

ANN ARBOR PLANNING DEPARTMENT STAFF REPORT

For Planning Commission Meeting of December 15, 2015

**SUBJECT: NorthSky – Zoning & Site Plan for City Council Approval
(2701 Pontiac Trail)
Project Nos. Z14-027, SP14-053**

PROPOSED CITY PLANNING COMMISSION MOTION

The Ann Arbor City Planning Commission hereby recommend that the Mayor and City Council approve the request for R1D and R1E (Single-Family Dwelling District) and R4B (Multiple-Family Dwelling District) zoning designation for the NorthSky site.

PROPOSED CITY PLANNING COMMISSION MOTION

The Ann Arbor City Planning Commission hereby recommends that the Mayor and City Council approve the NorthSky Site Plan and Development Agreement.

LOCATION

The site is located on the west side of Pontiac Trail, north of Skydale and south of Dhu Varren Roads, in the Northeast planning area and the Traver Creek watershed (Ward 1).

STAFF RECOMMENDATION

Staff recommends the zoning petition be **approved** because the proposed R1D, R1E, and R4B zoning is generally consistent with the adjacent zoning, surrounding land uses and the Master Plan: Future Land Use Element.

Staff recommends that the **site plan** petition be **approved** because it complies with all the applicable local, state, and federal laws, ordinances, standards, and regulations; the development would limit the disturbance of natural features to the minimum necessary to allow a reasonable use of the land; would not cause a public or private nuisance; and would not have a detrimental effect on public health, safety, or welfare.

STAFF REPORT

The site plan was considered by the Planning Commission at their November 4, 2015 meeting. Discussion from the Planning Commission included site rearrangement to reduce overall site grading and tree loss, traffic impacts, consistency of submitted elevations, proposed phasing, and the amount of detail provided for the proposed multiple family residential portion of the development. This site plan was postponed by the Planning Commission on November 4, 2015 to allow the petitioner and staff to respond to Commission questions and suggestions.

The following revisions have been made to the plan drawings:

- On the multi-family building, site details, materials, and floor plans were added, and the elevations were corrected to match the grades at the corners.
- Additional front elevations are included for the R1D homes, for a total of 16 designs. A streetscape drawing of a typical block is included.
- Six additional trees are being preserved between lots 72 and 73. New trees have been added behind lots 1-4 to help screen the property of the neighbor to the north. The tree at the end of the Havre Street stub has been removed.
- Bollard lights have been added to most of the pedestrian access points to open space where those paths intersect with roads.

In addition, the petitioner commented on issues raised at the November 5 Planning Commission meeting.

- The multi-family building is not an afterthought, and is intended to provide variety in housing choices.
- The multi-family building will be constructed after the single-family homes, and master deeds will disclose that to single-family condominium buyers.

STAFF COMMENTS

Planning – The site density is calculated by dividing the total number of units by the parcel acreage minus the right-of-way dedication. The open space being dedicated to the city is not removed from the density calculation. 195 units are proposed on 30.67 acres (31.77 minus 1.10 acres for right-of-way), for a density of 6.36 units/acre.

The city master plan recommends residential uses at a density of 7 to 10 dwelling units per acre. A mix of housing types is encouraged, and development should be sited away from significant natural features in the western portion of this site.

Traffic Engineering – The project's traffic study showed a very small impact on the Nixon/Dhu Varren/Green intersection because most vehicle trips from NorthSky will be heading south, toward downtown. The project would add less than 1% of the present traffic volume at that intersection. For that reason, the project was not asked to participate in paying for improvements to the intersection.

Prepared by Jill Thacher
Reviewed by Ben Carlisle
December 9, 2015

Attachments: Draft Development Agreement
11/4/15 Staff Report
Citizen Participation Report
Aerial Map
Revised drawings

c: Petitioner: Trowbridge Homes of NorthSky
Attn: Bruce Michael
2617 Beacon Hill Drive
Auburn Hills, 48326

Petitioner's Engineer: Greentech Engineering, Inc.
51111 W. Pontiac Trail
Wixom, MI 48393

Owner: BH A2 North, LLC
North Sky Neighborhood, LLC
c/o Phoenix Contractors
2111 Golfside
Ypsilanti, MI 48197

Parks & Recreation
Systems Planning
Project Nos. Z14-027, SP14-053

ANN ARBOR PLANNING DEPARTMENT STAFF REPORT

For Planning Commission Meeting of November 4, 2015

**SUBJECT: NorthSky – Zoning & Site Plan for City Council Approval
(2701 Pontiac Trail)
Project Nos. Z14-027, SP14-053**

PROPOSED CITY PLANNING COMMISSION MOTION

The Ann Arbor City Planning Commission hereby recommend that the Mayor and City Council approve the request for R1D and R1E (Single-Family Dwelling District) and R4B (Multiple-Family Dwelling District) zoning designation for the NorthSky site.

PROPOSED CITY PLANNING COMMISSION MOTION

The Ann Arbor City Planning Commission hereby recommends that the Mayor and City Council approve the NorthSky Site Plan and Development Agreement.

LOCATION

The site is located on the west side of Pontiac Trail, north of Skydale and south of Dhu Varren Roads, in the Northeast planning area and the Traver Creek watershed (Ward 1).

STAFF RECOMMENDATION

Staff recommends the zoning petition be **approved** because the proposed R1D, R1E, and R4B zoning is generally consistent with the adjacent zoning, surrounding land uses and the Master Plan: Future Land Use Element.

Staff recommends that the **site plan** petition be **approved** because it complies with all the applicable local, state, and federal laws, ordinances, standards, and regulations; the development would limit the disturbance of natural features to the minimum necessary to allow a reasonable use of the land; would not cause a public or private nuisance; and would not have a detrimental effect on public health, safety, or welfare.

DESCRIPTION OF PETITIONS

The petitioners are seeking approval to rezone the 31.8 acre site from R4A (Multiple-Family Dwelling District) to R1D and R1E (Single-Family Dwelling District) and R4B (Multiple Family Dwelling District) to allow development of 139 site condominium lots for single-family detached homes and a four-story, 56-unit building at the southeast corner of the site.

Zoning

The petitioners have requested the site be zoned R1D and R1E (Single-Family Dwelling District) and R4B (Multiple Family Dwelling District). The R1D and R1E districts are designed to provide single-family detached dwellings, along with other related facilities, like park and recreation opportunities. They provide the highest densities of the single-family dwelling districts, with minimum lot areas of 5,000 and 4,000 square feet, respectively. R1D and R1E zoning should be contingent upon the availability or provision of adequate services to serve higher densities. This would be the first application of the R1E zoning district, which limits the floor area of each dwelling to 2,000 square feet.

The R4B district is intended for dwelling units to be arranged one above the other or side by side. R4B should be located in intermediate areas of the city, situated on small tracts for in-fill or medium sized tracts for moderate-sized developments. Single, two-family, multiple-family and assisted living uses, up to fifteen dwelling units per acre, are permitted in the R4B district.

The site is currently zoned R4A. Staff strongly encouraged the inclusion of a multi-family component to the petition in order to meet master plan goals and maintain a higher density than could be provided by single-family zoning alone.

Site Plan

A site plan for 139 single-family detached dwelling units, each with a two-car garage, and a 56 unit multi-family building is proposed on a new network of public roads. A 0.4 acre private community park is proposed near the front of the development, with a playground and open space. The density of the proposed development is slightly over 6 dwelling units per acre.

Existing Site Conditions – The subject site has three single-family houses along Pontiac Trail, and the remainder of the site is vacant. Along the western and southern boundaries of the site are mature woodlands, with an additional patch of woodlands in the south central part. The majority of the site was cleared in 2006 (but not graded).

Natural Features –Thirty-five percent of the site, 11 of the 31.75 total acres, is proposed as open space. Two of those 11 acres, on the west edge of the site, would be conveyed to the City of Ann Arbor for use as a natural area and future linear park (as identified in the Non-Motorized Transportation Plan . The remainder of the open space would be maintained by the homeowners association. Natural feature impacts due to the development include removing 24 landmark trees and 230 non-landmark trees.

Woodland mitigation requires 462 three-inch trees to be planted. 451 mitigation trees are shown on the plan, and the developer is paying \$80,000 into the street tree planting program for the remaining 11 trees plus 309 trees removed by the previous developer. That portion (309 trees) is voluntary.

Access – Vehicular access to the site is planned by two connections to Pontiac Trail and an internal network of new public roads. Two road stubs are proposed on the north and south to allow connectivity with future developments. Sidewalks are planned along both sides of all roads. Four pathways between lots lead to the linear open space strip at the center of the

development, and two more paths plus two openings between lots lead to the land to be conveyed to the city at the west end of the site.

Parking – For the multi-family building, 84 parking spaces are required and proposed, located at grade below the L-shaped building and in an exterior parking lot. Six class A and six class C bicycle parking spaces are required and 10 class A and four class C spaces are proposed. The class A are in a bike room. The 139 single-family dwellings each have a two-car garage.

Solid Waste – An interior trash room opens to a fenced trash enclosure in the exterior parking lot of the multi-family building. Rollout dumpsters will service trash, recycling, and compost. Single-family units will have individual curb carts.

Utilities – Water and sanitary sewer service will be connected to existing mains on Pontiac Trail. Forty-nine footing drain disconnections, or their equivalent, will be required to mitigate for the increased flows to the sanitary sewer system from the proposed development.

Stormwater Management – Stormwater management is proposed in accordance with the rules of the Washtenaw County Water Resources Commissioner for infiltration of the first inch of rain from a 100-year storm event and detention for the remaining volume. Two detention basins are proposed along the south and east edges of the site, and an underground detention system is located under the multi-family building's external parking lot. The system will collect stormwater from approximately four off-site acres (i.e. on adjacent parcels).

Landscape Plan – Right-of-way screening is provided between the parking lot for the multi-family building and Pontiac Trail, and landscape islands are provided within that vehicular use area. 268 required street trees are provided along Pontiac Trail and the new public streets. A 210' conflicting land use buffer containing 14 trees is provided along the north side of the multi-family building, because it is adjacent to a single-family residential district. In sum, 742 trees are proposed to be planted on the site to fulfill landscape and mitigation requirements.

Traffic Impacts – A traffic impact analysis was completed for the project, and the petitioner proposes to add a center turn lane in Pontiac Trail at Polson Street, as well as a bus pull-out area and pedestrian crosswalk, also on Pontiac Trail.

Development Agreement – Development agreements are used for projects that include public and offsite improvements, such as extension of a public utility main, a contribution of land or money, or other capital improvements. The NorthSky development agreement will address the street tree escrow and street tree fund contribution, improvements to Pontiac Trail, public streets, parkland dedication, utility easements, and other site improvements.

Citizen Participation Meeting – The petitioner held two Citizen Participation meetings, one on March 19, 2014 and another on July 1, 2014. For each meeting, 638 postcards were sent out to residents and property owners within 1000 feet of the site. The first meeting was attended by 30 people, and examples of concerns raised were the width of Pontiac Trail, the density of the development, parkland dedication, drainage and construction-related questions. The second meeting was attended by eight people and the petitioner presented changes made to the site plan and answered additional questions. A copy of the meeting report is attached.

COMPARISON CHART

	EXISTING	PROPOSED	REQUIRED
Zoning	R4A Multiple-Family Dwelling (29.89 acres) R1D Single-Family Dwelling (1.88 acres)	R1D Single-Family Dwelling (19.41 acres) R1E Single-Family Dwelling (6.26 acres) R4B Multiple-Family Dwelling (4.03 acres) R1D Single-Family Dwelling (2.07 acres)	R1D Single-Family Dwelling (19.41 acres) R1E Single-Family Dwelling (6.26 acres) R4B Multiple-Family Dwelling (4.03 acres) R1D Single-Family Dwelling (2.07 acres)
Gross Site Area	31.77 acres	31.77 acres	
Dwelling Units	3	103 R1D 36 R1E 56 R4B 195 total units	No requirement
Min. Lot Area Per Dwelling Unit	65,340+ sq ft	5,000 sq ft/unit (R1D) 4,000 sq ft/unit (R1E) 2,900 sq ft/unit (R4B)	5,000 sq ft/unit MIN 4,000 sq ft/unit MIN 2,900 sq ft/unit MIN
Min. Usable Open Space in % Lot Area		70% (R4B)	55% MIN (R4B)
Min. Active Open Space		300 sq ft per dwelling unit 16,800 sq ft total	300 sq ft per dwelling unit MIN (16,800 sq ft total MIN)
Setbacks: R1D		25 ft front 3 ft side 20 ft rear	25 ft front 3 ft side 20 ft rear
Setbacks: R1E		15 ft front 3 ft side 20 ft rear	15 ft front 3 ft side 20 ft rear
Setbacks: R4B		35 ft to Pontiac front 17 ft to Polson south front 20 ft to Polson west front 30 ft rear	15 ft MIN, 40 ft MAX front 30 ft rear
Height		30 ft (R1D) 30 ft (R1E) 45 ft (R4B)	30 ft (R1D) 30 ft (R1E) 45 ft (R4B)
Parking – Automobiles		206 spaces (R1D) 72 spaces (R1E) 84 spaces (R4B)	1 space/unit or 103 spaces (R1D) 1 space/unit or 36 spaces (R1E) 1.5 spaces/unit or 84 spaces (R4B)
Parking – Bicycles		10 Class A 4 Class C	6 Class A MIN + 6 Class C MIN for R4B

SURROUNDING LAND USES AND ZONING

	LAND USE	ZONING
NORTH	Single-Family Residential	TWP (Township)
EAST	Single-Family Residential Single-Family Residential Condominiums	R4C (Multiple-Family Dwelling) TWP (Township) PUD
SOUTH	Vacant	R4A (Multiple-Family Dwelling)
WEST	M-14	Beyond City Limits

HISTORY

A 1947 aerial photograph (right) shows nearly the entire site under cultivation and with no trees. In 1966 the site looked the same. By 1979 aerial photos show that the south half of the cultivated area had gone fallow, and the north half by 1990. The property was annexed into the city in 2005, and the North Sky (two words) site plan was approved. In 2006, most of the 31 acres were once again cleared (including 617 trees), but work halted and the North Sky project was abandoned.



PLANNING BACKGROUND

This site is located in the Northeast planning area. This project encompasses the northern half of an area with a site specific recommendation in the 2009 Master Plan: Land Use Element:

Site 1 [Northeast Area] – This 63-acre site is located on the west side of Pontiac Trail, east of M-14 and north of the Huron Highlands sub-division. It consists of eight parcels. The site has historically been used as farmland, although recently, farm operations have ceased. Large landmark trees are located in the southwest and western portion of the site. Pioneer vegetation has established itself in absence of farm activity on much of the remaining site. Although the western portion of the site slopes down toward M-14, the site is generally flat. A woodland area is located on the southwest portion of the site. A historically significant house exists near the southeast corner of the site. A site plan was approved in 2005 for the northern portion of this site.

Residential uses are recommended for the site at a gross density (minus right-of-way) of 7 to 10 dwelling units per acre. A mixture of housing types is encouraged, including single-family detached homes, duplexes, attached townhouses, and multiple-family (stacked units). Future development should incorporate community design techniques (described in Chapter 5) that support the goals and objectives of this Plan.

Development should be sited away from significant natural features in the west and southwest portions of the site, which include landmark trees, high quality woodlands and slopes. The historically significant house near the southeast corner of the site should be preserved and incorporated in any future development proposal. A neighborhood park should be provided as described in the 2006-2011 Parks & Recreation Open Space Plan and located in an area that allows convenient access for future residents of this site and residents of the Huron Highlands neighborhood to the south. A vehicular and pedestrian connection should be provided to the existing stub street on Skydale Drive to provide access to off-site parks and to allow residents to the south access to any parkland on the site.

The Non-motorized Transportation Plan (Update 2013) recommends sidewalks be added along Pontiac Trail as a near-term goal. That plan also identifies a foot path along the rear of the property and M-14 as a long-term goal.

UNIT COMMENTS

Engineering – Comments have been provided to the petitioner noting that the footing drains of 49 homes, or the flow equivalent to 195.7 GPM, will need to be removed from the sanitary sewer system in order to mitigate new flow from this proposed development.

Maintenance of the private storm water detention facilities will be the responsibility of the homeowner's association, and a drainage district will be established through the WCWRC.

The parcel owner across the street at 2670 Pontiac Trail has indicated the willingness to grant an easement for the construction and maintenance of a retaining wall on his property (necessary to add a center turn lane on Pontiac Trail). A formal easement will be required prior to the issuance of the first permit for the site.

Traffic Engineering – A dedicated, center left turn lane will be required to be installed on Pontiac Trail. All sidewalks and ramps must be designed for ADA accessibility and to optimize pedestrian convenience and efficiency.

Planning – While the proposed mix of zoning designations is consistent with the future land use recommendation for the site, the site specific recommendation also encourages a mixture of housing types. Two types are provided here, single-family detached and a multi-family apartment building, with a resulting density of just over six dwelling units per acre. This is just short of the future land use density recommendation of 7-10 dwelling units per acre.

The five parcels must be combined before the execution of the development agreement.

There is a discrepancy between the comparison table on sheet 8 and the parking layout on sheet 44 that will be corrected before the petition advances to City Council. The table will be

changed to show 14 bicycle parking spaces for the multi-family building: 10 class A in the bike room, and four class C near the east entrance.

Park Planning – To help achieve the Park and Open Space Plan goals, a contribution of at least 2.5 acres of parkland acreage is requested based on the proposed number of dwelling units. The Natural Areas Preservation unit has expressed interest in accepting a contribution of land on this site, specifically the woodland area along the western edge of the property.

Prepared by Jill Thacher
Reviewed by Ben Carlisle
10/30/15

Attachments: Citizen Participation Report
Draft Development Agreement
Zoning Map
Aerial Photo
Site Plans

c: Petitioner: Trowbridge Homes of NorthSky
Attn: Bruce Michael
2617 Beacon Hill Drive
Auburn Hills, 48326

Petitioner's Engineer: Greentech Engineering, Inc.
51111 W. Pontiac Trail
Wixom, MI 48393

Owner: BH A2 North, LLC
North Sky Neighborhood, LLC
c/o Phoenix Contractors
2111 Golfside
Ypsilanti, MI 48197

Parks & Recreation
Systems Planning
Project Nos. Z14-027, SP14-053

CITIZEN PARTICIPATION MEETING

NORTH SKY

MARCH 19, 2014

SUMMARY OF MEETING

LOCATION: CLAGUE MIDDLE SCHOOL

OF PARTICIPANTS: APPROXIMATELY 30

638 POSTCARDS MAILED OUT

1. Introduced our first plan w/assisted living and the sf lots, including TND lots and the 45 x120 lots.
2. Introduced second plan w/all single family.
3. Questions about plan, setting, etc. Questions about adjacent property and the proposed development there.
4. Q: If someone could build a single family home on the property and can't be stopped by the City, then why can the City tell us to build smaller lots?
A: The City has the right to determine how the property is developed per the City's approved master plan.
5. Q: what is size of homes?
A: between 2,400 and 3,000 sf.
6. Questions about what the City wanted for density and housing types. We answered that we wanted the lower density single family only, vs the higher density attached product.
7. Q: When will we move in and start clearing land?
A: When the City gives us all of our permits. Will be after Pontiac Trail improvements.
Questions asked about Pontiac Trail improvements.
8. Q: Will there be a signal at DhuVarren/Pontiac Trail? What about traffic impacts?
A: no traffic signal. It will have an impact. Less density would be less impact.
9. Q: Will the road be widened by the City? Would this additional traffic cause the City to widen the road?
A: Since master planned for higher density in this area, it would seem that the City would increase the road size with the current project if they intended to do anything about the roadway capacity. So, since Pontiac Trail will continue to be two lanes; it appears not.
Further Answer: Our plans include a dedicated center left turn lane at the southern entry to the development to handle turning movements into and out of the proposed development
10. Q: Does green space go down if density goes up?
A: Depends on how you build the density? If stack the units on top of each other, you could have more green space. But these additional people will still use Pontiac Trail and we will NOT get a ramp onto M-14 from this property.
Further Answer: Our present plans include a neighborhood park in the middle the site, open space separating houses on the north side from the south side and open space around the site south and west perimeter to preserve numerous large trees.
11. Q: Are there road connections to the property to the south and north?
A: Yes. Reduces traffic on Pontiac Trail for those people driving between adjacent properties.
12. Q: Anyone here from the City (Planning Dept)?
A: No.
13. Q: Do the properties in the township to the north have to be annexed if the City sewer and water to come here?
A: Our answer was statement of the current annexation policy. There was confusion about being forced to hook up to sanitary sewer if within 400 feet and their on-site septic system fails.
14. Q: Do the planners take into consideration entire City density when deciding what density to put on this site:

- A: Yes. Indicated that City doesn't want to see suburban development like you can easily find in surrounding townships. Want more urban density.
15. Q: Do we prepare a study showing that single family homes will result in more tax base/
A: we may do a fiscal impact study if requested.
16. Q: Schedule?
A: hope to be through approvals by end of 2014, but subject to City.
17. Q: what happens if you can't sell the high density homes?
A: We know our single family detached product will work. Build out over 5 years. Discussion about active adult, move-down type buyers.
18. Q: Neighborhood and developer want lower density, is there something citizen's can do to help that?
A: Talk to City Council member and do a petition.
19. Q: What's the rationale for high density.
A: City doesn't believe that single family doesn't pay its way, but condos or apts at least break even.
20. Q: is there going to be any neighborhood commercial, so don't have to drive around?
A: Nothing in master plan for this site, but there is a neighborhood center proposed/required for property at Nixon/Green.
21. Q: So, where is the green space?
A: Showing open space and park on the plan. Buffer will green around outside.
22. Q: what about pedestrian linkages w/adjacent properties, and M-14 linkage?
A: won't develop the NW corner of the site, allow the deer run to continue and provide land/easement for trail system to go along M-14. City will require green space and protect environmental assets.
23. Q: Did the City see the plan on the assisted living?
A: yes. Senior housing for the corner is most acceptable to us and neighbors.
24. Q: Did we propose the senior living to meet the density requirements or did City require senior housing?
A: Seniors works: doesn't detract from our ability to sell, doesn't upset you, doesn't take much space.
Further Answer: The proposed multi-family building is not necessarily designated for senior only housing.
25. Q: Would City accept plan with only Senior housing and midsize single family lots?
A: impression we got was that City wanted more housing types.
26. Q: Will there be another meeting?
A: if you want another meeting, then we will have it. You will be formally invited to Planning Commission meeting. Please provide email addresses and we can advise you of next meeting.
Further Answer: A second meeting was held on July 1, 2014. All email addresses were invited to the meeting as well as another postcard mailing.
27. Q: can we get City to attend next meeting to indicate their reasoning?
A: we can try. May not get them to this kind of meeting, but could get them to formal planning commission meeting.
Further Answer: Councilwoman Sabra Briere attended the second meeting.
28. Q: will some units be ranch style?
A: some will have a master bedroom on the first floor.
29. Q: How can we organize ourselves to support the lower density plan?
A: we need to get your contact info and meet with City Council member and one planning commissioner.
Further Answer: Sabra Briere attended the second meeting.
30. Q: Don't want connection to Skydale Drive?

A: We are not adjacent to Skydale, so our road won't connect. Our road network will not be laid out to encourage this connection through the adjacent vacant property. Will keep road stub to south closer to Pontiac Trail than rear of property.

Further Answer: our present site plan keeps the road stub to the south closer to Pontiac Trail than to the western end of the property.

31. Q: Will the City demand that we put in attached condos?

A: They will likely demand that we put some condos in.

Further Answer: We have provided the additional density in a single, three story multi family building that minimizes the impact of that density from the rest of the site.

32. Q: will there be coordination with adjacent landowner on connections, types of units, etc.

A: No. City encourages certain housing types through its master plan. Each landowner on his own. Property to south plan expired, they will start over in a separate site planning effort.

33. Q: Are there market studies supporting our proposed housing?

A: did a detailed competition analysis and its supports what we propose.

34. Q: Familiar with Northside Elementary school changes?

A: they say going to go from elementary to elementary/middle school. City may want more density to provide students.

35. Q: what are exterior materials

A: brick, stone and cement board. No vinyl.

36. Q: What is going on w/adjacent property to south?

A: Nothing right now, but it is annexed and has a sanitary sewer problem, and trees cut down need to be replaced. Citizens didn't like the connection between this development and west end of Skydale.

37. Q: what plan will you pursue?

A: don't know. Got thrown a curve when our single family only plan got thrown out.

Further Answer: new plan is combination of larger and smaller single family lots and the multi-family building.

38. Q: more questions about plan.

A: all single family but the multi-family (likely senior) in the southeast corner of the property. There will be a buffer. Put in 12-15' high spruces on buffer.

Further Answer: these items are included in the present plan.

CITIZEN PARTICIPATION MEETING

NORTH SKY

JULY 1, 2014

SUMMARY OF MEETING

LOCATION: CLAGUE MIDDLE SCHOOL

OF PARTICIPANTS: APPROXIMATELY 8

638 POSTCARDS MAILED OUT

1. Sabra Brierie is presenting revised plan.
2. Will affect traffic on Pontiac Trail, but not Dhu Varren.
3. Q: kids go where?
A: Northside High, Clague Middle.
4. Q: Is there a reason for service drive along Pontiac Trail?
A: Eliminate driveways directly accessing Pontiac Trail, provide parking availability for the houses facing this frontage.
Further Answer: Per staff request, the service drive was eliminated, the site plan modified to include a detention basin and open space near the Pontiac Trail frontage and internal roadways located farther west nearer the interior of the site.
5. Q: Question about apt bldg in southeast corner?
A: description of the apt bldg. May be condos. Hard to get mortgages sold to GSE's.
6. Q: public streets?
A: yes, including city trash service.
7. Q: public park?
A: we will do what the City wants. If they want it publicly dedicated, we'll do that.
Further Answer: We are dedicating the perimeter open space to the City per the Parks Division request.
8. Q: market?
A: Old West Side product (R1E)– 1st floor master, active adults, under 2,000 sf. Rest-conventional product (R1D) family product 2,300-2800 sf. Full basements.
9. Q: Condos or homes?
A: site condo. Explanation of site condo ownership.
10. Q: Association fees?
A: yes, but about same amount as in a subdivision.
11. Q: Stormwater retention?
A: doing test pits. Fulfill Green Streets and County infiltration. Described sand seam under ground. Described detention basins on south side of property, including retaining walls.
Further Answer: Site plan has been completed and Washtenaw County Water Resources Commissioner has approved stormwater management design.
12. Q: Topography. Upstream drainage?
A: will meet County and City requirements.
13. Q: Site size and annexation?
A: 31 acres, already annexed.
14. Q: Topography to south? What happens to drainage to Skydale?
A: lower. Explained detention concept and infiltration.
15. Q: Coyotes, what happens to them?
A: we may do a fiscal impact study if requested.
16. Q: lot size?
A: 5,000 sf, 45 x 130.
Further Answer: site plan now also includes R1-E lots which have a minimum size of 4,000 sf.
17. Q: park size?
A: approx. 1.5 acres.

Further Answer: Site plan now includes 2.07 acres of natural land on the south and west site perimeters to be dedicated to the City of Ann Arbor Parks Department. Also provided is a neighborhood park that is approximately 0.4 acres.

18. Q: footing drain disconnects?

A: yes, assuming it's the law at the time. Looking at alternatives.

19. Q: Phasing?

A: Planning staff suggests phasing. 5 year build out.

Further Answer: Site plan now shows 2 land development phases: all of the single family in phase 1 and the multi-family building in phase 2.

20. Q: What about construction traffic on Pontiac Trail?

A: impacts won't be terribly great. most trucks aren't that heavy, except drywall and cement trucks.

21. Q: number and type of units?

A: described.

22. Q: where start?

A: start at the front. Timing of multi-family up in the air. Would do infrastructure.

23. Q: streetlights and sidewalks?

A: yes and yes. Sabra wants to do pedestrian level lights. We would do mainly intersection lights. Sabra suggested remote control lights.

Further Answer: Street lights are provided at the Polson Street/Pontiac Trail, Montana Way/Pontiac Trail, Polson Street/Havre Street (park), and Big Fork Drive/St. Regis Way intersections. Street lights will meet City of Ann Arbor public street lighting requirements.

24. Q: will design for pedestrian connection to north or south?

A: described proposed connections. Soft trailscape on southern and western open space. Sabra: not auto connections

Further Answer: A direct pedestrian connection has provided through the center of the site connecting to properties to the south and north.

25. Q: Brought up connection to Skydale Drive?

A: showed how our connection to south would be closer to Pontiac Trail and therefore not encouraging connection to west end of Skydale Drive.

26. Q: General question about township and city jurisdiction?

A: just clarification of site boundaries and city boundaries.

27. Q: what about of freeway access? What about Barton onramp?

A: no new freeway access. Barton will get more dangerous.

28. Q: traffic impact?

A: Sabra explained concept of tipping point of traffic build up and that this development can't do anything about that here.

Further Answer: A dedicated left turn lane is being provided at the Polson Street/Pontiac Trail intersection to handle turning movements into and out of the property.

29. Q: Question of road access and visibility?

A: Our engineers looked at site distance before design and locations match last site plan approved. Speed limit needs to be decreased. Traffic study will look at whether warrants will allow putting in slower speeds. Sabra actually wants one more entrance.

Further Answer: 2 entries are provided to the property located as far from each other as possible on the north and south ends of the site. Site distance has been analyzed and the locations are safe.

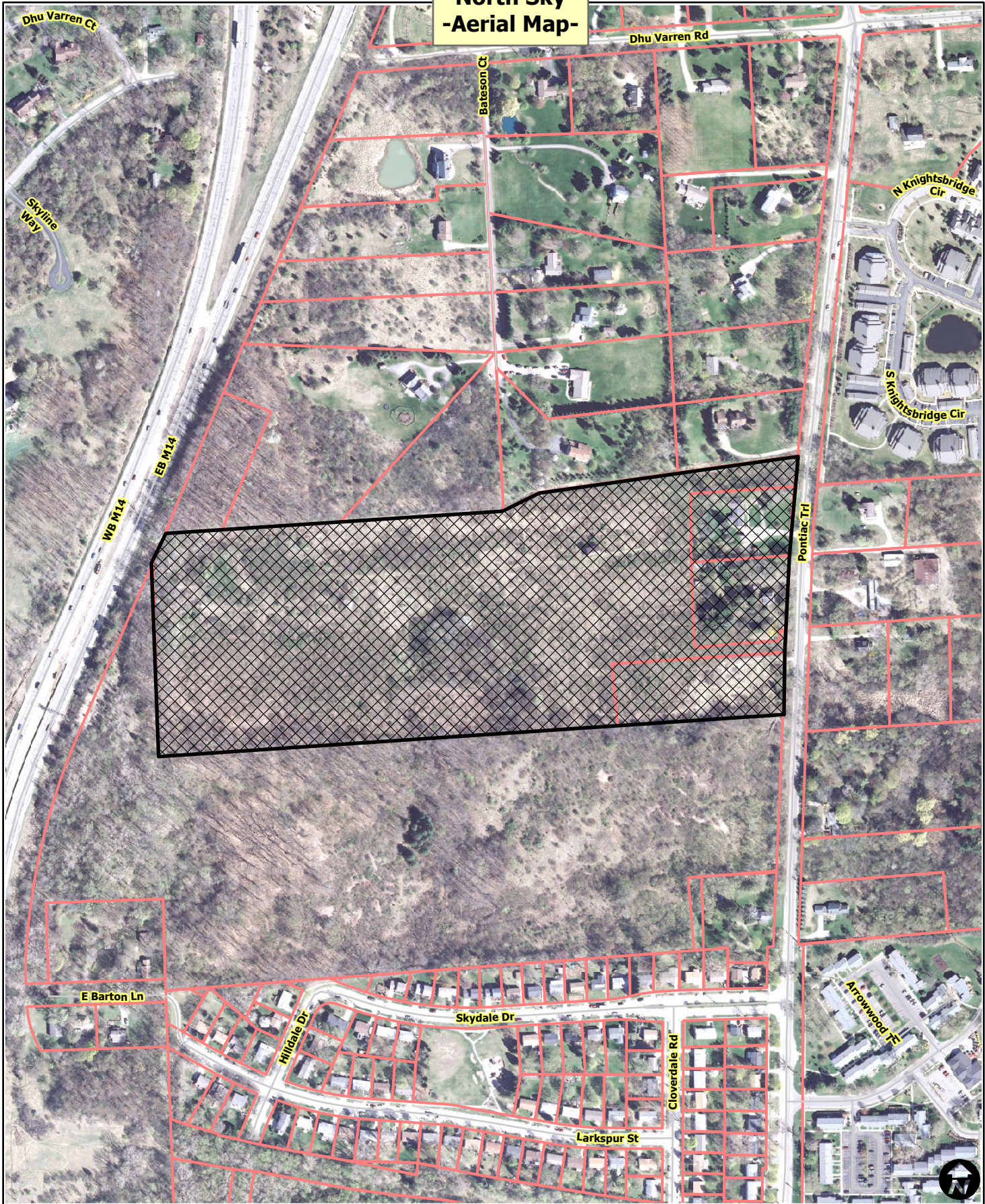
30. Q: Concern about school bus stop on Pontiac Trail?

A: school buses will come into the site to stop. Sabra says school bus service might actually be discontinued. Or buses might be limited.

Further Answer: The proposed development will include dedicated City streets, meeting City design standards, so school buses should be able to traverse all of the roads of the development. In addition, an AATA bus stop is provided and the school bus may be able to stop here.

31. Q: Will stop signs be added at Dhu Varren/Pontiac Trail?
A: Have traffic study look at these stop signs.
32. Q: Question about number of school age children and who will walk to school.
A: She doesn't believe that any of the children here will ever walk to school. Talk about annexing Whitmore Lake Schools to AAPS.
33. Q: Number of entries?
A: 2 entries and two internal loops.
34. Q: What will the park look like?
A: looking to what staff does. We are thinking small play structure, but mostly open space for multi-use and play. It's a blank slate.
Further Answer: Parks department approved park plan with open play area, play structure, seating and sidewalks.
35. Q: Still needs to be approved by Planning Commission?
A: yes. description of the process. We are rezoning, description of rezoning to single family and multiple family.
36. Q: Timing?
A: maybe end of the year, but maybe as late as next May.
37. Q: Height of multi-family building?
A: approximately 40 feet high.
38. Q: How many feet between houses?
A: 10 feet. City allows 6 feet; we think too close.
39. Q: Construction sequence?
A: description of construction process. Grade entire site.
40. Q: what about aquifer?
A: Description of grading, saving south side trees, phasing of plan.
41. Q: any environmental innovation on the construction?
A: typical house construction, not radically different— green things are small footprint and infiltration. Use OSB, high efficiency HVAC units as examples of green products. May use some bioswales.
Further Answer: first project to provide new County infiltration stormwater management system and also meet City Green Streets policy.

North Sky -Aerial Map-



 Railroads
 Parcels



City of Ann Arbor Map Disclaimer:

No part of this product shall be reproduced or transmitted in any form or by any means, electronic or mechanical, for any purpose, without prior written permission from the City of Ann Arbor.

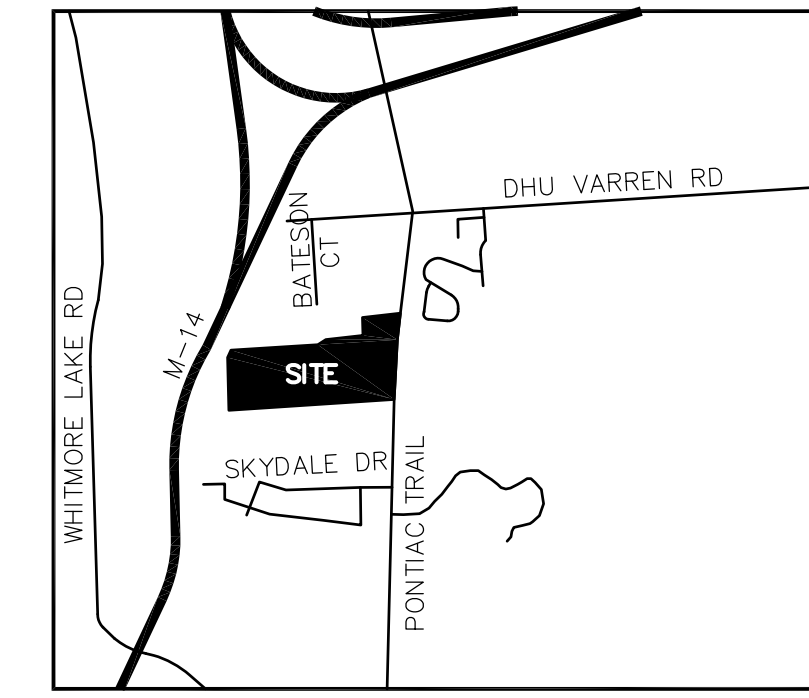
This map complies with National Map Accuracy Standards for mapping at 1 Inch = 100 Feet. The City of Ann Arbor and its mapping contractors assume no legal representation for the content and/or inappropriate use of information on this map.

Map Created: 10/1/2013

SITE PLAN for CITY COUNCIL for NORTHSKY

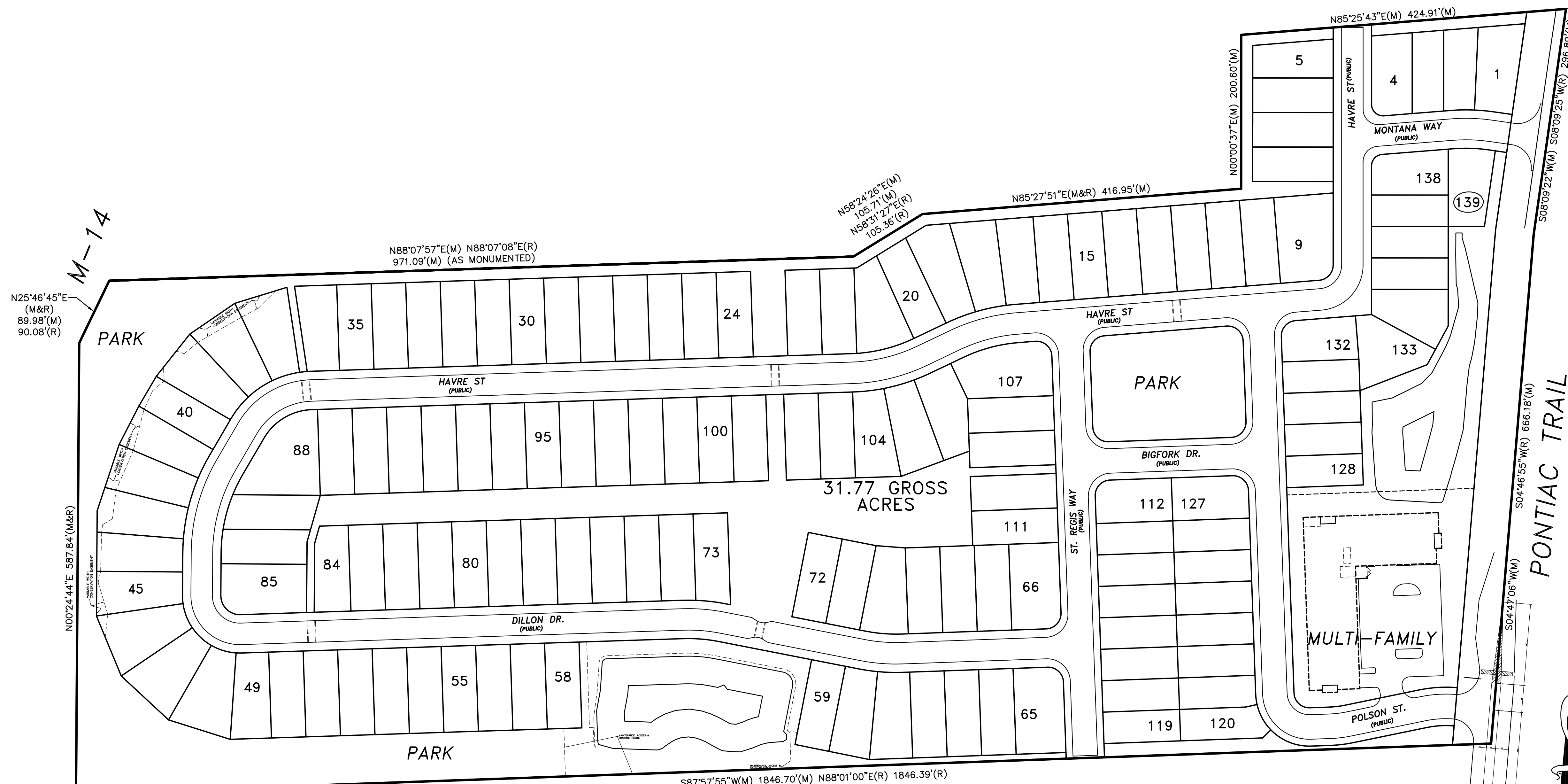
FILE NUMBER SP14-053
CITY OF ANN ARBOR
WASHTENAW COUNTY, MICHIGAN

PETITIONER/APPLICANT:
TROWBRIDGE HOMES OF NORTHSKY, LLC
AGENT: BRUCE MICHAEL
2617 BEACON HILL DRIVE
AUBURN HILLS, MI 48326
PHONE: (248) 703-4653
FAX: (248) 373-1230
EMAIL: BRUCEMICH@GMAIL.COM
CURRENT PROPERTY OWNER:
BH A2 NORTH, LLC
NORTH SKY NEIGHBORHOOD, LLC
C/O PHOENIX CONTRACTORS
2111 GOLFSIDE
YPSILANTI, MI 48197
SITE CIVIL:
GREENTECH ENGINEERING, INC.
51111 W PONTIAC TRAIL
WIXOM, MICHIGAN 48393
PHONE: (248) 668-0700
FAX: (248) 668-0701
LANDSCAPE ARCHITECT:
ALLEN DESIGN
557 CARPENTER
NORTHVILLE, MICHIGAN 48167
PHONE (248) 467-4668
FAX (248) 349-0559



LOCATION MAP
SCALE: 1"=2000'

0	COVER SHEET
1	SITE NOTES AND ANALYSIS
2	OVERALL EXISTING CONDITIONS PLAN
3	EXISTING CONDITIONS PLAN - WEST
4	EXISTING CONDITIONS PLAN - CENTER
5	EXISTING CONDITIONS PLAN - NORTHEAST
6	EXISTING CONDITIONS PLAN - SOUTHEAST
7	DEMOLITION PLAN
8	OVERALL LAYOUT PLAN
9	LAYOUT PLAN - WEST
10	LAYOUT PLAN - CENTER
11	LAYOUT PLAN - NORTHEAST
12	LAYOUT PLAN - SOUTHEAST
13	OVERALL GRADING PLAN
14	GRADING PLAN - WEST
15	GRADING PLAN - CENTER
16	GRADING PLAN - NORTHEAST
17	GRADING PLAN - SOUTHEAST
18	OVERALL UTILITY PLAN
19	UTILITY PLAN - WEST
20	UTILITY PLAN - CENTER
21	UTILITY PLAN - NORTHEAST
22	UTILITY PLAN - SOUTHEAST
23	OVERALL EROSION CONTROL PLAN
24	EROSION CONTROL PLAN - WEST
25	EROSION CONTROL PLAN - CENTER
26	EROSION CONTROL PLAN - NORTHEAST
27	EROSION CONTROL PLAN - SOUTHEAST
28	TREE INVENTORY & REMOVAL SUMMARY
29	NATURAL FEATURES PLAN - WEST
30	NATURAL FEATURES PLAN - CENTER
31	NATURAL FEATURES PLAN - NORTHEAST
32	NATURAL FEATURES PLAN - SOUTHEAST
33 A	PRE-DEVELOPMENT WATERSHED MAP
33 B	POST-DEVELOPMENT WATERSHED MAP
34	STORMWATER MANAGEMENT PLAN - BASIN 'A'
35	STORMWATER MANAGEMENT PLAN - BASIN 'B'
35 A	STORMWATER BASIN 'B'
36	STORMWATER MANAGEMENT PLAN - SYSTEM 'C'
37	AERIAL OVERLAY
38	ALTERNATIVES ANALYSIS
39	ALTERNATIVES ANALYSIS
40	ALTERNATIVES ANALYSIS
41	ALTERNATIVES ANALYSIS
42	FLOOR PLANS/ELEVATIONS - UNITS 9-111
42 A	ELEVATIONS - UNITS 9-111
42 B	FLOOR PLAN/ELEVATION - UNITS 1-8 & 112-139
42 C	PARKING LEVEL PLAN - MULTI-FAMILY BUILDING
42 D	1st FLOOR PLAN - MULTI-FAMILY BUILDING
42 E	2nd & 3rd FLOOR PLANS - MULTI-FAMILY BUILDING
42 F	N & E ELEVATIONS - MULTI-FAMILY BUILDING
42 G	S & W ELEVATIONS - MULTI-FAMILY BUILDING
43	TYPICAL PLOT PLAN
44	MULTI-FAMILY - LAYOUT PLAN
45	MULTI-FAMILY - GRADING PLAN
45 A	ENTRANCE PLAN
46	MULTI FAMILY - UTILITY PLAN
47	RE-ZONING PLAN
48	OPEN SPACE PLAN
49	CONDOMINIUM ASSOCIATION PLAN
50	ANN ARBOR GREEN STREETS PLAN
L-1	LANDSCAPE PLAN
L-2	LANDSCAPE PLAN
L-3	TYPICAL STREETScape
L-4	LANDSCAPE PLAN
L-5	LANDSCAPE DETAILS
L-6	WOODLAND PLAN
L-7	WOODLAND PLAN



GREENTECH ENGINEERING, INC.
CIVIL ENGINEERS & LAND SURVEYORS
51111 W. Pontiac Trail, Wixom, MI 48393
Phone: (248) 668-0700 Fax: (248) 668-0701

811
Know what's below
Call before you dig.

TROWBRIDGE DEVELOPMENT
COVER SHEET
NORTHSKY DEVELOPMENT RANGE: 6 E
TOWNSHIP: 2 S
CITY OF ANN ARBOR
WASHTENAW COUNTY MICHIGAN
SECTION: 16

REVISIONS

11-19-15	PER CITY
10-1-15	PER CITY REVIEW
8-24-15	PER CITY REVIEW
8-4-15	PER CNTY REVIEW
7-7-15	PER CITY REVIEW
3-29-15	PER CITY REVIEW
3-2-15	UPDATED PLAN
1-21-15	PER CITY REVIEW

DATE: 9-26-14
DRAWN BY: dl
CHECKED BY:

FBK:
CHF:

SCALE: HOR 1"= FT.
VER 1"= FT.

00
13-174

U:\13-174\dwg\Preliminary Site Plan\00 Cover Sheet.dwg, COVER

BENCHMARKS:

BENCHMARK NO. 1
R.R. SPIKE ON NORTH SIDE OF UTILITY POLE. EAST SIDE OF PONTIAC TRAIL AT SHOP #2710. ELEVATION=905.20

BENCHMARK NO. 2
EXISTING SPIKE ON EAST SIDE OF UTILITY POLE 33' WEST OF PONTIAC TRAIL CENTERLINE AT NORTHEAST PROPERTY CORNER OF HOUSE NO 2735 ELEVATION=918.51

BENCHMARK NO. 3
EXISTING SPIKE ON NORTH SIDE OF UTILITY POLE 510' +/- WEST OF PONTIAC TRAIL 100' +/- WEST OF SOUTHWEST PROPERTY CORNER OF HOUSE NO 2735 ELEVATION=932.95

BENCHMARK NO. 4
TOP STEAMER VALVE HYDRANT, WEST SIDE OF PONTIAC TRAIL, NORTH SIDE OF PROPERTY TO HOUSE #2655 ELEVATION=905.90

SURVEY NOTE

THE TOPOGRAPHIC SURVEY WAS PREVIOUSLY PREPARED BY OTHERS AND VERIFIED BY GREENTECH ENGINEERING, INC. IN JUNE 2014.

THE TREE SURVEY WAS PREVIOUSLY PREPARED BY OTHERS AND VERIFIED BY GREENTECH ENGINEERING, INC. IN JUNE 2014.

NOTE

SEE SHEET 28 FOR TREE LIST AND SHEETS 29, 30, 31 AND 32 FOR TREE REMOVAL.

LEGAL DESCRIPTIONS:

LAND IN THE CITY OF ANN ARBOR, COUNTY OF WASHTENAW, MICHIGAN, DESCRIBED AS:

PARCEL 1:
LAND IN THE CITY OF ANN ARBOR (FORMERLY KNOWN AS THE TOWNSHIP OF ANN ARBOR), WASHTENAW COUNTY, MICHIGAN, DESCRIBED AS:
COMMENCING AT THE WEST 1/4 CORNER OF SECTION 16, T.2S., R.6E., THENCE NORTH 00°24'44" EAST 667.66 FEET ALONG THE WEST LINE OF SECTION 16 TO THE POINT OF BEGINNING; THENCE CONTINUING ALONG SAID WEST LINE OF SECTION 16, NORTH 00°24'44" EAST 587.84 FEET TO A POINT ON THE SOUTHEASTERLY RIGHT-OF-WAY OF M-14; THENCE NORTH 25°46'45" EAST ALONG SAID SOUTHEASTERLY RIGHT-OF-WAY 90.08 FEET TO A POINT ON THE SOUTH LINE OF THE NORTHWEST 1/4 OF THE NORTHWEST 1/4 OF SECTION 16; THENCE ALONG SAID LINE NORTH 88°07'08" EAST 971.09 FEET; THENCE NORTH 58°31'27" EAST 105.36 FEET; THENCE NORTH 85°27'51" EAST 812.67 FEET TO A POINT ON THE CENTERLINE OF PONTIAC TRAIL (66 FOOT WIDE); THENCE SOUTH 08°09'25" WEST ALONG SAID CENTERLINE 91.65 FEET TO A POINT ON THE SOUTH LINE OF THE NORTHWEST 1/4 OF THE NORTHWEST 1/4 OF SECTION 16; THENCE ALONG SAID LINE SOUTH 88°07'08" WEST 336.53 FEET; THENCE DUE SOUTH 201.10 FEET; THENCE SOUTH 88°07'08" WEST 258.29 FEET; THENCE DUE SOUTH 216.49 FEET; THENCE NORTH 88°07'08" EAST 553.83 FEET TO A POINT ON THE CENTERLINE OF PONTIAC TRAIL; THENCE ALONG SAID CENTERLINE SOUTH 04°46'55" WEST 65.74 FEET; THENCE SOUTH 88°00'55" WEST 533.38 FEET; THENCE DUE SOUTH 181.20 FEET; THENCE SOUTH 88°00'55" WEST 132.23 FEET TO THE POINT OF BEGINNING. EXCEPT FOR ANY PORTION OF ABOVE PROPERTY CONTAINED IN WARRANTY DEED RECORDED IN LIBER 525, PAGE 515, WASHTENAW COUNTY RECORDS AND AS FURTHER DESCRIBED IN WARRANTY DEED DATED NOVEMBER 26, 1979, RECORDED DECEMBER 19, 1979 AS RECORDED IN LIBER 1742, PAGE 696, WASHTENAW COUNTY RECORDS.

PARCEL 2:
COMMENCING AT THE INTERSECTION OF THE CENTERLINE OF PONTIAC ROAD WITH THE SOUTH LINE OF THE NORTH 1/2 OF THE SOUTH 1/2 OF THE NORTHWEST 1/4 OF SECTION 16, T.2S., R.6E., WASHTENAW COUNTY, MICHIGAN; THENCE NORTH 6°48' EAST ALONG THE CENTERLINE OF PONTIAC ROAD 311.17 FEET FOR A PLACE OF BEGINNING; THENCE WEST 555.0 FEET; THENCE NORTH 154.49 FEET; THENCE SOUTH 89°52' EAST 573.24 FEET THE CENTERLINE OF PONTIAC ROAD; THENCE SOUTH 6°48' WEST ALONG THE CENTERLINE OF PONTIAC ROAD 154.22 FEET TO THE PLACE OF BEGINNING, ALSO COMMENCING AT THE SAME PLACE OF BEGINNING IN PONTIAC ROAD AS ABOVE DESCRIBED; THENCE WEST 555.0 FEET; THENCE SOUTH 62.0 FEET; THENCE EAST TO THE CENTERLINE OF PONTIAC ROAD TO THE PLACE OF BEGINNING, ALL BEING A PART OF THE NORTH 1/2 OF THE SOUTH 1/2 OF THE NORTHWEST 1/4 OF SECTION 16, CITY OF ANN ARBOR (FORMERLY ANN ARBOR TOWNSHIP), WASHTENAW COUNTY, MICHIGAN. MORE PARTICULARLY DESCRIBED BY SURVEY RECORDED IN LIBER 3090, PAGE 953, WASHTENAW COUNTY RECORDS, TO WIT: COMMENCING AT THE WEST 1/4 CORNER OF SECTION 16, T.2S., R.6E., ANN ARBOR TOWNSHIP, WASHTENAW COUNTY, MICHIGAN; THENCE NORTH 00°24'44" EAST 667.66 FEET ALONG THE WEST LINE OF SECTION 16 TO A POINT ON THE SOUTH LINE OF THE NORTH 1/2 OF THE SOUTH 1/2 OF THE NORTHWEST 1/4 OF SECTION 16; THENCE ALONG SAID SOUTH LINE NORTH 88°01'00" EAST 1,846.39 FEET TO A POINT ON THE CENTERLINE OF PONTIAC TRAIL; THENCE NORTH 04°46'55" EAST ALONG SAID CENTERLINE 247.59 FEET TO THE POINT OF BEGINNING; THENCE SOUTH 88°07'08" WEST 559.86 FEET; THENCE DUE NORTH 216.49 FEET; THENCE NORTH 88°07'08" EAST 578.04 FEET TO A POINT ON THE CENTERLINE OF PONTIAC TRAIL; THENCE SOUTH 04°46'55" WEST ALONG SAID CENTERLINE 217.84 FEET TO THE POINT OF BEGINNING.

PARCEL 3:
LAND IN THE CITY OF ANN ARBOR (FORMERLY KNOWN AS THE TOWNSHIP OF ANN ARBOR), WASHTENAW COUNTY, MICHIGAN, DESCRIBED AS:
COMMENCING AT AN IRON PIPE MAKING THE INTERSECTION OF THE CENTERLINE OF THE PONTIAC ROAD WITH THE SOUTH LINE OF THE NORTH 1/2 OF THE SOUTH 1/2 OF THE NORTHWEST 1/4 OF SECTION 16, ANN ARBOR TOWNSHIP, WASHTENAW COUNTY, MICHIGAN; THENCE WEST IN SAID SOUTH LINE 518.17 FEET TO AN IRON PIPE; THENCE NORTH AT RIGHT ANGLES 165 FEET; THENCE EAST AT RIGHT ANGLES 537.83 FEET TO THE CENTERLINE OF PONTIAC ROAD; THENCE SOUTHERLY DEFLECTING 96°49' TO THE RIGHT 166.17 FEET TO THE PLACE OF BEGINNING. ALSO COMMENCING AT THE INTERSECTION OF THE CENTERLINE OF PONTIAC ROAD WITH THE SOUTH LINE OF THE NORTH 1/2 OF THE SOUTH 1/2 OF THE NORTHWEST 1/4 OF SECTION 16, T.2S., R.6E., MERIDIAN OF MICHIGAN; THENCE NORTH 6°48' EAST ALONG THE CENTERLINE OF MILFORD ROAD (NOW KNOWN AS PONTIAC TRAIL), 166.17 FEET FOR A PLACE OF BEGINNING; THENCE WEST 537.83 FEET; THENCE NORTH 16.2 FEET; THENCE EAST 539.77 FEET TO THE CENTERLINE OF MILFORD ROAD (NOW KNOWN AS PONTIAC TRAIL); THENCE SOUTH 6°48' WEST ALONG THE CENTERLINE OF MILFORD ROAD 16.3 FEET TO THE PLACE OF BEGINNING, BEING A PART OF THE NORTH 1/2 OF THE SOUTH 1/2 OF THE NORTHWEST 1/4 OF SECTION 16, CITY OF ANN ARBOR, FORMERLY KNOWN AS ANN ARBOR TOWNSHIP, WASHTENAW COUNTY, MICHIGAN.

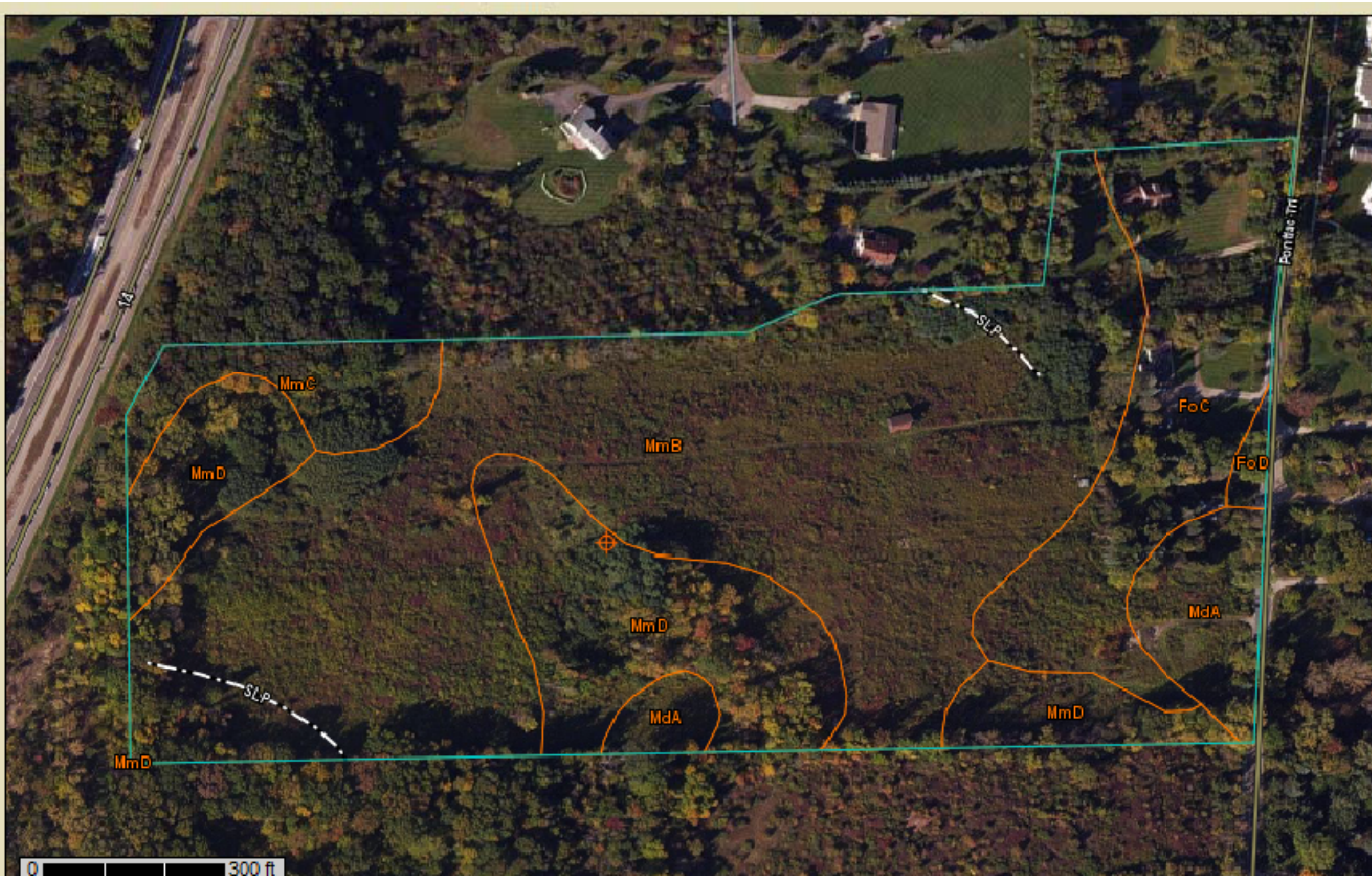
PARCEL 4:
COMMENCING AT THE WEST 1/4 CORNER OF SECTION 16, T.2S., R.6E., CITY OF ANN ARBOR, (FORMERLY ANN ARBOR TOWNSHIP) WASHTENAW COUNTY, MICHIGAN; THENCE NORTH 00°24'44" EAST 1,255.50 FEET ALONG THE WEST LINE OF SECTION 16 TO A POINT ON THE SOUTHEASTERLY RIGHT OF WAY OF M-14; THENCE NORTH 25°46'45" EAST ALONG SAID SOUTHEASTERLY RIGHT OF WAY 90.08 FEET TO A POINT ON THE SOUTH LINE OF THE NORTHWEST 1/4 OF THE NORTHWEST 1/4 OF SECTION 16; THENCE ALONG SAID LINE NORTH 88°07'08" EAST 971.09 FEET; THENCE NORTH 58°31'27" EAST 105.36 FEET; THENCE NORTH 85°27'51" EAST 812.67 FEET TO A POINT ON THE CENTERLINE OF PONTIAC TRAIL (66 FOOT WIDE); THENCE SOUTH 08°09'25" WEST ALONG SAID CENTERLINE 91.65 FEET TO A POINT ON THE SOUTH LINE OF THE NORTHWEST 1/4 OF THE NORTHWEST 1/4 OF SECTION 16, SAID POINT BEING THE POINT OF BEGINNING; THENCE CONTINUING ALONG THE CENTERLINE OF PONTIAC TRAIL SOUTH 04°46'55" WEST 202.81 FEET; THENCE SOUTH 88°07'08" WEST 319.71 FEET; THENCE DUE NORTH 201.10 FEET TO A POINT ON THE SOUTH LINE OF THE NORTHWEST 1/4 OF THE NORTHWEST 1/4 OF SECTION 16; THENCE ALONG SAID LINE NORTH 88°07'08" EAST 336.53 FEET TO THE POINT OF BEGINNING.

PARCEL 5:
THAT PART OF A PARCEL OF LAND IN THE NORTHWEST 1/4 OF SECTION 16, T.2S., R.6E., CITY OF ANN ARBOR, (FORMERLY ANN ARBOR TOWNSHIP) WASHTENAW COUNTY, MICHIGAN, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:
BEGINNING AT A POINT ON THE CENTERLINE OF PONTIAC TRAIL (FORMERLY MILFORD ROAD 66 FEET WIDE) DISTANT FROM THE NORTH 1/4 CORNER OF SECTION 16, SOUTH 88°18'25" WEST 584.0 FEET AS MEASURED ALONG THE NORTH LINE OF SAID SECTION (581.0 FEET RECORD) AND SOUTH 74°09' WEST 1049.70 FEET ALONG THE AFORESAID CENTERLINE OF PONTIAC TRAIL; THENCE PROCEEDING SOUTH 85°23'06" WEST 437.20 FEET; THENCE SOUTH 200.85 FEET; THENCE NORTH 85°25'06" EAST 409.07 FEET TO A POINT ON THE CENTERLINE OF AFORESAID PONTIAC TRAIL; THENCE ALONG SAID CENTERLINE, NORTH 07°49'05" EAST 205.05 FEET TO THE POINT OF BEGINNING.

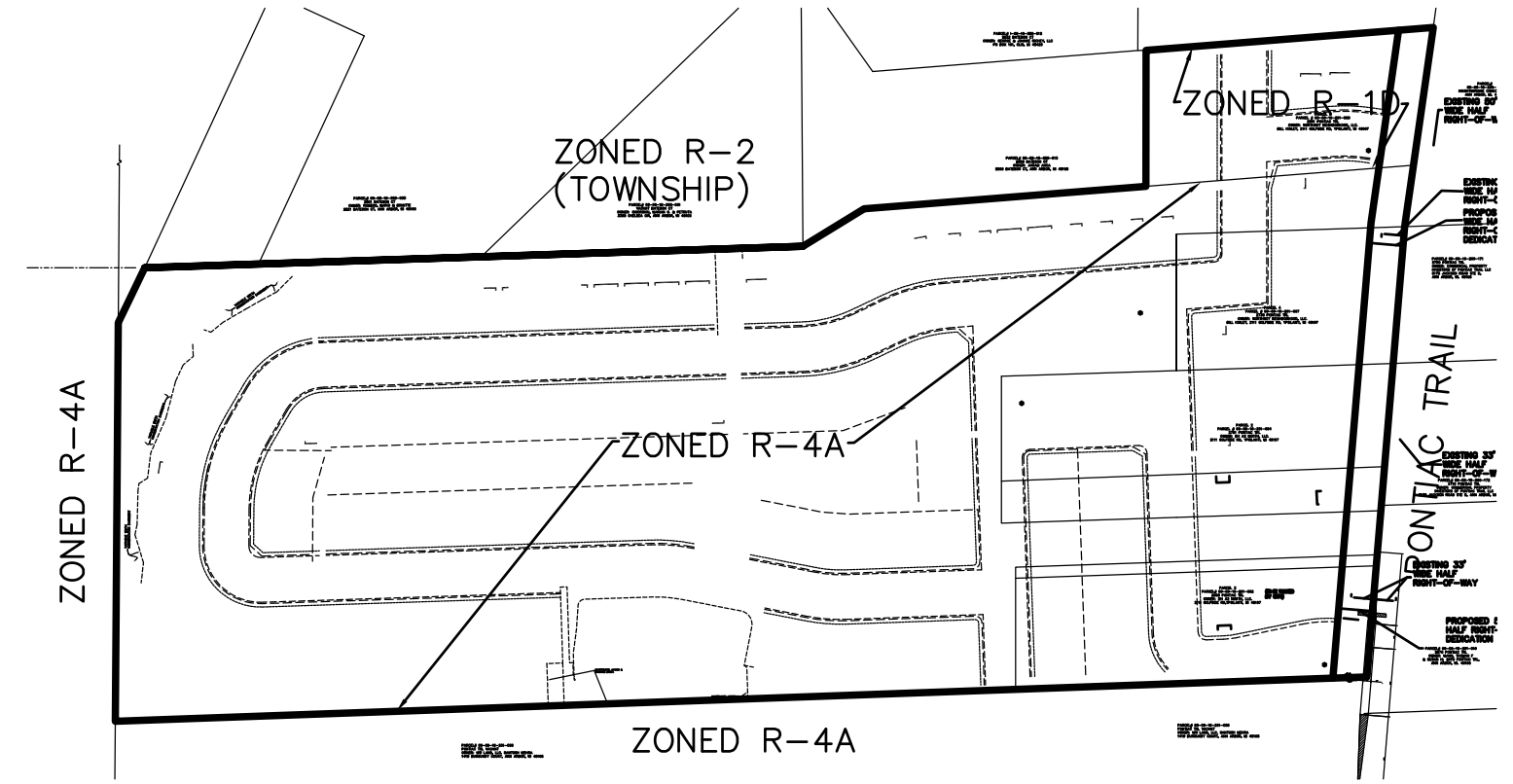
NOTE:

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AS DISCLOSED BY AVAILABLE UTILITY COMPANY RECORDS AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE COMPANY. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY IF A CONFLICT IS APPARENT.

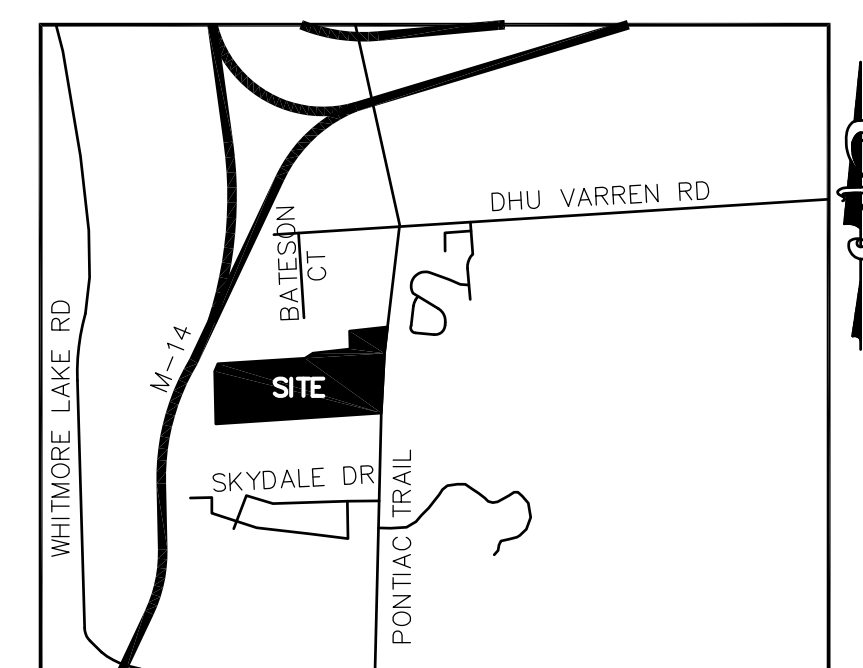
Washtenaw County, Michigan (M161)				
Map Unit Symbol	Map Unit Name	Acres in AOT	Percent of AOT	
FoC	Fox sandy loam, 6 to 12 percent slopes	4.8	14.8%	
FoD	Fox sandy loam, 12 to 18 percent slopes	0.2	0.6%	
MdA	Matherton sandy loam, 0 to 4 percent slopes	1.8	5.5%	
MmB	Miami loam, 2 to 6 percent slopes	18.1	55.6%	
MmC	Miami loam, 6 to 12 percent slopes	1.4	4.4%	
MmD	Miami loam, 12 to 18 percent slopes	6.2	19.1%	
Totals for Area of Interest		32.5	100.0%	



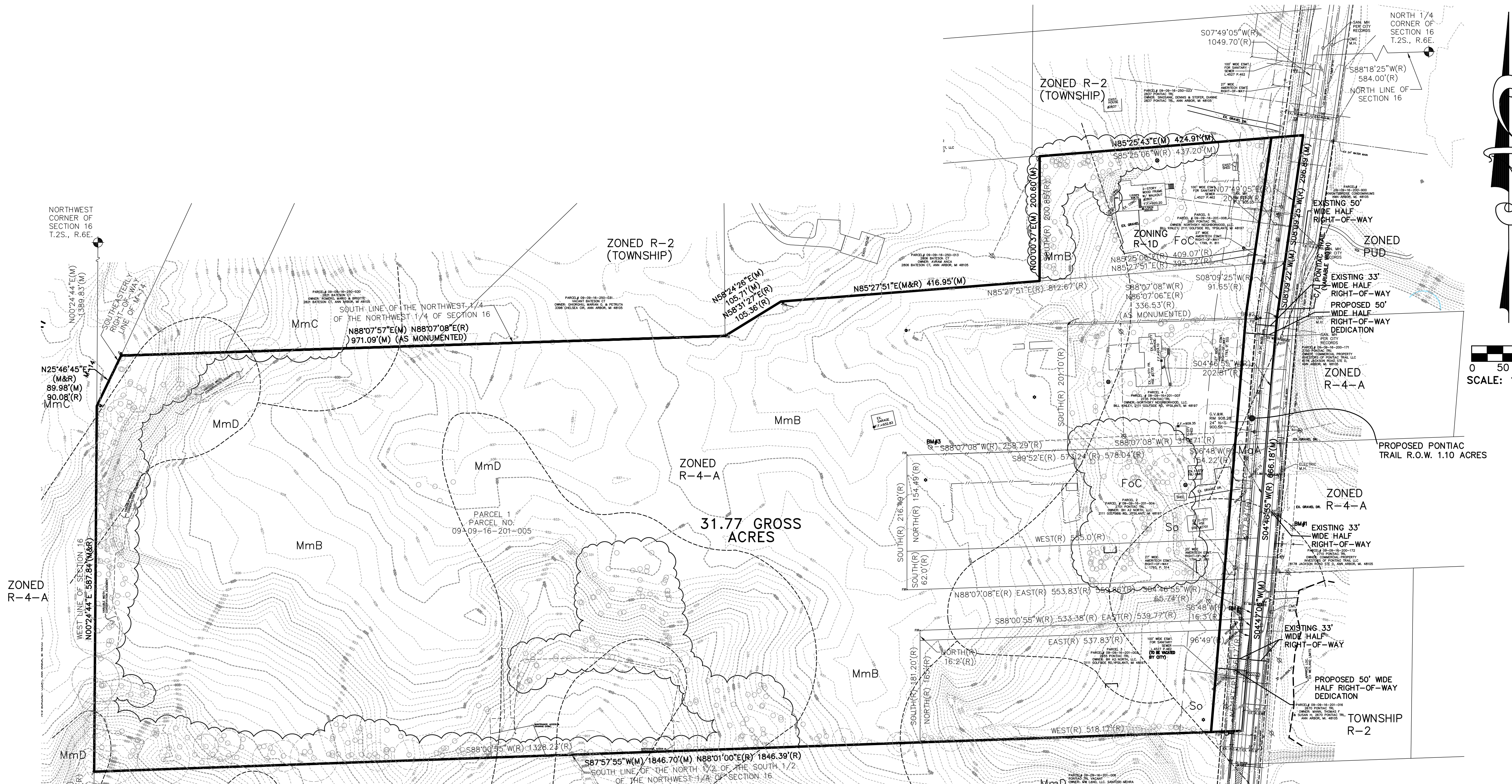
SOILS INFORMATION:
NO SCALE



EXISTING ZONING
NO SCALE



LOCATION MAP
SCALE: 1"=2000'



LEGEND

EXISTING STORM	FF	FINISH FLOOR
EXISTING WATER MAIN	PROP. DRAINAGE ARROW	PROP. DRAINAGE ARROW
EXISTING SANITARY	TP 40.00	PROP. TOP OF PAVEMENT ELEV.
EXISTING GAS	TC 40.00	PROP. TOP OF CURB ELEV.
FD IRON PIPE/ROD	CI 40.00	PROP. TOP OF WALK ELEV.
UTILITY POLE	TW 40.00	PROP. GUTTER ELEV.
EX. MANHOLE	40.00	PROP. TOP OF MANK ELEV.
EX. CATCH BASIN	40.00	PROP. SPOT ELEV.
EX. CLEAN OUT	40.00	PROP. CONTOUR
EX. HYDRANT	40.00	PROP. CATCH BASIN
EX. WATER SHUTOFF	40.00	PROP. MANHOLE
EX. SIGN	40.00	PROP. END SECTION
EX. LIGHT POLE	40.00	PROP. STORM SEWER
EX. SIGNAL POLE	40.00	PROP. SANITARY SEWER
EX. MAILBOX	40.00	PROP. WATER MAIN
		PROP. GATE VALVE
		PROP. HYDRANT
		PROP. SAN. STR. NUMBER
		PROP. STM. STR. NUMBER
		PROP. GATE VALVE NUMBER
		PROP. HYDRANT NUMBER

NOTE:

THE INDIVIDUAL PARCELS THAT CURRENTLY MAKE UP THIS PROPOSED DEVELOPMENT MUST BE LEGALLY COMBINED PRIOR TO ISSUANCE OF ANY PERMITS BY THE CITY OF ANN ARBOR.

GREENTECH ENGINEERING, INC.
CIVIL ENGINEERS & LAND SURVEYORS
51111 W. Pontiac Trail, Wixom, MI 48393
Phone: (248) 668-0700 Fax: (248) 668-0701

811
Know what's below
Call before you dig.

OVERALL EXISTING CONDITIONS PLAN

CITY OF ANN ARBOR
TOWNSHIP 2 S
SECTION 16
RANGE 6 E
MICHIGAN

CLIENT: TROWBRIDGE DEVELOPMENT
REVISED

11-19-15 PER CITY
10-1-15 PER CITY REVIEW
8-24-15 PER CITY REVIEW
8-4-15 PER CNTY REVIEW
7-7-15 PER CITY REVIEW
4-28-15 PER CITY REVIEW
3-2-15 UPDATED PLAN
1-21-15 PER CITY REVIEW

DATE: 9-26-14
DRAWN BY: DL
CHECKED BY:

FBK:
CHF:
SCALE: HOR 1"=100 FT.
VER 1"= FT.

2
13-174

BENCHMARKS:

BENCHMARK NO. 1
R.R. SPIKE ON NORTH SIDE OF UTILITY POLE. EAST SIDE OF PONTIAC TRAIL AT SHOP #2710. ELEVATION=905.20

BENCHMARK NO. 2
EXISTING SPIKE ON EAST SIDE OF UTILITY POLE 33' WEST OF PONTIAC TRAIL CENTERLINE AT NORTHEAST PROPERTY CORNER OF HOUSE NO 2735. ELEVATION=918.51

BENCHMARK NO. 3
EXISTING SPIKE ON NORTH SIDE OF UTILITY POLE 510'+/- WEST OF PONTIAC TRAIL 100'+/- WEST OF SOUTHWEST PROPERTY CORNER OF HOUSE NO 2735. ELEVATION=932.95

BENCHMARK NO. 4
TOP/STEAMER VALVE HYDRANT, WEST SIDE OF PONTIAC TRAIL NORTH SIDE OF PROPERTY TO HOUSE #2655. ELEVATION=905.90

TRASH REMOVAL:

EACH UNIT SHALL USE A PERSONAL CART DUMPSTER TO BE STORED IN THE GARAGE.

OVERALL DENSITY CALCULATION:

OVERALL SITE AREA 31.77 ACRES
LESS PROPOSED PONTIAC TRAIL RIGHT-OF-WAY 1.10 ACRES
NET SITE AREA 30.67 ACRES

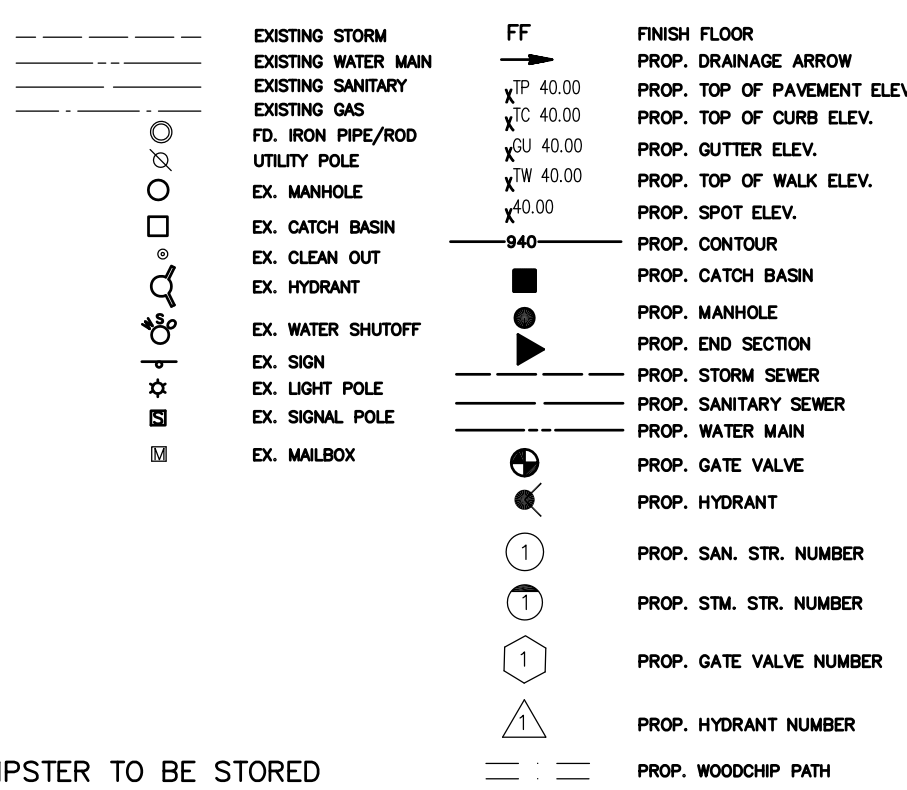
OVERALL DENSITY (195 UNITS / 30.67 ACRES) 6.36 UNITS/ACRE

COMPARISON TABLE			
Zoning:	Parcel	Existing	Proposed
	Parcel 1	23.38 Ac R4-A	R1-E - 6.26 Acres
	Parcel 2	2.83 Ac R4-A	R1-D - 19.40 Acres
	Parcel 3	2.17 Ac R4-A	R4-B - 4.03 Acres
	Parcel 4	1.51 Ac R4-A	R1D - 2.07 Acres
	Parcel 5	1.88 Ac R1-D	
Existing Dwelling Units			
	R1D Single Family	1	
	R4A Multi Family	2	
Proposed Dwelling Units			
	R1-D Single Family		103 Units
	R1-E Single Family		36 Units
	R4-B Multi Family		56 Units
		195 Units Total	
R1-D Single Family			
	Lot Area	5000 sf	5000 sf
	Lot Width	40 feet	45 feet
	Vehicle Parking		
	One Space per Dwelling Unit	103 spaces	206 spaces
	Bicycle Parking	na	na
	Setbacks		
	Front	25'	25'
	Side	3' min / 6' total	3' / 6'
	Rear	20'	20'
	Height	30'	30'
R1-E Single Family			
	Lot Area	4000 sf	4000 sf
	Lot Width	34 feet	40 feet
	Vehicle Parking		
	One Space per Dwelling Unit	36 spaces	72 spaces
	Bicycle Parking	na	na
	Setbacks		
	Front	15'	25'
	Side	3' min / 6' total	3' / 6'
	Rear	20'	20'
	Height	30'	30'
R4-B Multi Family			
	Lot Area	14,000 sf	217,800 sf
	Density	2900 sf/d.u.	3889 sf/d.u.*
	* incl 2.07 acres of Public Land zone		
	Useable Open Space	55%	68%
	* Does not include 2.07 Acres of Public Lands		
	Vehicle Parking		
	1.5 Spaces per Dwelling Unit	84 spaces	84 spaces
	Bicycle Parking		
	1 Space per 5 Dwelling Units	6 spaces	14 spaces
		50% class A	10 class A
		50% class C	4 class C
	Setbacks		
	Front	15' min / 40' max	35' to Pontiac Trail
			17' to Polson on south
			20' to Polson on west
	Side	12'	na
	Rear	30'	30'
	Height	45' MAX	39'-9 1/2"

NOTE:

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AS DISCLOSED BY AVAILABLE UTILITY COMPANY RECORDS AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE COMPANY. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY IF A CONFLICT IS APPARENT.

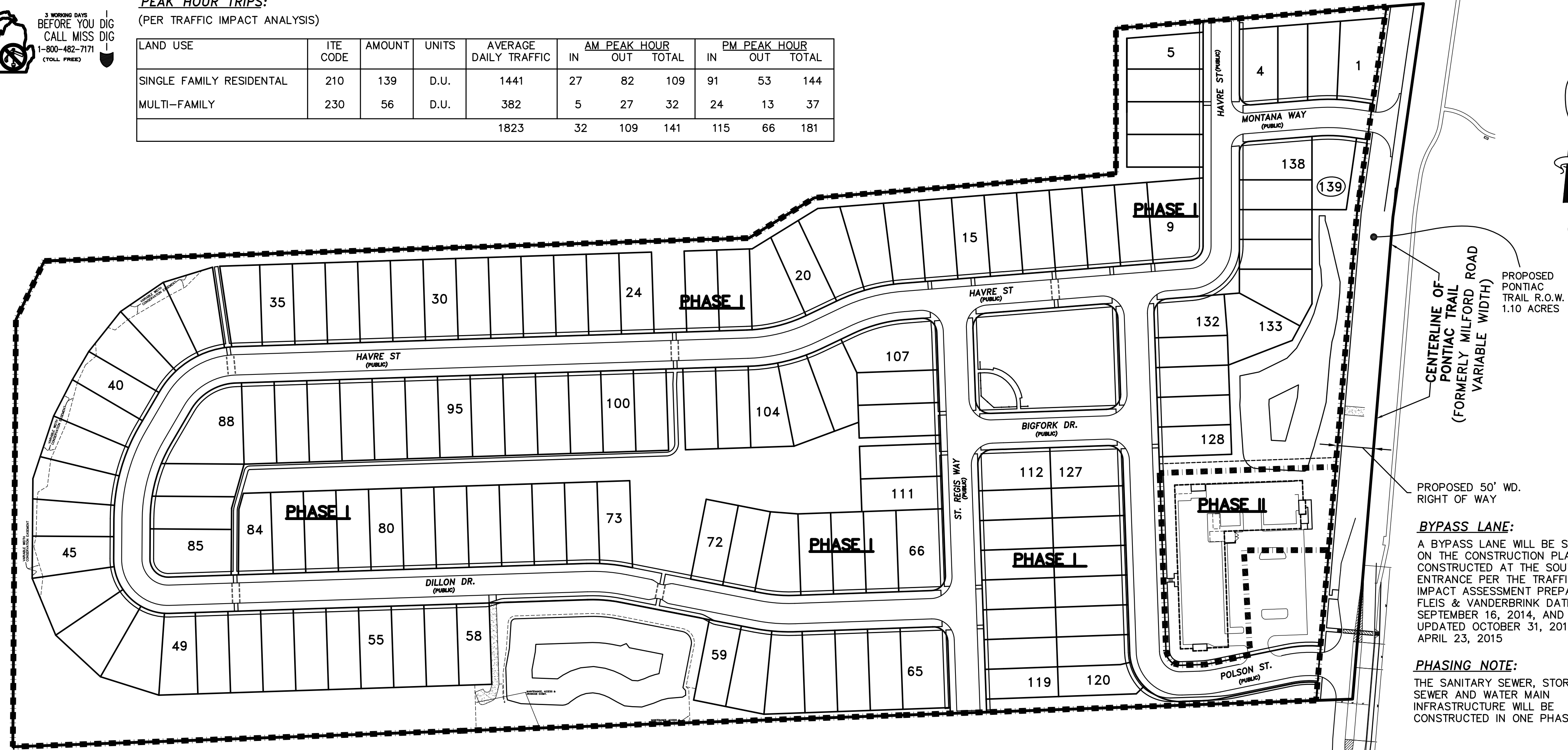
LEGEND



PEAK HOUR TRIPS:

(PER TRAFFIC IMPACT ANALYSIS)

LAND USE	ITE CODE	AMOUNT	UNITS	AVERAGE DAILY TRAFFIC	AM PEAK HOUR			PM PEAK HOUR		
					IN	OUT	TOTAL	IN	OUT	TOTAL
SINGLE FAMILY RESIDENTIAL	210	139	D.U.	1441	27	82	109	91	53	144
MULTI-FAMILY	230	56	D.U.	382	5	27	32	24	13	37
				1823	32	109	141	115	66	181



PROPOSED PONTIAC TRAIL R.O.W. 1.10 ACRES

CENTERLINE OF PONTIAC TRAIL (FORMERLY MILFORD ROAD VARIABLE WIDTH)

PROPOSED 50' WD. RIGHT OF WAY

BYPASS LANE:
A BYPASS LANE WILL BE SHOWN ON THE CONSTRUCTION PLANS AND CONSTRUCTED AT THE SOUTHERLY ENTRANCE PER THE TRAFFIC IMPACT ASSESSMENT PREPARED BY FLEIS & VANDERBRINK DATED SEPTEMBER 16, 2014, AND UPDATED OCTOBER 31, 2014 & APRIL 23, 2015

PHASING NOTE:
THE SANITARY SEWER, STORM SEWER AND WATER MAIN INFRASTRUCTURE WILL BE CONSTRUCTED IN ONE PHASE.

NOTES:

- 1) THE DEVELOPMENT SIGN IS PROPOSED AT EACH ENTRANCE AND MUST MEET ALL REQUIREMENTS OF CHAPTER 61. SEPARATE SIGN PERMIT TO BE OBTAINED WHEN SIGN IS DESIGNED. DEVELOPMENT SIGN SHALL NOT BE PLACED IN A LOCATION THAT WOULD CREATE A SIGHT DISTANCE HAZARD.
- 2) ALL PARKING SPACES ALLOW FOR TWO (2) FEET OVERHANG BEYOND CURB.
- 3) "NO PARKING - FIRE LANE" SIGNS SHALL BE LOCATED ON ALL DRIVE/ROAD AREAS AND ARE TO BE LOCATED WITH FIRE DEPARTMENT CONSULTATION PRIOR TO CERTIFICATE OF OCCUPANCY (CO) BEING ISSUED.
- 4) TRASH COLLECTION FOR THE PROPOSED SINGLE FAMILY UNITS TO BE GARAGE KEPT ROLL AWAY BINS WITH CURB SIDE COLLECTION. TRASH COLLECTION FOR THE MULTI-FAMILY BUILDING TO BE AN ENCLOSED GROUND LEVEL COMPACTOR BENEATH PROPOSED BUILDING. FULL DUMPSTER CONTAINERS TO BE MANUALLY MOVED TO THE EXTERIOR ENCLOSURE AREA ADJACENT TO THE BUILDING ON THE DEDICATED RUBISH REMOVAL DAY. THE EXTERIOR AND INTERIOR ENCLOSURE AREAS TO BE SCREENED FROM PUBLIC VIEW.
- 5) SITE LIGHTING TO BE PROVIDED VIA A WALL MOUNTED COACH LIGHT ON EACH BUILDING ADJACENT TO THE GARAGE DOORS. SAID LIGHTING TO BE CONTROLLED BY THE INDIVIDUAL HOMEOWNERS. INDIVIDUAL LIGHT POLES TO BE LOCATED AT THE DEVELOPMENT ENTRANCES, AT THE INTERNAL PARK AND AT STREET INTERSECTIONS.
- 6) ALL DIMENSIONS ARE TO BACK OF CURB, FACE OF INTEGRAL CURB AND WALK OR EDGE OF MATERIAL UNLESS OTHERWISE NOTED.
- 7) ALL IMPROVEMENTS ARE TO BE PARALLEL OR PERPENDICULAR TO THE SOUTH PROPERTY LINE UNLESS OTHERWISE NOTED.
- 8) PER CHAPTER 49, SECTION 4:58 OF THE CITY CODE, "ALL SIDEWALKS ARE TO BE KEPT AND MAINTAINED IN GOOD REPAIR BY THE OWNER OF THE LAND ADJACENT TO AND ABUTTING THE SAME." PRIOR TO ISSUANCE OF OCCUPANCY FOR THIS SITE, ALL EXISTING SIDEWALKS IN NEED OF REPAIR MUST BE REPAIRED IN ACCORDANCE WITH CITY STANDARDS.
- 9) SEE TRAFFIC IMPACT ANALYSIS MEMO AS PREPARED BY FLEIS & VANDERBRINK DATED SEPTEMBER 16, 2014 AND UPDATED ON OCTOBER 1, 2014 AND APRIL 23, 2015 FOR REQUIRED TRAFFIC IMPROVEMENTS.
- 10) THE MAINTENANCE OF ALL STREET ISLANDS/BOULEVARDS IS THE RESPONSIBILITY OF THE HOMEOWNER'S ASSOCIATION.
- 11) SIDEWALKS CONSTRUCTED IN THE PUBLIC RIGHT-OF-WAY SHALL MEET ALL REQUIREMENTS AND GUIDELINES AS SET FORTH IN THE ADA STANDARDS FOR ACCESSIBLE DESIGN. DETAILED CONSTRUCTION PLANS FOR THE NEW SIDEWALK, INCLUDING BOTH LONGITUDINAL AND TRANSVERSE GRADES. DETAILED CONSTRUCTION PLANS INCLUDING SIDEWALK RAMP DETAILS, MUST BE SUBMITTED TO THE PROJECT MANAGEMENT SERVICES UNIT FOR FINAL CONSTRUCTION PLAN REVIEW AND APPROVAL. ANY DETAILS CONCERNING GRADES WILL NEED TO BE WORKED OUT DURING THE SITE PLAN STAGE IN ORDER TO GAIN GRADING PLAN APPROVAL.

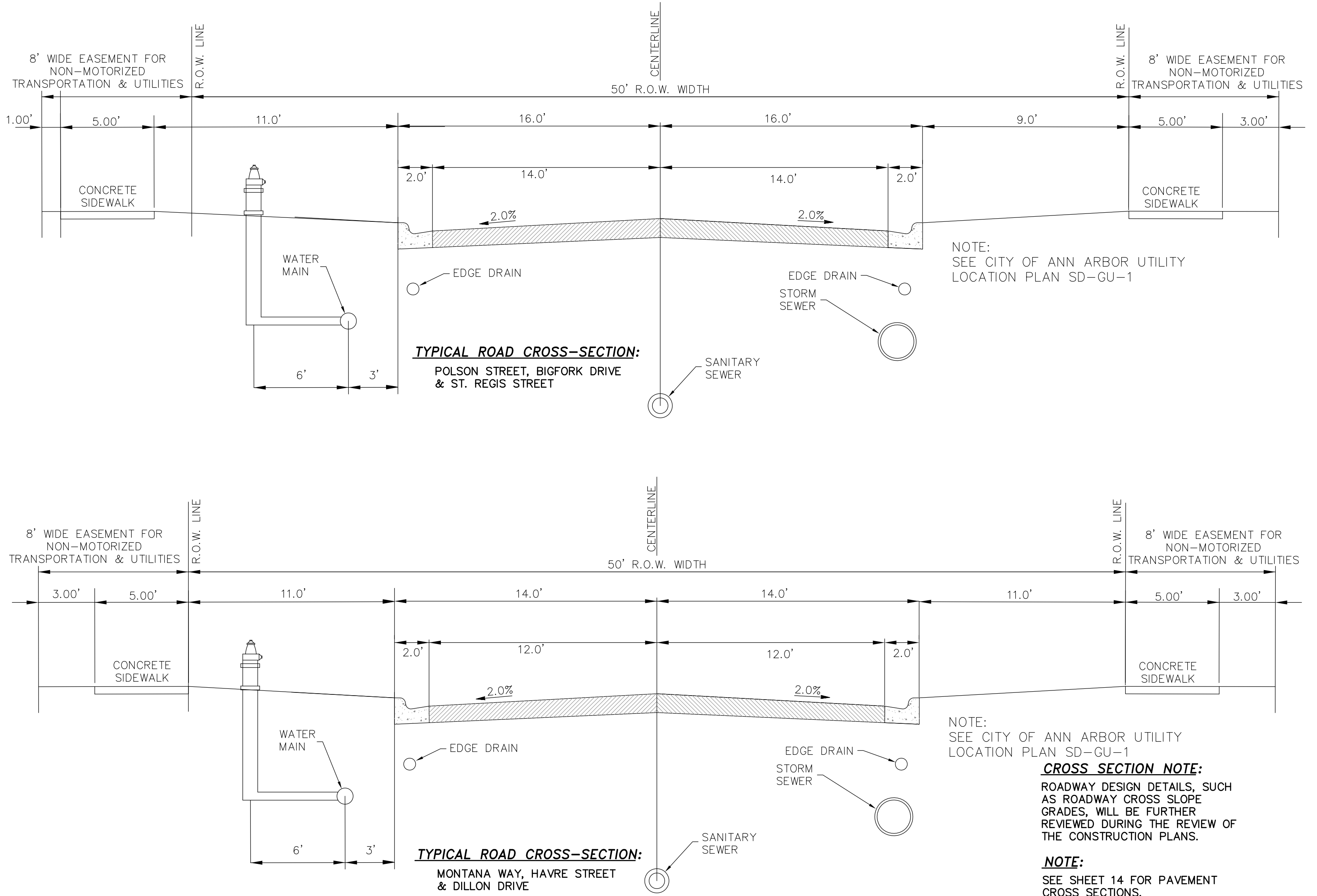
FIRE DEPARTMENT SEQUENCING NOTES:

HYDRANTS PROVIDING PROTECTION COVERAGE FOR THE BUILDINGS MUST BE IN SERVICE AND APPROVED BY BOTH ENGINEERING AND FIRE DEPARTMENT BEFORE FIRE DEPARTMENT WILL SUPPORT PERMIT ISSUANCE FOR NEW CONSTRUCTION PHASES AND BEFORE COMBUSTIBLE MATERIALS ARE PLACED ON THE JOB SITE.

STORAGE AREAS FOR BUILDING CONSTRUCTION MATERIALS MUST BE APPROVED SO AS NOT TO INTERFERE WITH FIRE/EMERGENCY SITE ACCESS.

IF SITE ACCESS IS RESTRICTED DURING CONSTRUCTION, A KNOX BOX LOCK FOR THE GATE IS TO BE PROVIDED

MINIMUM FIRE FLOW OF 1000 GAL/MINUTE AT 20 PSI IS REQUIRED (SINGLE FAMILY RESIDENTIAL CONSTRUCTION UNDER 3600 SF)



GREENTECH ENGINEERING, INC.
CIVIL ENGINEERS & LAND SURVEYORS
51111 W. Pontiac Trail, Wixom, MI 48393
Phone: (248) 668-0700 Fax: (248) 668-0701

811
Know what's below
Call before you dig.

OVERALL LAYOUT AND PHASING PLAN

CLIENT: TROWBRIDGE DEVELOPMENT

SECTION: 16

TOWNSHIP: 2 S

RANGE: 6 E

CITY OF ANN ARBOR

WASHTENAW COUNTY MICHIGAN

REVISED

2-2-16 PER CITY
11-19-15 PER CITY
10-1-15 PER CITY REVIEW
8-24-15 PER CITY REVIEW
8-4-15 PER CITY REVIEW
7-7-15 PER CITY REVIEW
4-28-15 PER CITY REVIEW
4-6-15 ENGINEERING REVIEW
3-2-15 UPDATED PLAN
1-21-15 PER CITY REVIEW

DATE: 9-26-14

DRAWN BY: DL

CHECKED BY:

FBK:

CHF:

SCALE HOR 1"=100 FT.
VER 1"= FT.

13-174

BENCHMARKS:

BENCHMARK NO. 1
R.R. SPIKE ON NORTH SIDE OF UTILITY POLE. EAST SIDE OF PONTIAC TRAIL AT SHOP #2710. ELEVATION=905.20

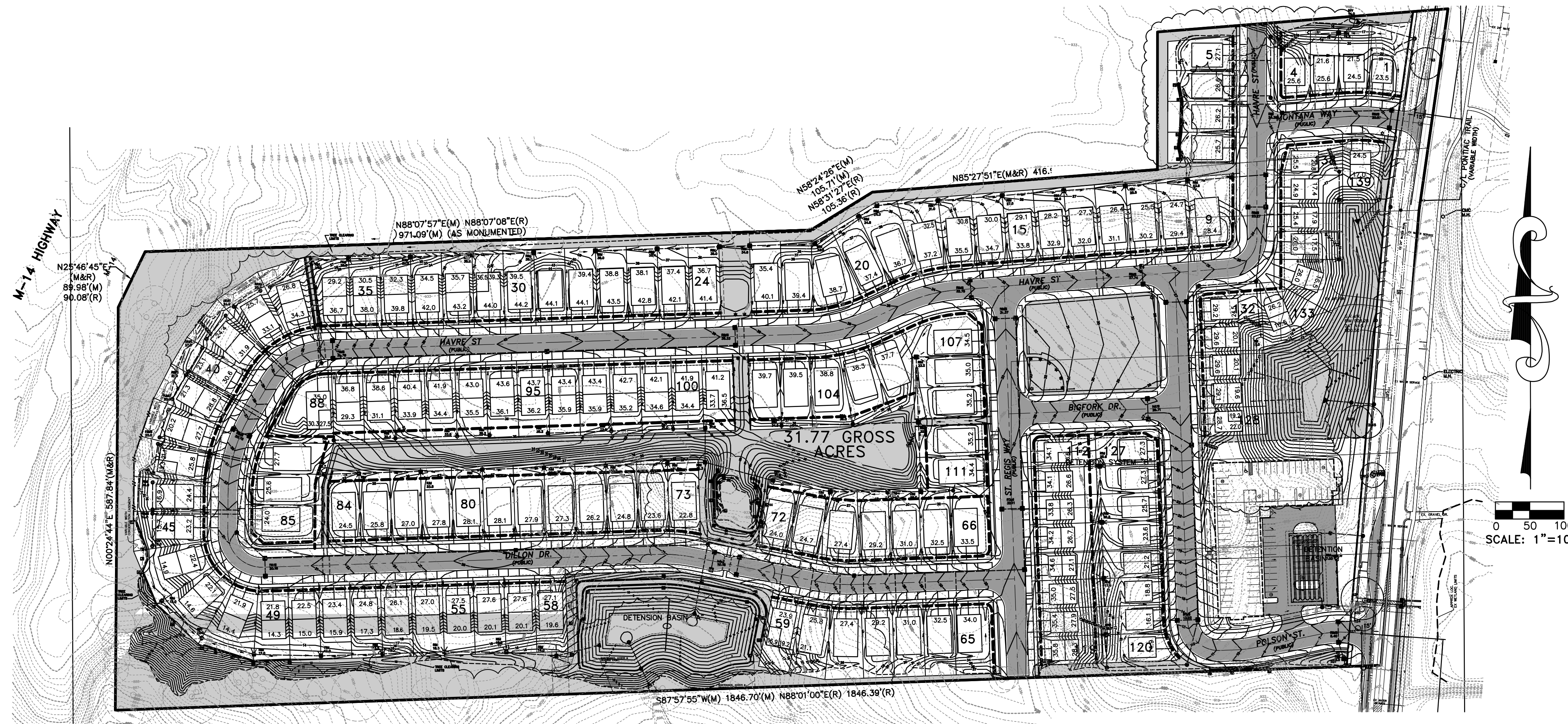
BENCHMARK NO. 2
EXISTING SPIKE ON EAST SIDE OF UTILITY POLE 33' WEST OF PONTIAC TRAIL CENTERLINE AT NORTHEAST PROPERTY CORNER OF HOUSE NO 2735 ELEVATION=918.51

BENCHMARK NO. 3
EXISTING SPIKE ON NORTH SIDE OF UTILITY POLE 510' +/- WEST OF PONTIAC TRAIL 100' +/- WEST OF SOUTHWEST PROPERTY CORNER OF HOUSE NO 2735 ELEVATION=932.95

BENCHMARK NO. 4
TOP/STEAMER VALVE HYDRANT, WEST SIDE OF PONTIAC TRAIL, NORTH SIDE OF PROPERTY TO HOUSE #2655 ELEVATION=905.90

LEGEND

---	EXISTING STORM	FF	FINISH FLOOR
---	EXISTING WATER MAIN	→	PROP. DRAINAGE ARROW
---	EXISTING SANITARY	↑	PROP. TOP OF PAVEMENT ELEV.
---	EXISTING GAS	↑	PROP. TOP OF CURB ELEV.
---	FD. IRON PIPE/ROD	↑	PROP. GUTTER ELEV.
---	UTILITY POLE	↑	PROP. TOP OF WALK ELEV.
---	EX. MANHOLE	↑	PROP. SPOT ELEV.
---	EX. CATCH BASIN	↑	PROP. CONTOUR
---	EX. CLEAN OUT	↑	PROP. CATCH BASIN
---	EX. HYDRANT	↑	PROP. MANHOLE
---	EX. WATER SHUTOFF	↑	PROP. END SECTION
---	EX. SIGN	↑	PROP. STORM SEWER
---	PRO. LIGHT POLE	↑	PROP. SANITARY SEWER
---	PRO. BOLLARD LIGHT	↑	PROP. WATER MAIN
---	EX. MAILBOX	↑	PROP. GATE VALVE
---	EX. SIGNAL POLE	↑	PROP. HYDRANT
○		○	PROP. SAN. STR. NUMBER
○		○	PROP. STM. STR. NUMBER
○		○	PROP. GATE VALVE NUMBER
○		○	PROP. HYDRANT NUMBER



GREENTECH ENGINEERING, INC.
CIVIL ENGINEERS & LAND SURVEYORS
51111 W. Pontiac Trail, Wixom, MI 48393
Phone: (248) 668-0700 Fax: (248) 668-0701

811
Know what's below
Call before you dig.

OVERALL GRADING PLAN
TROWBRIDGE DEVELOPMENT
NORTHSHIRE DEVELOPMENT
TOWNSHIP: 2 S
CITY OF ANN ARBOR
WASHTENAW COUNTY MICHIGAN
SECTION: 21
RANGE 6 E

28" Middle Block Calculations for SRWall

Concrete (143pcf)
Volume (Vc) --> 11.40 cf (from block specifications charts)
Center of Gravity (COGc) --> 14.18 in (from block specifications charts)
Total Weight (Pc) --> 1630 lbs
 $P_c = (11.40 \text{ ft}^3)(143 \text{ lbs/ft}^3) = 1630 \text{ lbs}$

Soil (100pcf)
Volume (Vs) --> 0.77 cf
 $V_s = (0.5(3.2 \text{ in})(23 \text{ in})(18 \text{ in})) \times [(1 \text{ ft}^3) / (1728 \text{ in}^3)] \times 2 \text{ sides} = 0.77 \text{ cf}$
Center of Gravity (COGs) --> 7.67 in
 $COGs = (23 \text{ in})(1/3) = 7.67 \text{ in}$
Total Weight (Ps) --> 77 lbs
 $P_s = (0.77 \text{ ft}^3)(100 \text{ lbs/ft}^3) = 77 \text{ lbs}$

Force Calculations
 $\Sigma F_x = 0$
 $\Sigma F_y = P - P_c - P_s = 0$
 $P = (1630 \text{ lbs}) + (77 \text{ lbs}) = 1707 \text{ lbs}$
 $P = 1707 \text{ lbs}$

$\Sigma M_a = P_c(COG_c) + P_s(COG_s) - P(COG) = 0$
 $COG = [(1630 \text{ lbs})(14.18 \text{ in}) + (77 \text{ lbs})(7.67 \text{ in})] / (1707 \text{ lbs}) = COG$
 $COG = [(23113.4 \text{ lb-in}) + (590.59 \text{ lb-in})] / (1707 \text{ lbs}) = 13.89 \text{ in}$
 $SRWall COG = (27.75 \text{ in}) - (13.89 \text{ in}) = 13.86 \text{ in}$

For SRWall data, center of gravity = 13.86 inches from the front face

41" Middle Block Calculations for SRWall

Concrete (143pcf)
Volume (Vc) --> 18.44 cf (from block specifications charts)
Center of Gravity (COGc) --> 20.92 in (from block specifications charts)
Total Weight (Pc) --> 2351 lbs
 $P_c = (18.44 \text{ ft}^3)(128 \text{ lbs/ft}^3) = 2351 \text{ lbs}$

Soil (100pcf)
Volume (Vs) --> 1.88 cf
 $V_s = (0.5(5 \text{ in})(36 \text{ in})(18 \text{ in})) \times [(1 \text{ ft}^3) / (1728 \text{ in}^3)] \times 2 \text{ sides} = 1.88 \text{ cf}$
Center of Gravity (COGs) --> 12.00 in
 $COGs = (36 \text{ in})(1/3) = 12.00 \text{ in}$
Total Weight (Ps) --> 188 lbs
 $P_s = (1.88 \text{ ft}^3)(100 \text{ lbs/ft}^3) = 188 \text{ lbs}$

Force Calculations
 $\Sigma F_x = 0$
 $\Sigma F_y = P - P_c - P_s = 0$
 $P = (2351 \text{ lbs}) + (188 \text{ lbs}) = 2539 \text{ lbs}$
 $P = 2539 \text{ lbs}$

$\Sigma M_a = P_c(COG_c) + P_s(COG_s) - P(COG) = 0$
 $COG = [(2351 \text{ lbs})(20.92 \text{ in}) + (188 \text{ lbs})(12.00 \text{ in})] / (2539 \text{ lbs}) = COG$
 $COG = [(49182.92 \text{ lb-in}) + (2256 \text{ lb-in})] / (2539 \text{ lbs}) = 20.28 \text{ in}$
 $SRWall COG = (40.75 \text{ in}) - (20.28 \text{ in}) = 20.49 \text{ in}$

For SRWall data, center of gravity = 20.49 inches from the front face

TYPICAL GRAVITY WALL 28" GRAVITY BLOCK
"Drawing Not to Scale"

TYPICAL GRAVITY WALL 41" GRAVITY BLOCK
"Drawing Not to Scale"



NOTE:
THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AS DISCLOSED BY AVAILABLE UTILITY COMPANY RECORDS AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE COMPANY. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY IF A CONFLICT IS APPARENT.

Redi-Rock International	28" Middle Calcs
DATE: 08/20/2024	SCALE: 1" = 1' 0"

Redi-Rock International	41" Middle Calcs
DATE: 08/20/2024	SCALE: 1" = 1' 0"

RETAINING WALL DETAILS:

REVISIONS

11-19-15 PER CITY	
10-1-15 PER CITY REVIEW	
8-24-15 PER CITY REVIEW	
8-4-15 PER CITY REVIEW	
7-7-15 PER CITY REVIEW	
4-28-15 PER CITY REVIEW	
4-6-15 ENGINEERING REVIEW	
3-2-15 UPDATED PLAN	
1-21-15 PER CITY REVIEW	

DATE: 9-26-14
DRAWN BY: DL
CHECKED BY:
SCALE: HOR 1"=100 FT. VER 1"=10 FT.

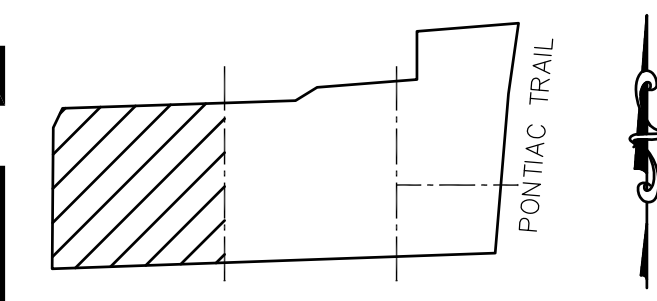
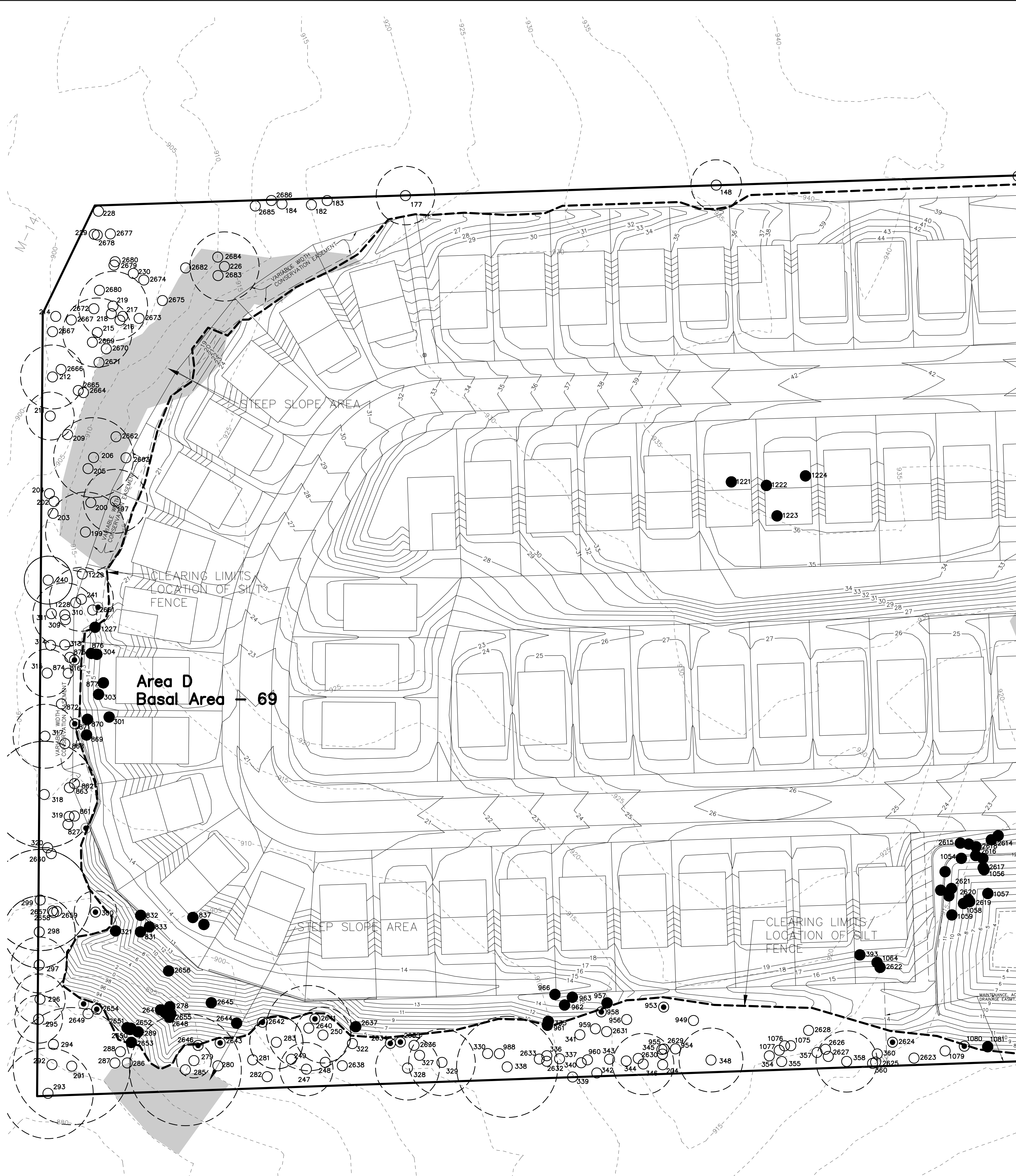
U:\13-174(dwg)\Preliminary Site Plan\13-17 Grading Plan.dwg, 13 Overall Grading Plan

TAG	LMK	SIZE	TYPE	STATUS	REGULATED	REQUIRED REPLACEMENTS
3		14"	Pignut Hickory	Remove	Yes	7
4		12"	Black Walnut	Remove	Yes	8
5	Yes	20"	Black Walnut	Remove	Yes	10
11		18"	Box Elder	Remove	Yes	6
12		14"	Box Elder	Remove	Yes	6
15		18"	Box Elder	Remove	Yes	6
16		18"	Box Elder	Remove	Yes	6
17		18"	Box Elder	Remove	Yes	6
18	Yes	20"	Blue Spruce	Remove	Yes	10
19		18"	Blue Spruce	Remove	Yes	10
20		18"	Blue Spruce	Remove	Yes	10
21	Yes	20"	Silver Maple	Remove	Yes	14
23		18"	Blue Spruce	Remove	Yes	10
24		13"	Blue Spruce	Remove	Yes	10
25		18"	Blue Spruce	Remove	Yes	10
26		18"	Blue Spruce	Remove	Yes	10
27	Yes	20"	Black Walnut	Remove	Yes	10
28		18"	Black Walnut	Remove	Yes	10
29		16"	Silver Maple	Remove	Yes	10
30		18"	Silver Maple	Remove	Yes	10
32		14"	DEAD	Remove	Yes	10
33	Yes	20"	Pignut Hickory	Remove	Yes	10
34		18"	Red Maple	Remove	Yes	10
135		16"	Black Walnut	Remove	Yes	8
148	Yes	19"	Black Walnut	Remove	Yes	8
177	Yes	22"	Black Walnut	Remove	Yes	8
182	12"	Black Walnut	Remove	Yes	8	
183	12"	Black Walnut	Remove	Yes	8	
184	12"	Swamp White Oak	Remove	Yes	8	
197	Yes	24"	Cottonwood	Remove	By City	0
199	Yes	30"	Cottonwood	Remove	By City	0
200	11"	Cottonwood	Remove	By City	0	
201		DEAD	Remove	By City	0	
202		Black Cherry	Remove	By City	0	
203		Black Walnut	Remove	By City	0	
204		Black Walnut	Remove	By City	0	
205		Black Walnut	Remove	By City	0	
206	Yes	30"	Cottonwood	Remove	By City	0
207		DEAD	Remove	By City	0	
208		White Oak	Remove	By City	0	
209		Black Walnut	Remove	By City	0	
211	Yes	18"	Red Oak	Remove	By City	0
212	Yes	24"	Black Walnut	Remove	By City	0
213		DEAD	Remove	By City	0	
214		Black Walnut	Remove	By City	0	
215	215		Black Walnut	Remove	By City	0
216	216		Black Walnut	Remove	By City	0
217	217		Black Walnut	Remove	By City	0
218	218		Black Walnut	Remove	By City	0
219	219		Black Walnut	Remove	By City	0
220	220		Black Walnut	Remove	By City	0
221	221		Black Walnut	Remove	By City	0
222	222		Black Walnut	Remove	By City	0
223	223		Black Walnut	Remove	By City	0
224	224		Black Walnut	Remove	By City	0
225	225		Black Walnut	Remove	By City	0
226	226		Black Walnut	Remove	By City	0
227	227		Black Walnut	Remove	By City	0
228	228		Black Walnut	Remove	By City	0
229	229		Black Walnut	Remove	By City	0
230	230		Black Walnut	Remove	By City	0
241	Yes	24"	Cottonwood	Remove	By City	0
242	Yes	20"	Pignut Hickory	Remove	By City	0
243	Yes	11"	Red Oak	Remove	By City	0
244	Yes	11"	Red Oak	Remove	By City	0
245	Yes	11"	Red Oak	Remove	By City	0
246	Yes	11"	Red Oak	Remove	By City	0
247	Yes	11"	Red Oak	Remove	By City	0
248	Yes	11"	Red Oak	Remove	By City	0
249	Yes	11"	Red Oak	Remove	By City	0
250	Yes	11"	Red Oak	Remove	By City	0
251	Yes	11"	Red Oak	Remove	By City	0
252	Yes	11"	Red Oak	Remove	By City	0
253	Yes	11"	Red Oak	Remove	By City	0
254	Yes	11"	Red Oak	Remove	By City	0
255	Yes	11"	Red Oak	Remove	By City	0
256	Yes	11"	Red Oak	Remove	By City	0
257	Yes	11"	Red Oak	Remove	By City	0
258	Yes	11"	Red Oak	Remove	By City	0
259	Yes	11"	Red Oak	Remove	By City	0
260	Yes	11"	Red Oak	Remove	By City	0
261	Yes	11"	Red Oak	Remove	By City	0
262	Yes	11"	Red Oak	Remove	By City	0
263	Yes	11"	Red Oak	Remove	By City	0
264	Yes	11"	Red Oak	Remove	By City	0
265	Yes	11"	Red Oak	Remove	By City	0
266	Yes	11"	Red Oak	Remove	By City	0
267	Yes	11"	Red Oak	Remove	By City	0
268	Yes	11"	Red Oak	Remove	By City	0
269	Yes	11"	Red Oak	Remove	By City	0
270	Yes	11"	Red Oak	Remove	By City	0
271	Yes	11"	Red Oak	Remove	By City	0
272	Yes	11"	Red Oak	Remove	By City	0
273	Yes	11"	Red Oak	Remove	By City	0
274	Yes	11"	Red Oak	Remove	By City	0
275	Yes	11"	Red Oak	Remove	By City	0
276	Yes	11"	Red Oak	Remove	By City	0
277	Yes	11"	Red Oak	Remove	By City	0
278	Yes	11"	Red Oak	Remove	By City	0
279	Yes	11"	Red Oak	Remove	By City	0
280	Yes	11"	Red Oak	Remove	By City	0
281	Yes	11"	Red Oak	Remove	By City	0
282	Yes	11"	Red Oak	Remove	By City	0
283	Yes	11"	Red Oak	Remove	By City	0
284	Yes	11"	Red Oak	Remove	By City	0
285	Yes	11"	Red Oak	Remove	By City	0
286	Yes	11"	Red Oak	Remove	By City	0
287	Yes	11"	Red Oak	Remove	By City	0
288	Yes	11"	Red Oak	Remove	By City	0
289	Yes	11"	Red Oak	Remove	By City	0
290	Yes	11"	Red Oak	Remove	By City	0
291	Yes	11"	Red Oak	Remove	By City	0
292	Yes	11"	Red Oak	Remove	By City	0
293	Yes	11"	Red Oak	Remove	By City	0
294	Yes	11"	Red Oak	Remove	By City	0
295	Yes	11"	Red Oak	Remove	By City	0
296	Yes	11"	Red Oak	Remove	By City	0
297	Yes	11"	Red Oak	Remove	By City	0
298	Yes	11"	Red Oak	Remove	By City	0
299	Yes	11"	Red Oak	Remove	By City	0
300	Yes	11"	Red Oak	Remove	By City	0
301	Yes	11"	Red Oak	Remove	By City	0
302	Yes	11"	Red Oak	Remove	By City	0
303	Yes	11"	Red Oak	Remove	By City	0
304	Yes	11"	Red Oak	Remove	By City	0
305	Yes	11"	Red Oak	Remove	By City	0
306	Yes	11"	Red Oak	Remove	By City	0
307	Yes	11"	Red Oak	Remove	By City	0
308	Yes	11"	Red Oak	Remove	By City	0
309	Yes	11"	Red Oak	Remove	By City	0
310	Yes	11"	Red Oak	Remove	By City	0
311	Yes	11"	Red Oak	Remove	By City	0
312	Yes	11"	Red Oak	Remove	By City	0
313	Yes	11"	Red Oak	Remove	By City	0
314	Yes	11"	Red Oak	Remove	By City	0
315	Yes	11"	Red Oak	Remove	By City	0
316	Yes	11"	Red Oak	Remove	By City	0
317	Yes	11"	Red Oak	Remove	By City	0
318	Yes	11"	Red Oak	Remove	By City	0
319	Yes	11"	Red Oak	Remove	By City	0
320	Yes	11"	Red Oak	Remove	By City	0
321	Yes	11"	Red Oak	Remove	By City	0
322	Yes	11"	Red Oak	Remove	By City	0
323	Yes	11"	Red Oak	Remove	By City	0
324	Yes	11"	Red Oak	Remove	By City	0
325	Yes	11"	Red Oak	Remove	By City	0
326	Yes	11"	Red Oak	Remove	By City	0
327	Yes	11"	Red Oak	Remove	By City	0
328	Yes	11"	Red Oak	Remove	By City	0
329	Yes	11"	Red Oak	Remove	By City	0
330	Yes	11"	Red Oak	Remove	By City	0
331	Yes	11"	Red Oak	Remove	By City	0
332	Yes	11"	Red Oak	Remove	By City	0
333	Yes	11"	Red Oak	Remove	By City	0
334	Yes	11"	Red Oak	Remove	By City	0
335	Yes	11"	Red Oak	Remove	By City	0
336	Yes	11"	Red Oak	Remove	By City	0
337	Yes	11"	Red Oak	Remove	By City	0
338	Yes	11"	Red Oak	Remove	By City	0
339	Yes	11"	Red Oak	Remove	By City	0
340	Yes	11"	Red Oak	Remove	By City	0
341	Yes	11"	Red Oak	Remove	By City	0
342	Yes	11"	Red Oak	Remove	By City	0
343	Yes	11"	Red Oak	Remove	By City	0
344	Yes	11"	Red Oak	Remove	By City	0
345	Yes	11"	Red Oak	Remove	By City	0
346	Yes	11"	Red Oak	Remove	By City	0
347	Yes	11"	Red Oak	Remove	By City	0
348	Yes	11"	Red Oak	Remove	By City	0
349	Yes	11"	Red Oak	Remove	By City	0
350	Yes	11"	Red Oak	Remove	By City	0
351	Yes	11"	Red Oak	Remove	By City	0
352	Yes	11"	Red Oak	Remove	By City	0
353	Yes	11"	Red Oak	Remove	By City	0
354	Yes	11"	Red Oak	Remove	By City	0
355	Yes	11"	Red Oak	Remove	By City	0
356	Yes	11"	Red Oak	Remove	By City	0
357	Yes	11"	Red Oak	Remove	By City	0
358	Yes	11"	Red Oak	Remove	By City	0
359	Yes	11"	Red Oak	Remove	By City	0
360	Yes	11"	Red Oak	Remove	By City	0
370	-	DEAD	Remove	By City	0	
371	-	DEAD	Remove	By City	0	
372	-	DEAD	Remove	By City	0	
373	-	DEAD	Remove	By City	0	
374	-	DEAD	Remove	By City	0	
375	-	DEAD	Remove	By City	0	
376	-	DEAD	Remove	By City	0	
377	-	DEAD	Remove	By City	0	
378	-	DEAD	Remove	By City	0	
379	-	DEAD	Remove	By City	0	
380	-	DEAD	Remove	By City	0	
401	16"	Black Locust	Remove	Yes	8	
402	12"	Black Cherry	Remove	Yes	6	
403	13"	Black Cherry	Remove	Yes	7	
404	12"	Black Cherry	Remove	Yes	6	
405	12"	Black Cherry	Remove	Yes	6	
406	12"	Black Cherry	Remove	Yes	6	
407	18"	Black Cherry	Remove	Yes	6	
408	19"	Black Locust	Remove	Yes	9	
409	18"	Black Locust	Remove	Yes	9	
410	12"	Black Cherry	Remove	Yes	6	
411	12"	Black Cherry	Remove	Yes	6	
412	12"	Black Cherry	Remove	Yes	6	
413	14"	Black Cherry	Remove	Yes	7	
414	12"	Black Cherry	Remove	Yes	6	
415	12"	Black Cherry	Remove	Yes	6	
420		DEAD	Remove	Yes	6	
421		DEAD	Remove	Yes	6	
423		Black Cherry	Remove	Yes	6	
424		Black Cherry	Remove	Yes	6	
425	Yes	16"	Red Oak	Remove	Yes	8
426	Yes	12"	White Oak	Remove	Yes	6
429		DEAD	Remove	Yes	6	
430		DEAD	Remove	Yes	6	
431		DEAD	Remove	Yes	6	
432		DEAD	Remove	Yes	6	
433		DEAD	Remove	Yes	6	
434	Yes	18"	Black Oak	Remove	Yes	8
435	Yes	21"	Black Cherry	Remove	Yes	14
437		DEAD	Remove	Yes	6	
438		Black Cherry	Remove	Yes	6	
439		Black Cherry	Remove	Yes	6	
440	Yes	25"	Shagbark Hickory	Remove	Yes	17
441	16"	White Ash	Remove	Yes	8	

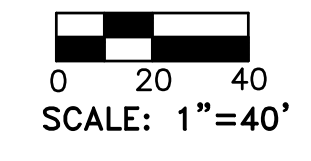
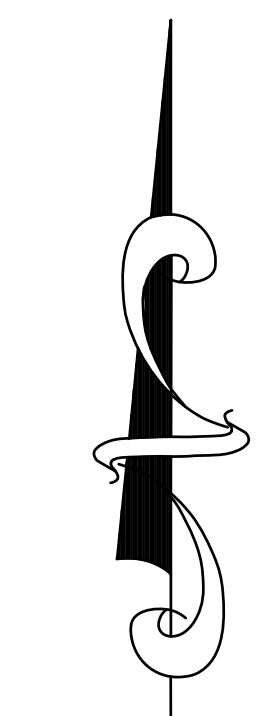
TAG	LMK	SIZE	TYPE	STATUS	REGULATED	REQUIRED REPLACEMENTS
446		12"	Red Maple	Remove	Yes	6
447		12"	Red Maple	Remove	Yes	6
448		12"	Red Maple	Remove	Yes	6
449		12"	Red Maple	Remove	Yes	6
451		12"	Red Maple	Remove	Yes	6
452		15"	Black Oak	Remove	Yes	6
453		15"	Black Oak	Remove	Yes	6
454		12"	Pignut Hickory	Remove	Yes	6
455		12"	Pignut Hickory	Remove	Yes	6
456		12"	Pignut Hickory	Remove	Yes	6
457		12"	Pignut Hickory	Remove	Yes	6
458		12"	Pignut Hickory	Remove	Yes	6
459		12"	Pignut Hickory	Remove	Yes	6
460		12"	Pignut Hickory	Remove	Yes	6
461		12"	Pignut Hickory	Remove	Yes	6
462		12"	Pignut Hickory	Remove	Yes	6
463		12"	Pignut Hickory	Remove	Yes	6
464		12"	Pignut Hickory	Remove		

BENCHMARKS:

- BENCHMARK NO. 1**
R.R. SPIKE ON NORTH SIDE OF UTILITY POLE. EAST SIDE OF PONTIAC TRAIL AT SHOP #2710. ELEVATION=918.51
- BENCHMARK NO. 2**
EXISTING SPIKE ON EAST SIDE OF UTILITY POLE 33' WEST OF PONTIAC TRAIL CENTERLINE AT NORTHEAST PROPERTY CORNER OF HOUSE NO 2735 ELEVATION=918.51
- BENCHMARK NO. 3**
EXISTING SPIKE ON NORTH SIDE OF UTILITY POLE 510'+/- WEST OF PONTIAC TRAIL 100'+/- WEST OF SOUTHWEST PROPERTY CORNER OF HOUSE NO 2735 ELEVATION=932.95
- BENCHMARK NO. 4**
TOP/STEAMER VALVE HYDRANT, WEST SIDE OF PONTIAC TRAIL, NORTH SIDE OF PROPERTY TO HOUSE #2655 ELEVATION=905.90



KEY PLAN
NO SCALE



SCALE: 1"=40'

TREE LEGEND:

- 2796 TREE REMOVAL
- 1138 FOR REMOVAL AFTER CONSTRUCTION (AS NECESSARY)
- 2187 UNDISTURBED TREES

TREE PROTECTION NOTE:

TREE PROTECTION FENCE IS TO BE PLACED AT THE EDGE OF THE CRITICAL ROOT ZONE EXCEPT AS INDICATED OTHERWISE ON THIS PLAN, AND CAN NOT BE MOVED WITHOUT CITY APPROVAL. IN NO CASE SHALL TREE PROTECTION FENCE BE PLACED CLOSER THAN 10 FEET FROM THE TRUNK OF TREES TO BE PROTECTED.

CONTRACTOR TO REMOVE ONLY THE TREES WITHIN THE TREE CLEARING LIMITS. SOME TREES THAT ARE LOCATED OUTSIDE THE TREE CLEARING LIMITS ARE INDICATED TO BE REMOVED FOR REPLACEMENT PURPOSES ONLY. THESE TREES ARE NOT TO BE REMOVED DURING CONSTRUCTION.

SURVEY NOTE

THE TOPOGRAPHIC SURVEY WAS PREVIOUSLY PREPARED BY OTHERS AND VERIFIED BY GREENTECH ENGINEERING, INC. IN JUNE 2014.

THE TREE SURVEY WAS PREVIOUSLY PREPARED BY OTHERS AND VERIFIED BY GREENTECH ENGINEERING, INC. IN JUNE 2014.



NOTE:
THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AS DISCLOSED BY AVAILABLE UTILITY COMPANY RECORDS AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE COMPANY. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY IF A CONFLICT IS APPARENT.

MATCH LINE - SEE SHEET 30

RESIDENTIAL
Subdivision
Site, Condominium
Plot Plans
COMMERCIAL
Site Planning
Industrial & Multi-Unit
SURVEYING
ALTA Surveys
Boundary Surveys
Topographic Surveys
Construction Staking

GREENTECH ENGINEERING, INC.
CIVIL ENGINEERS & LAND SURVEYORS
51111 W. Pontiac Trail, Wixom, MI 48393
Phone: (248) 668-0700 Fax: (248) 668-0701

811
Know what's below
Call before you dig.

CLIENT: TROWBRIDGE DEVELOPMENT
NATURAL FEATURES OVERLAY PLAN - WEST
SECTION: 16
TOWNSHIP: 2 S
CITY OF ANN ARBOR
WASHTENAW COUNTY
MICHIGAN
RANGE 6 E

REVISED	
11-19-15 PER CITY	
10-1-15 PER CITY REVIEW	
8-24-15 PER CITY REVIEW	
8-4-15 PER CNTY REVIEW	
7-7-15 PER CITY REVIEW	
4-28-15 PER CITY REVIEW	
3-2-15 UPDATED PLAN	
1-21-15 PER CITY REVIEW	
DATE: 9-26-14	
DRAWN BY: DL	
CHECKED BY:	
FBK:	
CHF:	
SCALE: HOR 1"=40 FT. VER 1"= FT.	29 13-174

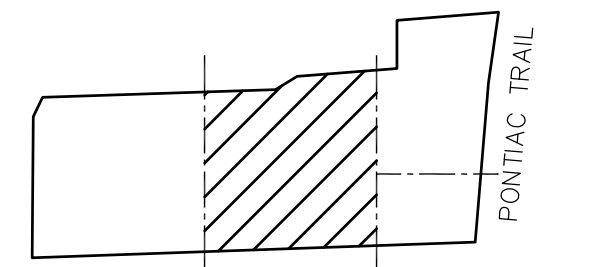
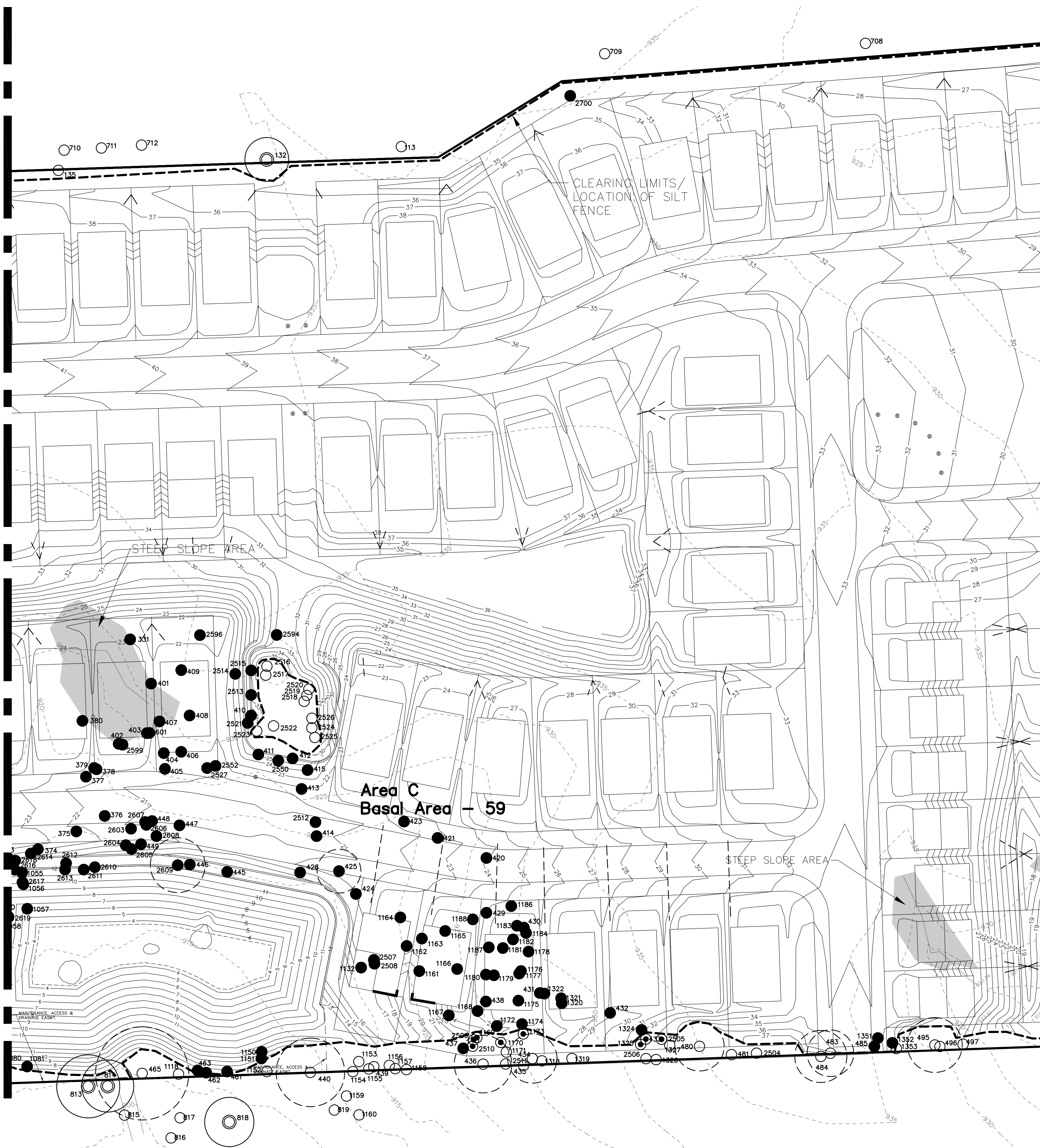
U:\13-174\dwg\Preliminary Site Plan\PSPP Drawings\28-32 Natural Features Overlay Plan.dwg, 29 Natural Features-West

BENCHMARKS:

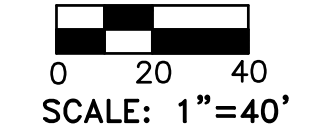
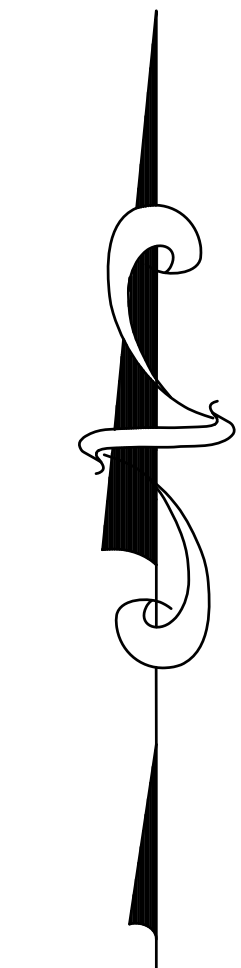
- BENCHMARK NO. 1**
R.R. SPIKE ON NORTH SIDE OF UTILITY POLE. EAST SIDE OF PONTIAC TRAIL AT SHOP #2710. ELEVATION=905.20
- BENCHMARK NO. 2**
EXISTING SPIKE ON EAST SIDE OF UTILITY POLE 33' WEST OF PONTIAC TRAIL CENTERLINE AT NORTHEAST PROPERTY CORNER OF HOUSE NO 2735. ELEVATION=918.51
- BENCHMARK NO. 3**
EXISTING SPIKE ON NORTH SIDE OF UTILITY POLE 510' +/- WEST OF PONTIAC TRAIL 100' +/- WEST OF SOUTHWEST PROPERTY CORNER OF HOUSE NO 2735. ELEVATION=932.85
- BENCHMARK NO. 4**
TOP STEAMER VALVE HYDRANT, WEST SIDE OF PONTIAC TRAIL, NORTH SIDE OF PROPERTY TO HOUSE #2655. ELEVATION=905.90

MATCH LINE - SEE SHEET 29

MATCH LINE - SEE SHEET 31



KEY PLAN
NO SCALE



SCALE: 1"=40'

TREE LEGEND:

- 2796 TREE REMOVAL
- 1138 FOR REMOVAL AFTER CONSTRUCTION (AS NECESSARY)
- 2187 UNDISTURBED TREES

SURVEY NOTE

THE TOPOGRAPHIC SURVEY WAS PREVIOUSLY PREPARED BY OTHERS AND VERIFIED BY GREENTECH ENGINEERING, INC. IN JUNE 2014.

THE TREE SURVEY WAS PREVIOUSLY PREPARED BY OTHERS AND VERIFIED BY GREENTECH ENGINEERING, INC. IN JUNE 2014.

TREE PROTECTION NOTE:

TREE PROTECTION FENCE IS TO BE PLACED AT THE EDGE OF THE CRITICAL ROOT ZONE EXCEPT AS INDICATED OTHERWISE ON THIS PLAN, AND CAN NOT BE MOVED WITHOUT CITY APPROVAL. IN NO CASE SHALL TREE PROTECTION FENCE BE PLACED CLOSER THAN 10 FEET FROM THE TRUNK OF TREES TO BE PROTECTED.

CONTRACTOR TO REMOVE ONLY THE TREES WITHIN THE TREE CLEARING LIMITS. SOME TREES THAT ARE LOCATED OUTSIDE THE TREE CLEARING LIMITS ARE INDICATED TO BE REMOVED FOR REPLACEMENT PURPOSES ONLY. THESE TREES ARE NOT TO BE REMOVED DURING CONSTRUCTION.



NOTE:
THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AS DISCLOSED BY AVAILABLE UTILITY COMPANY RECORDS AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE COMPANY. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY IF A CONFLICT IS APPARENT.

GREENTECH
ENGINEERING, INC.

CIVIL ENGINEERS & LAND SURVEYORS

51111 W. Pontiac Trail, Wixom, MI 48393
Phone: (248) 668-0700 Fax: (248) 668-0701

Know what's below
Call before you dig.

CLIENT: TROWBRIDGE DEVELOPMENT

NATURAL FEATURES OVERLAY
PLAN - CENTER

SECTION: 16

RANGE: 6 E

NORTHSHKY DEVELOPMENT
TOWNSHIP: 2 S
CITY OF ANN ARBOR
WASHTENAW COUNTY
MICHIGAN

REVISED

11-19-15 PER CITY
10-1-15 PER CITY REVIEW
8-24-15 PER CITY REVIEW
8-4-15 PER CNTY REVIEW
7-7-15 PER CITY REVIEW
4-28-15 PER CITY REVIEW
3-2-15 UPDATED PLAN
1-21-15 PER CITY REVIEW

DATE: 9-26-14

DRAWN BY: DL

CHECKED BY:

SCALE: HOR 1"=40 FT.
VER 1"= FT.

30

FBK:

CHP:

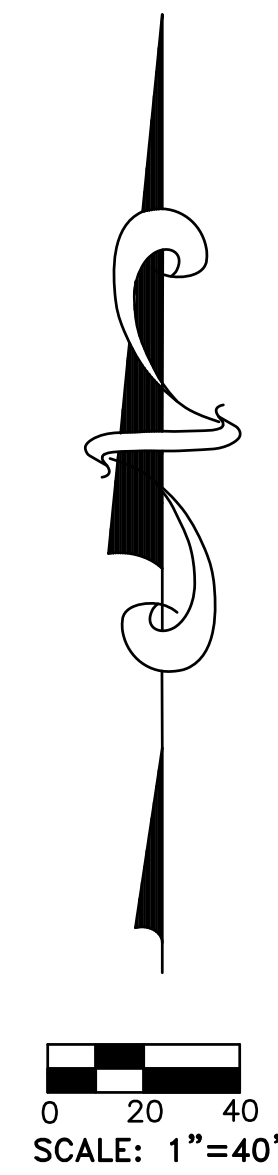
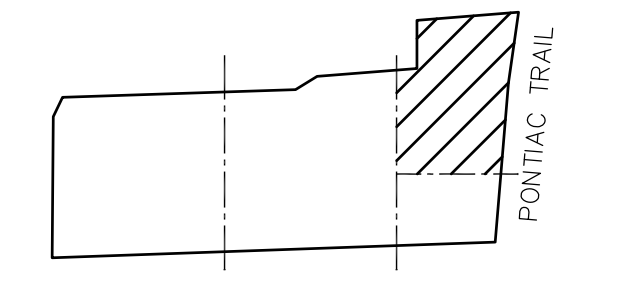
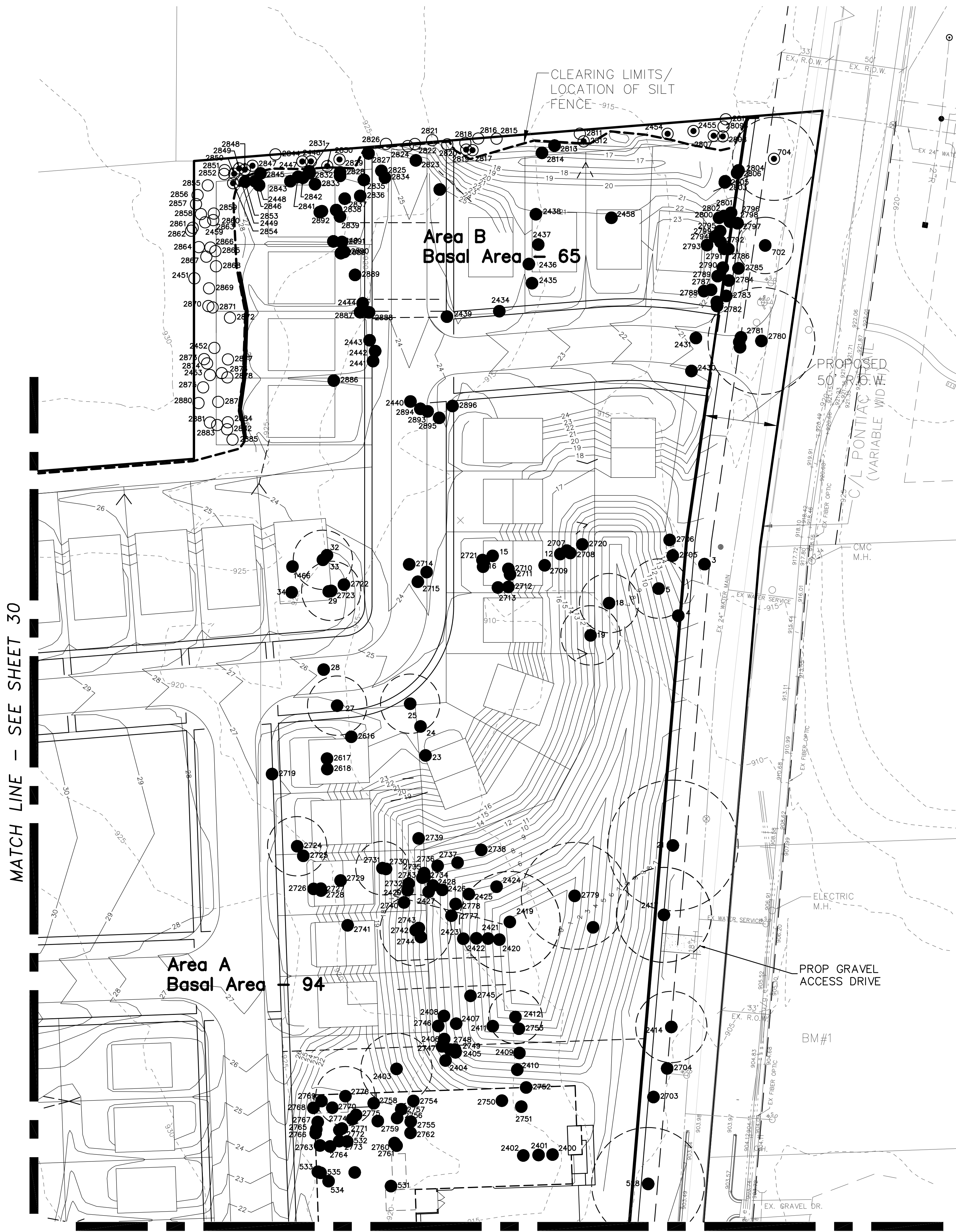
BENCHMARKS:

BENCHMARK NO. 1
R.R. SPIKE ON NORTH SIDE OF UTILITY POLE. EAST SIDE OF PONTIAC TRAIL AT SHOP #2710.
ELEVATION=905.20

BENCHMARK NO. 2
EXISTING SPIKE ON EAST SIDE OF UTILITY POLE 33' WEST OF PONTIAC TRAIL CENTERLINE AT NORTHEAST PROPERTY CORNER OF HOUSE NO 2735
ELEVATION=918.51

BENCHMARK NO. 3
EXISTING SPIKE ON NORTH SIDE OF UTILITY POLE 510' +/- WEST OF PONTIAC TRAIL 100' +/- WEST OF SOUTHWEST PROPERTY CORNER OF HOUSE NO 2735
ELEVATION=932.95

BENCHMARK NO. 4
TOP/STEAMER VALVE HYDRANT, WEST SIDE OF PONTIAC TRAIL, NORTH SIDE OF PROPERTY TO HOUSE #2655
ELEVATION=905.90



- TREE LEGEND:**
- 2796 TREE REMOVAL
 - 1138 FOR REMOVAL AFTER CONSTRUCTION (AS NECESSARY)
 - 2187 UNDISTURBED TREES

TREE PROTECTION NOTE:
TREE PROTECTION FENCE IS TO BE PLACED AT THE EDGE OF THE CRITICAL ROOT ZONE EXCEPT AS INDICATED OTHERWISE ON THIS PLAN, AND CAN NOT BE MOVED WITH OUT CITY APPROVAL. IN NO CASE SHALL TREE PROTECTION FENCE BE PLACED CLOSER THAN 10 FEET FROM THE TRUNK OF TREES TO BE PROTECTED.
CONTRACTOR TO REMOVE ONLY THE TREES WITHIN THE TREE CLEARING LIMITS. SOME TREES THAT ARE LOCATED OUTSIDE THE TREE CLEARING LIMITS ARE INDICATED TO BE REMOVED FOR REPLACEMENT PURPOSES ONLY. THESE TREES ARE NOT TO BE REMOVED DURING CONSTRUCTION.

SURVEY NOTE
THE TOPOGRAPHIC SURVEY WAS PREVIOUSLY PREPARED BY OTHERS AND VERIFIED BY GREENTECH ENGINEERING, INC. IN JUNE 2014.
THE TREE SURVEY WAS PREVIOUSLY PREPARED BY OTHERS AND VERIFIED BY GREENTECH ENGINEERING, INC. IN JUNE 2014



NOTE:
THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AS DISCLOSED BY AVAILABLE UTILITY COMPANY RECORDS AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE COMPANY. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY IF A CONFLICT IS APPARENT.

RESIDENTIAL
Site Condominium
Plot Plans
COMMERCIAL
Site Planning
Industrial & Multi-Unit
SURVEYING
ALTA Surveys
Topographic Surveys
Boundary Surveys
Construction Staking

GREENTECH ENGINEERING, INC.
CIVIL ENGINEERS & LAND SURVEYORS
51111 W. Pontiac Trail, Wixom, MI 48393
Phone: (248) 668-0700 Fax: (248) 668-0701

811
Know what's below
Call before you dig.

CLIENT: TROWBRIDGE DEVELOPMENT
NATURAL FEATURES OVERLAY PLAN - NORTH/EAST
SECTION: 16
TOWNSHIP: 2 S
CITY OF ANN ARBOR
WASHTENAW COUNTY MICHIGAN
RANGE 6 E

REVISED	
11-19-15 PER CITY	
10-1-15 PER CITY REVIEW	
8-24-15 PER CITY REVIEW	
8-4-15 PER CNTY REVIEW	
7-7-15 PER CITY REVIEW	
4-28-15 PER CITY REVIEW	
3-2-15 UPDATED PLAN	
1-21-15 PER CITY REVIEW	
DATE: 9-26-14	
DRAWN BY: DL	
CHECKED BY:	
FBK:	
CHF:	
SCALE HOR 1"=40 FT. VER 1"= 1 FT.	31 13-174

U:\13-174\dwg\Preliminary Site Plan\PSPP Drawings\28-32 Natural Features Overlay Plan.dwg, 31 Natural Features-NE

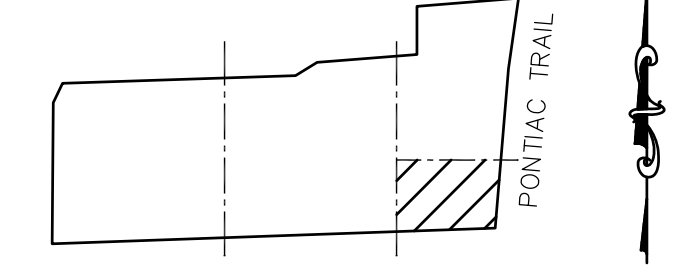
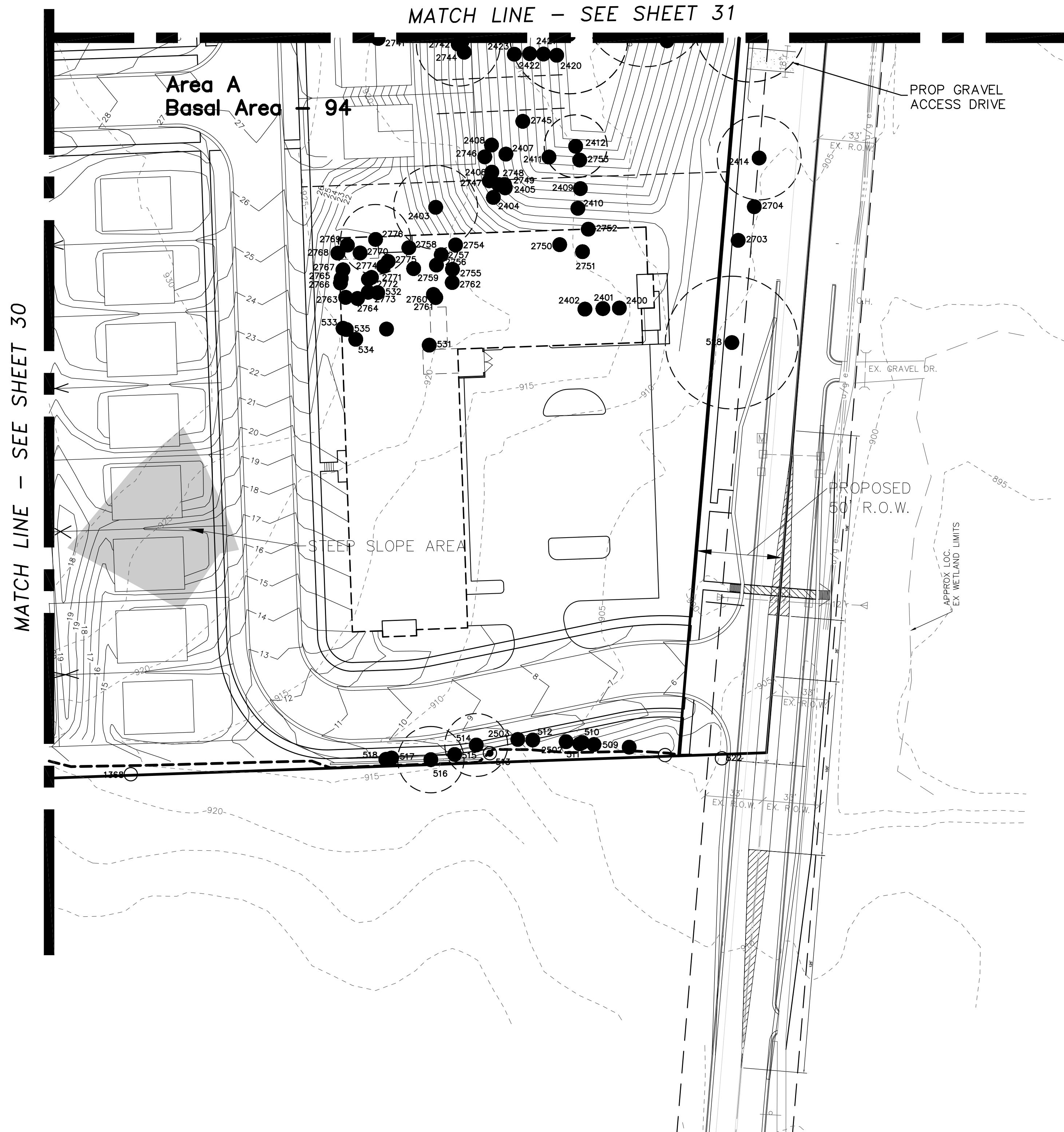
BENCHMARKS:

BENCHMARK NO. 1
R.R. SPIKE ON NORTH SIDE OF UTILITY POLE. EAST SIDE OF PONTIAC TRAIL AT SHOP #2710. ELEVATION=905.20

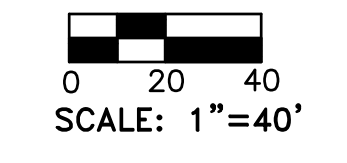
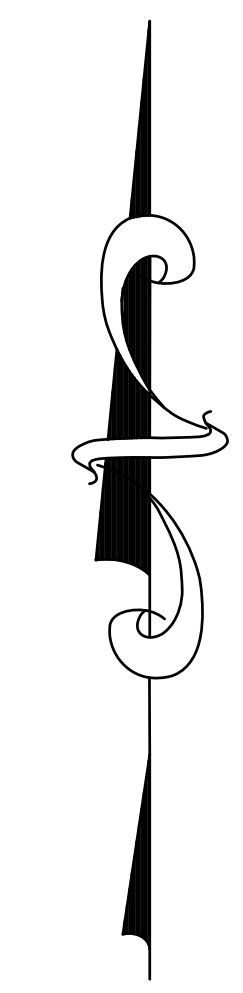
BENCHMARK NO. 2
EXISTING SPIKE ON EAST SIDE OF UTILITY POLE 33' WEST OF PONTIAC TRAIL CENTERLINE AT NORTHEAST PROPERTY CORNER OF HOUSE NO 2735 ELEVATION=918.51

BENCHMARK NO. 3
EXISTING SPIKE ON NORTH SIDE OF UTILITY POLE 510'+/- WEST OF PONTIAC TRAIL 100'+/- WEST OF SOUTHWEST PROPERTY CORNER OF HOUSE NO 2735 ELEVATION=932.95

BENCHMARK NO. 4
TOP/STEAMER VALVE HYDRANT, WEST SIDE OF PONTIAC TRAIL, NORTH SIDE OF PROPERTY TO HOUSE #2655 ELEVATION=905.90



KEY PLAN
NO SCALE



SCALE: 1"=40'

TREE LEGEND:

- 2796 TREE REMOVAL
- 1138 FOR REMOVAL AFTER CONSTRUCTION (AS NECESSARY)
- 2187 UNDISTURBED TREES

TREE PROTECTION NOTE:

TREE PROTECTION FENCE IS TO BE PLACED AT THE EDGE OF THE CRITICAL ROOT ZONE EXCEPT AS INDICATED OTHERWISE ON THIS PLAN, AND CAN NOT BE MOVED WITHOUT CITY APPROVAL. IN NO CASE SHALL TREE PROTECTION FENCE BE PLACED CLOSER THAN 10 FEET FROM THE TRUNK OF TREES TO BE PROTECTED.

CONTRACTOR TO REMOVE ONLY THE TREES WITHIN THE TREE CLEARING LIMITS. SOME TREES THAT ARE LOCATED OUTSIDE THE TREE CLEARING LIMITS ARE INDICATED TO BE REMOVED FOR REPLACEMENT PURPOSES ONLY. THESE TREES ARE NOT TO BE REMOVED DURING CONSTRUCTION.

SURVEY NOTE

THE TOPOGRAPHIC SURVEY WAS PREVIOUSLY PREPARED BY OTHERS AND VERIFIED BY GREENTECH ENGINEERING, INC. IN JUNE 2014.

THE TREE SURVEY WAS PREVIOUSLY PREPARED BY OTHERS AND VERIFIED BY GREENTECH ENGINEERING, INC. IN JUNE 2014.



NOTE:
THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AS DISCLOSED BY AVAILABLE UTILITY COMPANY RECORDS AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE COMPANY. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY IF A CONFLICT IS APPARENT.

RESIDENTIAL
Subdivision
Site Condominium
Plot Plans
COMMERCIAL
Site Planning
Industrial & Multi-Unit
SURVEYING
ALTA Surveys
Boundary Surveys
Topographic Surveys
Construction Staking

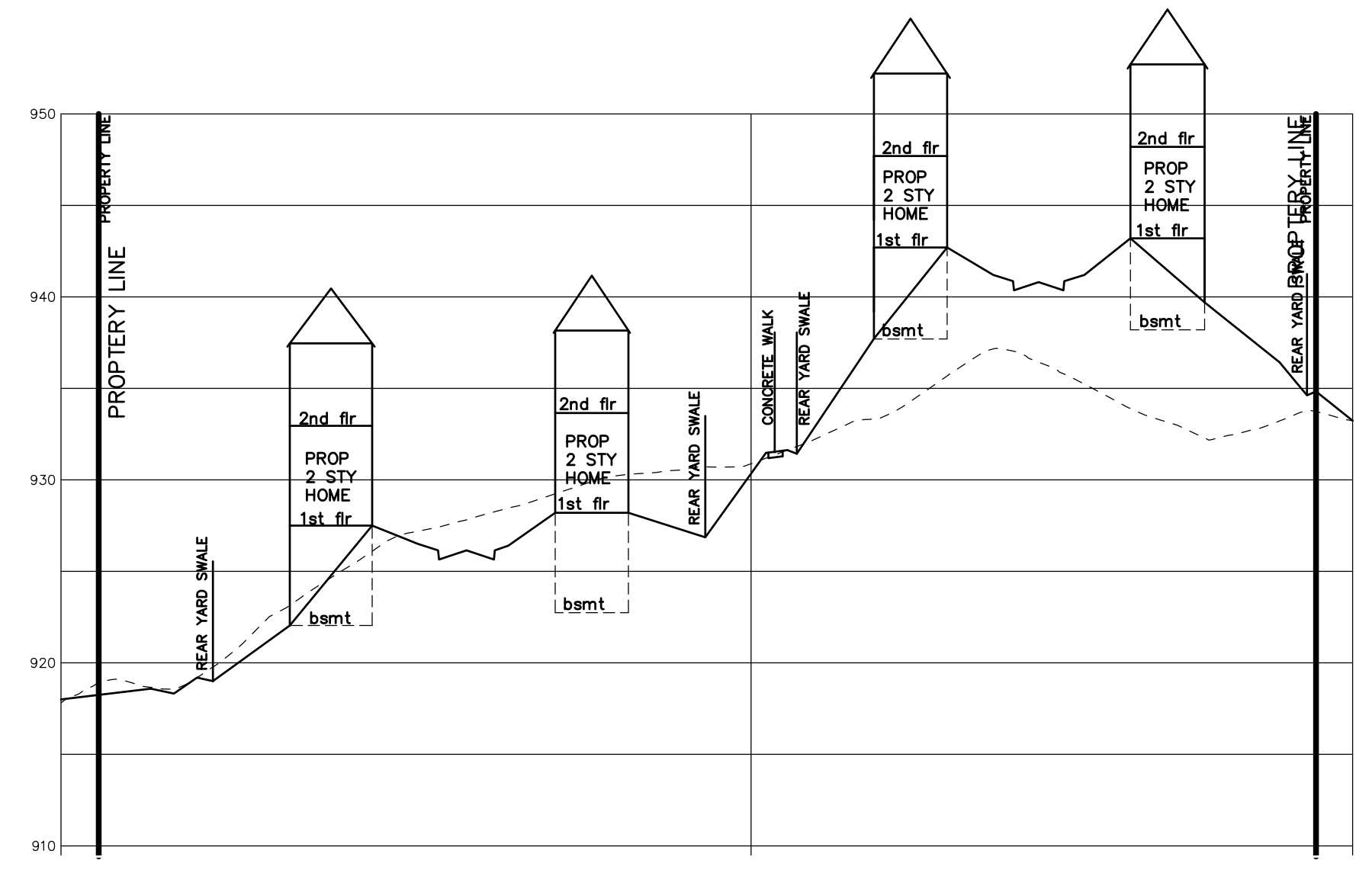
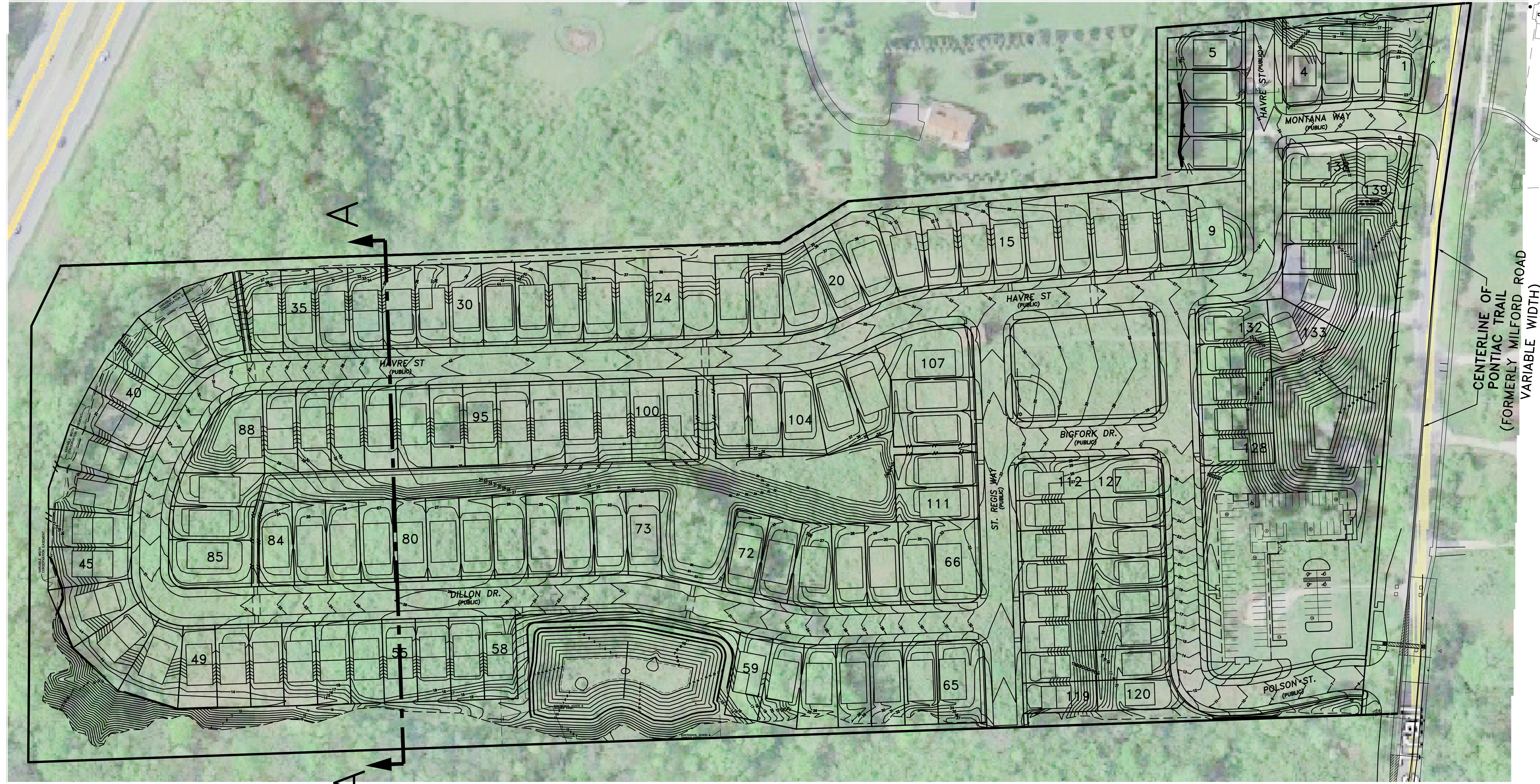
GREENTECH ENGINEERING, INC.
CIVIL ENGINEERS & LAND SURVEYORS
51111 W. Pontiac Trail, Wixom, MI 48393
Phone: (248) 668-0700 Fax: (248) 668-0701

811
Know what's below
Call before you dig.

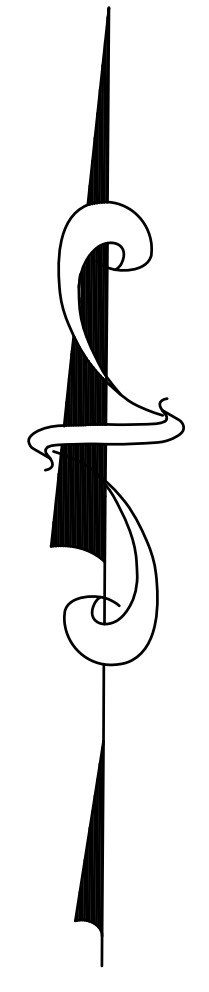
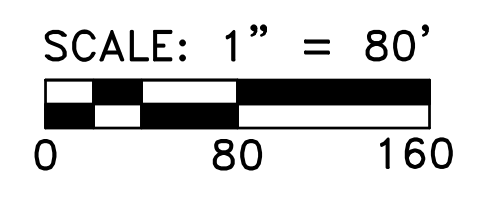
CLIENT: TROWBRIDGE DEVELOPMENT
NATURAL FEATURES OVERLAY PLAN - SOUTH/EAST
SECTION: 16
TOWNSHIP: 2 S
CITY OF ANN ARBOR
WASHTENAW COUNTY
MICHIGAN
RANGE 6 E

REVISED	
11-19-15 PER CITY	
10-1-15 PER CITY REVIEW	
8-24-15 PER CITY REVIEW	
8-4-15 PER CNTY REVIEW	
7-7-15 PER CITY REVIEW	
4-28-15 PER CITY REVIEW	
3-2-15 UPDATED PLAN	
1-21-15 PER CITY REVIEW	
DATE: 9-26-14	
DRAWN BY: DL	
CHECKED BY:	
FBK:	
CHF:	
SCALE HOR 1"=40 FT. VER 1"= FT.	32 13-174

U:\13-174\dwg\Preliminary Site Plan\PSPP Drawings\28-32 Natural Features Overlay Plan.dwg, 32 Natural Features-SE



SITE SECTION A-A



GREENTECH
ENGINEERING, INC.
CIVIL ENGINEERS & LAND SURVEYORS

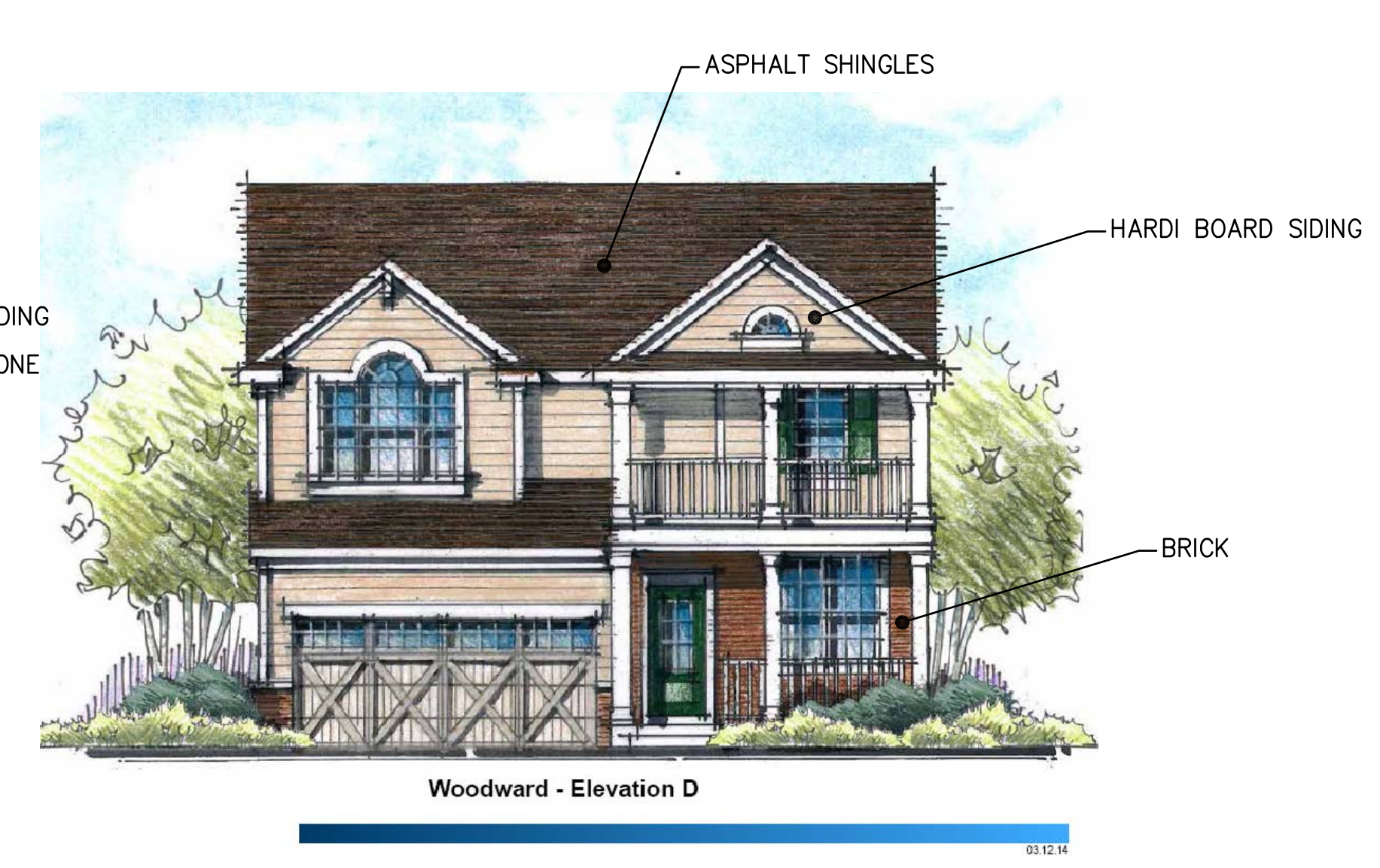
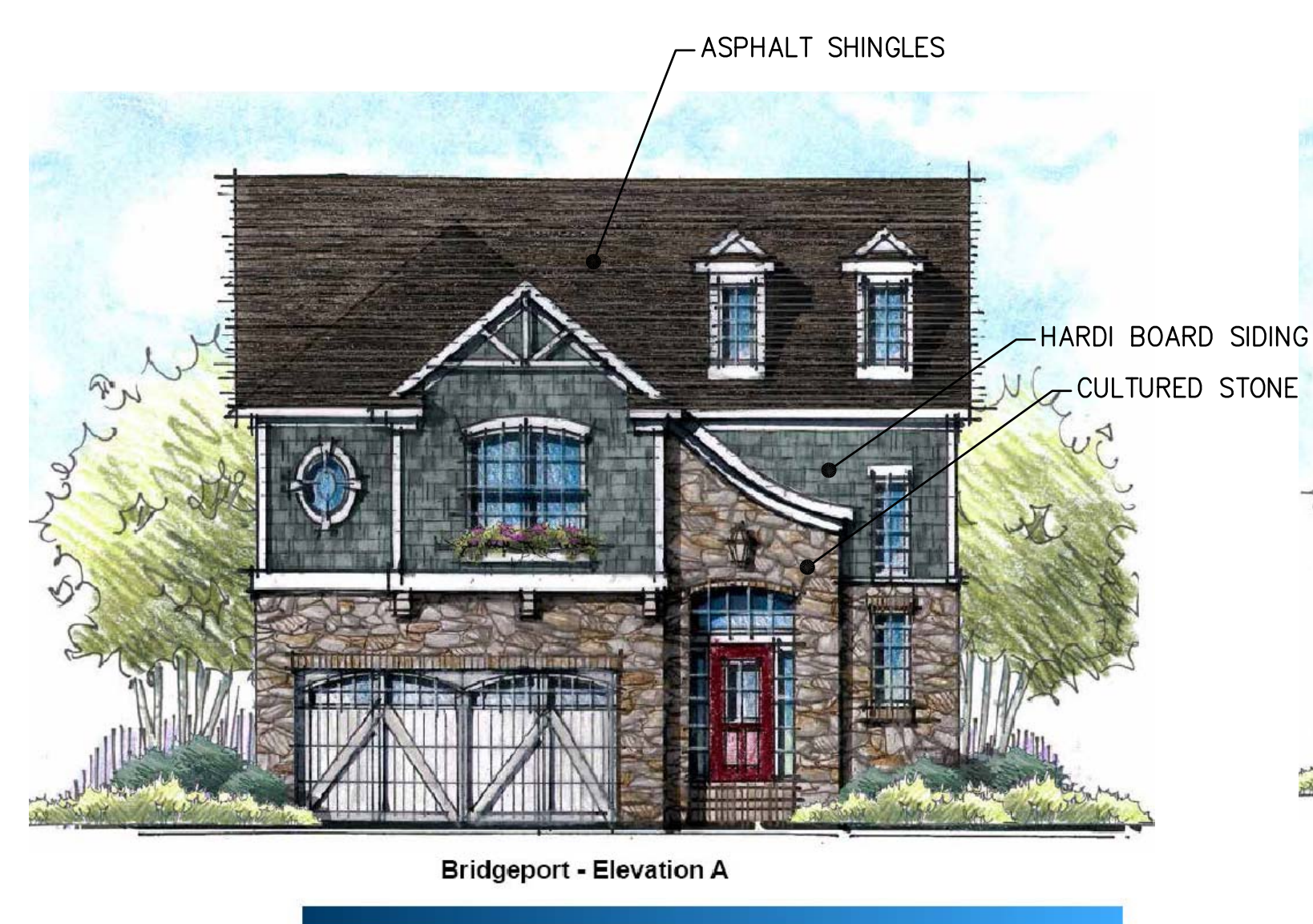
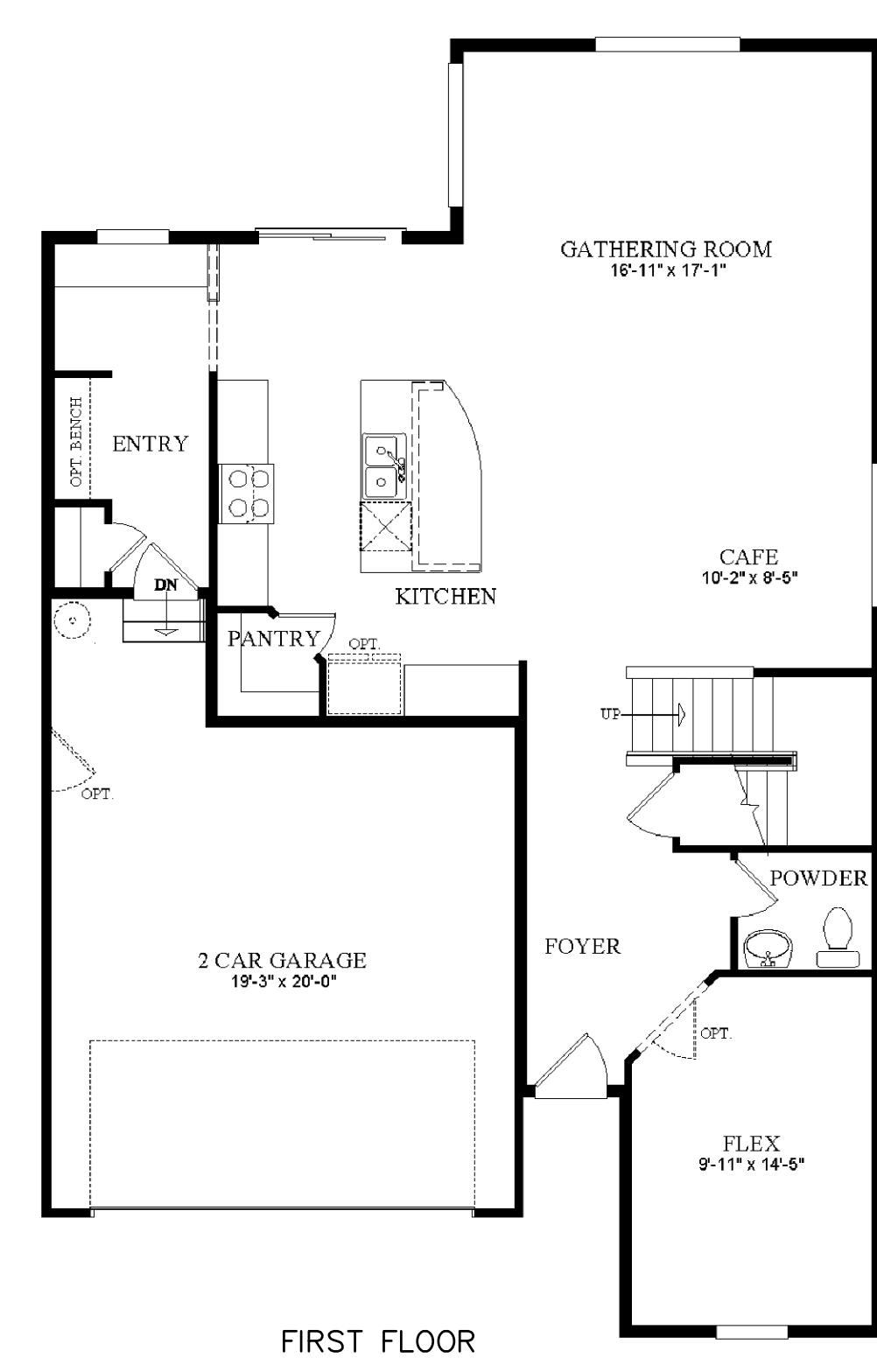
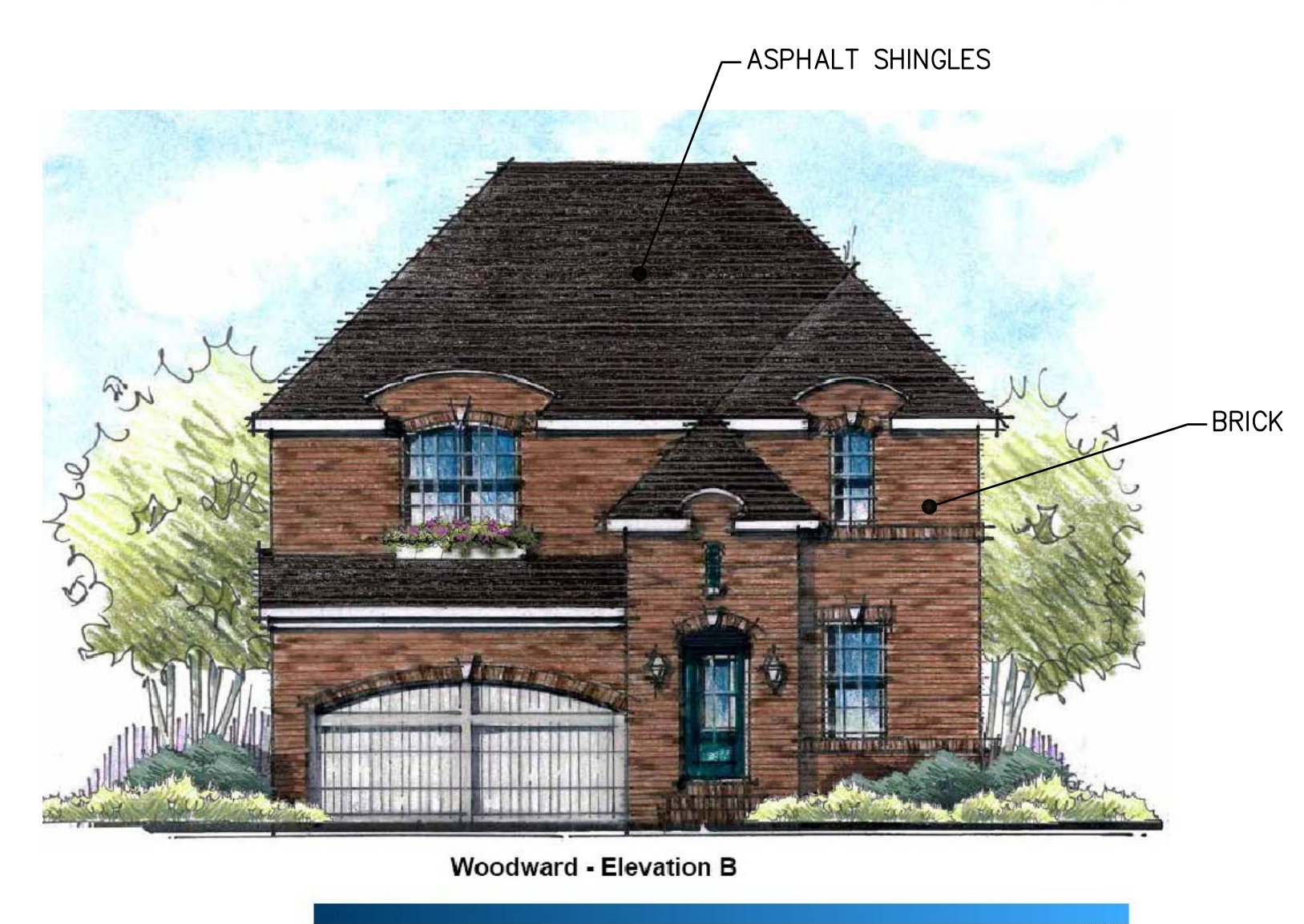
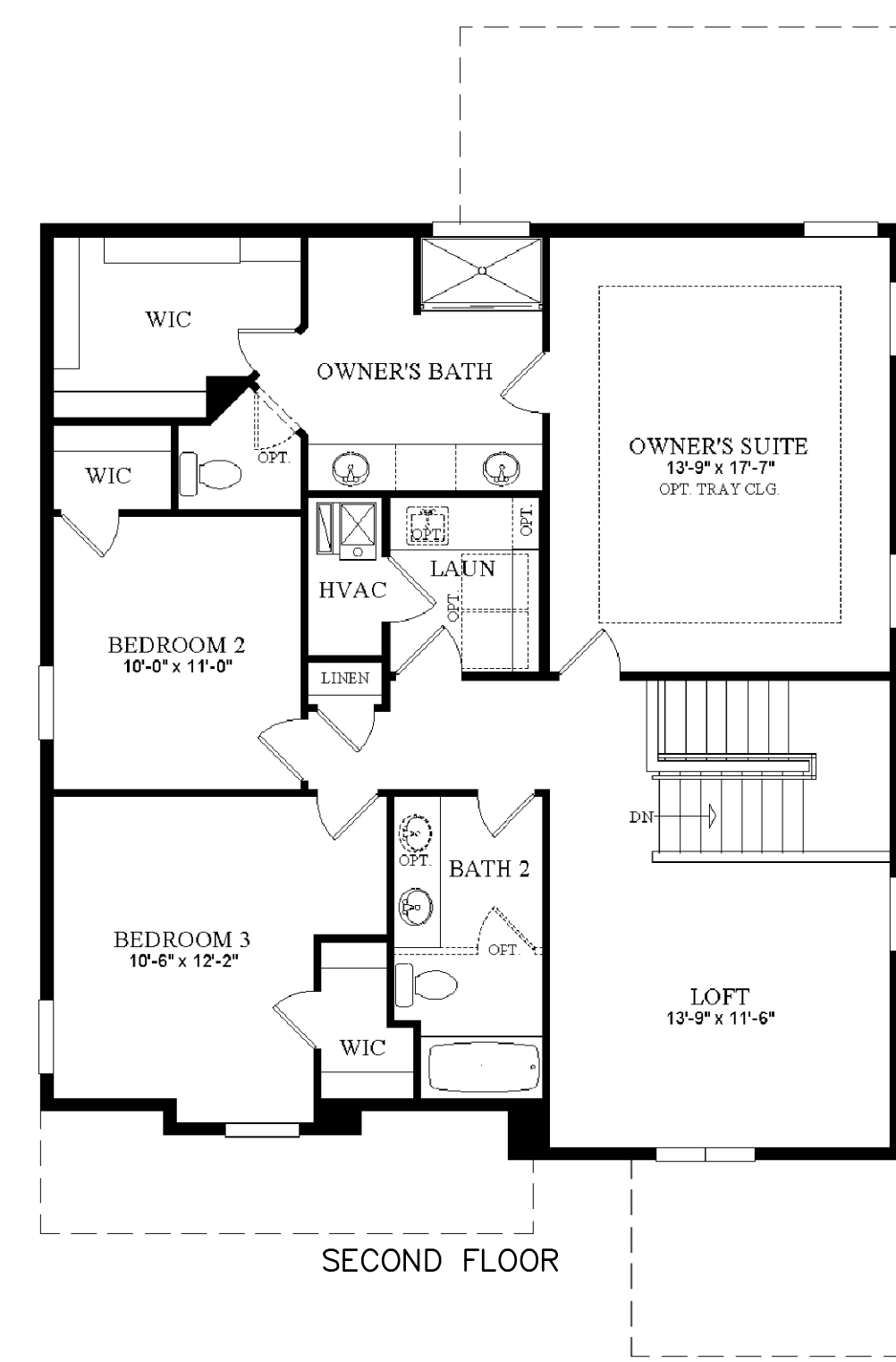
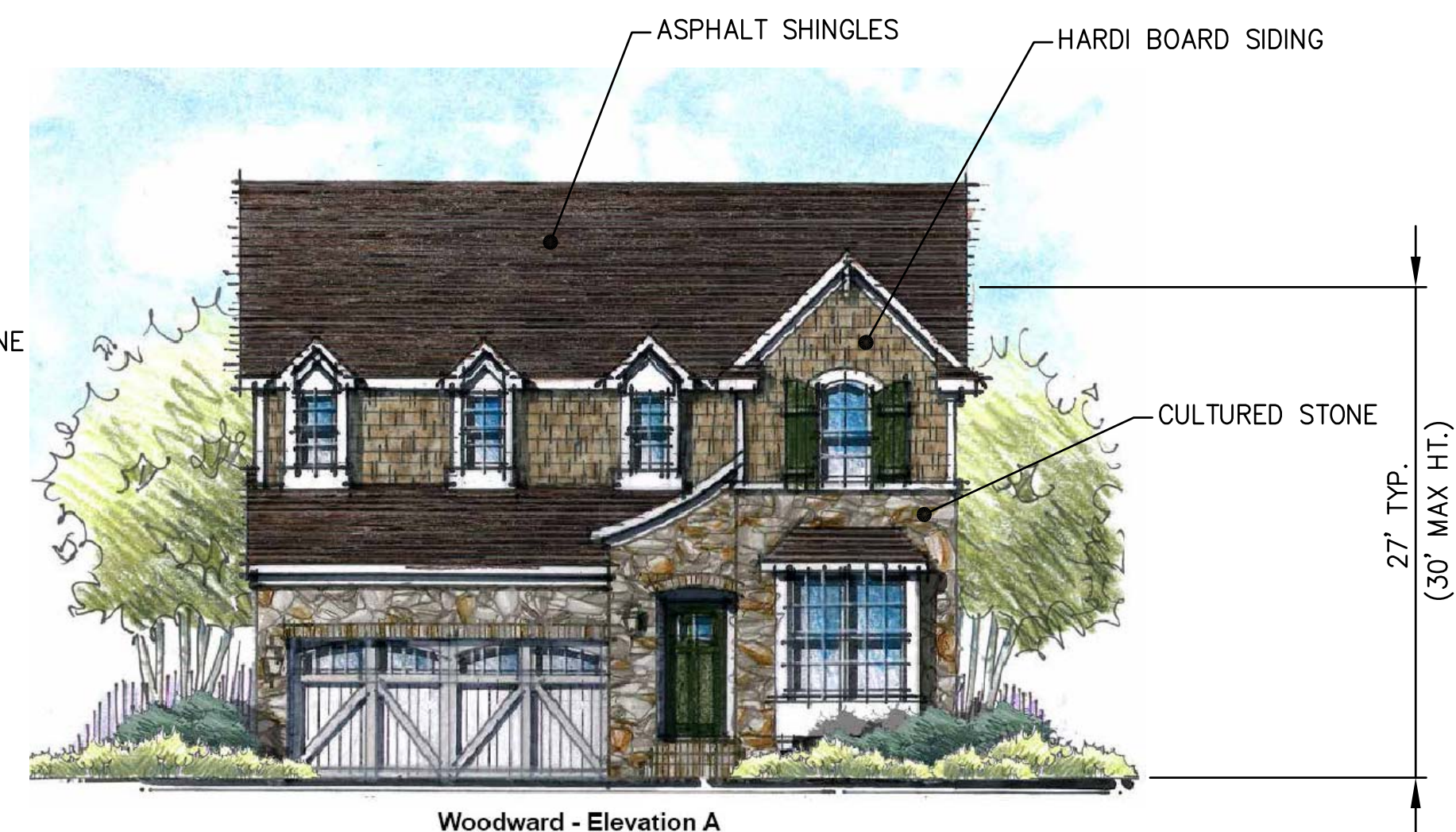
RESIDENTIAL: Site Preparation, Utility, Foundation, Multi-Family, etc.
COMMERCIAL: Site Planning, Surveying, Land Surveying, etc.
SURVEYING: Boundary Surveys, Topographic Surveys, etc.

51111 W. Pontiac Trail, Wixom, MI 48393
Phone: (248) 668-0700 Fax: (248) 668-0701

811
Know what's below
Call before you dig.

CLIENT:	TROWBRIDGE DEVELOPMENT
AERIAL OVERLAY	
SECTION: 16	TOWNSHIP: 2 S CITY OF ANN ARBOR WASHINGTON COUNTY MICHIGAN
	RANGE: 6 E

REVISED	
10-1-15	PER CITY REVIEW
8-24-15	PER CITY REVIEW
8-4-15	PER CITY REVIEW
4-28-15	PER CITY REVIEW
3-2-15	UPDATED PLAN
1-21-15	PER CITY REVIEW
DATE:	9-26-14
DRAWN BY:	RJF
CHECKED BY:	
FBK:	
CHF:	
SCALE:	HOR 1" = 80 FT. VER 1" = FT.
	37 13-174

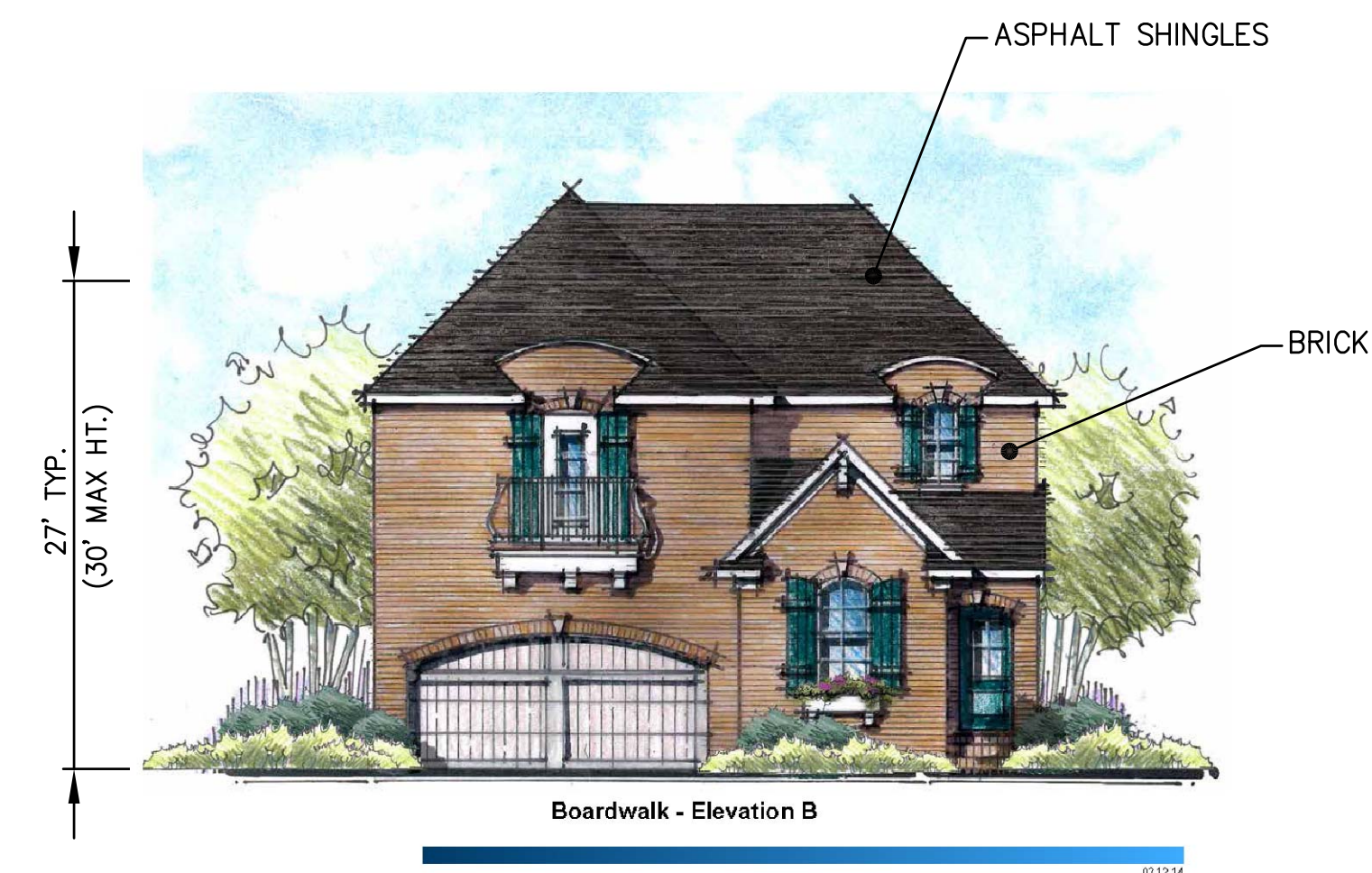


TYPICAL RESIDENTIAL FLOOR PLANS

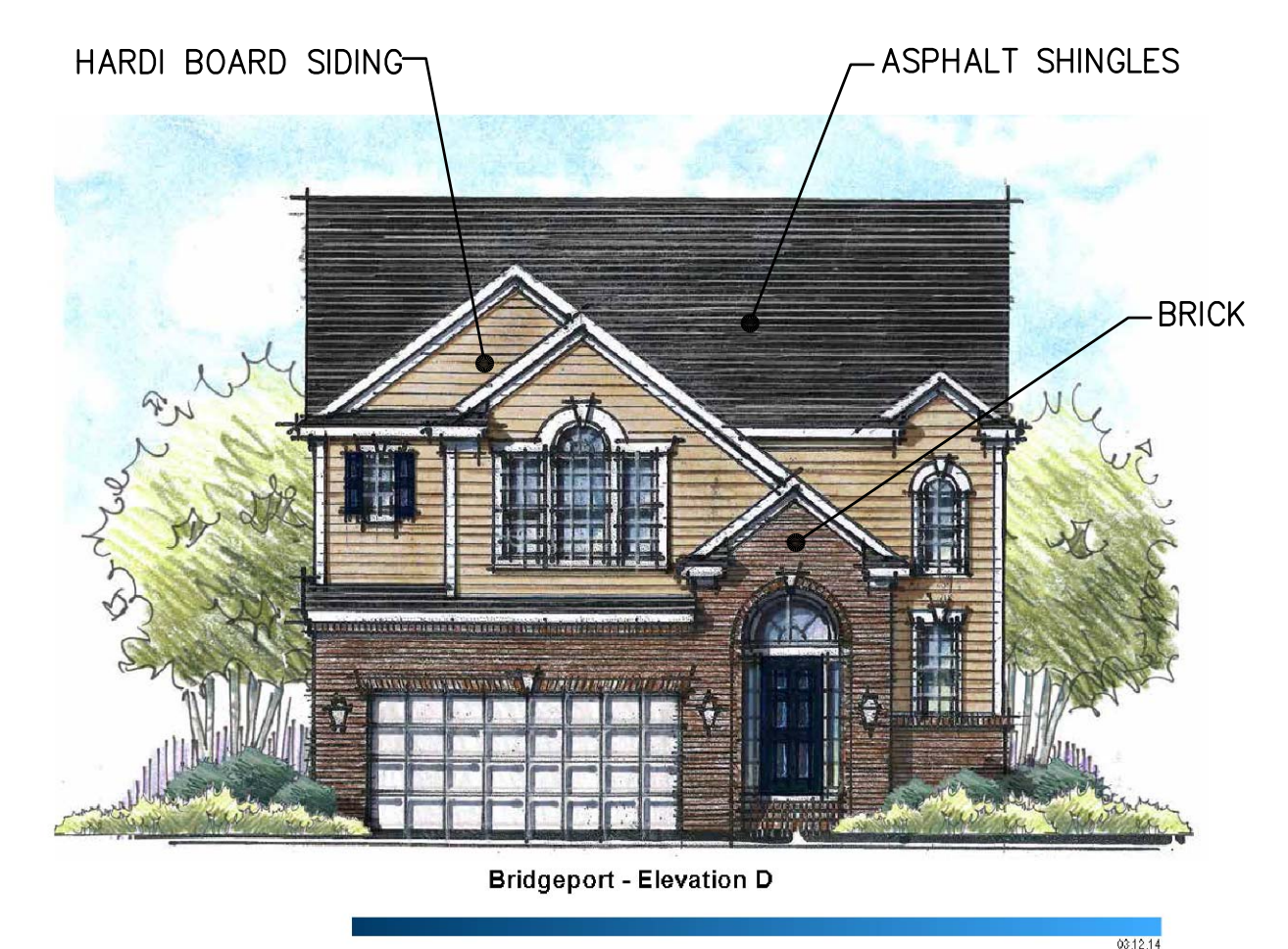
TYPICAL RESIDENTIAL ELEVATIONS

- NOTES:**
- MINIMUM AND MAXIMUM BUILDING SIZES TO COMPLY WITH ZONING REQUIREMENTS
 - NO TWO OF THE SAME PLAN/ELEVATION COMBINATIONS AND/OR SAME COLOR PACKAGE CAN BE THE SAME NEXT TO ONE ANOTHER OR DIRECTLY ACROSS THE STREET.

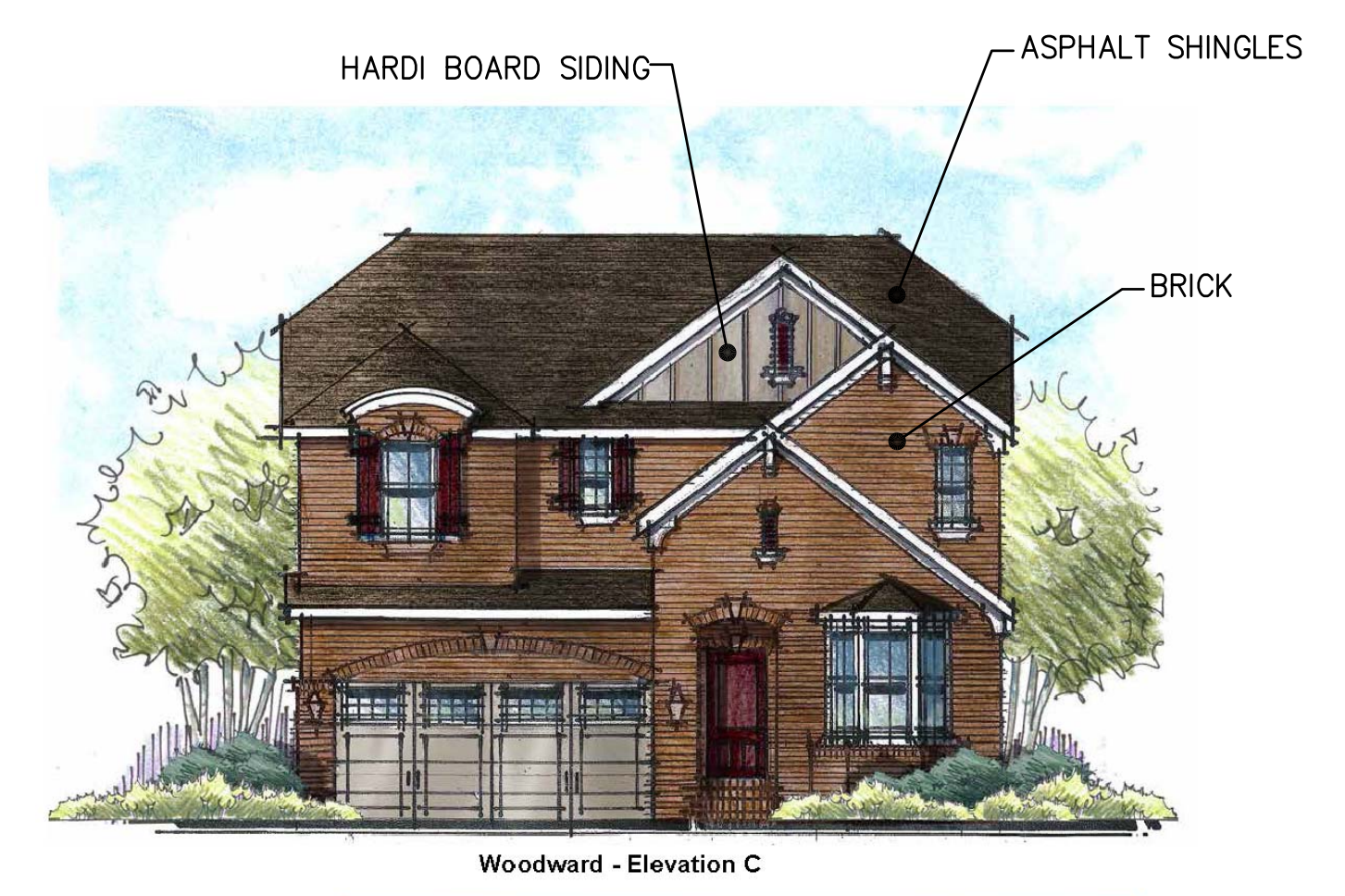
U:\13-174\dwg\Preliminary Site Plan\174\dwg\Preliminary Site Plan.dwg, 42A R1-D ELEVATION



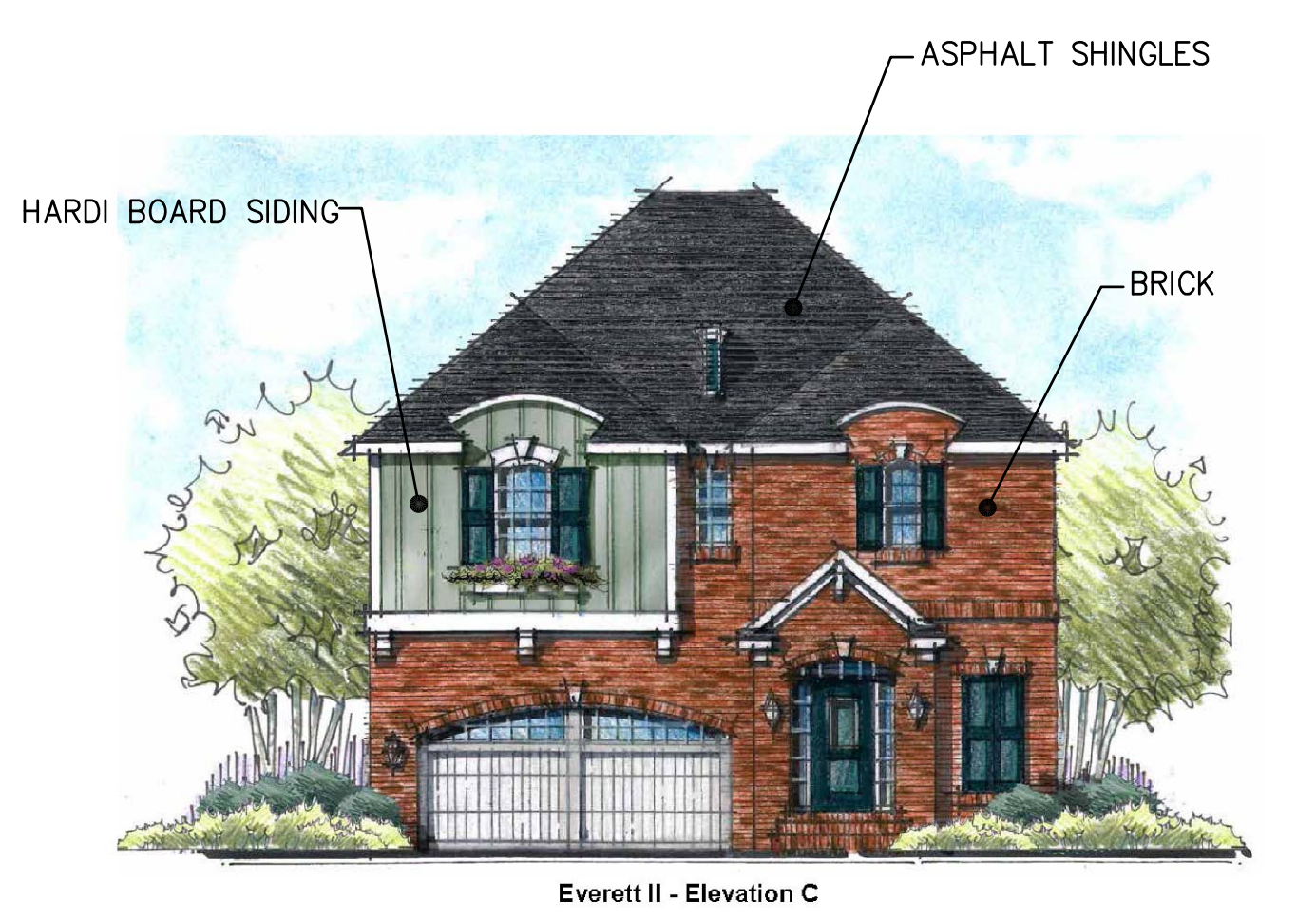
Boardwalk - Elevation B



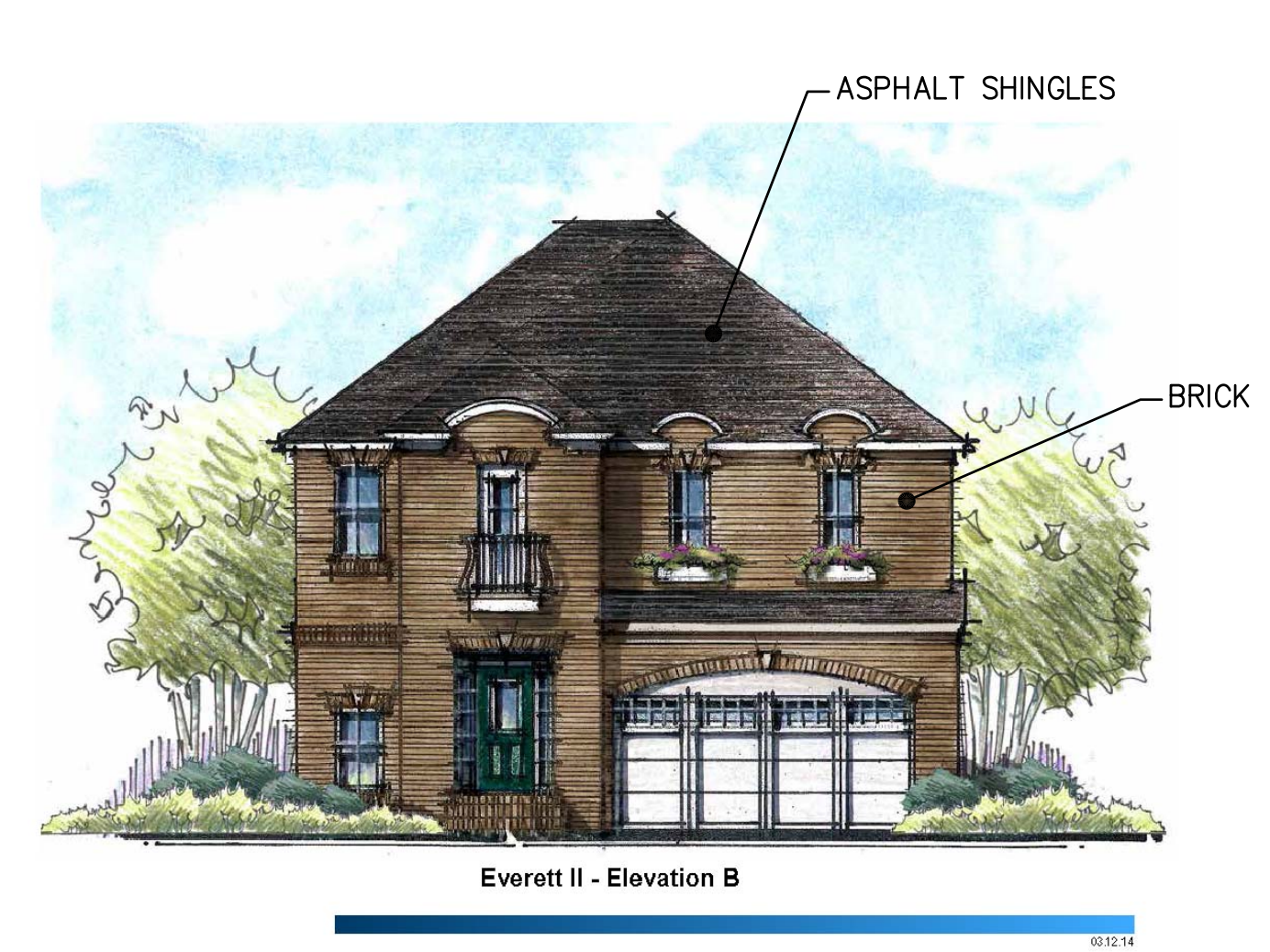
Bridgeport - Elevation D



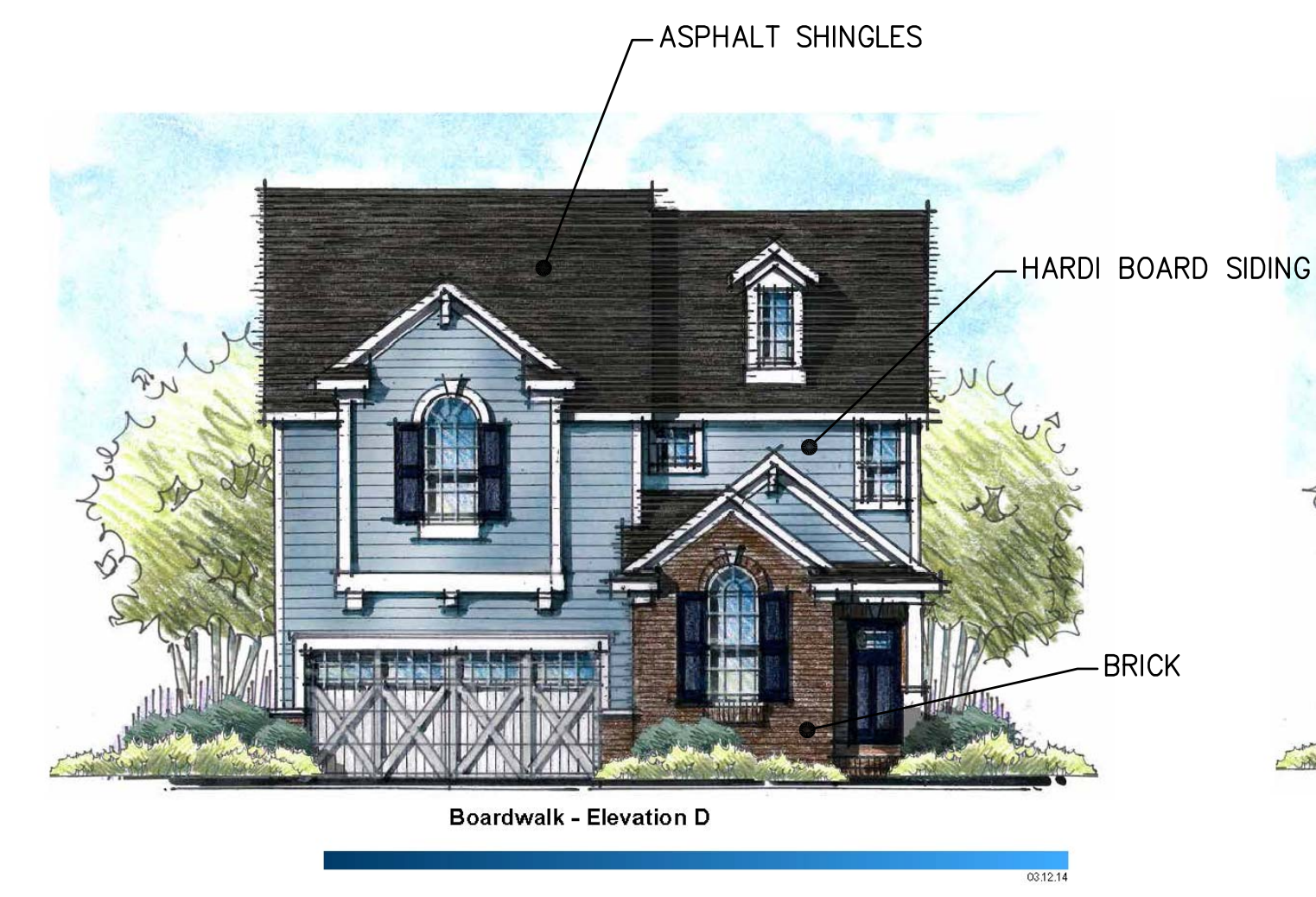
Woodward - Elevation C



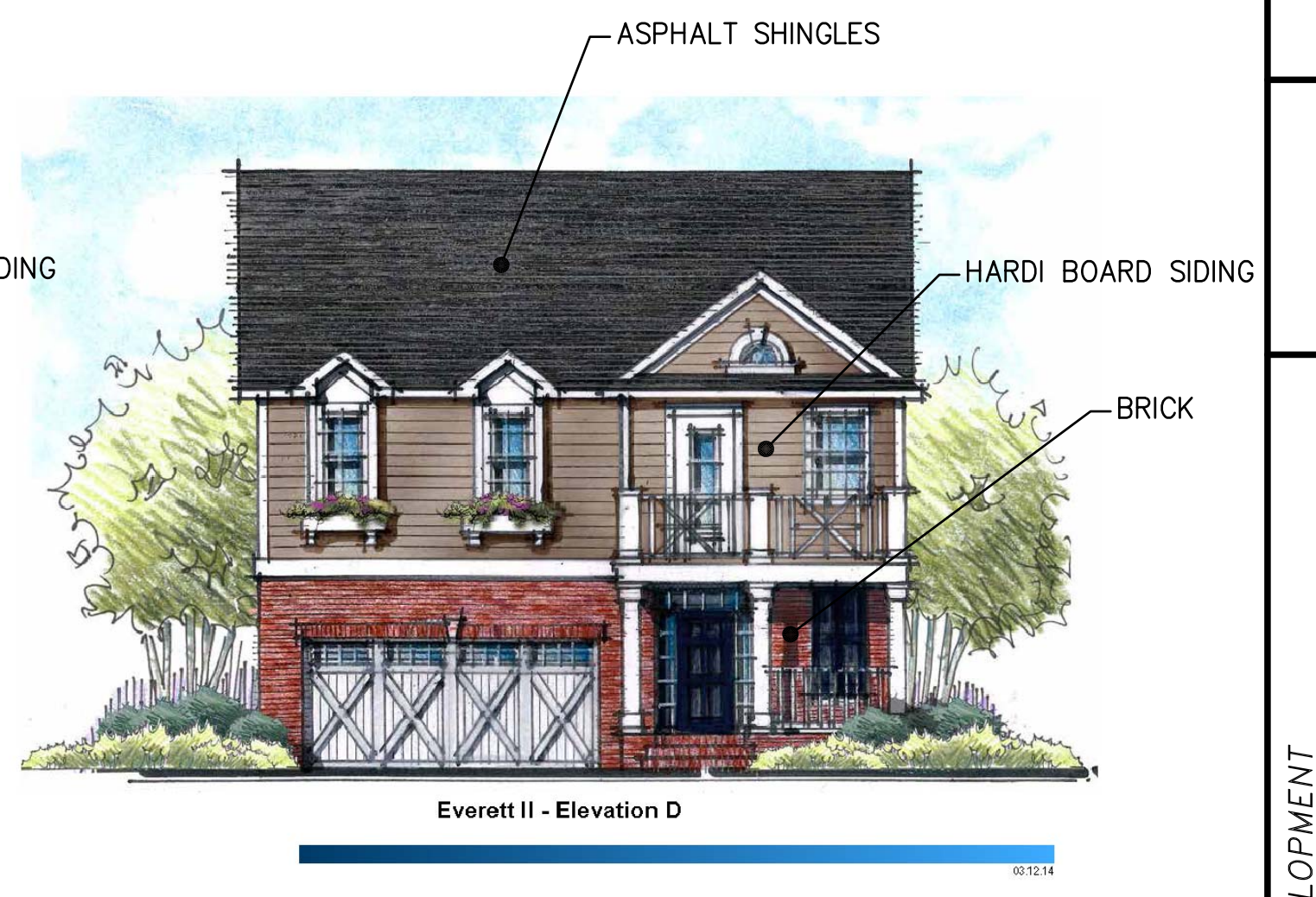
Everett II - Elevation C



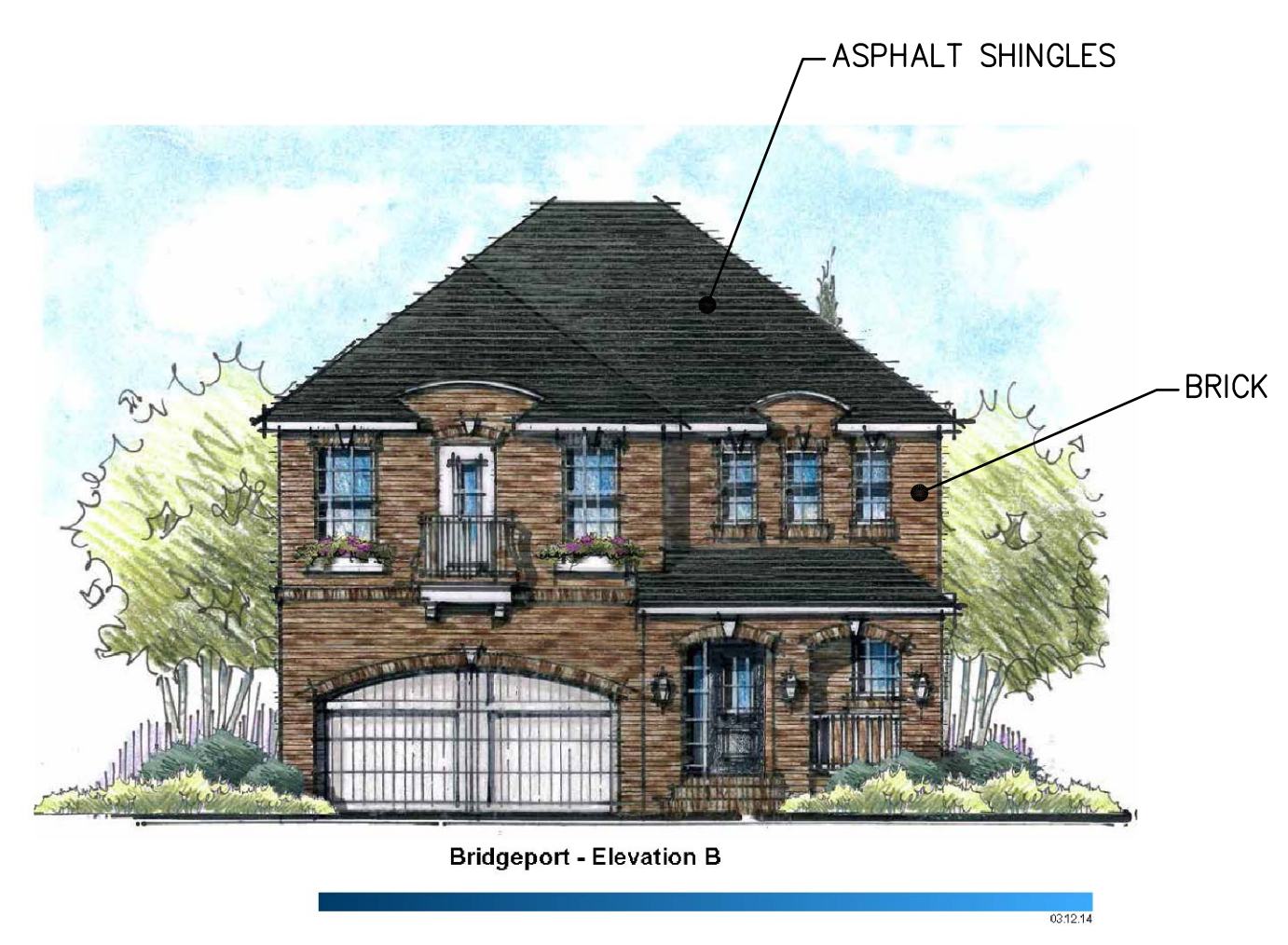
Everett II - Elevation B



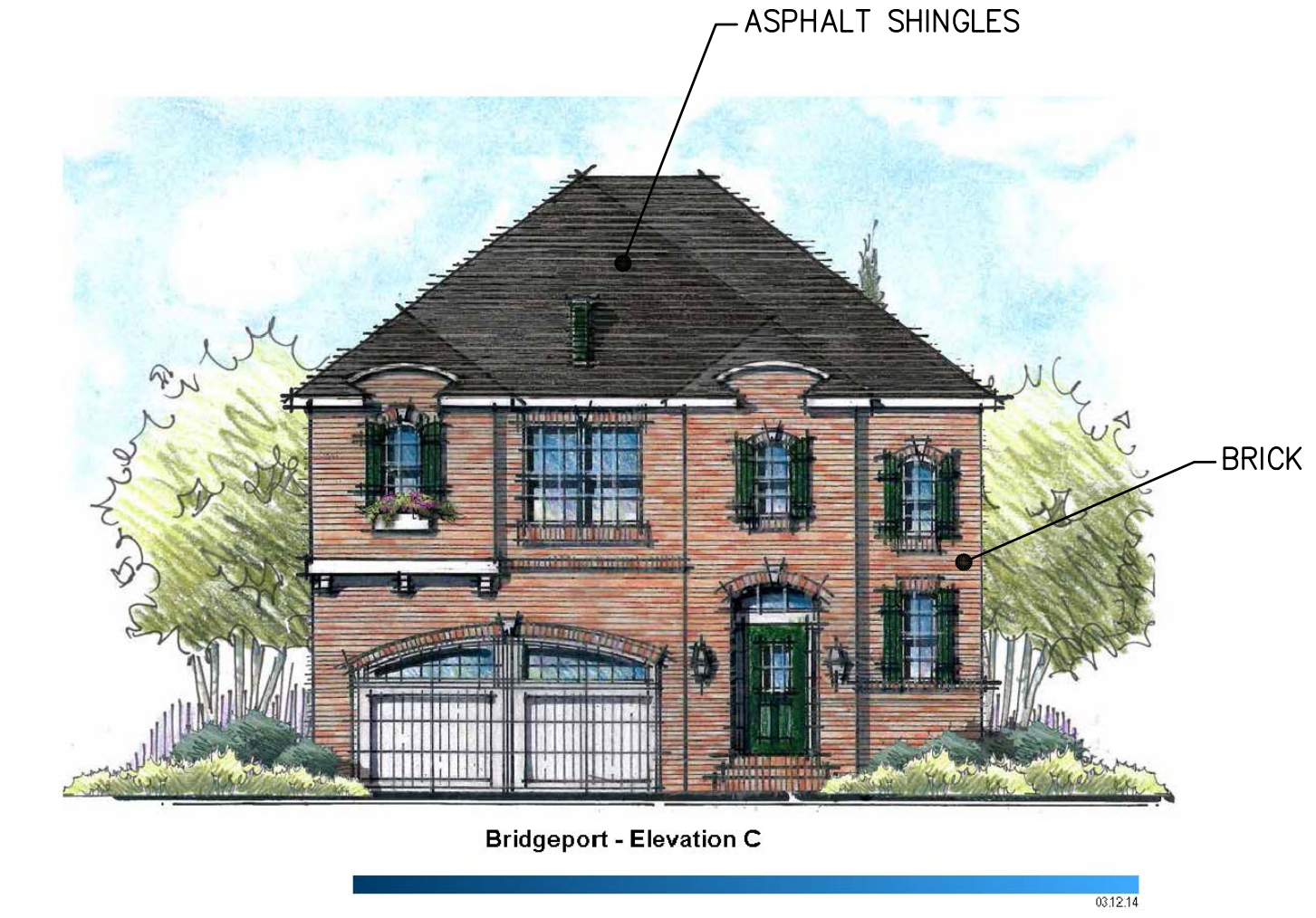
Boardwalk - Elevation D



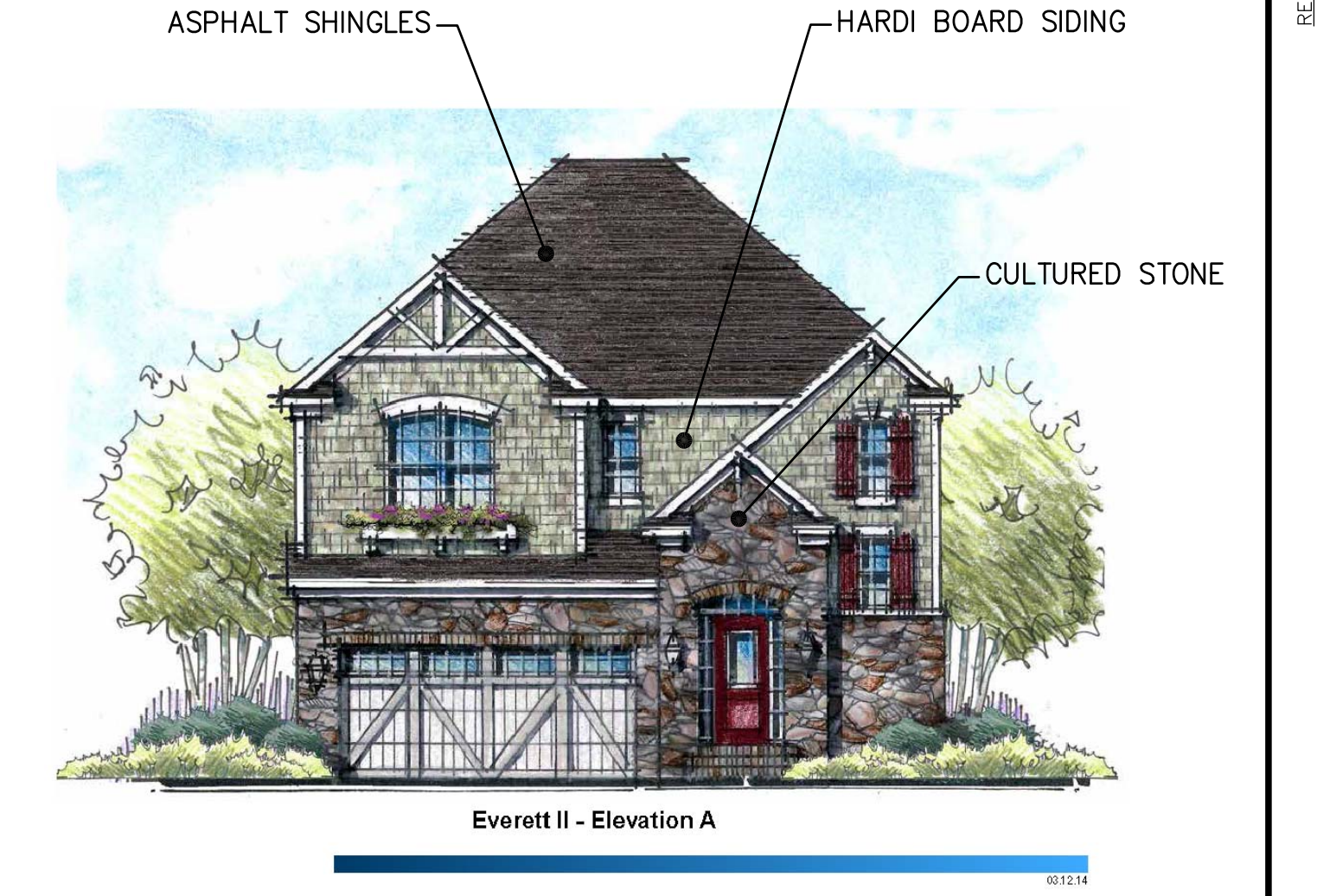
Everett II - Elevation D



Bridgeport - Elevation B



Bridgeport - Elevation C



Everett II - Elevation A

TYPICAL RESIDENTIAL ELEVATIONS

- NOTES:
- MINIMUM AND MAXIMUM BUILDING SIZES TO COMPLY WITH ZONING REQUIREMENTS
 - NO TWO OF THE SAME PLAN/ELEVATION COMBINATIONS AND/OR SAME COLOR PACKAGE CAN BE THE SAME NEXT TO ONE ANOTHER OR DIRECTLY ACROSS THE STREET.

RESIDENTIAL: Site Preparation, Survey, Plot Plans
 COMMERCIAL: Site Planning, Site, Planning, Industrial & Retail, Land Surveying
 SURVEYING: Boundary, Survey, Topographic, Split, Construction Staking
GREENTECH ENGINEERING, INC.
 CIVIL ENGINEERS & LAND SURVEYORS
 5111 W. Parkside Trail, Wixom, MI 48393
 Phone: (248) 669-0700 Fax: (248) 668-0701

811
 Know what's below
 Call before you dig.

CLIENT: TROWBRIDGE DEVELOPMENT
 TYPICAL ELEVATIONS
 UNITS 9-111 (R1-D)
 SECTION: 16
 NORTHSHY DEVELOPMENT
 TOWNSHIP: 2 S
 CITY OF ANN ARBOR
 WASHTEENAW COUNTY
 MICHIGAN
 RANGE: 6 E

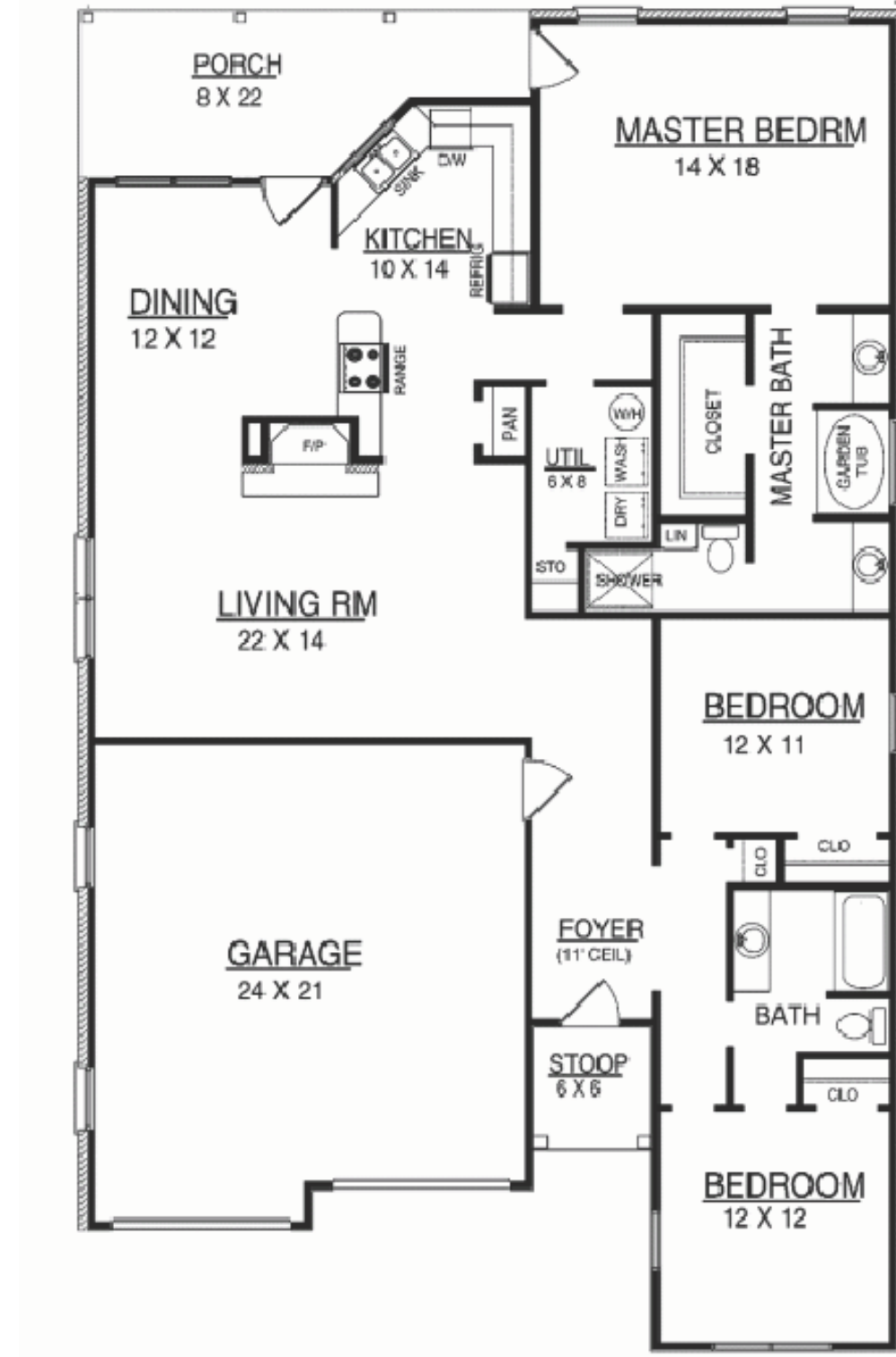
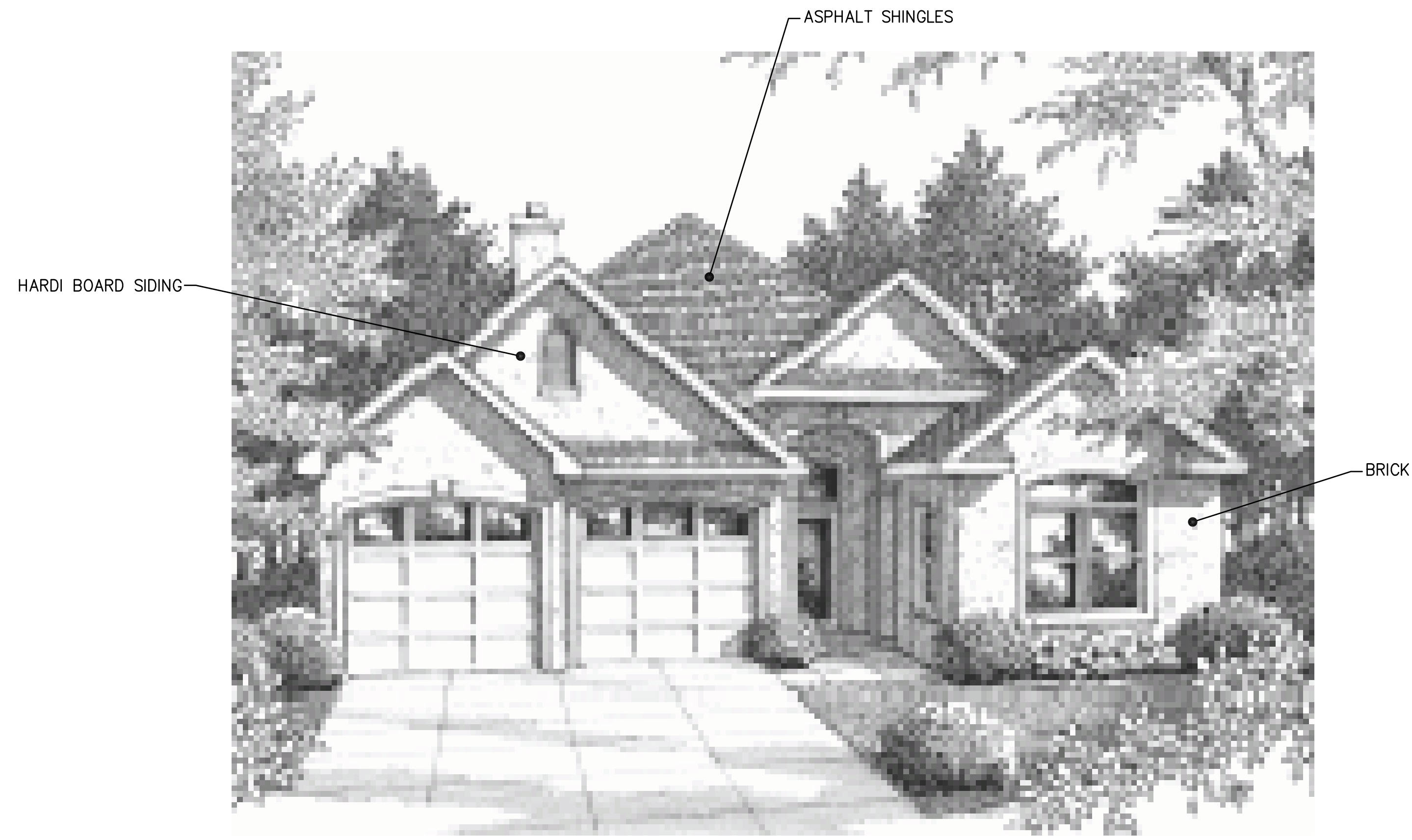
REVISED

11-19-15 PER CITY
 10-1-15 PER CITY REVIEW
 8-24-15 PER CITY REVIEW
 4-28-15 PER CITY REVIEW
 3-2-15 UPDATED PLAN
 1-21-15 PER CITY REVIEW

DATE: 9-24-14
 DRAWN BY: R,JF
 CHECKED BY:

FBK:
 CHF:
 SCALE HOR 1"= FT.
 VER 1"= FT.

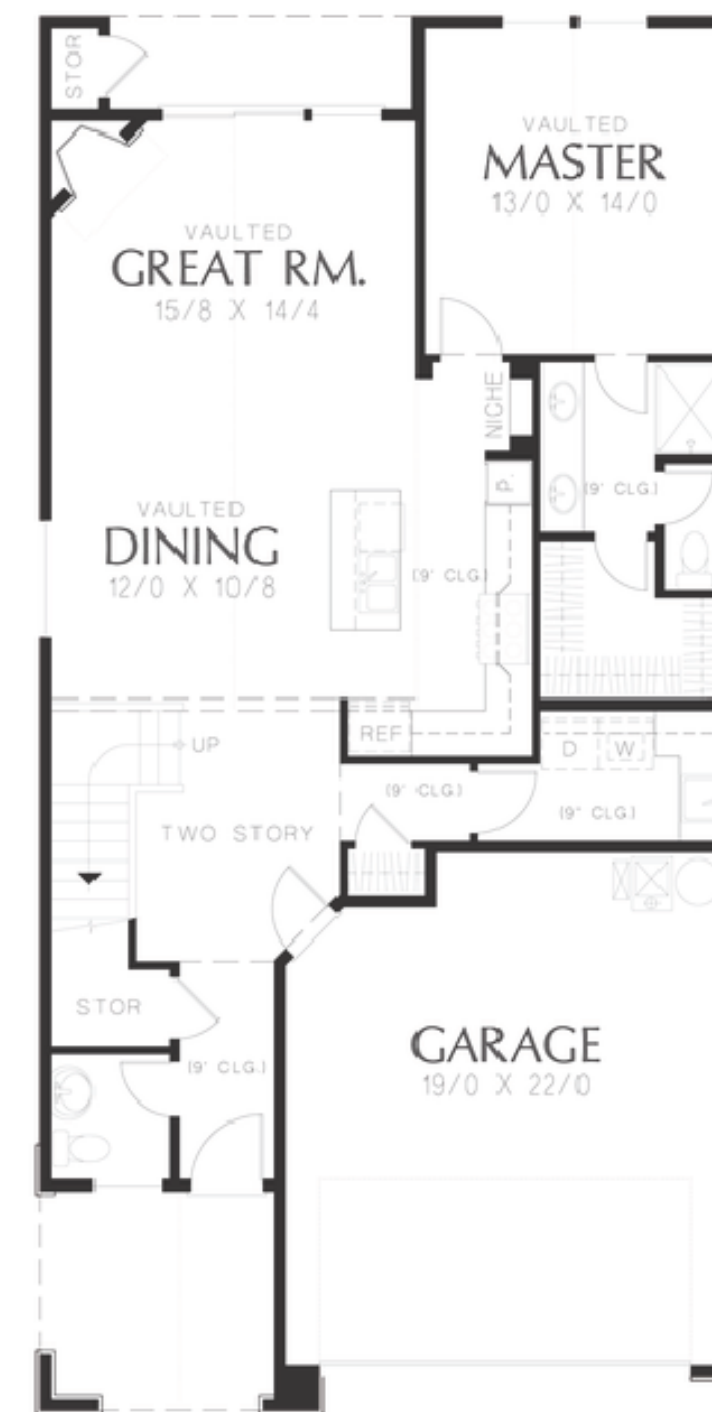
42A
 13-174



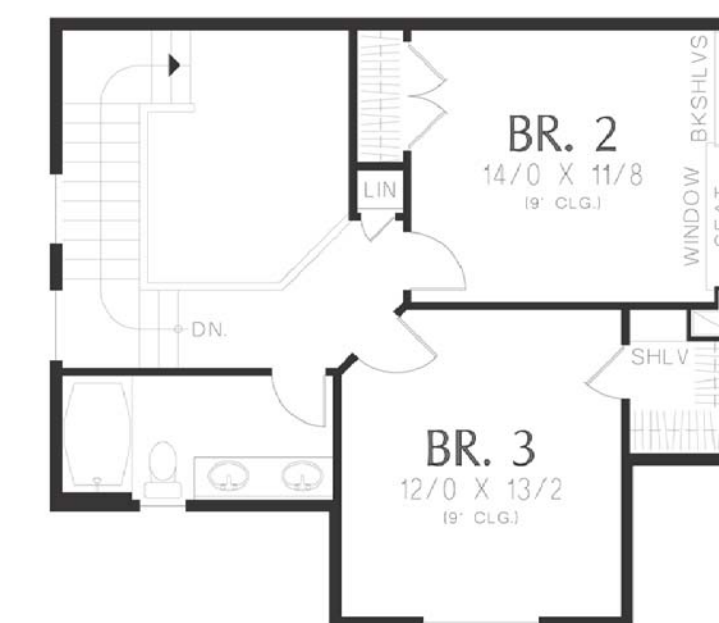
FIRST FLOOR



ELEVATIONS (TYP)



FIRST FLOOR



SECOND FLOOR

FLOOR PLANS (TYP)

NOTES:

1. MINIMUM AND MAXIMUM BUILDING SIZES TO COMPLY WITH ZONING REQUIREMENTS
2. NO TWO OF THE SAME PLAN/ELEVATION COMBINATIONS AND/OR SAME COLOR PACKAGE CAN BE THE SAME NEXT TO ONE ANOTHER OR DIRECTLY ACROSS THE STREET.

RESIDENTIAL
Site Preparation
Final Plans
COMMERCIAL
Site Planning
Site Preparation
Industrial & Multi-Unit
Land Surveying
SURVEYING
Boundary Surveys
Topographic Surveys
As-Built Surveys
Construction Staking



CIVIL ENGINEERS & LAND SURVEYORS
51111 W. Parkside Trail, Wixom, MI 48393
Phone: (248) 668-0700 Fax: (248) 668-0701

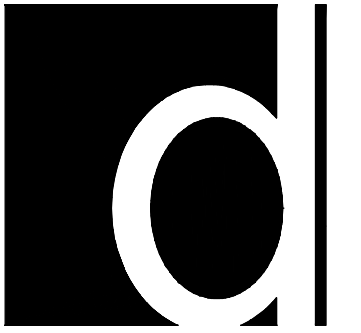


Know what's below
Call before you dig.

CLIENT: TROWBRIDGE DEVELOPMENT
TYPICAL FLOOR PLAN/ELEVATIONS
UNITS 1-8 & 112-139 (R1-E)

SECTION: 16
NORTHSKY DEVELOPMENT
TOWNSHIP: 2 S
CITY OF ANN ARBOR
WASHTENAW COUNTY
MICHIGAN
RANGE: 6 E

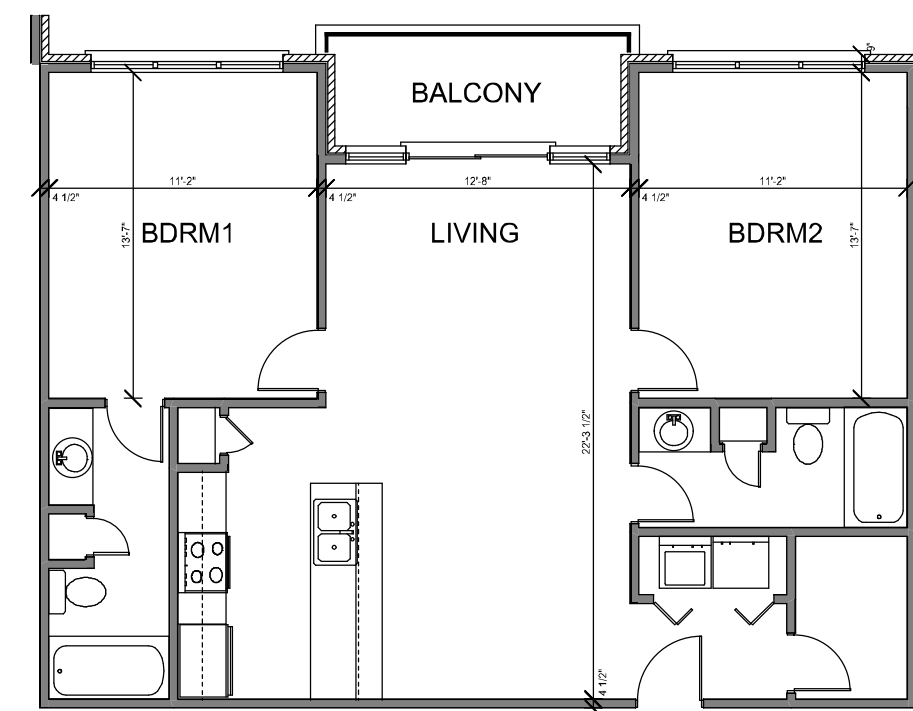
REVISIONS	
11-19-15 PER CITY	
10-1-15 PER CITY REVIEW	
8-24-15 PER CITY REVIEW	
4-28-15 PER CITY REVIEW	
3-2-15 UPDATED PLAN	
1-21-15 PER CITY REVIEW	
DATE: 9-24-14	
DRAWN BY: R,JF	
CHECKED BY:	
FBK:	
CHF:	
SCALE: HOR 1" = FT. VER 1" = FT.	42B 13-174



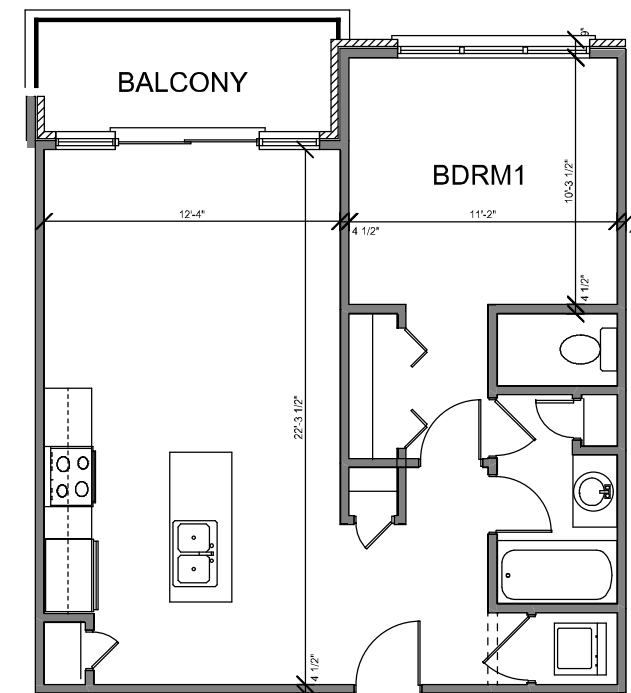
D'Anna Associates
Architecture | Engineering
1055 SOUTH BLVD. E. SUITE 200
ROCHESTER HILLS, MI 48307
P 248-852-7702 F 248-852-7707

dannaassoc.com

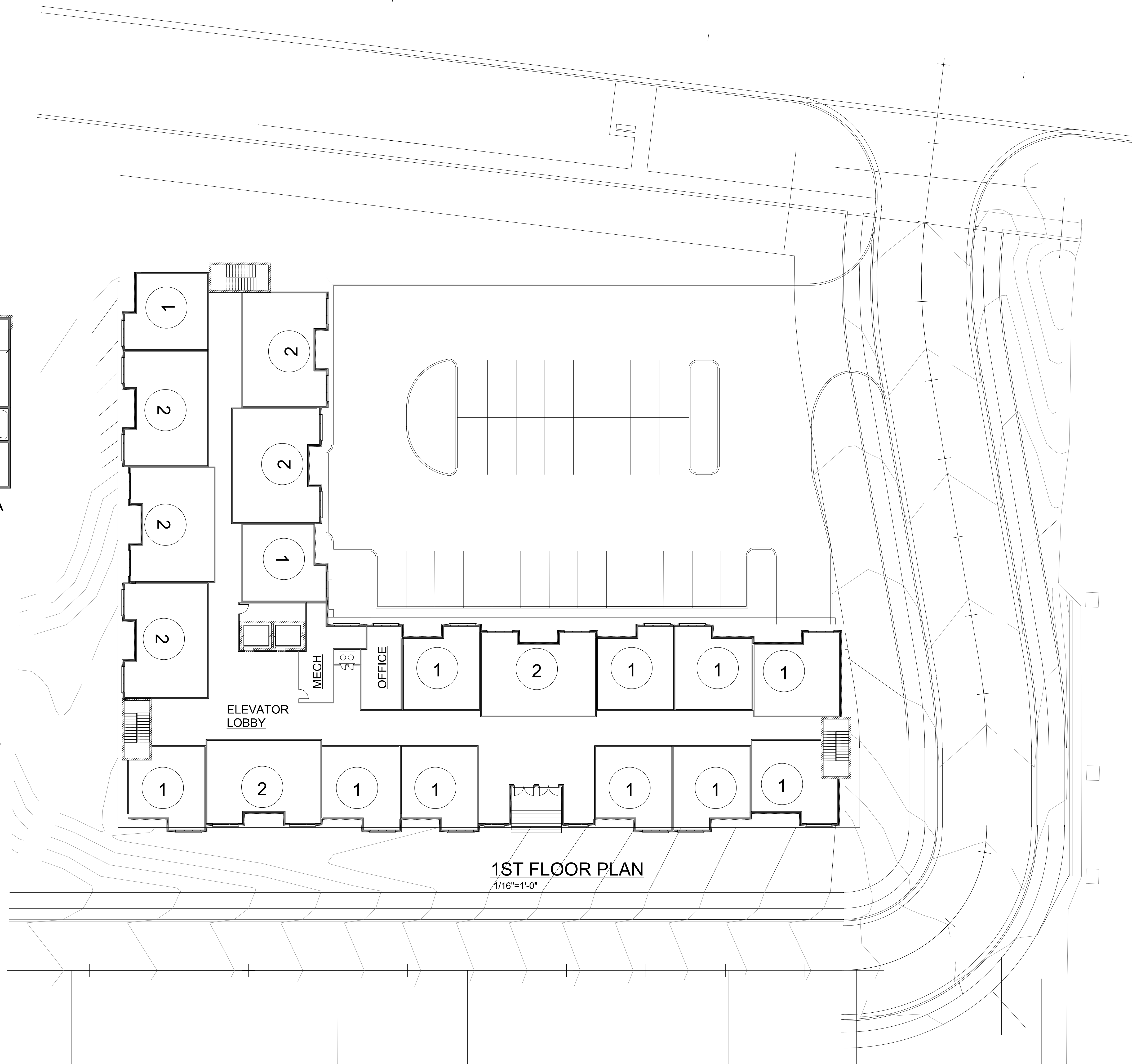
DANNA ASSOCIATES RETAINS THE OWNERSHIP OF THIS DOCUMENT AS INSTRUMENT OF SERVICE AND IT CANNOT BE RELEASD WITHOUT WRITTEN PERMISSION AND ADDITIONAL COMPENSATION.
DANNA ASSOCIATES © 2013 COPYRIGHT



TYPICAL UNIT PLAN - 2 UNIT A
1/8" = 1'-0"



TYPICAL UNIT PLAN - STUDIO
1/8" = 1'-0"



1ST FLOOR PLAN
1/16" = 1'-0"

NORTH SKY
APARTMENTS

- ISSUANCE:
- SCHEMATIC
 - BIDDING
 - MUNI SUBMITTAL
 - CONSTRUCTION
 - OTHER:

DRAWINGS SHALL NOT BE USED FOR CONSTRUCTION UNLESS INDICATED

NO.	DESC.	DATE
1	SITE	3-8-15
2	SITE	4-22-15
3	SITE	9-23-15
4	MUNI	11-19-15

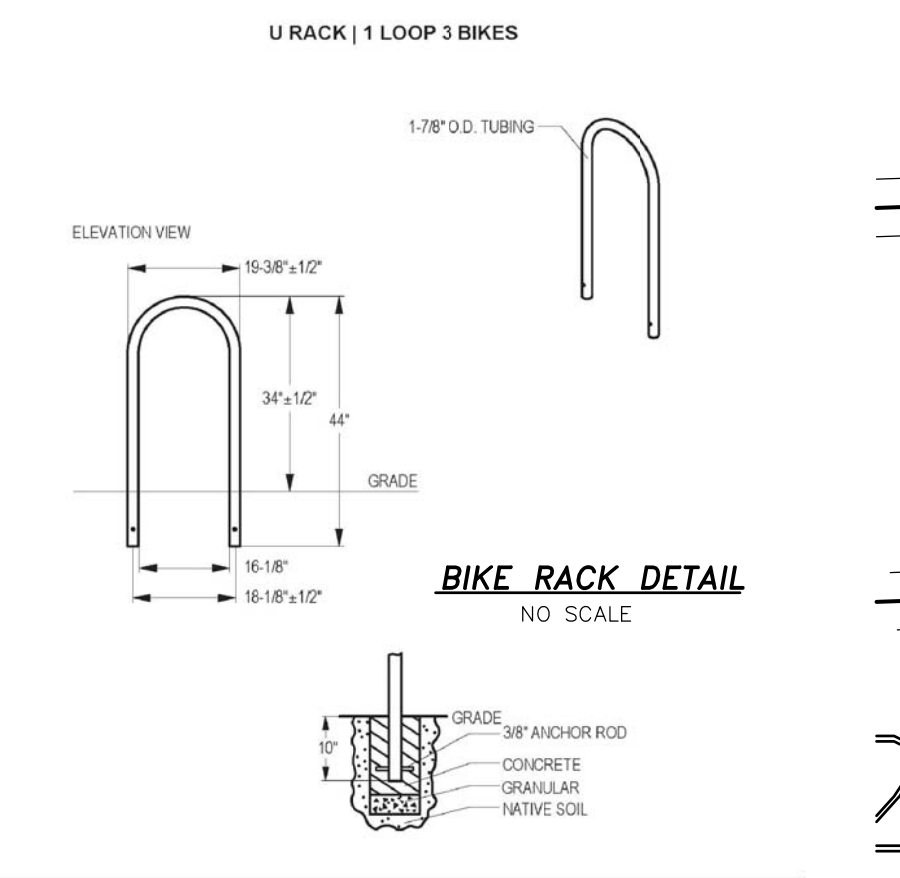
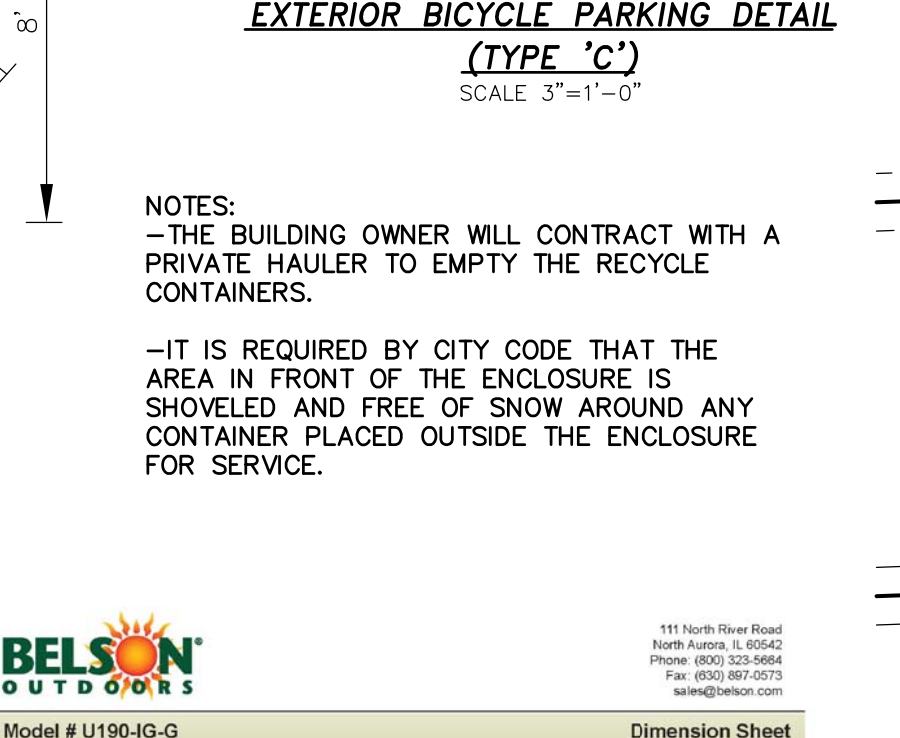
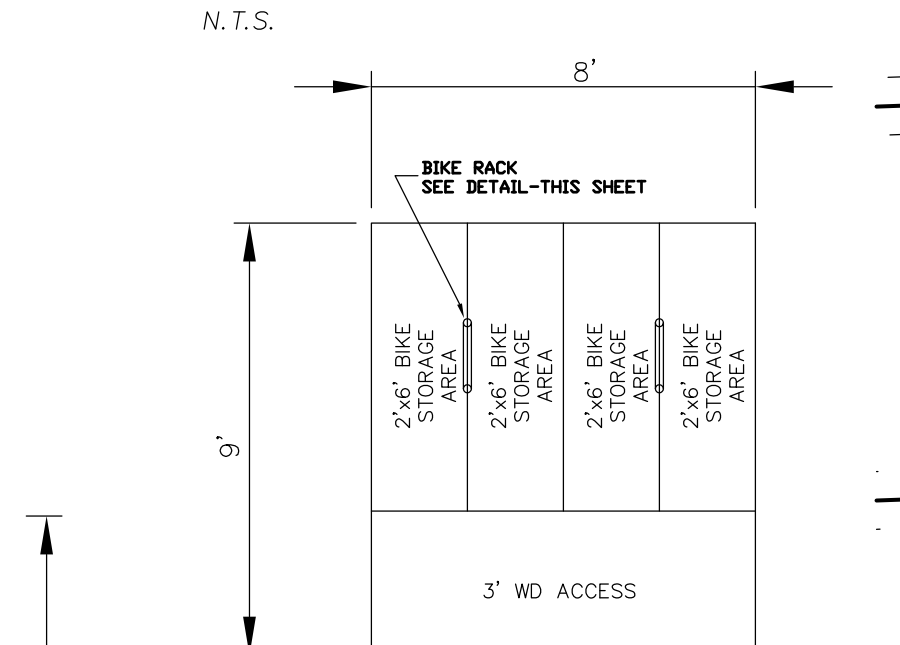
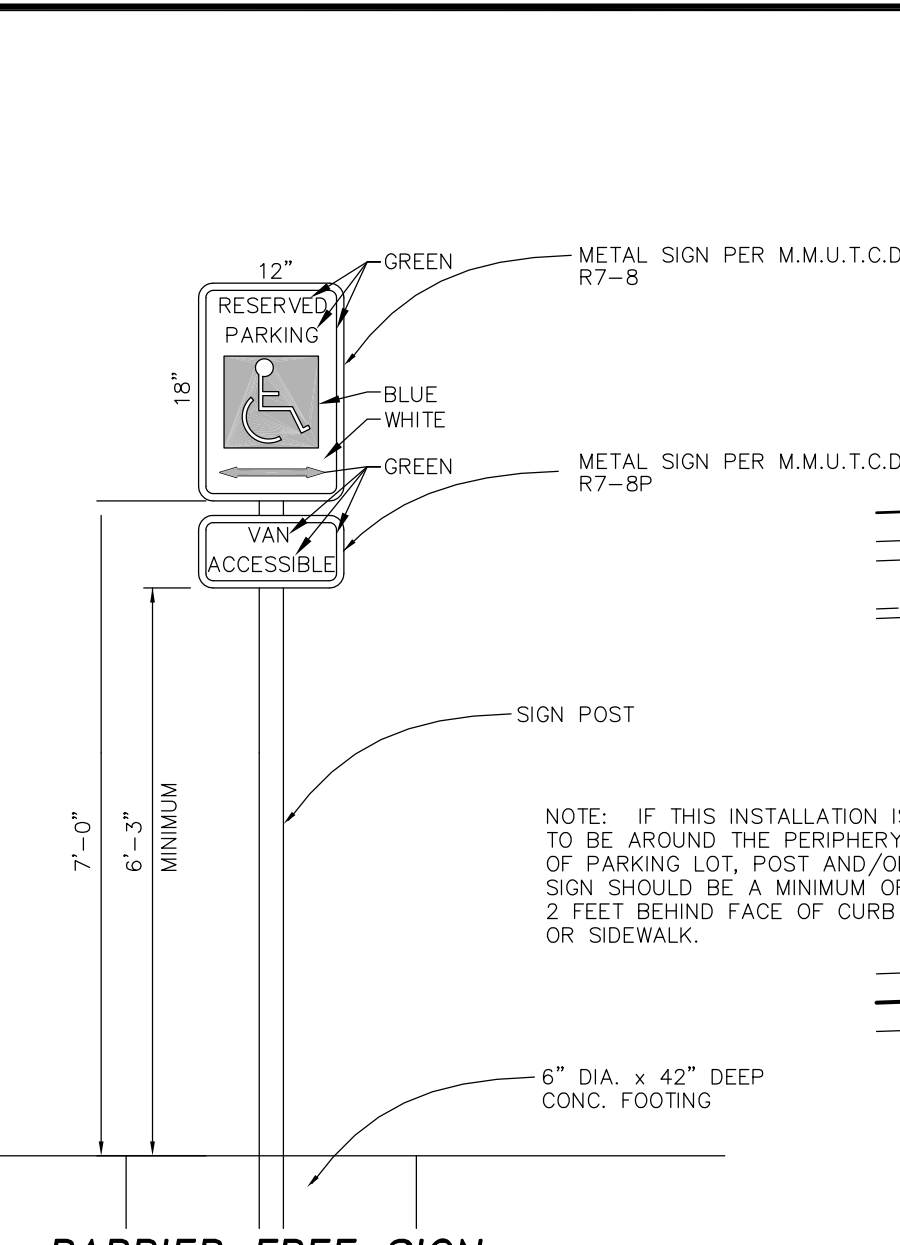
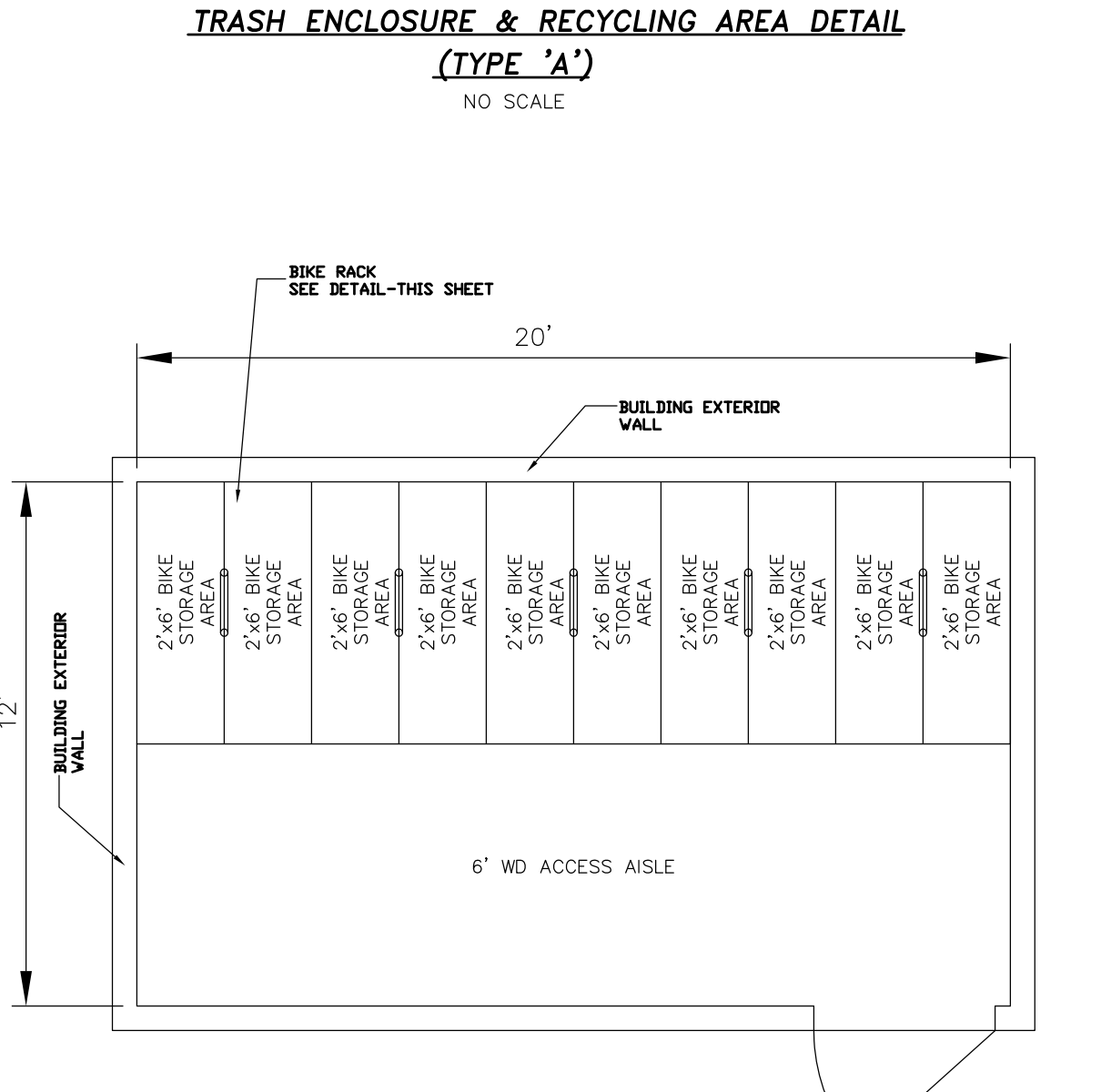
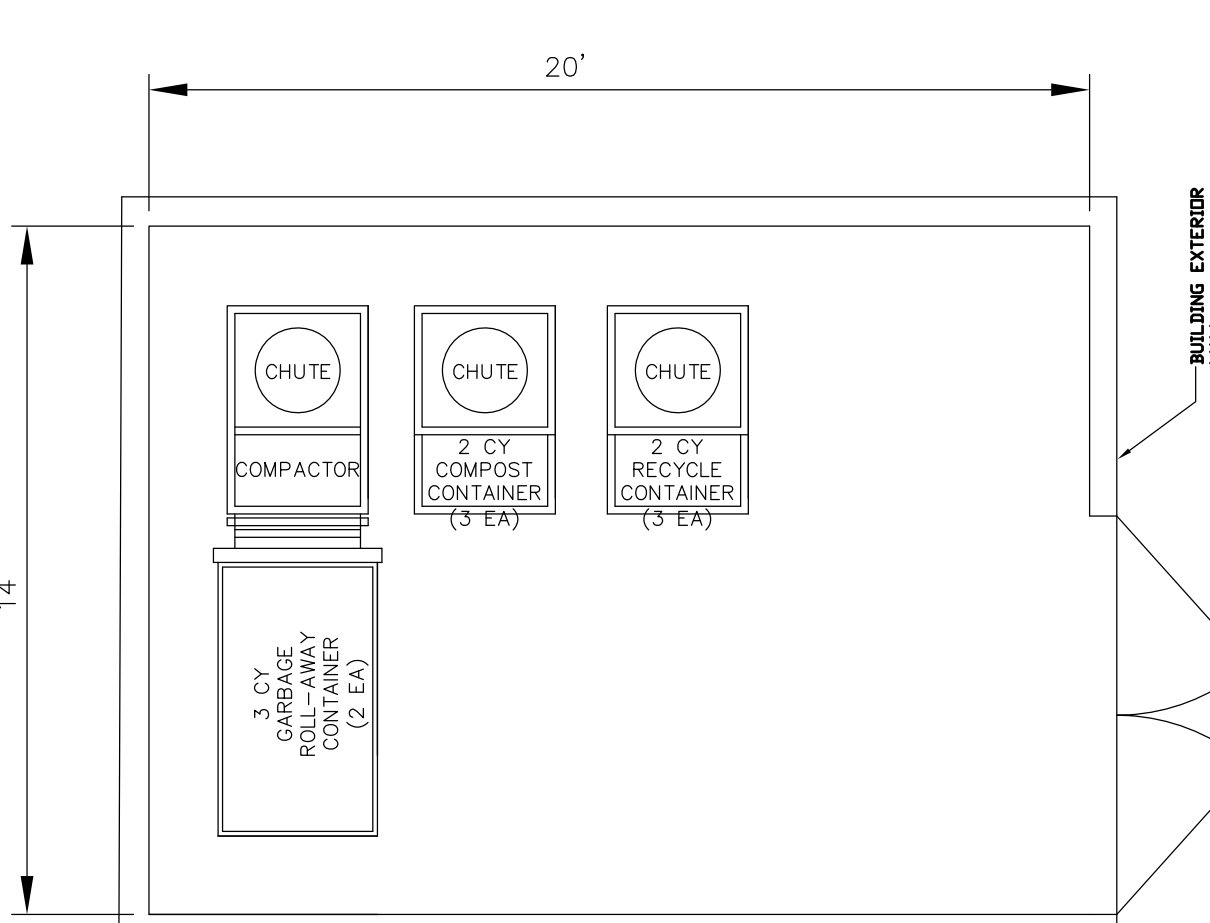
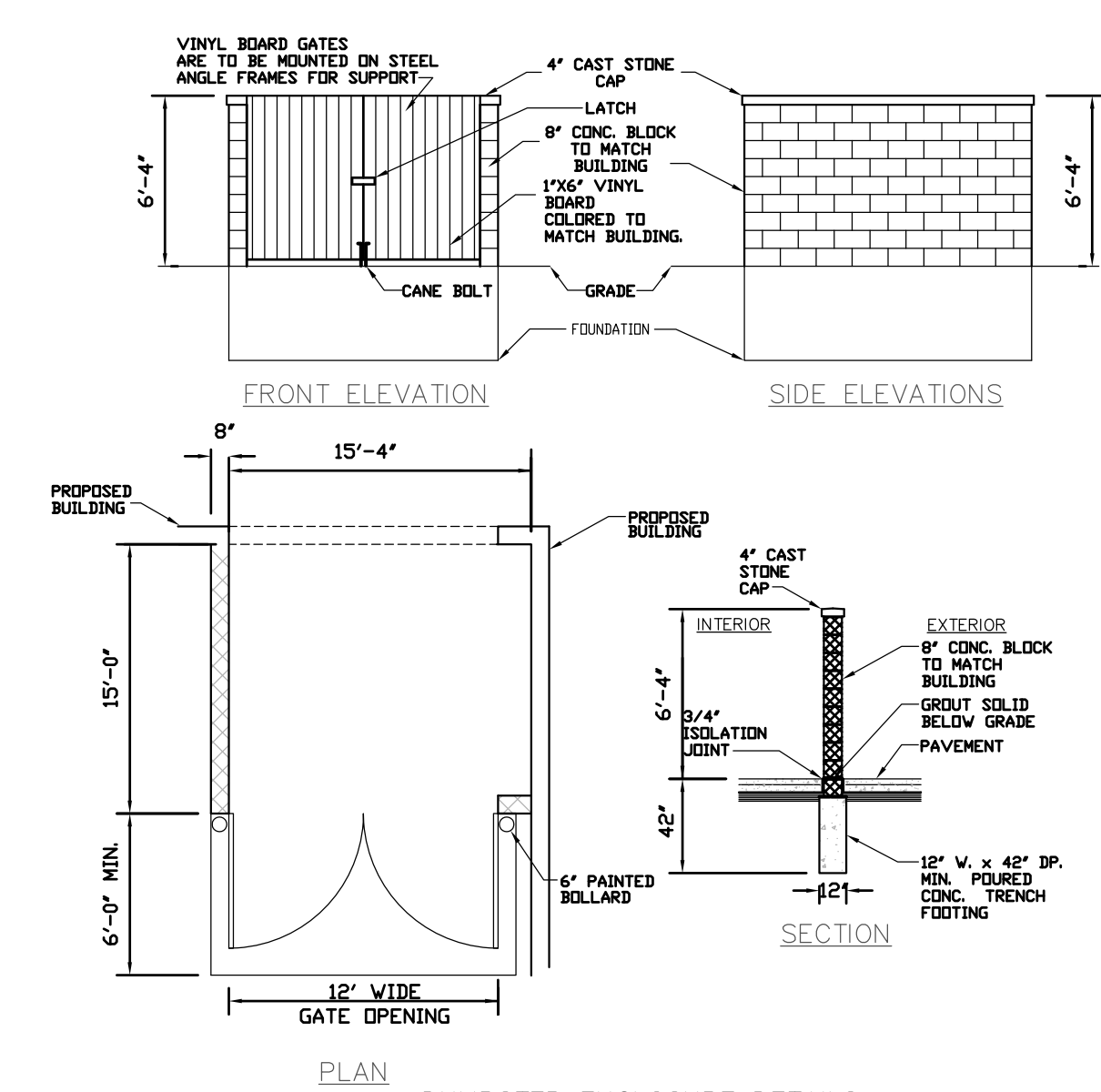
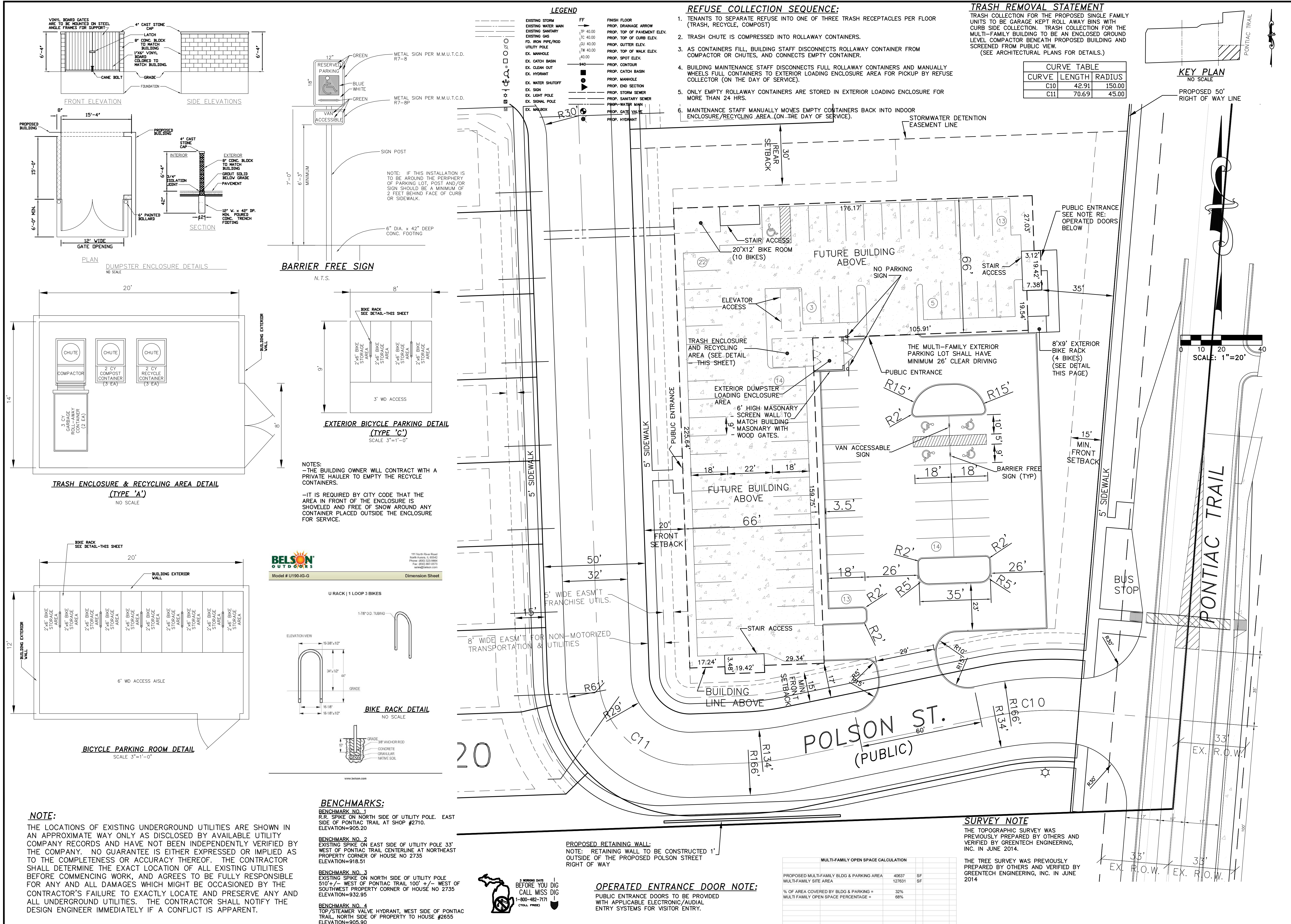
ISSUE DATE 01-01-15
DB L.M.
CB P.D.

SHEET

42D

PROJECT NO. 14010

U:\13-174\dwg\Preliminary Site Plan\44 Multi-Family - Layout Plan.dwg, 44 Multi-Family - Layout Plan



BENCHMARKS:
BENCHMARK NO. 1
 R.R. SPIKE ON NORTH SIDE OF UTILITY POLE, EAST SIDE OF PONTIAC TRAIL AT SHOP #2710. ELEVATION=905.20
BENCHMARK NO. 2
 EXISTING SPIKE ON EAST SIDE OF UTILITY POLE 33' WEST OF PONTIAC TRAIL, CENTERLINE AT NORTHEAST PROPERTY CORNER OF HOUSE NO 2735 ELEVATION=918.51
BENCHMARK NO. 3
 EXISTING SPIKE ON NORTH SIDE OF UTILITY POLE 510' +/- WEST OF PONTIAC TRAIL 100' +/- WEST OF SOUTHWEST PROPERTY CORNER OF HOUSE NO 2735 ELEVATION=932.95
BENCHMARK NO. 4
 TOP/STEAMER VALVE HYDRANT, WEST SIDE OF PONTIAC TRAIL NORTH SIDE OF PROPERTY TO HOUSE #2655 ELEVATION=905.90

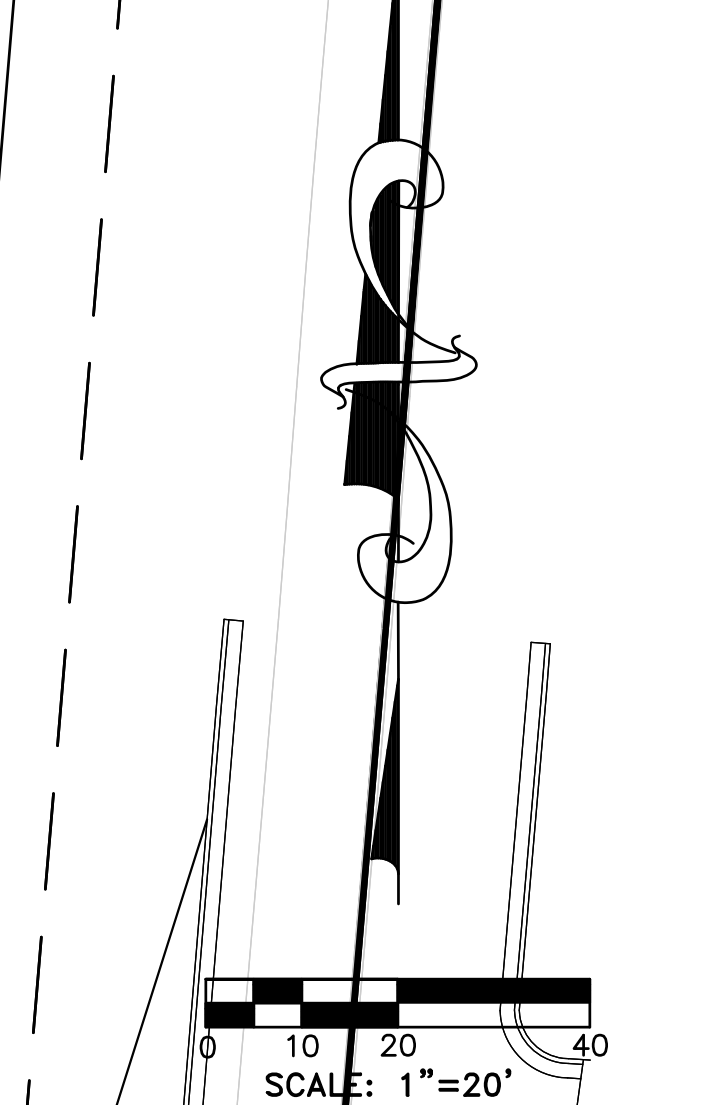
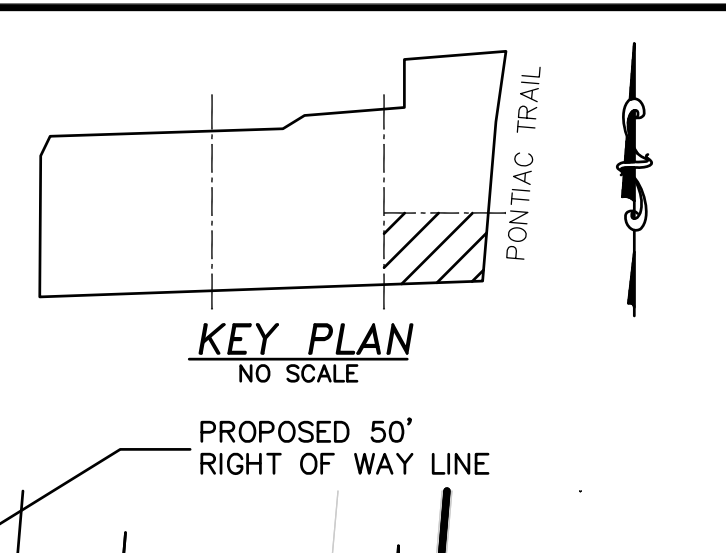
LEGEND

EXISTING STORM	FF	FINISH FLOOR
EXISTING WATER MAIN	10'-00.00	PROP. DRAINAGE ARROW
EXISTING SANITARY	10'-00.00	PROP. TOP OF PAVEMENT ELEV.
EXISTING GAS	10'-00.00	PROP. TOP OF CURB ELEV.
FD, IRON PIPE/ROD	10'-00.00	PROP. GUTTER ELEV.
UTILITY POLE	10'-00.00	PROP. TOP OF WALK ELEV.
EX. MANHOLE	10'-00.00	PROP. SPOT ELEV.
EX. CATCH BASIN	10'-00.00	PROP. CONTOUR
EX. CLEAN OUT	10'-00.00	PROP. CATCH BASIN
EX. HYDRANT	10'-00.00	PROP. MANHOLE
EX. WATER SHUTOFF	10'-00.00	PROP. 2ND SECTION
EX. SIGN	10'-00.00	PROP. STORM SEWER
EX. LIGHT POLE	10'-00.00	PROP. SANITARY SEWER
EX. SIGNAL POLE	10'-00.00	PROP.-WATER MAIN
EX. MAILBOX	10'-00.00	PROP. GATE VALVE
		PROP. HYDRANT

- REFUSE COLLECTION SEQUENCE:**
- TENANTS TO SEPARATE REFUSE INTO ONE OF THREE TRASH RECEPTACLES PER FLOOR (TRASH, RECYCLE, COMPOST)
 - TRASH CHUTE IS COMPRESSED INTO ROLLAWAY CONTAINERS.
 - AS CONTAINERS FULL, BUILDING STAFF DISCONNECTS ROLLAWAY CONTAINER FROM COMPACTOR OR CHUTES, AND CONNECTS EMPTY CONTAINER.
 - BUILDING MAINTENANCE STAFF DISCONNECTS FULL ROLLAWAY CONTAINERS AND MANUALLY WHEELS FULL CONTAINERS TO EXTERIOR LOADING ENCLOSURE AREA FOR PICKUP BY REFUSE COLLECTOR (ON THE DAY OF SERVICE).
 - ONLY EMPTY ROLLAWAY CONTAINERS ARE STORED IN EXTERIOR LOADING ENCLOSURE FOR MORE THAN 24 HRS.
 - MAINTENANCE STAFF MANUALLY MOVES EMPTY CONTAINERS BACK INTO INDOOR ENCLOSURE/RECYCLING AREA (ON THE DAY OF SERVICE).

TRASH REMOVAL STATEMENT
 TRASH COLLECTION FOR THE PROPOSED SINGLE FAMILY UNITS TO BE GARAGE KEPT ROLL AWAY BINS WITH CURB SIDE COLLECTION. TRASH COLLECTION FOR THE MULTI-FAMILY BUILDING TO BE AN ENCLOSED GROUND LEVEL COMPACTOR BENEATH PROPOSED BUILDING AND SCREENED FROM PUBLIC VIEW. (SEE ARCHITECTURAL PLANS FOR DETAILS.)

CURVE	LENGTH	RADIUS
C10	42.91	150.00
C11	70.69	45.00



NOTE:
 THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AS DISCLOSED BY AVAILABLE UTILITY COMPANY RECORDS AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE COMPANY. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY IF A CONFLICT IS APPARENT.

OPERATED ENTRANCE DOOR NOTE:
 PUBLIC ENTRANCE DOORS TO BE PROVIDED WITH APPLICABLE ELECTRONIC/AUDIAL ENTRY SYSTEMS FOR VISITOR ENTRY.

MULTI-FAMILY OPEN SPACE CALCULATION

PROPOSED MULTI-FAMILY BLDG & PARKING AREA	40637	SF
MULTI-FAMILY SITE AREA	127631	SF
% OF AREA COVERED BY BLDG & PARKING =	32%	
MULTI-FAMILY OPEN SPACE PERCENTAGE =	68%	

SURVEY NOTE
 THE TOPOGRAPHIC SURVEY WAS PREVIOUSLY PREPARED BY OTHERS AND VERIFIED BY GREENTECH ENGINEERING, INC. IN JUNE 2014.

THE TREE SURVEY WAS PREVIOUSLY PREPARED BY OTHERS AND VERIFIED BY GREENTECH ENGINEERING, INC. IN JUNE 2014.

CLIENT: TROWBRIDGE DEVELOPMENT

PROJECT: MULTI-FAMILY LAYOUT PLAN

SECTION: 16

TOWNSHIP: 2 S

CITY OF: ANN ARBOR

COUNTY: WASHTENAW COUNTY

STATE: MICHIGAN

RANGE: 6 E

REVISIONS:

11-19-15	PER CITY
10-1-15	PER CITY REVIEW
8-24-15	PER CITY REVIEW
8-4-15	PER CNTY REVIEW
7-7-15	PER CITY REVIEW
4-28-15	PER CITY REVIEW
3-2-15	UPDATED PLAN
1-21-15	PER CITY REVIEW

DATE: 9-26-14

DRAWN BY: DL

CHECKED BY:

DATE: 9-26-14

SCALE: HOR 1"=20 FT. VER 1"=1 FT.

44

13-174

GREENTECH ENGINEERING, INC.

CIVIL ENGINEERS & LAND SURVEYORS

51111 W. Pontiac Trail, Wixom, MI 48393

Phone: (248) 668-0700 Fax: (248) 668-0701

811

Know what's below
 Call before you dig.



D'Anna Associates
Architecture | Engineering
1055 SOUTH BLVD. E. SUITE 200
ROCHESTER HILLS, MI 48307
P 248-852-7702 F 248-852-7707

dannaassoc.com

DANNA ASSOCIATES RETAINS THE OWNERSHIP OF THIS DOCUMENT AS INSTRUMENT OF SERVICE AND IT CANNOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT WRITTEN PERMISSION AND ADDITIONAL COMPENSATION.
DANNA ASSOCIATES © 2013 COPYRIGHT



EAST ELEVATION

1/16"=1'-0"



NORTH ELEVATION

1/8"=1'-0"

NORTH SKY
APARTMENTS

ISSUANCE:

- SCHEMATIC
- BIDDING
- MUNI SUBMITTAL
- CONSTRUCTION
- OTHER:

DRAWINGS SHALL NOT BE USED FOR CONSTRUCTION UNLESS INDICATED

NO.	DESC.	DATE
1	SITE	3-6-15
2	SITE	9-23-15
3	MUNI	11-19-15
4	MUNI	12-9-15

ISSUE DATE 01-01-15
DB L.M.
CB P.D.
SHEET

42F

PROJECT NO. 14010



Architecture | Engineering
 1055 SOUTH BLVD. E. SUITE 200
 ROCHESTER HILLS, MI 48307
 P 248-852-7702 F 248-852-7707

dannaassoc.com

DANNA ASSOCIATES RETAINS THE OWNERSHIP OF THIS DOCUMENT AS INSTRUMENT OF SERVICE AND IT CANNOT BE RELEASD WITHOUT WRITTEN PERMISSION AND ADDITIONAL COMPENSATION.
 DANNA ASSOCIATES © 2013 COPYRIGHT



WEST ELEVATION

1/16"=1'-0"



SOUTH ELEVATION

1/16"=1'-0"

NORTH SKY APARTMENTS

- ISSUANCE:
- SCHEMATIC
 - BIDDING
 - MUNI SUBMITTAL
 - CONSTRUCTION
 - OTHER:

DRAWINGS SHALL NOT BE USED FOR CONSTRUCTION UNLESS INDICATED

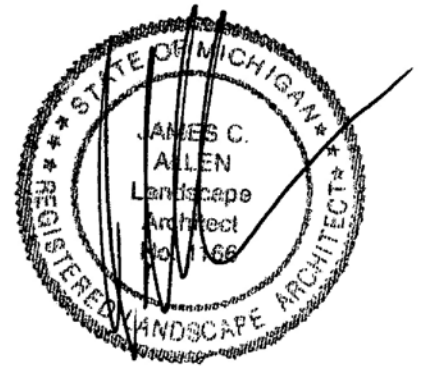
NO.	DESC.	DATE
1	SITE	3-6-15
2	SITE	9-23-15
3	MUNI	11-19-15
4	MUNI	12-9-15

ISSUE DATE 01-01-15
 DB L.M.
 CB P.D.
 SHEET

42G

PROJECT NO. 14010

Seal:



Title:
Landscape Plan

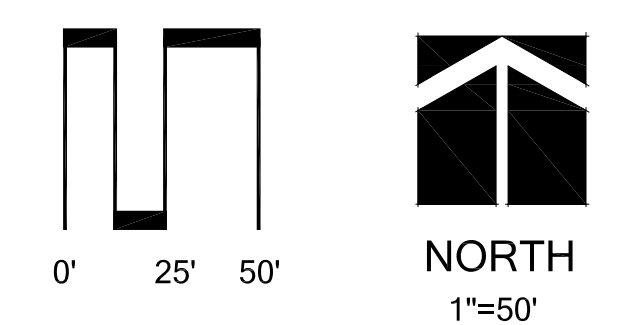
Project:
**North Sky
 Ann Arbor, Michigan**

Prepared for:
 Trowbridge Homes
 2617 Beacon Hill Dr.
 Auburn Hills, MI 48326

Revision:	Issued:
Review	September 17, 2014
Submission	September 26, 2014
Revised	January 19, 2015
Revised	March 3, 2015
Revised	April 22, 2015
Revised	July 10, 2015
Revised	August 5, 2015
Revised	August 25, 2015
Revised	October 5, 2015
Revised	November 20, 2015

Job Number:
 14-033

Drawn By: jca
 Checked By: jca



Sheet No.

L-1

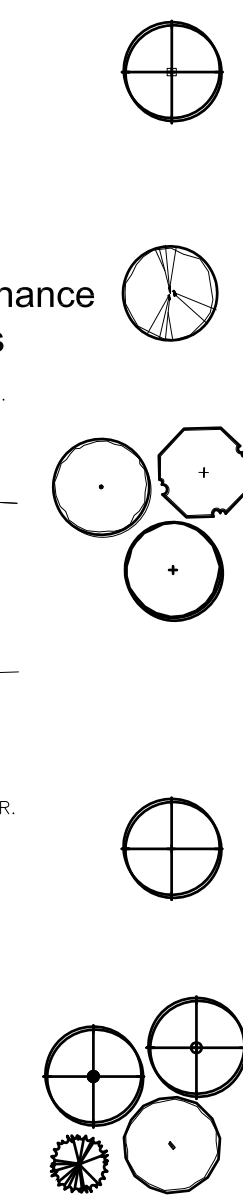


Plant List

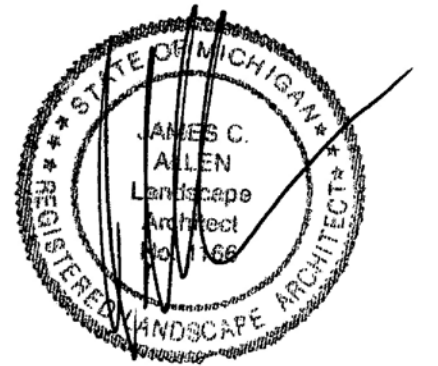
sym.	qty.	botanical name	common name	caliper	spacing	root	height
CO	31	Celtis occidentalis	Hackberry	2.5"	as shown	B&B	
GT	26	Gleditsia triacanthos var. inermis	Thornless Honeylocust	2.5"	as shown	B&B	
LT	39	Liriodendron tulipifera	Tulip Tree	2.5"	as shown	B&B	
QR	23	Quercus rubra	Red Oak	2.5"	as shown	B&B	
TC	17	Tilia americana	American Linden	2.5"	as shown	B&B	
UH	39	Ulmus princenton	Princeton Elm	2.5"	as shown	B&B	
	174	Street Trees Shown Sheet L-1					
Woodland Mitigation							
COI	20	Celtis occidentalis	Hackberry	3.0"	as shown	B&B	
LT	20	Liriodendron tulipifera	Tulip Tree	3.0"	as shown	B&B	
PG	35	Picea glauca	White Spruce	as shown	B&B	6'	
PM	37	Picea mariana	Black Spruce	as shown	B&B	6'	
PS	42	Pinus strobus	White Pine	as shown	B&B	6'	
QMI	19	Quercus macrocarpa	Burr Oak	3.0"	as shown	B&B	
ORI	14	Quercus rubra	Red Oak	3.0"	as shown	B&B	
TCI	26	Tilia americana	American Linden	3.0"	as shown	B&B	
UHI	18	Ulmus princenton	Princeton Elm	3.0"	as shown	B&B	
	231	Mitigation Trees Shown on Sheet L-1					

Landscape Summary

Right of Way Screening	
Visible Vehicular Use Length	154'
Trees Required	5.1 Trees (154' / 30')
Trees Provided	6 Trees
Vehicular Use Area	
Use Area	11,874 s.f.
Landscape Area Required	593 s.f. (11,874 / 20)
Landscape Area Provided	601 s.f.
Trees Required	2.3 Trees (593 / 250)
Trees Provided	3 Trees
Street Trees	
Street Frontage	9,878 l.f.
Trees Required	247 Trees (9,878 / 40)
Trees Provided	247 Trees
Conflicting Use Buffer	
Buffer Length	210'
Trees Required	14 Trees (210 / 15)
Trees Provided	14 Trees
Street Tree Escrow	
Right of Way Length	960 l.f.
Street Tree Escrow Required	\$1,248.00 (960 x \$1.30)
Street Trees Required	21 Trees (960 / 45)
Street Trees Provided	21 Trees
Woodland Mitigation	
Mitigation Required	445 Trees (1,335" / 3")
Mitigation Required by Previous Developer	309 Trees (1,851" x 50%) / 3"
Total Mitigation	754 Trees (2,261")
Replacement Provided:	
3.0" Trees and 6" Evergreens	449 Trees (1,347")
Total Mitigation Provided	1,347" (60% on Site Mitigation)
Total Trees to be Paid into Fund	305 - 3.0" Trees (959")
Amount to be Paid into Fund	\$76,250 (305 x \$250)



Seal:



Title:
Landscape Plan

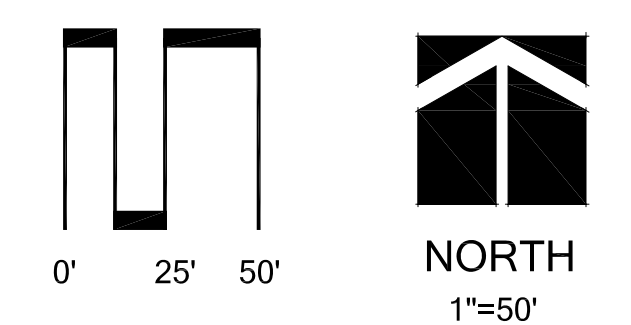
Project:
**North Sky
 Ann Arbor, Michigan**

Prepared for:
 Trowbridge Homes
 2617 Beacon Hill Dr.
 Auburn Hills, MI 48326

Revision:	Issued:
Review	September 17, 2014
Submission	September 26, 2014
Revised	January 19, 2015
Revised	March 3, 2015
Revised	April 22, 2015
Revised	July 10, 2015
Revised	August 5, 2015
Revised	August 25, 2015
Revised	October 5, 2015
Revised	November 20, 2015

Job Number:
 14-033

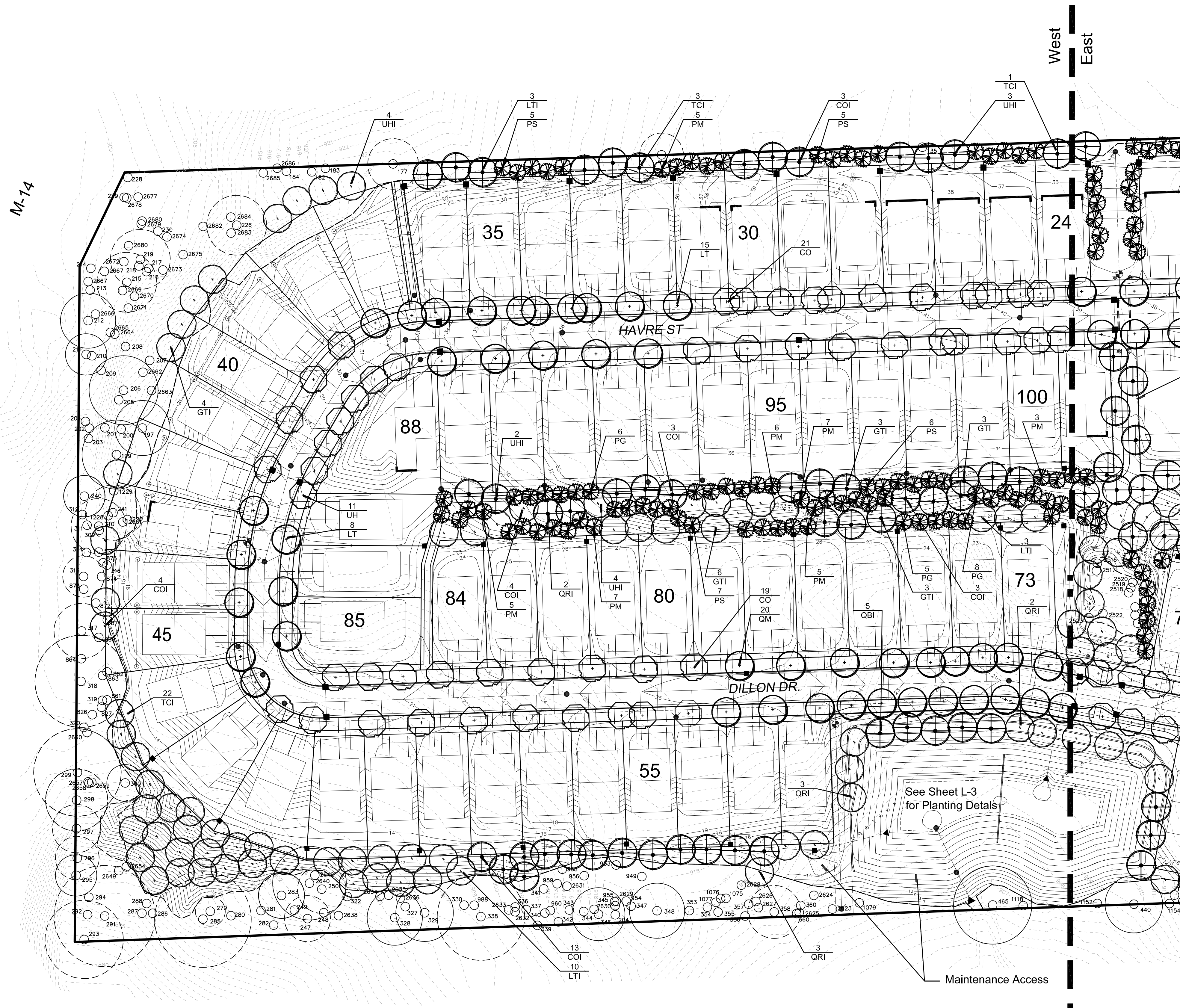
Drawn By: jca
 Checked By: jca



Sheet No.



L-2



Split Rail Fence

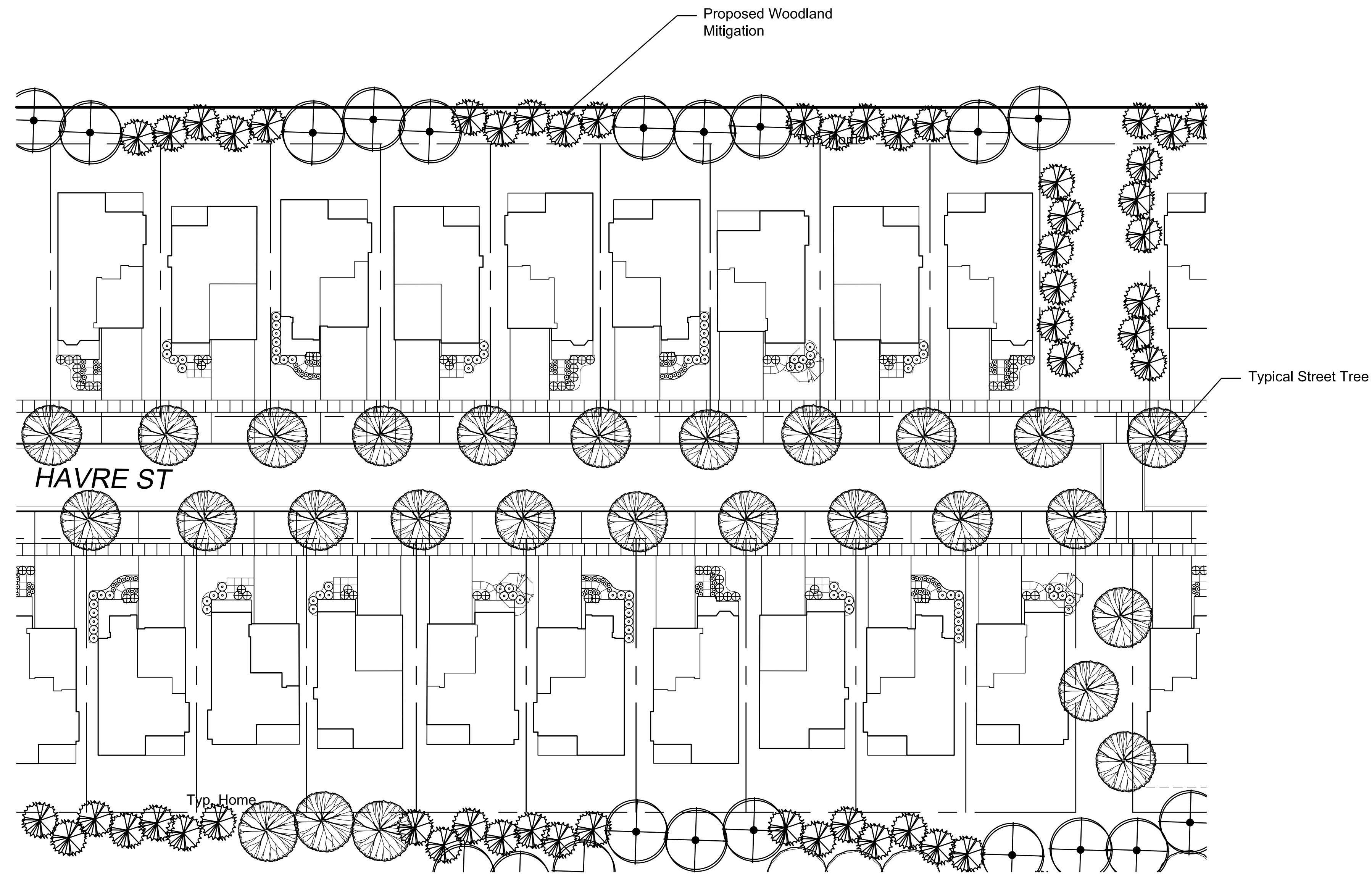
Plant List

sym.	qty	botanical name	common name	caliper	spacing	root	height
CO	40	Celtis occidentalis	Hackberry	2.5"	as shown	B&B	
LT	23	Liriodendron tulipifera	Tulip Tree	2.5"	as shown	B&B	
QM	20	Quercus macrocarpa	Burr Oak	2.5"	as shown	B&B	
UH	11	Ulmus princeton	Princeton Elm	2.5"	as shown	B&B	
	94	Street Trees Shown Sheet L-2					
Woodland Mitigation							
COI	30	Celtis occidentalis	Hackberry	3.0"	as shown	B&B	
GTI	19	Gleditsia triacanthos var. Inermis	Thornless Honeylocust	3.0"	as shown	B&B	
LT	16	Liriodendron tulipifera	Tulip Tree	3.0"	as shown	B&B	
PG	19	Picea glauca	White Spruce		as shown	B&B	6'
PM	41	Picea mariana	Black Spruce		as shown	B&B	6'
PS	23	Pinus strobus	White Pine		as shown	B&B	6'
QBI	5	Quercus bicolor	Swamp White Oak	3.0"	as shown	B&B	
QRI	12	Quercus rubra	Red Oak	3.0"	as shown	B&B	
TCI	26	Tilia americana	American Linden	3.0"	as shown	B&B	
UHI	13	Ulmus princeton	Princeton Elm	3.0"	as shown	B&B	
	204	Mitigation Trees Shown on Sheet L-2					

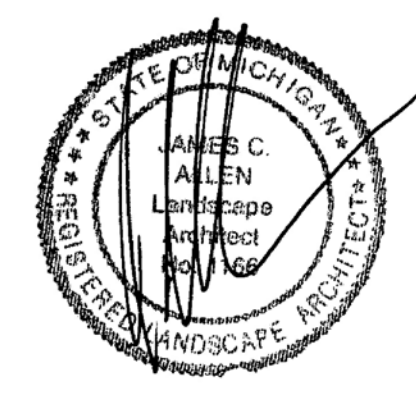
- UTILITY BOXES ARE UNKNOWN AT THIS TIME. ONCE THE BOX LOCATIONS ARE KNOWN THEY WILL BE SCREENING ON 3 SIDES.
- ALL DISTURBED AREAS TO BE SOD OR SEED.
- ALL LANDSCAPE AREAS SHALL BE IRRIGATED.
- SNOW SHALL BE STORED IN BUILDING ISLANDS AND ALONG STREETS. STORAGE SHALL NOT INCLUDE DETENTION AREAS OR LANDSCAPED AREAS.
- THE STREET TREE ESCROW MUST BE PAID PRIOR TO ISSUING BUILDING PERMITS. CHECKS ARE TO MADE PAYABLE TO: CITY OF ANN ARBOR AND MAILED TO SYSTEMS PLANNING UNIT, 301 E. HURON ST., PO BOX 8647, ANN ARBOR, MI 48107-8647 – ATTN: KERRY GRAY. PLEASE INCLUDE THE PROJECT NAME AND PROJECT NUMBER ON THE CHECK.
- TREES SHALL BE PLANTED 5'-8' FROM UTILITY LEADS.

See Sheet L-3
 for Planting Details

Maintenance Access



Seal: _____



Title: _____
Typical Streetscape

Project: _____
North Sky
 Ann Arbor, Michigan

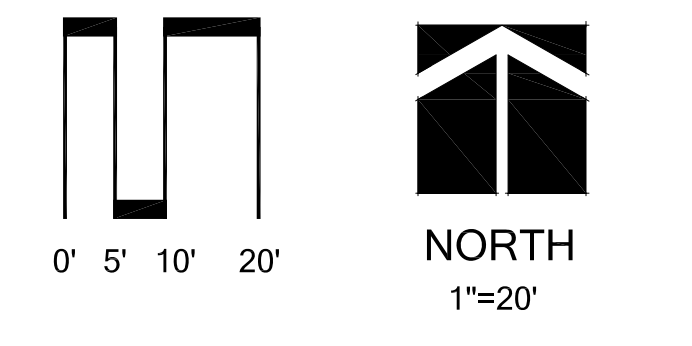
Prepared for: _____
 Trowbridge Homes
 2617 Beacon Hill Dr.
 Auburn Hills, MI 48326

Revision:	Issued:
Review	September 17, 2014
Submission	September 26, 2014
Revised	January 19, 2015
Revised	March 3, 2015
Revised	April 22, 2015
Revised	July 10, 2015
Revised	August 5, 2015
Revised	August 25, 2015
Revised	October 5, 2015
Revised	November 20, 2015

Job Number: _____
 14-033

Drawn By: _____
 jca

Checked By: _____
 jca



Sheet No. _____

