

Planning Commission

Larry Fox, Chairperson Michael Mitchell, Vice-Chairperson Tom Murphy, Secretary Summer L. McMullen, Trustee Sue Grissim, Commissioner Jim Mayer, Commissioner Matthew Eckman, Commissioner

Planning Commission Meeting Agenda Hartland Township Hall Thursday, May 22, 2025 7:00 PM

- 1. Call to Order
- 2. Pledge of Allegiance
- 3. Roll Call
- 4. Approval of the Agenda
- 5. Approval of Meeting Minutes
 - a. Planning Commission Regular Meeting Minutes of April 24, 2025
- 6. Call to Public
- 7. Public Hearing
 - <u>a.</u> Site Plan/PD Application #24-005 Square One Planned Development (PD) –Preliminary PD Site Plan
- 8. Call to Public
- 9. Planner's Report
- 10. Committee Reports
- 11. Adjournment

HARTLAND TOWNSHIP PLANNING COMMISSION DRAFT MEETING MINUTES

APRIL 24, 2025–7:00 PM

1. Call to Order: Chair Fox called the meeting to order at 7:00 p.m.

2. Pledge of Allegiance:

3. Roll Call and Recognition of Visitors:

Present – Commissioners Eckman, Fox, Grissim, Mayer, McMullen, Mitchell, & Murphy Absent – None

4. Approval of the Meeting Agenda:

A Motion to approve the April 24, 2025, Planning Commission Meeting Agenda was made by Commissioner McMullen and seconded by Commissioner Mitchell. Motion carried unanimously.

5. Approval of Meeting Minutes:

a. Planning Commission Regular Meeting Minutes of April 10, 2025.

A Motion to approve the Planning Commission Regular Meeting Minutes of April 10, 2025, was made by Commissioner Grissim and seconded by Commissioner Eckman. Motion carried unanimously.

6. Call to the Public:

None

7. Old and New Business

a. Site Plan/PD Application #25-001 Redwood Living Planned Development (PD) Phase II –Final Plan.

Director Langer stated the following:

- Gave an overview of the location of the project.
- This is the final step of the three-step Planned Development process, the Planning Commission will make a recommendation, and the Township Board will make the final decision.
- Phase II includes 130 apartment units in 28 buildings.
- A draft of the Final Planned Development (PD) Agreement was included in the packet.
- Site Plan amended to include additional extended garages on some of the buildings; HH, JJ, MM, PP, RR, UU, WW, BBB, HHH, JJJ for a total of 50 units.
- Also included are some additional details for the berm and a slight modification to the stormwater basin.

Representing the Applicant, Ian Graham, P.E., Civil Engineer with Bergmann Associates, confirmed the four-foot extended garage is a popular feature and additional details on the berm and stormwater basin have also been provided.

Commissioner Murphy asked if there is still twenty-five feet from the extended garage to the street. The Applicant confirmed there is; the building was moved four feet.

Commissioner Eckman asked if there is still room to park four vehicles. The Applicant confirmed there is.

Chair Fox asked Commissioner Mayer if all of his earlier questions regarding the berms had been answered. He stated yes, they are shown at five to six feet which is acceptable.

Director Langer stated the Applicant is using the same template for the Planned Development Agreement for Phase II as was used for Phase I. Both parties' attorneys have reviewed the agreement, and they are in the process of organizing the exhibits, one of which is this plan, assuming it is approved.

Chair Fox referred to the Prohibited Uses. Director Langer stated this development is approved for rental use. Any other use must be determined as similar and approved by the Planning Commission.

Director Langer stated they are still working on the easement for the access drive to an unknown future development to the south and east. The entity is still Redwood but a slightly different LLC, and it could be sold off in the future; thus, the intent is to secure and document the easement in legal form.

Commissioner Mayer asked about the verbiage in Condition 5. Director Langer stated that should read south and east.

Commissioner Murphy asked how Walnut Drive will be treated where is ends? Director Langer stated there was a lengthy discussion about this topic, Redwood requested a sign so there will be a sign indicating the road does not go through, he anticipates the concrete will end and there will be some kind of soil erosion control measures to preserve the concrete, such as gravel. The Applicant stated there will be six-foot tall barrier with reflective material to prohibit traffic from progressing and protect people from driving off of the edge of the roadway until something is developed.

Director Langer stated the Planned Development approval process is essentially a rezoning. The current zoning is HDR (High Density Residential) and CA (Conservation Agricultural), it will now be PD Planned Development.

Commissioner Grissim offered the following Motion:

Move to recommend approval of Site Plan/PD #25-001, Final Plan for Redwood Living Planned Development Phase II, as outlined in the staff memorandum dated April 17, 2025

Approval is subject to the following conditions:

1. The Final Plan for Redwood Living Planned Development Phase II, SP/PD #25-001, is subject to the approval of the Township Board.

- 2. Final approval of the Redwood Planned Development Phase II (SP/PD Application #25-001), shall require an amendment to the Zoning Ordinance to revise the zoning map and designate the subject property as PD (Planned Development). The subject property, which constitutes the planned development project area (29.89 acres total), and is to be rezoned to PD, is as follows:
 - a. Tax Parcel ID #4708-26-100-023 (29.89 acres in size); currently zoned HDR (High Density Residential) and CA (Conservation Agriculture).
- 3. The applicant shall adequately address the outstanding items noted in the Planning Department's memorandum, dated April 17, 2025, on the Construction Plan set, subject to an administrative review by Planning staff prior to the issuance of a land use permit.
- 4. The Planned Development Agreement and any easements shall comply with the requirements of the Township Attorney.
- 5. As part of the Final Plan Review, the applicant, and/or any future owners shall agree to not interfere or object to any future roadway and/or pedestrian connections to the south *and east*. Any future ingress-egress easement agreement shall comply with the requirements of the Township Attorney.
- 6. Applicant complies with any requirements of the Township Engineering Consultant, Department of Public Works Director, Hartland Deerfield Fire Authority, Michigan Department of Environment, Great Lakes, and Energy (EGLE), and all other government agencies, as applicable.
- 7. The applicant shall obtain approval of a land division for the parcel associated with the proposed project.

Seconded by Commissioner Eckman.

Commissioner McMullen offered a friendly amendment to modify the language on Condition 5 to "south and east." The Maker and Seconder agreed.

Motion carried unanimously.

b. Site Plan Application #25-006 – Request to amend previously approved site plans for a mini warehouse establishment, under SP/SUP #22-015 (Old US -23; Tax Parcel ID #4708-28-300-023)

Director Langer stated the following:

- Gave an overview of the location of the project.
- Zoned LI (Light Industrial)
- Previously approved Site Plan with a Special Use Permit for mini storage with some outdoor storage related to the primary use.
- Applicant requested and received a one-year extension.
- Now the Applicant is requesting to modify the Site Plan.

[Director Langer explained the previously approved Site Plan and the requested Amendment to the Site Plan.]

The Applicant, Jerrad Beauchamp, stated the following:

- He began working with Trachte, a company who manufactures storage facilities and did a site evaluation.
- Trachte asked about the canopy storage area and suggested, due to the Michigan climate, they
 be fully enclosed.
- Applicant decided to split the large building into two smaller buildings and remove the third canopy.
- Some storage space was lost but the quality increased.
- Added a climate-controlled building in the southeast portion of the site.
- Believes this revision will be appealing to the Township as well.
- Everything else is the same, other than the red garage doors will now be black.

Off-Street Parking (Sec. 5.8.4.H – Mini or Self-storage Warehouse)

Director Langer stated the following:

- Previously discussed that each unit is supposed to have a parking space; for this type of use, it seemed too much as most pull up to their unit, load or unload, and leave.
- Due to the modification and the additional units, it was mentioned in the staff report for the Planning Commission's decision.

The Planning Commission agreed.

Landscaping and Screening (Sec. 5.11)

Director Langer stated the following:

- Only looking at the changes which are as follows:
 - o Addition of five (5) conifer trees in the northwest corner and three (3) conifer trees in the northeast corner of the site (8 trees total).
 - One (1) canopy tree added at southeast corner of Building 13.

Commissioner Grissim stated the median at the entrance where the sign is located could be planted with lawn and trees for simplicity. The Applicant stated the median in the entrance has been eliminated due to topography, but it did not get changed on the plan.

<u>Lighting (Sec. 5.13)</u>

Chair Fox stated the Construction Plans should show the height of the light poles.

Architecture / Building Materials (Sec. 5.24)

Director Langer stated the following there was a conflict between the architectural plans and the floor plans. Goal was for upgraded C- Brick materials on the end of the units facing Old US 23 and US 23 and no garage doors facing either road frontage; the plans show some units with doors. The Applicant stated in a letter, the plans will be modified, and no doors will be on either the Old US 23 side or the US 23 side.

Commissioner Grissim asked about the curb. The Applicant stated they decided on a type of rolled curb as part of the asphalt, no concrete.

Commissioner Grissim asked about a Michigan Department of Environment, Great Lakes, and Energy (EGLE) permit to drain into the wetland. The Applicant stated that it has all been handled; it has been a difficult site to develop.

Commissioner Murypy asked about Buildings 6 and 13. Director Langer stated he no longer has a floor plan for Building 6 and the prior plan numbering has changed. The current Building 6 was previously labeled as Building 3. Commissioner Murphy asked if both Building 6 and Building 13 are climate controlled. The Applicant confirmed they are and continued stating there are no changes to the floor plan for Building 6 other than some of the office area will be used for supply storage and mechanical equipment; there is an office, but it will not be the main office.

Commissioner Mayer asked if the Applicant has had conversations with the Fire Marshal about the turning radius required for fire equipment; they had to use a 40-foot truck instead of a 50-foot truck. The Applicant stated he has; the earlier plan was approved but the engineers have made some adjustments to this one. The Fire Department requested installation of a siren activated entry gate for emergency vehicles. Commissioner Mayer asked how a siren improves the turning radius. The Applicant stated he did not know. His recollection is that the area of concern was Building 6. Commissioner Mayer stated his concern is in the southeast corner near Building 12 but if the Fire Marshall is satisfied, so is he.

Commissioner Eckman offered the following Motion;

Move to approve Site Plan Application #25-006 a request to amend previously approved plans for a mini warehouse establishment, approved under Site Plan with Special Land Use application #22-015, as outlined in the staff memorandum dated April 17, 2025.

Approval is subject to the following conditions:

- 1. The applicant shall adequately address the outstanding items noted in the Planning Department's memorandums, dated April 17, 2025, and November 10, 2022 (SP/SUP #22-015), on the Construction Plan set, subject to an administrative review by the Planning staff prior to the issuance of a land use permit.
- 2. The applicant shall revise the plans per the items noted in the applicant's email dated April 17, 2025.
- 3. All prior conditions and requirements specified under SP/SUP #22-015 shall remain valid.
- 4. Applicant complies with any requirements of the Department of Public Works Director, Township Engineering Consultant (SDA), Hartland Deerfield Fire Authority, and all other government agencies, as applicable.

Seconded by Commissioner Grissim. Motion carried unanimously.

8. Call to the Public:

None

9. Planner Report:

a. Zoning Map and Future Land Use Map Updates

Director Langer stated the following:

- Township is in the process of updating the Zoning Map and Future Land Use Map.
- Looking for input on some of the formatting.
- Old maps are oriented straight to the page; however, if orientated to True North using current GIS technology, the map is slightly tilted. Other Townships zoomed out farther showing a border which softens the tilt visually.
- Looking for opinions.

Commissioner Murphy stated the following:

- Seeing the water features is pleasing and makes the map look more complete.
- Keep the map straight on the page and tilt the north arrow as was done before.

Commissioner Eckman stated the following:

- Approves of the water features.
- Does not see a need to add information beyond the border of the Township.
- Does not see the reason for changing the orientation of the map on the page, never noticed it was not True North before.

Commissioner Grissim stated the following:

- Has seen maps that show True North and a separate arrow for how that map is oriented.
- Approves of the scale being one mile rather than .8 of a mile.
- Appreciates the altered colors to be able to differentiate between the water and other information.

Commissioner Mitchell stated he also appreciates the vivid coloring on the new maps.

Director Langer asked about the formatting of the road names.

Commissioner Murphy stated the following:

- Having a different background color for the road names helps them stand out.
- Might want to increase the size of the font.
- Not an engineered drawing, does not see the need for tilting the map to reflect True North.

Commissioner Mayer stated he would like to see it squared up; it looks like we did not hire a very professional printer.

Chair Fox agreed it should be squared up to the page but use the more vibrant colors.

Commissioner Eckman stated squaring it up may interfere with the scale as the squared image is slightly larger than the tilted version. It could just be the smaller image if desired to keep the scale at one mile.

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Director Langer asked if those comments reflected their thoughts on both the Zoning Map and the Future Land Use Map. The Planning Commission stated they do.

Director Langer summarized the following:

- Like the color for the water and seeing the water features shown.
- No need to go beyond the border of the Township.
- Like how the roads are highlighted with a white background.
- Do not like the True North tilt; he will have to discuss the options with SDA.
- Increase the font size for the road names.
- Like the vibrant colors.
- Prefer all road names capitalized.

Director Langer explained Section numbers on the maps.

The Planning Commission discussed the process and challenges involved in updating the maps.

Commissioner Eckman suggested there be a disclaimer statement on the map near the date that the information may have changed since the publication of that particular map.

10. Committee Reports:

None

11. Adjournment:

A Motion to adjourn was made by Commissioner Mitchell and seconded by Commissioner McMullen. Motion carried unanimously. The meeting was adjourned at approximately 8:05PM.

Hartland Township Planning Commission Meeting Agenda Memorandum

Submitted By: Troy Langer, Planning Director

Subject: Site Plan/PD Application #24-005 Square One Planned Development (PD) –

Preliminary PD Site Plan (Plans dated December 16, 2024)

Date: May 15, 2025

Recommended Action

Move to recommend approval of Site Plan/PD #24-005, the Preliminary Planned Development Site Plan for Square One Planned Development, as outlined in the staff memorandum dated May 15, 2025.

Approval is subject to the following conditions:

- 1. The Preliminary Planned Development Site Plan for Square One Planned Development, SP/PD #24-005, is subject to the approval of the Township Board.
- 2. Waiver request on the building height, being greater than 35 feet, is approved.
- 3. The applicant shall adequately address the outstanding items noted in the Planning Department's memorandum, dated May 15, 2025, on the Construction Plan set, subject to an administrative review by Planning staff prior to the issuance of a land use permit.
- 4. As part of the Final Plan Review, the applicant shall provide a Planned Development (PD) Agreement that includes any applicable ingress-egress access easements and agreements. The documents shall be in a recordable format and shall comply with the requirements of the Township Attorney.
- 5. Applicant complies with any requirements of the Township Engineering Consultant, Department of Public Works Director, Hartland Deerfield Fire Authority, Michigan Department of Environment, Great Lakes, and Energy (EGLE), and all other government agencies, as applicable.
- 6. Applicant shall secure all applicable approvals and permits from the Michigan Department of Transportation (MDOT) and Livingston County Road Commission (LCRC). Any changes to the site plans shall be reviewed by the Planning Commission.
- 7. (Any other conditions the Planning Commission deems necessary).

Discussion

Applicant: M59 Property Ventures, LLC

Site Description

The proposed planned development (PD) property is located at the southwest corner of Highland Road and Old US-23. The approximate 29.85-acre parcel is undeveloped (Parcel ID #4708-28-100-014) and zoned GC (General Commercial). The Township's Assessing records state the parcel size as 29.85 acres; however,

the plans state the parcel size as 30.0 acres. For purposes of this review, staff is using the parcel size as 29.85 acres, as determined by the Township's Assessing records.

The subject parcel was previously designated as Commercial on the 2015 Future Land Use Map (FLUM); however, in 2020-2021 several amendments were made to the 2015 FLUM and Comprehensive Development Plan. The amendments were approved by the Township Board on May 18, 2021. One of the areas that was amended is the subject property, which is now designated as M-59/Old US-23 Special Planning Area (SPA).

The parcel south of the subject site is the location of the former Tag Sports Center (1535 Old US-23) consisting of ball fields with batting cage, concession stand, clubhouse and locker rooms, putt-putt golf course, restroom facilities, and parking. This property is now under the ownership of Floodgate Church. The parcel is zoned GC (Parcel ID #4708-28-100-018). Per the 2021 amendment to the FLUM and Comprehensive Plan, this parcel is now designated as SPA (formerly designated as Commercial on the 2015 FLUM).

Land to the west includes LAG Development at 9990 Highland Road (Parcel ID #4708-29-200-017) and Charyl Stockwell Academy at 9758 Highland Road (Parcel ID #4708-29-200-015). Both parcels are zoned GC and designated as Commercial on the 2015 FLUM and the 2021 FLUM Amendment.

North of the site, on the north side of Highland Road is the Shops at Waldenwoods Planned Development which includes Kroger Grocery, Huntington Bank (formerly TCF Bank), CVS Pharmacy, and a mix of smaller commercial establishments. This commercial complex is zoned Planned Development (PD) and designated as Commercial on the 2021 FLUM Amendment.

To the east, across Old US-23, are Fountain Square Shopping Center, Hartland Town Center, and Speedway Fuel Station. All said properties are zoned GC and designated as Commercial on the 2021 FLUM Amendment.

In summary, the 2020-2021 Amended FLUM provides the following designations for properties adjacent to the subject site:

North: Commercial (north side of Highland Road- Shops at Waldenwoods)

South: Special Planning Area

East: Commercial (east side of Old US-23)

West: Commercial

Municipal water and sanitary sewer will be required for this development.

In October 2023, the Department of Environment, Great Lakes and Energy's (EGLE) Water Resources Division (WRD) conducted a Level 3 Wetland Identification Program (WIP) review of three assessment areas on the subject site.

The Wetland Identification Report from EGLE, dated December 14, 2023, identified one wetland area that is regulated by the WRD. The wetland area, labeled as Regulated Wetland (A) is approximately 1.52 acres in area and is generally located along the south side of the site. The applicant is responsible for securing all applicable permits and approvals from EGLE and all other government agencies for any activities occurring within a regulated wetland.

Site History

Historically it appears that the property has been used for agricultural purposes.

Site Plan/PD Application #23-001 M-59 Properties Planned Development—Concept Plan

The Concept Plan for M-59 Properties PD was discussed under SP/PD #23-001. The Concept Plan was reviewed by the Planning Commission on January 26, 2023, and the Township Board on February 7, 2023.

Planned Development Procedure

Section 3.1.18 of the Township's Zoning Ordinance (PD Planned Development) provides standards and approval procedures for a Planned Development. Approval of a Planned Development is a three-step process. A Concept Plan, Preliminary Plan, and Final Plan are all reviewed by the Planning Commission and the Township Board, with the Planning Commission making a recommendation and the Board having final approval at each step. The process usually requires a rezoning from the existing zoning district to the Planned Development (PD) zoning district.

As part of the rezoning, a public hearing is held before the Planning Commission consistent with the Michigan Zoning Enabling Act; this public hearing is held at the same meeting during which the Planning Commission reviews and makes a recommendation on the Preliminary Plan. Approval of the Final Plan by the Township Board usually constitutes a rezoning of the subject property to PD. Given the requirements for publishing a notice for the planned development, the public hearing has been scheduled for the May 22, 2025, Planning Commission meeting. Approval of the Final Plan by the Township Board usually constitutes a rezoning of the subject property to PD.

Overview of the Preliminary Plan and Proposed Use

The applicant has submitted a Preliminary Plan for a mixed use planned development with commercial and residential uses. The commercial sector is situated along the frontage of both Highland Road and Old US-23. Five (5) commercial outlots front along Highland Road. Two (2) commercial outlots are along Old US-23. The residential portion of the development is internal to the site and is south and west of the commercial areas. Five (5) apartment buildings, each 3-stories, are shown, with a total of 169 apartment units. One (1) apartment unit will be maintained as a permanent furnished model apartment for showing potential tenants and will not be leased.

Vehicular circulation within the development consists of a network of private, paved, internal roadways with a north-south axis (Square One Boulevard) and an east-west roadway (Cornerstone Lane). A roundabout within Cornerstone Lane affords a connection to Square One Boulevard. The east-west roadway serves as a defining boundary of the commercial and residential areas.

Cornerstone Lane extends from Old US-23 on the east to an off-site access drive along the west property line. The off-site private drive provides the only access to the Cheryl Stockwell Academy and LAG Development properties. The private drive travels from Highland Road to the access drive on the Charyl Stockwell Academy property.

Square One Boulevard commences at Highland Road then travels south to the roundabout. The boulevard continues south to the residential portion of the development, creating the main entrance to the residential community. An internal drive aisle (Avenue Circle) loops around the residential portion of the site and provides access to the five (5) apartment buildings, clubhouse, and associated parking. Avenue Circle connects to Cornerstone Lane and the southern portion of Square One Boulevard.

Additional details on circulation will be discussed in the section entitled Vehicular Circulation in this memorandum.

The following is a brief discussion on the residential and commercial components of the planned development.

Residential

The multi-family/residential component of the PD occupies the central area of the site. A total of five (5) residential apartment buildings are shown, with each building being three stories. The first floor has garages and apartment units. The second and third floors have apartments units. Apartment options include 1-bedroom, 2-bedroom, and 3-bedroom units. Sheet 6 (Civil Set) states the apartment options offered in each apartment building.

The following chart outlines the number of apartment units in each building and size of each building.

Building	Building Style	# of apt. units	Building Area – Gross Sq. Ft.
Apt. Bldg. 1	100	27	39,611 SF
Apt. Bldg. 2	200	34	45,027 SF
Apt. Bldg. 3	300	36	47,751 SF
Apt. Bldg. 4	300	36	47,751 SF
Apt. Bldg. 5	300	36	47,751 SF
Clubhouse Building	NA	0	5,725 SF
TOTAL		169 apt. units*	233,616 SF (all bldgs.)

^{*}One (1) unit to be a permanent furnished model apartment and will not be leased.

The following chart states the building width and building length for each building as measured to furthest points on each building.

Building	Building width	Building length
Apt. Bldg. 1	89'-2"	172'-8"
Apt. Bldg. 2	89'-2"	196'-8"
Apt. Bldg. 3	89'-2"	208'-8"
Apt. Bldg. 4	89'-2'	208'-8"
Apt. Bldg. 5	89'-2"	208'-8"
Clubhouse Building	84'8"	111'-4"

The Concept Plan presented a total of 168 apartment units. The Preliminary Plan has a total of 169 apartment units. Per the applicant's explanation, the 169th unit will be a permanent furnished model for showing prospective tenants, intended to be for show only, and will not be leased. The exact location of the model unit is not indicated on the architectural or civil plans.

Garage parking is included in each apartment building. Off-street (uncovered) parking spaces are shown around the apartment buildings. Several carports are scattered around the apartment buildings. Parking calculations are discussed in this memorandum under "Parking and Loading."

The clubhouse is in a separate building and located east of apartment building #1. The building is approximately 5,726 square feet in area. An in-ground pool, patio areas, and a covered terrace are adjacent to the building. On the interior, the clubhouse offers amenities such as a dog wash; exercise room; yoga room; golf simulator; and social room with bar/kitchen. Leasing and other office spaces are available for the staff.

A detention pond with water fountain feature, pond overlook, and walking paths are shown in the center of the apartment complex. Pedestrian walkways are found along the interior roadways, Highland Road, and

Old US-23. Other features within the residential area include a putting green, dog/pet park, and EV (electric vehicle) charging stations.

Building elevations of the apartment buildings and community center are provided. The architectural renderings show a mix of facade materials. The façade materials and percentage of each facade material (per elevation for each building) are included on the building elevation drawings. Further discussion of the facade materials is found in this memorandum under the Architecture/Building Materials section.

Commercial

The plan shows seven (7) commercial outlots that occupy the outer boundaries of the planned development, along Highland Road and Old US-23. Five (5) outlots are shown along Highland Road; and two (2) outlots are shown along Old US-23. The combined land area of the seven (7) outlots is approximately 14.6 acres.

Although the plan shows boundaries of each outlot and conceptual site development plans, these are considered as placeholders for future businesses. The commercial development areas are considered part of the planned development, however the plans as presented for the outlots are not intended to be the final site plan for the commercial portion of the site. Separate site plan applications will be required for the development of any outlot. As a result, building elevations for the commercial buildings and detailed site plans are not required as part of this application (Outlots 1-7).

A separate site plan application will be required for each commercial building/outlot. Detailed site/civil, architectural, landscape, and lighting plans will be required as part of the site plan application which will be reviewed by the Planning Commission and Township Board as applicable. The site plans for the commercial properties are subject to all applicable zoning standards of the Hartland Township Zoning Ordinance, including but limited to setbacks, parking, landscaping, and lighting standards. The applicant has provided language in the Pattern Book stating the architectural standards outlined in the Hartland Township Zoning Ordinance will be applicable for the commercial buildings.

Other details

The Pattern Book provides an overview of the project, design details, and a list of proposed Principal Permitted Uses for the planned development. Other uses not listed in the planned development but appear to be generally similar and consistent with the uses listed, would be reviewed by the Planning Commission. The Planning Commission could determine whether a proposed use would be permitted as a Special Land Use, which would be subject to all applicable standards of the Zoning Ordinance.

The Open Space Plan states approximately 8.71 acres of the site is open space (28% of the PD area), with approximately 1.86 acres designated as usable open space (21% of the PD area). The plan states the site area as approximately 30.90 acres. The Township Assessing records state the site area as approximately 29.85 acres.

As noted, the project area is approximately 29.85 acres in area. The estimated proposed density is 5.63 dwelling units per acre, using 168 dwelling units (if the maximum density bonus is granted) and 29.85 acres as the property area. More discussion on density is provided in the next section of this report.

The Director of the Township's Department of Public Works (DPW) has provided a review letter dated January 16, 2025, regarding the REU (Residential Equivalency Units) requirements for municipal water and sanitary sewer for the apartment buildings only. REU calculations for the commercial outlots, including the swimming pool and clubhouse, will be provided when more detailed plans are submitted.

ELIGIBILTY CRITERIA (Section 3.1.18.B.)

To be eligible for PD approval, the applicant must demonstrate that the criteria in Section 3.1.18.B. will be met.

1. Recognizable Benefits. The planned development shall result in a recognizable and substantial benefit to the ultimate uses of the project and to the community and shall result in a higher quality of development than could be achieved under conventional zoning.

The Pattern Book provides responses to this question, on page 23, under "Community Features and Benefits". The key points are noted below:

- Traffic circulation and the potential for signalization improvements of Square One provide a very significant benefit for the community and abutting properties by improving vehicular traffic circulation options.
- Proposed traffic outlets for the Charyl Stockwell Academy will help ease the school's peak hour traffic issues.
- Greater tax revenue versus an all-commercial development.
- Proposed mixed-use development generates less traffic than an all-commercial development.
- Proposed road improvements include a full-width southbound lane on the west side of Old US-23 (from M-59 to 800 feet south on Old US-23).
- Preservation of natural features-wetlands and woodlands.
- Dedication of an additional 35-feet to MDOT for Highland Road right-of-way (westerly 291.94 feet of the property).
- More control on development through PD zoning.
- Additional commercial and retail options for Township residents.
- Additional upscale housing option for existing and potential residents.
- 2. Minimum Size. Planned Developments must be a minimum of 20 acres of contiguous land.

The proposed project is approximately 29.85 acres in size, of contiguous land, and meets the criteria.

3. Use of Public Services. The proposed type and density of use shall not result in an unreasonable increase in the use of public services, facilities and utilities, and shall not place an unreasonable burden upon the subject site, surrounding land, property owners and occupants, or the natural environment.

The development is serviced via existing public streets and proposed private roadways. A Traffic Impact Study was completed for the proposed mixed-use development, by Colliers Engineering and Design, dated February 5, 2024. Data from a traffic generation comparison notes the proposed development results in a similar amount of traffic to the adjacent road network during the AM peak hour, but significantly less traffic during the peak PM hour when compared to a development that could be built using GC-General Commercial zoning. The applicant has been in discussions with the Michigan Department of Transportation (MDOT) and the Livingston County Road Commission (LCRC) regarding the project. Any proposed road improvements or access drives will require separate approvals and permits from MDOT and LCRC.

Public water and sanitary sewer services will be required, with details to be finalized on the Construction Plan set. The review letter from the Township's DPW, dated January 16, 2025, outlines the required REUs (Residential Equivalent Unit) for municipal water and sanitary sewer for the only apartment buildings.

Comments from the Hartland-Deerfield Fire Authority are summarized in the review letter dated January 21, 2025.

The applicant notes that existing woodlands and wetland areas are to be preserved, generally along the southern portion of the site. As noted previously, separate approvals and permits from EGLE are required for any proposed work within a State regulated wetland area.

4. Compatibility with Comprehensive Plan. The proposed development shall not have an adverse impact upon the Comprehensive Plan for the Township. Notwithstanding this requirement, the Township may approve a Planned Development proposal that includes uses which are not called for on the Future Land Use Map, provided that the Planning Commission and Township Board determine that such a deviation from the Future Land Use Map is justified in light of the current planning and development objectives of the Township.

The 2020-2021 Comprehensive Plan Amendment and Amendment to the Future Land Use Map, were approved by the Township Board on May 18, 2021. As part of those Amendments, the M-59/Old US-23 was designated as a Special Planning Area (SPA), which is approximately 77.9 acres in size. The intention of the Planning Commission is to work closely with the landowners in this area to establish the terms of an agreement for a mixed-use planned unit development (PUD). The Commission has agreed that the SPA should have a density of up to four (4) dwelling units per acre. The vision is to establish a mixed-use development with a mix of residential, office, and commercial uses and create a walkable and pedestrian oriented development.

The Planning Commission has agreed that if the developers of the SPA are able to include certain desirable design features that significantly enhance the appearance and function of the site, additional "bonus' density dwelling units can be awarded to the development as an incentive to promote a high-quality development. However, such a density "bonus" will only be awarded at the discretion of the Township in accordance with established development regulations of the Township and State of Michigan.

Further, the Planning Commission has determined the PD can be created with an environment that encourages pedestrian linkage between activity nodes and resource features. Specific principles were agreed upon for the Special Planning Area in the 2020-2021 Comprehensive Plan Amendment, as listed below.

1. Development within the Special Planning Area shall provide for a variety of housing (for example, single family, townhouses, condominium, apartments, and senior housing), along with retail, office, recreation, and entertainment space.

The applicant proposes a mixed-use development with residential housing (5 apartment buildings) and seven (7) outlots for commercial development. Based on the applicant's explanation, a mix of commercial, office, and hospitality uses are anticipated for the outlots.

2. Development within the Special Planning Area shall provide for public facilities and other neighborhood amenities.

Municipal water and sanitary sewer will be required for the proposed development. The design of the PD provides open space areas can be enjoyed by the Square One PD community, that includes a community building/clubhouse with pool, pet park, putting green, overlook on the detention pond and fountain, and a network of sidewalks (within the Planned Development and along Highland Road and Old US-23).

3. Special Planning Area shall provide pedestrian and vehicular links between land uses and adjacent property (that may not be directly included within this Special Planning Area development).

Vehicular links (private roadways and access drives) within the planned development provide access to the commercial and residential areas. The two (2) private roadways connect to public streets on the north (Highland Road) and east (Old US-23). Cornerstone Lane connects to the private drive (on the west) which is currently the only access for the LaFontaine Auto Group (LAG) and Charyl Stockwell Academy properties.

A sidewalk network is found within the PD which links the commercial and residential areas of the PD. Additionally sidewalk connections are shown to the existing and proposed sidewalks along the frontage of Highland Road and Old US-23.

4. Special Planning Area shall also coordinate with the Township's goal of creating walkable pathways to the Township settlements and other public and private facilities.

The proposed sidewalk system in the PD aligns with the Township's goal of creating pathways to public and private facilities in the Township. In particular, the PD sidewalks connect to the extensive sidewalk system along the south side of Highland Road. Once on Highland Road, pedestrian access is possible to the Shops at Waldenwoods and Fountain Square shopping center.

5. Developments shall be developed in harmonious coexistence with pre-existing historical and natural features within the Township.

The intent of the PD is to retain the existing natural features along the south. Historically the majority of the property has been used for agricultural purposes and most areas are open fields or have low vegetation.

6. Special Planning Area shall include landscape, streetscape, traffic and architectural solutions that are superior in design and visually enhancing the local community with sensitivity to the existing historic features in the Township.

The proposed mixed-use development includes a combination of commercial and residential components which are interconnected via private roadways and public streets. The seven (7) outlots are placed along the perimeter of the development, along Highland Road and Old US-23. Interior to the site is the multiple-family residential portion of the proposed project which includes five (5) apartment buildings, clubhouse with outdoor pool, pet park, and a central open space with amenities for the residents.

Streetscaping is provided throughout the development with landscaping and attractive masonry walls that define the different areas. Architecturally the apartment buildings and clubhouse are designed with the same façade materials to provide a cohesive look to the community.

5. Unified Control. The proposed development shall be under single ownership or control such that there is a single person or entity having responsibility for completing the project, or assuring completion of the project, in conformity with the Ordinance.

M59 Property Ventures LLC will be the only owner of the PD and will be responsible for assuring completion of the project.

PLANNED DEVELOPMENT STANDARDS (Section 3.1.18.C.)

This section outlines the design standards for a planned development. Additional site standards will be discussed from applicable sections of the Zoning Ordinance.

1. **Permitted Uses.** The predominant use of the site shall be consistent with the uses specified for the parcel on the Township's Comprehensive Plan for Future Land Uses.

The subject area for the planned development project is designated as M-59/Old US-23 Special Planning Area (SPA) on the 2020-2021 Amended Future Land Use Map. Per the 2020-2021 Comprehensive Plan Amendment, this SPA would be developed as a mixed-use planned development with a density of up to four (4) dwelling units per acre. The intent is to have a mix of uses that include commercial, office and residential components. Connectivity is encouraged to provide a walkable and pedestrian oriented community.

The proposed planned development is a mix of multiple-family residential, commercial, retail, restaurant, and hospitality uses. Pedestrian and vehicular connections are offered throughout the development. The proposed density is approximately 5.63 dwelling units per acre.

2. **Residential Density.** Residential density in a planned development shall be consistent with the density designation within the Township's Comprehensive Plan.

Section 3.1.18.C. of the Zoning Ordinance states the residential density in a planned development shall be consistent with the density designation within the Township's Comprehensive Plan. The subject property is designated Special Planning Area (SPA) on the recently adopted 2021 Comprehensive Plan and FLUM Amendment.

The SPA designation for this site envisions a base density of up to four (4) dwellings per acre. Using the project area of 29.85 acres for density calculations and allowing a maximum density of four (4) dwellings per acre, a maximum of 120 dwelling units could be permitted ($4 \times 29.85 = 120 \text{ units}$).

Per Section 3.1.18.C.iv., the Planning Commission may agree to recommend up to a forty (40%) percent increase in dwellings on a site in recognition of outstanding attributes as listed in this section. The Township Board in its sole discretion shall have the ability to approve such a density increase up to forty percent (40%) subsequent to an affirmative recommendation from the Planning Commission.

In this case if the planned development land area could accommodate up to 120 dwellings (29.85 total acres x 4 units per acre), in accordance with the Comprehensive Plan, the planned development plan could include up to 168 dwellings (120 + 48 additional dwellings) if a maximum bonus of 40% was awarded by the Planning Commission and Township Board (40% x 120 = 48). Although the PD plan shows 169 dwelling units, one (1) dwelling unit is designated as a sales office/permanent furnished model apartment and will not be leased.

For the purposes of calculating density, 168 dwelling units are used. The resulting density is approximately 5.63 dwelling units per acre and thus aligns with the maximum density if the bonus was granted (168 units \div 29.85 acres = 5.63 dwelling units per acre).

3. **Design Details.** The applicant shall prepare a detailed description of design details to be implemented in the proposed planned development, to be presented in a Pattern Book.

The design details are provided on the submitted site and landscape plans and architectural drawings for the Planned Development. The Pattern Book provides additional details on the project.

4. **Minimum Yard Requirements.** The minimum yard requirements are noted in the chart below per Section 3.1.18.C.vi.a. (for building setbacks). In this case, the yard requirements are applied to the five (5) apartment buildings, as the commercial buildings are conceptual only at this point. The commercial buildings in the outlots will be required to meet the required setbacks in the GC (General Commercial) zoning district and applicable setbacks for certain roads (Section 3.24).

The following chart summarizes the building setbacks for the residential buildings and clubhouse.

Yard Location		Proposed setback	Complies Yes/No
	Standard		
Along perimeter adjacent to	50 ft.	NA (Residential portion	NA
public road		of PD is not adjacent to	
		a public road)	
Along perimeter, but not	40 ft.	65.5 ft. (Apt. Bldg. 1)	Yes
adjacent to a road (distance		97 ft. (Apt. Bldg. 5)	Yes
to west property line)			
Along an internal collector	40 ft.	52.2 ft (Apt. Bldg. 1)	Yes
or local road*		50.3 ft. (Clubhouse)	Yes
(Cornerstone Lane)		50.1 ft. (Apt. Bldg. 2)	Yes

^{*} Measured from building to ROW

- NOTE: The carport structure west of Apt. Bldg.1 is approximately 15 feet from west property line (closest point). A retaining wall runs along the almost the entire length of west boundary, with carport structures abutting the wall. The top of each carport structure is level with or below the adjacent landscape area, along the west property line.
- 5. **Distances Between Buildings.** Spacing requirements for buildings in a planned development are outlined in Section 3.1.18.C.vi.b.3. *Residential buildings containing more than one unit (including: apartments; townhouses; and other attached dwellings) shall conform to the spacing requirements set forth in Section 3.1.7 (MDR Medium Density Residential).*

Per Section 3.1.7 (MDR), the required setbacks are as follows: front yard (30 feet); side yard (10 feet); and rear yard (25 feet). These standards are somewhat difficult to apply in this development as the buildings are not on individual parcels nor are individual building envelopes proposed. As a result, this standard does not appear to apply.

The following chart lists the closest distance between buildings in the residential portion of the PD.

Building to Building	Distance between Bldgs.
Bldg. 1 to Clubhouse	129 ft.
Clubhouse to Bldg. 2	204 ft.
Bldg. 2 to Bldg. 3	105 ft.
Bldg. 3 to Bldg. 4	150 ft.
Bldg. 4 to Bldg. 5	59 ft.
Bldg. 5 to Bldg. 1	92 ft.

6. **Building Height.** No building in a planned development shall be greater than thirty-five (35) feet in height.

Each apartment building is approximately 39'-2" in height to the top of the parapet wall, which exceeds the maximum allowed height. The applicant has requested a waiver request to exceed the maximum building height. The community building is approximately twenty-two (22) feet in height at the tallest point (at the building entry) and complies.

7. **Parking and Loading.** Planned Developments shall comply with the parking and loading requirements specified in Section 5.8, Off-Street Parking requirements, and Section 5.9, Loading Space Requirements of the Zoning Ordinance.

Parking requirements are listed in Section 5.8.4.H (Table of Minimum Parking Space Requirements). For the category, Residential, Family, two (2) parking spaces are required for each dwelling unit, plus one (1) additional space for each four (4) dwellings. In this case, with 168 units, 336 parking spaces are required as the base number, PLUS forty-two (42) additional parking spaces ($168 \div 4 = 42$), beyond the required two (2) spaces per dwelling unit. The total number of required parking spaces is 378 parking spaces. The plan states a total of 384 parking spaces are provided.

Covered garage parking is provided on the first floor of each apartment building. Uncovered off-street parking spaces are shown around each apartment building and by the community building. Fifteen (15) carport structures offer covered parking. The carport structures are scattered throughout the residential development.

The following chart summarizes the proposed parking options and number of parking spaces.

Parking Option	# Parking Spaces
Uncovered parking spaces	201 spaces
Garage parking in bldg.	60 spaces
Carport parking	123 spaces
TOTAL parking provided	384 spaces
TOTAL parking required	378 spaces

Standard parking spaces are shown as 10 feet wide by 20 feet in length. For 383 parking spaces, a total of 8 barrier-free parking spaces are required. Fifteen (15) barrier-free parking spaces are shown, of which three (3) are van-accessible parking spaces. Two (2) van-accessible parking spaces are required (minimum).

8. **Landscaping.** Landscaping requirements are provided in Section 3.1.18.C.vi.e. These are considered minimum design standards, typically for a commercial or office development.

A more detailed review of the landscaping is provided in this memorandum using applicable landscape standards outlined in Section 5.11 (Landscaping and Screening).

9. **Open Space.** Open space shall be provided to complement and accentuate the high-quality design of the proposed planned development. At minimum, the planned development shall provide open space consistent with the previous zoning designation for the site.

Per this section of the Zoning Ordinance (Section 3.1.18.C.vi.f,), the planned development shall provide open space consistent with the previous zoning designation for the site, at a minimum. Currently the site is zoned GC (General Commercial). In GC, the maximum lot coverage permitted for a principal structure is

seventy-five percent (75%). The plans do not state the lot coverage for the combined total of each apartment building footprint. The plans for the seven (7) outlots are conceptual in design at this point.

Section 3.15 of the Zoning Ordinance states residential condominium developments (in several zoning district classifications) should provide a minimum of 25% open space, with a minimum of 10% of the total land area to be usable open space ("usable open space" is defined as land area suitable for active recreation). The parcel area used for the open space calculations is based on the Township's Assessing records, which state the parcel is approximately 29.85 acres. Sheet 8 of the civil plan set (Open Space) states the total site area is 30.90 acres. The applicant should explain how the parcel size was determined. For the Open Space calculations, staff has relied on the Township's Assessing records and is using the parcel size as 29.85 acres.

For the proposed development consisting of 29.85 acres, a minimum of 7.46 acres of open space is required $(25\% \times 29.85)$, with a minimum of ten percent (10%) being usable open space. This equates to 2.99 acres of usable open space (10%) of total site = 29.85 acres).

The following table outlines the Open Space Requirements (required and proposed), using the parcel size of 29.85 acres (total site area), thus the stated data does not match that listed on Sheet 8 (Open Space). It should be noted that the Open Space Plan shows open space and usable open space areas for only the residential portion of the planned development; the commercial portion is not included.

Category	Required	Proposed	Complies Yes or No
Open Space	25% = 7.46 acres min.	8.56 acres (28.7%)	Yes
Usable Open Space	10% = 2.99 acres min.	1.92 acres (6.4%)	No

The Open Space Plan (Sheet 8 in civil plan set) shows Open Space and Usable Open Space areas. The Open Space areas are shown with a solid, striped line graphic and include Detention Basin A; the existing wetland area on the south; lawn/landscape areas around the buildings; parking islands, pet park, area adjacent to Outlot 6, and internal sidewalks within the residential community but not the sidewalks along the south side of Cornerstone Lane.

Usable Open Space is shown with dashed lines and includes lawn/landscape areas around Building 3 and Detention Basin A (east and part of north); pet park; putting green; clubhouse; and outdoor pool/patio and associated landscape areas. Based on the calculations above, the proposed Usable Open space is less than 10%, however the potential exists for additional usable open space within the seven (7) outlots when they are developed. The Planning Commission should determine if the proposed usable open space (6.4%) is acceptable as presented.

10. **Natural Features**. Consistent with the stated intentions for creation of these regulations, the preservation of the natural features of the Township is an important planning consideration. A PD proposal must consider the natural topography and geologic features, scenic vistas, trees and other vegetation and natural drainage patterns that exist on the site and propose a development pattern which preserves and avoids disruption of those natural features as much as possible.

A natural features plan is provided which shows existing features of the site (Sheet 3 of the civil plans). Historically the site has been used for agricultural activities thus vegetation is limited to a few locations on the site. Trees are found along the southern portion of the site. Four (4) wetland areas are shown on the plan Three (3) of the wetland areas are identified as unregulated wetlands (Wetland B, C, and D). An intermittent drainage course runs along the southern portion of the site (Wetland A). This has been identified by EGLE (Department of Environment, Great Lakes and Energy) as a regulated wetland. Wetland A is approximately 1.52 acres in size per the site plan information.

The highest elevations on the property are along the central westerly area and sloping down toward the northeast, east, and south. Generally, the existing topography will be followed for the project.

11. **Sidewalks and Pedestrian Access.** The applicant must demonstrate the PD site, and all uses within the site will be connected to any existing pedestrian and nonmotorized vehicle paths and trails within a public right-of-way or easement open to the public.

Pedestrian circulation includes perimeter sidewalks along Highland Road and Old US-23 frontages. These will provide for future links to the west and south. The intent is to provide new sections of 5-foot-wide sidewalks along Highland Road and extend the sidewalk to the Old US-23 intersection. A new 5-foot-wide sidewalk is proposed along the east side of the PD, within the right-of-way of Old US-23.

Internally, there is a network of sidewalks that provide connections between the commercial and residential components of the planned development. The sidewalks vary in width from five (5) feet to seven (7) feet. Sidewalks are seven (7) feet wide, where adjacent to parking spaces by the apartment building and clubhouse. Five (5) foot wide sidewalks are along the north and south sides of Cornerstone Lane; around the roundabout; the east side of Square One Boulevard, and internally through the common areas.

REQUIREMENTS FOR PRELIMINARY REVIEW (Section 3.1.18.E.ii)

The following is a summary of items that have not been addressed in the previous review as part of the Design Standards section.

1. Sewer and Water.

The Public Works Director has provided a review letter dated January 16, 2025, regarding REU (Residential Equivalent Unit) requirements for municipal water and sanitary sewer for the only apartment buildings. Calculations for the commercial outlots, including the swimming pool and clubhouse, will be provided when more detailed plans are submitted for the construction stage.

2. Stormwater and Drainage Systems.

The stormwater management plans show two (2) detention basins. The central detention basin (Basin A) includes a pond with fountain feature. Other features for Basin A include a firepit, pond overlook and adjacent walkway.

3. Traffic Impacts.

The applicant provided a Traffic Impact Study (TIS), dated February 5, 2024. An executive summary of the TIS is provided as an attachment. Communications from Michigan Department of Transportation (MDOT) and the Livingston County Road Commission (LCRC) are also provided. At this point MDOT is not willing to approve the proposed PD driveway location on Highland Road/M-59 (Square One Boulevard). The applicant will need to continue to work with MDOT to resolve this issue.

The LCRC found the two (2) proposed driveway locations, on Old US-23, to be acceptable as shown. Additionally, the LCRC noted the proposed Cornerstone Lane cross-access road that runs between Old US-23 and the access drive associated with Charyl Stockwell Academy, will provide an overall benefit to the surrounding roadway network. Any road improvements will require separate permits and approvals from these agencies.

In addition to the Traffic Impact Study, the applicant provided a memorandum that summarizes the traffic generation and traffic impacts of the project site if it were to be developed as exclusively commercial uses permitted under current zoning (GC – General Commercial). A site plan shows the proposed commercial uses being analyzed in the memorandum. Summaries of the data are provided, for the comparison of traffic generation associated with the proposed planned development and the

commercial uses only. Based on Table 2, (Trip Generation Comparison), the Commercial Uses Only scenario would result in 163 additional trips in the AM Peak Hour and 589 additional trips in the PM Peak Hour as compared to the trips generated by the Proposed Development (Square One PD) scenario.

4. Vehicular Circulation.

Vehicular circulation within the development consists of a network of private, paved, internal roadways with a north-south axis (Square One Boulevard), an east-west roadway (Cornerstone Lane), and a round-about where Square One Boulevard and Cornerstone Lane meet.

Square One Boulevard connects to Highland Road and is the main entrance to the planned development. The boulevard is paved with a 10-foot-wide boulevard and two (2) one-way lanes. Each one-way lane is fifteen (15) feet wide with a 66-foot private right-of-way (private). Square One Boulevard intersects with the round-about/Cornerstone Lane and continues south as a boulevard, into the apartment portion of the planned development. This portion of Square One Boulevard is approximately twenty-six (26) feet wide but is not a private roadway. The boulevard connects to Avenue Circle, via a gated entrance for the apartment tenants.

Avenue Circle provides internal circulation to apartment buildings, clubhouse, open space areas, parking areas, and carports. The access lane varies in width from twenty-six (26) feet wide to twenty-seven (27) feet wide and intersects with Cornerstone Lane east of apartment building #2. There is a second gated entrance for the tenants at this location, on Avenue Circle.

Cornerstone Lane is an east-west private roadway with a connection to Old US-23 on the east, and a connection to the private drive associated with Charyl Stockwell Academy on the west. This private drive allows access to Highland Road. Cornerstone Lane is shown as twenty-seven (27) feet wide and has a 66-foot-wide right-of-way (private). This roadway serves as a boundary between the commercial and residential areas. The applicant has noted that the proposed traffic outlets for Charyl Stockwell Academy will help ease the school's peak hour traffic issues and is presented as a recognizable benefit to the community.

The roundabout is situated within Cornerstone Lane affords a connection to Square One Boulevard and Avenue Circle. The roundabout includes features such as decorative brick and block walls, landscaping, and three (3) flags.

Vehicular access points into the development from public streets are found along Highland Road with two (2) proposed entrances. The western entrance drive from Highland Road is Square One Boulevard which travels south to connect to the roundabout and Cornerstone Lane as noted. The eastern/second entrance drive from Highland Road has a median that allows for one-way in and one-way out traffic. This entrance is located at the west side of Outlot 5.

There are (2) development entrances on Old US-23 (a public street). The main entrance to the development from Old US-23 is Cornerstone Lane. As noted, residential areas can be accessed from Cornerstone Lane. The only access to Outlot 6 is from Cornerstone Lane.

The second entrance on Old US-23 is to the south and provides the only access to Outlot 7, at the southeast corner of the property. Outlot 7 has associated parking areas, however there are no vehicular connections from Outlot 7 to the rest of the planned development.

The plan shows five (5) conceptual outlots along the frontage of Highland Road. Vehicular access to Outlot 5 is from Highland Road (northeast corner of site). An internal drive aisle is shown which provides access to Outlots 1, 2, 3, 4, and 5 once within the development. Outlot 1 can be accessed

directly from the adjacent off-site private drive on the west (access drive to Charyl Stockwell Academy and LAG). Ingress-egress access easements and agreements for the connection to the private drive will be required as part of the Final PD documents.

Two (2) outlots are shown along Old US-23 (Outlot 6 and 7). The outlots as shown are meant to be placeholders for future businesses. The plan is not intended to be the final site plan for the commercial portion of the site. Separate site plan applications will be required for the development of any outlot.

5. Fiscal Impacts.

The applicant has provided a response to this topic in the Pattern Book (page 23).

SITE REQUIREMENTS – for Apartment Portion of Planned Development only

Dumpster Enclosure (Sec. 5.7)

- Required Dumpster designed, enclosed, and screened per requirements; decorative masonry screen wall on 3 sides to match exterior façade materials of the building and steel reinforced, opaque, lockable wooden gates. Enclosure height sufficient to screen dumpsters; minimum enclosure height is 6 feet.
- Proposed 5 double dumpster enclosures; each with a 10' by 21' concrete pad in front of dumpster, with 6'-10" tall, screen walls/masonry enclosure to match to façade materials of apartment buildings. Steel reinforced wooden gates are shown.
- Meets Requirement? Yes
- Comment –(none)

Off-Street Parking (Sec. 5.8.4.H)

- Required Residential, Family, 2 parking spaces per each dwelling unit, PLUS 1 additional space for each 4 dwelling units. 168 dwelling units x 2 = 336 space PLUS 42 space (1 per 4 units) <u>EQUATES TO:</u> 378 spaces REQUIRED. Required parking space dimensions are 10 feet wide by 20 feet long.
- Proposed 384 parking spaces; parking spaces are 10' X 20' in dimension
- Meets Requirement? Yes
- Comment Parking options include 60 spaces in garage parking in apartment buildings; 201 uncovered off-street parking spaces; and 123 carport parking spaces (15 carport structures). Twelve (12) EV charging stations are proposed.

Barrier-Free Parking

- Required 1 barrier-free space in a location most accessible to the building entrance, with at least 1 space van-accessible (1 barrier-free space required per 25 parking spaces); 8 barrier-free parking spaces required, with at least 2 van accessible parking spaces. Barrier-free parking spaces are distributed throughout the site.
- Proposed 15 barrier-free parking spaces, of which 3 are van-accessible parking spaces.
- Meets Requirement? Yes
- Comment (none)

Loading (Sec. 5.9) – Not required for residential uses

Landscaping (Sec. 5.11 – Updated Landscape Ordinance version)

Applicable sections of Section 5.11 (Landscaping and Screening) will be applied to the PD, as outlined below. The site has frontages on Highland Road and Old US-23.

As an informational note, some data regarding plant counts on Sheet LS-1, LS-2, and LS-3 are incorrect, based on staff's evaluation of the landscape plans and the landscape requirements outlined in the Zoning Ordinance. These are noted as applicable in this section. and revisions may be required for the Construction Plan set.

A. Landscape plan requirements (Sec. 5.11.1.D.)

- Required Landscape plans are to be prepared by a Registered Landscape Architect (plans with seal and signature).
- Proposed Landscape plans are prepared by a Registered Landscape Architect
- Meets Requirement? Yes
- Comment (none)

B. Divider Medians (Sec. 5.11.2.A.vii.)

- Required Divider median shall be curbed, minimum 10 ft. wide; 1 canopy per initial 25 ft. plus 1 additional canopy or evergreen tree for every increment of 25 ft. Trees no further than 60 ft. center to center. Ground surface coverage 80% minimum with live plant material. Three (3) divider medians proposed.
 - <u>NORTH</u> (of roundabout) 200 ft. in length: REQUIRED 8 canopy trees plus 80% ground surface coverage.
 - <u>SOUTH</u> (of round-about); 2 medians each 47 ft. in length: REQUIRED: 2 canopy trees PLUS 80% ground surface coverage, for each median.
- Proposed Each divider median is curbed and 10 ft. wide
 - <u>NORTH:</u> 5 narrow-habit deciduous trees (CB-Pyramidal European Hornbeam) and spaced 22 ft. on center; 4 ornamental trees (spaced 15 ft. on center); 80% ground surface coverage (lawn and shrubs). NOTE: the plan states 6 CB trees but only 5 trees are shown.
 - <u>SOUTH:</u> 2 ornamental trees, spaced 10 ft. on center in each divider median (tree species not labeled on plan); 80% ground surface coverage (lawn, shrubs, and perennials)
- Meets Requirement? Yes, for number of trees in each divider median, but trees are not canopy trees. Ground surface coverage complies.
- Comment Planning Commission determination required if proposed plan is acceptable. Ornamental trees in each divider median (south of round-about) should be labeled on Construction Plan set (tree species name).

C. Irrigation (Sec. 5.11.2.A.viii.)

- Required All landscaped areas (including lawns) shall be provided with an automatic, underground or drip irrigation system.
- Proposed Irrigation system is to be provided in all lawn areas and landscape beds per Note section on Sheet LS-1 of landscape plan set.
- Meets Requirement? Yes
- Comment Irrigation plan required to be provided in the Construction Plan set.

D. Greenbelt Landscaping (Sec. 5.11.2. C.)

North (Highland Road)- Lineal frontage used for calculations as stated on plans excludes width of access driveways along Highland Road

• Required – Within the first 30 feet of the property, minimum 20-foot-wide area, 1 canopy tree for every 30 ft of lineal of frontage; Planning Commission may approve up to 50% substitution of canopy trees with evergreen trees; PLUS 3 small deciduous ornamental trees or large deciduous or evergreen shrubs for the initial 40 ft., and 1 per 20 ft. thereafter. Frontage = 978 ft.

<u>EQUATES TO</u>: 33 canopy trees; 3 ornamental trees, or large deciduous or evergreen shrubs in first 40 ft., plus 47 additional ornamental trees or large deciduous or evergreen shrub, or combination thereof REQUIRED

- Proposed 30 canopy trees: combination of 2 ornamental trees plus 150 large evergreen shrubs and additional deciduous shrubs, plus masonry screen walls.
- Meets Requirement? No, for number of required canopy trees (33 trees required). Three (3) trees shown as being Greenbelt trees are outside the Greenbelt area and are located in parking islands in Outlot 3 and 4, thus will not count towards Greenbelt requirement.
- Comment Planning Commission determination required if proposed plan is acceptable.

East (Old US-23) – Lineal frontage used for calculations as stated on plans excludes with width of access drive and existing (190 ft.) along Old US-23

- Required Within the first 30 feet of the property, minimum 20-foot-wide area, 1 canopy tree for every 30 ft of lineal of frontage; Planning Commission may approve up to 50% substitution of canopy trees with evergreen trees; PLUS 3 small deciduous ornamental trees or large deciduous or evergreen shrubs for the initial 40 ft., and 1 per 20 ft. thereafter. Frontage = 765 ft.
 EQUATES TO: 26 canopy trees; 3 ornamental trees, or large deciduous or evergreen shrubs in first 40 ft., plus 36 additional ornamental trees or large deciduous or evergreen shrub, or combination thereof REQUIRED
- Proposed 21 canopy trees and 9 evergreen trees (30 total); combination of 6 ornamental trees plus 10 large evergreen shrubs (TD), 30 large deciduous shrubs (LV), and masonry screen walls.
- Meets Requirement? Yes for number of trees and shrubs. Evergreen trees are proposed in Greenbelt.
- Comment Approval required by Planning Commission for substitution of 9 canopy trees with 9 evergreen trees.

E. Trees along Internal Roadways (Sec. 5.11.2.C.ii.)

North side of Cornerstone Lane

- Required A minimum 15-foot-wide landscape area along length of internal roadway providing shared access to the site; 1 canopy or evergreen tree for every 30 ft. Frontage = 1,317 ft. per plan <u>EQUATES TO</u>: 44 canopy or evergreen trees REQUIRED
- Proposed 35 canopy trees. Landscape area is approximately 15 ft. wide.
- Meets Requirement? No, for number of canopy trees. Chart on LS-2 states 44 trees are provided but staff counted 35 trees. Also, 6 of the trees are narrow habit trees in the roundabout.
- Comment Planning Commission determination required if the proposed plan is acceptable.

South side of Cornerstone Lane

- Required A minimum 15-foot-wide landscape area along length of internal roadway providing shared access to the site; 1 canopy or evergreen tree for every 30 ft. Frontage = 996 ft. per plan EQUATES TO: 33 canopy or evergreen trees REQUIRED
- Proposed 34 canopy trees. Landscape area is approximately 15 ft. wide.
- Meets Requirement? Yes
- Comment 6 of the trees are narrow habit trees in the round-about. Planning Commission determination required if the proposed plan is acceptable.

F. Foundation Landscaping (Sec. 5.11.2.D.)

This section of the Ordinance is not applicable to multiple-family residential buildings and the clubhouse building. Landscaping is provided around each apartment building and the clubhouse building with a mix of trees, shrubs, lawn, and perennial plants.

G. Parking Lot Landscaping (Sec. 5.11.2.E.i.)

• Required – Landscaped end caps for parking areas of 10 or more spaces; landscape island required at intervals not to exceed 15 parking spaces; landscape areas in parking lots shall not be less than

10 ft. in any direction, nor less than 180 sq. ft.; 1 canopy tree per 180 sq. ft. of interior area, with parking lot island crowned and covered with lawn or live plant material to meet minimum ground coverage requirements (80% coverage).

Parking islands sq. ft.: 11,480 sq. ft. (stated on Sheet LS-1)

<u>EQUATES TO:</u> 64 canopy trees $(11,480 \div 180 = 64)$

- Proposed 62 canopy trees plus 18 evergreen trees in parking islands or in landscape areas directly adjacent to parking spaces/drive aisle or carports (tree generally located within 10'-15' of area/carport). Total trees = 80 trees. Ordinance allows for evergreen trees near parking areas where screening is desired.
- Meets Requirement? Yes, for number of trees. Three (3) additional canopy trees are suggested (83 trees total).
- Comment Some revisions are required on the Construction Plan set as follows: One parking island to be added in a row of 18 parking spaces (north of pond overlook), with lawn and 1 canopy tree added; two (2) canopy trees to be added south of Building 5; and revisions to applicable sheets for the additional parking island. Planning Commission determination required if proposed plan is acceptable.
- H. Perimeter Landscaping for Parking Lots (Sec. 5.11.2.E.ii.a.) Parking lot screening for areas visible from a public ROW, private road, or internal roadway areas facing Highland Road and Old US-23
 - Required 15-foot-wide perimeter area abutting parking. Landscape berm planted with a combination of evergreen and deciduous shrubs to effectively screen parking lot; or evergreen hedge row a minimum 3 ft. in height; or decorative screen wall.
 - Proposed See Greenbelt landscaping plans along each road
 - Meets Requirement TBD
 - Comment Per Section 5.11.2.C.i.g., in instances where the Greenbelt is adjacent to a parking area, the Greenbelt shrubs/screen walls may be used to provide the required screening for Perimeter Parking Lot Landscaping. Planning Commission to determine if shrub and screen wall combination can be also counted as fulfilling the requirement for Perimeter Landscaping (screening of parking lot).
 - Comment The plans show conceptual development plans for the 7 outlots, including parking areas for the outlots. The landscape plans show deciduous shrubs along parking areas for Outlot 1, 2, and 6, which do not meet the parking lot screening requirement of a minimum 3-foot-high evergreen hedgerow. The required parking lot screening requirements will be applicable when each outlot plan is submitted to the Township as a site plan application.
- I. Perimeter Landscaping (Sec. 5.11.2.E.ii.4.b.) For areas not visible from a public road that do not have other screening requirements such as screening between properties—along west property line (adjacent to private access drive for LAG and Charyl Stockwell Academy)

 North of Cornerstone Lane
 - Required 15-foot-wide perimeter area to include 1 canopy tree with 4 large shrubs or 1 evergreen tree per 30 lineal ft. Lineal feet = 368 ft.(stated on Sheet LS-2)
 EQUATES TO: 12 canopy trees plus 49 large shrubs; or 12 evergreen trees. trees REQUIRED.
 - Proposed 9 canopy trees, 3 evergreen trees, plus 59 large deciduous shrubs. Landscape area is approximately 20 feet wide.
 - Meets Requirement? Yes, for number of plants.
 - Comment Evergreen shrubs (min. 3 ft. tall) should be used in place of deciduous shrubs, to screen future parking spaces associated with commercial/retail site when Outlot 1 is developed.

South of Cornerstone Lane

- Required 15-foot-wide perimeter area to include 1 canopy with 4 large shrubs or 1 evergreen tree per 30 lineal ft. Lineal feet = 620 ft. (stated on Sheet LS-3) EQUATES TO: 21 canopy trees plus 83 large shrubs; or 21 evergreen trees REQUIRED.
- Proposed 7 trees, 14 evergreen trees, plus 83 large deciduous shrubs. Landscape area varies in width from seven (7) feet on north to twenty (20) feet on south
- Meets Requirement? Yes, for number of required trees (21), but trees are a combination of canopy trees and evergreen trees.
- Comment Informational note A retaining wall runs along the entire length of this area with carport structures abutting the wall. The top of each carport structure is level with or below the landscape area, along the west property line.
- J. Screening of Ground Mounted Equipment (Sec. 5.11.2.G.iii.)
 - Required Screening on three sides for utility cabinets (if 30 inches or more in height)
 - Proposed 2 concrete pads for ground mounted equipment at the clubhouse (north and south sides of building). North pad (meters/generator/AC unit): 2 large deciduous shrubs and 4 evergreen trees. South (AC unit): evergreen hedge (36" height)
 - Meets Requirement? **TBD**
 - Comment The height of the generator and each condenser unit should be stated. Evergreen shrubs should be used and of sufficient height to screen all equipment. The revisions shall be provided on the Construction Plan set. No roof-mounted mechanical equipment units are proposed or shown for the apartment buildings.

K. Detention/Retention Area Landscaping (Sec. 5.11.2.H.)

• Required – Detention/retention ponds must be integrated into the overall design of the property and landscaped to provide a natural setting; 1 canopy or evergreen tree must be planted for every 50 lineal feet of basin perimeter measured along top of bank elevation. Trees to be planted in random pattern or groupings. Side slopes of detention pond not to exceed 1 foot vertical for every 4 feet horizontal.

Basin A

- Pond Perimeter Approx. 801 lineal ft. (per statement on plan). EQUATES TO: 16 canopy or evergreen trees REQUIRED
- Proposed 16 canopy trees plus shrubs and trees near pond overlook, planted in random groupings; irrigated lawn; fountain feature. Side slopes are 1:5 at top of basin and 1:4 further down the basin.
- Meets Requirement? Yes
- Comment (none)

Basin B

- Pond Perimeter Approx. 581 lineal ft. (per statement on plan). EQUATES TO: 12 canopy or evergreen trees REQUIRED
- Proposed 9 canopy trees, 3 evergreen trees, plus shrubs along top of basin, planted in random groupings, and irrigated lawn. Side slopes are 1:5 (entire basin).
- Meets Requirement? Yes
- Comment (none)

Lighting (Sec. 5.13)

Based on prior residential planned development projects reviewed by the Planning Commission, the lighting standards have not been strictly applied to light fixtures that are mounted on residential buildings or lighting in carports. This would be the suggested approach for the residential portion of Square One PD. Lighting information is summarized in this section.

A. Intensity

- Required Max. 0.5 fc along property line adjacent to residential; or max.1.0 fc along property line adjacent to non-residential; average fc between 2.4 and 3.6 in main parking area and an average of 5.0 fc at main building entrance; may not exceed 10 fc at any location.
- Proposed Photometric plan does not indicate average footcandle values for parking areas or building entrances. Footcandle values taken at 5 feet above grade. Light intensity does not exceed 1.0 fc at property line (west) or 10 fc at any location.
- Meets Requirement? Yes
- Comment (none)

B. Fixture Height

- Required 25' or the height of the principal building, whichever is less, measured from the ground level to the centerline of the light source
- Proposed 16' total height, for light poles; 6' to 8' for wall mounted light fixtures; light fixtures installed in carports at 10'; bollards are 3' in height.
- Meets Requirement? Yes
- Comment (none)

C. Fixture Type

- Required Details of all lighting fixtures needed including specifications for shielding, wattage and illumination
- Proposed Specifications for proposed LED light fixtures are shown on the photometric plans. Generally, the proposed light fixtures are shielded and aimed downward. Other wall mounted fixtures have opaque, acrylic diffuser panels or pressed crystal glass with ceramic coating to shield the light.
- Meets Requirement? Yes
- Comment (none)

Sign Program

A sign program is presented in the landscape set of plans and in the Pattern Book. The monument sign design consists of a brick base with varying heights and sign panels above the base, of varying sizes. The drawings do not state if the sign panels are internally illuminated. This would be addressed through a sign permit application. Other signs consist of pegged metal letters mounted on stone/masonry walls that are on the perimeter of the development and at the entrance to the residential area. The walls are a combination of masonry walls, black metal fencing, and brick piers. The masonry walls are comprised of brick, cultured stone, and limestone or cast stone caps on the piers and walls. The walls range in height from approximately 4'-6" to 5'-10".

A comparison of the proposed signs and the sign requirements in the Zoning Ordinance was not pursued as part of the review of the proposed sign program. Some signs may not comply with the zoning standards. The intent here is to present the proposed sign program for the Planning Commission's review and determination. The following is a summary of the proposed sign program.

Monument Sign Type	Sign Size	Sign height (overall)
Retail/Commercial Sign –	Above base: 57 SF (6' x 9.5')	10'-6"
multi-panel/tenant sign	(Cabinet sign with tenant	
2 signs on M-59 frontage	panels)	
1 sign on Old US-23 at Cornerstone Lane	Sign on base: 9 SF	
	(metal letters on sign base)	
Service Station Sign	40 SF (5' x 8')	7'-6"
1 sign on M-59	(4 fuel pricing panels per	
1 sign on Old US-23	side)	

Multi-family Entrance Sign	22 SF	5'-4"
2 signs – one sign on each stone wall, south of	(metal letters on stone wall)	(ht. of stone wall)
round-about at entrance to apts.		
Development Corner Sign	NE corner: 21 SF	4'-6"
1 sign at NE corner of commercial area	(metal letters on stone wall)	(ht. of stone wall)
1 sign at NW corner of commercial area	NW corner: 11.25 SF	5'-2"
	(metal letters on stone wall)	(ht. of stone wall)
Outlot 7 Sign	34 SF	6'-10"
1 sign on Old US-23at entrance drive to		
Outlot 7		

Based on this plan, each multi-tenant monument sign will provide signage (panels sign) for the outlot sites. A separate/individual monument sign will not be permitted for any outlot.

Architecture/Building Materials (Sec. 5.24.14)

Architecture Comments:

- Façade Materials Calculation Per Section 5.24.14, five (5) distinct Façade Materials Groups are established, as identified in a table in that section. There is not a distinct category with standards for multi-story, residential apartment buildings. However, under that same section, it notes that "Planned Developments shall conform to the minimum requirements established for the Façade Materials Group as assigned by the Township at the time of the planned development preliminary approval." In the event the Planning Commission decides that the apartment buildings and the community building should be evaluated under Façade Materials Group #1, staff has provided that analysis in the charts below.
- There are three (3) different building styles for apartment buildings: Building Style 100 (Building #1), Building Style 200 (Building #2), and Building Style 300 (Building #3, 4, and 5).
- Plans state there will be no roof-mounted mechanical equipment on the apartment buildings or the community center building.
- Façade material percentages are proposed as follows for each building style and the community building.

Materials Group #1: Proposed Façade Materials by Percentage by Elevation – Building Style 100

		Toposca I açaac 1	interiors by rer	centuge aj En		ing Style 100
Elevation	Clay	Siding	Decorative	Glass	Metal	Garage
	Brick	(10% max.)	concrete	(50% max.)	(20% max.)	doors
	(30%		masonry unit			(no standard)
	min.)	Cellular	(Split faced-		Awnings	
		Composite	25% max.)		(10% max.)	
		prop.				
			Smooth face		Metal	
		(11" board &	masonry		awnings	
		batten siding)	unit prop		prop.	
			(polished			
			surface)*			
Left	47%	20%	16%	5%	0%	12%
Front	40%	24%	10%	25%	1%	0%
Right	47%	20%	16%	5%	0%	12%
Rear	38%	26%	10%	26%	0%	0%
			_			

Materials Group #1: Proposed Façade Materials by Percentage by Elevation – Building Style 200

E1 4	C1	G: 1:	D	Class	M-4-1	Camara
Elevation	Clay	Siding	Decorative	Glass	Metal	Garage
	Brick	(10% max.)	concrete	(50% max.)	(20% max.)	doors
	(30%		masonry unit			(no standard)
	min.)	Cellular	(Split faced-		Awnings	
		Composite	25% max.)		(10% max.)	
		prop.	Smooth face			
			masonry		Metal	
		(11" board &	unit prop		awnings	
		batten siding)	(polished		prop.	
		8)	surface)*			
			,			
Left	47%	20%	16%	5%	0%	12%
Front	43%	21%	9%	26%	1%	0%
Right	47%	20%	16%	5%	0%	12%
Rear	38%	25%	11%	26%	0%	0%

Materials Group #1: Proposed Façade Materials by Percentage by Elevation – Building Style 300

Elevation	Clay Brick (30% min.)	Siding (10% max.) Cellular Composite prop. (11" board & batten siding)	Decorative concrete masonry unit (Split faced-25% max.) Smooth face masonry unit prop (polished surface)*	Glass (50% max.)	Metal (20% max.) Awnings (10% max.) Metal awnings prop.	Garage doors (no standard)
Left	47%	20%	16%	5%	0%	12%
Front	44%	20%	9%	26%	1%	0%
Right	47%	20%	16%	5%	0%	12%
Rear	38%	24%	11%	27%	0%	0%

Materials Group #1: Proposed Façade Materials by Percentage by Elevation - Community Building

Elevation	Clay	Siding	Decorative	Glass	Metal	Garage
	Brick	(10% max.)	concrete	(50% max.)	(20% max.)	doors
	(30%		masonry unit			(no standard)
	min.)	Cellular	(Split faced-		Awnings	
		Composite	25% max.)		(10% max.)	
		prop.				
			Smooth face		Metal	
		(7" wide	masonry		awnings	
		clapboard	unit prop		prop.	
		siding)	(polished			
			surface)*			
Left	53%	22%	17%	7%	1%	0%
Front	51%	9%	20.8%	19%	0.2%	0%

Right	35.2%	25%	26.3%	1%	0.4%	12.1%
Rear	53%	18.5%	11%	16.5%	0%	1%

^{*}Ground, polished, or burnished concrete masonry units forming an accent element in the building's design may be permitted with Planning Commission approval.

- Colors: Color renderings of the apartment building are provided and a PDF version of the material board, with product colors and product names. A color rendering of the community building is found on page 18 of the Pattern Book. Color palette consists of earthtone color brick; smooth-face, off-white decorative concrete masonry unit; dark charcoal grey board and batten Celect Cellular Composite siding on apartment buildings (color: Wrought Iron); white-tone horizontal/clapboard Celect Cellular Composite siding on the community building (color: Frost); and black accent materials. The overhead garage door color is grey on the apartment buildings and white at the community building.
- Materials: Percentages are listed for each façade material on each elevation side as indicated by the table; specifications on all materials are provided on the PDF version of the material board, except for the garage doors. Brick product: Glen Gery (Woodbury product), queen size (7-5/8" x 2-3/4" x 3" D). Decorative concrete masonry unit (smooth/polished surface), by Shouldice Stone (Tapestry product), Pearl White color, 23-1/4" L x 11-3/8" H x 3-1/2" D.
- Meets Requirement? Yes
- Comment This is based on the Planning Commission determining that Façade Materials Group #1 applies.

Other

The roundabout island includes a 2-foot-high decorative concrete block wall on the perimeter of the island and a 4-foot-high decorative brick wall in the center. Landscape plantings surround the island on the outside of the perimeter wall and between the walls. Three (3) flags are shown in the center of the island. The following table summarizes the proposed flags.

Flag	Size of flag (sq. ft.)	Pole height
United States flag	60 sq. ft.	35 ft.
State of Michigan flag	40 sq. ft.	30 ft.
Veterans flag	40 sq. ft.	30 ft.

Per Section 5.26 (Signs) of the Zoning Ordinance, up to two (2) flags of any combination limited to any nation, state, community organization, educational institution, or non-commercial organization and one (1) commercial or corporate flag. The height of flagpoles is limited to thirty-five (35) feet. Flags may be a maximum of forty (40) square feet in size. Flags that are part of a Township approved streetscape plan shall be exempt from these standards. The proposed plan shows three (3) flags and the flag size for the United States flag exceeds 40 square feet. The applicant has requested a waiver for the size and number of flags.

Other Requirements-Zoning Ordinance Standards

Nothing additional at this time.

Hartland Township DPW Review

A review letter is provided from the Hartland Township DPW Director, dated January 16, 2025.

Hartland Township Engineer's Review (SDA)

The Township Engineer (SDA) has reviewed the Preliminary PD plans and recommends approval subject to items being addressed in the letter dated January 16, 2025.

Hartland Deerfield Fire Authority Review

The Hartland Deerfield Fire Authority provided a review letter dated January 21, 2025

Attachments:

- 1. DPW Review Letter 01.16.2025 PDF version
- 2. Township Engineer (SDA) Review Letter 01.16.2025 PDF version
- 3. Hartland Deerfield Fire Authority Review Letter 01.21.2025– PDF version
- 4. List of Deviations December 2024 PDF version
- 5. Apartment Building Material Calculations PDF version
- 6. Community Building Material Calculations PDF version
- 7. Building SQ FT Summary 05.05.2025 PDF version
- 8. EGLE WRD Wetland Identification Report 12.14.2023 PDF version
- 9. MDOT email 04.21.2025- PDF version
- 10. MDOT email 04.30.2025 PDF version
- 11. LCRC letter 05.07.2025 PDF version
- 12. TIS Executive Summary 02.05.2024 PDF version
- 13. Square One Big Box Traffic Analysis 01.31.2025 PDF version
- 14. Square One Big Box Alternate Plan 11.12.2024 PDF version
- 15. Pattern Book 12.13.2024 PDF version
- 16. Civil Plans 12.19.2024
- 17. Architectural Plans 09.09.2024
- 18. Landscape Plans 12.16.2024

CC:

SDA, Twp Engineer (via email)

S. Hable, Twp DPW Director (via email)

A. Carroll, Hartland FD Fire Chief (via email)

T:\PLANNING DEPARTMENT\PLANNING COMMISSION\2024 Planning Commission Activity\Site Plan Applications\SP PD #24-005 Square One Prelim PD\Staff reports\ PC\SP PD #24-005 Sq One PD Prelim PH staff report PC 05.17.2025.docx



DEPARTMENT OF PUBLIC WORKS

Scott Hable, Public Works Director 2655 Clark Road Hartland MI 48353 Phone: (810) 632-7498

TO: Planning Department

DATE: 1/16/2025

DEVELOPMENT NAME: Square One
APPLICATION #: SP PD# 24-005
REVIEW TYPE: Site Plan

Site Plans for the proposed Square One Development propose a mixed-use project with apartment buildings on the south 2/3 of the site and commercial out lots along M-59 on the north. REU's needed are only being calculated for the apartment buildings at this time and are subject to change should the building designs change. Any out lots, including the pool and clubhouse, will be calculated when more detailed plans for those areas are received.

	Sewer REUs	Water REUs
Owned	30.57	82
Required	109	109
REU Difference	78.43	27
Cost Each	\$9,439.20	\$5,816.01
Total Due Each	\$740,316.46	\$157,032.27
TOTAL REU COST	\$897,348.73	

Hartland Township Public Works approves the Square One site plan subject to inclusion of the following details on the construction plans:

- 1. Sanitary sewer material and sizes and connection detail sheet
- 2. Monitoring manhole for sewer connection and location if required
- 3. Utility easements noted as public or private.
- 4. Approval of project may require a capacity study completed by Livingston County Drain Commission/Hartland Township.
- 5. Approval of the Livingston County Drain Commission.

Please feel free to contact me with any further questions or comments regarding this matter.

Scott Hable

Public Works Director

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Site Plan Review

January 16, 2025

Mr. Troy Langer Planning Director Hartland Township 2655 Clark Road Hartland, Michigan 48353

Re: Square One & Hartland Avenue Apartments – Site Plan Review #4

SDA Review No. HL 22-123

Dear Commission Members:

We have received the revised Preliminary PUD Plans for Square One/Multi-family Residential/Hartland Avenue Apartments prepared by Boss Engineering dated 12-19-2024 and received by our office on 01-06-2025. An additional revised Utility Plan Sheet 12 was provided in response to our remaining site plan concerns. The plans were reviewed in accordance with the Site Plan Review Checklist, Current Design and Engineering Standards, Standard Details, Code of Ordinances, and the 2021 International Fire Code and the following comments are our observations.

Recommendation

Approval of the Final Site Plan is recommended with all site plan review comments being addressed satisfactorily prior to engineering review.

Comments:

The Site Plan meets the general requirements of the Hartland Township Code of Ordinances and the Engineering Design Manual. Site Plan approval is contingent on off-site traffic improvements.

Project Summary

- Construction of a mixed-use development site at an existing vacant lot south of Highland Road (M59) west of the crossroads of N. Old US-23 Hwy and M-59. Site access would be provided via public roadways. Parcel ID is 4708-28-100-014. The site is 30.90 Acres.
- Water service would be provided by an extension from the existing 12-inch water main along the westerly side of N. OLD US-23 and the existing 12-inch water main along the south side of Highland Road (M-59). 12 hydrants on-site will serve the buildings. Individual water services are provided to serve each building.
- Sanitary sewer service would be provided by an extension from the existing 8-inch sanitary sewer along the south side of M-59. Sanitary leads will be provided to serve each building.
- Storm water would be collected by multiple storm sewer collection systems and discharged to two on-site detention basins 'A' and 'B' with outlets to the regulated wetlands.

General

These comments are to assist in plan preparation in anticipation of your engineering review submittal and is not required at this time for site plan approval:

1. The proposed plan shows the current parcel being split into several sub-parcels of various sizes and land uses. Any lot splits or combinations need to be reviewed, executed, and recorded.



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2. Provide a wetland delineation report.

Water Main

1. A new PRV is to be installed by the Township along the water main along M-59 (Highland Road) and it is noted in the revised utility plan. This PRV shall be funded by this development.

These comments are to assist in plan preparation in anticipation of your engineering review submittal and are not required at this time for site plan approval:

- 1. Twelve (12) inch mains are considered to be the minimum size in commercial, office, industrial, and multiple family residential areas except in a looped system of 1,500 feet or less where eight (8) inch mains may be permitted. We acknowledge that it is anticipated that an 8-inch will suffice, during the Act 399 permitting process we will verify that flows and pressures are adequate. If it is found not to meet the requirements, the pipe will need to be upsized.
- 2. Water main shall not be placed closer than 20 feet from any building footfrint.
- 3. When connecting to an existing water main, a tapping sleeve, gate valve and well will be required unless connection to the existing main can be made without interrupting service on the main.
- 4. Provide size of fire lead and water service for the proposed the buildings.
- 5. The hydrant layout must be reviewed and approved by the Hartland Fire Marshall.

Sanitary Sewer

These comments are to assist in plan preparation in anticipation of your engineering review submittal and are not required at this time for site plan approval:

1. All sanitary sewer improvements will need to be reviewed and approved by Livingston County Drain Commissioner's (LCDC) office.

Storm Drainage & Grading

These comments are to assist in plan preparation in anticipation of your engineering review submittal and are not required at this time for site plan approval:

- 1. On the construction plans provide an overland emergency overflow route. The route shall be a minimum of 1 foot below exterior grade for any buildings that could be impacted by the surface water
- 2. Coordination with Livingston County and EGLE will be needed to confirm the outlets into the wetland as acceptable.
- 3. Confirm that Livingston County Drain Commission (LCDC) will not require additional detention capacity and stormwater pre-treatment on site.
- 4. The drainage plan indicates that basin 'B' will be constructed with this initial development, but other sheets indicate the basin as future phase. Revise plans as needed.
- 5. Sheet 6: We noted the retaining wall meets the edge of wetland line. The constructability of this may be in question without impacting the wetland.

Site Paving

1. Confirm with the Fire Department and revise the standard aisle width to conform with the Fire Department IFC requirements where appropriate. The main circulation isles are 26' wide back of curb to back of curb. See southwest of Building 1 for example.

These comments are to assist in plan preparation in anticipation of your engineering review submittal and are not required at this time for site plan approval:



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- Per the Deed restriction for the subject parcel, a roadway connection is required to the Charyl Stockwell Academy located just west of the site. The developer will need to enter into a shareduse agreement with the Charyl Stockwell Academy to use their existing private Road for access and egress to the new development.
- 2. The site plan shows two proposed driveway approaches along M-59 which will be subject to approval by the Michigan Department of Transportation (MDOT).
- 3. The site shows two proposed driveway approaches (one for the new private road) along North Old US Hwy 23 which will be subject to approval by the LCRC.

Flood Plain/Wetland

- 1. The 100-year flood plain does not appear to traverse the property. Work occurs adjacent to a wetland.
- 2. The Michigan Department of Environment, Great Lakes & Energy (MDEGLE) is the final authority for the location of any wetland boundaries and the determination of their regulatory status. Verify how this impacts the adjacent wetland and/or a minor permit status.

Traffic

1. The Traffic Impact Study provided on behalf of the developer dated October 24, 2023, indicates that traffic mitigations are necessary to accommodate for future traffic volume from the development. Off-site mitigation shall be provided to alleviate traffic concerns during the engineering design phase. Site plan approval is contingent on off-site traffic improvements. The developer stated that they are working with and through the LCRC and MDOT on all road improvements.

Off-Site Easements

Any off-site utility easements anticipated must be executed prior to final approval of the plans. If you have note already done so, drafts of the easements must be submitted to our office for review and shall be approved prior to executing the easements.

Permits and Agreements Required

Based on those improvements depicted on the plans, the following permits and agreements will need to be provided for review and approval:

- All necessary easements including water main and sanitary sewer. Easements must be on Hartland Township Standard Easement document and include a sketch. A current title policy for ownership verification shall be provided with all executed easement submittals.
- 2. A Land Use Permit will be granted after the pre-construction meeting.
- 3. Storm Water Agreement (for the storm water improvements on the site).
- 4. Share used agreement
- 5. Maintenance bond and insurance for the water main to be dedicated to the township.
- 6. Copy of Livingston County Drain Commissioner approval and permit.
- 7. Copy of a Soil Erosion and Sedimentation permit from Livingston County Drain Commissioner.
- 8. Copy of the Genesee County Drain Commissioner water and waste services approval and permit.
- 9. EGLE Permit for all public water main installation.
- 10. EGLE Permit for all public sanitary sewer installation. (Done with the County)
- 11. EGLE Permit for all proposed work within the state-regulated wetlands, if applicable.
- 12. NPDES Notice of Coverage Documentation.
- 13. ROW Dedication.



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14. MDOT Permit for any work within the M-59 (Highland Road) ROW.

The following must be submitted with the Revised Site Plan:

A letter from either the applicant or the applicant's engineer must be submitted with the Site Plan highlighting the changes made to the plans addressing each of the comments listed above and indicating the revised sheets involved.

Please be aware that additional comments may arise with the submittal of the requested revisions and/or additional information.

The comments are not to be construed as approvals and are not necessarily conclusive. The final engineering plans for this development are to be prepared in accordance with the Current Design and Engineering Standards, Standard Details, and Code of Ordinances.

If you have any questions regarding this letter, please contact Luisa Amici or Mark Collins at (248) 844-5400 with any questions.

Sincerely,

SPALDING DEDECKER

Luca Ameri

Luisa Amici Engineer Mark Collins, PE
Project Manager



HARTLAND DEERFIELD FIRE AUTHORITY

HARTLAND AREA FIRE DEPT.

3205 Hartland Road Hartland, MI. 48353-1825 Voice: (810) 632-7676 E-Mail: firemarshal@hartlandareafire.com

January 21, 2025

To: Hartland Township Planning Commission

Re: Square One & Hartland Avenue Apartments

The Fire Department has reviewed the Square One & Hartland Avenue Apartments Site Plan dated December 19, 2024.

We have the following comments regarding the proposed facility.

- 1. Ensure turning radius is a minimum of fifty feet.
- 2. Supra Box installed on the exterior of the clubhouse and non-residential outbuildings. Fire Department to provide order form.
- 3. Residential and clubhouse sprinkled in accordance with IFC 2012 where applicable. Outbuildings sprinkled as needed upon individual review.
- 4. Fire hydrants placed in conjunction with any applicable local ordinances.
- 5. Ensure isle widths are twenty-six feet face of curb to face of curb.
- 6. Encourage Automated External Defibrillator (AED) placed in clubhouse and outbuildings.

Any revised drawings affecting the Fire Department must be submitted for review.

Jon Dehanke

Captain / Fire Inspector

Con Debanke

LIST OF DEVIATIONS

- 1. ALLOW 40% DENSITY BONUS FOR TOTAL OF 168 RESIDENTIAL UNITS.
 - 1.1. 30 AC * 4 UNITS/ACRE * 40% = 168 UNITS
- 2. SECTION 3.1.14.E: MAXIMUM BUILDING HEIGHT 35 FT OR 2.5 STORIES.
 - 2.1. PROPOSED 3 STORY APARTMENTS @ 39'-2" HEIGHT (INCLUDES PARAPETS)
- 3. SECTION 3.24.5: SETBACK FROM RIGHT-OF-WAY LINE 80 FT (FOR M59 & OLD US 23)
 - 3.1. OUTLOT #6 TO BE MINIMUM 50' FROM RIGHT OF WAY.
- SECTION 3.24.25: MAXIMUM LENGTH OF 160 FT AND MAX NUMBER OF DWELLING UNITS PER BUILDING IS
 THE PLANNING COMMISSION MAY WAIVE THESE REQUIREMENTS UPON A DETERMINATION THAT THE PROPOSED BUILDING IS COMPATIBLE WITH ADJACENT LAND USES AND WILL NOT HAVE ANY ADVERSE IMPACT ON THE PUBLIC HEALTH, SAFETY, AND WELFARE.
 - 4.1. THE MAXIMUM LENGTH OF RESIDENTIAL BUILDING IS PROPOSED AT 208'-8".
 - 4.2. THE MAXIMUM NUMBER OF DWELLING UNITS PER BUILDING IS PROPOSED AT 36 UNITS.
- SECTION 5.8.3.A.iii: NO PARKING WITHIN 10 FT OF A REAR OR SIDE YARD LOT LINE.
 - 5.1. SIDE YARD PARKING SETBACKS PROPOSED TO BE 5' FOR LOTS INTERNAL TO THE SITE.
- SECTION 5.8.4: # OF OFF-STREET SPACES REQUIRED TO MEET SECTION 5.8.
 - 6.1. PROPOSED 25% REDUCTION IN REQUIRED PARKING FOR COMMERCIAL OUTLOTS DUE TO PROXIMITY OF RESIDENTIAL
- 7. SECTION 5.8.4.G: COMMERCIAL USES TO PROVIDE SPACE FOR 2 RV PARKING SPACES.
 - 7.1. PROPOSING NO REQUIRED RV SPACES
- 8. SECTION 5.23.4.B.xiii: THE MINIMUM CENTERLINE RADIUS FOR PRIVATE ROADS SHALL BE NO LESS THAN 250 FT.
 - 8.1. THE MINIMUM CENTERLINE RADIUS PROVIDED IS 163 FT. SECTION 5.23.5.B.ii INDICATES 120 FT MIN.
- 9. SECTION 5.26.8.C FUEL PRICE SIGN NOT TO EXCEED (20) SQUARE FEET
 - 9.1. THE FUEL PRICE SIGN PANEL PROPOSED TO BE 40 SQ FT
- 10. SECTION 5.26.3.D: UP TO TWO (2) FLAGS, EACH AT A MAXIMUM OF 40 SQ FT MAY BE DISPLAYED. FLAGS THAT ARE A PART OF A TOWNSHIP APPROVED STREETSCAPE PLAN SHALL BE EXEMPT FROM THESE STANDARDS.
 - 10.1. PROPOSING THREE (3) FLAGS (USA, MI & VETERAN) CENTERED IN THE LANDSCAPED TRAFFIC ROUNDABOUT CIRCLE AND USA FLAG TO BE A MAXIMUM OF 60 SQ FT AND TWO REMAINING FLAGS TO BE A MAXIMUM OF 40 SQ FT
- 11. SECTION 5.26.3.W: STREET ADDRESS NUMBERS NOT TO EXCEED (6) INCHES IN HEIGHT
 - 11.1. APARTMENT BUILDING ADDRESS NUMBER SIGN PROPOSED TO BE 3 DIMENSIONAL, STAND OFF TYPE. EACH NUMBER TO BE 28" TALL.
- 12. SECTION 5.11.2.E.i.c LANDSCAPED AREAS IN PARKING LOTS SHALL BE NO LESS THAN (10) FEET IN ANY SINGLE DIMENSION
 - 12.1. PARKING LOT ISLAND AT CLUBHOUSE CROSSING TO BE LESS THAN 10 FT WIDE AND TO BE HARDSCAPED TO ENSURE PEDESTRIAN VISIBILITY TO VEHICULAR TRAFFIC.

BOJI HARTLAND APARTMENT BUILDINGS

BUILDING 100

LEFT SIDE ELEVATION bldg 100

MATERIAL CALCULATIONS		
BRICK	1511 sq ft	47%
SIDING	659 sq ft	20%
STONE	528 sq ft	16%
GLASS	173 sq ft	5%
METAL ROOF	_	
GARAGES	384 sq ft	12%
TOTAL	3255 sq ft	

FRONT ELEVATION bldg 100

MATERIAL CALCULATIONS		
BRICK	2609 sq ft	40%
SIDING	1615 sq ft	24%
STONE	640 sq ft	10%
GLASS	1655 sq ft	25%
METAL ROOF	31 sq ft	1%
GARAGES	_	
TOTAL	6550 sq ft	

RIGHT SIDE ELEVATION bldg 100

MATERIAL CALCULATIONS		
BRICK	1511 sq ft	47%
SIDING	659 sq ft	20%
STONE	528 sq ft	16%
GLASS	173 sq ft	5%
METAL ROOF	_	
GARAGES	384 sq ft	12%
TOTAL	3255 sq ft	

REAR ELEVATION bldg 100

MATERIAL CALCULATIONS		
BRICK	2424 sq ft	38%
SIDING	1680 sq ft	26%
STONE	662 sq ft	10%
GLASS	1655 sq ft	26%
METAL ROOF	-	
GARAGES	-	
TOTAL	6421 sq ft	

BUILDING 200

LEFT SIDE ELEVATION bldg 200

MATERIAL CALCULATIONS		
1511 sq ft	47%	
659 sq ft	20%	
528 sq ft	16%	
IT3 sq ft	5%	
_		
384 sq ft	12%	
3255 sq ft		
	5 sq ft 459 sq ft 528 sq ft 173 sq ft - 384 sq ft	

FRONT ELEVATION blda 200

THORT ELETATION BING 200		
MATERIAL CALCULATIONS		
BRICK	3248 sq ft	43%
SIDING	1553 sq ft	21%
STONE	705 sq ft	9%
GLASS	1892 sq ft	26%
METAL ROOF	31 sq ft	1%
GARAGES	_	
TOTAL	7429 sq ft	
,		

RIGHT SIDE ELEVATION bldg 200 REAR ELEVATION bldg 200

MATERIAL CALCULATIONS		
BRICK	1511 sq ft	4 7%
SIDING	659 sq ft	20%
STONE	528 sq ft	16%
GLASS	IT3 sq ft	5%
METAL ROOF	-	
GARAGES	384 sq ft	12%
TOTAL	3255 sq ft	

MATERIAL CALCULATIONS		
BRICK	2796 sq ft	38%
SIDING	1828 sq ft	25%
STONE	784 sq ft	11%
GLASS	1965 sq ft	26%
METAL ROOF	_	
GARAGES	1	
TOTAL	7373 sq ft	

BUILDING 300

MATERIAL CALCULATIONS		
BRICK	1511 sq ft 47%	
SIDING	659 sq ft 20%	
STONE	528 sq ft 16%	
GLASS	173 sq ft 5%	
METAL ROOF	-	
GARAGES	384 sq ft 12%	
TOTAL	3255 sq ft	

LEFT SIDE ELEVATION bldg 300 FRONT ELEVATION bldg 300

MATERIAL CALCULATIONS		
BRICK	3486 sq ft	44%
SIDING	1618 sq ft	20%
STONE	683 sq ft	9%
GLASS	2018 sq ft	26%
METAL ROOF	31 sq ft	1%
GARAGES	-	
TOTAL	7836 sq ft	

RIGHT SIDE ELEVATION bldg 300

MATERIAL CALCULATIONS		
BRICK	1511 sq ft	47%
SIDING	659 sq ft	20%
STONE	528 sq ft	16%
GLASS	173 sq ft	5%
METAL ROOF	-	
GARAGES	384 sq ft	12%
TOTAL	3255 sq ft	

REAR ELEVATION bldg 300

MATERIAL CALCULATIONS		
BRICK	2945 sq ft	38%
SIDING	1857 sq ft	24%
STONE	802 sq ft	11%
GLASS	2100 sq ft	27%
METAL ROOF	_	
GARAGES	_	
TOTAL	7704 sq ft	

BOJI HARTLAND

COMMUNITY BUILDING

LEFT SIDE ELEVATION

MATERIAL CALCULATIONS										
BRICK	776 sq ft	53%								
SIDING	320 sq ft	22%								
STONE	244 sq ft	۱٦%								
GLASS	113 sq ft	٦%								
METAL	9 sq ft	1%								
GAR. / DR.	_									
TOTAL	1462 sq ft									

FRONT ELEVATION

MATERIAL CALCULATIONS										
BRICK	1022 sq ft	51%								
SIDING	190 sq ft	9%								
STONE	417 sq ft	20.8%								
GLASS	389 sq ft	19%								
METAL	4 sq ft	0.2%								
GAR. / DR.	_	·								
TOTAL	2022 sq ft									

RIGHT SIDE ELEVATION

MATERIAL CALCULATIONS											
BRICK	519 sq ft	35.2%									
SIDING	369 sq ft	25%									
STONE	388 sq ft	26.3%									
GLASS	15 sq ft	1%									
METAL	5 sq ft	0.4%									
GAR. / DR.	179 sq ft	12.1%									
TOTAL	1475 sq ft										

REAR ELEVATION

MATERIAL CA	MATERIAL CALCULATIONS											
BRICK	956 sq ft	53%										
SIDING	340 sq ft	18.5%										
STONE	194 sq ft	11%										
GLASS	299 sq ft	14.5%										
METAL ROOF	_											
GAR. / DR.	12 sq ft	1%										
TOTAL	1801 sq ft											

HARTLAND AVENUE APARTMENTS BUILDING SQUARE FOOTAGE SUMMARY

BUILDING STYLE SO	BUILDING STYLE SQUARE FOOTAGE													
	Avenue Cir	cle, Hartland	d Twp., MI	48843			PROJECT TOTALS							
ADDRESS #														
BUILDING #	#1	#2	#3	#4	#5	CLUBHOUSE	APARTMENT BLDGS	227,891						
BUILDING TYPE	"100"	"200"	"300"	"300"	"300"	СВ	CLUBHOUSE	5,725						
1st Flr	9,914	11,717	12,627	12,627	12,627	5,725								
Garages	3,279	3,298	3,298	3,298	3,298									
2nd Flr	13,209	15,006	15,913	15,913	15,913									
3rd Flr	13,209	15,006	15,913	15,913	15,913									
TOTAL SF	39,611	45,027	47,751	47,751	47,751	5,725	PROJECT TOTAL SF:	233,616						



STATE OF MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

LANSING



December 14, 2023

VIA EMAIL

Kevin Bahnam USA 2 Go Quick Stores 29592 Wixom Road Wixom, Michigan 48393

Dear Kevin Bahnam:

SUBJECT: Wetland Identification Report

MiEnviro Site Name: 47-M-59 and Old US 23 SW-Hartland Twp MiEnviro WIP Application Submission Number: HPX-N956-5K2MH

The Department of Environment, Great Lakes, and Energy's (EGLE) Water Resources Division (WRD) conducted a Level 3 Wetland Identification Program (WIP) review of three assessment areas consisting of a total of 8+ acres on property (4708-28-100-014) located in Town 03N, Range 06E, Section 28; Hartland Township (Figure 1) during October 27, 2023. The review was conducted in accordance with Part 303, Wetlands Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA); and Rule 4(1), Wetland Identification and Assessment (R 281.924), of the Administrative Rules for Part 303. This is a report of our findings in response to your WIP application.

Staff from the WRD reviewed pertinent information such as historical aerial imagery, topographic mapping data, soils survey data, and surface hydrology data. The on-site investigation was conducted with your wetland consultant present and included a review of plants, hydrology, and soils.

Staff confirm, in part, the wetland boundary lines delineated by your consultant. Several additional wetland areas associated with each delineated wetland had been overlooked and omitted by the consultant. Evidence showed that the areas exhibit wetland hydrology during a typical growing season.

The site map (Figure 2) of the WIP assessment area was created by combining information from your consultant and the WRD. The new map identifies areas containing regulated wetland, unregulated wetland, and non-wetland (upland).

Wetland A within the assessment area is regulated by the WRD because of wetland size and/or contiguity to a pond, lake, or stream. For the area [approx. 1.52 acres total on site] identified as regulated wetland on the site map (Figure 2), please be advised that any of the following activities require a permit under Part 303:

Kevin Bahnam, USA 2 Go Quick Stores Page 2 December 14, 2023

- a) Deposit or permit the placing of fill material in a regulated wetland.
- b) Dredge, remove, or permit the removal of soil or minerals from regulated wetland.
- c) Construct, operate, or maintain any use or development in a regulated wetland.
- d) Drain surface water from a regulated wetland.

The unregulated wetlands are not regulated by the WRD because they are not contiguous to the Great Lakes, an inland lake or pond, or a river or stream; and are less than 5 acres in size. For those areas identified as non-wetland (upland) on the site map (Figure 2), the WRD lacks jurisdiction under Part 303 for activities occurring there.

This Wetland Identification Report is limited to findings pursuant to Part 303 and does not constitute a determination of jurisdiction under other programs administered by EGLE. Any land use activities undertaken within the assessment area may be subject to regulation pursuant to the NREPA under the following programs:

Part 91, Soil Erosion and Sedimentation Control Part 301, Inland Lakes and Streams

Please be aware that this Wetland Identification Report does not constitute a determination of the jurisdiction under local ordinances or federal law. The United States Army Corps of Engineers (USACE) retains regulatory authority over certain wetlands pursuant to Section 404 of the federal Clean Water Act (CWA), and specifically those wetlands associated with traditionally navigable waters of the state. Navigable waters are generally the Great Lakes, their connecting waters, and river systems and lakes connected to these waters. In other areas of the state, the WRD is responsible for identification of wetland boundaries for purposes of compliance with the CWA under an agreement with the United States Environmental Protection Agency. Your assessment area is unlikely to be within those areas also regulated by the USACE. Additional information may be obtained by contacting the USACE at 313-226-2218.

You may request the WRD reassess the wetland boundaries and regulatory status of wetlands within any portion of the assessment area, should you disagree with the findings, within 60 days of the date of this report. A written request to reassess the Wetland Identification assessment area must be accompanied by supporting evidence with regard to wetland vegetation, soils, or hydrology that are different from, or in addition to, the information relied upon by WRD staff in preparing this report. The request should be submitted to:

Wetland Identification Program
Department of Environment, Great Lakes, and Energy
Water Resources Division
P.O. Box 30458

Kevin Bahnam, USA 2 Go Quick Stores Page 3 December 14, 2023

Lansing, Michigan 48909-7958

Please use the MiEnviro submission number assigned to this project site if submitting a permit application or otherwise corresponding with our office.

The findings contained in this report do not convey, provide, or otherwise imply approval of any governing act, ordinance, or regulation, nor does it waive the obligation to acquire any applicable federal, state, county, or local approvals. This Wetland Identification Report is not a permit for any activity that requires a permit from EGLE.

The findings contained in this report are binding on EGLE until December 14, 2026, a period of three years from the date of this Wetland Identification Report unless a reassessment has been conducted. Please contact me at GyekisK@Michigan.gov; 517-243-5002; or EGLE, P.O. Box 30458, Lansing, Michigan 48909-7958, if you have any questions regarding this report.

Sincerely,

Keto Gyekis

Kito Syckin

Wetland Identification Program Coordinator Water Resources Division

Enclosures

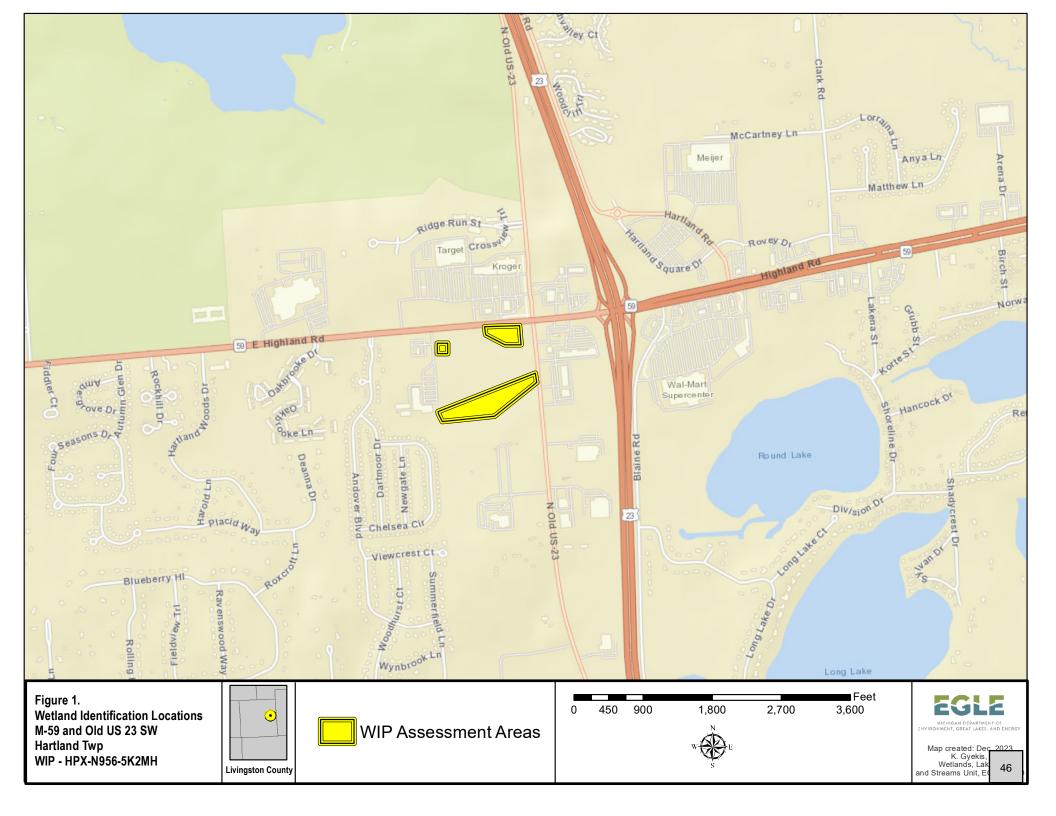
cc: Hartland Township Clerk

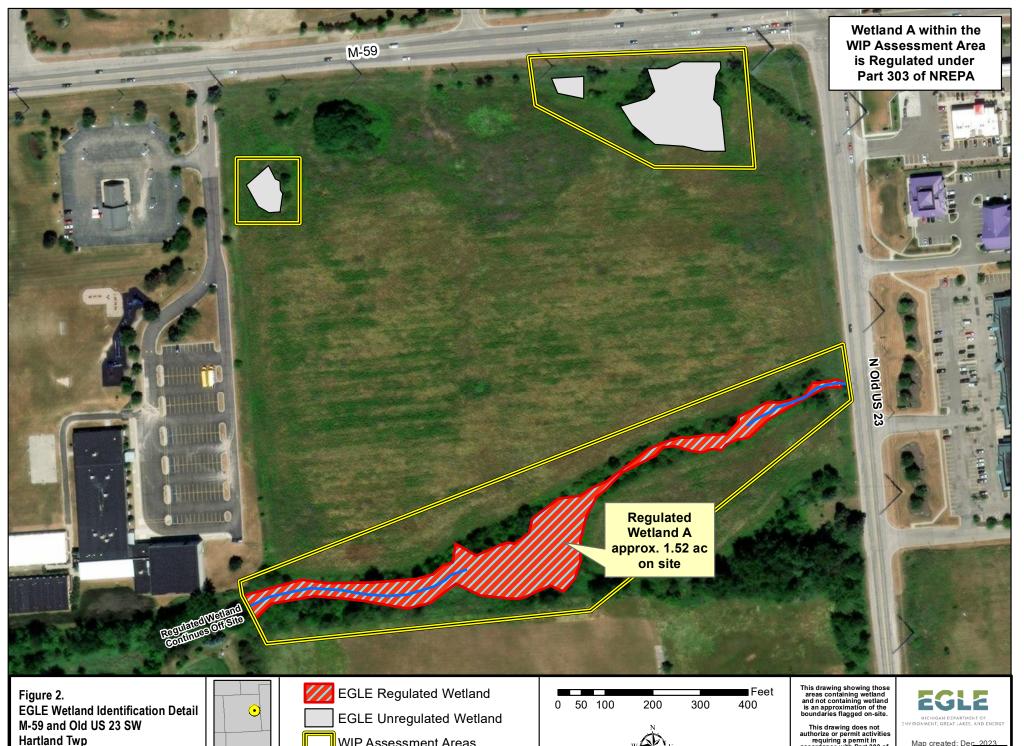
Livingston County Soil Erosion Enforcement Agent (CEA)

Livingston County Health Department Patrick Cleary, Boss Engineering

Jack Knowles, Group 10 Management

Matt Rogers, EGLE Nick Padula, EGLE Jeff Pierce, EGLE





Hartland Twp WIP - HPX-N956-5K2MH



WIP Assessment Areas

Stream



This drawing does not authorize or permit activities requiring a permit in accordance with Part 303 of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended.

Map created: Dec. 2023 K. Gyekis, Wetlands, Lak and Streams Unit, E

Martha Wyatt

From: Troy Langer

Sent: Monday, April 21, 2025 1:55 PM

To: Troy Langer
Cc: Martha Wyatt

Subject: Fw: Development Project at the SW corner of M-59 and Old 23

Hello Troy,

MDOT is not comfortable approving a driveway location until we have an approved TIS. In my email below, I noted MDOT was waiting for our TIS comments to be addressed. I talked to Laurent and MDOT has not received a revised TIS since then.

Let me know if you have any questions.

Thank you Craig

Martha Wyatt

To: Martha Wyatt

Subject: FW: Hartland Mixed-Use TIS Pass-By / Diverted Link Trips

From:

Sent: Tuesday, April 30, 2024 12:09 PM

To: Cc:

Subject: RE: Hartland Mixed-Use TIS Pass-By / Diverted Link Trips

Steve,

Thank you for sharing the models. In the future, when Traffic Impact Studies are revised that impact MDOT, please share the revised TIS and models with MDOT for review.

The attached revised TIS was received from the Township. MDOT and the Livingston County Road Commission have reviewed the revised TIS.

The developer is required to mitigate for the traffic impacts created by their development. Currently the Traffic Impact Study is showing improvements by MDOT and the Livingston County Road Commission as part of the mitigation. But MDOT and the Livingston County Road Commission does not currently have any road widening projects on M-59 and Old US-23 in this area. Therefore, analysis is needed showing what mitigations the developer will complete, without any mitigations by MDOT and the Road Commission, so the existing Level Of Service does not decrease with full build out.

Please have this comment addressed. Once addressed, MDOT will share the revised TIS and models with our MDOT Lansing Signals unit. One thing we would like them to review is the impacts of having a signal for Square One Blvd so close to the M-59 and Old US-23 signalized intersection.

If you have any questions or need more details on our comment, please let us know. Thank you

Craig Heidelberg, P.E. MDOT Brighton TSC Operations Engineer 810-623-8341 C

Livingston County Road Commission

3535 Grand Oaks Drive • Howell, Michigan 48843-8575 Telephone: (517) 546-4250 • Facsimile: (517) 546-9628

Internet Address: www.livingstonroads.org

May 7, 2024

Troy Langer Planning Director Hartland Township 2655 Clark Road Hartland, MI 48353

Re: Hartland Mixed Use Development

Dear Mr. Langer,

Thank you for providing us with a copy of the updated traffic impact study dated February 5, 2024, for the proposed Hartland Mixed-Use development at the corner of Old US 23 and M-59. Below are comments related to the proposed development and the traffic study.

- 1. The location of the two proposed driveways on Old US 23 south of M-59 are acceptable to the Road Commission. However, any future permit issued for the commercial driveway approaches is contingent on all LCRC permit standards being satisfied and upon an approved traffic impact study.
- 2. The updated traffic study does a good job separating the Hartland Mixed-Use traffic from future Shops at Waldenwoods traffic, but in our opinion does not identify improvements that would specifically mitigate traffic impacts from the Hartland Mixed-Use development. The study continues to maintain that major improvements are needed regardless of the Hartland Mixed-Use development, primarily at the intersection of M-59 and Old US 23. These improvements include dual left-turn lanes on northbound and southbound Old US 23, as well as a second through lane on northbound Old US 23. While we acknowledge there are existing roadway capacity constraints, major improvements like these not only address existing deficiencies but provide sufficient capacity for both the Hartland Mixed-Use development and future expansion of Shops at Waldenwoods. Certainly, we're not opposed to the improvements outlined in the report, but neither the LCRC nor MDOT has plans for such improvements. Therefore, our position is that the report should be amended to determine what specific improvements are needed to mitigate the impacts of the Hartland Mixed-Use development and maintain operations at No Build 2028 levels or better.
- 3. In our opinion the proposed Cornerstone Lane access road that runs between the driveway to Charyl Stockwell Academy (CSA) and Old US 23 will provide an overall net benefit to the surrounding roadway network. CSA trips to and from the south on Old US 23 will no longer need to enter/exit via M-59 or travel through the intersection of M-59 and Old US 23 but will instead use the cross-access roadway. This benefit should outweigh any potential drawbacks.

If you have any questions, please feel free to contact me.

Sincerely,

Michael Goryl

Traffic and Safety Engineer



Signal Considerations

The no-build conditions results demonstrate a traffic signal is warranted at the existing intersection of M-59 & Charyl Stockwell Academy Drive based on Warrant 3. However, MDOT typically requireds Warrant 1 to be met in order to consider installing a traffic signal. Therefore, a signal warrant analysis was conducted at the M-59 & Target Drive / W. Site Drive intersection based on future full build volumes. The future traffic forecast for this study includes traffic volumes for only two hours (AM and PM peak hours). In order to evaluate the 8-hour traffic signal warrant, hourly variations in retail, multi-family, restaurant, gas-station, and bank trip generation published by ITE were referenced. These variation rates were applied to the PM peak hour forecasts to determine future site traffic volumes for the entire day.

The traffic signal warrant analysis results show that a signal is warranted at the intersection of M-59 & Target Drive / W. Site Drive, as Warrant 1A would be met for eight (8) hours of the day and Warrant 1B would be met for 15 hours. Therefore, a 3-phase actuated traffic signal could be installed at the intersection with permissive-protected left-turn phasing provided for the M-59 approaches and vehicle detection provided for the minor road approaches and movements. In order to accommodate a signal at the intersection the existing Target Drive approach and proposed W. Site driveway should be aligned and constructed to provide an exclusive left-turn lane and shared through/right-turn lane. The relevant signal warrant analysis spreadsheets are included in **Appendix H**.

Signal coordination was also reviewed along M-59 between the Hartland Schools Driveway and US-23 SPUI to determine the best location for potential traffic signals to accommodate the proposed development and remaining buildout of the Shops at Waldenwoods while minimizing impacts to progression along corridor.

For the coordination analysis, total network measures of effectiveness (MOEs) were evaluated in order to provide an assessment of the performance of the corridor at a system wide level and along the M-59 corridor. This analysis was conducted for the following two scenarios:

- 1. Alternative 1: One traffic signal installed along M-59 at the proposed W. Site Driveway / Existing Target Driveway.
- 2. Alternative 2: Two traffic signals installed along M-59 with one installed at the Charyl Stockwell Academy Drive and one installed at a future drive to the Shops at Waldenwoods located near the west edge of the site.

The results of the coordination analysis are summarized in **Table 37** and **Table 38** and indicate improved operations and progression along M-59 during the peak periods with only one signal along M-59 as opposed to two. Therefore, it is recommended that one signal be installed along M-59 to accommodate both the proposed development and future phases of the Shops at Waldenwoods.



Table 37: Signal Coordination Network MOEs Comparison

Time Period	МОЕ	Alt 1 - 1 Signal	ALT 2 - 2 Signals	Difference		
	Total Delay (hr)	142.2	153.9	-11.7		
AM Peak	Total # of Stops	10,924	11,228	-304		
	Total Travel Time (hr)	278.1	294.4	-16.3		
	Average Speed (mph)	18	18	0		
	Total Delay (hr)	207.9	231.1	-23.2		
PM Peak	Total # of Stops	12,833	13,897	-1064		
Pivi Peak	Total Travel Time (hr)	385.7	414.3	-28.6		
ĺ	Average Speed (mph)	16	16	0		

Table 38: Signal Coordination M-59 MOEs Comparison

Intersection	MOE	AM I	Peak	PM Peak			
intersection	MOE	ALT 1	ALT 2	ALT 1	ALT 2		
EB	M-59 Delay (s/veh)	165.3	179.3	129.4	138.9		
	M-59 Travel Time (s)	263.7	280.3	215.2	226.5		
	M-59 Speed (mph)	16	16	19	18		
	M-59 Delay (s/veh)	101.5	109.1	118.3	143.2		
WB	M-59 Travel Time (s)	185.8	193.5	207	232.0		
	M-59 Speed (mph)	22	21	20	17		

Conclusions

The Conclusions related to this Traffic Impact Study and relative analyses are as follows:

- 1. Existing weekday AM (7:00 to 9:00) and PM (4:00 to 6:00) peak hour turning movement counts were collected by CED at the study intersections on Wednesday, September 13th, 2023.
- 2. All study intersection approaches and movements currently operate acceptably at a LOS D or better during both peak hours with the exception of the following:
 - a. The signalized intersection of M-59 & Old US-23 which currently operates at an overall LOS E during the PM peak hour. Additionally, several approaches and movements operate at a LOS E or F during both peak hours.
 - b. The STOP controlled Charyl Stockwell Academy Drive approach which currently operates at a LOS F during both peak hours.
 - c. The STOP controlled Target Drive approach to M-59 which currently operates at a LOS E or F during both peak hours.
 - d. The STOP controlled Middle Hartland Town Center Drive left-turn movement to Old US-23 which currently operates at a LOS E during both peak hours.
- 3. An ambient traffic growth of 1.0% was applied to establish 2026 and 2028 no-build traffic volumes without the proposed development. A scenario with full buildout of the Shops at Waldenwoods development was also included in the no-build conditions.
- 4. No-build conditions analyses indicate that several study intersection approaches and movements would be reduced to a LOS E or F during the peak hours and require the improvements outlined below.



- 5. Opening year conditions indicate that several approaches and movements with undesirable or failing conditions at the study intersections are expected to worsen in the future if those movements operating at a LOS E or F are not improved under no-build conditions.
- 6. Full buildout conditions with the recommended improvements under no-build conditions indicate that all approaches and movements at the off-site study intersections will operate acceptably based on network simulations.
- 7. Right-turn lanes are warranted at all proposed site driveways to M-59 and Old US-23. Along Old US-23, a continuous right-turn lane should be considered to accommodate turns into the proposed site driveways as well as add additional merging distance for WB left-turning vehicles from M-59 onto SB Old US-23.
- 8. With the improvements outlined below, all study network intersections and site driveways will operate acceptably, or in a manner similar or improved compared to no-build conditions during the peak hours for each development scenario.

Based on the results of this study, the following should be considered to provide acceptable traffic operations due to existing network deficiencies, *regardless of the proposed project:*

- 1. Install an actuated-coordinated traffic signal at the intersection of M-59 & Charyl Stockwell Academy Drive.
- 2. Construct an EB right-turn lane at the intersection of M-59 & Charyl Stockwell Academy Drive.
- 3. Remove the existing landscape median within the Charyl Stockwell Academy Drive to accommodate separate left and right-turn lanes on the driveway.
- 4. Extend the five-lane section of M-59 west of the Charyl Stockwell Academy Drive.
- 5. Construct dual NB and SB left-turn lanes at the intersection of M-59 & Old US-23.
- 6. Construct a second NB through lane at the intersection of M-59 & Old US-23 that extends at least 1,000 feet north of the intersection.
- 7. Modernize the existing diagonal span traffic signal at the intersection of M-59 & Old US-23 to a box span with right-turn overlap phasing provided for all approaches.
- 8. Optimize the signal timings at the M-59 & US-23 SPUI.

Based on the results of this study, the following should be considered to provide acceptable traffic operations due to existing network deficiencies, *with the proposed project:*

- 1. Install an actuated-coordinated traffic signal at the intersection of M-59 & Target Drive / W. Site Drive. With this signal and internal connection to the Charyl Stockwell Academy Drive, the signal previously recommended at Charyl Stockwell Academy Drive is no longer required.
- 2. Widen the existing Target Drive to provide a separate left-turn lane and shared through / right-turn lane.
- 3. Construct right-turn lanes at all proposed site driveways to M-59 and Old US-23 in accordance with MDOT and LCRC standards.
- 4. Construct separate left and right-turn lanes along the egress W. site driveway approach to M-59 and N. site driveway approach to Old US-23.
- 5. Optimize traffic signal timings.
- 6. Restripe the second NB through lane as a shared through / right-turn lane.



Memorandum

To: Mr. Joseph Boji

Ms. Beth Boji Kelly Mr. Jack Knowles

From: Steven Russo, PE

Date: January 31, 2025

Subject: Hartland Mixed-Use Development – Commercial Uses Only Scenario Summary

Introduction

This memorandum summarizes the traffic generation and traffic related impacts of the project site if it were to be developed as exclusively commercial uses permitted under existing zoning. The analysis included herein was completed for assumed full buildout of the site without potential additional development from Waldenwoods.

Site Trip Generation

The trip generation forecast for the subject property was forecast based on the existing zoning classification. Based on information provided by Boss, the following land uses and densities were assumed for the commercial only scenario:

<u>Land Use</u>	<u>Density</u>
Hotel	100 Rooms
Retail	143,300 SF
Drive-In Bank	3,000 SF
Fast-Food Restaurant with Drive-Through	7,500 SF
Coffee Shop with Drive-Through	2,000 SF
Gas Station with Convenience Store	14 Fueling Positions

The number of AM and PM peak hour vehicle trips that will be generated by the commercial development scenario was forecast based on the rates and equations published by ITE in *Trip Generation, 11th Edition*. The resulting trip generation forecast for the site with all commercial uses is summarized in **Table 1**. The trip generation forecast of the commercial uses only scenario was compared to the trip generation forecast for the proposed development plan for the site. The results of this comparison as summarized in **Table 2** indicate that the proposed development plan would generate significantly less trips during the peak hours as compared to the by right commercial uses.



Table 1: Site Trip Generation Forecast for Commercial Uses Only

Landillan	ITE	Amanunt	Heite	ADT	AN	l Peak H	lour	PIV	l Peak H	our
Land Use	Code	Amount	Units	ADT	In	4 19 43 23 23 46 54 94 248 365 379 74 9 49 98 149 149 29 05 45 150 216 230 446 7 13 30 32 31 63 4 4 8 11 11 22 3 9 22 21 20 41 71 164 335 129 119 248 7 87 174 72 72 14 7 86 183 78 67 145	Total			
Hotel	310	100	Rooms	799	24	19	43	23	23	46
		143,300	SF	9,676	154	94	248	365	379	744
Retail	821	Pa	rss-By (40%)	3,290	49	49	98	149	149	298
		1	New Trips	6,386	105	45	150	216	230	446
		3,000	SF	301	17	13	30	32	31	63
Drive-In Bank	912	Pass-By ((29% AM, 35% PM)	96	4	4	8	11	11	22
		1	New Trips	205	13	9	22	21	20	41
Fast-Food		7,500 SF		3,506	171	164	335	129	119	248
Restaurant with	934	Pass-By ((49% AM, 50% PM)	1,856	87	87	174	72	72	144
Drive-Through		1	New Trips	1,855	97	86	183	78	67	145
Coffee Chan with		2,000	SF	1,067	88	84	172	39	39	78
Coffee Shop with Drive-Through	937	Pa	rss-By (50%)	534	43	43	86	19	19	38
Drive-Illiough		100 Roon 143,300 SF Pass-By (40%) New Trips 3,000 SF Pass-By (29% AM, 35 New Trips 7,500 SF Pass-By (49% AM, 50 New Trips 2,000 SF Pass-By (50%) New Trips 14 Fueling P	New Trips	533	45	41	86	20	20	40
Gas Station with		14	Fueling Positions	3,066	113	112	225	129	129	258
Convenience Store	945	Pass-By ((62% AM, 56% PM)	1,809	70	70	140	72	72	144
Convenience Store		1	New Trips	1,257	43	42	85	57	57	114
		T	otal Trips	18,415	567	486	1,053	717	720	1,437
Total		Po	iss-By Trips	7,585	253	253	506	323	323	646
		1	New Trips	10,830	314	233	547	394	397	791

Table 2: Trip Generation Comparison

Scenario	Trin Type	ADT	AM	Peak H	our	PM Peak Hour			
Scenario	Trip Type	ADI	In	Out	Total	In	Out	Total	
	Total Trips	18,415	567	486	1,053	717	720	1,437	
Commercial Uses Only	Pass-By Trips	7,585	253	253	506	323	323	646	
	New Trips	10,830	314	233	547	394	397	791	
	Total Trips	10,281	440	451	891	442	406	848	
Proposed Development	Pass-By Trips	4,355	174	174	348	176	176	352	
	New Trips	5,926	266	277	543	266	230	496	
	Total Trips	-8,134	-127	-35	-162	-275	-314	-589	
Difference	Pass-By Trips	-3,230	-79	-79	-158	-147	-147	-294	
	New Trips	-4,904	-48	44	-4	-128	-167	-295	

2028 Future Build Conditions

Future 2028 full build peak hour vehicle delays and LOS with the proposed commercial only scenario were calculated. The full build conditions results are summarized in **Table 3** and includes a comparison to the 2028 future build operations with the proposed development.

The results of this analysis indicate that the proposed commercial uses only scenario would result in worsened traffic operations along the M-59 corridor and at all study intersections during the PM peak hour including a significant increase in overall vehicle delays at the intersection of M-59 & Old US-23. Additionally, the commercial uses only scenario would result in similar or increase vehicle delays at all study intersections during the AM peak hour with the exception of the M-59 & Old US-23 intersection which would experience a slight (less than three seconds per vehicle) decrease.



	Table 3: 2	2028 Future I	Build Traffic O	peration	ıs										
						AM Peal	k Hour					PM Pea	k Hour		
				2028	No	2028 Bu	ild -	2028 Bu	ild -	2028	No.	2028 Bu	ıild -	2028 Bu	ild -
Intersection	Control	Approach	Movement	2028 Bui		Propos	sed	Comme	rcial	2028 Bui		Propos	sed	Comme	rcial
				Bui	IU	Developi	ment	Uses Only		Dullu		Development		Uses Only	
				Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
			Left	48.0	D	50.3	D	50.1	D	60.5	Е	68.6	Е	85.4	F
		EB	Thru	38.0	D	56.3	Е	51.1	D	39.6	D	52.1	D	59.7	F
			Right	27.3	C	25.6	C	25.6	C	26.5	C	25.0	C	24.7	C
			Left	78.1	Е	133.2	F	146.0	F	75.0	Е	125.8	F	184.0	F
		WB	Thru	39.0	D	43.1	D	43.7	D	46.7	D	63.1	Е	67.3	F
M EO O OLA			Right	25.8	С	26.2	С	26.3	С	32.3	С	32.8	С	32.3	C
M-59 & Old US-23	Signal		Left	101.1	F	55.5	Е	55.5	Е	70.3	Е	61.0	Е	61.0	Е
U3-23		NB	Thru	37.9	D	38.2	D	38.3	D	163.6	F	172.9	F	197.1	F
			Right	64.5	Е	120.2	F	114.8	F	287.4	F	389.1	F	518.2	F
			Left	76.5	Е	68.8	Е	65.4	Е	70.1	Е	62.5	Е	60.8	Е
		SB	Thru	51.3	D	41.1	D	43.0	D	50.0	D	57.6	Е	77.5	Е
			Right	38.8	D	35.0	D	35.4	D	47.4	D	50.8	D	59.5	Е
		Ov	erall	49.4	D	62.4	Е	62.6	E	73.9	E	94.2	F	119.4	F
		EB	Left	38.6	D	41.7	D	40.6	D	79.2	Е	95.2	F	110.2	F
M 50 0 US		EB	Thru	12.6	В	13.3	В	13.2	В	24.3	C	28.9	C	35.9	D
		WB	Left	176.2	F	176.1	F	176.1	F	49.6	D	49.6	D	49.6	D
		VVD	Thru	18.6	В	18.9	В	19.3	В	21.1	C	22.7	С	23.7	C
M-59 & US- 23 SPUI	Signal	NB	Left	35.3	D	36.0	D	35.9	D	36.0	D	36.9	D	37.4	D
23 3 01		NB	Right	38.8	D	38.8	D	38.8	D	141.0	F	141.0	F	141.0	F
		SB	Left	66.6	Е	66.6	Е	66.6	Е	38.3	D	38.3	D	38.3	D
		36	Right	55.2	Е	108.9	F	113.4	F	35.7	D	36.3	D	36.7	D
		Ov	erall	46.1	D	44.2	D	52.2	D	46.4	D	48.6	D	52.6	D
M 50 0		EB	Thru	22.4	C	27.2	C	29.4	C	10.5	В	12.4	В	13.7	В
M-59 & Hartland		WB	Thru	14.3	В	16.0	В	16.0	В	8.6	Α	9.6	Α	10.6	В
Schools	Signal	CD	Left	30.2	C	30.2	C	30.2	C	43.0	D	43.0	D	43.0	D
Drive		SB	Right	29.0	C	29.0	C	29.0	C	41.7	D	41.7	D	41.7	D
Direc		Ov	erall	19.1	В	22.3	С	23.5	С	11.1	В	12.4	В	13.5	В
M-59 &		EB	Thru/Right	Fre	e	Free	!	Free		Fre	е	Free	į	Free	:
Charyl	STOP	WB	Left	15.2	C	13.9	В	14.1	В	12.6	В	12.6	В	12.9	В
Stockwell	(Minor)	VVD	Thru	Fre	e	Free	!	Free		Fre	e	Free	į	Free	:
Academy	(IVIIIIOI)	NB	Left	46.1	Е	38.5	Е	38.8	Е	41.2	Е	40.8	Е	42.7	Е
Drive		ND	Right	492.1	F	420.1	F	440.7	F	347.6	F	296.4	F	324.5	F
		EB	Left	14.0	В	12.5	В	12.3	В	16.9	C	15.4	C	14.9	C
M-59 &			Thru/Right	Fre	е	Free		Free		Fre	e	Free		Free	!
Target	STOP	WB	Left			15.3	C	16.7	C			15.4	С	19.7	C
Drive / Site	(Minor)		Thru/Right	Fre	е	Free		Free		Fre	e	Free	9	Free	!
Drive	(14111101)	NB	Left			17,418.6	F	19,963.5	F			41,248.3	F	84,321.8	F
		SB	Left	41.8	Е	1,225.7	F	1,225.7	F	120.9	F	6,333.7	F	50.9	F
			Thru/Right									262.2	F		
Old US-23 &		EB	Left/Thru			317.6	F	479.9	F			262.2	F	1,226.8	F
N. Hartland		WB	Left/Right	16.1	С	154.4	F	216.8	F	17.0	С	101.3	F	231.8	F
Town	STOP	NB	Left			12.1	В	12.8	В			9.8	Α	10.6	В
Center	(Minor)	140	Thru/Right	Fre		Free		Free		Free		Free		Free	
Drive		SB	Left	9.7	Α	9.3	Α	9.3	Α	10.9	В	10.7	В	10.5	В
Dilve	ZB	35	Thru	Fre	e	Free	!	Free	!	Fre	e	Free	9	Free	:



Table 3: 2028 Future Build Traffic Operations (continued)

	Control	Approach	Movement	AM Peak Hour						PM Peak Hour					
Intersection				2028 No- Build		2028 Build - Proposed Development		2028 Build - Commercial Uses Only		2028 No- Build		2028 Build - Proposed Development		2028 Build - Commercial Uses Only	
				Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
		EB	Left/Right			84.3	F	86.0	F			138.6	F	163.9	F
Old US-23 & Middle	STOP (Minor)	WB	Left	42.8	Е	68.9	F	70.1	F	52.0	F	87.3	F	95.5	F
			Right	13.8	В	14.2	В	14.4	В	20.2	С	21.1	С	21.7	С
Hartland Town			Left			10.4	В	10.4	В			9.1	Α	9.2	Α
Center	(IVIIIIOI)		Thru/Right	Free		Free		Free		Free		Free		Free	
Drive		SB	Left	9.2	Α	9.4	Α	9.4	Α	10.9	В	11.1	В	11.2	В
Dilve		30	Thru	Fre	е	Free	!	Free		Free		Free		Free	į
M-59 & E.	STOP	EB	Thru/Right	Fre	е	Free		Free	9	Free		Free	9	Free	•
		WB	Thru	Fre	e	Free		Free		Free		Free		Free	
RIRO Drive	(Minor)	NB	Right			23.1	C	22.4	С			21.1	C	22.9	C

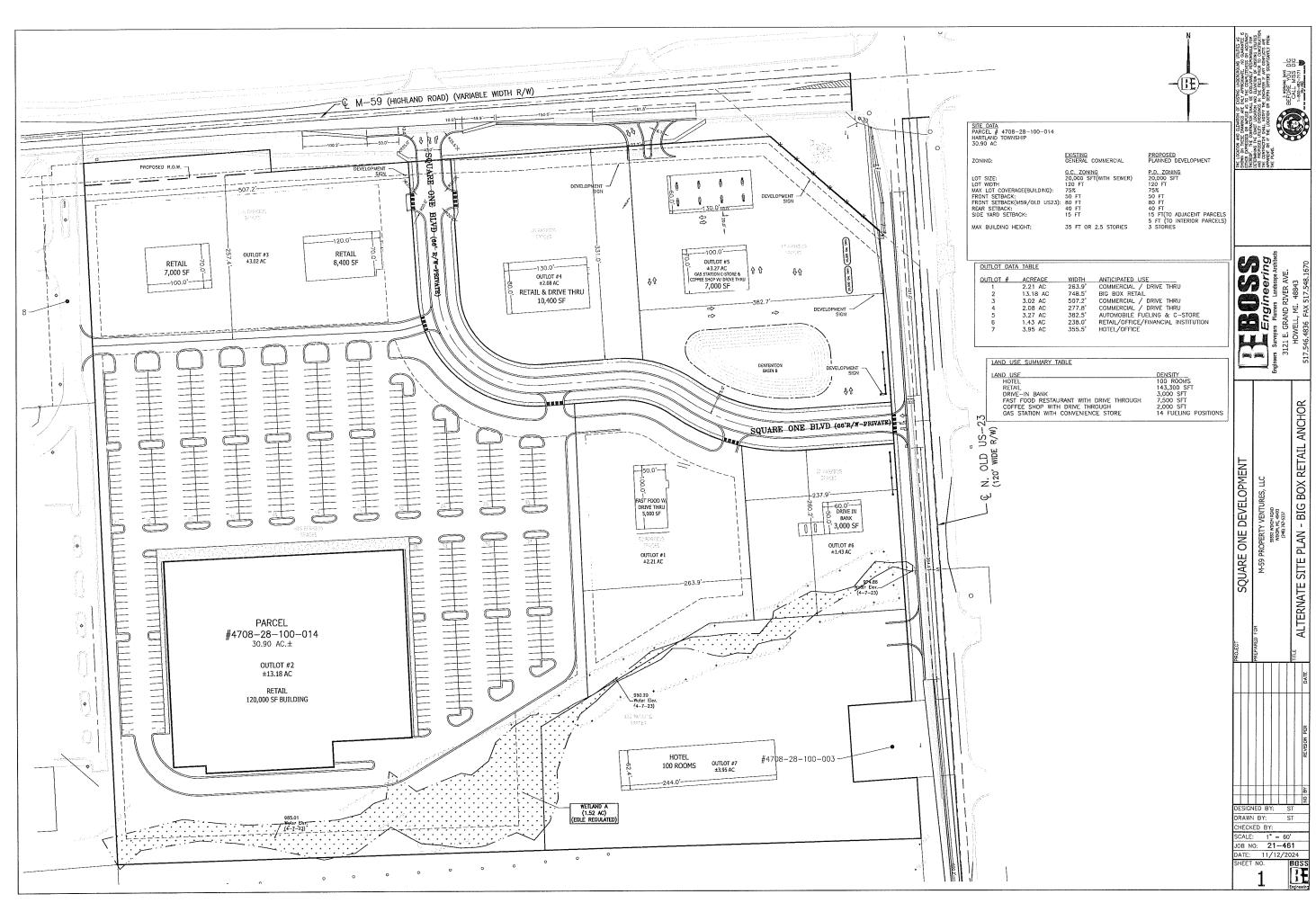
2028 Full-Build Conditions with Improvements

In order to mitigate the developments impact in the 2028 full build conditions at the off-site study intersections, mitigation measures were investigated including signal timing adjustments and signal modifications. The results of this analysis indicate that the following additional improvements would be required to accommodate the commercial use only scenario as compared to the proposed development scenario:

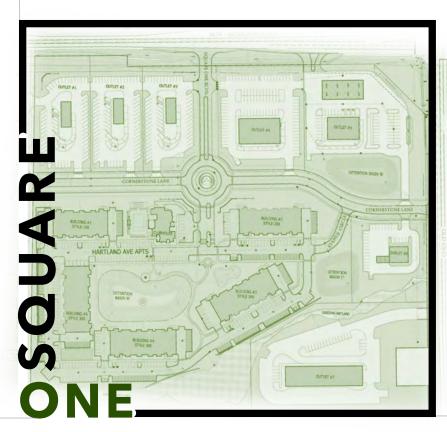
 Provide an additional through lane along WB M-59 that extend a minimum distance of 1,000 feet west of the proposed signalized Target Drive / Proposed Site Drive.

Any questions related to this memorandum, analyses, and results should be addressed to CED.

 $O:\\ M59\ Property\ Ventures,\ LLC\ 23011049A\ 3.0\ Design\ 3.8\ Reports\ Hartland\ Mixed-Use-Commercial\ Only\ Scenario\ Summary.docx$



PATTERN BOOK FOR:



DEVELOPER: M59 PROPERTY VENTURES, LLC

ARCHITECT:

ALEXANDER V. BOGAERTS & ASSOCIATES

CIVIL ENGINEER:

BOSS ENGINEERING

LANDSCAPE ARCHITECT:

FELINO A. PASCUAL & ASSOCIATES

TRAFFIC ENGINEERING:

COLLIERS ENGINEERING & DESIGN

HARTLAND TOWNSHIP, MICHIGAN

PREPARED FOR:

HARTLAND TOWNSHIP

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Purpose

The Pattern Book has been prepared to provide the reviewing agencies with additional design intent and project information for the Square One development. The renderings, drawings and images are intended to provide the reviewer the Developer's vision for the finished project.

Project Overview

The Square One development in Hartland Township, Michigan, proposes a mix of different commercial, office and hospitality uses, combined with a market rate residential community consisting of 168 apartments. The overall site is nearly thirty (30) acres in size and is located at the SW corner of M-59 (Highland Road) and Old US 23. The westerly property line is defined by the Lafontaine Auto Group property (fronting to M-59) and the Charyl Stockwell Academy property. The south property line abuts recreational play fields for the Floodgate Church. The site is currently vacant and is zoned General Commercial.

A major design feature in this development is the creation of an interior roadway network that not only provides good internal traffic circulation for the commercial users and the apartment residents, but also provides excellent access to M-59 with the potential of a signalized intersection, and a connection to Old US 23 for added traffic distribution options.

In addition, this road network will connect with the private drive that currently provides the only access for the Lafontaine and Charyl Stockwell Academy properties. This connection will provide an additional access and outlet for those properties and will help alleviate the significant traffic problem that exists at the Academy during peak times (drop off in the am hours and pick up in the pm hours).

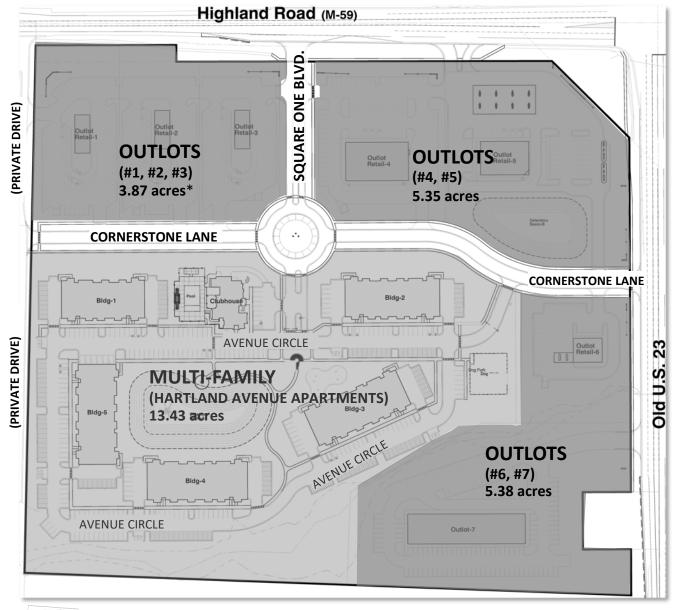
The internal road system includes a roundabout where Square One Boulevard (connection to M-59) intersects with Cornerstone Lane (E-W connector). The roundabout will function as a traffic calming feature to maintain relatively low traffic speeds (25 MPH or less) for safety purposes. The roundabout also functions as a visual amenity, as it will feature significant landscaping, low masonry walls and flagpoles, providing a visual terminus as vehicles approach from all directions.

The planned 7 outlots front to M-59 and Old US 23, and are located in the northern and eastern portions of the property. The corner outlot (#5) is targeted for a specialty market store with gas offering, while the other outlot uses will be market driven, in accordance with the planned permitted uses.

The apartment community, located in the southern half of the property, is designed around a central open space that includes a pond, putting green and walking paths. The community

clubhouse will offer residents both indoor and outdoor activity space, including social areas, fitness center, dog wash, golf simulator and a covered terrace overlooking the pool area. An on site management and leasing office will also be located in the clubhouse building. The gated apartment community will be built in the first phase of construction along with the all the infrastructure improvements for the entire site.

Architecturally, the various buildings are planned to have design similarities such as materials, colors and details to provide a cohesive continuity to the development. The development will focus on quality building materials and attention to architectural details.





DEVELOPMENT SITE

NATURAL FEATURES WERE IDENTIFIED DURING AN ON-SITE INVESTIGATION TO THE PROPERTY. THESE INCLUDE LOW, ISOLATED WET AREAS AND A FEW SCATTERED STANDS OF WOODLANDS. THE VAST MAJORITY OF THE TREES ON SITE RUN EAST-WEST ALONG THE SOUTHERN PORTION OF THE SITE

THE SITE TOPOGRAPHY GENERALLY SLOPES TOWARDS M59 OR TOWARD THE REGULATED WETLAND DRAINAGE COURSE. THE SITE SOILS ARE PRIMARILY MIAMI LOAMS WITH RANGING SLOPES BETWEEN 0%-12%.



- Retail, restaurant, hospitality and commercial use outlots at perimeter of development along frontage of both M-59 and Old US-23 -
- New Square One Entry Boulevard with landscape island –
- Cornerstone Lane runs east west, linking private drive Charyl Stockwell from LAG Academy and (LaFontaine) to Old US-23 -
- Multi-Family (Hartland Avenue Apartments) gated home community with clubhouse
- Stormwater detention basin with fountain to facilitate stormwater management and be centerpiece of Hartland Avenue Apartments home community —



- Potential traffic signal at M-59 and Square One Blvd
- Roundabout to facilitate smooth traffic flow at intersection
- Flag poles centered in traffic circle with garden wall landscape feature providing a central focal point
- Detention basins accommodate and manage stormwater
- Addition of full traffic lane from M-59 to southerly driveway
- Natural area to be preserved (existing wetlands woodlands)
- Outlot; retail, office. hospitality

This illustration represents a conceptual landscape plan and is not to be used for plant installations.

Construction sequence will be as follows:

PHASE 1: INFRASTRUCTURE IMPROVEMENTS & APARTMENT COMMUNITY

- Mass Grading & Earthwork / Land Balancing Operations; Entire Site
- Install/Grade Detention Pond areas
- Prep Outlot areas for pad grade; Seed & Mulch
- Construction of Retaining Wall at West property line
- Installation of Utilities sanitary sewer, watermain, storm sewer; Entire Site
- Construction of road intersections/approaches with M-59 & Old US 23
- Construction of Perimeter Walls, Fencing, & Signage
- Installation of Perimeter Landscaping along M-59 & Old US 23 frontages
- Construction of Square One Boulevard & Cornerstone Lane
- Construction of Round-About & Island Amenities
- Installation of Landscaping along Square One Boulevard & Cornerstone Lane
- · Construction of Interior Drives in Apartment area
- Construction of Apartment Buildings, Clubhouse & Site Amenities

PHASE 2-A: OUTLOT #5 - SERVICE STATION

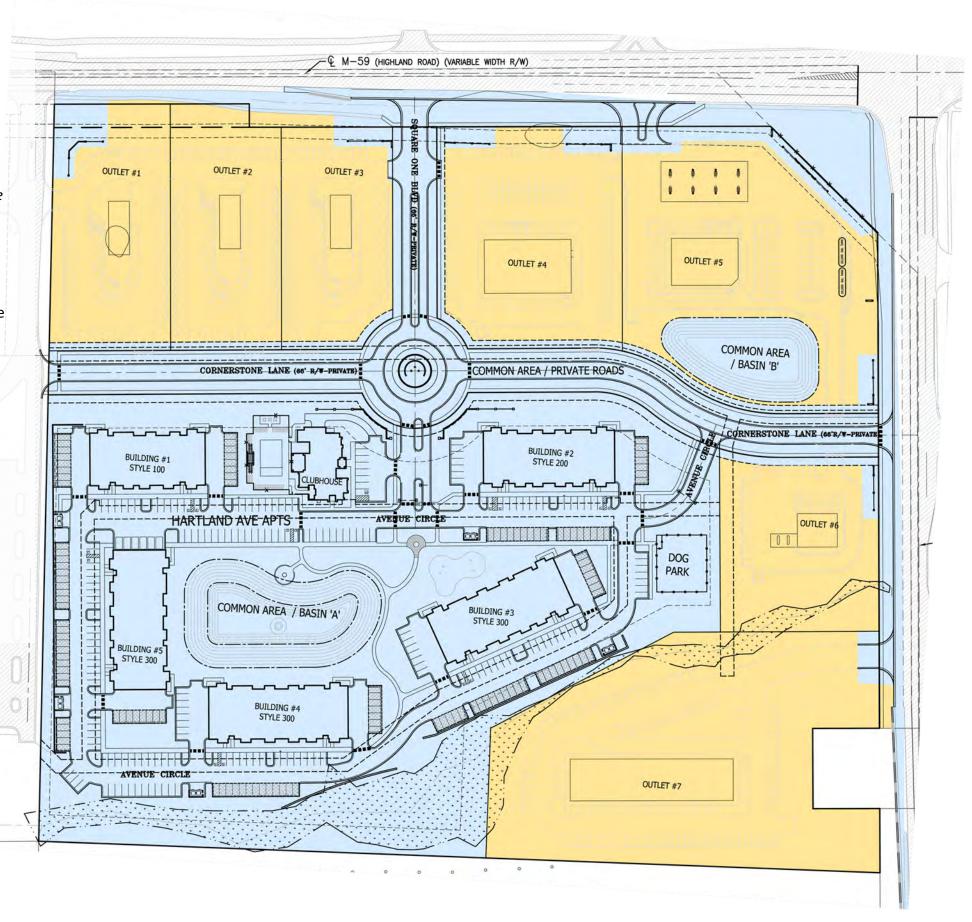
- Installation of Site Utilities Storm Sewer, Sanitary Service, Water Service
- Installation of Underground Fuel Tanks
- Building & Canopy construction
- Install on-site Pavements
- Install on-site Landscaping

PHASE 2-B: OUTLOTS 1 - 4, 6 & 7

Timing of Outlot Development will be Market Driven

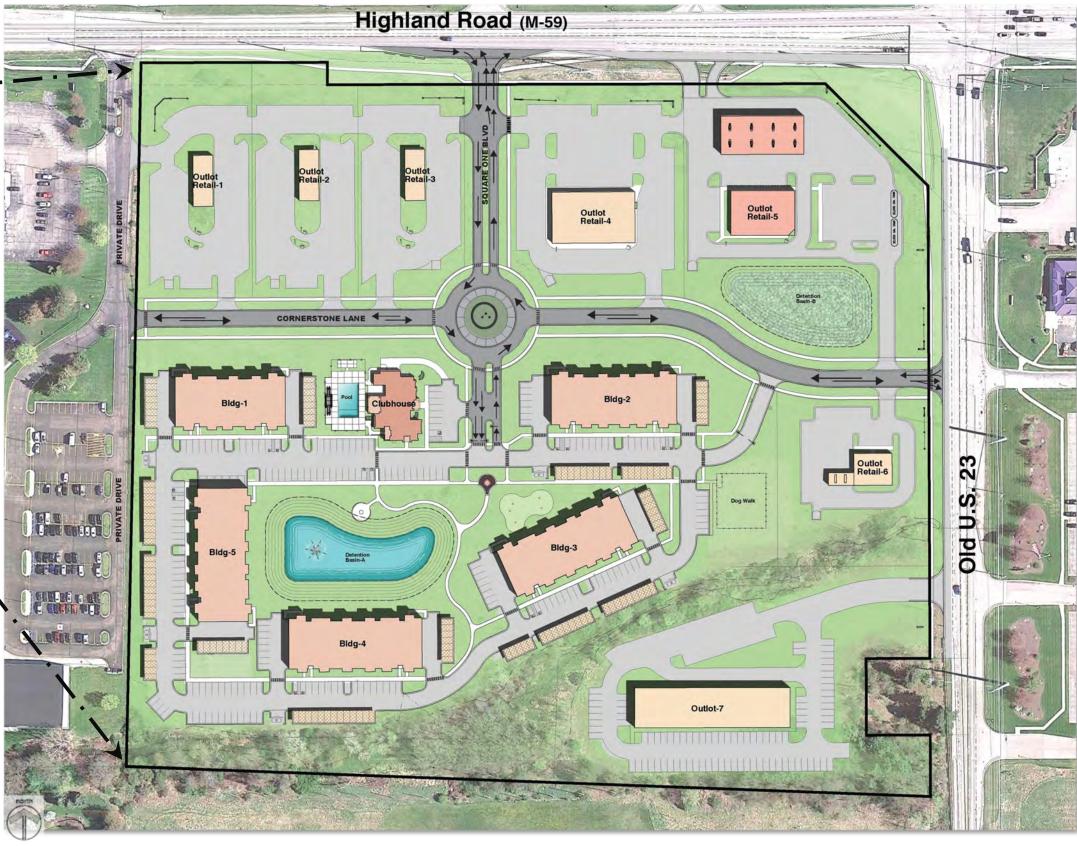
- Installation of Site Utilities Storm Sewer, Sanitary Service, Water Service
- Building construction
- Install on-site Pavement
- · Install on-site Landscaping







- The mixed use planned development consists of commercial and residential uses. The commercial sector is situated along the frontage of M-59 and Old US-23. The residential portion is internal to the site, south and west of the commercial areas.
- Square One Boulevard is the main entry drive into the Development, providing access to the M-59 frontage Outlots as well as the primary entranceway to the Apartment Community, and to Cornerstone Lane.
- Cornerstone Lane, the internal east-west road, includes a round-about intersection at Square One Boulevard, providing traffic calming measures, which together provides the development's circulation network and defines the boundary between commercial and residential areas.



TRAFFIC STUDY EXECUTIVE SUMMARY

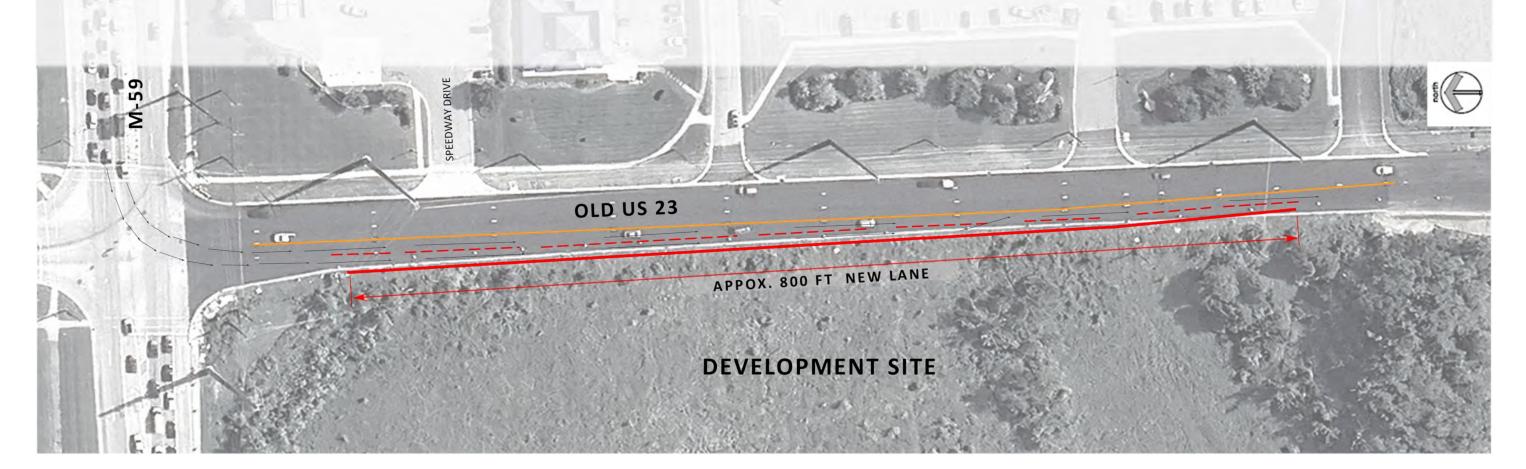
The traffic study was completed based on accepted traffic engineering practice and in accordance with the methodologies and practices published by ITE and the applicable requirements of MDOT, LCRC, and the Township. The report is intended for use by MDOT, LCRC, and the Township to guide decisions related to project approvals, access permitting, and identifying future roadway improvement needs.

- Driveways have been designed and located per MDOT and LCRC requirements and consistent with best practices for access management to minimize the number of conflict points along M-59 and Old US-23. This includes restricting turning movements at driveways where appropriate, aligning the main driveway with the existing Target Drive as well as restricting the overall number of ingress and egress points. These access management improvements will help to preserve the flow of traffic and existing capacity along the roadways and maintain traffic safety.
- Cross access connectivity with the Charyl Stockwell Academy (CSA) provides direct access to Old US-23 for CSA traffic, thereby helping to reduce the amount of traffic along M-59 and at the M-59 & Old US-23 intersection.
- Right and left-turn lanes are provided at all driveways for ingress vehicles into the site to improve traffic safety and prevent crashes by removing them from the through travel lanes.

- Along Old US-23 the existing outside lane will be extended approximately 800 feet to the south as shown in the aerial overlay illustration below. This will provide an increased merge distance for vehicles turning from the WB M-59 dual left turn lanes onto SB Old US-23, thereby increasing the utilization of the outside left-turn lane and reducing vehicle queuing issues and potential conflict in the intersection area.
- As shown in the scenario comparison in the table below, the proposed development results in a similar amount of traffic to the adjacent road network during the AM peak hour, but significantly less traffic during the PM peak hour as compared to a development that could be feasibly built based on the existing General Commercial zoning.

Trip Generation Comparison between proposed development and by-right development based on existing zoning

Scenario	ADT	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Proposed Development	5,926	238	249	487	266	230	496
By-Right Development	9,800	265	190	455	418	418	836
Difference in New Trips	-3,874	-27	59	32	-152	-188	-340



PEDESTRIAN CIRCULATION

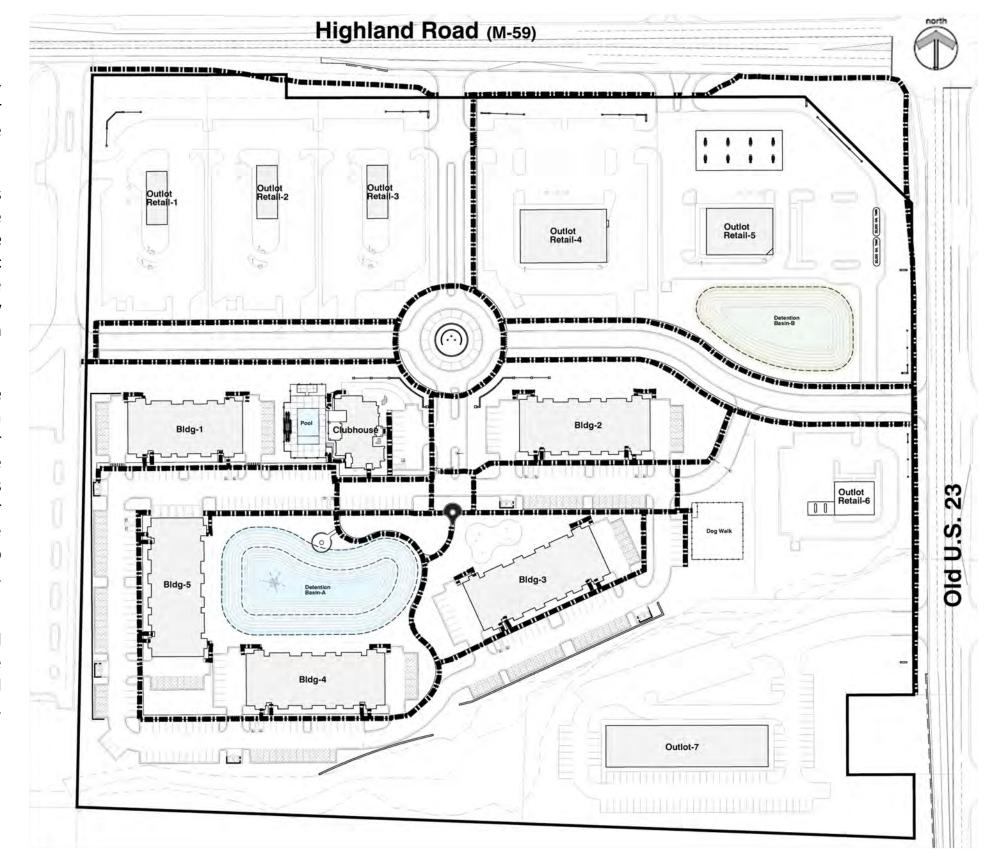
PEDESTRIAN CIRCULATION

Perimeter pedestrian circulation is provided along the M-59 and Old US 23 frontages. This pathway will provide for future linkages, both to the West (along M-59) and to the South (along Old US 23).

Pedestrian circulation within the interior of the site is provided with walkways along the East side of Square One Boulevard, and both North and South sides of Cornerstone Lane. Those walkways continue around the central traffic circle. The Southerly walk is planned to extend to the Charyl Stockwell Academy property to provide that facility pedestrian access to the Square One property. Pedestrian connections to the Outlots are planned off the North walk.

The Apartment Community has connections to the Southerly Cornerstone Lane walkway adjacent to both vehicular entrances. These walks connect to the interior pedestrian system which provides access around the perimeter drives that service the buildings, as well as connections to a walkway which traverses the interior open space between the buildings which includes the pond area, seating areas and putting green. There are also walk connections directly to the Clubhouse for safe, pedestrian access to that amenity.

The Pedestrian crossings at Square One Boulevard and Cornerstone Lane, including the traffic circle, will include advance 'Pedestrian Walk' warning signage. The actual crossing walk surface will be of a different pavement type, color and texture.



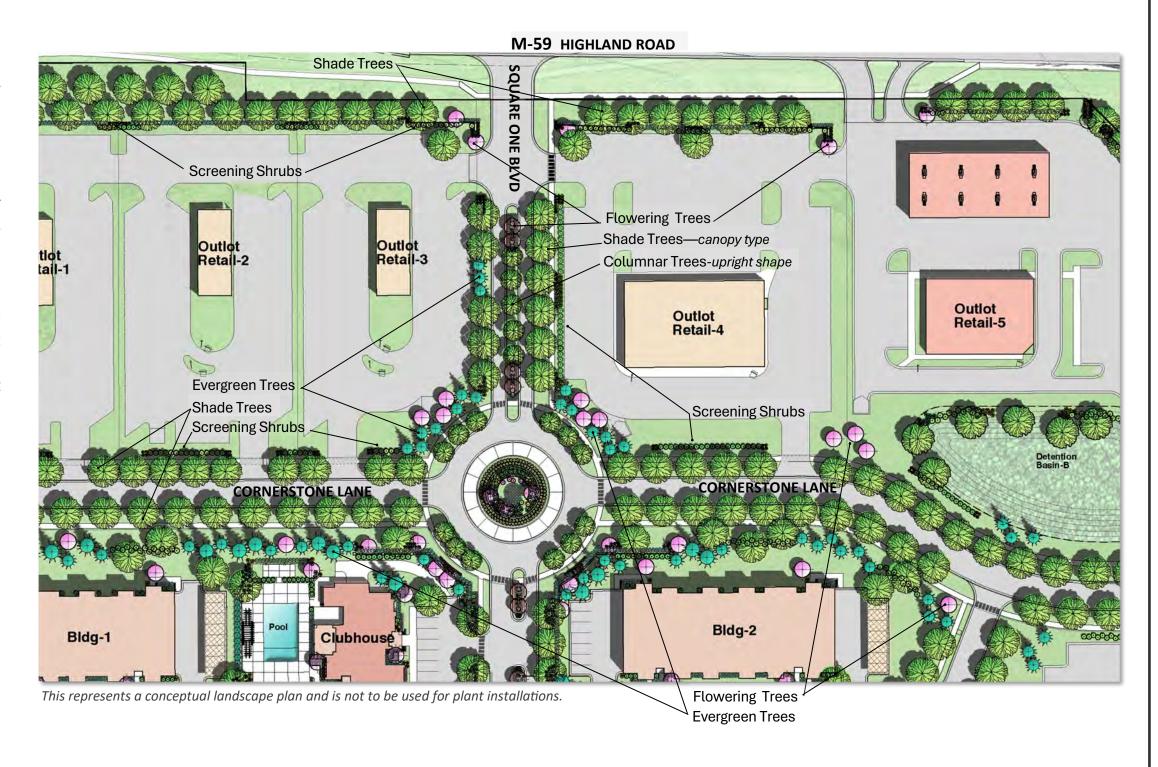
ROADWAY LANDSCAPE INTENT OVERVIEW:

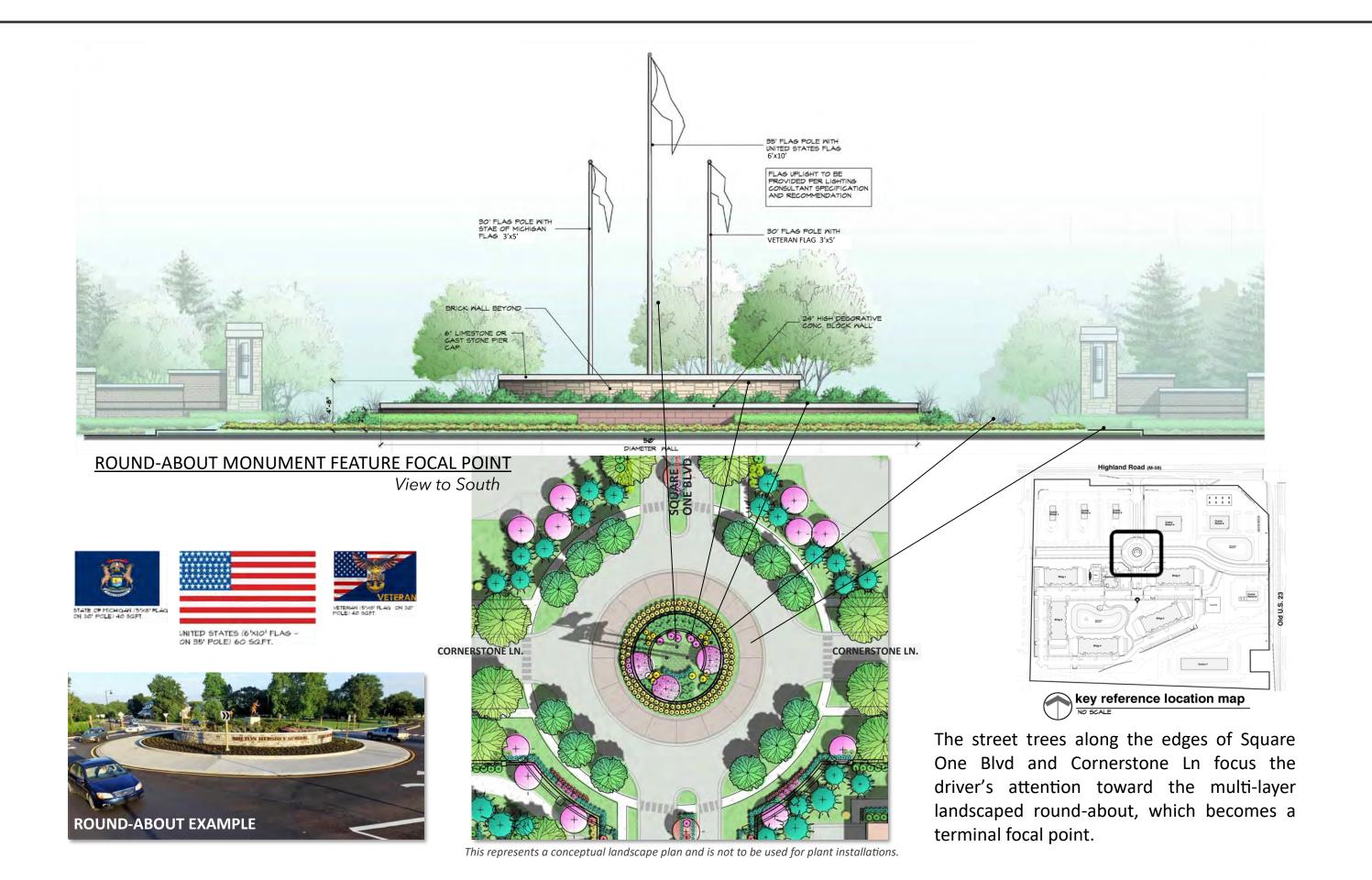
Square One Boulevard is the main entry drive into the Square One Development; the plantings on either side of the boulevard and in the center boulevard island are intended to create a tree canopied gateway and define major portions of the site. The canopy frames the round-about monument feature focal point.

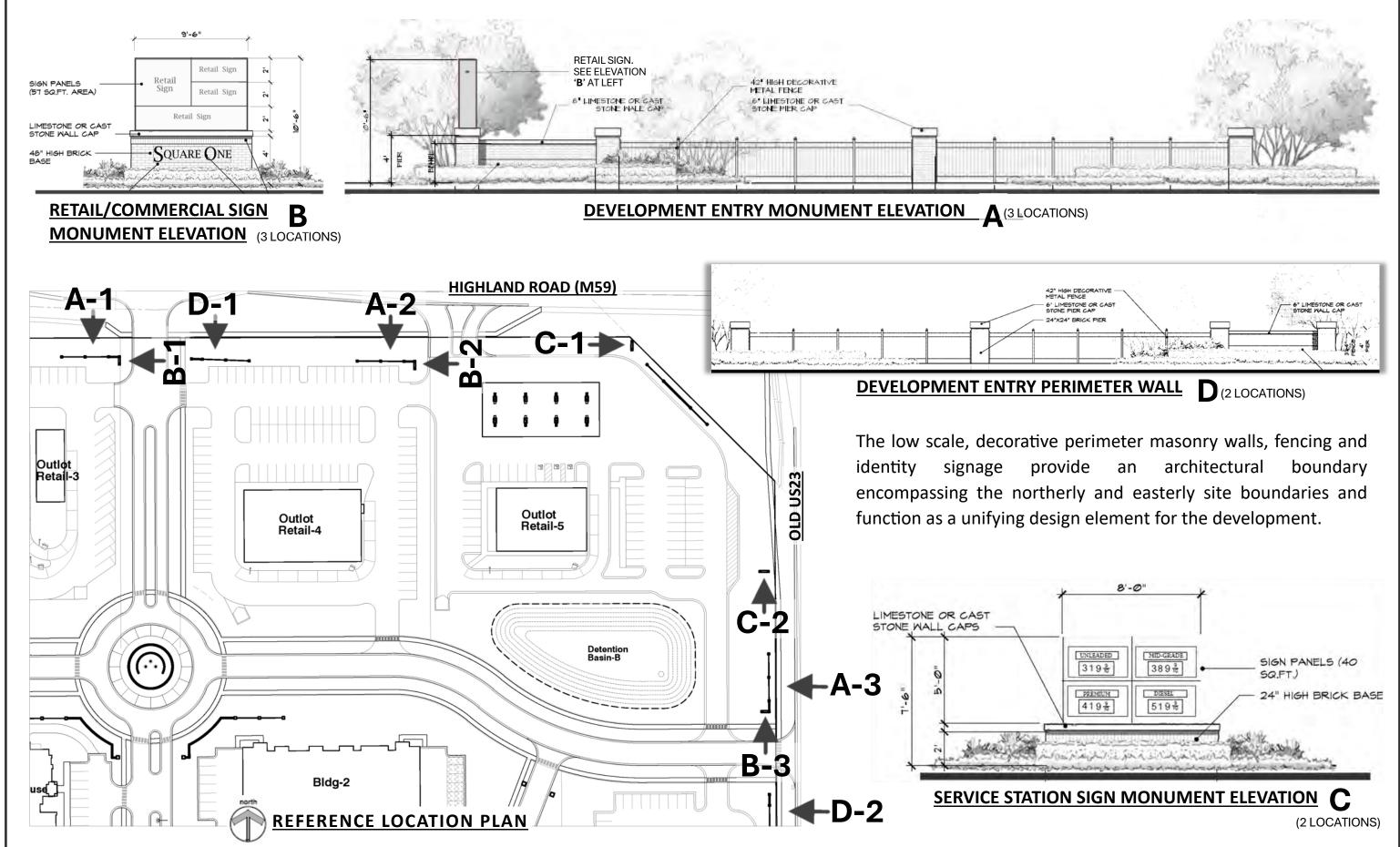
The street plantings along Cornerstone Lane provide consistent visual interest, act as a barrier between the street and sidewalk and help to screen adjacent parking.

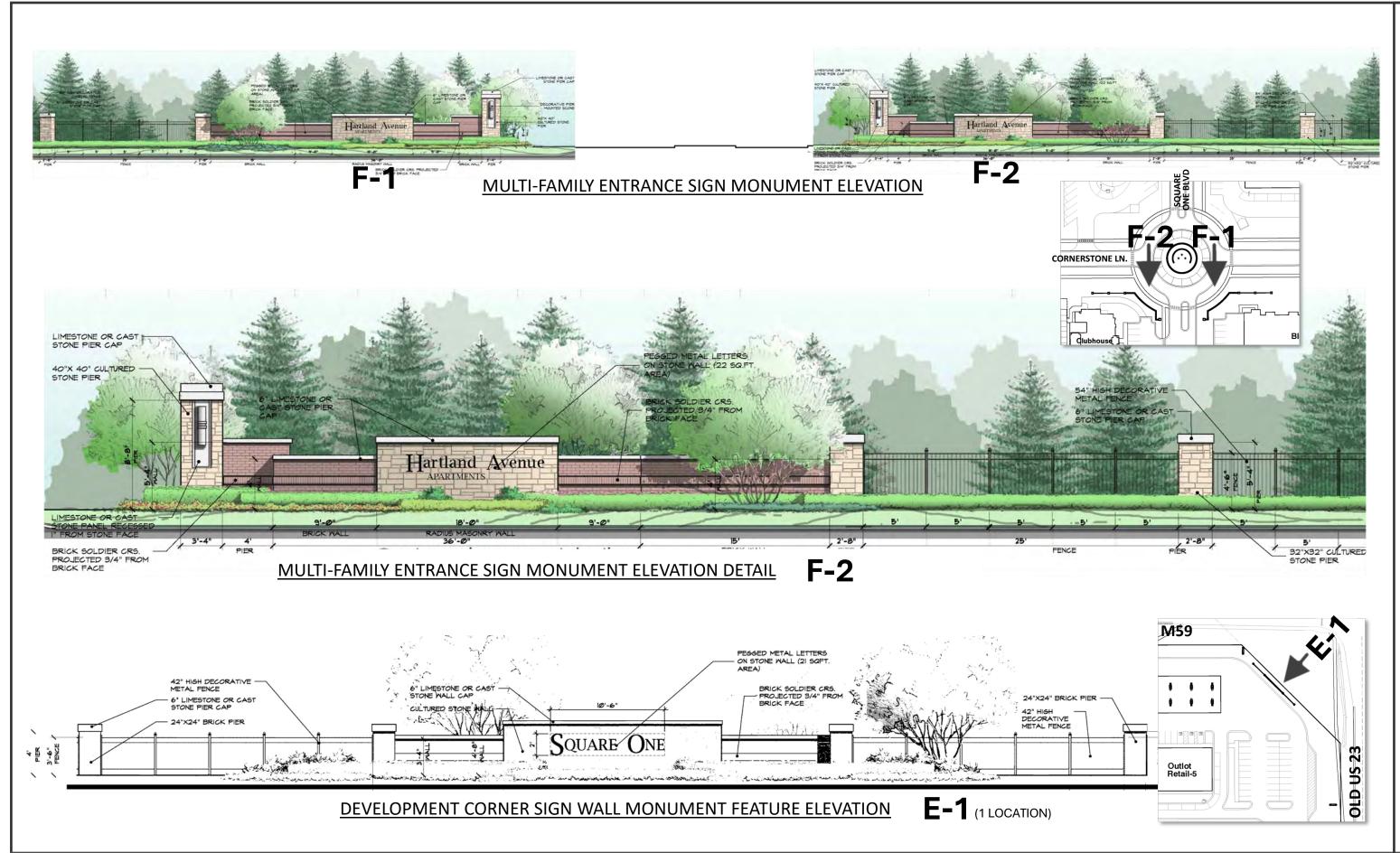




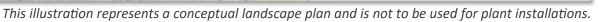












HARTLAND AVENUE APARTMENTS SITE PLAN





Community clubhouse (5,726 Sq Ft) features;

- spacious social room and kitchen
- fully equipped fitness center
- dog wash
- state of the art golf simulator
- covered outdoor terrace and two way fireplace
- heated swimming pool & spacious pool deck
- on site leasing and facility management offices
- Entry monument masonry wall feature both sides
- Gated access
- Putting green
- Dog Park



- Garages located on building ends. Green space, landscaping between building facade and parking area
- EV charging stations throughout site. Garages prepped for future EV charging
- Pedestrian hard surface walkways throughout
- Retaining wall with fence on top. Shrubbery and tree landscaping between fence and
- school property Retaining walls



Multi-Family community (Hartland Avenue Apartments) monument entry masonry wall feature (both sides).





Timer controlled gas fire pit centered inside low, curved stone garden walls (2' tall), with wide stone cap to allow for seating overlooking the pond fountain.



POND OVERLOOK EXAMPLE





This illustration represents a conceptual landscape plan and is not to be used for plant installations.

MONUMENT WALL, PUTTING GREEN & POND OVERLOOK



DOG PARK

In addition to the clubhouse Dog Wash, a fence enclosed Dog Park will be located between Building #4 and #5

Safety gate for dog park to prevent dogs entering from interacting with dogs leaving







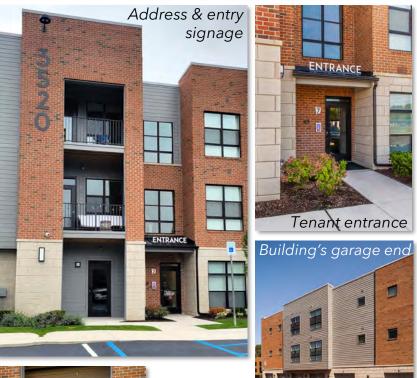
Proposed apartment building





Pictures of developer's recently completed project named Fountain Circle, located in Auburn Hills, MI







Visit www.fountaincircle.com for additional information and pictures





Proposed clubhouse building

Pictures of developer's recently completed Fountain Circle community clubhouse, located in Auburn Hills, MI





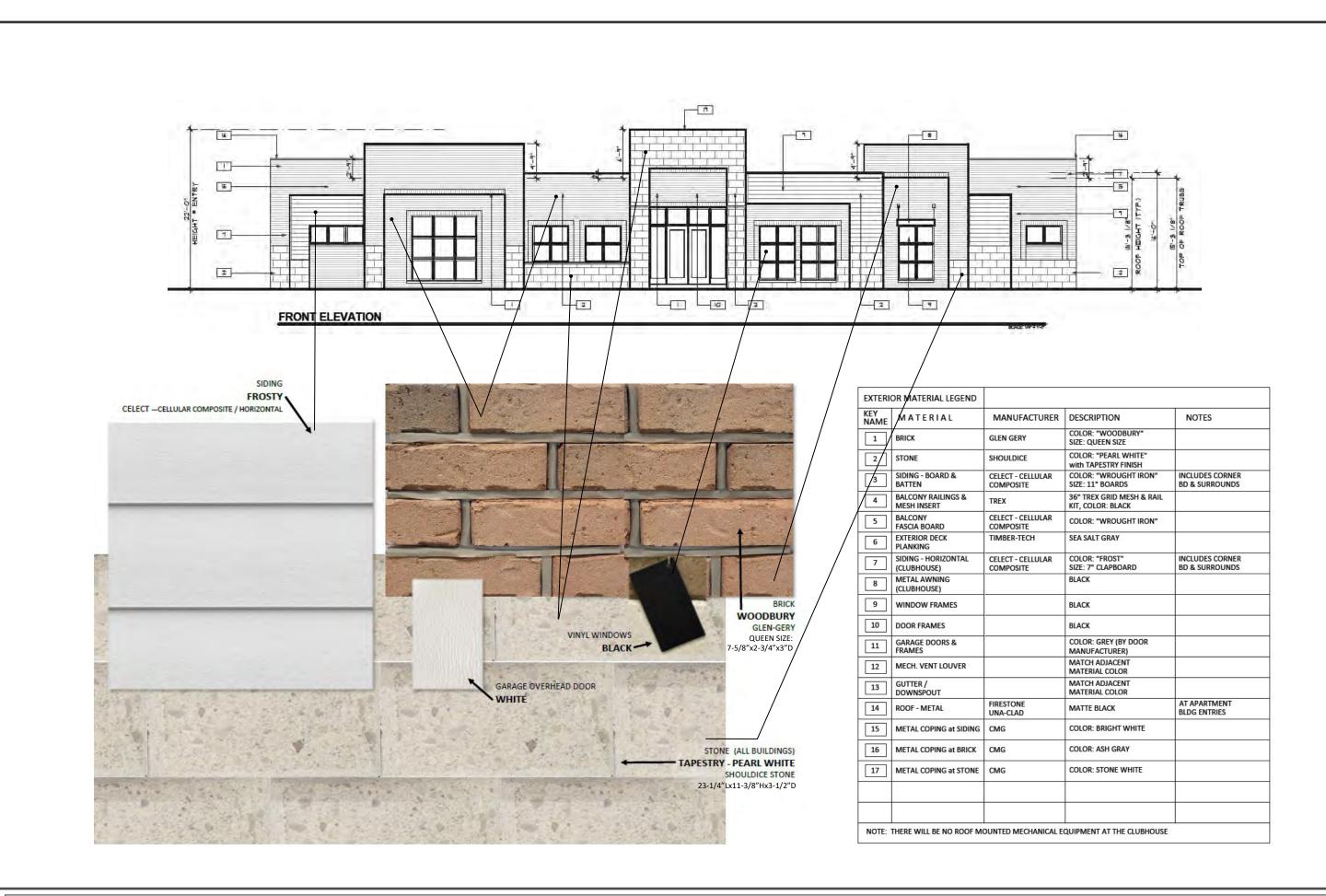


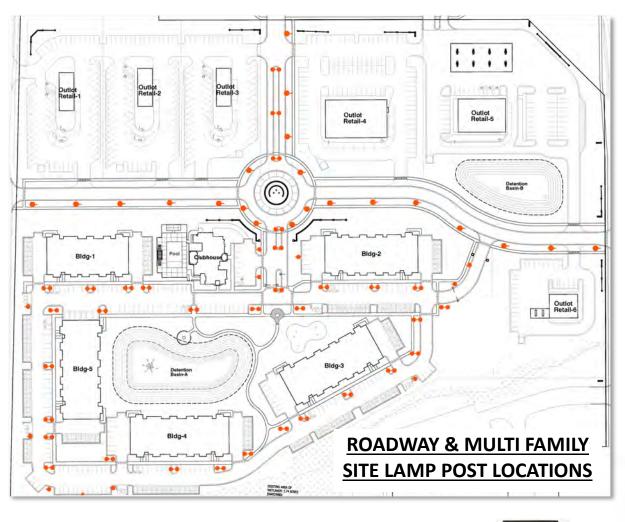
WINNER OF 2021 HBA GOLD AWARD FOR CLUHOUSE DESIGN













CARPORT LIGHT FIXTURES

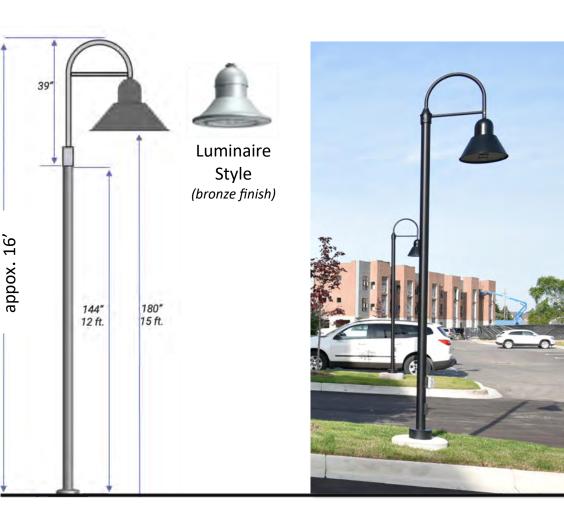


MULTI-FAMILY ENTRANCE PIER WALL LIGHT









EXTERIOR BUILDING FIXTURES





ROADWAY & OUTLOT PARKING

MULTI-FAMILY SITE LAMP POSTS

LIGHTING DETAILS

SQUAREONE HARTLAND TOWNSHIP, MICHIGAN











BIKE RACK & BENCH



EV CHARGING STATION



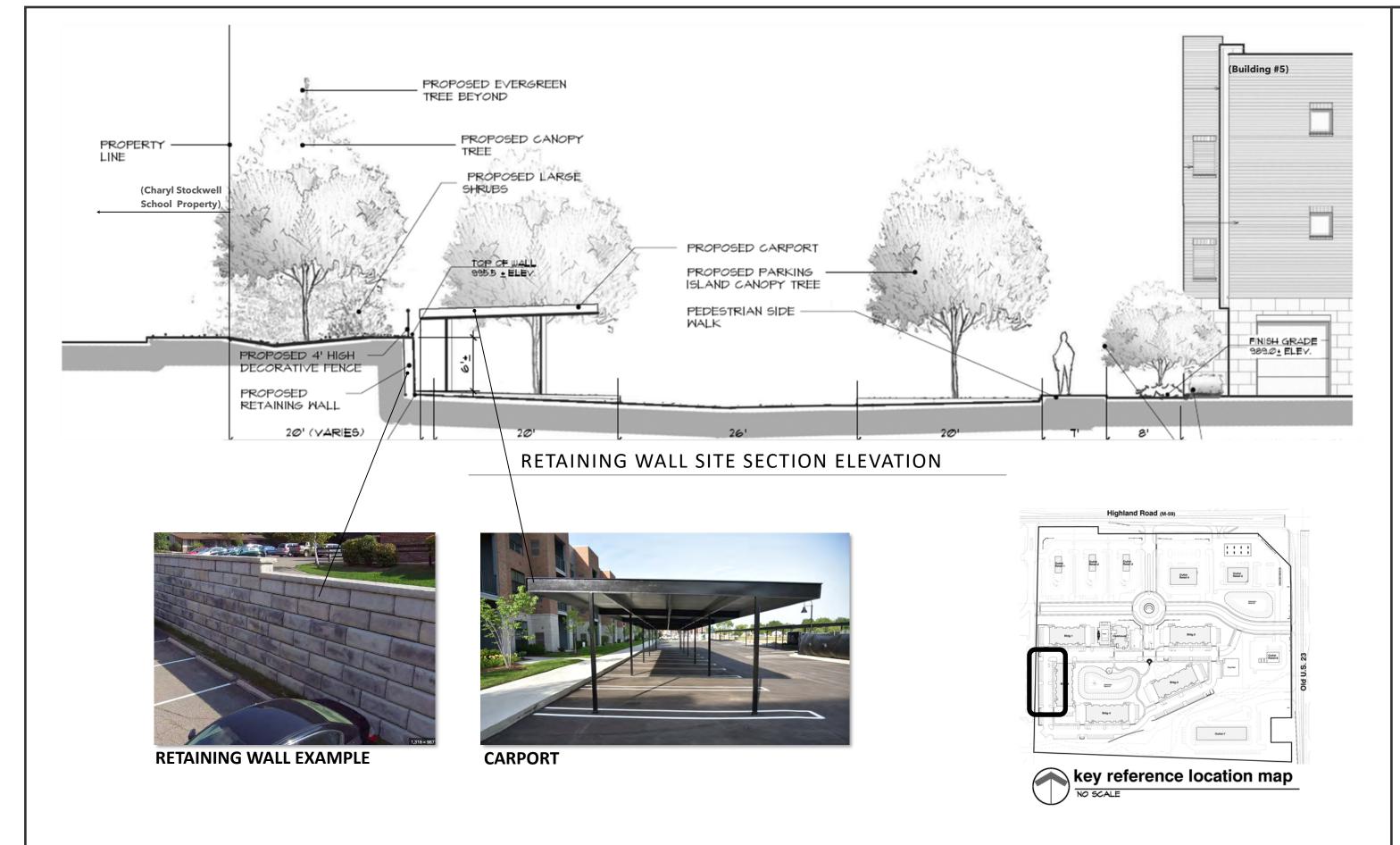
PET WASTE STATION



WASTE BINS



MONUMENT WALL DECORATIVE FENCE



The SQUARE ONE development is planned as a thoughtfully designed multi-use project that provides better land use, and a less dense alternative then a strictly single use, intense commercial alternative, which is permitted under the existing commercial zoning district. The design intent of Square One is to, as much as practical, take into account the adjacent land uses, and to integrate those uses and influences into Square One, to achieve a higher level of land integration with minimal impact on available public services and utilities. Furthermore, this development is under the planning and development control of a single entity, M59 Property Ventures, LLC, who is responsible for assuring completion of the project.

COMMUNITY FEATURES & BENEFITS

- The traffic circulation and potential signalization improvements of Square One provide a very significant benefit for the community, abutting and neighboring properties by improving their vehicular traffic circulation alternatives
- The additional traffic outlets for the Charyl Stockwell Academy will help ease the school's existing peak hour traffic issues
- Greater Tax Revenue vs an all Commercial Development
- Proposed Mixed-Use development generates less traffic than an all Commercial Development
- Proposed addition of a full width southbound lane on the west side of Old US23, from M-59 to approximately 800 feet to the south
- An additional 35 feet shall be dedicated to MDOT for M-59 ROW over the westerly 291.94 feet of the property
- Preservation of Natural Features.....woodlands and wetlands
- More control on development through PD zoning
- Additional commercial & retail options for township residents
- Additional upscale housing option for both existing and potential residents

COMMERCIAL OUTLOTS FEATURES & BENEFITS

- Access to both M-59 and Old US 23
- Walkability to all areas/uses
- Extensive Landscaping
- Good internal vehicular circulation
- Proximity to multi family residential community

HARTLAND FISCAL IMPACT ANALYSIS – SQUARE ONE MIXED USE DEVELOPMENT

Square One is proposed to be a mixed-use premium development comprised of seven commercial out lots and 168 multifamily residences. After careful review of the Hartland community ordinance requirements and the proposed uses, we have compiled some data on the economic impact that this mixed-use development will have on the township.

Property Tax Impact:

The proposed uses for the development are anticipated to include 3 quick service drive through restaurants, 1 retail shopping, 1 specialty market store with gas offering, 1 bank/credit union, 1 hotel and a 168 multifamily residential community that is highly amenitized in addition to a first-class clubhouse. The property as vacant land currently generates \$57,280 in taxes. Upon the anticipated completion of the plan as proposed, the total taxes generated will be approximately \$1,100,000 annually. The net gain in annual tax revenue will be \$1,050,319 (current less new tax amount)

The table below illustrates the expected value of each potential use and the potential tax revenue.

USE TYPE	SIZE	ESTIMATED VALUE	\	TAXABLE /ALUE (SEV)	MILLAGE	G	TAXES ENERATED
Multifamily residential	168 Residences	\$ 27,200,000	\$	13,600,000	46.5934	\$	633,670
Quick service drive-through #1	3,000 SF Est.	\$ 2,700,000	\$	1,350,000	34.5934	\$	46,701
Quick service drive-through #2	3,000 SF Est.	\$ 2,700,000	\$	1,350,000	34.5934	\$	46,701
Quick service drive-through #3	3,500 SF Est.	\$ 2,700,000	\$	1,350,000	34.5934	\$	46,701
Retail Shopping Center	10,000 SF Est.	\$ 5,000,000	\$	2,500,000	34.5934	\$	86,484
Fuel Service / Convenience store	5,000 SF Est.	\$ 6,000,000	\$	3,000,000	34.5934	\$	103,780
Bank / Credit Union	3,500 SF Est.	\$ 1,300,000	\$	650,000	34.5934	\$	22,486
Hotel	70 Rooms Est.	\$ 7,000,000	\$	3,500,000	34.5934	\$	121,077
Complete Development Est. Market Value		\$ 54,600,000	\$	27,300,000		\$	1,107,600

Local School Impact:

The multifamily residential component of this development is designed to cater to young professionals. It will comply with all fair housing guidelines and is not age restricted, so we cannot dictate the renter profile. Based on the building layouts, number of bedrooms and average size of the units, we estimate that 20% of the residences will house one - school aged child per unit, particularly grades K-8. This equates to about 34 children. As stated above, we cannot dictate the familial status of our renters, however we do not anticipate any significant impact on the public school system.

Community and Business Impact:

This mixed-use development will provide convenient eating, shopping, service and housing for Hartland Township. Square One will attract high quality tenants to serve the community and the luxury multifamily residences will house professionals that will help the economic growth of the community.



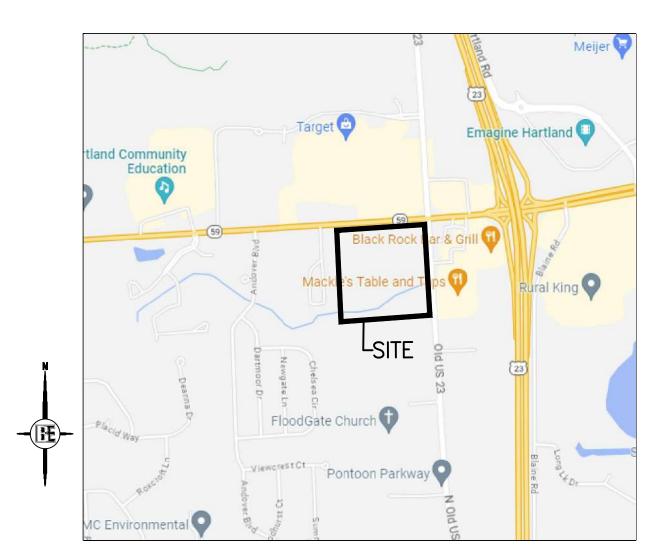
THE FOLLOWING ARE PERMITTED PRINCIPAL LAND USES WITHIN THE SQUARE ONE DEVELOPMENT

- 1. RETAIL USES UP TO 20,000 GROSS SQUARE FEET
- 2. PROFESSIONAL AND MEDICAL OFFICES, MEDICAL CLINICS AND URGENT CARE FACILITIES
- 3. FINANCIAL INSTITUTIONS WITH DRIVE-THROUGH SERVICES
- 4. PERSONAL SERVICE ESTABLISHMENTS.
- 5. OUTDOOR SEATING AND DINING AREAS
- 6. BUSINESS SERVICE ESTABLISHMENTS
- 7. ADULT DAY CARE FACILITIES, CHILD CARE CENTERS, PRESCHOOL AND DAY CARE CENTERS
- 8. ASSISTED LIVING AND NURSING HOME FACILITIES.
- 9. PUBLIC BUILDINGS, POST OFFICES, LIBRARIES, AND COMMUNITY CENTERS BUT NOT INCLUDING WAREHOUSES, GARAGES OR STORAGE AREAS
- 10. MULTI-FAMILY RESIDENTIAL
- 11. MUSIC AND DANCE STUDIOS
- 12. PHARMACIES AND APOTHECARIES
- 13. PUBLIC OR PRIVATE PARKS AND OPEN SPACE
- 14. ESSENTIAL PUBLIC SERVICES, PROVIDED THERE IS NO BUILDING OR STORAGE YARD
- 15. FUNERAL HOMES AND MORTUARY ESTABLISHMENTS
- 16. NEWSPAPER OFFICES AND ACCESSORY PRINTING/DISTRIBUTION
- 17. PERSONAL FITNESS CENTERS
- 18. VETERINARY OFFICES WITH NO OUTDOOR FACILITIES OR KENNELS
- 19. AUTOMOBILE SERVICE STATIONS, FUELING STATIONS, AND CONVENIENCE STATIONS
- 20. AUTOMOBILE WASH, WHEN WITHIN A COMPLETELY ENCLOSED BUILDING
- 21. BILLIARD HALLS
- 22. MOTELS AND HOTELS
- 23. RESTAURANT, BAR OR BREW PUBS, INCLUDING WITH LIVE ENTERTAINMENT OR DANCING WITH DRIVE THROUGH SERVICE, SUBJECT TO TOWNSHIP STANDARDS
- 24. MINOR AUTOMOTIVE REPAIR
- 25. OTHER USES IF NOT LISTED IN THE PLANNED DEVELOPMENT BUT APPEAR TO BE GENERALLY SIMILAR AND CONSISTENT WITH THE USES LISTED IN THIS PLANNED DEVELOPMENT, THE PLANNING COMMISSION COULD DETERMINE A PROPOSED USE WOULD BE PERMITTED AS A SPECIAL LAND USE IN THIS DEVELOPMENT, AND SHALL BE SUBJECT TO ALL APPLICABLE STANDARDS OF HARTLAND TOWNSHIP ZONING ORDINANCE

ARCHITECTURAL STANDARDS—OUTLOT COMMERCIAL BUILDINGS

ALL OUTLOT COMMERCIAL BUILDINGS IN THE PLANNED DEVELOPMENT SHALL BE SUBJECT TO APPLICABLE ARCHITECTURAL STANDARDS OF THE HARTLAND TOWNSHIP ZONING ORDINANCE, UNDER SECTION 5.24 (CURRENT SECTION DESIGNATION) AND THE FAÇADE MATERIALS CHART IN SECTION 5.24.14, UNLESS OTHERWISE SPECIFIED IN THE PLANNED DEVELOPMENT





LOCATION MAP

NO SCALE

PROPERTY DESCRIPTION:

PROPERTY DESCRIPTION PER WARRANTY DEED BY LAKESIDE OAKLAND DEVELOPMENT, LLC, A MICHIGAN LIMITED LIABILITY COMPANY TO M59 PROPERTY VENTURES, LLC, A MICHIGAN LIMITED LIABILITY COMPANY, AS RECORDED IN INSTRUMENT NO. 2022R-029835, LIVINGSTON COUNTY RECORDS:

Land situated in the Township of Hartland, County of Livingston, State of Michigan

A parcel of land in the Northwest 1/4 of Section 28, Township 3 North, Range 6 East, Hartland Township, Livingston County, Michigan, more particularly described as:

Beginning at a point on the Southerly Right-of-Way line of Highway M-59 (Highand Road) (Variable Width), said point being distant South 02 degrees 12 minutes 01 seconds West 48.23 feet along the West line of said Section 28 from the Northwest corner of Section 28, and proceeding thence along the Southerly Right-of-Way line of Highway M-59, South 89 degrees 07 minutes 01 seconds East 291.94 feet; thence continuing along said Southerly line, South 00 degrees 52 minutes 59 seconds West 35.00 feet; thence continuing along said Southerly line, South 89 degrees 07 minutes 01 seconds East 779.04 continuing along said Southerly line, South 44 degrees 19 minutes 00 seconds East 227.59 feet to the Westerly Right-of-Way line of Old U.S. 23 (120 feet wide); thence along said Westerly line, South 00 degrees 45 minutes 55 seconds West 739.84 feet; thence North 89 degrees 13 minutes 29 seconds West 100.00 feet; thence South 00 degrees 45 minutes 55 seconds West 120.00 feet; thence South 89 degrees 13 minutes 29 seconds East 100.00 feet to the Westerly Right-of-Way line of Old U.S. 23; thence along said Westerly line, South 00 degrees 45 minutes 55 seconds West 96.27 feet; thence North 86 degrees 50 minutes 38 seconds West 1260.75 feet; thence North 02 degrees 12 minutes 01 seconds East 1101.77 feet to the point of beginning.

DETROIT EDISON

ONE ENERGY PLAZA

DETROIT, MI 48226

Commonly known as: Vacant E. Highland Road Tax Parcel ID: 4708-28-100-014

UTILITY CONTACTS

STORM WATER LIVINGSTON COUNTY DRAIN COMMISSIONER 2300 E GRAND RIVE AVE # 105, HOWELL, MI 48843 PH: (517) 546-0040

<u>CABLE</u> SANITARY COMCAST LIVINGSTON COUNTY DRAIN COMMISSIONER 2300 E. GRAND RIVER AVE. #105,

HOWELL, MI 48843

PH: (517) 546-0040

WATER SYSTEM HARTLAND TOWNSHIP DPW MICHAEL LUCE DPW DIRECTOR 2655 CLARK ROAD HARTLAND, MI 48353 PH: (810) 632-7498

CONSUMERS ENERGY ONE ENERGY PLAZA

JACKSON, MI 49201-2276.

EMAIL: MLUCE@HARTLANDTWP.COM

PH: (800) 477-4747 PH: (517) 788-0432

INDEMNIFICATION STATEMENT

THE CONTRACTOR SHALL HOLD HARMLESS THE DESIGN PROFESSIONAL, MUNICIPALITY, COUNTY, STATE AND ALL OF ITS SUB CONSULTANTS, PUBLIC AND PRIVATE UTILITY COMPANIES, AND LANDOWNERS FOR DAMAGES TO INDIVIDUALS AND PROPERTY, REAL OR OTHERWISE, DUE TO THE OPERATIONS OF THE CONTRACTOR AND/OR THEIR SUBCONTRACTORS.

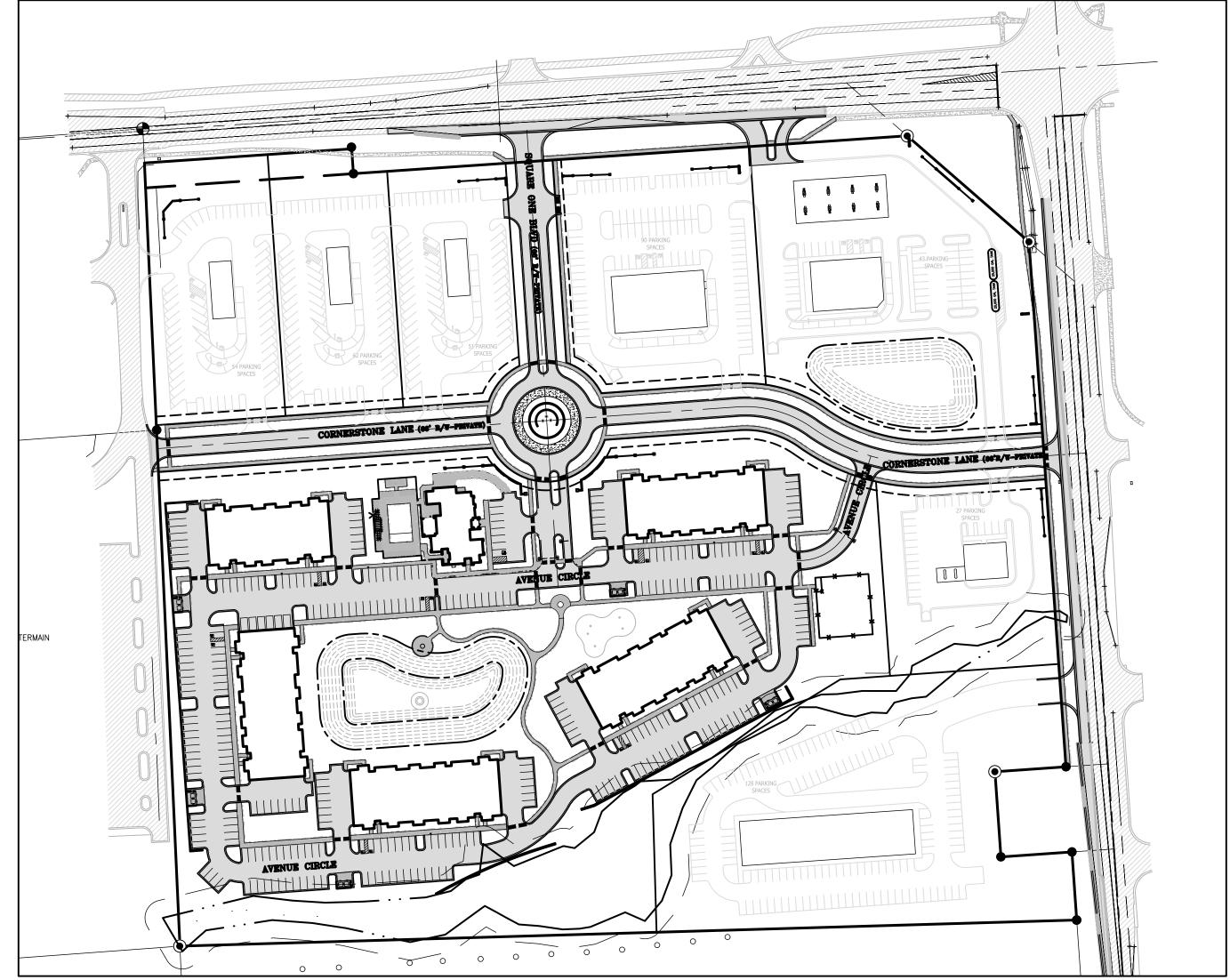
PRELIMINARY P.U.D. PLANS FOR

SQUARE ONE

& MULTI FAMILY RESIDENTIAL SITE

HARTLAND AVENUE APARTMENTS

PART OF NW 1/4, SECTION 28, T.3N., R.6E. HARTLAND TOWNSHIP, LIVINGSTON COUNTY, MI



OVERALL SITE MAP

NO SCALE

AGENCY	DATE SUBMITTED	DATE APPROVED
TOWNSHIP APPROVAL	_	_
LCDC (GRADING, DRAINAGE, SANITARY)	_	_
GCWWS (SANITARY)	_	_
LCRC	_	_
MDOT	_	_
LCDC SESC	_	_
EGLE NPDES SESC NOC	_	_
EGLE — ACT 399	_	_
EGLE – PART 41	_	_
EGLE — WETLAND	_	_

PREPARED FOR:

M-59 PROPERTY VENTURES LLC 29592 WIXOM ROAD, MI 48393 CONTACT: KEVIN BAHNAM PHONE: 248.767.5337 **EMAIL:**

KBAHNAM@USA2GOQUICKSTORES.COM

LIGHTING PREPARED BY:

GASSER BUSH ASSOCIATES 30984 INDUSTRIAL RD LIVONIA, MI 48150 QUOTES@GASSERBUSH.COM PHONE: 734-266-6705

ARCHITECT:

Α9

A11

A13

A14

A15

A16

SHEET

ALEXANDER V. BOGAERTS + ASSOCIATES, P.C. 2445 FRANKLIN ROAD BLOOMFIELD HILLS, MI 48302

LANDSCAPE PREPARED BY:

FELINO A. PASCUAL AND ASSOCIATES 24333 ORCHARD LAKE ROAD, SUITE G FARMINGTON HILLS, MI 48336

FOR SITE PLAN APPROVAL ONLY!
NOT FOR CONSTRUCTION

EXISTING TREE REMOVAL PLAN OVERALL SITE PLAN SITE PLAN - HARTLAND AVENUE APARTMENTS OPEN SPACE PLAN OVERALL GRADING PLAN GRADING PLAN - HARTLAND AVENUE APARTMENTS SOIL EROSION & SEDIMENTATION CONTROL PLAN OVERALL UTILITY PLAN 13 UTILITY PLAN - HARTLAND AVENUE APARTMENTS 14 OVERALL DRAINAGE PLAN 15-16 BASIN DETAILS 17 HYDRANT COVERAGE & SITE CIRCULATION 18 TRAFFIC SIGNAGE PLAN 19 - 26CONSTRUCTION DETAILS LIGHTING PLANS - GASSER BUSH LIGHTING PHOTOMETRIC PLAN 2 - 3LIGHTING DETAILS LANDSCAPE PLANS - FELINO A. PASCUAL AND ASSOCIATES LS-1 OVERALL PLAN VIEW LS-2 LANDSCAPE PLANTING DETAIL (COMMERCIAL-RETAILS) LANDSCAPE PLANTING DETAIL (APARTMENT COMMUNITY) LS-3LS-4 LANDSCAPE PLANTING DETAIL (APARTMENT BUILDING FOUNDATION) LANDSCAPE PLANTING DETAIL (ENTRANCE AND ROUNDABOUT) LS-5LANDSCAPE PLANTING DETAIL (DETENTION BASIN) LS-6 SOD, SEEDING, AND IRRIGATION REFERENCE PLAN LS-7 LS-8 SITE AMENITY REFERENCE PLAN ENTRANCE MONUMENT (COMMERCIAL-RETAIL FRONTAGE) LS-9LS-10 ENTRANCE MONUMENT (COMMERCIAL-RETAIL SIGN) ENTRANCE MONUMENT & ROUNDABOUT (APARTMENT COMMUNITY) ARCHITECTURAL PLANS - ALEXANDER V BOGAERTS + ASSOCIATES FLOOR PLANS - BUILDING STYLE 1 FLOOR PLANS - BUILDING STYLE 2 Α2 Α3 FLOOR PLANS - BUILDING STYLE 3 Α4 EXTERIOR ELEVATIONS — BUILDING STYLE1 FRONT, LEFT SIDE, & TYPICAL SECTION Α5 EXTERIOR ELEVATIONS - BUILDING STYLE1 REAR & RIGHT SIDE Α6 EXTERIOR ELEVATIONS - BUILDING STYLE2 FRONT, LEFT SIDE, & TYPICAL SECTION Α7 EXTERIOR ELEVATIONS - BUILDING STYLE 2 REAR & RIGHT SIDE EXTERIOR ELEVATIONS - BUILDING STYLE 3 FRONT, LEFT SIDE, & TYPICAL SECTION

SHEET INDEX

DESCRIPTION

EXISTING CONDITIONS & DEMOLITION PLAN

GENERAL NOTES & LEGEND

NATURAL FEATURES PLAN

COVER SHEET

PREPARED BY:

EXTERIOR ELEVATIONS - BUILDING STYLE 3 REAR & RIGHT SIDE

UNIT PLANS — TYPE A 1ST FLOOR UNIT PLANS - TYPE B 1ST FLOOR

UNIT PLANS - 2ND AND 3RD FLOOR

CLUBHOUSE PLAN

CLUBHOUSE ELEVATIONS

APARTMENT RENDERING

COLOR & MATERIALS BOARD



3121 E. GRAND RIVER AVE. HOWELL, MI. 48843 517.546.4836 FAX 517.548.1670 CONTACT:SCOTT TOUSIGNANT, PE

EMAIL:SCOTTT@BOSSENG.COM

					4
3	DH	ST	HARTLAND AVENUE APARTMENTS GRADING UPDATES	12-19-24	
2	ST		PRELIMINARY PUD TWP REVIEW	3-27-24	-
1	ST		PRELIMINARY TWP REVIEW	2-14-24	ISSUE DATE: 12-1-23
NO	BY	CK	REVISION	DATE	JOB NO: 21-461

ENGINEER

AT&T

GENERAL NOTES

- 1. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED TOWNSHIP, COUNTY, AND STATE OF MICHIGAN PERMITS.
- 2. A GRADING PERMIT FOR SOIL EROSION-SEDIMENTATION CONTROL SHALL BE OBTAINED FROM THE GOVERNING AGENCY PRIOR TO THE START OF CONSTRUCTION.
- 3. IF DUST PROBLEM OCCURS DURING CONSTRUCTION, CONTROL WILL BE PROVIDED BY AN APPLICATION OF
- WATER, EITHER BY SPRINKLER OR TANK TRUCK. 4. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH LOCAL MUNICIPAL STANDARDS AND
- SPECIFICATIONS. 5. PAVED SURFACES. WALKWAYS, SIGNS, LIGHTING AND OTHER STRUCTURES SHALL BE MAINTAINED IN A SAFE,
- ATTRACTIVE CONDITION AS ORIGINALLY DESIGNED AND CONSTRUCTED.
- 6. ALL BARRIER-FREE FEATURES SHALL BE CONSTRUCTED TO MEET ALL LOCAL, STATE AND A.D.A. REQUIREMENTS. WHERE EXISTING CONDITIONS AND/OR THE REQUIREMENTS OF THE PLANS WILL RESULT IN FINISHED CONDITIONS THAT DO NOT MEET ADA REQUIREMENTS, THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER PRIOR TO WORK COMMENCING.
- 7. ANY DISCREPANCY IN THIS PLAN AND ACTUAL FIELD CONDITIONS SHALL BE REPORTED TO THE DESIGN ENGINEER PRIOR TO THE START OF CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL SETBACKS, EASEMENTS AND DIMENSIONS SHOWN HEREON PRIOR TO BEGINNING CONSTRUCTION.
- 8. THE CONTRACTOR SHALL CONTACT ALL OWNERS OF EASEMENTS, UTILITIES AND RIGHT-OF-WAY, PUBLIC OR PRIVATE, PRIOR TO THE START OF CONSTRUCTION.
- 9. THE CONTRACTOR SHALL COORDINATE WITH ALL OWNERS TO DETERMINE THE LOCATION OF EXISTING LANDSCAPING, IRRIGATION LINES & PRIVATE UTILITY LINES. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO EXISTING LANDSCAPING, IRRIGATION LINES, AND PRIVATE UTILITY LINES.
- 10. THE CONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS FROM THE SITE UPON COMPLETION OF THE
- 11. THE CONTRACTOR SHALL MAINTAIN THE SITE IN A MANNER SO THAT WORKMEN AND PUBLIC SHALL BE
- PROTECTED FROM INJURY, AND ADJOINING PROPERTY PROTECTED FROM DAMAGE. 12. THE CONTRACTOR SHALL KEEP THE AREA OUTSIDE THE "CONSTRUCTION LIMITS" BROOM CLEAN AT ALL TIMES.
- 13. THE CONTRACTOR SHALL CALL MISS DIG A MINIMUM OF 72 HOURS PRIOR TO THE START OF CONSTRUCTION.
- 14. ALL PAVEMENT REPLACEMENT AND OTHER WORKS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE TOWNSHIP, INCLUDING THE LATEST MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
- 15. THE CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGE TO EXISTING UTILITIES.
- 16. NO ADDITIONAL COMPENSATION WILL BE PAID TO THE CONTRACTOR FOR ANY DELAY OR INCONVENIENCE DUE TO THE MATERIAL SHORTAGES OR RESPONSIBLE DELAYS DUE TO THE OPERATIONS OF SUCH OTHER PARTIES DOING WORK INDICATED OR SHOWN ON THE PLANS OR IN THE SPECIFICATION OR FOR ANY REASONABLE DELAYS IN CONSTRUCTION DUE TO THE ENCOUNTERING OR EXISTING UTILITIES THAT MAY OR MAY NOT BE SHOWN ON THE PLANS.
- 17. DURING THE CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL NOT PERFORM WORK BY PRIVATE AGREEMENT WITH PROPERTY OWNERS ADJACENT TO THE PROJECT.
- 18. IF WORK EXTENDS BEYOND NOVEMBER 15, NO COMPENSATION WILL BE DUE TO THE CONTRACTOR FOR ANY WINTER PROTECTION MEASURES THAT MAY BE REQUIRED BY THE ENGINEER.
- 19. NO TREES ARE TO BE REMOVED UNTIL MARKED IN THE FIELD BY THE ENGINEER.
- 20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE PROPERTY BEYOND THE CONSTRUCTION LIMITS INCLUDING BUT NOT LIMITED TO EXISTING FENCE, LAWN, TREES AND SHRUBBERY.
- 21. TRAFFIC SHALL BE MAINTAINED DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL SIGNS AND TRAFFIC CONTROL DEVICES. FLAG PERSONS SHALL BE PROVIDED BY THE CONTRACTOR IF DETERMINED NECESSARY BY THE ENGINEER. ALL SIGNS SHALL CONFORM TO THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AT NO COST TO THE TOWNSHIP. NO WORK SHALL BE DONE UNLESS THE APPROPRIATE TRAFFIC CONTROL DEVICES ARE IN PLACE.
- 22. ALL DEMOLISHED MATERIALS AND SOIL SPOILS SHALL BE REMOVED FROM THE SITE AT NO ADDITIONAL COST, AND DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.
- 23. ANY EXISTING APPURTENANCES SUCH AS MANHOLES, GATE VALVES, ETC. SHALL BE ADJUSTED TO THE PROPOSED GRADE AND SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
- 24. ALL PERMANENT SIGNS AND PAVEMENT MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST REVISION OF THE MICHIGAN MUTCD MANUAL AND SHALL BE INCIDENTAL TO THE CONTRACT.
- 25. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT ALL ITEMS REQUIRED FOR CONSTRUCTION OF THE PROJECT ARE INCLUDED IN THE CONTRACT. ANY ITEMS NOT SPECIFICALLY DESIGNATED IN THE PLANS SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
- 26. THE CONTRACTOR IS RESPONSIBLE FOR HAVING A SET OF APPROVED CONSTRUCTION PLANS, WITH THE LATEST REVISION DATE, ON SITE PRIOR TO THE START OF CONSTRUCTION. IN THE EVENT OF ANY QUESTIONS PERTAINING TO THE INTENT OF THE CONSTRUCTION PLANS OR SPECIFICATIONS, THE CONTRACTOR SHALL
- CONTACT THE DESIGN ENGINEER FOR A FINAL DETERMINATION FROM THE DESIGN ENGINEER. 27. THE CONTRACTOR, NOT THE OWNER OR THE ENGINEER, ARE RESPONSIBLE FOR THE MEANS, METHODS, AND SEQUENCE OF CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR SAFE EXECUTION OF THE PROJECT SCOPE IN ACCORDANCE WITH THE APPROVED CONSTRUCTION PLANS.
- 28. THE CONTRACTOR IS RESPONSIBLE FOR PRESERVING CONSTRUCTION STAKING AS NECESSARY. CONTRACTOR TO NOTIFY CONSTRUCTION SURVEYOR OF REPLACEMENT STAKES NEEDED WHICH SHALL BE AT THE CONTRACTORS
- 29. THE OWNER AND/OR CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING FRANCHISE UTILITY SERVICES (CABLE, ELECTRIC, GAS, ETC.) OWNER AND/OR CONTRACTOR SHALL WORK WITH UTILITY COMPANIES ON FURNISHING SITE UTILITY LAYOUTS AND PROVIDING CONDUIT CROSSINGS AS REQUIRED.
- 30. DAMAGE TO ANY EXISTING UTILITIES OR INFRASTRUCTURE (INCLUDING PAVEMENT, CURB, SIDEWALK, ETC.) SHALL PROMPTLY BE REPLACED IN KIND AND SHALL BE AT THE CONTRACTORS EXPENSE.
- 31. COORDINATION OF TESTING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND PER ALL CITY/TOWNSHIP/COUNTY REQUIREMENTS. COPIES OF ALL TEST REPORTS SHALL BE FURNISHED TO THE DESIGN
- 32. PRIOR TO THE START OF CONSTRUCTION, PROTECTION FENCING SHALL BE ERECTED AROUND THE TREE DRIPLINE OF ANY TREES INDICATED TO BE SAVED WITHIN THE LIMITS OF DISTURBANCE.
- 33. THE CONTRACTOR SHALL MAINTAIN DRAINAGE OF THE PROJECT AREA AND ADJACENT AREAS. WHERE EXISTING DRAINAGE FACILITIES ARE IMPACTED/DISTURBED DUE TO CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE ANY NECESSARY TEMPORARY DRAINAGE PROVISIONS.
- 34. SOIL BORING LOGS ARE REPRESENTATIVE OF SPECIFIC POINTS ON THE PROJECT SITE, AND IF PROVIDED TO THE CONTRACTOR ARE FOR INFORMATIONAL PURPOSES ONLY.
- 35. WHERE CITY/TOWNSHIP STANDARD CONSTRUCTION DETAILS/SPECIFICATIONS ARE PROVIDED AND ARE IN CONFLICT WITH NOTES AND SPECIFICATIONS HEREIN, THE CITY/TOWNSHIP STANDARD SHALL GOVERN.

INDEMNIFICATION STATEMENT

THE CONTRACTOR SHALL HOLD HARMLESS THE DESIGN PROFESSIONAL, MUNICIPALITY, COUNTY, STATE AND ALL OF ITS SUB CONSULTANTS, PUBLIC AND PRIVATE UTILITY COMPANIES, AND LANDOWNERS FOR DAMAGES TO INDIVIDUALS AND PROPERTY, REAL OR OTHERWISE, DUE TO THE OPERATIONS OF THE CONTRACTOR AND/OR THEIR SUBCONTRACTORS.

GENERAL GRADING & SESC NOTES

- 1. THE CONTRACTOR SHALL HAVE IN PLACE ALL REQUIRED EROSION CONTROL METHODS AS INDICATED ON THE CONSTRUCTION PLANS AND AS REQUIRED BY GENERAL PRACTICE, SPECIFIC MEANS, METHODS AND SEQUENCES OF CONSTRUCTION MAY DICTATE ADDITIONAL SOIL EROSION CONTROL MEASURES BE NEEDED. THE CONTRACTOR SHALL COORDINATE WITH THE DESIGN ENGINEER ON THESE ANTICIPATED METHODS. ADDITIONAL SOIL EROSION CONTROL METHODS SHALL BE INCIDENTAL TO THE SCOPE OF WORK.
- 2. ACTUAL FIELD CONDITIONS MAY DICTATE ADDITIONAL OR ALTERNATE SOIL EROSION CONTROL MEASURES BE UTILIZED. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DEFICIENCIES OR FIELD CONDITIONS THAT WARRANT ADDITIONAL AND/OR ALTERNATIVE SESC MEASURES BE UTILIZED.
- 3. AT THE CLOSE OF EACH DAY, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING ALL CONSTRUCTION OPERATIONS, MATERIALS, DEBRIS, ETC ARE CONTAINED ON-SITE.
- 4. AT THE CLOSE OF EACH WORKING DAY, ALL DRAINAGE STRUCTURES SHALL BE FREE OF DIRT AND DEBRIS AT THE FLOW LINE.
- 5. ALL SOIL EROSION CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE PER MDEGLE REGULATIONS AND
- BEST PRACTICES, ALL SOIL EROSION CONTROL MEASURES SHALL BE MAINTAINED BY THE CONTRACTOR. THE SOIL EROSION CONTROL MEASURES SHALL BE KEPT IN PLACE UNTIL SUCH A TIME THAT THE SITE IS
- DETERMINED TO BE ESTABLISHED WITH ACCEPTABLE AMOUNT OF VEGETATIVE GROUND COVER.
- 7. ALL AREAS DISTURBED BY THE CONTRACTOR BEYOND THE NORMAL CONSTRUCTION LIMITS OF THE PROJECT SHALL BE SODDED OR SEEDED AS SPECIFIED OR DIRECTED BY THE ENGINEER.
- 8. AFTER REMOVAL OF TOPSOIL, THE SUBGRADE SHALL BE COMPACTED TO 95% OF ITS UNIT WEIGHT. 9. ALL GRADING IN THE PLANS SHALL BE DONE AS PART OF THIS CONTRACT. ALL DELETERIOUS MATERIAL SHALL
- BE REMOVED FROM THE SUBGRADE PRIOR TO COMPACTING. 10. ALL ROOTS, STUMPS AND OTHER OBJECTIONABLE MATERIALS SHALL BE REMOVED AND THE HOLE BACKFILLED

WITH SUITABLE MATERIAL. WHERE GRADE CORRECTION IS REQUIRED, THE SUBGRADE SHALL BE CUT TO

CONFORM TO THE CROSS-SECTION AS SHOWN IN THE PLANS. 11. ALL EXCAVATION UNDER OR WITHIN 3 FEET OF PUBLIC PAVEMENT, EXISTING OR PROPOSED SHALL BE

BACKFILLED AND COMPACTED WITH SAND (MDOT CLASS II).

GENERAL LANDSCAPE NOTES

OTHERWISE NOTED.

- 1. ALL PLANT MATERIAL SHALL CONFORM TO THE REQUIREMENTS AND SPECIFICATIONS OF THE GOVERNING MUNICIPALITY. ALL STOCK SHALL BE NURSERY GROWN, CONFORMING TO ANSI Z60.1 "AMERICAN STANDARD FOR NURSERY STOCK", AND IN ACCORDANCE WITH GOOD HORTICULTURAL PRACTICE. STOCK SHALL EXHIBIT NORMAL GROWTH HABIT AND BE FREE OF DISEASE, INSECTS, EGGS, LARVAE, & DEFECTS SUCH AS KNOTS, SUN-SCALD, INJURIES, ABRASIONS, OR DISFIGUREMENT. ALL PLANT MATERIAL SHALL BE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT.
- ALL PLANT MATERIALS SHALL BE BALLED AND BURLAPPED OR CONTAINER STOCK. NO BARE ROOT STOCK IS PERMITTED. ALL PLANT BALLS SHALL BE FIRM, INTACT, AND SECURELY WRAPPED AND BOUND.
- 3. ALL PLANT BED MATERIALS SHALL BE EXCAVATED OF ALL BUILDING MATERIALS, OTHER EXTRANEOUS OBJECTS, AND POOR SOILS TO A MINIMUM DEPTH OF 12-INCHES AND BACKFILLED TO GRADE WITH SPECIFIED PLANTING MIX (SEE BELOW).
- 4. PLANTING MIXTURE SHALL CONSIST OF 5 PARTS TOPSOIL FROM ON-SITE (AS APPROVED), 4 PARTS COARSE SAND, 1 PART SPHAGNUM PEAT MOSS (OR APPROVED COMPOST), AND 5 LBS OF SUPERPHOSPHATE FERTILIZER PER CU. YD. OF MIX. INGREDIENTS SHALL BE THOROUGHLY BLENDED FOR UNIFORM CONSISTENCY.
- 5. ALL PLANT BEDS AND INDIVIDUAL PLANTS, NOT OTHERWISE NOTED SHALL BE MULCHED WITH A 4-INCH LAYER OF SHREDDED BARK MULCH. EDGE OF MULCH BEDS AS SHOWN. DECIDUOUS TREES IN LAWN AREAS SHALL RECEIVE A 5-FT DIAMETER CIRCLE OF MULCH AND CONIFER TREES 8-FT (PLANTED CROWN OF TREE) UNLESS
- 6. LANDSCAPE STONE SHALL BE INSTALLED WHERE NOTED OR INDICATED (HATCHED). STONE SHALL BE 3/4"-1-1/4" WASHED RIVER GRAVEL OR AS SELECTED AND SHALL BE INSTALLED TO A MINIMUM DEPTH OF 3-INCHES.
- 7. ALL LANDSCAPE BEDS, UNLESS OTHERWISE NOTED SHALL BE INSTALLED OVER WEED BARRIER FABRIC WATER PERMEABLE FILTRATION FABRIC OF NON-WOVEN POLYPROPYLENE OR POLYESTER FABRIC. FABRIC SHALL BE OF SUITABLE THICKNESS FOR APPLICATION.
- 8. ALL PLANTS AND PLANT BEDS SHALL BE THOROUGHLY WATERED UPON COMPLETION OF PLANTING AND STAKING OPERATIONS.
- THE CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIALS FOR A PERIOD OF 1 YEAR FROM THE DATE THE WORK IS ACCEPTED, IN WRITING, BY THE LANDSCAPE ARCHITECT. THE CONTRACTOR SHALL REPLACE, WITHOUT COST TO THE OWNER, WITHIN A SPECIFIED PERIOD OF TIME, ALL DEAD PLANTS, AND ALL PLANTS NOT IN A VIGOROUS, THRIVING CONDITION, AS DETERMINED BY THE LANDSCAPE ARCHITECT, DURING AND AT THE END OF THE GUARANTEE PERIOD. REPLACEMENT STOCK SHALL CONFORM TO THE ORIGINAL SPECIFICATIONS.
- 10. EDGING SHALL BE PROVIDED FOR ALL LANDSCAPE BEDS NOT ADJACENT TO CONCRETE PAVEMENT. EDGING SHALL BE BLACK ALUMINUM EDGING, 3/16-INCH X 4-INCH. INSTALL PER MANUFACTURER'S INSTRUCTIONS, ALL EDGING SHALL BE INSTALLED IN STRAIGHT LINES OR SMOOTH CURVES WITHOUT IRREGULARITIES.
- 11. SOD SHALL BE DENSE, WELL ROOTED TURF, FREE OF WEEDS. IT SHALL BE COMPRISED OF A BLEND OF AT LEAST TWO KENTUCKY BLUE GRASSES AND ONE FESCUE. IT SHALL HAVE A UNIFORM THICKNESS OF 3/4-INCH AT TIME OF PLANTING, AND CUT IN UNIFORM STRIPS NOT LESS THAN 10-INCHES BY 18-INCHES. SOD SHALL BE KEPT MOIST AND LAID WITHIN 36-HOURS AFTER CUTTING.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH A DENSE LAWN OF PERMANENT GRASSES, FREE OF LUMPS AND DEPRESSIONS. ALL SODDED AREAS THAT BROWN-OUT OR HAVE NOT FIRMLY KNITTED TO THE SOIL BASE WITHIN A PERIOD OF 1 MONTH SHALL BE REPLACED BY THE CONTRACTOR, AT NO COST TO THE
- 12. ALL AREAS OF THE SITE THAT BECOME DISTURBED DURING CONSTRUCTION AND ARE NOT TO BE PAVED, STONED, LANDSCAPED, OR SODDED SHALL BE SEEDED AND MULCHED.

SEED MIXTURE SHALL BE AS FOLLOWS: KENTUCKY BLUEGRASS (CHOOSE 3 VARIETIES -ADELPHI, RUGBY, GLADE, OR PARADE) 30% RUBY RED OR DAWSON RED FINE FESCUE 30% ATLANTA RED FESCUE 20% PENNFINE PERENNIAL RYE

THE ABOVE SEED MIXTURE SHALL BE SOWN AT A RATE OF 250 LBS PER ACRE. PRIOR TO SEEDING, THE TOPSOIL SHALL BE FERTILIZED WITH A COMMERCIAL FERTILIZER WITH A 10-0-10 ANALYSIS:

10% NITROGEN - MIN 25% FROM A UREA FORMALDEHYDE SOURCE

0 % PHOSPHATE 10% POTASH - SOURCE POTASSIUM SULFATE OR POTASSIUM NITRATE

THE FIRST FERTILIZER APPLICATION SHALL BE AT A RATE OF 10 LBS PER 1000 SQ FT OF BULK FERTILIZER. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH A DENSE LAWN OF PERMANENT GRASSES, FREE OF LUMPS AND DEPRESSIONS. ANY PART OF THE AREA THAT FAILS TO SHOW A UNIFORM GERMINATION SHALL

BE RE-SEEDED AND SUCH RE-SEEDING SHALL CONTINUE UNTIL A DENSE LAWN IS ESTABLISHED. DAMAGE TO

13. ALL AREAS OF THE SITE SCHEDULED FOR SEEDING OR SODDING SHALL FIRST RECEIVE A 6-INCH LAYER OF CLEAN, FRIABLE TOPSOIL. THE SOIL SHALL BE DISCED AND SHALL BE GRADED IN CONFORMANCE WITH THE GRADING PLAN.

SEEDED AREAS RESULTING FROM EROSION SHALL BE REPAIRED BY THE CONTRACTOR.

LANDSCAPE ARCHITECT OF ANY CONFLICTS PRIOR TO COMMENCING LANDSCAPING.

14. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATION OF ALL UTILITIES AND TO INFORM THE

GENERAL UTILITY NOTES

- BEDDING SHALL EXTEND A MINIMUM OF 4" BELOW THE PIPE, UNLESS OTHERWISE NOTED ON THE PLANS. BEDDING SHALL BE OF UNIFORM GRADATION MDOT 6AA STONE OR MDOT CLASS II GRANULAR MATERIAL FOR SANITARY AND STORM PIPE AND MDOT CLASS II GRANULAR MATERIAL ONLY FOR WATERMAIN.
- 2. WHERE UNSTABLE GROUND CONDITIONS ARE ENCOUNTERED, STONE BEDDING SHALL BE USED AS DIRECTED BY THE ENGINEER.
- 3. BACKFILL SHALL BE OF A SUITABLE MATERIAL AND SHALL BE FREE OF ANY ORGANIC MATERIALS AND ROCKS.
- 4. BACKFILL ABOVE THE PIPE SHALL BE OF GRANULAR MATERIAL MDOT CLASS II TO A POINT 12" ABOVE THE TOP OF THE PIPE. WHERE THE TRENCH IS NOT WITHIN THE INFLUENCE OF THE ROAD, SUITABLE SITE MATERIAL MAY BE COMPACTED AND UTILIZED FROM A POINT 12" ABOVE THE PIPE TO GRADE, WHERE THE TRENCH IS WITHIN A 1:1 INFLUENCE OF THE ROAD, GRANULAR MATERIAL, MDOT CLASS II OR III, IS TO BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 12" IN THICKNESS. COMPACTION SHALL BE 95% AS DETERMINED BY AASHTO T99.
- 5. 18" MINIMUM VERTICAL SEPARATION AND 10' HORIZONTAL SEPARATION IS TO BE MAINTAINED BETWEEN WATERMAIN AND SANITARY/STORM SEWER TO THE MAXIMUM EXTENT POSSIBLE.

- MEET THE REQUIREMENTS OF ASTM D3139 AND D3212.
- 4. SANITARY STRUCTURES SHALL BE FURNISHED WITH STEPS WHICH SHALL BE STEEL ENCASED WITH POLYPROPYLENE PLASTIC OR EQUIVALENT. STEPS SHALL BE SET AT 16" CENTER TO CENTER.
- ALL NEW MANHOLES SHALL BE MINIMUM 4' DIAMETER, PRECAST MANHOLE SECTIONS AND AN ECCENTRIC CONE. PRECAST MANHOLE JOINTS SHALL BE INSTALLED WITH BUTYL ROPE MEETING THE REQUIREMENTS OF
- SPRINGLINE OF THE PIPE
- 7. ALL NEW MANHOLES SHALL HAVE AN APPROVED FLEXIBLE, WATERTIGHT SEALS WHERE PIPES PASS THROUGH MANHOLE WALLS.
- BOOT UTILIZED FOR THE PIPE CONNECTION.

8. WHEREVER AN EXISTING MANHOLE IS TO BE TAPPED, THE STRUCTURE SHALL BE CORED AND A KOR-N-SEAL

- 10. A MAXIMUM OF 12" OF GRADE ADJUSTMENT RINGS SHALL BE USED TO ADJUST THE FRAME ELEVATION. BUTYL
- ROPE SHALL BE USED BETWEEN EACH ADJUSTMENT RING.

- 13. PUBLIC SANITARY SEWER SHALL BE CENTERED WITHIN A 30 FOOT WIDE SANITARY SEWER EASEMENT.

GENERAL WATERMAIN NOTES

- "RECOMMENDED STANDARDS FOR WATER WORKS" (A/K/A TEN STATE STANDARDS).
- ALL WATER MAIN 20" DIAMETER AND SMALLER SHALL BE DUCTILE IRON PIPE OR CONCRETE. HDPE WATER MAIN MAY PERMITTED UPON TOWNSHIP APPROVAL AND IT SHALL BE MANUFACTURED AS DEFINED IN ASTM D3350.
- ALL TESTING OF NEW WATER MAINS (BAC-T, PRESSURE, ETC.) SHALL COMPLY WITH THE LATEST REQUIREMENTS OF THE AMERICAN WATER WORKS ASSOCIATION (AWWA).
- 4. THE CONTRACTOR WILL FILL, DISINFECT AND PRESSURE TEST ALL NEW WATER MAIN CONSTRUCTION UNDER THE SUPERVISION OF HARTLAND TOWNSHIP AND/OR ITS AGENT.
- 6. ALL GATE VALVES 6" OR LARGER SHALL BE PLACED IN A WELL WITH THE EXCEPTION OF A HYDRANT SHUT OFF
- HARTLAND TOWNSHIP STANDARD VALVE IS EAST JORDAN IRON WORKS, FLOW MASTER, LEFT HAND OPEN. ALL VALVES SHALL BE RESILIENT SEATED AND CONFORM TO AWWA C515 STANDARDS.
- 8. HYDRANTS SHALL BE EAST JORDAN IRON WORKS 5-BR TRAFFIC MODEL WITH 1-5" STORZ NOZZLE AND TWO 2-1/2" HOSE FITTINGS.
- 10. ALL WATER MAIN SHALL HAVE 6.0 FEET OF COVER FROM FINISH GRADE, WHERE POSSIBLE. THE MAXIMUM COVER SHALL BE 8.5 FEET UNLESS APPROVED BY THE TOWNSHIP OR ITS ENGINEER. WHEN WATER MAINS MUST DIP TO
- LENGTH BY THE USE OF VERTICAL BENDS. PROPERLY RESTRAINED. 11. WATER MAINS SHALL BE LOCATED SO AS TO PROVIDE A MINIMUM OF TEN (10) FEET HORIZONTAL CLEARANCE BETWEEN THE NEAREST EDGE OF THE WATER MAIN AND THE NEAREST EDGE OF ANY SANITARY OR STORM SEWER.
- WATER MAIN AND THE TOP OR BOTTOM OF ANY SEWER OR UTILITY. VERTICAL CLEARANCE OF LESS THAN 18
- 14. MEGALUG SHALL BE PLACED AT ALL VALVES, BENDS, TEES, PLUGS, HYDRANTS AND MECHANICAL FITTINGS. SURROUNDING JOINTS SHALL BE RESTRAINED USING U.S, PIPE FIELD LOK GASKETS OR APPROVED EQUAL AND
- 15. RESTRAINED JOINTS ARE REQUIRED IN LIEU OF THRUST BLOCKS. RESTRAINED JOINTS FOR PIPE SIZES UP TO 16" SHALL BE FAST GRIP GASKETS, MEGA-LUG OR APPROVED EQUAL. RESTRAINED JOINTS FOR PIPE SIZES OVER 16"
- 16. WATER SERVICES UP TO 2" SHALL BE EITHER TYPE K SOFT COPPER OR HDPE DR9 WITH TRACING WIRE MEETING THE REQUIREMENT OF ANSI/AWWA C909 FOR A PRESSURE CLASS OF 200 PSI. IF HDPE IS USED, A TRACING WIRE
- 14. PUBLIC WATERMAIN SHALL BE CENTERED WITHIN A 20 FOOT WIDE WATERMAIN EASEMENT.

GENERAL STORM NOTES

- PROVIDE A MINIMUM OF THREE (3) FEET OF COVER FROM THE SURFACE ELEVATION IMMEDIATELY ABOVE THE STORM
- ALL CATCH BASINS AND INLETS SHALL BE AS SPECIFIED BY THE MICHIGAN DEPARTMENT OF TRANSPORTATION AND SHALL BE PRECAST CONCRETE. SPECIAL DETAILS WILL BE REQUIRED FOR MANHOLES PLACED ON PIPE 48 INCHES IN
- ALLOWABLE PIPE MATERIAL FOR STORM SEWERS SHALL BE: 3.1. ALL ROUND REINFORCED CONCRETE PIPE (RCP) SHALL MEET THE REQUIREMENTS OF ASTM C76 WITH MODIFIED TONGUE AND GROOVE JOINTS WITH RUBBER GASKETS MANUFACTURED TO MEET THE REQUIREMENTS OF ASTM C443.
- MEETING THE REQUIREMENTS OF ASTM D3212 AND F477.
- 3.2.2. ADS PIPE SHALL MEET THE REQUIREMENTS OF AASHTO M294 AND ASTM F2306 WITH JOINTS MEETING THE REQUIREMENTS OF AASHTO M252, M294, OR F2306.
- A PRE-FABRICATED BAR SCREEN SHALL BE INSTALLED ON ALL STORM SEWERS END SECTIONS EIGHTEEN (18) INCH
- SIZE AND MINIMUM SLOPE FOR STORM PIPE:
- 15" @ 0.36% 18" @ 0.28%
- 24" @ 0.17% 30" @ 0.15% 36" @ 0.12%
- 54" @ 0.09% 60" @ 0.09% 66" @ 0.08%

GENERAL SANITARY NOTES

- 1. ALL SANITARY PIPE LENGTHS ARE SHOWN FROM C/L OF STRUCTURE TO C/L OF STRUCTURE.
- 2. SANITARY PIPE MATERIALS SHALL BE AS FOLLOWS: 2.1. PVC SDR-23.5 (SANITARY MAIN & LEADS)
- 3. ALL PVC SDR SANITARY SEWER PIPE SHALL MEET THE REQUIREMENTS OF ASTM D3034 AND D2241. PVC SCHD 40 PIPE SHALL MEET THE REQUIREMENTS OF ASTM D1785. GASKET JOINTS FOR SANITARY PIPE SHALL

- MANHOLES SHALL BE CONSTRUCTED WITH FLOW CHANNEL WALLS THAT ARE FORMER, AT A MINIMUM, TO THE
- 9. ALL MANHOLES SHALL BE PROVIDED WITH WATERTIGHT COVERS. COVERS TO BE EJCO 1040 TYPE 'A' SOLID
- 11. SANITARY SEWER LATERALS SHALL HAVE A MINIMUM SLOPE OF 1.0%.
- 12. CLEANOUTS SHALL BE INSTALLED EVERY 100', AT ALL BENDS AND STUBS.

1. ALL WATER SYSTEM IMPROVEMENTS SHALL BE DESIGNED IN ACCORDANCE WITH THE CURRENT EDITION OF

- BEFORE ANY WATER MAIN WILL BE ACCEPTED BY THE TOWNSHIP, IT MUST PASS BACTERIOLOGICAL AND PRESSURE TESTING COMPLYING WITH THE CURRENT SPECIFICATIONS AND PROCEDURES OF THE TOWNSHIP.

- 9. HYDRANTS SHALL BE LOCATED A MINIMUM OF 3 FEET, OR A MAXIMUM OF 8 FEET, BEHIND THE BACK OF CURB, UNLESS APPROVED BY THE TOWNSHIP AND/OR THEIR ENGINEER.

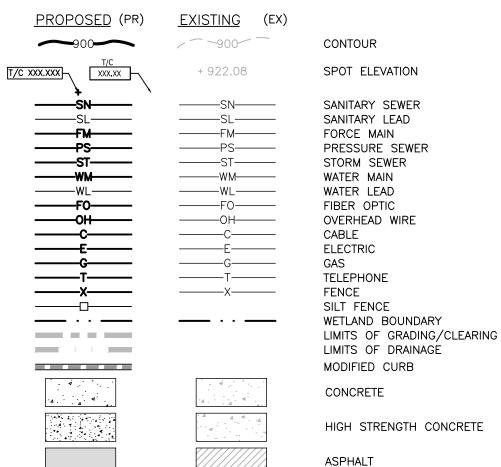
PASS UNDER ANOTHER UTILITY, THE SECTIONS WHICH ARE DEEPER THAN NORMAL SHALL BE KEPT TO A MINIMUM

- 12. A MINIMUM VERTICAL CLEARANCE OF 18 INCHES SHALL BE MAINTAINED BETWEEN THE TOP OR BOTTOM OF ANY INCHES WILL REQUIRE CONCRETE ENCASEMENT OF THE SEWER OR UTILITY.
- 13. WATER MAIN SHALL NOT BE PLACED CLOSER THAN 20 FEET (MEASURED HORIZONTALLY) FROM ANY BUILDING
- SHALL BE PER THE MANUFACTURER'S JOINT RESTRAINING SCHEDULE AND THE LATEST EDITIONS OF DIPRA'S THRUST RESTRAINT DESIGN FOR DUCTILE IRON PIPE.
- SHALL BE AMERICAN DUCTILE IRON FLEX—RING JOINT PIPE OR APPROVED EQUAL BOLTLESS SYSTEM.
- SHALL BE RUN FROM THE METER SET UP TO THE CURB BOX.

- SEWER TO THE TOP OF ANY STORM SEWER PIPE.
- DIAMETER AND LARGER.
- STORM SEWERS SHALL BE CLASS IV RCP. 3.2. THE FOLLOWING WILL BE ONLY ALLOWED IN GREENBELT AREAS: 3.2.1. HDPE PIPE SHALL MEET THE REQUIREMENT OF AASHTO M294 AND ASTM D3350 WITH PUSH-ON TYPE JOINTS
- ALL RCP STORM SEWERS SHALL BE INSTALLED ON CLASS II SAND COMPACTED TO 95% OF ITS MAXIMUM UNIT WEIGHT OR BETTER.
- IN DIAMETER AND LARGER.
- THE MINIMUM GRADE FOR SWALES SHALL BE 1%.
- 12" @ 0.48%
- 42" @ 0.12% 48" @ 0.10%

72" @ 0.08%

LINES & HATCHES LEGEND



HIGH STRENGTH ASPHALT WETLAND SANITARY SEWER LABEL

> WATER MAIN LABEL SOIL EROSION CONTROL MEASURE (P=PERMANENT, T=TEMPORARY)

STORM SEWER LABEL

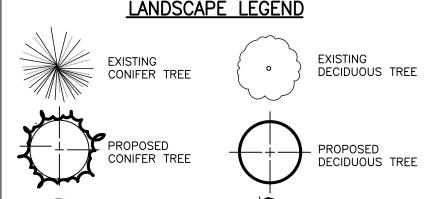
LIGHTING LEGEND EXISTING (EX) <u>PROPOSED</u> (PR) \bigcirc

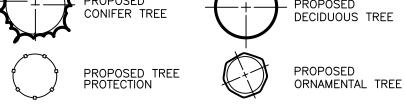
DOUBLE FIXTURE LIGHT POLE SINGLE FIXTURE LIGHT FIXTURE WALL MOUNTED LIGHT FIXTURE GROUND LIGHT FIXTURE

FOOT CANDLES OFF SITE FOOT CANDLES CONTOURS CANOPY MOUNTED LIGHT FIXTURE

FOOT CANDLES ON SITE

(54T)





MULCH

DECIDUOUS SHRUBS PROPOSED GRASSES & PERENNIALS

PROPOSED LANDSCAPE BOULDER

<u>ABBREVIATIONS</u> FINISHED FLOOR ELEVATION BASEMENT FLOOR FLEVATION GARAGE FLOOR ELEVATION

FINISHED GRADE TOP OF ASPHALT TOP OF CONCRETE/CURB TOP OF WALK TOP OF PIPE BOTTOM OF PIPE

FLOW LINE RIM ELEVATION (AT FLOW LINE) INVERT ELEVATION MANHOLE CATCH BASIN RFAR YARD YARD DRAIN FLARED END SECTION CORRUGATED METAL PIPE CORRUGATED PLASTIC PIPE REINFORCED CONCRETE PIPE HIGH DENSITY POLYETHYLENE

DUCTILE IRON PIPE GATE VALVE GATE VALVE IN WELL GATE VALVE IN BOX FIRE DEPARTMENT CONNECTION UTILITY POLE NOT FIELD VERIFIE TO BE REMOVED

POLYVINYL CHLORIDE

LIVINGSTON COUNTY RECORDS MEASURED AND RECORD POINT OF BEGINNING

SYMBOL LEGEND

STORM DRAINAGE FLOW ↓ GUY WIRE -∽ POWER POLE TRANSFORMER PAD ELECTRICAL RISER

E U.G. ELECTRIC MARKER ELECTRICAL METER

G GAS RISER GAS METER CABLE TV RISER

MAILBOX WELL

Ø GATE VALVE (EXISTING)

→ HYDRANT (PROPOSED) ☐ CATCH BASIN (EXISTING)

O STORM MANHOLE (EXISTING) STORM MANHOLE (PROPOSED) (END SECTION (EXISTING)

SANITARY MANHOLE (EXISTING)

-ф- TRAFFIC SIGN SIGN (PROPOSED) SOIL BORING O STEEL ROD SET STEEL ROD OR PIPE FOUND

☐ HUB SET SECTION CORNER GP GAS PUMP ANTENNA

SATELLITE DISH PHONE BOOTH HANDICAP SYMBOL AS SI GUARA COMP COMP LOCAT UTILIT CONTE FROM

APARTMENT

EN

AIR CONDITIONING UNIT TELEPHONE RISER U.G. TELEPHONE MARKER U.G. GAS MARKER

U.G. CABLE TV MARKER W WATER MANHOLE

GATE VALVE (PROPOSED) -CX HYDRANT (EXISTING)

CATCH BASIN (PROPOSED)

END SECTION (PROPOSED)

SANITARY MANHOLE (PROPOSED) PC PUMP CHAMBER

□ WOOD LATH SET MONUMENT FOUND

NEWSPAPER BOX PARKING METER

SCALE: JOB NO: **21-461** BENCHMARK LIGHT POLE

SIGNED BY:

DH/NL

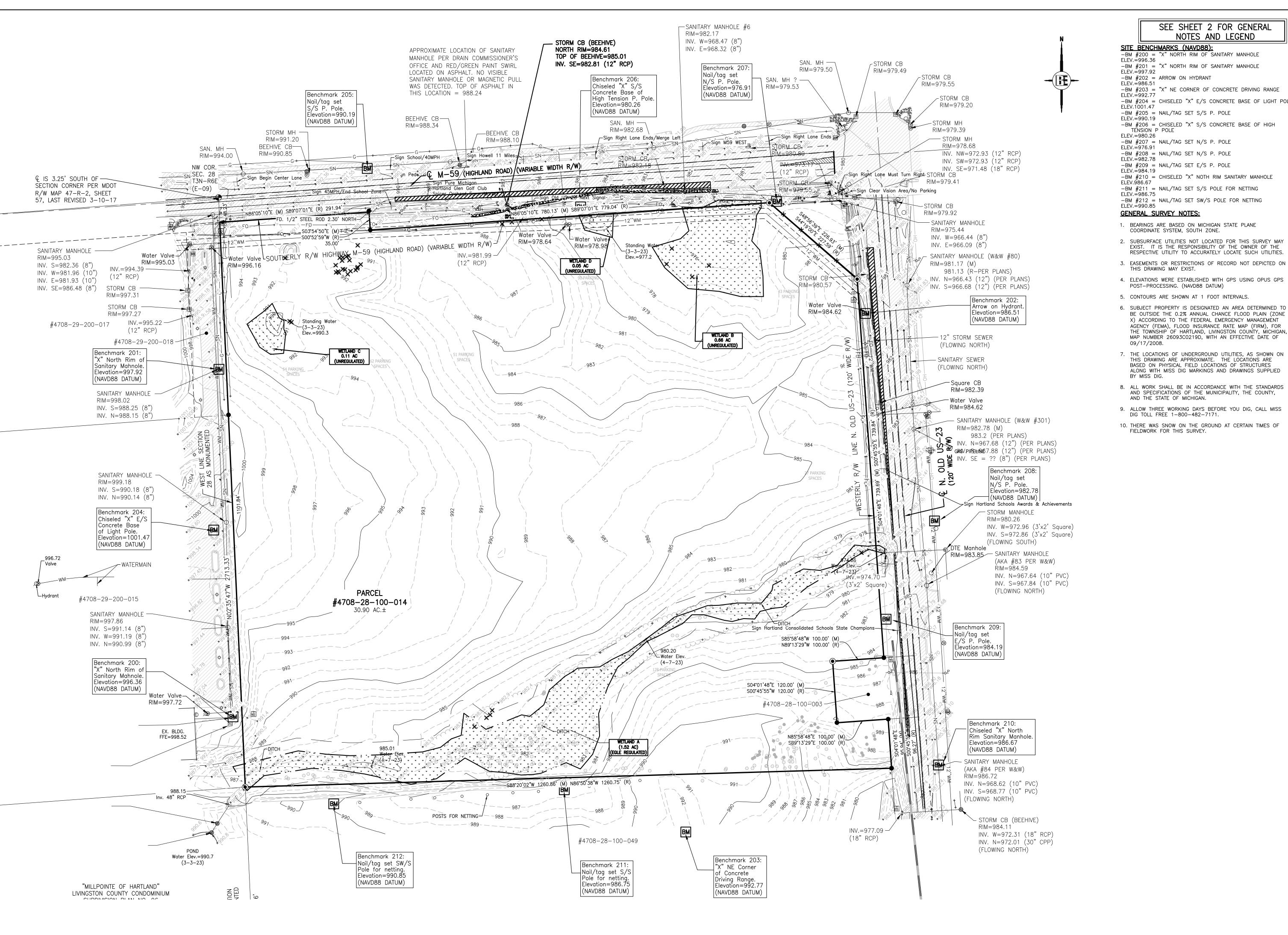
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SEE SHEET 2 FOR GENERAL NOTES AND LEGEND

-BM #200 = "X" NORTH RIM OF SANITARY MANHOLE

-BM #201 = "X" NORTH RIM OF SANITARY MANHOLE

-BM #202 = ARROW ON HYDRANT

-BM #204 = CHISELED "X" E/S CONCRETE BASE OF LIGHT POLE

-BM #206 = CHISELED "X" S/S CONCRETE BASE OF HIGH

-BM #207 = NAIL/TAG SET N/S P. POLE

-BM #208 = NAIL/TAG SET N/S P. POLE

-BM #209 = NAIL/TAG SET E/S P. POLE-BM #210 = CHISELED "X" NOTH RIM SANITARY MANHOLE

-BM #212 = NAIL/TAG SET SW/S POLE FOR NETTING

1. BEARINGS ARE BASED ON MICHIGAN STATE PLANE

- COORDINATE SYSTEM, SOUTH ZONE.
- 2. SUBSURFACE UTILITIES NOT LOCATED FOR THIS SURVEY MAY EXIST. IT IS THE RESPONSIBILITY OF THE OWNER OF THE RESPECTIVE UTILITY TO ACCURATELY LOCATE SUCH UTILITIES.
- 4. ELEVATIONS WERE ESTABLISHED WITH GPS USING OPUS GPS POST-PROCESSING. (NAVD88 DATUM)
- 5. CONTOURS ARE SHOWN AT 1 FOOT INTERVALS.
- 6. SUBJECT PROPERTY IS DESIGNATED AN AREA DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD PLAIN (ZONE X) ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), FLOOD INSURANCE RATE MAP (FIRM), FOR THE TOWNSHIP OF HARTLAND, LIVINGSTON COUNTY, MICHIGAN, MAP NUMBER 26093C0219D, WITH AN EFFECTIVE DATE OF
- 7. THE LOCATIONS OF UNDERGROUND UTILITIES, AS SHOWN ON THIS DRAWING ARE APPROXIMATE. THE LOCATIONS ARE BASED ON PHYSICAL FIELD LOCATIONS OF STRUCTURES ALONG WITH MISS DIG MARKINGS AND DRAWINGS SUPPLIED
- 8. ALL WORK SHALL BE IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE MUNICIPALITY, THE COUNTY, AND THE STATE OF MICHIGAN.
- 9. ALLOW THREE WORKING DAYS BEFORE YOU DIG, CALL MISS DIG TOLL FREE 1-800-482-7171.
- 10. THERE WAS SNOW ON THE GROUND AT CERTAIN TIMES OF FIELDWORK FOR THIS SURVEY.

DEMO CONDITIONS **EXISTING**

AVENUE

HARTLAND

| න

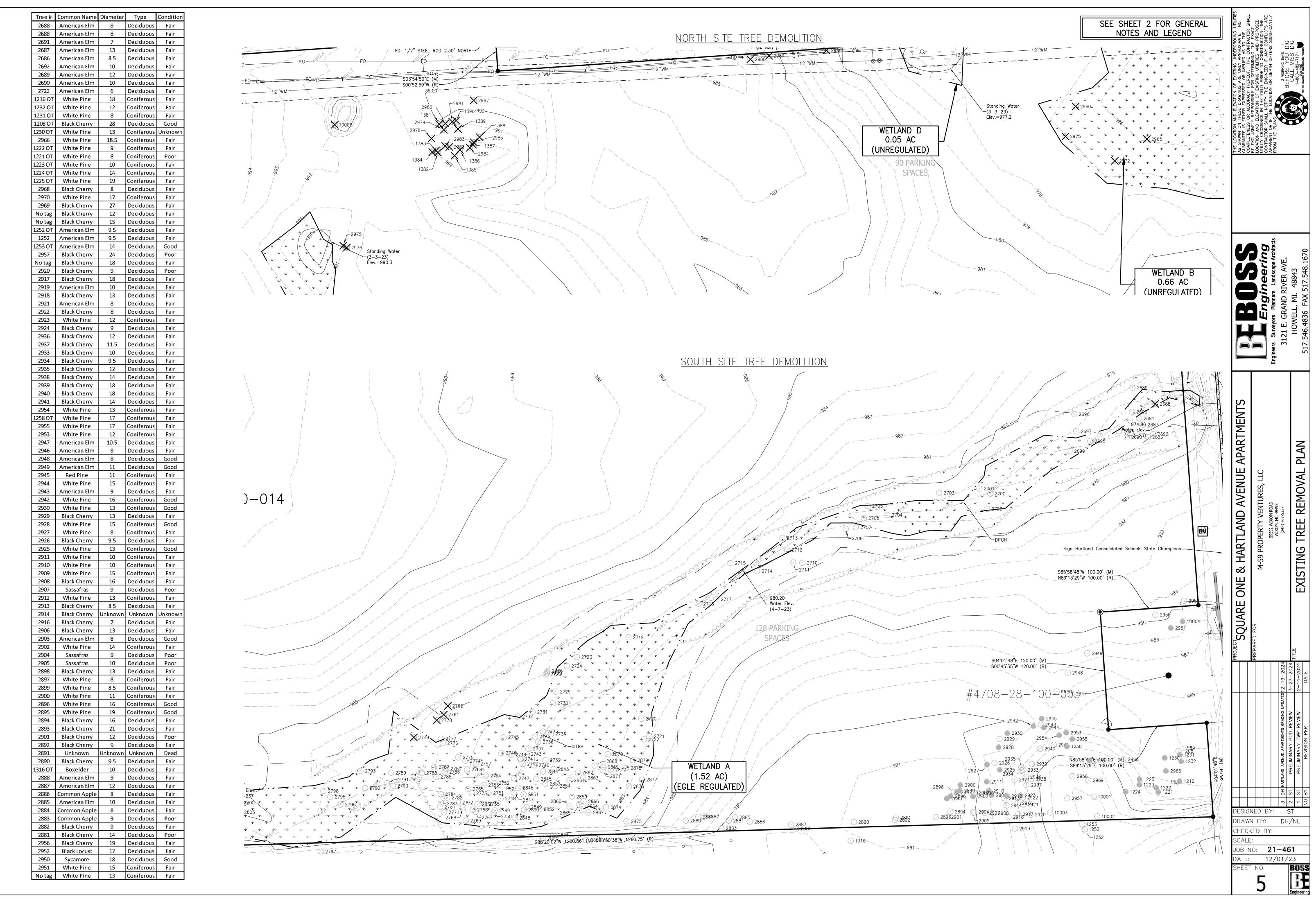
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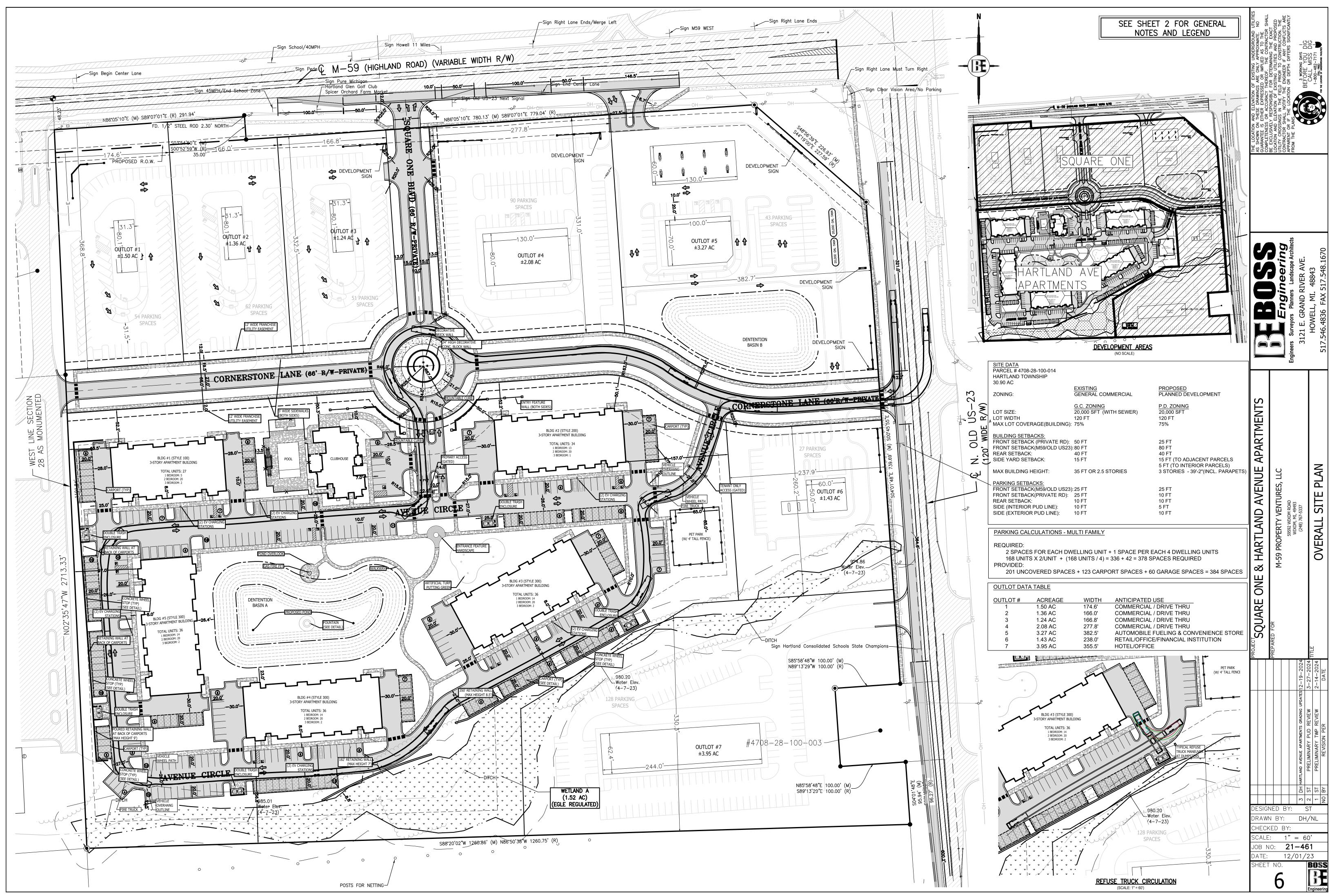
SQUARE

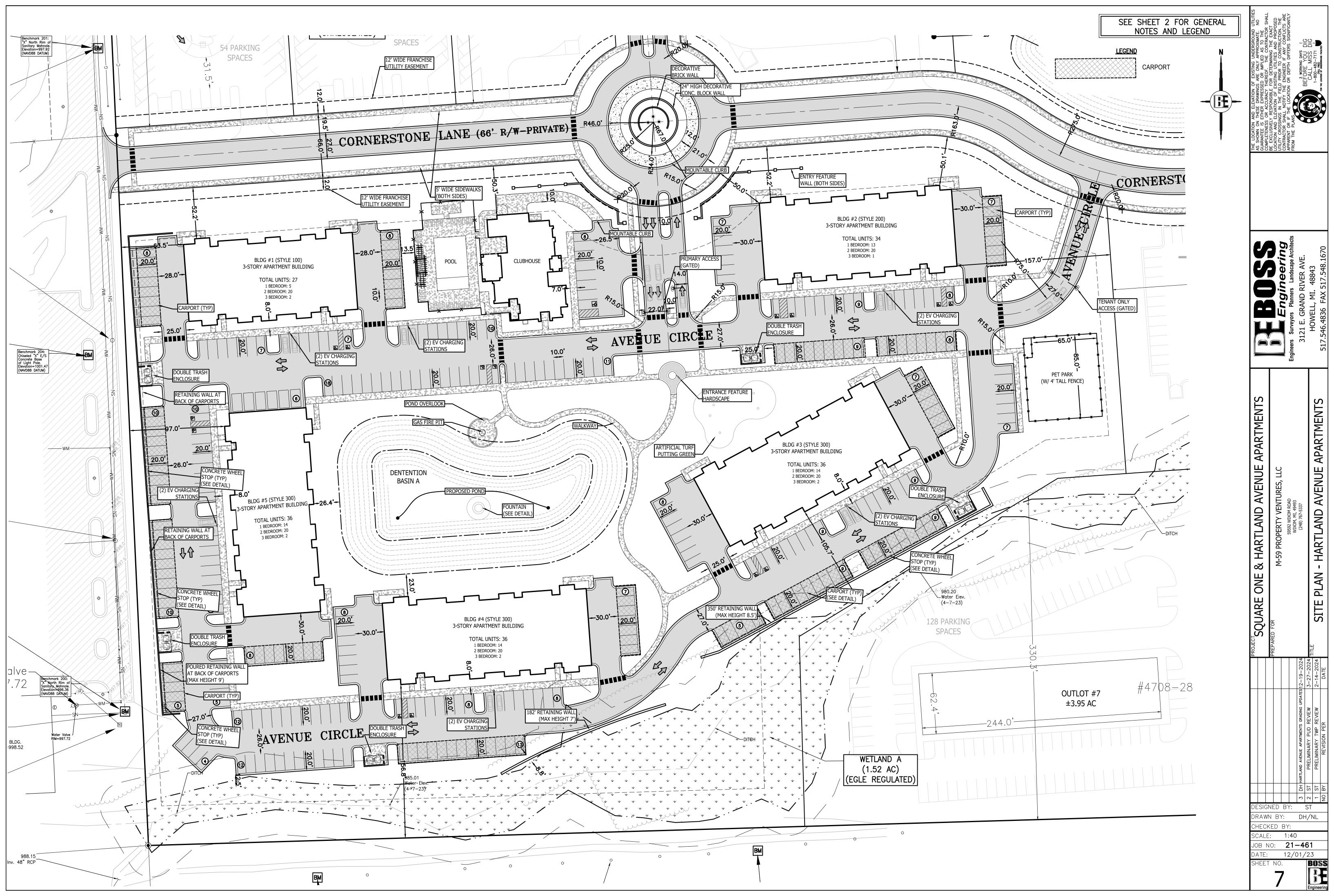
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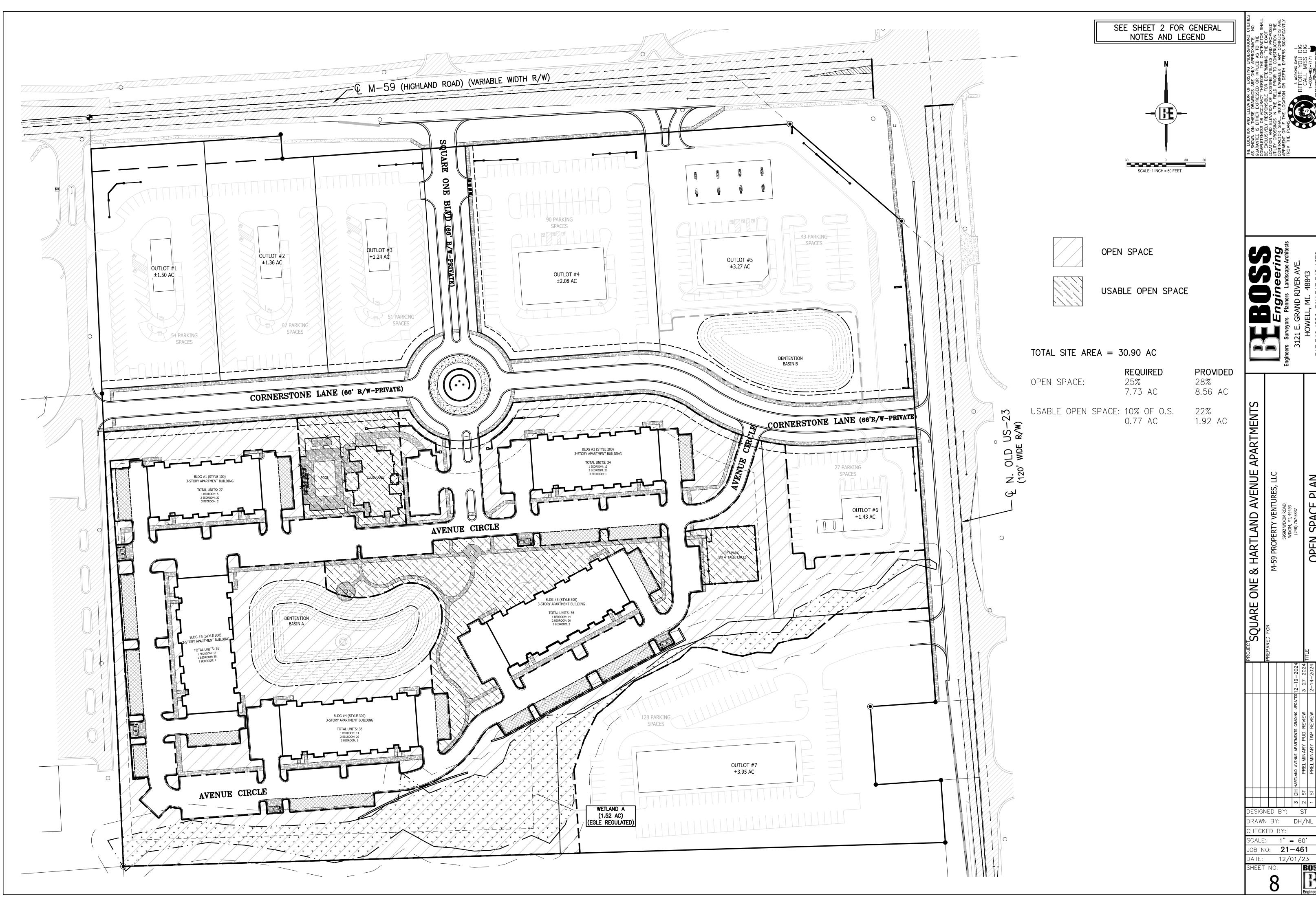
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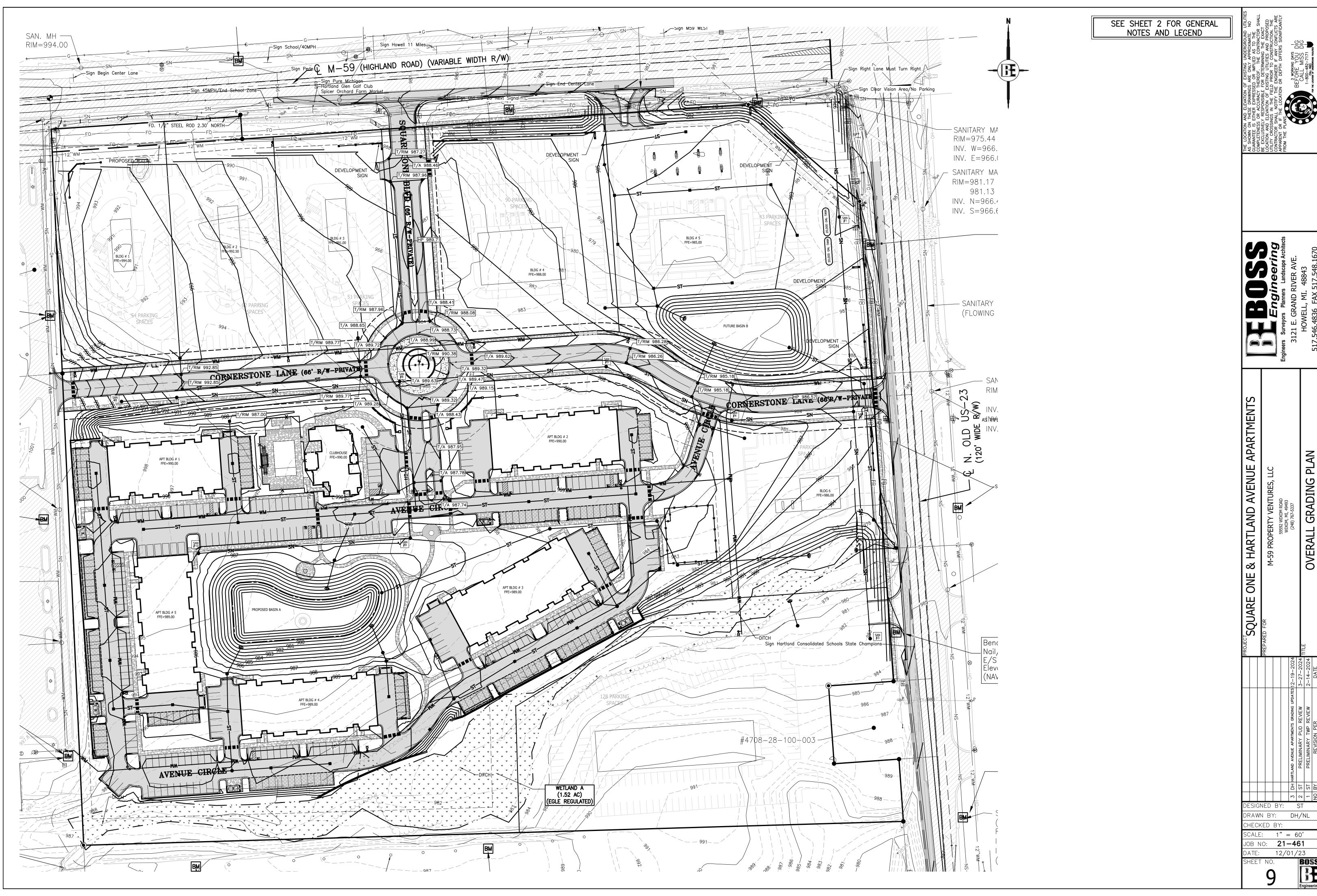


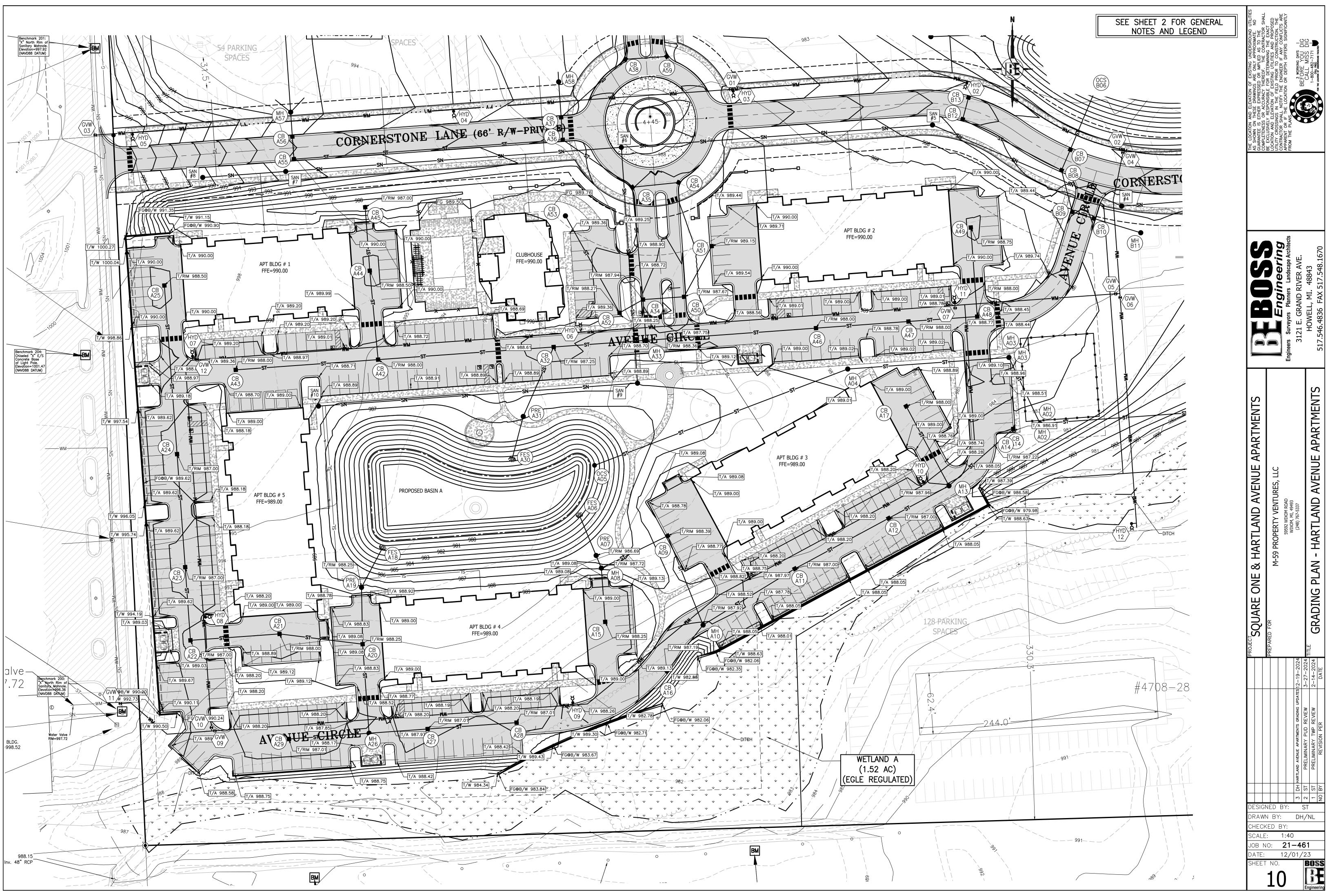


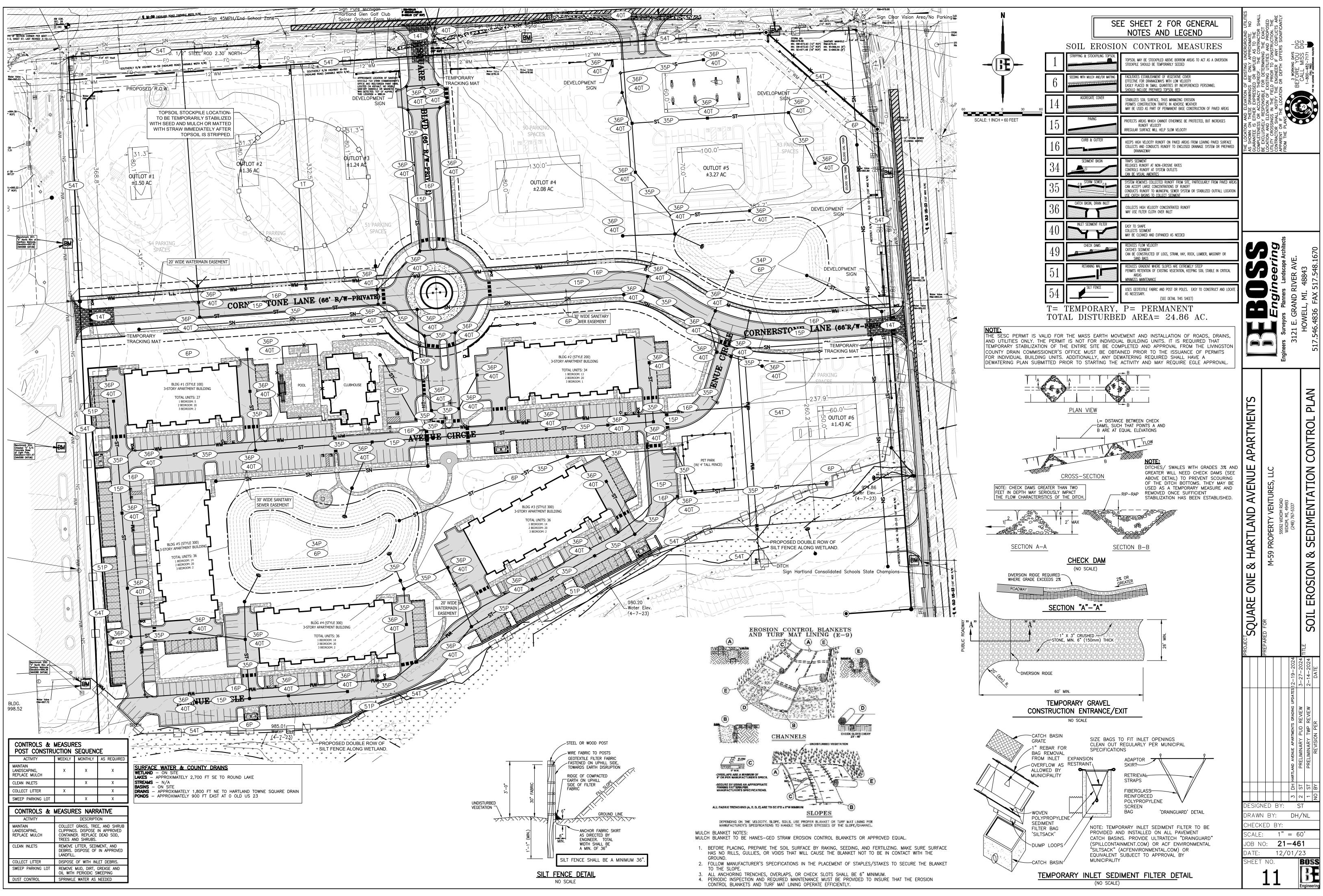


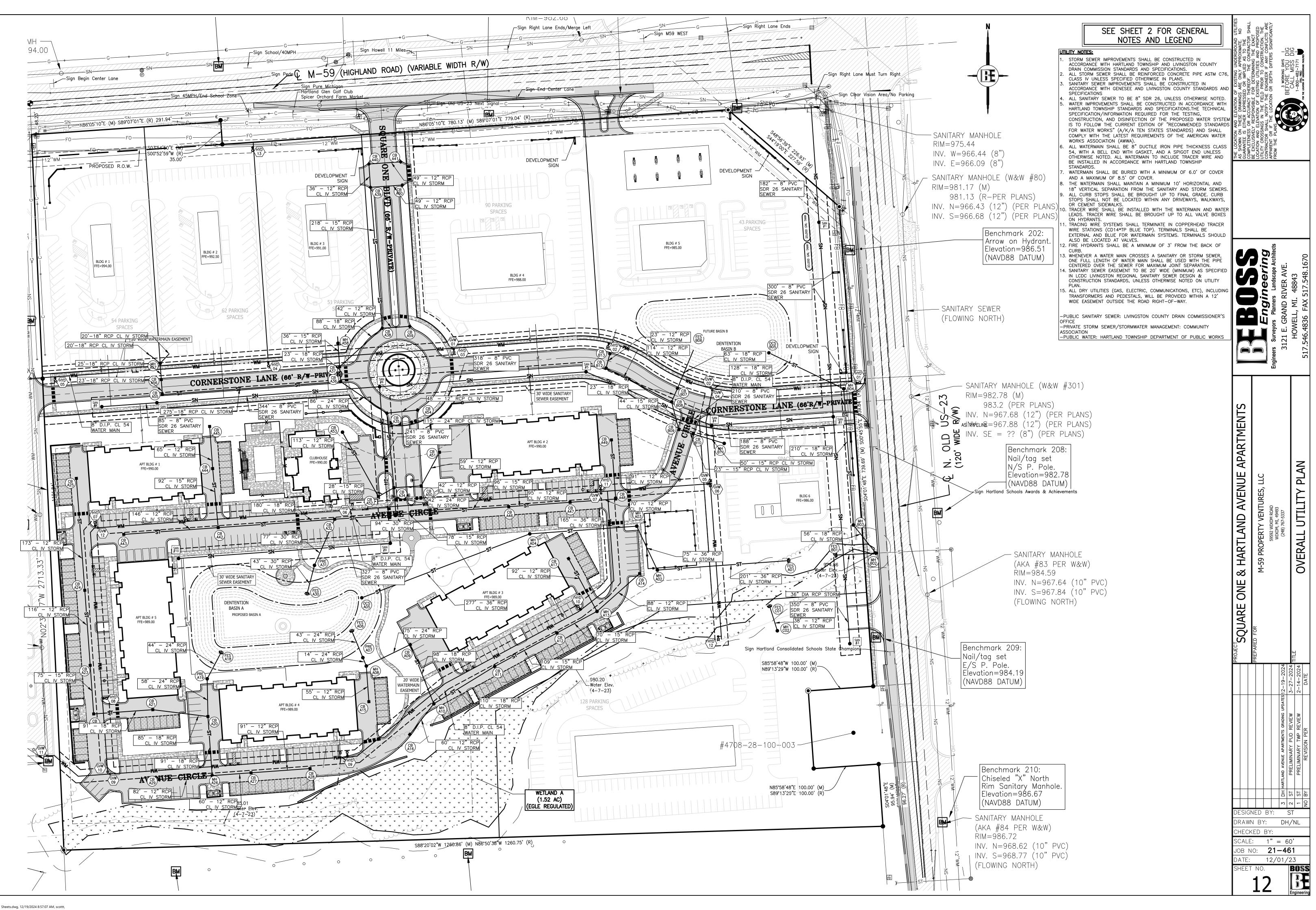


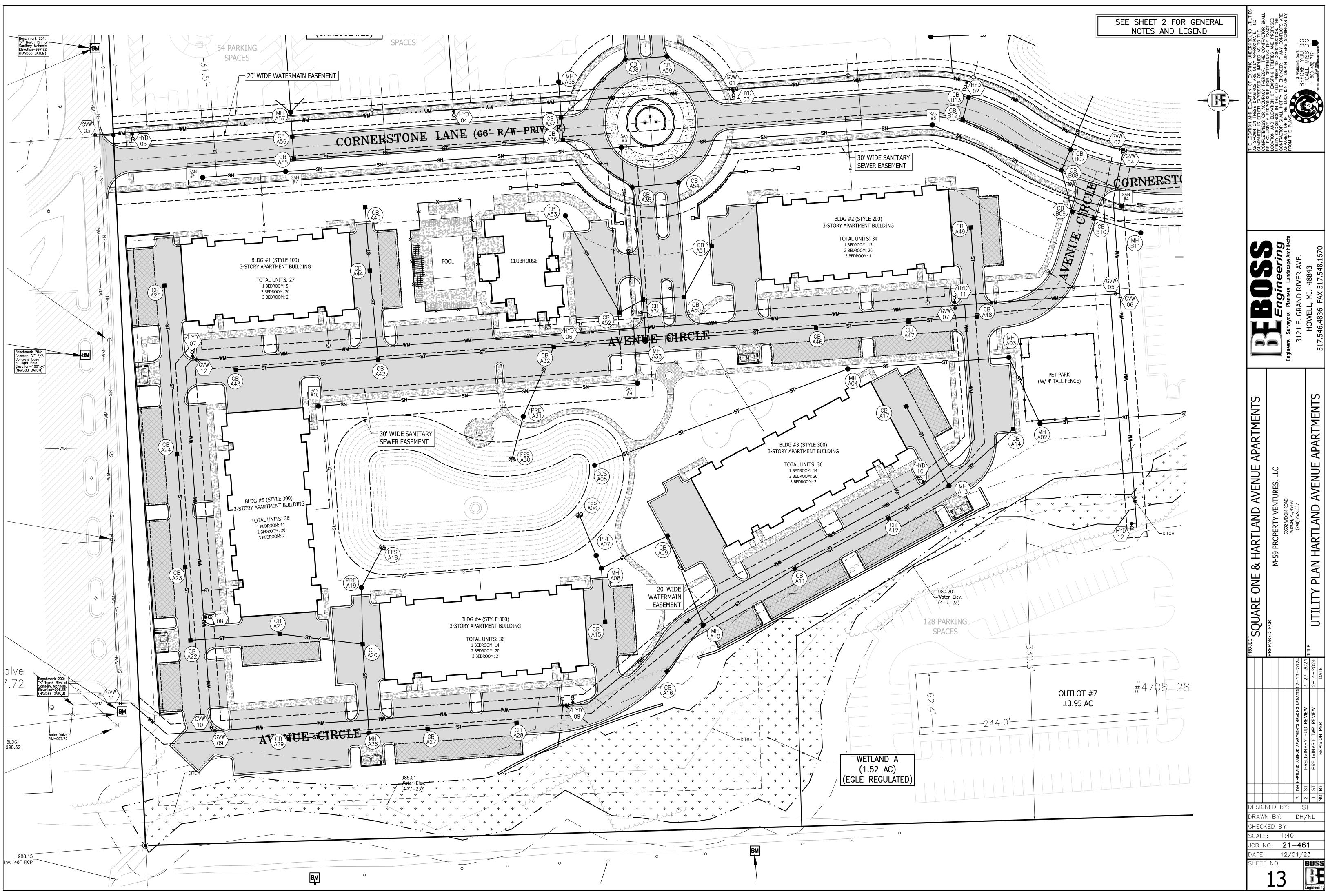


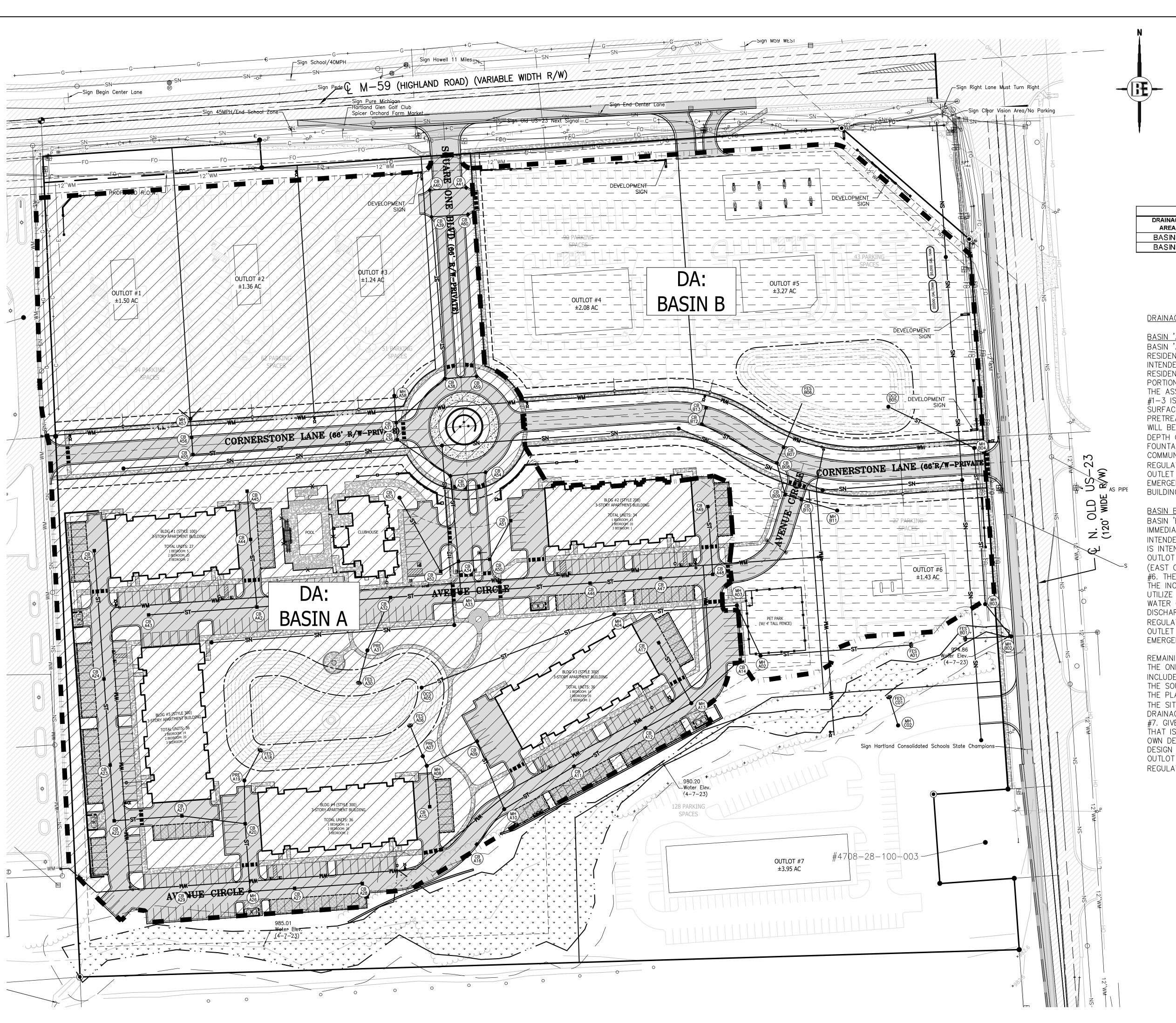












SEE SHEET 2 FOR GENERAL NOTES AND LEGEND

DRAINAGE AREA TABLE						
DRAINAGE	IMP. AREA	PER.	TOTAL	CVALUE	REQUIRED	PROVIDED
AREA	(AC)	AREA (AC)	AREA (AC)	C VALUE	VOLUME	VOLUME
BASIN A	11.27	5.64	16.91	0.67	139872	150000
BAŞIN B	5.11	1.91	7.02	0.71	62655	77137

DRAINAGE NARRATIVE

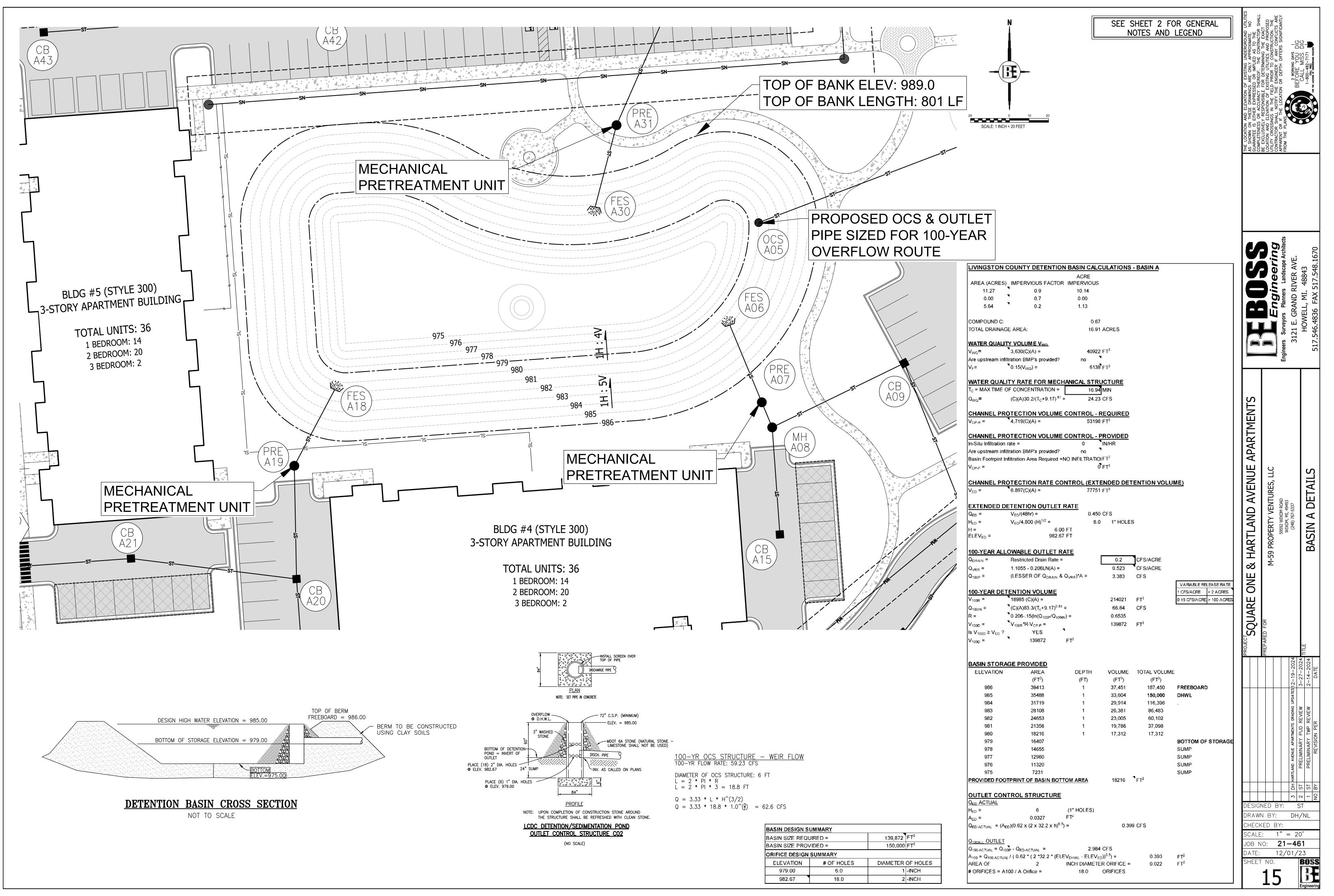
BASIN 'A' IS THE LARGE BASIN LOCATED CENTRALLY IN THE RESIDENTIAL COMPONENT OF THE DEVELOPMENT. THE BASIN IS INTENDED TO RECEIVE STORM WATER FROM A ENTIRETY OF THE RESIDENTIAL COMPONENT, OUTLOTS #1-3 AND THE WESTERN PORTION OF CORNERSTONE LANE AND SQUARE ONE BOULEVARD. THE ASSUMPTION MADE ON OUTLOT DEVELOPMENT FOR OUTLOTS #1-3 IS THAT 90% OF THE INCLUDED AREA CAN BE IMPERVIOUS SURFACES. THIS BASIN WILL UTILIZE MULTIPLE MECHANICAL PRETREATMENT UNITS FOR STORM WATER QUALITY. THE BASIN WILL BE OVEREXCAVATED TO CREATE A PERMANENT POOL WITH A DEPTH OF 4-5'. THE PERMANENT POOL WILL CONTAIN A FOUNTAIN TO CREATE A FEATURE WITHIN THE RESIDENTIAL COMMUNITY. THE BASIN WILL OUTLET TO THE SOUTH TO THE REGULATED WETLAND/STORM WATER DRAINAGE COURSE. THE OUTLET PIPE WILL BE SIZE TO HANDLE THE 100-YR FLOW. AN EMERGENCY OVERLAND OVERFLOW ROUTE WILL EXIST BETWEEN BUILDINGS #3 AND #4.

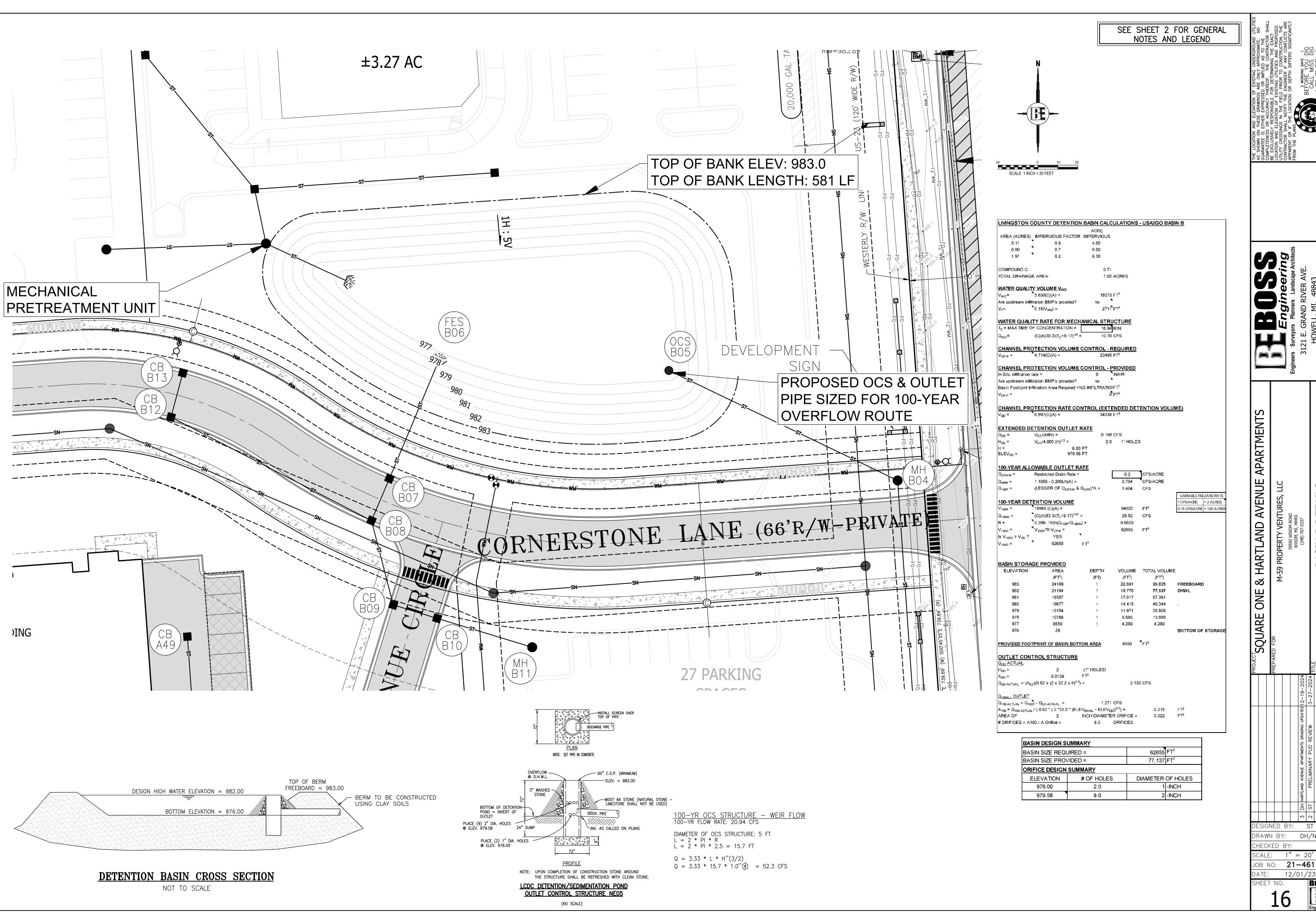
BASIN 'B' IS LOCATED AT THE NORTHEAST PORTION OF THE SITE, IMMEDIATELY NORTH OF CORNERSTONE LANE. THIS BASIN IS INTENDED TO BE BUILT WITH THE INITIAL DEVELOPMENT. BASIN 'B' IS INTENDED TO RECEIVE DRAINAGE FROM OUTLOT #4 AND OUTLOT #5, THE EASTERN LEG OF CORNERSTONE LANE ROW (EAST OF THE ROUND-A-BOUT) AND THE UPLANDS OF OUTLOT #6. THE ASSUMPTION MADE ON OUTLOT #4-6 IS THAT 90% OF THE INCLUDED AREA IS IMPERVIOUS SURFACE. THIS BASIN WILL UTILIZE A MECHANICAL PRETREATMENT STRUCTURE FOR STORM WATER QUALITY. THE BASIN WILL BE A DRY BASIN AND WILL DISCHARGE THROUGH A STORM PIPE HEADING SOUTHERLY TO THE REGULATED WETLAND/STORM WATER DRAINAGE COURSE. THE OUTLET PIPE WILL BE SIZED TO ACCOMMODATE THE 100-YR EMERGENCY OVERFLOW FLOW RATE.

REMAINING AREA:

THE ONLY AREA OF THE DEVELOPMENT SITE THAT IS NOT INCLUDED WITHIN THE BASIN 'A', 'B', AND 'C' DRAINAGE AREAS IS THE SOUTHEAST CORNER OF THE SITE, SHOWN AS OUTLOT #7 ON THE PLANS. OUTLOT #7 IS ISOLATED FROM THE REMAINDER OF THE SITE WITH THE REGULATED WETLAND/STORM WATER DRAINAGE COURSE TRAVERSING ON THE NORTH SIDE OF OUTLOT #7. GIVEN THE UNKNOWN DEVELOPMENT ON THIS OUTLOT AND THAT IS A STANDALONE OUTLOT, THIS SITE WILL CONSIST OF ITS OWN DETENTION BASIN AND IS TO BE BE INCLUDED IN THE DESIGN AND REVIEW PHASE OF OUTLOT #7. THE BASIN ON OUTLOT #7 IS INTENDED TO DISCHARGE NORTHERLY INTO THE REGULATED WETLAND/STORM WATER DRAINAGE COURSE.

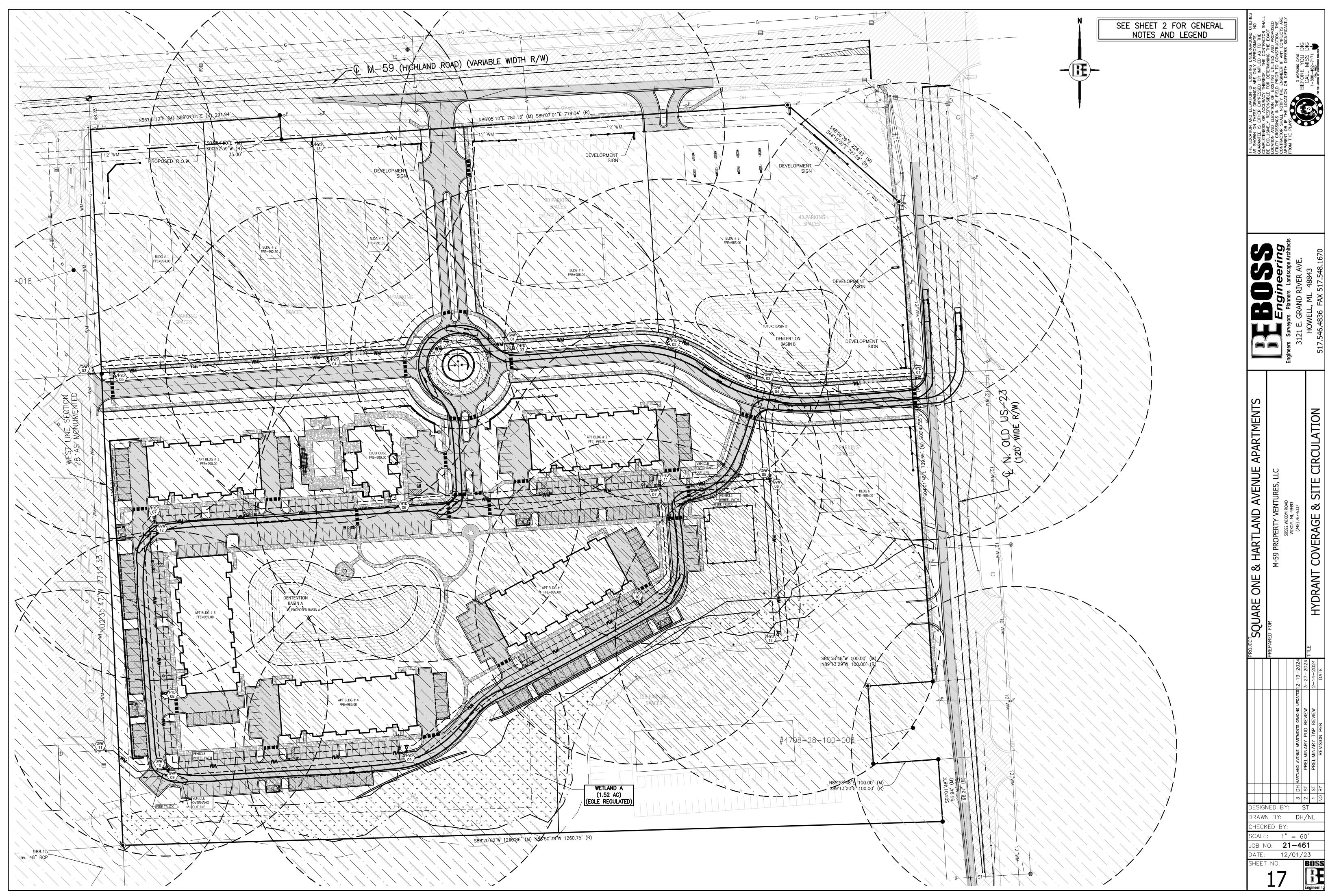
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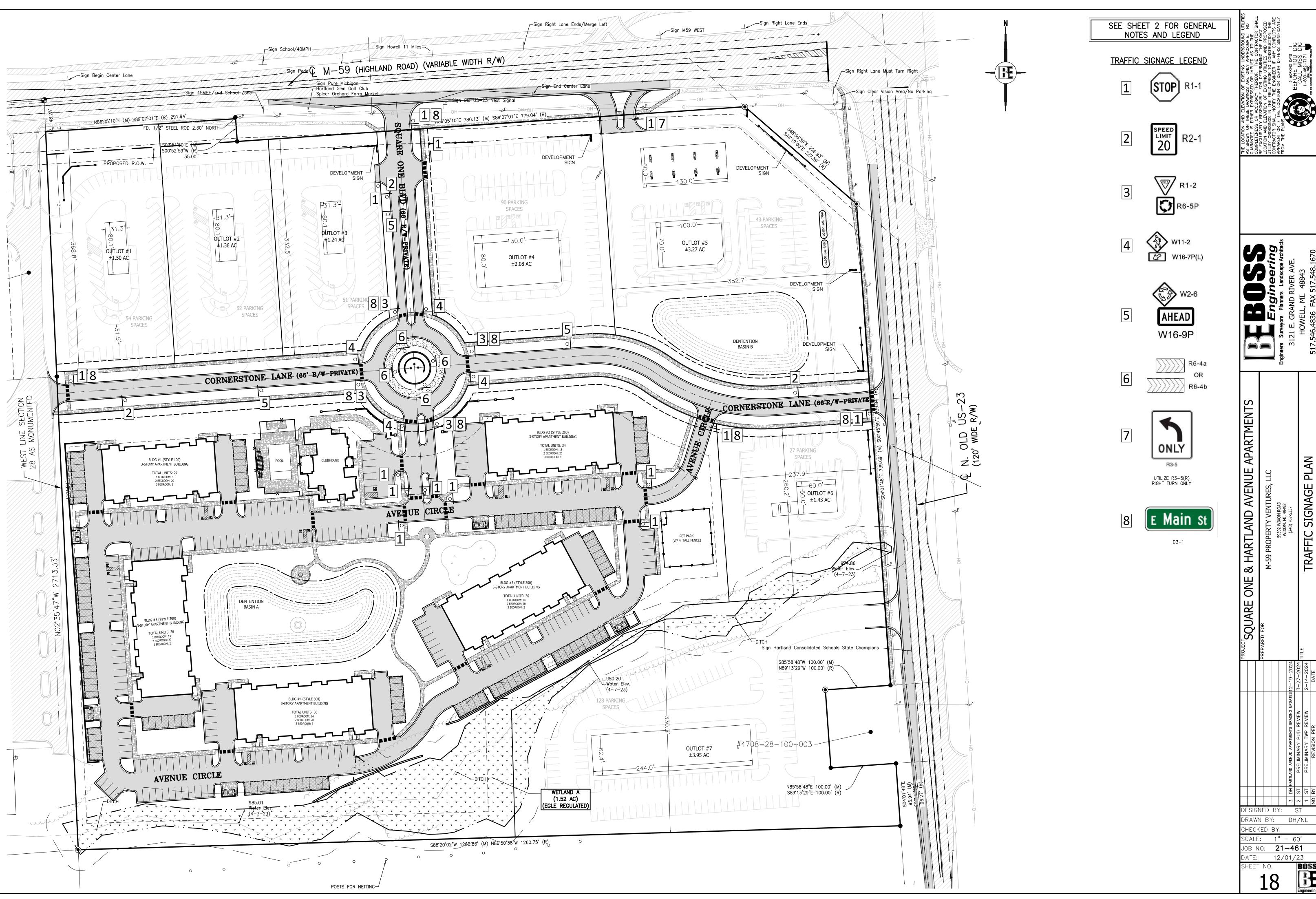


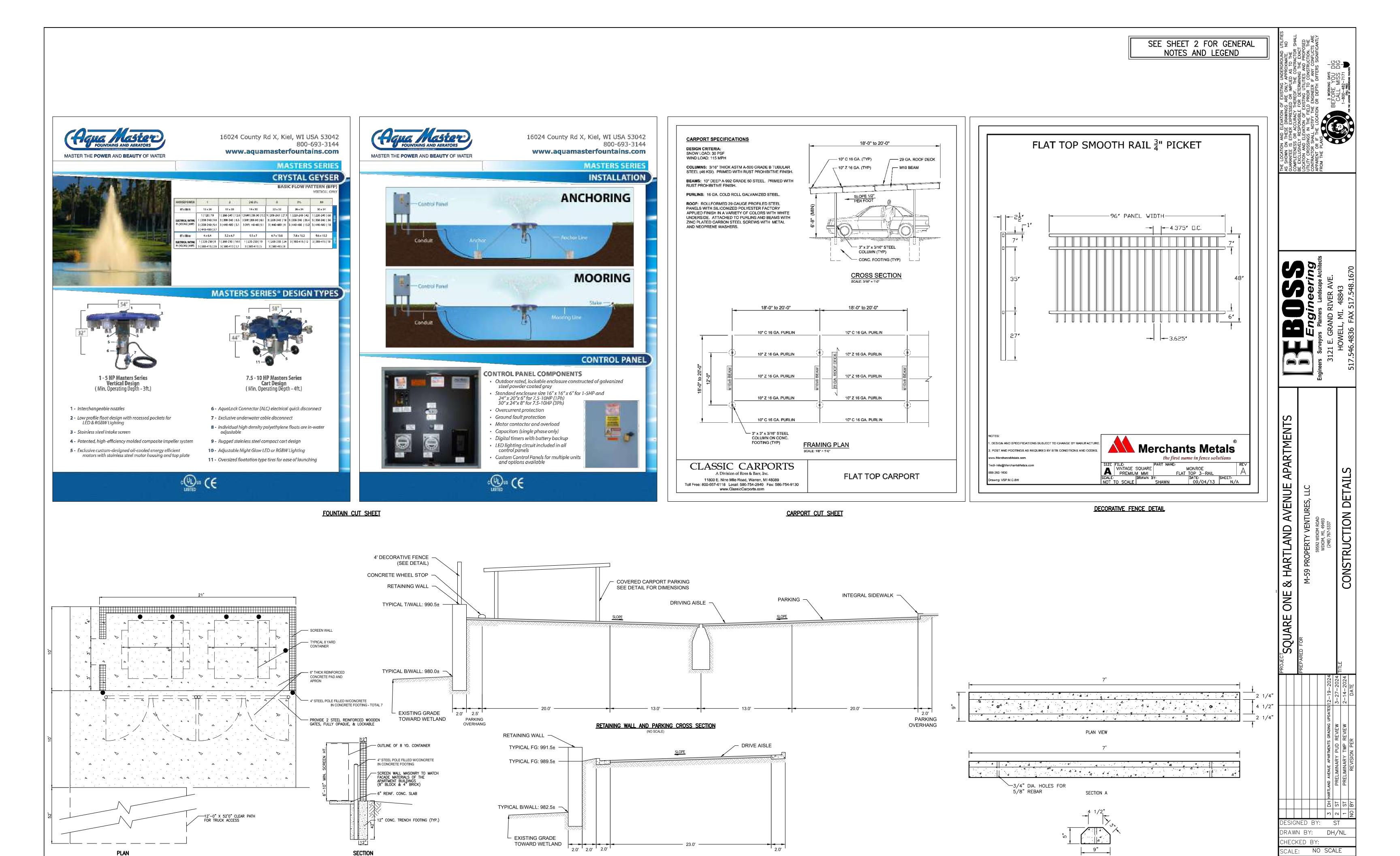


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12/01/23







RETAINING WALL AND DRIVE CROSS SECTION

DUMPSTER ENCLOSURE DETAIL

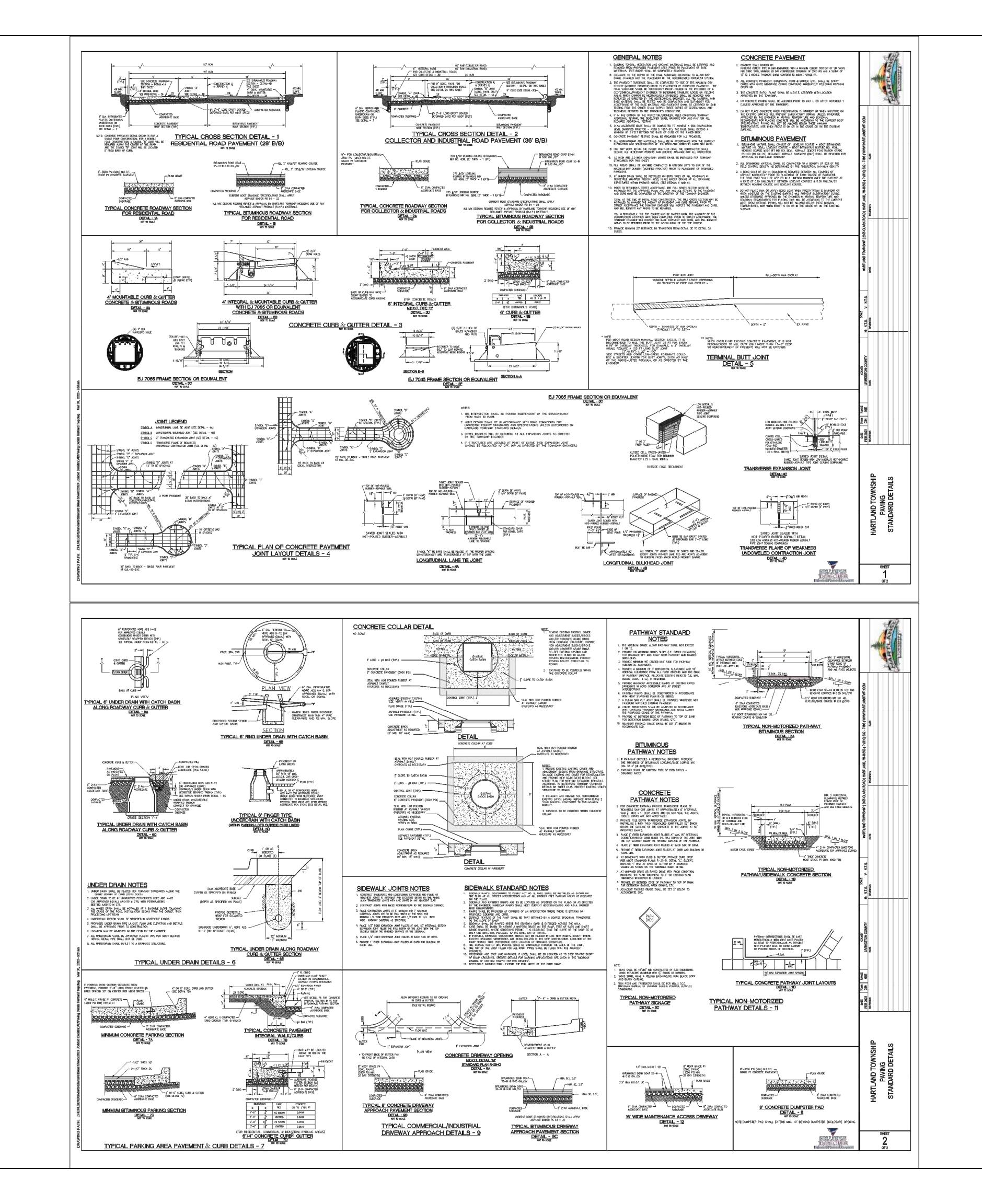
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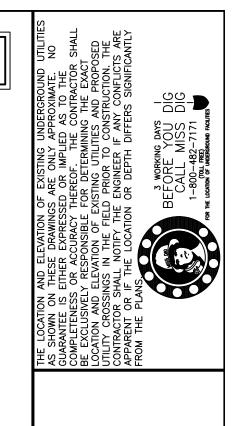
SECTION B

CONCRETE WHEEL STOP DETAIL

(NO SCALE)



SEE SHEET 2 FOR GENERAL NOTES AND LEGEND



Engineering	Engineers Surveyors Planners Landscape Architects	3121 E. GRAND RIVER AVE.	HOWELL, MI, 48843

	SQUARE ONE & MAKILAND AVENUE APAKIMEN IN
	PREPAREN FOR
	M-59 PROPERTY VENTURES 11.0
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	39392 WIXON ROAD
	WIXOM, MI, 49493
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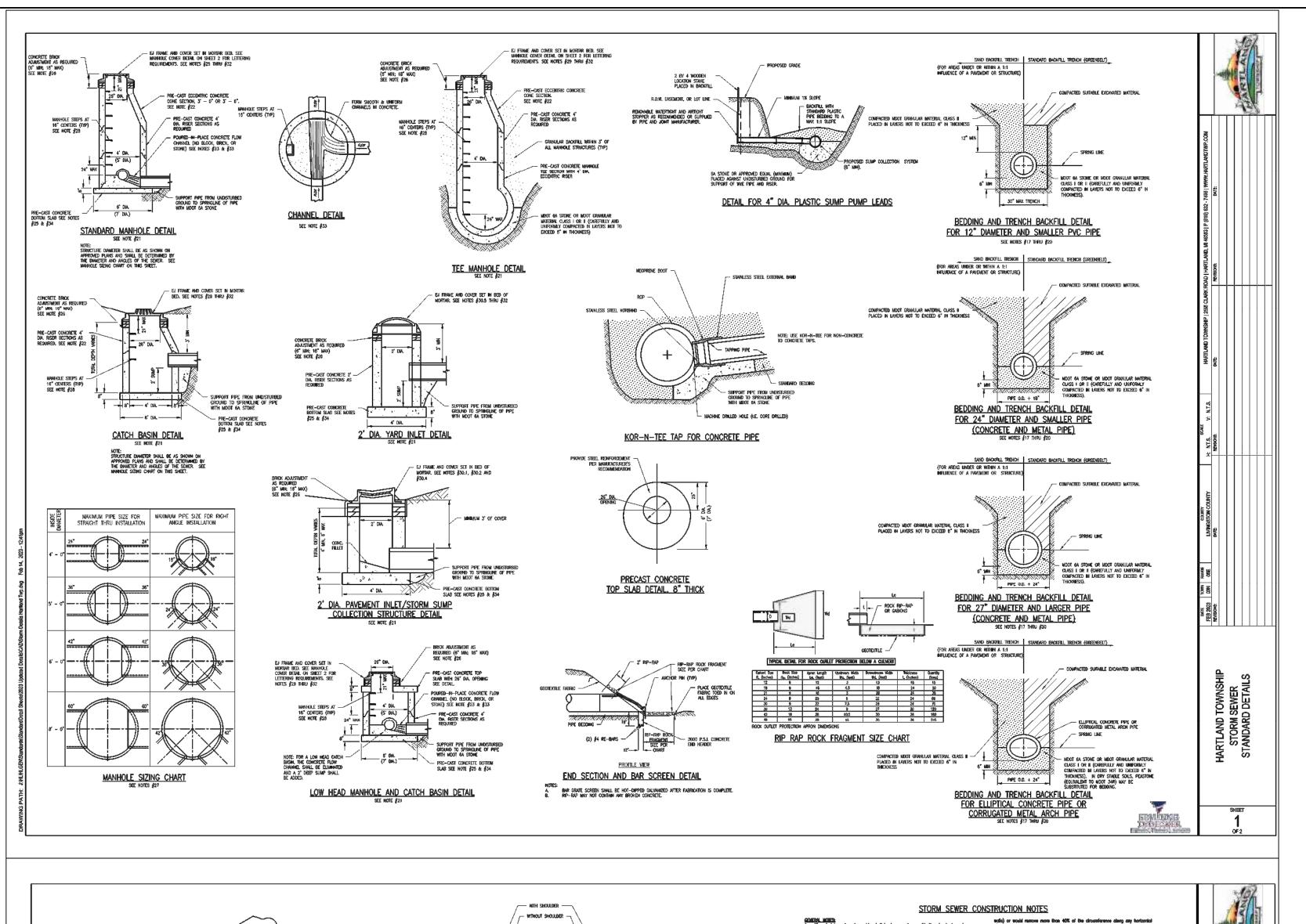
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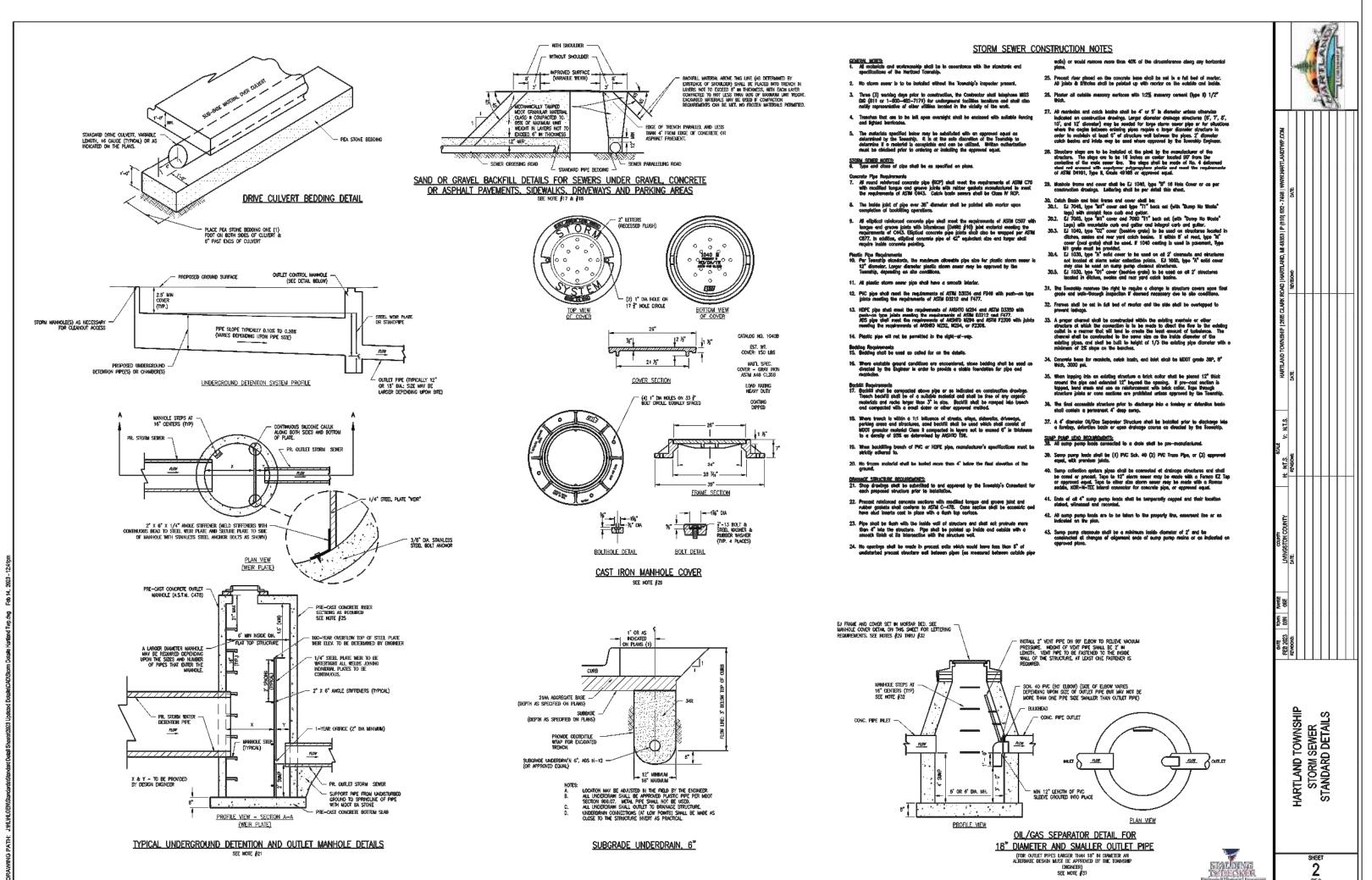
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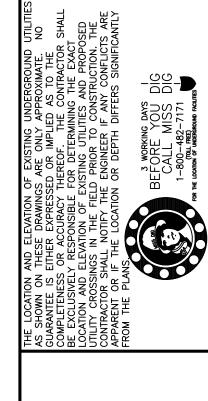
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SEE SHEET 2 FOR GENERAL NOTES AND LEGEND



Engineers Surveyors Planners Landscape Architects
3121 E. GRAND RIVER AVE.
HOWELL, MI. 48843

SQUARE ONE & HARTLAND AVENUE APARTMENTS

ARED FOR

M-59 PROPERTY VENTURES, LLC

59592 WIXOM, MI, 49493
(248) 767-5337

CONSTRUCTION DETAILS

S DH HARTLAND AVENUE APARTMENTS GRADING UPDATES12–19–2

C ST PRELIMINARY PUD REVIEW 3–27–2

1 ST PRELIMINARY TWP REVIEW 2–14–2

NO BY REVISION PER DATE

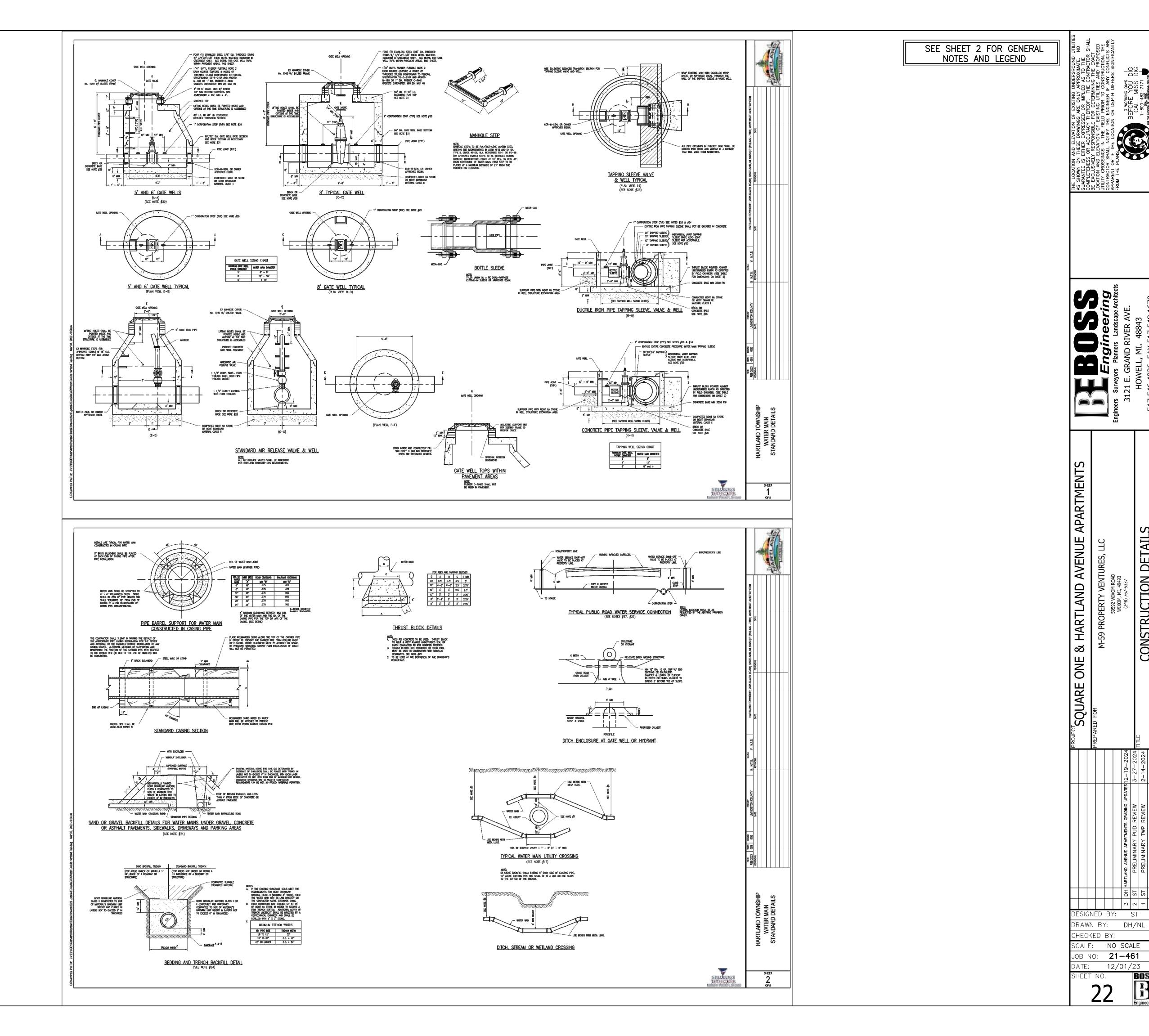
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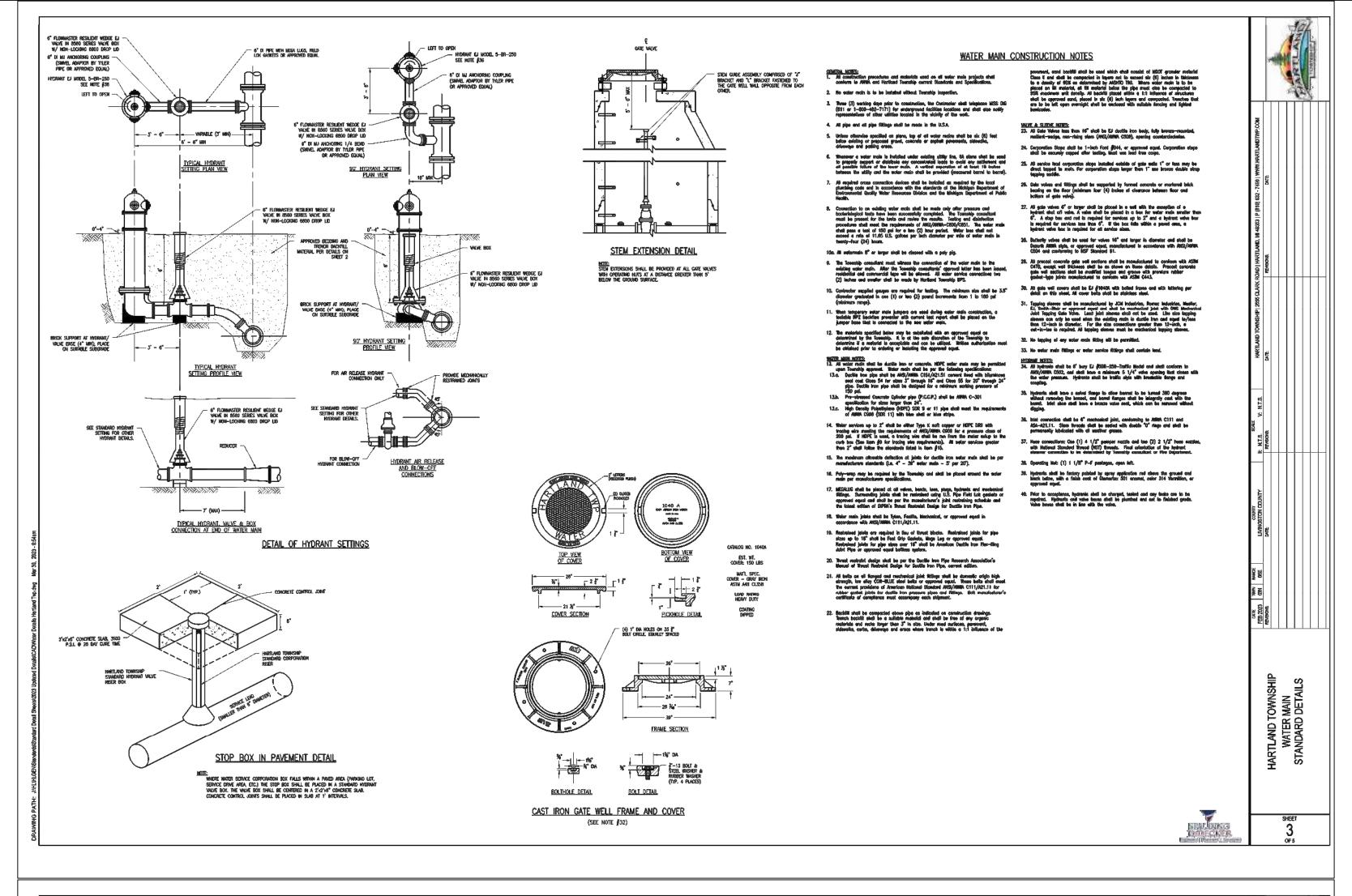
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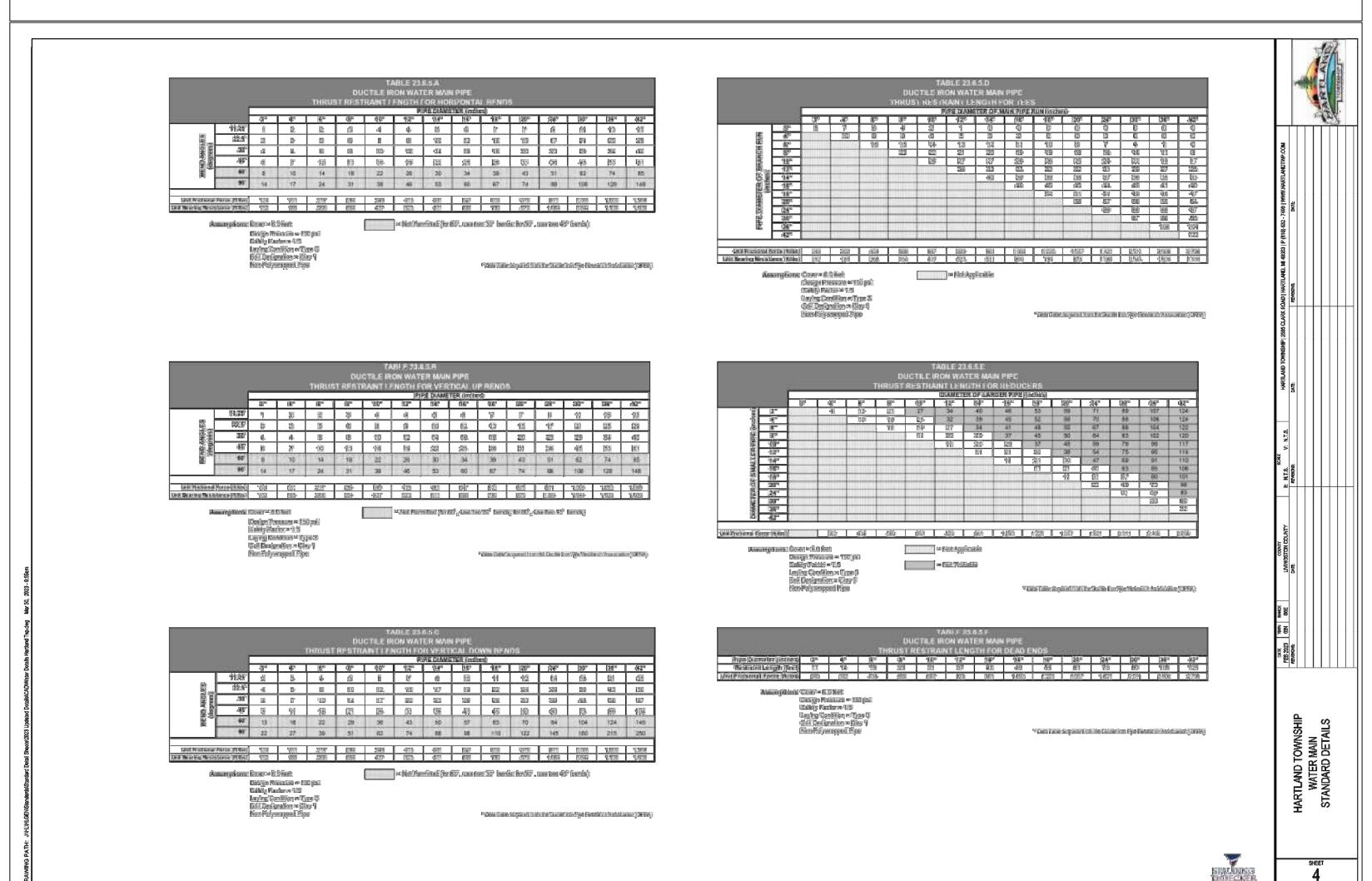


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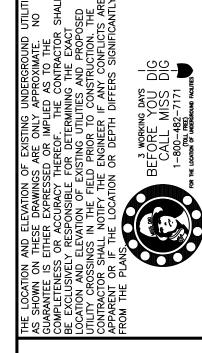
DETAII

CONSTRUCTION





SEE SHEET 2 FOR GENERAL NOTES AND LEGEND



APARTMENTS

HARTLAND

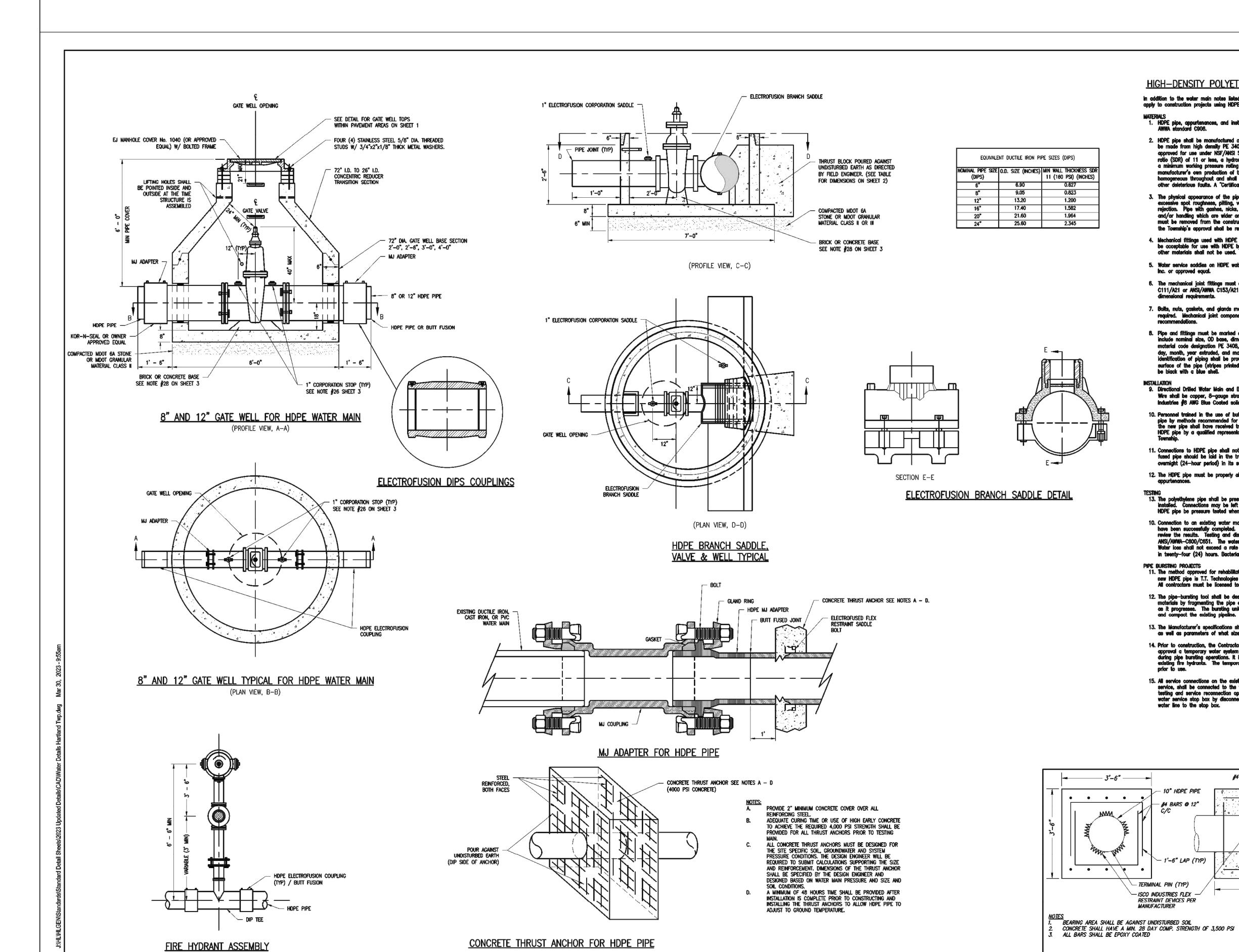
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ONE

SQUARE

S CONSTRUCTION

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HDPE WATER MAIN JOINT RESTRAINT

(FOR CONNECTING HDPE PIPE TO DUCTILE IRON PIPE)

HIGH-DENSITY POLYETHYLENE (HDPE) WATER MAIN NOTES In addition to the water main notes listed on sheet 3 of the standard details, the following notes will apply to construction projects using HDPE water main:

1. HDPE pipe, appurtenances, and installation methods shall conform to the most current edition of

- 2. HDPE pipe shall be manufactured out of virgin material as defined in ASTM D3350. The pipe shall be made from high density PE 3408 polyethylene resin and the materials used must be listed and approved for use under NSF/ANSI Standard 14 and 61. HDPE pipe shall have a standard dimension ratio (SDR) of 11 or less, a hydrostatic design basis (HDB) of 1600 psi for water at 73.4LF and a minimum working pressure rating of 160 psi. No rework except that obtained from the standard pressure rating of 160 psi. No rework except that obtained from the manufacturer's own production of the same formulation shall be used. The pipe shall be homogeneous throughout and shall be free of visible cracks, holes, foreign materials, blisters, or other deleterious faults. A "Certificate of Compliance" shall be furnished for all materials supplied.
- 3. The physical appearance of the pipe having deformities such as concentrated ridges, discolaration, excessive spot roughness, pitting, varying wall thickness, etc., shall constitute sufficient basis for rejection. Pipe with gashes, nicks, abrasions or any physical damage that occurred during storage and/or handling without a wider or deeper than 10% of the wall thickness shall not be used and must be removed from the construction site. Any pipe that has been damaged or does not meet the Township's approval shall be replaced at the Contractor's expense.
- Mechanical fittings used with HDPE pipe shall be specifically designed for or tested and found to be acceptable for use with HDPE by the fitting manufacturer. Mechanical fittings designed for other materials shall not be used.
- 5. Water service saddles on HDPE water main shall be "VA" Eletrofusion Service Saddles by Friatec, Inc. or approved equal.
- 6. The mechanical joint fittings must conform to outside diameter requirements of ANSI/AWWA C111/A21 or ANSI/AWWA C153/A21.53 depending size. Butt fusion fittings shall meet AWWA C906
- 7. Bolts, nuts, gaskets, and glands meeting ANSI/ANNIA C111/A21.11 and ANSI/ANNIA C153/A21.53 are required. Mechanical joint components shall be installed in accordance with manufacturer's
- Pipe and fittings must be marked as prescribed by ANNIA C906 and NSF. Pipe markings shall include nominal size, OD base, dimension ratio, pressure class, working pressure rating, ANNIA C906, material code designation PE 3406, manufacturer's name, manufacturer's production code including day, month, year extruded, and manufacturer's plant and extrusion line; and NSF logo. Permanent identification of piping shall be provided by co-extruding longitudinal blue stripes into the outside surface of the pipe (stripes printed or painted shall not be acceptable) or the pipe material shall be black with a blue shell.
- 9. Directional Drilled Water Main and Bore & Jack Water Main must be provided with two tracer wires.

 Wre shall be copper, 8—gauge stranded, blue insulated per Township's requirements, or Copperhead Industries #8 AWG Blue Coated solid shot extra strength tracer wire.
- 10. Personnel trained in the use of butt-fusion equipment shall perform the joining of polyethylene pipe by methods recommended for new pipe connections. Personnel directly involved with installing the new pipe shall have received training in the proper methods for handling and installing the HDPE pipe by a qualified representative and certification of this training shall be provided to the
- 11. Connections to HDPE pipe shall not be made immediately after the pipe has been installed. The fused pipe should be laid in the trench and be allowed to reach an equilibrium temperature overnight (24-hour period) in its surrounding environment.
- 12. The HDPE pipe must be properly aligned at all transitions to conventional or HDPE water main and
- 13. The polyethylene pipe shall be pressure tested after the line and all fittings and valves have been installed. Connections may be left exposed for visual leak inspection. Under no circumstances shall HDPE pipe be pressure tested when the temperature of the pipe is above 80°F.
- 10. Connection to an existing water main shall be made only after pressure and bacteriological test have been successfully completed. The Township consultant must be present for the test and review the results. Testing and disinfection procedures shall meet the requirements of ANSI/AWWA-C600/C651. The water main shall pass a test of 150 pei for a two (2) hour period. Water loss shall not exceed a rate of 11.65 U.S. gallons per inch diameter per mile of water main in twenty-four (24) hours. Bacteria sample (24) hours back to back.
- PIPE BURSTING PROJECTS

 11. The method approved for rehabilitation of existing water mains by pipe bursting and installation of new HDPE pipe is T.T. Technologies GRUNDOCRACK SYSTEMS, 8(00-533-2078) or approved equal.

 All contractors must be licensed to use the particular technology proposed for this work.
- 12. The pipe—bursting tool shall be designed and manufactured to force its way through existing pipe materials by fragmenting the pipe and compressing the old pipe sections into the surrounding soil as it progresses. The bursting unit shall be pneumatic and shall generate enough force to burst and compact the existing pipeline.
- 13. The Manufacturer's specifications shall dictate what size tool should be used in what diameter pipe, as well as parameters of what size tool for percentage of upsize allowed.
- 14. Prior to construction, the Contractor shall develop and provide to Hartland Township for review and approval a temporary water system plan to supply water services to area residents and businesses during pipe bursting operations. It is anticipated that the temporary system will be fed from existing fire hydrants. The temporary system and hydrants shall have passed bacteriological testing prior to use.
- 15. All service connections on the existing water main that is to be burst, or will be taken out of service, shall be connected to the temporary water system prior to mainline bursting, disinfection, testing and service reconnection operations. Temporary service connections shall be made at the water service stop box by disconnecting the existing water service and connecting the temporary water line to the stop box.

#4 BARS @ 12"

C/C, T&B-

PLAN VIEW

HDPE FORCE MAIN / WATER MAIN PIPE RESTRAINT

SCALE: NONE



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CONSTRUCTION

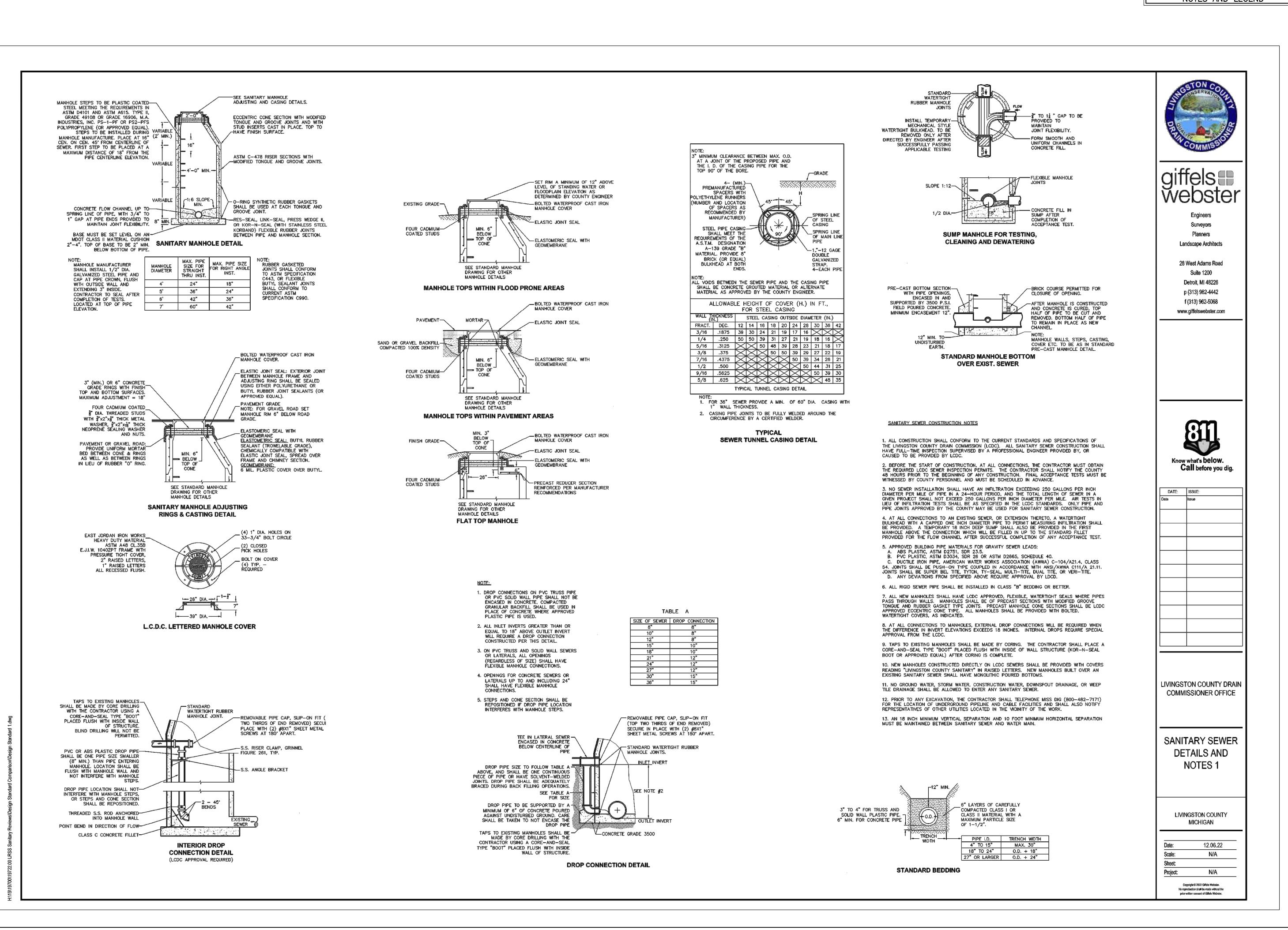
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DH/NL

12/01/23

HARTLAND TO WATER IN STANDARD I

WITH HDPE PRE-MANUFACTURED TEE





PROJECT SQUARE ONE & HARTLAND AVENUE APARTIME

PREPARED FOR M-59 PROPERTY VENTURES, LLC

S9592 WIXOM ROAD WIXOM, MI, 49493

3-27-2024

TITLE CONSTRUCTION DETAILS

CONSTRUCTION DETAILS

SIGNED BY:

DH/NL

NO SCALE

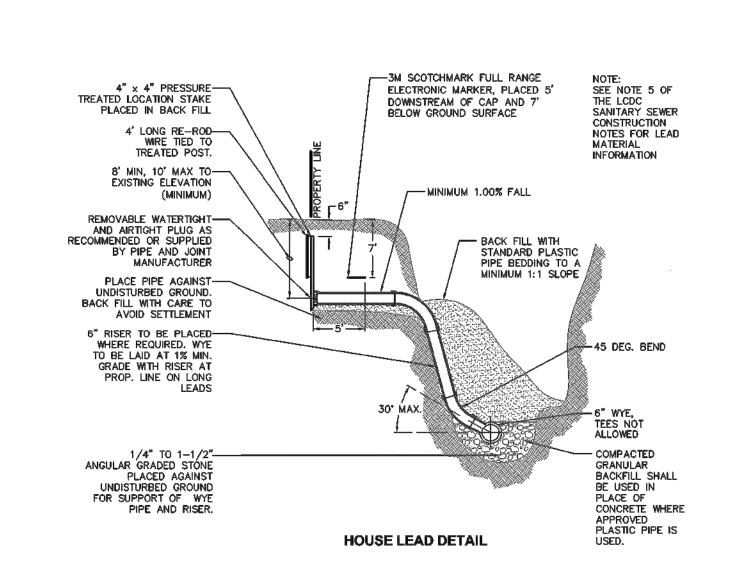
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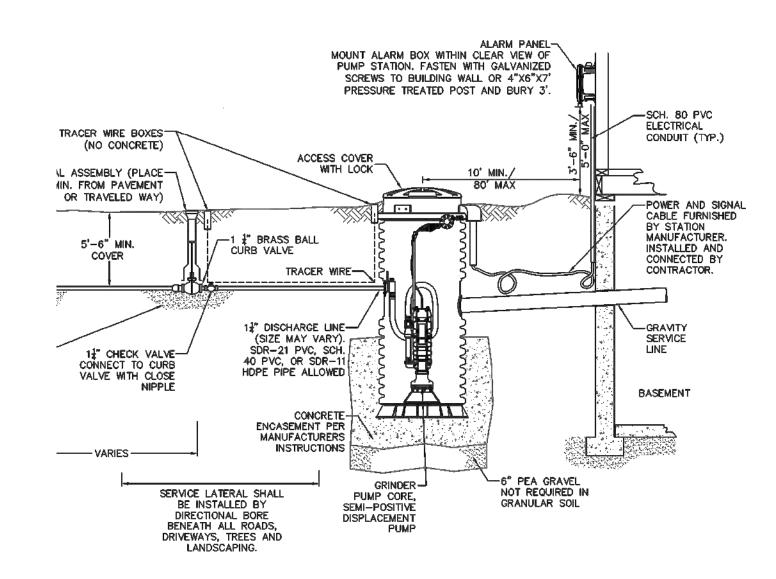
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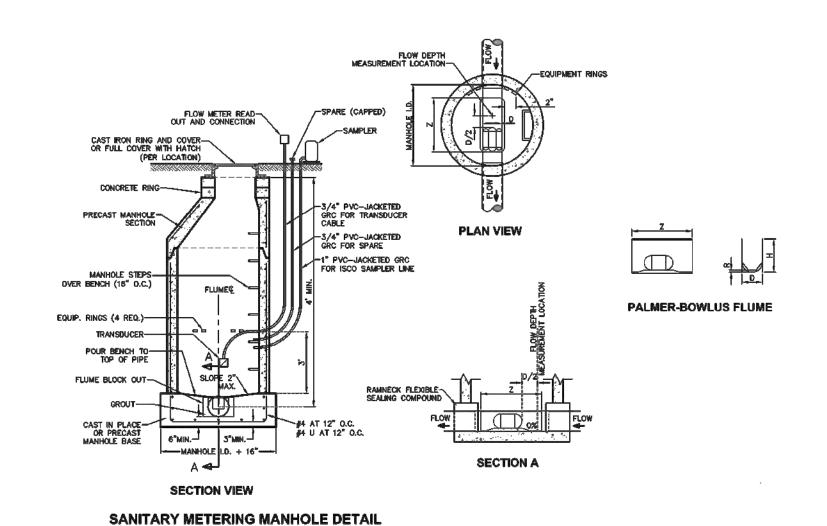
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Surveyors Landscape Architects 28 West Adams Road

Suite 1200 Detroit, MI 48226 p (313) 962-4442 f (313) 962-5068 www.giffelswebster.com

FLUME DESIGN CRITERIA

			PALM	IER - BOWLUS	FLUME					MANHOLE SIZE I.D.	SLOPE UPSTREAM
MAXIM	UM DISCHA	RGE	HEAD	MÓDEL					OIZE I.D.	(%)	
G.P.M.	MGD	CFS	INCHES	-	D	D-2	R	Н	Z	MINIMUM	MAXIMUM
52.00	0.08	0.12	2.90	PBF-4	4.0	2.0	0.67	6.0	17.0	6' DIA.	2.4
165.00	0.24	0.37	4.70	PBF-6	6.0	2.0	1.0	8.0	25.0	6' DIA.	2.2
343.00	0.49	0.76	6.30	PBF-8	8.0	3.0	1.33	10.0	33.0	6' DIA.	2.0
603.00	0.87	1.34	7.90	PBF-10	10.0	4.0	1.67	12.0	41.0	6' DIA.	1.8
936.00	1.35	2.09	9.40	PBF-12	12.0	6.0	2.0	14.0	49.0	6' DIA.	1.6
1648.00	2.37	3.67	11.80	PBF-15	15.0	7.5	2.50	17.0	61.0	6' DIA.	1.5
2614.00	3.76	5.82	14.20	PBF-18	18.0	9.0	3.0	20.0	73.0	7.5' DIA.	1.4

- BOLTED WATERPROOF CAST IRON

MANHOLE COVER WITH BOLTED FRAME TO BE E.J.I.W. NO. 1040ZPT

WITH PRESSURE TIGHT COVER (OR

-3" (MIN.) OR 6" CONCRETE GRADE RINGS WITH FINISHED TOP AND

ADJUSTMENT SHALL NOT EXCEED 18".

BOTTOM SURFACES, MAXIMUM

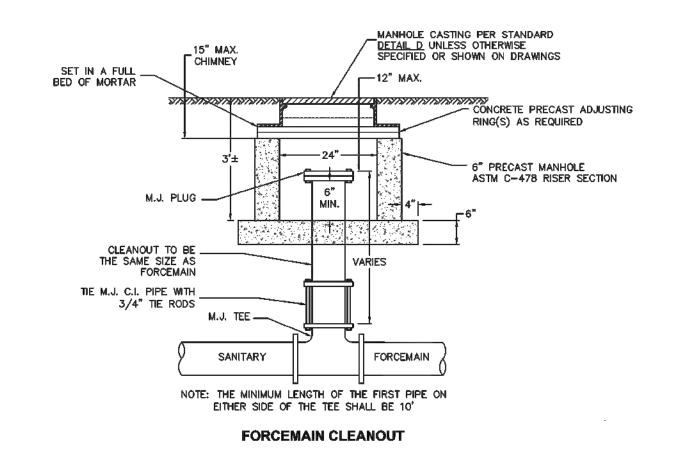
-4" MINIMUM DIA. OUTLET

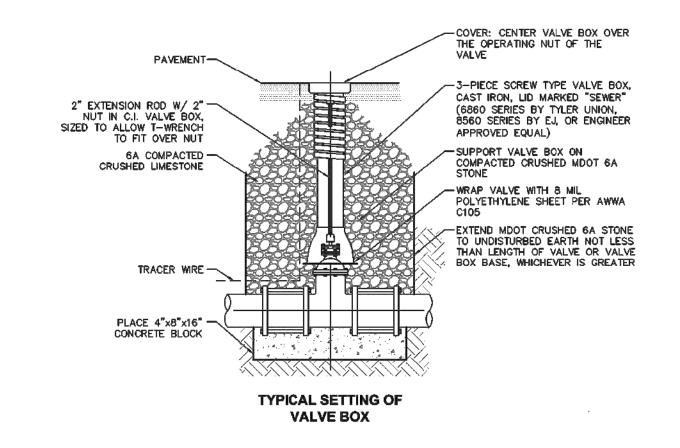
TEE WITH CLEANOUT PLUG

RISER DIA. =

OUTLET DIA. +2"

APPROVED EQUAL)







DATE: ISSUE:

IVINGSTON COUNTY DRAIN COMMISSIONER OFFICE

SANITARY SEWER DETAILS AND NOTES 2

> LIVINGSTON COUNTY MICHIGAN

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STRUCTURE:

1. SHAPE AND SMOOTH MANHOLE INVERTS BY FORMING OR SHAPING WITH CEMENT MORTAR. ALL PRECAST MANHOLE SECTIONS, BASES, FLAT TOPS, BARRELS, REDUCERS, ETC., SHALL CONFORM TO ASTM, C 478, AND THESE STANDARD SPECIFICATIONS.

WASTE METERING MANHOLE NOTES

- 3. REINFORCING IN BASE IS REQUIRED FOR 6' & 7.5' DIAMETER MANHOLES. THE OWNER SHALL BE RESPONSIBLE FOR STRUCTURAL REQUIREMENTS UNDER THE SPECIFIC LOADING
- CONDITIONS (DEAD LOAD PLUS LIVE LOAD OR H 20 FOR TRAFFIC).

 4. MANHOLE RING, COVER, AND LEVELING RINGS SHALL BE SET PER THE MANHOLE TOPS AND SANITARY MANHOLE ADJUSTING RINGS AND CASTING DETAILS. 5. ECCENTRIC CONE SECTIONS MAY BE USED IN LIEU OF FLAT TOP SECTIONS, PROVIDED COVER OVER TOP OF PIPE IS GREATER THAN 4.5 FEET. 6. FLEXIBLE PLASTIC SEALANT IS REQUIRED IN ALL JOINTS.
- 7. VENTILATOR MAY BE REQUIRED; LCDC SHALL DECIDE WHEN THIS IS NECESSARY, AND APPROVE METHOD OF PROVIDING VENTILATION.
- 1. THE FLUME SHALL BE A PALMER-BOWLUS FLUME, WITH INTEGRAL APPROACH SECTION, OR APPROVED EQUAL. 2. IT IS SUGGESTED THAT THE OWNER PLACE CONCRETE FOR MANHOLE BENCH IN TWO POURS.
- (b) GROUT FLUME INTO 'BLOCK OUT" AT EXISTING OR NEW SEWER LINE SLOPE. 3. CONSTRUCTION OF A BYPASS CHANNEL FOR FLUME SHALL BE AT THE OWNER'S OPTION. THIS CAN BE ACCOMPLISHED IN POUR (A), THIS TYPE OF CONSTRUCTION WILL REQUIRE A LARGER STRUCTURE. THE DESIGN OF ANY BYPASS CHANNEL SHALL BE SUCH AS TO INDUCE MINIMUM TURBULENCE IN NORMAL FLUME FLOW CHANNEL.

(a)POUR BENCH, LEAVING ADEQUATE "BLOCK OUT" AREA TO FIT FLUME.

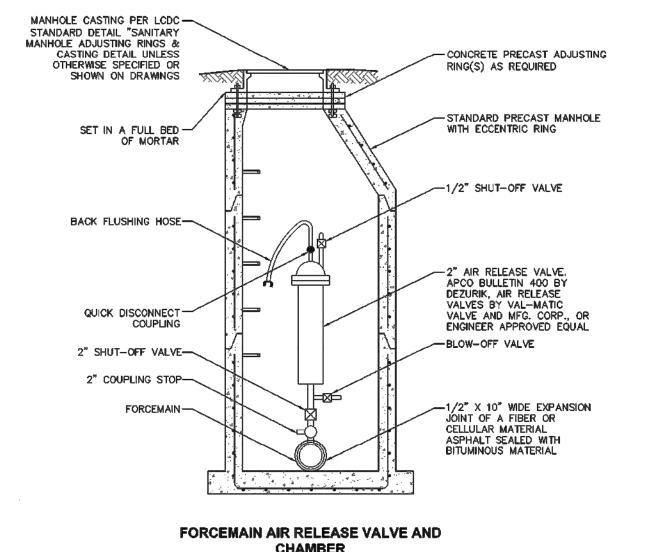
- 4. FLUME SELECTION SHALL BE BASED UPON THE FLOW TO BE MEASURED AND NOT UPON THE PIPE SIZE.
- 5. FLUME SELECTION CALCULATIONS WILL BE SUBMITTED TO LCDC FOR CONCURRENCE, AS WILL FLUME CALIBRATION CURVES AND DATA.

IS OVER THE CENTER OF THE CHANNEL.

6. A MOUNTING BRACKET SHALL BE PROVIDED TO SUPPORT A FLOW RECORDING TRANSDUCER. THE BRACKET SHALL BE INSTALLED SO THAT THE TRANSDUCER FACE

ELECTRICAL CONTROL PANEL

- METER SHALL BE A NON-CONTACTING ULTRASONIC FLOW METER, TWO-WAY
 COMMUNICATIONS- DATA LOG WITH 2 YEAR HISTORY.
 THE TRANSDUCER MOUNTING HARDWARE SHALL BE STAINLESS STEEL UNISTRUT WITH
 STAINLESS STEEL ANCHORS & BOLTS. THE MOUNT SHOULD BE DESIGNED TO ALLOW
- LEVELING OF TRANSDUCER FACE AND OFFERING SOME LATERAL ADJUSTMENTS. 3. CONDUIT FROM MANHOLE TO PANEL SHALL BE PVC-JACKETED GRC (USING ONLY WIDE
- REQUIRED (1) 3/4" FOR TRANSDUCER CABLE 1" FOR ISCO SAMPLER LINE 3/4" SPARE
- 4. PÁD FOR SAMPLER SHOULD BE PROVIDED, WITH (2) 20 AMP GFCI OUTLETS. 5. FLUME LENGTH FOR 8" PALMER-BOWLUS WITH APPROACH SECTION: $(4 \times DIAMETER) + 1" E.I. 32" + 1" = 33"$



OPTIONAL GROUND LEVEL CLEANOUT — FINISHED - GRADE

SEE STANDARD MANHOLE DETAIL FOR -

TONGUE & GROOVE JOINTS AND STUD INSERTS CAST IN PLACE. TOP TO HAVE FINISHED SURFACE. BOTTOM

COVER AND GRADE RING SEALING

CONE SECTION WITH MODIFIED -

GROUTED IN PLACE INSIDE AND

OUTSIDE OF SECTION

4" MINIMUM DIA. INLET -

TEE WITH CLEANOUT PLUG ---/

PRECAST CONCRETE TANK — 12" DIA. OPENING_ CENTERED IN WIDTH OF BAFFLE

DIA. OF OUTLET PIPE

^T-2'-0" MAX.

THE CONTRACTOR SHALL PROVIDE A GREASE TANK OF

SUFFICIENT SIZE (MINIMUM 23 MINUTE STORAGE),

CAPABLE OF SUPPORTING LIVE (HS-20 TRUCK) LOADS

DOUBLE-COMPARTMENT **GREASE INTERCEPTOR TANK**

8" MIN DIA.

prior written consent of Giffels Webster.

SIGNED BY:

DH/NL

NO SCALE

12/01/23

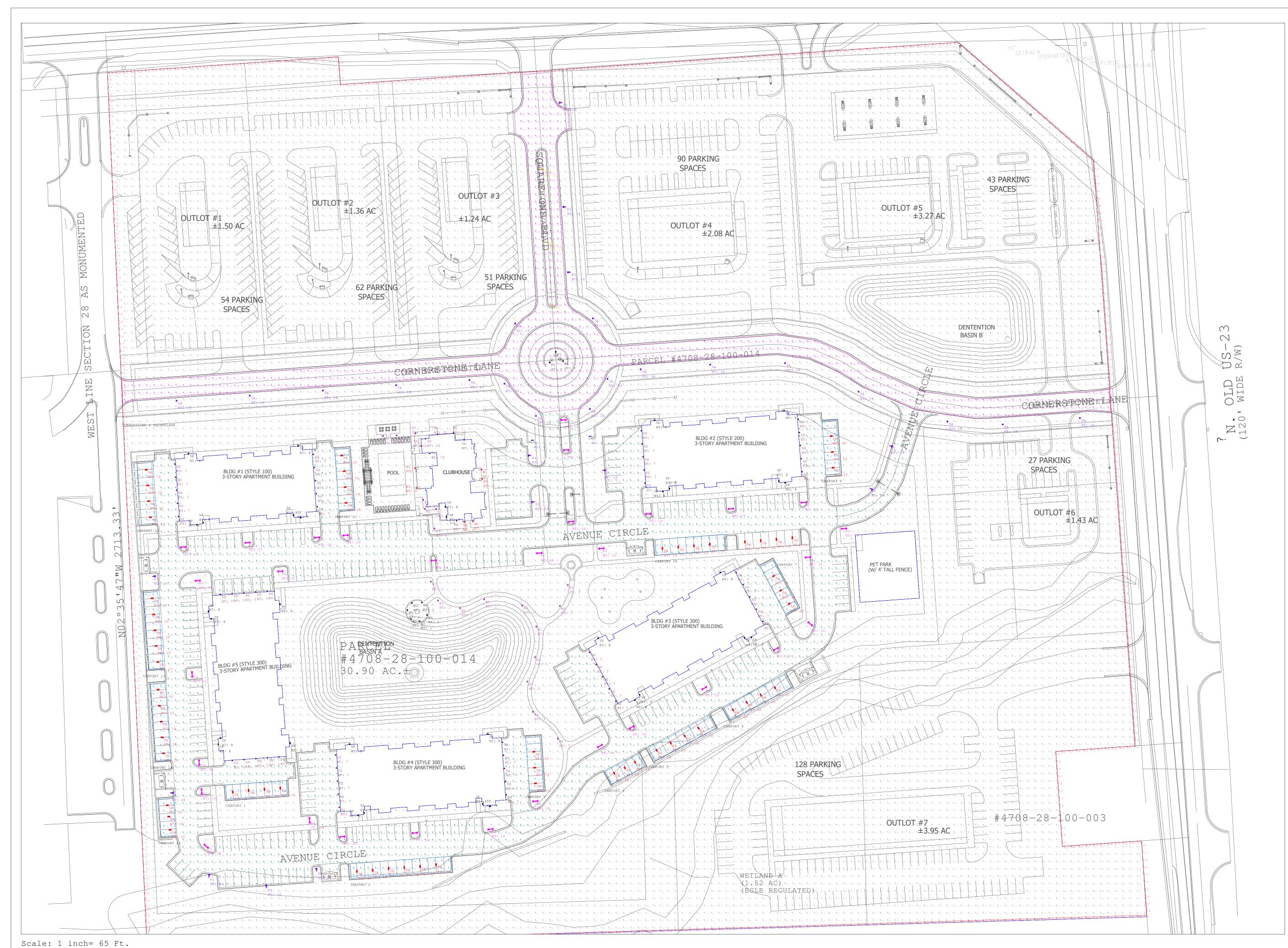
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Sched	ule						
Label	Symbol	Qty	Manufacturer	Catalog Number	Light Loss	Lumens Per	Watts
					Factor	Lamp	
5A	(+)	18	LITHONIA 5A	MRP LED 42C 1000 30K SR4	0.900	8078	154
				MVOLT			
5A2	+	3	LITHONIA 5A2	MRP LED 42C 1000 30K SR5	0.900	8600	154
				MVOLT			
5B	→	59	LITHONIA 5B	FEM L24 4000LM IMACD MD	0.900	4233	25.95
				80CRI 40K			
5C		2	LIGHTWAY 5C	MEVW-526-LED-O2C-2-Z3-WSA	0.900	1180	28
5F	<u> </u>	32	BEGA 5F	33602 K3	0.900	1169	14
5G	\oplus	57	SUNLITE 5G	88143-SU	0.900	2446	30
				LFX/UD/SQ/24W/SCT/MV/BK/1			
				0			
B1	→	19	SELUX B1	NT-4-LG4500-30-UNV	0.900	405	10.4
F1	(+)	3	HYDREL F1	M9710 18LED RGBW MVOLT	0.900	1289	22.4
				MFL FLC RDM			
P1	—⊕	13	SELUX P1	BPL-X-R4-5G700-30-XX-UNV	0.900	6750	65.027
P2	0 0	31	SELUX P2	BPL-X-R4-5G350-30-XX-UNV	0.900	3568	32.87
				(TWIN HEAD)			
W1	\rightarrow	6	BEGA W1	24506	0.900	1814	22
W2	→	6	BEGA W2	33054	0.900	342	8

Statistics					
Description	Avg fc	Max fc	Min fc	Avg/Min (:1)	Max/Min (:1
CARPORT 1	6.38	10.7	3.1	2.06	3.45
CARPORT 10	5.25	13.5	0.7	7.50	19.29
CARPORT 11	6.46	11.0	2.7	2.39	4.07
CARPORT 12	6.13	11.4	2.2	2.79	5.18
CARPORT 13	5.95	12.4	2.0	2.98	6.20
CARPORT 14	6.07	13.6	2.6	2.33	5.23
CARPORT 15	8.00	11.9	3.9	2.05	3.05
CARPORT 2	5.92	13.9	0.7	8.46	19.86
CARPORT 3	5.85	11.5	1.0	5.85	11.50
CARPORT 4	6.94	12.4	2.6	2.67	4.77
CARPORT 5	5.50	12.6	0.7	7.86	18.00
CARPORT 6	5.59	11.1	0.9	6.21	12.33
CARPORT 7	5.16	10.4	0.7	7.37	14.86
CARPORT 8	5.68	10.5	1.2	4.73	8.75
CORNERSTONE & SQUARELANE	1.48	5.2	0.0	N.A.	N.A.
GREENSPACE SIDEWALK	1.16	8.4	0.0	N.A.	N.A.
OVERALL PARKING 5 FT AFF	1.37	31.8	0.0	N.A.	N.A.
OVERALL_Top	0.19	6.7	0.0	N.A.	N.A.
PROPERTY LINE	0.02	0.3	0.0	N.A.	N.A.

Page 1 of 3

GENERAL NOTE 1. SEE SCHEDULE FOR LUMINAIRE MOUNTING HEIGHT. 2. CALCULATIONS ARE SHOWN IN FOOTCANDLES AT: 5' - 0"

2. CALCULATIONS ARE SHOWN IN FOOTCANDLES AT: 5' - 0"

3. ALTERNATE LIGHTING FIXTURES WILL NOT MEET CITY ORDINANCE COMPLIANCE DUE TO THE PRECISE OPTICAL AND OUTPUT PERFORMANCE SELECTED FOR THESE FIXTURES. ALTERNATE LIGHTING

PROPOSALS MUST BE RECALCULATED AND RESUBMITTED TO THE CITY FOR APPROVAL. CONTACT LAYOUTS@GASSERBUSH.COM FOR ASSISTANCE WITH ALTERNATE

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Hartland #23-23010 V8.AGI

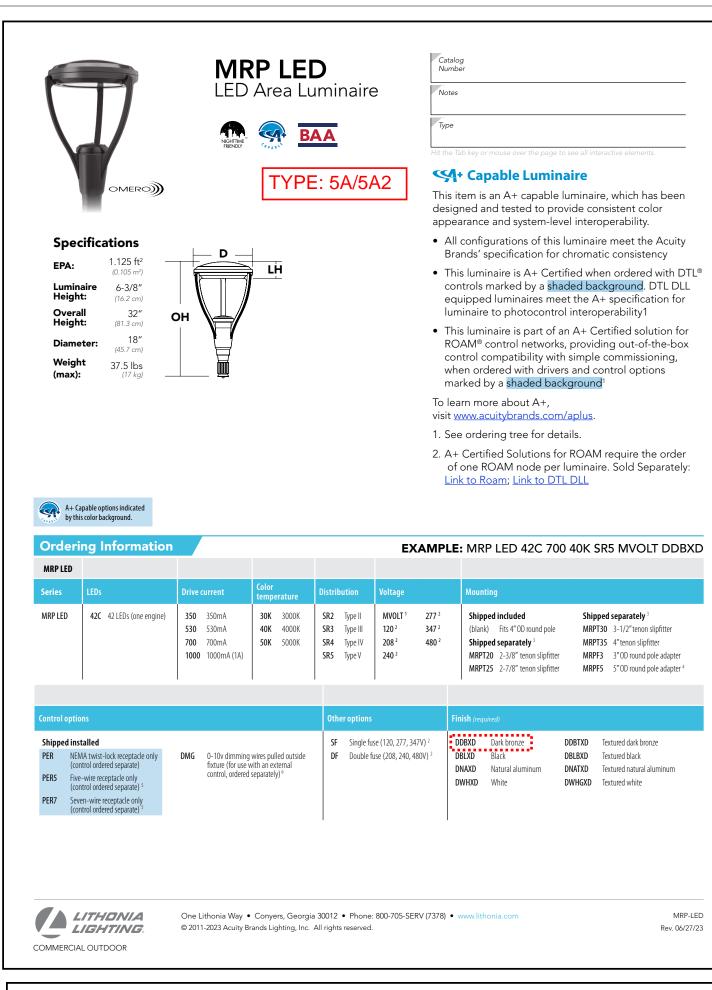
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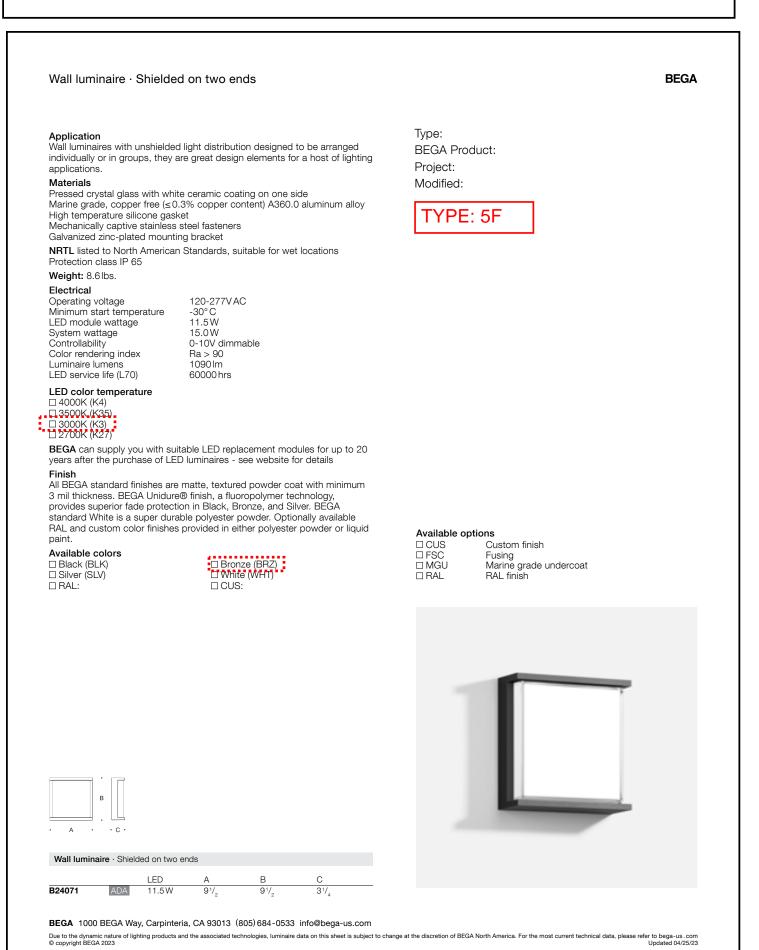
www.gasserbush.com

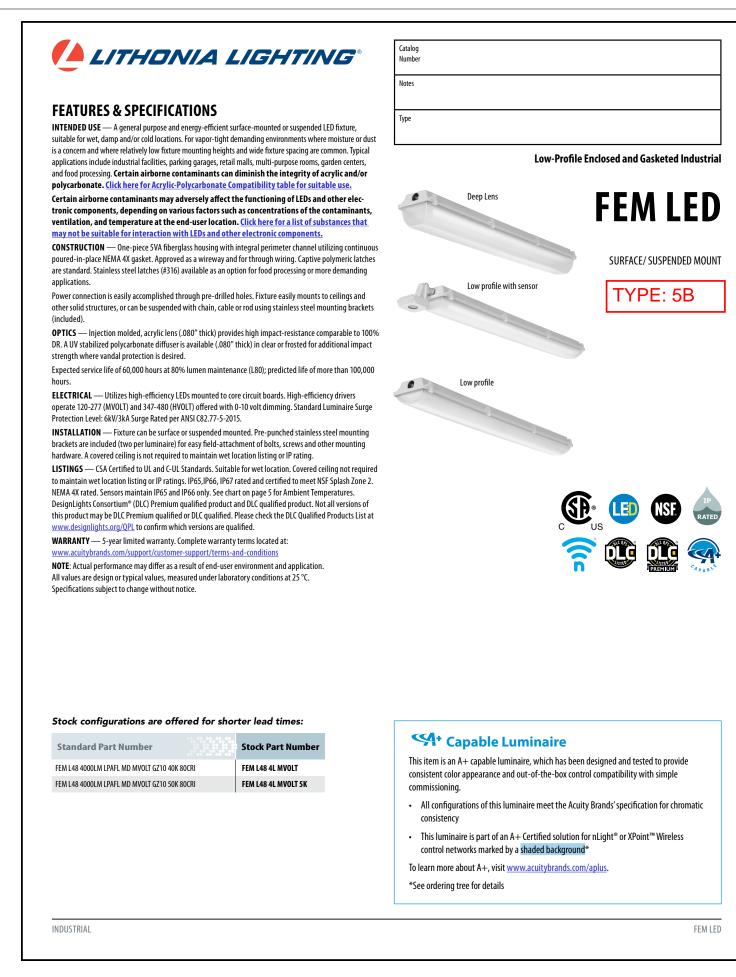
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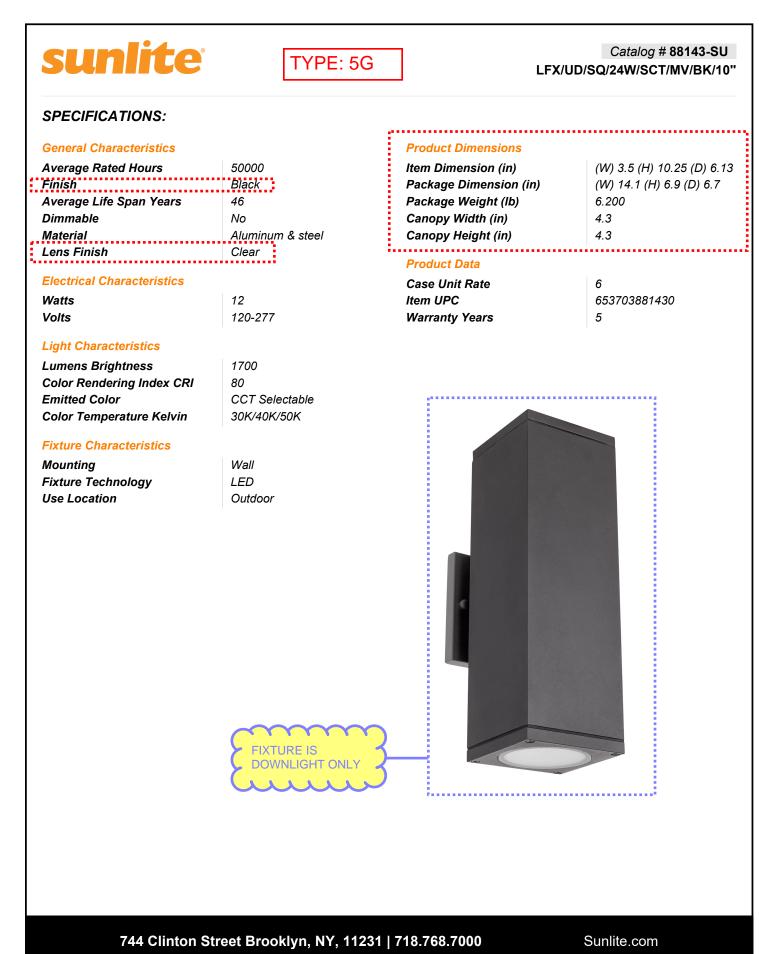
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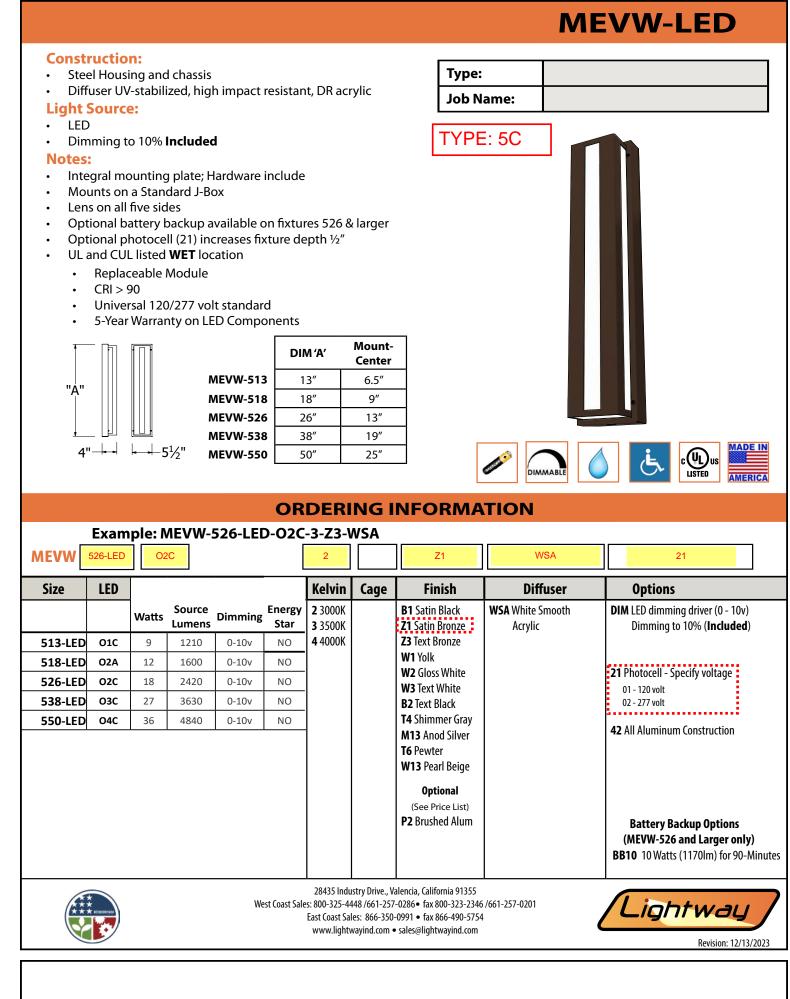


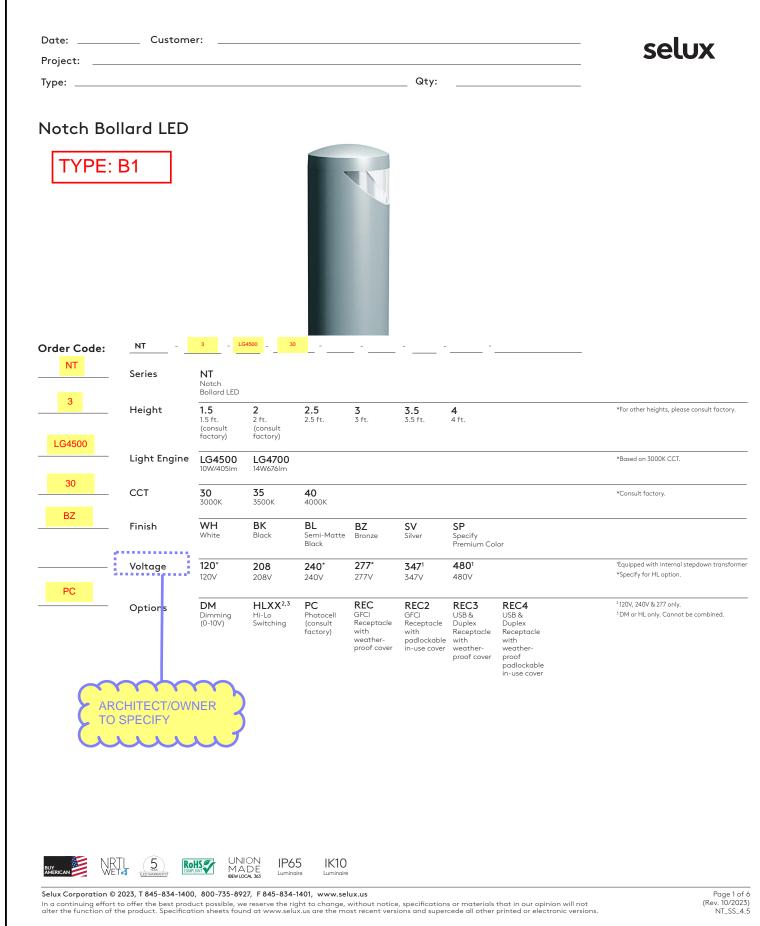












E	M9700C	CATALOG NUMBER
N=3,530	In-Grade Luminaire	NOTES
	IP 1P68 (IP)	Туре
SINGLE LENS 0 312* (0 305 mm) 10' (007 mm) Specifications L: 12" 305 mm W: 12" 305 mm H: 16" 407 mm	TYPE: F1 DOUBLE LENS 10 12" 305 mm 12" 305 mm 16" 407 mm	DESCRIPTION The M9700C LED in-grade is a true one-for-one replacement for 50-150W metal halide luminaires, with all the benefits of LED. Hydrel's proven flow-through technology and industry leading IP68 rating ensures a 20- year service life. This eliminates routine lamp changes, providing material and labor savings, in addition to the energy savings associated with LED. The M9700C LED series consists of a factory-sealed LED lamp module and encapsulated power module. The components are secured inside a heavy-duty polymer rough-in housing designed with channeled convective cooling, an integral junction box, and finished door trim assembly. These units can be flushed mounted into a variety of substrates or
	EVAMDI	landscape materials. E: M9720C SS LED P3 40K MVOLT NSP FLC 34S
ORDERING INFORMATION	EXAMPL	E: M9720C 55 LED P3 40K MVOLT NSP FLC 345
Model Door Ma	Performance terial Source Package LED Color Voltage	Distribution Lens ³
M9710C Round Door, Single Lens B Brc M9720C Round Door, Double Lens M9730C Square Door, Single Lens M9740C Square Door, Double Lens	nze P2 35W 40K 4000K (120 - 277 v inless P3 46W 50K 5000K 50/60HZ)	NSP Narrow Spot FLC Flat Lens Clear NFL Narrow Flood MFL Medium Flood FLC10 Flat Lens Clear, 5° Axial Spread FLC10 Flat Lens Clear, 10° optical tilt FL Flood FLC20 Flat Lens Clear, 20° optical tilt WFL Wide Flood FLF Flat Lens Frosted WWD2 Wall Wash FLCAS Flat Lens Clear, Anti-Slip FLC5AS Flat Lens Clear, 5° Axial Spread, Anti-Slip
:		
Lens (cont.)		tions Finish ¹¹ Listing
FLCSR ⁴ Flat Lens Clear Slip Resistant FLC5SR ⁴ Flat Lens Clear, 5° Axial Spread, Slip Resistant FLC10SR ⁴ Flat Lens Clear, 10° optical tilt, Slip Resistant FLC20SR ⁴ Flat Lens Clear, 20° optical tilt, Slip Resistant CLC Convex Lens, Clear CLF Convex Lens, Frosted	125 1/2" NPT Side IHL Internal Honeycomb Intern	IM 0-10V Dimming (Dims to 10%) M¹º Inline Dimming (Dims to 40%) IM 0-10V Dimming (Dims to 40%) IM 0-10V Dimming (Dims to 40%) DAR Natural Alum. GR Gray SND Sand STG Steel Gray TVG Terra Verde Green WH WhiteZ¹² Zinc Undercoat (i.e. BLZ)
Notes: 1 P4 not available with double lens. 2 Recommeded to use the FLF or FLCS WWD 3 Specify top lens. Bottom lens is FLC: M9720C and M9740C. 4 Meets ADA requirements for coefficies Only for use in 50HZ applications. 6 Accessories are mutually exclusive, ch	IDIM option should be run at 120 volt. standard on 11 Finish only available on "A" door material. 12 Add Zinc undercoat for harsh environments.	Assembly consists of

GENERAL	. NOTE
1 000 00	HEDIII

. SEE SCHEDULE FOR LUMINAIRE MOUNTING HEIGHT.

2. CALCULATIONS ARE SHOWN IN FOOTCANDLES AT: 5' - 0" 3. ALTERNATE LIGHTING FIXTURES WILL NOT MEET CITY ORDINANCE COMPLIANCE DUE TO THE PRECISE OPTICAL AND OUTPUT PERFORMANCE SELECTED FOR THESE FIXTURES. ALTERNATE LIGHTING PROPOSALS MUST BE RECALCULATED AND RESUBMITTED TO THE CITY FOR APPROVAL. CONTACT LAYOUTS@GASSERBUSH.COM FOR ASSISTANCE WITH ALTERNATE OPTIONS IF NEEDED."

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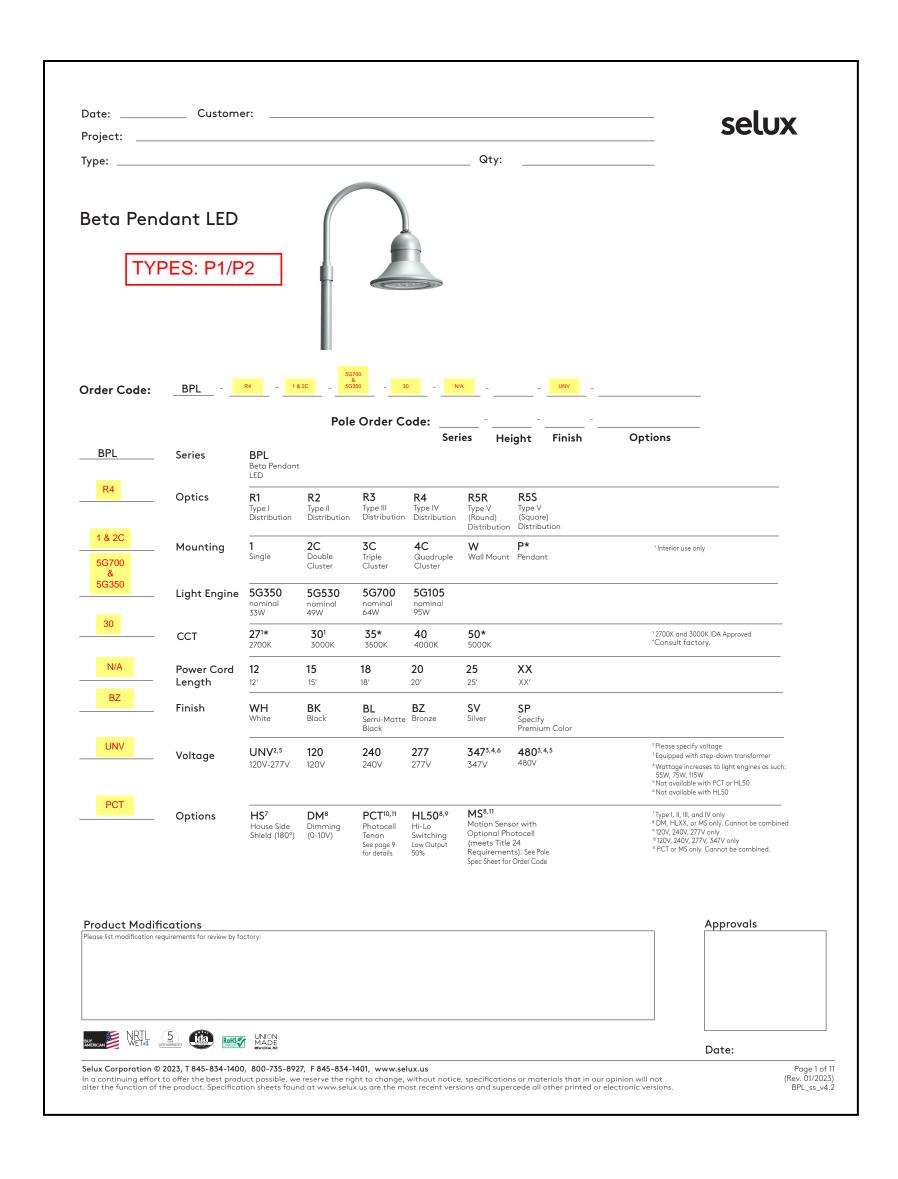
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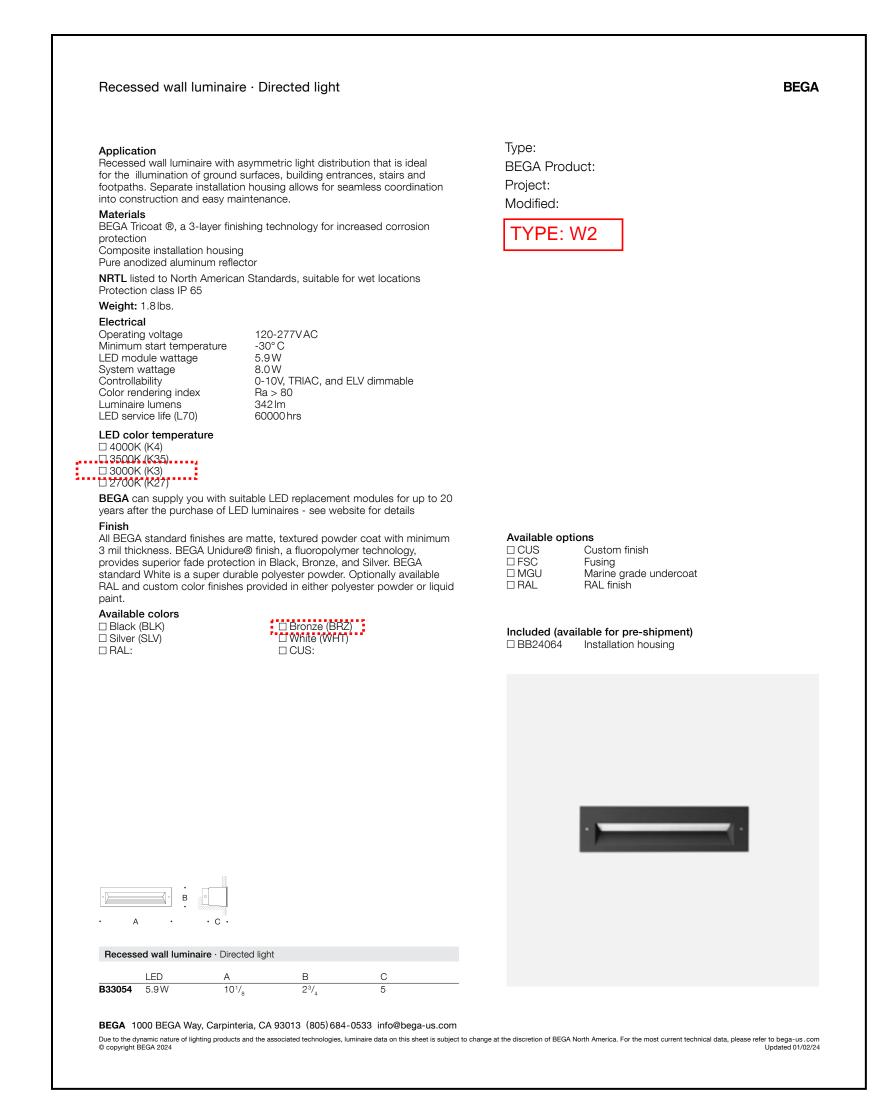
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Page 3 of 3

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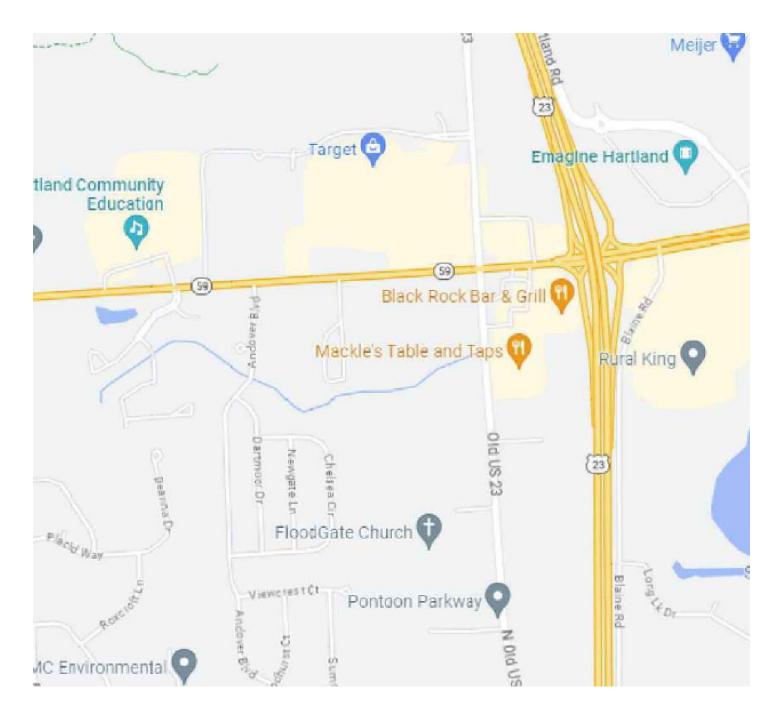
Designer: KB Date:12/18/2024

Scale: NOT TO SCALE



PRELIMINARY SPA

HARTLAND AVENUE APARTMENTS



LOCATION MAP NOT TO SCALE

OWNERS:

M-59 PROPERTY VENTURES, LLC 29592 WIXOM ROAD WIXOM, MI 48393 CONTACT: KEVIN BAHNAM 248.767.5337 (P) KBAHNAM•USA2GOQUICKSTORE (E)

ARCHITECT:

ALEXANDER V. BOGAERTS + ASSOCIATES, P.C. 2445 FRANKLIN ROAD BLOOMFIELD HILLS, MI 48302 248.334.5000 (P)

HARTLAND TOWNSHIP, MI

	SHEET INDEX
T-I	TITLE SHEET
Al	FLOOR PLANS - BUILDING STYLE I
A2	FLOOR PLANS - BUILDING STYLE 2
A3	FLOOR PLANS - BUILDING STYLE 3
A4	EXTERIOR ELEVATIONS - BUILDING STYLE I
A 5	EXTERIOR ELEVATIONS - BUILDING STYLE I
A6	EXTERIOR ELEVATIONS - BUILDING STYLE 2
Α٦	EXTERIOR ELEVATIONS - BUILDING STYLE 2
A8	EXTERIOR ELEVATIONS - BUILDING STYLE 3
Α9	EXTERIOR ELEVATIONS - BUILDING STYLE 3
AIO	UNIT PLANS - TYPE A IST FLOOR
All	UNIT PLANS - TYPE B IST FLOOR
Al2	UNIT PLANS - 2ND & 3RD FLOOR
Al3	CLUBHOUSE PLAN
Al3a	CLUBHOUSE ROOF PLAN
A14	CLUBHOUSE ELEVATIONS
Al4a	CLUBHOUSE SECTIONS
A15	APARTMENTS COLORED ELEVATIONS
Al6	COLOR & MATERIAL BOARD

PRELIMINARY CODE SUMMARY

IFC 2012 RESIDENTIAL

<u>CLUBHOUSE</u>

2015 MICHIGAN BUILDING CODE R-2, NFPA 13R

2015 MICHIGAN BUILDING CODE NON-SEPARATED MIXED USE - A-3 ASSEMBLY

5726 SQUARE FT. - 903.2.1.3, WHERE WE DO NOT MEET ANY OF THE CONDITIONS OF 12,000 SQ. FT./ 300 OCCUPANTS/ OR LEVEL OTHER THAN DISCHARGE. THEREFORE

Planning

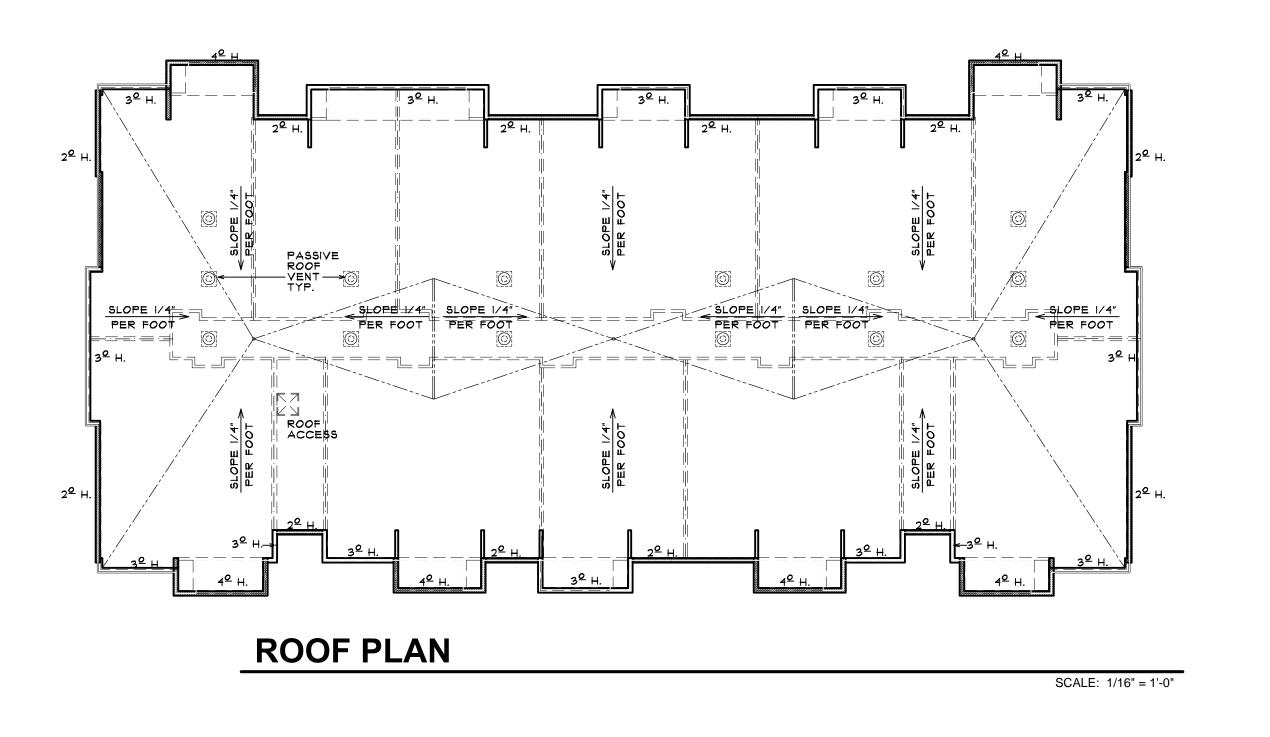
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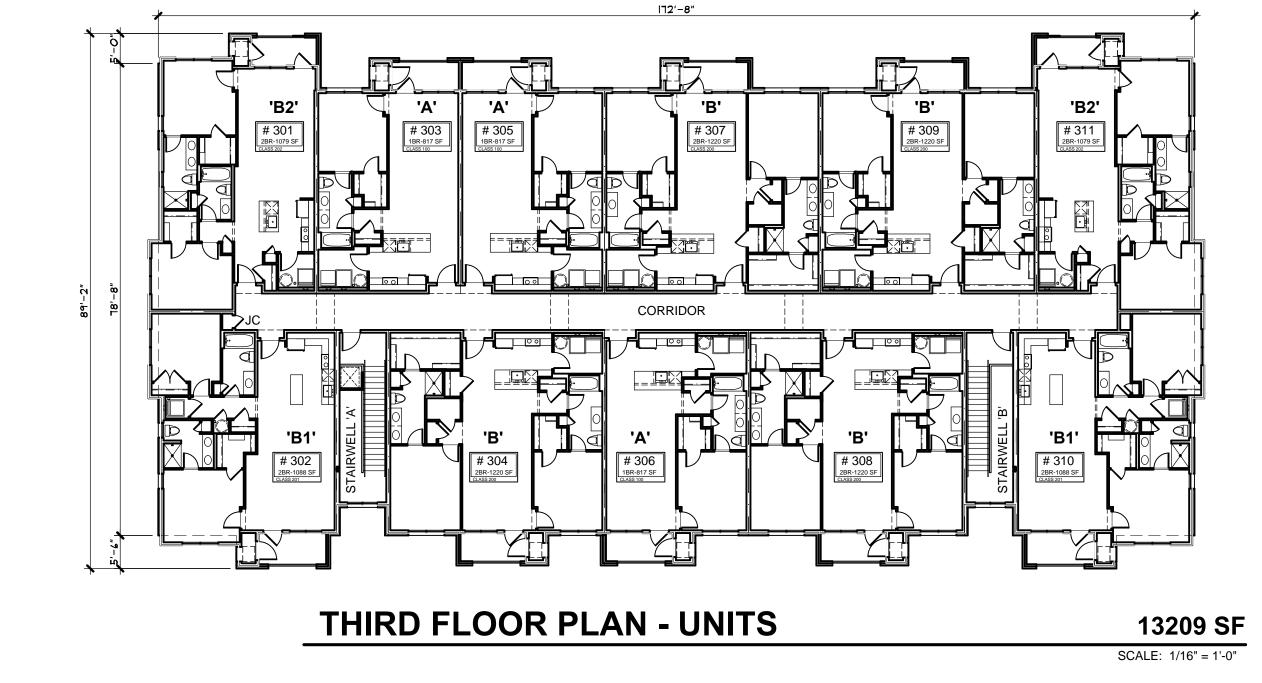
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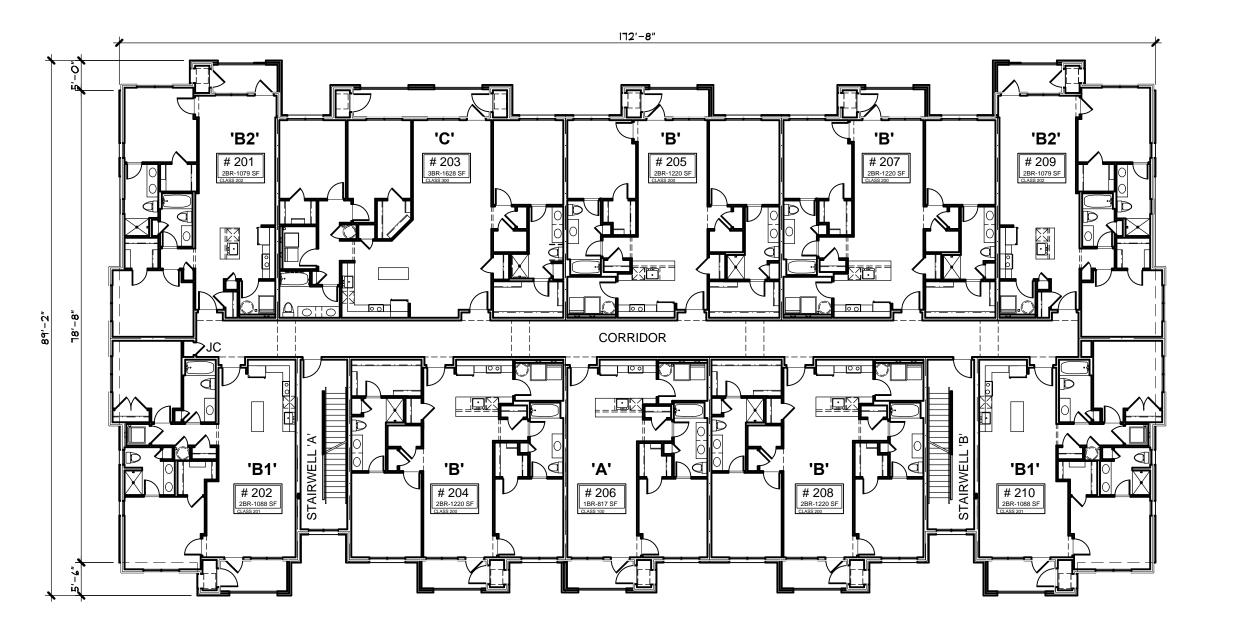
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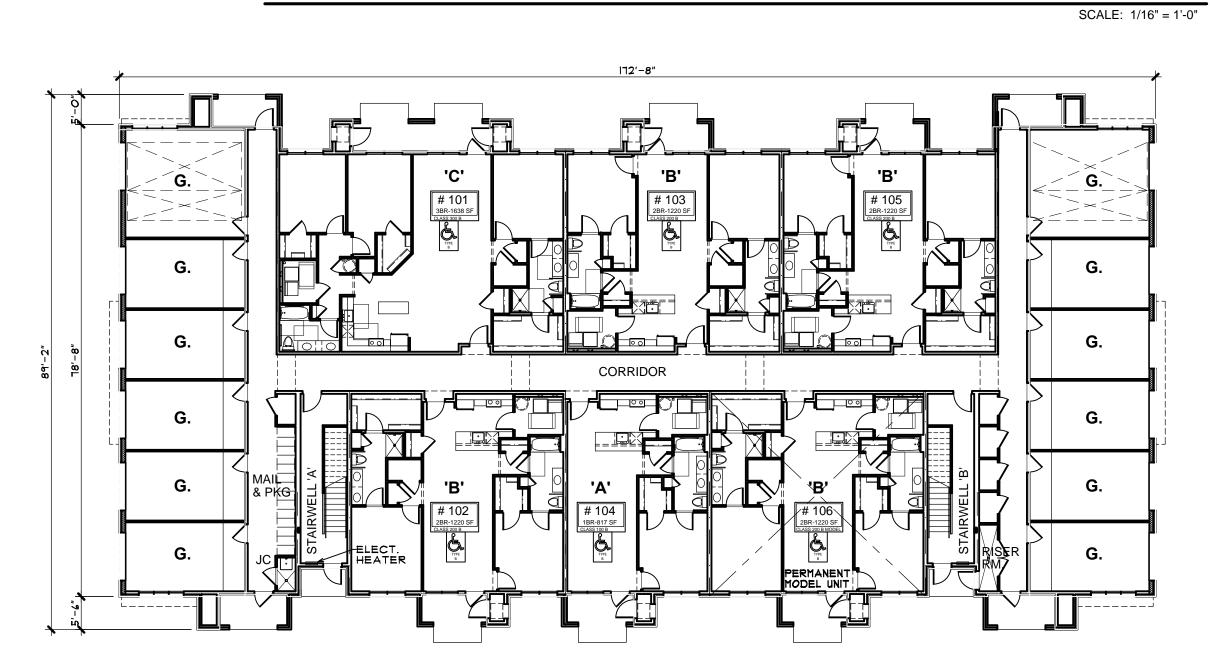








13209 SF



FIRST FLOOR PLAN - GARAGES and UNITS BUILDING # 1

NOTE:
ALL FIRST FLOOR UNITS TO BE TYPE 'A' OR TYPE 'B'

SCAI

CHARGE

CHARGE

SCAI

CHARGE

CHARGE

SCAI

CHARGE

CHARGE

SCAI

CHARGE

CHARGE

CHARGE

SCAI

CHARGE

CHAR

13193 SF SCALE: 1/16" = 1'-0"

AMM 4 | | | | |

BOJ DEVELOPMENT
APARTMENTS
HARTLAND TOWNSHIP, 1

ALEXANDER V. BOGAERTS + ASSOC.

02-22-2024

SPA 12-18-2023 SPA COMMENT RESP. 02-14-2024

SPA COMMENT RESP. 03-06-2024

PER SPA REVIEW COMMENTS 09-09-2024

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ALEXANDER

BOGAERTS II

License No. 1301068995

Planning

* IST FLOOR INCLUDES 3219 SF GARAGES

SQUARE FOOT CALCULATIONS

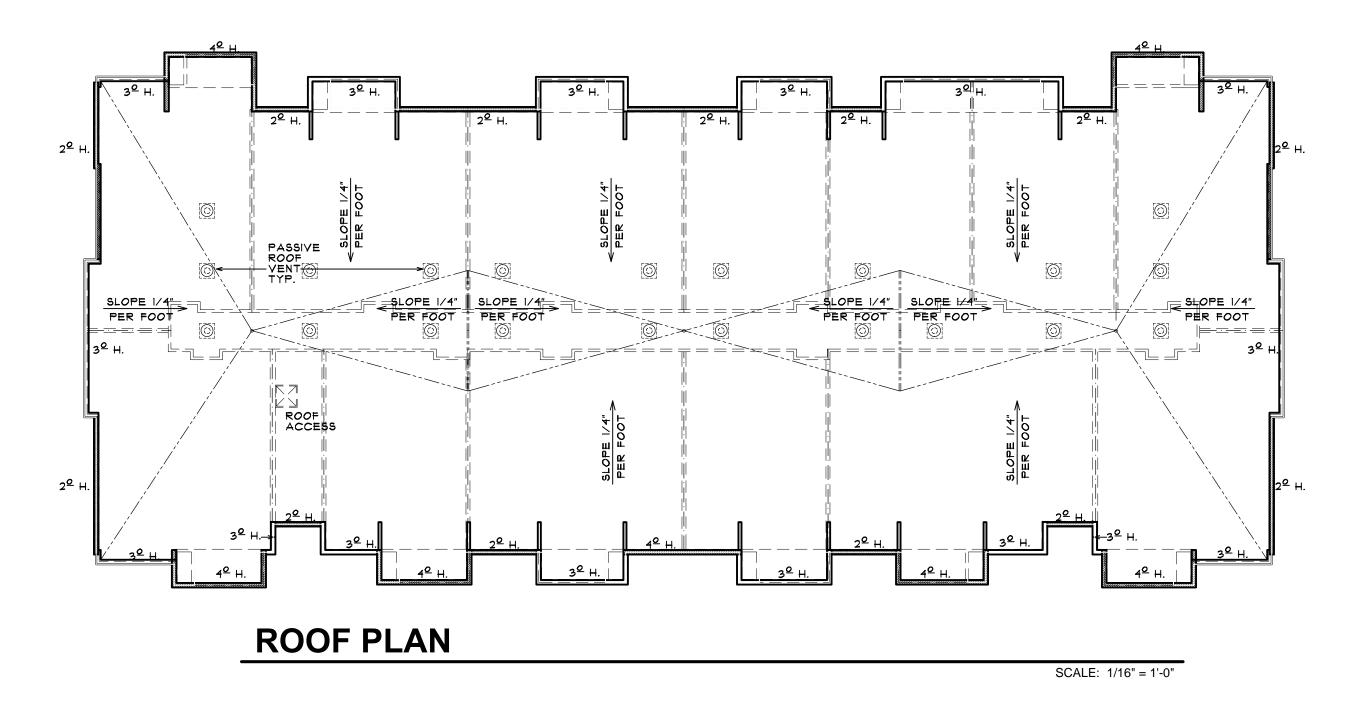
13209 SF

13209 SF

39611 SF

FIRST FLR * SECOND FLR

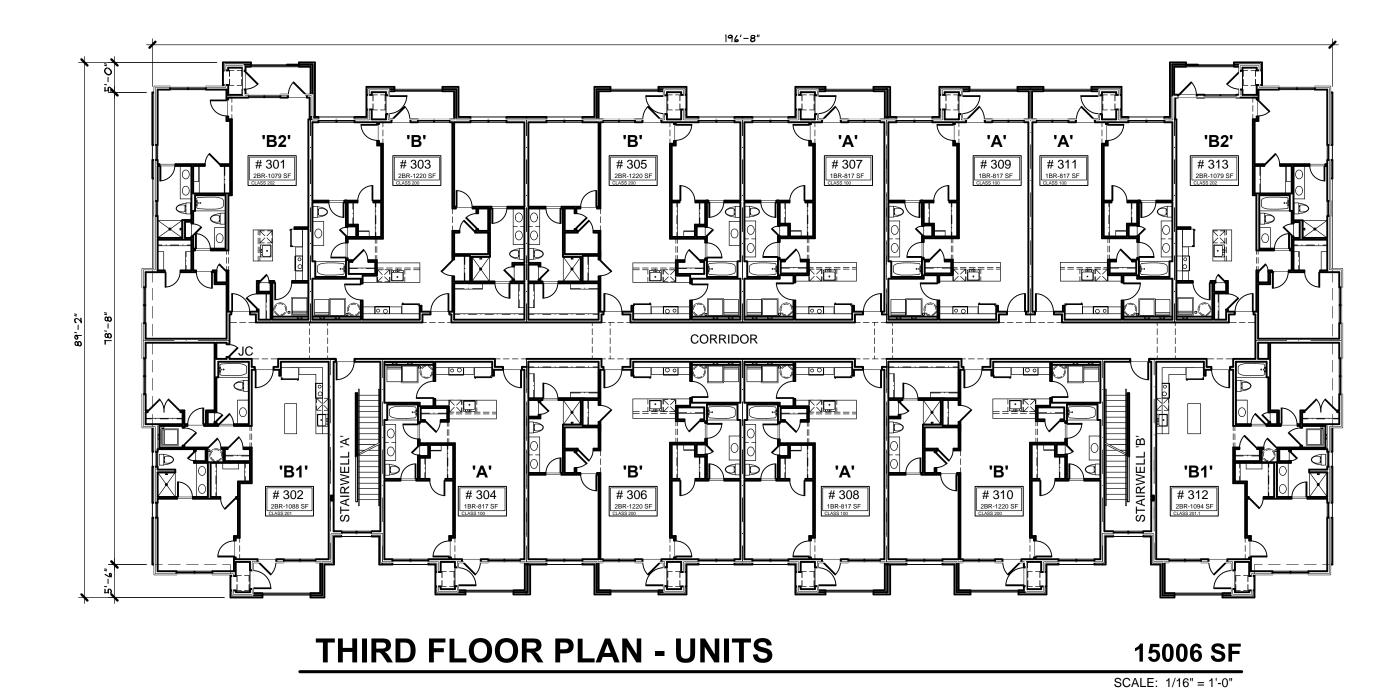
THIRD FLR

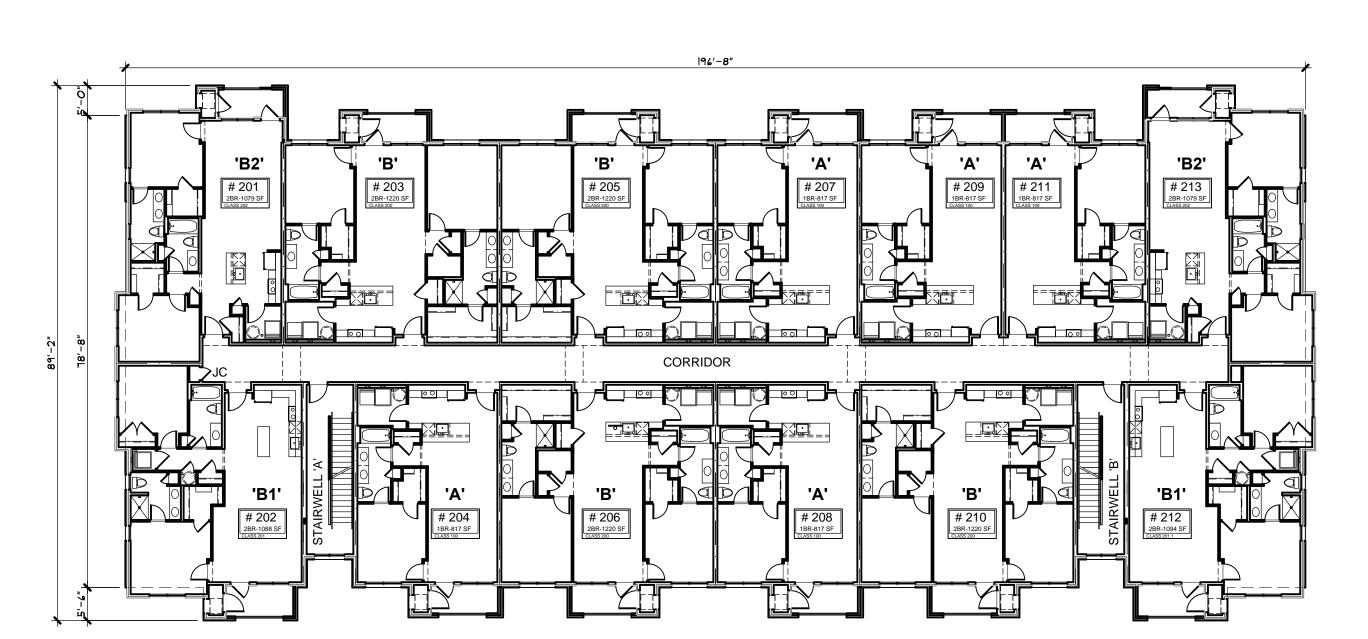


SQUARE FOOT CALCULATIONS

FIRST FLR *	15015 SF
SECOND FLR	15006 SF
THIRD FLR	15006 SF
TOTAL	45027 SF
	'

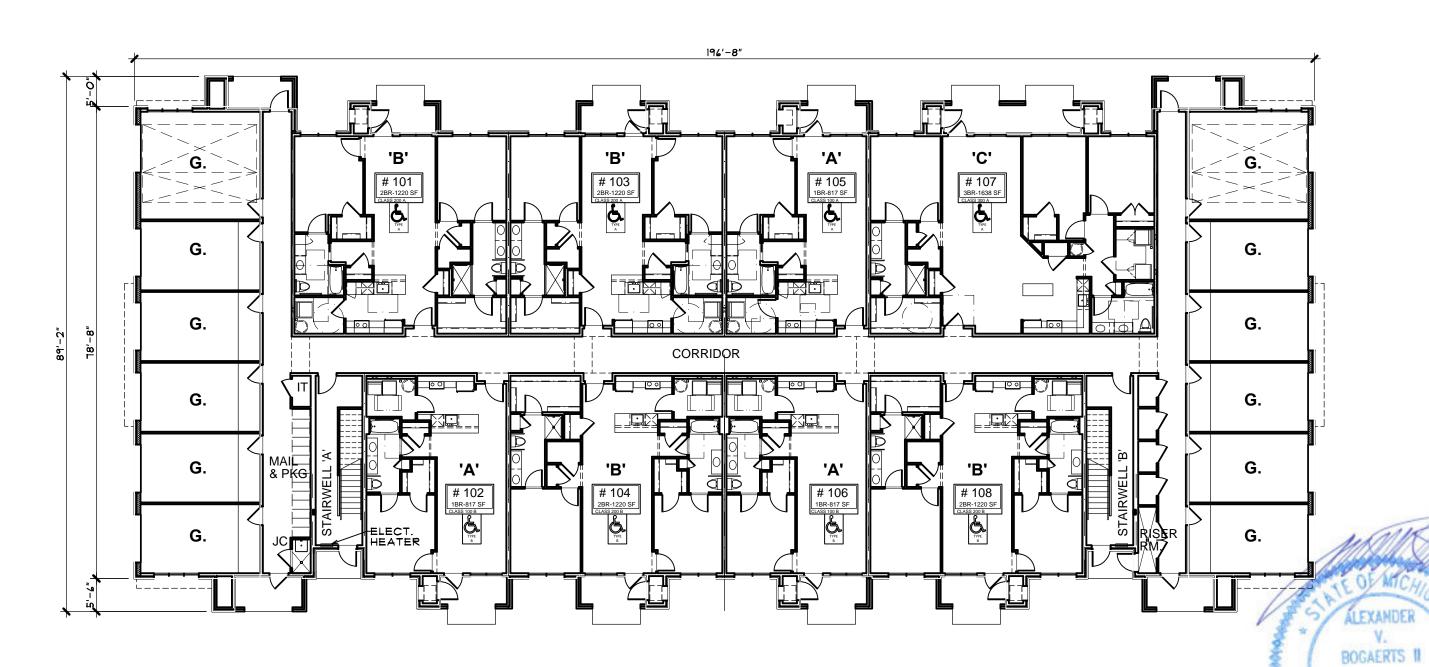
* IST FLOOR INCLUDES 3298 SF GARAGES







15006 SF SCALE: 1/16" = 1'-0"



THIRD FLR 5 8 0 13
TOTAL 13 20 1 34

BUILDING # 2

BUILDING

FIRST FLOOR PLAN - GARAGES and UNITS

15015 SF

SCALE: 1/16" = 1'-0" 写了YL层 200 (1 REQ'D)

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Planning

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License No.

1301068995

BOJI DEVELOPMENT
APARTMENTS
HARTLAND TOUNSHIP

OPYRIGHT 2024

ALEXANDER V. OGAERTS + ASSOC.

02-22-2024

☐ PERMITS

CONSTRUCTION

SPA 12-18-2023 SPA COMMENT RESP. 02-14-2024

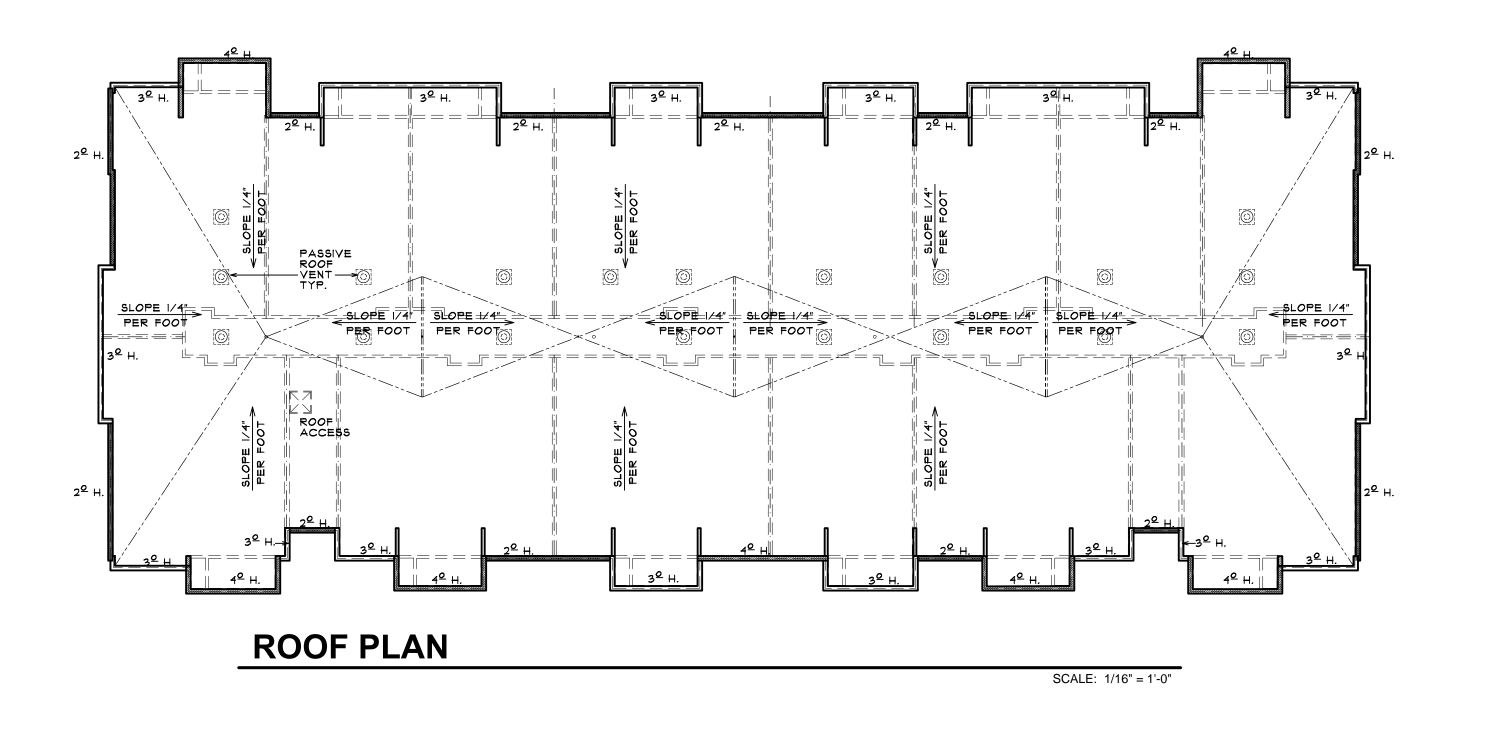
SPA COMMENT RESP. **03-06-2024**

AMM CAD FILENAME —

LC

JOB NUMBER =

R SPA REVIEW COMMENTS 09-09-2024



SQUARE FOOT CALCULATIONS

* IST FLOOR INCLUDES 3298 SF GARAGES

15925 SF

15913 SF

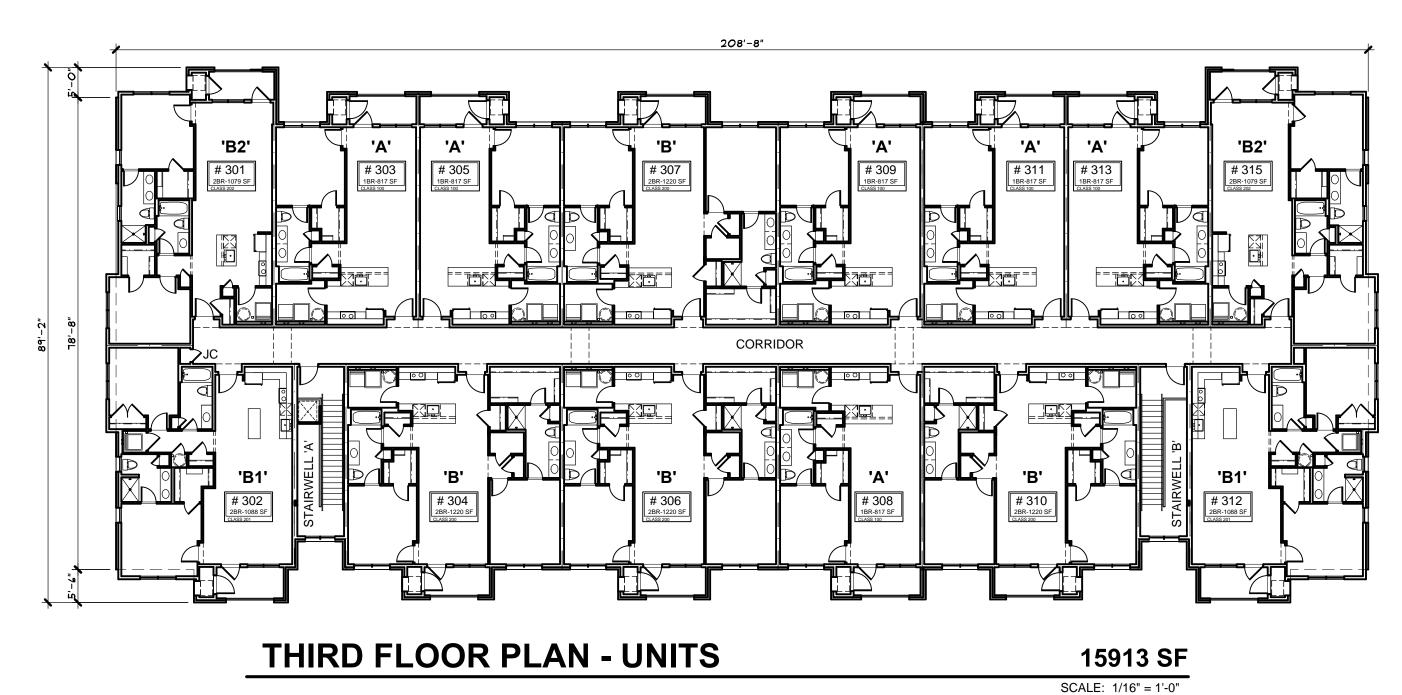
15913 SF

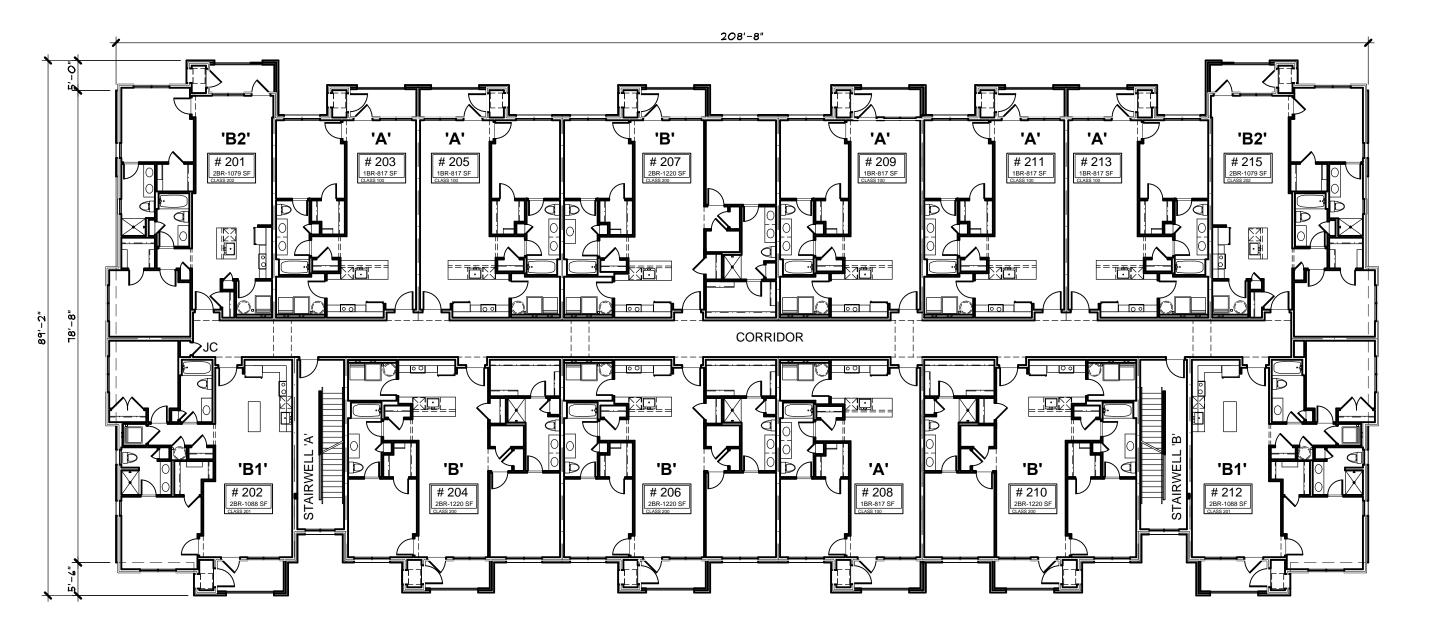
47751 SF

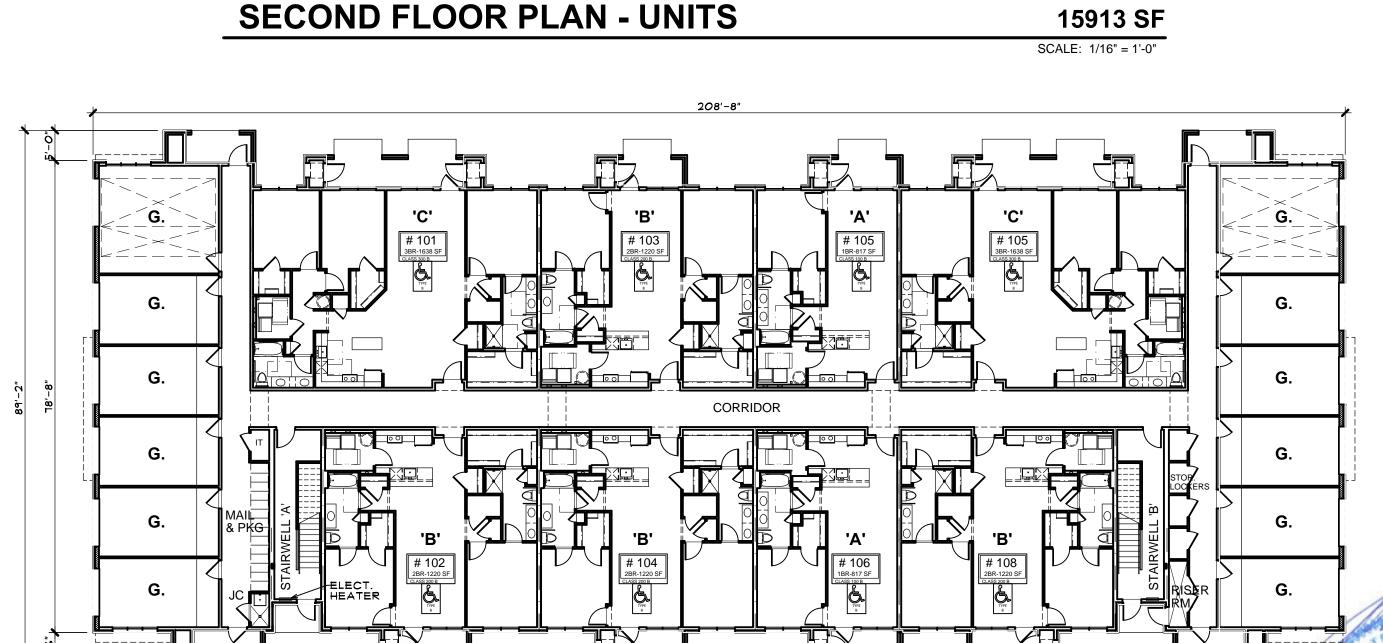
FIRST FLR *

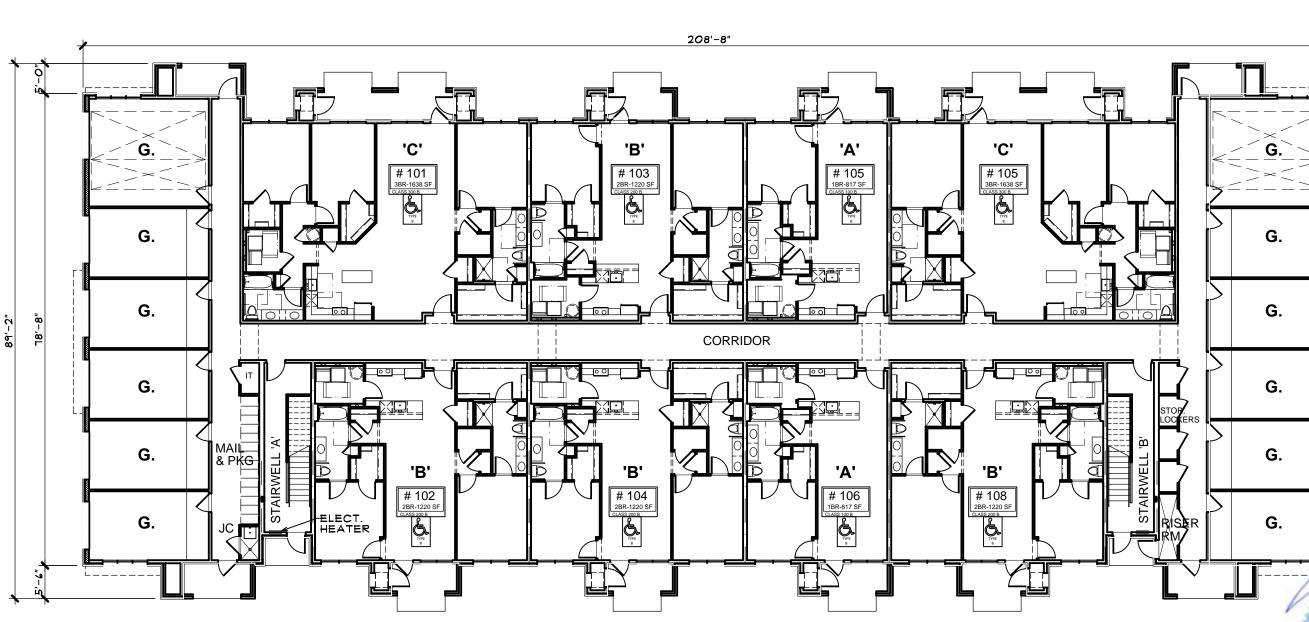
SECOND FLR

THIRD FLR









SECOND FLR 6 8 0 14
THIRD FLR 6 8 0 14
TOTAL 14 20 2 36

FIRST FLOOR PLAN - GARAGES and UNITS

BUILDING

STYLE

15925 SF SCALE: 1/16" = 1'-0"

(3 REQ'D)

Planning ciates, **SS** Bogaerts 4 | | | | |

BOJI DEVELOPMENT
APARTMENTS
HARTLAND TOWNSHIP, 1

FLOOR PLANS BUILDING STYLE BUILDING #3, 4

ALEXANDER V. BOGAERTS + ASSOC. 02-22-2024

SPA 12-18-2023 SPA COMMENT RESP. 02-14-2024 SPA COMMENT RESP. 03-06-2024

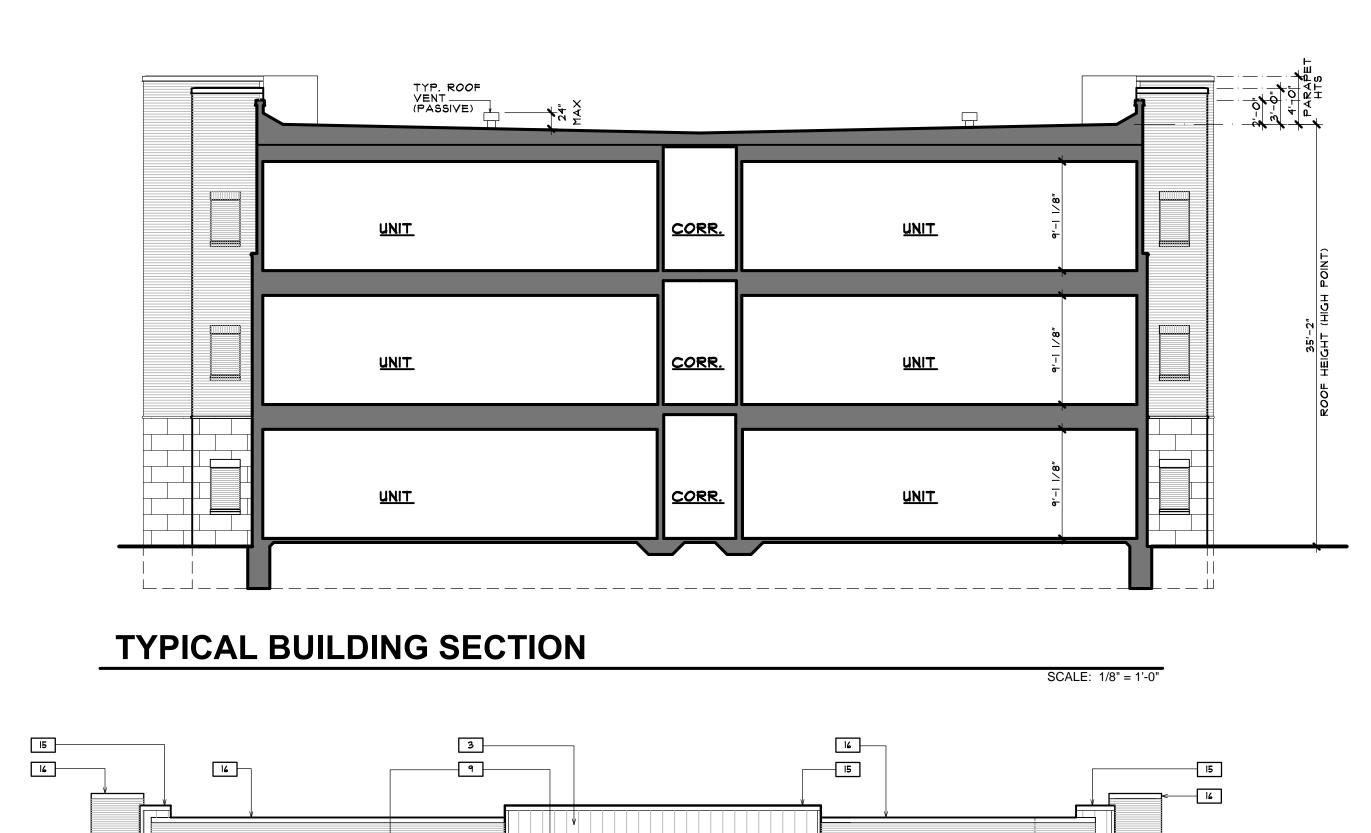
PER SPA REVIEW COMMENTS 09-09-2024

AMM

ALEXANDER

BOGAERTS II

License No. 1301068995



LEFT SIDE EL	EVATION bid	g 100	FRONT ELEV	ATION bldg 10	0
MATERIAL CA	LCULATIONS		MATERIAL CA	ALCULATIONS	
BRICK	1511 sq ft	47%	BRICK	2609 sq ft	40%
SIDING	659 sq ft	20%	SIDING	1615 sq ft	24%
STONE	528 sq ft	16%	STONE	640 sq ft	10%
GLASS	173 sq ft	5%	GLASS	1655 sq ft	25%
METAL ROOF	-		METAL ROOF	31 sq ft	1%
GARAGES	384 sq ft	12%	GARAGES	-	
TOTAL	3255 sq ft		TOTAL	6550 sq ft	

3					3
12					12
2					2
I FF	T SIDE EL	EVATION	 	 	

	[15]		14	3	15	16	9 10	5	16	3	3	1 .	16	9 10	15	
SOOF HEADTH FIGURE 1997		,0,-		\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\			0 14		3:-0,						3,-0,	5
	3															## POINT)
		-													35'-2"	39'-0
	2															

FRONT ELEVATION

BUILDING STYLE 100

EXTERIOR MATERIAL LEGEND

3 SIDING - BOARD & BATTEN

5 BALCONY FASCIA BOARD

6 EXTERIOR DECK PLANKING

8 METAL AWNING (CLUBHOUSE)

9 WINDOW FRAMES

GARAGE DOORS & FRAMES

12 MECH. VENT LOUVER

15 METAL COPING at SIDING CMG

16 METAL COPING at BRICK CMG

10 DOOR FRAMES

13 GUTTER / DOWNSPOUT

14 ROOF - METAL

4 BALCONY RAILINGS & MESH INSERT

7 SIDING - HORIZONTAL (CLUBHOUSE)

MANUFACTURER DESCRIPTION

SHOULDICE

COMPOSITE

COMPOSITE

COMPOSITE

FIRESTONE

UNA-CLAD

THERE WILL BE NO ROOF MOUNTED MECHANICAL EQUIPMENT AT THE APARTMENT BUILDINGS

TIMBER-TECH

TREX

CELECT - CELLULAR

CELECT - CELLULAR

CELECT - CELLULAR

COLOR: "WOODBURY"

COLOR: "PEARL WHITE"

with TAPESTRY FINISH

COLOR: "WROUGHT IRON"

36" TREX GRID MESH & RAIL

COLOR: "WROUGHT IRON"

INCLUDES CORNER

BD & SURROUNDS

INCLUDES CORNER

BD & SURROUNDS

AT APARTMENT BLDG ENTRIES

SIZE: QUEEN SIZE

SIZE: 11" BOARDS

KIT, COLOR: BLACK

SEA SALT GRAY

COLOR: "FROST"

BLACK

BLACK

BLACK

SIZE: 7" CLAPBOARD

COLOR: GREY (BY DOOR MANUFACTURER)

MATCH ADJACENT MATERIAL COLOR

MATCH ADJACENT MATERIAL COLOR

MATTE BLACK

COLOR: CHARCOAL

COLOR: ASH GRAY

License No. 1301068995

SPA COMMENT RESP. 03-06-2024

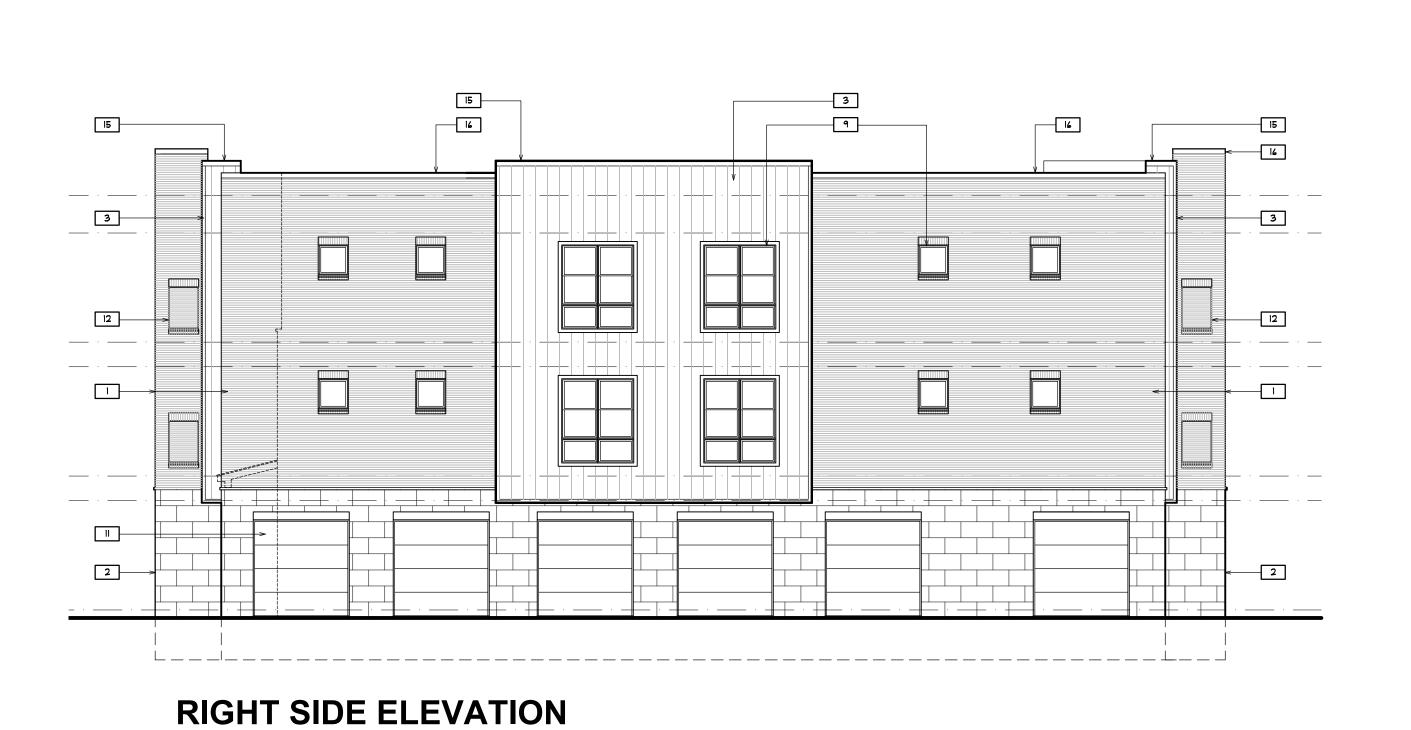
Design Road 48302 5000

Planning

4rchitecture

Blo

EXTERIOR ELEVAT BLDG. STYLE 100 21-UNIT PRELIMINARY



RIGHT SIDE E			REAR ELEVA		
MATERIAL CA	LCULATIONS		MATERIAL CA	ALCULATIONS	
BRICK	1511 sq ft	4 7%	BRICK	2424 sq ft	38%
SIDING	659 sq ft	20%	SIDING	1680 sq ft	26%
STONE	528 sq ft	16%	STONE	662 sq ft	10%
GLASS	173 sq ft	5%	GLASS	1655 sq ft	26%
METAL ROOF	-		METAL ROOF	_	
GARAGES	384 sq ft	12%	GARAGES	_	
TOTAL	3255 sq ft		TOTAL	6421 sq ft	

3 3 16 3 3 3 1 3 9 5

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

REAR ELEVATION

BUILDING # 1

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

EXTERIOR MATERIAL LEGEND

MANUFACTURER DESCRIPTION

CELECT - CELLULAR COMPOSITE

CELECT - CELLULAR

CELECT - CELLULAR COMPOSITE

COMPOSITE

UNA-CLAD

THERE WILL BE NO ROOF MOUNTED MECHANICAL EQUIPMENT AT THE APARTMENT BUILDINGS

TIMBER-TECH

TREX

COLOR: "WOODBURY"

COLOR: "PEARL WHITE" with TAPESTRY FINISH

COLOR: "WROUGHT IRON"

36" TREX GRID MESH & RAIL

COLOR: "WROUGHT IRON"

INCLUDES CORNER

BD & SURROUNDS

INCLUDES CORNER

BD & SURROUNDS

AT APARTMENT

BLDG ENTRIES

SIZE: QUEEN SIZE

SIZE: 11" BOARDS

KIT, COLOR: BLACK

SEA SALT GRAY

COLOR: "FROST"

BLACK

BLACK

BLACK

SIZE: 7" CLAPBOARD

COLOR: GREY (BY DOOR MANUFACTURER)

MATCH ADJACENT MATERIAL COLOR

MATCH ADJACENT MATERIAL COLOR

COLOR: CHARCOAL

COLOR: ASH GRAY

MATTE BLACK

MATERIAL

3 SIDING - BOARD & BATTEN

5 BALCONY FASCIA BOARD

6 EXTERIOR DECK PLANKING

8 METAL AWNING (CLUBHOUSE)

10 DOOR FRAMES

13 GUTTER / DOWNSPOUT

14 ROOF - METAL

9 WINDOW FRAMES

GARAGE DOORS & FRAMES

12 MECH. VENT LOUVER

15 METAL COPING at SIDING CMG

16 METAL COPING at BRICK CMG

4 BALCONY RAILINGS & MESH INSERT

7 | SIDING - HORIZONTAL (CLUBHOUSE)

KEY NAME

ALEXANDER BOGAERTS II License No. 1301068995

4rchitecture BOJI DEVELOPMENT
APARTMENTS ALEXANDER V. BOGAERTS + ASSOC. $\tilde{\Omega}$

02-22-2024 SPA COMMENT RESP. 03-06-2024 PER SPA REVIEW COMMENTS

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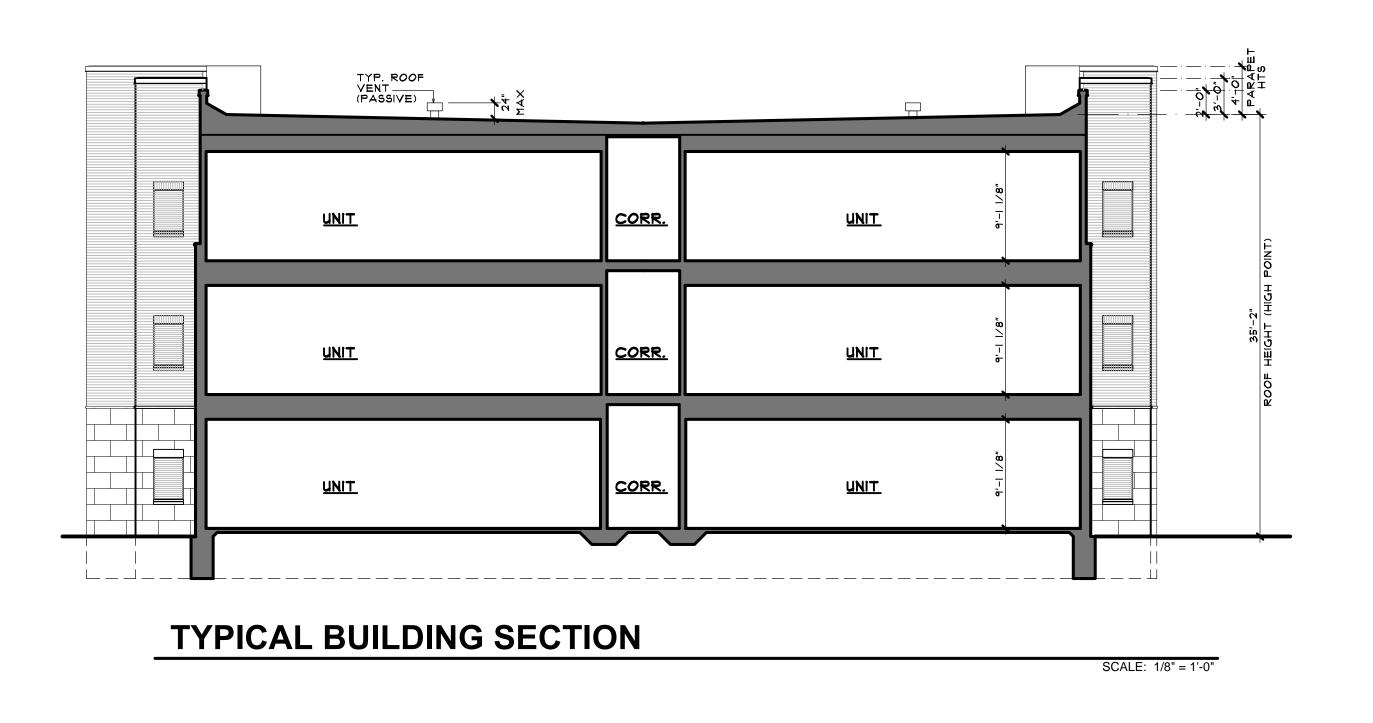
EXTERIOR ELEVABLEDG. STYLE 100271-UNIT

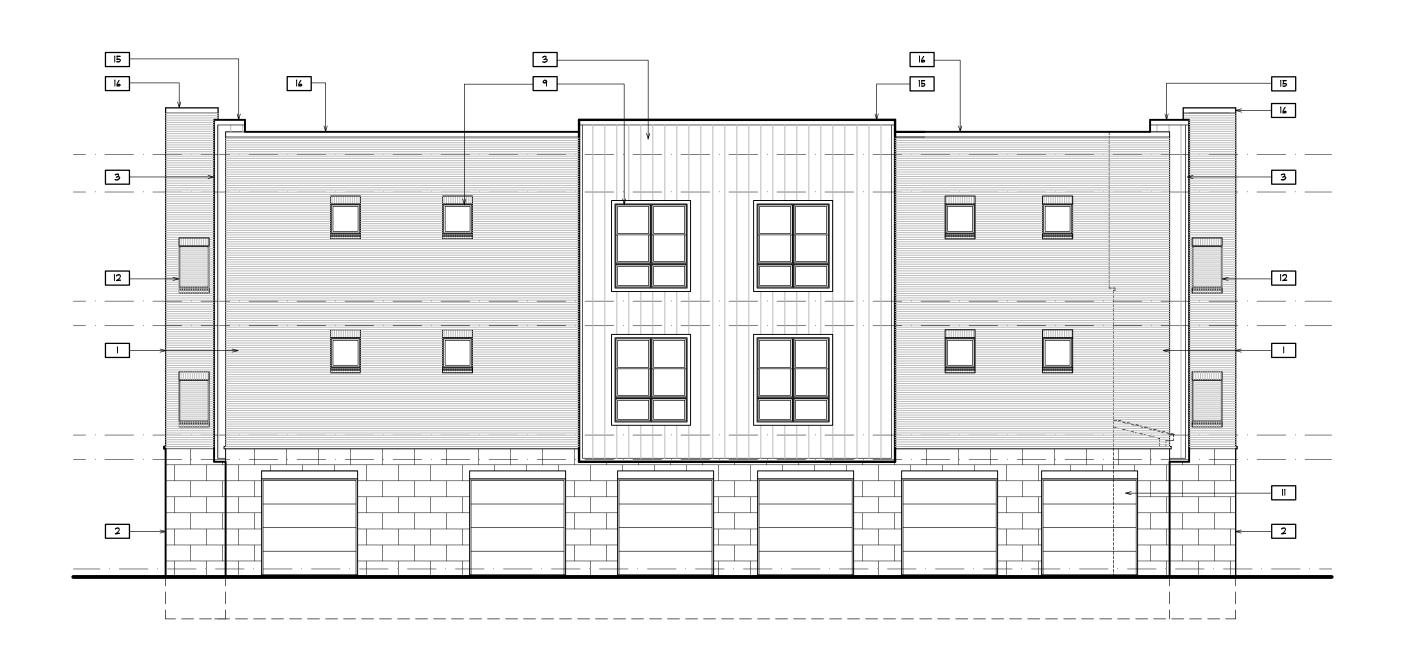
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BUILDING STYLE 100





LEFT SIDE EL	EVATION bld	g 200	FRONT ELEV	ATION bldg 20	00
MATERIAL CA	LCULATIONS		MATERIAL CA	ALCULATIONS	
BRICK	1511 sq ft	4 7%	BRICK	3248 sq ft	43%
SIDING	659 sq ft	20%	SIDING	1553 sq ft	21%
STONE	528 sq ft	16%	STONE	705 sq ft	9%
GLASS	173 sq ft	5%	GLASS	1892 sq ft	26%
METAL ROOF	_		METAL ROOF	31 sq ft	1%
GARAGES	384 sq ft	12%	GARAGES	-	
TOTAL	3255 sq ft		TOTAL	7429 sq ft	

LEFT SIDE ELEVATION	SCALE: 1/8" = 1'-0"	TOTAL 3255 sq ft TOTAL 7429 sq ft	
3	15 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	5	15 10 15
			ÎL NO
			35'-2" HEIGHT (HIGH
5			2
	_ <u> </u>	3 14 / 13 13 14 /	

FRONT ELEVATION

EXTERIOR MATERIAL LEGEND

3 SIDING - BOARD & BATTEN

5 BALCONY FASCIA BOARD

6 EXTERIOR DECK PLANKING

7 SIDING - HORIZO (CLUBHOUSE)

8 METAL AWNING (CLUBHOUSE)

10 DOOR FRAMES

13 GUTTER / DOWNSPOUT

14 ROOF - METAL

9 | WINDOW FRAMES

GARAGE DOORS & FRAMES

12 MECH. VENT LOUVER

15 METAL COPING at SIDING CMG

16 METAL COPING at BRICK CMG

4 BALCONY RAILINGS & MESH INSERT

SIDING - HORIZONTAL

METAL AWNING

MANUFACTURER DESCRIPTION

SHOULDICE

COMPOSITE

COMPOSITE

COMPOSITE

FIRESTONE

UNA-CLAD

THERE WILL BE NO ROOF MOUNTED MECHANICAL EQUIPMENT AT THE APARTMENT BUILDINGS

TIMBER-TECH

TREX

CELECT - CELLULAR

CELECT - CELLULAR

CELECT - CELLULAR

COLOR: "WOODBURY'

COLOR: "PEARL WHITE"

with TAPESTRY FINISH

COLOR: "WROUGHT IRON"

36" TREX GRID MESH & RAIL

COLOR: "WROUGHT IRON"

INCLUDES CORNER

BD & SURROUNDS

INCLUDES CORNER

BD & SURROUNDS

AT APARTMENT BLDG ENTRIES

SIZE: QUEEN SIZE

SIZE: 11" BOARDS

KIT, COLOR: BLACK

SEA SALT GRAY

COLOR: "FROST"

BLACK

BLACK

BLACK

SIZE: 7" CLAPBOARD

COLOR: GREY (BY DOOR MANUFACTURER)

MATCH ADJACENT MATERIAL COLOR

MATCH ADJACENT MATERIAL COLOR

COLOR: CHARCOAL

COLOR: ASH GRAY

MATTE BLACK

License No. 1301068995

02-22-2024

SPA COMMENT RESP. 03-06-2024 PER SPA REVIEW COMMENTS

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EXTERIOR ELEVATIONS BLDG, STYLE 200 34-UNIT PRELIMINARY

BUILDING STYLE 200

3 3 12 ___ 1 | | | | 2 ____2

RIGHT SIDE E	LEVATION 6	ldg 200	REAR ELEVA	TION bldg 20	0
MATERIAL CALCULATIONS			MATERIAL CA	ALCULATIONS	•
BRICK	1511 sq ft	47%	BRICK	2796 sq ft	38%
SIDING	659 sq ft	20%	SIDING	1828 sq ft	25%
STONE	528 sq ft	16%	STONE	784 sq ft	11%
GLASS	173 sq ft	5%	GLASS	1965 sq ft	26%
METAL ROOF	_		METAL ROOF	_	
GARAGES	384 sq ft	12%	GARAGES	_	
ΤΩΤΔΙ	3255 sa ft		ΤΩΤΔΙ	7373 sa ft	

RIGHT SIDE E	ELEVATION E	oldg 200	_	REAR ELEVA	TION bldg 20	0
MATERIAL CA	MATERIAL CALCULATIONS				LCULATIONS	3
BRICK	1511 sq ft	47%		BRICK	2796 sq ft	38%
SIDING	659 sq ft	20%		SIDING	1828 sq ft	25%
STONE	528 sq ft	16%		STONE	784 sq ft	11%
GLASS	173 sq ft	5%		GLASS	1965 sq ft	26%
METAL ROOF	_			METAL ROOF	_	
GARAGES	384 sq ft	12%		GARAGES	_	
TOTAL	3255 sq ft			TOTAL	7373 sq ft	

RIGHT SIDE ELEVATION

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



REAR ELEVATION

BUILDING # 2

BUILDING STYLE 200

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

EXTERIOR MATERIAL LEGEND

3 SIDING - BOARD & BATTEN

5 BALCONY FASCIA BOARD

6 EXTERIOR DECK PLANKING

8 METAL AWNING (CLUBHOUSE)

10 DOOR FRAMES

13 GUTTER / DOWNSPOUT

14 ROOF - METAL

9 WINDOW FRAMES

GARAGE DOORS & FRAMES

12 MECH. VENT LOUVER

15 METAL COPING at SIDING CMG

16 METAL COPING at BRICK CMG

4 BALCONY RAILINGS & MESH INSERT

7 | SIDING - HORIZONTAL (CLUBHOUSE)

MANUFACTURER DESCRIPTION

CELECT - CELLULAR COMPOSITE

CELECT - CELLULAR

CELECT - CELLULAR COMPOSITE

COMPOSITE

UNA-CLAD

THERE WILL BE NO ROOF MOUNTED MECHANICAL EQUIPMENT AT THE APARTMENT BUILDINGS

TIMBER-TECH

TREX

COLOR: "WOODBURY"

COLOR: "PEARL WHITE" with TAPESTRY FINISH

COLOR: "WROUGHT IRON"

36" TREX GRID MESH & RAIL

COLOR: "WROUGHT IRON"

INCLUDES CORNER

BD & SURROUNDS

INCLUDES CORNER

BD & SURROUNDS

AT APARTMENT

BLDG ENTRIES

SIZE: QUEEN SIZE

SIZE: 11" BOARDS

KIT, COLOR: BLACK

SEA SALT GRAY

COLOR: "FROST"

BLACK

BLACK

BLACK

SIZE: 7" CLAPBOARD

COLOR: GREY (BY DOOR MANUFACTURER)

MATCH ADJACENT MATERIAL COLOR

MATCH ADJACENT MATERIAL COLOR

COLOR: CHARCOAL

COLOR: ASH GRAY

MATTE BLACK

KEY NAME

ALEXANDER BOGAERTS II License No. 1301068995

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esign Road 18302 1000

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EXTERIOR ELEVATIONS BLDG, STYLE 200 34-UNIT PRELIMINARY

BOJI DEVELOPMENT
APARTMENTS
HAPTIAND TOWNS

ALEXANDER V. BOGAERTS + ASSOC.

02-22-2024

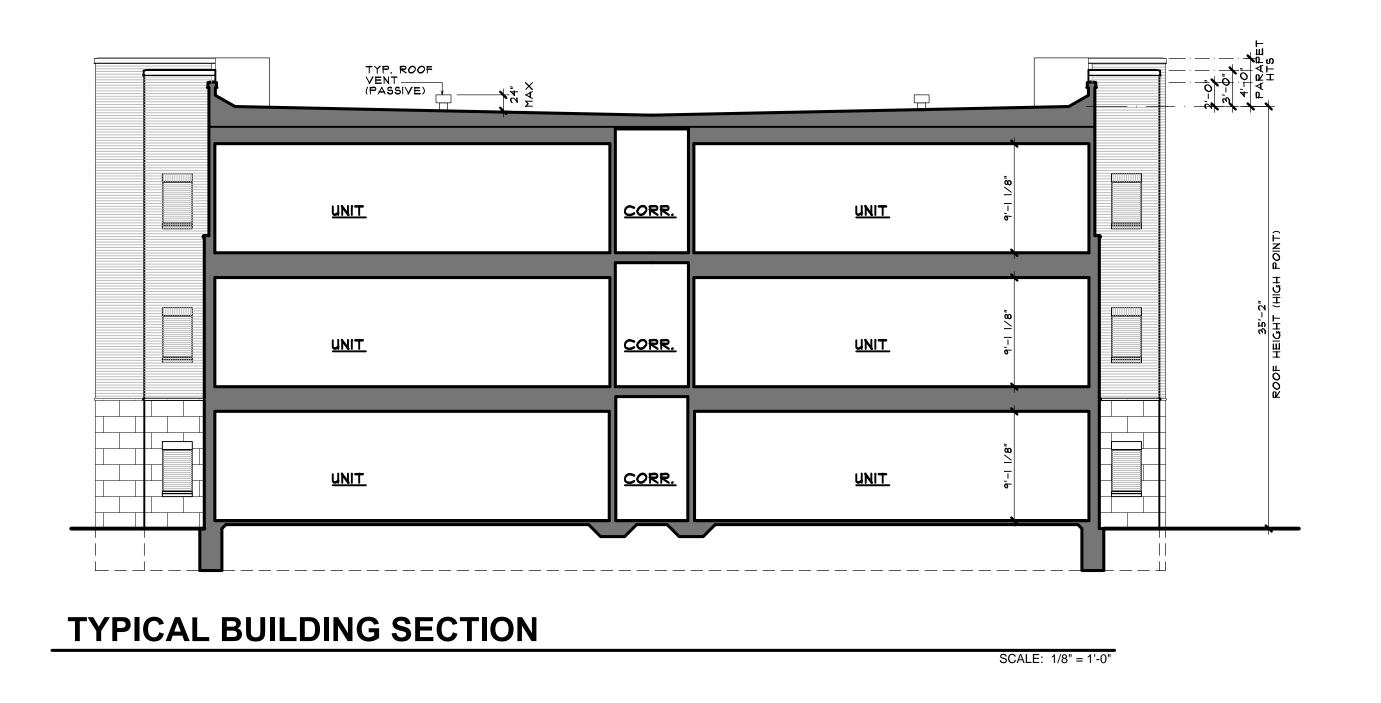
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PER SPA REVIEW COMMENTS 09-09-2024

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LEFT SIDE ELEVATION		

LEFT SIDE ELEVATION bldg 300 FRONT ELEVATION bldg 300						
MATERIAL CA	LCULATIONS		MATERIAL CA	ALCULATIONS		
BRICK	1511 sq ft	47%	BRICK	3486 sq ft	44%	
SIDING	659 sq ft	20%	SIDING	1618 sq ft	20%	
STONE	528 sq ft	16%	STONE	683 sq ft	9%	
GLASS	173 sq ft	5%	GLASS	2018 sq ft	26%	
METAL ROOF	-		METAL ROOF	31 sq ft	1%	
GARAGES	384 sq ft	12%	GARAGES	_		
TOTAL	3255 sq ft		TOTAL	7836 sq ft		

EXTERIOR MATERIAL LEGEND

3 SIDING - BOARD & BATTEN

5 BALCONY FASCIA BOARD

6 EXTERIOR DECK PLANKING

7 SIDING - HORIZO (CLUBHOUSE)

8 METAL AWNING (CLUBHOUSE)

10 DOOR FRAMES

13 GUTTER / DOWNSPOUT

14 ROOF - METAL

9 | WINDOW FRAMES

GARAGE DOORS & FRAMES

12 MECH. VENT LOUVER

15 METAL COPING at SIDING CMG

16 METAL COPING at BRICK CMG

4 BALCONY RAILINGS & MESH INSERT

SIDING - HORIZONTAL

METAL AWNING

MANUFACTURER DESCRIPTION

SHOULDICE

COMPOSITE

COMPOSITE

FIRESTONE

UNA-CLAD

THERE WILL BE NO ROOF MOUNTED MECHANICAL EQUIPMENT AT THE APARTMENT BUILDINGS

TIMBER-TECH

TREX

CELECT - CELLULAR

CELECT - CELLULAR

CELECT - CELLULAR COMPOSITE

COLOR: "WOODBURY"

COLOR: "PEARL WHITE"

with TAPESTRY FINISH

COLOR: "WROUGHT IRON"

36" TREX GRID MESH & RAIL

COLOR: "WROUGHT IRON"

INCLUDES CORNER

BD & SURROUNDS

INCLUDES CORNER

BD & SURROUNDS

AT APARTMENT BLDG ENTRIES

SIZE: QUEEN SIZE

SIZE: 11" BOARDS

KIT, COLOR: BLACK

SEA SALT GRAY

COLOR: "FROST"

BLACK

BLACK

BLACK

SIZE: 7" CLAPBOARD

COLOR: GREY (BY DOOR MANUFACTURER)

MATCH ADJACENT MATERIAL COLOR

MATCH ADJACENT MATERIAL COLOR

COLOR: CHARCOAL

COLOR: ASH GRAY

MATTE BLACK

15	3	15	9 3	15		5	3	9	10	15
						30.				0-12
3										3 HJ L
										35'-2" ROOF HEIGHT (H
2										2
	4 13		3		1	3 9		13	10 5 4	 SILLEXAND

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

FRONT ELEVATION BUILDINGS # 3, 4 & 5

BUILDING STYLE 300

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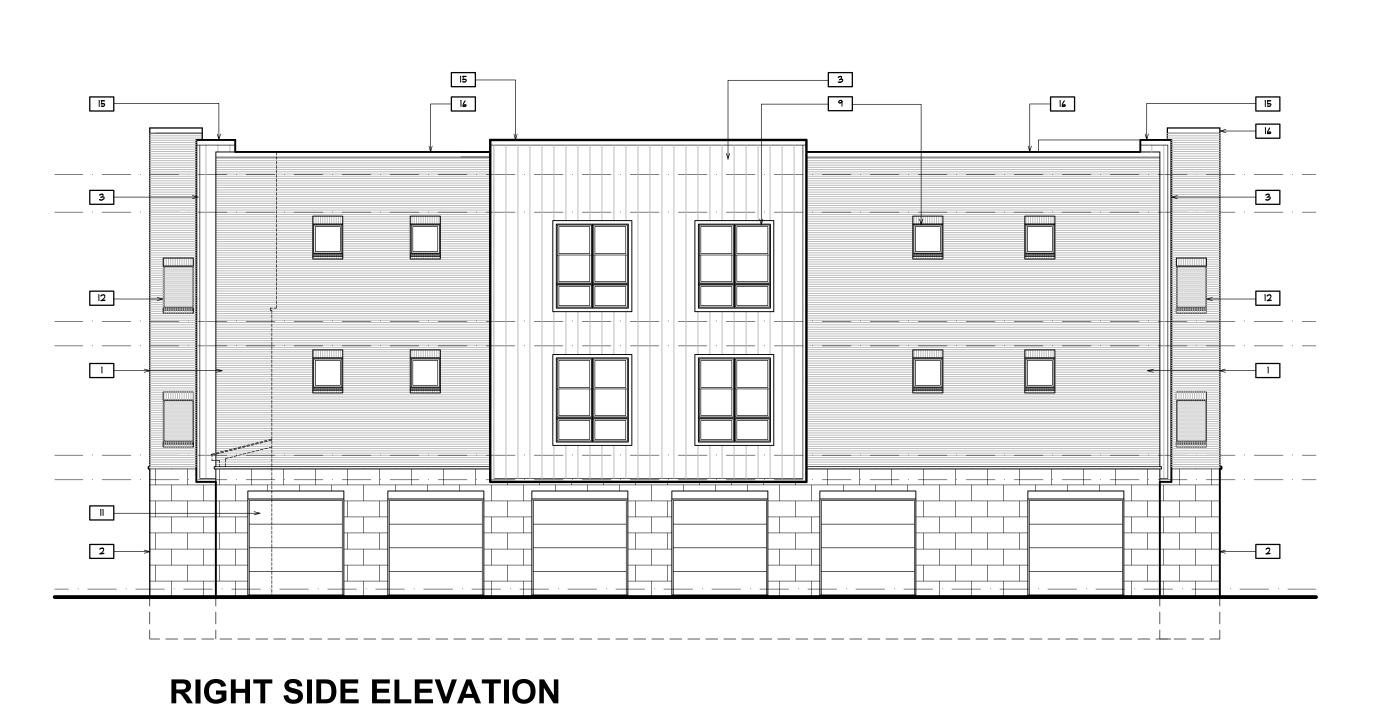
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EXTERIOR ELEVATIONS
BLDG. STYLE 300
36-UNIT BLDG.



RIGHT SIDE ELEVATION bldg 300 MATERIAL CALCULATIONS				REAR ELEVATION bldg 300 MATERIAL CALCULATIONS		
BRICK	5 sq ft	47%	BRICK	2945 sq ft	38%	
SIDING	659 sq ft	20%	SIDING	1857 sq ft	24%	
STONE	528 sq ft	16%	STONE	802 sq ft	11%	
GLASS	173 sq ft	5%	GLASS	2100 sq ft	27%	
METAL ROOF	-		METAL ROOF	_		
GARAGES	384 sq ft	12%	GARAGES	_		
TOTAL	3255 sq ft		TOTAL	7704 sq ft		

EXTERIOR MATERIAL LEGEND

3 SIDING - BOARD & BATTEN

5 BALCONY FASCIA BOARD

6 EXTERIOR DECK PLANKING

8 METAL AWNING (CLUBHOUSE)

9 WINDOW FRAMES

GARAGE DOORS & FRAMES

12 MECH. VENT LOUVER

15 METAL COPING at SIDING CMG

16 METAL COPING at BRICK CMG

10 DOOR FRAMES

13 GUTTER / DOWNSPOUT

14 ROOF - METAL

4 BALCONY RAILINGS & MESH INSERT

7 SIDING - HORIZONTAL (CLUBHOUSE)

MANUFACTURER DESCRIPTION

CELECT - CELLULAR COMPOSITE

CELECT - CELLULAR

CELECT - CELLULAR COMPOSITE

COMPOSITE

UNA-CLAD

THERE WILL BE NO ROOF MOUNTED MECHANICAL EQUIPMENT AT THE APARTMENT BUILDINGS

TIMBER-TECH

TREX

COLOR: "WOODBURY"

COLOR: "PEARL WHITE" with TAPESTRY FINISH

COLOR: "WROUGHT IRON"

36" TREX GRID MESH & RAIL

COLOR: "WROUGHT IRON"

INCLUDES CORNER

BD & SURROUNDS

INCLUDES CORNER

BD & SURROUNDS

AT APARTMENT

BLDG ENTRIES

SIZE: QUEEN SIZE

SIZE: 11" BOARDS

KIT, COLOR: BLACK

SEA SALT GRAY

COLOR: "FROST"

BLACK

BLACK

BLACK

SIZE: 7" CLAPBOARD

COLOR: GREY (BY DOOR MANUFACTURER)

MATCH ADJACENT MATERIAL COLOR

MATCH ADJACENT MATERIAL COLOR

MATTE BLACK

COLOR: CHARCOAL

COLOR: ASH GRAY

KEY NAME MATERIAL

15	3	3 1	9 10 3	15	15
9					
3 3					(LNIOCH HS
					35'-2" HEIGHT (HIG
2					
	5 3 9	3 2	5 9	9 4	10

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

REAR ELEVATION

BUILDINGS # 3, 4 & 5

License No. 1301068995

02-22-2024

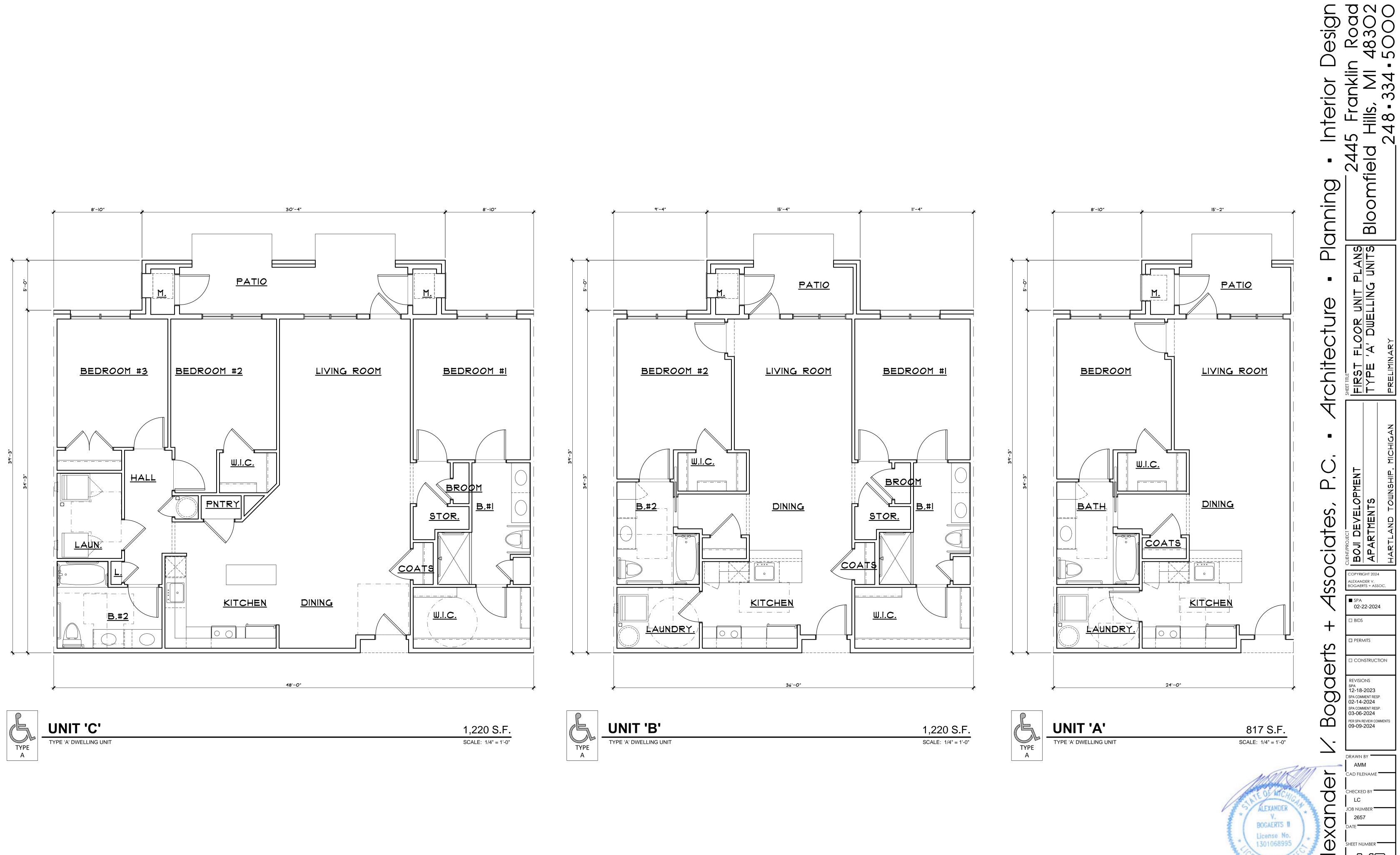
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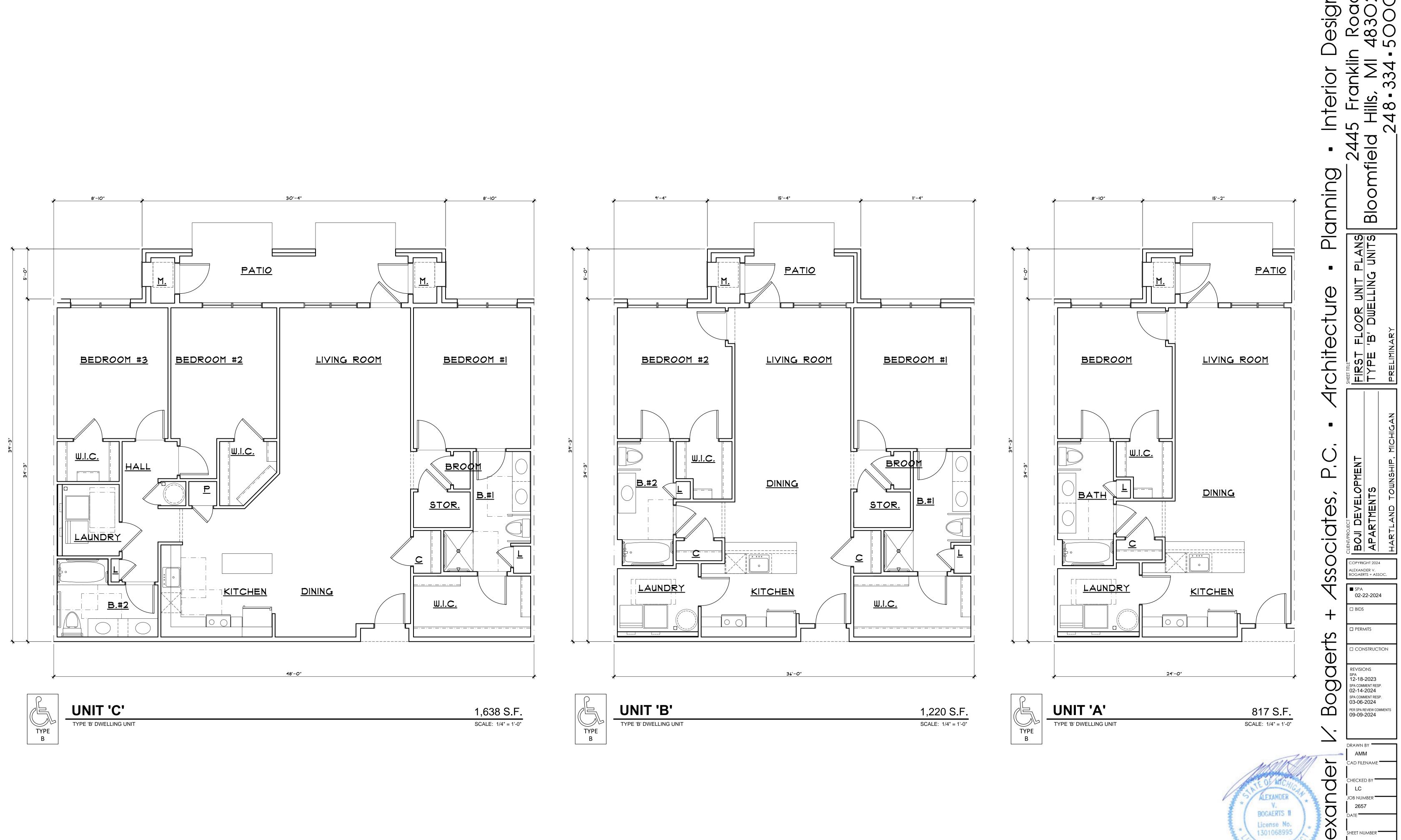
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EXTERIOR ELEVATIONS
BLDG. STYLE 300
36-UNIT BLDG.

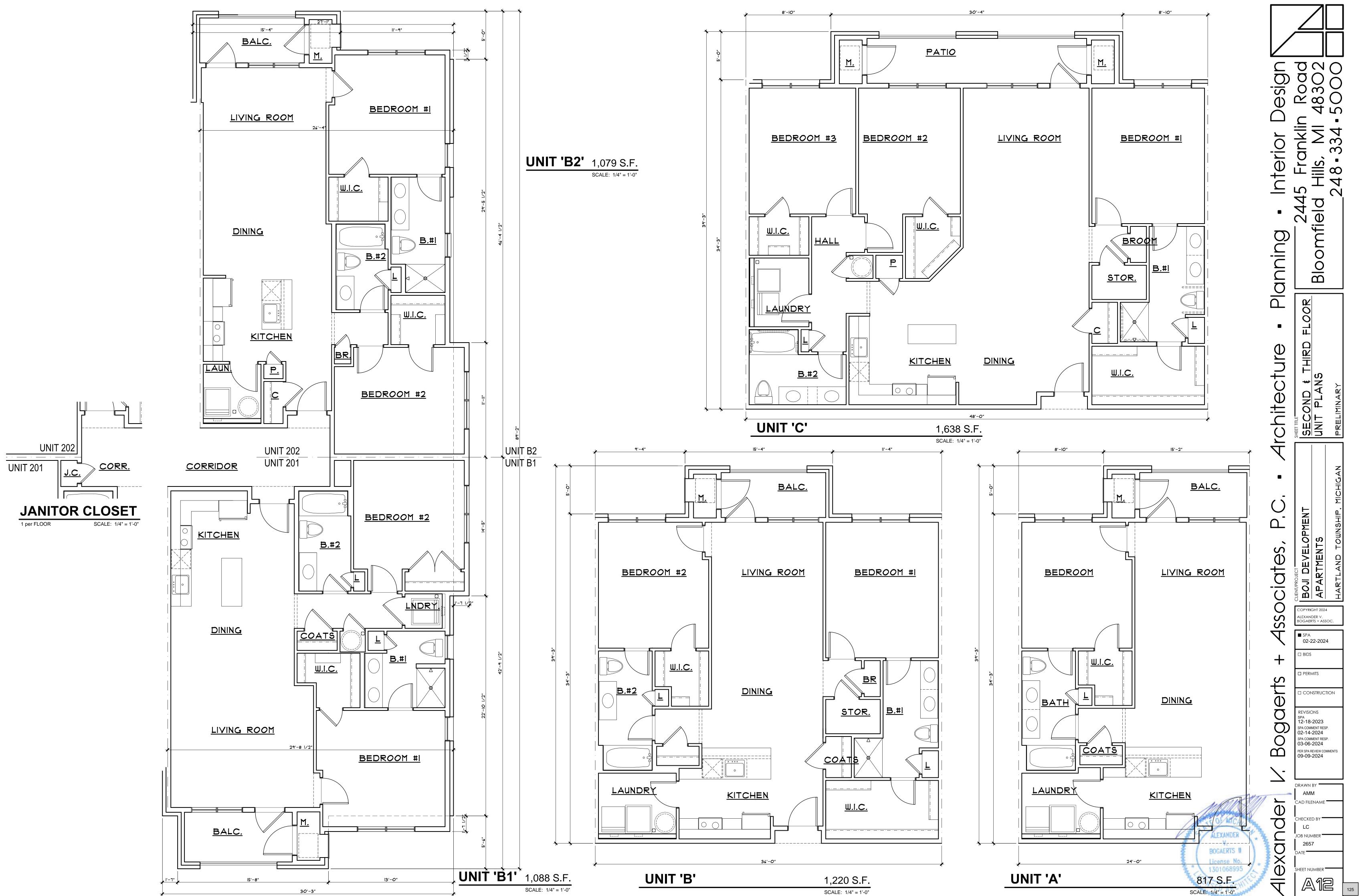
BUILDING STYLE 300

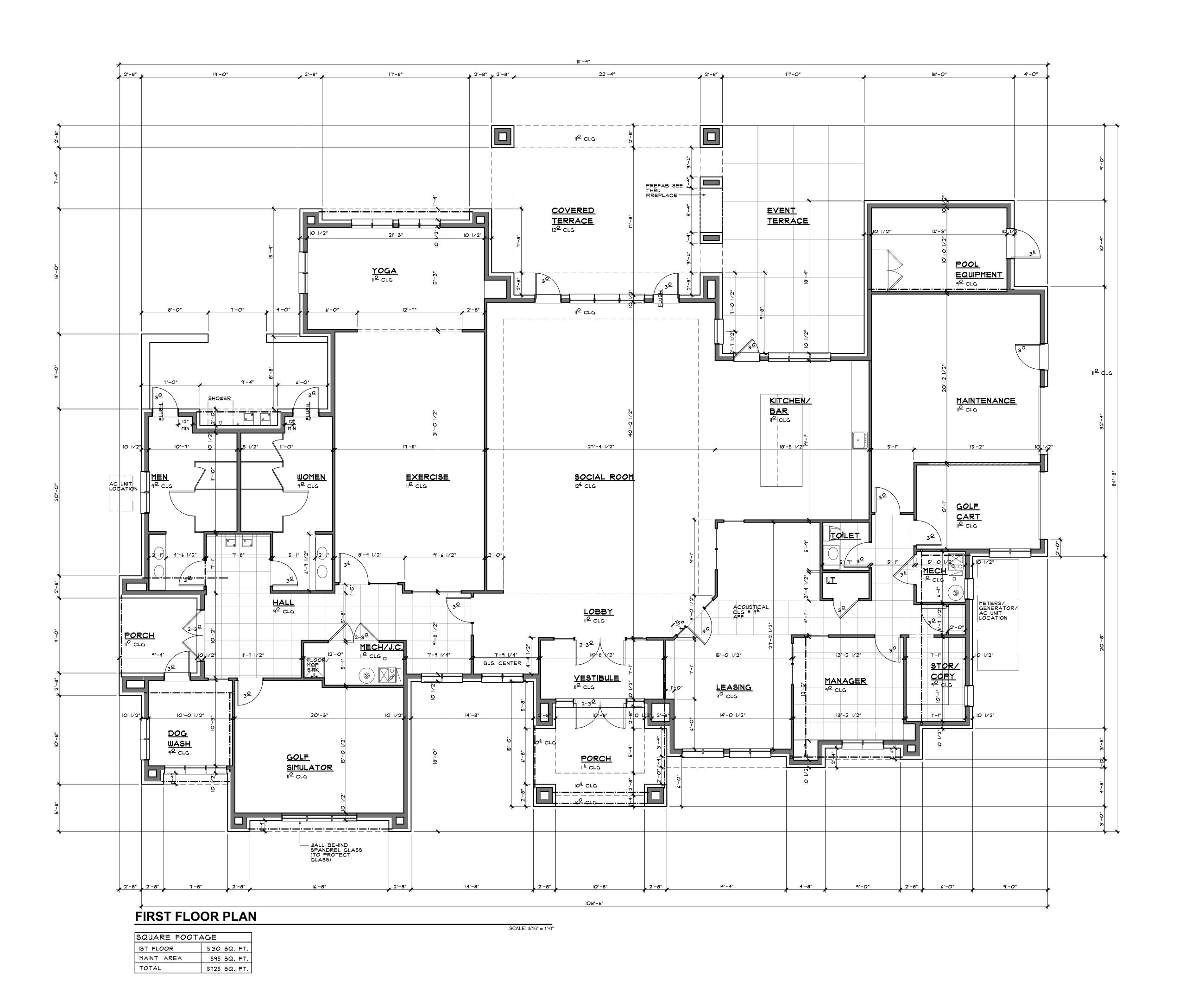


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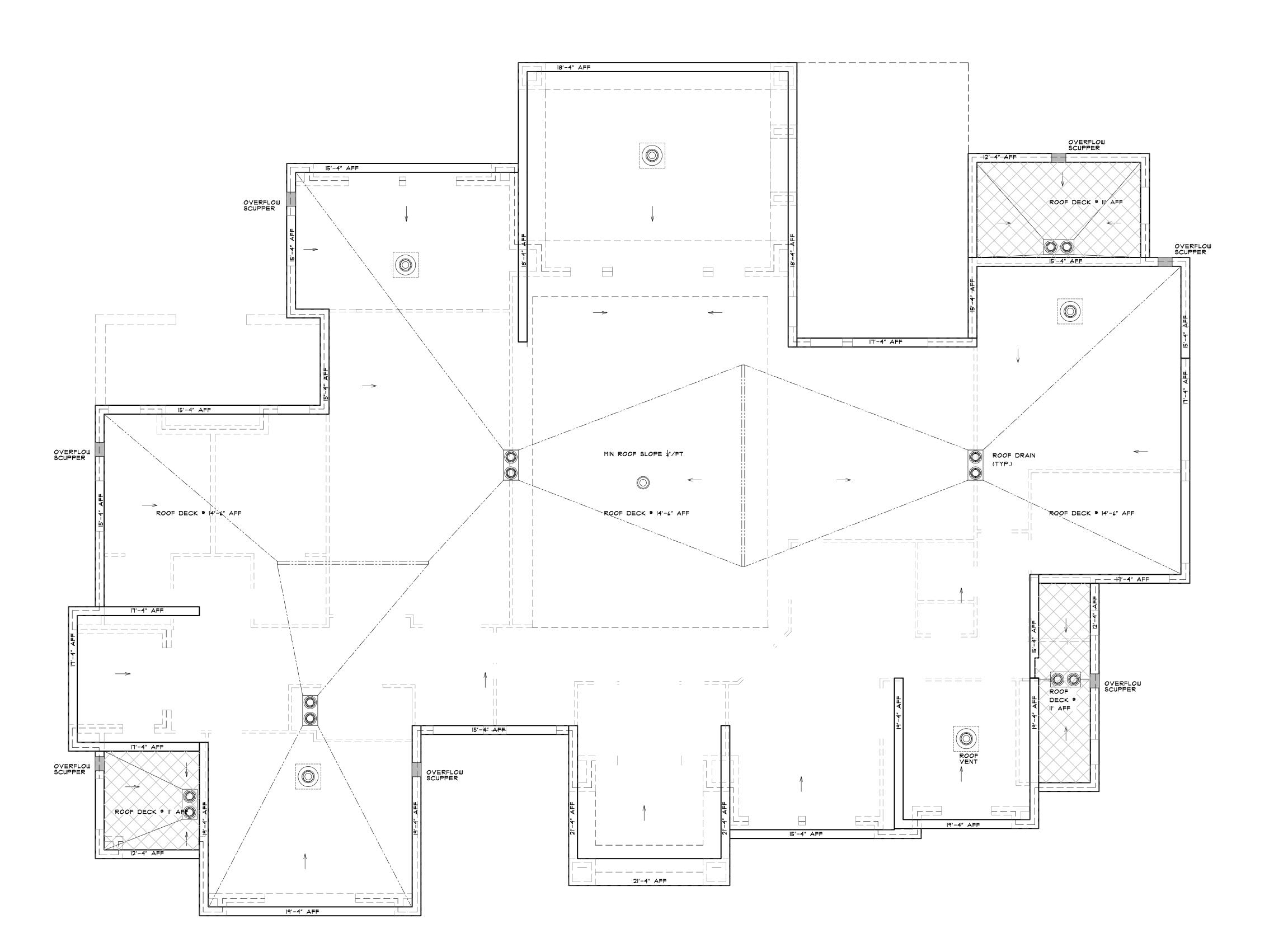
Planning EULDING BOJI COMMI ALEXANDER V. BOGAERTS + ASSOC. 12-18-23 $\tilde{\Omega}$

☐ CONSTRUCTION SPA **12-18-2023** SPA COMMENT RESP. 03-06-2024 PER SPA REVIEW COMMENTS 09-09-2024

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02 2728PLAN.DWG

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BOJI COMMI ALEXANDER V. BOGAERTS + ASSOC. 12-18-23

SPA COMMENT RESP. 03-06-2024 PER SPA REVIEW COMMENTS 09-09-2024

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BOGAERTS II

License No. 1301068995

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ROOF PLAN

SCALE: 3/16" = 1'-0"

2 -LOCATION OF OVERFLOW SCUPPER TYP.) 8 7 RIGHT SIDE ELEVATION MATERIAL CALCULATIONS 15 BRICK 519 sq ft 35.2% 369 sq ft 25% SIDING 388 sq ft 26.3% STONE 15 sq ft GLASS 1% 5 sq ft 0.4% METAL 179 sq ft | 12.1% 2 1475 sq ft 18 10 **RIGHT SIDE ELEVATION** SCALE: 1/8" = 1'-0"

FRONT ELEVATION MATERIAL CALCULATIONS 1022 sq ft 51% 190 sq ft 9% SIDING 417 sq ft 20.8% STONE 389 sq ft | 19% GLASS METAL 4 sq ft 0.2% GAR. / DR. TOTAL 2022 sq ft **FRONT ELEVATION**

16	· · ·	·			1	8
HEIGHT & ENTRY						
	•		2	1 10	2	2 9

9

MATE
BRICK
SIDING
STONE
GLASS
METAL
GAR.
TOTAL

REAR ELEVATION

SIDING

STONE

GLASS

METAL ROOF

MATERIAL CALCULATIONS

956 sq ft 53% 340 sq ft | 18.5%

299 sq ft 16.5%

11%

194 sq ft

12 sq ft 1801 sq ft

			J.		
T SIDE EL	EVATION			M A A A A A A A A A A A A A A A A A A A	
ERIAL CA	LCULATIONS			m X	
K	776 sq ft	53%			
G	320 sq ft	22%		COOVERED	
VΕ	244 sq ft	۱٦%	, O – ,6I		
35	113 sq ft	7%		6 F	
۸L	9 sq ft	1%			
. / DR.	-			<u> </u>	
4L	1462 sq ft				
			- <u>- </u>		2

	<u> </u>	REAR ELEV	ATION	
	_		LOCATION OF OVERFLOW SCUPPER	
\			(TYP.)	
lut .	-			

LEFT SIDE ELEVATION

OVERFLOW SCUPPER LOCATION (TYP.)		15 5 7 7 7 7 7 7 7 7
		BEARING HT. 12'-1 1/8" 12'-1 1/8" 15'-3 1/8" 15'-3 1/8" 15'-3 1/8" 15'-3 1/8" 15'-3 1/8" 15'-3 1/8"
1 2 19	2 9 1	<u> </u>

16	OVERFLOW SCUPPER LOCATION (TYP.)	1		15 E
1				-1 1/8" RING HT.
2			2 9 1	2 P B B C C C C C C C C C C C C C C C C C

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

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

16

____2

10 2 8

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

KEY NAME	MATERIAL	MANUFACTURER	DESCRIPTION	NOTES
1	BRICK	GLEN GERY	COLOR: "WOODBURY" SIZE: QUEEN SIZE	
2	STONE	SHOULDICE	COLOR: "PEARL WHITE" with TAPESTRY FINISH	
3	SIDING - BOARD & BATTEN	CELECT - CELLULAR COMPOSITE	COLOR: "WROUGHT IRON" SIZE: 11" BOARDS	INCLUDES CORNER BD & SURROUNDS
4	BALCONY RAILINGS & MESH INSERT	TREX	36" TREX GRID MESH & RAIL KIT, COLOR: BLACK	
5	BALCONY FASCIA BOARD	CELECT - CELLULAR COMPOSITE	COLOR: "WROUGHT IRON"	
6	EXTERIOR DECK PLANKING	TIMBER-TECH	SEA SALT GRAY	
7	SIDING - HORIZONTAL (CLUBHOUSE)	CELECT - CELLULAR COMPOSITE	COLOR: "FROST" SIZE: 7" CLAPBOARD	INCLUDES CORNER BD & SURROUNDS
8	METAL AWNING (CLUBHOUSE)		BLACK	
9	WINDOW FRAMES		BLACK	
10	DOOR FRAMES		BLACK	
11	GARAGE DOORS & FRAMES		COLOR: GREY (BY DOOR MANUFACTURER)	
12	MECH. VENT LOUVER		MATCH ADJACENT MATERIAL COLOR	
13	GUTTER / DOWNSPOUT		MATCH ADJACENT MATERIAL COLOR	
14	ROOF - METAL	FIRESTONE UNA-CLAD	MATTE BLACK	AT APARTMENT BLDG ENTRIES
15	METAL COPING at SIDING	CMG	COLOR: BRIGHT WHITE	
16	METAL COPING at BRICK	CMG	COLOR: ASH GRAY	
17	METAL COPING at STONE	CMG	COLOR: STONE WHITE	
18	STONE @ EXT. FIREPLACE			
19	BRICK SOLDIER COURSE			

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EULDING BOJI COMMI **SS**

ALEXANDER V. BOGAERTS + ASSOC. 12-18-23

☐ CONSTRUCTION

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Bogaerts SPA COMMENT RESP. 03-06-2024 PER SPA REVIEW COMMENTS 09-09-2024

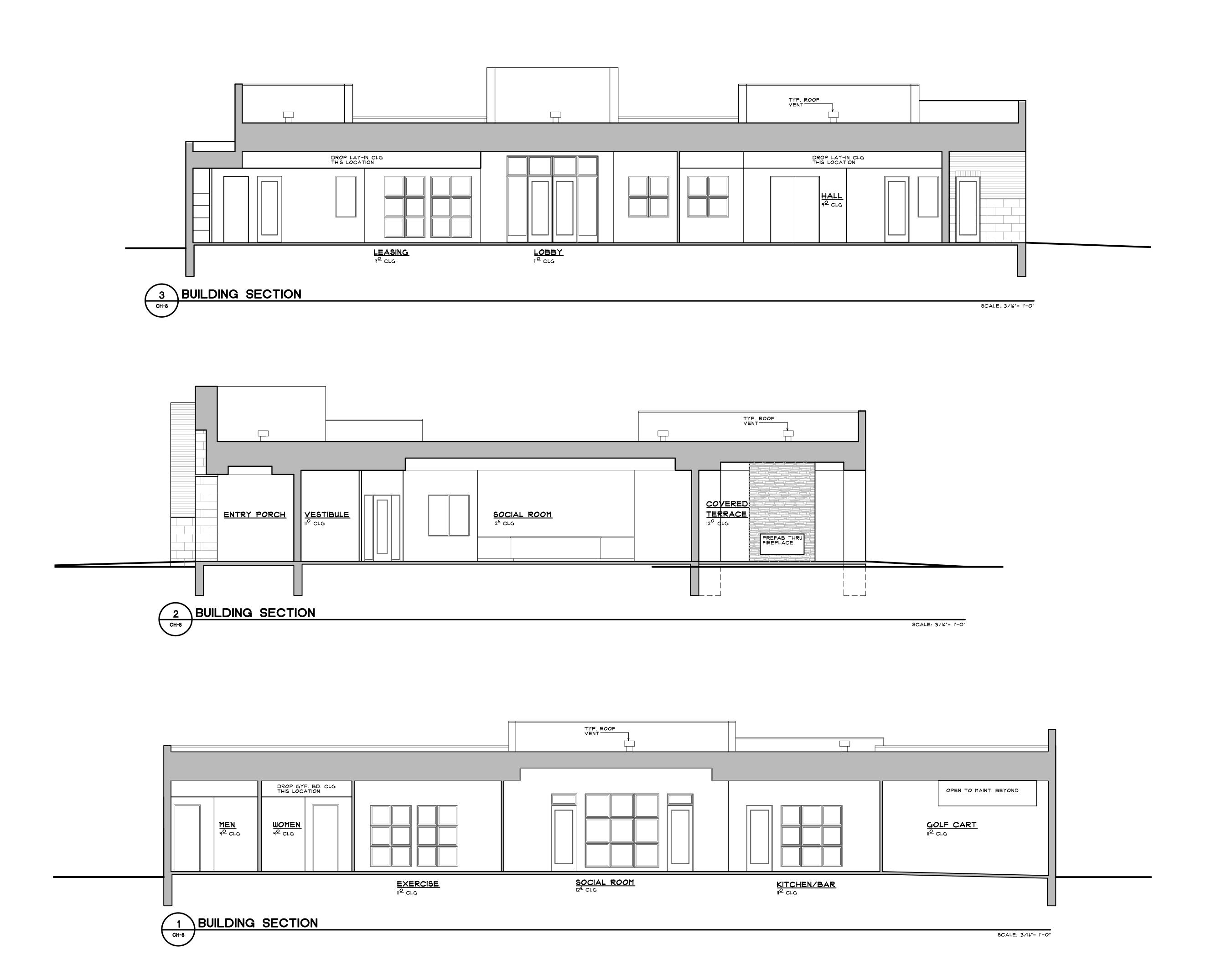
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ALEXANDER

BOGAERTS II

License No. 1301068995

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Planning **4rchitecture** BUILDING BOJI DEVELOPMENT ociates, 455 ALEXANDER V. BOGAERTS + ASSOC. ■ PRELIMINARY 12-18-23 Bogaerts ☐ CONSTRUCTION SPA COMMENT RESP. 03-06-2024 PER SPA REVIEW COMMENTS 09-09-2024 CHECKED BY 2728

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FRONT ELEVATION

BUILDING #1

EXTERIOR MATERIAL LEGEND | NET | MATERIAL MANUFACTURER DESCRIPTION NOTES COLOR: "WOODBURY" SIZE: QUEEN SIZE COLOR: "PEARL WHITE" 2 STONE SHOULDICE with TAPESTRY FINISH 3 SIDING - BOARD & BATTEN COLOR: "WROUGHT IRON" INCLUDES CORNER CELECT - CELLULAR COMPOSITE SIZE: 11" BOARDS BD & SURROUNDS 4 BALCONY RAILI MESH INSERT BALCONY RAILINGS & 36" TREX GRID MESH & RAIL TREX KIT, COLOR: BLACK 5 BALCONY FASCIA BOARD CELECT - CELLULAR COLOR: "WROUGHT IRON" COMPOSITE 6 EXTERIOR DECK PLANKING TIMBER-TECH SEA SALT GRAY 7 SIDING - HORIZONTAL (CLUBHOUSE) CELECT - CELLULAR COLOR: "FROST" INCLUDES CORNER SIZE: 7" CLAPBOARD COMPOSITE BD & SURROUNDS 8 METAL AWNING (CLUBHOUSE) BLACK METAL AWNING 9 | WINDOW FRAMES BLACK COLOR: GREY (BY DOOR MANUFACTURER) MATCH ADJACENT MATERIAL COLOR MATCH ADJACENT MATERIAL COLOR AT APARTMENT BLDG ENTRIES COLOR: CHARCOAL COLOR: ASH GRAY THERE WILL BE NO ROOF MOUNTED MECHANICAL EQUIPMENT AT THE APARTMENT BUILDINGS

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BOJI DEVELOPMENT
APARTMENTS COPYRIGHT 2024

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□ PERMITS

□ CONSTRUCTION

SPA 12-18-2023 SPA COMMENT RESP. 02-14-2024

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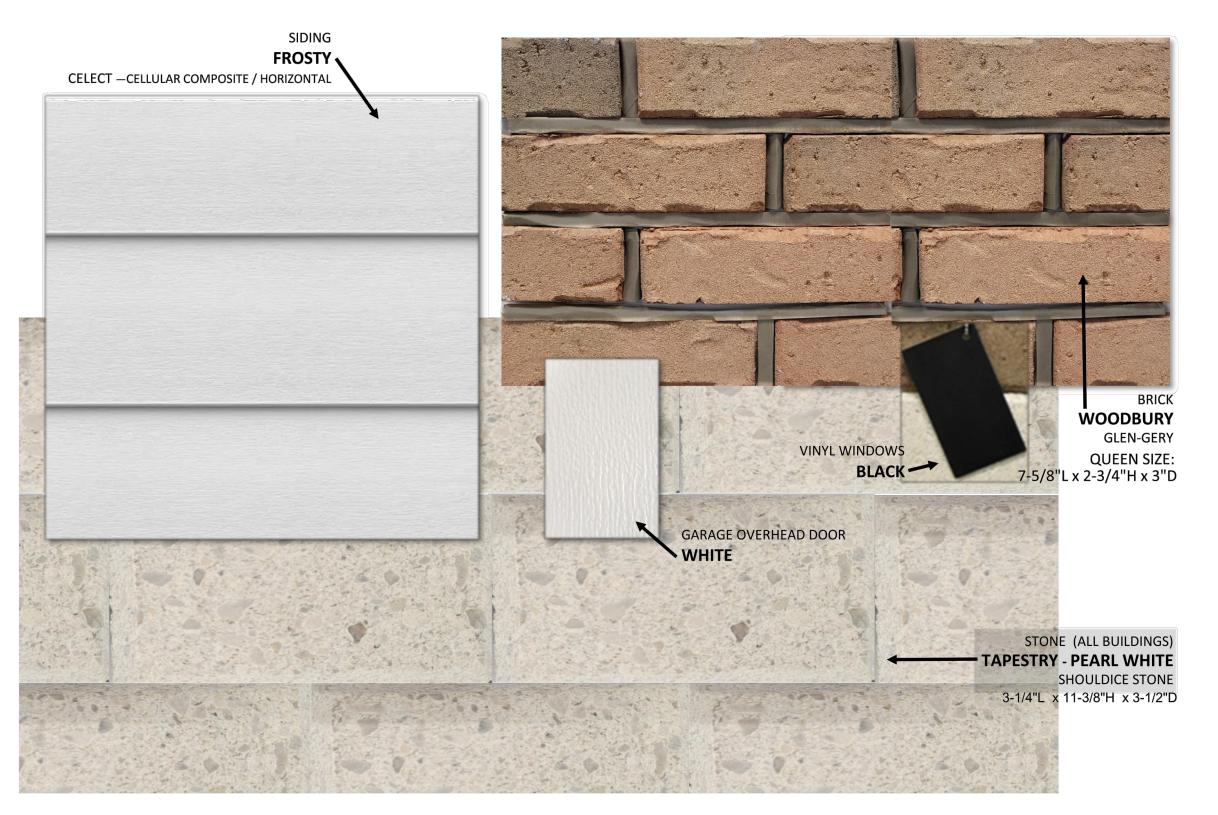
BOGAERTS II

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

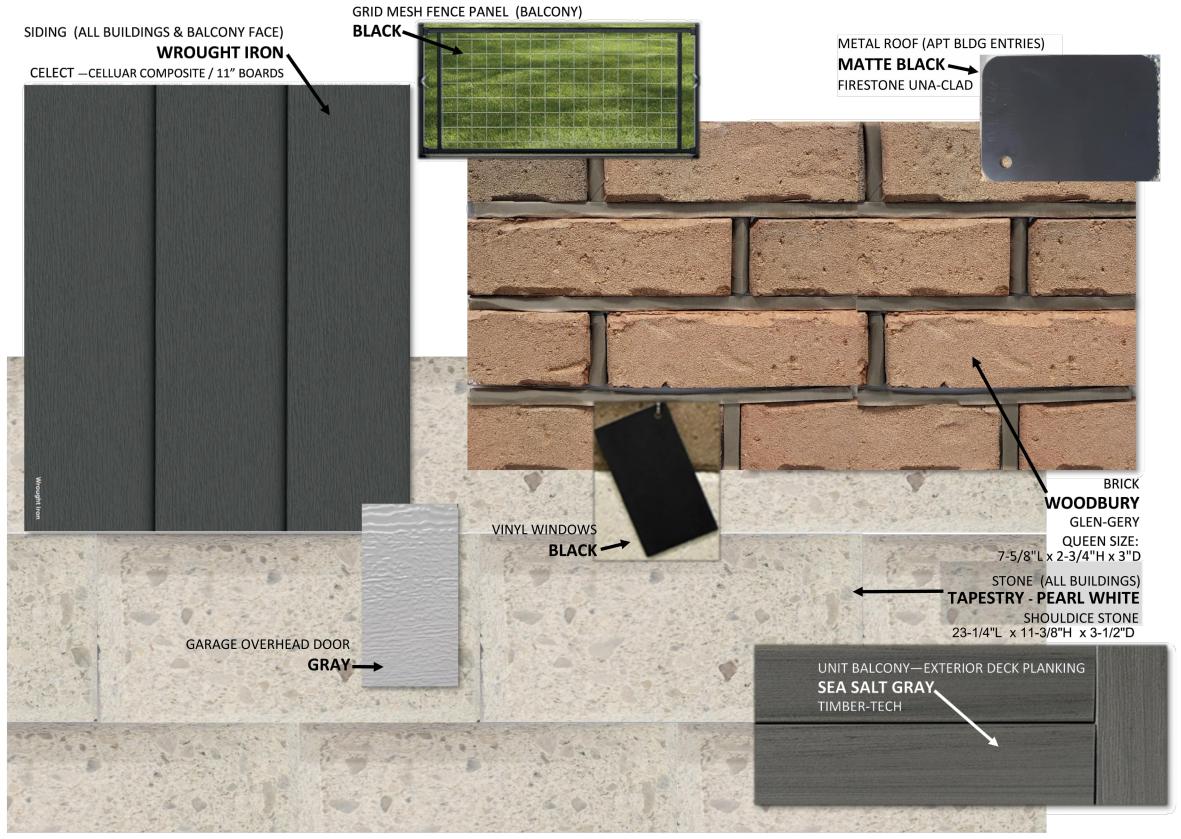
JOB NUMBER — SHEET NUMBER —

SQUARE ONE - HARTLAND AVENUE CLUBHOUSE EXTERIOR SCHEME



Boji Development

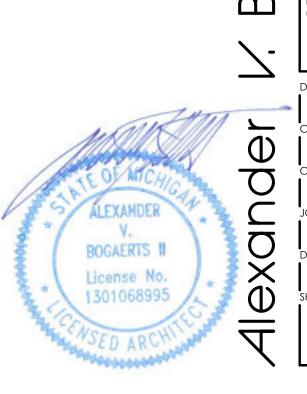
SQUARE ONE - HARTLAND AVENUE APARTMENTS EXTERIOR SCHEME



Boji Development

(EY NAME	MATERIAL	MANUFACTURER	DESCRIPTION	NOTES
1	BRICK	GLEN GERY	COLOR: "WOODBURY" SIZE: QUEEN SIZE	
2	STONE	SHOULDICE	COLOR: "PEARL WHITE" with TAPESTRY FINISH	
3	SIDING - BOARD & BATTEN	CELECT - CELLULAR COMPOSITE	COLOR: "WROUGHT IRON" SIZE: 11" BOARDS	INCLUDES CORNER BD & SURROUNDS
4	BALCONY RAILINGS & MESH INSERT	TREX	36" TREX GRID MESH & RAIL KIT, COLOR: BLACK	
5	BALCONY FASCIA BOARD	CELECT - CELLULAR COMPOSITE	COLOR: "WROUGHT IRON"	
6	EXTERIOR DECK PLANKING	TIMBER-TECH	SEA SALT GRAY	
7	SIDING - HORIZONTAL (CLUBHOUSE)	CELECT - CELLULAR COMPOSITE	COLOR: "FROST" SIZE: 7" CLAPBOARD	INCLUDES CORNER BD & SURROUNDS
8	METAL AWNING (CLUBHOUSE)		BLACK	
9	WINDOW FRAMES		BLACK	
10	DOOR FRAMES		BLACK	
11	GARAGE DOORS & FRAMES		COLOR: GREY (BY DOOR MANUFACTURER)	
12	MECH. VENT LOUVER		MATCH ADJACENT MATERIAL COLOR	
13	GUTTER / DOWNSPOUT		MATCH ADJACENT MATERIAL COLOR	
14	ROOF - METAL	FIRESTONE UNA-CLAD	MATTE BLACK	AT APARTMENT BLDG ENTRIES
15	METAL COPING at SIDING	CMG	COLOR: CHARCOAL	
16	METAL COPING at BRICK	CMG	COLOR: ASH GRAY	

SHOULDICE STONE CLARIFICATION INFO: SHOULDICE CLASSIFIES THE TAPESTRY FINISH AS A POLISHED FINISH, WHICH IS SMOOTH.



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Planning

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COLOR BOARD

BOJI DEVELOPMENT
APARTMENTS
HARTLAND TOWNSHIP, 1 ALEXANDER V. BOGAERTS + ASSOC. 02-22-2024

SPA 12-18-2023 SPA COMMENT RESP. 02-14-2024 PA COMMENT RESP. 03-06-2024 PER SPA REVIEW COMMENTS

DRAWN BY -AMM CAD FILENAME —

JOB NUMBER — 2657

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- LANDSCAPE PLANTING DETAIL (COMMERCIAL -RETAILS)
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- LANDSCAPE PLANTING DETAIL (APARTMENT BUILDING FOUNDATION)
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general landscape notes:

1. LANDSCAPE CONTRACTOR SHALL VISIT THE SITE, INSPECT EXISITING CONDITIONS, REVIEW PROPOSED PLANTINGS AND RELATED WORK CONTACT THE OWNER AND/OR LANDSCAPE ARCHITECT WITH ANY CONCERNS OR DISCREPANCY BETWEEN THE PLAN, PLANT MATERIAL LIST, AND/OR SITE CONDITIONS.

2. PRIOR TO BEGINING OF CONSTRUCTION ON ANY WORK, CONTRACTORS SHALL VERIFY LOCATIONS OF ALL ON SITE UTILITIES. GAS, ELECTRIC, TELEPHONE, CABLE TO BE LOCATED BY CONTACTING MISS DIG 1-800-482-7171, ANY DAMAGE OR INTERRUPTION OF SERVICES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR COORDINATE ALL RELATED WORK ACTIVITIES WITH OTHER TRADES AND REPORT ANY UNACCEPTABLE JOB CONDITIONS TO OWNER PRIOR TO COMMENCING

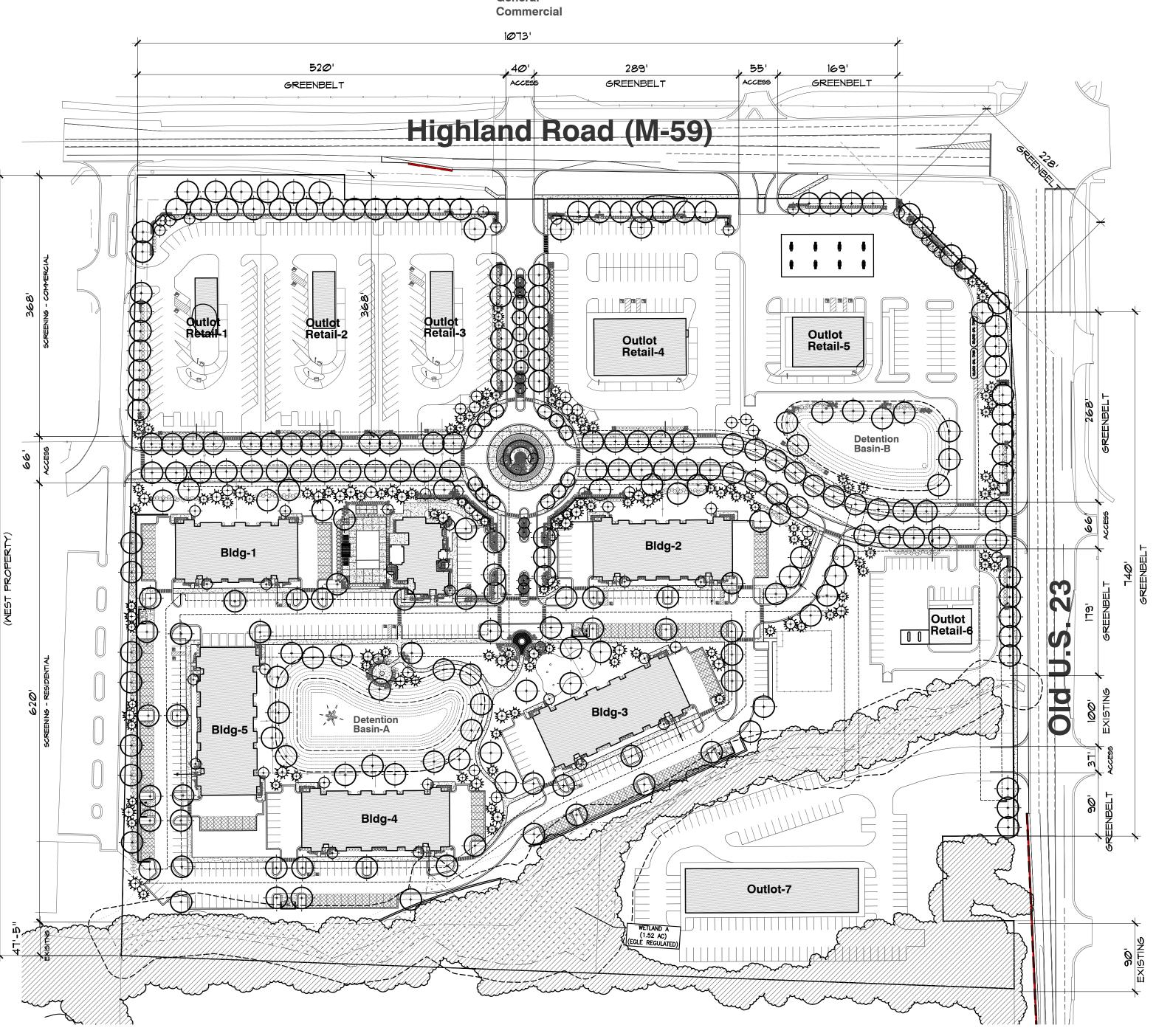
- NUMERICAL VALUE ON THE LANDSCAPE QUANTITIES SPECIFIED ON THE PLAN TAKE PRECEEDENCE OVER GRAPHIC REPRESENTATION. VERIFY ANY CONCERN-DISCREPANCY WITH LANDSCAPE ARCHITECT.
- 4. ALL CONSTRUCTION AND PLANT MATERIAL LOCATION TO BE ADJUSTED ON SITE
- 5. ALL SUBSTITUTIONS OR DEVIATIONS FROM THE LANDSCAPE PLAN MUST BE APPROVED BY HARTLAND TOWNSHIP AND LANDSCAPE ARCHITECT
- 6. ALL LARGE TREES AND EVERGREENS TO BE STAKED, GUYED AND WRAPPED AS DETAIL SHOWN ON PLAN.
- 1. PLANT BEDS TO BE DRESSED WITH MIN. 2" OF FINELY DOUBLE SHREDDED
- 8. DIG SHRUB PITS 1' LARGER THAN SHRUB ROOT BALLS AND TREE PITS 2' LARGER THAN ROOT BALL. BACK FILL WITH ONE PART TOP SOIL AND ONE PART SOIL FROM EXCAYATED PLANTING HOLE.
- 9. NATURAL COLOR, FINELY SHREDDED HARDWOOD BARK MULCH REQUIRED FOR ALL PLANTINGS.
- 10. REMOVE ALL TWINE, WIRE AND BURLAP FROM TREE AND SHRUB EARTH BALLS, AND FROM TREE TRUNKS. 4" THICK BARK MULCH FOR TREES IN 4' DIA. CIRCLE WITH 3" PULLED AWAY FROM TRUNK . 3" THICK BARK MULCH FOR SHRUBS AND 2" THICK BARK MULCH FOR PERENNIALS.
- II. PLANT MATERIAL QUALITY & INSTALLATION SHALL BE IN ACCORDANCE WITH THE CURRENT AMERICAN ASSOCIATION OF NURSERYMEN LANDSCAPE STANDARDS.
- 12. PROVIDE PEAT SOD FOR ALL NEW AND DISTURBED LAWN AREAS UNLESS NOTED OTHERWISE.
- 13. ALL PLANTING AREAS TO BE PREPARED WITH APPROPRIATE SOIL MIXTURES AND FERTILIZER BEFORE PLANT INSTALLATION.
- 14. PLANT TREES AND SHRUBS GENERALLY NO CLOSER THEN THE FOLLOWING DISTANCES FROM SIDEWALKS, CURBS AND PARKING STALLS:
- a). SHADE TREES b). ORNAMENTAL AND EVERGREEN TREES
- (CRAB, PINE, SPRUCE, ETC.)_ c). SHRUBS THAT ARE LESS THAN I FOOT TALL
- AND WIDE AT MATURITY_ 15. NO TREES OR EVERGREENS TO BE INSTALLED OVER ANY PROPOSED OR
- EXISTING UTILITY LINES AS SHOWN ON THE OVERALL LANDSCAPE PLAN. SEE ENGINEERING PLANS FOR LOCATION AND DETAILS. 16. ALL LAWN AREAS AND LANDSCAPE BEDS TO BE FULLY IRRIGATED WITH A
- AUTOMATIC UNDERGROUND SYSTEMS, IRRIGATION SYSTEM TO HAVE SEPARTE ZONES FOR LAWN AREAS, PARKING ISLANDS, AND SHRUB BEDS WITH DIFFERENT CONTROL MOISTURE LEVEL ADJUSTMENT PER ZONE AS REQUIRED 17. UNLESS NOTED OTHERWISE, LANDSCAPE BEDS ADJACENT TO LAWN TO

RECIEVE EDGING. EDGING SHALL BE 4" X 1/8" METAL (FINISH BLACK OR GREEN,

- OR APPROVED EQUAL AND TO BE INSTALLED WITH HORIZONTAL METAL STAKES AT 32" O.C. OR PER MANUFACTERER'S SPECIFICATION. 18. ALL NEW PARKING ISLANDS AND LANDSCAPE BEDS ADJACENT AND NEXT TO BUILDING SHALL BE EXCAVATED OF ALL BUILDING MATERIALS AND POOR SOILS A MIN. OF 16"-18" DEPTH. BACK FILL WITH GOOD, MEDIUM TEXTURED PLANTING
- 19. WATERING OF ALL PLANTS AND TREES TO BE PROVIDED IMMEDIATELY AND MULCHING WITHIN 24 HOURS AFTER INSTALLATION.

SOILS. ADD A MIN. 4" OF TOPSOIL OVERFILL TO FINISH GRADE. PROVIDE POSITIVE

- 20. ALL TREE PITS TO BE TESTED FOR PROPER DRAINAGE PRIOR TO TREE PLANTING. PROVIDE APPROPERATES DRAINAGE SYSTEM AS REQUIRED IF THE TREE PIT DOES NOT DRAIN SUFFICIENTLY.
- 21. THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL LANDSCAPE PLANT MATERIALS AND IRRIGATION INSTALLATION FOR A PERIOD OF TWO YEAR BEGINNING AFTER THE COMPLETION OF LANDSCAPE INSTALLTION DATE APPROVED BY THE CITY OR LANDSCAPE ARCHITECT. THE CONTRACTOR SHALL REPLACE DURING AND AT THE END OF THE GUARANTEE PERIOD, ANY DEAD OR UNACCEPTABLE PLANTS, AS DETERMINED BY THE TOWNSHIP OR LANDSCAPE ARCHITECT, WITHOUT COST TO THE OWNER.



Square One a planned mixed-use commercial-retail and residential apartment community Hartland Township, Michigan

landscape requirements:

interior road (Hartland Lane-Commercial Frontage)

TOTAL LN. FT. OF STREET FRONTAGE

parking (Residential)

dotantion basin A

TOTAL SQ.FT. OF PARKING ISLAND

greenbelt (Highland Road * M-59)	REQUIRED	PRO
TOTAL LN. FT. OF STREET FRONTAGE	3 <u>+</u>	
ONE (I) CANOPY TREE PER 30 LN.FT	33	33
THREE (3) ORNAMENTAL TREES OR SHRUBS FORTHE INITIAL 40 LN.FT. PLUS	<u> </u>	3-orn trees
ONE (I) ORNAMENTAL TREE OR SHRUBS PER 20 LN.FT. 978' - 40 LN.FT. =938 / 20' =46.9 ORNAMENTAL TREES OR SHRUE		47
greenbelt (Old US-23)	REQUIRED	PRO
TOTAL LN. FT. OF STREET FRONTAGE 1,05 (1,058' - 103' (ACCESS DRIVE) - 190' (EXISTING) = 765')	58' <u>+</u>	
ONE (I) CANOPY TREE PER 30 LN.FT(765' / 30' PER TREE =25.5 TREES)	26	26
THREE (3) ORNAMENTAL TREES OR SHRUBS FOR THE INITIAL 40 LN.FT. PLUS	<u> </u>	3
ONE (I) ORNAMENTAL TREE OR SHRUBS PER 20 LN.FT. (765' - 40 LN.FT. = 725 / 20' = 36.25 ORNAMENTAL TREES OR SHR		40
median blvd landscape	REQUIRED	PRO
TOTAL LN. FT. OF BLVD. MEDIAN294		
(200' + 47' + 47' = 294')		
ONE (I) DECIDUOUS or EVERGREEN TREE PER 25 LN.FT	12	13
(294' / 25' PER TREE = 11.76 TREES)		

(1,479' - 162' (ACCESS DRIVES) = 1,317')		
ONE (I) CANOPY TREE PER 30 LN.FT. (I,317 LN.FT. / 30 LN.FT. = 43.9 TREES)	44	49 + (B)
screening- commercial (West property line)	REQUIRED	PROVIDED
TOTAL LIN.FT. OF WEST COMMERCIAL PROPERTY LINE 368'		
ONE (I) CANOPY OR EVERGREEN TREE PER 30 LIN.FT (368' / 30 FT. PER TREE =12.26 TREES)		12
FOUR (4) LARGE SHRUBS PER 30 LIN.FT(368' / 30 FT. =12.26 X 4-SHRUBS =49.1 SHRUBS)	49	59
interior roadway (Cornerstone Lane - Residential Frontage)	REQUIRED	PROVIDED
TOTAL LN. FT. OF STREET FRONTAGE (SOUTH) 1,069'± (1,069 LN.FT 73' (ACCESS DRIVE) = 996')	<u> </u>	
ONE (I) CANOPY or EVERGREEN TREE PER 30 LN.FT	33	33

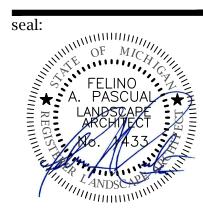
ONE (1) CANOPY PER 180 SQ.FT. PARKING ISLAND AREA $_$ (11,480SQ.FT / 180 SQ.FT. PER TREE =63.77 TREES)		64	70+
screening- residential (West property line)		REQUIRED	PROVIDEI
TOTAL LIN.FT. OF WEST PARKING PROPERTY LINE	620'		
ONE (I) CANOPY OR EVERGREEN TREE PER 30 LIN.FT (620 / 30 FT. PER TREE =20.67 TREES)		2	21
FOUR (4) LARGE SHRUBS PER 30 LIN.FT		83	83

detention pasin A		REQUIRED	PROVIDED
TOTAL LN. FT. OF DETENTION BASIN PERIMETER	8Ø1 <u>+</u>		
ONE (1) CANOPY/EVERGREEN PER 50 LN.FT (801 LN.FT. / 50 LN.FT. = 16 TREES)		16	16
detention basin B		REQUIRED	PROVIDED
detention basin B TOTAL LN. FT. OF DETENTION BASIN PERIMETER	581 <u>+</u>	REQUIRED	PROVIDED



(581 LN.FT. / 50 LN.FT. = 11.62 TREES)





M-59 PROPERTIES VENTURES, LLC 31000 Northwestern Hwy. Suite 145 Farmington Hills,

SQUARE

Hartland Township, Michigan

M-59 and Old U.S. 23

sheet title:

OVERVIEW

REQUIRED | PROVIDED

REQUIRED | PROVIDED

11,480 SQ.FT

job no. / issue / revision date LS23.92.12 REVIEW 12-5-2023 LS23.92.12 PSPR 12-11-2023 LS24.018.02 REVIEW 2-16-2024

LS24.018.02 PSPR LS24.018.03 PSPR REVIEW 3-25-2024 LS24.018.04 PSPR REVIEW 4-4-2024 LS24.018.12 SPA 12-16-2024

checked by:

1-20-2024

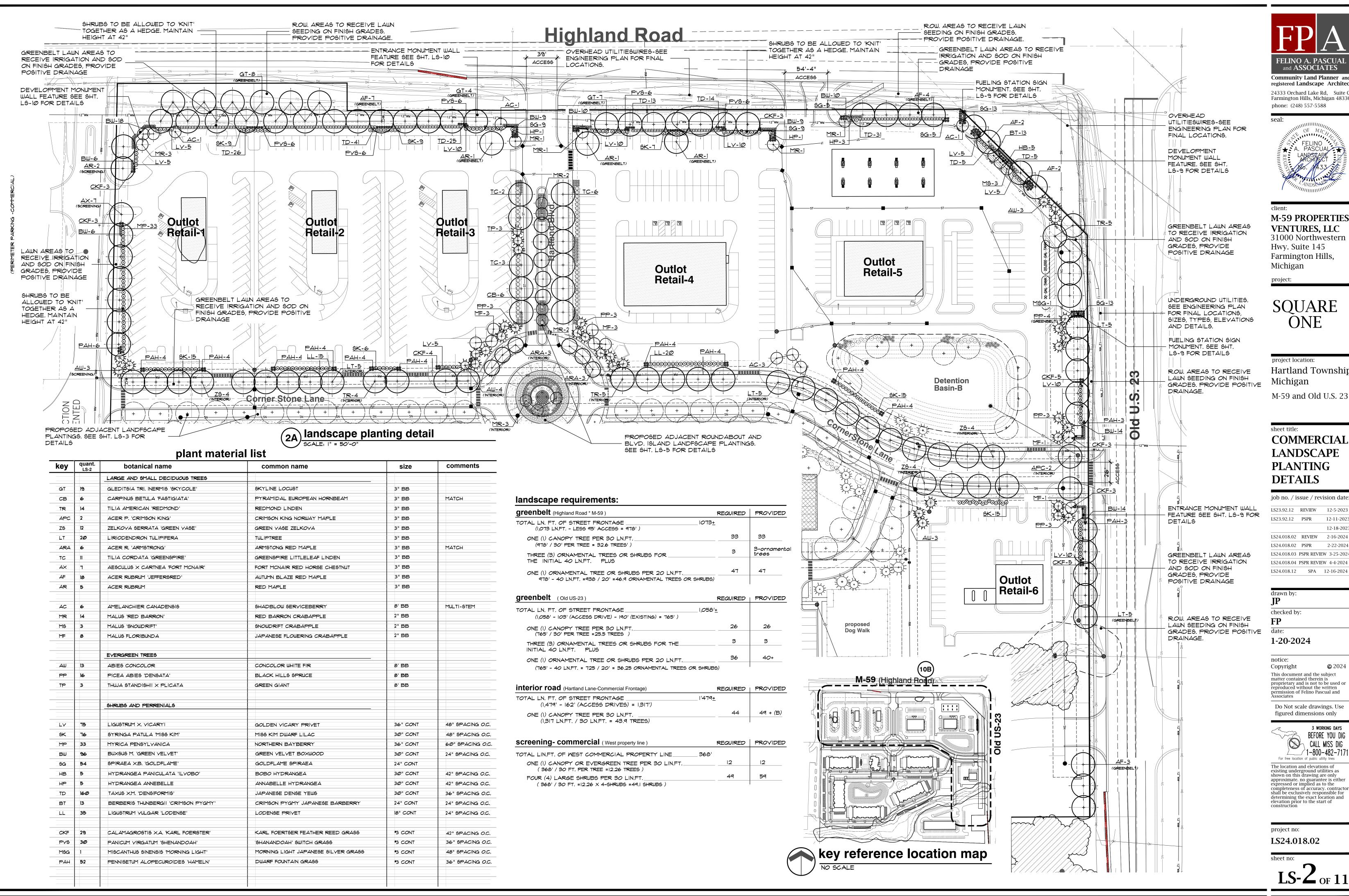
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BEFORE YOU DIG For free location of public utility line

The location and elevations of existing underground utilities as shown on this drawing are only approximate. no guarantee is either expressed or implied as to the oleteness of accuracy. contractor shall be exclusively responsible for determining the exact location and elevation prior to the start of





Farmington Hills, Michigan 48336 phone: (248) 557-5588



M-59 PROPERTIES VENTURES, LLC 31000 Northwestern Hwy. Suite 145 Farmington Hills,

SQUARE

project location: Hartland Township, Michigan

M-59 and Old U.S. 23

COMMERCIAL LANDSCAPE **PLANTING**

job no. / issue / revision date: LS23.92.12 REVIEW 12-5-2023 LS23.92.12 PSPR 12-11-2023 12-18-2023 LS24.018.02 REVIEW 2-16-2024 LS24.018.02 PSPR 2-22-2024 LS24.018.03 PSPR REVIEW 3-25-2024

checked by:

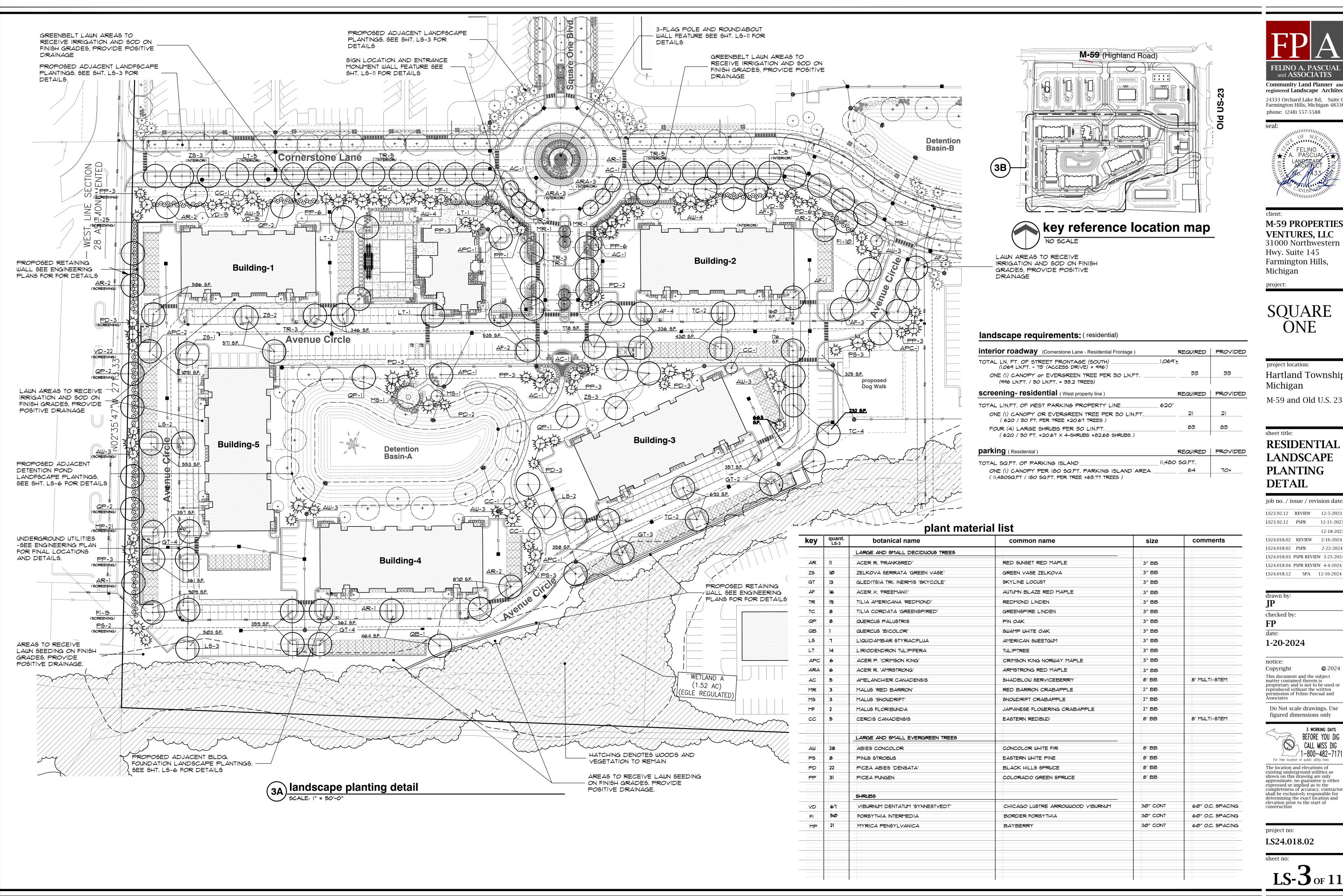
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Community Land Planner and registered Landscape Architect 24333 Orchard Lake Rd, Suite G Farmington Hills, Michigan 48336 phone: (248) 557-5588



M-59 PROPERTIES VENTURES, LLC 31000 Northwestern Hwy. Suite 145 Farmington Hills,

SQUARE

project location: Hartland Township, Michigan

M-59 and Old U.S. 23

sheet title: **RESIDENTIAL LANDSCAPE PLANTING**

DETAIL job no. / issue / revision date: LS23.92.12 REVIEW 12-5-2023 LS23.92.12 PSPR 12-11-2023

12-18-2023 LS24.018.02 REVIEW 2-16-2024 LS24.018.02 PSPR 2-22-2024 LS24.018.03 PSPR REVIEW 3-25-2024 LS24.018.04 PSPR REVIEW 4-4-2024

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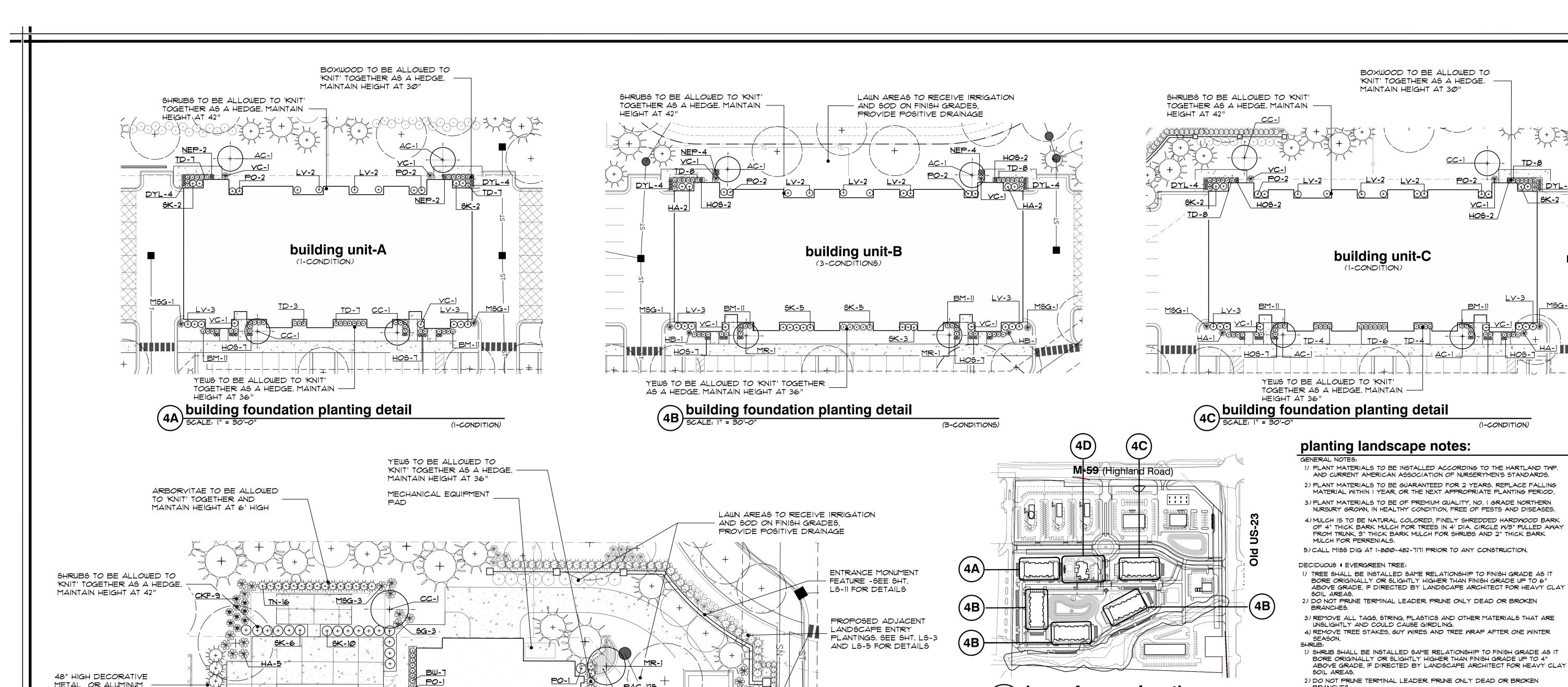
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BOXWOOD TO BE ALLOWED TO 'KNIT' TOGETHER AS A HEDGE.

MAINTAIN HEIGHT AT 24"

PAC-125

VC-1

HB-3

<u>5G-3</u>

BOXWOOD TO BE ALLOWED TO

ARBORVITAE TO BE ALLOWED TO

- 'KNIT' TOGETHER AND MAINTAIN HEIGHT

- 'KNIT' TOGETHER AS A HEDGE.

MAINTAIN HEIGHT AT 24"

PO-1

Clubhouse

PAC-60

METAL OR ALUMINUM

ARBORVITAE TO BE ALLOWED

HEDGE, MAINTAIN HEIGHT AT 10'

BOXWOOD TO BE ALLOWED TO 'KNIT' TOGETHER AS A HEDGE.

TO 'KNIT' TOGETHER AS A

MAINTAIN HEIGHT AT 24"

PROPOSED ADJACENT

PLANTINGS, SEE SHT, LS-3

AND LS-5 FOR DETAILS

LANDSCAPE ENTRY

LV-13 (BW-11

SHRUBS TO BE ALLOWED TO 'KNIT'

HEIGHT AT 48"

POSITIVE DRAINAGE

TOGETHER AS A HEDGE. MAINTAIN

LAWN AREAS TO RECEIVE IRRIGATION

AND SOD ON FINISH GRADES, PROVIDE -

Pool

PO-1 3G-6

clubhouse foundation planting detail

PAC-120

∠<u>CKF-3</u>

MECHANICAL EQUIPMENT PAD TO

BE SCREENED BY ARBORVITAE

SCALE: |" = 30'-0"

BRANCHES.

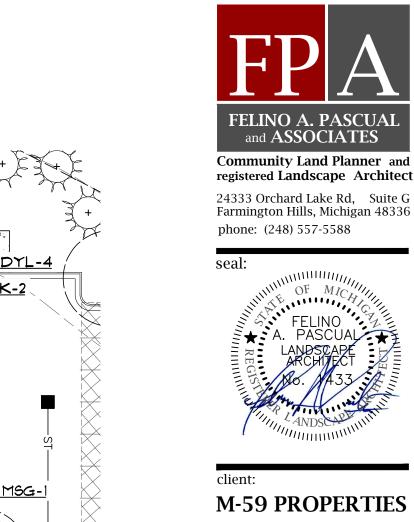
3) REMOVE ALL TAGS, STRING, PLASTICS AND OTHER MATERIALS THAT ARE

UNSLIGHTLY AND COULD CAUSE GIRDLING.

key reference location map

NO SCALE

key	quant. 4A	quant. 4B	quant.	quant. 4D	botanical name	common name	size	comments
					SMALL ORNAMENTAL TREES			
CC	2	-	2	1	CERCIS CANADENSIS	EASTERN REDBUD	8' BB	MULTI-STEM
AC	2	6	4	1	AMECHANCIER CANADENSIS	AUTUMN BRILLIANCE SERVICEBERRY	8' BB	MULTI-STEM
MJ	-	-	-	1	MAGNOLIA LILIIFLORA 'JANE'	JANE MAGNOLIA	10' BB	MULTI-STEM
AP	-	-	-	1	ACER P. 'BLOODGOOD'	BLOODGOOD LACE LEAF JAPANESE MAPLE	6' CONT	SELECT
MR	-	6	-	1	MALUS 'RED BARRON'	RED BARRON CRABAPPLE	2" BB	
					SHRUBS			
TO	-	-	-	9	THUJA OCCIDENTALIS 'SMARAGD'	EMERALD GREEN ARBORVITAE	5' BB	42" O.C. SPACING
TP	-	-	-	16	THUJA PLICATA	WESTERN ARBORVITAE	8' BB	72" O.C. SPACING
TN	-	-	-	16	THUJA OCCIDENTALIS 'NIGRA'	AMERICAN DARK GREEN ARBORVITAE	6' BB	60" O.C. SPACIN
sk	4	24	4	16	SYRINGA PATULA 'MISS KIM'	MISS KIM DWARF LILAC	30" CONT	48" O.C. SPACING
PO	4	12	4	6	PHYSOCARPUS OPULIFOLIUS 'SEWARD'	SUMMER WINE NINEBARK	30" CONT	48" O.C. SPACING
LY	10	36	12	13	LIGUSTRUM X. 'VICAYRII'	GOLDEN VICARY PRIVET	30" CONT	48" O.C. SPACING
BW	-	-	-	62	BUXSUS M. 'GREEN VELVET'	GREEN VELVET BOXWOOD	15" CONT	24" O.C. SPACING
BM	22	66	22	7	BUXSUS M. 'GREEN MOUNTAN'	GREEN MOUNTAN BOXWOOD	24" CONT	30" O.C. SPACING
TD	24	63	30	16	TAXUS XM. DENSIFORMIS	DENSIFORMIS SPREADING YEW	30" CONT	32" O.C. SPACING
SG	-	-	-	15	SPIRAEA X.B. 'GOLDFLAME'	GOLDFLAME SPIRAEA	24" CONT	36" O.C. SPACINO
HB	-	6	-	3	HYDRANGEA PANICULATA 'ILVOBO'	BOBO HYDRANGEA	30" CONT	36" O.C. SPACING
НД	-	12	2	11	HYDRANGEA ANNEBELLE	ANNABELLE HYDRANGEA	30" CONT	36" O.C. SPACING
VD	-	-	-	1	VIBURNUM DENTATUM 'SYNNESTVEDT'	CHICAGO LUSTRE ARROWWOOD VIBURNUM	30" CONT	48" O.C. SPACING
VC	4	12	4	3	VIBURNUM CARLESII	KOREAN SPICE VIBURNUM	30" CONT	48" O.C. SPACING
BT	-	-	-	Ø	BERBERIS T. 'CRIMSON PYGMY'	CRIMSON PYGMY JAPANESE BARBERRY	15" CONT	48" O.C. SPACING
TH	-	-	-	20	TAXUS XM. 'HICKSII'	HICKS YEW	36" CONT	32" O.C. SPACING
					GRASSES AND PERENNIALS			
MSG	2	6	2	12	MISCANTHUS SINENSIS 'MORNING LIGHT'	MORNING LIGHT JAPANESE SILVER GRASS	#3 CONT.	42" O.C. SPACING
HOS	14	54	18	-	HOSTA 'PATRIOT'	PATRIOT HOSTA	#1 CONT.	24" O.C. SPACING
DYL	8	24	8	-	HEMEROCALLIS 'HAPPY RETURNS'	HAPPY RETURNS DAYLILY	#1 CONT.	24" O.C. SPACING
NEP	4	24	-	4	NEPETA X.F. 'WALKER'S LOW'	WALKER'S LOW CATNIP	#1 CONT.	24" O.C. SPACING
CKF	-	-	-	15	CALAMAGROSTIS X.A. 'KARL FOERSTER'	KARL FOERTSER FEATHER REED GRASS	#3 CONT.	42" O.C. SPACING
PAC	-	-	-	365	PACHYSANDRA TERMINAL 'GREEN CARPET'	GREEN CARPET PACHYSANDRA	24/ FLAT	10" O.C. SPAC



PO-2

VC-1

HOS-2

LV-3

(I-CONDITION)

M-59 PROPERTIES VENTURES, LLC 31000 Northwestern Hwy. Suite 145 Farmington Hills,

Michigan

SQUARE ONE

project location: Hartland Township, Michigan

M-59 and Old U.S. 23

sheet title: **BUILDING**

FOUNDATION PLANTING DETAIL

job no. / issue / revision date:

LS23.92.12 REVIEW 12-5-2023 LS23.92.12 PSPR 12-11-2023 12-18-2023 LS24.018.02 REVIEW 2-16-2024 LS24.018.02 PSPR LS24.018.03 PSPR REVIEW 3-25-2024

LS24.018.04 PSPR REVIEW 4-4-2024

LS24.018.12 SPA 12-16-2024 drawn by

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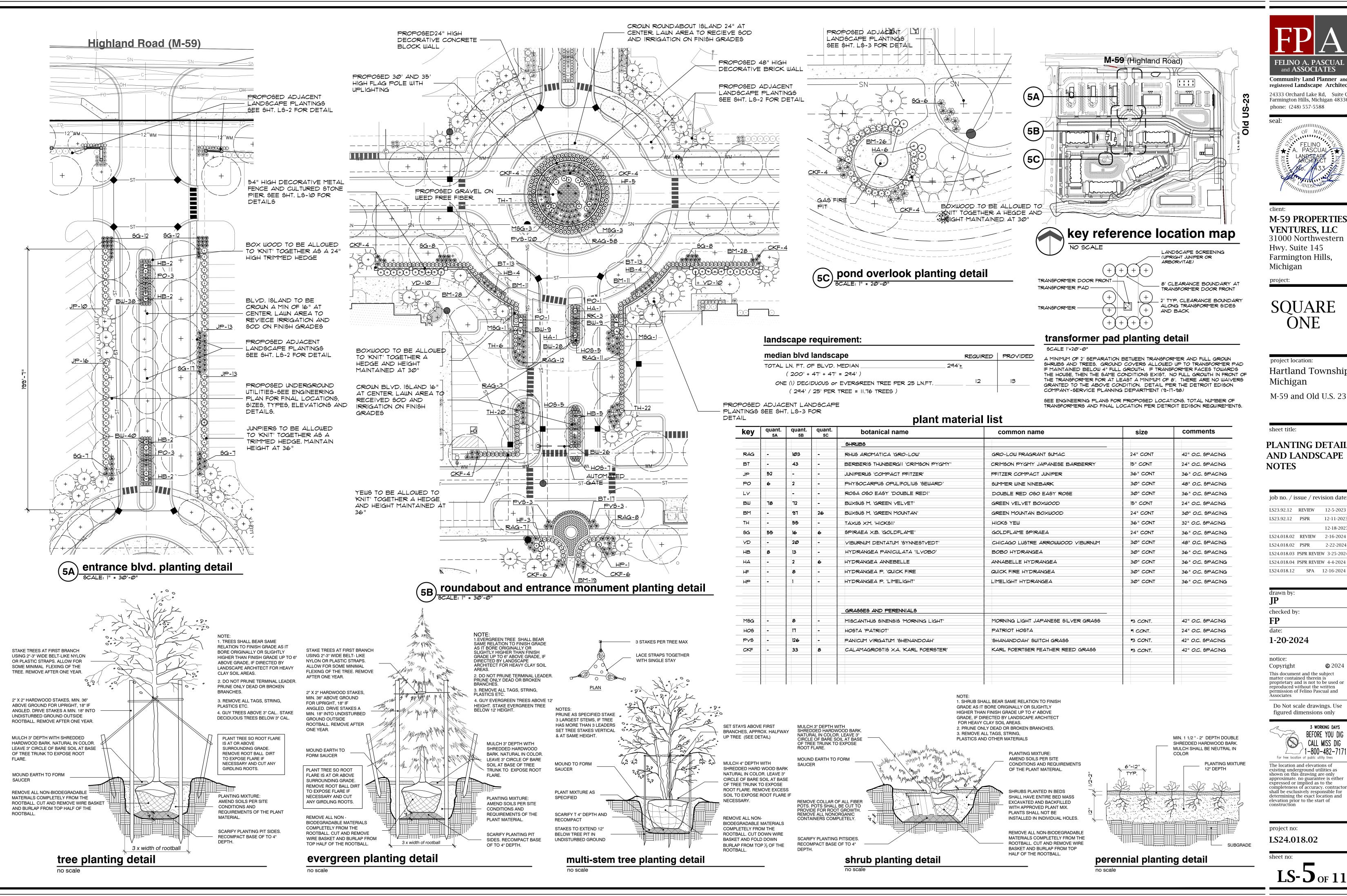
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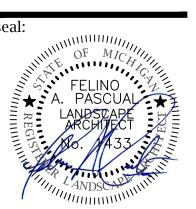
For free location of public utility line The location and elevations of existing underground utilities as approximate. no guarantee is either expressed or implied as to the completeness of accuracy. contractor shall be exclusively responsible for determining the exact location and elevation prior to the start of construction

project no: LS24.018.02

sheet no:



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M-59 PROPERTIES VENTURES, LLC 31000 Northwestern Hwy. Suite 145 Farmington Hills,

SQUARE

project location: Hartland Township Michigan

sheet title:

PLANTING DETAILS AND LANDSCAPE **NOTES**

job no. / issue / revision date LS23.92.12 REVIEW 12-5-2023 LS23.92.12 PSPR 12-11-2023 12-18-2023 LS24.018.02 REVIEW 2-16-2024 LS24.018.02 PSPR 2-22-2024 LS24.018.03 PSPR REVIEW 3-25-2024 LS24.018.04 PSPR REVIEW 4-4-2024

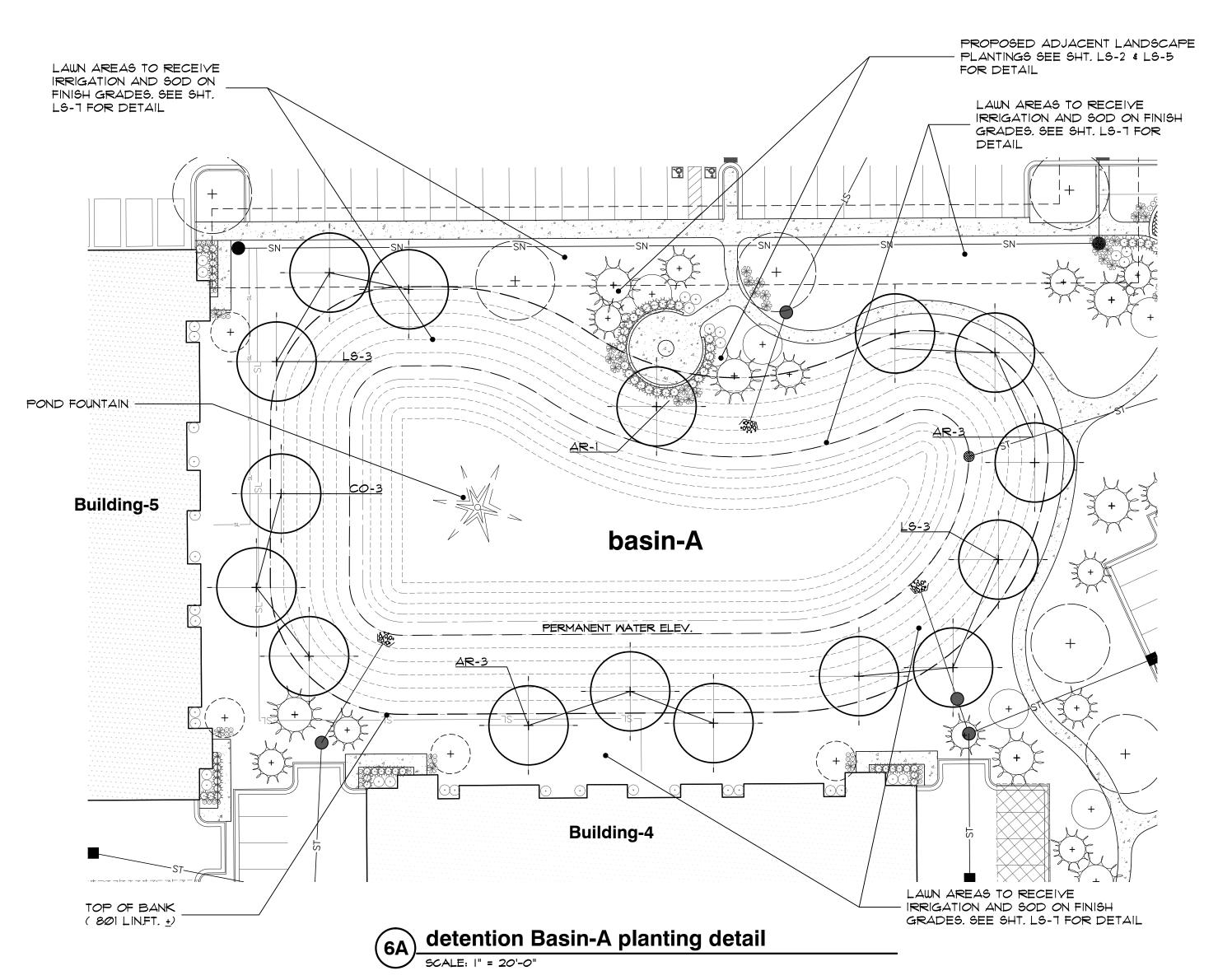
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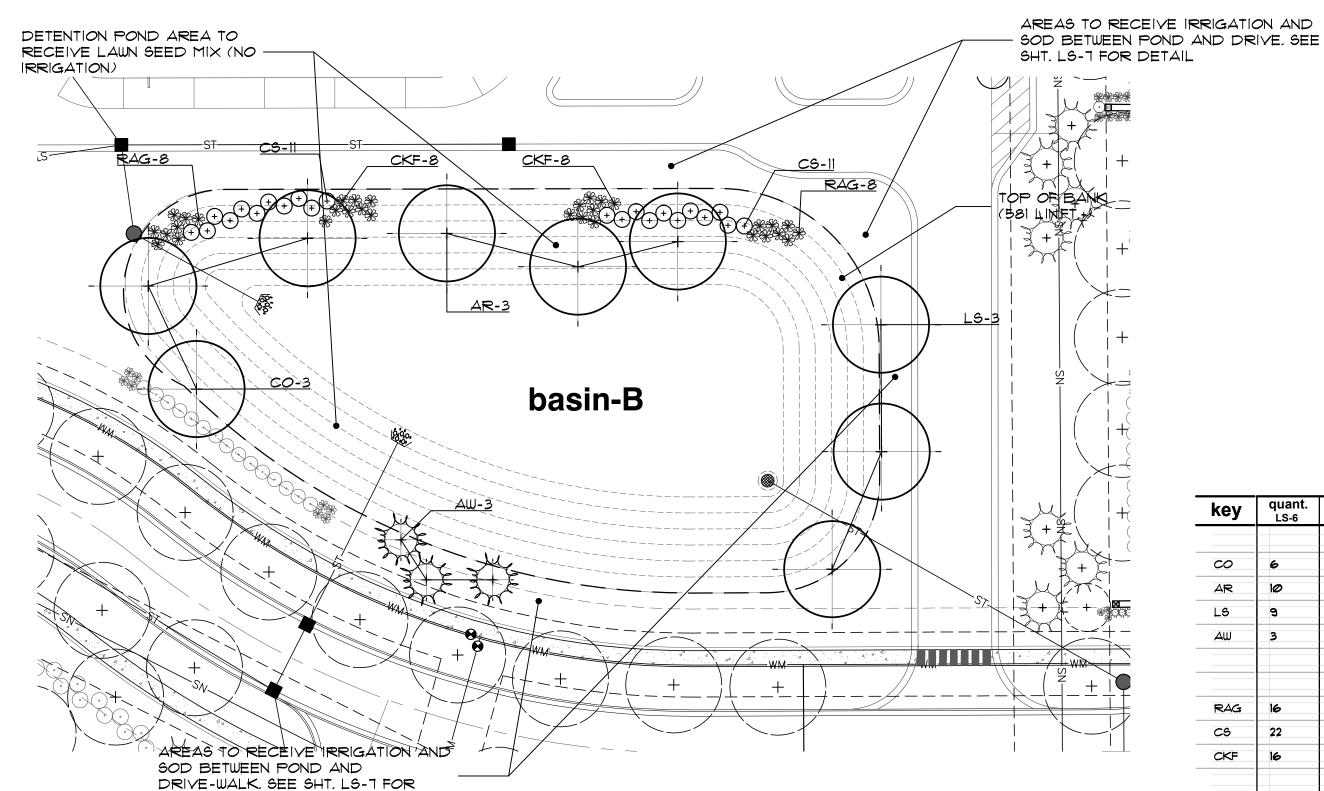
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(6B) detention Basin-B planting detail

economy prairie seed mix

THIS PRAIRIE SEED MIX OFFERS AN ECONOMICAL WAY TO ESTABLISH A PRAIRIE. IN ADDITION TO NATIVE PRAIRIE GRASSES, FLOWERING SPECIES PROVIDE COLOR THROUGHOUT THE GROWING SEASON AND FOOD SOURCES FOR BIRDS AND BUTTERFLIES. ADDING SEED OR PLANT PLUGS AT A LATER DATE IS A WONDERFUL WAY TO INCREASE A PRAIRIE'S RICHNESS AND DIVERSITY. THIS SEED MIX INCLUDES AT LEAST 6 OF 7 NATIVE PERMANENT GRASS AND SEDGE SPECIES AND 10 OF 13 NATIVE FORB SPECIES. APPLY AT 40.95 PLS POUNDS PER ACRE.

BOTANICAL NAME	COMMON NAME	PLS OZ/ACR
PERMANENT GRASSES/SEDGES		
ANDROPOGON GERARDII	BIG BLUESTEM	12.00
BOUTELOUA CURTIPENDULA	SIDE-OATS GRAMA	16.00
CAREX SPP.	PRAIRIE SEDGE SPECIES	3.00
ELYMUS CANADENSIS	CANADA WILD RYE	24.00
PANICUM VIRGATUM	SWITCH GRASS	2.50
SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM	32.00
SORGHASTRUM NUTANS	INDIAN GRASS	12.00
	TOTAL	101.50
EMPORARY COVER		
AVENA SATIVA	COMMON OAT 512.00	
	TOTAL	512.00
ORBS		
ASCLEPIAS SYRIACA	COMMON MILKWEED	1.00
ASCLEPIAS TUBEROSA	BUTTERFLY WEED	1.00
CHAMAECRISTA FASCICULATA	PARTRIDGE PEA	10.00
COREOPSIS LANCEOLATA	SAND COREOPSIS	6.00
ECHINACEA PURPUREA	BROAD-LEAVED PURPLE CONEFLOV	VER 8.00
HELIOPSIS HELIANTHOIDES	FALSE SUNFLOWER	0.25
MONARDA FISTULOSA	WILD BERGAMOT	0.50
PENSTEMON DIGITALIS	FOXGLOVE BEARD TONGUE	1.00
RATIBIDA PINNATA	YELLOW CONEFLOWER	4.00
RUDBECKIA HIRTA	BLACK-EYED SUSAN	8.00
SOLIDAGO SPECIOSA	SHOWY GOLDENROD	0.50
SYMPHYOTRICHUM LAEVE	SMOOTH BLUE ASTER	1.00
SYMPHYOTRICHUM NOVAE-ANGLIAE	NEW ENGLAND ASTER	0.50
	TOTAL	41.75

detention basin seed mix

TEMPORARY COVER

A WETLAND SEED MIX FOR SATURATED SOILS IN A DETENTION POND OR FOR SEEDING A SATURATED BASIN, THIS MIX WILL TOLERATE HIGHLY FLUCTUATING WATER LEVELS AND POOR WATER QUALITY ASSOCIATED WITH URBAN STORMWATER WETLANDS AND PONDS. FOR DETENTION BASINS THAT EXPERIENCE LONG, DRY PERIODS, USE THE ECONOMY PRAIRIE SEED MIX IN THE UPPER THIRD TO HALF OF THE BASIN AREA IN COMBINATION WITH THIS MIX. THIS SEED MIX INCLUDES AT LEAST 10 OF 12 NATIVE PERMANENT GRASS AND SEDGE SPECIES AND 13 OF 17 NATIVE FORB SPECIES. APPLY AT 36.22 PLS POUNDS PER ACRE.

BOTANICAL NAME	COMMON NAME	PLS OZ/ACRE
PERMANENT GRASSES/SEDGES		
BOLBOSCHOENUS FLUVIATILIS	RIVER BULRUSH	1.00
CAREX CRISTATELLA	CRESTED OVAL SEDGE	0.50
CAREX LURIDA	BOTTLEBRUSH SEDGE	3.00
CAREX VULPINOIDEA	BROWN FOX SEDGE	2.00
ELYMUS VIRGINICUS	VIRGINIA WILD RYE	24.00
GLYCERIA STRIATA	FOWL MANNA GRASS	1.00
JUNCUS EFFUSUS	COMMON RUSH	1.00
LEERSIA ORYZOIDES	RICE CUT GRASS	1.00
PANICUM VIRGATUM	SWITCH GRASS	2.00
SCHOENOPLECTUS TABERNAEMONTANI	GREAT BULRUSH	3.00
SCIRPUS ATROVIRENS	DARK GREEN RUSH	2.00
SCIRPUS CYPERINUS	WOOL GRASS	1.00
	TOTAL	41.50

AVENA SATIVA	COMMON OAT	512.00
	TOTAL	512.00
FORBS		
ALISMA SUBCORDATUM	COMMON WATER PLANTAIN	2.50
ASCLEPIAS INCARNATA	SWAMP MILKWEED	2.00
BIDENS SPP. BIDENS	SPECIES	2.00
EUPATORIUM PERFOLIATUM	COMMON BONESET	1.00
HELENIUM AUTUMNALE	SNEEZEWEED	2.00
IRIS VIRGINICA V. SHREVEI	BLUE FLAG	4.00
LYCOPUS AMERICANUS	COMMON WATER HOREHOUND	0.50
MIMULUS RINGENS	MONKEY FLOWER	1.00
PENTHORUM SEDOIDES	DITCH STONECROP	0.50
PERSICARIA SPP.	PINKWEED SPECIES	2.00
RUDBECKIA SUBTOMENTOSA	SWEET BLACK-EYED SUSAN	1.00
RUDBECKIA TRILOBA	BROWN-EYED SUSAN	1.50
SAGITTARIA LATIFOLIA	COMMON ARROWHEAD	1.00
SENNA HEBECARPA	WILD SENNA	2.00
SYMPHYOTRICHUM LANCEOLATUM	PANICLED ASTER	0.50
SYMPHYOTRICHUM NOVAE-ANGLIAE	NEW ENGLAND ASTER	0.50
THALICTRUM DASYCARPUM	PURPLE MEADOW RUE	2.00
	TOTAL	26.00

	plant material list							
key	quant. LS-6	botanical name	common name	size	comments			
		CANOPY AND EVERGREEN TREES						
co	6	CELTIS OCCIDENTALIS	HACKBERRY	3" BB				
AR	10	ACER R. 'FRANKSRED'	RED SUNSET RED MAPLE	3" BB				
LS	9	LIQUIDAMBAR STYRACIFLUA	AMERICAN SWEETGUM	3" BB				
ΔW	3	ABIES CONCOLOR	CONCOLOR FIR	8' BB				
RAG	16	RHUS AROMATICA 'GRO-LOW'	GRO-LOW FRAGRANT SUMAC	24" CONT	42" O.C. SPACING			
CS	22	CORNUS STOLONIFERA	REDTWIG DOGWOOD	30" CONT	60" O.C. SPACING			
CKF	16	CALAMAGROSTIS ACUTIFLORA 'KARL FOERSTER'	KARL FOERSTER FEATHER REED GRASS	*3 CONT.	36" O.C. SPACING			

basin maintenance notes

BASING ARE LISTED BELOW. THESE ACTIVITIES MUST BE IDENTIFIED IN THE MAINTENANCE PLAN THAT THE APPLICANT MUST SUBMIT WITH AN APPLICATION FOR STORM WATER CONSTRUCTION APPROVAL. ADDITIONALLY, PROVISION FOR MAINTENANCE ACCESS SHOULD BE SHOWN ON THE PLAN± IT IS RECOMMENDED THAT THE MAINTENANCE ACCESS TO THE STORM WATER MANAGEMENT SYSTEM BE A MINIMUM OF 15-FEET WIDE. THE LANDSCAPE PLAN SHOULD BE DESIGNED TO PREVENT OBSTRUCTION OF THE ACCESS BY TREES AND SHRUBS.

2. INSPECT AND CLEAN THE STORM SEWER SYSTEM AND CATCH BASING UPSTREAM FROM THE DETENTION BASIN (EVERY FIVE YEARS OR AS

4. INSPECT INLETS, OUTLETS, AND APPURTENANCES GRATES) ANNUALLY FOR STRUCTURAL INTEGRITY.

5. CHECK THE OUTLETS REGULARLY FOR CLOGGING AND CLEAN WHEN NECESSARY, ESPECIALLY AFTER LARGE STORM EVENTS.

1. CHECK FOR FLOATABLE AND DEBRIS AND REMOVE AS NECESSARY.

FLOW (EARLY SPRING).

CORRECT AS NECESSARY (ANNUALLY).

RESUSPENSION IS OBSERVED

II. RESEED BANKS NEAR INLET/OUTLET AND STABILIZE ERODED BANKS AS NECESSARY.

APPLICATION, OR CONSTRUCTION HAS OCCURRED IN THE BUFFER STRIP (ANNUALLY).

13. INSPECT DETENTION BASIN AND BUFFER STRIP ZONE FOR INVASIVE SPECIES SUCH AS PURPLE LOOSESTRIFE, PHRAGMITES, BUCKTHORN (COMMON & GLOSSY), HONEYSUCKLE AND AUTUMN OLIVE THAT OUT-COMPETE NATIVE VEGETATION (ANNUALLY - JULY).

landscape maintenance notes:

LANDSCAPE MAINTENANCE PROCEDURES AND FREQUENCIES TO BE FOLLOWED SHALL BE SPECIFIED ON THE LANDSCAPE PLAN, ALONG WITH THE MANNER IN WHICH THE EFFECTIVENESS, HEALTH AND INTENDED FUNCTIONS OF THE VARIOUS LANDSCAPE AREAS ON THE SITE WILL BE ENSURED.

I. LANDSCAPING SHALL BE KEPT IN A NEAT, ORDERLY AND HEALTHY GROWING CONDITION, FREE FROM DEBRIS AND REFUSE.

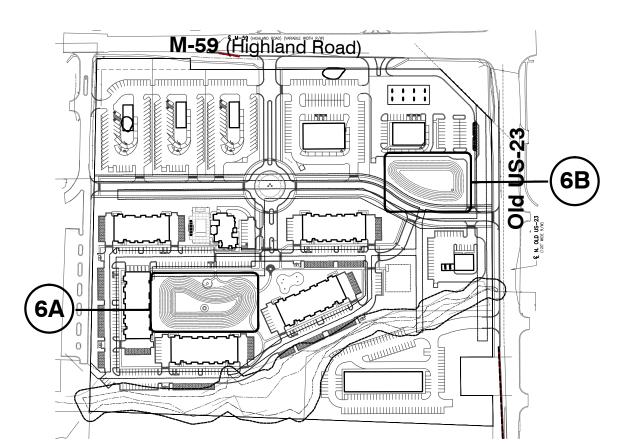
2. PRUNING SHALL BE MINIMAL AT THE TIME OF INSTALLATION, ONLY TO REMOVE DEAD OR DISEASED BRANCHES, SUBSEQUENT PRUNING SHALL ASSURE PROPER MATURATION OF PLANTS TO ACHIEVE THEIR

3. ALL DEAD OR DISEASED PLANT MATERIAL SHALL BE REMOVED AND REPLACED WITHIN SIX (6) MONTHS AFTER IT DIES OR IN THE NEXT PLANTING SEASON, WHICHEVER OCCURS FIRST. THE PLANTING SEASON FOR DECIDUOUS PLANTS SHALL BE BETWEEN MARCH IS AND NOVEMBER IS OR UNTIL THE PREPARED SOIL BECOMES FROZEN. THE PLANTING SEASON FOR EVERGREEN PLANTS SHALL BE BETWEEN MARCH I AND JUNE I. PLANT MATERIAL INSTALLED TO REPLACE DEAD OR DISEASED MATERIAL SHALL BE AS CLOSE AS PRACTICAL TO THE SIZE OF THE MATERIAL IT IS INTENDED TO

landscape requirements: (detention basin)

detention basin A	REQUIRED	PROVIDED
TOTAL LN. FT. OF DETENTION BASIN PERIMETER 80	1 <u>+</u>	
ONE (1) CANOPY/EVERGREEN PER 50 LN.FT (801 LN.FT. / 50 LN.FT. = 16 TREES)	16	16

detention basin B	REQUIRED	PROVIDED
TOTAL LN. FT. OF DETENTION BASIN PERIMETER58	31 <u>+</u>	
ONE (1) CANOPY/EVERGREEN PER 50 LN.FT (581 LN.FT. / 50 LN.FT. = 11.62 TREES)	12	12







14. HAVE A PROFESSIONAL SELECTIVELY REMOVE 1. MAINTENANCE ACTIVITIES FOR OPEN DETENTION INVASIVE SPECIES (ANNUALLY, JULY-AUGUST). PURPLE LOOSESTRIFE FLOWER HEADS CAN BE CLIPPED OFF TO REDUCE SEED PRODUCTION UNTIL PLANT REMOVAL MAY BE ACHIEVED. IF WOODY DEBRIS IS CUT, THE CUT SHOULD BE FOUR INCHES ABOVE THE GROUND SURFACE AND THE STUMPS SHOULD BE TREATED WITH HERBICIDE IMMEDIATELY AFTER CUTTING. MONITOR FOR SUCKER GROWTH. 15. PLANTING MUST BE MONITORED FOR TWO YEARS AFTER ESTABLISHMENT. REPLACEMENT

3. INSPECT FOR SEDIMENT ACCUMULATION AT THE INLET PIPES AND REMOVE SEDIMENT WHICH MAY BE IMPEDING FLOW (SEMIANNUALLY AND AFTER RAIN EVENTS).

6. INSPECT THE STONE AROUND RISER-TYPE OUTLET STRUCTURES SEMIANNUALLY AND AFTER RAIN EVENTS. IF STONE HAS ACCUMULATED SEDIMENT, VEGETATION AND/OR DEBRIS TO AN EXTENT THAT WATER IS NOT FLOWING THROUGH THE STONE AND OUT OF THE POND AS ORIGINALLY DESIGNED, THEN THE STONE SHOULD BE REPLACED.

8. REMOVE DEAD VEGETATION THAT OBSTRUCTS

9. CHECK BANKS AND BOTTOM FOR EROSION AND

10. REMOVE SEDIMENT WHEN ACCUMULATION REACHES SIX TO TWELVE INCHES OR IF

12. ENSURE THAT NO MOWING, CHEMICAL

TO PROTECT THE PLANTINGS (E.G., SNOW FENCE OR NETTING TO DETER WILDLIFE, PREVENT

5. IF DETENTION BASIN ARE COMPACTED, THE SLOPES MUST BE ROTOTILLED. 4" (FOUR) OF COMPOST OR TOPSOIL MUST BE ADDED

WILL BE NECESSARY AS DETERMINED BY THE AGENCY HAVING JURISDICTION OVER THE SYSTEM.

16. DURING THE FIRST TWO GROWING SEASONS,

BEGINNING IN THE THIRD YEAR, A BURNING OR

basin construction notes

GENERAL GUIDELINES FOR VEGETATION

3. ALL SEEDED AREAS TO BE PROPERLY STABILIZED WITH A MUCH BLANKET PEGGED IN

4. DEPENDING ON THE TYPE OF VEGETATION,

BARRIERS MAY BE REQUIRED FOR ONE YEAR

INSTALLATION INCLUDE:

WATER ELEVATION.

PLACE.

MOWING).

ESTABLISHED

PROPER CONSTRUCTION TECHNIQUES,

PARTICULARLY INSTALLATION OF VEGETATION,

OF OPEN DETENTION BASINS, ESPECIALLY FOR

CONSTRUCTED WETLAND TYPE OPEN DETENTION

BASINS IN ORDER TO ESTABLISH A DENSE AND

DIVERSE EMERGENT WETLAND PLANT COMMUNITY.

2. SEED MUST BE PLANTED ABOVE THE PERMANENT

ARE IMPORTANT TO THE SUCCESSFUL FUNCTIONING

THE FALL.

MOWING REGIMEN SHOULD BE INSTITUTED, EITHER

BURNING OR MOWING ONCE IN SPRING, OR ONCE IN

ALL AREAS PLANTED WITH NATIVE PRAIRIE SEED MIX SHOULD BE MOWED THREE TIMES AT A HEIGHT OF 6-8 INCHES IN ORDER TO CONTROL WEEDS.

6. "NO MOW ZONE" SIGNS MUST BE PLACED AROUND THE BASIN

7. DETENTION BASIN NATIVE SEEDING TO BE PERFORMED IN EARLY SPRING OR LATE FALL. AQUATIC PLANTS SHOULD BE INSTALLED IN THE SUMMER AFTER THE COVER CROP HAS

sheet title:

DETENTION BASIN PLANTING DETAILS

FELINO A. PASCUAI

and ASSOCIATES

Community Land Planner and

registered Landscape Architect

24333 Orchard Lake Rd, Suite G

Farmington Hills, Michigan 48336

M-59 PROPERTIES

VENTURES, LLC

Hwy. Suite 145

Michigan

project location:

Michigan

Hartland Township,

M-59 and Old U.S. 23

Farmington Hills,

31000 Northwestern

phone: (248) 557-5588

job no. / issue / revision date:

LS23.92.12 REVIEW 12-5-2023 LS23.92.12 PSPR 12-11-2023

12-18-2023 LS24.018.02 REVIEW 2-16-2024 LS24.018.02 PSPR 2-22-2024 LS24.018.03 PSPR REVIEW 3-25-2024 LS24.018.04 PSPR REVIEW 4-4-2024

LS24.018.12 SPA 12-16-2024

Associates

checked by:

1-20-2024

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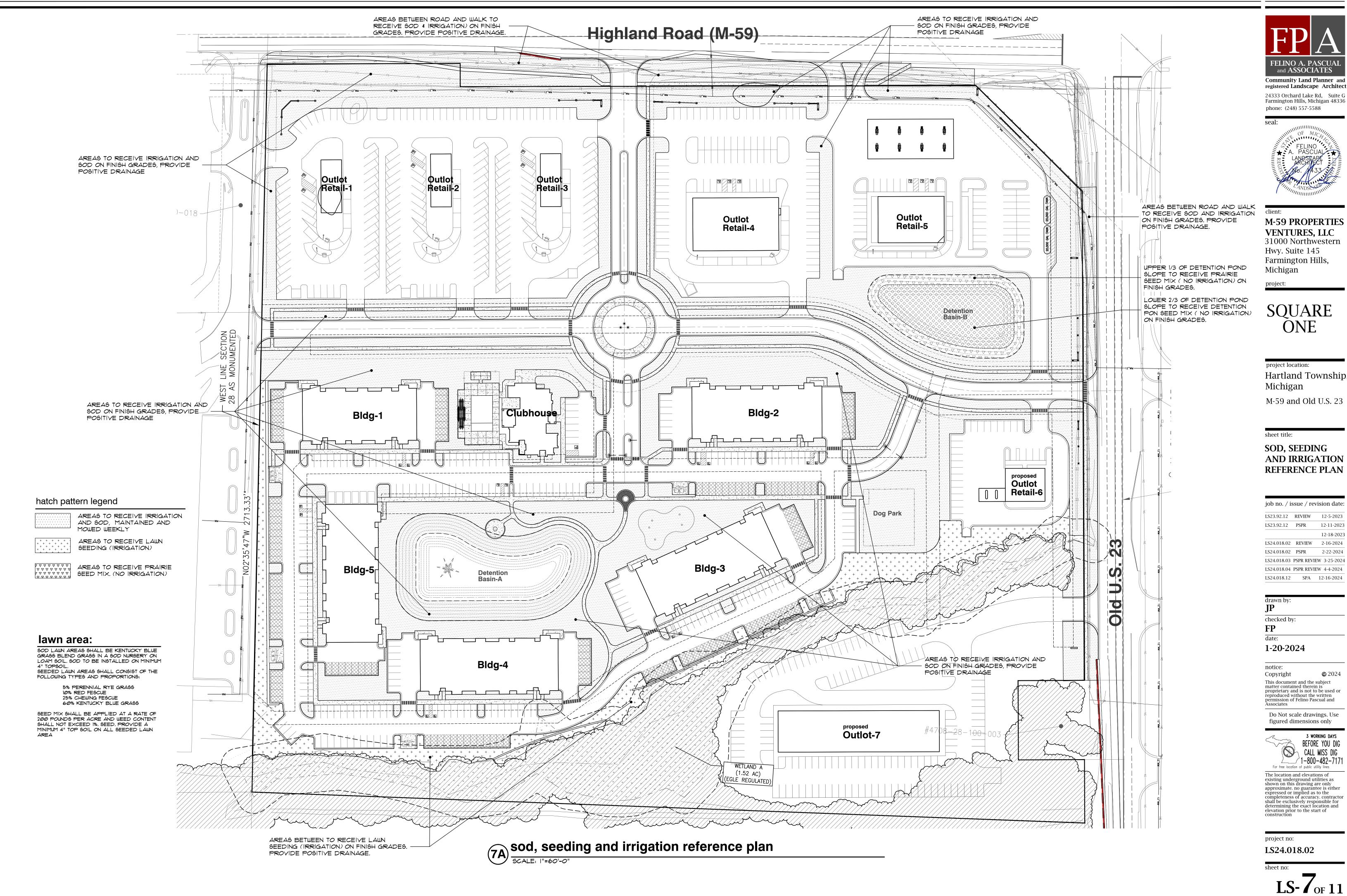
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project no:

LS24.018.02





registered Landscape Architect 24333 Orchard Lake Rd, Suite G Farmington Hills, Michigan 48336 phone: (248) 557-5588



M-59 PROPERTIES VENTURES, LLC 31000 Northwestern Hwy. Suite 145

SQUARE ONE

project location: Hartland Township, Michigan

sheet title:

SOD, SEEDING **AND IRRIGATION** REFERENCE PLAN

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LS24.018.04 PSPR REVIEW 4-4-2024 LS24.018.12 SPA 12-16-2024

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site amenity key

W BR BIKE RACK

□ BENCH SEAT

 $igoplus_{ extstyle extstyle
olimits_{ extstyle
olimits_{ extstyle
olimits_{ extstyle}}}$ BOLLARD LIGHT

♦ STREET POLE LIGHT

☑ PW PET WASTE STATION

TRASH RECEPTACLE

F dog park

\ decorative street light

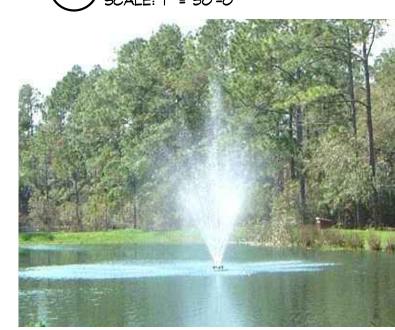


flag poles
(3-CONDITIONS)



bench seating

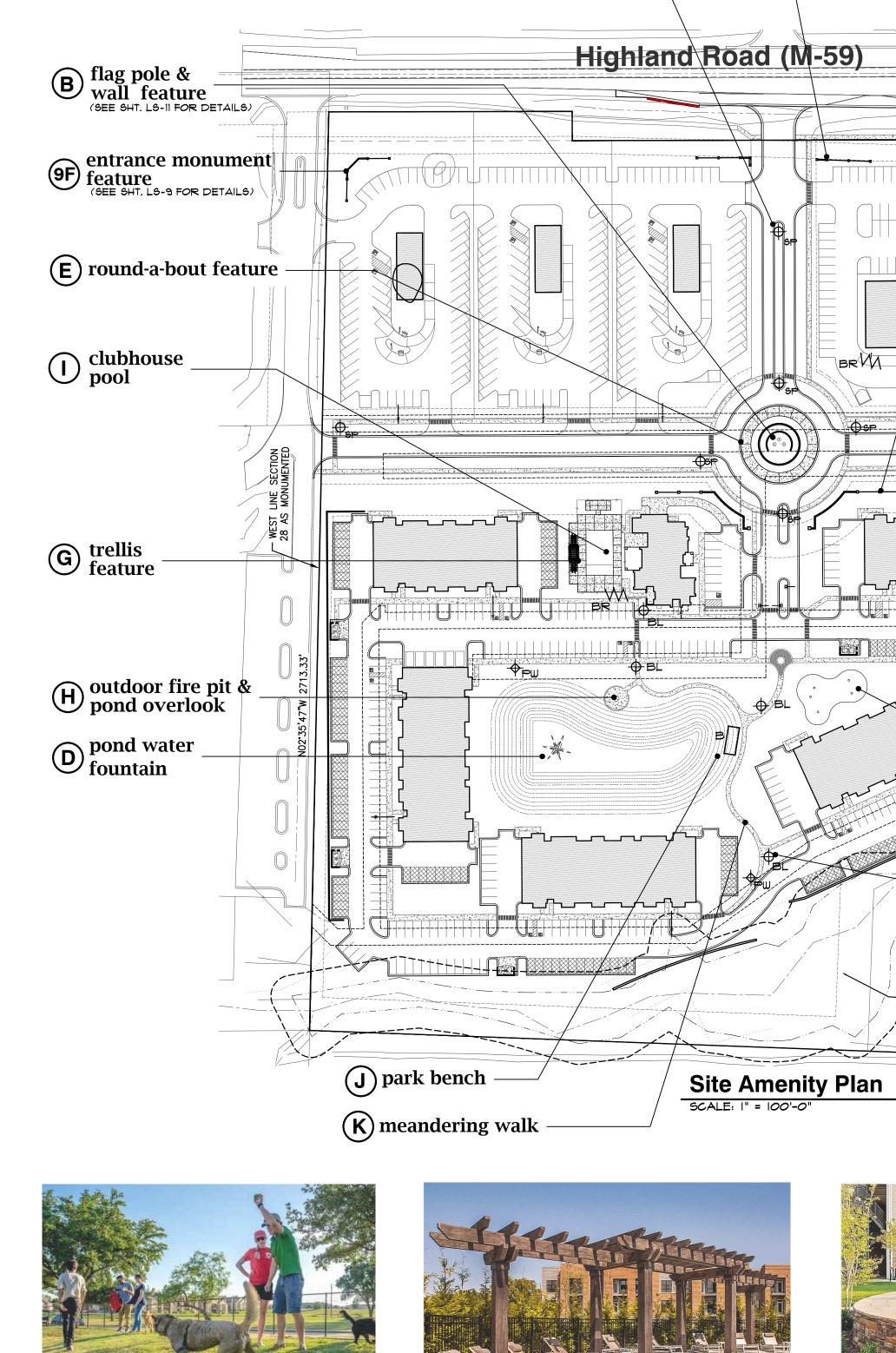
SCALE: |" = 30'-0"



D water fountain



E round-a-bout feature



entrance monument feature (SEE SHT. LS-9 FOR DETAILS)

A street lights — (per site photometric)



G pergola-trellis feature



(H) outdoor gas fire pit at pond overlook

(R) putting green



community pool



P electric vehicular charging station

entrance monument feature (SEE SHT. LS-9 FOR DETAILS)

- entrance feature
(SEE SHT. LS-10 FOR DETAILS)

- street lights
(per site photometric)

-N pet waste station

dog park location

- Carport

-R putting green

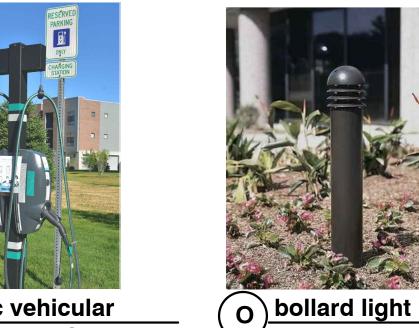
- Obollard lights
(per site photometric)

Mbike rack

(Q) trash receptacle

entrance monument feature
(SEE SHT. LS-II FOR DETAILS)

1 1 /





N pet waste station



M bike rack



(L) carport



(K) meandering pedestrian



J pond overlook





M-59 PROPERTIES **VENTURES, LLC** 31000 Northwestern Hwy. Suite 145 Farmington Hills, Michigan

SQUARE ONE

project location: Hartland Township, Michigan M-59 and Old U.S. 23

sheet title:

AMENITY REFERENCE PLAN

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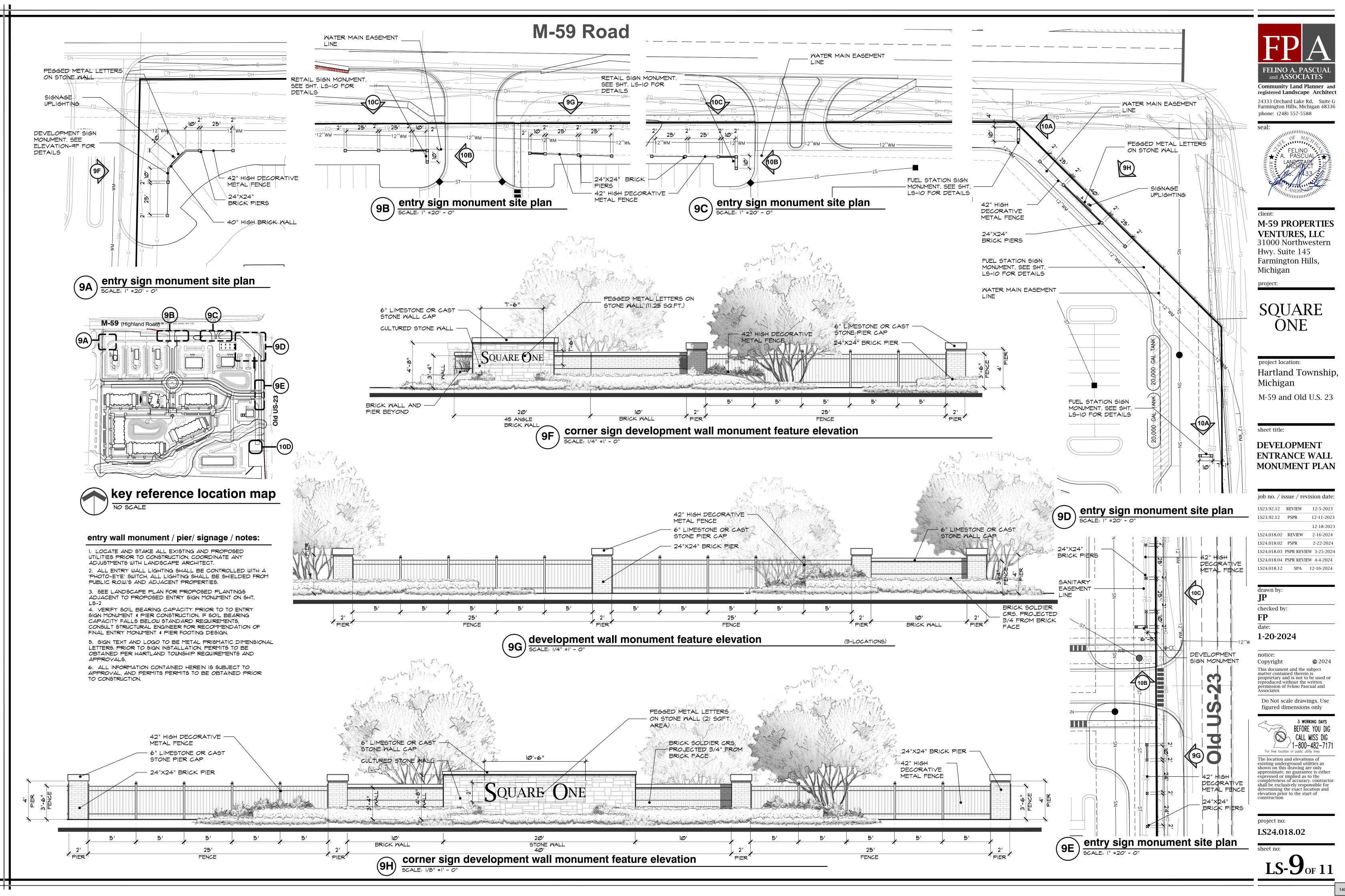
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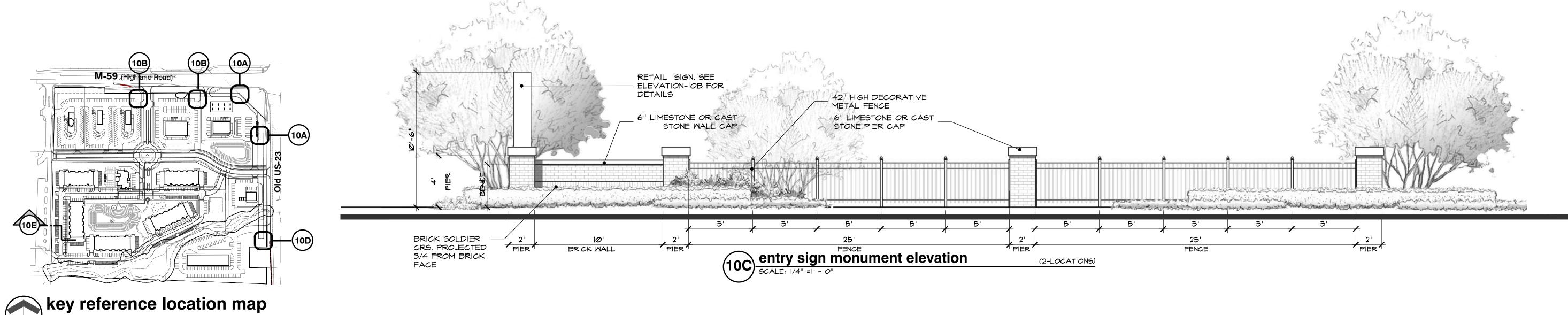


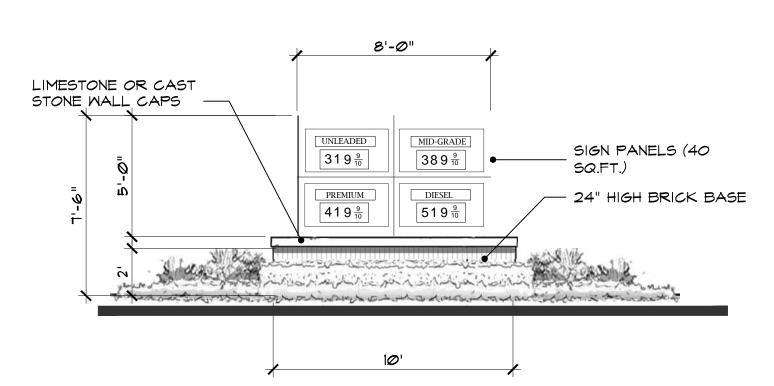
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LS-8 of 11

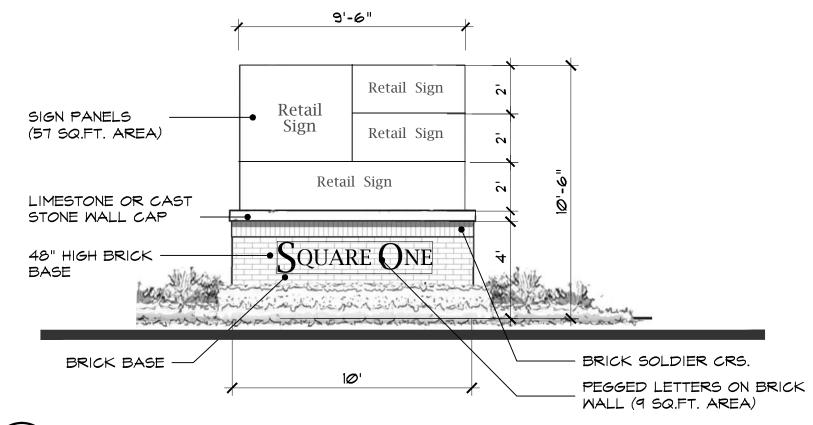






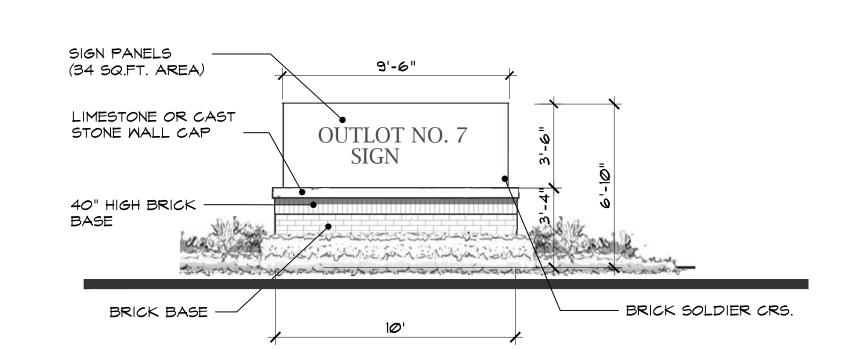
NO SCALE



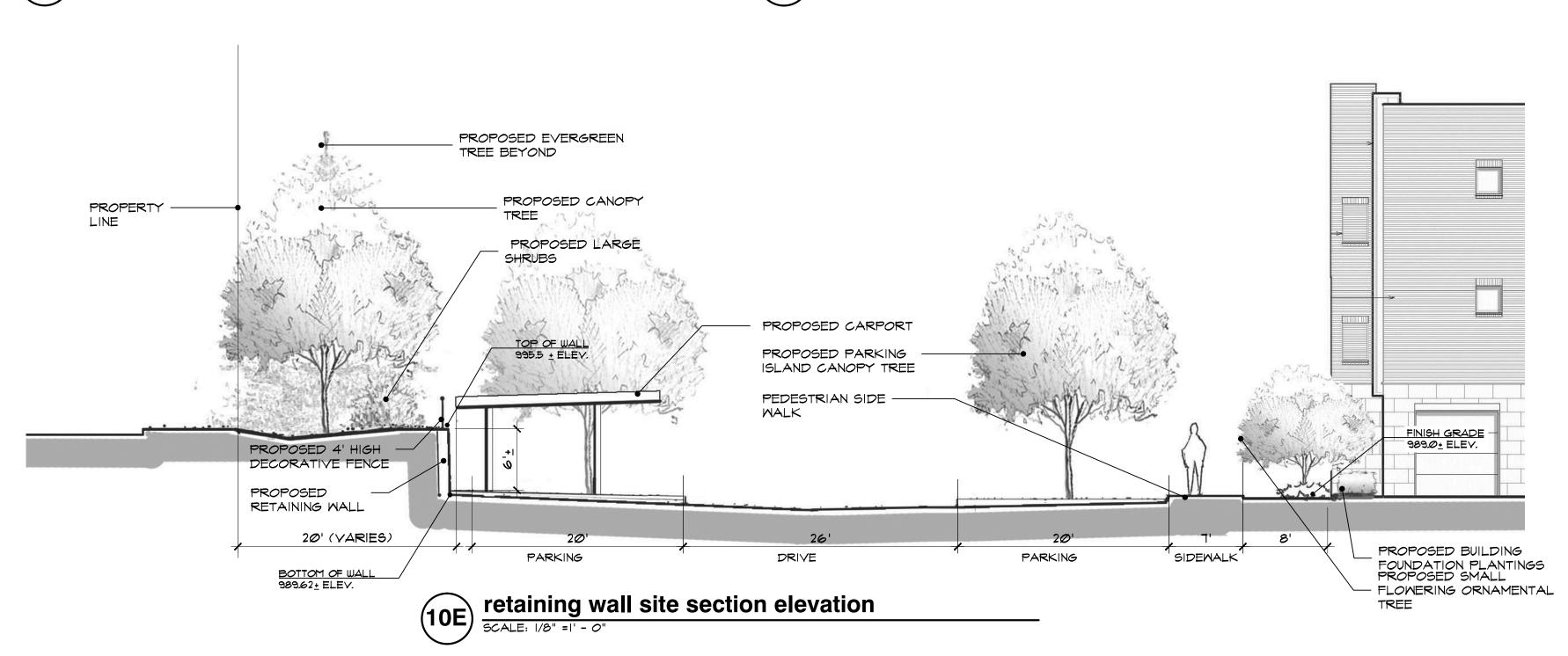


retail/commercial sign monument elevation (2-LOCATIONS)

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



outlot no. 7 sign monument elevation







client:

M-59 PROPERTIES
VENTURES, LLC
31000 Northwestern
Hwy. Suite 145
Farmington Hills,
Michigan

project

SQUARE ONE

project location: Hartland Township, Michigan

M-59 and Old U.S. 23

sheet title:

RETAIL SIGN MONUMENT

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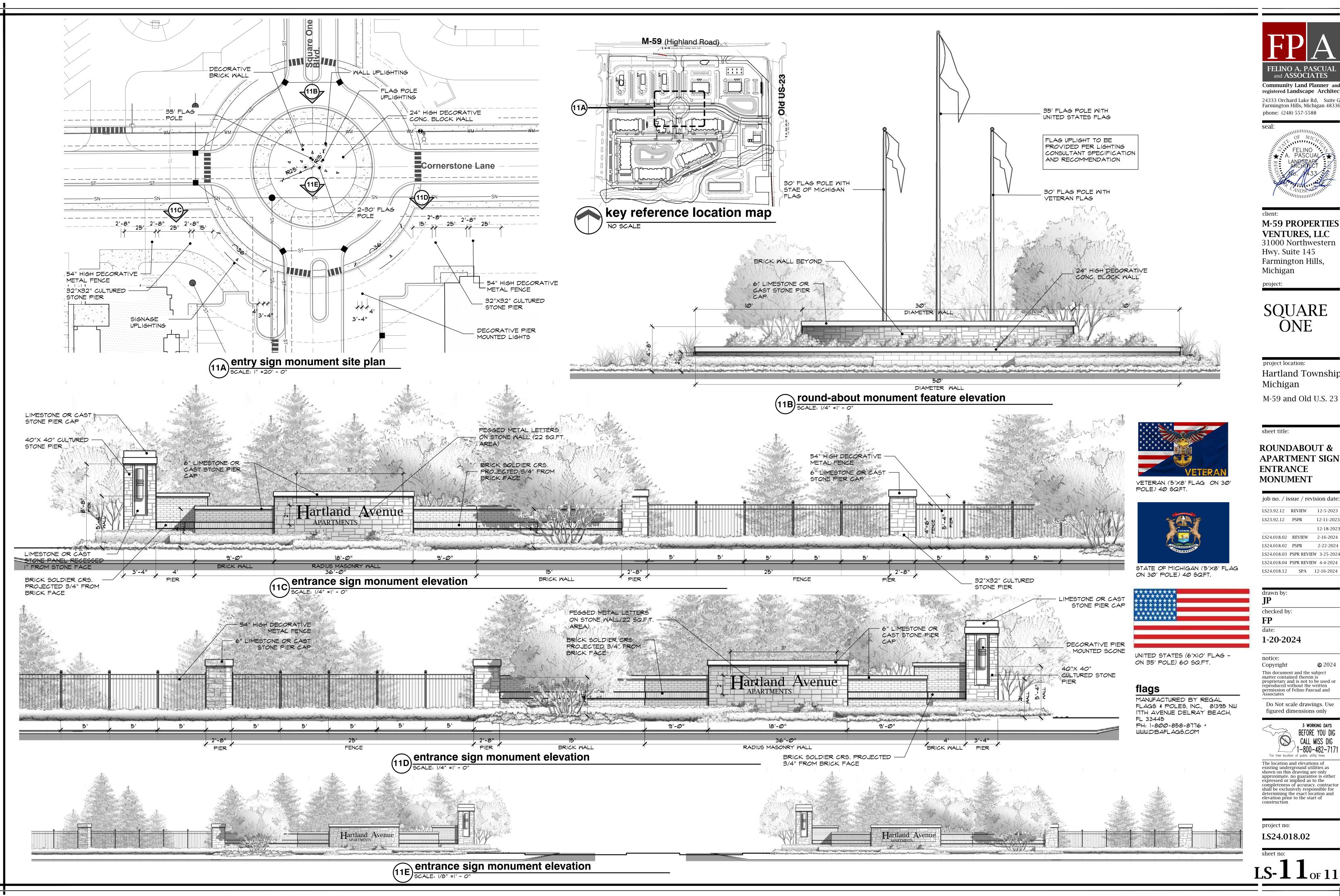
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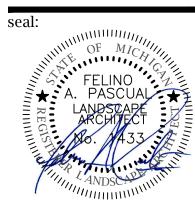
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sheet no:
LS-10of 11



FELINO A. PASCUAL and ASSOCIATES Community Land Planner and registered Landscape Architect 24333 Orchard Lake Rd, Suite G Farmington Hills, Michigan 48336



M-59 PROPERTIES **VENTURES, LLC** 31000 Northwestern Hwy. Suite 145 Farmington Hills, Michigan

SQUARE

project location: Hartland Township, Michigan

sheet title:

ROUNDABOUT & APARTMENT SIGN MONUMENT

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3 WORKING DAYS BEFORE YOU DIG CALL MISS DIG 1-800-482-7171 For free location of public utility lines

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sheet no: LS- $11_{
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