REPORT / RECOMMENDATION

To: MAYOR AND COUNCIL

Agenda Item #: VI.C.

From: Cary Teague, Community Development Director

Action ☒
Discussion ☒
Information ☐

Date: June 2, 2015

Subject: PUBLIC HEARING – Preliminary Plat, 5321 & 5331 Evanswood Lane, and 5320 and 5324 Blake Road, Frank Berman, Resolution No. 2015-56.

Action Requested:
Adopt Resolution No. 2015-56, approving the Preliminary Plat.

Planning Commission Recommendation: On May 13, 2015 the Planning Commission recommended approval of the Preliminary Plat, subject to the findings and conditions in the attached resolution: Vote: 7 Ayes, 2 Nays. The Commission added that they don't believe a sidewalk is needed in this development; but conditioned the requirement of a looped water main and full curbing on the new street per staff recommendation.

Staff Recommendation: Staff recommends approval subject to the findings and conditions in the attached resolution.

Information/Background:
(Deadline for Decision by the City: June 16, 2015)
Frank Berman is proposing to combine and subdivide his four properties at 5321 & 5331 Evanswood Lane, and 5320 and 5324 Blake Road into seven lots. The existing home at 5331 Evanswood Lane would remain, and the home at 5324 Blake Road would be removed. The other two parcels are vacant.

The applicant proposes to construct a 24-foot wide cul-de-sac off Blake Road within a 40-foot right-of-way. Two lots would access off Evanswood Lane, and the remaining five off the new road. The applicant has attempted to minimize tree loss and address drainage issues in the area by locating the roadway along the north lot line, and the stormwater retention areas along the street. (See applicant narrative and plans on pages A4–A22a and the attached revised plans.)

The applicant submitted revised plans on May 5, 2015, to address issues raised by the city's engineering staff. Engineering staff has reviewed the plans and found them acceptable, subject to the conditions in their attached memo dated May 8, 2015. The applicant is requesting flexibility on conditions 3, 5 and 6; curbing type, the sidewalk, and looping of the water. These are policy decisions to be decided by the City Council. Should any of these conditions be revised or eliminated, the proposed grading and drainage plans would not cause any increase in rate or volume to adjacent properties.

The Planning Commission recommends eliminating the sidewalk, but requiring the looped water main, and the full B618 curbing.

To accommodate the request the following is required:

1. Preliminary Plat.

All seven of the proposed lots meet the City's minimum lot size requirements. Minimum lot size, width and depth are determined by the median of all lots within 500 feet of the subject property. Based on the surveyor's calculation of the medians, the minimum lot size is 21,842 s.f. in size; 166.4 feet in depth; and 120.8 feet in width. (See attached median calculations on pages A22–A22a) The engineering department has reviewed the calculations and lot sizes provided by the applicant's surveyor, and do find them to be accurate.

ATTACHMENTS:

- Resolution No. 2015-56
- Planning Commission minutes, April 8 and May 13, 2015
- Engineerign Department memo dated May 8, 2015
- Planning Commission staff report dated May 13 and April 8, 2015

RESOLUTION NO. 2015-56
APPROVING A PRELIMINARY PLAT AT 5321 & 5331 EVANSWOOD LAND AND 5320 AND 5324 BLAKE ROAD

BE IT RESOLVED by the City Council of the City of Edina, Minnesota, as follows:

Section 1. BACKGROUND.

1.01 Frank Berman is proposing to combine and subdivide his four properties at 5321 & 5331 Evanswood Lane, and 5320 and 5324 Blake Road into seven lots.

1.02 The existing home at 5331 Evanswood Lane would remain, and the home at 5324 Blake Road would be removed. The other two parcels are vacant.

1.03 The applicant proposes to construct a 24-foot wide cul-de-sac off Blake Road within a 40-foot right-of-way. Two lots would access off Evanswood Lane, and the remaining five off the new road. The applicant has attempted to minimize tree loss and address drainage issues in the area by locating the roadway along the north lot line, and the stormwater retention areas along the street.

1.04 All seven of the proposed lots meet the City's minimum lot size requirements. Minimum lot size, width and depth are each determined by the median of all lots within 500 feet of the subject property. Based on the surveyor's calculation of the medians, the minimum lot size is 21,842 s.f. in size; 166.4 feet in depth; and 120.8 feet in width. The engineering department has reviewed the calculations and lot sizes provided by the applicant's surveyor and do find them to be accurate.

1.05 The following described tract of land is requested to be divided:

Lots 1 and 1, Block 1, Zupplewood, according to the recorded plat thereof, Hennepin County Minnesota, and Lot 46 and 47, Auditors subdivision, No 325, according to the recorded plat thereof, Hennepin County, Minnesota.

1.06 The owner of the described land desires to subdivide said tract in to the following described new and separate parcels (herein called "parcels") described as follows:

Lots 1-7, Block 1, Blake Woods.

1.07 To accommodate the request the following is required:

Preliminary Plat.

1.08 On May 13, 2015, the Planning Commission recommended approval of the Preliminary Plat, subject to the findings and conditions in the staff memo dated April 8, 2015. The Planning Commission added condition that the conditions in the Engineering Memo dated May 8th be met, and that a sidewalk is not necessary.

Section 2. FINDINGS

2.01 Approval is based on the following findings:

1. The proposal meets all the required standards and ordinances for a subdivision.

2. The applicant has reduced the width of the road, and minimized the stormwater ponding on the site in an attempt to minimize tree loss.

3. In meeting all city and watershed district requirements for drainage the proposed subdivision would not have a negative impact on adjacent property.

Section 3. APPROVAL

NOW THEREFORE, it is hereby resolved by the City Council of the City of Edina, approves the Preliminary Plat for the proposed subdivision of 5321 & 5331 Evanswood Lane, and 5320 and 5324 Blake Road into seven lots.

Approval is subject to the following Conditions:

1. The City must approve the final plat within one year of preliminary approval or receive a written application for a time extension or the preliminary approval will be void. Final plat shall include a complete grading and drainage plan subject to review and approval of the city engineer.

2. At the time of final plat approval, the applicant shall enter into a Developers Agreement with the City. The Developers Agreement shall include the requirement for construction of the street as proposed, as recommended in the engineering memo dated May 8, 2015. The agreement shall also include all the conditions of approval.

3. Prior to release of the final plat, the following items must be submitted:

   a. Park dedication fee of $15,000 must be paid prior to release of the final plat.

   b. A construction management plan will be required for the overall development of the site.

   c. Submit evidence of a Nine Mile Creek Watershed District approval. The City may require revisions to the preliminary plat to meet the district's requirements.

4. Prior to issuance of a building permit, the following items must be submitted:

a. Curb-cut permits must be obtained from the Edina engineering department. Driveway plans must be consistent with the proposed grading plan to preserve as many trees as possible.

b. Individual homes must comply with the overall grading plan for the site. Each individual building permit will be reviewed for compliance with the overall grading plan subject to review and approval of the city engineer.

c. A construction management plan will be required for the construction of the new homes.

d. Utility hook-ups are subject to review of the city engineer.

e. All homes must be constructed with fire sprinkler protection in accordance to NFPA 13d or IRC 2904.

f. Signage stating "No Parking Fire Lane" along one side of the roadway the entire length of the road, and within the cul-de-sac.

5. Compliance with the conditions outlined in the director of engineering's memo dated May 8, 2015.

6. Compliance with the conditions outlined in the fire marshal's memo dated February 18, 2015.

7. A stop sign is required to be installed on the new street approaching Blake Road. Clear sight lines shall be maintained from the intersection.

8. Compliance with the City's newly adopted tree ordinance.

Adopted this 2nd day of June, 2015.

ATTEST:_____ _____

Debra A. Mangen, City Clerk James B. Hovland, Mayor

STATE OF MINNESOTA)
COUNTY OF HENNEPIN)SS
CITY OF EDINA)

CERTIFICATE OF CITY CLERK

I, the undersigned duly appointed and acting City Clerk for the City of Edina do hereby certify that the attached and foregoing Resolution was duly adopted by the Edina City Council at its Regular Meeting of June 2, 2015, and as recorded in the Minutes of said Regular Meeting.

WITNESS my hand and seal of said City this ____ day of _____, 2015.

_____
City Clerk

MINUTES OF THE
REGULAR MEETING OF THE PLANNING COMMISSION
CITY OF EDINA, MINNESOTA
CITY COUNCIL CHAMBERS
MAY 13, 2015
7:00 PM

DRAFT

I. CALL TO ORDER

II. ROLL CALL

Answering the roll call were: Hobbs, Lee, Strauss, Thorsen, Nemerov, Olsen, Carr, Forrest and Platteter

Absent: Halva, Seeley

III. APPROVAL OF MEETING AGENDA

Commissioner Thorsen moved approval of the May 13, 2015, meeting agenda. Commissioner Olsen seconded the motion. All voted aye; motion carried.

IV. APPROVAL OF CONSENT AGENDA

Commissioner Thorsen moved approval of the April 8 and April 22, 2015 meeting minutes. Commissioner Strauss seconded the motion. All voted aye; motion carried.

V. COMMUNITY COMMENT:

None.

Commissioner Thorsen moved to close public comment. Commissioner Olsen seconded the motion. All voted aye; motion to close public comment carried. 9-0.

P.C. 5/13/15

VI. PUBLIC HEARINGS

A. Subdivision. Frank Berman. 5321 & 5331 Evanswood Lane, and 5320 and 5324 Blake Road, Edina, MN.

Staff Presentation

Planner Teague reminded the Commission that this item was continued from the last Planning Commission meeting, adding at the end of that meeting the public hearing was closed. Teague explained that the request for continuance centered on engineering policies; Living Streets, use

of B618 curb and provide a looped 6" DIP. Teague said representatives from the Engineering Department Chad Milner and Ross Bintner are present to address those issues.

Appearing for the Applicant

Kendra Lindahl, Landform

Discussion

Mr. Bintner reported he believes the drainage plan remains much the same, adding the items that continue to be issues are Living Streets, B618 curb and the looped main. Bintner said those are policy decisions, adding staff would work with whatever the Council decides on those three issues.

Commissioner Hobbs asked if the drainage systems bypass the rain garden(s). Mr. Bintner responded they do not. Hobbs noted the use of native grasses in those gardens is an important element to implement.

Commissioner Nemerov asked who would be legally responsible for the systems. Bintner responded after initial installation the maintenance falls to either the City of Edina or the Watershed District. Bintner said the City follows best practices and would be responsible for inspections of public pipes and systems. The Watershed District would monitor the water quality of the rain gardens. Bintner stressed the goal is no net increase in upstream or downstream flow.

A discussion ensued on the Living Streets policy, curb structure and water main.

Chad Milner told the Commission with regard to Living Streets whatever decision is made by the City Council on the sidewalk is fine with staff. With regard to the B618 curb vs. ribbon curb staff prefers B618 because in their opinion it provides better sentiment control. Milner stated; as with Living Streets they would leave the curb type decision up to the City Council. Continuing, Milner addressed the looped water main vs. the dead ended, acknowledging that the dead ended main would meet flow; however, staff has a concern if not looped the water could become stagnant. Milner acknowledged the concern expressed by the applicant regarding tree loss if the water main was looped; however if horizontal drilling was used tree loss would be reduced. Concluding, Milner stated implementation of Living Streets (sidewalk), which curb/gutter system and which water main is constructed are policy decisions and engineering staff would be comfortable with whatever the Council decides. Engineering has indicated their preferences; (OK with no sidewalk, prefer B618 curb and looped main); however, believe what the applicant proposed would also work.

Commissioner Forrest stated she supports the City's Living Streets policy; however, in this instance can support a plat that eliminates the sidewalk. Forrest pointed out the sidewalk won't tie into Blake Road because the sidewalk is on the opposite side of Blake Road; no true connectivity. Forrest further noted the grade change and sight lines at this intersection, in her opinion are a safety issue.

Kendra Lindahl addressed the Commission and asked them to note the proposal as presented complies with City Codes. Lindahl said from the beginning the goal of the property owner was to save trees, adding in her opinion, if the looped water main is installed 13 trees would be lost. Concluding, Lindahl stated as previously requested the development team requests preliminary plat approval based on the plans presented.

Commissioner Forrest asked Ms. Lindahl what her objection was to the B618 curb and gutter system. Lindahl responded that she believes the ribbon curb is the more natural solution to respond to water runoff.

Commissioner Carr indicated that she supports the proposal as submitted and agrees with staff findings and conditions.

Commissioner Lee stated she supports engineering staff's conditions 3, 6, and 7 acknowledging the applicant has requested relief from those conditions. Continuing, Lee stated she cannot support the request for preliminary plat based on the following reasons:

- Negative impact to the environment. Loss of trees and tree canopy. Impact on areas natural features.
- Negative impact on property owners to the north.
- Less than ideal sight line conditions leaving the site and entering onto Blake Road.
- A daily increase in traffic.
- Consider reducing the number of lots. 5 or 6 would be preferable.
- Cost of the continued maintenance of the infrastructure.

In conclusion Lee stated she believes the proposed subdivision is detrimental to the neighborhood in its current form.

Commissioner Carr commented that she wasn't sure how the reduction in the number of lots would make a difference . Lee responded that fewer lots, fewer houses equal more area for simple drainage. Carr asked Planner Teague if the proposed plat meets code. Planner Teague responded in the affirmative; adding according to Code the applicant is entitled to seven (7) lots.

Commissioner Forrest asked if a different street design was ever presented. Planner Teague responded that staff never received plans that indicated a different street scenario.

Motion

Commissioner Olsen moved to recommend preliminary plat approval subject to staff findings and conditions with the following conditions:

- **References to drainage conditions are included in the Engineers Memo dated May 8, 2015.**
- **Remove condition #9 in staff report– Compliance with the City's living streets policy.**

- **Approval conditioned on construction of B618 curb and gutter and standard residential driveway entrances;**
- **Approval conditioned on development of a looped 6" DIP from Blake Road through to the southeast corner of Lot 6 north along the properly line to Evanswood Lane.**

Commissioner Hobbs seconded the motion. Ayes; Hobbs, Thorsen, Strauss, Olsen, Nemerov, Carr, Platteter. Nays; Lee and Forrest. Motion to approve carried 7-2.

Chair Platteter announced that this request would be heard by the City Council at their June 2nd meeting.

B. Variance. Karen and Bill Kelly. 4504 Sunnyside Road, Edina, MN

Planner Presentation

Discussion

Commissioner Carr asked Planner Aaker if staff received any comments on the proposal. Planner Aaker responded that to date she was not aware of any comments.

Chair Platteter asked if anyone was present to speak to the issue; being none Commissioner Thorsen moved to close the public hearing. Commissioner Strauss seconded the motion. All voted aye; motion carried.

Chair Platteter commented that in his opinion the request is straightforward and asked the Commission for further comments or motion.

Motion

Commissioner Thorsen moved variance approval based on staff findings and subject to staff conditions. Commissioner Nemerov seconded the motion. All voted aye; motion carried.

C. Subdivision. Jerrod Lindquist. 5945 Concord Avenue, Edina, MN

Planner Presentation

Planner Teague reported that Jerrod Lindquist is proposing to subdivide his property at 5945 Concord Avenue into two lots. If the request is approved, the existing home would be torn down and new homes built on each lot. Teague sadi to accommodate the request a subdivision; Lot width variances from 77 feet to 50 feet for each lot; and lot area variances from 10,028 square feet to 6,794 and 6,800 square

DRAFT

P.C. 4/8/15

VII. C. Subdivision. Frank Berman. 5321 & 5331 Evanswood Lane, and 5320 & 5324 Blake Road, Edina, MN

Planner Presentation

Planner Teague reported that Frank Berman is proposing to combine and subdivide his four properties at 5321 & 5331 Evanswood Lane, and 5320 and 5324 Blake Road into seven lots. The existing home at 5331 Evanswood Lane would remain, and the home at 5324 Blake Road would be removed. The other two parcels are vacant.

Teague explained that the applicant proposes to construct a 24-foot wide cul-de-sac off Blake Road within a 40-foot right-of-way. Two lots would access off Evanswood Lane, and the remaining five off the new road. The applicant has attempted to minimize tree loss and address drainage issues in the area by locating the roadway along the north lot line, and the stormwater retension areas along the street.

Planner Teague noted that this item was continued from the last Planning Commission for the applicant to revise the grading and drainage plan to address concerns raised by the city engineering department. The applicant has revised the plans to address those concerns. The engineering department and Barr Engineering, the City's engineering consultant has reviewed the plans Teague said to accommodate the request Preliminary Plat approval is required.

Continuing, Teague said all seven of the proposed lots meet the City's minimum lot size requirements. Minimum lot size, width and depth is determined by the median of all lots within 500 feet of the subject property. Based on the surveyors calculation of the medians, the minimum lot size is 21,842 s.f. in size; 166.4 feet in depth; and 120.8 feet in width. The engineering department has reviewed the calculations and lot sizes provided by the applicant's surveyor and does find them to be accurate.

Planner Teague concluded that staff the plat meets all requirements and further recommends that the City Council approve the proposed seven lot subdivision based on the following findings:

1. The proposal meets all the required standards and ordinances for a subdivision.
2. The applicant has reduced the width of the road, and minimized the stormwater ponding on the site in an attempt to minimize tree loss.
3. In meeting all city and watershed district requirements for drainage the proposed subdivision would not have a negative impact on adjacent property.

Approval is also subject to the following conditions:

1. The City must approve the final plat within one year of preliminary approval or receive a written application for a time extension or the preliminary approval will be void. Final plat shall include a complete grading and drainage plan subject to review and approval of the city engineer.
2. At the time of final plat approval, the applicant shall enter into a Developers Agreement with the City. The Developers Agreement shall include the requirement for construction of the street as proposed, and a sidewalk on the south side of the street as recommended in the engineering memo dated March 30, 2015. The agreement shall also include all the conditions of approval.
3. Prior to release of the final plat, the following items must be submitted:
   a. Park dedication fee of $15,000 must be paid prior to release of the final plat.
   b. A construction management plan will be required for the overall development of the site.
   c. Submit evidence of a Nine Mile Creek Watershed District approval. The City may require revisions to the preliminary plat to meet the district's requirements.
4. Prior to issuance of a building permit, the following items must be submitted:
   a. Curb-cut permits must be obtained from the Edina engineering department. Driveway plans must be consistent with the proposed grading plan to preserve as many trees as possible.
   b. Individual homes must comply with the overall grading plan for the site. Each individual building permit will be reviewed for compliance with the overall grading plan subject to review and approval of the city engineer.
   c. A construction management plan will be required for the construction of the new homes.
   d. Utility hook-ups are subject to review of the city engineer.
   e. All homes must be constructed with fire sprinkler protection in accordance to NFPA 13d or IRC 2904.
   f. Signage stating "No Parking Fire Lane" along one side of the roadway the entire length of the road, and within the cul-de-sac.
5. Compliance with the conditions outlined in the director of engineering's memo dated March 30, 2015.
6. Compliance with the conditions outlined in the fire marshal's memo dated February 18, 2015.
7. A stop sign is required to be installed on the new street approaching Blake Road. Clear sight lines shall be maintained from the intersection.
8. Compliance with the city's newly adopted tree ordinance.
9. Compliance with the city's living streets policy.

Appearing for the Applicant

Kendra Lindale, Landform, Jack Perry, and Carrie Berman

Discussion

Planner Teague was asked to explain the loop water line suggested by engineering staff. Planner Teague responded that engineering staff recommends that the site provide a looped 6" DIP from Blake Road through to Lot 6 along the property line to Evanswood Lane; however, the applicant has not agreed to do so.

Chair Platteter asked Planner Teague if the storm water pond to the west was private or public. Planner Teague responded that is a private pond.

Applicant Presentation

Kendra Lindale introduced, Jack Perry, legal staff and Carrie Berman, daughter of applicant as part of the project team. Lindale stressed how important it was to the applicant to minimize tree loss. She noted the applicant will continue to live in his home.

Lindale informed the Commission in response to staff's recommendation of a looped water line that they are hesitant to do so because they believe it would create more tree loss. Lindale stated that as presented the storm water plan is responsive, adding there will be no net increase in rate or volume to surrounding properties. Lindale also noted that in this area Edina has a downstream issue, adding in her opinion this site shouldn't be required to fix an area issue.

Lindale further commented that they respectfully request that the suggested B618 curb and gutter be eliminated and a flush ribbon curb built in its place. She pointed out flush ribbon curbs are very common in Edina and work well with rain gardens.

Continuing, Lindale stated with regard to the sidewalk condition they are not convinced every site should be required to have a sidewalk. She pointed out there are five homes on the cul de sac and the addition of a sidewalk creates challenges for the project. Lindale said if a sidewalk is required to be built as a condition of approval they would prefer that the sidewalk was constructed on the north side.

Concluding, Lindale asked the Commission to eliminate the Fire Department's condition that the homes be sprinkled. Lindale pointed out the State already has a sprinkling requirement based on square footage, adding they would like to abide by State Statutes, questioning if other new homes were required to be sprinkled.

Discussion

Commissioner Carr commented that she could support a sidewalk on the north vs. south. Carr asked Ms. Lindale to explain "ribbon" curb. With graphics Lindale indicated ribbon curbs,

adding that the reason they want them installed on the project was to ensure water flow. Ribbon curbs are designed to handle water run-off. Carr further asked the applicant if they prefer looped or dead ended. Lindale responded they would prefer the dead ended main.

Commissioner Lee questioned if the property owner would consider reducing the number of lots from seven to six. The applicants responded that the seven lot plat meets code, adding they have not considered reducing the number of lots.

A brief discussion ensued on drainage.

Ross Bintner addressed the Commission and explained with regard to the sidewalk requirement the sidewalk is not a code requirement it's a policy. Bintner further indicated that the B618 curb is also a policy, along with looped main vs. dead ended. Continuing, Bintner reported that the sprinkler requirement was from the Fire Department. Teague interjected and explained the Fire Department requested sprinkling because of the narrower street.

Chair Platteter asked if the subdivision Acres Dubois had a looped main. Mr. Bintner responded Acres DuBois was not looped. Chair Platteter asked the applicant if the Watershed District has weighed in on the project. Ms. Lindale responded that they have been in contact with the Nine Mile Creek Watershed District; however, they will not meet on the proposal until after it receives preliminary approval from the City.

Public Hearing

Chair Platteter opened the public hearing.

The following residents expressed concerns with the proposed subdivision:

Rebecca Wallin, 6208 Parkwood Road
Charlie Gits, 5311 Evanswood Lane
Kim Gits, 5311 Evanswood Lane
Marty Wheeler, 6200 Parkwood Road
Tim Kuck, 6316 Westwood Court
Olaf Minge, 5525 Evanswood Lane
Amy Minge, 5225 Evanswood Lane

Concerns were expressed as follows:

- Storm water management. Some areas already retain water careful consideration must be given to drainage and storm water management.
- Increase in impervious surfaces – more water issues
- Change in density
- Tree loss
- Consider using existing driveway as shared vs. new street.
- Decrease in property values
- Years of living with continued construction

- Rain garden maintenance – who's responsible, will they be maintained
- Buffer
- Visibility concerns. Site lines are compromised in this area-intersections are close and there is a grade change
- The plan as presented is too dense, lots aren't in keeping with neighboring properties, consider reducing number of lots

Commissioner Carr moved to close the public hearing. Commissioner Olsen seconded the motion. All voted aye; motion carried.

Discussion

Commissioners expressed the opinion that issues are unresolved and acknowledged the difficulty in finding balance. It was further noted that in Edina "one size doesn't fit all" and with no conclusions on specific drainage issues it; and other issues make it difficult to make an educated decision. It was further suggested that more creativity could be used in plat development including limiting parking to only one side of the street, etc.

Chair Platteter asked Ms. Lindale to comment on the tree loss and drainage issues raised by neighbors.

Ms. Lindale said she is unsure of the exact percentage of tree loss, but would have that calculated prior to the next meeting. Lindale explained the proposed street was aligned so the fewest number of trees would be removed. Lindale stated with regard to drainage that their proposal cannot solve the areas storm water and drainage problems; however, they can't make it worse, adding the proposed rain gardens are a critical part of stormwater management for the site.

Chair Platteter noted that another concern expressed was sight line issues at the intersection of Blake and the new road. Platteter asked Lindale to comment on that. Ms. Lindale reported at the City's request WSB conducted a traffic analysis. The report indicated that sight lines are sufficient. She further noted that the applicant will enter into a Developers Agreement that not only addresses sight lines and site access but addresses retaining walls, rain gardens, water and sewer too. Lindale said in the Agreement maintenance of the proposed wall, rain gardens, etc. are addressed.

In response to comments from neighbors on prior tree loss Steve Gross reported that the site was being cleared of buckthorn and dead trees.

A lengthy discussion ensued on the proposed subdivision and Engineers Memo dated March 30, 2015 with Commissioners expressing their hesitancy is supporting the preliminary plat in light of the fact that specific items in the storm water management plan were not sufficiently addressed to gain support of the Engineer. Commissioners were also divided on sidewalk or no sidewalk, style of curb/gutter and the number of lots, etc.

Mr. Bintner stated that in his opinion his concerns can be addressed before the applicant returns for final plat. Bintner said he agrees with the majority of items in the memo; specifically numbers 2 and 8 through 21. He acknowledged issues with 3, 4 and 7; however reiterated in his opinion those issues could be agreed on. Bintner stressed from an Engineering standpoint their goal is to ensure that storm water does not increase the flood risk to upstream and downstream properties

Commissioner Carr commented that she agrees all issues can be resolved; however, the Commission needs to recommend to the Council approval or denial with sufficient findings, adding some issues (curb gutter, sidewalk, etc.) need further clarification. Continuing, Carr said before final plat specific issues need to be resolved and the storm water management plan needs to be prepared in more detail. Commissioner Olsen commented that she believes if a motion is made it should include conditions that the applicant must provide adequate drawings (as mentioned by Commissioner Carr) indicating how the water is distributed and how/if the applicant can gain rain garden easements.

Mr. Gits interjected questioning if he can stub into the rain garden adjacent to his property. Planner Teague responded that he believes Mr. Gits could stub into the rain garden; however, at his expense. Teague noted he believes the easements are public.

The discussion continued on if the request should be continued allowing staff and applicants time to resolve any issues or vote the request up or down.

Motion

Commissioner Carr moved to recommend preliminary plat approval based on staff findings and conditions and subject to the following additions:

- **The developer can choose between the ribbon cut or B618 curb**
- **The developer can choose between looped or dead end water main.**
- **Water sprinklers not required (note State requirements would be enforced)**
- **Comply with the principles of Living Street with the developer choosing which side of the street the sidewalk should go**
- **Present a more detailed storm water, drainage and erosion control plan.**
- **Address rain garden issues and potential flooding issues because of expressed concerns.**

Commissioner Hobbs seconded the motion.

Commissioner Lee stated she cannot support the motion for approval. She said the conditions of approval are unclear and that she believes a decrease in the number of lots could mitigate drainage issues. Lee acknowledged the plat meets all requirements; however, in her opinion a balance must be reached.

Commissioners Hobbs and Forrest indicated they would have to vote against the motion to approve.

Mr. Perry said they would be willing to work with staff and grant a 30-day extension.

Chair Platteter called the vote. Ayes; Thorsen, Olsen, Carr. Nay; Hobbs, Lee Strauss, Nemerov, Forrest, Platteter. Motion failed. 3-6.

Commissioner Hobbs moved to continue the request for subdivision to allow time for staff and the applicant to resolve any issues. Commissioner Forrest seconded the motion. All voted aye; motion to continue carried.

VII. REPORTS AND RECOMMENDATIONS

A. Grandview Presentation

Economic Development Manager, Bill Neuendorf addressed the Commission and reported on the redevelopment planning for the former public works site.

B. Zoning Ordinance Amendment

Chair Platteter suggested because of the late hour that the discussion on the Ordinance Amendments be continued to the next Planning Commission meeting on April 22nd. Commissioners Agreed.

VIII. CORRESPONDENCE AND PETITIONS

Chair Platteter acknowledged back of packet materials.

IX. CHAIR AND COMMISSION COMMENTS

Commissioner Forrest reported that last evening (April 7) the City Council approved the Wooddale Valley View Small Area Plan.

Commissioner Hobbs informed the Commission one meeting has occurred for the France Southdale Area Work Group, adding he believes the group can craft a realistic vision of the greater Southdale area.

X. STAFF COMMENTS

None

XI. ADJOURNMENT

Commissioner Thorsen moved meeting adjournment at 12:20 am. Commissioner Strauss seconded the motion. All voted aye; motion to adjourn carried.

DATE: May 8, 2015

TO: Cary Teague – Community Development Director

CC: Chad Millner PE – City Engineer

FROM: Ross Bintner PE – Environmental Engineer

RE: **Berman Subdivision – Preliminary Plat Development Review**

The Engineering Department has reviewed the subject development for street and utility connections, grading, storm water, erosion and sediment control. This review summarizes issues remaining from the February 19 review, the March 3 drainage review memo and the March 30 review memo. The reviewed plan is dated 4/23/2015.

General Comments

1. A development agreement will be required for the creation of public road, utilities and stormwater system, and private rain garden ownership and maintenance.

Survey/ Plat

2. Public easements will be required for all public infrastructures not already in platted right of way.

Traffic and Street.

3. Consider Living Streets Policy in design of street.
4. Limit parking to one side of street.
5. Use B618 curb and gutter and standard residential driveway entrances as described in city standard plate 411 and found at the following link: http://edinamn.gov/index.php?section=construction_standards

Sanitary and Water Utilities

6. Provide a looped 6" DIP from Blake Rd through to the southeast corner of lot 6 north along the property line to Evanswood Ln.

Storm Water Utility & Hydrology

7. The proposed design meets the performance standard described in previous review memos.
    a. Final stormwater management plan will provide justification for infiltration rate, time of concentration and curve numbers in narrative.
    b. Development agreement shall include conditions for lot imperviousness, and final plans shall include construction provisions, to ensure grading and constructed works function consistent with design assumptions.

Grading, Erosion and Sediment Control

8. Provide a State construction site permit and SWPPP at time of Final Plat.

General Comments

9. Provide a private maintenance agreement in favor of the local Watershed District for all rain gardens at time of Final Plat.
10. Provide an inspection and maintenance plan for all public and private stormwater practices at time of Final Plat.

Other Agency Coordination

11. A Nine Mile Creek Watershed permit is required, along with other agency permits such as MNDH, MPCA SWPPP, MCES, and a grading permit from the City of Edina Building Department at time of Final Plat

DATE: March 30, 2015

TO: Cary Teague – Community Development Director

CC: Chad Millner PE – City Engineer

FROM: Ross Bintner PE – Environmental Engineer

RE: **Berman Subdivision – Preliminary Plat Development Review**

The Engineering Department has reviewed the subject development for street and utility connections, grading, storm water, erosion and sediment control. This review summarizes issues remaining from the February 19 review and March 3 drainage review memo. The reviewed plan is dated 3/18/2015.

General Comments

1. A development agreement will be required for the creation of public road, utilities and stormwater system ownership and maintenance.

Survey/ Plat

2. Recorded easements will be required for all public infrastructures not already in platted right of way.
    a. Drainage to the west is proposed in a flow concentration onto private property then into a private pond. Applicant must negotiate future public easement for: the flow path, any drainage infrastructure, or any increase in pond bounce with any affected private parties. Describe precautions against erosion and provide proof of easement on private property.

Traffic and Street.

3. Use B618 curb and gutter and standard residential driveway entrances as described in city standard plate 411 and found at the following link: http://edinamn.gov/index.php?section=construction_standards
4. Provide 5-foot wide ADA compliant sidewalks with 5-foot boulevards on south side of proposed road consistent with Living Streets Policy.
5. Demonstrate fire access turning movement for attached design vehicle.
6. Limited parking to one side of street.

Sanitary and Water Utilities

7. Provide a looped 6" DIP from Blake Rd through to the southeast corner of lot 6 north along the property line to Evanswood Ln.

Storm Water Utility

8. Submit a revised Stormwater Management Plan that meets the following performance standard. Design to these restrictions will ensure that either east or west flow path meet level of service and level of protection for 100 year events, and risk in downstream water body MD_25 is not increased.
9. No increase in stormwater peak rate, volume or flood stage elevation to neighboring private properties, which will be demonstrated by the following criteria:

a. No increases in stormwater volumes to MD_29 pond (to west) for the 2-year, 10-year, and 100-year 24 –hour Atlas 14 events, as compared with existing conditions.
b. No increases in peak stormwater rates to MD_29 pond (to west) for the 2-year, 10-year, and 100-year 24-hour Atlas 14 events, as compared with existing conditions.
c. No limitations to total volume runoff (to east) aside from meeting Nine Mile Creek Watershed District volume control requirements for the entire site.

10. Limit peak stormwater rates from the overall site to peak rates from existing conditions for the 2-year, 10-year, and 100-year, 24-hour Atlas 14 event, not per sub watershed (a sub watershed basis increase to the Blake Road system is allowed, as that direction has capacity to direct stormwater)
11. Achieve compliance with Nine Mile Creek Watershed District water quality treatment requirements.

Hydrology

The Engineering Department contracted with Barr Engineering to review the hydrology calculations for this design. The Barr review is attached to this memo.

12. Provide justification for pre and post curve numbers and following guidance provided in attached Barr memorandum (Performance standard comment 2)
13. Provide revised survey or adjust model to describe existing on-site storage consistent with Barr memorandum (Performance standard comment 3, Other comment 4)
14. Future building sites can be limited by impervious surface assumptions though developers agreement. Previous submittal claimed 5,450 sf impervious per lot. Recommend more conservative impervious assumptions to provide flexibility to allow for future expansion.
15. Correct modeling error in rain garden performance (Volume control, Other comment 3)
16. Provide time of concentration justification (Other comment 1)
17. Provide infiltration rate justification (Other comment 2)

Grading, Erosion and Sediment Control

18. Provide a State construction site permit and SWPPP at time of Final Plat.

General Comments

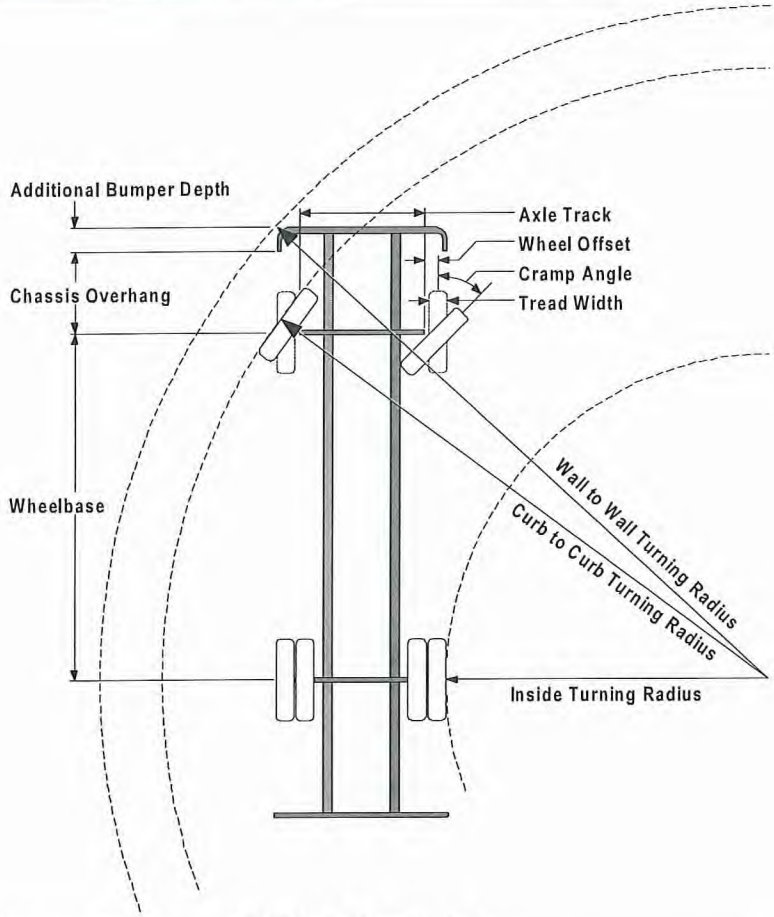
19. Provide a private maintenance agreement in favor of the local Watershed District for all rain gardens at time of Final Plat.
20. Provide an inspection and maintenance plan that ensures future functionality at time of Final Plat.

Other Agency Coordination

21. A Nine Mile Creek Watershed permit is required, along with other agency permits such as MNDH, MPCA SWPPP, MCES, and a grading permit from the City of Edina Building Department at time of Final Plat

Turning Performance Analysis

5/1/2013



Parameters:

Inside Cramp Angle:	45.00 °
Axle Track:	81.92 in.
Wheel Offset:	5.25 in.
Tread Width:	16.60 in.
Chassis Overhang:	65.99 in.
Additional Bumper Depth:	19.00 in.
Front Overhang	84.99 in.
Wheelbase:	258.00 in.

Calculated Turning Radii:

Inside Turn:	20 ft. 4 in.
Curb to Curb:	36 ft. 8 in.
Wall to Wall:	41 ft. 1 in.

Comments:

Truck 12205

Components	PRIDE #	Description
Front Tires	0078244	Tires, Michelin, 425/65R22.50 20 ply XZY 3 tread
Chassis	0070220	Dash-2000, Chassis, PAP/SkyArm/Midmount
Front Bumper	0123625	Bumper, 19" extended, Imp/Vel
Aerial Device	0006900	xxxAerial, 100' Pierce Platform

Notes:

Actual Inside Cramp Angle may be less due to highly specialized options.

Curb to Curb turning radius calculated for a 9.00 inch curb.

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engineering and environmental consultants

BARR

Memorandum

To: Ross Bintner, City of Edina
From: Janna Kieffer
Subject: Review of Blake Woods March 18, 2015 Stormwater Management Submittal
Date: March 30, 2015

This memo serves as a summary of Barr's review of the Stormwater Management Plan for the proposed Blake Woods subdivision, as submitted on March 18, 2015 by Landform. Barr reviewed the Stormwater Management Plan for compliance with the performance standards identified in the March 3, 2015 drainage review memo from Ross Bintner, City of Edina Engineering Department, to Cary Teague, City of Edina Community Development Director.

Performance Standard Regarding Neighboring Private Properties

Standard- No increases in stormwater volumes to MD_29 pond (to west) for the 2-year, 10-year, and 100-year 24 –hour Atlas 14 events, as compared with existing conditions.

Barr's review comments:

1. The stormwater modeling submittal indicates that under existing conditions, 172,408 ft^2 within the proposed development area drains west to the MD_29 pond, with 19,741 ft^2 of impervious surface (11.4%). Under proposed conditions, 167,669 ft^2 of the proposed development drains west to the MD_29 pond, with 46,664 ft^2 of impervious surface (27.8%). Based on this information, summarized in Table 1, the total area draining to the MD_29 pond has been reduced under proposed conditions. However, the amount of impervious surface draining to the MD_29 pond under proposed conditions is 2.4 times that of existing conditions.

Table 1. Summary of subcatchment areas draining to the MD_29 pond under existing and proposed conditions

Subcatchment	Area (ft2)	Impervious %	Impervious area
Proposed			
Subwatershed 4S: To Pond MD-29	95,550	16.05	15,336
Raingarden B (Pond 15S)	9,748	35.73	3,483
Raingarden C (Pond 14S)	22,318	53.92	12,034
Raingarden D (Pond 12S)	6,167	83.49	5,149
Raingarden E (Pond 11S)	14,352	36.32	5,213
Raingarden F (Pond 17S)	9,847	32.24	3,175
Raingarden G (Pond 18S)	9,687	23.49	2,275
Total	167,669	28	46,664
Existing			
Subwatershed 4S: To Pond MD-29	172,408	11.45	19,741

2. Table 2 summarizes the runoff generated under existing and proposed conditions in the subcatchment(s) draining to pond MD_29, per the March 18, 2015 submittal. Note that the runoff generation summarized in Table 1 does not reflect volume reduction achieved by routing runoff through the rainwater gardens.

Table 2. Summary of runoff generated per March 18, 2015 submittal

Event	Existing Runoff Volume (ft^3)	Existing Runoff Depth per acre (in)	Proposed Runoff Volume (ft^3)	Proposed Runoff Depth per acre (in)	Difference in Runoff Generated (ft^3)
2-year	20,258	1.41	22,237	1.60	1,979
10-year	37,762	2.63	39,906	2.87	2,144
100-year	80,280	5.59	82,022	5.88	1,742

Given the significant increase in impervious surfaces draining to MD_29 pond, the increases in runoff generated under proposed conditions seem low. We recommend the following revisions to the modeling approach to ensure that the increase in impervious surface are being properly reflected in the modeling analysis:

- Use a pervious curve number for proposed conditions that is the same as or higher than existing conditions to reflect likelihood of compacted soil conditions resulting from construction. When using a pervious curve number of 82 for proposed conditions (consistent with existing conditions), the volume to MD_29 increases under the 2-, 10-, and 100-year events, and the performance standard for the 2-year and 10-year events are no longer met.

- Use the distributed curve number method, which calculates runoff separately for impervious and pervious areas.

3. Under existing site conditions, there is a low, depression area located south of the existing driveway on the Berman property. Based on the MnDNR's 2011 LiDAR, it appears that stormwater from an area of approximately 30,000 ft^2 drains to this low area, where runoff pools to a depth of approximately one foot before reaching the surface overflow and flowing southward and eventually west to the MD_29 pond. Based on the MnDNR's 2011 LiDAR elevation data, there is approximately 4,000 cubic feet of storage in this low area. Rough estimates indicate that during the 2-year, 24-hour event, all runoff from the direct tributary area would be stored in this low area without a surface overflow to MD_29.
   This low depression area south of the existing driveway is not included in the current existing conditions model. Including the existing low area in the modeling analysis would result in lower runoff volumes to MD_29 under the 2-, 10-, and 100-year events. The low area should be included in the modeling analysis for comparison of existing and proposed runoff volumes to the MD_29 pond if field survey verifies the presence and characteristics of the low area.

Standard- No increases in peak stormwater rates to MD_29 pond (to west) for the 2-year, 10-year, and 100-year 24-hour Atlas 14 events), as compared with existing conditions.

Table 3 summarizes the peak runoff rates to the MD_29 pond, as identified in the March 18, 2015 stormwater management plan. Based on the modeling, the proposed rainwater garden storage and infiltration/filtration results in peak flows to the MD_29 pond that are lower than peak runoff rates from existing conditions for the 2-, 10-, and 100-year events.

Table 3. Summary of peak runoff rates to MD_29 pond

Event	Existing Runoff Rate (cfs)	Proposed Runoff Rate (cfs)
2-yr, 24-hr (2.87")	8.46	6.08
10-yr, 24-hr (4.29")	15.61	10.9
100-yr, 24-hr (7.47")	32.11	25.08

Performance Standard(s) for Overall Site

Standard- limit peak stormwater rates from the overall site to peak rates from existing conditions for the 2-year, 10-year, and 100-year, 24-hour Atlas 14 events.

Table 4 summarizes the peak runoff rates from the overall site, as identified in the March 18, 2015 stormwater management plan. Based on the modeling, the proposed rainwater garden storage and

infiltration/filtration results in peak runoff rates from the overall site that are lower than peak runoff rates from existing conditions for the 2-, 10-, and 100-year events.

Table 4. Summary of peak runoff rates from overall site

Event	Existing Runoff Rate (cfs)	Proposed Runoff Rate (cfs)
2-yr, 24-hr (2.87")	9.08	6.66
10-yr, 24-hr (4.29")	16.82	11.9
100-yr, 24-hr (7.47")	34.72	27.9

Standard- Applicant must meet the Nine Mile Creek Watershed District volume control requirements for the entire site.

The Nine Mile Creek Watershed District's (NMCWD's) stormwater management rule requires retention onsite of one inch of runoff from all impervious surfaces of the parcel. The proposed site has a total of 54,638 ft^2 of impervious surface. One inch of runoff from 54,638 ft^2 of impervious surface is 4,553 ft^3 of runoff.

Soils on the proposed site have been identified as Hydrologic Soil Group D, indicating poor infiltration capacity. As such, the proposed rainwater garden designs include installation of a drain tile to collect runoff that infiltrates through the approximately two feet of planting soil. The proposed rainwater gardens include a gravel bed below the drain tile to store and infiltrate runoff. Based on the combined area of the gravel beds, an infiltration rate for the native soils of 0.03 in/hr, and a 48-hour drawdown time, the volume of runoff retained and infiltrated from the proposed rainwater gardens, collectively, is 979 ft^3.

While compliance with the NMCWD's volume control requirement will ultimately need to be assessed by the NMCWD, it does not appear that the volume retention achieved by the proposed rainwater gardens will meet the NMCWD volume retention requirement.

Standard- Applicant must achieve compliance with Nine Mile Creek Watershed District water quality treatment requirements.

The NMCWD's stormwater management rule requires that runoff from the parcel be treated to provide at least sixty percent (60%) annual removal efficiency for phosphorus, and at least ninety percent (90%) annual removal efficiency for total suspended solids. Compliance with the NMCWD's water quality treatment requirements was not assessed as part of this review, and will need to be evaluated by NMCWD.

Other Review Notes

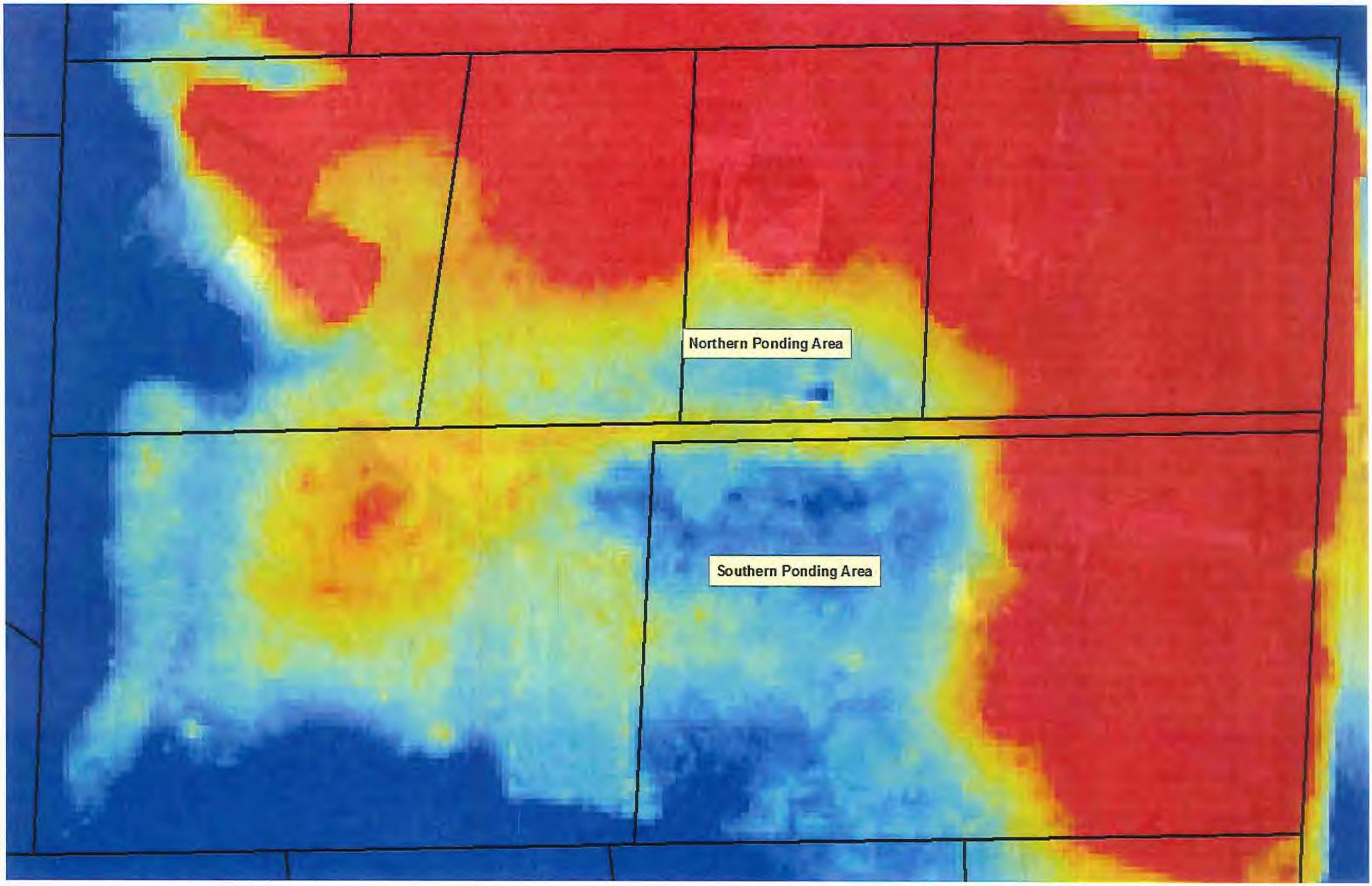
1. The time of concentration values for the Existing Conditions Subcatchment 4S (10 minutes) and Proposed Conditions Subcatchment 4S (10 minutes) are low when considering the flow length, site topography and ground cover.

2. An infiltration rate of 1.6 in/hr was used in the model to reflect infiltration through the planting media of the rainwater gardens. Based on the 50% sand soil mixture identified in the plan set, we recommend using a lower infiltration rate of 0.8 in/hr to provide a more conservative estimate of filtration rates.

3. It appears that the method used to account for infiltration through the planting media and infiltration through native soils below the gravel bed is calculating filtration/infiltration using a surface area larger than appropriate.
    - The exfiltration rate through the planting soil should be assigned an invert elevation slightly below the bottom of the rainwater garden's surface storage area. The infiltrated volume will then be calculated based on the surface area of the ponded water, rather than the combined areas of both the surface storage and the underground gravel bed.
    - The exfiltration rate out of the system (through the native soil below the gravel bed) should be assigned both an invert elevation slightly below the bottom of the gravel bed and a maximum elevation slightly below the bottom of the surface storage area. The infiltrated volume will then be calculated based on the surface area of the gravel bed rather than the combined surface areas of both the gravel bed and surface storage.

4. There is a low depression area on the south side of the property at 5311 Evanswood Lane, which is located just north of the proposed roadway of Berman property. The MnDNR LiDAR elevation data indicates that under existing conditions, stormwater runoff will pool in this low area until an elevation of 946.4 feet MSL, then flow west via surface overflow.

   Review of the grading plan included with the March 18, 2015 submittal (sheet C3.1) indicates that the proposed site design includes a surface overflow between 5311 Evanswood Lane and the Berman property to the west at elevation 945.9 feet MSL, lower than the existing surface overflow (based on MnDNR LiDAR).


Northern Ponding Area
Southern Ponding Area

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engineering and environmental consultants

BARR

Memorandum

To: MIDS Work Group
From: Barr Engineering Company
Subject: Regional Hydrologic Metrics – Curve Numbers (Item 6, Work Order 1)
Date: December 14, 2010
Project: 23/62 1050 MIDS

Standard engineering practice during design of stormwater systems usually employs Curve Number methodology. Curve Number methodology is often required by municipal stormwater ordinance due to its wide and historic acceptance as an appropriate rural and urban hydrologic method. Curve Numbers are determined according to the ground cover and soil type, and are used to approximate the varying infiltration, interception and storage capacities of different land covers. A high Curve Number (such as 98 for impervious pavement) indicates low infiltration/abstraction and high runoff, while a lower Curve Number (such as 30 for certain wooded areas) indicates high infiltration/abstraction and low runoff. The Minnesota Stormwater Manual defines Curve Number as "an index combining hydrologic soil group, land use factors, treatment, and hydrologic condition. Used in a method developed by the SCS to determine the approximate amount of runoff from a rainfall event in a particular area." (MPCA 2005).

History of Curve Number Method

Curve Number methodology as it is now used was developed beginning in the 1950s and updated in the decades since. It is an event-based empirical model developed by the Natural Resources Conservation Service (NRCS) (formerly SCS) based on outflow data collected from relatively uniform agricultural landscapes at a watershed-wide scale, using larger precipitation events and larger flood flows. It was originally developed to estimate stream flow based on calendar day storm/rainfall data. Curve Number methodology forms the theoretical basis for NRCS (formerly SCS) TR-20 and TR-55, where various regions of the nation are assigned varying intensities of design storms and varying recurrence event precipitation totals.

The method was originally developed to calculate the anticipated runoff volume from a watershed and was later adapted to estimate runoff discharge rate. The typical application is to apply a constant, dimensionless Curve Number to calculate runoff volume from rainfall volume. An assumed typical hydrograph (flow as a function of time) and calculated time-of-concentration (the time of flow from the farthest point on the watershed to the outlet) are used to calculate runoff rates. Curve Numbers generally vary from 30 to 98; the higher the Curve Number, the greater the volume of runoff is generated. Table 1 lists Curve Numbers for common Minnesota land covers (NRCS 1986).

Table 1. Curve Numbers for Selected Land Covers[1]

Land Cover	Hydrologic Condition	Curve Numbers for Hydrologic Soil Groups			
		A	B	C	D
Predevelopment[2]					
Woods	Good	30[3]	55	70	77
Prairies, no grazing	Good	30	58	71	78
Developed					
Impervious Surfaces	NA	98	98	98	98
Turfgrass, cover < 50%	Poor	68	79	86	89
Turfgrass, cover < 50 to 75%	Fair	49	69	79	84
Turfgrass, cover > 75%	Good	39	61	74	80
Agricultural					
Fallow, bare soil	NA	77	86	91	94
Fallow, crop residue	Good	74	83	88	90
Row crops, straight row	Good	67	78	85	89
Small grain, straight row	Good	63	75	83	87
Pasture, grazing	Good	39	61	74	80

[1]These Curve Numbers supplied by TR-55 are for Antecedent Runoff Condition II (ARC II).

[2]The Curve Numbers listed for Predevelopment are considered appropriate for native soil and vegetation conditions.

[3]TR-55 specifies a Curve Number for Woods "A" Soils as 30 for runoff calculations, while acknowledging that the actual Curve Number for this condition is lower (unspecified). Minnesota Stormwater Manual lists a presettlement Curve Number of 20 (Table 8.3).

Application of Curve Number Method

The Curve Number for each soil type and land cover dictates the expected maximum storage of the soil, S, where S is in inches.

$$S = \frac{1000}{CN} - 10$$

Abstractions, I_a, (interception, depression storage and evaporation) are generally considered to be 20% of the soil storage.

$$I_a = 0.2 * S$$

Runoff volume is then calculated using the following equation:

$$Q = \frac{(P - I_a)^2}{(P + 0.8 * S)}$$

The runoff calculated in the above equation is then applied to a rainfall frequency distribution to determine the runoff hydrograph. The NRCS method dictates a Type II 24-hour frequency distribution for Minnesota, however, the runoff volume generated can be applied to other storm durations and intensities. Curve Number methodology is even used in conjunction with continuous rainfall data to determine runoff on an annual basis, but as will be discussed later, the applicability of the Curve Number method for small storms is suspect.

Curve Number Method Advantages

The primary reason that Curve Number methodology is popular today is the ease of use (Lamont 2008). It is used in TR-20 and various software models for hydrology estimates, including water quality models (such as P8) to attempt to estimate pollutant loadings and sediment yield, and flood hydrology models (such as HydroCAD). Curve Number methodology is frequently used to estimate peak runoff flow, runoff volume and runoff hydrographs for precipitation events of all sizes. Only limited site data, such as location, soil type, land use and slope are required to complete calculations. The method is believed to be relatively accurate for larger scale planning efforts, such as regional flood storage ponds and other flood control facility sizing.

Other common hydrologic methods, including Green-Ampt and Horton Infiltration methods, do not share the advantage of ease of use, and thus are not used as often as Curve Number methodology in stormwater regulation or by developers in sizing storm sewer systems and rate and volume control stormwater best management practices (BMPs).

Curve Number Method Deficiencies

Despite its advantages and widespread acceptance, the Curve Number method presents certain disadvantages for some modeling and estimating applications. In general, these deficiencies are the result

of the nature of the method's empirical development in large non-urbanized watersheds, in contrast to the differing conditions encountered in urbanized areas. Put simply, the Curve Number method was not originally developed for the urbanized land uses where the method is now most-frequently employed.

Developed for Agricultural, Not Urban Watersheds

Classification of variable urban soils under specific Curve Numbers remains in question. The Curve Number method was developed on uniform agricultural watersheds and later adapted for urban watersheds (Peters 2010). The model performs well on rural landscapes, but was not developed to consider the complexity of a small urban site with many different land covers and BMPs (Reese 2006).

Abstractions

The Curve Number method poorly estimates initial abstraction/losses, as the method was developed focusing on the long-term conditions for daily rainfall. Initial abstraction is calculated as a function of the Curve Number, as $0.2*S$. This does not often account for variation and complexity of smaller, flatter sites and soils within stormwater BMPs. Recent research has suggested that a value of 0.05 or 0.1 may be more appropriate than 0.2 (Reese 2006, Lamont 2008, Eli 2010) and most modeling packages allow the user to adjust this value; however, changing the abstraction value from the standard 0.2 requires the creation of new Curve Numbers for all land cover types and antecedent runoff conditions (Lamont 2008).

The most common application of the method uses a constant Curve Number and antecedent runoff condition (ARC) for an entire precipitation event, although some modeling packages allow the Curve Number to vary with time and ARC. The possible inaccuracy concerning the lack of early-event variation of Curve Number (initial losses, infiltration, etc.) and the inability of the method to account for varying antecedent moisture content are deficiencies of the method (especially for small precipitation and first flush water-quality scale events).

Small Precipitation Events and Continuous Modeling

Curve Number methodology has difficulty accurately determining runoff for small precipitation events (less than 3"), and especially for events less than ½ inch (Peters 2010). In the Twin Cities, storms less than ½ inch account for 65% of all precipitation events greater than 0.1 inches (MPCA 2005 – Appendix B). The method is believed to be more accurate for larger precipitation events.

The method was not originally developed to model snowmelt or continuous rainfall/runoff simulations, nor was it developed to describe the hydrologic communication between rainfall, soil, soil moisture, subsurface flow and stream flow, therefore has severe limitations in being used for these purposes.

Even though it is sometimes used as such, it was not developed to be used for non-point source water quality modeling calculations, such as variable infiltration rates, making a distinction between

disconnected impervious surfaces and pervious surfaces, etc. Modelers have observed inaccurate prediction of runoff volume for small precipitation events, and corresponding inaccurate estimation of pollutant/sediment delivery using this method. Inaccuracy is heightened when only a portion of the real watershed is actually contributing runoff.

Composite Curve Number Deficiencies

A composite Curve Number is the areal-weighted average Curve Number of multiple areas with different Curve Numbers, aggregated into a single area with a single curve number. A distributed method differs from a composite Curve Number in that it separates pervious and impervious areas, calculating their runoff independently to avoid undesired approximations that occur in composite Curve Number calculations. Results differ if a composite Curve Number is used in the calculations or if a distributed approach is used.

Peters calculated that for a theoretical 20-acre, 30% impervious site, and a 1.3-inch rainfall event, using the composite Curve Number approach generated only 30% of the runoff volume that a distributed Curve Number approach would generate (0.17 acre-feet versus 0.55 acre-feet). The distributed Curve Number method is generally more accurate because each land cover type is considered, enhancing the resolution of the analysis (Peters 2010). Employing the composite Curve Number method can lead to inadequate sizing of water quality and rate control stormwater BMPs.

Composite and distributed Curve Number methods generate more similar results for larger storms (5-year, 100-year, etc.); however, when evaluating small storms, composite Curve Numbers for Commercial, Industrial, and varying impervious densities Residential Sites are not recommended for use even though they are listed by the NRCS, in various models, and in Table 8.4 of the Minnesota Stormwater Manual.

References

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CITY OF EDINA

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MEMO

Date: May 13, 2015

To: Planning Commission

From: Cary Teague, Community Development Director

Re: Blake Woods Subdivision

This item was previously continued by the Planning Commission so the applicant could address concerns raised by the engineering department and the Commission in regard to the grading and drainage plan.

The applicant submitted revised plans on May 5, 2015. Engineering staff has reviewed the plans and found them acceptable, subject to the conditions in their attached memo dated May 8, 2015. The applicant is requesting flexibility on conditions 3, 5 and 6, curbing type, the sidewalk, and looping of the water. These are policy decisions to be decided ultimately by the City Council. Should these conditions be revised or eliminated, the proposed grading and drainage plans would not cause any increase in rate or volume to adjacent properties.

Staff continues to recommend approval subject to the conditions outlined in the Planning Commission Staff report dated April 8, 2015 and the engineering memo dated May 5, 2015.

The City has until June 16th, 2015 to take final action on the Preliminary Plat.

Attachments:
Revised plans date stamped May 5, 2015
Revised engineering memo dated May 8, 2015
Planning Commission staff report dated April 8, 2015
Planning Commission minutes from the April 8, 2015 meeting

PLANNING COMMISSION STAFF REPORT

Originator **Cary Teague** **Community Development Director**	Meeting Date **April 8, 2015**	Agenda # **VI.C.**

INFORMATION & BACKGROUND

Project Description

Frank Berman is proposing to combine and subdivide his four properties at 5321 & 5331 Evanswood Lane, and 5320 and 5324 Blake Road into seven lots. (See property location on pages A1–A3.) The existing home at 5331 Evanswood Lane would remain, and the home at 5324 Blake Road would be removed. The other two parcels are vacant.

The applicant proposes to construct a 24-foot wide cul-de-sac off Blake Road within a 40-foot right-of-way. Two lots would access off Evanswood Lane, and the remaining five off the new road. The applicant has attempted to minimize tree loss and address drainage issues in the area by locating the roadway along the north lot line, and the stormwater retension areas along the street. (See applicant narrative and plans on pages A4–A22a and the revised plans on A51-A71.)

This item was continued from the last Planning Commission for the applicant to revise the grading and drainage plan to address concerns raised by the city engineering department. The applicant has revised the plans to address those concerns. (See pages A51-A71.) The engineering department and Barr Engineering, the City's engineering consultant has reviewed the plans and have offered comments with recommendations on pages A35-A50.

To accommodate the request the following is required:

1. Preliminary Plat.

All seven of the proposed lots meet the City's minimum lot size requirements. Minimum lot size, width and depth is determined by the median of all lots within 500 feet of the subject property. Based on the surveyors calculation of the medians, the minimum lot size is 21,842 s.f. in size; 166.4 feet in depth; and 120.8 feet in width. (See attached median calculations on pages A22–A22a) The

engineering department has reviewed the calculations and lot sizes provided by the applicant's surveyor and does find them to be accurate.

Surrounding Land Uses

The lots on all sides of the subject properties are single-family homes, zoned and guided low-density residential.

Existing Site Features

The site is 4.31 acres in size, and contains two single-family homes. The site contains some gradual slopes and mature trees. (See pages A2-A3.)

Planning

Guide Plan designation:	Single-dwelling residential
Zoning:	R-1, Single-dwelling district

Lot Dimensions

	Area	Lot Width	Depth
REQUIRED	**21,842 s.f.**	**120.8 feet**	**166.4 feet**
Lot 1	21,842 s.f.	126.89 feet	169.31 feet
Lot 2	21,910 s.f.	129.00 feet	169.86 feet
Lot 3	21,842 s.f.	124.70 feet	170.72 feet
Lot 4	22,328 s.f.	120.88 feet	166.64 feet
Lot 5	24,822 s.f.	121.83 feet	166.80 feet
Lot 6	30,033 s.f.	191.4 feet	190 feet
Lot 7	21,901 s.f.	128.16 feet	184.18 feet

The proposed subdivision meets all lot dimension requirements. (See median calculations done by a licensed surveyor on pages A22-A22a.)

Grading/Drainage and Utilities

Rather than constructing a traditional stormwater pond within the subdivision, in an effort to save additional trees on the site, the applicant is proposing to

manage stormwater through rain gardens on each lot. (See the revised grading plans on page A60.) The plans are not significantly changed from the original submittal.

The city engineer has reviewed the proposed plans and does have some concern given the existing drainage issues in this neighborhood. (See the engineering memo on pages A35-A38, and Barr Engineering's review on pages A39-A50.) The stormwater system downstream to the west is over capacity. The applicant will be required to meet all minimum Nine Mile Creek Watershed district standards. There shall be no increase in peak rate or volume to neighboring private properties.

Adequate drainage and utility easements are proposed along all the lot lines. A general building pad would be graded at the time the roadway is constructed. Each lot would be custom graded at the time of building permit. The detailed grading plans would be reviewed by the city engineer at the time of building permit application for each lot. A construction management plan will be required for the construction of the new homes. Any approval of the proposed plat would be subject to meeting all the conditions required by engineering in their review memo dated March 30, 2015. (See pages A35-A38.)

When considering the requirements in the engineering memo, the following City Code sections are used:

Sec. 32-106. - Public hearing by council; preliminary approval.

(1) Grant preliminary approval, with or without modification, and without conditions, or with such conditions reasonably related to the purpose and objectives of this chapter, as the council may deem necessary or desirable;

Sec. 32-130. - Considerations.

The planning commission, in reviewing proposed plats and subdivisions and in determining its recommendation to the council, and the council in determining whether to approve or disapprove of any plat or subdivision, may consider, among other matters, the following:

(2) The impact of the proposed plat or subdivision, and proposed development, on the environment, including, but not limited to, topography, steep slopes, vegetation, naturally occurring lakes, ponds and streams, susceptibility of the site to erosion and sedimentation, susceptibility of the site to flooding and water storage needs on and from the site.

(5) The impact of the proposed plat or subdivision, and proposed development on the health, safety and general welfare of the public.

(6) The relationship of the design of the site, or the improvements proposed and the conflict of such design or improvements, with any easements of record or on the ground.

(7) The relationship of lots in the proposed plat or subdivision to existing streets and the adequacy and safety of ingress to and egress from such lots from and to existing streets.

(8) The adequacy of streets in the proposed plat or subdivision, and the conformity with existing and planned streets and highways in surrounding areas. Streets in the proposed plat or subdivision shall be deemed inadequate, if designed or located so as to prevent or deny public street access to adjoining properties, it being the policy of the city to avoid landlocked tracts, parcels or lots.

(11) Whether the physical characteristics of the property, including, without limitation, topography, vegetation, susceptibility to erosion or siltation, susceptibility to flooding, use as a natural recovery and ponding area for stormwater, and potential disturbance of slopes with a grade of 18 percent or more, are such that the property is not suitable for the type of development or use proposed.

(13) Whether the proposed plat or subdivision, or the improvements proposed to be placed thereon are likely to cause substantial environmental damage.

Sec. 32-131. - Additional considerations.

In addition to the foregoing matters, the commission, in connection with its recommendation to the council, and the council in determining whether to approve or disapprove a proposed plat or subdivision, shall specifically and especially consider the following matters:

(1) Whether the proposed plat or subdivision complies with the policies, objectives and goals of the comprehensive plan.

(2) Whether the proposed plat or subdivision complies with chapter 36.

(3) Whether the design of the proposed plat or subdivision, or the design or type of improvements proposed to be placed thereon, may be detrimental to the health, safety or general welfare of the public.

(4) Whether the proposed plat or subdivision conforms to, and complies with, the requirements of applicable state law.

Sec. 32-161. - Developer's agreement.

After preliminary approval has been given to a plat or subdivision, the applicant shall enter into a developer's agreement (herein called the "agreement") with the city, on terms and conditions determined by the city, and shall cause all street, water and sewer improvements required by the planner or engineer, or by the resolution granting preliminary or final approval, **to be completed, pursuant to the agreement and to the city's then standards and specifications for such improvements.**

Sec. 36-1257. - Drainage, retaining walls and site access.

(a) *Drainage.* No person shall obstruct or divert the natural flow of runoff so as to harm the public health, safety or general welfare. Surface water runoff shall be properly conveyed into storm sewers, watercourses, ponding areas or other public facilities. As part of the building permit, the applicant must submit a grading and erosion control plan along with a stormwater management plan that is signed by a licensed professional engineer. The stormwater management plan must detail how stormwater will be controlled to prevent damage to adjacent property and adverse impacts to the public stormwater drainage system. The plans must be approved by the city engineer and the permit holder must adhere to the approved plans.

Street Construction/Sidewalk – Traffic & Safety

The applicant is proposing to construct a cul-de-sac off Blake Road. Five of the proposed lots would access off the cul-de-sac, and two off of Evanswood Lane. (See page A8.) The street would be located generally in the same location as the two existing curb cuts for two homes that are removed. (See page A9.) The cul-de-sac would have a center island that would serve as a rain garden. Both the fire marshal and public works director believe that the center island would be acceptable, as fire trucks and snow plows will be able to adequately access the street and homes on the street.

WSB conducted a traffic study and concluded that the proposed street and additional homes in the area would not have a negative impact on the existing streets in the area. The level of service on the existing streets would not change as a result of the proposal. (See traffic study on pages A23-A31.) WSB examined the existing intersections and spacing along Blake Road, and found that while not ideal, the proposed spacing of the intersections is not a safety concern. The proposed development would generate 58 additional daily trips, 5 in the peak am, and 6 in the peak pm hours. (See page A28.)

With the reduction in the width of the roadway to 24 feet, the applicant shall be required to post one side of the street and the entire cul-de-sac for no parking for a fire lane; additionally residential fire sprinkler protection shall be required for each home subject to approval of the fire marshal. (See memo from the fire marshal dated February 18, 2015 on page A32.)

Per the city's living streets policy, the engineering department is also recommending a 5-foot sidewalk with a 5-foot boulevard to be located within the right-of-way on the south side of the street. (See engineering memo on pages A33-A34, and the living streets sidewalk map and policy on pages A75-A80.) This sidewalk would connect to the existing sidewalk across the street on the east side of Blake Road. (See page A35.)

Tree Removal

With the layout of the subdivision there would be 38 trees removed to accommodate the public street and stormwater retention areas. (See page A13.) The generic building pads and drainage areas would result in an additional 87 trees removed. (See page A12.) Based on the new tree ordinance adopted by the City Council, 80 of these trees would not have to be replaced. Any tree outside of these areas would be required for replacement per the new ordinance. Each lot would be reviewed individually at the time of building permit application to determine compliance with the city's new tree ordinance.

Park Dedication

As with all subdivision proposals, park dedication is required. Edina City Code requires a park dedication fee of $5,000 for each additional lot created. Therefore a park dedication fee of $15,000 would be required for the three additional lots.

Primary Issue

- **Is the proposed subdivision reasonable for the site?**

Yes. Staff believes that the proposed subdivision is reasonable for the following reasons:

1. The proposed subdivision meets all minimum zoning ordinance requirements. As such, the applicant is entitled to subdivide the property, similar to how other large properties in this area were able to subdivide in the past.

2. The applicant has designed a grading and drainage plan in an attempt to save more trees on the site.

3. The applicant has designed a 24-foot wide street, rather than the traditional 27-foot wide street, to reduce impervious surface.

4. Upon compliance with all city and watershed district requirements for grading and drainage, the proposed subdivision would not have a negative impact on adjacent property.

Staff Recommendation

Because the proposed subdivision meets all of Edina's Zoning Ordinance requirements, recommend that the City Council approve the proposed seven lot subdivision.

Approval is based on the following findings:

1. The proposal meets all the required standards and ordinances for a subdivision.

2. The applicant has reduced the width of the road, and minimized the stormwater ponding on the site in an attempt to minimize tree loss.

3. In meeting all city and watershed district requirements for drainage the proposed subdivision would not have a negative impact on adjacent property.

Approval is subject to the following conditions:

1. The City must approve the final plat within one year of preliminary approval or receive a written application for a time extension or the preliminary approval will be void. Final plat shall include a complete grading and drainage plan subject to review and approval of the city engineer.

2. At the time of final plat approval, the applicant shall enter into a Developers Agreement with the City. The Developers Agreement shall include the requirement for construction of the street as proposed, and a sidewalk on the south side of the street as recommended in the engineering memo dated March 30, 2015. The agreement shall also include all the conditions of approval.

3. Prior to release of the final plat, the following items must be submitted:

    a. Park dedication fee of $15,000 must be paid prior to release of the final plat.

b. A construction management plan will be required for the overall development of the site.

c. Submit evidence of a Nine Mile Creek Watershed District approval. The City may require revisions to the preliminary plat to meet the district's requirements.

4. Prior to issuance of a building permit, the following items must be submitted:

   a. Curb-cut permits must be obtained from the Edina engineering department. Driveway plans must be consistent with the proposed grading plan to preserve as many trees as possible.

   b. Individual homes must comply with the overall grading plan for the site. Each individual building permit will be reviewed for compliance with the overall grading plan subject to review and approval of the city engineer.

   c. A construction management plan will be required for the construction of the new homes.

   d. Utility hook-ups are subject to review of the city engineer.

   e. All homes must be constructed with fire sprinkler protection in accordance to NFPA 13d or IRC 2904.

   f. Signage stating "No Parking Fire Lane" along one side of the roadway the entire length of the road, and within the cul-de-sac.

5. Compliance with the conditions outlined in the director of engineering's memo dated March 30, 2015.

6. Compliance with the conditions outlined in the fire marshal's memo dated February 18, 2015.

7. A stop sign is required to be installed on the new street approaching Blake Road. Clear sight lines shall be maintained from the intersection.

8. Compliance with the city's newly adopted tree ordinance.

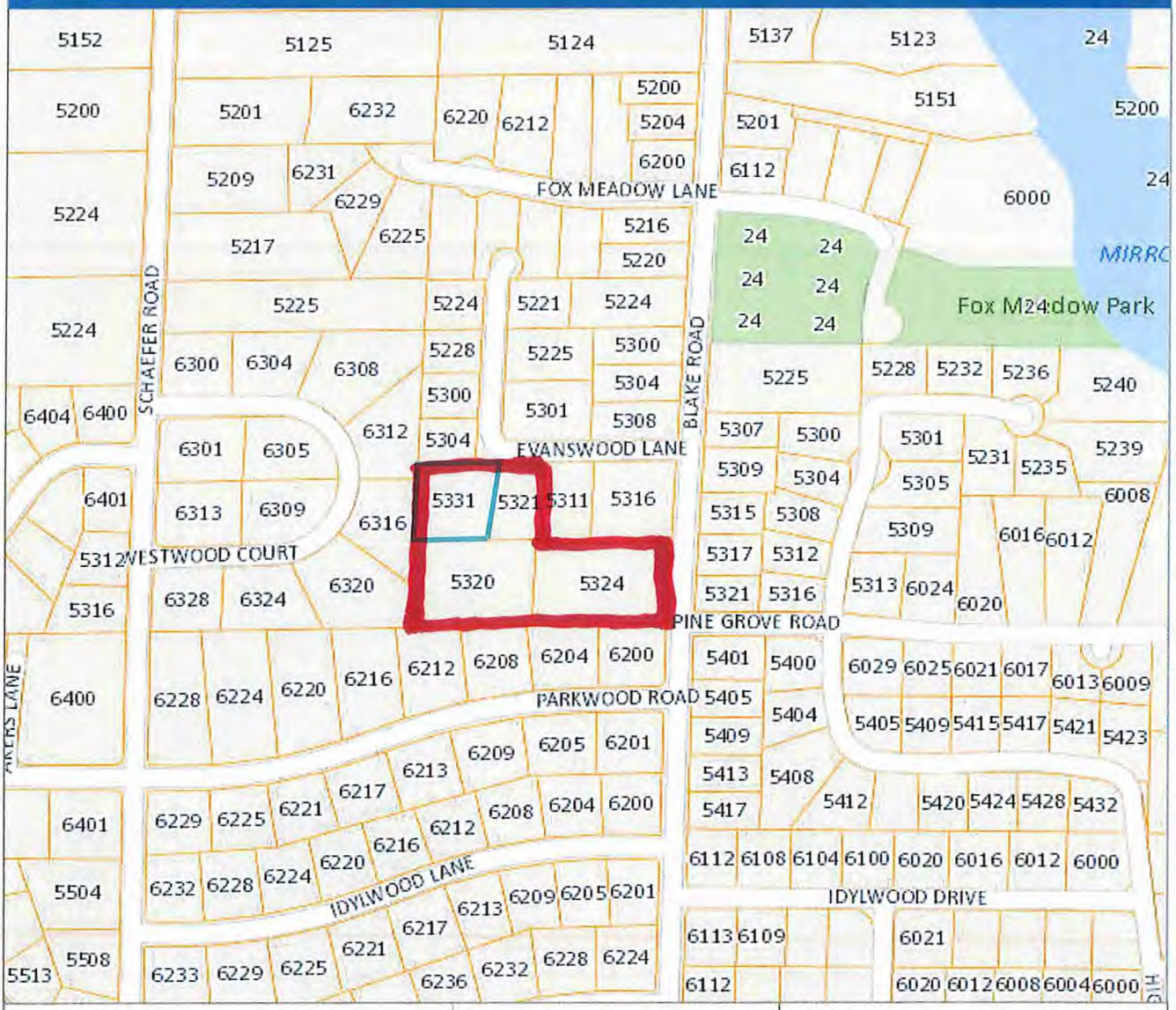
9. Compliance with the city's living streets policy.

Deadline for a City Decision: May 20, 2015

Hennepin

Interactive Maps

Property Map



Parcel ID:	**A-T-B:**	Map Scale: 1" ≈ 400 ft. Print Date: 2/11/2015
Owner Name:	**Market Total:**	
Parcel Address:	**Tax Total:**	
Property Type:	**Sale Price:**	This map is a compilation of data from various sources and is furnished "AS IS" with no representation or warranty expressed or implied, including fitness of any particular purpose, merchantability, or the accuracy and completeness of the information shown.
Home-stead:	**Sale Date:**	
Parcel Area:	**Sale Code:**	COPYRIGHT © HENNEPIN COUNTY 2015

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A1

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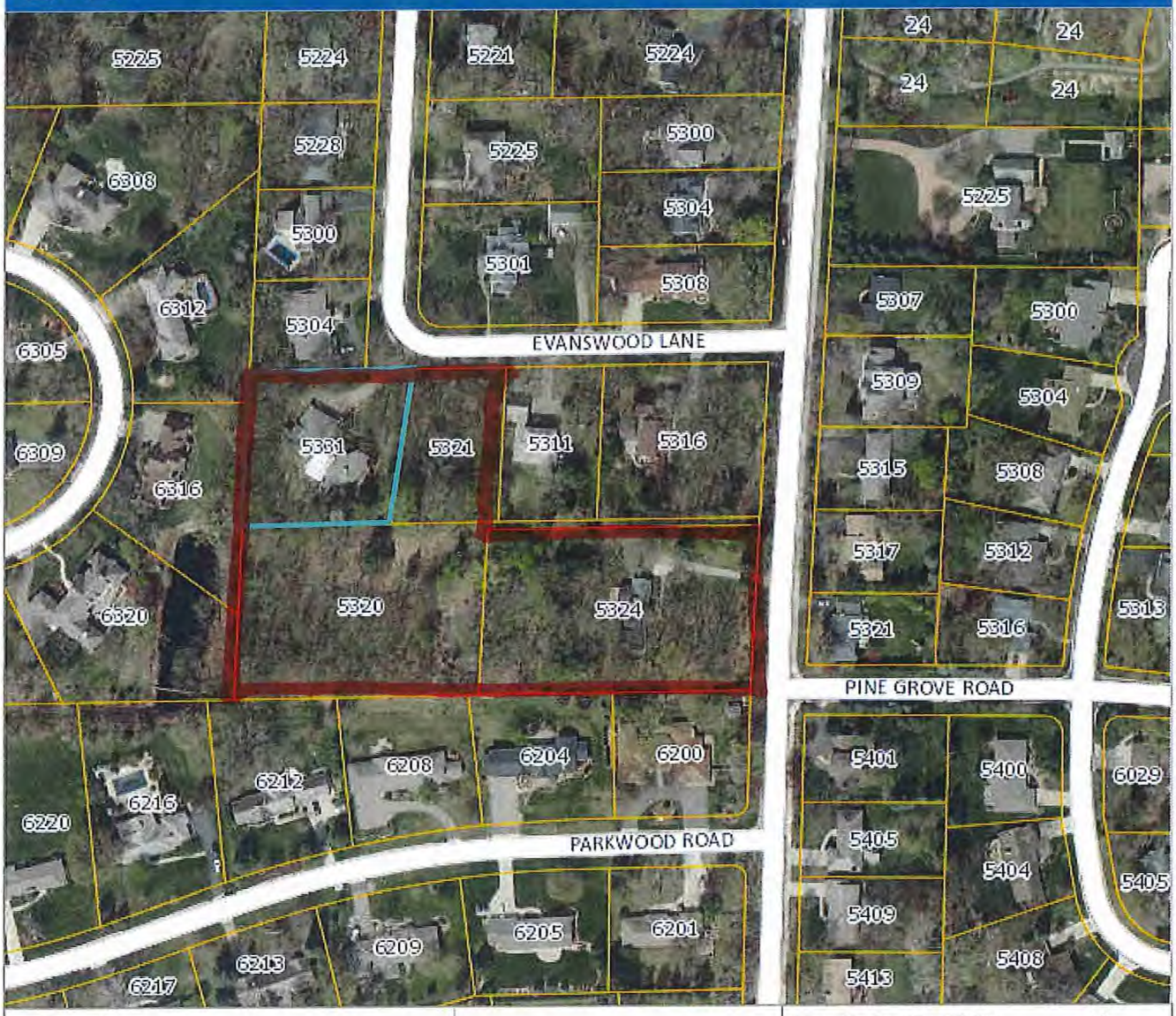
Interactive Maps

Property Map



Parcel ID:		**A-T-B:**	
Owner Name:		**Market Total:**	
Parcel Address:		**Tax Total:**	
Property Type:		**Sale Price:**	
Home-stead:		**Sale Date:**	
Parcel Area:	0.81 acres 35,297 sq ft	**Sale Code:**	

Map Scale: 1" ≈ 200 ft.

Print Date: 2/11/2015

N

This map is a compilation of data from various sources and is furnished "AS IS" with no representation or warranty expressed or implied, including fitness of any particular purpose, merchantability, or the accuracy and completeness of the information shown.

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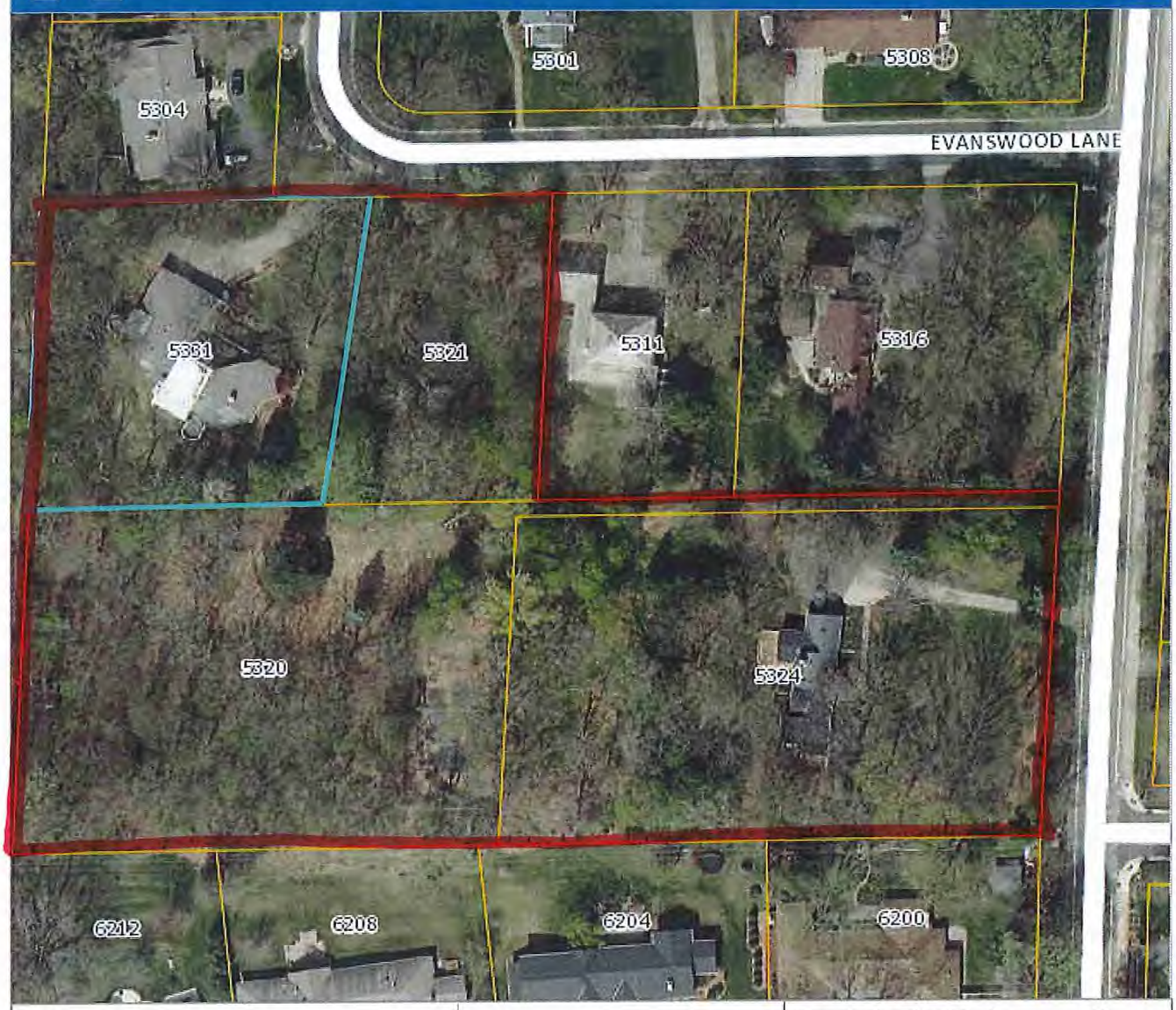
A2

Hennepin Interactive Maps

Property Map



Parcel ID:	**A-T-B:**	Map Scale: 1" ≈ 100 ft. Print Date: 2/11/2015 N
Owner Name:	**Market Total:**	
Parcel Address:	**Tax Total:**	
Property Type:	**Sale Price:**	This map is a compilation of data from various sources and is furnished "AS IS" with no representation or warranty expressed or implied, including fitness of any particular purpose, merchantability, or the accuracy and completeness of the information shown.
Home-stead:	**Sale Date:**	
Parcel Area:	**Sale Code:**	COPYRIGHT © HENNEPIN COUNTY 2015 Think Green!

Applicant Narrative

BLAKE WOODS SUBDIVISION

Edina, MN

APPLICATION FOR PRELIMINARY PLAT

PLANNING DEPARTMENT
JAN 23 2015
CITY OF EDINA

January 23, 2014

LANDFORM
From Site to Finish

A4

INTRODUCTION

On behalf of Frank Berman, Landform is pleased to submit this preliminary plat application to create seven residential lots from four existing lots at Blake Road and Evanswood Lane. We are excited about this environmentally sensitive design and anticipate that it will be a great addtion to the neighborhood.

PRELIMINARY PLAT APPROVAL

Frank Berman is requesting approval of a preliminary plat to subdivide four lots (PID #30-11-72-144-0053, #3011721440052, #30-11-72-144-0008, #30-11-72-144-0009) to create seven lots. Mr. Berman plans to sell the lots for future construction of single-family detached residential dwelling units. There were three homes on these four parcels. One home was removed and two homes—including Mr. Berman's home—remain.

The proposed subdivision is located in the R-1 Zoning District and is guided low-density residential in the Comprehensive Plan. The design team has worked to ensure that plans are consistent with City's zoning standards. The proposed subdivision will help the city achieve its goals of supporting redevelopment opportunities that complement the neighborhood and optimize use of the City's infrastructure.

Lot standards:

Section 36-438 of the Zoning Ordinance establishes a minimum lot size of 9,000 square feet in the R-1 District, but requires that the minimum lot area be calculated by averaging the median lot area, lot width and lot depth of the lots in the surrounding neighborhood. The average median parcel area for surrounding lots is 21,842 sq. ft., the average median lot width is 120.8 ft and the average median lot depth is 166.4 ft. Lot standards for the proposed subdivision comply with the lot standards as defined in Chapter 36 and referenced in Section 32-73.

Transportation:

We are proposing a 24 foot road in a 40 foot wide right-of-way that will provide access to the proposed lots, connect with existing infrastructure, and minimize tree loss. This new road will replace the two existing curb cuts (one for the existing home and one for the driveway easement for the home that was removed). It is anticipated that the additional seven lots will generate minimal traffic on surrounding roads. The subdivision application requires that a traffic analysis be performed. We request that the study be initiated to fulfill this requirement.

PLANNING DEPARTMENT
JAN 23 2015
CITY OF EDINA

Tree preservation:

The landowners plan to remain in their home, so preserving trees is a priority for them. The proposed lots have been designed to maximize the preservation of trees on the site. The tree survey shows that 82.6% of trees have been saved. The proposed street was aligned along the north edge of proposed Lots 1-5, where the fewest number of trees would be removed. This is the location of the existing driveway easement that served the previous home on the site. Building area and driveway placement are sited to meet setback standards and to remove the fewest number of trees. Trees coverage will remain largely intact along the southern edge of proposed Lots 1-5.

Stormwater management:

Stormwater management is a critical part of the proposed design. In order to preserve as many trees as possible, stormwater will be managed using rain gardens on each lot. Each lot will provide easement access to the rain garden and homeowners will be required to maintain the rain gardens using appropriate plantings and best management strategies.

SUMMARY

We respectfully request approval of a preliminary plat application for the creation of seven lots and associated infrastructure at Blake Road and Evanswood Lane in Edina, MN. We look forward to receiving feedback on the proposed design from the neighborhood on February 3, 2015 and presenting plans to both the Planning Commission on February 25, 2015 and to the City Council on March 17, 2015.

CONTACT INFORMATION

This document was prepared by:
Mary Matze, Planner
Landform
105 South Fifth Street, Suite 513
Minneapolis, MN 55330

Any additional questions regarding this application can be directed to Reid Schulz at rschulz@landform.net or 612.638.0245.

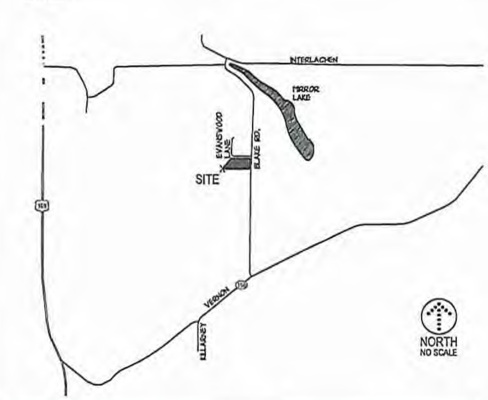
PLANNING DEPARTMENT
JAN 23 2015
CITY OF EDINA

BLAKE WOODS

EDINA, MN

AREA LOCATION MAP

EDINA, MN



ABBREVIATIONS

D	Angle
&	And
@	At
100 YR.	100 Year Flood Elevation
A.B.	Anchor Bolt
A.D.	Area Drain
A/C	Air Conditioning Unit
ADD.	Addendum
ADDL.	Additional
ADJ.	Adjacent / Adjust
AHU	Air Handling Unit
ALT.	Alternate
ALUM.	Aluminum
ANOD.	Anodized
APPROX.	Approximate
ARCH	Architect / Architectural
AUTO.	Automatic
AVG.	Average
B.C.	Back of Curb
B/W	Bottom of Wall
BFE	Basement Floor Elevation
BIT	Bituminous (Asphaltic)
BLDG	Building
BSMT.	Basement
C.F.	Cubic Feet
C.F.S.	Cubic Feet Per Second
C.G.	Corner Guard
C.J.	Control Joint
C.L.	Centerline
C.M.U.	Concrete Masonry Unit
C.O.	Cleanout
C.O.E.	U.S. Army Corps Of Engineers
C.Y.	Cubic Yards
CB	Catch Basin
CBMH	Catch Basin Manhole
CEM.	Cement
CIP	Cast Iron Pipe
CMP	Corrugated Metal Pipe
CONC.	Concrete (Portland)
CONN.	Connection
CONST.	Construction
CONT.	Continuous
CONTR.	Contractor
COP.	Copper
CU.	Cubic
D.S.	Down Spout
DEG.	Degree
DEMO.	Demolition / Demolish
DEPT.	Department
DET.	Detail
DIA.	Diameter
DIAG.	Diagonal
DIM.	Dimension
DIP	Ductile Iron Pipe
DN	Down
DWG.	Drawing
E.	East
E.J.	Expansion Joint
E.O.F.	Emergency Overflow
E.O.S.	Emergency Overflow Swale
E.W.	Each Way
EA.	Each
EL.	Elevation
ELEC.	Electrical
ELEV.	Elevation
EMER.	Emergency
ENGR.	Engineer
ENTR.	Entrance
E.O.	Emergency Overflow
EQ.	Equal
EQUIP.	Equipment
EQUIV.	Equivalent
EXIST.	Existing
EXP.	Expansion
F & I	Furnish and Install
F.B.O.	Furnished by Others
F.C.	Face of Curb
F.D.	Floor Drain
F.D.C.	Fire Department Connection
F.V.	Field Verify
FB	Full Basement
FBWO	Full Basement Walk Out
FBLO	Full Basement Look Out
FDN.	Foundation
FES	Flared End Section
FFE	Finished Floor Elevation
FLR.	Floor
FT. OR (')	Foot
FUT.	Future
G.B.	Grade Break
G.C.	General Contractor
GAL.	Gallon
GALV.	Galvanized
GFE	Garage Floor Elevation
GL.	Glass
GR.	Grade
H.	Height
H.P.	High Point
HDPEP	High Density Polyethylene Pipe
HGT.	Height
HORIZ.	Horizontal
HVAC	Heating, Ventilation, Air Conditioning
HYD	Hydrant
I.D.	Inside Dimension
I.E. or IE	Invert Elevation
IN. OR (")	Inches
INFO.	Information
INL.	Inlet Elevation
INSUL.	Insulation
INV.	Invert Elevation
JT.	Joint
L.F.	Lineal Feet
L.P.	Low Point / Liquid Petroleum
LB.	Pound
LGU	Local Government Unit
LONG.	Longitudinal
LT.	Light / Lighting
MAINT.	Maintenance
MAS.	Masonry
MATL.	Material
MAX.	Maximum
MECH	Mechanical
MED.	Medium
MFR.	Manufacturer
MH	Manhole
MIN.	Minimum / Minute
MISC.	Miscellaneous
MNDOT	Minnesota Department Of Transportation
MOD.	Module / Modular
MUL.	Mullion
N.	North
N.I.C.	Not In Contract
NO. OR #	Number
NOM	Nominal
NTS	Not to Scale
NWE	Normal Water Elevation
NWL	Normal Water Level
O.C.	On Center
O.D.	Outside Dimension
O.E.	Overhead Electric
OH.	Overhead
OHWL	Ordinary High Water Level
OPNG.	Opening
ORIG.	Original
P.C.	Point of Curvature
P.I.	Point of Intersection
PIV	Post Indicator Valve
P.L. OR P/L	Property Line
P.O.B.	Point of Beginning
P.S.F.	Pounds Per Square Foot
P.S.I.	Pounds Per Square Inch
P.T.	Point of Tangency
P.V.C.	Point of Vertical Curvature
P.V.I.	Point of Vertical Intersection
P.V.T.	Point of Vertical Tangency
PE	Polyethylene
PED.	Pedestal / Pedestrian
PERF.	Perforated
PREP.	Preparation
PROJ.	Project
PROP.	Proposed
PVC	Poly-Vinyl-Chloride (Piping)
PVMT.	Pavement
QTR.	Quarter
QTY.	Quantity
R	Radius
RAD.	Radius
R.D.	Roof Drain
RE	Rim Elevation (Casting)
R.E.	Remove Existing
R.O.	Rough Opening
R.P.	Radius Point
RCP	Reinforced Concrete Pipe
R.S.	Rough Slab
RSD	Roof Storm Drain
RE.	Regarding
REINF.	Reinforced
REQD	Required
REV.	Revision / Revised
RGU	Regulatory Government Unit
ROW OR R/W	Right of Way
S.	South
S.F.	Square Feet
SAN.	Sanitary Sewer
SECT.	Section
SE	Side Exit
SEWO	Side Exit Walk Out
SHT.	Sheet
SIM.	Similar
SLNT.	Sealant
SPEC.	Specification
SQ.	Square
SSD	Subsurface drain
STMH	Storm Sewer Manhole
STD.	Standard
STRUCT.	Structural
SYM.	Symmetrical
T	Thickness
T/R	Top of Rim
T/W	Top of Wall
TEMP.	Temporary
THK.	Thick / Thickness
T.J.	Tooled Joint
TNH	Top Nut Hydrant
TYP.	Typical
U.N.O.	Unless Noted Otherwise
V.B.	Vapor Barrier
V.C.	Vertical Curve
V.I.F.	Verify In Field
VER.	Verify
VERT.	Vertical
VEST.	Vestibule
W	Width
W.PT.	Working Point
W.W.F.	Welded Wire Fabric
W/	With
W/O	Without
WO	Walk Out
WETL.	Wetland
WP	Waterproof
WT.	Weight
YD.	Yard

SYMBOLS

EXISTING	DESCRIPTION	NEW	DESCRIPTION
120	MAJOR CONTOUR	120	MAJOR CONTOUR
123	MINOR CONTOUR	123	MINOR CONTOUR
×123.45	SPOT ELEVATION	×123.45	SPOT ELEVATION
	BUILDING		BUILDING
	CANOPY / OVERHANG		CANOPY/OVERHANG
	CONCRETE		UNDERGROUND STRUCTURE
	BITUMINOUS		CONCRETE
	LANDSCAPING		CONCRETE CURB
	GRAVEL		EDGE OF PAVEMENT
	PAVING BLOCK		FENCING
	PAVING BLOCK		GUARD RAIL
12"STS	STORM SEWER LINE		CONCRETE RETAINING WALL
8"SAN	SANITARY SEWER LINE		MODULAR RETAINING WALL
6"WTR	WATER MAIN		FIELDSTONE RETAINING WALL
OE	OVERHEAD ELECTRIC		EXIT LOCATION
UT	UNDERGROUND TELEPHONE		LIGHT STANDARD
UE	UNDERGROUND ELECTRIC		POWER POLE
G	GAS LINE	1.00%	SLOPE DIRECTION
	CONCRETE CURB		CATCH BASIN
HEIGHT, TYPE	FENCING		MANHOLE
	RETAINING WALL		BOLLARD
	SET 1/2" X 14" IRON PIPE	12"STS FES RIPRAP	STORM SEWER
	IRON MONUMENT FOUND	8"SAN	SANITARY SEWER-WASTE
	SURVEY DISK (BENCHMARK)	6"FM	FORCE MAIN
	POWERPOLE	6"RD	ROOF DRAIN SYSTEM
	GUY WIRE	GATE VALVE 8"WTR HYD	WATERMAIN
	GUARD POST	6"FIRE	FIRE LINE (IF SEPARATE)
GM	GAS METER	BLDG.	FIRE DEPT. CONNECTION
T	TRANSFORMER	C.O. X"SSD	SOIL SUBDRAIN
	WATER SHUT-OFF VALVE	GAS	GAS LINE-UNDERGROUND
	TRAFFIC SIGN	ELEC	ELECTRIC-UNDERGROUND
	FLAG POLE	TELE	TELEPHONE-UNDERGROUND
LT	LIGHT POLE	CATV	UNDERGROUND CABLE/TV
	TREES	LSS	LAWN SPRINKLER SLEEVE
	TREE LINE		
	MANHOLE		
	CATCH BASIN		
	FIRE HYDRANT		
	WATER VALVE		
	FLARED END SECTION		
MB	MAILBOX		
1	NOTE NUMBER		
(M)	MEASURED DISTANCE		
(P)	DISTANCE PER RECORDED PLAT		
B-X	SOIL BORING		

EROSION CONTROL SYMBOLS

SYMBOL	DESCRIPTION
	SEDIMENT CONTROL FENCE
CB	INLET PROTECTION

DRAWING SYMBOLS

SYMBOL	DESCRIPTION
3	NOTE REFERENCE
12	PARKING STALL COUNT
C7.3 / 1	LARGE SHEET DETAIL
C21	COORDINATE POINT
2	REVISION – ADDENDUM, BULLETIN, ETC.
	REVISED AREA (THIS ISSUE)

LEGAL DESCRIPTION

LOT 1 AND LOT 2, BLOCK 1, ZUPPKEWOOD, ACCORDING TO THE RECORDED PLAT THEREOF, HENNEPIN COUNTY, MINNESOTA

AND

LOT 46 AND LOT 47, AUDITORS SUBDIVISION NO. 325, ACCORDING TO THE RECORDED PLAT THEREOF, HENNEPIN COUNTY, MINNESOTA.

BENCHMARK

TOP NUT OF FIRE HYDRANT IN BETWEEN 5309 & 5315 BLAKE ROAD SOUTH
ELEVATION = 949.09
(NGVD 1929)

PLANNING DEPARTMENT
JAN 23 2015
CITY OF EDINA

OWNER

FRANK BERMAN
5331 EVANSWOOD LANE
EDINA, MN 55436
TEL (612)770-5239

CIVIL SHEET INDEX

SHEET NO.	DESCRIPTION
C0.1	CIVIL TITLE SHEET
C0.2	PRELIMINARY PLAT
C1.1	EXISTING CONDITIONS
C1.2	DEMOLITION
C2.1	SITE PLAN
C3.1	GRADING, DRAINAGE & EROSION CONTROL
C4.1	UTILITIES
C6.1	STREET PLAN AND PROFILE
C7.1	CIVIL CONSTRUCTION DETAILS
C7.2	CIVIL CONSTRUCTION DETAILS
C7.3	CIVIL CONSTRUCTION DETAILS
C7.4	CIVIL CONSTRUCTION DETAILS
L1.1	TREE PRESERVATION PLAN
L1.2	TREE PRESERVATION TABLE
L2.1	LANDSCAPE PLAN
L7.1	LANDSCAPE DETAILS

SITE/UTILITY CONTACTS

BUILDING INSPECTIONS
CITY OF EDINA
4801 W. 50TH STREET
EDINA, MN 55424
DAVID FISHER
CHIEF BUILDING OFFICIAL
DFISHER@EDINAMN.GOV
TEL: 952-826-0450
FAX:

CITY PLANNER
CITY OF EDINA
4801 W. 50TH STREET
EDINA, MN 55424
CARY TEAGUE
COMMUNITY DEVELOPMENT DIRECTOR
CTEAGUE@EDINAMN.GOV
TEL: 952-826-0460
FAX: 952-826-0389

GAS
CENTERPOINT ENERGY
800 LASALLE AVENUE
P.O. BOX 59038
MINNEAPOLIS, MN 55459
TEL: 612-321-4939
FAX:

PUBLIC WORKS
CITY OF EDINA
7450 METRO BLVD.
EDINA, MN 55424
TEL: 952-826-0371
FAX:

ELECTRIC
XCEL ENERGY
414 NICOLLET MALL
MINNEAPOLIS, MN 55401
TEL: 800-895-4999
FAX:

TELEPHONE
CENTURYLINK
200 S. 5TH STREET
MINNEAPOLIS, MN 55402
TEL: 877-744-4416
FAX:

CABLE
COMCAST
300 S 6TH ST
MINNEAPOLIS, MN 55487
TEL: 763-219-4139
FAX:

FRANK BERMAN
5331 EVANSWOOD LANE
EDINA, MN 55436
TEL (612)770-5239

MUNICIPALITY

PROJECT

BLAKE WOODS SUBDIVISION
EDINA, MN

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C4.1	UTILITIES
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REVISION HISTORY

CONTACT ENGINEER FOR ANY PRIOR HISTORY

DATE	REVISION	REVIEW
23 JAN 2015	PRELIMINARY PLAT SUBMITTAL	CHC

PROJECT MANAGER REVIEW

BY RS DATE 12/23/2014

CERTIFICATION

PRELIMINARY NOT FOR CONSTRUCTION

IF THE SIGNATURE, SEAL OR FOUR LINES DIRECTLY ABOVE ARE NOT VISIBLE, THIS SHEET HAS BEEN REPRODUCED BEYOND INTENDED READABILITY AND IS NO LONGER A VALID DOCUMENT. PLEASE CONTACT THE ENGINEER TO REQUEST ADDITIONAL DOCUMENTS.

PRELIMINARY PLAT
01/23/2015

LANDFORM
From Site to Finish

105 South Fifth Avenue Tel: 612-252-9070
Suite 513 Fax: 612-252-9077
Minneapolis, MN 55401 Web: landform.net

FILE NAME C001ZZZ317.DWG

PROJECT NO. ZZZ14317

CIVIL TITLE SHEET
C0.1

SHEET NO. 1/16

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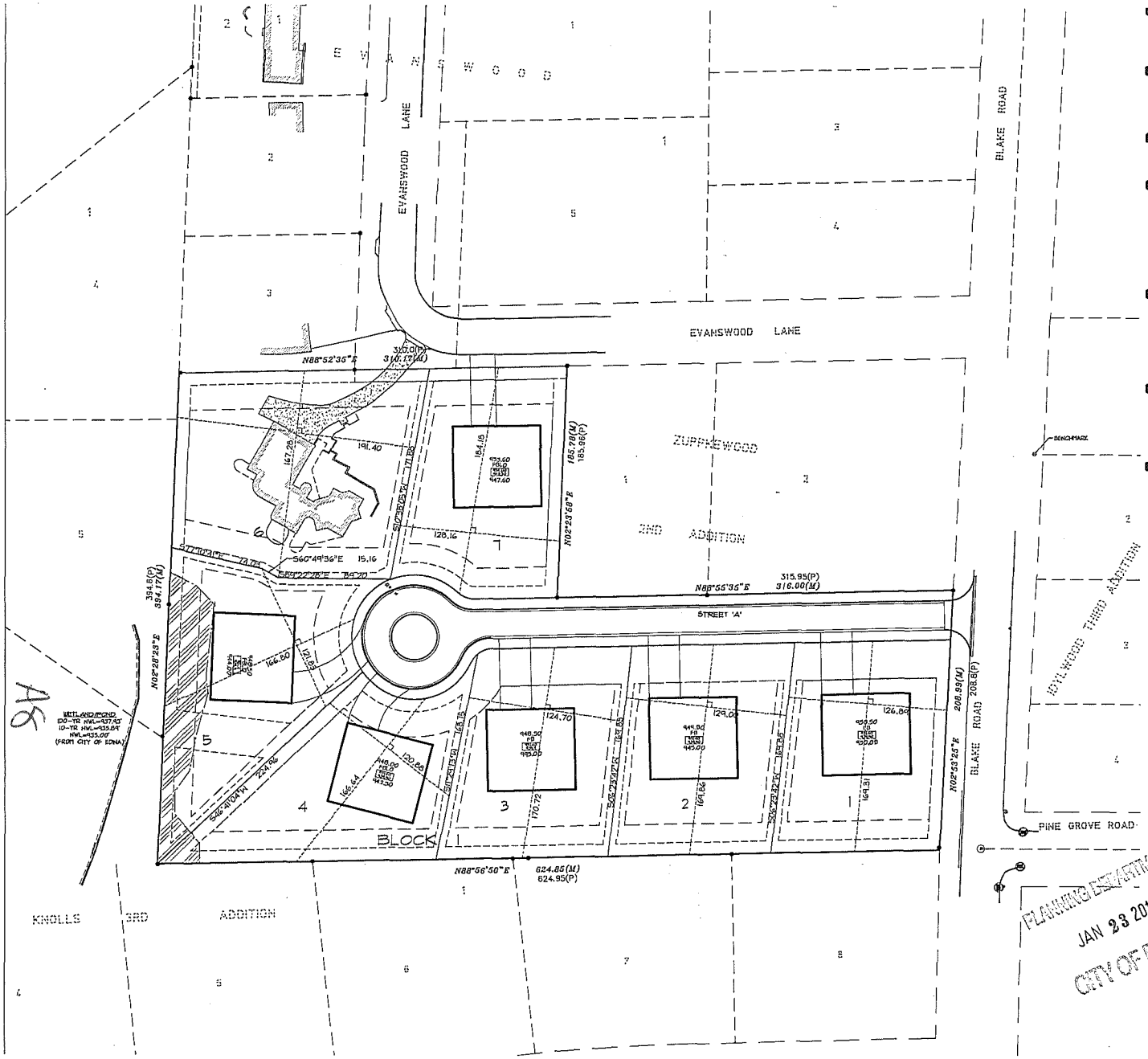

BENCHMARK

TOP NUT OF FIRE HYDRANT IN BETWEEN 5309 & 5315 BLAKE ROAD SOUTH
ELEVATION = 944.04
(NGVD 1929)

SITE SUMMARY

TOTAL NUMBER OF LOTS:	7 LOTS
TOTAL PLATTED AREA:	4.31 ACRES
PROPOSED RIGHT-OF-WAY:	0.59 ACRES

ZONING

THE PROPERTY IS CURRENTLY ZONED R1-SINGLE FAMILY

SETBACK SUMMARY

BUILDING SETBACK INFORMATION IS AS FOLLOWS:
FRONT YARD = 30 FT.
REAR = 25 FT.
SIDE = 10 FT.

LOT COVERAGE INFORMATION IS AS FOLLOWS:
LOT AREA MINIMUM = 21,042 SF
LOT WIDTH MINIMUM = 120.0'
LOT DEPTH MINIMUM = 164.4'
MAX. BUILDING COVERAGE = 25%

REFER TO DETAIL 1, SHEET C2.1 FOR TYPICAL LOT SETBACK, DRAINAGE, AND UTILITY EASEMENT DIMENSIONS.

PROPOSED LOT AREAS

LOT 1, BLOCK 1, BERMAN ADDITION	-21,842 SQ. FT.	0.501 ACRES
LOT 2, BLOCK 1, BERMAN ADDITION	-21,910 SQ. FT.	0.503 ACRES
LOT 3, BLOCK 1, BERMAN ADDITION	-21,842 SQ. FT.	0.501 ACRES
LOT 4, BLOCK 1, BERMAN ADDITION	-22,370 SQ. FT.	0.513 ACRES
LOT 5, BLOCK 1, BERMAN ADDITION	-24,022 SQ. FT.	0.551 ACRES
LOT 6, BLOCK 1, BERMAN ADDITION	-30,033 SQ. FT.	0.689 ACRES
LOT 7, BLOCK 1, BERMAN ADDITION	-21,901 SQ. FT.	0.503 ACRES
RIGHT-OF-WAY DEDICATION	-23,170 SQ. FT.	0.532 ACRES
TOTAL	-187,937 SQ. FT.	4.31 ACRES

LEGAL DESCRIPTION

LOT 1 AND LOT 2 BLOCK 1, ZUPPKEWOOD, ACCORDING TO THE RECORDED PLAT THEREOF, HENNEPIN COUNTY, MINNESOTA

AND

LOT 46 AND LOT 47, AUDITORS SUBDIVISION NO. 325, ACCORDING TO THE RECORDED PLAT THEREOF, HENNEPIN COUNTY, MINNESOTA.

SURVEY NOTE

BACKGROUND INFORMATION SHOWN IS FROM SURVEY BY WESTWOOD PROFESSIONAL SERVICES ON FEBRUARY 7TH, 2014, EXPRESSLY FOR THIS PROJECT, CITY OF EDINA, MINNESOTA RECORD DRAWINGS, AND UTILITY SERVICE PROVIDERS. LANDFORM OFFERS NO WARRANTY, EXPRESSED OR WRITTEN, FOR INFORMATION PROVIDED BY OTHERS. EXISTING PROJECT CONDITIONS SHALL BE VERIFIED PRIOR TO BEGINNING CONSTRUCTION. ERRORS, INCONSISTENCIES, OR OMISSIONS DISCOVERED SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.

OWNER

FRANK BERMAN
5301 EVANSWOOD LANE
EDINA, MN 55436
TEL (952)779-5229

MUNICIPALITY

CITY OF EDINA, MINNESOTA

PROJECT

BLAKE WOODS SUBDIVISION
EDINA, MN

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REVISION HISTORY

CONTACT MORTON DYKAN ENGINEERING

DATE	REVISION	REVISED
23 JAN 2015	PRELIMINARY PLAT SUBMITTAL	CMD

PROJECT MANAGER REVIEW

BY: DATE: (2/23/2014)

CERTIFICATION

PRELIMINARY NOT FOR CONSTRUCTION

IF THE SIGNATURE, SEAL OR STAMP IS NOT DIRECTLY ADJACENT TO THE SHEET, THE SHEET HAS BEEN REPRODUCED WITHOUT THE AUTHORITY OF THE ENGINEER. IF THE SHEET IS A PDF DOCUMENT, PLEASE CONTACT THE ENGINEER TO REQUEST ADDITIONAL DOCUMENTS.

PRELIMINARY PLAT
01/23/2015

LANDFORM
From Site to Finish

105 South Fifth Avenue
Suite 513
Minneapolis, MN 55401
Tel: 612-252-0070
Fax: 612-252-0077
Web: landform.net

FILE NAME C002ZZZZ317
PROJECT NO. ZZZ14317

PRELIMINARY PLAT
C0.2
SHEET NO. 2/16

PLANNING DEPARTMENT
JAN 23 2015
CITY OF EDINA

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NORTH
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EXISTING CONDITIONS

1. BACKGROUND INFORMATION SHOWN IS FROM SURVEY BY WESTWOOD PROFESSIONAL SERVICES ON DECEMBER 22ND, 2014, EXPRESSLY FOR THIS PROJECT; CITY OF EDINA, MINNESOTA RECORD DRAWINGS; AND UTILITY SERVICE PROVIDERS. LANDFORM OFFERS NO WARRANTY, EXPRESSED OR WRITTEN, FOR INFORMATION PROVIDED BY OTHERS. EXISTING PROJECT CONDITIONS SHALL BE VERIFIED PRIOR TO BEGINNING CONSTRUCTION. ERRORS, INCONSISTENCIES, OR OMISSIONS DISCOVERED SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.

PLANNING DEPARTMENT
JAN 23 2015
CITY OF EDINA

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NORTH

0 40 80

OWNER

FRANK BERMAN
5331 EVANSWOOD LANE
EDINA, MN 55436
TEL (612)715-1226

MUNICIPALITY

PROJECT

BLAKE WOODS SUBDIVISION
EDINA, MN

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REVISION HISTORY

CONTACT LANDFORM FOR ANY INFORMATION

DATE	REVISION	REVISED BY
23 JAN 2015	PRELIMINARY PLAT SUBMITTAL	CNC

PROJECT MANAGER REVIEW

REVIEW DATE (CONTROL)

CERTIFICATION

PRELIMINARY NOT FOR CONSTRUCTION

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PRELIMINARY PLAT
01/23/2015

LANDFORM
From Site to Finish
105 South Fifth Avenue
Suite 513
Minneapolis, MN 55401
Tel: 612-252-0070
Fax: 612-252-0077
Web: landform.net

FILE NAME C101ZZZ317
PROJECT NO. ZZZ14317

EXISTING CONDITIONS
C1.1
SHEET NO. 3/18

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EXISTING CONDITIONS

1. BACKGROUND INFORMATION SHOWN IS FROM SURVEY BY WESTWOOD PROFESSIONAL SERVICES ON FEBRUARY 7TH, 2014, EXPRESSLY FOR THIS PROJECT; CITY OF EDINA, MINNESOTA RECORD DRAWINGS; AND UTILITY SERVICE PROVIDERS. LANDFORM OFFERS NO WARRANTY, EXPRESSED OR WRITTEN, FOR INFORMATION PROVIDED BY OTHERS. EXISTING PROJECT CONDITIONS SHALL BE VERIFIED PRIOR TO BEGINNING CONSTRUCTION. ERRORS, INCONSISTENCIES, OR OMISSIONS DISCOVERED SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.

DEMOLITION AND CLEARING NOTES

2. OBTAIN PERMITS FOR DEMOLITION, CLEARING, AND DISPOSAL PRIOR TO BEGINNING.
3. CONTACT UTILITY SERVICE PROVIDERS FOR FIELD LOCATION OF SERVICES 72 HOURS PRIOR TO BEGINNING DEMOLITION AND CLEARING.
4. SEE SHEET C3.1 FOR EROSION PREVENTION AND SEDIMENT CONTROL MEASURES THAT MUST BE IN PLACE PRIOR TO DISTURBANCES TO SITE.
5. BUILDING DEMOLITION: VERIFY WITH OWNER THAT BUILDING HAS BEEN CLEARED OF REGULATED MATERIALS REQUIRING SPECIAL HANDLING OR DISPOSAL. REMOVE STRUCTURE, CEILING, CANOPIES, FOOTINGS, FOUNDATIONS, AND ANY ASSOCIATED CONSTRUCTION IN ITS ENTIRETY.
6. DIMENSIONS SHOWN FOR REMOVAL ARE APPROXIMATE. COORDINATE WITH NEW CONSTRUCTION TO ENSURE APPROPRIATE REMOVAL OF EXISTING FACILITIES.
7. REFER TO DETAILS FOR PAVEMENT SAWCUT. REMOVE CONCRETE WALKS AND CURBING TO THE NEAREST EXISTING JOINT BEYOND CONSTRUCTION LIMITS.
8. COMPLETE DEMOLITION WITH MINIMAL DISRUPTION OF TRAFFIC. COORDINATE LANE CLOSURES WITH THE CITY OF EDINA AND PROVIDE ADVANCE NOTIFICATION TO AFFECTED EMERGENCY RESPONSE PROVIDERS.

   PROVIDE BARRICADES, LIGHTS, SIGNS, TRAFFIC CONTROL, AND OTHER MEASURES NECESSARY FOR PROTECTION AND SAFETY OF THE PUBLIC AND MAINTAIN THROUGHOUT CONSTRUCTION.
10. PROTECT STRUCTURES, UTILITIES, TREES, PLANT MATERIAL, SOD, AND ADJACENT PROPERTY FROM DAMAGE DURING CONSTRUCTION UNLESS NOTED FOR REMOVAL. DAMAGE SHALL BE REPAIRED TO EQUAL OR BETTER CONDITION AT NO ADDITIONAL COST.
11. VERIFY THE SITE IS FREE OF EXISTING WELLS AND ON SITE SEWAGE FACILITIES PRIOR TO ANY OTHER DEMOLITION, ABANDON AND REMOVE FACILITIES IN ACCORDANCE WITH REQUIREMENTS OF REGULATORY AUTHORITIES.
12. REMOVE TREES NOTED, INCLUDING ROOT STRUCTURES, FROM THE SITE. COORDINATE WITH ENGINEER TO MARK TREES TO BE SAVED OR TRANSPLANTED PRIOR TO CLEARING.
13. REFER TO SHEET L1.1 FOR TREE TYPES AND SIZES

    REMOVE EXISTING SITE FEATURES INCLUDING, BUT NOT LISTED TO, UNDERGROUND UTILITIES, PAVING, CURBING, WALKWAYS, FENCING, RETAINING WALLS, APRONS, LIGHTING, RELATED FOUNDATIONS, SIGNAGE, LANDSCAPING, AND STAIRWAYS WITHIN THE CONSTRUCTION LIMITS UNLESS NOTED OTHERWISE.

    COORDINATE REMOVAL, RELOCATION, TERMINATION, AND RE-USE OF EXISTING PRIVATE UTILITY SERVICES AND APPURTENANCES WITH THE UTILITY COMPANIES. RESTORE ELECTRIC HANDHOLES, PULLBOXES, POWERPOLES, CUPOLAS, AND STRUCTURES DISTURBED BY CONSTRUCTION IN ACCORDANCE WITH UTILITY OWNER REQUIREMENTS.
16. EXISTING PIPING AND CONDUITS MAY BE ABANDONED IN-PLACE IF FILLED WITH SAND AND IF NOT IN LOCATION OF PROPOSED BUILDING OR IN CONFLICT WITH PROPOSED UTILITIES OR STRUCTURES. TERMINATE EXISTING SERVICES AT THE SUPPLY SIDE IN CONFORMANCE WITH PROVIDER'S STANDARDS.
17. HAUL DEMOLITION DEBRIS OFF-SITE TO A FACILITY APPROVED BY REGULATORY AUTHORITIES FOR THE HANDLING OF DEMOLITION DEBRIS, UNLESS NOTED OTHERWISE.
18. COORDINATE RELOCATION OF PUBLIC RIGHT-OF-WAY SIGNAGE WITH CITY OF EDINA.
19. INSTALL TREE PROTECTION FENCING PRIOR TO STARTING OTHER WORK. REMOVE TREE PROTECTION FENCING AFTER SITE IS STABILIZED

LEGEND

- TREE REMOVAL – REFER TO SHEET L1.1
- TREE PROTECTION FENCING – REFER TO DETAIL 2, SHEET C7.4
- STRUCTURE AND/OR PAVEMENT REMOVAL
- SOIL REMOVAL
- CONSTRUCTION LIMITS
- PAVEMENT SAWCUT

PLANNING DEPARTMENT
JAN 23 2015
CITY OF EDINA

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

NORTH
0 40 80

OWNER

FRANK BERMAN
5331 EVANSWOOD LANE
EDINA, MN 55436
TEL (612)978-6229

MUNICIPALITY

CITY OF EDINA MINNESOTA

PROJECT

BLAKE WOODS SUBDIVISION
EDINA, MN

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REVISION HISTORY

CONTACT ENGINEER FOR ANY PROJECT REVISIONS

DATE	REVISION	REVISED
23 JAN 2015	PRELIMINARY PLAT SUBMITTAL	GHD

PROJECT MANAGER REVIEW

BY MD DATE 1/23/2014

CERTIFICATION

PRELIMINARY NOT FOR CONSTRUCTION

IF THE SIGNATURE, SEAL OR FOUR LINES DIRECTLY ABOVE ARE NOT VISIBLE, THIS PLAN HAS BEEN REPRODUCED IN ALTERNATE FORMAT. READABILITY AND FIDELITY CANNOT BE GUARANTEED. PLEASE CONTACT THE ENGINEER TO REQUEST ORIGINAL DOCUMENTS.

PRELIMINARY PLAT
01/23/2015

LANDFORM
From Site to Finish

105 South Fifth Avenue
Suite 513
Minneapolis, MN 55401

Tel: 612-252-9070
Fax: 612-252-9077
Web: landform.net

FILE NAME C1022ZZZ317
PROJECT NO. ZZZ14317

DEMOLITION
C1.2
SHEET NO. 4/18

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1. OBTAIN ALL NECESSARY PERMITS FOR CONSTRUCTION WITHIN, OR USE OF, PUBLIC RIGHT-OF-WAY.
2. THE DIGITAL FILE, WHICH CAN BE OBTAINED FROM THE ENGINEER, SHALL BE USED FOR STAKING. DISCREPANCIES BETWEEN THE DRAWINGS AND THE DIGITAL FILE SHALL BE REPORTED TO THE ENGINEER. THE BUILDING FOOTPRINT, AS SHOWN ON THESE DRAWINGS, AND THE DIGITAL FILE, SHALL BE COMPARED TO THE STRUCTURAL DRAWINGS PRIOR TO STAKING.
3. DIMENSIONS SHOWN ARE TO BACK OF CURB UNLESS NOTED OTHERWISE.

GREEN SPACE (LANDSCAPE AREA)

4. WETLAND BUFFER SIGNAGE, PER WATERSHED REQUIREMENTS

AREA SUMMARY

EXISTING:

PERVIOUS	167,960	S.F.	89.4%
IMPERVIOUS	19,860	S.F.	10.6%
TOTAL (4.313 Ac)	187,856	S.F.	100.0%

PROPOSED (NOT INCLUDING FUTURE HOUSES AND DRIVEWAY):

PERVIOUS	166,380	S.F.	88.6%
IMPERVIOUS	21,476	S.F.	11.4%
TOTAL (4.313 Ac)	187,856	S.F.	100.0%

ZONING AND SETBACK SUMMARY

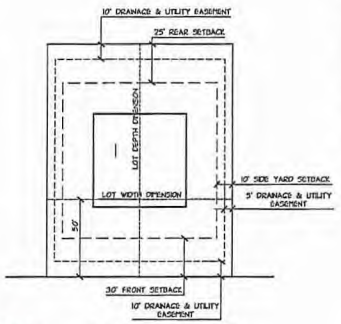
THE PROPERTY IS CURRENTLY ZONED SINGLE FAMILY DWELLINGS

BUILDING SETBACK INFORMATION IS AS FOLLOWS:
FRONT YARD = 30 FT.
REAR = 25 FT.
SIDE = 10 FT.

LOT COVERAGE INFORMATION IS AS FOLLOWS:
LOT AREA MINIMUM = GREATER THAN THE MEDIAN LOT AREA IN THE NEIGHBORHOOD (21,042 S.F.)
LOT WIDTH MINIMUM = GREATER THAN THE MEDIAN LOT WIDTH IN THE NEIGHBORHOOD (120.0')
LOT DEPTH MINIMUM = GREATER THAN THE MEDIAN LOT DEPTH IN THE NEIGHBORHOOD (166.4')
MAX. BUILDING COVERAGE = 25%

PROPOSED LOT AREAS

LOT:	LOT AREA:	
LOT 1	= 21,842 SQ. FT.	0.501 ACRES
LOT 2	= 21,910 SQ. FT.	0.503 ACRES
LOT 3	= 21,842 SQ. FT.	0.501 ACRES
LOT 4	= 22,329 SQ. FT.	0.513 ACRES
LOT 5	= 24,822 SQ. FT.	0.570 ACRES
LOT 6	= 26,033 SQ. FT.	0.604 ACRES
LOT 7	= 21,901 SQ. FT.	0.503 ACRES
RIGHT-OF-WAY DEDICATION	= 23,178 SQ. FT.	0.532 ACRES
TOTAL	= 187,857 SQ. FT.	4.31 ACRES



1 TYPICAL LOT LAYOUT
NO SCALE

PLANNING DEPARTMENT
JAN 23 2015
CITY OF EDINA

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NORTH
0 40 80

FRANK BERMAN
5331 EVANSWOOD LANE
EDINA, MN 55436
TEL (612)770-5220

MUNICIPALITY

PROJECT
BLAKE WOODS SUBDIVISION
EDINA, MN

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L2.1	LANDSCAPE PLAN
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REVISION HISTORY

CONTACT OWNER/ENGINEER FOR ALL PRIOR REVISIONS

DATE	REVISION	REVISED
23 JAN 2015	PRELIMINARY PLAT SUBMITTAL	GHC

PROJECT MANAGER REVIEW

BY RB DATE 12/24/2014

CERTIFICATION

PRELIMINARY NOT FOR CONSTRUCTION

IF THE SEAL, SIGNATURE, SEAL ON FOUR LINES DIRECTLY ABOVE ARE NOT VISIBLE, THIS SHEET WAS ISSUED IN ERROR AND SHOULD BE DISREGARDED. THE SHEET WAS ISSUED IN ERROR IF THE SEAL, SIGNATURE, SEAL ON FOUR LINES DIRECTLY ABOVE ARE NOT VISIBLE, THIS SHEET WAS ISSUED IN ERROR AND SHOULD BE DISREGARDED. PLEASE CONTACT THE ENGINEER TO REQUEST A REPLACEMENT, IF NECESSARY.

PRELIMINARY PLAT
01/23/2015

LANDFORM
From Site to Finish
105 South Fifth Avenue
Suite 513
Minneapolis, MN 55401
Tel: 612-252-9070
Fax: 612-252-9077
Web: landform.net

FILE NAME C201ZZZ317
PROJECT NO. ZZZ14317

SITE PLAN
C2.1
SHEET NO. 5/16

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GRADING NOTES

1. CONTACT UTILITY SERVICE PROVIDERS FOR FIELD LOCATION OF SERVICES 72 HOURS PRIOR TO BEGINNING GRADING.
2. REMOVE TOPSOIL FROM GRADING AREAS AND STOCKPILE SUFFICIENT QUANTITY FOR REUSE.
3. REMOVE SURFACE AND GROUND WATER FROM EXCAVATIONS.
4. BUILDING PADS WILL BE CUSTOM GRADED BY BUILDER AT THE TIME OF HOME CONSTRUCTION. REFER TO DETAIL 1, SHEET C3.1
5. AN INDEPENDENT TESTING FIRM SHALL VERIFY THE REMOVAL OF ORGANIC AND UNSUITABLE SOILS, SOIL CORRECTION, AND COMPACTION AND PROVIDE PERIODIC REPORTS TO THE OWNER.
6. PLACE AND COMPACT FILL USING LIFT THICKNESSES MATCHED TO SOIL TYPE AND COMPACTION EQUIPMENT TO OBTAIN SPECIFIED COMPACTION THROUGHOUT THE LIFT.
7. COMPACT MATERIAL IN PAVED AREAS TO 95% OF MAXIMUM DRY DENSITY, STANDARD PROCTOR (ASTM D698) EXCEPT THE TOP 3 FEET WHICH SHALL BE COMPACTED TO 100%. COMPACT TO 90% DENSITY WHERE FILL DEPTH EXCEEDS 10 FEET.
8. AVOID SOIL COMPACTION OF INFILTRATION PRACTICES. ANY EQUIPMENT USED IN INFILTRATION AREAS SHOULD BE SMALL SCALED AND TRACKED.
9. MINIMIZE GRADING WITHIN THE EXISTING TREE CANOPY ZONE ON TREES IDENTIFIED TO REMAIN. IF MINOR GRADING IS REQUIRED, THE CONTRACTOR SHALL MINIMIZE DISTURBANCE WITH THE USE OF SMALLER EQUIPMENT.
10. NO STORAGE OF MATERIALS, STOCKPILES OR PARKING IS ALLOWED WITHIN THE TREE CANOPY OF THE TREES IDENTIFIED TO REMAIN.

EROSION PREVENTION AND SEDIMENT CONTROL NOTES

11. INSTALL PERIMETER SEDIMENT CONTROLS PRIOR TO BEGINNING WORK AND MAINTAIN FOR DURATION OF CONSTRUCTION. REMOVE CONTROLS AFTER AREAS CONTRIBUTING RUNOFF ARE PERMANENTLY STABILIZED AND DISPOSE OF OFF SITE.
12. LIMIT SOIL DISTURBANCE TO THE GRADING LIMITS SHOWN, SCHEDULE OPERATIONS TO MINIMIZE LENGTH OF EXPOSURE OF DISTURBED AREAS.
13. MANAGEMENT PRACTICES SHOWN ARE THE MINIMUM REQUIREMENT. INSTALL AND MAINTAIN ADDITIONAL CONTROLS AS WORK PROCEEDS TO PREVENT EROSION AND CONTROL SEDIMENT CARRIED BY WIND OR WATER.
14. ALL EXPOSED SOILS AREAS SHALL BE STABILIZED IMMEDIATELY TO LIMIT SOIL EROSION IN THAT PORTION OF THE SITE WHERE CONSTRUCTION HAS TEMPORARILY OR PERMANENTLY CEASED.
15. SEED, SOD, MULCH AND FERTILIZER SHALL MEET THE FOLLOWING SPECIFICATIONS, AS MODIFIED.

	SPECIFICATION NUMBER
TURF SOD	MNDOT 3878
SEED	MNDOT 3876
	MN TYPE 22-111 @ 30.5 LB/AC – TEMPORARY EROSION CONTROL
	MN TYPE 25-151 @ 120 LB/AC – PERMANENT TURF
MULCH	MNDOT TYPE 1 @ 2 TON/AC, DISC ANCHORED MNDOT 3882
FERTILIZER	MNDOT 3881

16. SEE LANDSCAPE SHEETS FOR PERMANENT TURF AND LANDSCAPE ESTABLISHMENT.
17. SCRAPE ADJACENT STREETS CLEAN DAILY AND SWEEP CLEAN WEEKLY.

RETAINING WALL NOTES

RW. FIELD STONE/BOULDER RETAINING WALL. SEE DETAIL 1, SHEET C7.4

RW. DRYSTACK STONE WALL RAIN GARDEN. SEE DETAIL 3, SHEET C7.4.

LEGEND

SYMBOL	DESCRIPTION	ESTIMATED QUANTITY
	INLET PROTECTION	3 EACH
	SILT FENCE	284 FEET
	VEHICLE TRACKING PAD	1 EACH
	TIP OUT CURB AND GUTTER	
	PAVEMENT SAWCUT	
	CONSTRUCTION LIMITS	
TW XXX.XX BW XXX.XX	TOP OF WALL BOTTOM OF WALL	
	PROPOSED WETLAND BUFFER AREA	
	BOULDER RETAINING WALL	
	TREE PROTECTION FENCING	

BUILDING TYPE
FS = FULL BASEMENT
FSWO = FULL BASEMENT WALK OUT
FSLO = FULL BASEMENT LOOK OUT
LO = LOOK OUT
SSWO = SPLIT ENTRY WALK OUT
SLAB = SLAB ON GRADE

XXX.X : FRONT GARAGE ELEVATION
FSWO/FB XXX.X : WALKOUT UNIT / FULL BASEMENT UNIT
XXX.X : FINISHED BASEMENT ELEVATION
XXX.X : REAR ELEVATION

NOTES:
1. GARAGE LOCATION INDICATED BY DRIVEWAY.

1 PAD DETAIL NO SCALE

FLANNING DEPARTMENT
JAN 23 2015
CITY OF EDINA

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

NORTH
0 40 80

FRANK BERMAN
5331 EVANSWOOD LANE
EDINA, MN 55436
TEL (612)270-5259

MUNICIPALITY

CITY OF EDINA MINNESOTA

PROJECT

BLAKE WOODS SUBDIVISION
EDINA, MN

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C4.1	UTILITIES
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C7.4	CIVIL CONSTRUCTION DETAILS
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REVISION HISTORY

CONTACT ENGINEER FOR ANY PROJECT HISTORY

DATE	REVISION	REVISED
23 JAN 2015	PRELIMINARY PLAT SUBMITTAL	CMC

PROJECT MANAGER REVIEW

BY PB DATE 01/23/2014

CERTIFICATION

PRELIMINARY NOT FOR CONSTRUCTION

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01/23/2015

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Suite 513
Minneapolis, MN 55401
Tel: 612-252-6070
Fax: 612-252-6077
Web: landform.net

FILE NAME C3012ZZZ311
PROJECT NO. ZZZ14317

GRADING, DRAINAGE & EROSION CONTROL
C3.1
SHEET NO. 8/18

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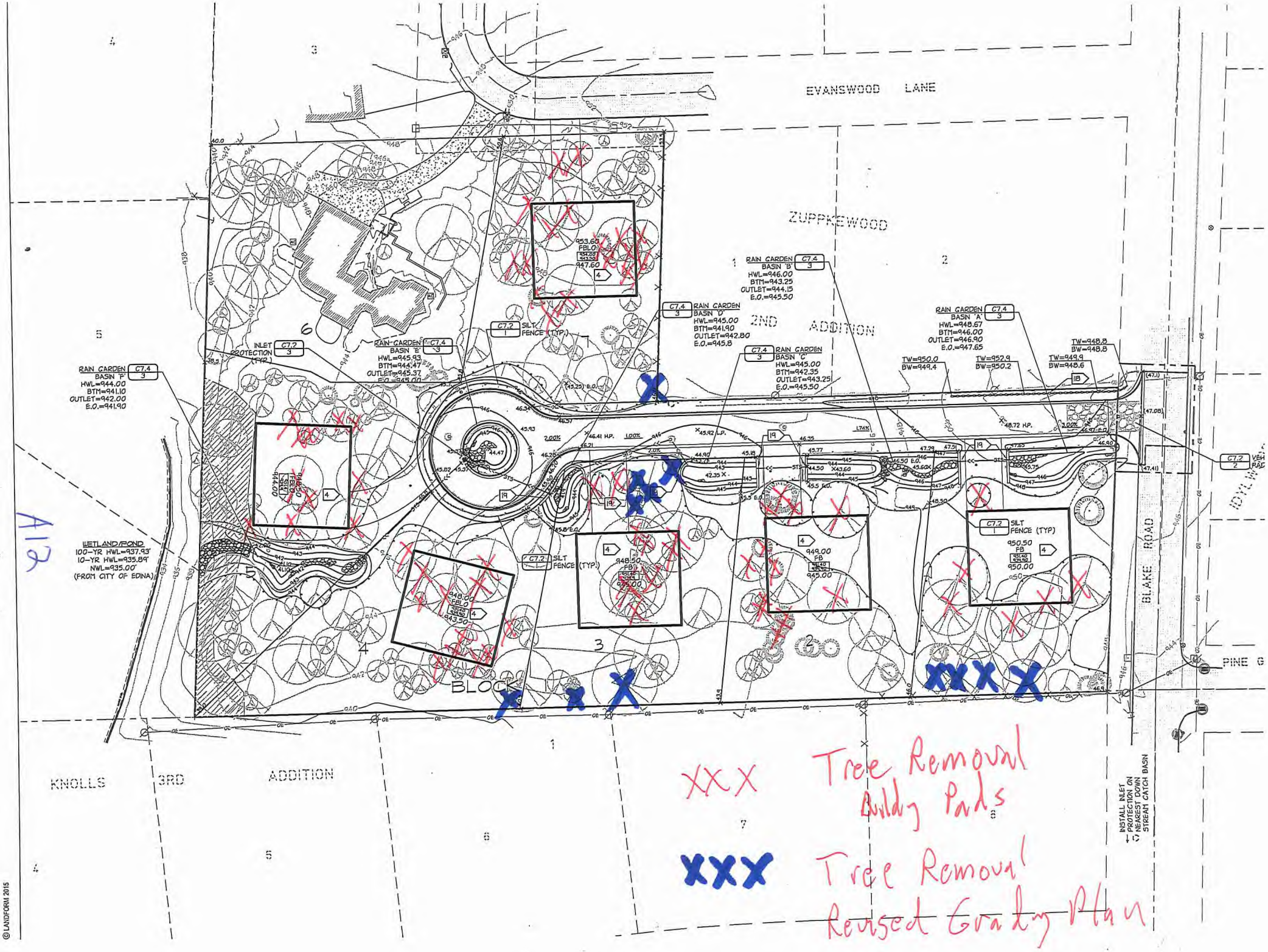
A14



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EVANSWOOD LANE
ZUPPKEWOOD
2ND ADDITION
N88°52'35"E
310.0(P)
310.17(M)
185.78(M)
185.96(P)
N02°23'58"E
394.8(P)
394.17(M)
N02°28'23"E
N88°55'35"E
315.95(P)
316.00(M)
AUDITORIUM
WETLAND/POND
100-YR HWL=937.93'
10-YR HWL=935.89'
NWL=935.00'
(FROM CITY OF EDINA)
N02°53'25"E
BLAKE ROAD
PINE GROVE
N88°56'56"E
624.85(M)
624.95(P)
KNOLLS 3RD ADDITION
TREE REMOVAL
Street + Pondy
A13

1. PIPE MATERIALS
   - WATERMAIN — DIP CLASS 52 (ANSI A21.51/AWWA C151)
   - WATER SERVICE — 1.5" HDPE RINKER MATERIALS "CSR POLYPPE"
   - SANITARY SEWER — PVC SDR 35 (ASTM: D3034, D2665, & F891)
   - SAN. SEWER SERVICE — 4" PVCSDR 26 (ASTM: D3034, D2665, & F891)
   - STORM SEWER — HDPE AASHTO M294, MNDOT 2503; 12"-60" RCP CLASS 5 (ASTM C76)
2. CONTACT UTILITY SERVICE PROVIDERS FOR FIELD LOCATION OF SERVICES 72 HOURS PRIOR TO BEGINNING.
3. COORDINATE WITH PRIVATE UTILITIES TO PROVIDE ELECTRIC, NATURAL GAS, AND COMMUNICATIONS SERVICES TO EACH LOT.
4. PROVIDE MEANS AND MEASURES TO PROTECT ADJACENT PROPERTY FROM DAMAGE DURING UTILITY INSTALLATION.
5. PIPE LENGTHS SHOWN ARE FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE OR END OF END SECTION.
6. ADJUST STRUCTURES TO FINAL GRADE WHERE DISTURBED. COMPLY WITH REQUIREMENTS OF UTILITY. MEET REQUIREMENTS FOR TRAFFIC LOADING IN PAVED AREAS.
7. INSTALL TRACER WIRE WITH ALL NON-CONDUCTIVE UTILITIES. REFER TO DETAIL 5, SHEET C7.2
8. CONNECT TO CITY UTILITIES IN ACCORDANCE WITH CITY OF EDINA STANDARDS.
9. CONTACT CITY OF EDINA PUBLIC WORKS AT 952.826.0371 FOR WET TAP INSPECTION.
10. MAINTAIN 7.5 FEET OF COVER ON WATER.
11. DEFLECT WATER TO MAINTAIN 18-INCH MINIMUM OUTSIDE SEPARATION AT SEWER CROSSINGS. CENTER PIPE LENGTHS TO PROVIDE GREATEST SEPARATION BETWEEN JOINTS.
12. CONTACT CITY OF EDINA PUBLIC WORKS, AT 952.826.0371 FOR FLUSHING AND PRESSURE TEST INSPECTIONS.
13. CONTRACTOR TO POTHOLE ALL UTILITY CROSSINGS PRIOR TO CONSTRUCTION OF NEW UTILITIES TO VERIFY DEPTHS OF EXISTING LINES. CONTACT ENGINEER IMMEDIATELY IF ANY CONFLICTS ARE DISCOVERED.
14. THE WATER DISTRIBUTION SYSTEM SHALL BE DISINFECTED PER MINNESOTA RULES, PART 4715.2250.

UTILITY CROSSINGS

(L) SANITARY SEWER TOP = 927.01
WATERMAIN BOTTOM = 930.90
CLEARANCE = 11.09'

(2) SANITARY SEWER TOP = 922.40
WATERMAIN BOTTOM = 930.65
CLEARANCE = 16.25'

PLANNING DEPARTMENT
JAN 23 2015
CITY OF EDINA

Know what's Below. Call before you dig.

NORTH

0 40 80

FRANK BERMAN
5331 EVANSWOOD LANE
EDINA, MN 55436
TEL (612)789-5228

MUNICIPALITY

CITY OF EDINA MINNESOTA

PROJECT

BLAKE WOODS SUBDIVISION
EDINA, MN

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C7.4	CIVIL CONSTRUCTION DETAILS
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L1.2	TREE PRESERVATION TABLE
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L2.2	LANDSCAPE DETAILS

REVISION HISTORY

CONTACT ENGINEER FOR ANY PRIOR HISTORY

DATE	REVISION	REVIEW
23 JAN 2015	PRELIMINARY PLAT SUBMITTAL	CMC

PROJECT MANAGER REVIEW

BY RR DATE 12/23/2014

CERTIFICATION

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PRELIMINARY PLAT
01/23/2015

LANDFORM
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Suite 513
Minneapolis, MN 55401
Tel: 612-252-6070
Fax: 612-252-6077
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FILE NAME C401ZZZ317
PROJECT NO. ZZZ14317

UTILITIES

C4.1

SHEET NO. 7/18

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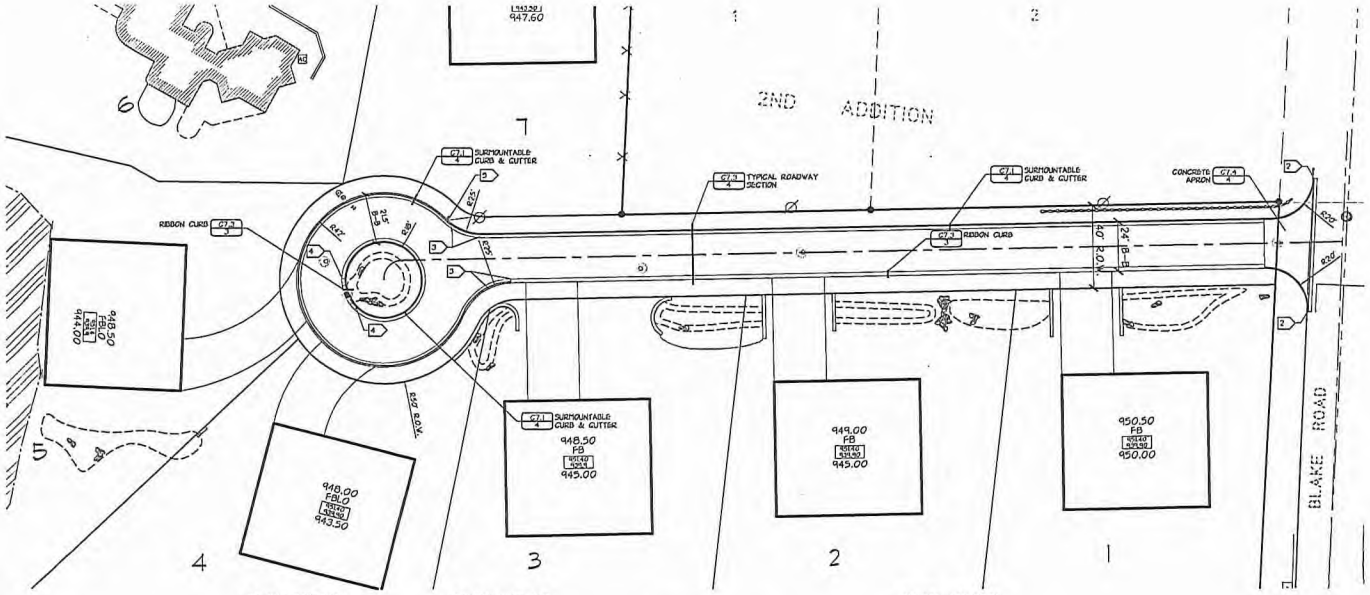

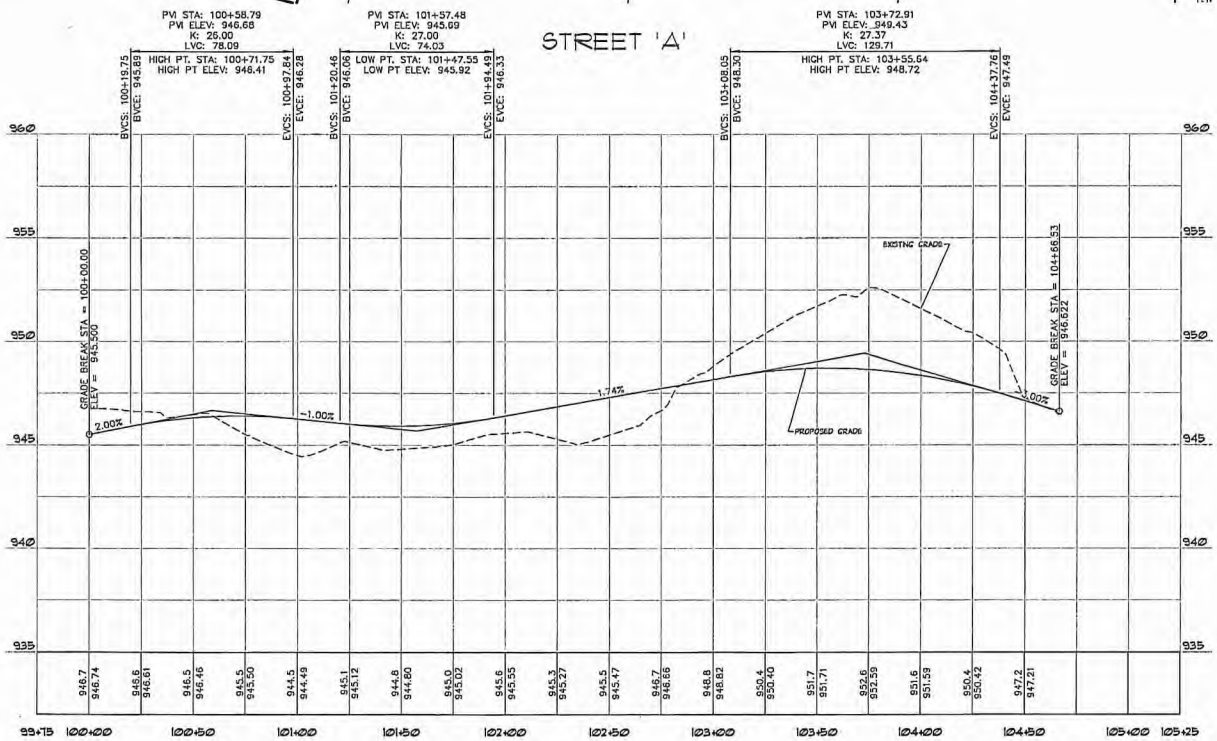

PAVING NOTES

1. SEE SHEET C3.1 FOR FINISHED GROUND SPOT ELEVATIONS, SEE SHEET C4.1 FOR RIM ELEVATIONS OF CATCH BASIN.
2. MEET AND MATCH EXISTING CURB. PROVIDE 10 FOOT TRANSITION.
3. 10 FOOT CURB TRANSITION
4. 3 FOOT NOSE DOWN CURB, SEE DETAIL 2 ON C7.3
5. COORDINATE WITH UTILITY OWNER TO ADJUST LOCATION OF POLE ANCHOR.

PLANNING DEPARTMENT
JAN 23 2015
CITY OF EDINA

Know what's Below. Call before you dig.

NORTH
0 30 60

OWNER

FRANK BERMAN
5331 EVANSWOOD LANE
EDINA, MN 55436
TEL (612)770-6229

MUNICIPALITY

PROJECT

BLAKE WOODS SUBDIVISION
EDINA, MN

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REVISION HISTORY

CONTACT ENGINEER FOR ANY PRIOR HISTORY

DATE	REVISION	REVIEW
23 JAN 2015	PRELIMINARY PLAT SUBMITTAL	GHG

PROJECT MANAGER REVIEW

BY ND DATE 02/23/2015

CERTIFICATION

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From Site to Finish
105 South Fifth Avenue
Suite 513
Minneapolis, MN 55401
Tel: 612-252-0070
Fax: 612-252-0077
Web: landform.net

FILE NAME C001ZZZ317
PROJECT NO. ZZZ14317

STREET PLAN & PROFILE - STREET A
C6.1
SHEET NO. 8/16

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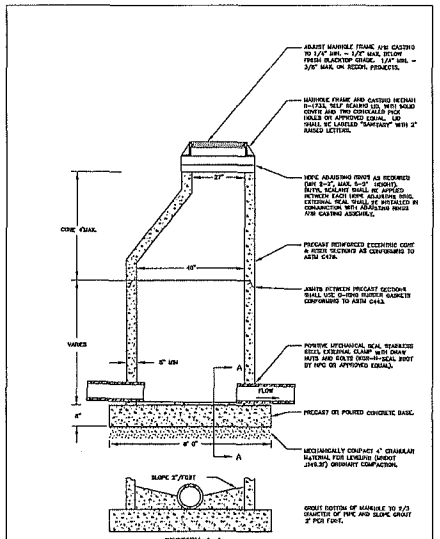
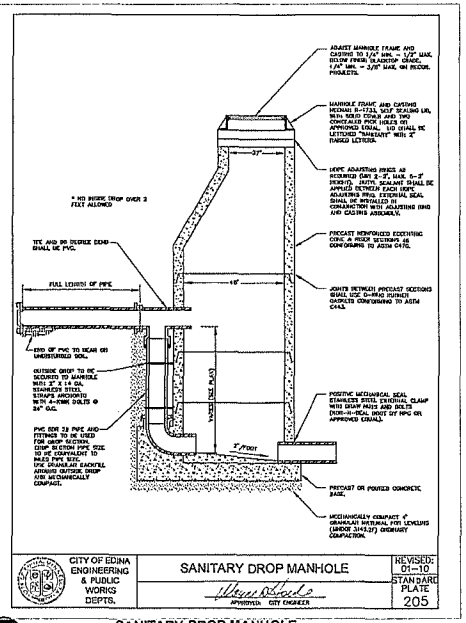


CITY OF EDINA ENGINEERING & PUBLIC WORKS DEPTS. | STANDARD SANITARY SEWER MANHOLE | APPROVED: CITY ENGINEER | REVISED: 01-10 | STANDARD PLATE 200

5 STANDARD SANITARY SEWER MANHOLE

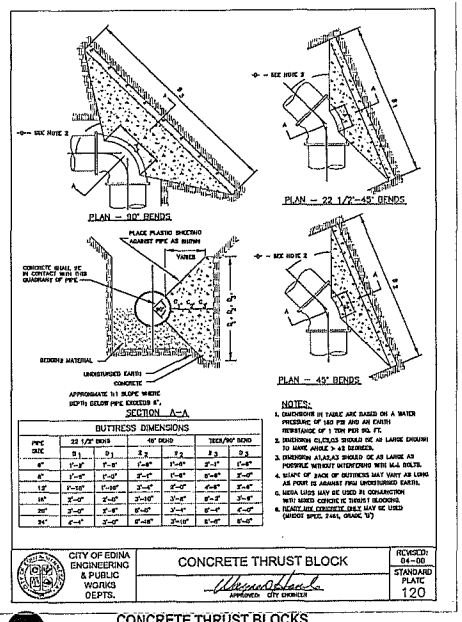
NO SCALE



CITY OF EDINA ENGINEERING & PUBLIC WORKS DEPTS. | SANITARY DROP MANHOLE | APPROVED: CITY ENGINEER | REVISED: 01-10 | STANDARD PLATE 205

6 SANITARY DROP MANHOLE

NO SCALE



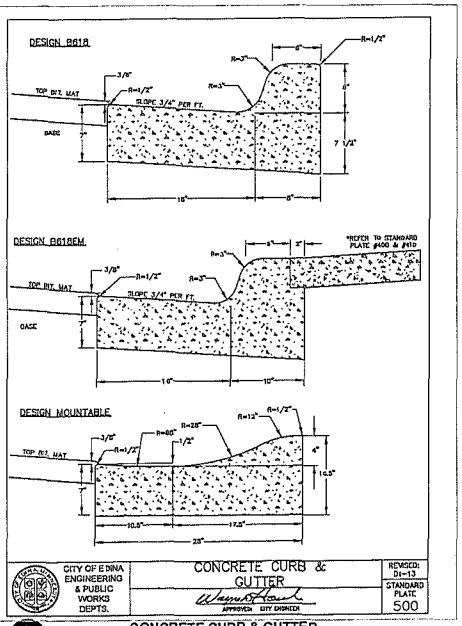
BUTTRESS DIMENSIONS						
PIPE DIA.	22 1/2° BEND		45° BEND		11°25'/90° BEND	
	B_1	D_1	B_2	D_2	B_3	D_3
6"	1'-0"	1'-0"	1'-0"	1'-0"	2'-1"	1'-0"
8"	1'-0"	1'-0"	1'-0"	1'-0"	2'-8"	1'-0"
12"	1'-10"	1'-10"	3'-1"	2'-0"	4'-8"	2'-0"
16"	2'-0"	2'-0"	3'-10"	3'-0"	6'-2"	3'-0"
20"	3'-0"	3'-0"	5'-8"	3'-0"	8'-4"	4'-0"
24"	4'-4"	3'-0"	8'-10"	3'-10"	9'-8"	5'-0"

NOTES:
1. DIMENSION IN TABLE ARE BASED ON A WATER PRESSURE OF 160 PSI AND AN EARTH RESISTANCE OF 1 TON PER SQ. FT.
2. DIMENSIONS CLOSE TO SHOULD BE AS LARGE ENOUGH TO MAKE ANGLE > 45 DEGREES.
3. DIMENSION A1,A2,A3 SHOULD BE AS LARGE AS POSSIBLE WITHOUT INTERFERING WITH M.J. BOLTS.
4. SLOPE OF FACE OF BUTTRESS MAY VARY AS LONG AS POUR IS AGAINST FIRM UNDISTURBED EARTH.
5. MEDIA LOGS MAY BE USED IN CONJUNCTION WITH MINED CONCRETE THRUST BLOCKING.
6. READY MIX CONCRETE ONLY MAY BE USED (ABOUT SPEC. 2461, GRADE 'B')

CITY OF EDINA ENGINEERING & PUBLIC WORKS DEPTS. | CONCRETE THRUST BLOCK | APPROVED: CITY ENGINEER | REVISED: 04-00 | STANDARD PLATE 120

3 CONCRETE THRUST BLOCKS

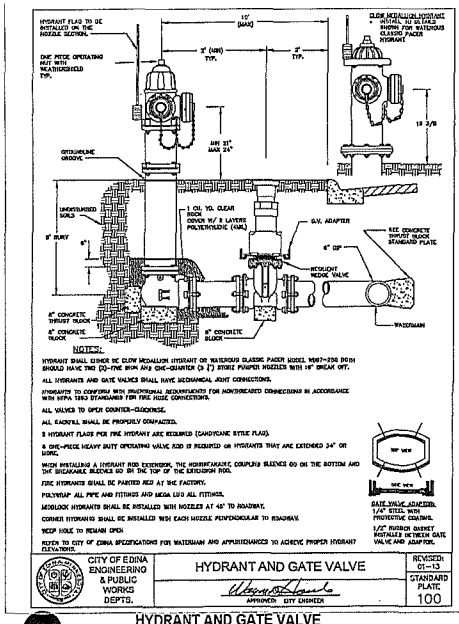
NO SCALE



CITY OF EDINA ENGINEERING & PUBLIC WORKS DEPTS. | CONCRETE CURB & GUTTER | APPROVED: CITY ENGINEER | REVISED: 01-13 | STANDARD PLATE 500

4 CONCRETE CURB & GUTTER

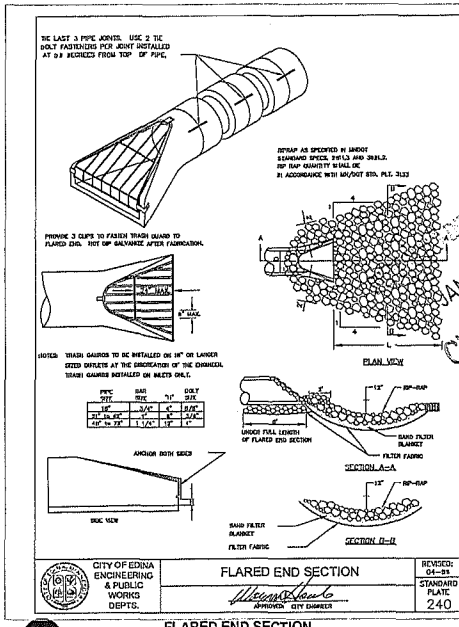
NO SCALE



CITY OF EDINA ENGINEERING & PUBLIC WORKS DEPTS. | HYDRANT AND GATE VALVE | APPROVED: CITY ENGINEER | REVISED: 01-13 | STANDARD PLATE 100

1 HYDRANT AND GATE VALVE

NO SCALE



PIPE SIZE	BAR SIZE		DOLY SIZE	
18"	3/4"	4"	8 1/2"	
21" to 42"	1"	5"	3/4"	
48" to 72"	1 1/4"	5"	1"	

CITY OF EDINA ENGINEERING & PUBLIC WORKS DEPTS. | FLARED END SECTION | APPROVED: CITY ENGINEER | REVISED: 04-99 | STANDARD PLATE 240

2 FLARED END SECTION

NO SCALE

FRANK BERMAN
5331 EVANSWOOD LANE
EDINA, MN 55436
TEL. (612)770-5220

MUNICIPALITY

PROJECT

BLAKE WOODS SUBDIVISION
EDINA, MN

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REVISION HISTORY

CONTACT ENGINEER FOR ANY PAGE HISTORY

DATE	REVISION	REVIEW
23 JAN 2015	PRELIMINARY PLAT SUBMITTAL	CMC

PROJECT MANAGER REVIEW

BY: | DATE: | REVISION:

CERTIFICATION

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PRELIMINARY PLAT
01/23/2015

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105 South Fifth Avenue | Tel: 612-252-9970
Suite 513 | Fax: 612-252-9077
Minneapolis, MN 55401 | Web: landform.net

FILE NAME: C701ZZZ317

PROJECT No.: ZZZ14317

CIVIL CONSTRUCTION DETAILS

C7.1

SHEET NO. 9/18

RECEIVED JAN 23 2015 CITY OF EDINA

A16

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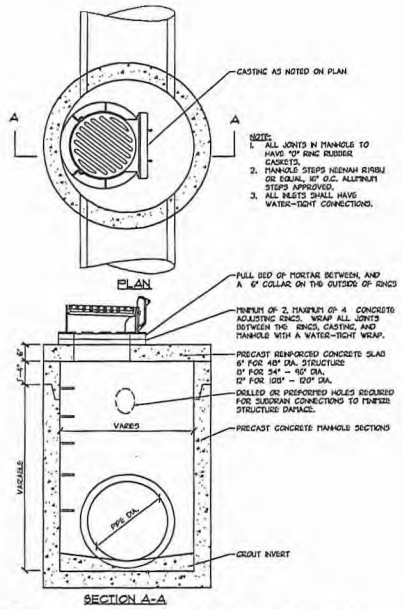
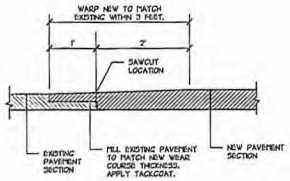


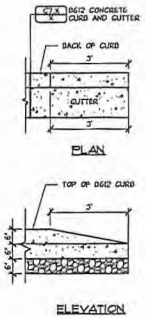
4 STORM SEWER CATCH BASIN MANHOLE

NO SCALE



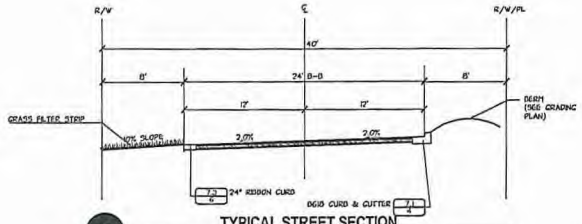
1 ASPHALT PAVEMENT TRANSITION

NO SCALE



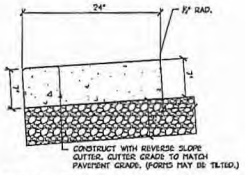
2 NOSE DOWN CURB

NO SCALE



5 TYPICAL STREET SECTION

NO SCALE



3 24" CONCRETE RIBBON CURB

NO SCALE

PLANNING DEPARTMENT
JAN 23 2015
CITY OF EDINA

FRANK BERMAN
5331 EVANSWOOD LANE
EDINA, MN 55436
TEL (612)278-5239

MUNICIPALITY

PROJECT

BLAKE WOODS SUBDIVISION
EDINA, MN

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L3.1	LANDSCAPE DETAILS

REVISION HISTORY

CONTACT ENGINEER FOR ANY PRIOR HISTORY

DATE	REVISION	REVISED
23 JAN 2015	PRELIMINARY PLAT SUBMITTAL	CHC

PROJECT MANAGER REVIEW

BY: RB DATE: 01/23/2015

CERTIFICATION

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PRELIMINARY PLAT
01/23/2015

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105 South Fifth Avenue
Suite 513
Minneapolis, MN 55401
Tel: 612-252-9070
Fax: 612-252-9077
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FILE NAME C7.03ZZZ2.317

PROJECT NO. ZZZ14317

CIVIL CONSTRUCTION DETAILS

C7.3

SHEET NO. 11/18

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A17

A16

PRESERVED TREE TREETABLE

TAG #	DIA (IN)	COMMON NAME	REMOVED	SAVED
8205	12	American Elm	X	
8206	16	Bitternut Hickory	X	
8207	12	White Spruce	X	
8208	7	American Elm	X	
8209	36	Red Oak	X	
8210	22	White Oak	X	
8211	23	White Spruce	X	
8212	7	American Elm	X	
8213	9	White Spruce	X	
8214	8	Arborvitae	X	
8215	7	Arborvitae	X	
8216	6	Arborvitae	X	
8217	20	Sugar Maple	X	
8218	6	Arborvitae	X	
8219	7	Arborvitae	X	
8220	8	Arborvitae	X	
8221	18	White Spruce	X	
8222	16	White Spruce	X	
8244	14	White Spruce	X	
8245	6	Boxelder	X	
8317	11	Paper Birch		X
8318	12	White Spruce		X
8319	12	White Spruce		X
8320	12	White Spruce		X
8321	24	White Oak		X
8322	26	White Oak		X
8323	19	White Oak		X
8324	25	Sugar Maple		X
8325	26	White Oak		X
8326	27	White Oak		X
8333	9	Colorado Spruce		X
8334	7	Eastern Red Cedar		X
8335	9	Eastern Red Cedar		X
8336	15	Sugar Maple		X
8337	20	Sugar Maple		X
8339	22	Sugar Maple		X
8340	26	White Oak		X
8341	22	White Oak		X
8343	7	White Spruce		X
8344	26	White Oak		X
8345	20	White Oak		X
8371	26	White Oak		X
8372	24	American Elm		X
8373	6	White Spruce		X
8374	26	White Oak		X
8375	12	Boxelder	X	
8376	11	Boxelder	X	
8377	13	Arborvitae	X	
8378	16	Boxelder	X	
8379	10	Sugar Maple		X
8380	6	Sugar Maple		X
8382	19	Black Walnut		X
8384	13	Boxelder		X
8385	6	Hackberry		X
8386	12	American Elm		X
8387	8	Arborvitae		X
8388	10	Arborvitae		X
8389	8	White Spruce		X
8390	8	White Spruce		X
8391	8	Arborvitae		X
8392	8	Arborvitae		X
8393	16	Arborvitae		X
8394	6	Arborvitae		X
8395	10	Arborvitae		X
8396	18	Bitternut Hickory		X
8397	9	Boxelder		X
8398	6	Arborvitae		X
8399	24	White Oak		X
8400	10	White Spruce		X
8401	20	White Oak		X
8402	9	White Spruce		X
8404	17	Bitternut Hickory		X
8405	9	Arborvitae		X
8406	14	Arborvitae		X
8407	15	Arborvitae	X	
8408	10	Arborvitae	X	
8409	12	Arborvitae	X	
8410	8	Arborvitae	X	
8411	10	Arborvitae	X	
8412	16	Arborvitae	X	
8422	14	Boxelder		X
8423	14	Boxelder	X	
8424	16	White Oak	X	
8425	15	Boxelder	X	
8426	14	Boxelder		X
8427	11	White Oak		X
8428	6	Boxelder		X
8429	33	Black Willow		X
8430	7	Boxelder		X
8431	9	Boxelder		X
8432	12	Black Cherry		X
8433	9	Black Cherry		X
8434	28	White Oak		X
8435	9	Black Cherry		X
8436	36	White Oak		X
8437	6	Black Cherry		X
8438	18	White Oak		X
8439	10	Boxelder		X
8440	6	Black Cherry		X
8441	26	White Oak		X
8442	26	White Oak		X
8443	11	Black Cherry		X
8444	30	White Oak		X
8445	8	Bitternut Hickory		X
8446	8	Bitternut Hickory		X
8447	10	Boxelder	X	
8448	10	Boxelder	X	
8449	9	Boxelder	X	
8450	10	Boxelder	X	
8451	9	Boxelder		X
8452	10	Boxelder	X	
8483	17	Aspen		X
8484	8	Boxelder		X
8485	8	Boxelder		X
8486	20	Colorado Spruce		X
8487	6	Bitternut Hickory		X
8488	11	American Elm		X
8489	19	Red Oak		X
8490	24	White Oak		X
8491	22	White Oak		X
8492	33	White Oak		X
8493	11	White Oak		X
8494	22	Red Oak		X
8495	20	White Oak		X
8496	6	Black Cherry		X
8497	14	Red Oak		X
8498	14	Black Cherry		X
8499	10	Green and White Ash		X
8501	8	Arborvitae		X
8502	17	American Elm		X
8503	8	Arborvitae		X
8504	11	Basswood		X
8505	20	Red Oak		X
8506	11	Black Cherry		X
8507	14	Black Cherry		X
8508	10	Black Cherry		X
8509	11	Black Cherry		X
8510	7	Black Cherry		X
8511	7	Arborvitae		X
8512	23	White Oak		X
8513	11	Aspen		X
8514	17	Aspen		X
8515	10	White Spruce		X
8516	20	White Oak		X
8517	22	White Oak		X
8518	9	Black Cherry		X
8519	9	Black Cherry		X
8520	7	Black Cherry		X
8521	7	Boxelder		X
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8525	8	Boxelder		X
8526	9	Boxelder		X
8527	9	White Oak		X
8528	10	Arborvitae		X
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8530	15	White Oak		X
8531	39	Red Oak		X
8532	7	Bitternut Hickory		X
8533	11	Black Cherry		X
8534	8	Black Cherry		X
8535	8	Red Maple		X
8536	16	Black Cherry		X
8537	11	Boxelder	X	
8538	8	Black Cherry		X
8539	40	Cottonwood	X	
8540	7	White Spruce	X	
8541	8	White Spruce	X	
8542	8	White Spruce	X	
8543	6	Boxelder	X	
8544	16	Boxelder	X	
8545	9	Boxelder	X	
8555	6	Boxelder		X
8556	29	White Oak		X
8557	8	Black Cherry		X
8558	9	Black Cherry		X
8559	6	Black Cherry		X
8560	4	Black Cherry		X
8561	13	Black Cherry		X
8562	6	Black Cherry		X
8563	7	Black Cherry		X
8564	22	White Oak		X
8565	6	Black Cherry		X
8566	8	Black Cherry		X
8567	17	White Oak		X
8568	8	Black Cherry		X
8569	22	Red Oak		X
8571	9	Black Cherry		X
8572	9	Black Cherry		X
8573	8	Black Cherry		X
8574	10	Boxelder		X
8575	7	Boxelder		X
8576	17	White Oak		X
8577	6	Boxelder		X
8578	6	Black Cherry		X
8579	30	White Oak		X
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8581	20	White Oak		X
8582	30	White Oak		X
8583	9	Black Cherry		X
8584	9	Black Cherry		X
8585	12	Black Cherry		X
8586	22	White Oak		X
8587	6	Colorado Spruce		X
8588	11	White Spruce	X	
8589	8	White Spruce	X	
8590	15	Red Norway Pine	X	
8591	13	Red Norway Pine	X	
8592	14	Red Norway Pine	X	
8593	10	Boxelder		X
8594	16	Aspen		X
8595	8	Boxelder		X
8596	11	Boxelder		X
8597	6	American Elm		X
8598	16	Boxelder		X
8599	17	American Elm		X
8600	10	Boxelder		X
8601	6	Boxelder		X
8602	31	White Oak		X
8603	24	White Oak		X
8604	24	White Oak		X
8605	24	White Oak	X	
8606	24	White Oak	X	
8607	23	White Oak		X
8608	23	White Oak		X
8609	8	Black Cherry		X
8610	22	White Oak		X
8611	8	Black Cherry		X
8612	19	White Oak		X
8613	14	Black Cherry		X
8614	14	Black Cherry		X
8615	9	Black Cherry		X
8616	19	White Oak		X
8617	7	Bur Oak		X
8618	26	Red Oak		X
8619	23	White Oak		X
8620	6	White Oak		X
8621	8	Black Cherry		X
8622	6	Black Cherry		X
8623	29	White Oak		X
8624	11	Black Cherry		X
8625	26	White Oak		X
8626	16	White Oak		X
8627	20	White Oak		X
8628	12	Sugar Maple		X
8629	7	Sugar Maple		X
8630	17	Black Cherry		X
8631	9	Black Cherry		X
8632	23	White Oak		X
8633	8	Boxelder		X
8634	11	Black Cherry		X
8635	6	Boxelder		X
8636	17	White Oak		X
8637	24	White Oak		X
8638	7	Black Cherry		X
8639	16	White Oak		X
8645	11	Bitternut Hickory		X
8646	10	Black Cherry		X
8647	8	Black Cherry		X
8648	9	Black Cherry		X
8649	12	Black Cherry		X
8653	16	White Oak		X
8654	16	White Oak		X
8655	19	White Oak		X
8719	7	Red Oak		X
8720	27	White Oak		X
8721	26	White Oak		X
8722	26	White Oak		X
8737	10	Green and White Ash		X
8738	19	Red Oak		X
8739	14	Red Oak		X
8740	14	Red Oak		X
8824	14	Boxelder		X
8825	7	Green and White Ash		X
8856	8	White Spruce		X
8857	8	White Spruce		X
8858	14	White Spruce		X
8859	6	White Spruce		X
8860	7	White Spruce		X
8897	8	Boxelder		X
8898	8	Black Cherry		X
8899	14	Black Cherry		X
8900	7	White Spruce		X
8901	6	White Spruce		X
8928	18	Sugar Maple		X
8929	14	Black Cherry		X
8930	18	Black Cherry		X
8931	10	Boxelder		X
8932	7	Green and White Ash		X
8933	27	White Oak		X
8934	10	American Elm		X
8935	33	Red Oak		X
8936	13	Red Oak		X
8937	29	Red Oak		X
8938	8	Boxelder		X
8939	6	Boxelder		X
8940	16	Boxelder		X

PLANNING DEPARTMENT
JAN 23 2015

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OWNER

FRANK BERMAN
5331 EVANSWOOD LANE
EDINA, MN 55436

MUNICIPALITY

PROJECT

BLAKE WOODS SUBDIVISION
EDINA, MN

SHEET INDEX

REVISION HISTORY

PROJECT MANAGER REVIEW

CERTIFICATION

PRELIMINARY NOT FOR CONSTRUCTION

PRELIMINARY PLAT
01/23/2015

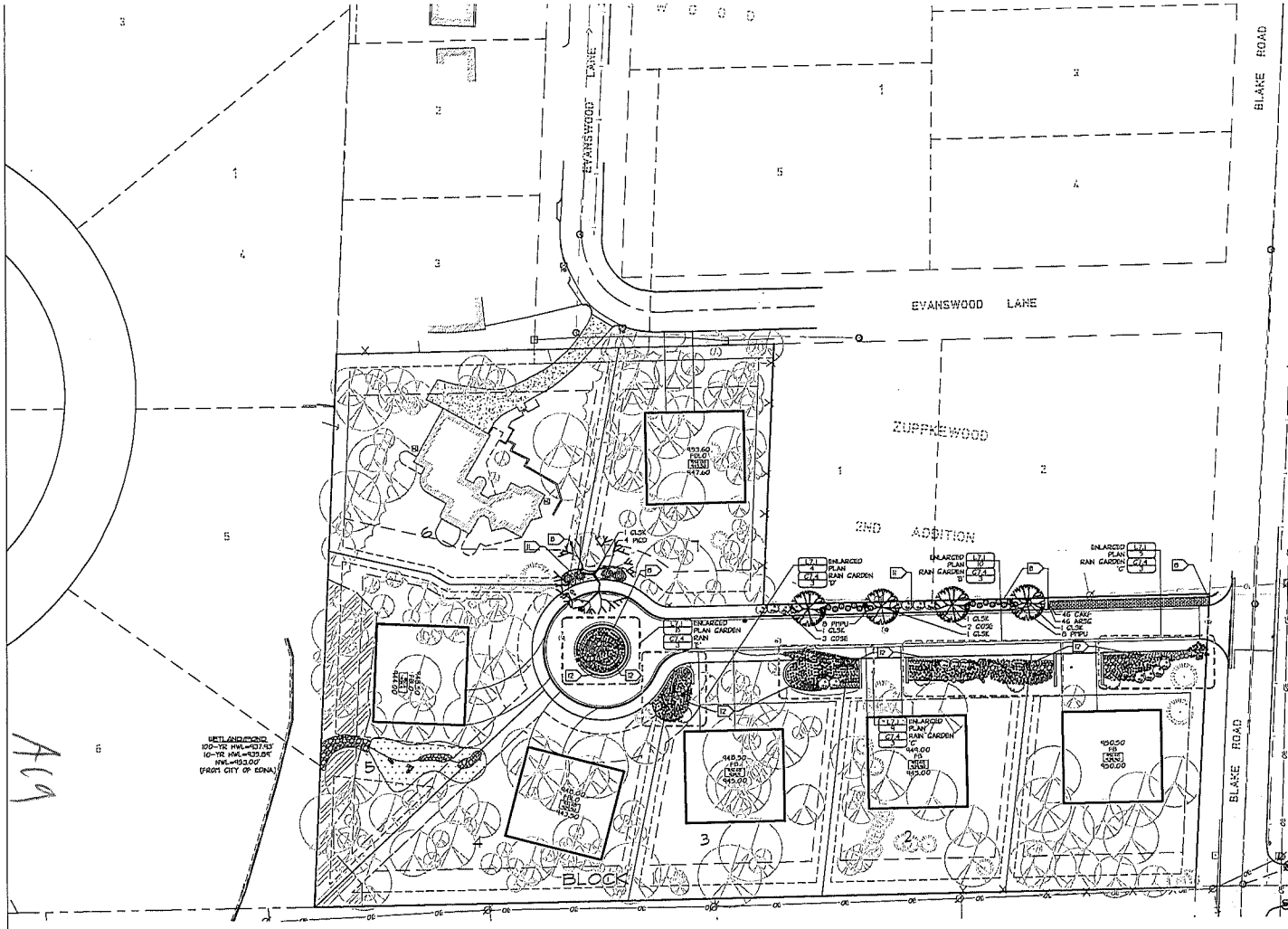
LANDFORM
From Site to Finish
105 South Fifth Avenue
Suite 513
Minneapolis, MN 55401
Tel: 612-252-9070
Fax: 612-252-9077
Web: landform.net

FILE NAME L1022Z2317
PROJECT NO. ZZZ14317

TREE PRESERVATION TABLE

L1.2

SHEET NO. 14/16



Name	Count	KEY	COMMON NAME	SCIENTIFIC NAME	MATURE SIZE	PLANTING SIZE	ROOT COND.
COMPOSIOUS SHRUBS	10	PTPU	MUGHO PINE	PINUS MUGHO PUMILIO	3H x 6W		
DECIDUOUS SHRUBS	14	WES	RED SPRITE WINTERBERRY	ILEX VERTICILLATA 'RED SPRITE'	3H x 4W		CONTAINER
DECIDUOUS SHRUBS	23	AMAM	AUTUMN MAGIC BLACK CHOKEBERRY	ARONIA MELANOCARPA	5H x 4W		CONTAINER
DECIDUOUS SHRUBS	15	COSE	CARDINAL RED OSIER DOGWOOD	CORNUS SERICEA 'CARDINAL'	10H x 10W		CONTAINER
DECIDUOUS TREES	4	GLSK	SKYLINE HONEYLOCUST	GLEDITSIA TRIACANTHOS 'SKYCOLE'	50H x 35W	2.5" CAL	B & B
DECIDUOUS TREES	1	QUBI	ARBOR MAPLE	QUERCUS BICOLOR	60H x 50W	2.5" CAL	B & B
GRASSES	78	PAVI	SWITCHGRASS	PANICUM VIRGATUM	5H x 3W	4"	CONTAINER
GRASSES	17	CAKF	FEATHER REED GRASS	CALAMAGROSTIS ACUTIFOLIA 'KARL FOERSTER'	5H x 2W	4"	CONTAINER
PERENNIALS	92	ECPU	PURPLE CONEFLOWER	ECHINACEA PURPUREA	3H x 18"W		
PERENNIALS	117	ARSC	SILVER MOUND ARTEMISIA	ARTEMISIA SCHMIDTIANA	1H x 2W		CONTAINER
PERENNIALS	70	MOFD	MARSHALL'S DELIGHT BEE BALM	MONARDA DIDYMA 'MARSHALL'S DELIGHT'	3H x 3W		
PERENNIALS	88	RFCO	BLACK EYED SUSAN	RUDBECKIA FULGIDA 'GOLDSTRUM'	30H x 22W		
RAIN GARDEN PERENNIALS	52	EUPU	JOE PYE WEED	EUPATORIUM MACULATUM	4H x 4W		
RAIN GARDEN PERENNIALS	102	ZIAU	GOLDEN ALEXANDER	ZIZIA AUREA	3H x 2W		CONTAINER
RAIN GARDEN PERENNIALS	93	ANAN	NEW ENGLAND ASTER	ASTER NOVAE-ANGLIAE	4H x 3W		
RAIN GARDEN PERENNIALS	52	VEVI	CULVER'S ROOT	VERONICASTRUM VIRGINICUM	4H x 2W		
RAIN GARDEN PERENNIALS	114	IRVE	BLUE FLAG IRIS	IRIS VERSICOLOR	3H x 2W		

LANDSCAPE NOTES

1. CONTACT UTILITY SERVICE PROVIDERS FOR FIELD LOCATION OF SERVICES 72 HOURS PRIOR TO BEGINNING.
2. COORDINATE INSTALLATION WITH CONTRACTORS PERFORMING RELATED WORK.
3. SEED MIXTURES (MNDOT GENERAL RESIDENTIAL TURF 25-151) AS DEFINED IN CURRENT MNDOT SEEDING MANUAL. NATIVE SEEDS SHALL BE OF MINNESOTA ORIGIN AND CERTIFIED BY THE MINNESOTA CROP IMPROVEMENT ASSOCIATION (MCIA). PROVIDE VERIFYING DOCUMENTATION TO THE OWNER 30 DAYS MINIMUM PRIOR TO INSTALLATION.
4. PLANT MATERIAL SHALL CONFORM TO THE AMERICAN ASSOCIATION OF NURSERYMEN STANDARDS AND BE OF HARDY STOCK, FREE FROM DISEASE, INFESTATION, DAMAGE AND DEFORMATION. FOR DISCREPANCY BETWEEN THE NUMBER OF PLANTS ON THE SCHEDULE AND THE NUMBER SHOWN ON THE DRAWING, THE DRAWING SHALL GOVERN.
5. PLANTING SOIL SHALL CONSIST OF 4 PARTS TOPSOIL TO 1 PART PEAT HUMUS, WITH 3 POUNDS OF COMMERCIAL FERTILIZER ADDED PER CUBIC YARD.
6. SPREAD A MINIMUM OF 6 INCHES OF TOPSOIL AND SEED ALL TURF AREAS DISTURBED BY CONSTRUCTION.
7. FOLLOW MNDOT SEEDING MANUAL FOR PLANTING INSTRUCTIONS FOR ESTABLISHMENT OF NATIVE SEED AND PROVIDE COORDINATION FOR REQUIRED EROSION PREVENTION AND SEDIMENT CONTROL.
8. EDGE SHRUB BEDS WITH 6-INCH BLACK VINYL EDGING (BLACK DIAMOND OR APPROVED EQUAL) EXCEPT WHERE ADJACENT TO CURBING, WALLS OR BUILDINGS. REFER TO DETAIL 3 ON SHEET L7.0.
9. PLACE PLANTS ACCORDING TO LAYOUT WITH PROPER NOTIONAL SPACING.
10. SEE DETAILS FOR DEPTH OF PLANTING SOIL.
11. INSTALL 4 INCH DEPTH OF SHREDDED HARDWOOD BARK MULCH IN SHRUB BED AREAS.
12. INSTALL 2 TO 3 INCH DEPTH OF SHREDDED HARDWOOD BARK MULCH IN PERENNIAL BED AREAS
13. ONE AND A HALF (1 1/2") INCH RIVER ROCK MULCH OVER WEED BARRIER FABRIC (TO A DEPTH OF THREE (3") INCHES).

RAINGARDEN NOTES

14. CONTRACTOR IS TO FOLLOW SITE PREPARATION, WETLAND CONSTRUCTION, AND EVALUATION CRITERIA AS PER THE WETLAND CONSERVATION ACT STANDARD RULE 8420.0530 (WETLAND REPLACEMENT STANDARDS). FOR ADDITIONAL NOTES CONTRACTOR SHALL FOLLOW THE LANDSCAPE PLANS AND DETAILS SEE DETAILS 6 AND 7 SHEET L7.1
15. RAIN GARDEN AREA SHALL BE GRADED TO A DEPTH OF 6"-18". SEE SHEET C3.1 FOR ACTUAL GRADING DEPTHS.
16. CONTRACTOR IS TO AVOID COMPACTING SOILS ASSOCIATED WITH PROPOSED RAIN GARDEN AREA. IF COMPACTION HAS OCCURRED CONTRACTOR IS TO ROTOTILL AREAS TO A DEPTH OF 12" AND TILL IN 6" OF ORGANIC COMPOST PRIOR TO ANY PLANTINGS.
17. CONTRACTOR IS TO MAINTAIN RAIN GARDEN AREA FREE FROM WEEDS AND OTHER INVASIVE PLANT MATERIAL.
18. LANDSCAPE ARCHITECT WILL INSPECT CONDITION OF RAIN GARDEN UPON COMPLETION OF INSTALLATION AND GIVE WRITTEN PROVISIONAL ACCEPTANCE. FOLLOWING ANNIVERSARY DATE LANDSCAPE ARCHITECT WILL INSPECT RAIN GARDEN AREA FOR FINAL ACCEPTANCE. INSPECTION WILL INCLUDE OVERALL CONDITION OF PLANTINGS, INDICATION OF ANY WEEDS, AND MONITORING OF ANY SEDIMENTATION. FINAL ACCEPTANCE WILL BE OFFERED TO CONTRACTOR AFTER ANY COMMENTS ARE ADDRESSED UPON THIS INSPECTION.
19. AFTER FIRST GROWING SEASON CONTRACTOR IS RESPONSIBLE TO REMOVE ALL DEAD PLANT DEBRIS FROM PREVIOUS GROWING SEASON AND MOWING SHRUB MATERIAL AS NECESSARY FOR OVERALL APPEARANCE OF RAIN GARDEN.
20. CONTRACTOR IS RESPONSIBLE TO MONITOR AND CONTROL SEDIMENTATION IN PRE-TREATMENT AREAS (TURF) AND IN RAIN GARDEN FOR ONE FULL YEAR.
21. CONTRACTOR IS RESPONSIBLE TO MONITOR MOISTURE IN ALL RAIN GARDEN AREAS FOR ONE FULL YEAR. CONTRACTOR IS TO SUPPLEMENT WATER IF THERE IS INSUFFICIENT RAINFALL (ONE INCH PER WEEK).
22. MULCH IS TO BE 3"-4" OF SHREDDED HARDWOOD BARK MULCH IN RAIN GARDEN. CONTRACTOR IS TO TAKE CARE TO MAINTAIN 4" CLEARING AROUND BASE OF SHRUBS, AND 3" CLEARING AROUND PERENNIALS, FREE FROM MULCH. CONTRACTOR IS TO MAINTAIN INITIAL DEPTH OF MULCH FOR ONE FULL YEAR IN RAIN GARDEN AREAS TO REDUCE WEED INFESTATION.
23. RAIN GARDEN AREAS ARE TO RECEIVE 1-6" DEPTH OF PLANTING SOIL. PLANTING SOIL IS TO CONSIST OF 20% ORGANIC MATERIAL, 50% SANDY SOIL, AND 30% TOPSOIL. CLAY CAN BE PRESENT TO A MAXIMUM OF 10% OF OVERALL MIX.

LEGEND

SYMBOL	DESCRIPTION	ESTIMATED QUANTITY
	SEED MIX 34-261 BIFARGAN NORTHEAST	1836 SF
	2"-0" WOB RIVER ROCK	171 SF
	SOD	3,130 SF

FLANNING DEPARTMENT
JAN 23 2015
CITY OF EDINA

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

NORTH
0 40 80

OWNER

FRANK BERMAN
5331 EVANSWOOD LANE
EDINA, MN 55436
TEL (612)770-6239

MUNICIPALITY

CITY OF EDINA HENNEPIN COUNTY MINNESOTA

PROJECT

BLAKE WOODS SUBDIVISION
EDINA, MN

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C0.2	PRELIMINARY PLAT
C1.1	EXISTING CONDITIONS
C2.1	DEMOLITION
C3.1	GRADING
C3.2	GRADING, DRAINAGE AND EROSION CONTROL PLAN
C4.1	UTILITIES
C5.1	STREET PLAN AND PROFILE
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C7.2	CIVIL CONSTRUCTION DETAILS
C7.3	CIVIL CONSTRUCTION DETAILS
C7.4	CIVIL CONSTRUCTION DETAILS
L1.1	TREE PRESERVATION PLAN
L2.1	LANDSCAPE PLAN (THIS)
L3.1	LANDSCAPE PLANTING
L7.1	LANDSCAPE DETAILS

REVISION HISTORY

CONTACT ENGINEER FOR ANY INFORMATION

DATE	REVISION	REVIEW
23 JAN 2015	PRELIMINARY PLAT SUBMITTAL	GMC

PROJECT MANAGER REVIEW

BY: GD DATE: 12/23/2014

CERTIFICATION

PRELIMINARY NOT FOR CONSTRUCTION

IF THIS SIGNATURE, SEAL OR FOOTLINER IMPRINT CANNOT BE SEEN, THIS SHEET HAS BEEN REPRODUCED OR MODIFIED IN CLARITY. REGARDLESS, AND IN RELIANCE ON ANY AND ALL DOCUMENTS, PLEASE CONTACT THE EXAMINER TO REQUEST ADDITIONAL DOCUMENTS.

PRELIMINARY PLAT
01/23/2015

LANDFORM
From Site to Finish
105 South Fifth Avenue Tel: 612-252-0070
Suite 513 Fax: 612-252-0077
Minneapolis, MN 55401 Web: landform.net

FILE NAME L2012ZZ2317
PROJECT NO. ZZZ14317

LANDSCAPE PLAN
L2.1
SHEET NO. 12/18

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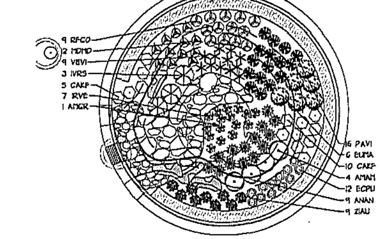
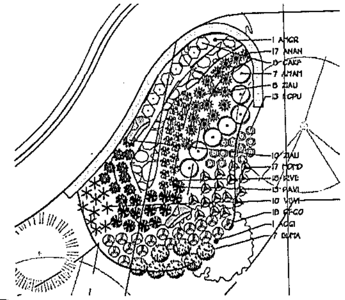


8 ENLARGED PLAN- RAIN GARDEN 'E'

NO SCALE



4 ENLARGED PLAN- RAIN GARDEN 'D'

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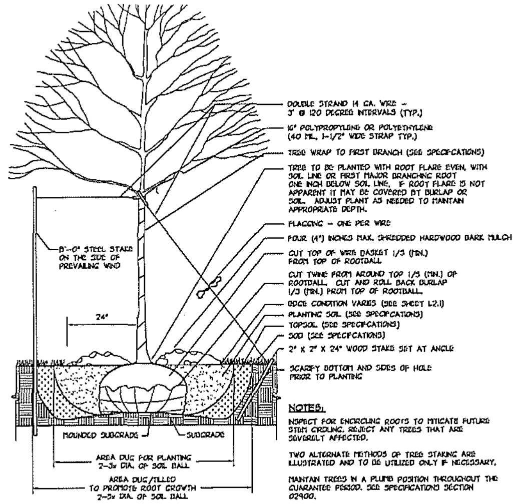

1 DECIDUOUS TREE PLANTING

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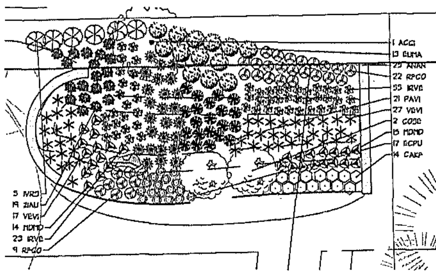

9 ENLARGED PLAN- RAIN GARDEN 'C'

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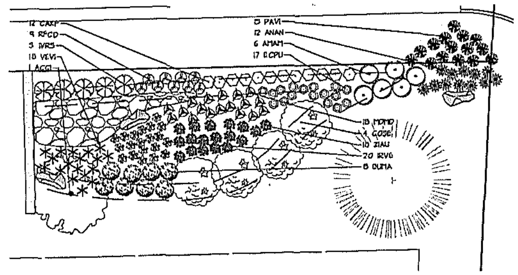

5 ENLARGED PLAN- RAIN GARDEN 'A'

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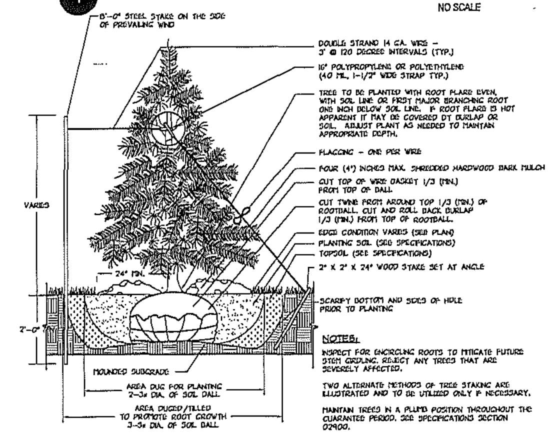

2 CONIFEROUS TREE PLANTING

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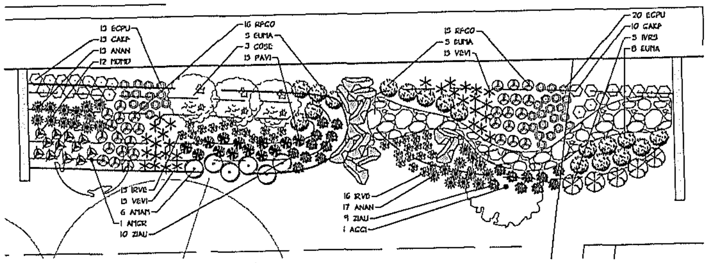

10 ENLARGED PLAN- RAIN GARDEN 'B'

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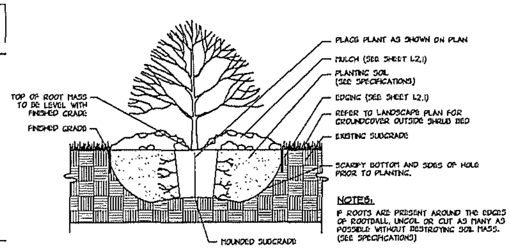

6 SHRUB PLANTING

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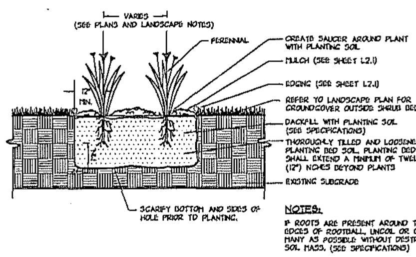

7 PERENNIAL PLANTING

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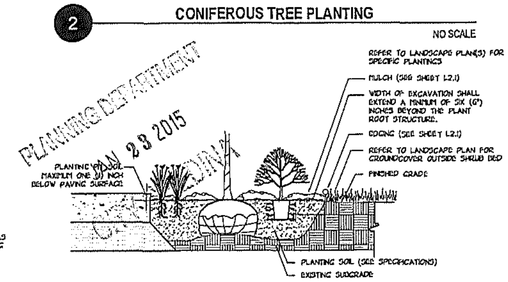

3 EDGING AT PLANTING BED

Name	Count	KEY	COMMON NAME	SCIENTIFIC NAME	MATURE SIZE	PLANTING SIZE	ROOT COND.
CONIFEROUS SHRUBS	18	PMPU	MUGHO PINE	PINUS MUGHO PUMILIO	5'H x 6'W		
DECIDUOUS SHRUBS	19	IVRS	RED SPRITE WINTERBERRY	ILEX VERTICILLATA 'RED SPRITE'	3'H x 4'W		CONTAINER
DECIDUOUS SHRUBS	23	AMAM	AUTUMN MAGIC BLACK CHOKEBERRY	ARONIA MELANOCARPA	5'H x 4'W		CONTAINER
DECIDUOUS SHRUBS	15	COSC	CARDINAL RED OSIER DOGWOOD	CORNUS SERICEA 'CARDINAL'	10'H x 10'W		CONTAINER
DECIDUOUS TREES	4	GLSK	SKYLINE HONEYLOCUST	GLEDITSIA TRIACANTHOS 'SKYCOLE'	50'H x 35'W	2.5" CAL.	B & B
DECIDUOUS TREES	1	QUBI	AMUR MAPLE	QUERCUS BICOLOR	60'H x 50'W	2.5" CAL.	B & B
GRASSES	78	PAVI	SWITCHGRASS	PANICUM VIRGATUM	5'H x 3'W	4"	CONTAINER
GRASSES	117	CAKF	FEATHER REED GRASS	CALAMAGROSTIS ACUTIFOLIA 'KARL FOERSTER'	5'H x 2'W	4"	CONTAINER
PERENNIALS	92	ECPU	PURPLE CONEFLOWER	ECHINACEA PURPUREA	3'H x 18"W		
PERENNIALS	117	ARSC	SILVER MOUND ARTEMISIA	ARTEMISIA SCHMIDTIANA	1'H x 2'W		CONTAINER
PERENNIALS	78	MDMD	MARSHALL'S DELIGHT BEE BALM	MONARDA DIDYMA 'MARSHALL'S DELIGHT'	3'H x 3'W		
PERENNIALS	88	RFCO	BLACK EYED SUSAN	RUDBECKIA FULGIDA 'GOLDSTRUM'	30"H x 22"W		
RAIN GARDEN PERENNIALS	52	EUMA	JOE PYE WEED	EUPATORIUM MACULATUM	4'H x 4'W		
RAIN GARDEN PERENNIALS	102	ZIAU	GOLDEN ALEXANDER	ZIZIA AUREA	3'H x 2'W		CONTAINER
RAIN GARDEN PERENNIALS	93	ANAN	NEW ENGLAND ASTER	ASTER NOVAE-ANGLIAE	4'H x 3'W		
RAIN GARDEN PERENNIALS	52	VEVI	CULVER'S ROOT	VERONICASTRUM VIRGINICUM	4'H x 2'W		
RAIN GARDEN PERENNIALS	114	IRVE	BLUE FLAG IRIS	IRIS VERSICOLOR	3'H x 2'W		

© LANDFORM 2013

A20

PLANNING DEPARTMENT JAN 23 2015 CITY OF EDINA

OWNER

FRANK BERMAN

5331 EVANSWOOD LANE
EDINA, MN 55436
TEL (612)770-5239

MUNICIPALITY

CITY OF EDINA, MINNESOTA

PROJECT

BLAKE WOODS SUBDIVISION
EDINA, MN

SHEET INDEX

SHEET	TITLE
C0.1	CIVIL TITLE SHEET
C0.2	PRELIMINARY PLAT
C1.1	EXISTING CONDITIONS
C1.2	DEMOLITION
C2.1	SITE PLAN
C3.1	GRADING, DRAINAGE AND EROSION CONTROL PLAN
C4.1	UTILITIES
C6.1	STREET PLAN AND PROFILE
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C7.2	CIVIL CONSTRUCTION DETAILS
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L1.1	TREE PRESERVATION PLAN
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L7.1	LANDSCAPE DETAILS

REVISION HISTORY

CONTACT ENGINEER FOR ANY PRIOR HISTORY

DATE	REVISION	REVIEW
22 JAN 2015	PRELIMINARY PLAT SUBMITTAL	CHG

PROJECT MANAGER REVIEW

CERTIFICATION

PRELIMINARY NOT FOR CONSTRUCTION

IF THE SIGNATURE, SEAL OR FOUR LINES DIRECTLY ABOVE ARE NOT VISIBLE, THIS SHEET HAS BEEN REPRODUCED BEYOND INTENDED READABILITY AND IS NO LONGER A VALID DOCUMENT. PLEASE CONTACT THE ENGINEER TO REQUEST ADDITIONAL DOCUMENTS.

PRELIMINARY PLAT
01/23/2015

LANDFORM
From Site to Finish

105 South Fifth Avenue, Suite 513, Minneapolis, MN 55401
Tel: 612-252-9070
Fax: 612-252-9077
Web: landform.net

FILE NAME L701ZZZ317

PROJECT NO. ZZZ14317

LANDSCAPE DETAILS

L7.1

SHEET NO. 16/16

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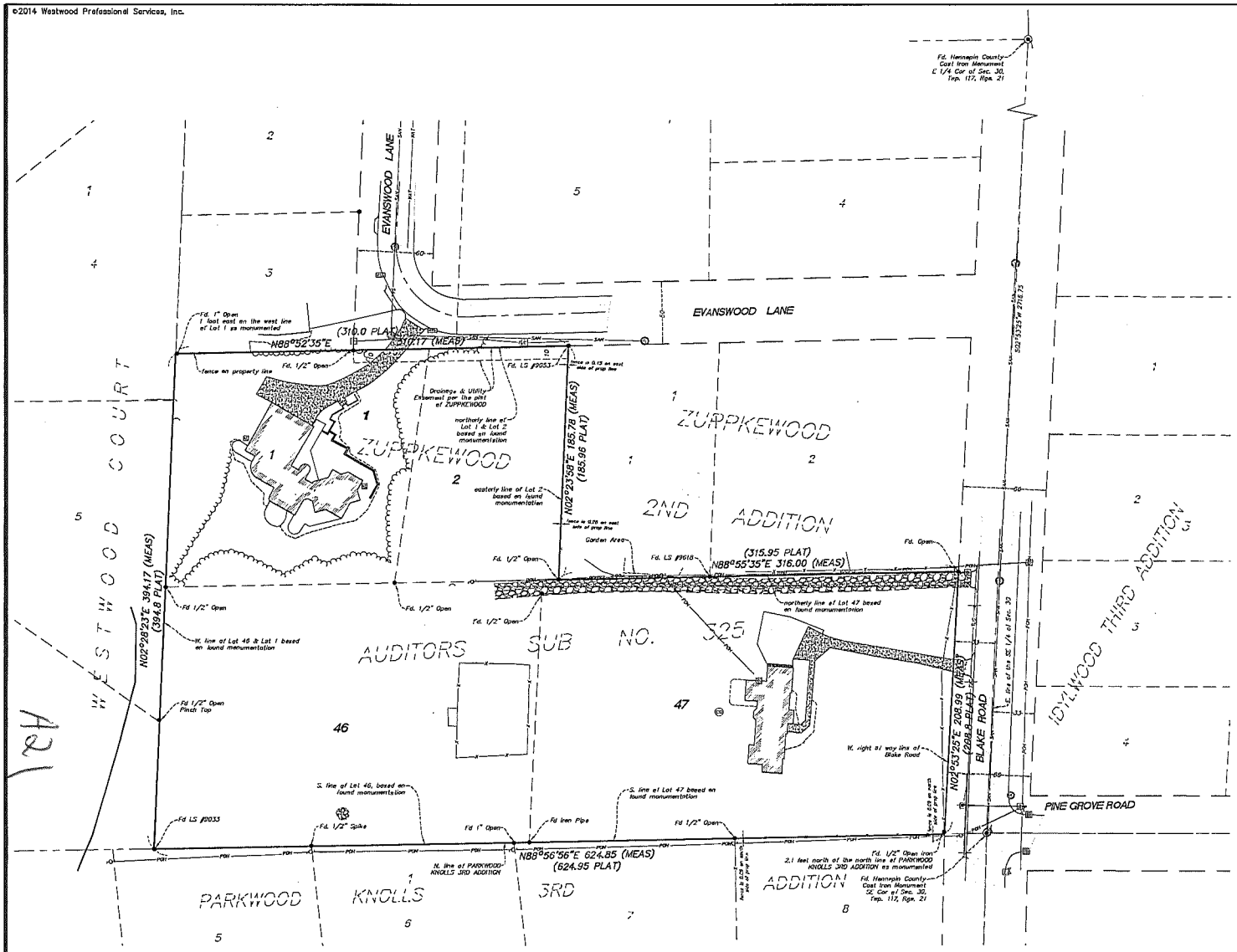
Call 48 Hours before digging:
811 or call811.com
Common Ground Alliance



Property Description

Lot 1 and Lot 2 Block 1, ZUPPKEWOOD, according to the recorded plat thereof, Hennepin County, Minnesota

AND

Lot 46 and Lot 47, AUDITORS SUBDIVISION NO. 325, according to the recorded plat thereof, Hennepin County, Minnesota.

General Notes:

1.) No title work or easements have been reviewed for this survey.

2.) Horizontal Datum is based on Hennepin County coordinate system, 1983NAD (1986adj), US Survey Feet.

3.) This survey summarizes the field monumentation involved for the subject property.

4.) Copies of the Adjoiner's Deeds have not been reviewed as part of this survey. Adjoiners tax descriptions as shown on Hennepin County website were reviewed to research adjoiners record descriptions only. No gaps or overlaps were found in description provided by client and tax record descriptions.

Legend

- BUSH/SHRUB
- CONIFEROUS TREE
- DECIDUOUS TREE
- WETLAND
- STEEL/WOOD POST
- SIGN-TRAFFIC/OTHER
- SIGN-TRAFFIC/OTHER
- MAIL BOX
- HANDICAPPED STALL
- PERC TEST
- MONITORING WELL
- CABLE TV BOX
- GAS METER
- CULVERT
- GAS — GAS LINE
- POH — POWER OVERHEAD
- PUO — POWER UNDERGROUND
- SAN — SANITARY SEWER
- STO — STORM SEWER
- TOH — TELEPHONE OVERHEAD
- TUO — TELEPHONE UNDERGROUND
- WAT — WATERMAIN
- WATER METER
- CURB STOP BOX
- WATER MANHOLE
- WELL
- CTV — CABLE TV
- SOIL BORING
- FOUND CORNER
- FOUND CAST IRON MONUMENT
- STREET LIGHT
- GUY WIRE
- POWER POLE
- ELECTRIC BOX
- ELECTRIC METER
- ELECTRIC MANHOLE
- ELECTRIC TOWER
- SANITARY MANHOLE
- SEWER CLEANOUT
- BEEHIVE CATCH BASIN
- CATCH BASIN
- FLARED END SECTION
- CONCRETE SURFACE
- GRAVEL SURFACE
- STORM MANHOLE
- TELEPHONE BOX
- TELEPHONE MANHOLE
- TRAFFIC CONTROL BOX
- HAND HOLE
- TRAFFIC LIGHT
- GATE VALVE
- HYDRANT
- FENCE LINE
- DECIDUOUS TREE LINE
- CONIFEROUS TREE LINE
- CURB & GUTTER
- BITUMINOUS SURFACE

0' 40' 80' 120'

RECEIVED
JAN 8 2015
CITY OF EDINA

0004087CTF01.dwg

Date 12/22/2014 Sheet 1 OF 1

Berman
Edina

Edina, Minnesota

Certificate of Survey

Westwood

Phone (952) 937-5150 7699 Anagram Drive
Fax (952) 937-5822 Eden Prairie, MN 55344
Toll Free (888) 937-5150 westwoodps.com
Westwood Professional Services, Inc.

I hereby certify that this plan 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.

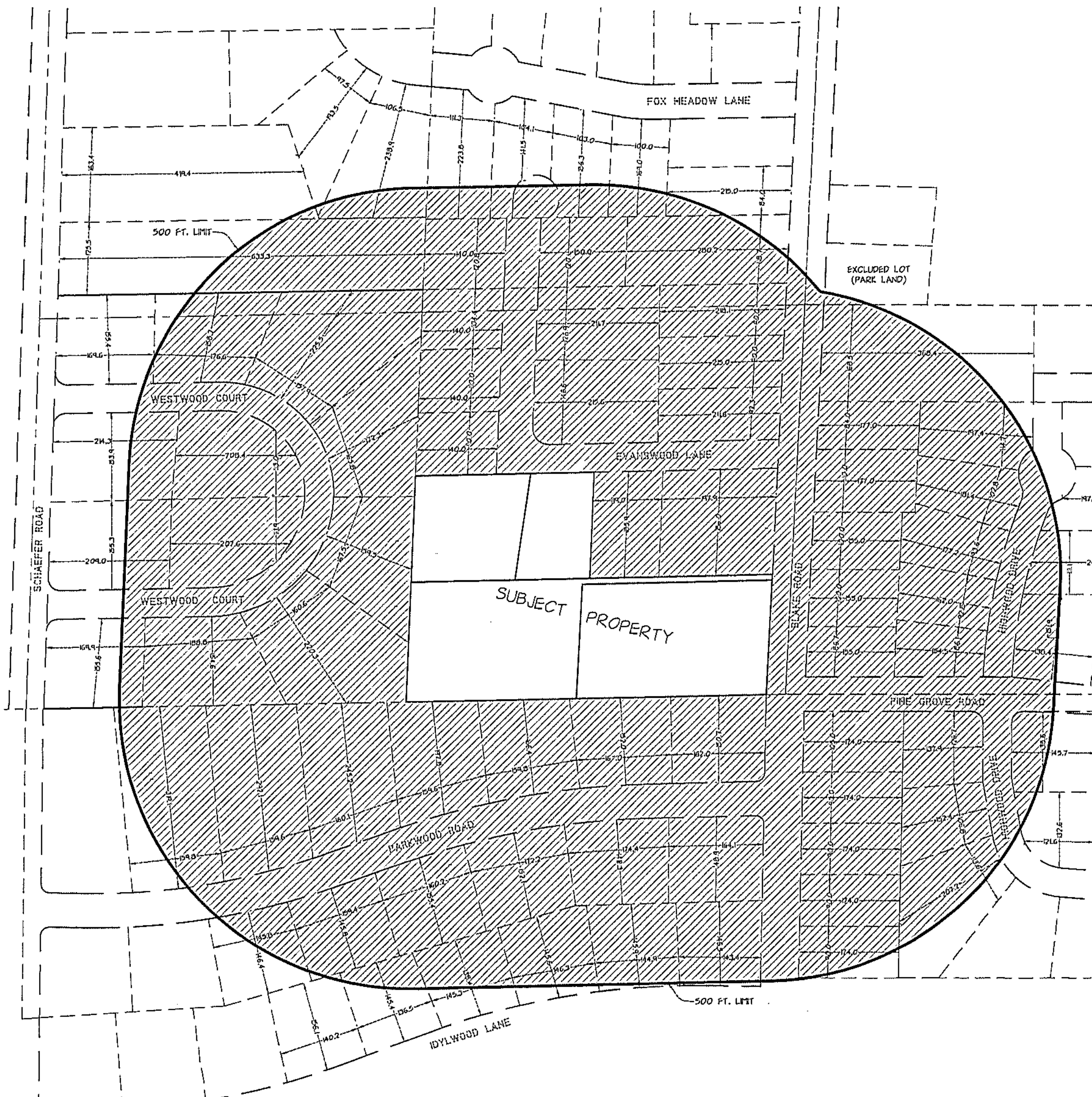
Craig W. Matne
Date 12/22/2014 License No. 23021

Revisions

Crew JAG
Checked CTM
Drawn DSJ
Record Drawing by/date

Prepared for:

Frank Berman
5331 Evanswood Lane
Edina, Minnesota 55436



A22

LOT SUMMARY

Parcel #	Parcel Area				Lot Width	Lot Depth	PID	House No.	Street Name	Owner Name	Addition Name	Lot	Block	Metes & Bnds
1	21,350	sq.ft.	0.49	acres	140.2	156.1	3111721110016	6200	IDYLWOOD LA	GEORGE T HOLDEN	PARKWOOD KNOLLS 07TH ADDN	009	001	
2	19,611	sq.ft.	0.45	acres	136.5	149.4	3111721110017	6210	IDYLWOOD LA	DAVID P MCCARTHY	PARKWOOD KNOLLS 07TH ADDN	005	001	
3	20,486	sq.ft.	0.47	acres	145.3	138.4	3111721110018	6212	IDYLWOOD LA	DANIEL & KIMBERLY NORMAN	PARKWOOD KNOLLS 07TH ADDN	004	001	
4	21,842	sq.ft.	0.5	acres	150.9	145.8	3111721110033	6208	IDYLWOOD LA	TIMOTHY J KOEPPL	PARKWOOD KNOLLS 07TH ADDN	007	001	
5	21,574	sq.ft.	0.5	acres	144.9	145.9	3111721110049	6204	IDYLWOOD LA	R M WEATHERLY/A J WEATHERLY	PARKWOOD KNOLLS 07TH ADDN	006	001	
6	21,257	sq.ft.	0.49	acres	143.4	148.5	3111721110063	6200	IDYLWOOD LA	GEORGE T HOLDEN	PARKWOOD KNOLLS 07TH ADDN	009	001	
7	24,306	sq.ft.	0.56	acres	164.1	148.8	3111721110014	6201	PARKWOOD RD	W J & L L JOHNSON	PARKWOOD KNOLLS 03RD ADDN	008	002	
8	23,744	sq.ft.	0.54	acres	174.4	144.9	3111721110015	6205	PARKWOOD RD	J P & M O ANDERSON	PARKWOOD KNOLLS 03RD ADDN	007	002	
9	23,633	sq.ft.	0.54	acres	177.2	132.1	3111721110014	6209	PARKWOOD RD	W & N DONNELLY	PARKWOOD KNOLLS 03RD ADDN	006	002	
10	24,819	sq.ft.	0.57	acres	180.2	135.4	3111721110011	6213	PARKWOOD RD	R W CARTHAUS ETAL	PARKWOOD KNOLLS 03RD ADDN	005	002	
11	23,277	sq.ft.	0.53	acres	159.4	145.8	3111721110012	6217	PARKWOOD RD	D F & B L HAMES	PARKWOOD KNOLLS 03RD ADDN	004	002	
12	21,870	sq.ft.	0.5	acres	149.8	146.4	3111721110013	6221	PARKWOOD RD	S & H MESHINSHEY	PARKWOOD KNOLLS 03RD ADDN	003	002	
13	50,801	sq.ft.	1.12	acres	159.8	518.1	3111721110002	6224	PARKWOOD RD	JASON & TREVA VOGT	PARKWOOD KNOLLS 03RD ADDN	002	001	
14	45,709	sq.ft.	1.05	acres	159.6	292.1	3111721110003	6220	PARKWOOD RD	WILLIAM C FOSTER ETAL	PARKWOOD KNOLLS 03RD ADDN	003	001	
15	38,185	sq.ft.	0.88	acres	180.1	245.1	3111721110004	6216	PARKWOOD RD	E S & J S EASTMAN	PARKWOOD KNOLLS 03RD ADDN	006	001	
16	31,370	sq.ft.	0.72	acres	159.8	192.9	3111721110005	6212	PARKWOOD RD	P E & L M DAHL	PARKWOOD KNOLLS 03RD ADDN	005	001	
17	26,658	sq.ft.	0.61	acres	159.8	166.4	3111721110006	6208	PARKWOOD RD	D C DICKINSON & P L WOLLIN	PARKWOOD KNOLLS 03RD ADDN	003	001	
18	25,596	sq.ft.	0.59	acres	165.0	152.0	3111721110007	6204	PARKWOOD RD	PHILLIP M SWETTSTR	PARKWOOD KNOLLS 03RD ADDN	007	001	
19	24,512	sq.ft.	0.56	acres	162.0	150.2	3111721110008	6202	PARKWOOD RD	CARLA J ROSS	PARKWOOD KNOLLS 03RD ADDN	008	001	
20	15,652	sq.ft.	0.36	acres	90.0	174.0	1711721220041	5412	BLAKE RD	M J CONOVER & D P CONOVER	IDYLWOOD 5TH ADDN	005	001	
21	15,657	sq.ft.	0.36	acres	90.0	174.0	3311721220040	5413	BLAKE RD	MATTHEW J SCHNITA	IDYLWOOD 5TH ADDN	004	001	
22	15,657	sq.ft.	0.36	acres	90.0	174.0	1211721220039	5409	BLAKE RD	P J MILLER & R T MILLER	IDYLWOOD 5TH ADDN	003	001	
23	15,851	sq.ft.	0.36	acres	90.8	174.0	3311721220038	5405	BLAKE RD	MARY A KABENZ	IDYLWOOD 5TH ADDN	002	001	
24	18,767	sq.ft.	0.43	acres	109.0	174.0	3211721220037	5401	BLAKE RD	JMS CUSTOM HOMES LLC	IDYLWOOD 5TH ADDN	001	001	
25	17,611	sq.ft.	0.4	acres	126.7	137.9	7211721220028	5400	HIGHWOOD DR W	L & M JOHNSON	IDYLWOOD 3RD ADDN	003	002	
26	17,222	sq.ft.	0.4	acres	108.8	152.4	3211721220029	5404	HIGHWOOD DR W	T H JOEL & R LIBEL	IDYLWOOD 3RD ADDN	003	002	
27	32,215	sq.ft.	0.74	acres	113.6	207.2	3211721220030	5408	HIGHWOOD DR W	SUNNY SUKKIM TRUSTEE	IDYLWOOD 3RD ADDN	001	002	
28	18,768	sq.ft.	0.43	acres	132.6	132.4	3211721220027	5405	HIGHWOOD DR W	J P & S R ENGELHART	IDYLWOOD 3RD ADDN	006	001	
29	19,948	sq.ft.	0.46	acres	138.9	138.9	3211721220047	6029	PINE GROVE RD	LARRY WOOD & JEANNE WOOD	IDYLWOOD 6TH ADDN	006	002	
30	20,709	sq.ft.	0.48	acres	138.4	151.9	2911721130015	5313	HIGHWOOD DR W	S R ROUSEY & D D MACMILLAN	IDYLWOOD 6TH ADDN	007	001	
31	22,481	sq.ft.	0.51	acres	111.1	242.2	2411721130011	5309	HIGHWOOD DR W	L B DOLAN & T J DOLAN	IDYLWOOD 4TH ADDN	009	001	
32	22,440	sq.ft.	0.52	acres	111.6	197.8	2911721130017	5305	HIGHWOOD DR W	JOHN C LARKIN	IDYLWOOD 4TH ADDN	008	001	
33	20,688	sq.ft.	0.47	acres	124.7	197.4	2911721130009	5300	HIGHWOOD DR W	C & K WHITE	IDYLWOOD 4TH ADDN	002	001	EX ROAD
34	17,175	sq.ft.	0.39	acres	102.8	141.6	2911721130017	5309	HIGHWOOD DR W	R A HAYMAKER & L L HAYMAKER	REPLAT IDYLWOOD 4TH LOTS 3 TO 5 BLK 1	001	001	
35	17,174	sq.ft.	0.39	acres	95.8	177.3	2911721130016	5308	HIGHWOOD DR W	CHRISTOPHER D JOHNSON	REPLAT IDYLWOOD 4TH LOTS 3 TO 5 BLK 1	002	001	
36	15,500	sq.ft.	0.36	acres	92.8	192.0	2911721130018	5312	HIGHWOOD DR W	PATRICIA M ROOSALIS	REPLAT IDYLWOOD 4TH LOTS 3 TO 5 BLK 1	003	001	
37	13,845	sq.ft.	0.32	acres	85.1	154.5	2911721130010	5316	HIGHWOOD DR W	SUSAN ZEE	IDYLWOOD 4TH ADDN	006	001	
38	13,438	sq.ft.	0.31	acres	86.7	155.0	2911721130007	5321	BLAKE RD	RENDAL MASICA	IDYLWOOD 3RD ADDN	004	003	
39	15,485	sq.ft.	0.36	acres	100.0	155.0	2911721130006	5312	BLAKE RD	P J REICHEL & J K REICHEL	IDYLWOOD 3RD ADDN	003	003	
40	15,487	sq.ft.	0.36	acres	100.0	155.0	2911721130005	5319	BLAKE RD	J H LARSON & A M LARSON	IDYLWOOD 3RD ADDN	002	003	
41	19,448	sq.ft.	0.45	acres	118.0	177.8	2911721130004	5309	BLAKE RD	ROGER D HAUCK & KELLY HAUCK	IDYLWOOD 3RD ADDN	001	003	
42	14,851	sq.ft.	0.34	acres	84.0	177.0	2911721130008	5307	BLAKE RD	JON A UMHOEFER	IDYLWOOD 4TH ADDN	001	001	
43	62,812	sq.ft.	1.44	acres	186.9	304.9	2911721130050	5225	BLAKE RD	ALVIN E & MARY A MCQUINN	EMERALD WOODS ADDN		001	LOTS 1 AND 2
45	36,671	sq.ft.	0.84	acres	197.9	180.9	3011721440061	5219	BLAKE RD	U M BALAFAS & K O BALAFAS	ZUPPKEWOOD 2ND ADDN	002	001	
46	22,004	sq.ft.	0.51	acres	125.0	185.9	3011721440060	5211	EVANSWOOD LA	CHARLES E & KIM W OTIS	ZUPPKEWOOD 2ND ADDN	001	001	
47	15,321	sq.ft.	0.39	acres	110.0	140.0	3011721440020	5304	EVANSWOOD LA	A C KOEHLER & B MERDTHER	EVANSWOOD	003	002	
48	15,377	sq.ft.	0.20	acres	110.0	140.0	3011721440010	5300	EVANSWOOD LA	T J MONTGOMERY ET AL	EVANSWOOD	002	002	
49	14,800	sq.ft.	0.46	acres	108.4	140.0	3011721440018	5318	EVANSWOOD LA	A M CARLSON & A J BARNES	EVANSWOOD	001	002	
50	16,891	sq.ft.	0.39	acres	126.4	140.0	3011721440013	5324	EVANSWOOD LA	MIRIAM C OLSON	BROWNSWOOD ADDN	001	002	
51	17,985	sq.ft.	0.41	acres	128.3	150.0	3011721440010	5221	EVANSWOOD LA	C A FLINN & J H FLINN	BROWNSWOOD ADDN	001	001	
52	22,012	sq.ft.	0.51	acres	120.9	213.7	3011721440015	5235	EVANSWOOD LA	OLAF MINGE & AMY MINGE	EVANSWOOD	001	001	
53	31,142	sq.ft.	0.72	acres	146.6	213.4	3011721440017	5301	EVANSWOOD LA	R V MICHALETZ/J M MICHALETZ	EVANSWOOD	005	001	
54	19,511	sq.ft.	0.45	acres	87.1	211.4	3011721440018	5308	EVANSWOOD LA	PAUL R JAMES/ALISON S JAMES	EVANSWOOD	002	001	
55	19,315	sq.ft.	0.44	acres	90.8	215.0	3011721440015	5304	BLAKE RD	M J & L A WADDICK	EVANSWOOD	003	001	
56	19,706	sq.ft.	0.45	acres	90.9	218.1	3011721440014	5300	BLAKE RD	HAID & LINDSAY E NEWTON	EVANSWOOD	002	001	
57	31,791	sq.ft.	0.75	acres	118.7	280.2	3011721440011	5224	BLAKE RD	B A ANDERSON & J ANDERSON	BROWNSWOOD ADDN	007	001	
58	18,076	sq.ft.	0.41	acres	84.0	215.8	3011721440022	5020	BLAKE RD	JILL C FINN	EVANSWOOD 2ND ADDN	007	001	
59	17,027	sq.ft.	0.39	acres	161.0	168.0	3011721440048	6209	FOX MEADOW LA	J SCHOENFELD & P SCHOENFELD	OAK PONDS OF INTERLACHEN	004	002	
60	18,247	sq.ft.	0.42	acres	103.0	186.9	3011721440042	6215	FOX MEADOW LA	A E SULLIVAN/T J SULLIVAN TR	OAK PONDS OF INTERLACHEN	003	002	SUBJECT TO STREET
61	35,582	sq.ft.	0.78	acres	104.1	341.3	3011721440048	6217	FOX MEADOW LA	W T GOODNOW & S W GOODNOW	OAK PONDS OF INTERLACHEN	005	002	SUBJECT TO STREET
62	24,167	sq.ft.	0.55	acres	111.3	223.8	3011721440045	6221	FOX MEADOW LA	F O FISKE & S A CARLSON	OAK PONDS OF INTERLACHEN	001	002	
63	32,491	sq.ft.	0.75	acres	106.5	238.9	3011721440058	6225	FOX MEADOW LA	DANIEL H & PATRICIA K BEAVER	OAK PONDS OF INTERLACHEN 2ND ADDN	004	001	
64	24,375	sq.ft.	0.56	acres	97.5	301.5	3011721440057	6277	FOX MEADOW LA	J S SAVAGE & J N SAVAGE	OAK PONDS OF INTERLACHEN 2ND ADDN	003	001	
65	68,487	sq.ft.	1.52	acres	163.4	419.4	3011721440059	5212	SCHAEFER RD	EDWARD W DUCKMAN	OAK PONDS OF INTERLACHEN 2ND ADDN	005	001	
66	79,001	sq.ft.	1.81	acres	175.5	611.3	3011721440001	5225	SCHAEFER RD	BARBARA R DINWOODIE ETAL TRE	AUDITOR'S SUBD. NO. 325	019		
67	26,232	sq.ft.	0.6	acres	109.6	355.4	3011721440024	6300	WESTWOOD CT	C & L LARSON JR	WESTWOOD COURT	001	001	
68	23,594	sq.ft.	0.54	acres	176.6	158.7	3011721440025	6304	WESTWOOD CT	FRANCIS DANIEL HUEMEN III	WESTWOOD COURT	002	001	
69	46,029	sq.ft.	1.06	acres	132.9	275.5	3011721440028	6308	WESTWOOD CT	M H BOEHNE & T BOEHNE	WESTWOOD COURT	003	001	
70	34,001	sq.ft.	0.78	acres	161.8	177.2	3011721440027	6312	WESTWOOD CT	V S BONFILIO & J M BONFILIO	WESTWOOD COURT	004	001	
71	33,201	sq.ft.	0.77	acres	167.5	159.9	3011721440028	6316	WESTWOOD CT	T W KUCK & A W KUCK	WESTWOOD COURT	005	001	
72	44,502	sq.ft.	1.02	acres	160.4	220.3	3011721440026	6320	WESTWOOD CT	THOMAS B & DIANE C WENTZ	WESTWOOD COURT	006	001	
73	32,298	sq.ft.	0.74	acres	188.8	154.6	3011721440030	6324	WESTWOOD CT	ROBERT E FLYNN ET AL	WESTWOOD COURT	007	001	
74	26,204	sq.ft.	0.6	acres	109.9	155.6	3011721440031	6328	WESTWOOD CT	T S RITZER & V S RITZER	WESTWOOD COURT	008	001	
75	32,550	sq.ft.	0.74	acres	209.0	155.3	3011721440035	6313	WESTWOOD CT	DAVID E PAUTZ	WESTWOOD COURT	004	002	
76	30,928	sq.ft.	0.71	acres	111.9	207.6	3011721440034	6305	WESTWOOD CT	HAROLD & REBECCA LITTERMAN	WESTWOOD COURT	001	002	
77	29,567	sq.ft.	0.68	acres	115.0	208.4	3011721440033	6309	WESTWOOD CT	K W & T A RAUDIO	WESTWOOD COURT	002	002	
78	32,201	sq.ft.	0.75	acres	214.3	155.9	3011721440032	6301	WESTWOOD CT	CHRISTY L C THIELE	WESTWOOD COURT	001	002	
Mean	25,873		0.59		133.0	189.8								
Median	21,843		0.50		120.8	164.4								

MAP NOTES

1. THIS IS NOT A BOUNDARY SURVEY. THIS MAP IS FOR LOT ANALYSIS PURPOSES ONLY.
2. THE METHOD OF MEASUREMENTS AND CALCULATIONS USED WERE COMPUTED PLATS AND AUTOCAD SOFTWARE.

OWNER

FRANK BERMAN
5331 EVANSWOOD LANE
EDINA, MN 55436

MUNICIPALITY

CITY OF EDINA, MINNESOTA

PROJECT

BLAKE WOODS
EDINA, MN

SHEET INDEX

SHEET TITLE

REVISION HISTORY

CONTACT ENGINEER FOR ANY PRIOR HISTORY

DATE REVISION REVIEW

PROJECT MANAGER REVIEW

CERTIFICATION

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.

Max L. Stanislowski

License No. 48988 Date 01.20.2014

PLANNING DEPARTMENT
JAN 23 2015
CITY OF EDINA

L A N D F O R M
From Site to Finish

105 South Fifth Avenue
Suite 513
Minneapolis, MN 55401

Tel: 612-252-9070
Fax: 612-252-9077
Web: landform.net

FILE NAME lots-ZZZ14317.dwg

PROJECT NO. ZZZ14317

LOT ANALYSIS MAP

SHEET NO. 1/1

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

NORTH

0 100 200

© LANDFORM 2014

LOT SUMMARY

Parcel #	Parcel Area				Lot Width	Lot Depth	PID	House No.	Street Name	Owner Name	Addition Name	Lot	Block	Metes & Bnds
1	21,354	sq.ft.	0.49	acres	140.2	156.1	3111721110036	6200	IDYLWOOD LA	GEORGE T HOLDEN	PARKWOOD KNOLLS 07TH ADDN	009	001	
2	19,613	sq.ft.	0.45	acres	136.5	145.4	3111721110037	6216	IDYLWOOD LA	DAVID P MCCARTHY	PARKWOOD KNOLLS 07TH ADDN	005	001	
3	20,486	sq.ft.	0.47	acres	145.3	138.4	3111721110038	6212	IDYLWOOD LA	DANIEL & KIMBERLY NORMAN	PARKWOOD KNOLLS 07TH ADDN	006	001	
4	21,842	sq.ft.	0.5	acres	146.3	145.6	3111721110039	6208	IDYLWOOD LA	TIMOTHY J KOEPPL	PARKWOOD KNOLLS 07TH ADDN	007	001	
5	21,574	sq.ft.	0.5	acres	144.9	145.9	3111721110040	6204	IDYLWOOD LA	R M WEATHERLY/A J WEATHERLY	PARKWOOD KNOLLS 07TH ADDN	008	001	
6	21,257	sq.ft.	0.49	acres	143.4	146.5	3111721110041	6200	IDYLWOOD LA	GEORGE T HOLDEN	PARKWOOD KNOLLS 07TH ADDN	009	001	
7	24,306	sq.ft.	0.56	acres	164.1	148.9	3111721110016	6201	PARKWOOD RD	W J & J E JOHNSON	PARKWOOD KNOLLS 03RD ADDN	008	002	
8	25,244	sq.ft.	0.58	acres	174.4	148.3	3111721110015	6205	PARKWOOD RD	J P & M O ANDERSON	PARKWOOD KNOLLS 03RD ADDN	007	002	
9	25,632	sq.ft.	0.59	acres	172.2	152.1	3111721110014	6209	PARKWOOD RD	W & N DONNELLY	PARKWOOD KNOLLS 03RD ADDN	006	002	
10	24,618	sq.ft.	0.57	acres	160.2	155.4	3111721110013	6213	PARKWOOD RD	R W CARTHAUS ETAL	PARKWOOD KNOLLS 03RD ADDN	005	002	
11	23,277	sq.ft.	0.53	acres	159.4	145.8	3111721110012	6217	PARKWOOD RD	R P & A L HAMES	PARKWOOD KNOLLS 03RD ADDN	004	002	
12	21,876	sq.ft.	0.5	acres	145.8	146.4	3111721110011	6221	PARKWOOD RD	S & N MESHBESHER	PARKWOOD KNOLLS 03RD ADDN	003	002	
13	50,803	sq.ft.	1.17	acres	159.8	319.1	3111721110002	6224	PARKWOOD RD	JASON & TREVA VOGT	PARKWOOD KNOLLS 03RD ADDN	002	001	
14	45,790	sq.ft.	1.05	acres	159.6	292.1	3111721110003	6220	PARKWOOD RD	WILLIAM C FRASER ETAL	PARKWOOD KNOLLS 03RD ADDN	003	001	
15	38,285	sq.ft.	0.88	acres	160.1	245.2	3111721110004	6216	PARKWOOD RD	E S & J S EASTMAN	PARKWOOD KNOLLS 03RD ADDN	004	001	
16	31,179	sq.ft.	0.72	acres	159.6	197.8	3111721110005	6212	PARKWOOD RD	P E & L M DAHL	PARKWOOD KNOLLS 03RD ADDN	005	001	
17	26,658	sq.ft.	0.61	acres	159.8	166.4	3111721110006	6208	PARKWOOD RD	D C DICKINSON & R L WALLIN	PARKWOOD KNOLLS 03RD ADDN	006	001	
18	25,596	sq.ft.	0.59	acres	165.0	152.0	3111721110007	6204	PARKWOOD RD	PHILLIP M SWEETSER	PARKWOOD KNOLLS 03RD ADDN	007	001	
19	24,517	sq.ft.	0.56	acres	162.0	150.7	3111721110008	6200	PARKWOOD RD	CARLA J ROSE	PARKWOOD KNOLLS 03RD ADDN	008	001	
20	15,657	sq.ft.	0.36	acres	90.0	174.0	3211721220041	5417	BLAKE RD	M J CONOVER & D P CONOVER	IDYLWOOD 5TH ADDN	005	001	
21	15,657	sq.ft.	0.36	acres	90.0	174.0	3211721220040	5413	BLAKE RD	MATTHEW J LERNER	IDYLWOOD 5TH ADDN	004	001	
22	15,657	sq.ft.	0.36	acres	90.0	174.0	3211721220039	5409	BLAKE RD	E J MILLER & R E MILLER	IDYLWOOD 5TH ADDN	003	001	
23	15,657	sq.ft.	0.36	acres	90.0	174.0	3211721220038	5405	BLAKE RD	MARY R EBBERT	IDYLWOOD 5TH ADDN	002	001	
24	18,267	sq.ft.	0.42	acres	105.0	174.0	3211721220037	5401	BLAKE RD	JMS CUSTOM HOMES LLC	IDYLWOOD 5TH ADDN	001	001	
25	17,611	sq.ft.	0.4	acres	126.7	137.9	3211721220028	5400	HIGHWOOD DR W	L & M JOHNSON	IDYLWOOD 3RD ADDN	001	002	
26	17,222	sq.ft.	0.4	acres	106.8	152.4	3211721220029	5404	HIGHWOOD DR W	T H IGEL & P L IGEL	IDYLWOOD 3RD ADDN	002	002	
27	32,215	sq.ft.	0.74	acres	113.6	207.2	3211721220030	5408	HIGHWOOD DR W	SUNNY SIK KIM TRUSTEE	IDYLWOOD 3RD ADDN	003	002	
28	16,266	sq.ft.	0.37	acres	132.6	132.6	3211721220027	5405	HIGHWOOD DR W	J P & S R ENGELBERT	IDYLWOOD 3RD ADDN	006	001	
29	19,948	sq.ft.	0.46	acres	138.6	138.6	3211721220047	6029	PINE GROVE RD	LARRY WOOD & JEANNE WOOD	IDYLWOOD 6TH ADDN	006	002	
30	20,799	sq.ft.	0.48	acres	138.4	151.9	2911721330015	5313	HIGHWOOD DR W	S R ROUSEY & G D MACMILLAN	IDYLWOOD 6TH ADDN	002	001	
31	27,481	sq.ft.	0.63	acres	111.1	247.2	2911721330013	5309	HIGHWOOD DR W	L A DOLAN & T J DOLAN	IDYLWOOD 4TH ADDN	009	001	
32	22,440	sq.ft.	0.52	acres	111.9	197.6	2911721330012	5305	HIGHWOOD DR W	JOHN C LARKIN	IDYLWOOD 4TH ADDN	008	001	
33	20,688	sq.ft.	0.47	acres	114.7	197.4	2911721330009	5300	HIGHWOOD DR W	C & K WHITE	IDYLWOOD 4TH ADDN	002	001	EX ROAD
34	17,175	sq.ft.	0.39	acres	102.8	181.4	2911721330017	5304	HIGHWOOD DR W	R A HAYMAKER & L L HAYMAKER	REPLAT IDYLWOOD 4TH-LOTS 3 TO 5 BLK 1	001	001	
35	17,174	sq.ft.	0.39	acres	93.6	177.2	2911721330018	5308	HIGHWOOD DR W	CHRISTOPHER D JOHNSON	REPLAT IDYLWOOD 4TH-LOTS 3 TO 5 BLK 1	002	001	
36	15,500	sq.ft.	0.36	acres	92.8	162.0	2911721330019	5312	HIGHWOOD DR W	PATRICIA M BOOSALIS	REPLAT IDYLWOOD 4TH-LOTS 3 TO 5 BLK 1	003	001	
37	13,845	sq.ft.	0.32	acres	86.1	154.5	2911721330010	5316	HIGHWOOD DR W	SUSAN J LEE	IDYLWOOD 4TH ADDN	006	001	
38	13,418	sq.ft.	0.31	acres	86.7	155.0	2911721330007	5321	BLAKE RD	KENDAL MASICA	IDYLWOOD 3RD ADDN	004	003	
39	15,485	sq.ft.	0.36	acres	100.0	155.0	2911721330006	5317	BLAKE RD	P J REICHEL & J R REICHEL	IDYLWOOD 3RD ADDN	003	003	
40	15,485	sq.ft.	0.36	acres	100.0	155.0	2911721330005	5315	BLAKE RD	J R LARSON & A M LARSON	IDYLWOOD 3RD ADDN	002	003	
41	19,448	sq.ft.	0.45	acres	110.0	177.0	2911721330004	5309	BLAKE RD	ROGER D HAUCH & KELLY HAUCK	IDYLWOOD 3RD ADDN	001	003	
42	14,851	sq.ft.	0.34	acres	84.0	177.0	2911721330008	5307	BLAKE RD	JON A UMHOEFER	IDYLWOOD 4TH ADDN	001	001	
43	62,012	sq.ft.	1.42	acres	168.5	368.4	2911721330050	5225	BLAKE RD	ALVIN E & MARY A MCQUINN	EMERALD WOODS ADDN		001	LOTS 1 AND 2
45	36,671	sq.ft.	0.84	acres	197.9	186.0	3011721440061	5316	BLAKE RD	D M BALAFAS & K G BALAFAS	ZUPPKEWOOD 2ND ADDN	002	001	
46	22,084	sq.ft.	0.51	acres	119.0	185.9	3011721440060	5311	EVANSWOOD LA	CHARLES J & KIM W GITS	ZUPPKEWOOD 2ND ADDN	001	001	
47	15,371	sq.ft.	0.29	acres	110.0	140.0	3011721440020	5304	EVANSWOOD LA	A C KOEHLER & A M KOEHLER	EVANSWOOD	003	002	
48	15,372	sq.ft.	0.29	acres	110.0	140.0	3011721440019	5300	EVANSWOOD LA	T J MONTGOMERY ET AL	EVANSWOOD	002	002	
49	14,600	sq.ft.	0.46	acres	104.4	140.0	3011721440018	5228	EVANSWOOD LA	A M CARLSON & A J BARNES	EVANSWOOD	001	002	
50	16,891	sq.ft.	0.39	acres	120.8	140.0	3011721440012	5224	EVANSWOOD LA	MIRIAM C OLSON	BROWNSWOOD ADDN	001	002	
51	17,965	sq.ft.	0.41	acres	120.1	150.0	3011721440010	5221	EVANSWOOD LA	C A FLINN & J H FLINN	BROWNSWOOD ADDN	001	001	
52	27,017	sq.ft.	0.62	acres	126.9	211.7	3011721440013	5225	EVANSWOOD LA	OLAF MINGE & AMY MINGE	EVANSWOOD	001	001	
53	31,147	sq.ft.	0.72	acres	146.6	215.6	3011721440017	5301	EVANSWOOD LA	R V MICHALETZ/J M MICHALETZ	EVANSWOOD	005	001	
54	19,513	sq.ft.	0.45	acres	92.3	211.6	3011721440016	5308	EVANSWOOD LA	PAUL A JAMES/ALISON S JAMES	EVANSWOOD	004	001	
55	19,315	sq.ft.	0.44	acres	90.0	215.0	3011721440015	5304	BLAKE RD	M J & L A WADDICK	EVANSWOOD	003	001	
56	19,606	sq.ft.	0.45	acres	90.0	218.1	3011721440014	5300	BLAKE RD	HAIG & LINDSAY E NEWTON	EVANSWOOD	002	001	
57	33,293	sq.ft.	0.76	acres	118.7	280.2	3011721440011	5224	BLAKE RD	G A ANDERSON & J ANDERSON	BROWNSWOOD ADDN	002	001	
58	18,026	sq.ft.	0.41	acres	84.0	215.0	3011721440022	5220	BLAKE RD	JILL C SINN	EVANSWOOD 2ND ADDN	002	001	
59	17,022	sq.ft.	0.39	acres	100.0	168.0	3011721440048	6209	FOX MEADOW LA	L SCHOENFELD & P SCHOENFELD	OAK PONDS OF INTERLACHEN	004	002	
60	18,242	sq.ft.	0.42	acres	103.0	186.3	3011721440047	6215	FOX MEADOW LA	A E SULLIVAN/T T SULLIVAN TR	OAK PONDS OF INTERLACHEN	003	002	SUBJECT TO STREET
61	16,582	sq.ft.	0.38	acres	104.1	141.5	3011721440046	6217	FOX MEADOW LA	W T GOODNOW & S W GOODNOW	OAK PONDS OF INTERLACHEN	002	002	SUBJECT TO STREET
62	24,167	sq.ft.	0.55	acres	111.3	223.8	3011721440045	6221	FOX MEADOW LA	E B ESKIN & S A CARLSON	OAK PONDS OF INTERLACHEN	001	002	
63	32,493	sq.ft.	0.75	acres	106.5	238.9	3011721440058	6225	FOX MEADOW LA	BERNIE H & PATRICIA K BEAVER	OAK PONDS OF INTERLACHEN 2ND ADDN	004	001	
64	24,375	sq.ft.	0.56	acres	97.5	193.5	3011721440057	6229	FOX MEADOW LA	J S SAVAGE & J M SAVAGE	OAK PONDS OF INTERLACHEN 2ND ADDN	003	001	
65	68,487	sq.ft.	1.57	acres	163.4	419.4	3011721440059	5217	SCHAEFER RD	EDWARD W GLICKMAN	OAK PONDS OF INTERLACHEN 2ND ADDN	005	001	
66	79,001	sq.ft.	1.81	acres	125.5	633.3	3011721440001	5225	SCHAEFER RD	BARBARA R DINWIDDIE ETAL TRE	AUDITOR'S SUBD. NO. 325	019		
67	26,237	sq.ft.	0.6	acres	169.6	155.4	3011721440024	6300	WESTWOOD CT	C & L LARSON JR	WESTWOOD COURT	001	001	
68	29,594	sq.ft.	0.68	acres	176.6	158.7	3011721440025	6304	WESTWOOD CT	FRANCIS DANIEL HUSSIAN III	WESTWOOD COURT	002	001	
69	46,029	sq.ft.	1.06	acres	157.9	225.5	3011721440026	6308	WESTWOOD CT	M H BOEHNE & T BOEHNE	WESTWOOD COURT	003	001	
70	34,001	sq.ft.	0.78	acres	165.8	172.3	3011721440027	6312	WESTWOOD CT	R S BONELLO & J M BONELLO	WESTWOOD COURT	004	001	
71	31,203	sq.ft.	0.72	acres	167.5	159.5	3011721440028	6316	WESTWOOD CT	T W KUCK & A W KUCK	WESTWOOD COURT	005	001	
72	44,507	sq.ft.	1.02	acres	160.6	220.3	3011721440029	6320	WESTWOOD CT	THOMAS A & DIANE C WENTZ	WESTWOOD COURT	006	001	
73	32,298	sq.ft.	0.74	acres	188.8	154.6	3011721440030	6324	WESTWOOD CT	ROBERT E FLYNN ET AL	WESTWOOD COURT	007	001	
74	26,204	sq.ft.	0.6	acres	169.9	155.6	3011721440031	6328	WESTWOOD CT	T S RITZER & K S RITZER	WESTWOOD COURT	008	001	
75	32,350	sq.ft.	0.74	acres	209.0	155.3	3011721440035	6313	WESTWOOD CT	DAVID E PAUTZ	WESTWOOD COURT	004	002	
76	30,928	sq.ft.	0.71	acres	111.9	207.6	3011721440034	6309	WESTWOOD CT	HAROLD & REBECCA LIEBERMAN	WESTWOOD COURT	003	002	
77	29,582	sq.ft.	0.68	acres	113.0	208.4	3011721440033	6305	WESTWOOD CT	K W & T A RAUTIO	WESTWOOD COURT	002	002	
78	32,701	sq.ft.	0.75	acres	214.3	153.9	3011721440032	6301	WESTWOOD CT	CHRISTY L C THIELE	WESTWOOD COURT	001	002	
Mean	25,672		0.59		131.0	189.3								
Median	21,842		0.50		120.8	166.4								

MAP NOTES

1. THIS IS NOT A BOUNDARY SURVEY. THIS MAP IS FOR LOT ANALYSIS PURPOSES ONLY.
2. THE METHOD OF MEASUREMENTS AND CALCULATIONS USED WERE COMPUTED PLATS AND AUTOCAD SOFTWARE.

Median Area 21,842
Width 120.8
Depth 166.4

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DATE	REVISION

PROJECT

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I hereby certify that this surv
under my direct supervision a
under the laws of the state o

WSB & Associates, Inc.

Infrastructure ■ Engineering ■ Planning ■ Construction

701 Xenia Avenue South
Suite #300
Minneapolis, MN 55416
Tel: 763 541-4800
Fax: 763 541-1700

Memorandum

DATE: ***February 18, 2015***

TO: ***Mr. Cary Teague, Community Development Director***
City of Edina

FROM: ***Charles Rickart, P.E., P.T.O.E.***

RE: ***Blake Woods Residential Subdivision***
Traffic Review
City of Edina, MN
WSB Project No. 1686 - 63

Background

The purpose of this study is to determine the potential traffic and safety impacts the proposed development of the Blake Woods residential subdivision plan has on the adjacent roadway system. The site is located north of Vernon Avenue, between Pine Grove Road and Evanswood Lane off of Blake Road. The existing site includes one single family residential unit with access to Evanswood Lane. The project location is shown on **Figure 1**.

The proposed subdivision site plan includes development of seven (7) single family residential homes including maintaining the existing home and the construction of six (6) new homes. Access to five (5) of the homes will be via a new cul-de-sac street connection from Blake Road. The one existing home and one new home will have access on Evanswood Lane. The proposed site plan is shown on **Figure 2**.

The following sections of this report document the analysis and anticipated traffic and safety impacts the proposed development will have on the adjacent roadway system.

Site Trip Generation

The estimated trip generation from the proposed development is shown below in **Table 1.** The trip generation rates used to estimate the site traffic is based on extensive surveys for other similar land uses as documented in the Institute of Transportation Engineers *Trip Generation Manual, 9th* Edition. The table shows the total daily, AM peak hour and PM peak hour trip generation for the proposed six (6) new signal family homes.

Table 1 - Estimated Site Trip Generation

Use	Size	ADT			AM Peak			PM Peak		
		Total	In	Out	Total	In	Out	Total	In	Out
Single Family Residential	6 Units	58	29	29	5	1	4	6	4	2

Source: Institute of Transportation Engineers Trip Generation Manual, 9th Edition

Traffic Operations Analysis

In order to determine a base line condition, existing traffic counts were conducted on the adjacent streets the week of February 9th, 2015. Based on these counts the following traffic conditions currently exist on these streets.

Blake Road south of Parkwood Road
- Average Daily Traffic (ADT) 2,600
- AM Peak Hour 208
- PM Peak Hour 211

Blake Road north of Pine Grove Road
- Average Daily Traffic (ADT) 2050
- AM Peak Hour 186
- PM Peak Hour 208

Blake Road north of Evanswood Lane
- Average Daily Traffic (ADT) 1950
- AM Peak Hour 176
- PM Peak Hour 199

Evanswood Lane west of Blake Road
- Average Daily Traffic (ADT) 280
- AM Peak Hour 34
- PM Peak Hour 39

Pine Grove Road east of Blake Road
- Average Daily Traffic (ADT) 440
- AM Peak Hour 34
- PM Peak Hour 36

Parkwood Road west of Blake Road
- Average Daily Traffic (ADT) 340
- AM Peak Hour 33
- PM Peak Hour 36

Blake Road is a north/south street providing local access to Vernon Avenue and Interlachen Boulevard. This type of higher functioning street will carry slightly larger traffic than a typical local City street such as Evanswood Lane, Pine Grove Road or Parkwood Road. Typical local City streets will have traffic volumes ranging from 200 to 2000 vehicles per day (vpd) depending on the density of the area and its connection to other higher functioning streets (i.e. collectors or arterials).

The traffic operations analysis was conducted using established methodologies documented in the Transportation Research Board, *Highway Capacity Manual 2000* (HCM). The HCM provides a series of analysis techniques that are used to evaluate traffic operations. The analysis techniques defined in the HCM are different for roadway segments and intersections. Roadway segment analysis focuses on the average daily volume to capacity ratio, while intersection analysis focuses on delay caused by the AM or PM peak hour critical movements. It is therefore possible to have an efficient intersection located along a poorly operating roadway segment, or a poorly operating intersection along an otherwise free-flowing roadway.

Roadway segments or intersections are given a Level of Service (LOS) grade from "A" to "F" as defined in the HCM. LOS A is the best traffic operating condition, and drivers experience minimal delay along a roadway segment or at an intersection LOS. E represents the condition where the roadway segment or intersection is at capacity. LOS F represents a condition where there is more traffic than can be handled by the roadway segment or intersection. At a stop sign-controlled intersection, LOS F would be characterized by exceptionally long vehicle queues and/or great difficulty in finding an acceptable gap for drivers on the minor legs at a through-street intersection.

For purposes of this review, the roadway segment analysis was conducted at a planning level. The analysis consists of comparing the average daily flow rates on a roadway segments to the ADT roadway segment traffic capacity threshold volumes. A two-lane urban street with driveway and street access has a capacity threshold of 2000 vpd at LOS A and 4000 vpd at LOS E/F. The existing and anticipated (with the development) roadway segment traffic operations are displayed on **Table 2**. As shown on the table, all roadway segments are operating at LOS A or B as they exist today and with the proposed development traffic included.

Table 2 – Roadway Segment Traffic Analysis

Street	Location	Existing AADT	LOS	Projected AADT	LOS
Blake Road	South of Parkwood Road	2600	B	2650	B
Blake Road	North of Pine Grove Road	2050	B	2100	B
Blake Road	North of Evanswood Lane	1950	A	1970	A
Evanswood Lane	West of Blake Road	280	A	290	A
Pine Grove Road	East of Blake Road	440	A	450	A
Parkwood Road	West of Blake Road	340	A	350	A

The LOS ranges for both signalized and un-signalized intersections are shown in **Table 3**. The threshold LOS values for un-signalized intersections are slightly less than for signalized intersections. This variance was instituted because drivers' expectations at intersections differ with the type of traffic control. A given LOS can be altered by increasing (or decreasing) the number of lanes, changing traffic control arrangements, adjusting the timing at signalized intersections, or other lesser geometric improvements. LOS also changes as traffic volumes increase or decrease.

Table 3 - Intersection Level of Service Measures

	Control Delay (Seconds)	
	Signalized	**Un-Signalized**
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

Source: Highway Capacity Manual

The existing and anticipated (with the development) intersection operations were evaluated for both the AM and PM peak hours. Synchro/SimTraffic microsimulation software was utilized to model the area intersections with the peak hour counts, lane geometry, and traffic control. The results of this analysis are illustrated on **Table 4**.

Table 4 – Intersection Traffic Analysis

Intersection	AM Peak Hour				PM Peak Hour			
	Existing Delay (sec)	**LOS**	**Projected Delay (sec)**	**LOS**	**Existing Delay (Sec)**	**LOS**	**Projected Delay (sec)**	**LOS**
Blake Road at Evanswood Lane	4.7	A	4.9	A	5.2	A	5.4	A
Blake Road at New Street A	NA	NA	2.3	A	NA	NA	2.7	A
Blake Road at Pine Grove Road	7.6	A	7.8	A	8.4	A	8.7	A
Blake Road at Parkwood Road	8.5	A	8.7	A	9.2	A	9.4	A

Delay and LOS = Worst case intersection movement

Results of the intersection traffic analysis shown in the above table indicate that the existing intersections in the area are operating at an acceptable LOS and would continue to operate at acceptable levels with the proposed development.

Traffic Safety Review

In addition to the traffic operations analysis a traffic safety review was also conducted. This included reviewing the crash history in the area, reviewing the sight distance required at the new street intersection to Blake Road and reviewing the site plan for safety issues or concerns.

Crash History: Crash data provided from Minnesota Department of Public Safety (DPS) records from the past 10 years was reviewed for the area. Based on that review two (2) crashes have occurred on Blake Road between Evanswood Lane and Parkwood Road. One (1) rear end property damage crash with a parked car northbound around the Evanswood Lane intersection in 2005 and, one (1) right angle personnel injury crash just north of the Pine Grove Road intersection (at a driveway) in 2007.

Sight Distance Analysis: As-built plans for Blake Road were reviewed to determine if sight distance would be a concern with the construction of a new intersection from the proposed Blake Woods Subdivisions between Pine Grove Road and Evanswood Lane. The analysis included review both the horizontal and vertical profile of the existing roadway in relationship to the new intersection location and the speed of traffic on Blake Road. The Minnesota Department of Transportation (MnDOT) and the American Association of State Highway and Transportation Officials (AASHTO) guidelines were used for the analysis.

Two primary conditions were analyzed:

1. The sight distance required for a stopped vehicle at the new street intersection to safely pull out onto Blake Road. For most practical purposes, providing a 10-second decision time, from the initial detection point to the location of the critical feature, based on design speed, is adequate. Based on these criteria a sight line of approximately 440 feet from the intersection looking north or south on Blake Road should be provided where possible.

   The new intersection is located between Evanswood Lane and Pine Grove Road. The intersection of Evanswood Lane is approximately 200 feet north of the new street intersection. The intersections of Pine Grove Road and Parkwood Road are approximately 200 feet and 400 feet south of the new street intersection, respectively.

   Based on the review of the horizontal and vertical conditions and assuming that no trees or vegetation are restricting views, there would be sufficient sight lines to see any oncoming vehicle including vehicles turning from the adjacent intersections.

2. The sight distance required to stop for a vehicle in the street turning from Blake Road onto the new street. Based on the guideline a sight distance of 200 feet should be provided to see a vehicle or other object in the street to safely stop traveling at 30mph.

   Based on the review of the roadway conditions, a vehicle traveling either northbound or southbound on Blake Road would have sufficient distance to safely stop for a vehicle turning into the new street intersection.

Site Plan Review – The site plan was reviewed with respect to the street alignment and configuration. No issues were identified however, the following should be considered:

1. A stop sign should be placed on the new street approaching Blake Road.

2. Provide a clear sight line from the intersection in both directions; keep it clear of trees or other landscaping that would be in the line of vision.

3. Clear the trees and vegetation in the right of way to provide a clear sight line at the Evanswood Lane intersection looking south.

Conclusions / Recommendation

Based on the traffic review documented in this memorandum, WSB has concluded the following:

- The proposed development will generate 58 daily trips, five (5) AM peak hour trips and six (6) PM peak hour trips.

- Based on the traffic operations analysis the intersections and roadway segments on Blake Road will operate at satisfactory (LOS A or B) with the proposed site developed.

- Only two crashes have occurred in the area adjacent to the site in the past 10 years.

- Sufficient sight lines exist for traffic exiting or entering the proposed new street intersection on Blake Road.

- Safety would be improved with the installation of a stop sign for the new street approaching Blake Road and providing a clear sight line from the intersection.

- At the intersection of Evanwood Lane the safety would be improved with clearing the sight line looking south from the intersection.

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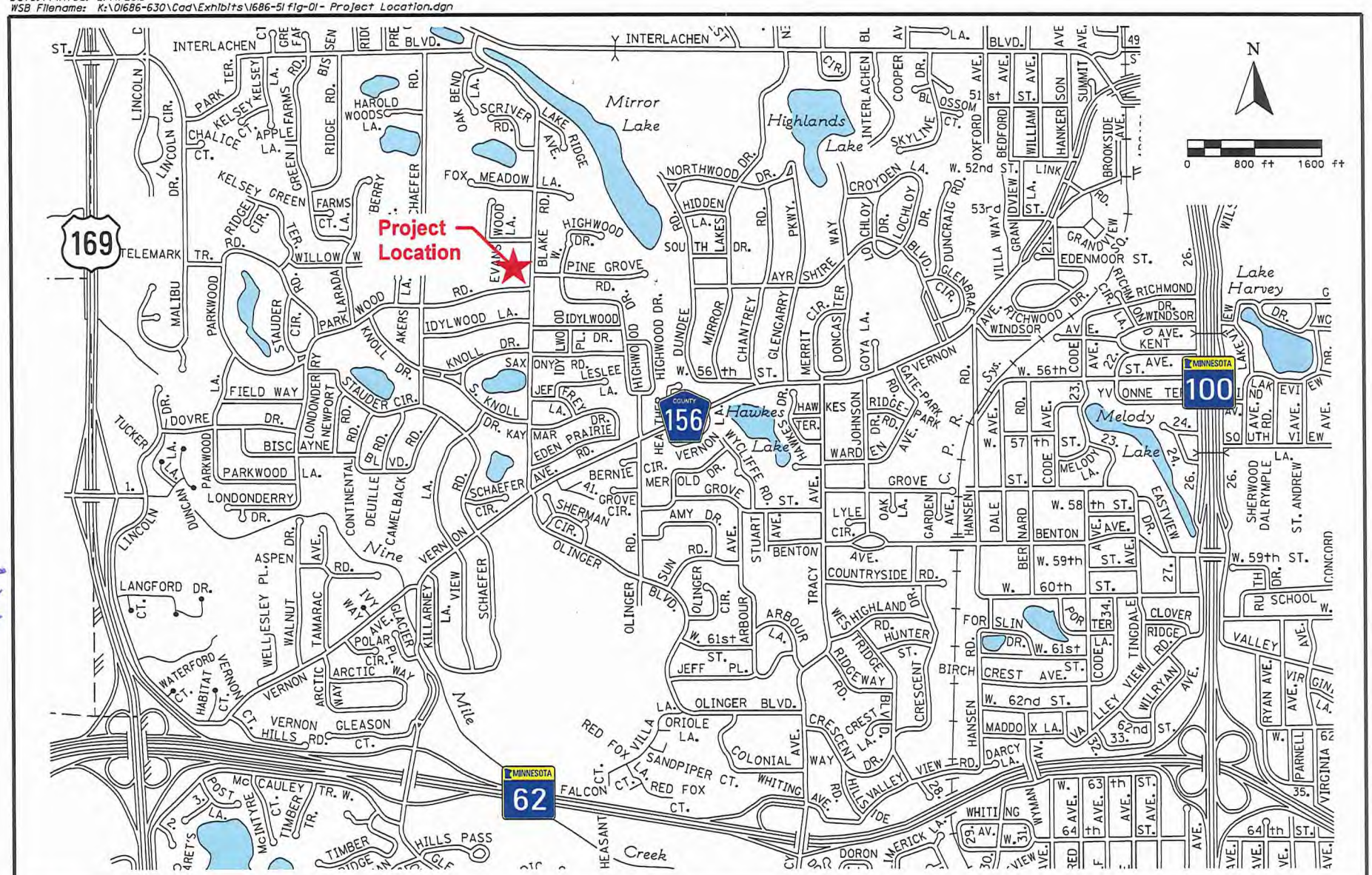

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Traffic Review
Blake Woods Subdivision
City of Edina, Minnesota

Figure 1

Project Location Map

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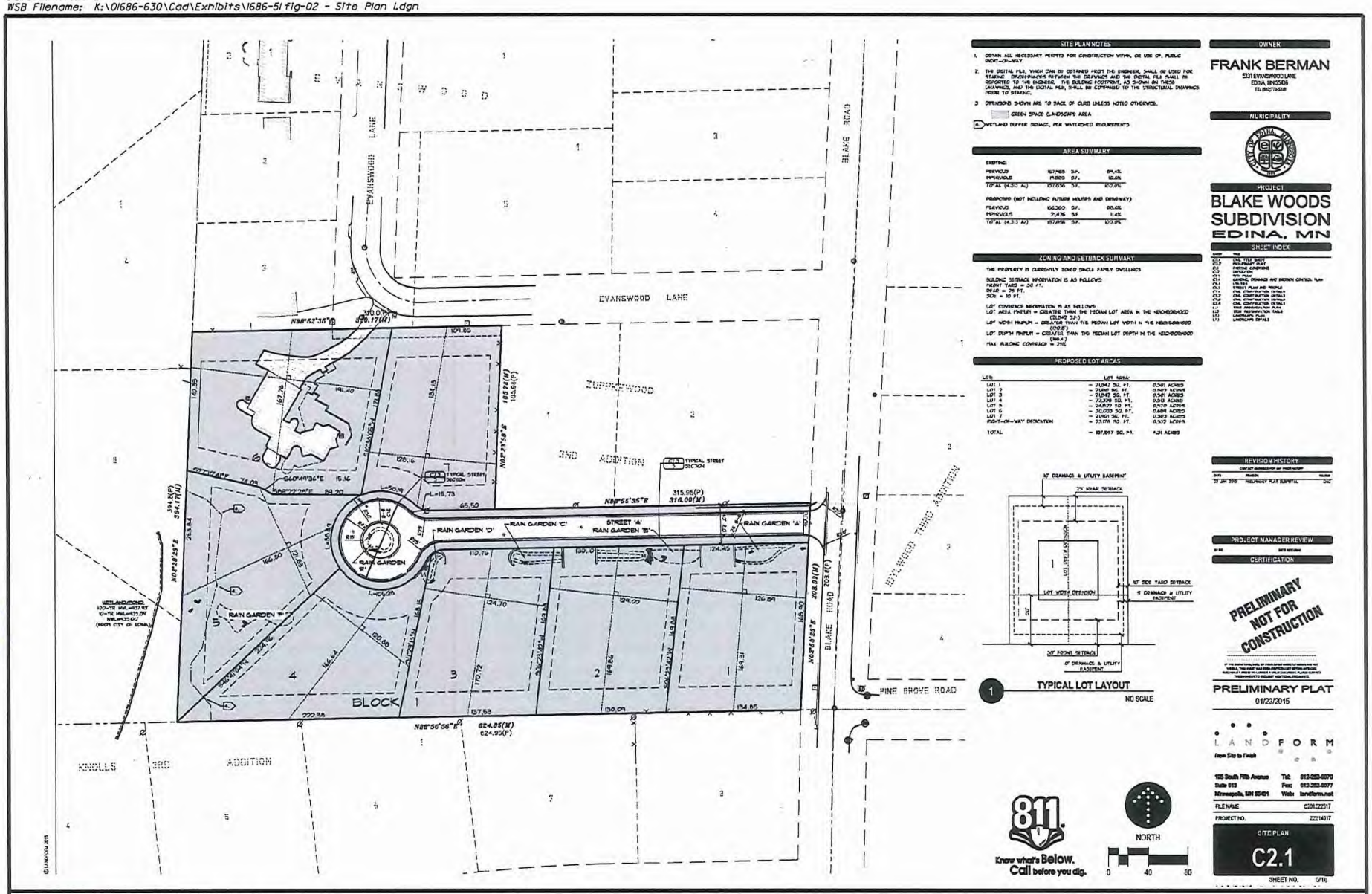

A30

Traffic Review

Blake Woods Subdivision
City of Edina, Minnesota

Figure 2

Site Plan

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Traffic Review
Blake Woods Subdivision
City of Edina, Minnesota

Figure 3
Existing (2015)
Daily Traffic Volumes

Cary Teague

From: Jeff Siems
Sent: Wednesday, February 18, 2015 12:40 PM
To: Cary Teague
Cc: Brian Olson
Subject: Blake woods housing project

Hello Cary,

Per our discussion today regarding the Blake Woods housing project the fire department recommends the following:

1) Road width of 24' is below fire code minimums. Residential fire sprinkler system (13D or IRC 2904) required for any building regardless of square footage.

2) Fire hydrants should be located in two areas; at the corner of Blake road and Blake woods and at the beginning of the turn-a-round along the North side.

3) No Parking Fire Lane signage to be installed along the North side of Blake Woods road and around the turn-a-round on the outside radius.

Jeff Siems, Fire Marshal
Edina Fire Department
952-826-0337 | JSiems@EdinaMN.gov

A32

DATE: February 19, 2014

TO: Cary Teague – Community Development Director

CC: Chad Millner PE – City Engineer

FROM: Ross Bintner PE – Environmental Engineer
Charlie Gerk EIT – Engineering Technician

RE: **Berman Subdivision – Preliminary Development Review**

The Engineering Department has reviewed the subject development for street and utility connections, grading, storm water, erosion and sediment control.

General Comments

1. All rain gardens will need to be on private property and covered by a private maintenance agreement in favor of the local Watershed District. Provide an inspection and maintenance plan that ensures future functionality.
2. A development agreement will be required for the creation of public road and utilities.
3. All maintenance for the landscaping, retaining walls and other related items located within the proposed public right-of-ways and easements will be the responsibility of the subdivisions home owners association or individual property owners.

Survey/ Plat

4. Datum for any future surveys will need to be NAVD 1929.
5. Recorded easements will be required for all public infrastructures not already in platted drainage and utility easement.

Traffic and Street

6. A traffic study will need to be completed for the impact of an entrance at Blake Rd vs. Evanswood Ln.
7. B618 curb and gutter only and standard residential driveway entrances as described in city standard plate 411 and found at the following link: http://edinamn.gov/index.php?section=construction_standards
8. Provide 5-foot wide ADA compliant sidewalks with 5-foot boulevards.
9. 24-foot wide streets will be allowed only if:
    a. The City of Edina's largest fire truck is able to navigate the road and cul-de-sac.
    b. Parking is limited to one side only.

Sanitary and Water Utilities

10. Describe sewer and water services and proposed abandonments of existing utilities.
11. A looped 6" DIP from Blake Rd through to the southeast corner of lot 6 north along the property line to Evanswood Ln.
12. Copper lines must be used to the curb stop.
13. Wet tap will need to be completed at night, with an approved closure plan by public works for Blake Rd.
14. Water main to cross northeast at Blake Rd.

Storm Water Utility

15. Applicant may review local drainage features at the following links: https://maps.barr.com/edina/ and http://edinamn.gov/index.php?section=engineering_water_resource
16. A complete stormwater management plan will need to be completed for the site.
    a. Stormwater system downstream of sub-watershed MD_29 is over capacity. On site extended detention will be required to control peak rate to the downstream storm system. Provide downstream analysis.
    b. No increase in peak rate or volume to neighboring private properties.
17. Describe and show downstream connection to public storm sewer system. Connection must remain in public drainage and utility easement on Parkwood Knolls 3rd Addition or public right of way on Shafer Road.

Grading, Erosion and Sediment Control

18. Provide information for grading staging between the land development and individual building permits.
19. A State construction site permit and SWPPP will be required.

Other Agency Coordination

20. A Nine Mile Creek Watershed permit will be required, along with other agency permits such as MNDH, MPCA, MCES, and a grading permit from the City of Edina Building Department.

DATE: March 30, 2015

TO: Cary Teague – Community Development Director

CC: Chad Millner PE – City Engineer

FROM: Ross Bintner PE – Environmental Engineer

RE: **Berman Subdivision – Preliminary Plat Development Review**

The Engineering Department has reviewed the subject development for street and utility connections, grading, storm water, erosion and sediment control. This review summarizes issues remaining from the February 19 review and March 3 drainage review memo. The reviewed plan is dated 3/18/2015.

General Comments

1. A development agreement will be required for the creation of public road, utilities and stormwater system ownership and maintenance.

Survey/ Plat

2. Recorded easements will be required for all public infrastructures not already in platted right of way.
    a. Drainage to the west is proposed in a flow concentration onto private property then into a private pond. Applicant must negotiate future public easement for: the flow path, any drainage infrastructure, or any increase in pond bounce with any affected private parties. Describe precautions against erosion and provide proof of easement on private property.

Traffic and Street.

3. Use B618 curb and gutter and standard residential driveway entrances as described in city standard plate 411 and found at the following link: http://edinamn.gov/index.php?section=construction_standards
4. Provide 5-foot wide ADA compliant sidewalks with 5-foot boulevards on south side of proposed road consistent with Living Streets Policy.
5. Demonstrate fire access turning movement for attached design vehicle.
6. Limited parking to one side of street.

Sanitary and Water Utilities

7. Provide a looped 6" DIP from Blake Rd through to the southeast corner of lot 6 north along the property line to Evanswood Ln.

Storm Water Utility

8. Submit a revised Stormwater Management Plan that meets the following performance standard. Design to these restrictions will ensure that either east or west flow path meet level of service and level of protection for 100 year events, and risk in downstream water body MD_25 is not increased.
9. No increase in stormwater peak rate, volume or flood stage elevation to neighboring private properties, which will be demonstrated by the following criteria:

a. No increases in stormwater volumes to MD_29 pond (to west) for the 2-year, 10-year, and 100-year 24 –hour Atlas 14 events, as compared with existing conditions.
b. No increases in peak stormwater rates to MD_29 pond (to west) for the 2-year, 10-year, and 100-year 24-hour Atlas 14 events, as compared with existing conditions.
c. No limitations to total volume runoff (to east) aside from meeting Nine Mile Creek Watershed District volume control requirements for the entire site.

10. Limit peak stormwater rates from the overall site to peak rates from existing conditions for the 2-year, 10-year, and 100-year, 24-hour Atlas 14 event, not per sub watershed (a sub watershed basis increase to the Blake Road system is allowed, as that direction has capacity to direct stormwater)
11. Achieve compliance with Nine Mile Creek Watershed District water quality treatment requirements.

Hydrology

The Engineering Department contracted with Barr Engineering to review the hydrology calculations for this design. The Barr review is attached to this memo.

12. Provide justification for pre and post curve numbers and following guidance provided in attached Barr memorandum (Performance standard comment 2)
13. Provide revised survey or adjust model to describe existing on-site storage consistent with Barr memorandum (Performance standard comment 3, Other comment 4)
14. Future building sites can be limited by impervious surface assumptions though developers agreement. Previous submittal claimed 5,450 sf impervious per lot. Recommend more conservative impervious assumptions to provide flexibility to allow for future expansion.
15. Correct modeling error in rain garden performance (Volume control, Other comment 3)
16. Provide time of concentration justification (Other comment 1)
17. Provide infiltration rate justification (Other comment 2)

Grading, Erosion and Sediment Control

18. Provide a State construction site permit and SWPPP at time of Final Plat.

General Comments

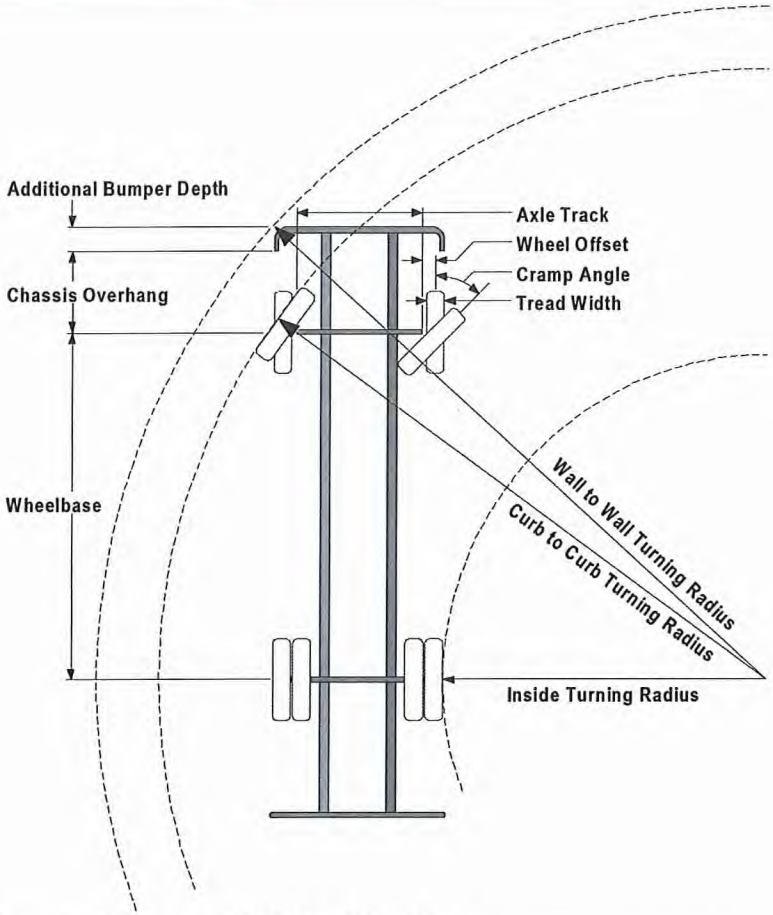
19. Provide a private maintenance agreement in favor of the local Watershed District for all rain gardens at time of Final Plat.
20. Provide an inspection and maintenance plan that ensures future functionality at time of Final Plat.

Other Agency Coordination

21. A Nine Mile Creek Watershed permit is required, along with other agency permits such as MNDH, MPCA SWPPP, MCES, and a grading permit from the City of Edina Building Department at time of Final Plat

Turning Performance Analysis

5/1/2013



Parameters:

Inside Cramp Angle:	45.00 °
Axle Track:	81.92 in.
Wheel Offset:	5.25 in.
Tread Width:	16.60 in.
Chassis Overhang:	65.99 in.
Additional Bumper Depth:	19.00 in.
Front Overhang	84.99 in.
Wheelbase:	258.00 in.

Calculated Turning Radii:

Inside Turn:	20 ft. 4 in.
Curb to Curb:	36 ft. 8 in.
Wall to Wall:	41 ft. 1 in.

Comments:

Truck 12205

Components	PRIDE #	Description
Front Tires	0078244	Tires, Michelin, 425/65R22.50 20 ply XZY 3 tread
Chassis	0070220	Dash-2000, Chassis, PAP/SkyArm/Midmount
Front Bumper	0123625	Bumper, 19" extended, Imp/Vel
Aerial Device	0006900	xxxAerial, 100' Pierce Platform

Notes:

Actual Inside Cramp Angle may be less due to highly specialized options.

Curb to Curb turning radius calculated for a 9.00 inch curb.

Turning Performance Analysis

5/1/2013

Definitions:

Inside Cramp Angle	Maximum turning angle of the front inside tire.
Axle Track	King-pin to king-pin distance of the front axle.
Wheel Offset	Offset from the center-line of the wheel to the king-pin.
Tread Width	Width of the tire tread.
Chassis Overhang	Distance from the center-line of the front axle to the front edge of the cab. This does not include the bumper depth.
Additional Bumper Depth	Depth that the bumper assembly adds to the front overhang.
Wheelbase	Distance between the center lines of the vehicle's front and rear axles.
Inside Turning Radius	Radius of the smallest circle around which the vehicle can turn.
Curb to Curb Turning Radius	Radius of the smallest circle inside of which the vehicle's tires can turn. This measurement assumes a curb height of 9 inches.
Wall to Wall Turning Radius	Radius of the smallest circle inside of which the entire vehicle can turn. This measurement takes into account any front overhang due to the chassis, bumper extensions and/or aerial devices.

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BARR

Memorandum

To: Ross Bintner, City of Edina
From: Janna Kieffer
Subject: Review of Blake Woods March 18, 2015 Stormwater Management Submittal
Date: March 30, 2015

This memo serves as a summary of Barr's review of the Stormwater Management Plan for the proposed Blake Woods subdivision, as submitted on March 18, 2015 by Landform. Barr reviewed the Stormwater Management Plan for compliance with the performance standards identified in the March 3, 2015 drainage review memo from Ross Bintner, City of Edina Engineering Department, to Cary Teague, City of Edina Community Development Director.

Performance Standard Regarding Neighboring Private Properties

Standard- No increases in stormwater volumes to MD_29 pond (to west) for the 2-year, 10-year, and 100-year 24 –hour Atlas 14 events, as compared with existing conditions.

Barr's review comments:

1. The stormwater modeling submittal indicates that under existing conditions, 172,408 ft^2 within the proposed development area drains west to the MD_29 pond, with 19,741 ft^2 of impervious surface (11.4%). Under proposed conditions, 167,669 ft^2 of the proposed development drains west to the MD_29 pond, with 46,664 ft^2 of impervious surface (27.8%). Based on this information, summarized in Table 1, the total area draining to the MD_29 pond has been reduced under proposed conditions. However, the amount of impervious surface draining to the MD_29 pond under proposed conditions is 2.4 times that of existing conditions.

Table 1. Summary of subcatchment areas draining to the MD_29 pond under existing and proposed conditions

Subcatchment	Area (ft2)	Impervious %	Impervious area
Proposed			
Subwatershed 4S: To Pond MD-29	95,550	16.05	15,336
Raingarden B (Pond 15S)	9,748	35.73	3,483
Raingarden C (Pond 14S)	22,318	53.92	12,034
Raingarden D (Pond 12S)	6,167	83.49	5,149
Raingarden E (Pond 11S)	14,352	36.32	5,213
Raingarden F (Pond 17S)	9,847	32.24	3,175
Raingarden G (Pond 18S)	9,687	23.49	2,275
Total	167,669	28	46,664
Existing			
Subwatershed 4S: To Pond MD-29	172,408	11.45	19,741

2. Table 2 summarizes the runoff generated under existing and proposed conditions in the subcatchment(s) draining to pond MD_29, per the March 18, 2015 submittal. Note that the runoff generation summarized in Table 1 does not reflect volume reduction achieved by routing runoff through the rainwater gardens.

Table 2. Summary of runoff generated per March 18, 2015 submittal

Event	Existing Runoff Volume (ft^3)	Existing Runoff Depth per acre (in)	Proposed Runoff Volume (ft^3)	Proposed Runoff Depth per acre (in)	Difference in Runoff Generated (ft^3)
2-year	20,258	1.41	22,237	1.60	1,979
10-year	37,762	2.63	39,906	2.87	2,144
100-year	80,280	5.59	82,022	5.88	1,742

Given the significant increase in impervious surfaces draining to MD_29 pond, the increases in runoff generated under proposed conditions seem low. We recommend the following revisions to the modeling approach to ensure that the increase in impervious surface are being properly reflected in the modeling analysis:

- Use a pervious curve number for proposed conditions that is the same as or higher than existing conditions to reflect likelihood of compacted soil conditions resulting from construction. When using a pervious curve number of 82 for proposed conditions (consistent with existing conditions), the volume to MD_29 increases under the 2-, 10-, and 100-year events, and the performance standard for the 2-year and 10-year events are no longer met.

- Use the distributed curve number method, which calculates runoff separately for impervious and pervious areas.

3. Under existing site conditions, there is a low, depression area located south of the existing driveway on the Berman property. Based on the MnDNR's 2011 LiDAR, it appears that stormwater from an area of approximately 30,000 ft^2 drains to this low area, where runoff pools to a depth of approximately one foot before reaching the surface overflow and flowing southward and eventually west to the MD_29 pond. Based on the MnDNR's 2011 LiDAR elevation data, there is approximately 4,000 cubic feet of storage in this low area. Rough estimates indicate that during the 2-year, 24-hour event, all runoff from the direct tributary area would be stored in this low area without a surface overflow to MD_29.
   This low depression area south of the existing driveway is not included in the current existing conditions model. Including the existing low area in the modeling analysis would result in lower runoff volumes to MD_29 under the 2-, 10-, and 100-year events. The low area should be included in the modeling analysis for comparison of existing and proposed runoff volumes to the MD_29 pond if field survey verifies the presence and characteristics of the low area.

Standard- No increases in peak stormwater rates to MD_29 pond (to west) for the 2-year, 10-year, and 100-year 24-hour Atlas 14 events), as compared with existing conditions.

Table 3 summarizes the peak runoff rates to the MD_29 pond, as identified in the March 18, 2015 stormwater management plan. Based on the modeling, the proposed rainwater garden storage and infiltration/filtration results in peak flows to the MD_29 pond that are lower than peak runoff rates from existing conditions for the 2-, 10-, and 100-year events.

Table 3. Summary of peak runoff rates to MD_29 pond

Event	Existing Runoff Rate (cfs)	Proposed Runoff Rate (cfs)
2-yr, 24-hr (2.87")	8.46	6.08
10-yr, 24-hr (4.29")	15.61	10.9
100-yr, 24-hr (7.47")	32.11	25.08

Performance Standard(s) for Overall Site

Standard- limit peak stormwater rates from the overall site to peak rates from existing conditions for the 2-year, 10-year, and 100-year, 24-hour Atlas 14 events.

Table 4 summarizes the peak runoff rates from the overall site, as identified in the March 18, 2015 stormwater management plan. Based on the modeling, the proposed rainwater garden storage and

infiltration/filtration results in peak runoff rates from the overall site that are lower than peak runoff rates from existing conditions for the 2-, 10-, and 100-year events.

Table 4. Summary of peak runoff rates from overall site

Event	Existing Runoff Rate (cfs)	Proposed Runoff Rate (cfs)
2-yr, 24-hr (2.87")	9.08	6.66
10-yr, 24-hr (4.29")	16.82	11.9
100-yr, 24-hr (7.47")	34.72	27.9

Standard- Applicant must meet the Nine Mile Creek Watershed District volume control requirements for the entire site.

The Nine Mile Creek Watershed District's (NMCWD's) stormwater management rule requires retention onsite of one inch of runoff from all impervious surfaces of the parcel. The proposed site has a total of 54,638 ft^2 of impervious surface. One inch of runoff from 54,638 ft^2 of impervious surface is 4,553 ft^3 of runoff.

Soils on the proposed site have been identified as Hydrologic Soil Group D, indicating poor infiltration capacity. As such, the proposed rainwater garden designs include installation of a drain tile to collect runoff that infiltrates through the approximately two feet of planting soil. The proposed rainwater gardens include a gravel bed below the drain tile to store and infiltrate runoff. Based on the combined area of the gravel beds, an infiltration rate for the native soils of 0.03 in/hr, and a 48-hour drawdown time, the volume of runoff retained and infiltrated from the proposed rainwater gardens, collectively, is 979 ft^3.

While compliance with the NMCWD's volume control requirement will ultimately need to be assessed by the NMCWD, it does not appear that the volume retention achieved by the proposed rainwater gardens will meet the NMCWD volume retention requirement.

Standard- Applicant must achieve compliance with Nine Mile Creek Watershed District water quality treatment requirements.

The NMCWD's stormwater management rule requires that runoff from the parcel be treated to provide at least sixty percent (60%) annual removal efficiency for phosphorus, and at least ninety percent (90%) annual removal efficiency for total suspended solids. Compliance with the NMCWD's water quality treatment requirements was not assessed as part of this review, and will need to be evaluated by NMCWD.

Other Review Notes

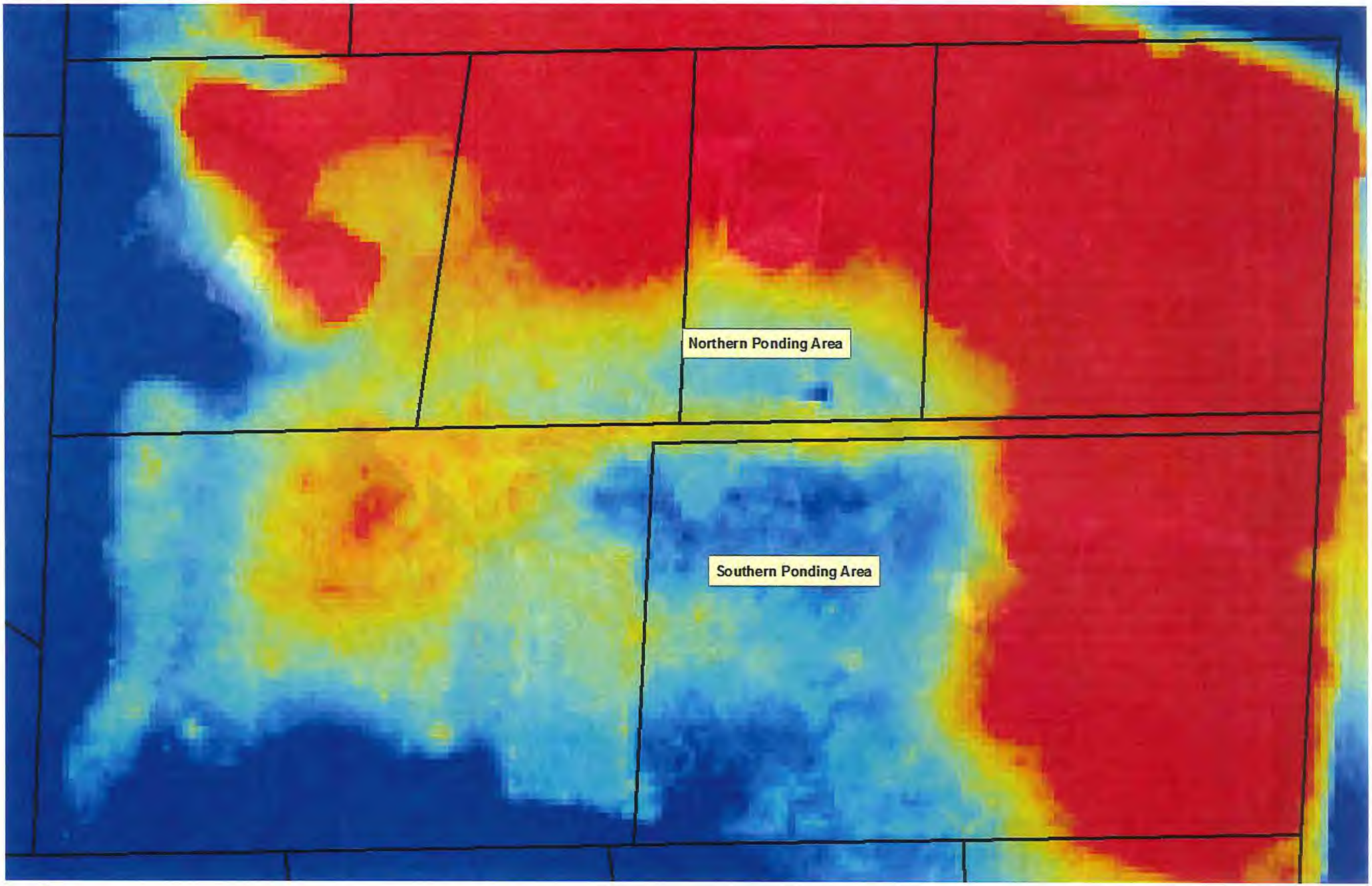
1. The time of concentration values for the Existing Conditions Subcatchment 4S (10 minutes) and Proposed Conditions Subcatchment 4S (10 minutes) are low when considering the flow length, site topography and ground cover.

2. An infiltration rate of 1.6 in/hr was used in the model to reflect infiltration through the planting media of the rainwater gardens. Based on the 50% sand soil mixture identified in the plan set, we recommend using a lower infiltration rate of 0.8 in/hr to provide a more conservative estimate of filtration rates.

3. It appears that the method used to account for infiltration through the planting media and infiltration through native soils below the gravel bed is calculating filtration/infiltration using a surface area larger than appropriate.
    - The exfiltration rate through the planting soil should be assigned an invert elevation slightly below the bottom of the rainwater garden's surface storage area. The infiltrated volume will then be calculated based on the surface area of the ponded water, rather than the combined areas of both the surface storage and the underground gravel bed.
    - The exfiltration rate out of the system (through the native soil below the gravel bed) should be assigned both an invert elevation slightly below the bottom of the gravel bed and a maximum elevation slightly below the bottom of the surface storage area. The infiltrated volume will then be calculated based on the surface area of the gravel bed rather than the combined surface areas of both the gravel bed and surface storage.

4. There is a low depression area on the south side of the property at 5311 Evanswood Lane, which is located just north of the proposed roadway of Berman property. The MnDNR LiDAR elevation data indicates that under existing conditions, stormwater runoff will pool in this low area until an elevation of 946.4 feet MSL, then flow west via surface overflow.

   Review of the grading plan included with the March 18, 2015 submittal (sheet C3.1) indicates that the proposed site design includes a surface overflow between 5311 Evanswood Lane and the Berman property to the west at elevation 945.9 feet MSL, lower than the existing surface overflow (based on MnDNR LiDAR).



A4

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BARR

Memorandum

To: MIDS Work Group
From: Barr Engineering Company
Subject: Regional Hydrologic Metrics – Curve Numbers (Item 6, Work Order 1)
Date: December 14, 2010
Project: 23/62 1050 MIDS

Standard engineering practice during design of stormwater systems usually employs Curve Number methodology. Curve Number methodology is often required by municipal stormwater ordinance due to its wide and historic acceptance as an appropriate rural and urban hydrologic method. Curve Numbers are determined according to the ground cover and soil type, and are used to approximate the varying infiltration, interception and storage capacities of different land covers. A high Curve Number (such as 98 for impervious pavement) indicates low infiltration/abstraction and high runoff, while a lower Curve Number (such as 30 for certain wooded areas) indicates high infiltration/abstraction and low runoff. The Minnesota Stormwater Manual defines Curve Number as "an index combining hydrologic soil group, land use factors, treatment, and hydrologic condition. Used in a method developed by the SCS to determine the approximate amount of runoff from a rainfall event in a particular area." (MPCA 2005).

History of Curve Number Method

Curve Number methodology as it is now used was developed beginning in the 1950s and updated in the decades since. It is an event-based empirical model developed by the Natural Resources Conservation Service (NRCS) (formerly SCS) based on outflow data collected from relatively uniform agricultural landscapes at a watershed-wide scale, using larger precipitation events and larger flood flows. It was originally developed to estimate stream flow based on calendar day storm/rainfall data. Curve Number methodology forms the theoretical basis for NRCS (formerly SCS) TR-20 and TR-55, where various regions of the nation are assigned varying intensities of design storms and varying recurrence event precipitation totals.

The method was originally developed to calculate the anticipated runoff volume from a watershed and was later adapted to estimate runoff discharge rate. The typical application is to apply a constant, dimensionless Curve Number to calculate runoff volume from rainfall volume. An assumed typical hydrograph (flow as a function of time) and calculated time-of-concentration (the time of flow from the farthest point on the watershed to the outlet) are used to calculate runoff rates. Curve Numbers generally vary from 30 to 98; the higher the Curve Number, the greater the volume of runoff is generated. Table 1 lists Curve Numbers for common Minnesota land covers (NRCS 1986).

Table 1. Curve Numbers for Selected Land Covers[1]

Land Cover	Hydrologic Condition	Curve Numbers for Hydrologic Soil Groups			
		A	B	C	D
Predevelopment[2]					
Woods	Good	30[3]	55	70	77
Prairies, no grazing	Good	30	58	71	78
Developed					
Impervious Surfaces	NA	98	98	98	98
Turfgrass, cover < 50%	Poor	68	79	86	89
Turfgrass, cover < 50 to 75%	Fair	49	69	79	84
Turfgrass, cover > 75%	Good	39	61	74	80
Agricultural					
Fallow, bare soil	NA	77	86	91	94
Fallow, crop residue	Good	74	83	88	90
Row crops, straight row	Good	67	78	85	89
Small grain, straight row	Good	63	75	83	87
Pasture, grazing	Good	39	61	74	80

[1]These Curve Numbers supplied by TR-55 are for Antecedent Runoff Condition II (ARC II).

[2]The Curve Numbers listed for Predevelopment are considered appropriate for native soil and vegetation conditions.

[3]TR-55 specifies a Curve Number for Woods "A" Soils as 30 for runoff calculations, while acknowledging that the actual Curve Number for this condition is lower (unspecified). Minnesota Stormwater Manual lists a presettlement Curve Number of 20 (Table 8.3).

Application of Curve Number Method

The Curve Number for each soil type and land cover dictates the expected maximum storage of the soil, S, where S is in inches.

$$S = \frac{1000}{CN} - 10$$

Abstractions,I_a, (interception, depression storage and evaporation) are generally considered to be 20% of the soil storage.

$$I_a = 0.2 * S$$

Runoff volume is then calculated using the following equation:

$$Q = \frac{(P - I_a)^2}{(P + 0.8 * S)}$$

The runoff calculated in the above equation is then applied to a rainfall frequency distribution to determine the runoff hydrograph. The NRCS method dictates a Type II 24-hour frequency distribution for Minnesota, however, the runoff volume generated can be applied to other storm durations and intensities. Curve Number methodology is even used in conjunction with continuous rainfall data to determine runoff on an annual basis, but as will be discussed later, the applicability of the Curve Number method for small storms is suspect.

Curve Number Method Advantages

The primary reason that Curve Number methodology is popular today is the ease of use (Lamont 2008). It is used in TR-20 and various software models for hydrology estimates, including water quality models (such as P8) to attempt to estimate pollutant loadings and sediment yield, and flood hydrology models (such as HydroCAD). Curve Number methodology is frequently used to estimate peak runoff flow, runoff volume and runoff hydrographs for precipitation events of all sizes. Only limited site data, such as location, soil type, land use and slope are required to complete calculations. The method is believed to be relatively accurate for larger scale planning efforts, such as regional flood storage ponds and other flood control facility sizing.

Other common hydrologic methods, including Green-Ampt and Horton Infiltration methods, do not share the advantage of ease of use, and thus are not used as often as Curve Number methodology in stormwater regulation or by developers in sizing storm sewer systems and rate and volume control stormwater best management practices (BMPs).

Curve Number Method Deficiencies

Despite its advantages and widespread acceptance, the Curve Number method presents certain disadvantages for some modeling and estimating applications. In general, these deficiencies are the result

of the nature of the method's empirical development in large non-urbanized watersheds, in contrast to the differing conditions encountered in urbanized areas. Put simply, the Curve Number method was not originally developed for the urbanized land uses where the method is now most-frequently employed.

Developed for Agricultural, Not Urban Watersheds

Classification of variable urban soils under specific Curve Numbers remains in question. The Curve Number method was developed on uniform agricultural watersheds and later adapted for urban watersheds (Peters 2010). The model performs well on rural landscapes, but was not developed to consider the complexity of a small urban site with many different land covers and BMPs (Reese 2006).

Abstractions

The Curve Number method poorly estimates initial abstraction/losses, as the method was developed focusing on the long-term conditions for daily rainfall. Initial abstraction is calculated as a function of the Curve Number, as $0.2*S$. This does not often account for variation and complexity of smaller, flatter sites and soils within stormwater BMPs. Recent research has suggested that a value of 0.05 or 0.1 may be more appropriate than 0.2 (Reese 2006, Lamont 2008, Eli 2010) and most modeling packages allow the user to adjust this value; however, changing the abstraction value from the standard 0.2 requires the creation of new Curve Numbers for all land cover types and antecedent runoff conditions (Lamont 2008).

The most common application of the method uses a constant Curve Number and antecedent runoff condition (ARC) for an entire precipitation event, although some modeling packages allow the Curve Number to vary with time and ARC. The possible inaccuracy concerning the lack of early-event variation of Curve Number (initial losses, infiltration, etc.) and the inability of the method to account for varying antecedent moisture content are deficiencies of the method (especially for small precipitation and first flush water-quality scale events).

Small Precipitation Events and Continuous Modeling

Curve Number methodology has difficulty accurately determining runoff for small precipitation events (less than 3"), and especially for events less than ½ inch (Peters 2010). In the Twin Cities, storms less than ½ inch account for 65% of all precipitation events greater than 0.1 inches (MPCA 2005 – Appendix B). The method is believed to be more accurate for larger precipitation events.

The method was not originally developed to model snowmelt or continuous rainfall/runoff simulations, nor was it developed to describe the hydrologic communication between rainfall, soil, soil moisture, subsurface flow and stream flow, therefore has severe limitations in being used for these purposes.

Even though it is sometimes used as such, it was not developed to be used for non-point source water quality modeling calculations, such as variable infiltration rates, making a distinction between

disconnected impervious surfaces and pervious surfaces, etc. Modelers have observed inaccurate prediction of runoff volume for small precipitation events, and corresponding inaccurate estimation of pollutant/sediment delivery using this method. Inaccuracy is heightened when only a portion of the real watershed is actually contributing runoff.

Composite Curve Number Deficiencies

A composite Curve Number is the areal-weighted average Curve Number of multiple areas with different Curve Numbers, aggregated into a single area with a single curve number. A distributed method differs from a composite Curve Number in that it separates pervious and impervious areas, calculating their runoff independently to avoid undesired approximations that occur in composite Curve Number calculations. Results differ if a composite Curve Number is used in the calculations or if a distributed approach is used.

Peters calculated that for a theoretical 20-acre, 30% impervious site, and a 1.3-inch rainfall event, using the composite Curve Number approach generated only 30% of the runoff volume that a distributed Curve Number approach would generate (0.17 acre-feet versus 0.55 acre-feet). The distributed Curve Number method is generally more accurate because each land cover type is considered, enhancing the resolution of the analysis (Peters 2010). Employing the composite Curve Number method can lead to inadequate sizing of water quality and rate control stormwater BMPs.

Composite and distributed Curve Number methods generate more similar results for larger storms (5-year, 100-year, etc.); however, when evaluating small storms, composite Curve Numbers for Commercial, Industrial, and varying impervious densities Residential Sites are not recommended for use even though they are listed by the NRCS, in various models, and in Table 8.4 of the Minnesota Stormwater Manual.

References

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Garen, David C. and Danial S. Moore. *Curve Number Hydrology in Water Quality Modeling: Uses, Abuses, and Future Directions*. Journal of the American Water Resources Association. April 2005. Accessed on 20-Sep-2010: http://www.wsi.nrcs.usda.gov/products/w2Q/H&H/docs/H&H_papers/curve_number/garen_moore_CN_abuses.pdf

Lamont, S. J.; Eli, R. N.; and Fletcher, J. J., 2008. "Continuous Hydrologic Models and Curve Numbers: A Path Forward," *Journal of Hydrologic Engineering*. July 2008.

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Peters, Erik G. *Improving the Practice of Modeling Urban Hydrology*. Stormwater. March-April 2010. Accessed on 20-Sep-2010: http://www.stormh2o.com/march-april-2010/improving-practice-modeling-3.aspx

Reese, Andrew J. *Voodoo Hydrology*. Stormwater. July-August 2006. Accessed on 20-Sep-2010: http://www.stormh2o.com/july-august-2006/urban-hydrology-methods.aspx

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105 South Fifth Avenue
Suite 513
Minneapolis, MN 55401

Tel: 612-252-9070
Fax: 612-252-9077
www.landform.net

March 17, 2015

City of Edina
Attn: Ross Bintner
Environmental Engineer
4801 W. 50th Street
Edina, MN 55424

Re: Response to City Drainage Review Comments

Dear Mr. Bintner:

We have received and reviewed the City of Edina drainage comments dated March 3, 2015. We have revised our plans, drainage report and calculation based upon those comments and below are a list of our responses address your comments. It is our intent that the changes made to the documents have addressed the City's concerns and we ask for the staff support at the March 25th planning commission meeting.

Storm Water Utility

1. Submit a revised Stormwater Management Plan, and development plan that meets the following performance standard. Design to these restrictions will ensure that either east or west flow path meet level of service and level of protection for 100 year events, and risk in downstream water body MD_25 is not increased.

   We have revised our plans and calculations based upon your comments below. We do not have the capacity or data to analyze downstream catchment areas outside of our property. Our development shows both a decrease in offsite storm water rate and a decrease in offsite storm water volume.

2. Applicant must not increase stormwater peak rate or volume to neighboring private properties, which will be demonstrated by the following criteria:

   a. No increases in stormwater volumes to MD_29 pond (to west) for the 2-year, 10-year, and 100-year 24 –hour Atlas 14 events, as compared with existing conditions.

      The hydrocad analysis of the existing and proposed conditions shows a decrease in storm water volume to the MD_29 pond in the proposed conditions.

   b. No increases in peak stormwater rates to MD_29 pond (to west) for the 2-year, 10-year, and 100-year 24-hour Atlas 14 events, as compared with existing conditions.

      The hydrocad analysis of the existing and proposed conditions show a decrease in stormwater rate to the MD_29 pond in the proposed conditions

   c. Summarize direct offsite drainage to the south property line separately.

      The revised plans indicate a swale on the south property line. This drainage will be routed to the existing MD_29 pond.

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d. No limitations to total volume runoff (to east) aside from meeting Nine Mile Creek Watershed District volume control requirements for the entire site.

The hydrocad analysis shows a reduction in storm water volume to the east in the proposed conditions for the 2-year, 10-yr and 100-yr, 24-hour storm.

3. Limit peak stormwater rates from the overall site to peak rates from existing conditions for the 2-year, 10-year, and 100-year, 24-hour Atlas 14 event, not per sub watershed (a sub watershed basis increase to the Blake Road system is allowed, as that direction has capacity to direct stormwater)

The hydrocad analysis shows a reduction in storm water rate to the pond in the proposed conditions for the 2-year, 10-yr and 100-yr, 24-hour storm.

4. Achieve compliance with Nine Mile Creek Watershed District water quality treatment requirements.
   a. The submittal indicates that the site is primarily comprised of D soils and the rain gardens will primarily serve as stormwater filtration. Given the limited infiltration and presence of drain tile in the bottom of the rain gardens, the TP removals sited in the submittal seems high.

      Our initial calculations were based on Hennepin County Soils data which indicated Silty Sandy soils. We have since completed a geotechnical report that shows Clay (D) soils and our models have since been updated to reflect those. Our project will meet/exceed the watershed requirements for water quality as we will be required to obtain a permit through the watershed prior to final plat recording.

5. Recorded easements will be required for all public infrastructures not already in platted drainage and utility easement.
   a. Drainage to the west is proposed in a flow concentration onto private property then onto a private pond. Applicant must negotiate future public easement for: the flow path, any drainage infrastructure, or any increase in pond bounce with any affected private parties.

      The applicant and Landform have been in contact with the two property owners through the design process. Both owners have indicated support for continual storm water drainage to the pond. We will continue to work with the owners to establish any required easements during the final platting process.

6. Road grade blocks drainage from proposed lot and private property to the north. Provide positive drainage to low area to north. Summarize any flow through areas separately in hydrology calculations.

After further analysis, the low point in the neighboring property is 13 feet outside of our property. We think it is unreasonable for the City to require the applicant to fix this existing off site condition. The proposed road is set at the elevations in the existing condition and the roadway elevations are not higher in the proposed elevation so the outlet elevation is not changing in the proposed condition. Our plans have been modified to swale our eastern drainage to a rain garden on our site which is then directed to the offsite pond.

7. Use NOAA Atlas 14 rainfall precipitation frequency

The hydrocad models use the Atlas 14 rainfall data for this local.

8. Provide justification for pre and post curve numbers. Previous submittal claimed curve number reductions in post development condition. Curve and drainage numbers should make conservative assumptions about activity that will occur to develop custom graded lots.
   a. The curve numbers used for the pervious areas in the existing conditions model (Woods, and Woods/grass combination) reflect "poor" conditions, whereas the curve numbers used for the pervious areas in the proposed conditions models (Woods/grass combination, >75% grass cover) reflect "good" or "fair" conditions. The selection of "poor" conditions in the existing conditions model results in generation of higher stormwater volumes under existing conditions than likely appropriate. The inconsistency in curve number selection for pervious areas should be corrected in future submittals to ensure an appropriate comparison between existing and proposed runoff volumes.

      The original curve numbers were selected based on the existing site conditions and anticipated future conditions. The existing site has very little established vegetated ground cover and the curve number of "Poor" was selected. We anticipate the future homes to have established grass in the full build-out so "Good" and "Fair" conditions were selected. However we have revised the existing model to show similar "Fair" conditions similar to that in the proposed model. This will give conservative assumptions for the future condition.

9. Future building sites can be limited by impervious surface assumptions though developers agreement. Previous submittal claimed 5,450 sf impervious per lot. Recommend conservative impervious assumptions provide flexibility to allow for future expansion.

   The applicant feels comfortable that 5,450 SF of impervious surface per lot is sufficient for the development. Reducing impervious area will help protect trees and other natural topographic features which has been a priority of the applicant and land owner.

10. Model results contain a significant continuity error. Correct this error.
    a. This may be a result of the model duration, time step or improper routing.

       Model duration has been extended to show equal volumes. The net changes were very minimal and still below the existing conditions.

We hope this letter answers the outstanding concerns. Additionally, we have a few items that have been discussed previously in our memo to you that are pretty important to us for the development. We would like to have the City staff weigh in on these items as they greatly impact our development.

- Item 7 requests B618 curb and gutter only. Our plans propose to use B618 curb and gutter in most locations throughout the development including the north side of the new road and the cul-de-sac, however, we are proposing a flush ribbon curb on the south side of the street as part of our overall storm water management plan. The storm water from the new road will sheet drain north to south over this ribbon curb and will be pre-treated through a grass filter strip prior to entering the proposed rain gardens. Pretreatment is required for the rain gardens and we feel strongly that non-concentrated storm water, pretreated by grass filter

strips is the best choice for this application. We strongly request the City to consider our proposed ribbon curb and grass filter strips on the south side of the road for the best long term function and performance of the rain gardens. We ask that the ribbon curb on the south side of the new road be allowed as shown on the plans and incorporated in the conditions.

- Item 8 requests a 5-foot sidewalk be installed with a 5-foot boulevard. While we can revise our plans to provide this sidewalk on the north side of the street, the Planning Commission noted a number of concerns about this item. Commissioners noted that the living streets policy would not necessarily require the sidewalk on a cul de sac such as this, that the drainage issues and tree preservation should take precedent over the sidewalk and that alternative designs be considered. We would like to discuss the need, location and design of the sidewalk with you or receive written feedback so that we can prepare a plan that responds to the Commissions noted concerns.

- Item 11 requests a looped 6" DIP from Blake Road through to the Southeast corner of lot 6 north along the property line to Evanswood Lane. It is very common to have a water main dead-end in cul-de-sacs in subdivisions. We understand this was approved by the City Council in the Morningside/Acres Dubois development in 2013. Installing a looped main between lots 6 and 7 would cause the unnecessary removal of at least 13 mature trees that all parties wish to preserve. We believe that we can show that the required water pressure can be provided as designed and request that this condition be removed.

Our hope is that this letter, the revised plans and reports have addressed the outstanding Engineering comments as outlined in your memo. We ask for your support at the March 25th Planning Commission meeting.

Sincerely,
Landform

Reid Schulz
Project Lead

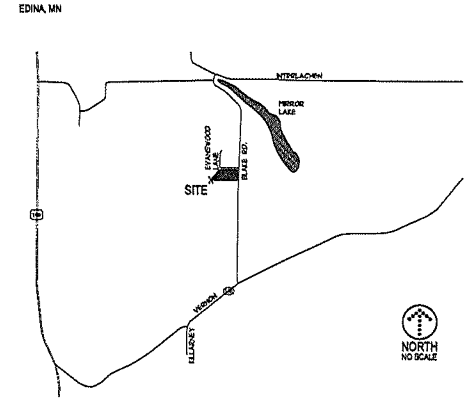
COPY: Frank Berman
Cary Teague, City Planner
Chad Millner, City Engineer

BLAKE WOODS

EDINA, MN

AREA LOCATION MAP

EDINA, MN



ABBREVIATIONS

D	Angle
&	And
@	At
100 YR.	100 Year Flood Elevation
A.B.	Anchor Bolt
A.D.	Area Drain
A/C	Air Conditioning Unit
ADD.	Addendum
ADDL.	Additional
ADJ.	Adjacent / Adjust
AHU	Air Handling Unit
ALT.	Alternate
ALUM.	Aluminum
ANOD.	Anodized
APPROX.	Approximate
ARCH	Architect / Architectural
AUTO.	Automatic
AVG.	Average
B.C.	Back of Curb
B/W	Bottom of Wall
BFE	Basement Floor Elevation
BIT	Bituminous (Asphalt)
BLDG	Building
BSMT.	Basement
C.F.	Cubic Feet
C.F.S.	Cubic Feet Per Second
C.G.	Corner Guard
C.J.	Control Joint
C.L.	Centerline
C.M.U.	Concrete Masonry Unit
C.O.	Cleanout
C.O.E.	U.S. Army Corps Of Engineers
C.Y.	Cubic Yards
CB	Catch Basin
CBMH	Catch Basin Manhole
CEM.	Cement
CIP	Cast Iron Pipe
CMP	Corrugated Metal Pipe
CONC.	Concrete (Portland)
CONN.	Connection
CONST.	Construction
CONT.	Continuous
CONTR.	Contractor
COP.	Copper
CU.	Cubic
D.S.	Down Spout
DEG.	Degree
DEMO.	Demolition / Demolish
DEPT.	Department
DET.	Detail
DIA.	Diameter
DIAG.	Diagonal
DIM.	Dimension
DIP	Ductile Iron Pipe
DN	Down
DWG.	Drawing
E.	East
E.J.	Expansion Joint
E.O.F.	Emergency Overflow
E.O.S.	Emergency Overflow Swale
E.W.	Each Way
EA.	Each
EL.	Elevation
ELEC.	Electrical
ELEV.	Elevation
EMER.	Emergency
ENGR.	Engineer
ENTR.	Entrance
E.O.	Emergency Overflow
EQ.	Equal
EQUIP.	Equipment
EQUIV.	Equivalent
EXIST.	Existing
EXP.	Expansion
F & I	Furnish and Install
F.B.O.	Furnished by Others
F.C.	Face of Curb
F.D.	Floor Drain
F.D.C.	Fire Department Connection
F.V.	Field Verify
FB	Full Basement
FBWO	Full Basement Walk Out
FBLO	Full Basement Look Out
FDN.	Foundation
FES	Flared End Section
FFE	Finished Floor Elevation
FLR.	Floor
FT. OR (')	Feet
FUT.	Future
G.B.	Grade Break
G.C.	General Contractor
GAL.	Gallon
GALV.	Galvanized
GFE	Garage Floor Elevation
GL.	Glass
GR.	Grade
H.	Height
H.P.	High Point
HDPEP	High Density Polyethylene Pipe
HGT.	Height
HORIZ.	Horizontal
HVAC	Heating, Ventilation, Air Conditioning
HYD	Hydrant
I.D.	Inside Diameter
I.E. or IE	Invert Elevation
IN. OR (")	Inches
INFO.	Information
INL.	Inlet Elevation
INSUL.	Insulation
INV.	Invert Elevation
JT.	Joint
L.F.	Lineal Feet
L.P.	Low Point / Liquid Petroleum
LB.	Pound
LGU	Local Government Unit
LONG.	Longitudinal
LT.	Light / Lighting
MAINT.	Maintenance
MAS.	Masonry
MATL.	Material
MAX.	Maximum
MECH	Mechanical
MED.	Medium
MFR.	Manufacturer
MH	Manhole
MIN.	Minimum / Minute
MISC.	Miscellaneous
MNDOT	Minnesota Department Of Transportation
MOD.	Module / Modular
MUL.	Mullion
N.	North
N.I.C.	Not In Contract
NO. OR #	Number
NOM	Nominal
NTS	Not to Scale
NWE	Normal Water Elevation
NWL	Normal Water Level
O.C.	On Center
O.D.	Outside Diameter
O.E.	Overhead Electric
OH.	Overhead
OHWL	Ordinary High Water Level
OPNG.	Opening
ORIG.	Original
P.C.	Point of Curvature
P.I.	Point of Intersection
PIV	Post Indicator Valve
P.L. OR P/L	Property Line
P.O.B.	Point of Beginning
P.S.F.	Pounds Per Square Foot
P.S.I.	Pounds Per Square Inch
P.T.	Point of Tangency
P.V.C.	Point of Vertical Curvature
P.V.I.	Point of Vertical Intersection
P.V.T.	Point of Vertical Tangency
PE	Polyethylene
PED.	Pedestal / Pedestrian
PERF.	Perforated
PREP.	Preparation
PROJ.	Project
PROP.	Proposed
PVC	Poly-Vinyl-Chloride (Pipe)
PVMT.	Pavement
QTR.	Quarter
QTY.	Quantity
R	Radius
RAD.	Radius
R.D.	Roof Drain
RE	Rim Elevation (Casting)
R.E.	Remove Existing
R.O.	Rough Opening
R.P.	Radius Point
RCP	Reinforced Concrete Pipe
R.S.	Rough Slab
RSD	Roof Storm Drain
RE.	Regarding
REINF.	Reinforced
REQD	Required
REV.	Revision / Revised
RGU	Regulatory Government Unit
ROW OR R/W	Right of Way
S.	South
S.F.	Square Feet
SAN.	Sanitary Sewer
SECT.	Section
SE	Side Exit
SEWO	Side Exit Walk Out
SHT.	Sheet
SM.	Sealer
SLNT.	Sealant
SPEC.	Specification
SQ.	Square
SSD	Subsurface drain
STMH	Storm Sewer Manhole
STD.	Standard
STRUCT.	Structural
SYM.	Symmetrical
T	Thickness
T/R	Top of Rim
T/W	Top of Wall
TEMP.	Temporary
THK.	Thick / Thickness
T.J.	Tooled Joint
TNH	Top Nut Hydrant
TYP.	Typical
U.N.O.	Unless Noted Otherwise
V.B.	Vapor Barrier
V.C.	Vertical Curve
V.I.F.	Verify In Field
VER.	Verify
VERT.	Vertical
VEST.	Vestibule
W	Width
W.PT.	Working Point
W.W.F.	Welded Wire Fabric
W/	With
W/O	Without
WO	Walk Out
WETL.	Wetland
WP	Waterproof
WT.	Weight
YD.	Yard
YR.	Year

SYMBOLS

EXISTING — DESCRIPTION

- MAJOR CONTOUR
- MINOR CONTOUR
- SPOT ELEVATION
- BUILDING
- CANOPY / OVERHANG
- CONCRETE
- BITUMINOUS
- LANDSCAPING
- GRAVEL
- PAVING BLOCK
- PAVING BLOCK
- STORM SEWER LINE
- SANITARY SEWER LINE
- WATER MAIN
- OVERHEAD ELECTRIC
- UNDERGROUND TELEPHONE
- UNDERGROUND ELECTRIC
- GAS LINE
- CONCRETE CURB
- FENCING
- RETAINING WALL
- SET 1/2" X 14" IRON PIPE
- IRON MONUMENT FOUND
- SURVEY DISK (BENCHMARK)
- POWERPOLE
- GUY WIRE
- GUARD POST
- GAS METER
- TRANSFORMER
- WATER SHUT-OFF VALVE
- TRAFFIC SIGN
- FLAG POLE
- LIGHT POLE
- TREES
- TREE LINE
- MANHOLE
- CATCH BASIN
- FIRE HYDRANT
- WATER VALVE
- FLARED END SECTION
- MAILBOX
- NOTE NUMBER
- MEASURED DISTANCE
- DISTANCE PER RECORDED PLAT
- SOIL BORING

NEW — DESCRIPTION

- MAJOR CONTOUR
- MINOR CONTOUR
- SPOT ELEVATION
- BUILDING
- CANOPY/OVERHANG
- UNDERGROUND STRUCTURE
- CONCRETE
- CONCRETE CURB
- EDGE OF PAVEMENT
- FENCING
- GUARD RAIL
- CONCRETE RETAINING WALL
- MODULAR RETAINING WALL
- FIELDSTONE RETAINING WALL
- EXIT LOCATION
- LIGHT STANDARD
- POWER POLE
- SLOPE DIRECTION
- CATCH BASIN
- MANHOLE
- BOLLARD
- STORM SEWER
- SANITARY SEWER-WASTE
- FORCE MAIN
- ROOF DRAIN SYSTEM
- WATERMAIN
- FIRE LINE (IF SEPARATE)
- FIRE DEPT. CONNECTION
- SOIL SUBDRAIN
- GAS LINE-UNDERGROUND
- ELECTRIC-UNDERGROUND
- TELEPHONE-UNDERGROUND
- UNDERGROUND CABLE/TV
- LAWN SPRINKLER SLEEVES

EROSION CONTROL SYMBOLS

SYMBOL	DESCRIPTION
	SEDIMENT CONTROL FENCE
	INLET PROTECTION

DRAWING SYMBOLS

SYMBOL	DESCRIPTION
	NOTE REFERENCE
	PARKING STALL COUNT
	LARGE SHEET DETAIL
	COORDINATE POINT
	REVISION - ADDENDUM, BULLETIN, ETC.
	REVISED AREA (THIS ISSUE)

LEGAL DESCRIPTION

LOT 1 AND LOT 2, BLOCK 1, ZUPPKEWOOD, ACCORDING TO THE RECORDED PLAT THEREOF, HENNEPIN COUNTY, MINNESOTA

AND

LOT 46 AND LOT 47, AUDITORS SUBDIVISION NO. 325, ACCORDING TO THE RECORDED PLAT THEREOF, HENNEPIN COUNTY, MINNESOTA.

BENCHMARK

TOP NUT OF FIRE HYDRANT IN BETWEEN 5309 & 5315 BLAKE ROAD SOUTH
ELEVATION = 949.59
(NGVD 1929)

OWNER

FRANK BERMAN
5331 EVANSWOOD LANE
EDINA, MN 55436
TEL (612)770-5239

CIVIL SHEET INDEX

SHEET NO.	DESCRIPTION
C0.1	CIVIL TITLE SHEET
C0.2	PRELIMINARY PLAT
C1.1	EXISTING CONDITIONS
C1.2	DEMOLITION
C2.1	SITE PLAN
C3.1	GRADING, DRAINAGE & EROSION CONTROL
C4.1	UTILITIES - SANITARY & WATER
C4.2	UTILITIES - STORM
C6.1	STREET PLAN AND PROFILE
C7.1	CIVIL CONSTRUCTION DETAILS
C7.2	CIVIL CONSTRUCTION DETAILS
C7.3	CIVIL CONSTRUCTION DETAILS
C7.4	CIVIL CONSTRUCTION DETAILS
C7.5	CIVIL CONSTRUCTION DETAILS
L1.1	TREE PRESERVATION PLAN
L1.2	TREE PRESERVATION TABLE
L2.1	LANDSCAPE PLAN
L7.1	LANDSCAPE DETAILS

SITE/UTILITY CONTACTS

BUILDING INSPECTIONS
CITY OF EDINA
4801 W. 50TH STREET
EDINA, MN 55424
DAVID FISHER
CHIEF BUILDING OFFICIAL
DFISHER@EDINAMN.GOV
TEL: 952-826-0450
FAX:

CITY PLANNER
CITY OF EDINA
4801 W. 50TH STREET
EDINA, MN 55424
CARY TEAGUE
COMMUNITY DEVELOPMENT DIRECTOR
CTEAGUE@EDINAMN.GOV
TEL: 952-826-0460
FAX: 952-826-0389

GAS
CENTERPOINT ENERGY
800 LASALLE AVENUE
P.O. BOX 59038
MINNEAPOLIS, MN 55459
TEL: 612-321-4939
FAX:

PUBLIC WORKS
CITY OF EDINA
7450 METRO BLVD.
EDINA, MN 55424
TEL: 952-826-0371
FAX:

ELECTRIC
XCEL ENERGY
414 NICOLLET MALL
MINNEAPOLIS, MN 55401
TEL: 800-895-4999
FAX:

TELEPHONE
CENTURYLINK
200 S. 5TH STREET
MINNEAPOLIS, MN 55402
TEL: 877-744-4416
FAX:

CABLE
COMCAST
300 S 6TH ST
MINNEAPOLIS, MN 55487
TEL: 763-219-4134
FAX:

OWNER

FRANK BERMAN
5331 EVANSWOOD LANE
EDINA, MN 55436
TEL (612)770-5239

MUNICIPALITY

CITY OF EDINA MINNESOTA

PROJECT

BLAKE WOODS
SUBDIVISION
EDINA, MN

SHEET INDEX

SHEET	TITLE
C0.1	CIVIL TITLE SHEET
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C7.4	CIVIL CONSTRUCTION DETAILS
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REVISION HISTORY

CONTACT ENGINEER FOR ANY PRIOR HISTORY

DATE	REVISION	REVIEW
23 JAN 2015	PRELIMINARY PLAT SUBMITTAL	EMC
24 FEB 2015	REVISION #1	
18 MAR 2015	REVISION #2 - CITY COMMENTS	

PROJECT MANAGER REVIEW

CERTIFICATION

PRELIMINARY NOT FOR CONSTRUCTION

REVISION #2 - CITY COMMENTS
03/18/2015

LANDFORM
From Site to Finish

105 South Fifth Avenue, Suite 513, Minneapolis, MN 55401
Tel: 612-252-9070
Fax: 612-252-9077
Web: landform.net

FILE NAME: C001ZZZ317.DWG
PROJECT NO.: ZZZ14317

CIVIL TITLE SHEET
C0.1
SHEET NO. 1/18

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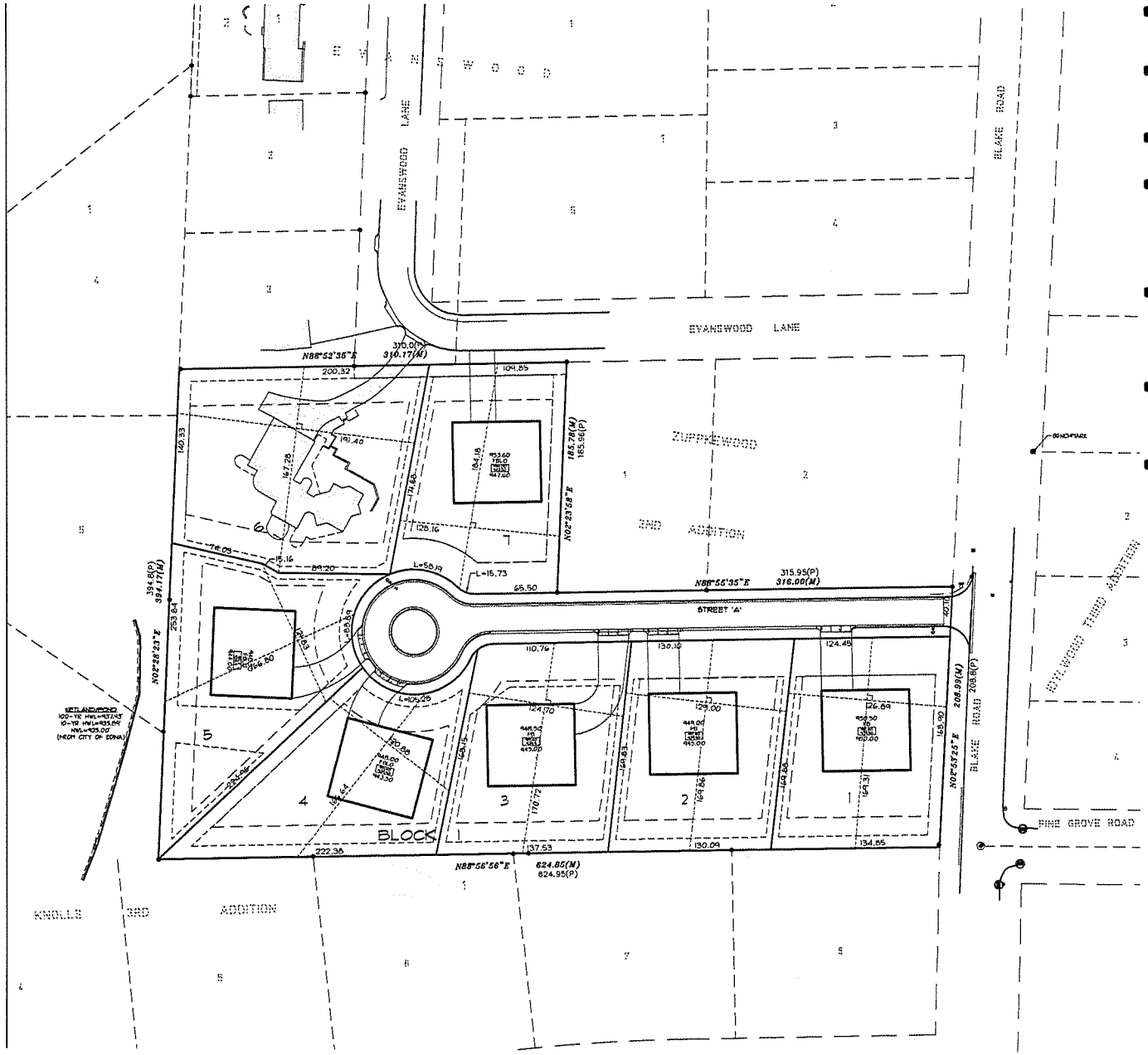
A55



BENCHMARK

TOP NUT OF FIRE HYDRANT IN BETWEEN 5309 & 5315 BLAKE ROAD SOUTH
ELEVATION = 844.84
(NGVD 1929)

SITE SUMMARY

TOTAL NUMBER OF LOTS:	2 LOTS
TOTAL PLATTED AREA:	4.31 ACRES
PROPOSED RIGHT-OF-WAY:	0.59 ACRES

ZONING

THE PROPERTY IS CURRENTLY ZONED R1-SINGLE FAMILY

SETBACK SUMMARY

BUILDING SETBACK INFORMATION IS AS FOLLOWS:
FRONT YARD = 30 FT.
REAR = 25 FT.
SIDE = 10 FT.

LOT COVERAGE INFORMATION IS AS FOLLOWS:
LOT AREA MINIMUM = 21,842 SF
LOT WIDTH MINIMUM = 100.0'
LOT DEPTH MINIMUM = 164.4'
MAX. BUILDING COVERAGE = 25%

REFER TO DETAIL 1 SHEET C2.1 FOR TYPICAL LOT SETBACK, DRAINAGE, AND UTILITY EASEMENT DIMENSIONS.

PROPOSED LOT AREAS

LOT 1, BLOCK 1, BERMAN ADDITION	~21,842 SQ. FT.	0.501 ACRES
LOT 2, BLOCK 1, BERMAN ADDITION	~21,910 SQ. FT.	0.503 ACRES
LOT 3, BLOCK 1, BERMAN ADDITION	~21,847 SQ. FT.	0.501 ACRES
LOT 4, BLOCK 1, BERMAN ADDITION	~22,326 SQ. FT.	0.513 ACRES
LOT 5, BLOCK 1, BERMAN ADDITION	~24,022 SQ. FT.	0.552 ACRES
LOT 6, BLOCK 1, BERMAN ADDITION	~30,033 SQ. FT.	0.689 ACRES
LOT 7, BLOCK 1, BERMAN ADDITION	~21,901 SQ. FT.	0.503 ACRES
RIGHT-OF-WAY DEDICATION	~23,128 SQ. FT.	0.532 ACRES
TOTAL	~187,857 SQ. FT.	4.31 ACRES

LEGAL DESCRIPTION

LOT 1 AND LOT 2 BLOCK 1, ZUPPKEWOOD, ACCORDING TO THE RECORDED PLAT THEREOF, HENNEPIN COUNTY, MINNESOTA

AND

LOT 46 AND LOT 47, AUDITOR'S SUBDIVISION NO. 325, ACCORDING TO THE RECORDED PLAT THEREOF, HENNEPIN COUNTY, MINNESOTA.

SURVEY NOTE

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OWNER

FRANK BERMAN
5331 EVANSWOOD LANE
EDINA, MN 55436
TEL (612)778-4209

MUNICIPALITY

CITY OF EDINA MINNESOTA

PROJECT

BLAKE WOODS SUBDIVISION
EDINA, MN

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C1.2	DEMOLITION
C2.1	SITE PLAN
C3.1	GRADING, DRAINAGE AND EROSION CONTROL PLAN
C4.1	UTILITIES - SANITARY SEWER & WATERMAIN
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REVISION HISTORY

CONTACT ENGINEER FOR ANY REVISIONS

DATE	REVISION	BY/INIT
03 JAN 2015	PRELIMINARY PLAT SUBMITTAL	ZAC
24 FEB 2015	REVISION #1	
18 MAR 2015	REVISION #2 - CITY COMMENTS	

PROJECT MANAGER REVIEW

BY:
DATE: 03/18/2015

CERTIFICATION

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Suite 513
Minneapolis, MN 55401

Tel: 612-252-6070
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FILE NAME: C002ZZZ317
PROJECT NO.: ZZZ14317

PRELIMINARY PLAT
C0.2
SHEET NO. 2/18

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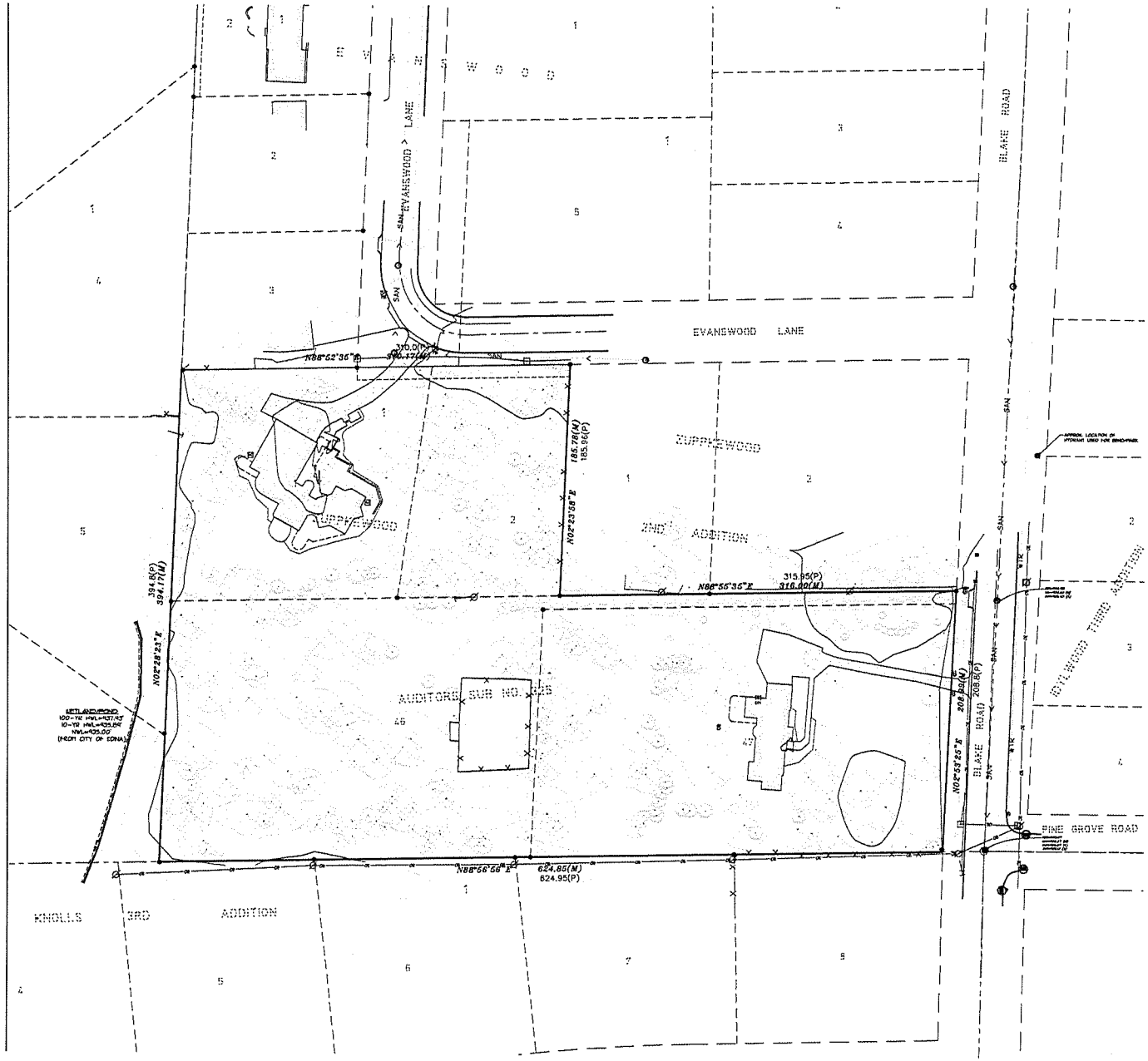

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OWNER

FRANK BERMAN
5331 EVANSWOOD LANE
EDINA, MN 55436
TEL (612)770-6329

MUNICIPALITY

CITY OF EDINA, MINNESOTA

PROJECT

BLAKE WOODS SUBDIVISION
EDINA, MN

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REVISION HISTORY

CONTACT ENGINEER FOR ANY PRIOR HISTORY

DATE	REVISION	BY
13 JAN 2015	PRELIMINARY PLAT SUBMITTAL	LFMC
24 FEB 2015	REVISION #1	
18 MAR 2015	REVISION #2 - CITY COMMENTS	

PROJECT MANAGER REVIEW

BY TB 03/18/2015

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Suite 613
Minneapolis, MN 55401

Tel: 612-252-6070
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FILE NAME C101ZZZ317

PROJECT NO. ZZZ143317

EXISTING CONDITIONS

C1.1

SHEET NO. 3/18

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DEMOLITION AND CLEARING NOTES

2. OBTAIN PERMITS FOR DEMOLITION, CLEARING, AND DISPOSAL PRIOR TO BEGINNING.
3. CONTACT UTILITY SERVICE PROVIDERS FOR FIELD LOCATION OF SERVICES 72 HOURS PRIOR TO BEGINNING DEMOLITION AND CLEARING.
4. SEE SHEET C3.1 FOR EROSION PREVENTION AND SEDIMENT CONTROL MEASURES THAT MUST BE IN PLACE PRIOR TO DISTURBANCES TO SITE.
5. BUILDING DEMOLITION: VERIFY WITH OWNER THAT BUILDING HAS BEEN CLEARED OF REGULATED MATERIALS REQUIRING SPECIAL HANDLING OR DISPOSAL. REMOVE STRUCTURE, COLUMNS, CANOPIES, FOOTINGS, FOUNDATIONS, AND ANY ASSOCIATED CONSTRUCTION IN ITS ENTIRETY.
6. DIMENSIONS SHOWN FOR REMOVAL ARE APPROXIMATE. COORDINATE WITH NEW CONSTRUCTION TO ENSURE APPROPRIATE REMOVAL OF EXISTING FACILITIES.
7. REFER TO DETAILS FOR PAVEMENT SAWCUT. REMOVE CONCRETE WALKS AND CURBING TO THE NEAREST EXISTING JOINT BEYOND CONSTRUCTION LIMITS.
8. COMPLETE DEMOLITION WITH MINIMAL DISRUPTION OF TRAFFIC. COORDINATE LANE CLOSURES WITH THE CITY OF EDINA AND PROVIDE ADVANCE NOTIFICATION TO AFFECTED EMERGENCY RESPONSE PROVIDERS.

   PROVIDE BARRICADES, LIGHTS, SIGNS, TRAFFIC CONTROL, AND OTHER MEASURES NECESSARY FOR PROTECTION AND SAFETY OF THE PUBLIC AND MAINTAIN THROUGHOUT CONSTRUCTION.
10. PROTECT STRUCTURES, UTILITIES, TREES, PLANT MATERIAL, SOD, AND ADJACENT PROPERTY FROM DAMAGE DURING CONSTRUCTION UNLESS NOTED FOR REMOVAL. DAMAGED SHALL BE REPAIRED TO EQUAL OR BETTER CONDITION AT NO ADDITIONAL COST.
11. VERIFY THE SITE IS FREE OF EXISTING WELLS AND ON SITE SEWAGE FACILITIES PRIOR TO ANY OTHER DEMOLITION. ABANDON AND REMOVE FACILITIES IN ACCORDANCE WITH REQUIREMENTS OF REGULATORY AUTHORITIES.
12. REMOVE TREES NOTED, INCLUDING ROOT STRUCTURES, FROM THE SITE. COORDINATE WITH ENGINEER TO MARK TREES TO BE SAVED OR TRANSPLANTED PRIOR TO CLEARING.
13. REFER TO SHEET L1.1 FOR TREE TYPES AND SIZES.

    REMOVE EXISTING SITE FEATURES INCLUDING, BUT NOT LIMITED TO, UNDERGROUND UTILITIES, PAVING, CURBING, WALKWAYS, FENCING, RETAINING WALLS, APRONS, LIGHTING, RELATED FOUNDATIONS, SIGNAGE, LANDSCAPING, AND STAIRWAYS WITHIN THE CONSTRUCTION LIMITS UNLESS NOTED OTHERWISE.

    COORDINATE REMOVAL, RELOCATION, TERMINATION, AND RE-USE OF EXISTING PRIVATE UTILITY SERVICES AND APPURTENANCES WITH THE UTILITY COMPANIES. RESTORE ELECTRIC HANDHOLES, PULLBOXES, POWERPOLES, GUYLINES, AND STRUCTURES DISTURBED BY CONSTRUCTION IN ACCORDANCE WITH UTILITY OWNER REQUIREMENTS.
16. EXISTING PIPING AND CONDUITS MAY BE ABANDONED IN-PLACE IF FILLED WITH SAND AND IF NOT IN LOCATION OF PROPOSED BUILDING OR IN CONFLICT WITH PROPOSED UTILITIES OR STRUCTURES. TERMINATE EXISTING SERVICES AT THE SUPPLY SIDE IN CONFORMANCE WITH PROVIDER'S STANDARDS.
17. HAUL DEMOLITION DEBRIS OFF-SITE TO A FACILITY APPROVED BY REGULATORY AUTHORITIES FOR THE HANDLING OF DEMOLITION DEBRIS, UNLESS NOTED OTHERWISE.
18. COORDINATE RELOCATION OF PUBLIC RIGHT-OF-WAY SIGNAGE WITH CITY OF EDINA.
19. INSTALL TREE PROTECTION FENCING PRIOR TO STARTING OTHER WORK. REMOVE TREE PROTECTION FENCING AFTER SITE IS STABILIZED.

LEGEND

- TREE REMOVAL – REFER TO SHEET L1.1
- TREE PROTECTION FENCING – REFER TO DETAIL 2, SHEET C7.4
- STRUCTURE AND/OR PAVEMENT REMOVAL
- CURB REMOVAL
- CONSTRUCTION LIMITS
- PAVEMENT SAWCUT

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NORTH

0 40 80

OWNER

FRANK BERMAN
5331 EVANSWOOD LANE
EDINA, MN 55436
TEL 612.927.5279

MUNICIPALITY

CITY OF EDINA

PROJECT

BLAKE WOODS SUBDIVISION
EDINA, MN

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C4.1	UTILITIES – SANITARY SEWER & WATERMAIN
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C7.5	CIVIL CONSTRUCTION DETAILS
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L1.2	TREE PRESERVATION TABLE
L2.1	LANDSCAPE PLAN
L3.1	LANDSCAPE DETAILS

REVISION HISTORY

CONTACT ENGINEER FOR THIS PROJECT

DATE	REVISION	BY/NOTE
13 JAN 2015	PRELIMINARY PLAT SUBMITTAL	
24 FEB 2015	REVISION #1	
18 MAR 2015	REVISION #2 – CITY COMMENTS	

PROJECT MANAGER REVIEW

CERTIFICATION

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REVISION #2 - CITY COMMENTS
03/18/2015

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Suite 513
Minneapolis, MN 55401

Tel: 612-252-6070
Fax: 612-252-6077
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FILE NAME C102ZZ017

PROJECT NO. ZZZ1-017

DEMOLITION

C1.2

SHEET NO. 4/18

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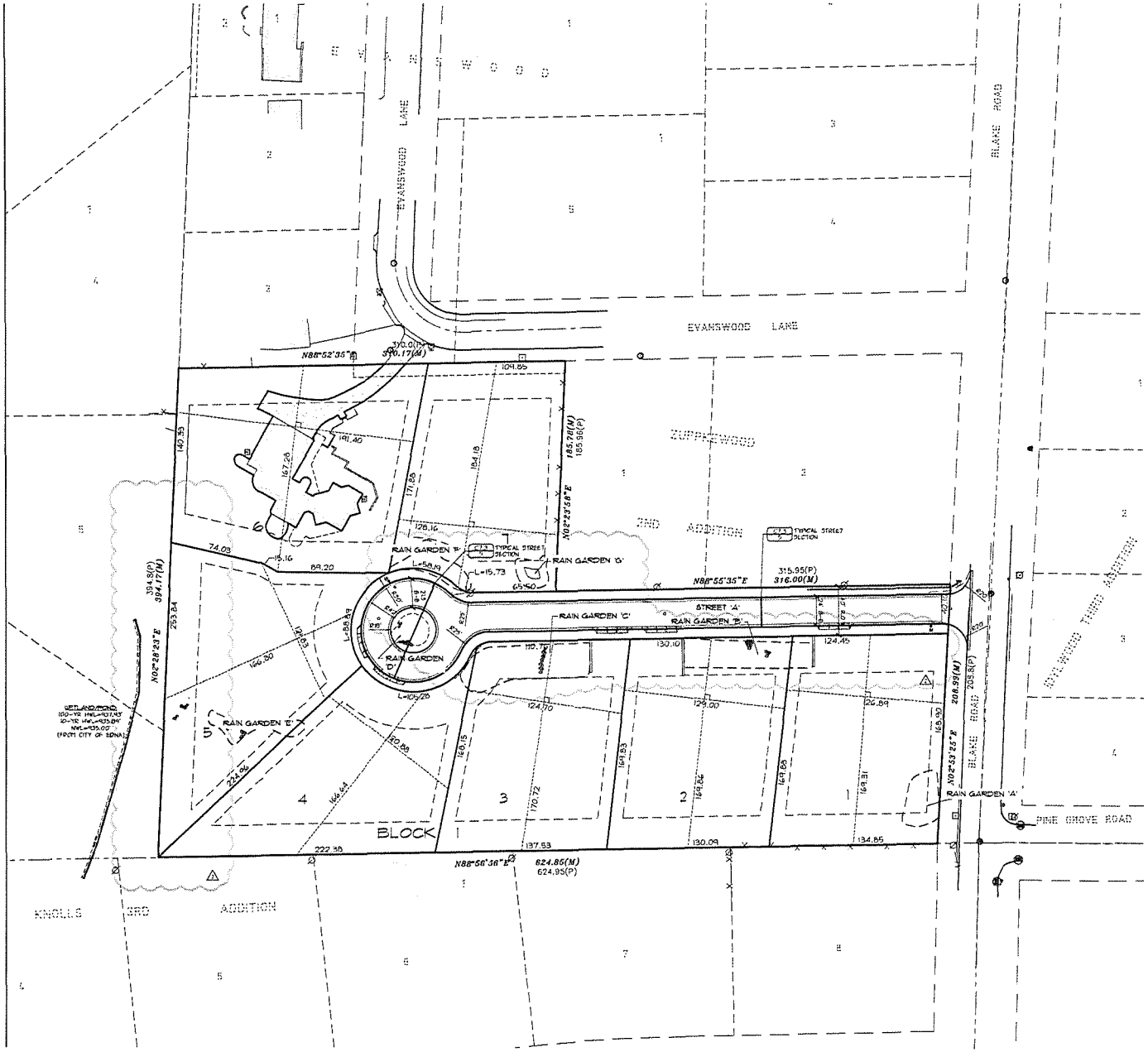


SITE PLAN NOTES

1. OBTAIN ALL NECESSARY PERMITS FOR CONSTRUCTION WITHIN OR USE OF PUBLIC RIGHT-OF-WAY.
2. THE DIGITAL FILE, WHICH CAN BE OBTAINED FROM THE ENGINEER, SHALL BE USED FOR STAKING. DISCREPANCIES BETWEEN THE DRAWINGS AND THE DIGITAL FILE SHALL BE REPORTED TO THE ENGINEER. THE BUILDING FOOTPRINT, AS SHOWN ON THESE DRAWINGS, AND THE DIGITAL FILE, SHALL BE COMPARED TO THE STRUCTURAL DRAWINGS PRIOR TO STAKING.
3. DIMENSIONS SHOWN ARE TO BACK OF CURB UNLESS NOTED OTHERWISE.

GREEN SPACE (LANDSCAPE AREA)

AREA SUMMARY

EXISTING:

PERVIOUS	167,868	S.F.	89.4%
IMPERVIOUS	19,889	S.F.	10.6%
TOTAL (4.313 AC)	187,856	S.F.	100.0%

PROPOSED (NOT INCLUDING FUTURE HOUSES AND DRIVEWAYS):

PERVIOUS	166,380	S.F.	88.6%
IMPERVIOUS	21,476	S.F.	11.4%
TOTAL (4.313 AC)	187,856	S.F.	100.0%

ZONING AND SETBACK SUMMARY

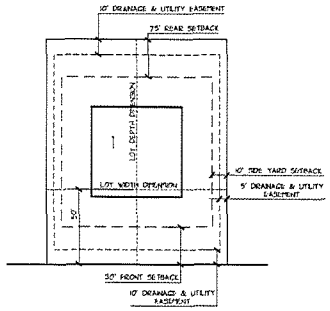
THE PROPERTY IS CURRENTLY ZONED SINGLE FAMILY DWELLINGS

BUILDING SETBACK INFORMATION IS AS FOLLOWS:
FRONT YARD = 30 FT
REAR = 25 FT
SIDE = 10 FT.

LOT COVERAGE INFORMATION IS AS FOLLOWS:
LOT AREA MINIMUM = GREATER THAN THE MEDIAN LOT AREA IN THE NEIGHBORHOOD (21,842 S.F.)
LOT WIDTH MINIMUM = GREATER THAN THE MEDIAN LOT WIDTH IN THE NEIGHBORHOOD (110.0')
LOT DEPTH MINIMUM = GREATER THAN THE MEDIAN LOT DEPTH IN THE NEIGHBORHOOD (166.4')
MAX. BUILDING COVERAGE = 25%

PROPOSED LOT AREAS

LOT	LOT AREA	
LOT 1	= 21,842 SQ. FT.	0.501 ACRES
LOT 2	= 21,910 SQ. FT.	0.503 ACRES
LOT 3	= 21,842 SQ. FT.	0.501 ACRES
LOT 4	= 22,228 SQ. FT.	0.510 ACRES
LOT 5	= 24,870 SQ. FT.	0.570 ACRES
LOT 6	= 20,635 SQ. FT.	0.469 ACRES
LOT 7	= 21,901 SQ. FT.	0.503 ACRES
RIGHT-OF-WAY DEDICATION	= 23,119 SQ. FT.	0.530 ACRES
TOTAL	= 187,857 SQ. FT.	4.31 ACRES



1 TYPICAL LOT LAYOUT
NO SCALE

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OWNER

FRANK BERMAN
5331 EVANSWOOD LANE
EDINA, MN 55436
TEL 612/724-6229

MUNICIPALITY

CITY OF EDINA, MINNESOTA

PROJECT

BLAKE WOODS SUBDIVISION
EDINA, MN

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REVISION HISTORY

CONTACT ENGINEER FOR INFORMATION

DATE	REVISION	REVIEW
03 JANUARY 2014	PRELIMINARY PLAT SUBMITTAL	ENG
24 FEB 2015	REVISION #1	
18 MAR 2015	REVISION #2 - CITY COMMENTS	

PROJECT MANAGER REVIEW

BY: KS DATE: 03/18/2015

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PROJECT NO.: ZZZ1-317

SITE PLAN
C2.1
SHEET NO. 5/18

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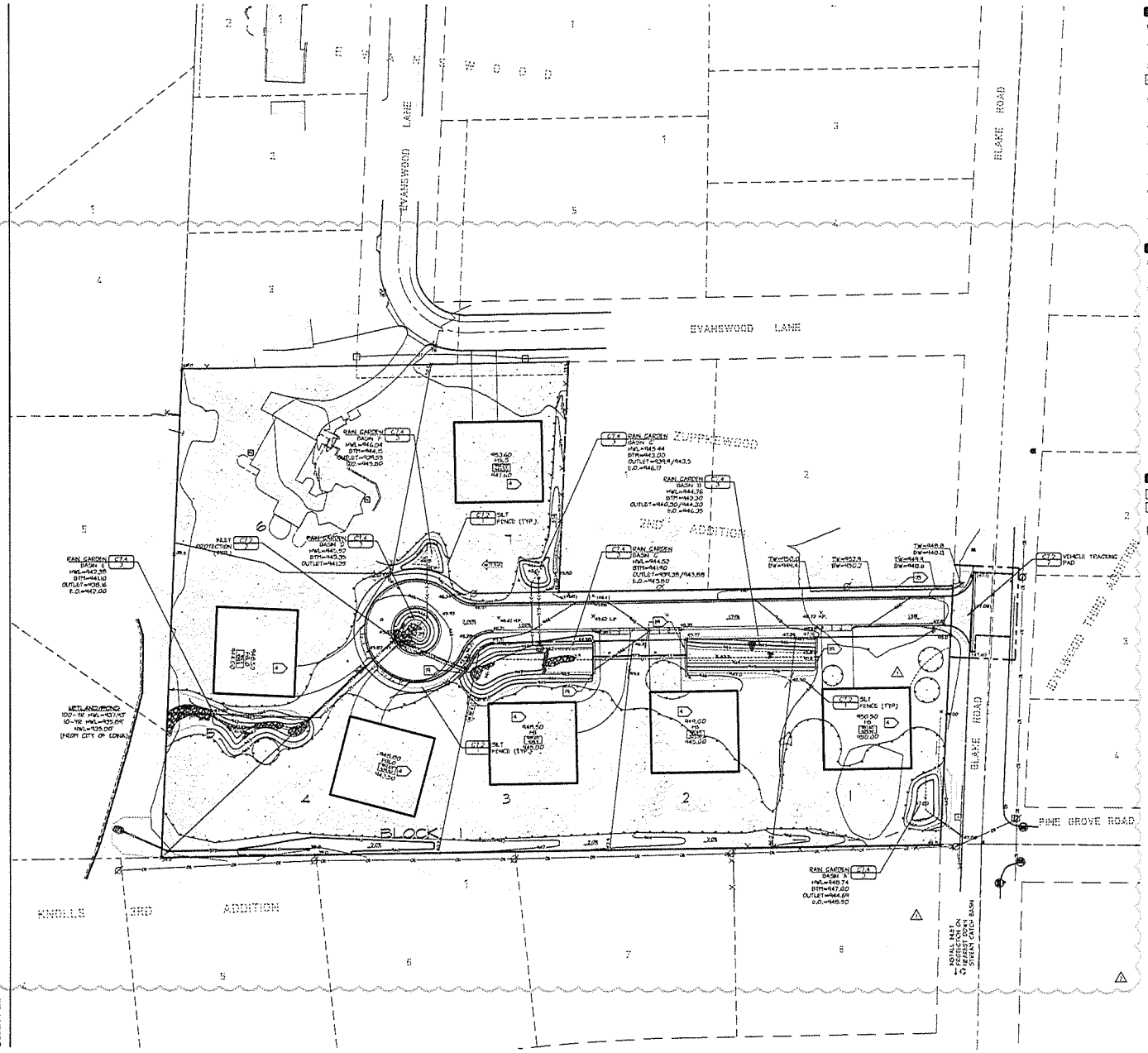

GRADING NOTES

1. CONTACT UTILITY SERVICE PROVIDERS FOR FIELD LOCATION OF SERVICES 72 HOURS PRIOR TO BEGINNING GRADING.
2. REMOVE TOPSOIL FROM GRADING AREAS AND STOCKPILE SUFFICIENT QUANTITY FOR REUSE.
3. REMOVE SURFACE AND GROUND WATER FROM EXCAVATIONS.
4. BUILDING PADS WILL BE CUSTOM GRADED BY BUILDER AT THE TIME OF HOME CONSTRUCTION. REFER TO DETAIL 1, SHEET C3.1
5. AN INDEPENDENT TESTING FIRM SHALL VERIFY THE REMOVAL OF ORGANIC AND UNSUITABLE SOILS, SOIL CORRECTION, AND COMPACTION AND PROVIDE PERIODIC REPORTS TO THE OWNER.
6. PLACE AND COMPACT FILL USING LIFT THICKNESSES MATCHED TO SOIL TYPE AND COMPACTION EQUIPMENT TO OBTAIN SPECIFIED COMPACTION THROUGHOUT THE LIFT.
7. COMPACT MATERIAL IN FILLED AREAS TO 95% OF MAXIMUM DRY DENSITY, STANDARD PROCTOR (ASTM D698) EXCEPT THE TOP 3 FEET WHICH SHALL BE COMPACTED TO 100%. COMPACT TO 98% DENSITY WHERE FILL DEPTH EXCEEDS 10 FEET.
8. AVOID SOIL COMPACTION OF INFILTRATION PRACTICES. ANY EQUIPMENT USED IN INFILTRATION AREAS SHOULD BE SMALL SCALED AND TRACKED.
9. FINALIZE GRADING WITHIN THE EXISTING TREE CANOPY ZONE ON TREES IDENTIFIED TO REMAIN. IF MINOR GRADING IS REQUIRED, THE CONTRACTOR SHALL MINIMIZE DISTURBANCE WITH THE USE OF SMALLER EQUIPMENT.
10. NO STORAGE OF MATERIALS, STOCKPILES OR PARKING IS ALLOWED WITHIN THE TREE CANOPY OF THE TREES IDENTIFIED TO REMAIN.

EROSION PREVENTION AND SEDIMENT CONTROL NOTES

11. INSTALL PERIMETER SEDIMENT CONTROLS PRIOR TO BEGINNING WORK AND MAINTAIN FOR DURATION OF CONSTRUCTION. REMOVE CONTROLS AFTER AREAS CONTRIBUTING RUNOFF ARE PERMANENTLY STABILIZED AND DISPOSE OF OFF SITE.
12. LIMIT SOIL DISTURBANCE TO THE GRADING LIMITS SHOWN. SCHEDULE OPERATIONS TO MINIMIZE LENGTH OF EXPOSURE OF DISTURBED AREAS.
13. MANAGEMENT PRACTICES SHOWN ARE THE MINIMUM REQUIREMENT. INSTALL AND MAINTAIN ADDITIONAL CONTROLS AS WORK PROCEEDS TO PREVENT EROSION AND CONTROL SEDIMENT CARRIED BY WIND OR WATER.
14. ALL EXPOSED SOILS AREAS SHALL BE STABILIZED IMMEDIATELY TO LIMIT SOIL EROSION IN THAT PORTION OF THE SITE WHERE CONSTRUCTION HAS TEMPORARILY OR PERMANENTLY CEASED.
15. SEED, SOD, MULCH AND FERTILIZER SHALL MEET THE FOLLOWING SPECIFICATIONS, AS NOTED:

ITEM	SPECIFICATION NUMBER
SEED	MNDOT 3876
SOD	MNDOT 3878
SEAR	MNDOT 3876

MN TYPE 22-121 @ 30.5 LB/AC - TEMPORARY EROSION CONTROL
MN TYPE 25-151 @ 120 LB/AC - PERMANENT TURF

MULCH (MNDOT TYPE 1 @ 2 TON/AC, DISC ANCHORED) MNDOT 3882
FERTILIZER MNDOT 3881

16. SEE LANDSCAPE SHEETS FOR PERMANENT TURF AND LANDSCAPE ESTABLISHMENT.
17. SCRAPE ADJACENT STREETS CLEAN DAILY AND SWEEP CLEAN WEEKLY.

RETAINING WALL NOTES

RB FIELD STONE/BOULDER RETAINING WALL. SEE DETAIL 1, SHEET C7.4
RW DRYSTACK STONE WALL RAIN GARDEN. SEE DETAIL 3, SHEET C7.4.

LEGEND

SYMBOL	DESCRIPTION	ESTIMATED QUANTITY
	INLET PROTECTION	5 EACH
	SILT FENCE	2114 FEET
	VEHICLE TRACKING PAD	1 EACH
	TIP OUT CURB AND GUTTER	
	PAVEMENT SAWCUT	
	CONSTRUCTION LIMITS	
TW XXX.XX / BW XXX.XX	TOP OF WALL / BOTTOM OF WALL	
	PROPOSED WETLAND BUFFER AREA	
	BOULDER RETAINING WALL	
	TREE PROTECTION FENCING	

BUILDING TYPE
FB = FULL BASEMENT
FBWO = FULL BASEMENT WALK OUT
FBLO = FULL BASEMENT LOCK OUT
LO = LOOK OUT
SPWO = SPLIT ENTRY WALK OUT
SLAB = SLAB ON GRADE

XXX.X / FBWO/FB / XXX.X
- FRONT GARAGE ELEVATION
- WALKOUT UNIT / FULL BASEMENT UNIT
- FINISH BASEMENT ELEVATION
- SLAB ELEVATION

NOTES:
1. GARAGE LOCATION INDICATED BY DRIVEWAY.

1 PAD DETAIL
NO SCALE

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NORTH
0 40 80

OWNER

FRANK BERMAN
5331 EVANSWOOD LANE
EDINA, MN 55436
TEL (612)733-5229

MUNICIPALITY

CITY OF EDINA

PROJECT

BLAKE WOODS SUBDIVISION
EDINA, MN

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REVISION HISTORY

CONTACT ENGINEER/SURVEYOR PRIOR TO REPRODUCTION

DATE	REVISION	REVISOR
10 JAN 2014	PRELIMINARY PLAT SUBMITTAL	LFM
24 FEB 2015	REVISION #1	
18 MAR 2015	REVISION #2 - CITY COMMENTS	

PROJECT MANAGER REVIEW

CERTIFICATION

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03/18/2015

LANDFORM
From Site to Finish
105 South Fifth Avenue
Suite 613
Minneapolis, MN 55401
Tel: 612-252-6070
Fax: 612-252-6077
Web: landform.net

FILE NAME C3D1ZZZ317
PROJECT NO. ZZZ1-0317

GRADING, DRAINAGE & EROSION CONTROL
C3.1
SHEET NO. 6/18

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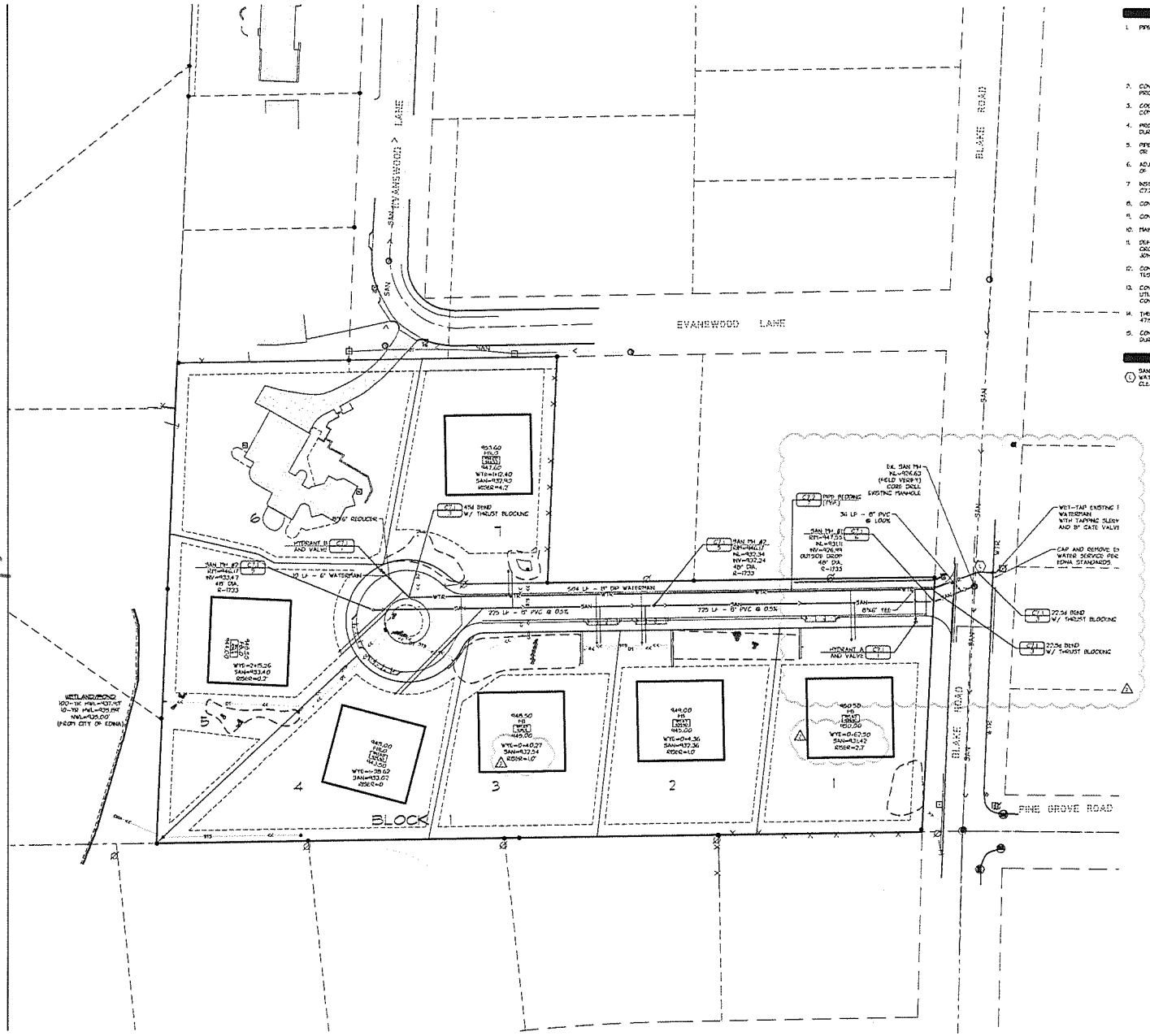
A60



UTILITY NOTES

1. PIPE MATERIALS
   - WATERMAIN: DIP CLASS 52 (AND A21.51/AWWA C151)
   - WATER SERVICE: 1½" HDPE ENERGE MATERIALS "CSC PO7-TYPE4"
   - SANITARY SEWER: PVC SDR 35 (ASTM D3034, D2665, & F891)
   - SAN. SEWER SERVICE: 4" PVC(SDR 26) (ASTM D3034, D2665, & F891)
   - STORM SEWER: HDPE AASHTO M294, PROJECT 7503
   - 12"-18" RCP CLASS 3 (ASTM C76)
2. CONTACT UTILITY SERVICE PROVIDERS FOR FIELD LOCATION OF SERVICES 72 HOURS PRIOR TO BEGINNING.
3. COORDINATE WITH PRIVATE UTILITIES TO PROVIDE ELECTRIC, NATURAL GAS, AND COMMUNICATIONS SERVICES TO EACH LOT.
4. PROVIDE MEANS AND MEASURES TO PROTECT ADJACENT PROPERTY FROM DAMAGE DURING UTILITY INSTALLATION.
5. PIPE LENGTHS SHOWN ARE FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE OR END OF END SECTION.
6. ADJUST STRUCTURES TO FINAL GRADE WHERE DISTURBED. COMPLY WITH REQUIREMENTS OF UTILITY. MEET REQUIREMENTS FOR TRAFFIC LOADING IN PAVED AREAS.
7. INSTALL TRACER WIRE WITH ALL NON-CONDUCTIVE UTILITIES. REFER TO DETAIL 3, SHEET C7.2
8. CONNECT TO CITY UTILITIES IN ACCORDANCE WITH CITY OF EDINA STANDARDS.
9. CONTACT CITY OF EDINA PUBLIC WORKS AT 952.826.0371 FOR WET TAP INSPECTION.
10. MAINTAIN 7.5 FEET OF COVER ON WATER.
11. DEFLECT WATER TO MAINTAIN 18-INCH MINIMUM OUTSIDE SEPARATION AT SEWER CROSSINGS. CENTER PIPE LENGTHS TO PROVIDE GREATEST SEPARATION BETWEEN JOINTS.
12. CONTACT CITY OF EDINA PUBLIC WORKS, AT 952.826.0371 FOR FLUSHING AND PRESSURE TEST INSPECTIONS.
13. CONTRACTOR TO POTHOLE ALL UTILITY CROSSINGS PRIOR TO CONSTRUCTION OF NEW UTILITIES TO VERIFY DEPTHS OF EXISTING LINES. CONTACT ENGINEER IMMEDIATELY IF ANY CONFLICTS ARE DISCOVERED.
14. THE WATER DISTRIBUTION SYSTEM SHALL BE DISINFECTED PER MINNESOTA RULES, PART 4715.2950.
15. CONTRACTOR TO COORDINATE WITH ELECTRIC COMPANY FOR POWER POLE SUPPORT DURING EXCAVATION.

UTILITY CROSSINGS

(L) SANITARY SEWER TOP = 929.39
WATERMAIN BOTTOM = 930.90
CLEARANCE = 1.51'

OWNER

FRANK BERMAN
5331 EVANSWOOD LANE
EDINA, MN 55436
TEL (612)730-1229

MUNICIPALITY

CITY OF EDINA HENNEPIN COUNTY MINNESOTA

PROJECT

BLAKE WOODS SUBDIVISION
EDINA, MN

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C8.2	TREE PRESERVATION TABLE
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L7.2	LANDSCAPE DETAILS

REVISION HISTORY

CONCEPT ENGINEERING/PRELIMINARY PRELIMINARY

DATE	REVISION	REVIEW
23 JAN 2015	PRELIMINARY PLAT SUBMITTAL	CMC
24 FEB 2015	REVISION #1	
18 MAR 2015	REVISION #2 - CITY COMMENTS	

PROJECT MANAGER REVIEW

CERTIFICATION

PRELIMINARY NOT FOR CONSTRUCTION

REVISION #2 - CITY COMMENTS
03/18/2015

LANDFORM
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105 South Fifth Avenue
Suite 513
Minneapolis, MN 55401
Tel: 612-252-0070
Fax: 612-252-0077
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FILE NAME: C401ZZZ317
PROJECT NO.: ZZZ14317

UTILITIES
SANITARY SEWER AND WATERMAIN

C4.1

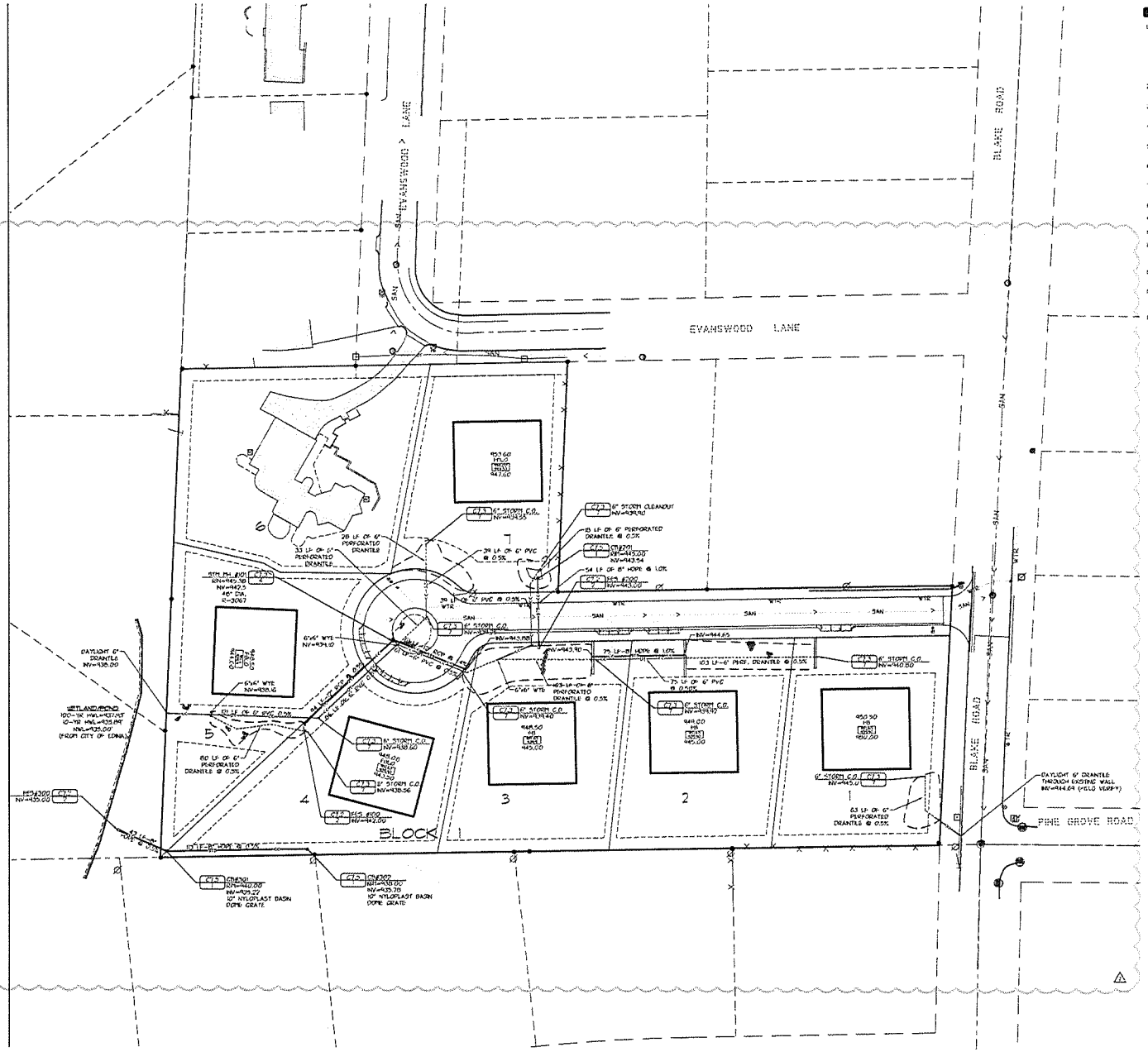
SHEET NO. 7/18

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

NORTH
0 40 80

LANDFORM 2013

194



UTILITY NOTES

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   - WATER SERVICE: 1" HDPE (INNER MATERIALS 1055 POLYPIPE)
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   - SAN. SEWER SERVICE: 4" PVC(SDR 26, (ASTM D3034, D2665, & F891)
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14. THE WATER DISTRIBUTION SYSTEM SHALL BE DISINFECTED PER MINNESOTA RULES, PART 4715.3250.

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NORTH

0 40 80

OWNER

FRANK BERMAN
5331 EVANSWOOD LANE
EDINA, MN 55436
TEL (612)738-1329

MUNICIPALITY

PROJECT

BLAKE WOODS SUBDIVISION
EDINA, MN

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C7.4	CIVIL CONSTRUCTION DETAILS
C7.5	CIVIL CONSTRUCTION DETAILS
C7.6	CIVIL CONSTRUCTION DETAILS
L1.0	TREE PRESERVATION TABLE
L2.1	LANDSCAPE PLAN
L2.1	LANDSCAPE DETAILS

REVISION HISTORY

CONTACT ENGINEER FOR NOT PROGRESSED

DATE	REVISION	BY/APP
13 JAN 2015	PRELIMINARY PLAT SUBMITTAL	CAL
24 FEB 2015	REVISION #1	
18 MAR 2015	REVISION #2 - CITY COMMENTS	

PROJECT MANAGER REVIEW

BY: [illegible] DATE: 12/23/14

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Suite 513
Minneapolis, MN 55401

Tel: 612-253-6070
Fax: 612-253-6077
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FILE NAME C401ZZZ317
PROJECT NO. ZZZ1-4317

UTILITIES
STORM SEWER
C4.2

SHEET NO. 8/18

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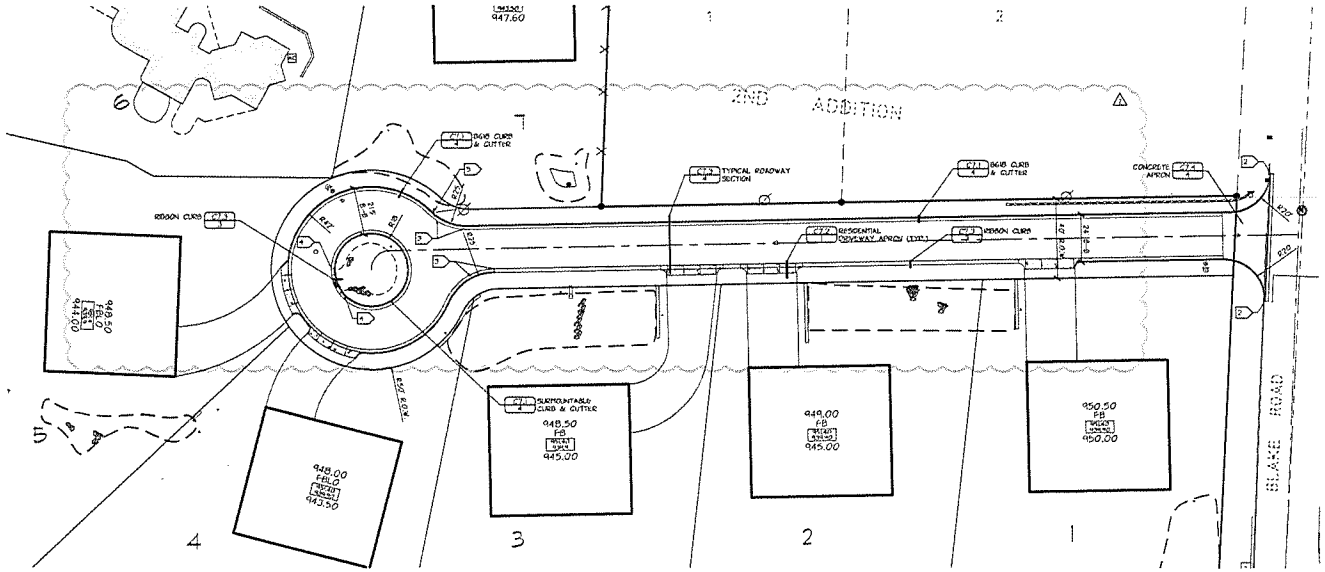
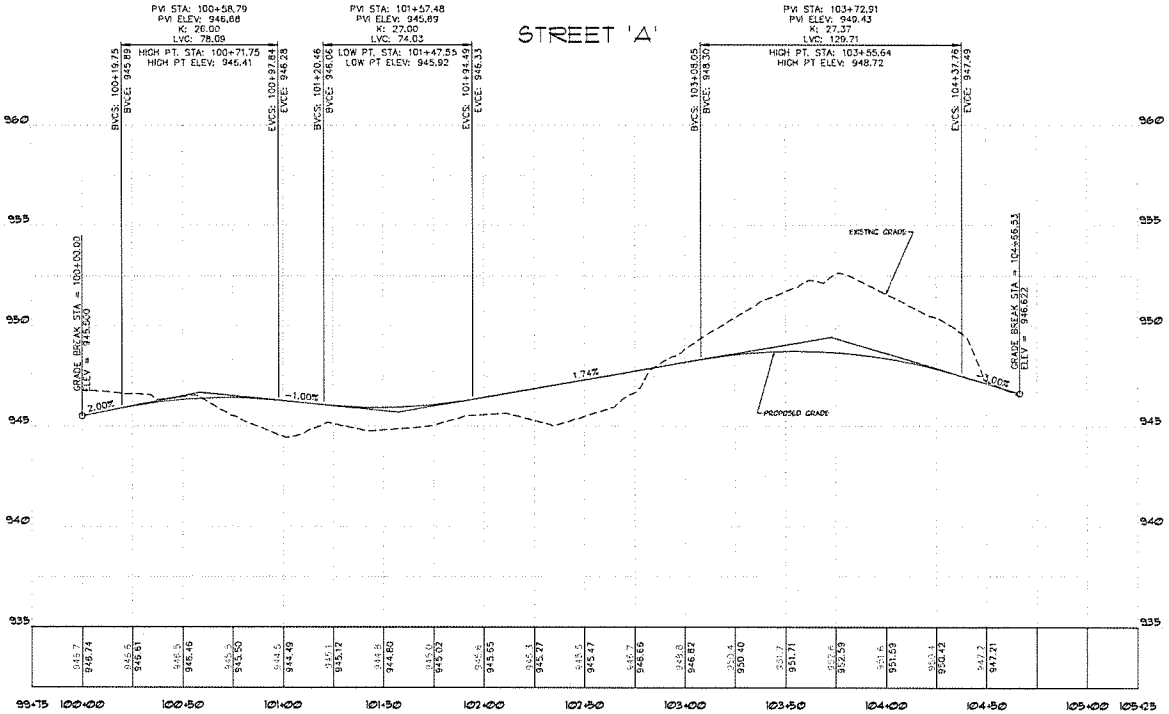
A-2





PAVING NOTES

1. SEE SHEET C3.1 FOR FINISHED GROUND SPOT ELEVATIONS, SEE SHEET C4.1 FOR RIM ELEVATIONS OF CATCH BASINS.
2. MEET AND MATCH EXISTING CURB. PROVIDE 10 FOOT TRANSITION.
3. NO FOOT CURB TRANSITION
4. 3 FOOT NOSE DOWN CURB, SEE DETAIL 2 ON C7.3
5. COORDINATE WITH UTILITY OWNER TO ADJUST LOCATION OF POLE ANCHOR.

OWNER

FRANK BERMAN
5331 EVANSWOOD LANE
EDINA, MN 55436
TEL (612)730-4224

MUNICIPALITY

CITY OF EDINA, MINNESOTA

PROJECT

BLAKE WOODS SUBDIVISION
EDINA, MN

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REVISION HISTORY

CONTACT ENGINEER FOR ANY INQUIRIES

DATE	REVISION	REVISOR
03 JAN 2014	PRELIMINARY PLAT SUBMITTAL	CTM
24 FEB 2015	REVISION #1	
18 MAR 2015	REVISION #2 - CITY COMMENTS	

PROJECT MANAGER REVIEW

DATE | DR & LICENSE

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FILE NAME C601ZZZ317
PROJECT NO. ZZZ14317

STREET PLAN & PROFILE - STREET A
C6.1
SHEET NO. 8/18

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0 30 60

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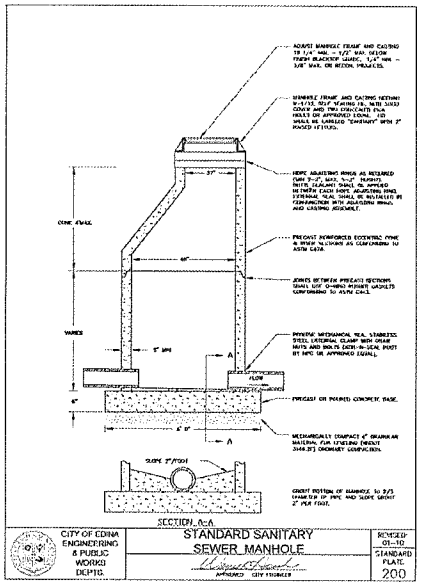
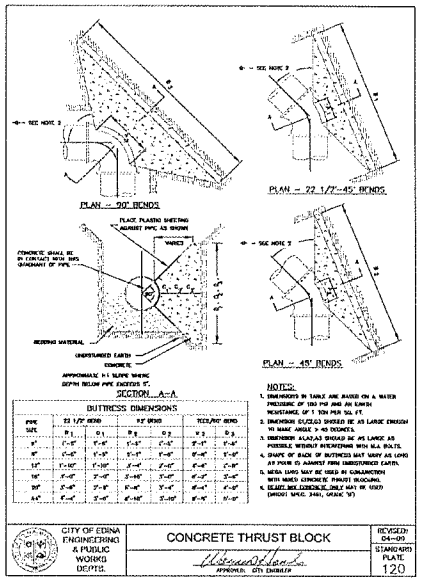
C6.1



5 STANDARD SANITARY SEWER MANHOLE

NO SCALE



3 CONCRETE THRUST BLOCKS

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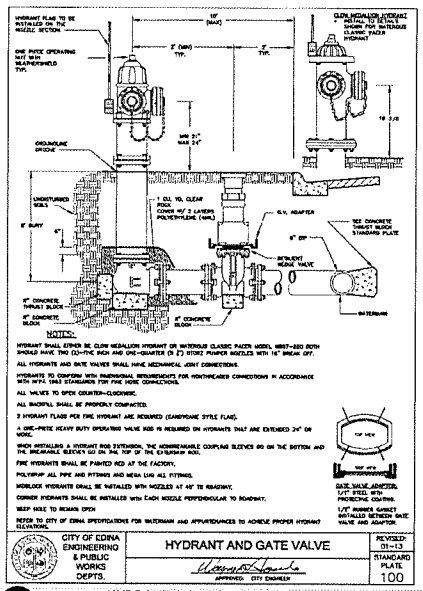

1 HYDRANT AND GATE VALVE

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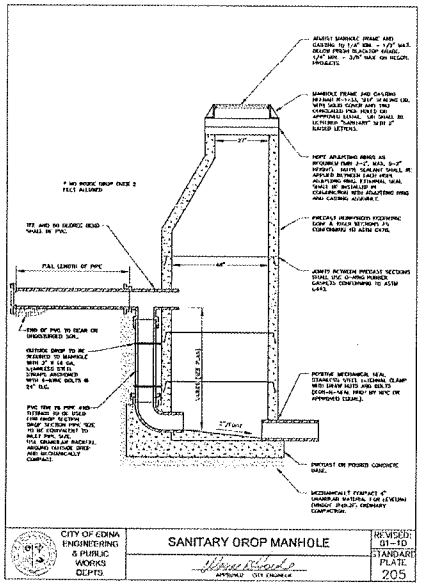

6 SANITARY DROP MANHOLE

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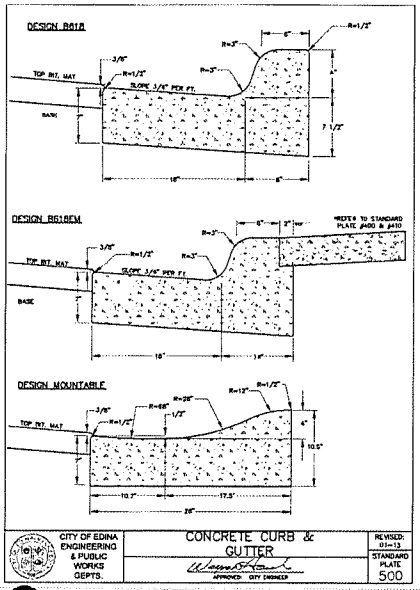

4 CONCRETE CURB & GUTTER

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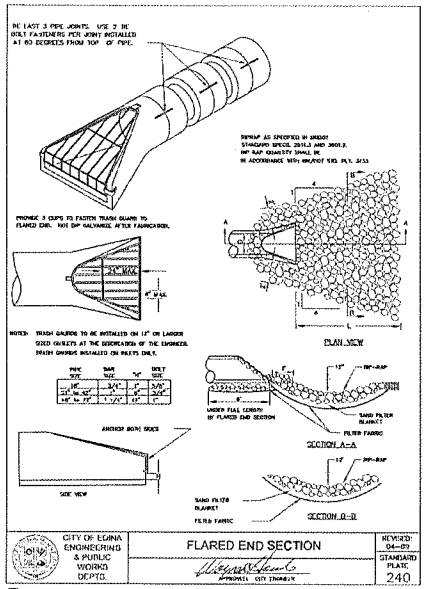

2 FLARED END SECTION

NO SCALE

A64

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OWNER

FRANK BERMAN
5331 EVANSWOOD LANE
EDINA, MN 55436
TEL (612)775-5239

MUNICIPALITY

PROJECT

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EDINA, MN

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REVISION HISTORY

CONTACT ENGINEER FOR ANY REVISION HISTORY

DATE	REVISION	REVIEW
22 JAN 2015	PRELIMINARY PLAT SUBMITTAL	CRC
24 FEB 2015	REVISION #1	
18 MAR 2015	REVISION #2 – CITY COMMENTS	

PROJECT MANAGER REVIEW

CERTIFICATION

PRELIMINARY NOT FOR CONSTRUCTION

REVISION #2 - CITY COMMENTS
03/18/2015

LANDFORM
From Site to Finish
105 South Fifth Avenue
Suite 510
Minneapolis, MN 55401
Tel: 612-252-9070
Fax: 612-252-9077
Web: landform.net

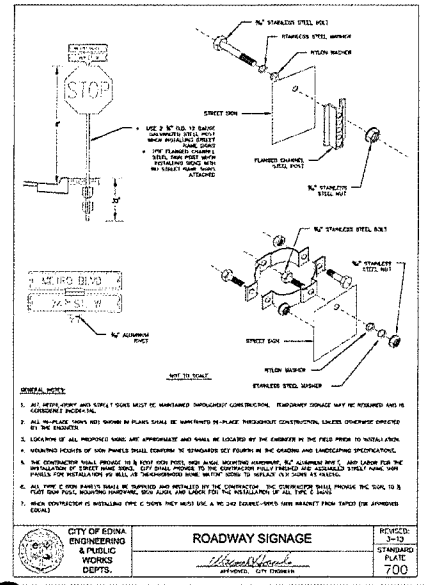
FILE NAME C701ZZZ317

PROJECT NO. ZZZ14317

CIVIL CONSTRUCTION DETAILS

C7.1

SHEET NO. 9/18



5 ROADWAY SIGNAGE

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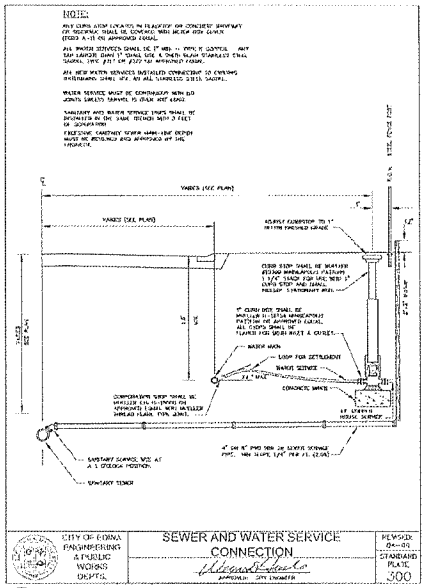

3 SEWER AND WATER SERVICE CONNECTION

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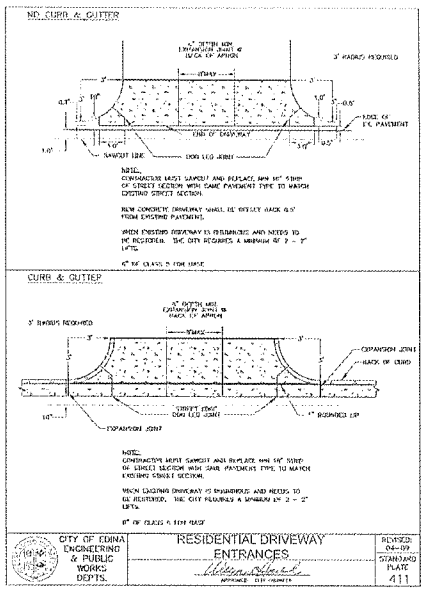

1 RESIDENTIAL DRIVEWAY ENTRANCE

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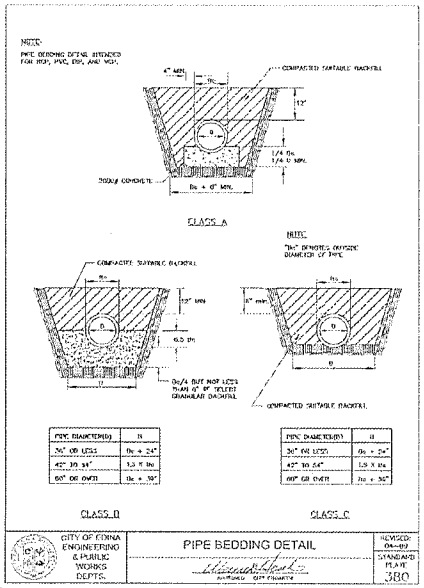

6 PIPE BEDDING

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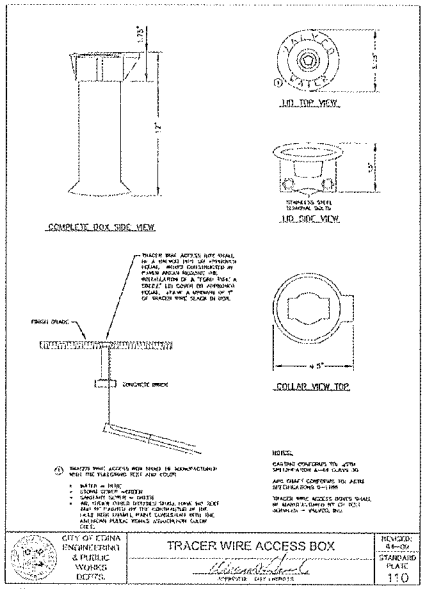

4 TRACER WIRE ACCESS BOX

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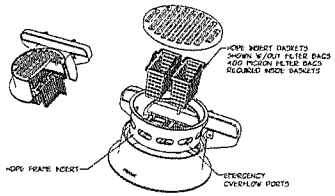

- MEETS MN/DOT SPECIFICATION 3891B "STORM DRAIN INLET PROTECTION – FILTER BAG INSERT"
- DESIGNED FOR NEENAH R-3250-A OR R-3250-1 (MNDOT 801) FRAME CASTING

INFRASAFE – 27" DEBRIS COLLECTION DEVICE

ALTERNATIVE ALLOWED AS APPROVED BY PERMITTING AUTHORITIES

2 INLET PROTECTION

NO SCALE

OWNER

FRANK BERMAN
5331 EVANSWOOD LANE
EDINA, MN 55436
TEL (612)730-1329

MUNICIPALITY

PROJECT

BLAKE WOODS SUBDIVISION
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REVISION HISTORY

CONTACT ENGINEER FOR NOTE PRECEDENCE

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24 FEB 2015	REVISION #1	
18 MAR 2015	REVISION #2 – CITY COMMENTS	

PROJECT MANAGER REVIEW

DATE

CERTIFICATION

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REVISION #2 - CITY COMMENTS
03/18/2015

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From Site to Finish
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Suite 513
Minneapolis, MN 55401
Tel: 612-252-9070
Fax: 612-252-9077
Web: landform.net

FILE NAME C7022ZZ317

PROJECT NO. 2ZZH317

CIVIL CONSTRUCTION DETAILS

C7.2

SHEET NO. 10/18

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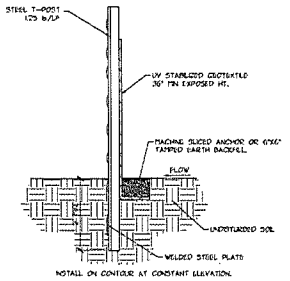
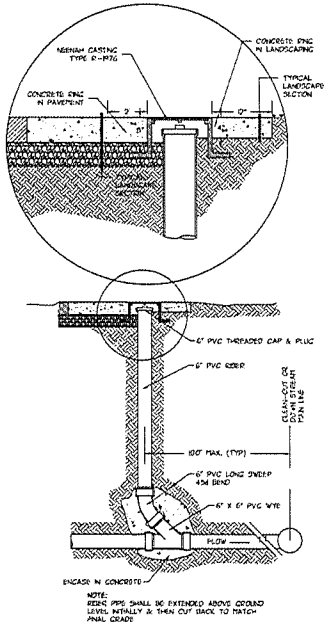


6 SILT FENCE

NO SCALE



7 CLEAN-OUT STRUCTURE

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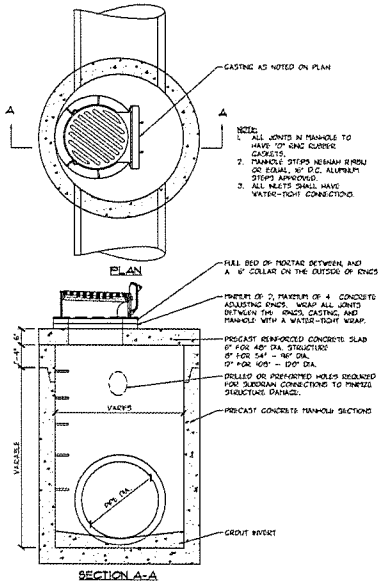
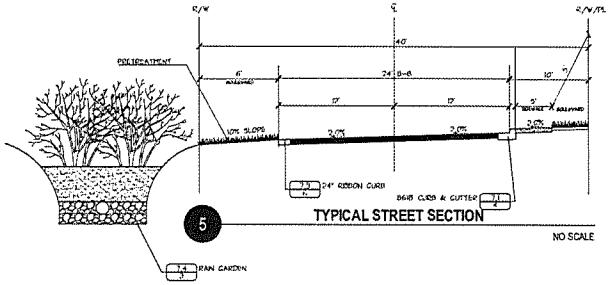


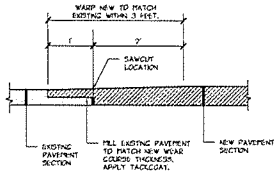
4 STORM SEWER CATCH BASIN MANHOLE

NO SCALE



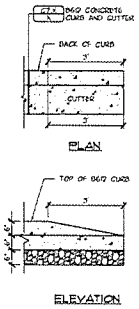
5 TYPICAL STREET SECTION

NO SCALE



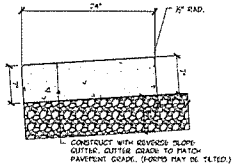
1 ASPHALT PAVEMENT TRANSITION

NO SCALE



2 NOSE DOWN CURB

NO SCALE



3 24" CONCRETE RIBBON CURB

NO SCALE

OWNER

FRANK BERMAN
5331 EVANSWOOD LANE
EDINA, MN 55436
TEL (612)730-3229

MUNICIPALITY

PROJECT

BLAKE WOODS SUBDIVISION
EDINA, MN

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REVISION HISTORY

CONTACT ENGINEER FOR ANY PROCEDURE

DATE	REVISION	REVIEW
1st JAN 2015	PRELIMINARY PLAT SUBMITTAL	EML
24 FEB 2015	REVISION #1	
18 MAR 2015	REVISION #2 – CITY COMMENTS	

PROJECT MANAGER REVIEW

DATE: SIGN: CONTACTING

CERTIFICATION

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REVISION #2 - CITY COMMENTS
03/18/2015

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Web: landform.net

FILE NAME: C703ZZZ317

PROJECT NO. ZZZ14317

CIVIL CONSTRUCTION DETAILS

C7.3

SHEET NO. 11/18

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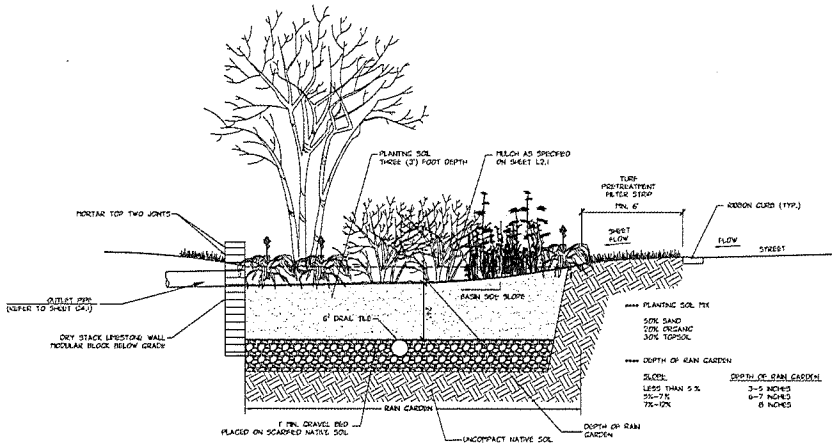
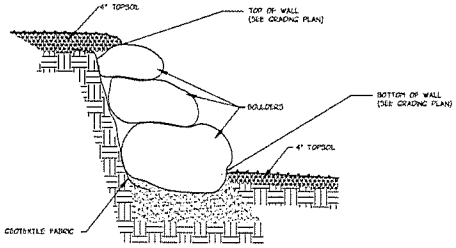


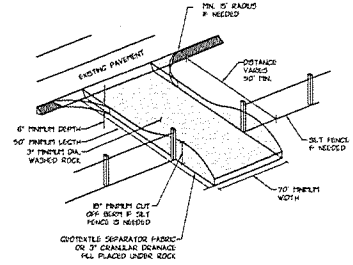
3 RAIN GARDEN

NO SCALE



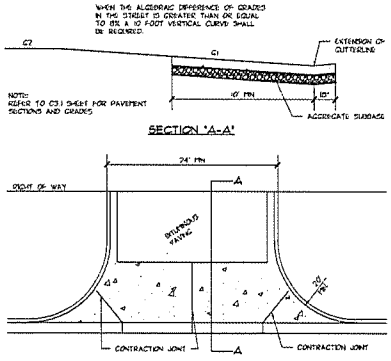
1 BOULDER RETAINING WALL

NO SCALE



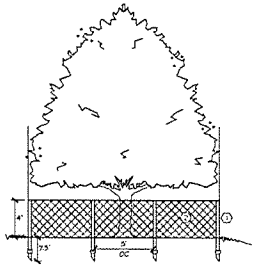
5 VEHICLE TRACKING PAD

NO SCALE



4 CONCRETE APRON

NO SCALE



INSTALL TREE PROTECTION DEVICES PRIOR TO START OF LAND DISTURBANCE. MAINTAIN UNTIL FINAL LANDSCAPE IS INSTALLED.

1. 6.5' STEEL T-POST, 1.25 #/LF, POSITION AT DRIPLINE.
2. ORANGE, POLYETHYLENE SAFETY NETTING, THREE TIES PER POST.

2 TREE PROTECTION

NO SCALE

OWNER

FRANK BERMAN
5331 EVANSWOOD LANE
EDINA, MN 55436
TEL (612)749-1329

MUNICIPALITY

PROJECT

BLAKE WOODS SUBDIVISION
EDINA, MN

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REVISION HISTORY

DATE	REASON	REVISION
23 JANUARY 2015	PRELIMINARY PLAT SUBMITTAL	ORIG
24 FEB 2015	REVISION #1	
18 MAR 2015	REVISION #2 - CITY COMMENTS	

PROJECT MANAGER REVIEW

BY RS | DATE [illegible]

CERTIFICATION

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Suite 513
Minneapolis, MN 55401

Tel: 612-252-6070
Fax: 612-252-6077
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FILE NAME C7.04ZZZ2317

PROJECT NO. ZZZ14317

CIVIL CONSTRUCTION DETAILS

C7.4

SHEET NO. 12/18

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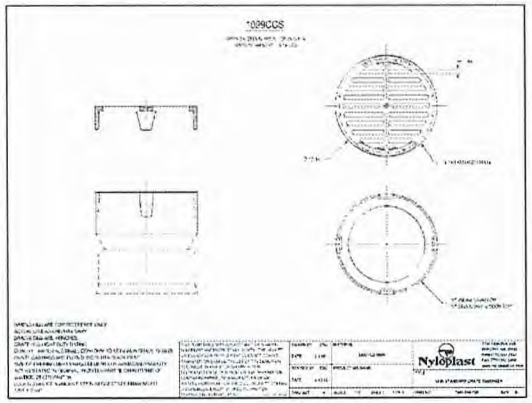

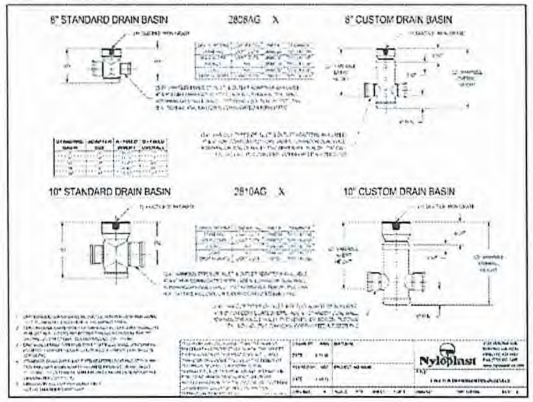

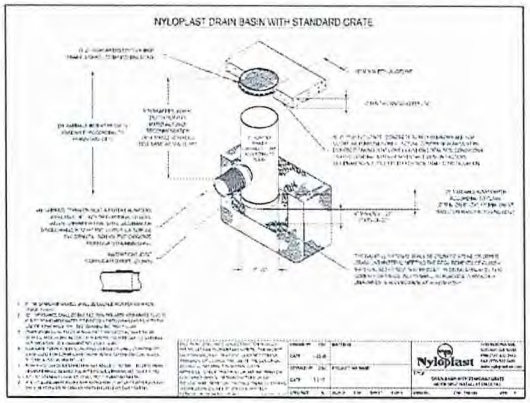

1 NYLOPLAST DRAINAGE BASINS

NO SCALE

A6 8

OWNER

FRANK BERMAN

5331 EVANDWOOD LANE
EDINA, MN 55436
TEL (612)739-5226

MUNICIPALITY

PROJECT

BLAKE WOODS SUBDIVISION

EDINA, MN

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L7.1	LANDSCAPE DETAILS

REVISION HISTORY

CONTRACT DRAWING FOR BID PURPOSES

DATE	REVISION	REVISOR
22 JAN 2015	PRELIMINARY PLAT SUBMITTAL	CRM
24 FEB 2015	REVISION #1	
18 MAR 2015	REVISION #2 - CITY COMMENTS	

PROJECT MANAGER REVIEW

NAME DATE/SIGNATURE

CERTIFICATION

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REVISION #2 - CITY COMMENTS
03/18/2015

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Suite 513
Minneapolis, MN 55401

Tel: 612-253-6070
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FILE NAME C705ZZZ317

PROJECT NO. ZZZ1-017

CIVIL CONSTRUCTION DETAILS

C7.5

SHEET NO. 13/18

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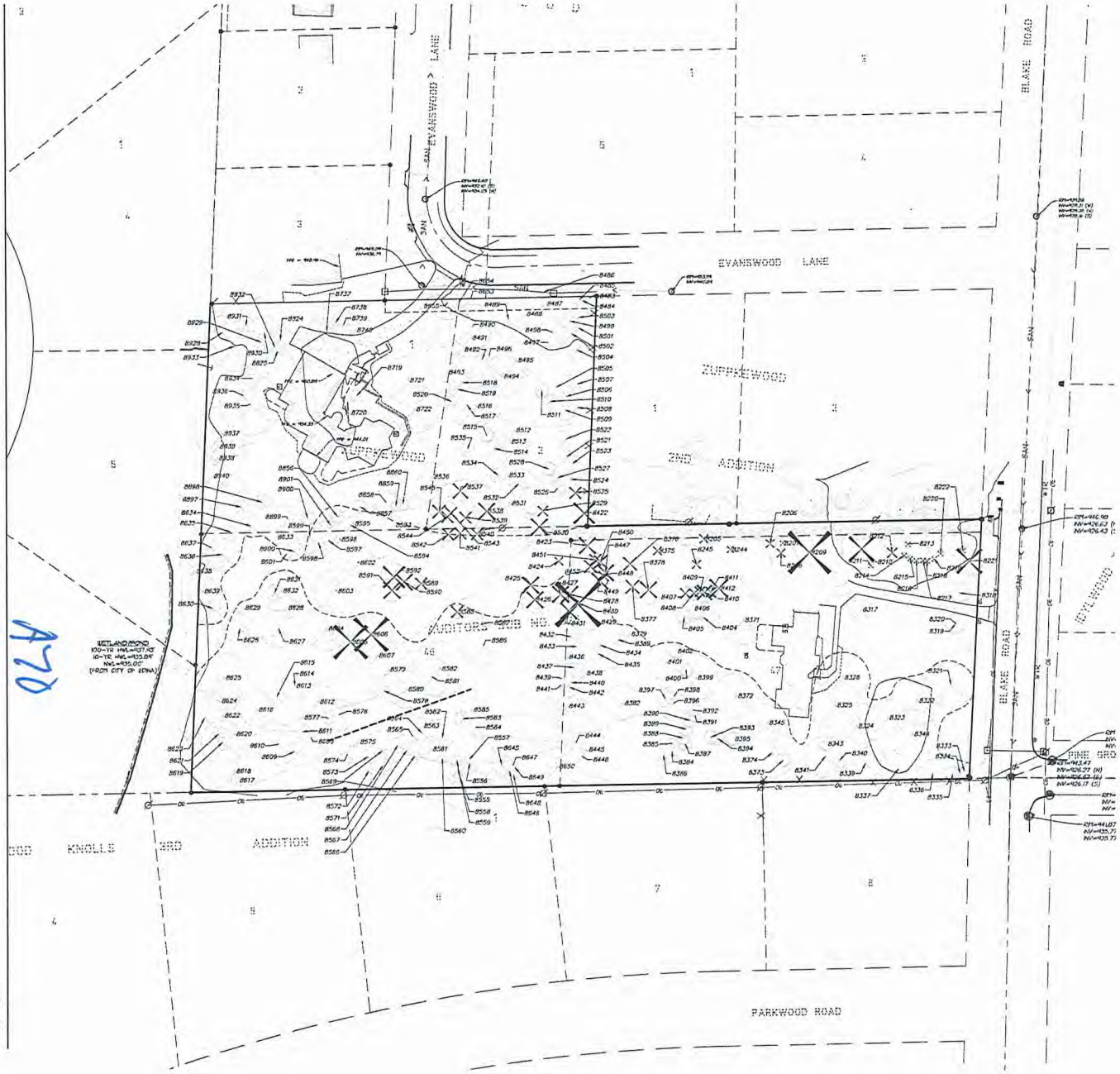

TREE NOTES

1. REFER TO SHEET L1.2 FOR TYPE AND SIZE OF TREES.

LEGEND

XXXX : TREE AND TAG NUMBER

OWNER

FRANK BERMAN
3331 EVANSWOOD LANE
EDINA, MN 55436
TEL (612)730-5129

MUNICIPALITY

CITY OF EDINA, MINNESOTA

PROJECT

BLAKE WOODS SUBDIVISION
EDINA, MN

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C7.4	CIVIL CONSTRUCTION DETAILS
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REVISION HISTORY

CONTACT ENGINEER FOR ANY PROCEDURES

DATE	REVISION	REVISED BY
03 JAN 2014	PRELIMINARY PLAT SUBMITTAL	CAL
24 FEB 2015	REVISION #1	
18 MAR 2015	REVISION #2 - CITY COMMENTS	

PROJECT MANAGER REVIEW

NAME DATE 03/18/2014

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03/18/2015

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NORTH

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FILE NAME L1912ZZ317

PROJECT NO. ZZ21-1317

TREE PRESERVATION PLAN

L1.1

SHEET NO. 13/18

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PRESERVED TREE TREETABLE

TAG #	DIA (IN)	COMMON NAME	REMOVED	SAVED
8205	12	American Elm	X	
8206	16	Bitternut Hickory	X	
8207	12	White Spruce	X	
8208	7	American Elm	X	
8209	36	Red Oak	X	
8210	22	White Oak	X	
8211	23	White Spruce	X	
8212	7	American Elm	X	
8213	9	White Spruce	X	
8214	8	Arborvitae	X	
8215	7	Arborvitae	X	
8216	6	Arborvitae	X	
8217	20	Sugar Maple	X	
8218	6	Arborvitae	X	
8219	7	Arborvitae	X	
8220	8	Arborvitae	X	
8221	18	White Spruce	X	
8222	16	White Spruce	X	
8244	14	White Spruce	X	
8245	6	Boxelder	X	
8317	11	Paper Birch		X
8318	12	White Spruce		X
8319	12	White Spruce		X
8320	12	White Spruce		X
8321	24	White Oak		X
8322	26	White Oak		X
8323	19	White Oak		X
8324	25	Sugar Maple		X
8325	26	White Oak		X
8326	27	White Oak		X
8333	9	Colorado Spruce		X
8334	7	Eastern Red Cedar		X
8335	9	Eastern Red Cedar		X
8336	15	Sugar Maple		X
8337	20	Sugar Maple		X
8339	22	Sugar Maple		X
8340	26	White Oak		X
8341	22	White Oak		X
8343	7	White Spruce		X
8344	26	White Oak		X
8345	20	White Oak		X
8371	26	White Oak		X
8372	24	American Elm		X
8373	6	White Spruce		X
8374	26	White Oak		X
8375	12	Boxelder	X	
8376	11	Boxelder	X	
8377	13	Arborvitae	X	
8378	16	Boxelder	X	
8379	10	Sugar Maple		X
8380	6	Sugar Maple		X
8382	19	Black Walnut		X
8384	13	Boxelder		X
8385	6	Hackberry		X
8386	12	American Elm		X
8307	8	Arborvitae		X
8388	10	Arborvitae		X
8389	8	White Spruce		X
8390	8	White Spruce		X
8391	8	Arborvitae		X
8392	8	Arborvitae		X
8393	16	Arborvitae		X
8394	6	Arborvitae		X
8395	10	Arborvitae		X
8396	18	Bitternut Hickory		X
8397	9	Boxelder		X
8398	6	Arborvitae		X
8399	24	White Oak		X
8400	10	White Spruce		X
8401	20	White Oak		X
8402	9	White Spruce		X
8404	17	Bitternut Hickory		X
8405	9	Arborvitae		X
8406	14	Arborvitae		X
8407	15	Arborvitae	X	
8408	10	Arborvitae	X	
8409	12	Arborvitae	X	
8410	8	Arborvitae	X	
8411	10	Arborvitae	X	
8412	16	Arborvitae	X	
8422	14	Boxelder		X
8423	14	Boxelder	X	
8424	16	White Oak	X	
8425	15	Boxelder	X	
8426	14	Boxelder		X
8427	11	White Oak		X
8428	6	Boxelder		X
8429	33	Black Willow		X
8438	7	Boxelder		X
8431	9	Boxelder		X
8432	12	Black Cherry		X
8433	9	Black Cherry		X
8434	28	White Oak		X
8435	9	Black Cherry		X
8436	36	White Oak		X
8437	6	Black Cherry		X
8438	18	White Oak		X
8439	10	Boxelder		X
8440	6	Black Cherry		X
8441	26	White Oak		X
8442	26	White Oak		X
8443	11	Black Cherry		X
8444	38	White Oak		X
8445	8	Bitternut Hickory		X
8446	8	Bitternut Hickory		X
8447	10	Boxelder	X	
8448	10	Boxelder	X	
8449	9	Boxelder	X	
8450	10	Boxelder	X	
8451	9	Boxelder		X
8452	10	Boxelder	X	
8483	17	Aspen		X
8484	8	Boxelder		X
8485	8	Boxelder		X
8486	20	Colorado Spruce		X
8487	6	Bitternut Hickory		X
8488	11	American Elm		X
8489	19	Red Oak		X
8490	24	White Oak		X
8491	22	White Oak		X
8492	33	White Oak		X
8493	11	White Oak		X
8494	22	Red Oak		X
8495	20	White Oak		X
8496	6	Black Cherry		X
8497	14	Red Oak		X
8498	14	Black Cherry		X
8499	10	Green and White Ash		X
8501	8	Arborvitae		X
8502	17	American Elm		X
8503	8	Arborvitae		X
8504	11	Basswood		X
8505	20	Red Oak		X
8506	11	Black Cherry		X
8507	14	Black Cherry		X
8508	10	Black Cherry		X
8509	11	Black Cherry		X
8510	7	Black Cherry		X
8511	7	Arborvitae		X
8512	23	White Oak		X
8513	11	Aspen		X
8514	17	Aspen		X
8535	10	White Spruce		X
8516	20	White Oak		X
8517	22	White Oak		X
8518	9	Black Cherry		X
8519	9	Black Cherry		X
8520	7	Black Cherry		X
8521	7	Boxelder		X
8522	10	Black Cherry		X
8523	9	Boxelder		X
8524	20	Black Cherry		X
8525	8	Boxelder		X
8526	9	Boxelder		X
8527	9	White Oak		X
8528	10	Arborvitae		X
8529	7	Black Cherry		X
8530	15	White Oak	X	
8531	39	Red Oak		X
8532	7	Bitternut Hickory		X
8533	11	Black Cherry		X
8534	8	Black Cherry		X
8535	8	Red Maple		X
8536	16	Black Cherry		X
8537	11	Boxelder	X	
8538	8	Black Cherry		X
8539	40	Cottonwood	X	
8540	7	White Spruce	X	
8541	8	White Spruce	X	
8542	8	White Spruce	X	
8543	6	Boxelder	X	
8544	16	Boxelder	X	
8545	9	Boxelder	X	
8555	6	Boxelder		X
8556	29	White Oak		X
8557	8	Black Cherry		X
8558	9	Black Cherry		X
8559	6	Black Cherry		X
8560	4	Black Cherry		X
8561	13	Black Cherry		X
8562	6	Black Cherry		X
8563	7	Black Cherry		X
8564	22	White Oak		X
8565	6	Black Cherry		X
8566	8	Black Cherry		X
8567	37	White Oak		X
8568	8	Black Cherry		X
8569	22	Red Oak		X
8571	9	Black Cherry		X
8572	9	Black Cherry		X
8573	8	Black Cherry		X
8574	10	Boxelder		X
8575	7	Boxelder		X
8576	17	White Oak		X
8577	6	Boxelder		X
8578	6	Black Cherry		X
8579	30	White Oak		X
8580	21	White Oak		X
8581	20	White Oak		X
8582	3e	White Oak		X
8583	9	Black Cherry		X
8584	9	Black Cherry		X
8585	12	Black Cherry		X
8586	22	White Oak		X
8587	6	Colorado Spruce		X
8588	21	White Spruce	X	
8589	8	White Spruce	X	
8590	15	Red Norway Pine	X	
8591	13	Red Norway Pine	X	
8592	14	Red Norway Pine	X	
8593	10	Boxelder		X
8594	16	Aspen		X
8595	8	Boxelder		X
8596	11	Boxelder		X
8597	6	American Elm		X
8598	16	Boxelder		X
8599	17	American Elm		X
8600	10	Boxelder		X
8601	6	Boxelder		X
8602	31	White Oak		X
8603	24	White Oak		X
8604	24	White Oak		X
8605	24	White Oak	X	
8606	24	White Oak	X	
8607	23	White Oak		X
8608	23	White Oak		X
8609	8	Black Cherry		X
8610	22	White Oak		X
8611	8	Black Cherry		X
8612	19	White Oak		X
8613	14	Black Cherry		X
8614	14	Black Cherry		X
8615	9	Black Cherry		X
8616	19	White Oak		X
8617	7	Bur Oak		X
8618	26	Red Oak		X
8619	23	White Oak		X
8620	6	White Oak		X
8621	8	Black Cherry		X
8622	6	Black Cherry		X
8623	29	White Oak		X
8624	11	Black Cherry		X
8625	26	White Oak		X
8626	16	White Oak		X
8627	20	White Oak		X
8628	12	Sugar Maple		X
8629	7	Sugar Maple		X
8630	17	Black Cherry		X
8631	9	Black Cherry		X
8632	23	White Oak		X
8633	8	Boxelder		X
8634	11	Black Cherry		X
8635	6	Boxelder		X
8636	17	White Oak		X
8637	24	White Oak		X
8638	7	Black Cherry		X
8639	16	White Oak		X
8645	11	Bitternut Hickory		X
8646	10	Black Cherry		X
8647	8	Black Cherry		X
8648	9	Black Cherry		X
8649	12	Black Cherry		X
8653	16	White Oak		X
8654	16	White Oak		X
8655	19	White Oak		X
8719	7	Red Oak		X
8728	27	White Oak		X
8721	26	White Oak		X
8722	26	White Oak		X
8737	10	Green and White Ash		X
8738	19	Red Oak		X
8739	14	Red Oak		X
8740	14	Red Oak		X
8824	14	Boxelder		X
8825	7	Green and White Ash		X
8856	8	White Spruce		X
8857	8	White Spruce		X
8858	14	White Spruce		X
8859	6	White Spruce		X
8860	7	White Spruce		X
8897	8	Boxelder		X
8896	8	Black Cherry		X
8899	14	Black Cherry		X
8900	7	White Spruce		X
8901	6	White Spruce		X
8928	18	Sugar Maple		X
8929	14	Black Cherry		X
8930	18	Black Cherry		X
8931	10	Boxelder		X
8932	7	Green and White Ash		X
8933	27	White Oak		X
8934	10	American Elm		X
8935	33	Red Oak		X
8936	13	Red Oak		X
8937	29	Red Oak		X
8938	8	Boxelder		X
8939	6	Boxelder		X
8940	16	Boxelder		X

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OWNER

FRANK BERMAN

5331 EVANSWOOD LANE
EDINA, MN 55436

MUNICIPALITY

PROJECT

BLAKE WOODS SUBDIVISION

EDINA, MN

SHEET INDEX

REVISION HISTORY

PROJECT MANAGER REVIEW

CERTIFICATION

PRELIMINARY NOT FOR CONSTRUCTION

REVISION #2 - CITY COMMENTS

03/18/2015

LANDFORM

From Site to Finish

105 South Fifth Avenue
Suite 513
Minneapolis, MN 55401

Tel: 612-252-9070
Fax: 612-252-9077
Web: landform.net

FILE NAME L102ZZ317

PROJECT NO. ZZZ14317

TREE PRESERVATION TABLE

L1.2

SHEET NO. 14/18

A discussion ensued on the merits of the proposal including ceiling height. Questions were raised on if the figures represented in the plans were correct, and if the variance was approved to ensure that all figures are the same. It was further pointed out that engineering supports the request subject to Minnehaha Creek Watershed District requirements.

Public Comment

Chair Platteter asked if anyone would like to speak to the issue; being none, Commissioner Olsen moved to close the public hearing. Commissioner Scherer seconded the motion. All voted aye; motion carried.

Discussion

Commissioner Scherer stated she supports the project as presented. Commissioner Forrest said she agrees adding this is the time to "fix" the flood plain issue. Forrest also commented in this day and age an 8-foot ceiling height is not unreasonable or excessive; adding the Commission has viewed and approved projects with higher ceilings.

Motion

Commissioner Olsen moved variance approval based on staff findings and subject to staff conditions. Commissioner Scherer seconded the motion. Commissioner Forrest offered an amendment to the motion stipulating that all figures match. Commissioner Schroeder commented that an easy way to ensure compliance is to stipulate that the first floor building elevation be met as established by staff. Commissioners Olsen and Scherer accepted those amendments. Ayes; Scherer, Schroeder, Olsen, Carr, Forrest Platteter. Nays; Lee and Hobbs. Motion carried.

C. Subdivision. Frank Berman. 5321 & 5331 Evanswood Lane and 5320 & 5324 Blake Road, Edina, MN

Planner Presentation

Planner Teague reported that Frank Berman is proposing to combine and subdivide his properties at 5321 & 5331 Evanswood Lane, and 5320 and 5324 Blake Road seven lots. The existing home at 5331 Evanswood Lane would remain, and the home at 5324 Blake Road would be removed. The other two parcels are vacant.

The applicant proposes to construct a 24-foot wide cul-de-sac off Blake Road within a 40-foot right-of-way. Two lots would access of Evanswood Lane, and the remaining five off the new road. The applicant has attempted to minimize tree loss and address drainage issues in the area by locating the roadway along the north lot line, and the stormwater retension areas along the street.

Planner Teague noted that to accommodate the request preliminary plan approval isis required.

Continuing, Teague explained that all seven of the proposed lots meet the City's minimum lot size requirements. Minimum lot size, width and depth is determined by the median of all lots within 500 feet of the subject property. Based on the surveyors calculation of the medians, the minimum lot size is 21,842 s.f. in size; 166.4 feet in depth; and 120.8 feet in width.

Concluding, Teague stated that the city engineer has reviewed the proposed plans and does have some concern given the existing drainage issues in this neighborhood. The stormwater system downstream is over capacity. The applicant will be required to meet all minimum Minnehaha Creek Watershed district standards, as they are the regulatory authority in Edina in regard to grading and drainage. There shall be no increase in peak rate or volume to neighboring private properties. Teague further stated that at the time of this report, the issues raised by engineering have not been met. If the applicant has not addressed by the time of the meeting, staff would recommend continuing action on this request to the next Planning Commission meeting. Ross Bintner, from the engineering department will be at the Planning Commission meeting to discuss any revised plan that is submitted, and the issues regarding the proposal.

Teague also stated since interested residents may be present to address the proposed subdivision that the public hearing be opened this evening to allow testimony and left open so that testimony could continue to the tabled meeting date per engineering recommendation.

Appearing for the Applicant

Kendra Lyndahl

Discussion

Commissioners acknowledged the recommendation from the engineering department to table the request until drainage issues are resolved; however offered the following:

Commissioner Carr asked Planner Teague if the recently approved Tree Preservation Ordinance would apply to this subdivision. Planner Teague responded that he believes so, adding the Tree Preservation Ordinance goes into effect on July 1, 2015. Teague further noted that the applicant is very mindful of the trees on the site.

Commissioner Scherer stated that while she understands the significance of Edina promoting "Living Streets" in this instance drainage concerns have been identified and in her opinion a sidewalk just adds more hard surface; reiterating engineering has requested that this request be tabled until all parties reach an agreement. Chair Platteter said he agrees with that comment, adding he's a huge proponent of sidewalks, however, when drainage issues are identified additional hard surface could exacerbate the issue.

Applicant Comments

Ms. Lyndahl told the Commission the property owner generally supports the conditions of approval. Continuing Ms. Lyndahl said that their first priority was tree preservation and second; creating a project

that complies with city ordinances. Concluding, Lyndahl stated they would work with engineering on resolving the drainage issues prior to the next meeting.

Commissioner Carr pointed out that the sidewalk was considered in the engineers review, adding if engineering finds that drainage can be managed (with sidewalk) she would be in favor of the sidewalk. Concluding, Carr stated she encourages sidewalks for Edina.

A brief discussion ensued on the proposed location of the sidewalk with Commissioners suggesting that the sidewalk may work better on the north side; not south as proposed. Commissioners asked Mr. Bintner if he believes the drainage issues can be resolved. Mr. Bintner responded he believes so; however, at this time the issues are still unresolved.

Commissioner Forrest asked when the subdivision project goes before the Watershed District. Mr. Bintner responded the Watershed District hears the request between preliminary and final review.

Commissioner Hobbs suggested if the project moves forward with a sidewalk that the sidewalk could be constructed with pervious materials, reducing drainage impact.

Public Comment

Chair Platteter opened the public hearing.

The following spoke expressing reservations on the 7-lot subdivision proposal:

Rebecca Wallin, 6208 Parkwood Road.

Charles Gits, 5311 Evanswood Lane.

Olaf Minge, 5225 Evanswood Lane.

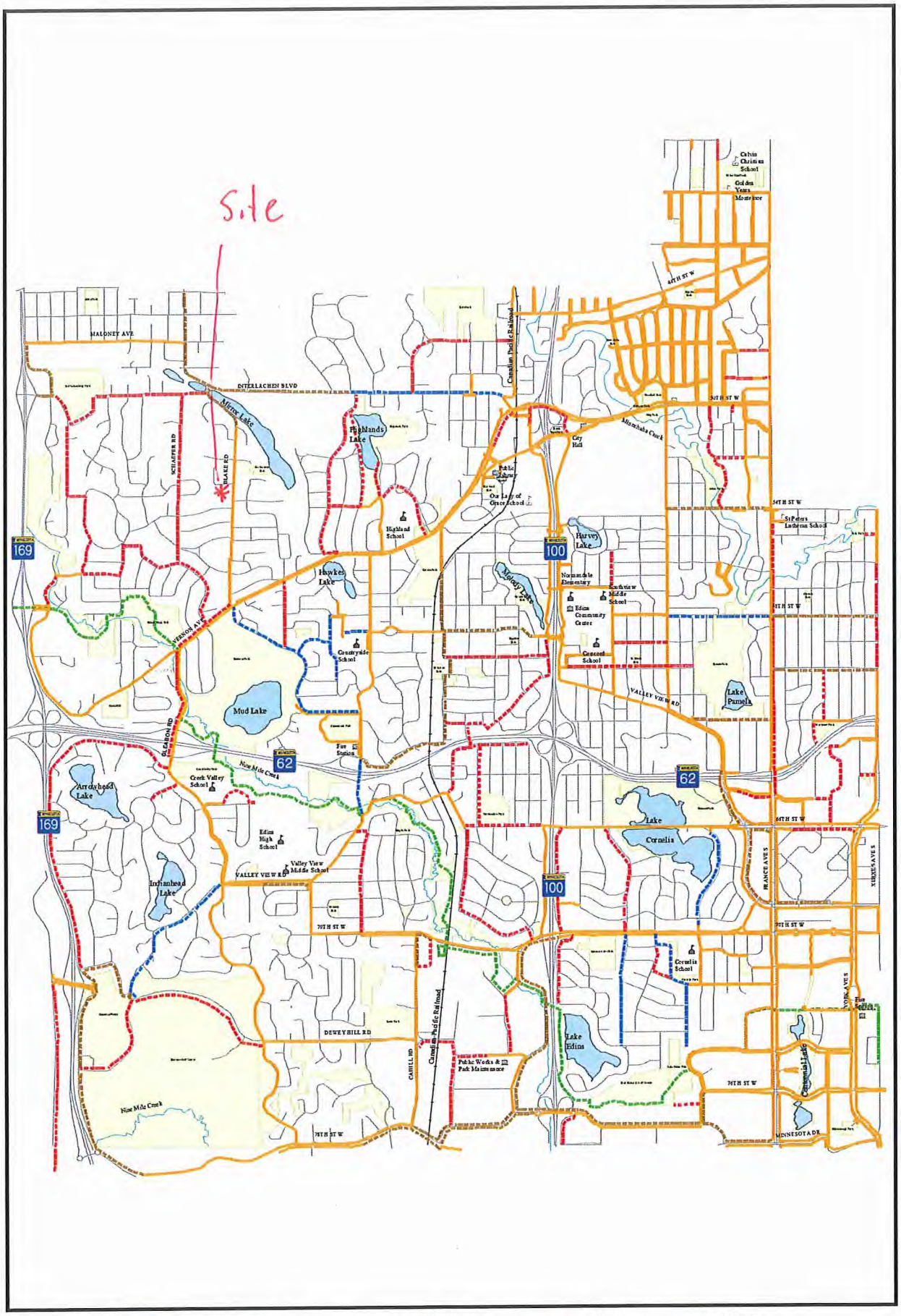
Amy Minge, 5225 Evanswood lane

Chris Johnson, 5308 West Highwood Drive.

Chair Platteter commented that since the recommendation is to table the subdivision request until the next meeting of the Planning Commission the public hearing will remain open.

Motion

Commissioner Carr moved to table the request for preliminary plat for Frank Berman 5321 & 5331 Evanswood Lane and 5320 & 5324 Blake Road to the March 11, 2015 Planning Commission meeting. Commissioner Scherer seconded the motion. All voted aye; motion carried.



Legend — Existing Sidewalk; Future State-Aid Sidewalk; Future Active Routes To School Sidewalk; Future City Sidewalk; Future Nine Mile Creek Regional Trail

City of Edina
2008 Comprehensive Plan Update

Sidewalk Facilities

Engineering Dept
November 2014

A75

Living Streets Policy

Introduction

Living streets balance the needs of motorists, bicyclists, pedestrians and transit riders in ways that promote safety and convenience, enhance community identity, create economic vitality, improve environmental sustainability, and provide meaningful opportunities for active living and better health. The Living Streets Policy defines Edina's vision for Living Streets and the principles and plans that will guide implementation.

The Living Street Policy ties directly to key community goals outlined in the City's 2008 Comprehensive Plan. Those goals include safe walking, bicycling and driving, reduced storm water runoff, reduced energy consumption, and promoting health. The Living Streets Policy also compliments voluntary City initiatives such as the "do.town" effort related to community health, and the Tree City USA and the Green Step Cities programs related to sustainability. In other cases, the Living Street Policy will assist the City in meeting mandatory requirements set by other agencies. For example, the Living Streets Policy will support the City's Storm Water Pollution Prevention Plan which addresses mandates established under the Clean Water Act.

The Living Streets Policy provides the framework for a Living Streets Plan. The Living Streets Plan will address how the Policy will be implemented by providing more detailed information on street design, traffic calming, bike facilities, landscaping and lighting, as well as best practices for community engagement during the design process. Lastly, existing and future supporting plans such as the Bicycle Plan, Active Routes to Schools, Sidewalk Priority Plan and the Capital Improvement Plan will help to identify which projects are priorities with respect to this Policy.

Living Streets Vision

Edina is a place where...

- Transportation utilizing all modes is equally safe and accessible;
- Residents and families regularly choose to walk or bike;
- Streets enhance neighborhood character and community identity;
- Streets are safe, inviting places that encourage human interaction and physical activity;
- Public policy strives to promote sustainability through balanced infrastructure investments;
- Environmental stewardship and reduced energy consumption are pursued in public and private sectors alike; and
- Streets support vibrant commerce and add to the value of adjacent land uses.

Living Streets Principles

The following principles will guide implementation of the Living Streets Policy. The City will incorporate these principles when planning for and designing the local transportation network and when making public and private land use decisions.

A76

All Users and All Modes

The City will plan, design, and build high quality transportation facilities that meet the needs of the most vulnerable users (pedestrians, cyclists, children, elderly, and disabled) while enhancing safety and convenience for all users, and providing access and mobility for all modes.

Connectivity

- The City will design, operate, and maintain a transportation system that provides a highly connected network of streets that accommodate all modes of travel.
- The City will seek opportunities to overcome barriers to active transportation. This includes preserving and repurposing existing rights-of-way, and adding new rights-of-way to enhance connectivity for pedestrians, bicyclists, and transit.
- The City will prioritize non-motorized improvements to key destinations such as public facilities, public transit, the regional transportation network and commercial areas.
- The City will require new developments to provide interconnected street and sidewalk networks that connect to existing or planned streets or sidewalks on the perimeter of the development.
- Projects will include consideration of the logical termini by mode. For example, the logical termini for a bike lane or sidewalk may extend beyond the traditional limits of a street construction or reconstruction project, in order to ensure multimodal connectivity and continuity.

Application

- The City will apply this Living Streets Policy to all street projects including those involving operations, maintenance, new construction, reconstruction, retrofits, repaving, rehabilitation, or changes in the allocation of pavement space on an existing roadway. This also includes privately built roads, sidewalks, paths and trails.
- The City will act as an advocate for Living Street principles when a local transportation or land use decision is under the jurisdiction of another agency.
- Living Streets may be achieved through single projects or incrementally through a series of smaller improvements or maintenance activities over time.
- The City will draw on all sources of transportation funding to implement this Policy and actively pursue grants, cost sharing opportunities and other new or special funding sources as applicable.
- All City departments will support the vision and principles outlined in the Policy in their work.

Exceptions

Living Streets principles will be included in all street construction, reconstruction, repaving, and rehabilitation projects, except under one or more of the conditions listed below. City staff will document proposed exceptions as part of the project proposal.

A77

Exceptions:

- A project involves only ordinary maintenance activities designed to keep assets in serviceable condition, such as mowing, cleaning, sweeping, spot repair, concrete joint repair, or pothole filling, or when interim measures are implemented on a temporary detour. Such maintenance activities, however, shall consider and meet the needs of bicyclists and pedestrians.
- The City exempts a project due to an excessively disproportionate cost of establishing a bikeway, walkway, or transit enhancement as part of a project.
- The City determines that the construction is not practically feasible or cost effective because of significant or adverse environmental impacts to waterways, flood plains, remnants or native vegetation, wetlands, or other critical areas.

Design

The City will develop and adopt guidelines as part of the Living Streets Plan to direct the planning, funding, design, construction, operation, and maintenance of new and modified streets, sidewalks, paths and trails. The guidelines will allow for context-sensitive designs.

The City's design guidelines will:

- Keep street pavement widths to the minimum necessary.
- Provide well-designed pedestrian accommodation in the form of sidewalks or shared-use pathways on all arterial and collector streets and on local connector streets as determined by context. Sidewalks shall also be required where streets abut a public school, public building, community playfield or neighborhood park. Termini will be determined by context.
- Provide frequent, convenient and safe street crossings. These may be at intersections designed to be pedestrian friendly, or at mid-block locations where needed and appropriate.
- Provide bicycle accommodation on all primary bike routes.
- Allocate right-of-way for boulevards.
- Allocate right-of-way for parking only when necessary and not in conflict with Living Streets principles.
- Consider streets as part of our natural ecosystem and incorporate landscaping, trees, rain gardens and other features to improve air and water quality.

The design guidelines in the Living Streets Plan will be incorporated into other City plans, manuals, rules, regulations, and programs as appropriate. As new and better practices evolve, the City will update the Living Streets Plan.

Context Sensitivity

Although many streets look more or less the same, every street is a unique combination of its neighborhood, adjacent land uses, natural features, street design, users, and modes. To accommodate these differences, the City will:

- Seek input from stakeholders;
- Design streets with a strong sense of place;
- Be mindful of preserving and protecting natural features, such as waterways, trees, slopes, and ravines;
- Be mindful of existing land uses and neighborhood character; and

- Coordinate with business and property owners along commercial corridors to develop vibrant commercial districts.

Benchmarks and Performance Measures

The City will monitor and measure its performance relative to this Policy. Benchmarks demonstrating success include:

- Every street and neighborhood is a comfortable place for walking and bicycling;
- Every child can walk or bike to school or a park safely;
- Seniors, children, and disabled people can cross all streets safely and comfortably;
- An active way of life is available to all;
- There are zero traffic fatalities or serious injuries;
- No unfiltered street water flows into local waterways; storm water volume is reduced; and
- Retail streets stay or become popular regional destinations.

The City will draw on the following data to measure performance. Additional performance measures may be identified as this Policy is implemented.

- Number of crashes or transportation-related injuries reported to the Police Department.
- Number and type of traffic safety complaints or requests.
- Resident responses to transportation related questions in resident surveys.
- Resident responses to post-project surveys.
- The number of trips by walking, bicycling and transit (if applicable) as measured before and after the project.
- Envision ratings from the Institute for Sustainable Infrastructure.
- Speed statistics of vehicles on local streets.

Implementation

The goal of this Policy is to define and guide the implementation of Living Streets principles. Several steps still need to be taken to reach this goal. The first step will be to develop a Living Streets Plan to guide the implementation of the Policy. The Plan will:

- Identify and implement standards or guidelines for street and intersection design, universal pedestrian access, transit accommodations, and pedestrian crossings;
- Identify and implement standards or guidelines for streetscape ecosystems, including street water management, urban forestry, street furniture, and utilities;
- Identify regulatory demands and their relationship to this Policy (ADA/PROWAG, MPCA, MNMUTCD, MnDOT state aid, watershed districts);
- Define the process by which residents participate in street design and request Living Streets improvements; and
- Define standards for bicycle and pedestrian connectivity to ensure access to key public, private and regional destinations.

Additional implementation steps include:

- Communicate this Policy to residents and other stakeholders; educate and engage on an ongoing basis;
- Update City ordinances, engineering standards, policies and guidelines to agree with this Policy;
- Inventory building and zoning codes to bring these into agreement with Living Streets principles as established by this Policy;
- Update and document maintenance policies and practices to support Policy goals;
- Update and document enforcement policies and practices to ensure safe streets for all modes;
- Incorporate Living Streets concepts in the next circulation of the City's general plans (Comprehensive Plan, Bicycle Plan, Active Routes to School Plan, etc.);
- Incorporate Living Streets as a criteria when evaluating transportation priorities in the Capital Improvement Plan (CIP);
- Review and update funding policies to ensure funding sources for Living Streets projects; and
- Coordinate with partner jurisdictions to achieve goals in this Policy.

A80

Cary Teague

From: Joan Bonello <joanbonello@me.com>
Sent: Tuesday, February 17, 2015 10:30 AM
To: Cary Teague; Edina Mail
Subject: Blake Woods Subdivision

Mr. Teague,

I am writing to express my concern regarding the proposed Blake Woods Subdivision project.

My husband and I live on Westwood Court (6312). Our backyard abuts the Berman property on the northwest corner. I am concerned about the effects of development on the water table in the neighborhood.

We recently completed a fairly large and expensive landscaping project in our back yard which included removal of large mounts of buckthorn and replacement with more desirable species. During periods of ground saturation, as we saw last summer with large rainfalls, the south portion of our yard becomes flooded. Our neighbors south of us also experienced flooding and water in their basement last summer. The water table is very high already and building on seven new lots and the addition of a new street will create significant run off of storm water.

I attended the meeting with Landform on February 3rd at Highlands Elementary School. Reid Schulz presented the project to neighbors and answered questions. I know there are some plans for water management put forth by Landform, however I would like to make sure the city is also looking at this issue and has done due diligence to ensure the plans for water management are adequate.

I would like to know how the city is planning on ensuring that this new development will not create problems with flooding and groundwater issues for the existing neighbors. Will the neighbors have support from the city to resolve any water management issues that may arise post development?

Please consider the existing ground water issues in our neighborhood and the effect this new development will have on existing water table levels.

Thank you for your time and consideration.

Sincerely,

Joan and Robert Bonello
6312 Westwood Court
Edina, MN 55436
952-926-9057

Cary Teague

From: charles.j.gits@ubs.com
Sent: Thursday, January 29, 2015 8:21 AM
To: Ross Bintner
Cc: Cary Teague; Charlie Gerk
Subject: 5311 Evanswood Ln/ Blake Woods Subdivision ~resending my 1/29 email here in better format
Attachments: Legal Disclaimer.txt

Ross
Thanks again for spending the time answering some of my questions about the impact on our home at 5311 Evanswood Ln from the proposed sub division. I'm sending you this email and copying Mr. Gerk and Mr. Teague at your suggestion. I will briefly recall our conversation here.

We built and moved into our house 15 yrs. ago in Aug 1999. At that time there was an existing water culvert next to the telephone pole running underneath the gravel road on the southeast part of our yard.

In spring 2000 we laid sod and created a small rocky dry pond catch area in the south end of our yard and repaired our side of the culvert. Upon seeing the culvert Frank and Toby Berman plugged it up on their side and sent us a letter telling us we were diverting water onto their property. At that time I called and spoke with an Edina city engineer. He replied although there was an existing culvert before we built our home, there was nothing we/he could do and suggested we pump water up to Evanswood Ln. We then installed a sump pump in the dry pond with an underground hose that runs north and empties onto Evanswood Ln. (water then flows east, crosses street and runs south to Blake Rd sewer)

I also have an active basement sump pump that is drain tiled into the dry pond and then this water is also pumped north to street.

Every Spring melt, and after heavy rains our backyard floods, often with 20' x 60' pools that stretch into Berman's lot. (Similar to your attached screen shot area) Idle water pools are also created on the other side of the gravel road. The water appears to run west from Blake road and east from Berman's house and south from Evanswood Ln. So in addition to the sump pump running, I also roll out a 200 ft 4" hose with an extra pump to clear the water from our yard and runoff from Berman's side lot at these times. Sometimes it takes days to empty with two pumps. I have done this for 15 years. The water on the south side of the back lane (Berman 5320 and 5324) sits idle till evaporated. (Last spring green algae formed on the Evanswood Ln curb because we moved a lot of water)

Our lower level is completely furnished with hardwood floors. It has never flooded, and the grass and trees survive after we move the water. However, as I explained to you, I am very concerned about the existing proposal. The displaced water from any house built on 5321 (west lot) will be more than we can tolerate. I can show you photos and I have plenty of history.

Please keep me involved and informed about possible solutions and the project. As I told you, the first time we had heard anything about the project was when we received a 1/21/15 letter from developer Landforms about an open house.

Thanks,
--
Charlie Gits
952-933-5845 h

952-921-7920 w

Charlie Gits
Senior Vice President-Wealth Management
UBS Financial Services Inc.
8500 Normandale Lk Blvd. #210
Bloomington MN 55437
(952) 921-7920
(877) 894-2418 toll free direct
(877) 540-0597 toll free fax
charles.j.gits@ubs.com
http://financialservicesinc.ubs.com/team/gitsoldendorf/