"	Green Ash	Fraxinus Pennsyvanica
101	12 dia	Eastern Red Cedar	Juniperus Virginiana
102	10"	Cotton Wood	Populus Deltoides
103	8"	Cotton Wood	Populus Deltoides
104	18"	Cotton Wood	Populus Deltoides
105	14"	Cotton Wood	Populus Deltoides
106	7"	Chinese Elm	Ulmus Parvifolia
107	12"	Cotton Wood	Populus Deltoides
108	20 dia	Eastern Red Cedar	Juniperus Virginiana
109	7"	Chinese Elm	Ulmus Parvifolia
110	14 dia	Eastern Red Cedar	Juniperus Virginiana
111	12 dia	Eastern Red Cedar	Juniperus Virginiana
112	12 dia	Eastern Red Cedar	Juniperus Virginiana
113	12 dia	Eastern Red Cedar	Juniperus Virginiana
114	7-9"	Chinese Elm	Ulmus Parvifolia
115	7"	Box Elder	Acer Negundo
116	12"	Cotton Wood	Populus Deltoides
117	12"	Cotton Wood	Populus Deltoides
118	12 dia	Black Hills Spruce	Picea glauca densatta
119	12 dia	Green Ash	Fraxinus Pennsyvanica
120	8"	Box Elder	Acer Negundo
121	2' clump	Silver Maple	Acer saccharinum
122	6"	Chinese Elm	Ulmus Parvifolia
123	8"	White Spruce	Picea Glauca
124	10"	Silver Maple	Acer saccharinum
125	8"	American Elm	Ulmus Americana
126	10"	Cotton Wood	Populus Deltoides
127		Tartarian Maple	Acer Tataricum
128	8"	Green Ash	Fraxinus Pennsyvanica
129	12 dia	Eastern Red Cedar	Juniperus Virginiana
130	12 dia	Eastern Red Cedar	Juniperus Virginiana
131	12 dia	Eastern Red Cedar	Juniperus Virginiana
132	12 dia	Eastern Red Cedar	Juniperus Virginiana
133	12 dia	Eastern Red Cedar	Juniperus Virginiana
134	12 dia	Eastern Red Cedar	Juniperus Virginiana
135	12 dia	Eastern Red Cedar	Juniperus Virginiana
136	12 dia	Eastern Red Cedar	Juniperus Virginiana
137	12 dia	Eastern Red Cedar	Juniperus Virginiana
138	10"	Chinese Elm	Ulmus Parvifolia
139	7"	Green Ash	Fraxinus Pennsyvanica
140	14 clump	Silver Maple	Acer saccharinum
141	8"	Silver Maple	Acer saccharinum
142	12"	American Elm	Ulmus Americana
143	6"	Swamp White Oak	Quercus Bicolor
144	10"	Hackberry	Celtis occidentali
145	8"	Chinese Elm	Ulmus Parvifolia
146	10"	American Elm	Ulmus Americana
147	14 dia	Eastern Red Cedar	Juniperus Virginiana
148	10"	Tartarian Maple	Acer Tataricum
149	8"	Flowering Crabapple	Malus "Hopa"
150	14 dia	Eastern Red Cedar	Juniperus Virginiana
151	14 dia	Eastern Red Cedar	Juniperus Virginiana
152	7-8"	Chinese Elm	Ulmus Parvifolia
153	6"	Tartarian Maple	Acer Tataricum
154	2' dia	Cottonwood	Populus Deltoides
155	10"	Box Elder	Acer Negundo
156	10"	Apple Tree	Malus
157	10"	Apple Tree	Malus
158	6"	Apple Tree	Malus
159	8"	Apple Tree	Malus
160	8"	Black Walnut	Juglans Nigra
161	6-7"	Chinese Elm	Ulmus Parvifolia
162	10"	Chinese Elm	Ulmus Parvifolia
163	10"	Chinese Elm	Ulmus Parvifolia
164	12"	Chinese Elm	Ulmus Parvifolia
165	18"	Green Ash	Fraxinus Pennsyvanica
166	18" clump	Chinese Elm	Ulmus Parvifolia
167	18"	Green Ash	Fraxinus Pennsyvanica
168	18"	Green Ash	Fraxinus Pennsyvanica
169	8"	Green Ash	Fraxinus Pennsyvanica
170	8"	Chinese Elm	Ulmus Parvifolia
171	16"	Chinese Elm	Ulmus Parvifolia
172	12" clump	Silver Maple	Acer Saccharinum
173	16" clump	Silver Maple	Acer Saccharinum
174	18" clump	Silver Maple	Acer Saccharinum
175	18"	Flowering Crabapple	Malus "Hopa"
176	10"	Flowering Crabapple	Malus "Hopa"
177	7"	Black Hills Spruce	Picea Glauca
178	10"	Green Ash	Fraxinus Pennsyvanica
179	10"	Flowering Crabapple	Malus "Hopa"
180	8"	Green Ash	Fraxinus Pennsyvanica

ID#	Size	common name	Scienfic Name
181	7-8"	Green Ash	Fraxinus Pennsyvanica
182	10"	Flowering Crabapple	Malus "Hopa"
183	12"	Green Ash	Fraxinus Pennsyvanica
184	2' clump	Chinese Elm	Ulmus Parvifolia
185	14"	Green Ash	Fraxinus Pennsyvanica
186	12"	Flowering Crabapple	Malus "Hopa"
187	8"	Flowering Crabapple	Malus "Hopa"
188	18"	Chinese Elm	Ulmus Parvifolia
189	10"	Flowering Crabapple	Malus "Hopa"
190	7"	Flowering Crabapple	Malus "Hopa"
191	12' dia	Eastern Red Cedar	Juniperus Virginiana
192	6"	Cottonwood	Populus Deltoides
193	6"	Chinese Elm	Ulmus Parvifolia
194	6"	Chinese Elm	Ulmus Parvifolia
195	6-7"	Chinese Elm	Ulmus Parvifolia
196	6"	Chinese Elm	Ulmus Parvifolia
197	6"	Chinese Elm	Ulmus Parvifolia
198	6"	Cotoonwood	Populus Deltoides
199	6"	Green Ash	Fraxinus Pennsyvanica
200	6"	Cottonwood	Populus Deltoides
201	6"	Cottonwood	Populus Deltoides
202	8"	Cottonwood	Populus Deltoides
203	8"	Cottonwood	Populus Deltoides
204	6"	Cottonwood	Populus Deltoides
205	6"	Cottonwood	Populus Deltoides
206	6"	Chinese Elm	Ulmus Parvifolia
207	6"	Chinese Elm	Ulmus Parvifolia
208	7"	Chinese Elm	Ulmus Parvifolia
209	7"	Cottonwood	Populus Deltoides
210	8"	Chinese Elm	Ulmus Parvifolia
211	6"	Chinese Elm	Ulmus Parvifolia
212	6-7"	Cottonwood	Populus Deltoides
213	6"	Cottonwood	Populus Deltoides
214	6"	Cottonwood	Populus Deltoides
215	6"	Cottonwood	Populus Deltoides
216	6"	Chinese Elm	Ulmus Parvifolia
217	6"	Swamp Willow	Salix Nigra
218	6-8"	Cottonwood	Populus Deltoides
219	6-8"	Cottonwood	Populus Deltoides
220	8"	Chinese Elm	Ulmus Parvifolia
221	8"	Chinese Elm	Ulmus Parvifolia
222	8"	Chinese Elm	Ulmus Parvifolia
223	8"	Chinese Elm	Ulmus Parvifolia
224	10"	Chinese Elm	Ulmus Parvifolia
225	8"	Cottonwood	Populus Deltoides
226	6"	Cottonwood	Populus Deltoides
227	6"	Chinese Elm	Ulmus Parvifolia
228	6"	Chinese Elm	Ulmus Parvifolia
229	6"	Chinese Elm	Ulmus Parvifolia
230	6"	Cottonwood	Populus Deltoides
231	6"	Chinese Elm	Ulmus Parvifolia
232	6" clump	Chinese Elm	Ulmus Parvifolia
233	6" clump	Cottonwood	Populus Deltoides
234	6" clump	Cottonwood	Populus Deltoides
235	6-7" clump	Cottonwood	Populus Deltoides
236	7-8"	Cottonwood	Populus Deltoides
237	6"	Cottonwood	Populus Deltoides
238	6"	Chinese Elm	Ulmus Parvifolia
239	6"	Cottonwood	Populus Deltoides
240	7"	Cottonwood	Populus Deltoides
241	6"	Cottonwood	Populus Deltoides
242	6"	Cottonwood	Populus Deltoides
243	7"	Cottonwood	Populus Deltoides
244	10"	Chinese Elm	Ulmus Parvifolia
245	8"	Chinese Elm	Ulmus Parvifolia
246	8"	Cottonwood	Populus Deltoides
247	10"	Cottonwood	Populus Deltoides
248	10"	Cottonwood	Populus Deltoides
249	10"	Cottonwood	Populus Deltoides
250	8"	Cottonwood	Populus Deltoides
251	6"	Cottonwood	Populus Deltoides
252	6"	Lombardy Popluar	Populus Tremula
253	6"	Chinese Elm	Ulmus Parvifolia
254	6"	Chinese Elm	Ulmus Parvifolia
255	6"	Chinese Elm	Ulmus Parvifolia
256	6"	Chinese Elm	Ulmus Parvifolia
257	6"	Chinese Elm	Ulmus Parvifolia
258	8"	Chinese Elm	Ulmus Parvifolia
259	7"	Cottonwood	Populus Deltoides
260	8"	Cottonwood	Populus Deltoides
261	8"	Cottonwood	Populus Deltoides
262	6"	Chinese Elm	Ulmus Parvifolia
263	8"	Chinese Elm	Ulmus Parvifolia
264	8"	Chinese Elm	Ulmus Parvifolia
265	8"	Box Elder	Acer Negundo
266	6"	Box Elder	Acer Negundo
267	8" clump	Box Elder	Acer Negundo
268	8" clump	Box Elder	Acer Negundo
269	8"	Box Elder	Acer Negundo
270	6"	Lombardy Popluar	Populus Tremula

ID#	Size	common name	Scienfic Name
271	6"	Lombardy Popluar	Populus Tremula
272	6" clump	Box Elder	Acer Negundo
273	10"	Lombardy Popluar	Populus Tremula
274	6"	Cottonwood	Populus Deltoides
275	6"	Cottonwood	Populus Deltoides
276	6"	Chinese Elm	Ulmus Parvifolia
277	6"	Chinese Elm	Ulmus Parvifolia
278	6"	Chinese Elm	Ulmus Parvifolia
279	6"	Chinese Elm	Ulmus Parvifolia
280	6"	Box Elder	Acer Negundo
281	6"	American Elm	Ulmus Americana
282	6"	Chinese Elm	Ulmus Parvifolia
283	14' tall	Colorado Blue Spruce	Picea Pungens
284	10"	Lombardy Popluar	Populus Tremula
285	14' tall	Colorado Green Spruce	Picea Pungens
286	16' tall	Colorado Blue Spruce	Picea Pungens
287	12' tall	White Spruce	Picea Glauca
288	12' tall	Eastern Red Cedar	Juniperus Virginiana
289	10"	Green Ash	Fraxinus Pennsyvanica
290	12"	Scotch Pine	Pinus Sylvestris
291	14"	Scotch Pine	Pinus Sylvestris
292	14"	Scotch Pine	Pinus Sylvestris
293	18"	Scotch Pine	Pinus Sylvestris
294	8"	Scotch Pine	Pinus Sylvestris
295	14"	Scotch Pine	Pinus Sylvestris
296	16"	Scotch Pine	Pinus Sylvestris
297	14"	Scotch Pine	Pinus Sylvestris
298	6"	Scotch Pine	Pinus Sylvestris
299	16"	Scotch Pine	Pinus Sylvestris
300	16-20'	Colorado Blue Spruce	Picea Pungens
301	16-20'	Colorado Blue Spruce	Picea Pungens
302	16-20'	Colorado Blue Spruce	Picea Pungens
303	16-20'	Colorado Blue Spruce	Picea Pungens
304	16-20'	Colorado Blue Spruce	Picea Pungens
305	16-20'	Colorado Blue Spruce	Picea Pungens
306	16-20'	Colorado Blue Spruce	Picea Pungens
307	16-20'	Colorado Blue Spruce	Picea Pungens
308	12"	Flowering Crabapple	Malus "Hopa"
309	14' tall	Amur Maple	Acer Ginnala
310	14' tall	Amur Maple	Acer Ginnala
311	12"	Flowering Crabapple	Malus "Hopa"
312	12"	Flowering Crabapple	Malus "Hopa"
313	10" clump	Silver Maple	Acer Saccharinum
314	14' tall	Amur Maple	Acer Ginnala
315	10"	Silver Maple	Acer Saccharinum
316	10"	Silver Maple	Acer Saccharinum
317	6"	Hackberry	Celtis occidentali
318	6"	Silver Maple	Acer Saccharinum
319	16" clump	Silver Maple	Acer Saccharinum
320	12"	Flowering Crabapple	Malus "Hopa"
321	8"	Green Ash	Fraxinus Pennsyvanica
322	8"	Silver Maple	Acer Saccharinum
323	10"	Green Ash	Fraxinus Pennsyvanica
324	20' tall	Colorado Blue Spruce	Picea Pungens
325	10" clump	Green Ash	Fraxinus Pennsyvanica
326	10" clump	Silver Maple	Acer Saccharinum
327	10"	Silver Maple	Acer Saccharinum
328	14"	Scotch Pine	Pinus Sylvestris
329	16"	Scotch Pine	Pinus Sylvestris
330	14" clump	Silver Maple	Acer Saccharinum
331	14" clump	Silver Maple	Acer Saccharinum
332	14" clump	Silver Maple	Acer Saccharinum
333	14" clump	Silver Maple	Acer Saccharinum
334	8"	Green Ash	Fraxinus Pennsyvanica
335	6"	Hackberry	Celtis occidentali
336	8" clump	Silver Maple	Acer Saccharinum
337	8"	Green Ash	Fraxinus Pennsyvanica
338	10"	Silver Maple	Acer Saccharinum
339	6"	Green Ash	Fraxinus Pennsyvanica
340	8"	Flowering Crabapple	Malus "Hopa"
341	12" clump	Silver Maple	Acer Saccharinum
342	6"	Flowering Crabapple	Malus "Hopa"
343	10"	Canada Red Cherry	Prunus Virginiana
344	6"	Flowering Crabapple	Malus "Hopa"
345	14"	Scotch Pine	Pinus Sylvestris
346	6"	Green Ash	Fraxinus Pennsyvanica
347	8"	Green Ash	Fraxinus Pennsyvanica
348	6"	Green Ash	Fraxinus Pennsyvanica
349	8"	Flowering Crabapple	Malus "Hopa"
350	6"	Green Ash	Fraxinus Pennsyvanica
351	12"	Scotch Pine	Pinus Sylvestris
352	8"	Scotch Pine	Pinus Sylvestris
353	12"	Scotch Pine	Pinus Sylvestris
354	6"	Green Ash	Fraxinus Pennsyvanica
355	8"	Flowering Crabapple	Malus "Hopa"
356	8"	Flowering Crabapple	Malus "Hopa"
357	6"	Flowering Crabapple	Malus "Hopa"
358	8"	Flowering Crabapple	Malus "Hopa"
359	12"	Green Ash	Fraxinus Pennsyvanica
360	8"	Green Ash	Fraxinus Pennsyvanica

ID#	Size	common name	Scienfic Name
361	8"	Green Ash	Fraxinus Pennsyvanica
362	10" clump	Silver Maple	Acer Saccharinum
363	6"	Green Ash	Fraxinus Pennsyvanica
364	6"	Green Ash	Fraxinus Pennsyvanica
365	7"	Green Ash	Fraxinus Pennsyvanica
366	6"	Green Ash	Fraxinus Pennsyvanica
367	14' tall	Eastern Red Cedar	Juniperus Virginiana
368	12' tall	Eastern Red Cedar	Juniperus Virginiana
369	8"	Green Ash	Fraxinus Pennsyvanica
370	6"	Green Ash	Fraxinus Pennsyvanica
371	10"	Green Ash	Fraxinus Pennsyvanica
372	8"	Green Ash	Fraxinus Pennsyvanica
373	8"	Flowering Crabapple	Malus "Hopa"
374	6"	Green Ash	Fraxinus Pennsyvanica
375	8"	Flowering Crabapple	Malus "Hopa"
376	8"	Scotch Pine	Pinus Sylvestris
377	12"	Scotch Pine	Pinus Sylvestris
378	6"	Flowering Crabapple	Malus "Hopa"
379	12' tall	Eastern Red Cedar	Juniperus Virginiana
380	10"	Green Ash	Fraxinus Pennsyvanica
381	12"	Green Ash	Fraxinus Pennsyvanica
382	12"	Flowering Crabapple	Malus "Hopa"
383	8"	Lombardy Popluar	Populus Tremula
384	12"	Lombardy Popluar	Populus Tremula
385	12"	Lombardy Popluar	Populus Tremula
386		Green Ash	Fraxinus Pennsyvanica
387	8"	Lombardy Popluar	Populus Tremula
388	12" clump	Silver Maple	Acer Saccharinum
389	6"	American Elm	Ulmus Americana
390	6"	Green Ash	Fraxinus Pennsyvanica
391	8"	Lombardy Popluar	Populus Tremula
392	8"	Flowering Crabapple	Malus "Hopa"
393	8"	Flowering Crabapple	Malus "Hopa"
394	10"	Lombardy Popluar	Populus Tremula
395	10"	Lombardy Popluar	Populus Tremula
396	8"	Green Ash	Fraxinus Pennsyvanica
397	14' tall	Scotch Pine	Pinus Sylvestris
398	6"	Flowering Crabapple	Malus "Hopa"
399	8"	Green Ash	Fraxinus Pennsyvanica
400	8"	American Elm	Ulmus Americana
401	6"	eastern Red Cedar	Juniperus Virginiana
402	6"	Flowering Crabapple	Malus "Hopa"
403	6"	Flowering Crabapple	Malus "Hopa"
404	14"	Scotch Pine	Pinus Sylvestris
405	10"	Scotch Pine	Pinus Sylvestris
406	8"	Flowering Crabapple	Malus "Hopa"
407	7"	Green Ash	Fraxinus Pennsyvanica
408	10"	Green Ash	Fraxinus Pennsyvanica
409	16"	Scotch Pine	Pinus Sylvestris
410	8"	Green Ash	Fraxinus Pennsyvanica
411	6"	Green Ash	Fraxinus Pennsyvanica
412	8"	Green Ash	Fraxinus Pennsyvanica
413	10"	Flowering Crabapple	Malus "Hopa"
414	10"	Flowering Crabapple	Malus "Hopa"
415	8"	Scotch Pine	Pinus Sylvestris
416	8"	Green Ash	Fraxinus Pennsyvanica
417	12"	Box Elder	Acer Negundo
418	6"	Flowering Crabapple	Malus "Hopa"
419	10"	Flowering Crabapple	Malus "Hopa"
420	6"	Green Ash	Fraxinus Pennsyvanica
421	10"	Flowering Crabapple	Malus "Hopa"
422	10"	Green Ash	Fraxinus Pennsyvanica
423	6"	Green Ash	Fraxinus Pennsyvanica
424	14"	Scotch Pine	Pinus Sylvestris
425	12"	Green Ash	Fraxinus Pennsyvanica
426	6"	Flowering Crabapple	Malus "Hopa"
427	6"	Green Ash	Fraxinus Pennsyvanica
428	8"	Green Ash	Fraxinus Pennsyvanica
429	10"	Green Ash	Fraxinus Pennsyvanica
430	7"	Green Ash	Fraxinus Pennsyvanica
431	9"	Green Ash	Fraxinus Pennsyvanica
432	8"	Green Ash	Fraxinus Pennsyvanica
433	6"	Green Ash	Fraxinus Pennsyvanica
434	10"	Green Ash	Fraxinus Pennsyvanica
435	10"	Green Ash	Fraxinus Pennsyvanica
436	6"	Box Elder	Acer Negundo
437	7"	Green Ash	Fraxinus Pennsyvanica
438	10"	Green Ash	Fraxinus Pennsyvanica
439	10"	Green Ash	Fraxinus Pennsyvanica
440	10"	Flowering Crabapple	Malus "Hopa"
441	8"	Green Ash	Fraxinus Pennsyvanica
442	8"	Box Elder	Acer Negundo
443	8"	Flowering Crabapple	Malus "Hopa"
444	10"	Green Ash	Fraxinus Pennsyvanica
445	10"	Black Cherry	Prunus Serotina
446	8"	Green Ash	Fraxinus Pennsyvanica
447	8"	Green Ash	Fraxinus Pennsyvanica
448	8"	Green Ash	Fraxinus Pennsyvanica
449	10"	Box Elder	Acer Negundo
450	10"	Green Ash	Fraxinus Pennsyvanica

North

This drawing prepared by:

Bonnema Runke Stern Inc.

Professional Land Surveyors

1809 22nd St SW - Suite 104

Willmar, MN 56201

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Project: ***Hanover Cove***
Tree Inventory
Hanover, MN

Survey Requested By: **Duininck Inc.**

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Tree Inventory - Sheet 4 of 5

ID#	Size	common name	Scienfic Name
451	6"	Green Ash	Fraxinus Pennsyvanica
452	8"	Green Ash	Fraxinus Pennsyvanica
453	8"	Green Ash	Fraxinus Pennsyvanica
454	6"	Flowering Crabapple	Malus "Hopa"
455	20"	Chinese Elm	Ulmus Parvifolia
456	8"	Green Ash	Fraxinus Pennsyvanica
457	12"	Norway Maple	Acer Platanoides
458	10"	Green Ash	Fraxinus Pennsyvanica
459	10"	Green Ash	Fraxinus Pennsyvanica
460	8"	Flowering Crabapple	Malus "Hopa"
461	12"	Green Ash	Fraxinus Pennsyvanica
462	8"	Green Ash	Fraxinus Pennsyvanica
463	10"	Green Ash	Fraxinus Pennsyvanica
464	8"	Flowering Crabapple	Malus "Hopa"
465	10"	Flowering Crabapple	Malus "Hopa"
466	10"	Norway Maple	Acer Platanoides
467	8' clump	Service Berry	Amelanchier Arborea
468	10"	Flowering Crabapple	Malus "Hopa"
469	8"	Scotch Pine	Pinus Sylvestris
470	8"	Green Ash	Fraxinus Pennsyvanica
471	10"	Flowering Crabapple	Malus "Hopa"
472	8" clump	Tartarian Maple	Acer Tataricum
473	8"	Amur Maple	Acer Ginnala
474	8"	Tartarian Maple	Acer Tataricum
475	12"	Green Ash	Fraxinus Pennsyvanica
476	6"	Green Ash	Fraxinus Pennsyvanica
477	6"	Service Berry	Amelanchier Arborea
478	6" clump	Tartarian Maple	Acer Tataricum
479	6" clump	Black Cherry	Prunus Serotina
480	8"	Flowering Crabapple	Malus "Hopa"
481	10" clump	Tartarian Maple	Acer Tataricum
482	8"	Tartarian Maple	Acer Tataricum
483	10"	Green Ash	Fraxinus Pennsyvanica
484	12"	Green Ash	Fraxinus Pennsyvanica
485	10"	Box Elder	Acer Negundo
486	8"	Box Elder	Acer Negundo
487	8"	Box Elder	Acer Negundo
488	18"	Box Elder	Acer Negundo
489	6"	Box Elder	Acer Negundo
490	6"	Mulberry	Morus Nigra
491	8"	Box Elder	Acer Negundo
492	10"	Green Ash	Fraxinus Pennsyvanica
493	10"	Green Ash	Fraxinus Pennsyvanica
494	20"	Honey Locust	Gleditsia triacanthos
495	10"	Flowering Crabapple	Malus "Hopa"
496	8"	Green Ash	Fraxinus Pennsyvanica
497	10"	Box Elder	Acer Negundo
498	8"	Green Ash	Fraxinus Pennsyvanica
499	8"	Green Ash	Fraxinus Pennsyvanica
500	6"	Chinese Elm	Ulmus Parvifolia
501	12"	Box Elder	Acer Negundo
502	8"	Green Ash	Fraxinus Pennsyvanica
503	8"	Flowering Crabapple	Malus "Hopa"
504	8-10"	Green Ash	Fraxinus Pennsyvanica
505	8-10"	Green Ash	Fraxinus Pennsyvanica
506	10"	Box Elder	Acer Negundo
507	10"	Green Ash	Fraxinus Pennsyvanica
508	10"	Flowering Crabapple	Malus "Hopa"
509	10"	Green Ash	Fraxinus Pennsyvanica
510	12"	Green Ash	Fraxinus Pennsyvanica
511	8"	Flowering Crabapple	Malus "Hopa"
512	10"	Green Ash	Fraxinus Pennsyvanica
513	12"	Green Ash	Fraxinus Pennsyvanica
514	16"	Green Ash	Fraxinus Pennsyvanica
515	24" clump	Silver Maple	Acer Saccharinum
516	8"	Green Ash	Fraxinus Pennsyvanica
517	10"	Green Ash	Fraxinus Pennsyvanica
518	8"	Tartarian Maple	Acer Tataricum
519	12"	Green Ash	Fraxinus Pennsyvanica
520	8"	Green Ash	Fraxinus Pennsyvanica
521	10"	Green Ash	Fraxinus Pennsyvanica
522	8"	Green Ash	Fraxinus Pennsyvanica
523	8"	Tartarian Maple	Acer Tataricum
524	8" clump	Tartarian Maple	Acer Tataricum
525	8"	Tartarian Maple	Acer Tataricum
526	10"	Green Ash	Fraxinus Pennsyvanica
527	14"	Colorado Blue Spruce	Picea Glauca
528	10"	Scotch Pine	Pinus Sylvestris
529	10"	Green Ash	Fraxinus Pennsyvanica
530	12"	Flowering Crabapple	Malus "Hopa"
531	16'	Colorado Blue Spruce	Picea Pungens
532	16'	Colorado Blue Spruce	Picea Pungens
533	16'	Colorado Blue Spruce	Picea Pungens
534	14"	Green Ash	Fraxinus Pennsyvanica
535	10"	Lombardy Popluar	Populus Tremula
536	18"	Silver Maple	Acer Saccharinum
537	14'	Eastern Red Cedar	Juniperus Virginiana
538	8"	Flowering Crabapple	Malus "Hopa"
539	8"	Flowering Crabapple	Malus "Hopa"
540	12"	Flowering Crabapple	Malus "Hopa"

ID#	Size	common name	Scienfic Name
541	6"	Flowering Crabapple	Malus "Hopa"
542	8"	Flowering Crabapple	Malus "Hopa"
543	16'	Eastern Red Cedar	Juniperus Virginiana
544	16'	Eastern Red Cedar	Juniperus Virginiana
545	10"	Green Ash	Fraxinus Pennsyvanica
546	6"	Lombardy Popluar	Populus Tremula
547	6"	Chinese Elm	Ulmus Parvifolia
548	8"	Cottonwood	Populus Deltoides
549	10"	Chinese Elm	Ulmus Parvifolia
550	12"	Chinese Elm	Ulmus Parvifolia
551	6"	Green Ash	Fraxinus Pennsyvanica
552	7"	Green Ash	Fraxinus Pennsyvanica
553	12"	Scotch Pine	Pinus Sylvestris
554	6"	Green Ash	Fraxinus Pennsyvanica
555	18"	Scotch Pine	Pinus Sylvestris
556	8"	Green Ash	Fraxinus Pennsyvanica
557	10-12"	Flowering Crabapple	Malus "Hopa"
558	10-12"	Flowering Crabapple	Malus "Hopa"
559	10-12"	Flowering Crabapple	Malus "Hopa"
560	8"	Flowering Crabapple	Malus "Hopa"
561	12"	Green Ash	Fraxinus Pennsyvanica
562	8"	Green Ash	Fraxinus Pennsyvanica
563	10"	Flowering Crabapple	Malus "Hopa"
564	6"	Green Ash	Fraxinus Pennsyvanica
565	6"	White Spruce	Picea Glauca
566	16"	Scotch Pine	Pinus Sylvestris
567	10"	Flowering Crabapple	Malus "Hopa"
568	10"	Flowering Crabapple	Malus "Hopa"
569	10"	Flowering Crabapple	Malus "Hopa"
570	8"	Russian Olive	Elaeagnus Angustifolia
571	6-8"	Green Ash	Fraxinus Pennsyvanica
572	6-8"	Green Ash	Fraxinus Pennsyvanica
573	6-8'	Green Ash	Fraxinus Pennsyvanica
574	7"	Box Elder	Acer Negundo
575	12'	Eastern Red Cedar	Juniperus Virginiana
576	12"	Chinese Elm	Ulmus Parvifolia
577	14"	Scotch Pine	Pinus Sylvestris
578	10"	Chinese Elm	Ulmus Parvifolia
579	8"	American Linden	Tilia Americana
580	14'	Eastern Red Cedar	Juniperus Virginiana
581	6"	Black Walnut	Juglans Nigra
582	8"	American Linden	Tilia Americana
583	8"	Green Ash	Fraxinus Pennsyvanica
584	10"	Flowering Crabapple	Malus "Hopa"
585	12"	Chinese Elm	Ulmus Parvifolia
586	12"	White Oak	Quercus alba
587	12"	Flowering Crabapple	Malus "Hopa"
588	8"	Catalpa	Catalpa Speciosa
589	6"	Chinese Elm	Ulmus Parvifolia
590	22"	Chinese Elm	Ulmus Parvifolia
591	8"	Flowering Crabapple	Malus "Hopa"
592	10"	Chinese Elm	Ulmus Parvifolia
593	12"	Box Elder	Acer Negundo
594	12"	Box Elder	Acer Negundo
595	6"	Green Ash	Fraxinus Pennsyvanica
596	8"	Green Ash	Fraxinus Pennsyvanica
597	8"	Chinese Elm	Ulmus Parvifolia
598	6"	Black Cherry	Prunus Serotina
599	6"	American Linden	Tilia Americana
600	14"	Scotch Pine	Pinus Sylvestris
601	12"	Chinese Elm	Ulmus Parvifolia
602	6"	American Elm	Ulmus Americana
603	12"	Tartarian Maple	Acer Tataricum
604	10"	Flowering Crabapple	Malus "Hopa"
605	12"	White Pine	Pinus Strobus
606	10"	Chinese Elm	Ulmus Parvifolia
607	18"	Chinese Elm	Ulmus Parvifolia
608	6"	American Elm	Ulmus Americana
609	12"	Green Ash	Fraxinus Pennsyvanica
610	12"	White Pine	Pinus Strobus
611	6"	Mulberry	Morus Nigra
612	12"	White Pine	Pinus Strobus
613	8"	Chinese Elm	Ulmus Parvifolia
614	18"	Scotch Pine	Pinus Sylvestris
615	6"	Chinese Elm	Ulmus Parvifolia
616	8"	Tartarian Maple	Acer Tataricum
617	12"	American Elm	Ulmus Americana
618	10"	Chinese Elm	Ulmus Parvifolia
619	8'	Black Cherry	Prunus Serotina
620	6"	Chinese Elm	Ulmus Parvifolia
621	6"	Flowering Crabapple	Malus "Hopa"
622	12"	Box Elder	Acer Negundo
623	12"	Box Elder	Acer Negundo
624	6"	Box Elder	Acer Negundo
625	12"	Box Elder	Acer Negundo
626	10"	Box Elder	Acer Negundo
627	14"	Box Elder	Acer Negundo
628	25-30'	Colorado Blue Spruce	Picea Pungens
629	25-30'	Colorado Blue Spruce	Picea Pungens
630	25-30'	Colorado Blue Spruce	Picea Pungens

631	25-30'	Colorado Blue Spruce	Picea Pungens
632	25-30'	Colorado Blue Spruce	Picea Pungens
633	25-30'	Colorado Blue Spruce	Picea Pungens
634	25-30'	Colorado Blue Spruce	Picea Pungens
635	25'	White Pine	Pinus Strobus
636	25'	White Pine	Pinus Strobus
637	25'	White Pine	Pinus Strobus
638	6"	Apple	Malus
639	25'	White Pine	Pinus Strobus
640	8"	Flowering Crabapple	Malus "Hopa"
641	24"	American Linden	Tilia Americana
642	18"	Green Ash	Fraxinus Pennsyvanica
643	18"	American Linden	Tilia Americana
644	12"	Colorado Blue Spruce	Picea Pungens
645	18"	Box Elder	Acer Negundo
646	18"	Colorado Blue Spruce	Picea Glauca
647	6"	Lombardy Popluar	Populus Tremula
648	6"	Eastern Red Cedar	Juniperus Virginiana
649	8"	Chinese Elm	Ulmus Parvifolia
650	6"	Chinese Elm	Ulmus Parvifolia
651	10"	Chinese Elm	Ulmus Parvifolia
652	10"	Chinese Elm	Ulmus Parvifolia
653	8"	Green Ash	Fraxinus Pennsyvanica
654	18"	Box Elder	Acer Negundo
655	8"	Chinese Elm	Ulmus Parvifolia
656	6"	Chinese Elm	Ulmus Parvifolia
657	14"	Box Elder	Acer Negundo
658	12"	Green Ash	Fraxinus Pennsyvanica
659	6"	Chinese Elm	Ulmus Parvifolia
660	12"	Box Elder	Acer Negundo
661	12"	Box Elder	Acer Negundo
662	10"	Flowering Crabapple	Malus "Hopa"
663	6"	Green Ash	Fraxinus Pennsyvanica
664	6"	Chinese Elm	Ulmus Parvifolia

Tree Stand Areas

ID#	# of Trees	Tree Stand Area (Acres)	common name	Scienfic Name
ST 1	96	0.27	Colorado Blue Spruce	Picea Glauca
ST 2	8	0.03	Flowering Crab	Malus "Hopa"
ST 3	16	0.03	Green Ash	Fraxinus Pennsyvanica
ST 4	116	0.46	Chinese Elm	Ulmus Parvifolia
ST 5	48	0.07	Box Elder	Acer Negundo
ST 6	28	0.05	Box Elder	Acer Negundo
ST 7	79	0.10	Chinese Elm	Ulmus Parvifolia
ST 8	20	0.05	Chinese Elm	Ulmus Parvifolia

SUMMARY

	# OF INDIVIDUAL TREES ON OR ADJ TO PROPERTY	# OF TREES IN SIGNIFICANT TREE STANDS	TOTAL TREES
DECIDUOUS	561	315	876
CONIFEROUS	103	96	199
TOTAL	664	411	1065

North

This drawing prepared by:

Bonnema Runke Stern Inc.

Professional Land Surveyors

1809 22nd St SW - Suite 104

Willmar, MN 56201

Office (320) 231-2844 Fax (320) 231-2827

Project: ***Hanover Cove***
Tree Inventory
Hanover, MN

Survey Requested By: **Duininck Inc.**

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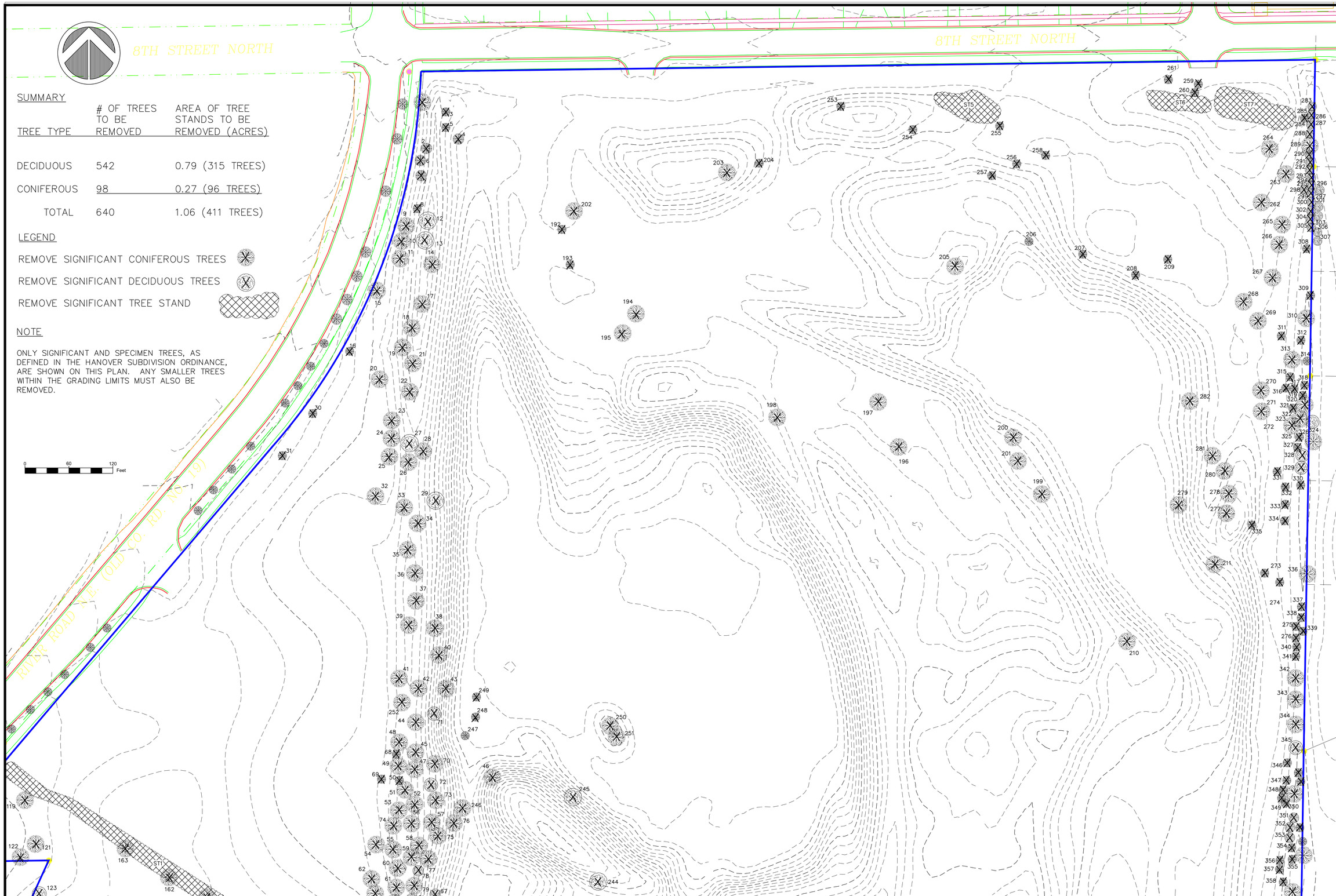
Tree Inventory - Sheet 5 of 5



SUMMARY

TREE TYPE	# OF TREES TO BE REMOVED	AREA OF TREE STANDS TO BE REMOVED (ACRES)
DECIDUOUS	542	0.79 (315 TREES)
CONIFEROUS	98	0.27 (96 TREES)
TOTAL	640	1.06 (411 TREES)

LEGEND

REMOVE SIGNIFICANT CONIFEROUS TREES

REMOVE SIGNIFICANT DECIDUOUS TREES

REMOVE SIGNIFICANT TREE STAND

NOTE

ONLY SIGNIFICANT AND SPECIMEN TREES, AS DEFINED IN THE HANOVER SUBDIVISION ORDINANCE, ARE SHOWN ON THIS PLAN. ANY SMALLER TREES WITHIN THE GRADING LIMITS MUST ALSO BE REMOVED.

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SIGNATURE: DATE: 11/16/2018

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PRINSBURG, MN 56281

HANOVER COVE
PRELIMINARY ENGINEERING PLAN
TREE REMOVAL PLAN

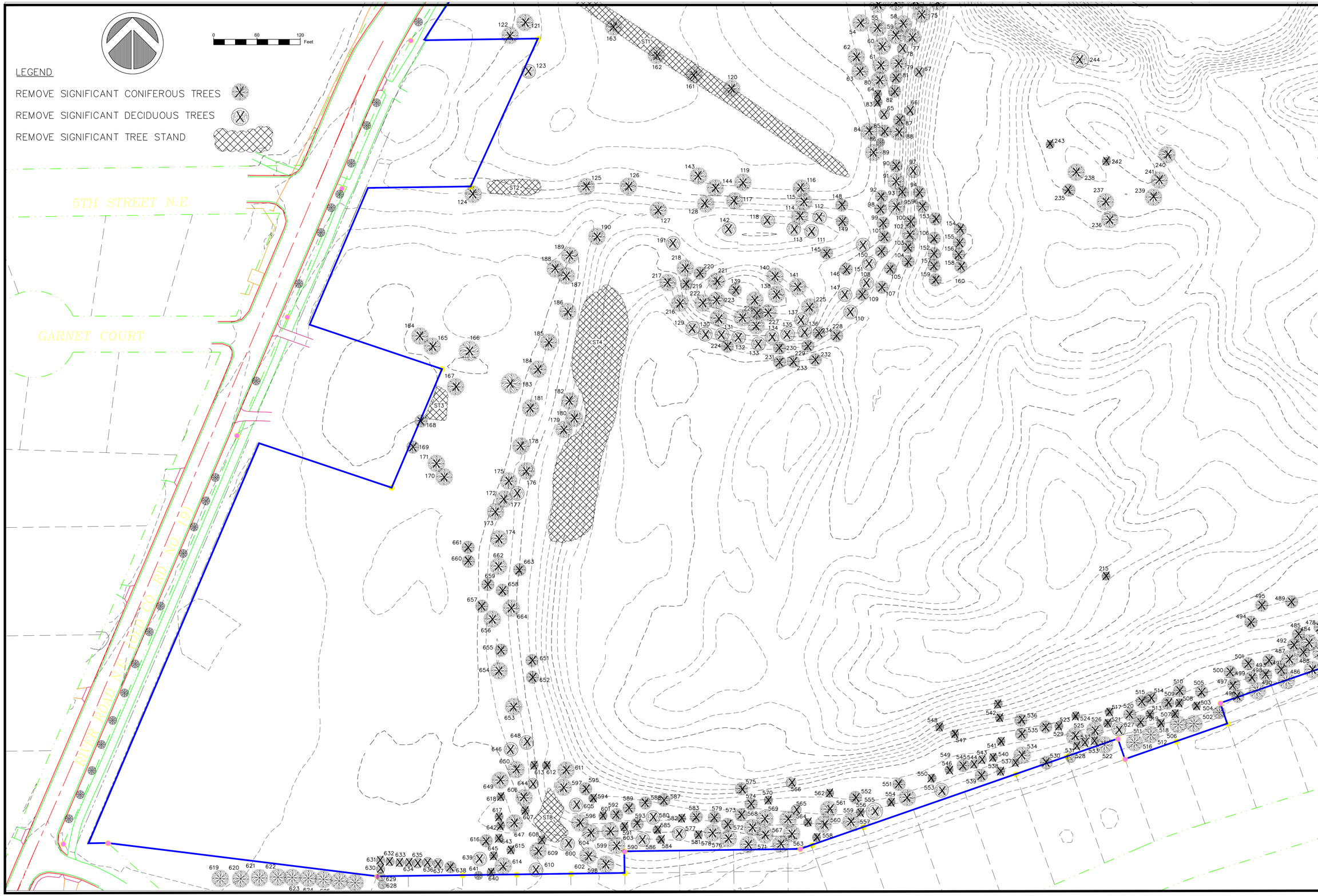
HANOVER, MN

CHECKED BY:	DRAWN BY:
JVS	JVS

SCALE
GRAPHIC

DATE
NOV 16, 2018

SHEET
TREEREM1



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HANOVER COVE
PRELIMINARY ENGINEERING PLAN
TREE REMOVAL PLAN

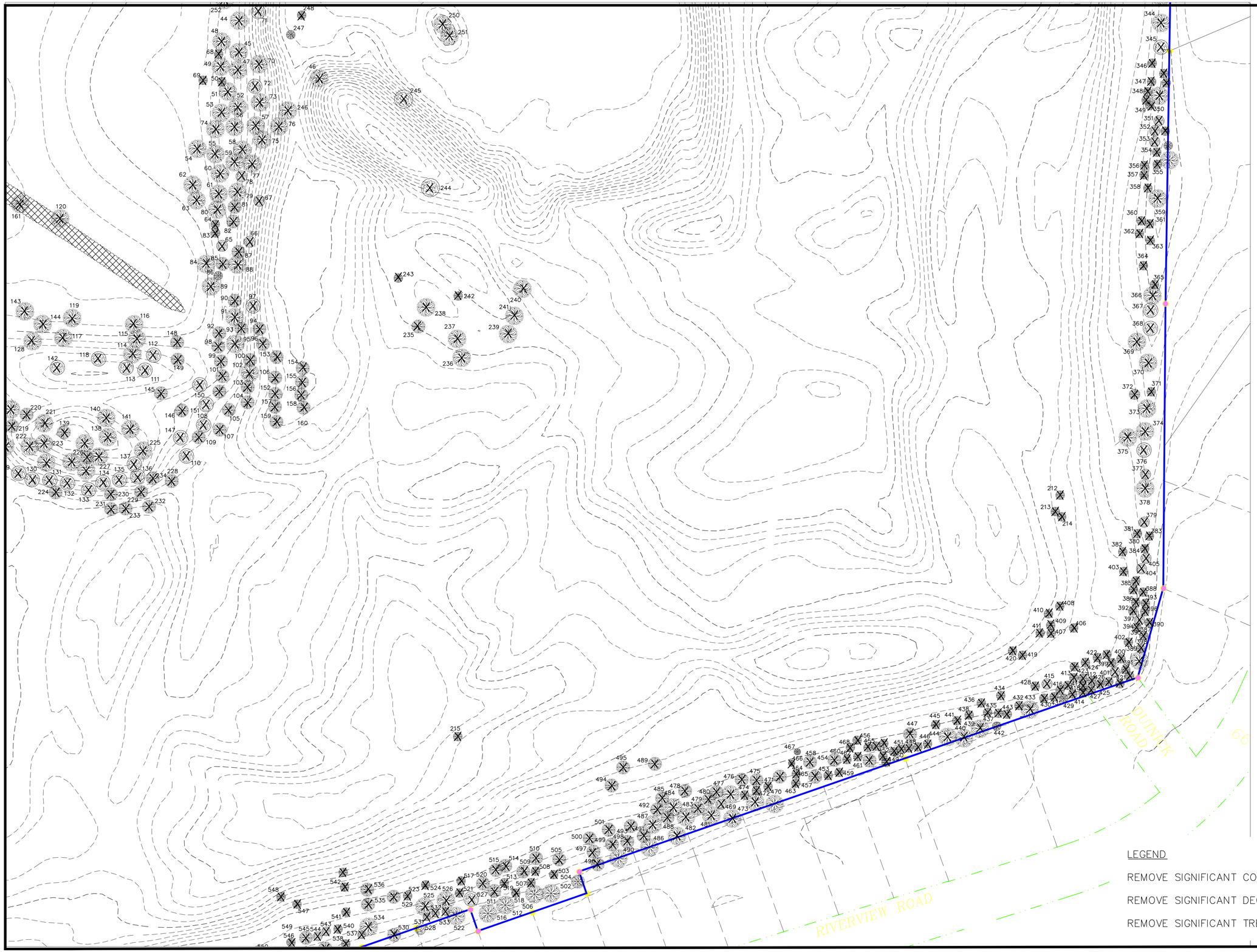
HANOVER, MN

CHECKED BY:	DRAWN BY:
JVS	JVS

SCALE
GRAPHIC

DATE
NOV 16, 2018

SHEET
TREEREM2



LEGEND

REMOVE SIGNIFICANT CONIFEROUS TREES

REMOVE SIGNIFICANT DECIDUOUS TREES

REMOVE SIGNIFICANT TREE STAND

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HANOVER COVE
PRELIMINARY ENGINEERING PLAN
TREE REMOVAL PLAN

HANOVER, MN

CHECKED BY:	DRAWN BY:
JVS	JVS

SCALE
GRAPHIC

DATE
NOV 16, 2018

SHEET
TREEREM3

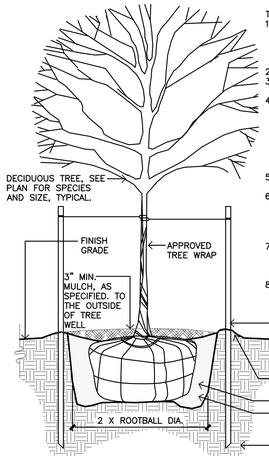
PLANT SCHEDULE

TREES	CODE	QTY	BOTANICAL NAME / COMMON NAME	CONT	CAL	DETAIL
	ACE APO	70	Acer saccharum 'Apollo' TM / Apollo Sugar Maple	B & B	2"Cal	
	MAL R42	72	Malus x 'Royal Raindrops' / Royal Raindrops Crabapple	B & B	2"Cal	
	PRU PI2	77	Prunus sargentii 'Pink Flair' / Sargent Cherry	B & B	2"Cal	
	PYR CLE	61	Pyrus calleryana 'Cleveland Select' / Cleveland Select Pear	B & B	2"Cal	
STREET TREES	**CODE**	**QTY**	**BOTANICAL NAME / COMMON NAME**	**CONT**	**CAL**	**DETAIL**
	ACE STA	68	Acer miyabei 'State Street' / Miyabei Maple	B & B	2.5"Cal	
	GIN AUT	62	Ginkgo biloba 'Autumn Gold' TM / Maidenhair Tree	B & B	2.5"Cal	
	POP PR2	53	Populus tremuloides 'Prairie Gold' / Prairie Gold Aspen	B & B	2.5"Cal	
	TIL BOU	56	Tilia americana 'Boulevard' / Boulevard Linden	B & B	2.5"Cal	
	ULM PRI	55	Ulmus americana 'Princeton' / American Elm	B & B	2.5"Cal	

NOTES:
1. ANY BROKEN OR CRUMBLING ROOTBALLS WILL BE REJECTED. REMOVING CONTAINERS WILL NOT BE AN EXCUSE FOR DAMAGED ROOTBALLS.
2. LAY PLANTS OUT ON THE GROUND IN THE CONTAINER FOR LANDSCAPE ARCHITECT TO REVIEW LAYOUT PRIOR TO PLANTING.

DETAIL: SHRUB PLANTING
SCALE: 1" = 1'-0"

EACH UNIT SHOULD HAVE AT A MINIMUM (6) SHRUBS PLANTED IN A LAYOUT SIMILAR TO WHAT IS INDICTED IN THIS PLAN. INSTALL 5" ALUMINUM EDGING THE LENGTH OF THE PLANTING BED AS SHOWN. SPECIMENS SHALL BE COLD HARDY TO ZONE 4a AND NOT BE PRESENT ON THE INVASIVE SPECIES LIST. SOME ACCEPTABLE PLANTINGS ARE: 'WALKERS LOW' CATMINT 'KARL FOERSTER' FEATHER REED GRASS SUMAC 'LOW GROW' 'GOLDSTAR' POTENTILLA 'SNOWBOUND' SPIREA 'GOLD TIDE' FORSYTHIA



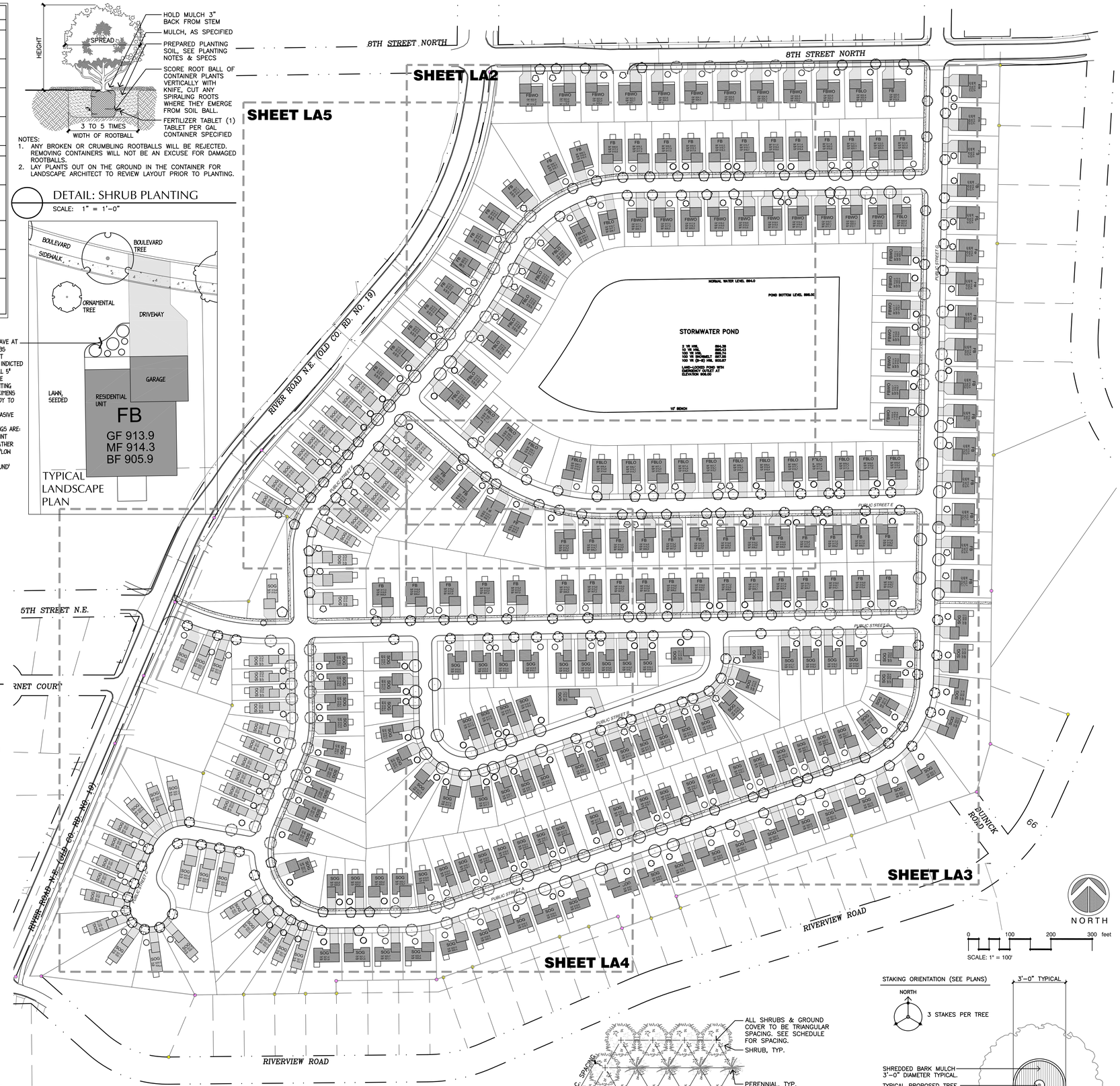
TREE PLANTING NOTES:
1. INSTALL ROOT COLLAR AT OR SLIGHTLY ABOVE GRADE. FINISH GRADE AS IT GREW IN NURSERY. THE GRAFT SHALL BE INSTALLED ABOVE GRADE REGARDLESS OF HOW TREE WAS PLANTED FROM THE NURSERY.
2. DO NOT CUT OR DAMAGE LEADER.
3. PRUNE DAMAGED LIMBS IMMEDIATELY PRIOR TO PLANTING.
4. PLANT SHALL BE SET PLUMB AND SHALL BE CENTERED IN PLANTING PIT. REMOVE ALL BURLAP, TWINE, ROPE, WIRE & WIRE BASKET FROM ROOT BALL. IF TREE IS IN FIBER POT, REMOVE PRIOR TO PLANTING. BROKEN OR CRUMBLING ROOTBALLS WILL BE REJECTED. REMOVING THE WIRE WILL NOT BE AN EXCUSE FOR A DAMAGED ROOTBALL.
5. IF TREE IS PLANTED IN A TURF AREA, EARTH SAUCER IS NOT NEEDED.
6. INSTALL AGSAFE 20-10-5 FERTILIZER TABLETS AT EACH PLANTING. PLACE (1) TABLET FOR EVERY 1/2" OF TRUNK DIAMETER (CALIPER). DEEP SOAK PLANTING AT TIME OF PLANTING TO ENSURE ACTIVATION.
7. PLANTING PITS: PRIOR TO PLANTING, APPROVED PLANTING SOIL SHALL BE THOROUGHLY MIXED WITH 25% PEAT BY VOLUME. CO-COMPOST FROM THE CITY LANDFILL IS NOT ACCEPTABLE.
8. INSTALL CEDAR MULCH AT BASE OF ALL PLANTINGS UNDER CANOPY OF PLANT BUT NOT WITHIN 2" OF THE TRUNK OF THE TREE.

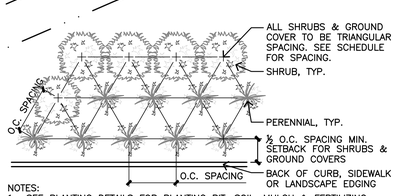
SECTION: TYPICAL B&B DECIDUOUS TREE
SCALE: 1/2" = 1'-0"

PLANTING NOTES:

1. ALL GRADED, UNPAVED AREAS SHALL BE REVEGETATED. SEEDED AREAS ARE TO RECEIVE 4" MINIMUM DEPTH OF CLEAN TOPSOIL. TOPSOIL SHALL BE FREE OF ROCKS, CLODS, BRANCHES & DEBRIS. UPON REVIEW OF THE STOCKPILED TOPSOIL, THE LANDSCAPE ARCHITECT MAY REQUIRE THE TOPSOIL TO BE SCREENED WITH A 1" SCREEN AT CONTRACTORS COST. LANDSCAPE BEDS WHERE TREES, SHRUBS, PERENNIALS & GRASSES ARE PLANNED SHALL BE AMENDED AS FOLLOWS:
- USE STOCKPILED SITE TOPSOIL FOR TOP 8" OF SOIL (MAY NEED TO BE SCREENED)
- REFER TO PLANTING DETAILS FOR FERTILIZER TABLETS TO BE INSTALLED IN THE PLANTING PIT.

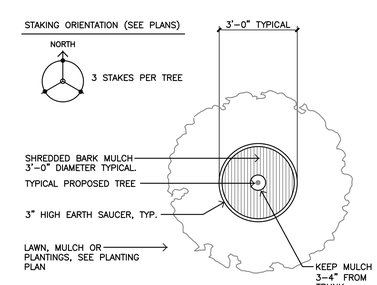
2. TREES ARE TO BE PLANTED AT THE COMPLETION OF THE RESIDENTIAL CONSTRUCTION ON EACH LOT.
3. TREES IN LAWN AND BOULEVARD AREAS ARE TO RECEIVE A 48" DIA. SHREDDED CEDAR MULCH RING WITH A MIN. DEPTH OF 4". MULCH SHALL BE INSTALLED IMMEDIATELY UPON PLANTING TREE. FORM EARTH SAUCER AROUND BASE OF TREE PER DETAIL PRIOR TO PLACING MULCH. INSTALL PLANTING MIX IN PIT & USE MIX AS BACKFILL.
4. LIMITS OF SOIL PREPARATION ARE DEFINED BY FENCELINES, LIMITS OF GRADING OPERATIONS, FACES OF WALLS, OR BUILDINGS, AND EDGES OF PAVEMENTS, OR CURBING, AS SHOWN ON PLAN.
5. COORDINATE STOCK-PILING OF TOPSOIL FROM THE SITE WITH GENERAL CONTRACTOR PRIOR TO EXCAVATIONS & ROUGH GRADING OPERATIONS. LANDSCAPE CONTRACTOR SHALL ENSURE THAT NO PONDING OR STANDING WATER CONDITIONS OCCUR IN ANY UNPAVED AREAS WITHIN THE SCOPE OF THIS CONTRACT & THAT ALL SURFACE WATER FLOWS FREELY TO DESIGNATED SWALES, DRAINAGE INLETS, & AWAY FROM BUILDINGS.
6. ALL LAWN, BOULEVARDS AND DISTURBED AREAS ARE TO BE HYDRO-SEEDED AND MULCHED WITH A TACKIFIER. ALL SEEDING AND MULCHING SHALL BE INSTALLED PER CITY OF MINNEAPOLIS STANDARD SPECIFICATION.
7. ALL SEED MIXES SPECIFIED ARE AVAILABLE AT TWIN CITY SEED. PH: 952-944-7105. SEEDING RATES PER SUPPLIER.
   7.1. BOULEVARD SEEDING SHALL BE: BOULEVARD MIX
   7.2. LAWNS (WITHIN PROPERTY LINE) SHALL BE: OVERSEED MIXTURE
   7.3. ALL OTHER DISTURBED AREAS (EXCLUDING THE DETENTION AREA) SHALL BE: TUFF TURF MIX
   7.4. DETENTION / STORMWATER TREATMENT AREAS: 33-261 STORMWATER SOUTH & WEST
8. CONTRACTOR SHALL PROVIDE IRRIGATION FOR ALL BOULEVARD AREAS. IRRIGATION SYSTEM TO BE DESIGN/BUILD. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL OF THE SYSTEM LAYOUT AND DETAILS. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING AVAILABLE PSI, SIZE OF ALL EQUIPMENT INCLUDING METER, BACKFLOW, PIPE, RAIN SENSOR, ROTORS, ETC. ALL BOULEVARD AREAS TO RECEIVE SPRAY IRRIGATION WITH HEAD TO HEAD COVERAGE. ALL BOULEVARDS TO RECEIVE 1" OF WATER PER WEEK.
8. IRRIGATION AT EACH UNIT: IRRIGATION WILL BE INSTALLED AT THE COMPLETED OF THE RESIDENTIAL UNIT CONSTRUCTION. CONTRACTOR SHALL PROVIDE IRRIGATION FOR EACH UNIT. IRRIGATION SYSTEM TO BE DESIGN/BUILD. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL OF THE SYSTEM LAYOUT AND DETAILS. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING AVAILABLE PSI, SIZE OF ALL EQUIPMENT INCLUDING METER, BACKFLOW, PIPE, RAIN SENSOR, ROTORS, ETC. ALL LAWN AREAS TO RECEIVE SPRAY IRRIGATION WITH HEAD TO HEAD COVERAGE. ALL BOULEVARDS TO RECEIVE 1" OF WATER PER WEEK. ALL SHRUB BEDS SHALL HAVE DRIP IRRIGATION AND RECEIVE .25" OF WATER / WEEK.
9. CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE. MAINTENANCE SHALL BEGIN IMMEDIATELY AFTER EACH PORTION OF THE WORK IS IN PLACE. PLANT MATERIAL SHALL BE PROTECTED AND MAINTAINED UNTIL THE INSTALLATION OF THE PLANTS IS COMPLETE, INSPECTION HAS BEEN MADE, AND PLANTINGS ARE ACCEPTED EXCLUSIVE OF THE GUARANTEE. MAINTENANCE SHALL INCLUDE WATERING, CULTIVATING, MULCHING, REMOVAL OF DEAD MATERIALS, RE-SETTING PLANTS TO PROPER GRADE AND KEEPING PLANTS IN A PLUMB POSITION. AFTER ACCEPTANCE, THE OWNER SHALL ASSUME MAINTENANCE RESPONSIBILITIES. HOWEVER, THE CONTRACTOR SHALL CONTINUE TO BE RESPONSIBLE FOR KEEPING THE TREES PLUMB THROUGHOUT THE GUARANTEE PERIOD.
10. THE LAWN SHALL MEET FINAL ACCEPTANCE WHEN:
a. A HEALTHY ACTIVE TURF PROVIDES AT LEAST 95% COVERAGE WITHIN ANY 10 FOOT SQUARE AREA, AND
b. THE GRASS COVER IS ESSENTIALLY FREE OF WEEDS
9. SHRUB BEDS TO RECEIVE 4" DEPTH OF SHREDDED CEDAR MULCH. MULCH SHALL BE APPLIED IN A WAY THAT MINIMIZES OR ELIMINATES DAMAGE TO PLANT MATERIAL. IF PLANTS ARE DAMAGED DURING MULCH INSTALLATION THEY SHALL BE REPLACED AT NO COST TO OWNER.
10. CONTRACTOR SHALL LOCATE AND PROTECT ALL EXISTING UTILITIES. CONTRACTOR SHALL REPAIR OR REPLACE ANY DAMAGED UTILITIES AT NO COST TO OWNER.
11. ALL PLANT MATERIAL SHALL CONFORM TO THE GUIDELINES ESTABLISHED BY THE CURRENT AMERICAN STANDARD FOR NURSERY STOCK, PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSEYMEN.
12. ALL TREE & SHRUB LOCATIONS SHALL BE STAKED OR LAID OUT BY CONTRACTOR & APPROVED BY OWNER REPRESENTATIVE.
13. ALL PLANT SUBSTITUTIONS SHALL BE COORDINATED WITH LANDSCAPE ARCHITECT PRIOR TO PLANTING.
14. ALL PLANTS SHALL BEAR THE SAME RELATIONSHIP TO FINISHED GRADE AS THE PLANT'S ORIGINAL GRADE AT HARVESTING.
15. PLANTING SEASONS SHALL BE FROM APRIL 15 TO JUNE 15 AND FROM SEPTEMBER 1 TO NOVEMBER 1 UNLESS OTHERWISE COORDINATED. EXCEPTIONS SHALL BE COORDINATED THROUGH THE LANDSCAPE ARCHITECT AND OWNER.
14. REMOVE UNSATISFACTORY PLANT MATERIAL WITHIN (7) DAYS OF NOTIFICATION, REPLACE WITH LANDSCAPE ARCHITECT APPROVED REPLACEMENT TREE.
15. TREES SHALL BE WRAPPED WITH NURSERYMAN'S STANDARD CREPE TAPE NOT LESS THAN 4" WIDE, CONSISTING OF TWO LAYERS OF CRINKLED PAPER CEMENTED TOGETHER WITH BITUMINOUS MATERIAL.
16. DECIDUOUS TREES WITH SOFT TISSUE BARK TO BE PROTECTED BY THE LANDSCAPE CONTRACTOR BY MEANS BEST TO PREVENT "BUCK RUB". 6' WIRE FENCING AROUND THE T-POSTS IS PERMITTED. FAILURE BY THE CONTRACTOR PROTECT TREES & ARE DAMAGED BY DEER SHALL BE REPLACED AT CONTRACTORS EXPENSE WITHIN THE WARRANTY PERIOD.
17. GUY/ANCHOR TREES IMMEDIATELY UPON PLANTING TREE.
18. CONTRACTOR SHALL PROVIDE A ONE (1) YEAR WARRANTY FOR ALL PLANT MATERIAL. REPLACEMENT PLANT MATERIAL IS SUBJECT TO THE SAME ONE (1) YEAR WARRANTY. LIMITED TO (1) REPLACEMENT.





NOTES:
1. SEE PLANTING DETAILS FOR PLANTING PIT, SOIL, MULCH & FERTILIZING.
2. REFER TO PLANTING SCHEDULE AND NOTES FOR SPACING.

DETAIL: PERENNIAL OR SHRUB SPACING
SCALE: 1" = 1'-0"



PLAN: TYPICAL MULCH RING DETAIL
SCALE: 1/4" = 1'-0"

Wyss Associates, Inc.
Landscape Architecture
Golf Course Architecture
Parks & Recreation Design
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Phone: 605.348.2268 Fax: 605.348.6506 email:admin@wyssassociates.com

Project Name
Hanover Cove Residential Development
Hanover, MN

Sheet Title
Overall Planting Plan

DESIGNED BY:	PHW
DRAWN BY:	CMW
APPROVED BY:	PHW
PROJECT NO.	18111
DATE:	

NO.	REVISION	DATE

Sub Sheet
LA1
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8TH STREET NORTH

PUBLIC STREET F

PUBLIC STREET G

PUBLIC STREET E

NORMAL WATER LEVEL 894.0

POND BOTTOM LEVEL 898.00

STORMWATER POND

2 YR HWL	894.38
10 YR HWL	895.43
100 YR HWL	896.74
100 YR SNOWMELT	897.55
100 YR (B-B) HWL	900.87

LAND-LOCKED POND WITH
EMERGENCY OUTLET AT
ELEVATION 906.00

10' BENCH

NORTH

0 40 80 120 feet

SCALE: 1" = 40'

Wyss Associates, Inc.
Landscape Architecture
Golf Course Architecture
Parks & Recreation Design
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Project Name

Hanover Cove Residential Development

Hanover, MN

Sheet Title

Enlarged Planting Plan

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DRAWN BY:	CMW
APPROVED BY:	PHW
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Sheet Title	Enlarged Planting Plan
Project Name	Hanover Cove Residential Development
	Hanover, MN
Sub Sheet	LA3
Sheet	OF
NO. / REVISION / DATE	
DATE:	
PROJECT NO.	18111
APPROVED BY:	PHW
DRAWN BY:	CAW
DESIGNED BY:	PHW

Wyss Associates, Inc.
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Golf Course Architecture
Parks & Recreation Design
728 Sixth Street Rapid City, South Dakota 57701–3670
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DRAWN BY: CAW
DESIGNED BY: PHW

Sheet Title
Enlarged Planting Plan

Project Name
Hanover Cove Residential Development
Hanover, MN

Wyss Associates, Inc.
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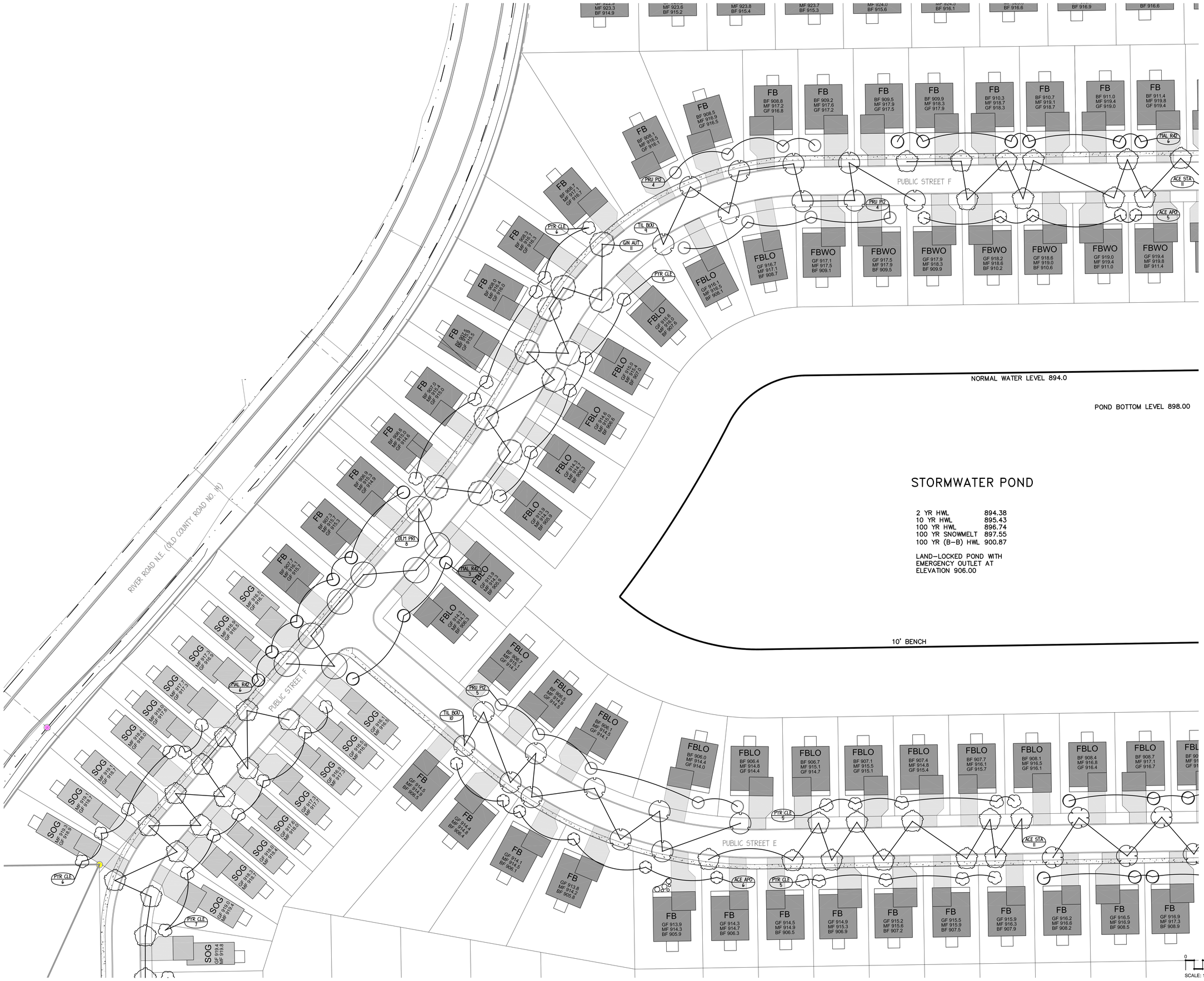

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Phone: 605.348.2268 Fax: 605.348.6506 email:admin@wyssassociates.com

Project Name
Hanover Cove
Residential Development
Hanover, MN

Sheet Title
Enlarged
Planting
Plan

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APPROVED BY:	PHW
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HANOVER COVE
RESIDENTIAL DEVELOPMENT

STS

Swing Traffic Solutions

TRAFFIC IMPACT STUDY

in

HANOVER, MN

September 28, 2018

Hanover Cove Residential Development

Hanover, MN

TRAFFIC IMPACT STUDY

PROJECT NO. 2018023

September 28, 2018

I hereby certify that this plan, specification, or report was prepared by me, or under my direct supervision, and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota:

Vernon E. Swing, P.E.

Date: 9-28-2018 Lic. No.: 41417

TRAFFIC IMPACT STUDY

Hanover Cove Residential Development

Hanover, MINNESOTA

September 28, 2018

Prepared For:

Duininck, Inc.
P.O. Box 208
Prinsburg, MN 56281

Prepared By:

Swing Traffic Solutions, LLC
4290 Norwood Lane North
Plymouth, MN 55442
612-968-4142

Project No. 2018023

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(Available upon Request)

A. TRAFFIC COUNTS

B. TRIP GENERATION CALCULATIONS

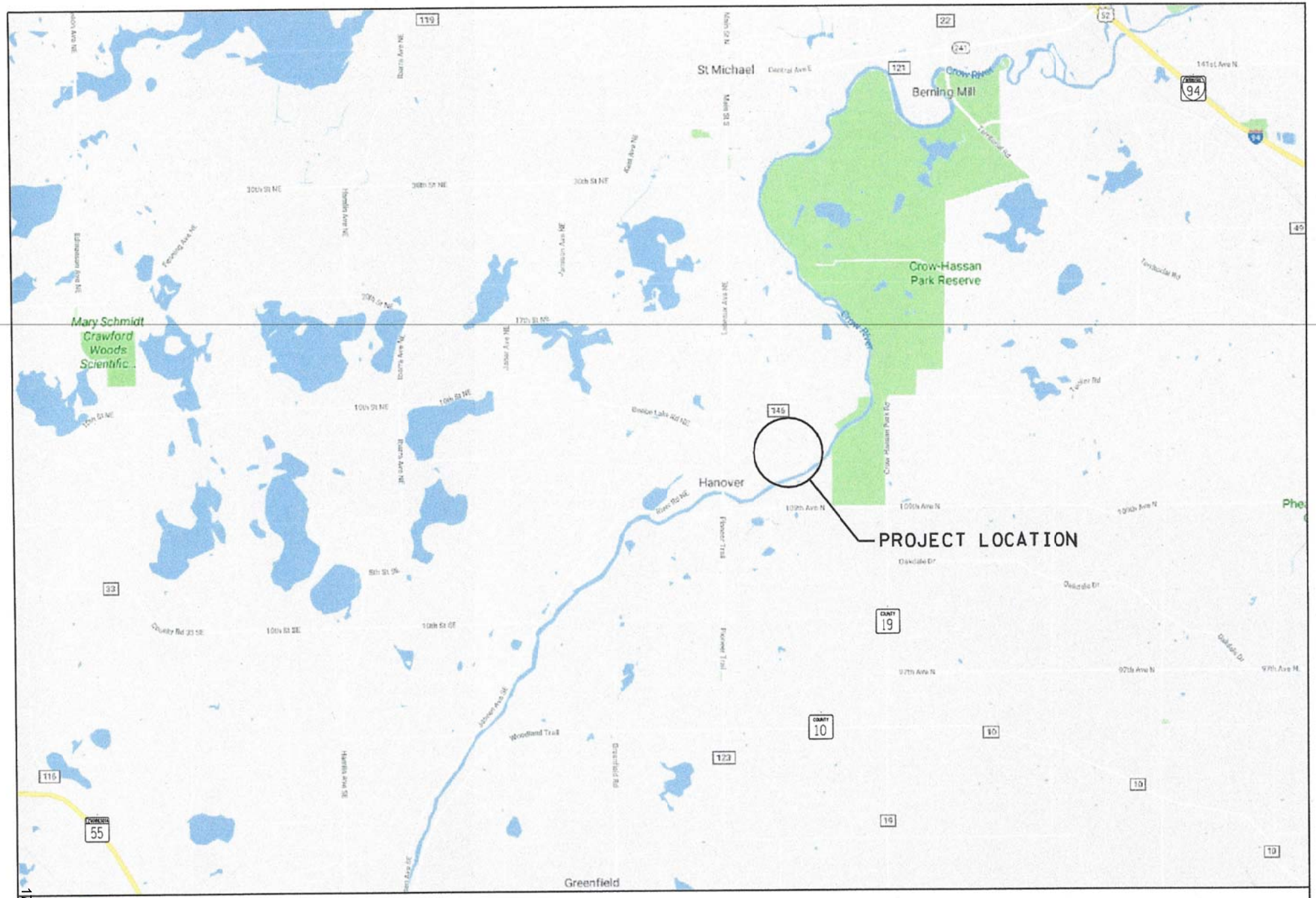
C. RESULTS OF OPERATIONAL ANALYSES

I. INTRODUCTION

Duininck, Inc. proposes to develop an approximately 82.6-acres site referred to as Hanover Cove in Hanover, Minnesota as single family detached residential homes. The project will consist of 286 single-family homes. For the purposes of this study, it is anticipated that construction will be complete, and the facilities fully occupied by 2025.

The proposed site is a former gravel mine and is located adjacent to the east side of River Road NE, adjacent to the south side of 8th Street NE, and is north and west of Riverview Road NE. The site location is illustrated on Figure 1, "Vicinity Map". Access to the site is proposed via an extension of 5th Street NE to the east from River Road NE and via an extension of Mallard Street NE to the south from 8th Street NE. The location of these accesses are illustrated on the Concept Site Plan, Figure 2.

The purpose of this study is to support the EAW completed for the Hanover Cove development, particularly to evaluate the impact of traffic generated by the proposed development on the operations and safety of the adjacent roadway network. The study focuses on the roads and intersections that provide direct and indirect access into the site. This study details the existing and future roadway conditions at studied intersections and includes traffic volumes, lane geometrics and traffic operational analysis results. Recommendations regarding roadway improvements to accommodate the anticipated growth in background traffic are included as necessary.



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VICINITY MAP
FIGURE 1

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SITE MAP
FIGURE 2

I. Existing Conditions

A. Data Collection

The existing conditions of the nearby roadway system were documented by a field inventory conducted during the week of June 18, 2018. The purpose was to identify features that affect roadway capacity, including traffic control, sight distances, turn lanes, speed limits, etc. In addition, turning movement traffic counts were conducted revealing the AM Peak hour occurs at 6:45 – 7:45 AM and the PM Peak hour at 4:45 – 5:45 PM at the following intersections:

- 15th Street NE and Labeaux Avenue NE
- 5th Street NE and Labeaux Avenue NE
- Labeaux Avenue NE and River Road NE/River Road NE
- River Road NE and 5th Street NE
- River Road NE and 8th Street NE

Figure 3 illustrates the existing AM and PM Peak hour turning movement counts. Also, the 2016 average daily traffic volume for River Road NE, and Labeaux Avenue NE has been collected and published by MnDOT as 3,450 vehicles per day and 11,600 vehicles per day, respectively.

B. Roadway Descriptions

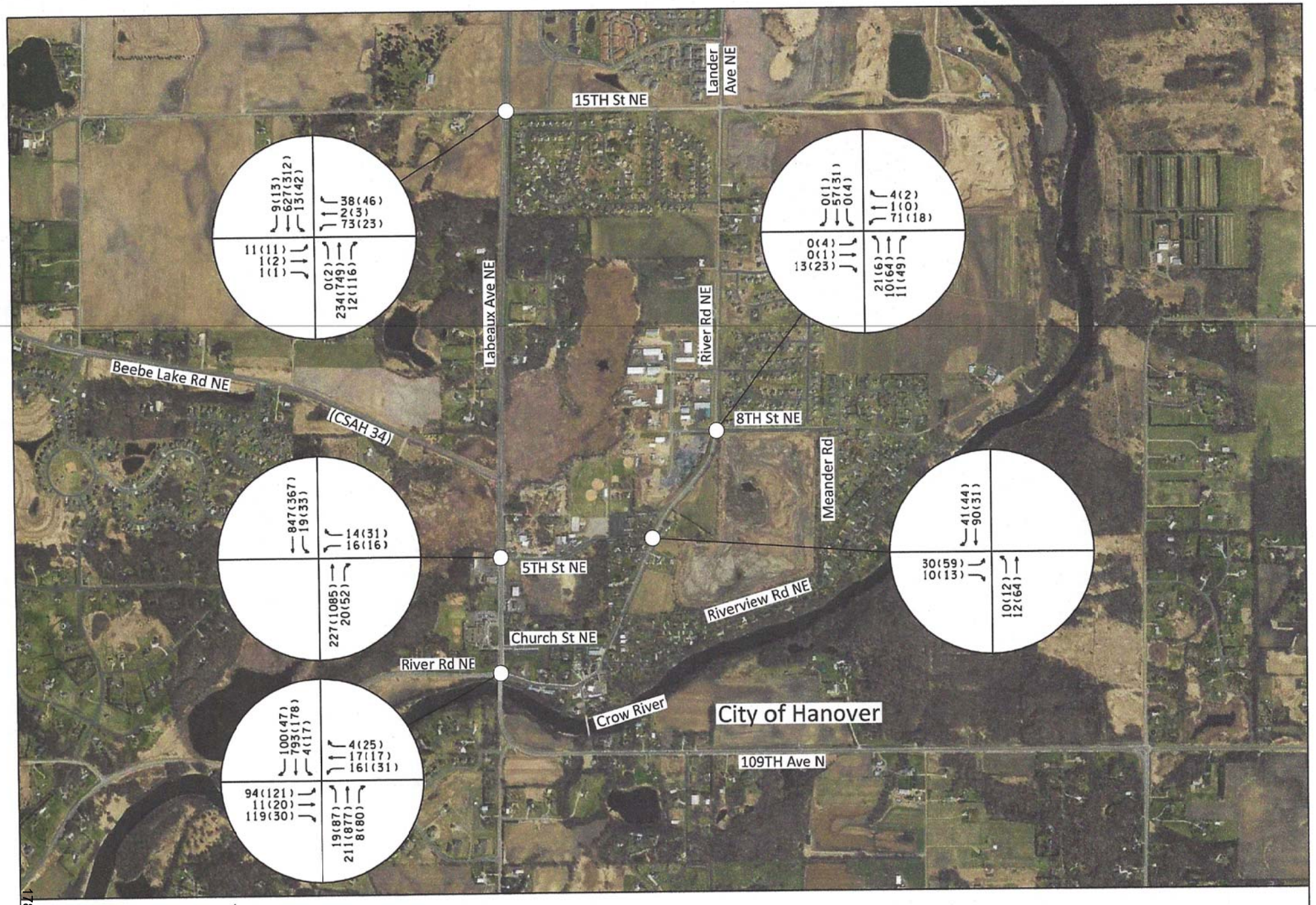
The existing geometrics of the Study Area Roadway Network have been document based on a field review. The discussion that follows details specific items such as lane and shoulder layout, roadway classifications, and turn lane storage lengths.

- **River Road NE,** which runs generally north/south along the western border of the site. It is a County State Aid Highway (CSAH 20) and is functionally classified as a B Minor Arterial to the west of Labeaux Avenue NE. It provides direct access to the site at 5th Street NE and indirectly at 8th Street NE. In the study area, River Road NE is a two-lane undivided facility including right and

left turn lanes at critical intersections. It has an urban cross-section east of Labeaux Avenue NE and a rural cross-section to the west of Labeaux Avenue NE, and it is a 30-mph speed limit facility.

- **Lebeaux Avenue NE,** which runs north south in the study area is a County State Aid Highway (CSAH 19) and is classified as a B Minor Arterial. It has a two-lane undivided rural cross-section footprint from 15th Street NE to Beebe Lake Road NE. Labeaux Avenue NE changes to an undivided three-lane footprint with a rural cross-section beginning at Beebe Lake Road NE and continuing to the south to just north of 5th Street NE. From north of 5th Street NE the cross-section changes to an urban 3-lane cross-section which continues to the south across the Crow River Bridge. There are left and right turn lanes at critical intersections. It is signed for 55 mph to the north of Beebe Lake Toad NE and changes to 30 mph through the heart of town. Labeaux Avenue NE provides access to the region and indirect access to the site via its intersections with River Road NE, 5th Street NE, and 15th Street NE.

- **15th Street NE, 8th Street NE and 5th Street NE** run east/west and are local streets that provide access to site, 15th Street indirectly, and 8th Street and 5th Street directly. They are two lane roads with undivided urban cross-sections and are 30 mph facilities.



STS
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AM(PM)
XXX(XXX)

HANOVER COVE
HANOVER, MN

EXISTING PEAK HOUR VOLUMES
FIGURE 3

C. Intersection Descriptions

- **Labeaux Avenue NE and 15th Street NE,** form a four-legged unsignalized intersection north of the site. All 15th Street NE approaches are two lanes, one lane entering and one lane exiting the intersection and are stop controlled. The Labeaux Avenue NE approaches are free flowing and include left and right turn lanes.

- **Labeaux Avenue NE and 5th Street NE** form a three-legged unsignalized intersection west of the site. The 5th Street NE approach is stop controlled and has three lanes, two lanes entering (left and right turning lanes) and one lane exiting the intersection. The Labeaux Avenue NE approaches are free flowing, and the northbound approach provides a through lane and a right turn lane, while the southbound approach includes a through lane and left turn lane.

- **Labeaux Avenue NE and River Road NE** form a four-legged, signalized intersection southeast of the site. The west approach includes a dedicated left turn lane, and a shared through/right lane entering the intersection and one lane leaving the intersection. The south and east approaches are the same. The north approach to the intersection includes a dedicated right turn and a dedicated left turn lane and one through lane entering the intersection, and one lane exiting the intersection.

- **River Road NE and 5th Street NE** form a three-legged unsignalized intersection adjacent to the site. The west leg, 5th Street NE, is stop controlled and has two lanes, one lane entering and one lane exiting the intersection. The River Road NE approaches are free flowing, and the northbound approach provides a through lane and a left turn lane, while the southbound approach includes a through lane and a right turn lane.

- **River Road NE and 8th Street NE,** form a four-legged unsignalized intersection north of the site. The west 8th Street NE approaches is two lanes, one lane entering and one lane exiting the intersection and is stop sign controlled. The east 8th Street approach is also stop sign controlled

and includes two lanes entering, a left and through lane and a right turn lane, and one lane exiting the intersection. The River Road NE approaches are free flowing, and the northbound approach includes a left turn lane.

III. NO-BUILD ALTERNATIVE

To address the impacts of a development on the surrounding roadway system, it is necessary to predict the traffic that would be present on the roadway system at the time (the design year) of completion of the proposed development, without the inclusion of the proposed development. This is considered the No-Build scenario, and serves as a basis with which to compare Build scenarios. In this study two design years were analyzed 2025, the year after the development is fully built and occupied, and 2040, the current planning year horizon.

A. Background Growth

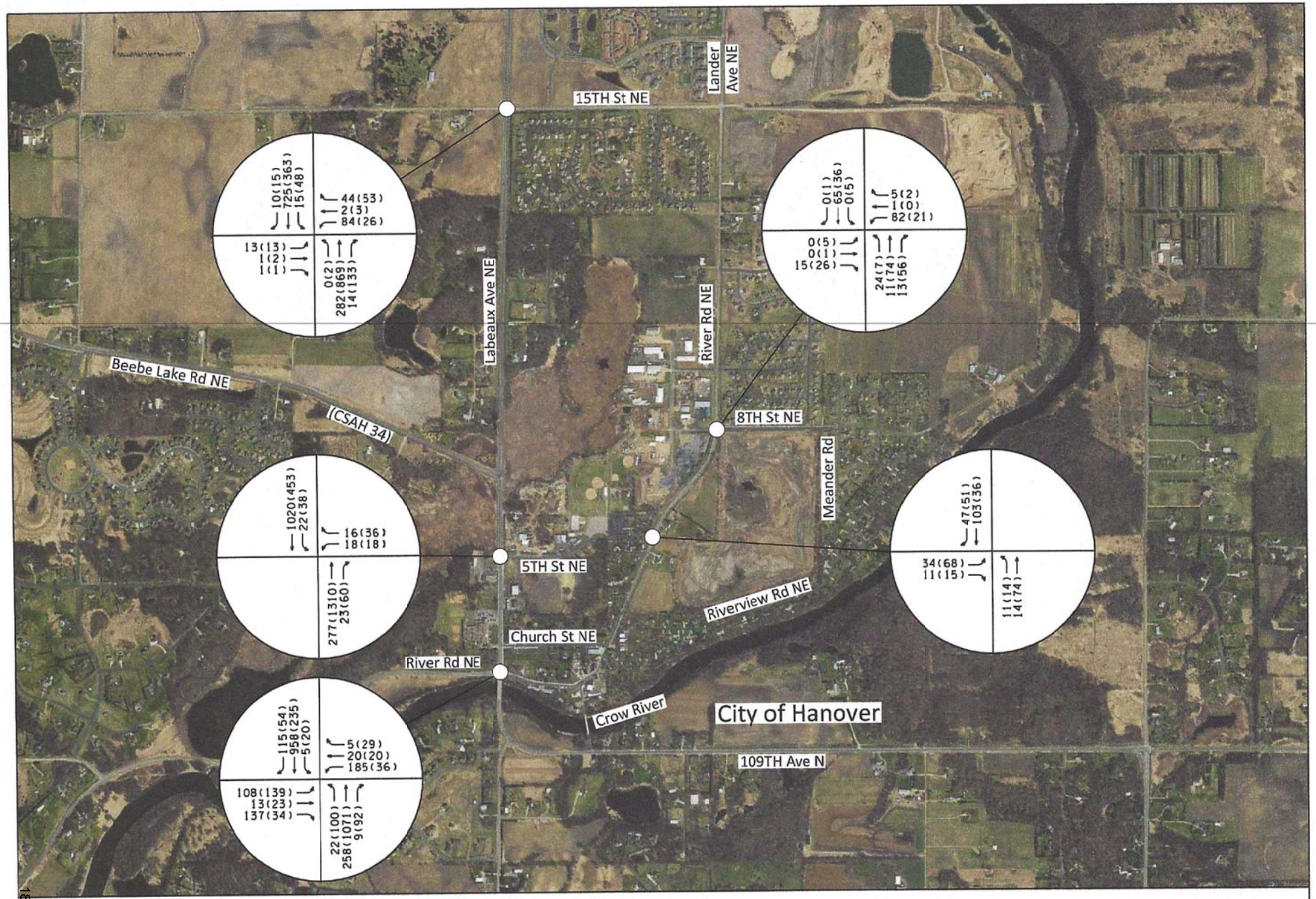
Review of the latest City of Hanover Comprehensive Transportation Plan, and historical traffic counts results in differing estimates of future conditions. The City of Hanover Comprehensive Transportation Plan completed in 2006 suggested traffic counts would grow at an annual rate of 6.5 percent per year. Review of historical counts from MnDOT indicate traffic has actually grown at 1.67 percent per year from 1998 to 2016. Further, discussions with MnDOT regarding the anticipated impact of the future Brockton interchange with I-94, as well as the future connection of TH 610 to Hennepin County 30 suggest traffic patterns along I-94 will change. It is expected that more traffic will use I-94 and divert at the new connections rather than leave I-94 early, as currently occurs, to use cut through routes such as CSAH 19. This will reduce the anticipated future background traffic growth in Hanover. However, Swing Traffic Solutions utilized an annual rate of 2 percent per year to predict and model the 2025 and 2040 no build conditions to ensure a conservative estimate. Further, it is anticipated the Crow River Heights West development will be occupied by 2025 and its traffic has been added to the 2025 and 2040 Background numbers. Figures 4 and 5 reflects the estimated future background volumes for the 2025 and 2040 design years.

B. Anticipated Improvements for No-Build Conditions

The 2006 Hanover Comprehensive Transportation Plan identified road improvements that would be required to manage the anticipated growth in traffic. At this time no improvements are expected to occur to study area intersections or roadways prior to 2025.

C. Results of Analysis

The study area intersections identified in Section II were analyzed for the 2025 and 2040 No-Build scenarios. Complete discussion of the results of these analyses is provided in Section IV, where a comparison with corresponding design year Build alternatives are made.



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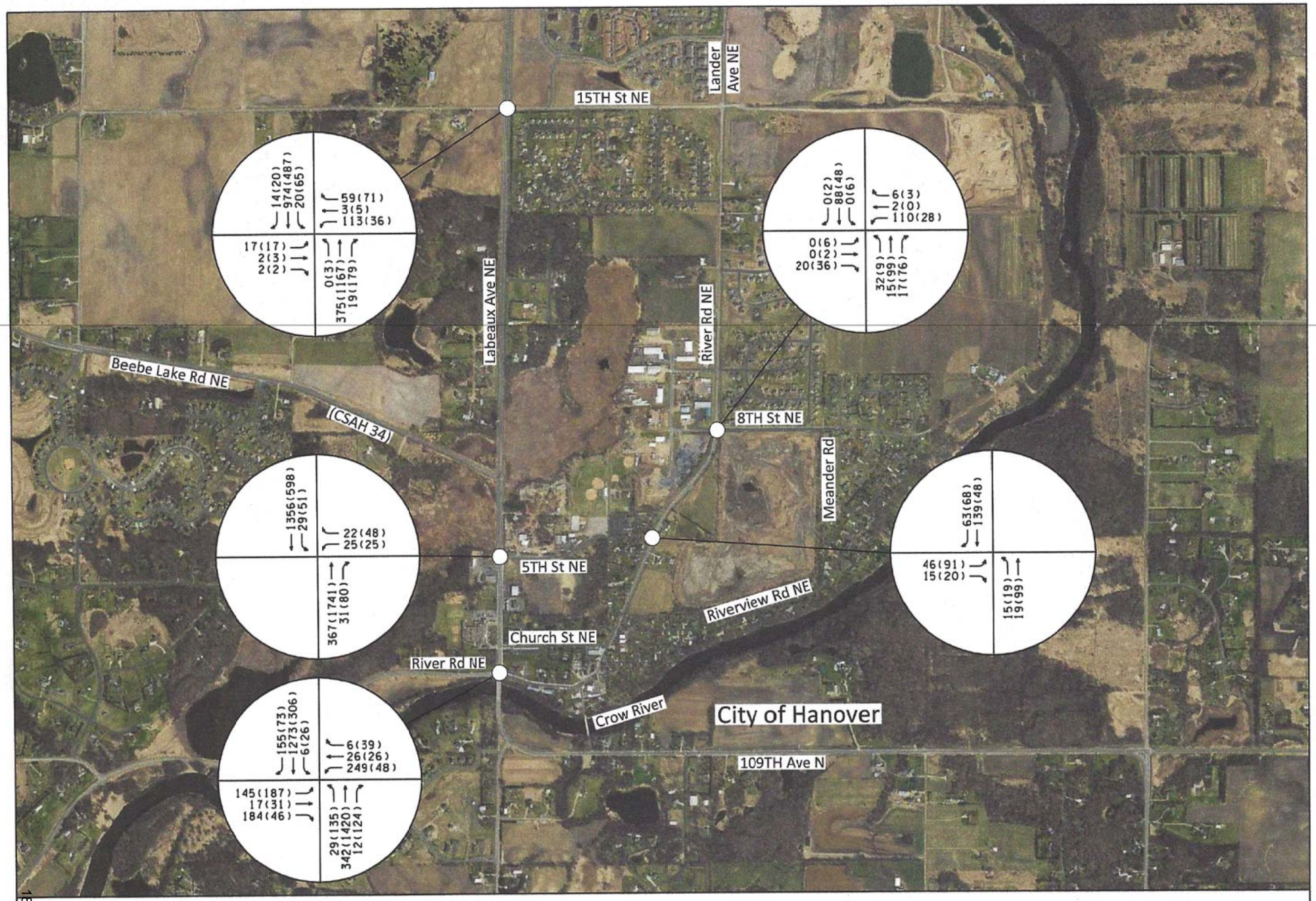
AM(PM)
XXX(XXX)

HANOVER COVE
HANOVER, MN

2025 NO BUILD AM & PM PEAK HOUR TRAFFIC
FIGURE 4



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AM(PM)
XXX(XXX)

HANOVER COVE
HANOVER, MN

2040 NO BUILD AM & PM PEAK HOUR TRAFFIC
FIGURE 5

IV. BUILD ALTERNATIVE

A. Site-Generated Traffic

The number of vehicle trips generated by the 286 units to be developed as part of the Hanover Cove residential development were estimated for the weekday daily, and AM and PM traffic peak hours using the data and methodologies contained in the 10th Edition of Trip Generation, published by the Institute of Transportation Engineers (ITE). The proposed development will include single-family homes corresponding to (ITE) Land Use Code 210. Table 1 summarizes the trip generation estimates.

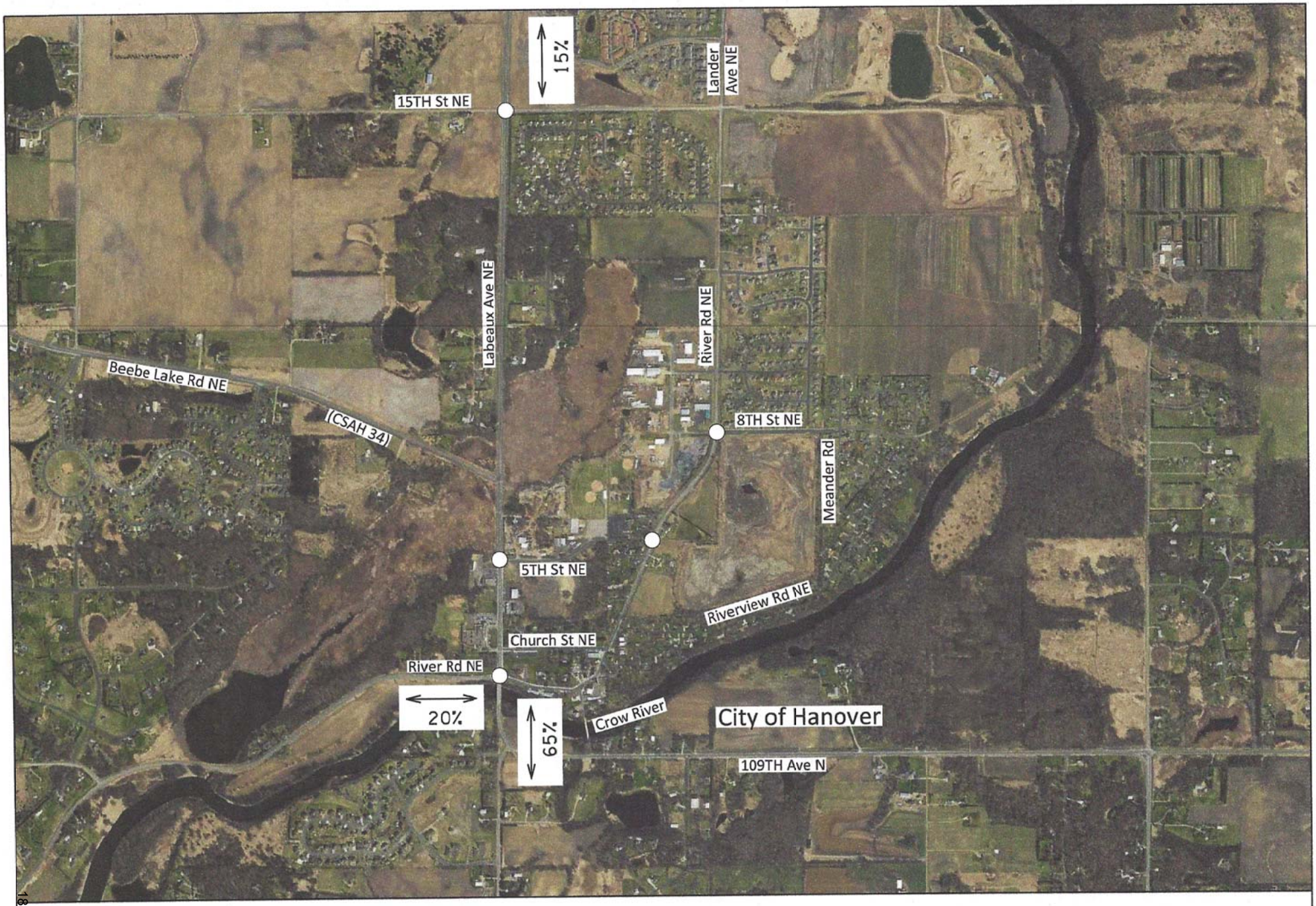
Table 1
Trip Generation

Land Use	AM Peak Hour		PM Peak Hour		Daily Trips
	Enter	Exit	Enter	Exit	
Single Family Homes (286 Homes)	53 Trips	159 Trips	178 Trips	105 Trips	2,700 Trips
TOTAL	**212 Trips**		**283 Trips**		**2,700 Trips**

1. Per the data and methodologies in Trip Generation, 10th Edition, published by ITE.

B. Trip Distribution and Assignment

The distribution of site-generated traffic from and to the adjacent street system was based on existing traffic patterns. Figure 6, titled "Trip Distribution," depicts the distribution of the estimated site-generated traffic entering and exiting the study area roadway network. Traffic was assigned to the roadway network on the route that would minimize travel time. It is assumed each access approach to the existing street system will include one lane in and one lane out. The River Road NE approaches to the site access at approximately 5th Street NE should include left and right turn lanes toward the site to improve safety by removing turning traffic from the through traffic path. Figure 7, titled "Trip Assignment," illustrates the estimated changes in traffic volume on the study area roadways associated with the proposed redevelopment.



STS
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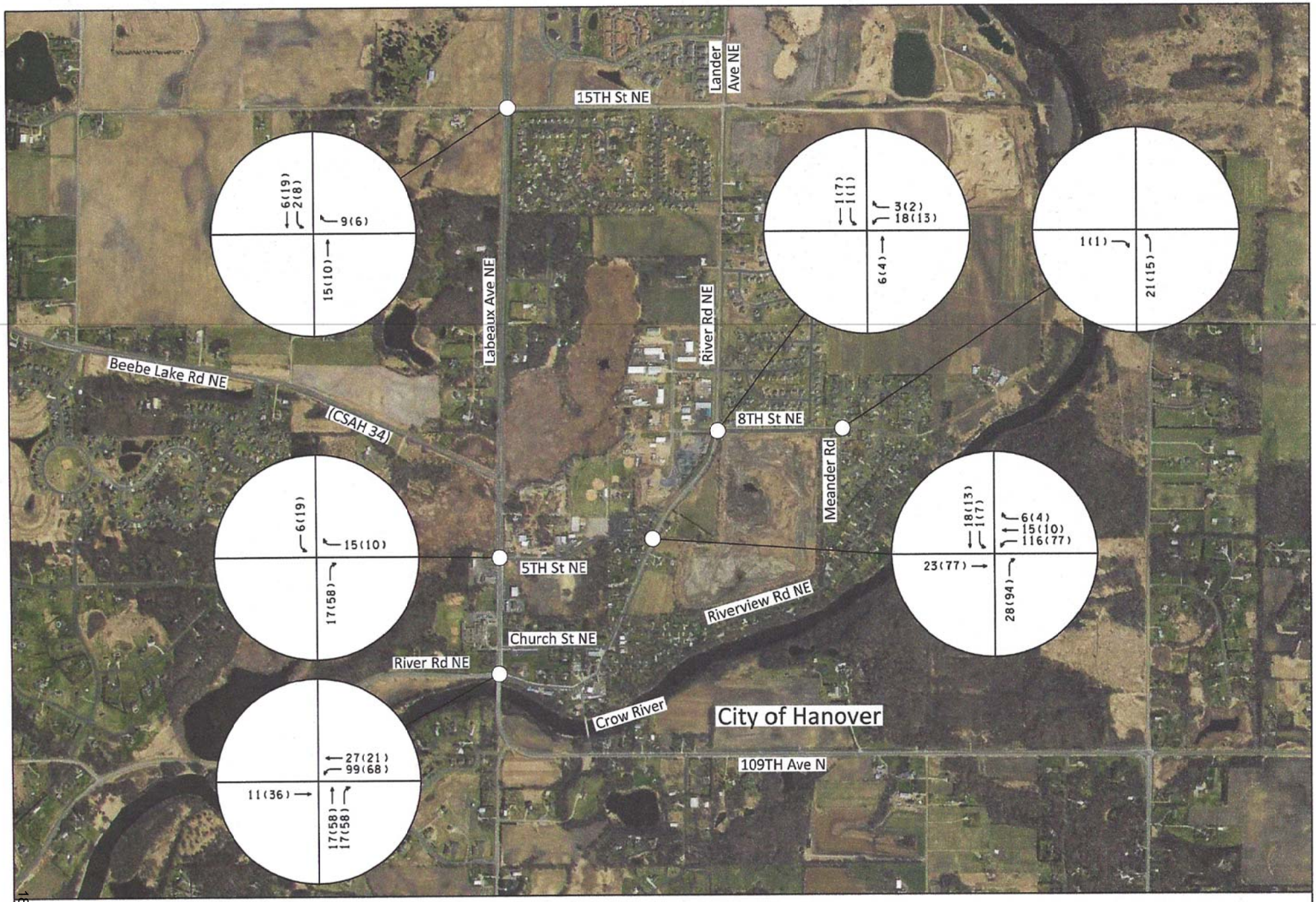
HANOVER COVE
HANOVER, MN

TRIP DISTRIBUTION
FIGURE 6



STS
Swing Traffic Solutions

AM(PM)
XXX(XXX)

HANOVER COVE
HANOVER, MN

TRIP ASSIGNMENT
FIGURE 7

C. Build Traffic Volumes

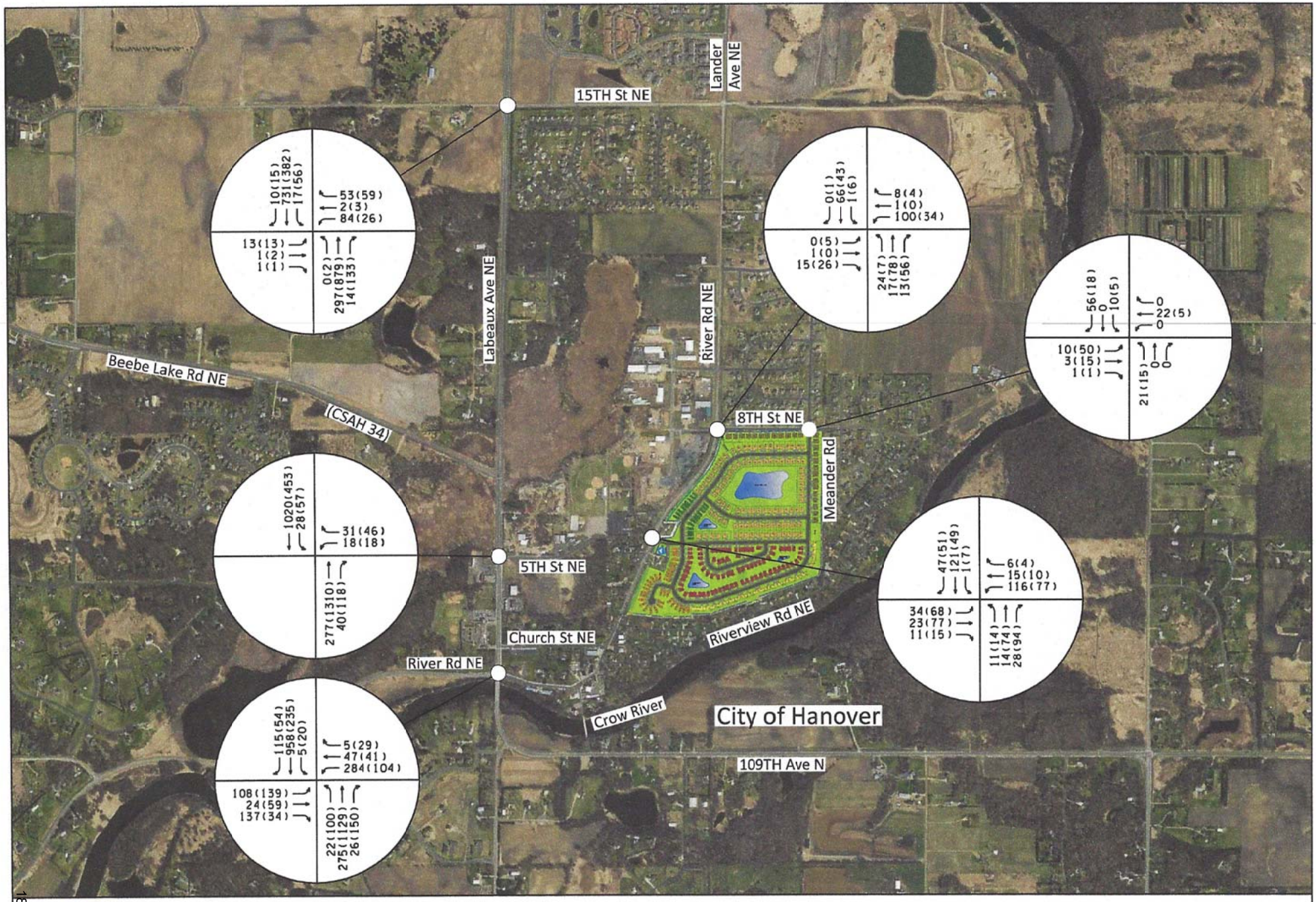
When combined, the site-generated traffic volumes and No-Build scenario traffic volumes result in the Build scenario traffic volumes, shown on Figures 8 and 9 for the 2025 and 2040 design years, respectively.

D. Intersection Operational Analysis Description

The operating conditions of transportation facilities, such as roadways, traffic signals and stop-controlled intersections, are evaluated based on the relationship of the theoretical capacity of a facility to the actual traffic volume on that facility. Various factors affect capacity including travel speed, roadway geometry, grade, number of travel lanes, and intersection control. The current standards for evaluating capacity and operating conditions are contained in the 6th Edition of Highway Capacity Manual, published by the Transportation Research Board. The procedures describe operating conditions in terms of driver delay represented as a Level of Service (LOS). Operations are given letter designations with "A" representing the best operating conditions and "F" representing the worst. Generally, level of service "D" represents the threshold for acceptable overall intersection operating conditions during a peak hour. The Chart below summarizes the level of service and delay criteria for signalized and unsignalized intersections.

LOS Designation	Signalized Intersection Average Delay/Vehicle (Sec.)	Unsignalized Intersection Average Delay/Vehicle (Sec.)
A	≤ 10	≤ 10
B	> 10-20	> 10-15
C	> 20-35	> 15-25
D	> 35-55	> 25-35
E	> 55-80	> 35-50
F	> 80	> 50

A final fundamental component of operational analyses is a study of vehicular queuing, or the line of vehicles waiting to pass through an intersection. An intersection can operate with an acceptable Level of Service, but if queues from the intersection extend back to block entrances to turn lanes or accesses to adjacent land uses, unsafe operating conditions could result. In this report, the Industry Design Standard 95th percentile queue length is used. The 95th Percentile Queue Length refers to that length of vehicle queue that has only a five-percent probability of occurring during an analysis hour.



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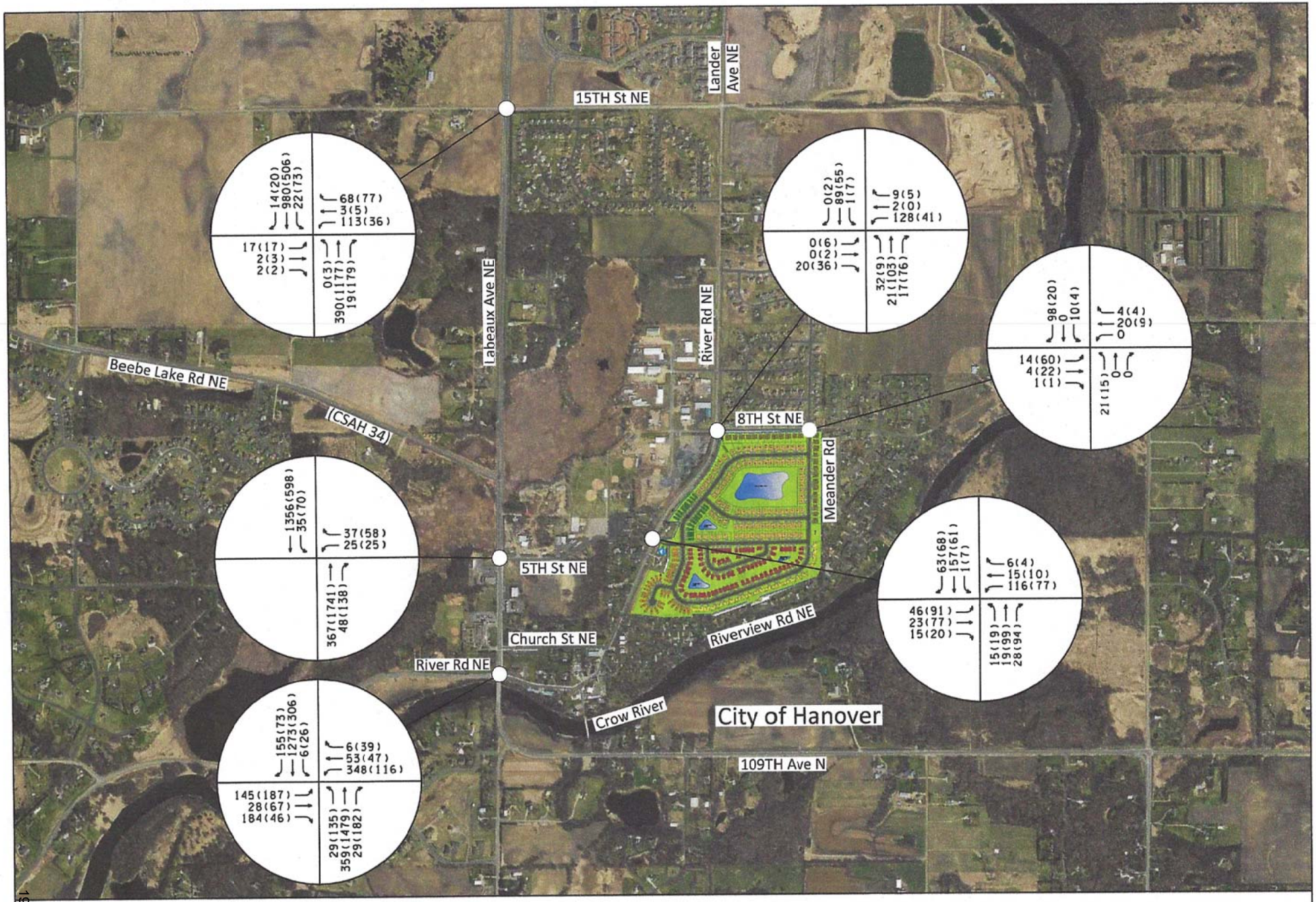
HANOVER, MN

2025 BUILD AM & PM PEAK HOUR TRAFFIC
FIGURE 8



STS
Swing Traffic Solutions

AM(PM)
XXX(XXX)

HANOVER COVE
HANOVER, MN

2040 BUILD AM & PM PEAK HOUR TRAFFIC
FIGURE 9

E. Results of Analysis

This section contains the results of the intersection operational analyses based on Synchro/Simtraffic, 10th Edition, and provides recommendations, as necessary to mitigate the impacts. Table 2 summarize the results of the operational analyses for the 2025 No Build scenario.

Table 2
2025 No-Build Operations

Intersection	Movement	LOS & Delay (sec)	LOS & Delay (sec)	Queue Length (ft)	
		AM Peak	*PM Peak*	*AM Peak*	*PM Peak*
Labeaux Ave NE & 15th Street NE	**Overall**	**a (4.7 sec)**	**a (3.2 sec)**	-	-
	EB Left	d (29.5 sec)	f (60.9 sec)	34	24
	EB Thru	d (29.5 sec)	f (60.9 sec)	34	24
	EB Right	d (29.5 sec)	f (60.9 sec)	34	24
	WB Left	e (39.1 sec)	e (42.2 sec)	325	86
	WB Thru	e (39.1 sec)	e (42.2 sec)	325	86
	WB Right	e (39.1 sec)	e (42.2 sec)	325	86
	NB Left	a (0)	a (8.1 sec)	-	-
	NB Thru	a (0)	a (0)	-	-
	NB Right	a (0)	a (0)	-	6
	SB Left	a (7.9 sec)	b (11.0 sec)	22	60
	SB Thru	a (0)	a (0)	-	-
	SB Right	a (0)	a (0)	-	-
Labeaux Ave NE & 5th Street NE	**Overall**	**a (0.7 sec)**	**a (1.8 sec)**	-	-
	WB Left	c (23.5 sec)	f (53.2 sec)	33	9
	WB Right	c (23.5 sec)	f (53.2 sec)	33	19
	NB Thru	a (0)	a (0)	-	-
	NB Right	a (0)	a (0)	7	1
	SB Left	a (8.0 sec)	b (13.8 sec)	26	27
	SB Thru	a (0)	a (0)	-	-
Labeaux Ave NE & River Road NE	**Overall**	**C (28.7 sec)**	**C (26.7 sec)**	-	-
	EB Left	D (43.1 sec)	F (90.2 sec)	133	176
	EB Thru	A (9.6 sec)	C (26.6 sec)	153	170
	EB Right	(N/A)	(N/A)	-	-
	WB Left	F (85.2 sec)	D (52.7 sec)	289	75
	WB Thru	C (31.6 sec)	C (27.1 sec)	224	86
	WB Right	(N/A)	(N/A)	-	-
	NB Left	A (8.4 sec)	A (3.4 sec)	52	457
	NB Thru	A (8.9 sec)	C (26.1 sec)	103	1023
	NB Right	(N/A)	(N/A)	-	-
	SB Left	A (7.0 sec)	A (7.1 sec)	-	47
	SB Thru	C (27.8 sec)	A (6.6 sec)	707	138
	SB Right	A (6.5 sec)	A (1.5 sec)	132	64
River Road NE & 5th Street NE	**Overall**	**a (2.7 sec)**	**a (3.6 sec)**	-	-
	EB Left	a (9.6 sec)	a (9.8 sec)	50	55
	EB Right	a (9.6 sec)	a (9.8 sec)	50	55
	NB Left	a (7.5 sec)	a (7.4 sec)	5	5
	NB Thru	a (0)	a (0)	-	-

	SB Thru	a (0)	a (0)	-	-
	SB Right	a (0)	a (0)	-	-
River Road NE & 8th Street NE	**Overall**	**a (5.5 sec)**	**a (2.6 sec)**	-	-
	EB Left	-	a (2.8 sec)	27	45
	EB Thru	-	a (2.8 sec)	27	45
	EB Right	a (8.7 sec)	a (2.8 sec)	27	45
	WB Left	b (10.1 sec)	b (10.0 sec)	47	40
	WB Thru	b (10.1 sec)	b (10.0 sec)	47	40
	WB Right	b (10.1 sec)	b (10.0 sec)	47	40
	NB Left	a (7.4 sec)	a (7.3 sec)	11	-
	NB Thru	a (0)	a (0)	-	-
	NB Right	a (0)	a (0)	-	-
	SB Left	-	a (0)	-	-
	SB Thru	a (0)	a (0)	-	-
	SB Right	-	a (0)	-	-

1. Overall Level of Service reported from Synchro 10, upper case letters indicate signalized intersection, and lower-case letters indicate unsignalized intersection.
2. 95th percentile queues are a result from an average of 10 SimTraffic simulations.

The results shown in Table 2 indicate all intersections are expected to operate at acceptable overall LOS in 2025 without the proposed project. That said, the southbound and westbound movements at the intersection of Labeaux Avenue NE and River Road NE will be operating with long vehicle queues during the AM peak traffic hour, and similarly the northbound movement will be operating with long queues during the PM peak traffic hour. Review of the SimTraffic simulation suggests these queues are managed during each signal cycle, however, this is indicative that additional capacity should be considered for north and southbound traffic on Labeaux. It is suggested the traffic signal be modified to provide protect permitted left turn phasing for the eastbound and westbound approaches during the AM peak, and right turn lanes should be considered (if feasible) for the east, west and south approaches. Table 3 summarizes the results of the 2025 No-Build conditions with the suggested mitigation. With the suggested improvement the westbound operations at Labeaux Avenue and River Road NE improve and the queue is reduced to a more manageable 198 feet. This intersection should be monitored over the coming years as traffic volumes increase for potential improvements such as the installation of an additional through lane in each direction from 15th Street NE to the south across the Crow River Bridge. It is further noted, the minor street approaches to Labeaux from 15th Street and 5th Street in the PM peak are expected to at or near capacity and experience long delays.

Table 3
2025 No-Build Operations with mitigation

Intersection	Movement	LOS & Delay (sec)	LOS & Delay (sec)	Queue Length (ft)	
		AM Peak	*PM Peak*	*AM Peak*	*PM Peak*
Labeaux Ave NE & 15th Street NE	**Overall**	**a (4.7 sec)**	**a (3.4 sec)**	-	-
	EB Left	d (29.5 sec)	f (65.7 sec)	34	32
	EB Thru	d (29.5 sec)	f (65.7 sec	34	32
	EB Right	d (29.5 sec)	f (65.7 sec)	34	32
	WB Left	e (39.1 sec)	e (45.2 sec)	325	124
	WB Thru	e (39.1 sec)	e (45.2 sec)	325	124
	WB Right	e (39.1 sec)	e (45.2 sec)	325	124
	NB Left	a (0)	a (8.4 sec)	-	14
	NB Thru	a (0)	a (0)	-	-
	NB Right	a (0)	a (0)	-	12
	SB Left	a (7.9 sec)	b (11.2 sec)	26	39
	SB Thru	a (0)	a (0)	-	-
	SB Right	a (0)	a (0)	-	-
Labeaux Ave NE & 5th Street NE	**Overall**	**a (0.7 sec)**	**a (2.2 sec)**	-	-
	WB Left	c (23.5 sec)	f (56.4 sec)	39	103
	WB Right	c (23.5 sec)	f (56.4 sec)	24	85
	NB Thru	a (0)	a (0)	-	7
	NB Right	a (0)	a (0)	-	25
	SB Left	a (8.0 sec)	b (14.7 sec)	29	112
	SB Thru	a (0)	a (0)	-	-
Labeaux Ave NE & River Road NE	**Overall**	**C (27.5 sec)**	**C (25.6 sec)**	-	-
	EB Left	D (36.6 sec)	F (121.6 sec)	121	175
	EB Thru	D (49.8 sec)	E (61.6 sec)	78	111
	EB Right	B (18.6 sec)	A (2.0 sec)	145	42
	WB Left	D (45.7 sec)	D (52.2 sec)	182	90
	WB Thru	D (47.2 sec)	E (58.0 sec)	198	71
	WB Right	A (0.2 sec)	A (1.8 sec)	16	54
	NB Left	A (9.2 sec)	A (3.9 sec)	51	267
	NB Thru	A (9.2 sec)	C (20.7 sec)	123	1053
	NB Right	A (0)	A (2.9 sec)	26	62
	SB Left	A (6.8 sec)	A (4.8 sec)	55	41
	SB Thru	C (32.1 sec)	A (7.1 sec)	708	129
	SB Right	A (3.9 sec)	A (0.6 sec)	117	57
River Road NE & 5th Street NE	**Overall**	**a (2.7 sec)**	**a (3.6 sec)**	-	-
	EB Left	a (9.6 sec)	a (9.8 sec)	49	54
	EB Right	a (9.6 sec)	a (9.8 sec)	49	54
	NB Left	a (7.5 sec)	a (7.4sec)	-	11
	NB Thru	a (0)	a (0)	-	-
	SB Thru	a (0)	a (0)	-	-
	SB Right	a (0)	a (0)	-	-
	Overall	**a (5.5 sec)**	**a (2.8 sec)**	-	-
	EB Left	-	a (8.8 sec)	27	41
	EB Thru	-	a (8.8 sec)	27	41
	EB Right	a (8.7 sec)	a (8.8 sec)	27	41
	WB Left	b (10.1 sec)	b (10.1 sec)	47	48
	WB Thru	b (10.1 sec)	-	47	48

	WB Right	b (10.1 sec)	b (10.1 sec)	47	48
	NB Left	a (7.4 sec)	a (7.3 sec)	9	-
	NB Thru	a (0)	a (0)	-	-
	NB Right	a (0)	a (0)	-	-
	SB Left	-	a (0)	-	11
River Road NE & 8th Street NE	SB Thru	a (0)	a (1.4)	-	11
	SB Right	-	-	-	11

1. Overall Level of Service reported from Synchro 10. Upper case letters indicate signalized intersection, and lower-case letters indicate unsignalized intersection.
2. 95th percentile queues are a result from an average of 10 SimTraffic simulations.

2025 Build traffic analysis considers the operations without improvements and tests the potential benefits to the traffic operations at the intersection of Labeaux Avenue and River Road that were suggested to improve operations for the 2025 No-Build scenario. (Similarly, all other intersections do not assume any changes from existing conditions.) As noted earlier, the intersection experiences long southbound queues during the AM peak hour and long northbound queues during the PM Peak hour. Also during the AM peak, traffic from Hanover residents on the east leg of River Road experience long delays and long queues. Ultimately, mitigation of these conditions will require an additional lane of traffic in each direction on Labeaux Avenue beginning to the south of the bridge and extending to 15th Street. However, there are some strategies that can be adopted to reduce some of the travel time and delay experienced by the residents of Hanover. In particular, during the AM Peak the westbound traffic on River Road would benefit by the addition of protected/permitted left turn phasing. In the PM peak this strategy is not as useful, and the signal could return to permitted only phasing. During the PM peak the addition of capacity at the intersection by way of right turn lanes reduces the northbound delay and queues. The Tables that follow summarize the results of analyses conducted for the intersection of Labeaux and River Road for the no improvement scenario, the protected/permitted signal phasing scenario, the addition of right turn lanes scenario, and the combined strategies scenario. The combined strategies include the turn lanes and the protected permitted phasing for the AM Peak, which is reduced to permitted only during the PM peak. All the 2025 Build analyses include traffic from the proposed development plus the traffic included in the 2025

No-Build scenarios. Table 4a contains a summary of the analysis results assuming no improvements to the existing conditions have occurred.

Table 4a
2025 Build - Operations without improvements

Intersection	Movement	LOS & Delay (sec)	LOS & Delay (sec)	Queue Length (ft)	
		AM Peak	*PM Peak*	*AM Peak*	*PM Peak*
Labeaux Ave NE & 15th Street NE	**Overall**	**a (5.2 sec)**	**a (3.7 sec)**	-	-
	EB Left	d (31.6 sec)	f (70.2 sec)	30	40
	EB Thru	d (31.6 sec)	f (70.2 sec)	30	40
	EB Right	d (31.6 sec)	f (70.2 sec)	30	40
	WB Left	e (41.8 sec)	e (46.9 sec)	136	166
	WB Thru	e (41.8 sec)	e (46.9 sec)	136	166
	WB Right	e (41.8 sec)	e (46.9 sec)	136	166
	NB Left	-	a (8.2 sec)	-	9
	NB Thru	a (0)	a (0)	-	-
	NB Right	a (0)	a (0)	-	-
	SB Left	a (8.0 sec)	b (11.3 sec)	23	51
	SB Thru	a (0)	a (0)	-	-
	SB Right	a (0)	a (0)	-	-
Labeaux Ave NE & 5th Street NE	**Overall**	**a (0.8 sec)**	**a (2.2 sec)**	-	-
	WB Left	c (19.6 sec)	f (56.6 sec)	59	39
	WB Right	c (19.6 sec)	f (56.6 sec)	42	67
	NB Thru	a (0)	a (0)	-	-
	NB Right	a (0)	a (0)	-	17
	SB Left	a (8.0 sec)	b (14.9 sec)	34	62
	SB Thru	a (0)	a (0)	64	-
Labeaux Ave NE & River Road NE	**Overall**	**D (38.1 sec)**	**D (37.7 sec)**	-	-
	EB Left	C (34.0 sec)	F (82.1 sec)	143	144
	EB Thru	A (8.9 sec)	D (40.5 sec)	153	110
	EB Right	-	-	-	-
	WB Left	F (83.1 sec)	E (70.7 sec)	187	156
	WB Thru	C (29.0 sec)	C (34.5 sec)	721	131
	WB Right	-	-	-	
	NB Left	B (11.4 sec)	A (3.6 sec)	57	644
	NB Thru	B (12.3 sec)	D (39.7 sec)	175	1872
	NB Right	-	-	-	
	SB Left	A (8.4 sec)	A (5.9 sec)	44	61
	SB Thru	D (43.4 sec)	A (6.9 sec)	1670	103
	SB Right	A (7.5)	A (1.6 sec)	138	60
River Road NE & 5th Street NE	**Overall**	**a (5.5 sec)**	**a (5.9 sec)**	-	-
	EB Left	b (10.3 sec)	b (11.9 sec)	58	62
	EB Thru	b (10.3 sec)	b (11.9 sec)	58	62
	EB Right	b (10.3 sec)	b (11.9 sec)	58	62
	WB Left	b (11.4 sec)	b (12.3 sec)	55	42
	WB Thru	b (11.4 sec)	b (12.3 sec)	55	42
	WB Right	b (11.4 sec)	b (12.3 sec)	55	42
	NB Left	a (7.3 sec)	a (7.5 sec)	-	5
	NB Thru	a (0)	a (0)	-	-

	NB Right	a (0)	a (0)	-	-
	SB Left	a (7.4 sec)	a (7.6 sec)	-	12
	SB Thru	a (0)	a (0)	-	-
	SB Right	a (0)	a (0)	-	-
River Road NE & 8th Street NE	**Overall**	**a (5.9 sec)**	**a (2.9 sec)**	**-**	**-**
	EB Left	-	a (8.9 sec)	-	40
	EB Thru	-	a (8.9 sec)	33	40
	EB Right	a (8.7 sec)	a (8.9 sec)	33	40
	WB Left	b (10.4 sec)	b (10.3 sec)	64	46
	WB Thru	b (10.4 sec)	b (10.3 sec)	64	46
	WB Right	b (10.4 sec)	b (10.3 sec)	64	46
	NB Left	a (7.4 sec)	a (7.3 sec)	13	-
	NB Thru	a (0)	a (0)	-	-
	NB Right	a (0)	a (0)	-	-
	SB Left	a (0)	a (0)	-	-
	SB Thru	a (0.1 sec)	a (1.0 sec)	-	-
	SB Right	-	a (1.0 sec)	-	-
8th Street NE & Site Access	**Overall**	**a (6.9 sec)**	**a (6.6 sec)**	**-**	**-**
	EB Left	a (0.1 sec)	a (0.2 sec)	-	-
	EB Thru	a (5.4 sec)	a (5.6 sec)	-	-
	EB Right	a (5.4 sec)	a (5.6 sec)	-	-
	WB Left	-	-	-	-
	WB Thru	a (0)	a (0)	-	-
	WB Right	-	-	-	-
	NB Left	a (9.6 sec)	a (9.7 sec)	47	32
	NB Thru	-	-	47	32
	NB Right	-	-	47	32
	SB Left	a (8.7 sec)	a (8.6 sec)	54	40
	SB Thru	-	-	54	40
	SB Right	a (8.7 sec)	a (8.6 sec)	54	40

1. Overall Level of Service reported from Synchro 10. Upper case letters indicate signalized intersection, and lower-case letters indicate unsignalized intersection.
2. 95th percentile queues are a result from an average of 10 SimTraffic simulations.

The overall traffic operations at the study intersections are expected to be at acceptable LOS. Again however, the southbound and westbound movements at the intersection of Labeaux Avenue NE and River Road NE will be operating with long vehicle queues during the AM peak traffic hour, and similarly the northbound movement will be operating with long vehicle queues during the PM peak traffic hour. Table 4b summarizes the analysis results reflecting a change in signal phasing at the Labeaux Avenue NE and River Road intersection to include protected/permitted phasing for the east and westbound approaches.

Table 4b
2025 Build - Operations with Protected/Permitted Signal Phasing

Intersection	Movement	LOS & Delay (sec)	LOS & Delay (sec)	Queue Length (ft)	
		AM Peak	*PM Peak*	*AM Peak*	*PM Peak*
Labeaux Ave NE & 15th Street NE	**Overall**	**a (5.2 sec)**	**a (3.7 sec)**	-	-
	EB Left	d (31.6 sec)	f (70.2 sec)	30	40
	EB Thru	d (31.6 sec)	f (70.2 sec)	30	40
	EB Right	d (31.6 sec)	f (70.2 sec)	30	40
	WB Left	e (41.8 sec)	e (46.9 sec)	136	166
	WB Thru	e (41.8 sec)	e (46.9 sec)	136	166
	WB Right	e (41.8 sec)	e (46.9 sec)	136	166
	NB Left	-	a (8.2 sec)	-	9
	NB Thru	a (0)	a (0)	-	-
	NB Right	a (0)	a (0)	-	-
	SB Left	a (8.0 sec)	b (11.3 sec)	23	51
	SB Thru	a (0)	a (0)	-	-
	SB Right	a (0)	a (0)	-	-
Labeaux Ave NE & 5th Street NE	**Overall**	**a (0.8 sec)**	**a (2.2 sec)**	-	-
	WB Left	c (19.6 sec)	f (56.6 sec)	59	39
	WB Right	c (19.6 sec)	f (56.6 sec)	42	67
	NB Thru	a (0)	a (0)	-	-
	NB Right	a (0)	a (0)	-	17
	SB Left	a (8.0 sec)	b (14.9 sec)	34	62
	SB Thru	a (0)	a (0)	64	-
Labeaux Ave NE & River Road NE	**Overall**	**C (33.9 sec)**	**D (37.7 sec)**	-	-
	EB Left	D (36.5 sec)	F (83.2 sec)	161	142
	EB Thru	C (25.7 sec)	E (56.3 sec)	212	105
	EB Right	-	-	-	-
	WB Left	E (68.6 sec)	E (65.6 sec)	195	176
	WB Thru	D (42.2 sec)	D (45.6 sec)	656	189
	WB Right	-	-	-	
	NB Left	B (10.5 sec)	A (4.6 sec)	51	647
	NB Thru	B (11.0 sec)	D (49.3 sec)	188	1902
	NB Right	-	-	-	
	SB Left	A (8.2 sec)	A (7.2 sec)	43	60
	SB Thru	D (35.8 sec)	A (8.3 sec)	1556	116
	SB Right	A (1.9 sec)	A (0.7 sec)	156	50
River Road NE & 5th Street NE	**Overall**	**a (5.5 sec)**	**a (5.9 sec)**	-	-
	EB Left	b (10.3 sec)	b (11.9 sec)	58	62
	EB Thru	b (10.3 sec)	b (11.9 sec)	58	62
	EB Right	b (10.3 sec)	b (11.9 sec)	58	62
	WB Left	b (11.4 sec)	b (12.3 sec)	55	42
	WB Thru	b (11.4 sec)	b (12.3 sec)	55	42
	WB Right	b (11.4 sec)	b (12.3 sec)	55	42
	NB Left	a (7.3 sec)	a (7.5 sec)	-	5
	NB Thru	a (0)	a (0)	-	-
	NB Right	a (0)	a (0)	-	-
	SB Left	a (7.4 sec)	a (7.6 sec)	-	12
	SB Thru	a (0)	a (0)	-	-
	SB Right	a (0)	a (0)	-	-

River Road NE & 8th Street NE	**Overall**	**a (5.9 sec)**	**a (2.9 sec)**	-	-
	EB Left	-	a (8.9 sec)	-	40
	EB Thru	-	a (8.9 sec)	33	40
	EB Right	a (8.7 sec)	a (8.9 sec)	33	40
	WB Left	b (10.4 sec)	b (10.3 sec)	64	46
	WB Thru	b (10.4 sec)	b (10.3 sec)	64	46
	WB Right	b (10.4 sec)	b (10.3 sec)	64	46
	NB Left	a (7.4 sec)	a (7.3 sec)	13	-
	NB Thru	a (0)	a (0)	-	-
	NB Right	a (0)	a (0)	-	-
	SB Left	a (0)	a (0)	-	-
	SB Thru	a (0.1 sec)	a (1.0 sec)	-	-
	SB Right	-	a (1.0 sec)	-	-
8th Street NE & Site Access	**Overall**	**a (6.9 sec)**	**a (6.6 sec)**	-	-
	EB Left	a (0.1 sec)	a (0.2 sec)	-	-
	EB Thru	a (5.4 sec)	a (5.6 sec)	-	-
	EB Right	a (5.4 sec)	a (5.6 sec)	-	-
	WB Left	-	-	-	-
	WB Thru	a (0)	a (0)	-	-
	WB Right	-	-	-	-
	NB Left	a (9.6 sec)	a (9.7 sec)	47	32
	NB Thru	-	-	47	32
	NB Right	-	-	47	32
	SB Left	a (8.7 sec)	a (8.6 sec)	54	40
	SB Thru	-	-	54	40
	SB Right	a (8.7 sec)	a (8.6 sec)	54	40

1. Overall Level of Service reported from Synchro 10. Upper case letters indicate signalized intersection, and lower-case letters indicate unsignalized intersection.
2. 95th percentile queues are a result from an average of 10 SimTraffic simulations.

As shown in Table 4b, the overall traffic operations at the study intersections are still expected to be at acceptable LOS. With the addition of the protected permitted phasing the overall LOS at Labeaux Avenue and River Road NE is shown to improve in the AM Peak, and the southbound and westbound movements will have reduced queues compared to the no improvement option. Table 4c summarizes the analysis results reflecting no change to signal phasing at the Labeaux Avenue NE and River Road intersection but includes short right turn lanes on all legs.

Table 4c
2025 Build - Operations with Turn Lanes

Intersection	Movement	LOS & Delay (sec)	LOS & Delay (sec)	Queue Length (ft)	
		AM Peak	*PM Peak*	*AM Peak*	*PM Peak*
	Overall	**a (5.2 sec)**	**a (3.7 sec)**	-	-
	EB Left	d (31.6 sec)	f (70.2 sec)	30	40
	EB Thru	d (31.6 sec)	f (70.2 sec)	30	40
	EB Right	d (31.6 sec)	f (70.2 sec)	30	40

Labeaux Ave NE & 15th Street NE	WB Left	e (41.8 sec)	e (46.9 sec)	136	166
	WB Thru	e (41.8 sec)	e (46.9 sec)	136	166
	WB Right	e (41.8 sec)	e (46.9 sec)	136	166
	NB Left	-	a (8.2 sec)	-	9
	NB Thru	a (0)	a (0)	-	-
	NB Right	a (0)	a (0)	-	-
	SB Left	a (8.0 sec)	b (11.3 sec)	23	51
	SB Thru	a (0)	a (0)	-	-
	SB Right	a (0)	a (0)	-	-
Labeaux Ave NE & 5th Street NE	**Overall**	**a (0.8 sec)**	**a (2.2 sec)**	**-**	**-**
	WB Left	c (19.6 sec)	f (56.6 sec)	59	39
	WB Right	c (19.6 sec)	f (56.6 sec)	42	67
	NB Thru	a (0)	a (0)	-	-
	NB Right	a (0)	a (0)	-	17
	SB Left	a (8.0 sec)	b (14.9 sec)	34	62
	SB Thru	a (0)	a (0)	64	-
Labeaux Ave NE & River Road NE	**Overall**	**C (29.8 sec)**	**C (24.0 sec)**	**-**	**-**
	EB Left	D (40.3 sec)	F (88.4 sec)	144	150
	EB Thru	C (34.8 sec)	D (52.4 sec)	26	89
	EB Right	A (7.4 sec)	A (9.4 sec)	143	34
	WB Left	E (75.6 sec)	E (69.2 sec)	175	154
	WB Thru	D (35.5 sec)	D (50.9 sec)	1218	110
	WB Right	A (0.0 sec)	A (6.8 sec)	15	41
	NB Left	A (8.0 sec)	A (3.4 sec)	46	197
	NB Thru	A (9.1 sec)	B (19.6 sec)	135	776
	NB Right	A (0.7 sec)	A (3.9)	45	68
	SB Left	A (6.4 sec)	A (4.2 sec)	16	49
	SB Thru	C (28.0 sec)	A (6.5 sec)	858	87
	SB Right	A (5.9 sec)	A (1.5 sec)	104	56
River Road NE & 5th Street NE	**Overall**	**a (5.5 sec)**	**a (5.9 sec)**	**-**	**-**
	EB Left	b (10.3 sec)	b (11.9 sec)	58	62
	EB Thru	b (10.3 sec)	b (11.9 sec)	58	62
	EB Right	b (10.3 sec)	b (11.9 sec)	58	62
	WB Left	b (11.4 sec)	b (12.3 sec)	55	42
	WB Thru	b (11.4 sec)	b (12.3 sec)	55	42
	WB Right	b (11.4 sec)	b (12.3 sec)	55	42
	NB Left	a (7.3 sec)	a (7.5 sec)	-	5
	NB Thru	a (0)	a (0)	-	-
	NB Right	a (0)	a (0)	-	-
	SB Left	a (7.4 sec)	a (7.6 sec)	-	12
	SB Thru	a (0)	a (0)	-	-
	SB Right	a (0)	a (0)	-	-
River Road NE & 8th Street NE	**Overall**	**a (5.9 sec)**	**a (2.9 sec)**	**-**	**-**
	EB Left	-	a (8.9 sec)	-	40
	EB Thru	-	a (8.9 sec)	33	40
	EB Right	a (8.7 sec)	a (8.9 sec)	33	40
	WB Left	b (10.4 sec)	b (10.3 sec)	64	46
	WB Thru	b (10.4 sec)	b (10.3 sec)	64	46
	WB Right	b (10.4 sec)	b (10.3 sec)	64	46
	NB Left	a (7.4 sec)	a (7.3 sec)	13	-

	NB Thru	a (0)	a (0)	-	-
	NB Right	a (0)	a (0)	-	-
	SB Left	a (0)	a (0)	-	-
	SB Thru	a (0.1 sec)	a (1.0 sec)	-	-
	SB Right	-	a (1.0 sec)	-	-
8th Street NE & Site Access	**Overall**	**a (6.9 sec)**	**a (6.6 sec)**	**-**	**-**
	EB Left	a (0.1 sec)	a (0.2 sec)	-	-
	EB Thru	a (5.4 sec)	a (5.6 sec)	-	-
	EB Right	a (5.4 sec)	a (5.6 sec)	-	-
	WB Left	-	-	-	-
	WB Thru	a (0)	a (0)	-	-
	WB Right	-	-	-	-
	NB Left	a (9.6 sec)	a (9.7 sec)	47	32
	NB Thru	-	-	47	32
	NB Right	-	-	47	32
	SB Left	a (8.7 sec)	a (8.6 sec)	54	40
	SB Thru	-	-	54	40
	SB Right	a (8.7 sec)	a (8.6 sec)	54	40

1. Overall Level of Service reported from Synchro 10. Upper case letters indicate signalized intersection, and lower-case letters indicate unsignalized intersection.
2. 95th percentile queues are a result from an average of 10 SimTraffic simulations.

As shown in Table 4c, the overall traffic operations at the study intersections are improved and are still expected to be at acceptable LOS. With the addition of the right turn lanes the AM and PM Peak traffic queuing estimates are greatly reduced on Labeaux Avenue, however, during the AM Peak, the westbound River Road approach is forecast to have very long queues that will take several cycles to clear. Table 4d summarizes the analysis results of the combined strategies of signal phasing change during the AM Peak and short right turn lanes on all legs.

Table 4d
2025 Build – Combined Improvements

Intersection	Movement	LOS & Delay (sec)	LOS & Delay (sec)	Queue Length (ft)	
		AM Peak	*PM Peak*	*AM Peak*	*PM Peak*
Labeaux Ave NE & 15th Street NE	**Overall**	**a (5.2 sec)**	**a (3.7 sec)**	**-**	**-**
	EB Left	d (31.6 sec)	f (70.2 sec)	30	40
	EB Thru	d (31.6 sec)	f (70.2 sec)	30	40
	EB Right	d (31.6 sec)	f (70.2 sec)	30	40
	WB Left	e (41.8 sec)	e (46.9 sec)	136	166
	WB Thru	e (41.8 sec)	e (46.9 sec)	136	166
	WB Right	e (41.8 sec)	e (46.9 sec)	136	166
	NB Left	-	a (8.2 sec)	-	9
	NB Thru	a (0)	a (0)	-	-
	NB Right	a (0)	a (0)	-	-
	SB Left	a (8.0 sec)	b (11.3 sec)	23	51
	SB Thru	a (0)	a (0)	-	-
	SB Right	a (0)	a (0)	-	-

Labeaux Ave NE & 5th Street NE	**Overall**	**a (0.8 sec)**	**a (2.2 sec)**	-	-
	WB Left	c (19.6 sec)	f (56.6 sec)	59	39
	WB Right	c (19.6 sec)	f (56.6 sec)	42	67
	NB Thru	a (0)	a (0)	-	-
	NB Right	a (0)	a (0)	-	17
	SB Left	a (8.0 sec)	b (14.9 sec)	34	62
	SB Thru	a (0)	a (0)	64	-
Labeaux Ave NE & River Road NE	**Overall**	**C (30.8 sec)**	**C (24.7 sec)**	-	-
	EB Left	D (41.6 sec)	F (88.4 sec)	165	150
	EB Thru	E (58.6 sec)	D (52.4 sec)	120	89
	EB Right	C (20.0 sec)	A (9.4 sec)	175	34
	WB Left	E (68.8 sec)	E (69.2 sec)	175	154
	WB Thru	D (52.8 sec)	D (50.9 sec)	656	110
	WB Right	A (0.2 sec)	A (6.8 sec)	5	41
	NB Left	A (8.9 sec)	A (3.4 sec)	55	197
	NB Thru	A (9.8 sec)	B (19.6 sec)	151	776
	NB Right	A (0.0 sec)	A (3.9)	46	68
	SB Left	A (7.2 sec)	A (4.2 sec)	41	49
	SB Thru	C (29.0 sec)	A (6.5 sec)	1311	87
	SB Right	A (2.0 sec)	A (1.5 sec)	153	56
River Road NE & 5th Street NE	**Overall**	**a (5.5 sec)**	**a (5.9 sec)**	-	-
	EB Left	b (10.3 sec)	b (11.9 sec)	58	62
	EB Thru	b (10.3 sec)	b (11.9 sec)	58	62
	EB Right	b (10.3 sec)	b (11.9 sec)	58	62
	WB Left	b (11.4 sec)	b (12.3 sec)	55	42
	WB Thru	b (11.4 sec)	b (12.3 sec)	55	42
	WB Right	b (11.4 sec)	b (12.3 sec)	55	42
	NB Left	a (7.3 sec)	a (7.5 sec)	-	5
	NB Thru	a (0)	a (0)	-	-
	NB Right	a (0)	a (0)	-	-
	SB Left	a (7.4 sec)	a (7.6 sec)	-	12
	SB Thru	a (0)	a (0)	-	-
	SB Right	a (0)	a (0)	-	-
River Road NE & 8th Street NE	**Overall**	**a (5.9 sec)**	**a (2.9 sec)**	-	-
	EB Left	-	a (8.9 sec)	-	40
	EB Thru	-	a (8.9 sec)	33	40
	EB Right	a (8.7 sec)	a (8.9 sec)	33	40
	WB Left	b (10.4 sec)	b (10.3 sec)	64	46
	WB Thru	b (10.4 sec)	b (10.3 sec)	64	46
	WB Right	b (10.4 sec)	b (10.3 sec)	64	46
	NB Left	a (7.4 sec)	a (7.3 sec)	13	-
	NB Thru	a (0)	a (0)	-	-
	NB Right	a (0)	a (0)	-	-
	SB Left	a (0)	a (0)	-	-
	SB Thru	a (0.1 sec)	a (1.0 sec)	-	-
	SB Right	-	a (1.0 sec)	-	-
	Overall	**a (6.9 sec)**	**a (6.6 sec)**	-	-
	EB Left	a (0.1 sec)	a (0.2 sec)	-	-
	EB Thru	a (5.4 sec)	a (5.6 sec)	-	-
	EB Right	a (5.4 sec)	a (5.6 sec)	-	-

8th Street NE & Site Access	WB Left	-	-	-	-
	WB Thru	a (0)	a (0)	-	-
	WB Right	-	-	-	-
	NB Left	a (9.6 sec)	a (9.7 sec)	47	32
	NB Thru	-	-	47	32
	NB Right	-	-	47	32
	SB Left	a (8.7 sec)	a (8.6 sec)	54	40
	SB Thru	-	-	54	40
	SB Right	a (8.7 sec)	a (8.6 sec)	54	40

1. Overall Level of Service reported from Synchro 10. Upper case letters indicate signalized intersection, and lower-case letters indicate unsignalized intersection.
2. 95th percentile queues are a result from an average of 10 SimTraffic simulations.

Again, the results shown in Table 4d indicate all intersections are expected to operate at acceptable overall LOS in 2025 with the proposed project. The combined strategy balances the operations and queues present on Labeaux Avenue with those present on the westbound approach of River Road NE. This intersection should be monitored over the coming years as traffic volumes increase for potential improvements.

F. 2040 Operations

The long-range planning horizon year is 2040, as mentioned in the No-Build section. The results of the analysis of the 2040 No-Build traffic conditions, which continue to reflect a 2 percent annual growth rate and no mitigation are summarized in Table 4.

Table 5
2040 No-Build Operations

Intersection	Movement	LOS & Delay (sec)	LOS & Delay (sec)	Queue Length (ft)	
		AM Peak	*PM Peak*	*AM Peak*	*PM Peak*
Labeaux Ave NE & 15th Street NE	**Overall**	**d (32.6 sec)**	**c (22.6 sec)**	-	-
	EB Left	f (61.3 sec)	f (361.3 sec)	39	72
	EB Thru	f (61.3 sec)	f (361.3 sec)	39	72
	EB Right	f (61.3 sec)	f (361.3 sec)	39	72
	WB Left	f (289.9 sec)	f (339.5 sec)	1481	1292
	WB Thru	f (289.9 sec)	f (339.5 sec)	1481	1292
	WB Right	f (289.9 sec)	f (339.5 sec)	1481	1292
	NB Left	-	a (8.5 sec)	-	-
	NB Thru	a (0)	a (0)	-	-
	NB Right	a (0)	a (0)	-	9
	SB Left	a (8.2 sec)	b (14.2 sec)	32	74
	SB Thru	a (0)	a (0)	-	-
	SB Right	a (0)	a (0)	-	-
Labeaux Ave NE & 5th Street NE	**Overall**	**a (1.4 sec)**	**a (7.5 sec)**	-	-
	WB Left	f (50.4 sec)	f (247.3 sec)	205	224
	WB Right	f (50.4 sec)	f (247.3 sec)	34	213
	NB Thru	a (0)	a (0)	-	7
	NB Right	a (0)	a (0)	-	23

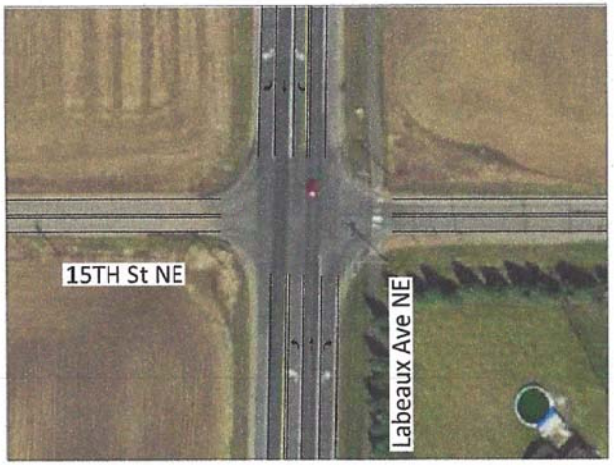
	SB Left	a (8.3 sec)	c (19.8 sec)	954	96
	SB Thru	a (0)	a (0)	(3705)	-
Labeaux Ave NE & River Road NE	**Overall**	**E (71.3 sec)**	**E (69.7 sec)**	-	-
	EB Left	E (67.4 sec)	F (274.7 sec)	175	175
	EB Thru	D (50.8 sec)	E (59.3 sec)	355	1533
	EB Right	D (42.1 sec)	A (5.9 sec)	198	45
	WB Left	F (277.2 sec)	D (52.2 sec)	177	96
	WB Thru	D (51.8 sec)	E (57.7 sec)	1355	83
	WB Right	A (0.2 sec)	A (2.8 sec)	12	64
	NB Left	A (9.2 sec)	A (3.8 sec)	52	552
	NB Thru	A (7.1 sec)	E (77.9.0)	131	5483
	NB Right	A (0)	A (2.3 sec)	30	58
	SB Left	A (5.0 sec)	A (6.7 sec)	61	52
	SB Thru	E (64.6 sec)	A (7.4 sec)	5000+	170
	SB Right	A (4.2 sec)	A (2.3 sec)	144	69
River Road NE & 5th Street NE	**Overall**	**a (2.4 sec)**	**a (3.8 sec)**	-	-
	EB Left	b (10.1 sec)	b (10.4 sec)	49	72
	EB Right	b (10.1 sec)	b (10.4 sec)	49	72
	NB Left	a (7.7 sec)	a (7.5 sec)	9	72
	NB Thru	a (0)	a (0)	-	21
	SB Thru	a (0)	a (0)	-	-
	SB Right	a (0)	a (0)	-	-
River Road NE & 8th Street NE	**Overall**	**a (5.9 sec)**	**a (2.7 sec)**	-	-
	EB Left	-	a (9.0 sec)	31	43
	EB Thru	-	a (9.0 sec)	31	43
	EB Right	a (8.8 sec)	a (9.0 sec)	31	43
	WB Left	b (11.0 sec)	b (10.4 sec)	61	42
	WB Thru	b (11.0 sec)	-	61	42
	WB Right	b (11.0 sec)	b (10.7 sec)	61	42
	NB Left	a (7.5 sec)	a (7.3 sec)	8	-
	NB Thru	a (0)	a (0)	-	-
	NB Right	a (0)	a (0)	-	-
	SB Left	-	a (0)	-	9
	SB Thru	a (0)	a (0.9 sec)	-	9
	SB Right	-	a (0.9 sec)	-	9

1. Overall Level of Service reported from Synchro 10. Upper case letters indicate signalized intersection, and lower-case letters indicate unsignalized intersection
2. 95th percentile queues are a result from an average of 10 SimTraffic simulations.
3. (XXX) queue from River Road NE intersection.

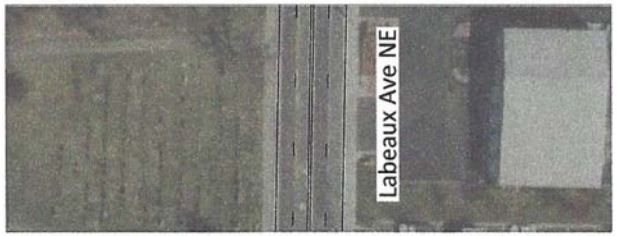
The results shown in Table 5 indicate some of the approaches to the intersection of Labeaux Avenue NE and River Road NE are at or over capacity during the 2040 AM and PM peak hours. The estimated queues for the north and southbound approaches are over 5,000 feet in length and do not clear during the signal cycle. Further, the intersections of 15th Street NE and River Road NE with Labeaux Avenue NE will experience very long east and westbound vehicle queues that are not able to clear during the hour. It is recommended that Labeaux Avenue NE be improved to provide an additional through lane in each direction

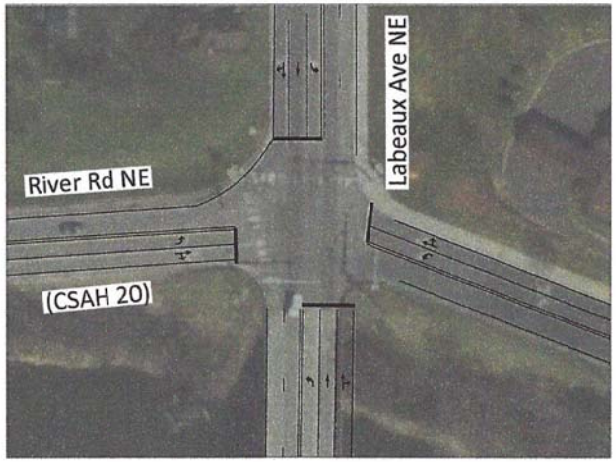
beginning just to the north of the intersection with 15th Street and continuing to the south beyond the Crow River bridge, with left turn lanes at critical intersections. Additionally, a traffic signal should be considered at the intersection of 15th Avenue NE and Labeaux Avenue NE. Figure 10 conceptually illustrates potential improvements.

CURRENT CONDITION



PROPOSED CONDITION





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PROPOSED IMPROVEMENTS
FIGURE 10

It is assumed the recommended capacity improvements will occur between 2025 and 2040 resulting in improved operations. Traffic operations have been tested for the suggested improvements, and the results for the mitigated 2040 No-Build conditions are summarized in Table 6.

Table 6
2040 Mitigated No-Build Operations

Intersection	Movement	LOS & Delay (sec)	LOS & Delay (sec)	Queue Length (ft)	
		AM Peak	*PM Peak*	*AM Peak*	*PM Peak*
Labeaux Ave NE & 15th Street NE	**Overall**	**A (7.5 sec)**	**A (4.7 sec)**	-	-
	EB Left	B (13.9 sec)	B (18.0 sec)	27	35
	EB Thru	B (11.5 sec)	B (15.0 sec)	13	12
	EB Right	-	-	13	12
	WB Left	B (18.4 sec)	B (19.4 sec)	91	44
	WB Thru	A (6.2 sec)	A (8.4 sec)	26	66
	WB Right	-	-	26	66
	NB Left	-	A (3.0 sec)	-	13
	NB Thru	A (5.2 sec)	A (4.9 sec)	74	104
	NB Right	A (2.6 sec)	A (1.1 sec)	11	55
	SB Left	A (5.1 sec)	A (7.3 sec)	37	83
	SB Thru	A (7.3 sec)	A (3.4 sec)	116	69
	SB Right	A (2.9 sec)	A (1.7 sec)	20	18
Labeaux Ave NE & 5th Street NE	**Overall**	**a (0.7 sec)**	**a (4.8 sec)**	-	
	WB Left	c (20.2 sec)	f (151.7 sec)	68	46
	WB Right	c (20.2 sec)	f (151.7 sec)	31	60
	NB Thru	a (0)	a (0)	-	-
	NB Right	a (0)	a (0)	-	-
	SB Left	a (8.3 sec)	c (20.0 sec)	40	63
	SB Thru	a (0)	a (0)	-	-
Labeaux Ave NE & River Road NE	**Overall**	**C (24.4 sec)**	**B (17.0 sec)**	-	-
	EB Left	C (32.4 sec)	D (51.4 sec)	144	185
	EB Thru	D (37.1 sec)	C (22.7 sec)	178	194
	EB Right	-	-	178	194
	WB Left	D (48.9 sec)	D (38.8 sec)	204	98
	WB Thru	C (32.6 sec)	D (32.8 sec)	204	108
	WB Right	-	-	204	108
	NB Left	B (12.7 sec)	A (6.9 sec)	65	103
	NB Thru	B (12.1 sec)	B (15.5 sec)	123	300
	NB Right	A (0)	A (2.1 sec)	27	51
	SB Left	B (10.7 sec)	A (7.8 sec)	38	53
	SB Thru	C (22.6 sec)	B (10.3 sec)	401	88
	SB Right	A (4.8 sec)	A (0.3 sec)	164	61
River Road NE & 5th Street NE	**Overall**	**a (2.4 sec)**	**a (3.8 sec)**	-	
	EB Left	b (10.1 sec)	b (10.4 sec)	55	62
	EB Right	b (10.1 sec)	b (10.4 sec)	55	62
	NB Left	a (7.1 sec)	a (7.5 sec)	11	9
	NB Thru	a (0)	a (0)	-	-
	SB Thru	a (0)	a (0)	-	-
	SB Right	a (0)	a (0)	-	-

River Road NE & 8th Street NE	**Overall**	**a (5.9 sec)**	**a (2.7 sec)**	-	-
	EB Left	-	a (9.0 sec)	11	44
	EB Thru	-	a (9.0 sec)	11	44
	EB Right	a (8.8 sec)	a (9.0 sec)	11	44
	WB Left	b (11.0 sec)	b (10.7 sec)	34	49
	WB Thru	b (11.0 sec)	-	34	49
	WB Right	b (11.0 sec)	b (10.7 sec)	34	49
	NB Left	a (7.5 sec)	a (7.3 sec)	1	6
	NB Thru	a (0)	a (0)	-	-
	NB Right	a (0)	a (0)	-	-
	SB Left	-	a (0)	-	14
	SB Thru	a (0)	a (0.9 sec)	-	14
	SB Right	-	a (0.9 sec)	-	14

1. Overall Level of Service reported from Synchro 10. Upper case letters indicate signalized intersection, and lower-case letters indicate unsignalized intersection.
2. 95th percentile queues are a result from an average of 10 SimTraffic simulations.

The results shown in Table 6 indicate all intersections are expected to operate at acceptable overall LOS in the Mitigated 2040 No-Build scenario. It is noted, the 95th percentile queues at all intersection are shorter than the 2025 No-Build scenario and dissipate during each traffic signal cycle. The operations for the minor 5th Street NE approach to the intersection with Labeaux Avenue NE are still include long delays during the PM Peak hour, however, the predicted vehicles are manageable.

The analyses of the 2040 Build conditions assume capacity improvements have been made along Labeaux Avenue NE as reflected in the Mitigated 2040 No-Build scenario. Table 7 summarizes the results of the 2040 Build analysis.

Table 7
2040 Build Operations

Intersection	Movement	LOS & Delay (sec)	LOS & Delay (sec)	Queue Length (ft)	
		AM Peak	*PM Peak*	*AM Peak*	*PM Peak*
Labeaux Ave NE & 15th Street NE	**Overall**	**A (7.5 sec)**	**A (4.8 sec)**	-	-
	EB Left	B (13.9 sec)	B (18.2 sec)	9	24
	EB Thru	B (11.5 sec)	B (15.2 sec)	2	7
	EB Right	-	-	2	7
	WB Left	B (18.3 sec)	B (19.6 sec)	48	63
	WB Thru	A (6.1 sec)	A (8.4 sec)	27	87
	WB Right	-	-	27	87
	NB Left	-	A (3.0 sec)	-	10
	NB Thru	A (5.6 sec)	A (4.9 sec)	18	110
	NB Right	A (2.6 sec)	A (1.0 sec)	4	52
	SB Left	A (5.1 sec)	A (8.1 sec)	9	114
	SB Thru	A (7.3 sec)	A (3.4 sec)	67	66
	SB Right	A (2.9 sec)	A (1.6 sec)	4	13

Labeaux Ave NE & 5th Street NE	**Overall**	**a (0.8 sec)**	**a (6.4 sec)**	-	-
	WB Left	c (18.0 sec)	f (184.4 sec)	35	132
	WB Right	c (18.0 sec)	f (184.6 sec)	34	53
	NB Thru	a (0)	a (0)	-	19
	NB Right	a (0)	a (0)	-	10
	SB Left	a (8.4 sec)	c (23.3 sec)	41	143
	SB Thru	a (0)	a (0)	-	-
Labeaux Ave NE & River Road NE	**Overall**	**C (28.9 sec)**	**C (20.2 sec)**	-	-
	EB Left	C (27.8 sec)	D (50.4 sec)	165	182
	EB Thru	D (39.2 sec)	D (46.2 sec)	197	231
	EB Right	-	-	197	231
	WB Left	D (47.2 sec)	D (42.9 sec)	195	143
	WB Thru	C (31.9 sec)	D (45.2sec)	337	106
	WB Right	-	-	337	106
	NB Left	B (17.3 sec)	A (7.5 sec)	52	96
	NB Thru	B (15.8 sec)	B (17.5 sec)	105	388
	NB Right	A (0.1 sec)	A (2.8 sec)	36	73
	SB Left	B (14.3 sec)	A (8.7 sec)	44	66
	SB Thru	C (29.7 sec)	B (11.1 sec)	498	112
	SB Right	A (6.1 sec)	A (1.8 sec)	168	42
River Road NE & 5th Street NE	**Overall**	**a (5.4 sec)**	**a (6.1 sec)**	-	-
	EB Left	b (10.9 sec)	b (13.0 sec)	53	109
	EB Thru	b (10.9 sec)	b (13.0 sec)	53	109
	EB Right	b (10.9 sec)	b (13.0 sec)	53	109
	WB Left	b (12.2 sec)	b (13.3 sec)	72	62
	WB Thru	b (12.2 sec)	b (13.3 sec)	72	62
	WB Right	b (12.2 sec)	b (13.3 sec)	72	62
	NB Left	a (7.7 sec)	a (7.5 sec)	5	10
	NB Thru	a (0)	a (0)	-	-
	NB Right	a (0)	a (0)	-	-
	SB Left	a (7.3 sec)	a (7.7 sec)	-	8
	SB Thru	a (0)	a (0)	-	-
	SB Right	a (0)	a (0)	-	-
River Road NE & 8th Street NE	**Overall**	**a (6.3 sec)**	**a (6.3 sec)**	-	-
	EB Left	-	a (9.1 sec)	12	39
	EB Thru	-	a (9.1 sec)	12	39
	EB Right	a (8.8 sec)	a (9.1 sec)	12	39
	WB Left	b (11.3 sec)	b (11.0 sec)	37	56
	WB Thru	b (11.3 sec)	-	37	56
	WB Right	b (11.3 sec)	b (11.0 sec)	37	56
	NB Left	a (7.5 sec)	a (7.4 sec)	2	6
	NB Thru	a (0)	a (0)	-	-
	NB Right	a (0)	a (0)	-	-
	SB Left	a (0)	a (0)	-	10
	SB Thru	a (0.1 sec)	a (0.9 sec)	-	10
	SB Right	-	a (0.9 sec)	-	10
	Overall	**a (7.5 sec)**	**a (6.0 sec)**	-	-
	EB Left	a (0.1 sec)	a (0.3 sec)	-	-
	EB Thru	a (5.5 sec)	a (5.4 sec)	-	-
	EB Right	a (5.5 sec)	a (5.4 sec)	-	-

8th Street NE & Site Access	WB Left	-	-	-	-
	WB Thru	a (0)	a (0)	-	-
	WB Right	a (0)	a (0)	-	-
	NB Left	b (10.2 sec)	b (10.0 sec)	41	36
	NB Thru	-	-	41	36
	NB Right	-	-	41	36
	SB Left	a (8.9 sec)	a (8.7 sec)	42	43
	SB Thru	-	-	42	43
	SB Right	a (8.9 sec)	a (8.7 sec)	42	43

1. Overall Level of Service reported from Synchro 10. Upper case letters indicate signalized intersection, and lower-case letters indicate unsignalized intersection.
2. 95th percentile queues are a result from an average of 10 SimTraffic simulations.

Again, the results shown in Table 7 indicate all intersections are expected to operate at acceptable overall LOS in the Build 2040 scenario, with manageable queues.

V. SUMMARY AND SUGGESTIONS

The preceding analysis has evaluated the potential traffic impacts of the proposed development of the Hanover Cove residential project, on the operations of the study area intersections. The site is located along the east side of River Road NE and along the south side of 8th Street NE in the City of Hanover, Minnesota.

Two design years were considered in this study, 2025 to correspond to the year after build out and 2040 to remain consistent with the long range planning horizon. For both design years a No-Build and Build scenario, was analyzed and compared to assess the development's impact, and the area's future infrastructure needs. Development of the residential homes on the Hanover Cove site by 2025 is expected to result in approximately 2,700 new vehicle trips on the study area roadway network per average weekday. Peak hour trips generated by the development are estimated at 212 during the AM peak hour and 283 during the PM peak hour. The site access approaches to the existing street system will consist of one lane in and one lane out. The access from River Road NE at 5th Street NE should provide left and right turn lanes on River Road NE to remove the turning traffic from the path of the through vehicles. The development trips were distributed through the site access routes to the regional roadways according to existing regional patterns. Growth in background traffic at a rate of 2 percent per year was accounted for in the analysis.

Results of the operational analyses in the 2025 and 2040 No-Build and 2025 and 2040 Build scenarios indicate there is no change in overall traffic operations at the study area intersections associated with the build out of the Hanover Cove development. However, by 2025 the intersection of Labeaux Avenue NE and River Road West will experience long vehicle queues in the southbound direction in the AM and in the northbound direction in the PM. This is due to the large directional peaking characteristic of home to work drivers. It is suggested Labeaux Avenue NE be improved to include 2 through traffic lanes in each direction from 15th Street NE on the north, to the south side of the Crow River Bridge on the south to manage No-

Build traffic conditions. Also, a traffic signal should be considered at Labeaux Avenue NE and 15th Street NE. Comparison of mitigated 2040 No-Build and Build conditions shows there is no change in traffic operations at the study are intersections associated with the build out of the project.

HANOVER PLANNING & ZONING
APPLICATION & MEETING SCHEDULE

The Planning Commission regular meeting is generally the fourth Monday of the month. The City Council generally reviews planning and zoning matters on the first Tuesday of the month. Planning Commission and City Council meetings begin at 7:00 p.m. Both meetings are held at City Hall. Legal notices are published in the Wright County Journal-Press at least 10 days prior to the meeting.

Applications must be deemed complete by City staff. Staff has 15 business days to review the application for completeness, and will notify the applicant/owner if additional information is required (MINN. STAT. 15.99). The City has up to 60 days to review the application before making a final decision, and the City may extend the review period to 120 days with written notice to the applicant/owner. The City has 120 days to review subdivision applications.

2019 Meeting Schedule

Planning Commission Regular Meeting	Permit Application Deadline	City Council Regular Meeting
January 28, 2019	December 28, 2018	February 5, 2019
February 25, 2019	January 25, 2019	March 5, 2019
March 25, 2019	February 22, 2019	April 2, 2019
April 22, 2019	March 22, 2019	May 7, 2019
May -To be determined	April 2x, 2019	June 4, 2019
June 24, 2019	May 24, 2019	July 2, 2019
July 22, 2019	June 21, 2019	To be determined
August 26, 2019	July 26, 2019	September 3, 2019
September 23, 2019	August 23, 2019	October 1, 2019
October 28, 2019	September 27, 2019	November 5, 2019
November 25, 2019	October 265 2019	December 3, 2019
December 23, 2019	November 22, 2019	January 7, 2020
January 27, 2020	December 27, 2019	February 4, 2020