REGULAR MEETING OF THE PLANNING BOARD WEDNESDAY – JANUARY 13, 2016 7:30 PM CITY COMMISSION ROOM 151 MARTIN STREET, BIRMINGHAM

- A. Roll Call
- B. Review and Approval of the Minutes of the regular meeting of December 9, 2015
- C. Chairpersons' Comments
- D. Review of the Agenda
- E. Final Site Plan Reviews
 - 1193 Floyd, Vacant Building (former salon) Application for Final Site Plan Review to allow construction of a new 12 unit residential building (Postponed from November 11, 2015).
 - 2. **885 Redding (existing duplex)** Application for Final Site Plan Review to allow construction of 2 new residential condominiums, each with attached garage.
 - 3. 2159 & 2295 E. Lincoln Request for one year extension of Final Site Plan.
- F. Preliminary Site Plan Reviews
 - 856 N. Old Woodward, Vacant land Application for Preliminary Site Plan Review to allow construction of new 4 story building with first floor retail and residential above (Postponed from December 9, 2015).
- G. Pre-Application Discussion
 - 1. 191 Chester, First Church of Christ, Scientist
- H. Meeting Open to the Public for items not on the Agenda
- I. Miscellaneous Business and Communications:
 - a. Communications Long Range Planning Meeting January 16, 2016
 - b. Administrative Approval Correspondence & 2015 Report
 - c. Draft Agenda for the next Regular Planning Board Meeting (January 27, 2016)
 - d. Other Business
- J. Planning Division Action Items
 - a. Staff Report on Previous Requests
 - b. Additional Items from tonight's meeting
- K. Adjournment

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CITY OF BIRMINGHAM PLANNING BOARD ACTION ITEMS OF WEDNESDAY, DECEMBER 9, 2015

Item		
559 W. Brown St. (currently vacant land) Application for Final Site Plan and Design Review to allow construction of two attached single-family residences	2	
 Motion by Mr. Boyle Seconded by Mr. Share to approve the Final Site Plan and Design Review for 559 W. Brown with the following conditions: 1) Applicant submits spec sheets for ground mechanical equipment; 2) Applicant must reduce the width of the window wells to 6 ft. and provide information on how they will be covered; 3) Applicant provides dimensions and exact colors of proposed building materials in elevation sheets; 4) Applicant addresses the concerns of all City Departments. 	4	
Motion carried, 7-0.	4	
2400 and 2430 E. Lincoln St. (vacant property) Birmingham Senior Living Final Site Plan Review	4	
 Motion by Ms. Whipple-Boyce Seconded by Mr. Share to approve the Final Site Plan and Design Review for 2400 E. Lincoln St. subject to the following: 1) Applicant must provide a detailed analysis of the glazing provided based on the area at Final Site Plan Review to verify that the requirement has been met; 2) All improvements in the right-of-way receive approval from the Engineering Dept.; 3) Applicant must provide a revised photometric plan that includes the foot candle levels 5 ft. beyond the south property line as well as the color/finish of each light fixture; 4) Applicant must obtain approval from the City Commission for the use of the site as an assisted living facility; 5) Applicant provide signage details for administrative approval. 	7	
Amended by Mr. Share and accepted: 6) Applicant must comply with whatever glazing requirement is in effect at the time they apply for a Building Permit.	7	

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Motion carried, 6-0.	7
856 N. Old Woodward Ave. (vacant land) Application for a CIS and Preliminary Site Plan Review to consider a request to construct a new four-story mixed-use over 20,000 sq. ft. in size (postponed from November 11, 2015)	7
Motion by Mr. Williams Seconded by Ms. Whipple-Boyce that consideration of the CIS and Preliminary Site Plan be postponed to January 13, 2016.	12
Motion carried, 7-0.	12
2000-2070 Villa St. Request for one year approval of site plan	12
Motion by Mr. Boyle Seconded by Mr. Williams to suggest extension of the site plan for 2000- 2070 Villa St. for 6 months from this date.	12
Motion carried, 7-0.	12

CITY OF BIRMINGHAM REGULAR MEETING OF THE PLANNING BOARD WEDNESDAY, DECEMBER 9, 2015 City Commission Room 151 Martin Street, Birmingham, Michigan

Minutes of the regular meeting of the City of Birmingham Planning Board held on December 9, 2015. Chairman Scott Clein convened the meeting at 7:30 p.m.

- **Present:** Chairman Scott Clein; Board Members Robin Boyle, Gillian Lazar; Janelle Whipple-Boyce, Bryan Williams; Alternate Board Members Stuart Jeffares, Daniel Share
- Absent: Board Member Bert Koseck; Student Representatives Scott Casperson, Andrea Laverty
- Administration: Matthew Baka, Senior Planner Jana Ecker, Planning Director Carole Salutes, Recording Secretary

12-229-15

APPROVAL OF THE MINUTES OF THE REGULAR PLANNING BOARD MEETING OF NOVEMBER 11, 2015

Mr. Share:

Page 8 - Related to 1193 Floyd St., add that Mr. Share and Chairman Clein recused themselves because of a conflict of interest.

Mr. Jeffares:

- Page 4 Second paragraph, second sentence, delete "of architecture."
- Page 10 Fifth full paragraph, second sentence, delete the period and add a comma after "elevators"; delete "Therefore" and substitute "since."

Chairman Clein:

Page 10 - Replace "Skoke" with "Skok."

Motion by Mr. Boyle

Seconded by Ms. Whipple-Boyce to approve the Minutes of November 11, 2015 as amended.

Motion carried, 6-0.

VOICE VOTE

Yeas: Boyle, Whipple-Boyce, Clein, Jeffares, Share, Williams Nays: None Abstain: Lazar Absent: Koseck

12-230-15

CHAIRPERSON'S COMMENTS

The chairman noted this will be the last Planning Board meeting of the year due to the holiday season.

12-231-15

APPROVAL OF THE AGENDA (no change)

12-232-15

FINAL SITE PLAN REVIEWS

1. 559 W. Brown St. (currently vacant land) Application for Final Site Plan and Design Review to allow construction of two attached single-family residences

Mr. Baka recalled the subject site is a 0.141 acre parcel located on the south side of W. Brown St. between Cherry Ct. and Watkins in the R-8 Zoning District. The existing 6,178 sq. ft. parcel is currently vacant. The applicant is proposing to construct a new 2 ½ story attached single-family building with two residential units.

On October 28, 2015, the applicant received Preliminary Site Plan approval for 559 W. Brown St. with several conditions for which they have complied. They have now provided the required open space in the side yard of each unit. An interior staircase has been added to the floor plan that allows immediate accessibility to the space, which is enclosed within a 6 ft. fence. Also, the applicant has reduced the setback of the front steps.

Further, there were some issues with the photometric plan that were corrected for Final Site Plan Review.

The applicant is prepared to reduce the width of the window wells from 8 ft. to 6 ft. in accordance with ordinance requirements.

The proposed building does not provide the 4 ft. variation as required by Article 4, Setback Standards, Section 4.60 (A). Ms. Ecker explained the rule applies only to R-8 and is to create architectural interest so that the front of the building is not a flat plane. The Planning Board may wish to consider waiving this requirement if it is found that the free flow of air, light and other amenities are not impaired.

Motion by Mr. Williams

Seconded by Ms. Lazar to receive and file for the record the letter dated December 4, 2015 from Mr. and Mrs. Herbert Danziger.

Motion carried, 7-0.

VOICE VOTE Yeas: Williams, Lazar, Boyle, Clein, Jeffares, Share, Whipple-Boyce Nays: None Absent: Koseck

Mr. Jason Krieger from Krieger Klatt Architects was present along with Mr. Brian Watson, one of the developers. Mr. Krieger said they feel they have complied with all of the recommendations from staff and from the board; and they will comply with anything further that Engineering would require. Their goal is to create a quality product in Downtown Birmingham. He pointed out the porches, articulation, and bay projections that add variation to the facade. He feels the building will be a beautiful addition to the street and an extension of the Cityscape in that area.

He presented the materials and talked briefly about where they will be located.

Mr. Watson confirmed they will add additional Arborvitae to make up for the lack of 8 ft. wall along the rear. Also they will plant Arborvitae along the southern neighbor's yard.

Chairman Clein invited comments from members of the public at 7:50 p.m.

Mr. Herbert Danziger, 550 Cherry Ct., explained he and his wife along with seven other neighbors submitted the letter that opposes the project and discussed the issues that were taken up in the previous two meetings. Mr. Danziger feels the two attached townhouses are entirely too large for the lot. They impinge on the adjacent properties. He asked the board to vote no on the project and to recommend a single-family home which is more comparable to the neighborhood.

Mr. Watson spoke to Mr. Danziger's concerns. He announced his willingness to work with the adjacent homeowners with respect to construction fencing. He further noted there will be a 6 ft. masonry screenwall with a limestone cap going 20 ft. along the eastern lot line and all the way across the rear lot line. Chairman Clein said the Engineering Dept. will take care of the drainage in the course of the building permitting process.

Mr. Williams received confirmation that the project as proposed complies with the Zoning Ordinance in this location.

Mr. Share observed that according to Mr. Danziger's letter their house received variances in 1980 allowing it to be built 7 ft. from the north property line and 5 ft. from the west property line. To the extent that the house is closer to the boundary than it might otherwise be under the Zoning Ordinance, Mr. Share had a difficult time thinking that is a reason to deny the applicant the right to use their property for a permitted purpose.

Mr. Williams followed up by saying this proposal is in accordance with existing zoning. On that basis, the Planning Board does not have a reason to deny when it is in compliance with the Zoning Ordinance. That would be putting the City at risk and in his judgment the City would lose.

Motion by Mr. Boyle

Seconded by Mr. Share to approve the Final Site Plan and Design Review for 559 W. Brown with the following conditions:

1) Applicant submits spec sheets for ground mechanical equipment;

2) Applicant must reduce the width of the window wells to 6 ft. and provide information on how they will be covered;

3) Applicant provides dimensions and exact colors of proposed building materials in elevation sheets;

4) Applicant addresses the concerns of all City Departments.

There was no final discussion from the public on the motion at 8:12 p.m.

Motion carried, 7-0.

VOICE VOTE Yeas: Boyle, Share, Clein, Jeffares, Lazar, Whipple-Boyce, Williams Nays: None Absent: Koseck

12-233-15

2. 2400 and 2430 E. Lincoln St. (vacant property) Birmingham Senior Living Final Site Plan Review

Mr. Williams announced he has a conflict of interest because his law firm represents the current property owners and therefore he will recuse himself from this review.

Mr. Baka recalled the subject site has a total land area of 3.78 acres. It is located on the south side of E. Lincoln St. between S. Eton St. and the Grand Trunk Railroad right-of-way. The applicant is proposing to develop the vacant site with a four-story senior living center, two surface parking lots, a detention basin and nearly 84,000 sq. ft. of landscaped open space. The proposed development will consist of two connected buildings. The east portion is one story and the west portion is four stories. The development will provide 122 residential units (83 assisted living and 39 memory care units) and building amenities for residents such as a community room, beauty salon, and wellness suite. The site is currently zoned MX and lies within the Eton Road Corridor Plan area. The proposed use is a permitted use with the approval of the City Commission.

The applicant was required to prepare a Community Impact Study ("CIS") in accordance with Article 7, section 7.27(E) of the Zoning Ordinance as they are proposing a new building containing more than 20,000 sq. ft. of gross floor area. On September 30, 2015 the Planning Board voted to accept the CIS and on November 11, 2015 they approved

the Preliminary Site Plan after the applicant presented changes to the design of the front of the building and moved the drop-off area into the parking lot.

The entire site is accessible to pedestrians via the proposed network of new sidewalks and the fire truck access drives. The main pedestrian entrance is located on the front elevation of the building adjacent to the vehicular drop-off in the front parking area. Article 04 section 4.76 SS-08 (A) 5 states that all buildings shall have their principal pedestrian entrance on the frontage line. The applicant has introduced additional design features to accentuate this area. A new awning has been added that wraps around the corner and connects to the canopy at the drop-off area. The assisted living courtyard walkway is connected to the sidewalk along the southern linear parking area. This provides direct access through the courtyard to a secondary secured entrance for visitors and residents in the event that they may need to park south of the building.

Design Review

Material samples were passed around. The new building facades will be composed of brick, wood lap siding, fiber cement panels, clear insulated glass and spandrel glass. The first floor of the building is composed of primarily brick and glass with several sections of wood lap siding interspersed throughout. The upper stories of the east portion of the building are comprised of large sections of fiber cement panels framed with brick. Interior portions of the fiber cement panel areas are accented with the wood lap siding. There are also several Juliette balconies on each floor with metal railings. Several thin areas of the upper floors are composed of insulated clear glass which is interspersed with spandrel glass. The top of the building is accented with precast concrete caps in the brick areas and prefinished metal coping in the areas with fiber cement panels.

<u>Glazing</u>: Article 04, section 4.83 of the Zoning Ordinance requires that the first floor of the building provide at least 70% glazing and the upper floors provide a maximum of 50% glazing. However, the Planning Board recently made a recommendation to the City Commission that the calculation for the first floor be measured from 1 ft. to 8 ft. above grade. The applicant will be required to revise the glazing allotment or obtain a variance from the Board of Zoning Appeals ("BZA") if the amendment is not adopted.

- North Elevation There are issues with the way that the glazing calculations have been presented that do not allow for an accurate assessment of the percentage of glazing provided on the first floor. Accordingly, the applicant must provide a revised glazing calculation for the north elevation that includes the entire first floor in one calculation. This calculation must include all portions of the exterior walls that face the parking area.
- West Elevation The west elevation appears to meet the glazing requirement.
- South Elevation There are sections of the south elevation that face the parking areas that were not included in the glazing calculation. Accordingly, the applicant must revise the glazing calculation for the south elevation to include all areas facing a parking area as required by the ordinance. *If the building does not meet the glazing requirements after the revised calculations have been*

provided then the applicant will be required to provide the additional glazing or obtain a variance from the BZA.

The parking requirement for this project is 68 spaces. They are providing 68 on-site but they also are providing on-street parking, eight on the north/south street and seven on E. Lincoln St. Ms. Ecker advised the north/south road has been approved by the Engineering Dept. as a right-of-way. The design of the road has to be approved by the Engineering Dept. Board members agreed that the Planning Board sees it as important that when the building is completed the road will get re-built.

<u>Signage</u>: The applicant is proposing two signs on the property. One sign is located on the front elevation of the first floor directly to the west of the main pedestrian entrance which reads "The Sheridan of Birmingham". The second sign is located on the water fountain feature in the drop-off/parking area and also reads "The Sheridan of Birmingham". The applicant has not provided any details on the height, thickness or materials proposed. Accordingly, the applicant is required to provide additional details on the signage to verify that they meet the size and design requirement of the Sign Ordinance.

Mr. Sean Havera, Mr. Ron Hughes and Mr. Don Bailey were present with Hughes Properties, along with Mr. Matt Boon with CA Ventures, joint venture partners; and Ms. Chauncey Hoffman with Harley Ellis Devereaux, architect. Mr. Havera indicated they are slated to go before the City Commission next Monday, December 14, and hope to have a favorable ruling from the Planning Board this evening.

Ms. Hoffman pointed out the various materials and showed where they will be used. She explained the improvements that have been made for the pedestrian entrance. The canopy will be a clear material with a steel frame structure supported off the building. The drop-off and the canopy that wraps the corner goes east on Lincoln St. a little past the pedestrian entrance to the end of the bay and then a little further into the courtyard area.

Mr. Boon affirmed their goal is to have a complete new north/south road prior to obtaining their Certificate of Occupancy.

No one from the public wished to comment on this proposal at 8:32 p.m.

Motion by Ms. Whipple-Boyce

Seconded by Mr. Share to approve the Final Site Plan and Design Review for 2400 E. Lincoln St. subject to the following:

 Applicant must provide a detailed analysis of the glazing provided based on the area at Final Site Plan Review to verify that the requirement has been met;
 All improvements in the right-of-way receive approval from the Engineering Dept.;

3) Applicant must provide a revised photometric plan that includes the foot candle levels 5 ft. beyond the south property line as well as the color/finish of each light fixture;

4) Applicant must obtain approval from the City Commission for the use of the site as an assisted living facility;

5) Applicant provide signage details for administrative approval.

Amended by Mr. Share and accepted:

6) Applicant must comply with whatever glazing requirement is in effect at the time they apply for a Building Permit.

No further comments were heard from the public at 8:34 p.m.

Motion carried, 6-0.

VOICE VOTE Yeas: Whipple-Boyce, Share, Boyle, Clein, Jeffares, Lazar Nays: None Recused: Williams Absent: Koseck

12-234-15

COMMUNITY IMPACT STUDIES ("CIS") AND PRELIMINARY SITE PLAN REVIEWS

 856 N. Old Woodward Ave. (vacant land) Application for a CIS and Preliminary Site Plan Review to consider a request to construct a new four-story mixed-use over 20,000 sq. ft. in size (postponed from November 11, 2015)

Ms. Ecker explained the site has a total land area of .56 acres and is located on the east side of N. Old Woodward Ave. south of Oak St.

Ms. Ecker advised that the applicant is proposing to construct a four-story mixed-use building. The lower level of the building will have parking and residential storage spaces. The first floor is proposed to contain parking fronted by retail space and a residential lobby. The second, third and fourth floors will contain 27 residential units. On-street parking will be provided on N. Old Woodward Ave. The building will have an approximate total of 106,513.7 gross sq. ft. Thus, the applicant was required to prepare a Community Impact Study in accordance with Article 7, section 7.27(E) of the Zoning Ordinance as they are proposing one new building containing more than 20,000 sq. ft. of gross floor area.

CIS

The CIS acts as a foundation for discussion between the Planning Board and the applicant, beyond the normal scope of information addressed in the Preliminary Site Plan Review application. The Planning Board "accepts" the CIS prior to taking action on a Preliminary Site Plan.

Planning and Zoning Issues:

• Use - The site is currently zoned O-2 Office and falls within the D-2 Overlay District as provided in the Downtown Birmingham 2016 Plan The proposed

residential units, retail space and parking facility are permitted principal and/or accessory uses in the 0-2 and D-2 Zone District.

- Overlay District Compliance The proposed development implements some of the recommendations contained in the 2016 Plan. However, the proposed building contains one extra floor of residential above the three stories recommended in the 2016 Plan. Although it is four stories, the building conforms to the maximum height of 56 ft. limit in the D-2 Zone of the Overlay District. The Building Official will have to make a final determination as to whether it is clear they can only have three stories. *If that is the case, the applicant will need a variance from the Board of Zoning Appeals ("BZA") for the fourth story.*
- Master Plan Compliance, 2016 Plan The CIS presented does not fully discuss the goals and objectives of the City's Master Plan to demonstrate whether the City can support the proposed development. However, a number of goals and objectives of the Downtown Birmingham 2016 Master Plan do demonstrate that the City can support the proposed development.

Land Development Issues: While the applicant has submitted a soil boring report, the received materials do not confirm that the soils within the subject site are suitable to support the proposed development. The applicant will be required to provide a full soil analysis when applying for a Building Permit. On August 13, 2015, PM Environmental conducted a subsurface investigation and discovered a whole list of contamination concerns that exceed the limits. The applicants plan to submit a Brownfield Application to the City.

The existing site also contains steep slopes. The applicant proposes a below grade parking garage that will substantially remove the existing site erosion and runoff conditions into the adjacent Rouge River. Areas of existing steep slopes will be stabilized during construction to prevent erosion. The CIS states that an Erosion Control Plan will be prepared to meet all municipal soil erosion control requirements to mitigate any potential discharge of materials into the river. Mr. Share was certain the construction will disturb some of the contaminated soils. He did not think the Michigan Dept. of Environmental Quality ("MDEQ") will be proactive so the City ought be concerned. Ms. Ecker clarified that is generally something that the Brownfield Redevelopment Authority would handle when a Brownfield Plan is submitted for reimbursement. She added the City can call the MDEQ and bring this to their attention. Also, she can submit this information to the City's environmental attorney to ensure everyone is fully aware about what is going on. Chairman Clein suggested that the applicant provide background information on their mitigation plan for the City to review and take proper action to protect the City's interest in the natural environment. Further, Mr. Boyle wanted to see some resolution regarding the roles and responsibilities of the different agencies in detailing whether this facility can mitigate the contamination that exists at present.

<u>Utilities, Noise and Air Issues</u>: All required utility easements have not been verified. However, the applicant has noted that the civil engineer and construction manager will provide verification of easements for all proposed and additional utilities prior to construction. In accordance with the 2016 Plan, all utilities on the site should be buried to visually enhance the site. The CIS does not indicate that utilities will be buried to meet this provision.

A sound study was performed by Kolano and Saha Engineers to analyze existing ambient noise and estimated future noise levels on the site. The prepared noise report states the site has a measured sound level of DNL 63 dB, and thus falls within HUD guidelines for residential land use. Kolano and Saha have provided information detailing the types of units that will produce the least amount of sound.

The CIS notes that the proposed project is not expected to create excessive noise that would exceed existing code standards.

The CIS states that the closest air monitoring stations are located in Oak Park and Pontiac. Current ambient air quality standards are well under the existing minimum standards mandated by the Environmental Protection Agency "(EPA"). The applicant has indicated that all new HVAC equipment will be selected to provide minimum pollutant discharge and maximum filtration.

<u>Environmental Design and Historic Values</u>: The applicant will be required to provide the City with a public access easement for the western portion of the site that is proposed for public parking and a public sidewalk.

<u>Refuse, Sewer and Water</u>: The CIS states that there will be a refuse room on the first level that will be adequate in size to service the development. No details have been provided on the size of the trash containers, nor has information been provided to detail the collection and separation of recyclables. The CIS further states that there is adequate water service to the site and that the existing sanitary and combined sewers on the site will be sufficient to service the development.

The applicant has stated that the proposed wastewater system will be adequately designed by an engineer to service the facility and that design capabilities of the facilities will not be exceeded as a result of this project.

The proposed storm water system will be designed to meet the City standards for storm water management. The applicant anticipates that the design capacity of storm water facilities will not be exceeded. The CIS has indicated that elements have been incorporated into the project to reduce the amount of storm water entering the sewer. This will be carried out through a proposed underground detention system.

The applicant has indicated that the proposed water service system will be adequately designed to service the facility. The applicant anticipates that the existing water quality is safe from both chemical and bacteriological standpoints and will provide verification of this prior to final site plan review. The applicant also anticipates the water supply design to be compatible with the existing City system.

<u>Public Safety</u>: The applicant has not indicated whether the proposed development location or design provide adequate access for police, fire and emergency vehicles and

individuals. However, the applicant has indicated that the project design will be reviewed by all public safety services and recommendations for conformance will be implemented into the final design.

<u>Transportation Issues</u>: The applicant has submitted a Traffic Impact Study prepared by Stonefield Engineering and Design. The City's traffic consultant, Fleis & Vandenbrink, has completed a review of the traffic study and provided a number of comments and concerns. The traffic study should be revised to meet all City requirements and approved by the City's traffic consultant.

The applicant is proposing 19 parking spaces on the first level located behind the retail. Thirty-seven parking spaces are proposed on the lower level and nine parking spaces are proposed in the open space parking outside along the western edge of the property for a total of 65 spaces. The CIS states that there will be no more than 75 parking spaces, but both the engineering and architectural drawings show 65 parking spaces.

<u>Natural Features</u>: The applicant has indicated that there are no water quality issues known regarding the existing Rouge River to the east of the site. The CIS indicates that the proposed project will involve an increase in impervious surface area. An underground detention system has been designed to accommodate the additional impervious surfaces and reduce the overall runoff from the site. The CIS indicates that the project will not affect surface water flows on water levels of ponds or water bodies. The MDEQ has been notified and does not anticipate any adverse effects. The CIS also states that the project is located within the 100-year floodplain. As such, the applicant indicates that the project will meet all state and local floodplain regulations.

The proposed development will not destroy a natural feature, but it will isolate the river from public access. However, there is not currently public access to the river from this site. No natural feature will pose a safety hazard to the development nor will the proposed project destroy any existing wildlife or habitats.

Mr. Tim Ponton, Stonefield Engineering and Design, spoke on behalf of the applicant and explained to the board their design process and some of the challenges they encountered in terms of getting the development to work. Very deep piles along with a grid system will be needed beneath the project. Their property line comes out 20 ft. as compared to the remainder of the block. What that means for them is the opportunity for additional parking and extending the boulevard.

Mr. Ponton explained that they will be required to file a Due Care Plan with MDEQ who will then monitor their construction, ultimately do additional testing, and then sign off. Therefore, the site will be cleaned up to meet at least the minimum standards for residents to be living there. In addition the county will be taking a look at it to make sure from a soil erosion and sediment control standpoint nothing gets into the Rouge River. They intend to submit a Brownfield Plan. In terms of the traffic, they are confident they can mitigate any issues and satisfy the City traffic engineer. They hope to develop the site into something that is consistent with the existing development patterns and are under the assumption that they will go before the BZA for a height variance.

Motion by Mr. Williams

Seconded by Mr. Share to receive and file the letter from Norman Ziegelman dated October 26, 2015 and also a letter from Carolyn Butcher which is marked received on November 30, 2015.

Motion carried, 7-0.

VOICE VOTE Yeas: Williams, Share, Boyle, Clein, Jeffares, Lazar, Whipple-Boyce Nays: None Absent: Koseck

At 9:40 p.m. the chairman opened discussion to the public on the CIS.

Mr. David Underdown, owner of the Douglas Cleaners property, said he doesn't think they contributed to the contamination because they dispose of their waste and years ago there was a gas station on that site.

Chairman Clein personally thought that a lot of information needs to be tightened up, particularly related to the number of stories and their impact, and the traffic.

Motion by Mr. Williams

Seconded by Ms. Whipple-Boyce that consideration of the CIS and Preliminary Site Plan be postponed to January 13, 2016.

Mr. Ponton spoke from the audience at 9:50 p.m. He noted with respect to the shortage of parking in that area that they have an abundance of 15 spaces on-site. Therefore, they don't need to count the spots in front towards their goal.

Motion carried, 7-0.

VOICE VOTE Yeas: Williams, Whipple-Boyce, Boyle, Clein, Jeffares, Lazar, Share Nays: None Absent: Koseck

12-235-15

REQUEST FOR SITE PLAN EXTENSION

1. 2000-2070 Villa St. Request for one year approval of site plan

Ms. Ecker recalled that the project proposed is eight units on the south side of Villa across from District Lofts on the east side of S. Eton. Mr. David Steuyer explained his lender dropped them in the spring. He has since found another lender and they are not looking for any changes other than what was submitted and approved in 2013. In response to an inquiry by Mr. Share, Mr. Steuyer said that a 6 month extension would be fine.

Motion by Mr. Boyle Seconded by Mr. Williams to suggest extension of the site plan for 2000-2070 Villa St. for 6 months from this date.

No public remained at this time.

Motion carried, 7-0.

VOICE VOTE Yeas: Boyle, Williams, Clein, Jeffares, Lazar, Share, Whipple-Boyce Nays: None Absent: Koseck

STUDY SESSION ITEMS

1. Planning Board Action List 2016-2017

Ms. Ecker indicated the one item that was added from last year is the D-5 Overlay District. The City Manager has also asked the Planning Board to consider whether or not to look at adding parking requirements for outdoor dining. The Triangle and Rail Districts are the two areas where this might apply.

Mr. Williams thought the Planning Board needs direction from the new City Commission on some of the items on the Action List. It would make sense to hold the joint meeting on a Saturday.

In response to discussion about the need for a Master Plan update, Ms. Ecker said that at the Long Range Planning meeting in January the Master Plan issue will be one of the Planning Dept. topics for discussion.

Chairman Clein suggested removing item 6, S. Woodward Ave. Gateway Plan from the Action List. Items 3, 7, and 8 can be handled in a relatively short time:

- Item 3 Potential residential zoning changes MF and MX garage doors, garage house standards, dormers;
- Item 7 Ordinance adjustments and corrections;
- Item 8 Consider outdoor storage and display standards.

Mr. Williams thought regarding the planning process that the board needs to get back to some dedicated planning meetings. He suggested they start in February with one every other month and then go to April. He further suggested that these meetings be held on the first meeting of the month.

12-236-15

MEETING OPEN TO THE PUBLIC FOR ITEMS NOT ON THE AGENDA (none)

12-237-15

MISCELLANEOUS BUSINESS AND COMMUNICATIONS

a. <u>Communications</u> (none)

b. <u>Administrative Approval Correspondence</u>

260 N. Old Woodward Ave., Arthur Ave. - Awning to be fabricated and attached to Arthur Ave. front of building facing N. Old Woodward Ave.

2483 W. Maple Rd. - Install illuminated ground sign, 30 sq. ft.; install nonilluminated wall sign, 13 sq. ft.

c. Draft Agenda for the Regular Planning Board Meeting on January 13, 2016

- Action List
- > 1193 Floyd easements (may be postponed)
- > 2159 2295 E. Lincoln Site Plan extension
- > 856 N. Old Woodward Ave.
- d. <u>Other Business</u> (not discussed)

12-238-15

PLANNING DIVISION ACTION ITEMS

- a. <u>Staff report on previous requests</u> (none)
- b. <u>Additional items from tonight's meeting</u> (none)

12-239-15

ADJOURNMENT

No further business being evident, board members motioned to adjourn at 10:15 p.m.

Jana Ecker Planning Director



RE: 1193 Floyd

1 message

John Skok <JSkok@mcintoshporis.com>

Wed, Jan 6, 2016 at 6:27 PM

To: Jana Ecker <jecker@bhamgov.org>

Cc: Charles DiMaggio <cmd@corepartners.net>, Michael Poris <MPoris@mcintoshporis.com>, Robert Katzman <rmk@corepartners.net>, Larry Goss <lrg@corepartners.net>, Analise Pietras <APietras@mcintoshporis.com>

Hi Jana,

We would like to formally request a postponement of our final site plan review to February as we still need to meet with the City Commission. I am awaiting Bruce's response and hopefully his approval of our first step of Accessibility conformance. We then need to look into the date and time for a second meeting regarding accessibility within the units.

Thank You,

John

John Skok, LEED AP

Associate



Architecture Interiors Planning

36801 Woodward Avenue, Suite 200 Birmingham. Michigan 48009 T (248) 258-9346 x18

M (313) 304-0114

jskok@mcintoshporis.com

www.mcintoshporis.com

MCINTOSH Poris Associates

January 5, 2016

Mr. Bruce Johnson Building Official City of Birmingham 151 Martin Street Birmingham, MI 48012

Dear Bruce,

Thank you for your time while meeting with our team and discussing our project located at 1193 Floyd Street. I wanted to take the time to write down our design intent as it relates to our conformance with the Michigan Building Code and referenced standards in relation to the location of our Type B units.

Our project is a new, ground up apartment building consisting of 12 units and 18 parking spaces (one of which is a van accessible space). The building is 2 stories in height above grade and includes a garden level story at 5'-8" below grade. The use for this building is R-2. All building entrance doors (8) are located on our property on an accessible route that connects to the public right of way, exterior amenities (mailboxes, bicycle racks, etc) and our required accessible parking space in our private lot.

MBC Section 1107.6.2.1 No Type A units are required. All apartments shall be Type B units unless permitted to be reduced according to 1107.7

MBC Section 1107.7.1 In structures without elevator service one story shall be indicated as complying with Type B units.

Nowhere in this section does the code infer that this level be designated "at grade." Therefore we indicate that the garden level story of the building will serve as the project's complying story and all units (4) on this story shall be Type B units as defined in the Michigan Building Code and further referenced in ICC A117.1-2009

MBC Section 1107.7.1.1 At least one story containing apartment units shall be provided with an accessible entrance from the <u>exterior</u> of the structure and all units intended to be occupied on that story shall be Type B units.

We comply with this section as each of our garden level units has an accessible entrance from the exterior of the building. This section does not specify the intent of one common exterior entrance and the remaining shall be interior entrances from corridors. In this case, separate exterior primary entrances do comply. Furthermore, each entrance has an interior landing at grade before

descending into the apartment. The landings and clearance dimensions on both sides of the primary entrance door comply with Type B requirements.

Type B Units are defined in the MBC as complying with the definition and requirements of ICC A117.1 According to this referenced standard, there are features of the unit that must comply at all times and other features that must be adaptable to comply based on the occupants need. The concerns voiced in our meeting focused on the primary entrance and we will address the accessible route within the unit at a later time.

ICC A117.1 Section 1004.2 The primary entrance of each apartment must be on an accessible route from public and common areas.

Our front doors enter from the sidewalk which is an accessible route to the building. Interior and exterior language is not included in this definition, therefore our design complies.

The primary entrance shall not be to a bedroom unless it is the only entrance.

This is the case with our design and we comply.

During the course of our conversation in the meeting we understood that we should address the locations of the Type B units and primary entrance issue directly before addressing the accessible route within the units. We feel this code review is in full compliance with the Michigan Building Code, the Michigan Barrier Free Design Guidelines and all related referenced standards. Upon your approval, we would like to review and discuss the accessible routes within the four Type B units. If you have any questions, please contact us.

Sincerely,

Michael Poris, AIA - Principal McIntosh Poris Associates

am 10

Larry Pickel, Carlisle/Wortman Code Enforcement Services

John Skok, LEED AP McIntosh Poris Associates

cc: Chuck DiMaggio, Robert Katzman, Analise Pietras, Craig Strong

I



Construction on grant

1 message

andreakbelen@gmail.com <andreakbelen@gmail.com> To: jecker@bhamgov.org, bjohnson@bhamgov.org, jvalentine@bhamgov.org Cc: Tiffany Harris <tiffanyharris03@hotmail.com> Sat, Dec 19, 2015 at 2:25 PM

In regards to the idea of turning the commercial building on grant and Lincoln into affordable housing options does NOT go along with the city and what it stands for. A better solution might be 3-4 townhouses that may fit better with the city of Birmingham. Affordable housing next to the park does not seem like a good idea. As a birmingham resident for most of my entire life, I wanted to convey my thoughts.

I request that you please forward my email to the Planning Board, City Commissioners, Board of Zoning Appeals and Parks and Recreation Board.

Sincerely, Andrea Korotkin Belen

Sent from my iPhone



Re: 1193 Floyd Street

1 message

Joe Valentine <jvalentine@bhamgov.org> To: Kristina Abrams <kristina.abrams@gmail.com> Cc: Jana Ecker <jecker@bhamgov.org>, Bruce Johnson <bjohnson@bhamgov.org>, Lauren Wood <Lwood@bhamgov.org>

Kristina,

Thank you for your email. By copy to staff I will ask them to share it as requested.

Regards, Joe Valentine

On Thu, Dec 17, 2015 at 12:20 AM, Kristina Abrams <kristina.abrams@gmail.com> wrote:

Dear Ms Ecker, Mr Johnson, and Mr Valentine,

This letter is in response to the proposed 1193 Floyd Street proposed Multifamily development. Please review the considerations listed below, and share with the Planning Board, City Commissioners, Board of Zoning Appeals and Parks and Recreation Board:

- 1. Is there an opportunity to reconsider the zoning on this piece of land?
- 2. Is there an opportunity for the city to buy this land?
- 3. Has the city required a Life Cycle Assessment of this design?
- 4. How long is this building expected to operate before requiring major replacement of envelope and systems?
- 5. How does the design of the building fit the character of the neighborhood?
- 6. How does the design and orientation of the building encourage activation of St James Park?
- 7. How will this multifamily dwelling perform from an energy and water perspective? Is it being held to any specific standards for energy performance?
- 8. Is the multifamily zoning of this site, and the design proposed, consistent with the intent behind the City's regulations to restrict plumbing and exterior staircases on detached garages of surrounding homes?
- 9. Is a multifamily dwelling designed in close proximity to single family dwellings required to comply with regulations more or less stringent than single family dwellings?
- 10. Has the multifamily dwelling design team corresponded with the YMCA to optimize site design opportunities in an effort to establish a foundation of common ownership and respect for the park and surrounding neighborhood?
- 11. Is the design consistent with the City's Master Plan for this neighborhood?
- 12. What is the city's interpretation of "modern design?"
- 13. What is the city's interpretation of "efficiency" related to multifamily housing?
- 14. Does the YMCA have plans for a new facility in its current location?
- 15. Has the City negotiated terms regarding shared use of public park land with the Land Owner?
- 16. Does the City support the design of this development as a precedent for future multifamily dwellings?
- 17. What consideration has been given to accessibility in the design?
- 18. What level of consideration, if any, has been given to sustainability in this design?

Thank you for taking the time to read through the above considerations related to the 1193 Floyd Street Development.

- Sincerely,
- •

Kristina Abrams, AIA, LEED AP BD&C Associate, Ayers Saint Gross Architects Resident of St. James Neighborhood Native of Birmingham

Joseph A. Valentine City Manager City of Birmingham 151 Martin Street Birmingham, MI 48009 (248) 530-1809 Office Direct (248) 530-1109 Fax jvalentine@bhamgov.org

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Proposed plans for 1193 Floyd

1 message

Fadi Antaki <fantaki@hotmail.com> To: jecker@bhamgov.org, jvalentine@bhamgov.org, bjohnson@bhamgov.org Sat, Dec 19, 2015 at 10:34 PM

Dear Ms. Ecker, Mr. Johnson, and Mr. Valentine,

We are writing you about the proposed development at 1193 Floyd street. We live very close to this location, but unfortunately a few feet beyond the 300' cut-off for the mandatory notice. We heard about this project 2 months ago and were very disappointed by the proposed plans. We have expressed some of our views at the Planning Board meeting early November and this email is to summarize these views:

- The proposed project is for a modern building divided into studios and small apartments, which does not fit at all the style and spirit of the neighborhood, where most dwellings are traditional single-family homes. From a style perspective, it might be better suited for the rail district. In addition it puts property values at risk in the entire neighborhood.

- The planned apartments are small and clearly not family friendly, while the neighborhood surrounding St James park, the YMCA and Pierce Elementary school mainly includes families with young children.

- The developer is planning to divide the building into 3 "units" with 4 apartments each, to go around ADA rules about accessibility. We find this unusual, especially given the developer's claims that the apartments are well suited for seniors!

- The plan requires an agreement from the city to give up rights on the park, to create a permanent easement adjacent to the building. Not only there is no benefit for the city from such agreement, but it also sets a precedent that the city is willing to give up rights on its properties to private developers. St-James park is the center of our neighborhood, where our family and many others spend a lot of time, in addition to many YMCA activities that our kids attend. We are against any plans to chip away at our neighborhood park.

We hope this message helps convey our views in regards to the proposed development on Floyd street. Could you please forward it to the Planning Board, the City Commissioners, the Board of Zoning Appeals and the Parks and Recreation Board?

Thank you,

Joumana & Fadi Antaki 632 Ruffner Ave



1193 Floyd & St James Park

1 message

Charles DiMaggio <cmd@corepartners.net>

Tue, Jan 5, 2016 at 10:04 AM

To: Lauren Wood <lwood@bhamgov.org>

Cc: Rackeline Hoff <rackyhoff@hotmail.com>, mnickita@bhamgov.org, pbordman@bhamgov.org, pboutros@bhamgov.org, cdeweese@bhamgov.org, aharris@bhamgov.org, ssherman@bhamgov.org, Joe Valentine <Jvalentine@bhamgov.org>, Jana Ecker <Jecker@bhamgov.org>, Robert Katzman <rmk@corepartners.net>, Michael Poris <MPoris@mcintoshporis.com>, Scott Clein <sclein@giffelswebster.com>, bjohnson@bhamgov.org, Paul O'Meara pomeara@bhamgov.org>

Lauren, I am happy to learn that the request of Burton-Katzman, dba 1193 Floyd St LLC, is on the Parks and Recreation Board agenda for this evening. I will plan on attending as well as Michael Poris, architect for the project.

I was able to download the agenda packet for the meeting and of course took note of the e-mails which have been circulated and the issues which are being raised. I will take this opportunity to make some initial responses to those issues in the hopes that Board members may be most prepared for the meeting tonight. Also to be clear, our request is for only the temporary construction and permanent maintenance easement, the request to bury overhead telephone and cable lines is withdrawn. We will find an alternate route for those lines.

In July 2014 when we appeared before the Planning Board for Preliminary Site Plan approval, but for Commissioner Whipple-Boyce, the project was favorably received. Commissioner Williams stated he thought it would be a positive, Commissioner Jeffares thought it would attract the next generation of Birmingham residents and Commissioner Boyle stated this is what Birmingham needs. With this positive support we moved forward with our plans over the course of summer and fall. During this time we heard of no objections to our proposal. Needless to say, when we returned to the Planning Board for Final Site Plan approval in November we were surprised by the objections that were raised.

As we have reviewed the Planning Board minutes and the Parks and Recreation Board agenda material, the objections themselves seem focused in 6 areas. I will try to summarized those below and give some responses to each.

1. Because the apartment residence would be built 1 foot from the St. James Park property line the City will be giving up its rights to develop this portion of the Park. If the 6 foot easement is granted what does the City gain in return.

• It is understood that St. James Park is a dedicated City park and as such it cannot be sold without an affirmative vote of the Birmingham electorate. While it cannot be stated that this would never occur such events appear to be extraordinarily rare and quite unlikely. In the absence of such a sale, then perhaps the City itself may wish to construct a building in the Park. In this instance a building location within 6 feet of 1193 Floyd would be considered highly unlikely, even a location in the vicinity of 1193 Floyd would be highly unlikely given the nearby ball field and tennis courts. Nonetheless it may be

argued that the City would be giving up some development rights, however remote and small it may be. One of the questions posed in the agenda material is what would the City get in return. We believe the answer to that question is a high quality residential development that fulfils a housing need within the City, a benefit that Planning Board members at the July meeting appear to agree with, substantial private investment, which is the life blood of any City, additional tax base and the elimination of an older obsolete structure.

2. The style of the building is modern and belongs in the "rail" district not among Birmingham single family homes.

• We would agree the style of the building is "modern" and would fit in the "rail" district. We submit the style also fits the current site given that: 1) the City is replete with examples of "modern" homes built in neighborhoods with, and on lots adjacent to, homes with more "traditional" architectural expressions; i.e. craftsman, colonial, farmhouse, etc. and 2) the adjacent neighborhoods are screened from its view by a shopping center, small retail building, the 2 story Birmingham Credit Union building, which itself is a "modern" architectural expression, a medical office building, and the YMCA building. The least unobstructed views are from Grant, Edgewood and Bennaville Streets and those are from approximately 300 to 500 feet away with views filtered through St. James Park and its tree cover, play equipment, tennis courts and ball field.

3. The goal of the project is to provide "affordable" units.

• The proposed units range in size from 650 square feet to 810 square feet and would be anticipated to lease for approximately \$1,300 per month to \$1,600 per month. We believe they will be most appealing to young, professional, Birmingham singles and couples. The unit rents are market rate and unsubsidized, one may or may not consider this "affordable", but the Planning Board agreed these are the type of units needed in Birmingham. If one considers the rents to be "affordable" it's unclear why that would meet with objection.

4. Concern about the building being directly adjacent to the St. James Park in view of where children play.

• It is not believed, nor are we aware of any evidence that would suggest, that Birmingham residents of 1193 Floyd will be any less law-abiding then the reminder of the Birmingham population. Why it is believed they would be has not been articulated. While we will not make this claim, It may be suggested that more "eyes on the Park" will make it a safer environment. Further it is not an uncommon for multi-family developments to be found adjacent to schools and parks, if desired we will produce examples of this land use pattern.

5. The apartment residence is not complying with accessible unit requirements.

• The residence obviously must, and will, comply with all accessible unit requirements. McIntosh Poris is working with the Birmingham Building Official to determine the requirements and assure that the building will comply.

6. The City's notifications to property owners within 300 feet of our property should have been expanded.

• The area to be notified was determined by the City through the requirements of State law, as developers and builders we had no input into this process. However we are quite accustomed to meeting with neighborhood associations and groups and would extend that offer in this instance as well.

If you would be so kind as to please pass this e-mail onto your Board members it would be greatly appreciated. Thank you and we look forward to meeting with you and the Board this evening.

Chuck DiMaggio

30100 Telegraph Road, Suite 366

Bingham Farms, MI. 48025

Ofc: 248.433.0575

Cell: 248.496.9283

Fax: 248.647.2120

cdimaggio@burton-katzman.com



1193 Floyd Street

1 message

 Tom Rifai <tomrifai@gmail.com>
 Sun, Dec 20, 2015 at 3:45 AM

 To: Bruce Johnson Building official Birmingham <Bjohnson@bhamgov.org>, Joe Valentine Bham City Mgr

 <jvalentine@bhamgov.org>, Jana Ecker City Planning Manager Birmingham <Jecker@bhamgov.org>

 Cc: Dr Fadi & Joumana Antaki 632 Ruffner TRAFFIC <fantaki@hotmail.com>, Tom & Erica Maliszewski 631 Ruffner

 TRAFFIC <tomerica@sbcglobal.net>, Atty Steve Enwright 700 Ruffner <steve@legallab.us>, Alexander n Charlene

 & Blake Struthers 651 Ruffner <charlene8c@gmail.com>, Donna Roussey <donnamroussey@yahoo.com>,

 Tania@yatooma.com

Greetings Joe, Bruce and Jana

My wife Angela and I am reaching out to you regarding the proposed development at 1193 Floyd Street, which is adjacent to St. James Park, by the Bham YMCA. The proposed development consists of the demolition of a vacant hair salon. The construction of a new 3 story structure (called a 2 story structure since more than 50% of the bottom level is below grade) is troubling to me, wife who have a new 7 month old baby girl and planned to live in a family based area. Yet new structure, which I would walk by regularly on my way to the YMCA, will contain 12 studio apartments only 600-800 s.f. each, that will be marketed as 'affordable' housing in Birmingham. That a multi-family structure is permitted on this site based on the current zoning is not a problem, but are 600 s.f. studios for families? We certainly would like to see the vacated salon be replaced as well. While we are not opposed at all to replacing the vacant hair salon with a nice, appropriately planned and designed apartment or other appropriately zoned project, we are not comfortable with this specific project. We have given it long thought and it would even have is consider moving from this otherwise wonderful area if it goes through.

These elements of this project we also question:

1. The development is seeking to build one foot away from St. James park. We do not see what the City and residents stand to gain by giving up our rights to this park property. In addition, this sets a precedent for future developments to permit construction inches from public space.

2. The style of this building is a modern, urban design, more in line with the Rail District, not among nor so very near single-family homes.

3. Apparently the developers decision is to market these small units as affordable studio and one bedroom apartments. But this does not fit with the surrounding families and the adjacent YMCA which has many youth activities, including a summer day camp in St. James Park. Knowing that the builder is marketing the immediate "park view" as an asset, can't you imaging that we, and many neighbors are concerned about this building being directly adjacent to the park in view of where their children play?

4. The developer is intending to follow construction standards laid out for brownstone type buildings rather than an apartment building. They would apparently therefore not need to comply with the ADA (American Disabilities Act) code? Is this true? It seems a move to save money on an elevator and/or max out the number of units they can provide? Doesn't that also contradict their justification that one of their apparent target clients includes senior residents without kids? It is those residents that need frequently or eventually need assistance from the ADA standards.

5. When this project went for preliminary review in July, everyone within 300' of the project (which is state law) was to be notified of the proposed project. This did not include any residents that we are aware of. It seems the spirit of the law was skirted, don't you at least sympathize with that? This left no (or few, if any) homeowners able to raise these issues or concerns during the early stages. Given the impact on our neighborhood and park, although state law was complied, we feel that a greater radius should have been reached to be more transparent with the hundreds of impacted residents.

Again, my wife Angela and I have loved living in Birmingham. And we planned a great future for our daughter Liliana, and future children. We are sincerely concerned as our close friends and neighbors whom I have copied on this email.

Please forward my email to the Planning Board, City Commissioners, Board of Zoning Appeals and Parks and Recreation Board. We would like to be sure that they all are aware of our concerns. Please also provide us all the dates and times that relevant and to tease of Birmingham government will be discussing this project prior to its initiation.

With highest regards and appreciation for all your hard work in keeping Birmingham one of the best places to live in the world

Tom 683 Ruffner

Tom Rifai MD FACP Harvard Medical School

Lifestyle Medicine Course Director: 'Nutrition & The Metabolic Syndrome'

CMEonline. Med. Harvard. Edu/Info/Nutrition Wayne State University School of Medicine Clinical Asst. Professor of Medicine St Joseph Mercy Oakland Medical Director: Metabolic and Weight Management Pritikin Longevity Center Science Advisory Board Member

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Floyd Street Development proposal

1 message

 Mark Roberts <markroberts_413@yahoo.com>
 Mon, Dec 21, 2015 at 11:48 AM

 Reply-To: Mark Roberts <markroberts_413@yahoo.com>
 To: "jecker@bhamgov.org" <jecker@bhamgov.org>, "bjohnson@bhamgov.org" <bjohnson@bhamgov.org>, "jvalentine@bhamgov.org>

 To: C: Carrie Roberts <carriebroberts@yahoo.com>

Ms Ecker, Mr Johnson, and Mr Valentine

This email is in regards to the proposal I have been made aware of related to the proposed Floyd St apartment development.

I live with my family in the neighborhood and am a frequent visitor to the neighboring park with my young children and my family utilizes the local YMCA as well for various activities. Upon receiving information regarding this proposal I have several concerns. This is a family oriented neighborhood and this development is right next to a large park - I am concerned that small studio/single bedroom apartments does not fit into it. I also do not like that the proposed building would be just 1 foot from the park property line as, for basic maintenance as an example, there will be workers in the park taking that space away from children and/or potentially making the park area less useful/safe in general near the building structure.

In addition, my understanding is that the building plans are quite modern (and does not fit in with the neighborhood look in general) plus I question if the builders are planning to cut corners as this layout looks like it is simply looking to maximize number of units while minimizing things like elevators and handicap accessibility. While I certainly understand the builders desire to maximize their business return, I want to communicate that I expect any development to follow the family oriented principals that makes the neighborhood a great place to live currently.

I certainly understand the need to further development in the city and believe the city does a great job. That said, I do believe using the area for single family homes or, alternatively, making this development into a 3-4 town-home structure would fit the needs of the neighborhood much better. Respectfully, I ask that this be strongly considered.

I kindly request that you please forward my email to the Planning Board, City Commissioners, Board of Zoning Appeals and Parks and Recreation Board. I appreciate your taking the time to read this message.

Thanks for your consideration and I wish you & your families a wonderful holiday season.

Best Regards, Mark Roberts 888 Bird Ave Birmingham, MI 48009 248 594-3236 markroberts 413@yahoo.com

City of T	Birmingham	MEMORANDUM Planning Division
DATE:	January 8, 2016	
TO:	Planning Board Members	
FROM:	Sean Campbell – Assistant City	<i>v</i> Planner
SUBJECT:	885 Redding – Final Site Plan r	review

The subject site is a 0.39 acre parcel located on the south side of Redding Rd. between Lakeside Drive and North Old Woodward in the R-4 zoning district. The applicant is proposing to demolish the existing residential building and build a new two unit condominium unit on the 16,988 square foot parcel.

On December 9, 2015, the Planning Board approved the Preliminary Site Plan for the subject site with the following conditions:

- 1. Applicant submit a landscaping and a photometric plan that complies with all ordinance requirements;
- 2. Applicant must provide material samples at Final Site Plan Review;
- 3. Applicant address the concerns of all City Departments;
- 4. Applicant must move the building back not more than 7.25 ft. from front to rear; and
- 5. Applicant study the potential relocation of the HVAC units and reduction from four to two.

1.0 Land Use and Zoning

- 1.1 <u>Existing Land Use</u> The existing site currently has a single building containing two residential units. Land uses surrounding the site include single family, two-family, and multiple family residential dwellings.
- **1.2** Existing Zoning The existing site is currently zoned R4, Two-Family Residential.
- **1.3** <u>2016 Report</u> The entire subject site is located outside the boundaries of the Downtown Birmingham 2016 Overlay District. The Regulating Plan does not apply in this case.
- **1.4** <u>Summary of Land Use and Zoning</u> The following chart summarizes existing land use and zoning adjacent to and/or in the vicinity of the subject site.

	North	South	East	West
Existing Land Use	Single Family Residential	Apartments, Multiple Family	Two-Family Residential	Single Family Residential
Existing Zoning District	R-1, Single Family Residential	R-5, Multiple Family Residential	R-4 Two Family Residential	R-1, Single Family Residential

2.0 Setback, Height, and Floor Area Requirements

A summary of all standards is provided for your review on the attached Zoning Compliance Summary. The summary demonstrates that the proposed plan does meet all the setback, height and floor area requirements for an R-4 (Two-Family Residential) development.

3.0 Screening and Landscaping

- 3.1 <u>Parking Facility Screening</u> –All required parking spaces are provided within two attached garages, and are thus fully screened in accordance with the zoning ordinance. Additionally, the driveway that abuts the east lot line will be screened by a 6 foot high brick wall with 24"x24" piers.
- 3.2 <u>Dumpster Screening</u> No dumpsters are proposed for this site. Trash for both residential units will be handled individually by each homeowner.
- 3.3 <u>Mechanical Equipment Screening</u> The applicant is has reduced the number of proposed ground-mounted units from 4 to 2, per recommendation by the Planning Board. The plans indicate 2 A/C units along the west elevation of the new structure within a niche of the exterior wall. The applicant plans to screen the units with a 4' high wood screen and six, 48" high leatherleaf viburnum shrubs. The applicant submitted spec sheets for the two proposed 24"x36"x36" A/C units, thereby satisfying the screening requirement.
- 3.4 <u>Landscaping</u> In pursuant to Article 04, Landscaping Standards, Section 4.20(E), the applicant must provide 1 Deciduous tree and 1 Evergreen tree per 2 dwelling units. Accordingly, the applicant is proposing a total of 7 evergreen and 11 deciduous plants, all meeting the minimum height and caliper per the zoning ordinance.

The proposed plants are as follows: one 5" caliper Red Oak tree, six 3.5" caliper Cleveland Pear trees, two 12/14' Kousa Dogwood trees, one 3' Weeping

Japanese Maple tree, sixty-one 8/10' Arborvitae Green Giant trees, eleven 48" Viburnum Leather Leaf shrubs, forty-nine 36" Boxwood Green Mountain, fortynine 30" Boxwood Green Mountain shrubs, six 30" Boxwood Green Gem shrubs, seventy-five 21" Boxwood Green Gem shrubs, three 25 gallon Hydrangea Limelight Trees, fifty 5 gallon Climbing Hydrangea shrubs, twelve 5 gallon Hydrangea Annabelle shrubs, eleven 5 gallon Hydrangea Oak-Leaf Snow Queen, thirteen 3 gallon Hydrangea Little Lime shrubs, 126 1-gallon Liriope Spicata shurbs, 83 1-gallon Hosta Halcyon shrubs, and 85 Pachysandra flats (48 per flat).

Majority of the proposed plants are located within the property and therefore are not visible from the street or adjoining properties. The 61 proposed Arborvitae Green Giants will form a hedge wall that wraps around the southern portion of the lot. The applicant proposes a hedge of 30" high Boxwood Green Mountain to abut the front lot line at the sidewalk. A series of shrubs, including pachysandras, hydrangeas, hostas, along with two trees – a Red Oak and a Weeping Japanese Maple – are also proposed for the front lawn of the multifamily home.

4.0 Parking, Loading and Circulation

- 4.1 <u>Parking</u> A total of 4 parking spaces are required, 2 for each of the dwelling units. Parking must be either in a garage, carport, or under the principal building. The applicant is proposing two enclosed garages on the first floor between the two units of the building in order to meet this requirement. The applicant is proposing one 617 sq. ft. garage and one 587 sq. ft. garage, each of which will hold 2 cars, thus meeting the parking requirement.
- 4.2 <u>Loading</u> No loading spaces are required, nor proposed for this site.
- 4.3 <u>Vehicular Circulation</u> The plan proposes removing the existing concrete approach and driveway on the west side of the parcel and constructing a new 11' wide vehicular driveway on the east side of the parcel. Vehicles will access the site via the new driveway which leads to the garages as well as covered porch entrances for both units.
- 4.4 <u>Pedestrian Circulation</u> The public sidewalk is proposed to remain in its current location along Redding Road. Pedestrians will be able to enter each unit through the enclosed garages as well as the covered porch entranceways adjacent to each attached garage. In addition, there is an entrance with a covered porch on the front (north) elevation facing Redding Road. While there is no direct walkway from this entry door to the public sidewalk, there is a walkway that connects the entry and porch to the driveway in front of the building.

5.0 Lighting

The lighting as proposed in the photometric plan does not appear to exceed the maximum level of 0.6 fc at any lot line that abuts a single-family residential zoned property. The applicant proposes three (3), black aluminum raindrop glass cylinder, Modern Forms coach light fixtures to each be mounted at 6 feet from the ground. The spec sheets indicate that these fixtures are cut-off. The applicant plans to mount one fixture within the covered porch along the east exterior, one above the back entrance along the west exterior, and one within the covered porch along the front elevation. These fixtures will each house one (1) 10.7 watt LED lamp.

6.0 Departmental Reports

- 6.1 <u>The Engineering Department</u> The Engineering Dept. has reviewed the received site plan dated December 17, 2015 for the above referenced project. Our comments are as follows:
 - 1. The storm sewer proposed for the project should be adequate to address storm water runoff requirements.
 - 2. The southwest corner of the property is located within the 100-year floodplain. The plan does not propose any changes in this area. As long as the final plan remains in this same form, there should not be any issues with respect to the floodplain.
 - 3. Other than the above, other permits required from our office will include:

Right-of-Way Permit (for excavations in the right-of-way). Sidewalk/Drive Approach Permit

- 6.2 <u>Department of Public Services</u> Comments will be provided to the Planning Board meeting on January 13, 2016.
- 6.3 <u>Fire Department</u> Comments will be provided to the Planning Board meeting on January 13, 2016.
- 6.4 <u>Police Department</u> The Police Department had no concerns.
- 6.5 <u>Building Division</u> Comments will be provided to the Planning Board meeting on January 13, 2016.

7.0 Conformance with Downtown Birmingham 2016 Report

The site is outside the boundaries of the 2016 Overlay District. The Regulating Plan does not apply in this case.

8.0 Design Review

The proposed 2-unit, multi-family house boasts a English cottage-style using the following building materials:

- Chestnut bronze aluminum gutters and downspouts;
- Glen-Gerry, Anchor Bay Tumble Queen brick main building face material;
- Course Texture Stucco accents and trim;
- CertainTeed 'Driftwood' Roof Shingles roof of building;
- Jeld-Wen Clad Desert Sand windows; and
- Indiana Limestone secondary building face material.

Front (North) Elevation

The plans for the proposed front elevation of the multi-family house includes a covered porch with an arched doorway and a coffee brown door, a total of ten windows, a steeply-pitched gable roof, and a brick veneer chimney top. The interior walk-in closet and bathroom in Unit 1 protrudes 3'-11" from the rest of the house, forming a 24' wide exterior wall. The protruding exterior wall, along with the entrance wall, is fronted with a castle rock-style Indiana Limestone veneer. The plans indicate two Jeldwen clad, desert-sand colored windows with Cromwell grey shutters on the first floor of the protruding wall. The upstairs contains one bay window with a standing seam copper roof, as well as two dormers containing two windows on each side of the upstairs. The wall to the right is sided with Glen-Gerry, Anchor Bay Tumble Queen brick and contains two windows with no shutters. The proposed roof will have CertainTeed 'Driftwood' Roof Shingles. All gutters and downspouts are proposed to be constructed of chestnut bronze aluminum. Course texture stucco will be used for all trim and accents on the proposed building.

West Elevation

The west elevation uses the same materials proposed for the north elevation. Majority of the elevation (excluding the roof) is faced with brick. The exterior wall of the family room is faced with the Indiana Limestone (nearly identical to the front elevation). The proposed west elevation includes a recessed wall to accommodate for patio between the master bedroom family room, as well as a small niche to accommodate for the two A/C units between the garage and family room. The west elevation has a total of 36 windows, three gables, and two chimneys.

East Elevation

The proposed east elevation employs the same materials and style for the siding, roof, gutter, windows, and shutters as the rest of the building, but introduces new features that include a window sill planter on the stone exterior wall of Unit 2, two covered porches, and two Clopay Classic, Model 4300, insulated steel garage doors that are located side-by-side. This elevation shows a total of 31 windows. Only one chimney is visible from this elevation.

South Elevation

The plans for the proposed south elevation are similar to those of the north elevation excluding a covered porch. This side has a gabled limestone exterior wall with four glass doors connected to the back patio by way of a staircase. There is one chimney protruding through the left side of the south elevation roof.

9.0 Approval Criteria

In accordance with Article 7, section 7.27 of the Zoning Ordinance, the proposed plans for development must meet the following conditions:

- (1) The location, size and height of the building, walls and fences shall be such that there is adequate landscaped open space so as to provide light, air and access to the persons occupying the structure.
- (2) The location, size and height of the building, walls and fences shall be such that there will be no interference with adequate light, air and access to adjacent lands and buildings.
- (3) The location, size and height of the building, walls and fences shall be such that they will not hinder the reasonable development of adjoining property not diminish the value thereof.
- (4) The site plan, and its relation to streets, driveways and sidewalks, shall be such as to not interfere with or be hazardous to vehicular and pedestrian traffic.
- (5) The proposed development will be compatible with other uses and buildings in the neighborhood and will not be contrary to the spirit and purpose of this chapter.
- (6) The location, shape and size of required landscaped open space is such as to provide adequate open space for the benefit of the inhabitants of the building and the surrounding neighborhood.

10.0 Recommendation

Based on our review of the site plan revisions submitted, The Planning Division recommends the Planning Board APPROVE the Preliminary Site Plan for 885 Redding with the following conditions:

1. Applicant addresses the concerns of all City Departments.

11.0 Sample Motion Language

Motion to APPROVE the Final Site Plan for 885 Redding with the following conditions:

1. Applicant addresses the concerns of all City Departments.

OR

Motion to DENY the Final Site Plan for 885 Redding.

Motion to POSTPONE the Final Site Plan for 885 Redding.

11-224-15

PRELIMINARY SITE PLAN REVIEW

1.885 Redding Rd.

Application for Preliminary Site Plan Review to allow construction of two new residential condominiums, each with attached garage

Ms. Ecker explained the subject site is a 0.39 acre parcel located on the south side of Redding Rd. between Lakeside Dr. and North Old Woodward Ave. in the R-4 Zoning District. The applicant is proposing to demolish the existing residential structure and build a new two-unit condominium building on the 16,988 sq. ft. parcel. Both of the units are approximately 3,100 sq. ft. in size.

The plan proposes removing the existing concrete approach and driveway on the west side of the parcel and constructing a new 11 ft. wide vehicular driveway on the east side of the parcel. Vehicles will access the site via the new driveway which leads to the two-car attached garages as well as covered porch entrances for both units.

The public sidewalk is proposed to remain in its current location along Redding Rd. Pedestrians will be able to enter each unit through the enclosed garages as well as the covered porch entranceways adjacent to each attached garage. In addition, there is an entrance with a covered porch on the front (north) elevation facing Redding Rd. While there is no direct walkway from this entry door to the public sidewalk, there is a walkway that connects the entry and porch to the driveway in front of the building.

Design Review

A complete design review will be conducted at Final Site Plan Review. However, the applicant is currently proposing the following materials:

OR

- Aberdeen Brick main building face material;
- Course Texture Stucco accents and trim;
- CertainTeed 'Driftwood' Roof Shingles roof of building;
- JELD-WEN windows in Chestnut Brown.

Motion by Mr. Williams Seconded by Ms. Whipple-Boyce to accept for filing an e-mail from Fred Capaldi dated November 9, 2015.

Motion carried, 7-0.

VOICE VOTE Yeas: Williams, Whipple-Boyce, Boyle, Clein, Jeffares, Koseck, Share Nays: None Absent: Lazar Mr. Boyle was pleased this building fits in under the current zoning.

Mr. Share was concerned about the location of the mechanical units in relation to the single-family house next door.

Mr. Rick Wiand with Hunter Roberts Homes was present with Jessica from his firm and Mr. Jeffrey Klatt with Krieger Klatt Architects. These units are intended to be occupied by empty nesters who are downsizing. In response to a request from the adjacent neighbor, Mr. Wiand stated that they propose to move the building back 7.25 ft. They will also try to find a location in the rear for the air conditioning units, which they will try to reduce from four units to two.

Ms. Ecker read the letter into the record from Fred and Barb Capaldi which supported the project.

Chairman Clein took comments from the public at 10:34 p.m.

Mr. Mike Minna, 857 Redding, was concerned with the flipping of the driveway. He thought that his driveway and the applicant's driveway on the common lot line would create drainage issues. Additionally, several large arborvitaes will be taken out because of the driveway. He also noted his home is 61 ft. from the sidewalk and the applicant is proposing 25 ft. He appreciates they are in compliance but this building will stick out much further than his home and the other homes on both the north and south side of Redding.

Mr. Wiand said that in designing the driveways they took advantage of allowing southern light and western light into the units. For that reason he prefers not to change the location of the driveways. He hopes to come back with a screening plan that will be acceptable to Mr. Minna. Additionally, they will work with Mr. Minna to make sure they are not draining on his property.

Motion by Mr. Share

Seconded by Mr. Koseck to approve the Preliminary Site Plan for 885 Redding with the following conditions:

1) Applicant submit a landscaping and a photometric plan that complies with all ordinance requirements;

2) Applicant must provide material samples at Final Site Plan Review;

3) Applicant address the concerns of all City Departments;

4) Applicant must move the building back not more than 7.25 ft. from front to rear;

5) Applicant study the potential relocation of the HVAC units and reduction from four to two.

There was no discussion from the public at 10:45 p.m.

Motion carried, 7-0.

VOICE VOTE

Yeas: Share, Koseck, Boyle, Clein, Jeffares, Whipple-Boyce, Williams

Nays: None

Absent: Lazar

Zoning Compliance Summary Sheet Final Site Plan Review 885 Redding

Existing Zoning: R-4, Two-Family Residential,

Existing Land Use and Zoning of Adjacent Properties:

	North	South	East	West
Existing Land Use	Single-Family Residential	Apartments, Multiple Family	Two-Family Residential	Single Family Residential
Existing Zoning District	R-1, Single Family Residential	R-5, Multiple Family Residential	R-4 Two Family Residential	R-1, Single Family Residential

Land Area:	existing: proposed:	17,250 sq. ft. 17,250 sq. ft.
No. Dwelling Units:	existing: proposed:	2 2
Minimum Lot Area:	required: proposed:	3,000 sq. ft. per dwelling unit 8,625 sq. ft. per dwelling unit
Minimum Floor Area:	required: proposed:	800 sq. ft. per dwelling unit 2,664 sq. ft. for unit 1 2,475 sq. ft. for unit 2
Maximum Total Floor Area:	required: proposed:	40% of lot area (6900 sq.ft.) 30% (5139 sq.ft.)
Front Setback:	required: proposed:	25 ft. 36.75 ft.
Side Setbacks:	required: proposed:	9 ft for one side yard 18.75 ft for both side yards (25% of total lot width, total lot width is 75 ft.) West side -9.00 ft. East side – 10.22 ft. Combined total – 19.22 ft.
Rear Setback:	required: proposed:	30 ft. 30 ft.

Minimum Open Space:	required: proposed:	N/A N/A
Lot Coverage:	required: proposed:	N/A N/A
Max. Bldg. Height:	permitted: proposed:	35 ft. & 2.5 stories 26 ft. 4 in. & 2 stories
Parking:	required: proposed:	4 spaces 4 parking spaces provided in garages

Redding Place

New Residence 885 Redding Road Birmingham, MI 48009

Sheet Index

T.100	Title Sheet
G.001	Site Plan
G.002	Landscape Plan
G.003	Photometric
A.100	First Floor Plan
A.101	Second Floor Plan
A.102	Arial Map
A.200	Exterior Elevations
A.201	Exterior Elevations

Zoning Information (Birmingham)

LOT# 51

ZONED: R-4, TWO-FAMILY RESIDENTIAL LOT AREA: 17,250 SQ. FT. MAXIMUM % OF LOT COVERAGE ALLOWED: 40.0%

UNIT 1 PROPOSE LOT COVE	rage (footprints)
1. HOUSE	2,664 SQ. FT.
2. GARAGE	838 SQ. FT.
3. COV. PORCH (A):	53 SQ. FT.
4. COV. PORCH (B):	34 SQ. FT.
TOTAL:	3,589 SQ. FT.

3,589 SQ. FT. / 17,250 SQ. FT. = 20.8%

UNIT	2 PROPOSE LOT COVERAGE	(footprints)
1.	HOUSE	2,475 SQ. FT.
2.	GARAGE	593 SQ. FT.
3.	COV. PORCH (C):	57 SQ. FT.
TOTA	AL:	3,125 SQ. FT.
3,12	5 SQ. FT. / 17,250 SQ. FT. =	18.1%

COMBINED TOTAL: 3,589 + 3,125 = 6,714 SQ. FT.

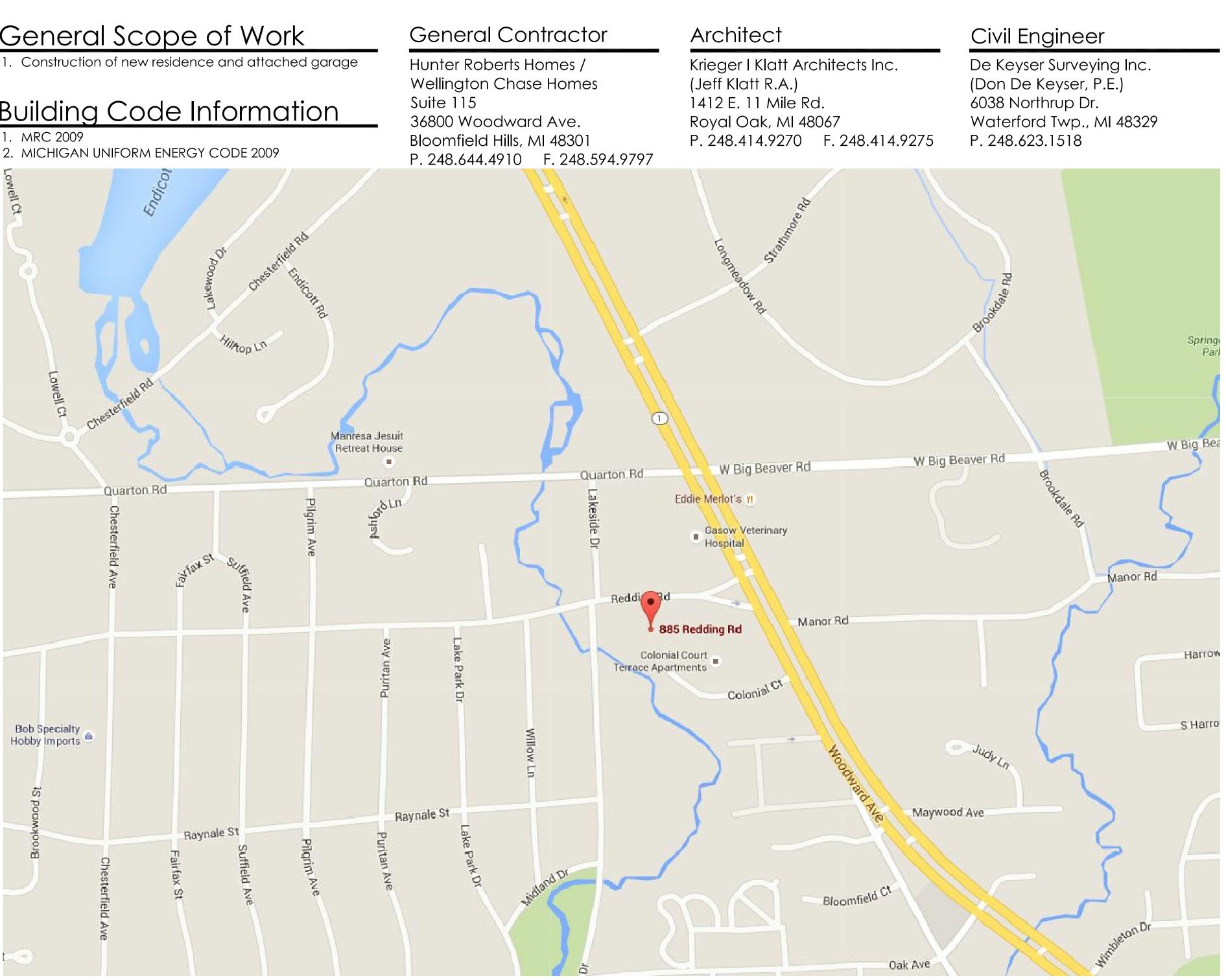
SETBACK INFORMATION

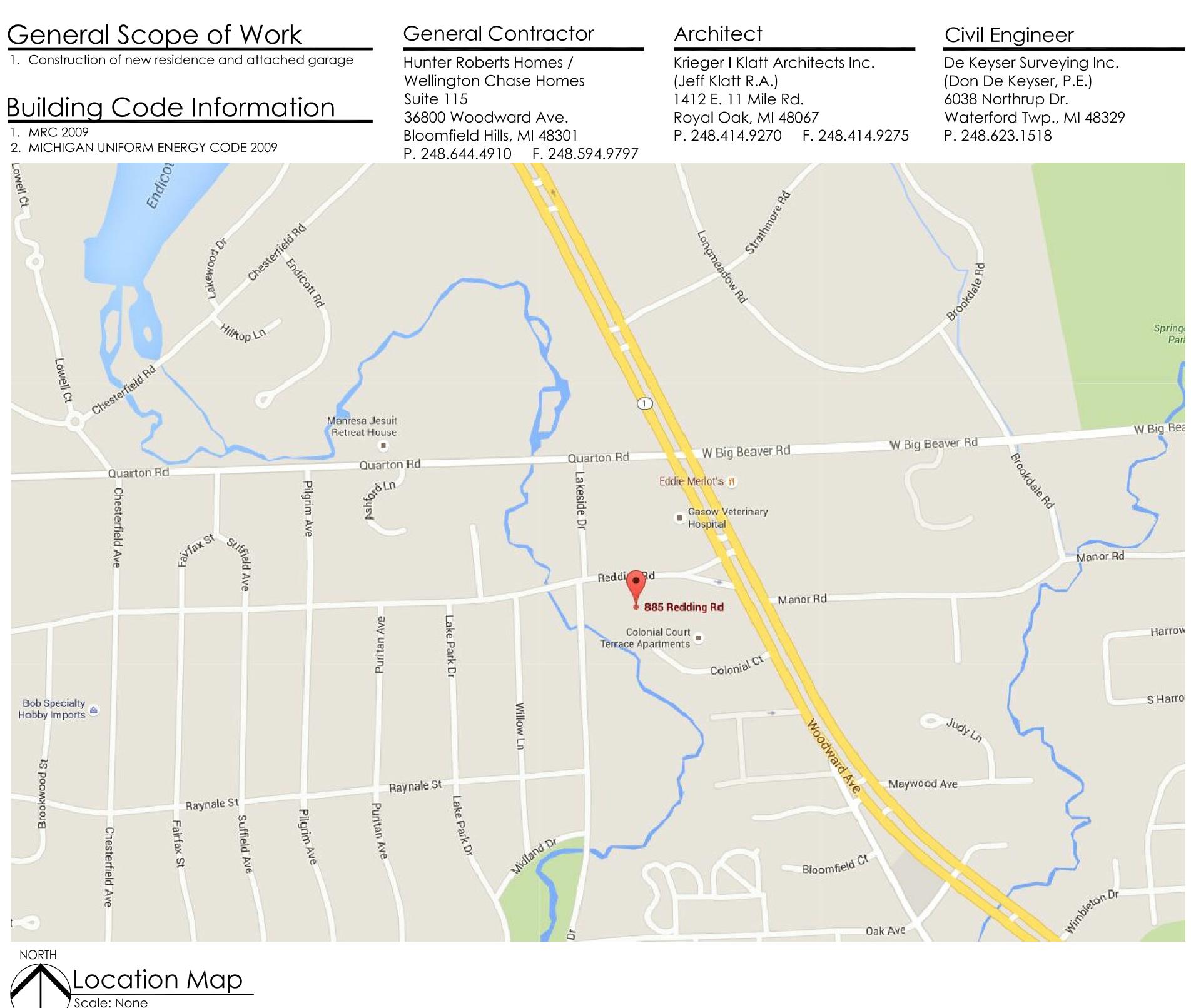
- 1. FRONT YARD REQUIRED: 25.0' - FRONT YARD PROPOSED: (TO BE VERIFIED)
- 2. SIDE YARD REQUIRED: 14.0' OR 25% OF LOT WIDTH (WHICHEVER IS GREATER) - MINIMUM SIDE YARD: 16.0' - PROPOSED EAST SIDE: (TO BE VERIFIED
- PROPOSED WEST SIDE: (TO BE VERIFIED)
- REAR YARD REQUIRED: 30.0' 3. - REAR YARD PROPOSED: (TO BE VERIFIED)



krieger klatt ARCHITECTS

architecture interiors consulting 1412 East Eleven Mile Road. Royal Oak, MI 48067 Phone: 248.414.9270 Fax: 248.414.9275 Web: kriegerklatt.com





Scale: None

Project: Hunter Roberts Homes 885 Redding Road, Birmingham, MI 48009

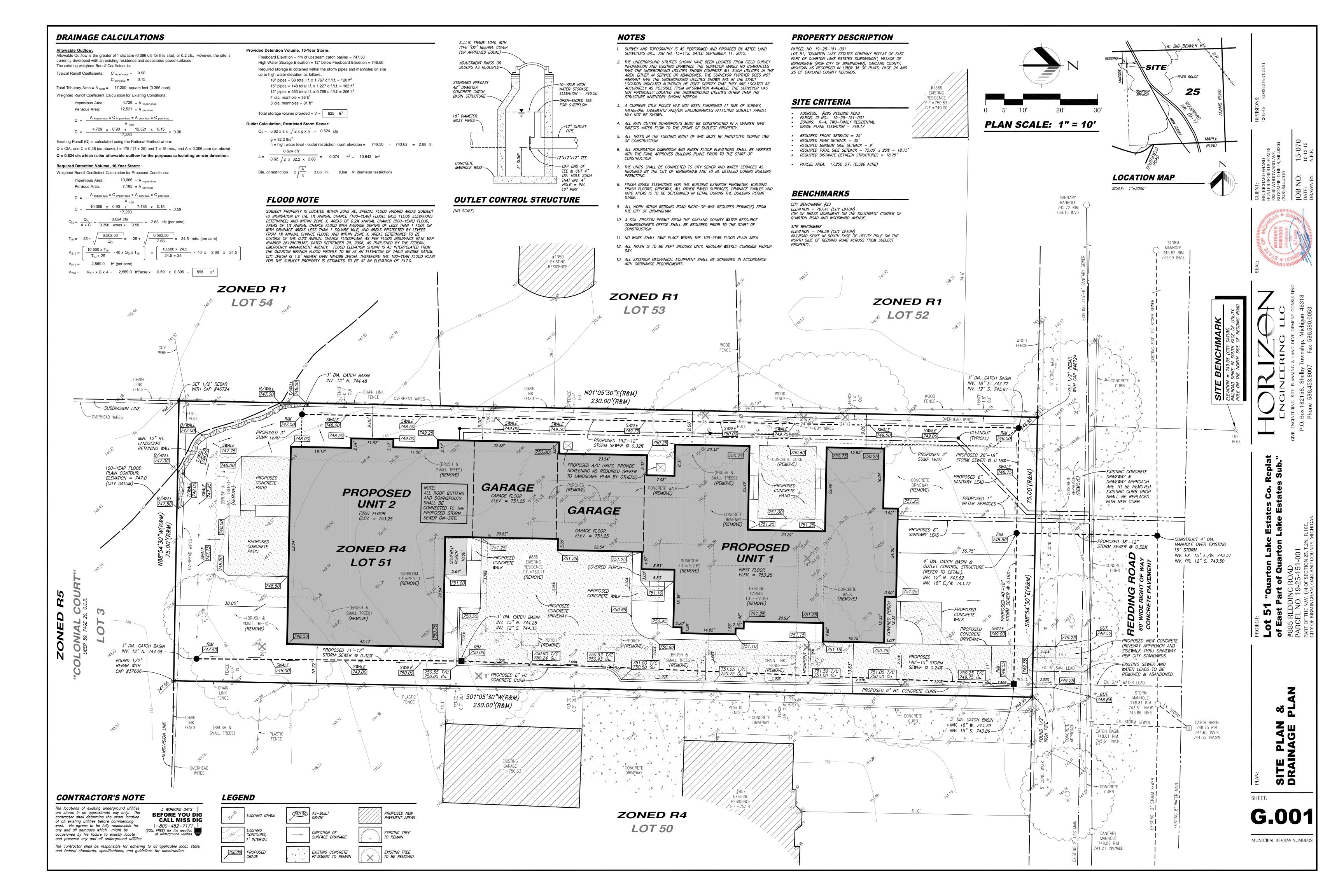
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Title Plan	None	

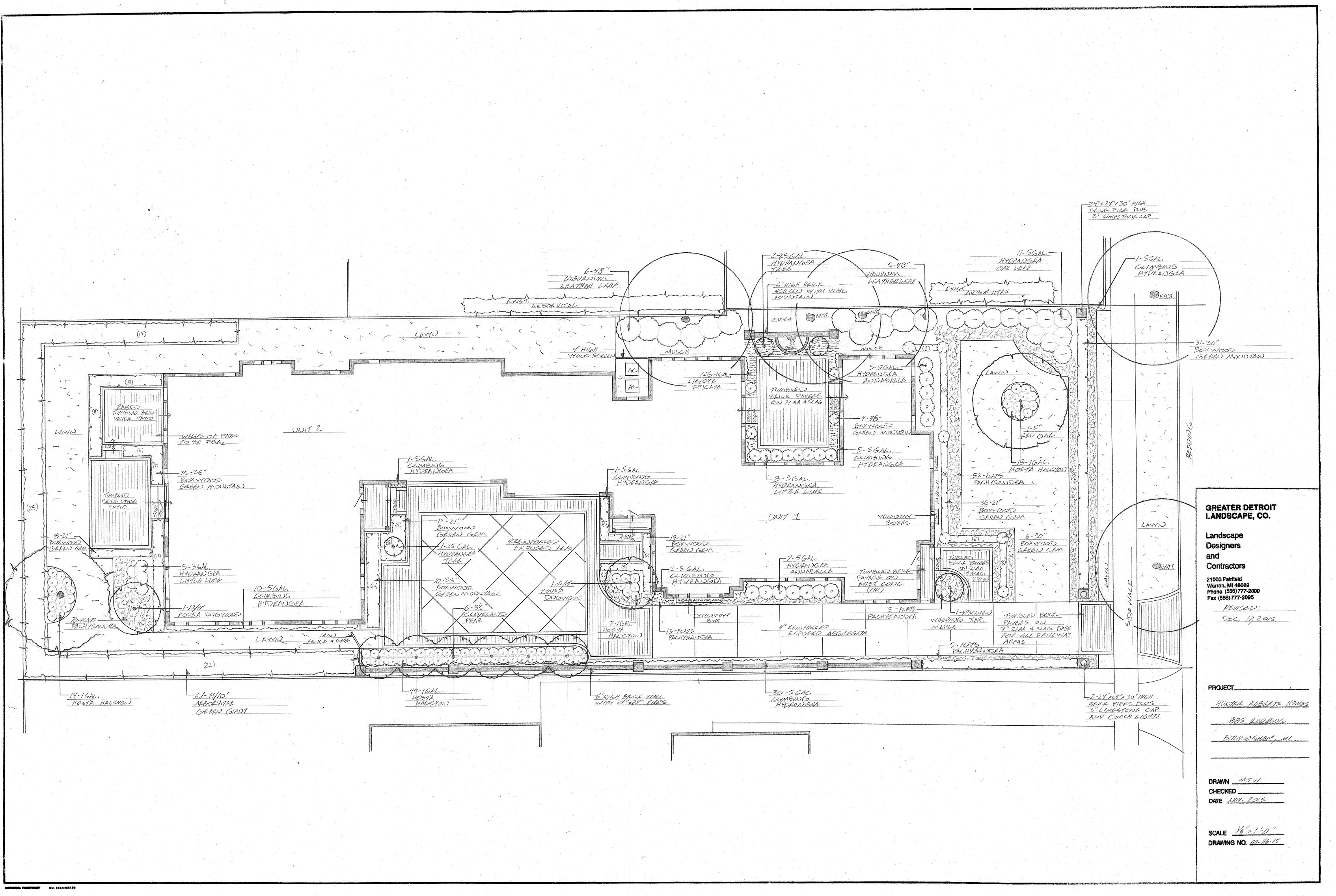


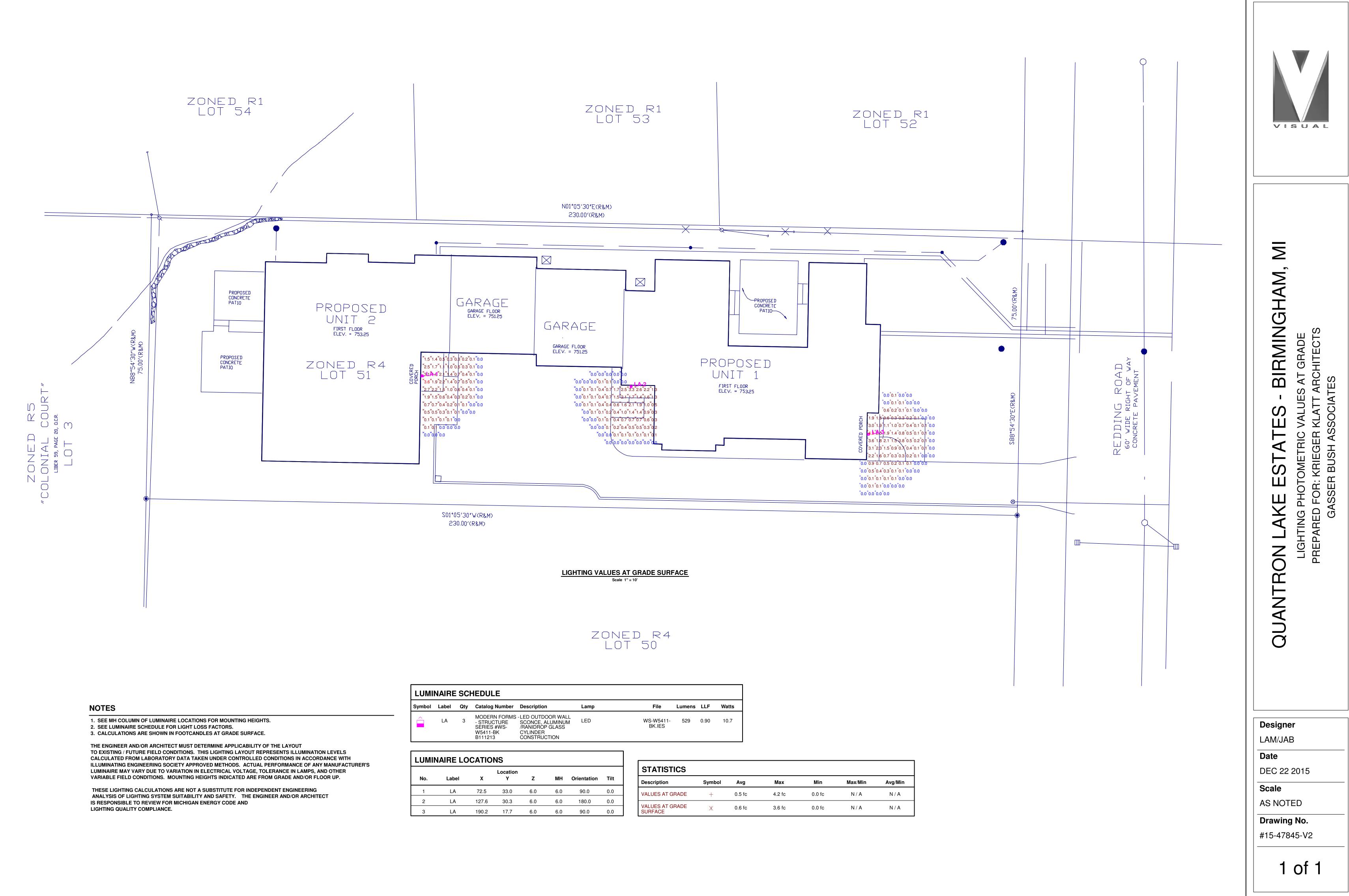
Issued:

10-14-2015 Preliminary Site Plan Review 12-17-2015 Preliminary Site Plan Review





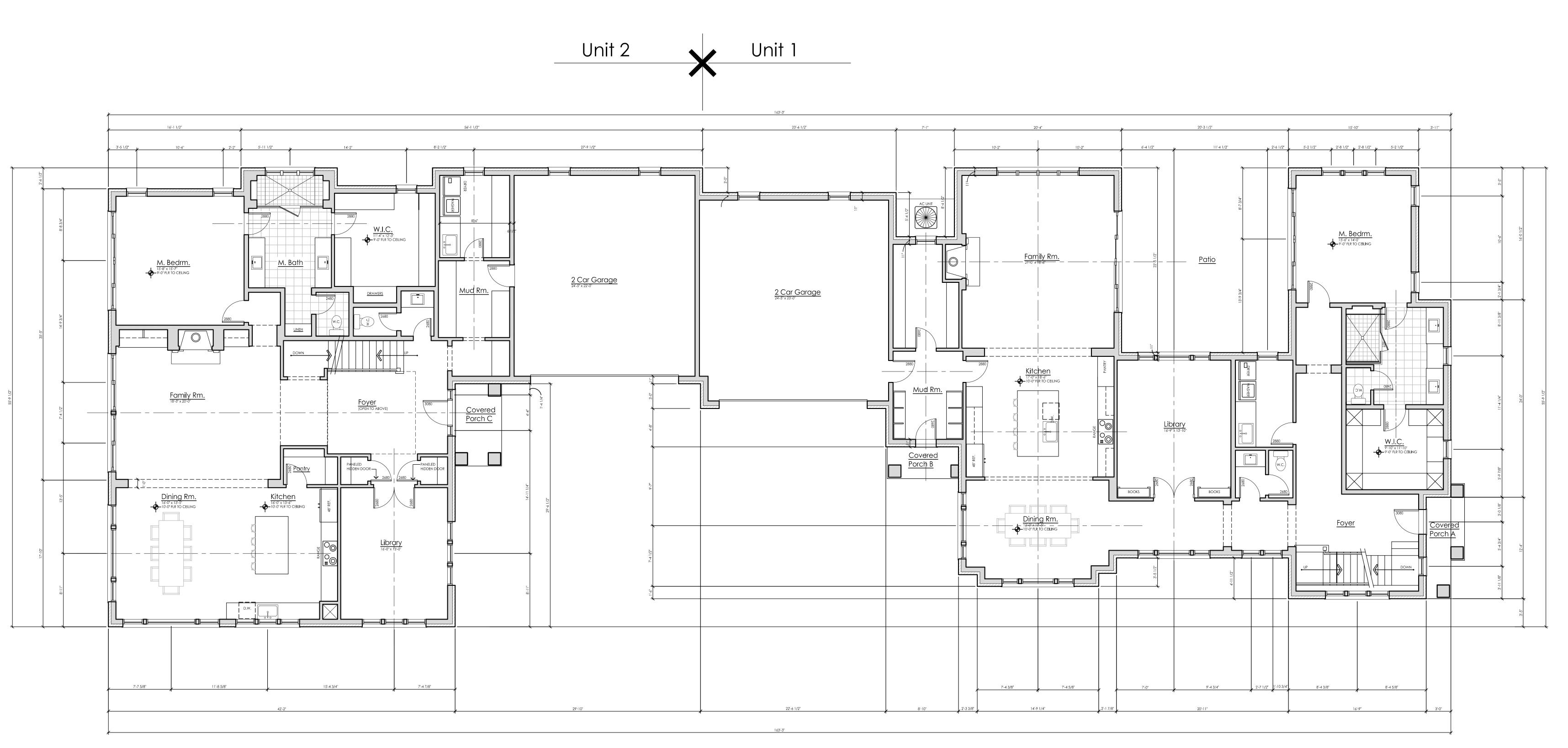




LUMI	LUMINAIRE SCHEDULE									
Symbol	Label	Qty	Catalog Number	Description	Lamp	File	Lumens	LLF	\	
	LA	3	- STRUCTURE SERIES #WS- W5411-BK	LED OUTDOOR WALL SCONCE, ALUMINUM /RANIDROP GLASS CYLINDER CONSTRUCTION	LED	WS-W5411- BK.IES	529	0.90		

LUMINAIRE LOCATIONS								
No.	Label	x	Location Y	z	МН	Orientation	Tilt	
1	LA	72.5	33.0	6.0	6.0	90.0	0.0	
2	LA	127.6	30.3	6.0	6.0	180.0	0.0	
3	LA	190.2	17.7	6.0	6.0	90.0	0.0	

STATISTICS						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
VALUES AT GRADE	+	0.5 fc	4.2 fc	0.0 fc	N / A	N / A
VALUES AT GRADE SURFACE	Ж	0.6 fc	3.6 fc	0.0 fc	N / A	N / A



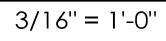


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1412 East Eleven Mile Road. Royal Oak, MI 48067 Phone: 248.414.9270 Fax: 248.414.9275 Web: kriegerklatt.com Project:

Hunter Roberts Homes 885 Redding Road, Birmingham, MI 48009

Proposed First Floor Plan Scale: 3/16" = 1'-0"





Square Footages:

Jnit	1		

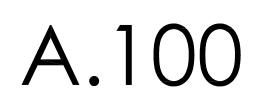
First Floor: Second Floor: Total: Garage:

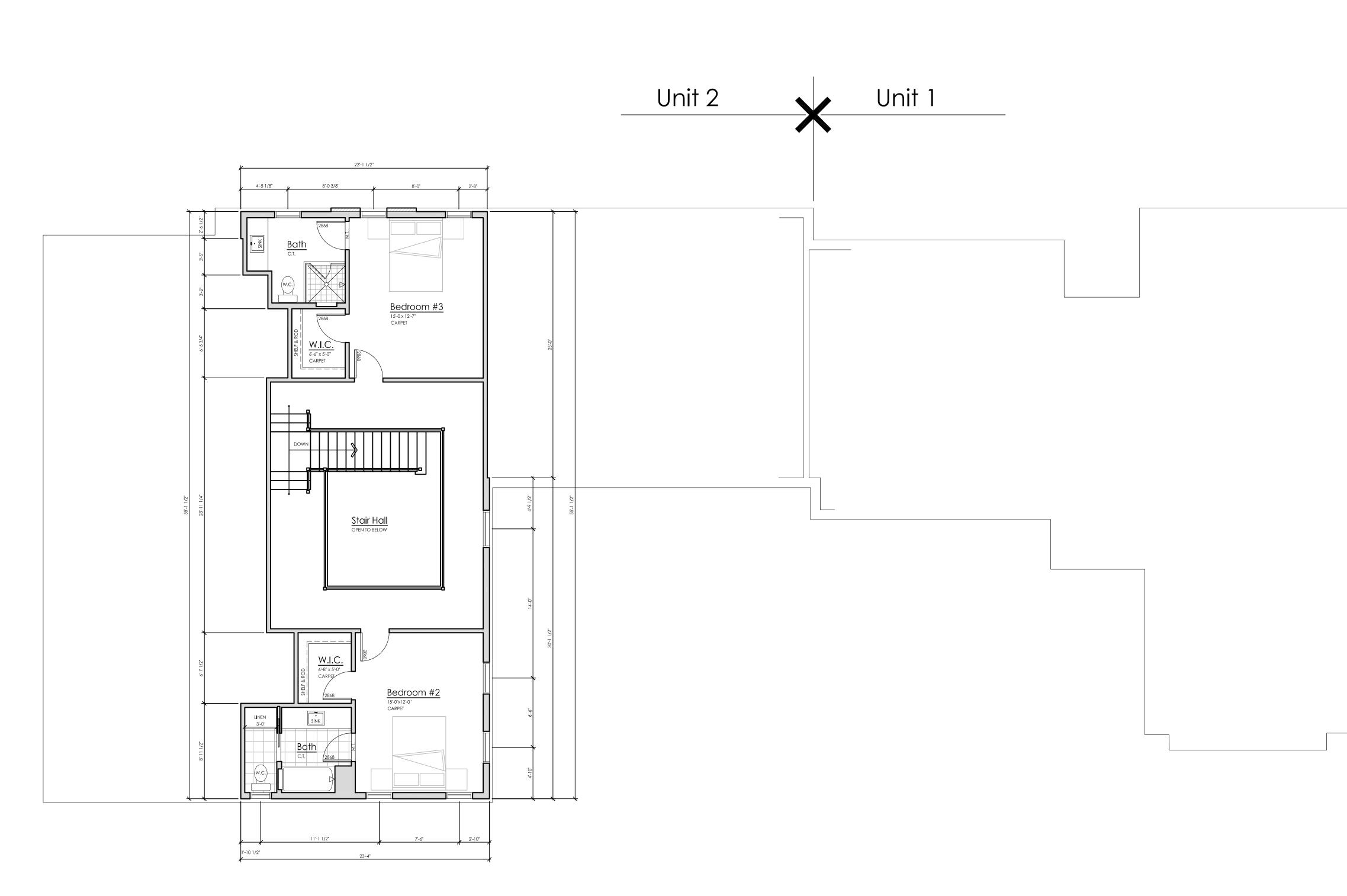
2,664 Sq. Ft. 838 Sq. Ft. 3,502 Sq. Ft. 608 Sq. Ft.

Unit 2	
First Floor: Second Floor:	2,475 Sq. F1 1155 Sq. F1
Total:	3,630 Sq. F
Garage:	593 Sq. F1
Total Building Area:	6,457 Sq. Fi
<u>Max. Building Area:</u> (17,250 S.F. x 40%)	6900 Sq. Ft

Issued:

10-14-2015 Preliminary Site Plan Review 12-17-2015 Preliminary Site Plan Review







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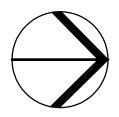
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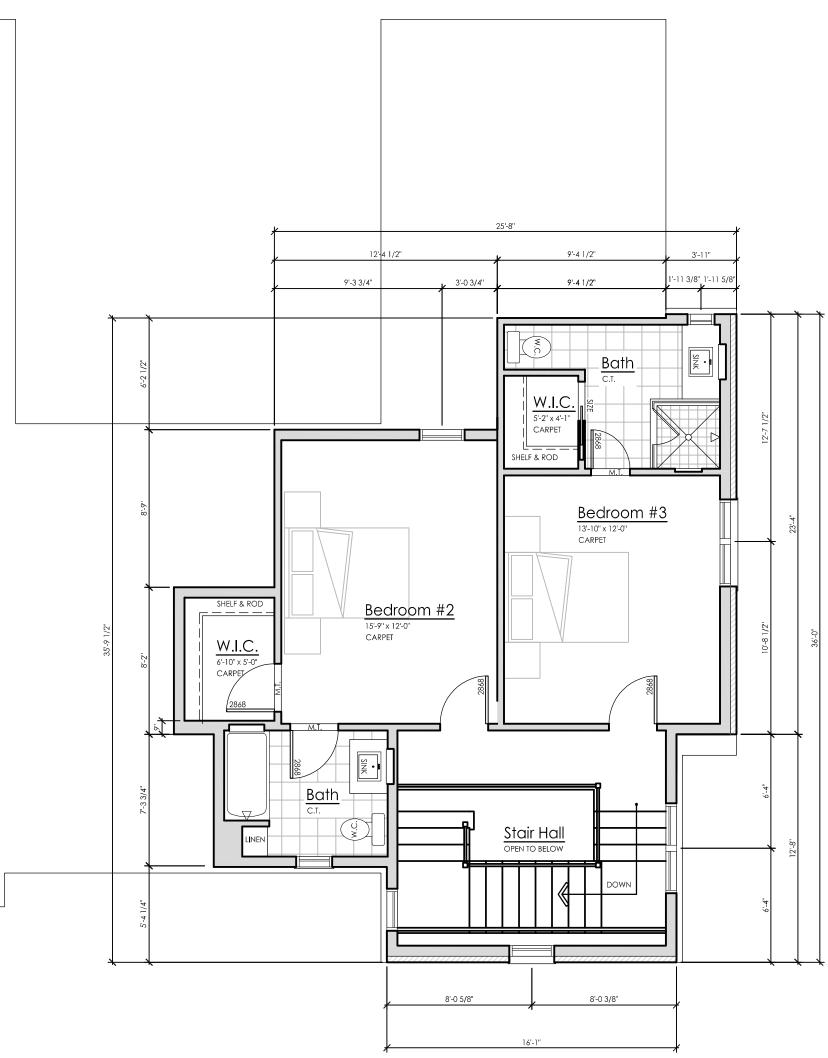
Hunter Roberts Homes 885 Redding Road, Birmingham, MI 48009

Proposed Second Floor Plan Scale: 3/16" = 1'-0"

Sheet Title:

North Arrow:





Square Footages:

Unit 1		Unit 2		
First Floor: Second Floor:	2,664 Sq. Ft. 838 Sq. Ft.	First Floor: Second Floor:	2,475 Sq. Ft. 1155 Sq. Ft.	
Total:	3,502 Sq. Ft.	Total:	3,630 Sq. Ft.	
Garage:	608 Sq. Ft.	Garage:	593 Sq. Ft.	
		Total Building Area: 6,457 Sq. Ft.		
		Max. Building Area: 6900 Sq. Ft.		

(17,250 S.F. x 40%)

lssued:

10-14-2015 Preliminary Site Plan Review 12-17-2015 Preliminary Site Plan Review





Existing Arial View



krieger klatt ARCHITECTS architecture interiors consulting 1412 East Eleven Mile Road. Royal Oak, MI 48067

Phone: 248.414.9270 Fax: 248.414.9275 Web: kriegerklatt.com

Project:

Hunter Roberts Homes 885 Redding Road, Birmingham, MI 48009





North Arrow:



None

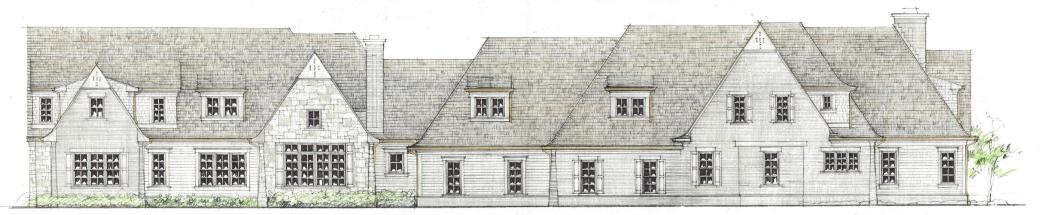
Proposed Arial View

Issued:

10-14-2015 Preliminary Site Plan Review 12-17-2015 Preliminary Site Plan Review

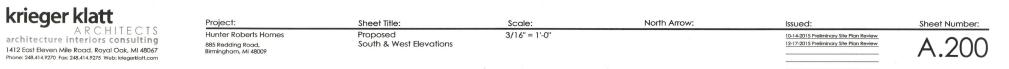






Proposed West Elevation Scale: 3/16" = 1:-0"





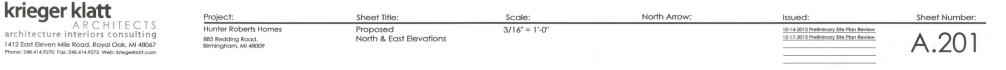


Proposed North Elevation Scale: 3/16" = 1'-0"



Proposed East Elevation Scale: 3/16" = 1'-0"

Hunter Roberts Homes EXTRAORDINARY TRADITIONAL HOMES



HUGHES PROPERTIES



30100 TELEGRAPH ROAD SUITE 220 BINGHAM FARMS, MICHIGAN 48025 248/647-2600 248/647-1330 FAX

December 2, 2015

City of Birmingham Planning Department 151 Martin Street Birmingham, MI 48012

RE: 2159 & 2295 E. Lincoln Final Site Plan Extension

Ms. Ecker,

Pursuant to your direction, please let this letter serve as our request for a one year extension of the Final Site Plan for 2159 & 2295 E. Lincoln that was approved on February 25, 2015. We are currently in the process of evaluating our financing options for the project and need an extension to continue this process beyond February 25, 2015. Thank you for your consideration of this matter.

Should you have any questions on this matter please let us know.

Sincerely,

Sean T. Havera VP of Construction Lincoln Birmingham Properties, LLC

MEMORANDUM

Planning Division

DATE: January 8, 2016

TO: Planning Board members

FROM: Jana Ecker, Planning Director

SUBJECT: 856 N. Old Woodward – CIS & Preliminary Site Plan Review (New text in blue type)

I. INTRODUCTION

The parcel at 856 N. Old Woodward is currently vacant. The applicant intends to build a fourstory mixed use building at the subject site. The site has a total land area of .56 acres and is located on the east side of N. Old Woodward south of Oak Street.

At this time, the applicant is proposing to construct a four story mixed use building with an underground level that will have parking and residential storage spaces. The first floor is proposed to contain parking fronted by retail space and a residential lobby. The second, third and fourth floors will contain 27 residential units. On street parking will be provided on N. Old Woodward. Each floor will be approximately 21,302.74 S.F., giving the building an approximate total of 106,513.7 G.S.F. Thus, the applicant was required to prepare a Community Impact Study in accordance with Article 7, section 7.27(E) of the Zoning Ordinance as they are proposing one new building containing more than 20,000 sq. ft. of gross floor area.

II. COMMUNITY IMPACT STUDY

As stated above, the applicant was required to prepare a Community Impact Study given the size of the proposed development. The Zoning Ordinance recognizes that buildings of a certain size may affect community services, the environment, and neighboring properties. The CIS acts as a foundation for discussion between the Planning Board and the applicant, beyond the normal scope of information addressed in the preliminary site plan review application. The Planning Board "accepts" the CIS prior to taking action on a Preliminary Site Plan.

On December 9, 2015, the applicant appeared before the Planning Board for a review of the CIS and Preliminary Site Plan. After much discussion, the Planning Board voted to postpone consideration of the CIS and Preliminary Site Plan to January 13, 2015 to allow the applicant to provide additional information with regards to the height of the building, to address traffic concerns, and to provide additional information regarding potential MDEQ issues. At this time, the applicant has submitted a Revised CIS (including a revised traffic study), updated civil and architectural plans, and a letter outlining their discussions with the MDEQ.

A. Planning & Zoning Issues:

<u>Use</u>

The site is currently zoned 0-2 Office Commercial and falls within the D-2 Overlay District as provided in the Regulating Plan of the Downtown Birmingham 2016 Plan ("2016 Plan") and is also located in the red line retail district of the Regulating Plan. The proposed residential units, retail space and parking facility are permitted principal and/or accessory uses in the 0-2 and D-2 zone district in accordance with Article 2, section 2.23 of the Zoning Ordinance(0-2) and Article 3, section 3.04(C) (D-2).

Overlay District Compliance

Article 3, section 3.01 of the Zoning Ordinance states that the purpose of the Overlay District is to:

(a) Encourage and direct development within the boundaries of the Overlay Zoning District and implement the 2016 Plan;

(b) Encourage a form of development that will achieve the physical qualities necessary to maintain and enhance the economic vitality of downtown Birmingham and to maintain the desired character of the City of Birmingham as stated in the 2016 Plan;

(c) Encourage the renovation of buildings; ensure that new buildings are compatible with their context and the desired character of the city; ensure that all uses relate to the pedestrian; and, ensure that retail be safeguarded along specific street frontages; and

(d) Ensure that new buildings are compatible with and enhance the historic districts which reflect the city's cultural, social, economic, political, and architectural heritage.

The proposed development implements some of the recommendations contained in the 2016 Plan as the applicant is proposing a mixed use building with a 36' deep retail space on the first floor and the majority of the parking is hidden in the rear and underground, and residential units are proposed, as recommended in the 2016 Plan. However, the proposed building contains one extra floor of residential above what was recommended in the 2016 Plan. Although it is four stories, the building conforms to the maximum height limit in the D2 zone of the Overlay District. The Building Official has now provided an interpretation that although the building does not exceed the maximum height of 56' in the D-2 district, it does exceed three stories in height. Further, the Building Official has indicated that the proposed underground parking level does not meet the definition of basement in the Zoning Ordinance, and is therefore considered a story. Thus, the applicant must obtain a variance for the number of stories.

Master Plan Compliance: 2016 Plan

The CIS presented does not fully discuss the goals and objectives of the City's master

plan to demonstrate whether the City can support the proposed development. However, the following goals and objectives of the <u>Downtown Birmingham 2016 Master Plan</u> ("2016 Plan") do demonstrate that the City can support the proposed development.

The 2016 Plan specifically addresses the N. Old Woodward area and states that it "has a strong identity, both in location and as an art gallery niche". The 2016 Plan recommends that the City provide the N. Old Woodward area with a unique streetscape design that features a landscaped boulevard, as well as unique lighting and signage, and recommends that the City encourage additional medium-density housing to be built along N. Old Woodward. The proposed mixed use building includes 27 residential units, and proposes a median along N. Old Woodward to narrow the street and provide more on street parking.

In addition, the 2016 Plan states that a traditional, walkable downtown must be exceedingly careful in the design of the building frontages, and that the type of frontage most likely to attract pedestrians are shopfronts, followed by fenestrated walls with short setbacks, and then landscaped yards. The proposed building provides a 35.6' deep first floor retail space with approximately 100' of frontage.

The parking and circulation sections of the 2016 Plan also state that there are opportunities for additional on-street parking within existing pavement widths throughout the downtown, and the N. Old Woodward area is specifically identified as an area where additional on-street parking spaces could be provided. In addition, the 2016 Plan recommends that the street pavement along N. Old Woodward be redesigned so that traffic slows down to a speed commensurate with the pedestrian setting of the "Arts District". The plan further states that this would involve rebuilding Woodward between the Ring Road and Oak Street by installing diagonal parking on both sides or along a newly created median. The proposed 856 N. Old Woodward building includes this design of N. Old Woodward and the addition of 15 on-street diagonal parking spaces.

B. Land Development Issues

A survey has been completed by Kem-Tec and Associates and has been included in the applicant's submission. A site drainage plan has been prepared by Stonefield Engineering and Design.

ASTI Environmental performed a Phase I environmental Site Assessment (ESA) for the subject property dated April 10, 2015. This Phase I was based in part on the use of prior Environmental Site Assessments and subsequent subsurface work conducted on the property most recently by Soils and Materials Engineers, Inc. (SME) in October 2006. The Phase I ESA update revealed the following recognized environmental conditions (REC) at the property:

- Review of historical records that document that the property was occupied by a gasoline dispensing station from at least 1937 to 1940;
- Historical records indicating issuance of a permit for the use of a 220-gallon fuel oil

tank in May 1947. The potential exists that the former commercial building was heated with fuel oil stored within an aboveground storage tank (AST) or underground storage tank (UST);

- The subject property is an inventory site and a BEA site as a result of previous site assessment activities completed between 2002 and 2006 that document soil and groundwater contamination onsite; and
- Fill material was identified on the subject property ranging in depths between 5.0 feet below ground surface to 24 feet, containing construction-like rubble increasing in quantity toward the northern portion of the subject property.

On August 13, 2015, PM conducted a subsurface investigation that required the drilling of six soil borings and a number of soil sample tests. PM compared the soil and groundwater analytical results conducting during the investigation to those that were collected in 2013. The results show that:

- Concentrations of tetrachloroethlylene were detected in the soil samples collected at SB-4 that exceed the Nonresidential DWP and/or GSIP cleanup criteria. Concentrations of other various VOCs were detected in the soil samples collected at SB-4, SB-5, and SB-6 above the laboratory method detection limits (MDL), but below the most restrictive Part 201 Residential cleanup criteria;
- Concentrations of various PNAs were detected in the soil samples collected for SB-5 and SB-6 that are above laboratory MDL but below Residential cleanup criteria;
- No concentrations of PCBs were detected in any of the selected soil samples collected from the subject property above the laboratory MDLs;
- Concentrations of arsenic were detected in all of the soil samples collected from the subject property that exceed the Part 201 Residential and Nonresidential DWP, GSIP and Residential DC clean up criteria;
- Concentrations of chromium were detected in SB-3, SB-4, and SB-6 above the Part 201 GSIP cleanup criteria;
- Concentrations of selenium were detected in the soil samples collected at SB-2, SB-4, and SB-5 above the part 201 GSIP cleanup criteria. Concentrations of chromium and selenium were detected in the remaining soil samples that exceed the laboratory MDLs; and
- Concentrations of silver were detected in both groundwater samples collected from the subject property above the Part 201 GSI cleanup criteria.

PM Environmental, Inc. submitted a Baseline Environmental Assessment report for 856 N Old Woodward dated September 4, 2015. This report includes a discussion of the Phase I Environmental Assessment that is summarized above.

The applicant has also submitted a soil report dated November 8, 2015, prepared by G2 Consulting Group, Inc. A total of six soil borings were performed and analyzed. The soil report indicated soil strength of 1,500 to 9,000 psf. Fill soils with an organic matter content ranging from 2.6% to 4.5% were encountered within the proposed building footprint. While the applicant has submitted a soil boring report, the received materials do not confirm that the soils within the subject site are suitable to support the proposed development. The Revised CIS now states that the low site soil bearing capacity of the existing soil requires the use of 30" diameter anger pilings, in lieu of a standard foundation system. The applicant will be required to provide a full soil analysis when applying for a building permit.

The applicant has submitted a summary letter from PM Environmental dated January 7, 2016 that outlines the geology, hydrology and contamination issues on the existing site. This letter also outlines in detail construction mitigation measures, response activities and the applicant's due care obligations to deal with the on site contamination.

The existing site also contains steep slopes. The applicant proposes a below grade parking garage that will substantially remove the existing site erosion and runoff conditions in the adjacent Rouge River. Areas of existing steep slopes will be stabilized during construction to prevent erosion. The CIS states that an Erosion Control Plan will be prepared to meet all municipal soil erosion control requirements. There are no potential hazards that may be created by the proposed development other than the fact the construction will occur within close proximity to the Rouge River. Standard soil erosion implementation will mitigate any potential discharge of materials into river.

C. Utilities, Noise and Air Issues:

The CIS indicates that electricity will be provided by DTE, natural gas will be provided by CMS Energy, and telephone cable service will be provided AT&T. All required utility easements have not been verified. However, the applicant has noted that the Civil Engineer and Construction Manager will provide verification of easements for all proposed and additional utilities prior to construction. The applicant has now shown all proposed utility lines and connections on the civil plans. In accordance with the 2016 Plan, all utilities on the site should be buried to visually enhance the site. The CIS does not indicate that utilities will be buried to meet this provision. The applicant has provided written confirmation that all utilities will be buried to comply with City regulations.

A sound study was performed by Kolano and Saha Engineers to analyze existing ambient noise and estimated future noise levels on the site. The prepared noise report states that HUD has defined a day-night sound level average (DNL) between 55 and 65 dB as the level of noise which is "normally acceptable." The results of on site measurements show that the site has a measured sound level of DNL 63 dB, and thus falls within HUD guidelines for residential land use. The report cites heating and cooling mechanical systems, exhaust fans, garage ventilation fans, and a generator as the anticipated sources of noise from the proposed development. Kolano and Saha have provided

information detailing the types of units that will produce the least amount of sound. The CIS states that the proposed project is not expected to create excessive noise that exceed existing code standards. Furthermore, the expected use and noise will be similar to what currently exists on North Old Woodward in this area.

The CIS states that the closest air monitoring stations are located in Oak Park and Pontiac. Current ambient air quality standards are well under the existing minimum standards mandated by the EPA. The applicant has indicated that all new HVAC equipment will be selected to provide minimum pollutant discharge and maximum filtration. Any restaurant that may occupy the space will be required by lease to have scrubbers on vent fans. The applicant has stated that the proposed development will not impact air quality in the area, nor be particularly sensitive to air quality, and will not have parking for more than 75 cars.

D. Environmental Design and Historic Values:

The applicant has indicated that excavation of a portion of the site will take place to construct below grade parking. The applicant has also indicated that street level parking and a landscaped island will be constructed on the property, in similar construction and design as an extension of the streetscape to the south. The applicant states in the CIS that the City will determine the arrangements of use with the owner. The applicant will be required to provide the City with a public access easement for the western portion of the site that is proposed for public parking and a public sidewalk. The applicant has advised in writing that they will provide a 22.5' wide public access easement. The CIS also states that there will not be any intrusion of elements out of character to the existing physical environment.

The applicant has indicated that all elements of the building construction, as currently proposed, have the capability to be LEED certified, however the determination of this selection shall be forthcoming. The CIS also states that the proposed building will not degrade or block views and there will be no visual pollution caused by the development. The CIS indicates that there will be no interference with or impairment of ambient conditions necessary for the enjoyment of the physical environment.

The proposed placement of the building does align with the retail frontage of the properties to the south and will allow for the extension of on-street parking on N. Old Woodward. This will extend the walkable shopping district and will allow 15 parking spaces in front of the proposed building. A complete design review, including streetscape elements, will be conducted as a part of the Final Site Plan review process.

The site is not listed on the National Register of Historic Places, nor is it on the City's list of historic sites. Review by the SHPO and Historic District Commission is not required.

E. Refuse, Sewer and Water:

The CIS states that there will be a refuse room on the first level that will be adequate in size to service the development. **No details have been provided on the size of the**

trash containers, nor has information been provided to detail the collection and separation of recyclables. The applicant has now provided specification sheets on the proposed trash compactor and recyclable bins, and shown these on the first floor site plan in the proposed trash room. A total of 6 0.5 cubic yard recycling tilt truck containers are proposed (61" x 28"), as well as one trash compactor (65" x 38"). The CIS further states that there is adequate water service to the site and that the existing sanitary and combined sewers on the site will be sufficient to service the development.

The applicant has stated that the proposed wastewater system will be adequately designed by an engineer to service the facility and that design capabilities of the facilities will not be exceeded as a result of this project. Furthermore, the applicant has stated that systems and appliances to reduce the amount of water will be selected in the design development phase. Although no specific elements have been identified, the applicant has indicated that all alternatives to conventional systems will be reviewed and incorporated.

The proposed storm water system will be designed to meet the City standards for storm water management. The applicant has stated that the design capacity of storm water facilities will not be exceeded, but they will have this confirmed by the City Engineer prior to final site plan approvals. The CIS has indicated that elements have been incorporated into the project to reduce the amount of storm water entering the sewer. This will be carried out through a proposed underground detention system.

The applicant has indicated that the proposed water service system will be adequately designed to service the facility. The applicant anticipates that the existing water quality is safe from both chemical and bacteriological standpoints and will provide verification of this prior to final site plan review. The applicant also anticipates the water supply design to be compatible with the existing City system and will not require rerouting or significant alterations. The planned project water usage design will be reviewed by the City Engineer prior to Final Site Plan review.

F. Public Safety:

The applicant has not indicated whether the proposed development location or design provide adequate access for police, fire and emergency vehicles and individuals. However, the applicant has indicated that the project design will be reviewed by all public safety services and recommendations for conformance will be implemented into the final design. The applicant has also stated that dimensioned drawings will be provided to substantiate conformance of the elevator to medical cart accessibility standards. The applicant has now provided the dimensions of the proposed elevator (5' by 7.5'), and the elevator will accommodate both a medical cart and stretcher as required by the Michigan Building Code.

The CIS indicates that all security systems alternatives will be reviewed and approvals

will be secured as required by the Police Department.

The applicant has stated that the proposed building will comply with NFPA fire codes and will be fully sprinkled. The CIS states that all fire suppression in the areas of vehicular circulation and parking within the building will be with a dry chemical system in accordance with all required codes. The retail and residential portions of the facility will be fire suppressed with a standard water pipe and pump system.

The CIS states that all structural engineering data necessary to substantiate the ability of all fire/emergency vehicles to access the site will be submitted at the time of permit review.

G. Transportation Issues:

The applicant has submitted a Traffic Impact Study prepared by Stonefield Engineering and Design. The City's traffic consultant, Fleis & Vandenbrink, has completed a review of the traffic study and provided the following comments and observations:

- Applicant must provide a copy of the data collected for peak hour turning movement count at the study intersections during a typical weekday and Saturday;
- Regarding the level of service evaluation, emphasis should be placed on the consideration of left-turn queue lengths at the study intersections using SimTraffic;
- The report does not include a complete discussion of how the proposed site development will include the appropriate components of the City's Multi-Modal Transportation Plan; including access for buses and bikes, and a resolution of pedestrian conflicts at the site driveways;
- The analysis for the site driveway presupposes the use of the center lane for ingress left-turns, though due to the proximity to the adjacent intersection and the conflicting northbound left-turn lane, this is not feasible;
- Further explanation of the background growth rate of 2% and how it is in accordance with industry guidelines is needed;
- Analysis should reflect all background traffic associated with Saturday, including traffic generated by the newly proposed Brookside Terrace development;
- The proposed parking does not conform to City requirements for retail use (the plan proposed 9, but 12 are required);
- The shared parking study must include an evaluation of the highest demand which occurs during the weekday Thursday and Friday between 12:00 PM and 2:00 PM;
- The study must identify improvements that would be required to mitigate any unacceptable traffic conditions, including the need for left and right-turn lanes;
- The study must include an evaluation of the corner sight distance at proposed site driveways;
- The background traffic growth rate, trip generation, and trip distribution must be reviewed and approved by F&V; and
- The applicant must submit the revised draft report including analysis, results,

recommendations, and Synchro models to F&V for review and comment prior to completing Final Report.

The applicant submitted a revised traffic study dated December 30, 2015 and new SYNCHRO data to the City's transportation consultant to address all of the issues previously raised. The revised study was reviewed by the City's consultant, Fleis and Vandenbrink, and the following concerns were noted:

• Vehicle delays and level of service (LOS) were evaluated at the signalized study intersection of N. Old Woodward Avenue & Oak Street using the 2000 version of the Highway Capacity Manual (HCM). The HCM 2010 is the most current version and should be used to evaluate all the study intersection. The results of the analysis should be updated accordingly.

• The study should include an evaluation of the corner sight distance at proposed site driveways. More detailed information regarding the sight distance analysis at the proposed site driveways should be provided.

• Additional information regarding the parking should be provided. The parking analysis should include an analysis to determine if the proposed on-site and shared off-street parking will provide the necessary number of spaces for the existing and proposed land uses. The parking analysis should include a comparison of the proposed parking, the City Parking Ordinance requirements, and ITE parking generation. In addition, the shared parking study should include an evaluation of the highest demand which occurs during the weekday Thursday and Friday between 12:00 PM-2:00 PM.

• A revised draft report including analysis, results, recommendations and Synchro models should be submitted to F&V for review and comment prior to completing the revised final report.

A copy of the revised traffic study and Fleis and Vandenbrink's review letter are attached for your review. The City's transportation consultant will be present at the Planning Board meeting on January 13, 2016 to address the outstanding traffic issues.

The applicant has indicated that transportation facilities and services will be adequate to meet the needs of all users:

- SMART accessibility is provided by means of nearby bus stops within short walking distance;
- Bicycle storage areas are provided within the parking structure for residents and tenants;
- A bike rack will be provided in an area just outside the residential tenant entrance for patrons of retail and visitors;
- There is barrier free accessibility to the development; and
- Pedestrian access is provided from North Old Woodward.

The Revised CIS submitted now includes a complete multi-modal transportation analysis.

The applicant is proposing 19 parking spaces on the first level located behind the retail. 37 parking spaces are proposed on the lower level and 9 parking spaces are proposed in the open space parking outside along the western edge of the property for a total of 65 spaces. The CIS states that there will be no more than 75 parking spaces, but both the engineering and architectural drawings show 65 parking spaces proposed. The revised civil and architectural site plans now show 17 parking spaces on the first level behind the retail space, 37 spaces on the underground parking level, 9 on-street parking spaces on private property along the front of the building, and 7 on-street parking spaces in the right-of-way, for a total of 63 parking spaces, or 70 including those in the right-of-way.

H. Natural Features:

The applicant has indicated that there are no water quality issues known regarding the existing Rouge River to the east of the site.

The CIS indicates that the proposed project will involve an increase in impervious surface area. An underground detention system has been designed to accommodate the additional impervious surfaces and reduce the overall runoff from the site. The CIS indicates that the project will not affect surface water flows on water levels of ponds or water bodies. The MDEQ has been notified and does not anticipate any adverse effects. The CIS also states that the project is located within 100-year floodplain. As such, the applicant indicates that the project will meet all state and local floodplain regulations.

If the applicant is proposing changes within the floodplain the applicant will be required to obtain approval from the Michigan Department of Environmental Quality.

At the December 9, 2015 Planning Board meeting, board members requested additional information from the applicant regarding MDEQ's role and any concerns that may require mitigation efforts. The applicant has now provided a letter (see attached) dated January 6, 2016 outlining discussions with the MDEQ at a meeting held on October 14, 2015, as requested by the Planning Board.

The proposed development will not destroy a natural feature, but it will isolate the river from public access. However, there is not currently public access to the river from this site. No natural feature will pose a safety hazard to the development nor will the proposed project destroy any existing wildlife or habitats.

I. Departmental Reports

- 1. <u>Engineering Division</u> –The Engineering Dept. has reviewed the site plan and traffic study dated November 11, 2015, for the above project. The following comments are offered:
 - i) The proposed development will impact the 100-year floodplain. It appears that the design intent is to comply with the floodplain development requirement of not causing any net fill within the floodplain boundary. We will review this in more detail during review of the plans prior to the issuance of a building permit.
 - ii) The plans propose to step back the front wall of the building to provide an extension of the proposed public parking area being constructed by the City directly south of this site in 2007. Although we encourage the intent in the interest of gaining the maximum amount of public parking for both this site and the immediate adjoining businesses, we raise the following concerns:

The plan proposes an extension of the basement parking level underneath the at grade public parking places on the first floor. As such, it is expected that the at-grade parking will remain as land that is privately owned. **However, an ingress/egress easement will have to be created and signed by both the City and the owner to designate usage and terms of maintenance.** The applicant has agreed to provide a 22.5' wide easement as requested. It is our expectation that the City will have to right to enter the area to own and operate parking meters, with full control for access and enforcement of parking rules. Further, the City will have to be able to enter the area for maintenance purposes accordingly.

Extension of the basement under the new public parking area may raise questions as to what paving materials can be used on the surface, and if they can function long term on a supported deck. We will review these issues in detail with the engineer and architect during detailed plan review.

Although the information provided is not entirely clear, it appears that the front face alignment of the building at grade will allow the existing sidewalk and public parking area to the south to be extended north on the same alignment. However, the existing drawing is inadequate to determine if the design will work because it does not indicate how the extended parking area will impact the storage lanes for northbound N. Old Woodward Ave. traffic at the Oak St. traffic signal. The drawing must be resubmitted with full consideration of maintaining proper storage for this intersection, and the new parking area shall be modified accordingly.

The traffic study does not consider the amount of northbound storage needed to maintain the current level of service at the Oak St. intersection.

The parking area shall be designed so as to not reduce the level of service at the intersection accordingly.

- iii) Due to its direct connection to the Rouge River, the developer is encouraged to design all storm water flow into an on-site storm water cleaning facility prior to discharging into the river. Doing so will allow the developer to avoid requirements under the Storm Water Runoff permit requirements. However, since the City is going to be enacting a storm water quality ordinance within the next year modeled after the ordinance being formulated by Oakland Co., the engineer is encouraged to review those standards and design accordingly.
- iv) The following permits will be required from the Engineering Division for this project:

Right-of-Way Permit (for excavations in the right-of-way). Street Obstruction Permit (for all obstructions in the right-of-way during construction). Sidewalk/Drive Approach Permit (for all pavement installed in the right-of-way).

Soil Erosion and Sedimentation Control Permit.

2. <u>Department of Public Services</u> – The Department of Public Services has no comments.

- 3. <u>Fire Department</u> The Fire Department has the following requirements:
 - 1. Emergency Responder radio coverage is required.
 - 2. Fire suppression with a minimum of a 6" water main is required.
 - 3. Fire Alarm with smoke detectors required.
 - 4. Knox Box is required.
- 4. <u>Police Department</u> The Police Department has no concerns.
- 5. <u>Building Division</u> The following comments were received from the Building Division in addition to their standard comments:
 - 1. The exit discharge for the for the two emergency rear exits from the parking levels needs to terminate at a public way. A public way is a street, alley or parcel of land open to the outside air that has been deeded, dedicated or otherwise permanently made available for public use with a clear width and height of ten feet.
 - 2. Exterior doors cannot swing over the public sidewalk.
 - 3. MDEQ approval/permit will be required for the work occurring in and over the 100-year floodplain.
 - 4. The lower level of the building does not fit within the zoning ordinance definition of basement because of the sloping grade. Accordingly, it will count as a story. The sloping grade on this site is

unique and a decent case could be made to the Board of Zoning Appeals for a variance for this story.

5. The apartments will need to comply with the accessibility requirements in Chapter 11 of the building code for Type A and B dwelling units.

J. Suggested Action:

The Planning Division recommends that the Planning Board postpone the applicant's Revised CIS to allow the applicant to revise the traffic study to meet all City requirements and obtain approval of same from the City's transportation consultant.

K. Suggested Motion Language

To POSTPONE the applicant's Revised CIS to allow the applicant to revise the traffic study to meet all City requirements and obtain approval of same from the City's transportation consultant.

OR

To ACCEPT the applicant's Revised CIS with the following conditions:

- 1. To revise the traffic study to meet all City requirements and obtain approval of same from the City's transportation consultant; and
- 2. To demonstrate compliance with the requirements of City departments.

OR

- 1. To <u>decline</u> the Community Impact Study as provided by the applicant for the proposed development at 856 N. Old Woodward for the following reasons:
 - a. _____
 - b. _____
 - C. _____

III. Preliminary Site Plan Review

Please see the attached Zoning Compliance Summary Sheet for detailed zoning compliance information.

1.0 Land Use and Zoning

1.1 <u>Existing Land Use</u> – The existing property is currently vacant. There are no structures on the site. Office, commercial, and multi-family uses surround the site.

- **1.2** <u>Zoning</u> The property is currently zoned O2, Office/Commercial and is located at the northern edge of the Downtown District. The surrounding uses conform to the permitted uses of each Zoning District. The parcel is also in the Downtown Overlay District. It has an overlay zoning of D2.
- 1.3 <u>Summary of Adjacent Land Use and Zoning</u> The following chart summarizes existing land use and zoning adjacent to and/or in the vicinity of the subject site, including the proposed 2016 Regulating Plan zones.

	North	South	East	West
Existing Land Use	Commercial	Office/ Commercial	Rouge River	Multi-Family Residential
Existing Zoning District	B2B General Business	O2 Office/ Commercial	PP Public Property	R6 Multi-Family Residential
Overlay Zoning District	D2	D2	N/A	N/A

2.0 Setback and Height Requirements

The proposed development meets the minimum eave height of 20' and the maximum height requirement of 56'. However, no rooftop plans were provided to ensure that any proposed mechanical equipment would not extend past the 56' maximum. The applicant has now provided a building section to show the proposed 5' deep mechanical well on the roof. All rooftop mechanical equipment will be located in this well, and will not extend above 56' in height. Also, the maximum number of stories in the D2 zone is three if the third story is used solely for residential use. The applicant is proposing a basement and four stories above grade, with both the third and fourth stories proposed for residential use. The Building Official has now provided an interpretation that although the building does not exceed the maximum height of 56' in the D-2 district, it does exceed three stories in Further, the Building Official has indicated that the proposed heiaht. underground parking level does not meet the definition of basement in the Zoning Ordinance, and is therefore also considered a story. Thus, the applicant must obtain a variance for the number of stories.

The building is not on the frontage line, however, it is setback 22' to match the front setback of the abutting building to the south as is required in Article 3, section 3.04(B).

The applicant will be required to provide rear setbacks for both adjacent buildings to the north and south, and the proposed building must have a rear setback equal to the rear setback of one of these adjacent buildings. If not, a variance must be obtained from the Board of Zoning Appeals. The applicant has now shown what appears to be a 12.8' setback for the dry cleaners building to the north, however there are no property lines indicated to confirm. The applicant must provide a drawing with the rear setbacks shown for both the building to the north, and the one to the south, and include all relevant property lines. The proposed development is in accordance with Article 4, Section 4.52 PK-08 as the first story off-street parking is located greater than 10' from the front façade and masked by a 36' deep retail space

3.0 Screening and Landscaping

- 3.1 <u>Dumpster Screening</u> The applicant is proposing to locate all trash receptacles within the building with access from the first floor parking area. The materials for the walls or the doors screening the dumpster are not specified on the submitted plans, however the trash room is fully screened from the street by the residential lobby.
- 3.2 <u>Parking Lot Screening</u> All parking facilities must be screened in accordance with Article 4, section 4.49 of the Zoning Ordinance. All of the required parking is proposed to be located within the first floor and in the lower level of the building. The proposal complies with Article 4, Section 4.52 PK-08 as the first story off-street parking is located greater than 10' from the front façade as the applicant is proposing retail space with a depth of 35.6' along N. Old Woodward. The front entry to the at grade and below grade parking is located at the northwestern corner of the site. Parking is also proposed on private property along the front of the building to provide additional parking to match the ROW parking to the south. The Engineering Department approves of the design intent, but has stated that the applicant will be required to provide the City with an access easement for ingress/egress and maintenance of these proposed public parking spaces. The applicant has confirmed in writing that they will provide the required public access easement.
- 3.3 <u>Mechanical Equipment Screening</u> Two electrical transformers are proposed at the rear of the property on the first floor and on the lower level of the building next to the vehicular access ramp. The transformers will be screened by the brick walls of the building. No specifications have been provided for exterior mechanical equipment and, no rooftop plans have been submitted. The applicant has submitted a building section showing a 10' deep well on the roof, presumably for rooftop mechanical equipment. The applicant will be required to provide specification sheets and a roof plan at the time of Final Site Plan and Design Review to demonstrate that any proposed rooftop mechanical equipment will not extend past the 56' maximum building height. The applicant has now provided specification sheets for the proposed rooftop

mechanical equipment (see attached). Thirty five units are proposed, each measuring 52.7" in height. All units will be located in the 60" deep recessed mechanical well, and thus will be entirely screened by the building.

- 3.4<u>Landscaping</u> –Article 04 section 4.20 LA-01(G) of the Zoning Ordinance requires at least 1 street tree for each 40 linear feet of frontage. As the property has 169' of street frontage along N. Old Woodward, 4 street trees are required. The plans submitted show 4 street trees along N. Old Woodward. As the site is located within the Downtown Overlay District, there are no other landscape requirements for this site. No details as to the species of street trees have been provided, and a landscape plan has not been submitted. The applicant will be required to submit a detailed landscape plan at the time of Final Site Plan and Design Review.
- 3.5 <u>Streetscape</u> The applicant is proposing 6 new 24" square concrete planters with unspecified flowering perennials and annuals and 2 new city standard benches along N. Old Woodward in front of the new building. The applicant is not proposing to add any street lights or bike racks along N. Old Woodward in front of the building. These must be shown on the plans at Final Site Plan and Design Review.

The streetscape plan that was submitted is not consistent with the site plan that was submitted. The applicant will be required to align the landscape plans and the site plans in order for the Planning Department to receive a clear and concise picture of what is being proposed. The applicant has now submitted revised civil and architectural plans, all of which now provide a consistent streetscape which includes a 5' wide sidewalk that continues along the same path as the existing sidewalk on the property to the south. One bench and four bike racks are now proposed on the pedestrian bump out at the north end of the angled parking. Pedestrian scale street lights are not shown on the revised plans.

4.0 Parking, Loading and Circulation

4.1 <u>Parking</u> – In accordance with Article 4, section 4.34 of the Zoning Ordinance, the proposed development is required to have a total of 56 parking spaces (21 two room or less units x 1.5 spaces per unit [32], 6 three or more room units x 1.25 spaces per unit [12], and one space for every 300 sq.ft. of retail space [12])+ 12 (1 space x 300 sq. ft. of retail floor space). The applicant is proposing 56 total parking spaces located on the first floor and lower levels of the building, and thus has met the requirements for parking. In addition, 16 extra spaces are proposed on private property along the front of the building and in the ROW in front of the building. The applicant has now provided floor plans for the proposed residential units that indicate that all 27 units are three or more room units. Each unit must provide 2 parking spaces for a total of 54 parking spaces are also required for the proposed retail space

(3500/300), for a total of 66 required parking spaces for the development as proposed. The revised civil and architectural site plans now show 17 parking spaces on the first level behind the retail space, 37 spaces on the underground parking level, 9 on-street parking spaces on private property along the front of the building, and 7 on-street parking spaces in the right-of-way, for a total of 63 parking spaces, or 70 including those provided in the right-of-way. Given the improvements proposed in the right-of-way, the applicant may be entitled to include the 7 parking spaces in the right-of-way in their parking counts with approval by the City Commission.

All proposed parking spaces meet the minimum 180 sq.ft. size requirement. The proposed development complies with Article 4, Section 4.52 PK-08 as the first story off-street parking is located greater than 10' from the façade with a 36' deep screening the parking area.

The applicant has noted an area for bicycle parking on the underground parking level. However, there are no bike racks denoted on the plans; also the location of the bicycle parking area is not convenient for cyclists. The bicycle parking is proposed to be on the lower level and not street level, also it is not near the door to the lower level. Its location would require cyclists to take their bike onto the elevator and/or use the vehicular drives and ramps and compete with vehicles. The revised plans continue to provide bicycle parking on the underground level, but a new covered bike parking area has now also been added to the first floor, immediately behind the retail space. However, no bike racks are shown in this location and should be added.

- 4.2 <u>Loading</u> Article 4, section 4.24 of the Zoning Ordinance provides that no offstreet loading spaces are required as the retail area of the building is less than 5,000 sq.ft. in size, and thus none are proposed.
- 4.3 <u>Vehicular Circulation and Access</u> –The applicant proposes a driveway on the northwest corner to access the enclosed first floor parking and the lower level parking. The vehicular opening in the building is permitted to be 25' or less in width in accordance with Article 3 of the Zoning Ordinance. The architectural plans submitted show a proposed width of 22', however sheet C-3 of the engineering plans show a 24.5' wide opening for vehicles. Either width meets the Downtown Overlay requirement, however the applicant must amend the plans to ensure consistency. The proposed vehicular entry will have a bronze overhead garage door framed by brick columns. The architectural plans submitted show the at-grade parking level aisles at 14' and 21' in width. However, sheet C-3 of the engineering plan show the at-grade parking level drive aisles at 22' in width. The applicant must provide the specific dimensions for all drive aisle widths and amend all plans to

ensure consistency. The revised plans do not include specific dimensions for all drive aisle widths.

Pedestrian Circulation and Access - The applicant is proposing a new sidewalk to 4.4 connect with the sidewalk on the property to the south. The architectural plans submitted show the sidewalk width as 5', however, sheet C-3 of the engineering plan show the sidewalk width at 5.1'. The applicant must provide the specific dimensions for the proposed sidewalk and amend all plans to ensure consistency. There are two proposed entrances along the front façade of the building shown on the site plan. However, the elevation drawings appear to show five proposed entrances along the front facade. The applicant will be required to amend all plans and elevations to ensure consistency. The resident lobby for this building is located at the northern edge of the building abutting the entrance to the first floor and underground parking. There are two entrances to the lobby, one from the inside of parking area, and one from the front of the building. This lobby includes one elevator, two vestibules, and a The revised plans submitted now show two pedestrian staircase. entrances to the residential lobby on the west elevation of the building and no pedestrian entrances to the proposed retail space. The plans note that the entry locations will be selected by the tenants. However, pedestrian entrances are required into first floor retail spaces, and there are placement requirements. The applicant should add entries at this time and apply for administrative approval to relocate the entries if so desired in the future.

5.0 Lighting

No photometric plan or specification sheets for any proposed building or landscape lighting have been provided at this time, but will be required at Final Site Plan and Design Review. The applicant has now submitted a photometric plan for the site, but no specification sheets have been provided for any light fixtures. The photometric plan shows light levels exceeding the maximum of 1.5 fc along portions of the northern and eastern property lines that will need to be reduced. Lighting will be reviewed in detail at Final Site Plan and Design Review.

6.0 **Departmental Reports**

<u>6.1 Engineering Division</u> – The Engineering Division has reviewed the site plan and traffic study dated November 11, 2015, for the above project. The following comments are offered:

i) The proposed development will impact the 100-year floodplain. It appears that the design intent is to comply with the floodplain development requirement of not causing any net fill within the floodplain boundary. We will review this in more detail during review of the plans prior to the issuance of a building permit.

ii) The plans propose to step back the front wall of the building to provide an extension of the proposed public parking area being constructed by the City directly south of this site in 2007. Although we encourage the intent in the interest of gaining the maximum amount of public parking for both this site and the immediate adjoining businesses, we raise the following concerns:

The plan proposes an extension of the basement parking level underneath the at grade public parking places on the first floor. As such, it is expected that the at-grade parking will remain as land that is privately owned. **However, an ingress/egress easement will have to be created and signed by both the City and the owner to designate usage and terms of maintenance.** The applicant has indicated they will **provide a 22.5' wide easement as requested.** It is our expectation that the City will have to right to enter the area to own and operate parking meters, with full control for access and enforcement of parking rules. Further, the City will have to be able to enter the area for maintenance purposes accordingly.

Extension of the basement under the new public parking area may raise questions as to what paving materials can be used on the surface, and if they can function long term on a supported deck. We will review these issues in detail with the engineer and architect during detailed plan review.

Although the information provided is not entirely clear, it appears that the front face alignment of the building at grade will allow the existing sidewalk and public parking area to the south to be extended north on the same alignment. However, the existing drawing is inadequate to determine if the design will work because it does not indicate how the extended parking area will impact the storage lanes for northbound N. Old Woodward Ave. traffic at the Oak St. traffic signal. The drawing must be resubmitted with full consideration of maintaining proper storage for this intersection, and the new parking area shall be modified accordingly.

The traffic study does not consider the amount of northbound storage needed to maintain the current level of service at the Oak St. intersection. The parking area shall be designed so as to not reduce the level of service at the intersection accordingly.

iii) Due to its direct connection to the Rouge River, the developer is encouraged to design all storm water flow into an on-site storm water cleaning facility prior to discharging into the river. Doing so will allow the developer to avoid requirements under the Storm Water Runoff permit requirements. However, since the City is going to be enacting a storm water quality ordinance within the next year modeled after the ordinance being formulated by Oakland Co.,

the engineer is encouraged to review those standards and design accordingly.

iv) The following permits will be required from the Engineering Division for this project:

Right-of-Way Permit (for excavations in the right-of-way). Street Obstruction Permit (for all obstructions in the right-of-way during construction). Sidewalk/Drive Approach Permit (for all pavement installed in the right-of-way). Soil Erosion and Sedimentation Control Permit.

- 6.2 <u>The Department of Public Services</u> The Department of Public Services has no comments.
- 6.3 <u>Fire Department</u> The Fire Department has the following requirements:
 - 1. Emergency Responder radio coverage is required.
 - 2. Fire suppression with a minimum of a 6" water main is required.
 - 3. Fire Alarm with smoke detectors required.
 - 4. Knox Box is required.
- 6.4 <u>Police Department</u> The Police Department has no concerns.
- 6.5 <u>Building Division</u> The following comments were received from the Building Division in addition to their standard comments:
 - 1. The exit discharge for the for the two emergency rear exits from the parking levels needs to terminate at a public way. A public way is a street, alley or parcel of land open to the outside air that has been deeded, dedicated or otherwise permanently made available for public use with a clear width and height of ten feet.
 - 2. Exterior doors cannot swing over the public sidewalk.
 - 3. MDEQ approval/permit will be required for the work occurring in and over the 100-year floodplain.
 - 4. The lower level of the building does not fit within the zoning ordinance definition of basement because of the sloping grade. Accordingly, it will count as a story. The sloping grade on this site is unique and a decent case could be made to the Board of Zoning Appeals for a variance for this story.
 - 5. The apartments will need to comply with the accessibility requirements in Chapter 11 of the building code for Type A and B dwelling units.

7.0 **Design Review**

At this time the applicant has provided elevation drawings, but specific details or specification sheets on the materials have not yet been provided. The plans submitted indicate that the applicant is proposing to utilize the following materials:

- Stone (knee walls and upper level panels);
- Brown brick (columns);
- Bronze metal (C channels, railings, security screening and overhead doors);
- Glass windows and storefront door systems; and
- Steel decorative metal fencing in the easement south of the building.

The Planning Division will reserve detailed comments regarding architectural standards and design related issues for the Final Site Plan and Design Review. However, based on the plans submitted at this time, it appears that a variance may be needed for the required glazing on the ground level storefront along N. Old Woodward, as 70% is required and the plans state 64% is proposed. The applicant should also provide clarification on the methods used in calculated the glazing provided to ensure that this is consistent with standard practice. Finally, the use of glass for railings as noted on the plans is not permitted in the Downtown Overlay. The revised plans do not contain glazing calculations to verify if the glazing requirements were met, however it appears that additional glazing may have been added.

8.0 Approval Criteria

In accordance with Article 7, section 7.27 of the Zoning Ordinance, the proposed plans for development must meet the following conditions:

- (1) The location, size and height of the building, walls and fences shall be such that there is adequate landscaped open space so as to provide light, air and access to the persons occupying the structure.
- (2) The location, size and height of the building, walls and fences shall be such that there will be no interference with adequate light, air and access to adjacent lands and buildings.
- (3) The location, size and height of the building, walls and fences shall be such that they will not hinder the reasonable development of adjoining property not diminish the value thereof.
- (4) The site plan, and its relation to streets, driveways and sidewalks, shall be such as to not interfere with or be hazardous to vehicular and pedestrian traffic.
- (5) The proposed development will be compatible with other uses and buildings in the neighborhood and will not be contrary to the spirit and purpose of this chapter.

(6) The location, shape and size of required landscaped open space is such as to provide adequate open space for the benefit of the inhabitants of the building and the surrounding neighborhood.

9.0 **Recommendation**

Based on a review of the site plan revisions submitted, the Planning Division recommends that the Planning Board POSTPONE the Preliminary Site Plan for 856 N. Old Woodward pending approval of the Revised CIS.

10.0 Suggested Motion Language

Based on a review of the site plan revisions submitted, the Planning Division recommends that the Planning Board POSTPONE the Preliminary Site Plan for 856 N. Old Woodward pending approval of the Revised CIS.

OR

Based on a review of the site plan revisions submitted, the Planning Division recommends that the Planning Board APPROVE the Preliminary Site Plan for 856 N. Old Woodward with the following conditions:

- 1. The applicant eliminate the fourth floor and bring the underground level under the definition of basement, or obtain a height variance from the Board of Zoning Appeals;
- 2. Applicant provide a rear setback equal to the rear setback of one of the adjacent buildings or obtain a variance from the Board of Zoning Appeals;
- 3. Applicant provide the City with an access easement for the proposed public parking spaces in front of the building;
- 4. Applicant submit a landscape plan and lighting spec sheets at Final Site Plan Review;
- 5. Add pedestrian entrances to the first floor retail space;
- 6. Obtain approval from the City Commission to credit new parking in the rightof-way to the parking count for this project; and
- 7. Comply with the requirements of all City departments.

OR

Motion to DENY the Preliminary Site Plan for 856 N. Old Woodward.

DRAFT Planning Board Minutes December 9, 2015

12-234-15

COMMUNITY IMPACT STUDIES ("CIS") AND PRELIMINARY SITE PLAN REVIEWS

 856 N. Old Woodward Ave. (vacant land) Application for a CIS and Preliminary Site Plan Review to consider a request to construct a new four-story mixed-use over 20,000 sq. ft. in size (postponed from November 11, 2015)

Ms. Ecker explained the site has a total land area of .56 acres and is located on the east side of N. Old Woodward Ave. south of Oak St.

Ms. Ecker advised that the applicant is proposing to construct a four-story mixed-use building. The lower level of the building will have parking and residential storage spaces. The first floor is proposed to contain parking fronted by retail space and a residential lobby. The second, third and fourth floors will contain 27 residential units. On-street parking will be provided on N. Old Woodward Ave. The building will have an approximate total of 106,513.7 gross sq. ft. Thus, the applicant was required to prepare a Community Impact Study in accordance with Article 7, section 7.27(E) of the Zoning Ordinance as they are proposing one new building containing more than 20,000 sq. ft. of gross floor area.

CIS

The CIS acts as a foundation for discussion between the Planning Board and the applicant, beyond the normal scope of information addressed in the Preliminary Site Plan Review application. The Planning Board "accepts" the CIS prior to taking action on a Preliminary Site Plan.

Planning and Zoning Issues:

- Use The site is currently zoned O-2 Office and falls within the D-2 Overlay District as provided in the Downtown Birmingham 2016 Plan The proposed residential units, retail space and parking facility are permitted principal and/or accessory uses in the 0-2 and D-2 Zone District.
- Overlay District Compliance The proposed development implements some of the recommendations contained in the 2016 Plan. However, the proposed building contains one extra floor of residential above the three stories recommended in the 2016 Plan. Although it is four stories, the building conforms to the maximum height of 56 ft. limit in the D-2 Zone of the Overlay District. The Building Official will have to make a final determination as to whether it is clear they can only have three stories. *If that is the case, the applicant will need a variance from the Board of Zoning Appeals ("BZA") for the fourth story.*

 Master Plan Compliance, 2016 Plan - The CIS presented does not fully discuss the goals and objectives of the City's Master Plan to demonstrate whether the City can support the proposed development. However, a number of goals and objectives of the Downtown Birmingham 2016 Master Plan do demonstrate that the City can support the proposed development.

Land Development Issues: While the applicant has submitted a soil boring report, the received materials do not confirm that the soils within the subject site are suitable to

support the proposed development. The applicant will be required to provide a full soil analysis when applying for a Building Permit. On August 13, 2015, PM Environmental conducted a subsurface investigation and discovered a whole list of contamination concerns that exceed the limits. The applicants plan to submit a Brownfield Application to the City.

The existing site also contains steep slopes. The applicant proposes a below grade

parking garage that will substantially remove the existing site erosion and runoff

conditions into the adjacent Rouge River. Areas of existing steep slopes will be stabilized during construction to prevent erosion. The CIS states that an Erosion Control Plan will be prepared to meet all municipal soil erosion control requirements to mitigate any potential discharge of materials into the river. Mr. Share was certain the construction will disturb some of the contaminated soils. He did not think the Michigan Dept. of Environmental Quality ("MDEQ") will be proactive so the City ought be concerned. Ms. Ecker clarified that is generally something that the Brownfield Redevelopment Authority would handle when a Brownfield Plan is submitted for reimbursement. She added the City can call the MDEQ and bring this to their attention. Also, she can submit this information to the City's environmental attorney to ensure everyone is fully aware about what is going on. Chairman Clein suggested that the applicant provide background information on their mitigation plan for the City to review and take proper action to protect the City's interest in the natural environment. Further, Mr. Boyle wanted to see some resolution regarding the roles and responsibilities of the different agencies in detailing whether this facility can mitigate the contamination that exists at present.

<u>Utilities, Noise and Air Issues</u>: All required utility easements have not been verified. However, the applicant has noted that the civil engineer and construction manager will provide verification of easements for all proposed and additional utilities prior to construction. In accordance with the 2016 Plan, all utilities on the site should be buried to visually enhance the site. The CIS does not indicate that utilities will be buried to meet this provision.

A sound study was performed by Kolano and Saha Engineers to analyze existing ambient noise and estimated future noise levels on the site. The prepared noise report states the site has a measured sound level of DNL 63 dB, and thus falls within HUD

guidelines for residential land use. Kolano and Saha have provided information detailing the types of units that will produce the least amount of sound.

The CIS notes that the proposed project is not expected to create excessive noise that would exceed existing code standards.

The CIS states that the closest air monitoring stations are located in Oak Park and Pontiac. Current ambient air quality standards are well under the existing minimum standards mandated by the Environmental Protection Agency "(EPA"). The applicant has indicated that all new HVAC equipment will be selected to provide minimum pollutant discharge and maximum filtration.

<u>Environmental Design and Historic Values</u>: The applicant will be required to provide the City with a public access easement for the western portion of the site that is proposed for public parking and a public sidewalk.

<u>Refuse, Sewer and Water</u>: The CIS states that there will be a refuse room on the first level that will be adequate in size to service the development. No details have been provided on the size of the trash containers, nor has information been provided to detail the collection and separation of recyclables. The CIS further states that there is adequate water service to the site and that the existing sanitary and combined sewers on the site will be sufficient to service the development.

The applicant has stated that the proposed wastewater system will be adequately designed by an engineer to service the facility and that design capabilities of the facilities will not be exceeded as a result of this project.

The proposed storm water system will be designed to meet the City standards for storm water management. The applicant anticipates that the design capacity of storm water facilities will not be exceeded. The CIS has indicated that elements have been incorporated into the project to reduce the amount of storm water entering the sewer. This will be carried out through a proposed underground detention system.

The applicant has indicated that the proposed water service system will be adequately designed to service the facility. The applicant anticipates that the existing water quality is safe from both chemical and bacteriological standpoints and will provide verification of this prior to final site plan review. The applicant also anticipates the water supply design to be compatible with the existing City system.

<u>Public Safety</u>: The applicant has not indicated whether the proposed development location or design provide adequate access for police, fire and emergency vehicles and individuals. However, the applicant has indicated that the project design will be reviewed by all public safety services and recommendations for conformance will be implemented into the final design.

<u>Transportation Issues</u>: The applicant has submitted a Traffic Impact Study prepared by Stonefield Engineering and Design. The City's traffic consultant, Fleis & Vandenbrink, has completed a review of the traffic study and provided a number of comments and concerns. The traffic study should be revised to meet all City requirements and approved by the City's traffic consultant.

The applicant is proposing 19 parking spaces on the first level located behind the retail.

Thirty-seven parking spaces are proposed on the lower level and nine parking spaces are proposed in the open space parking outside along the western edge of the property for a total of 65 spaces. The CIS states that there will be no more than 75 parking spaces, but both the engineering and architectural drawings show 65 parking spaces.

<u>Natural Features</u>: The applicant has indicated that there are no water quality issues known regarding the existing Rouge River to the east of the site. The CIS indicates that the proposed project will involve an increase in impervious surface area. An underground detention system has been designed to accommodate the additional impervious surfaces and reduce the overall runoff from the site. The CIS indicates that the project will not affect surface water flows on water levels of ponds or water bodies. The MDEQ has been notified and does not anticipate any adverse effects. The CIS also states that the project is located within the 100-year floodplain. As such, the applicant indicates that the project will meet all state and local floodplain regulations.

The proposed development will not destroy a natural feature, but it will isolate the river from public access. However, there is not currently public access to the river from this site. No natural feature will pose a safety hazard to the development nor will the proposed project destroy any existing wildlife or habitats.

Mr. Tim Ponton, Stonefield Engineering and Design, spoke on behalf of the applicant and explained to the board their design process and some of the challenges they encountered in terms of getting the development to work. Very deep piles along with a grid system will be needed beneath the project. Their property line comes out 20 ft. as compared to the remainder of the block. What that means for them is the opportunity for additional parking and extending the boulevard.

Mr. Ponton explained that they will be required to file a Due Care Plan with MDEQ who will then monitor their construction, ultimately do additional testing, and then sign off. Therefore, the site will be cleaned up to meet at least the minimum standards for residents to be living there. In addition the county will be taking a look at it to make sure from a soil erosion and sediment control standpoint nothing gets into the Rouge River. They intend to submit a Brownfield Plan. In terms of the traffic, they are confident they can mitigate any issues and satisfy the City traffic engineer. They hope to develop the site into something that is consistent with the existing development patterns and are under the assumption that they will go before the BZA for a height variance.

Motion by Mr. Williams

Seconded by Mr. Share to receive and file the letter from Norman Ziegelman dated October 26, 2015 and also a letter from Carolyn Butcher which is marked received on November 30, 2015.

Motion carried, 7-0.

VOICE VOTE Yeas: Williams, Share, Boyle, Clein, Jeffares, Lazar, Whipple-Boyce Nays: None Absent: Koseck

At 9:40 p.m. the chairman opened discussion to the public on the CIS.

Mr. David Underdown, owner of the Douglas Cleaners property, said he doesn't think they contributed to the contamination because they dispose of their waste and years ago there was a gas station on that site.

Chairman Clein personally thought that a lot of information needs to be tightened up, particularly related to the number of stories and their impact, and the traffic.

Motion by Mr. Williams

Seconded by Ms. Whipple-Boyce that consideration of the CIS and Preliminary Site Plan be postponed to January 13, 2016.

Mr. Ponton spoke from the audience at 9:50 p.m. He noted with respect to the shortage of parking in that area that they have an abundance of 15 spaces on-site. Therefore, they don't need to count the spots in front towards their goal.

Motion carried, 7-0.

VOICE VOTE Yeas: Williams, Whipple-Boyce, Boyle, Clein, Jeffares, Lazar, Share Nays: None Absent: Koseck

Zoning Compliance Summary Sheet For Preliminary Site Plan Review 856 N. Old Woodward

Existing Site:

Zoning:	O2, Office/Commercial and D2, Downtown Overlay
Land Use:	Vacant

Existing Land Use and Zoning of Adjacent Properties:

		North		So	uth	East	West
	Existing Land Use	Comn	nercial	-	fice/ mmercial	Rouge River	Multi-Family Residential
	Existing Zoning District	B2B Gene Busin			ice/ mmercial	PP Public Property	R6 Multi- Family Residential
	Overlay Zoning District	D2		D2		N/A	N/A
Land Area:		existing: proposed	d:	24,718 sq. f Same as ex	ft. or .56 Acres isting		
Minimum Lot Area:		required: proposed					
Minimum Floor Area:		required: N/A proposed: N/A					
Maximum Total Floor Area:		required: N/A for resi proposed: 86% (21,30		dential uses 03 sq.ft.)			
Minimum Open Space:		required: proposed		N/A N/A			
Maximum Lot Coverage:		required: proposed	: d:	N/A N/A			

Front Setback:	required: proposed:	D2: 0', building must be on or within 3' of frontage line (Planning Board may adjust to average of any abutting building) 22' from frontage line (matches setback of abutting building to the south)	
Side Setbacks:	required: proposed:	D2: 0' 11' easement (to South), 0' (to North)	
Rear Setback:	required: proposed:	D2: 10' if alley, if no alley, equal to rear setbach of adjacent, pre-existing building (approx. 13') 12.8'	

The applicant will be required to provide rear setbacks for both adjacent buildings to the north and south, and the proposed building must have a rear setback equal to the rear setback of one of these adjacent buildings. If not, a variance must be obtained from the Board of Zoning Appeals.

Max. Bldg. Height:	permitted:	D2- 56' (including the mechanical and other equipment) and 3 stories, if the third story is used for residential
	proposed:	56' & 5 stories

The applicant will be required to reduce the number of floors to 3 or obtain a variance from the Board of Zoning Appeals to add an additional residential floor.

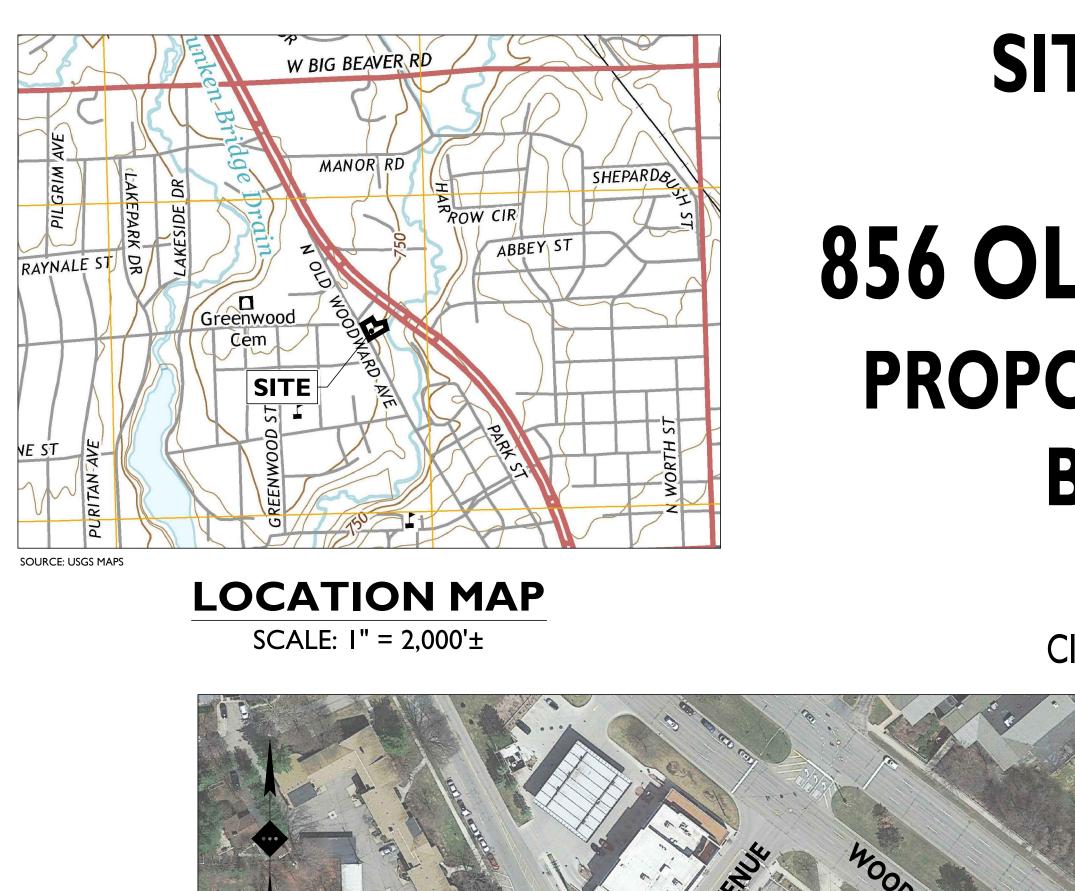
Minimum Eave Height:	required: proposed:	20' 56'	
First Floor Ceiling:	required:	10' minimum clearance finished floor to finished ceiling on first floor	
	proposed:	13.5' finished floor to finished ceiling	
Front Entry:	required:	Principal pedestrian entrance on frontage line, Planning Board may adjust.	
	proposed:	The principal entrances are located on the frontage line facing N. Old Woodward.	
Parking:	required:	63 spaces (2 spaces x 27 for 3 or more room unit =54, 1 space x 300 sq. ft. of retail floor	
	proposed:	space = 12) 66 spaces (63 on private property, 7 in right-of way)	

The applicant will be required to obtain approval from the City Commission to count the right-of-way parking towards their parking requirements.

Loading Area:	required:	NA
	proposed:	NA

Screening:

<u>Parking</u> :	required: proposed:	32" masonry screen wall All required parking will be screened behind a 32' deep residential lobby, and a 36' deep retail space along the front of the building. Fifteen additional spaces are proposed in front of the building on private property and in the ROW.
AC/Mech. units:	required: proposed:	Screening to compliment the building Mechanical units will be enclosed within a mechanical well on the rooftop of the building.
Elect. Transformer:	required: proposed:	Fully screened from public view The electric transformer will be enclosed within the building
Dumpster:	required: proposed:	6' high capped masonry wall with wooden gates Dumpster will be located inside building; access to dumpster is within the first floor parking area.



SOURCE: GOOGLE EARTH PRO

OAK AVENUE

AERIAL MAP

NGIO

SITE

SCALE: I" = 100'±

PLAN REFERENCE MATERIALS:

- I. THIS PLAN SET REFERENCES THE FOLLOWING DOCUMENTS INCLUDING, BUT NOT LIMITED TO: • ALTA/ACSM & TOPOGRAPHIC SURVEY PREPARED BY
 - KEM-TEC ASSOCIATES, LAST REVISED 11/05/2015.
 ARCHITECTURAL PLANS PREPARED BY MARUSICH ARCHITECTURE
 - GEOTECHNICAL REPORT PREPARED BY G2 CONSULTING
 GROUP
 - TRAFFIC REPORT PREPARED BY STONEFIELD ENGINEERING & DESIGN, LLC
 - BASELINE ENVIRONMENTAL ASSESSMENT PREPARED BY PM ENVIRONMENTAL AERIAL MAP OBTAINED FROM GOOGLE EARTH PRO
 - ZONING MAP OBTAINED FROM THE CITY OF BIRMINGHAM
 ZONING MAP & OAKLAND COUNTY PROPERTY VIEWER
 LOCATION MAP OBTAINED FROM USGS MAPS ONLINE
- 2. ALL REFERENCE MATERIAL LISTED ABOVE SHALL BE CONSIDERED A PART OF THIS PLAN SET AND ALL INFORMATION CONTAINED WITHIN THESE MATERIALS SHALL BE UTILIZED IN CONJUNCTION WITH THIS PLAN SET. THE CONTRACTOR IS RESPONSIBLE TO OBTAIN A COPY OF EACH REFERENCE AND REVIEW IT THOROUGHLY PRIOR TO THE START OF CONSTRUCTION.



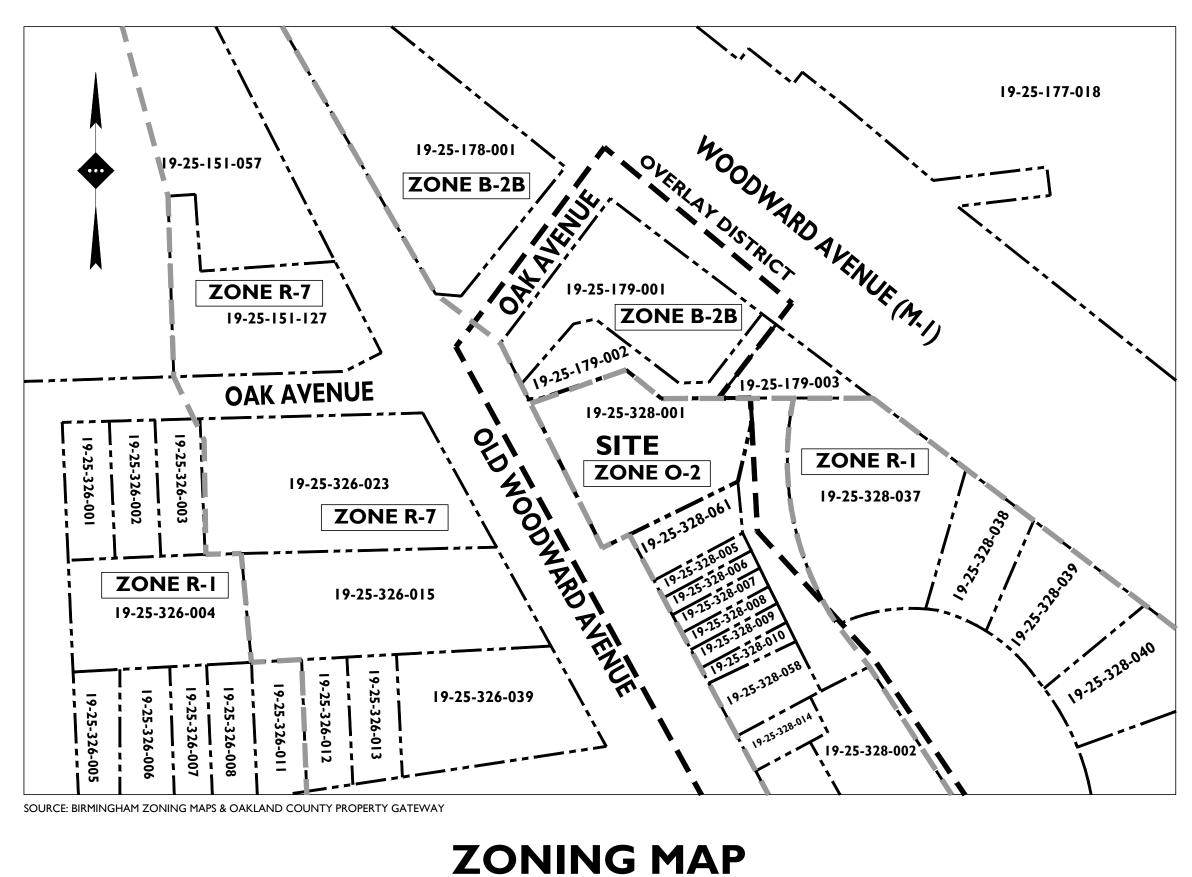
Call before you dig.

SITE DEVELOPMENT PLANS FOR

856 OLD NORTH WOODWARD PROPOSED 4 STORY MULTI-FAMILY BUILDING WITH RETAIL

PARCEL ID: 19-25-328-001 856 NORTH OLD WOODWARD AVENUE CITY OF BIRMINGHAM, OAKLAND COUNTY, MICHIGAN





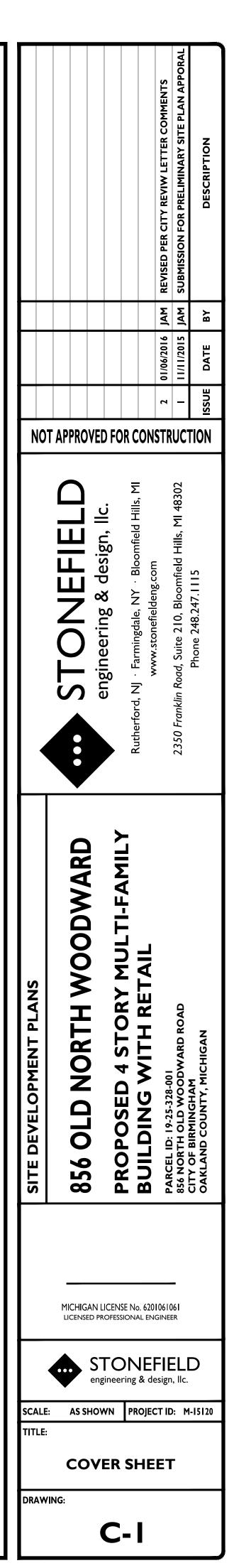
SCALE: |" = 100'±

PLANS PREPARED BY:



Bloomfield Hills, MI · Rutherford, NJ · Farmingdale, NY www.stonefieldeng.com

2350 Franklin Road, Suite 210, Bloomfield Hills, MI 48302 Phone 248.247.1115



APPLICANT/OWNER

FLS PROPERTIES #5, LLC 2950 WALNUT LAKE ROAD WEST BLOOMFIELD, MICHIGAN 48323

SURVEYOR

KEM-TEC ASSOCIATES 22556 GRATIOT AVENUE EASTPOINTE, MICHIGAN 48021

SHEET INDEX				
DRAWING TITLE	SHEET #			
COVER SHEET	C-I			
EXISTING CONDITIONS PLAN	C-2			
FIRST FLOOR SITE PLAN	C-3			
GRADING PLAN	C-4			
UTILITY PLAN	C-5			
SOIL EROSION & SEDIMENT CONTROL PLAN	C-6			

PARCEL AREA

24,719± SQUARE FEET = 0.57± ACRES

BASIS OF BEARING

SOUTH 23°57'44" EAST, BEING THE NORTHERLY RIGHT OF WAY LINE OF N. OLD WOODWARD AVENUE.

FOUND 1/:

NORTHWEST CORNER OF LOT 3

BENCHMA

QUARE CATCH BASIN —

12" DOWNWARD VERTICAL BEND PIPE WEST

RIM = 754.16'

BOTTOM OF STRUCTURE - 748.03'

RiM = 753.83'

ASP₩ALT

REBAR W

CAP

BENCHMARK

NORTHWEST BOLT OF STREET LIGHT, LOCATED ON THE EASTERLY SIDE OF N. OLD WOODWARD AVENUE, ELEVATION = 756.31' (CITY OF BIRMINGHAM DATUM)

FLOOD NOTE

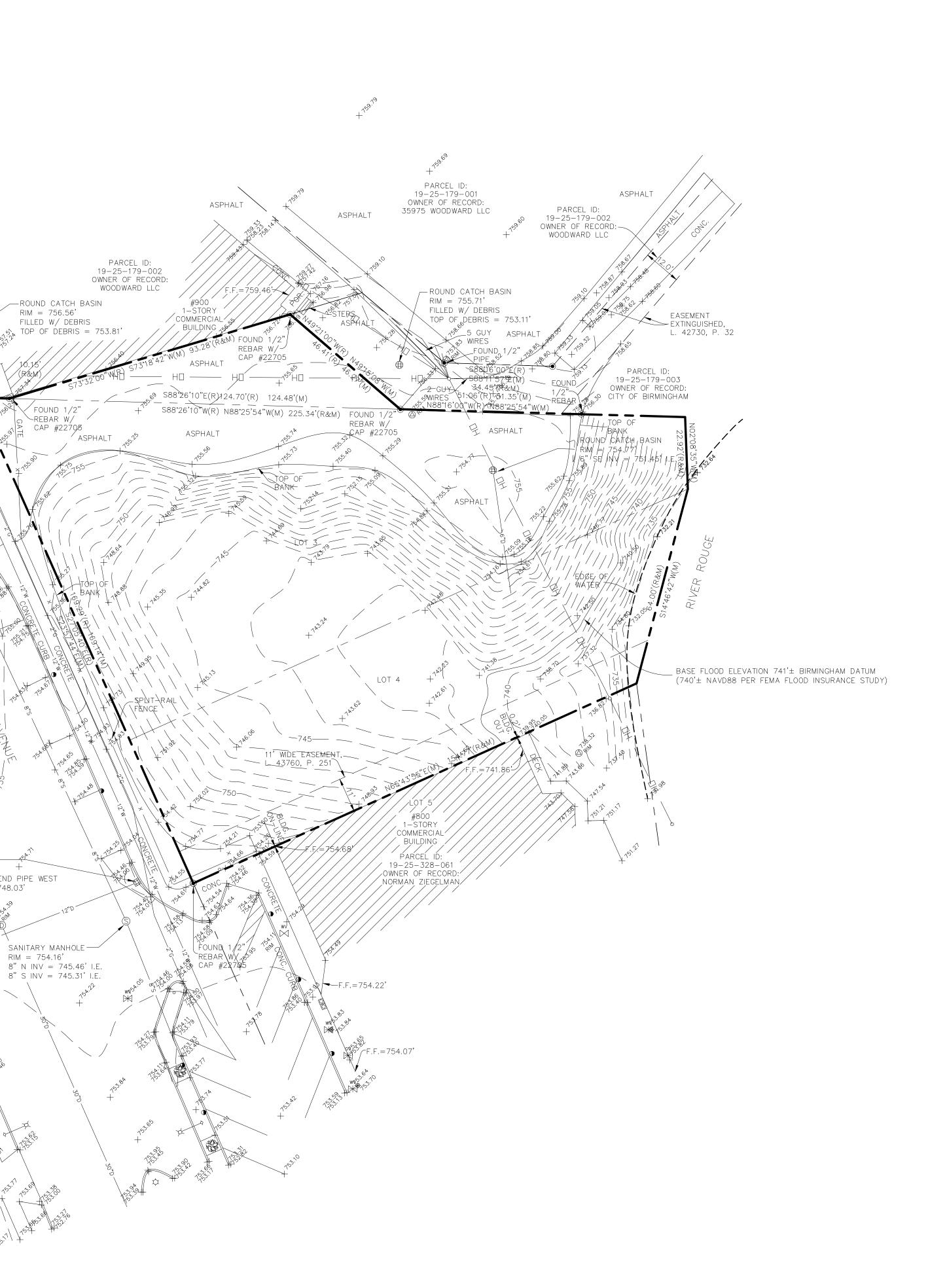
SUBJECT PARCEL LIES WITHIN:

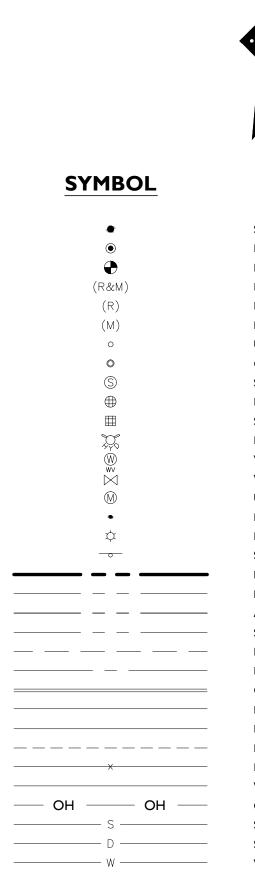
SPECIAL FLOOD HAZARD AREA (ZONE AE): BASE FLOOD ELEVATIONS DETERMINED.

FLOODWAY AREAS IN ZONE AE: THE FLOODWAY IS THE CHANNEL OF A STREAM PLUS ANY ADJACENT FLOODPLAIN AREAS THAT MUST BE KEPT FREE OF ENCROACHMENT SO THAT THE 1% ANNUAL CHANCE FLOOD CAN BE CARRIED WITHOUT SUBSTANTIAL INCREASES IN FLOOD HEIGHTS.

ZONE X: AREAS DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN.

AS SHOWN ON FLOOD INSURANCE RATE MAP: MAP NUMBER 26125C0537F, COMMUNITY - PANEL NUMBER 260168 0537 F, DATED SEPTEMBER 29, 2006, PUBLISHED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY.





DESCRIPTION

SET I/2" REBAR WITH CAP P.S. 47976 FOUND MONUMENT (AS NOTED) FOUND SECTION CORNER (AS NOTED) RECORD AND MEASURED DIMENSION RECORD DIMENSION MEASURED DIMENSION UTILITY POLE GAS LINE MARKER SANITARY MANHOLE ROUND CATCH BASIN SQUARE CATCH BASIN FIRE HYDRANT WATER GATE MANHOLE WATER VALVE UNKOWN MANHOLE BOLLARD LIGHTPOST/LAMP POST SINGLE POST SIGN PARCEL BOUNDARY LINE PLATTED LOT LINE ADJOINER PARCEL LINE SECTION LINE EASEMENT (AS NOTED) EASEMENT CENTERLINE CONCRETE CURB EDGE OF CONCRETE (CONC.) EDGE OF ASPHALT (ASPH.) EDGE OF GRAVEL FENCE (AS NOTED) WALL (AS NOTED) OVERHEAD UTILITY LINE SANITARY LINE STORM LINE WATER LINE

PROPERTY DESCRIPTION

LAND SITUATED IN THE CITY OF BIRMINGHAM, COUNTY OF OAKLAND, STATE OF MICHIGAN IS DESCRIBED AS FOLLOWS:

LOTS 3 AND 4, ASSESSOR'S PLAT No. 29 AS RECORDED IN LIBER 6, PAGE 45 OF PLATS, OAKLAND COUNTY RECORDS, ALSO PART OF THE NORTHWEST 1/4 OF SECTION 25, TOWN 2 NORTH, RANGE 10 EAST, CITY OF BIRMINGHAM, OAKLAND COUNTY, MICHIGAN, DESCRIBED AS BEGINNING AT A POINT DISTANT SOUTH 88 DEGREES 16 MINUTES 00 SECONDS EAST 10.15 FEET FROM THE NORTHWEST CORNER OF SAID LOT 3; THENCE SOUTH 88 DEGREES 16 MINUTES 00 SECONDS EAST 124.70 FEET; THENCE NORTH 49 DEGREES 21 MINUTES 00 SECONDS WEST 46.41 FEET; THENCE SOUTH 73 DEGREES 32 MINUTES 00 SECONDS WEST 93.28 FEET TO BEGINNING.

TITLE REPORT NOTE

ONLY THOSE EXCEPTIONS CONTAINED WITHIN THE LAND TITLE AGENCY, LLC COMMITMENT No. 201523630, DATED MAY 25, 2015, AND RELISTED BELOW WERE CONSIDERED FOR THIS SURVEY. NO OTHER RECORDS RESEARCH WAS PERFORMED BY THE CERTIFYING SURVEYOR.

5. TERMS AND CONDITIONS OF EASEMENT AGREEMENT AS DISCLOSED BY INSTRUMENT RECORDED IN LIBER 43760, PAGE(s) 251, OAKLAND COUNTY RECORDS. (AS SHOWN)

6. TERMS AND CONDITIONS OF AGREEMENT RESPECTING LAND AS DISCLOSED BY INSTRUMENT RECORDED IN LIBER 42730, PAGE(s) 32, OAKLAND COUNTY RECORDS. (AS SHOWN, SEE DOCUMENT FOR TERMS AND CONDITIONS)

7. BUILDING AND USE RESTRICTIONS AND OTHER PROVISIONS, BUT OMITTING RESTRICTIONS, IF ANY, BASED ON RACE, COLOR, RELIGION OR NATIONAL ORIGIN, AS CONTAINED IN THE INSTRUMENT RECORDED IN LIBER 3890, PAGE(s) 335, OAKLAND COUNTY RECORDS, WHICH APPLY SPECIFICALLY TO OTHER LANDS BUT MAY CONSTITUTE A GENERAL PLAN OF DEVELOPMENT. (DOCUMENT NOT PROVIDED AT TIME OF SURVEY)

SURVEYOR'S CERTIFICATION

TO FLS PROPERTIES #5, LLC, OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY AND LAND TITLE AGENCY, LLC: THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON

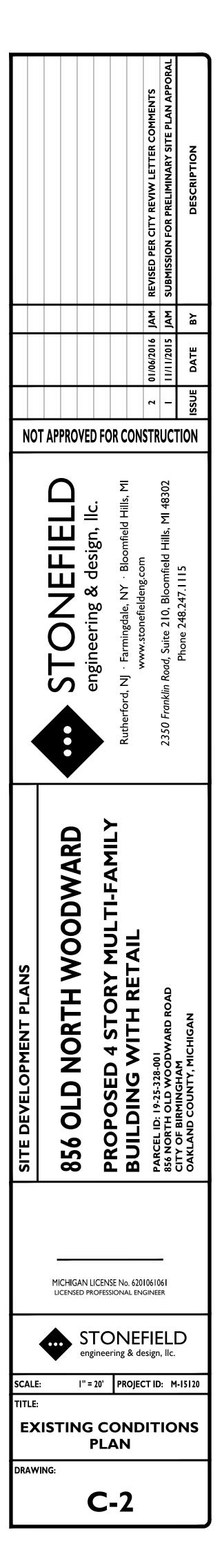
WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2011 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/ACSM LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDED ITEMS I, 2, 4, 5, 7A, 8, 9 AND IIB OF TABLE A, THEREOF. THE FIELD WORK WAS COMPLETED ON AUGUST 21, 2015.

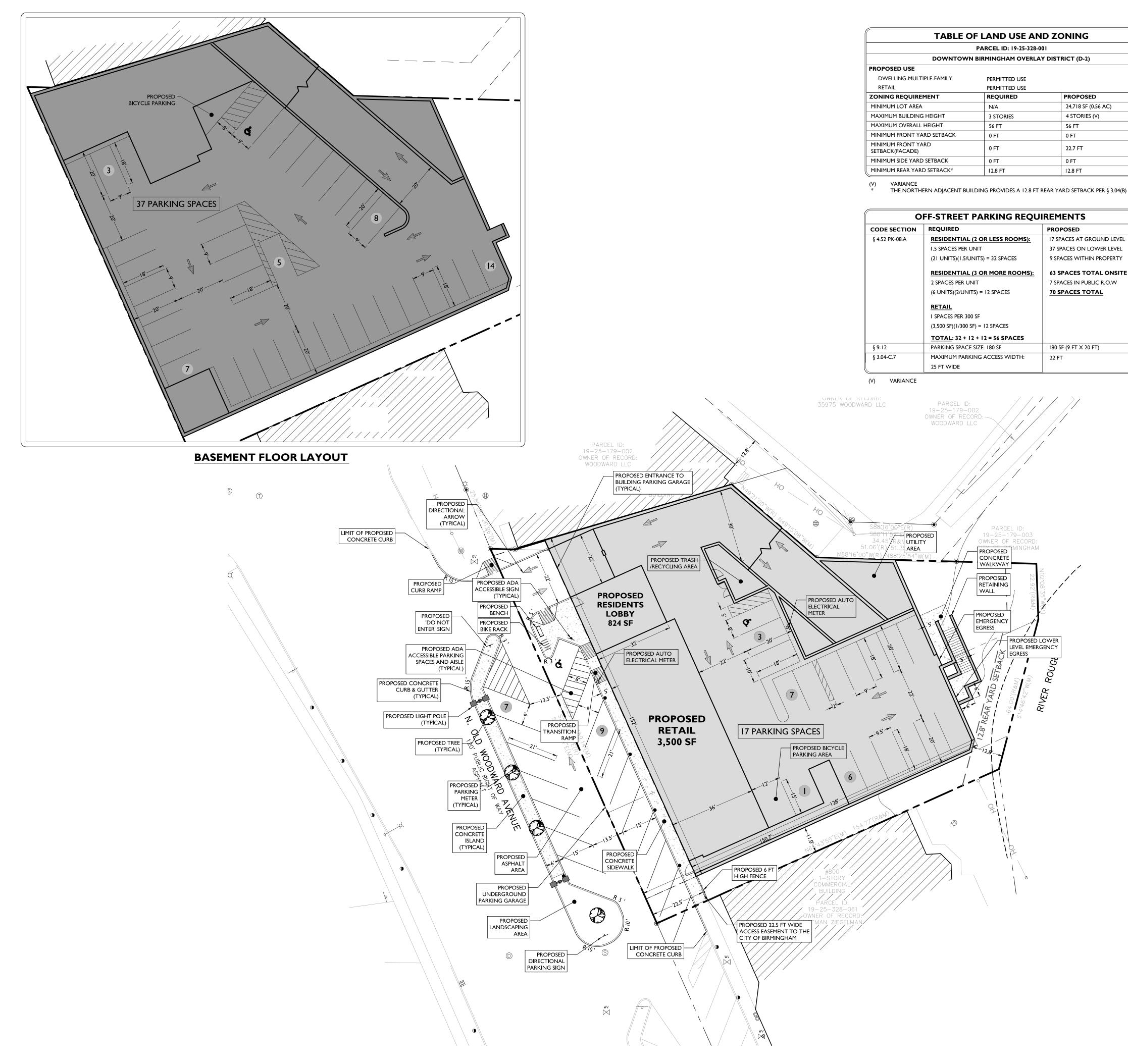
DATE OF PLAT OR MAP: AUGUST 25, 2015

SURVEY NOTES:

I. THE SURVEY LISTED WITHIN THE PLAN REFERENCES ON THE COVER SHEET SHALL BE CONSIDERED A PART OF THIS PLAN SET AND ALL INFORMATION CONTAINED WITHIN THE SURVEY AND ASSOCIATED DOCUMENTS SHALL BE UTILIZED IN CONJUNCTION WITH THIS PLAN SET. THE CONTRACTOR IS RESPONSIBLE TO OBTAIN A COPY OF THE SURVEY AND REVIEW IT THOROUGHLY PRIOR TO THE START OF CONSTRUCTION.

GRAPHIC SCALE IN FEET I" = 20'



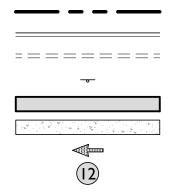


DOWNTOWN BIRMINGHAM OVERLAY DISTRICT (D-2

DWELLING-MULTIPLE-FAMILY	PERMITTED USE		
RETAIL	PERMITTED USE		
ZONING REQUIREMENT	REQUIRED	PROPOSED	
MINIMUM LOT AREA	N/A	24,718 SF (0.56 AC)	
MAXIMUM BUILDING HEIGHT	3 STORIES	4 STORIES (V)	
MAXIMUM OVERALL HEIGHT	56 FT	56 FT	
MINIMUM FRONT YARD SETBACK	0 FT	0 FT	
MINIMUM FRONT YARD SETBACK(FACADE)	0 FT	22.7 FT	
MINIMUM SIDE YARD SETBACK	0 FT	0 FT	
MINIMUM REAR YARD SETBACK*	12.8 FT	12.8 FT	

OFF-STREET PARKING REQUIREMENTS						
CODE SECTION	REQUIRED	PROPOSED				
§ 4.52 PK-08.A	RESIDENTIAL (2 OR LESS ROOMS):	17 SPACES AT GROUND LEVEL				
	I.5 SPACES PER UNIT	37 SPACES ON LOWER LEVEL				
	(21 UNITS)(1.5/UNITS) = 32 SPACES	9 SPACES WITHIN PROPERTY				
	RESIDENTIAL (3 OR MORE ROOMS):	63 SPACES TOTAL ONSITE				
	2 SPACES PER UNIT	7 SPACES IN PUBLIC R.O.W				
	(6 UNITS)(2/UNITS) = 12 SPACES	70 SPACES TOTAL				
	RETAIL					
	I SPACES PER 300 SF					
	(3,500 SF)(1/300 SF) = 12 SPACES					
	TOTAL: 32 + 12 + 12 = 56 SPACES					
§ 9-12	PARKING SPACE SIZE: 180 SF	180 SF (9 FT X 20 FT)				
§ 3.04-C.7	MAXIMUM PARKING ACCESS WIDTH:	22 FT				
	25 FT WIDE					

SYMBOL



DESCRIPTION

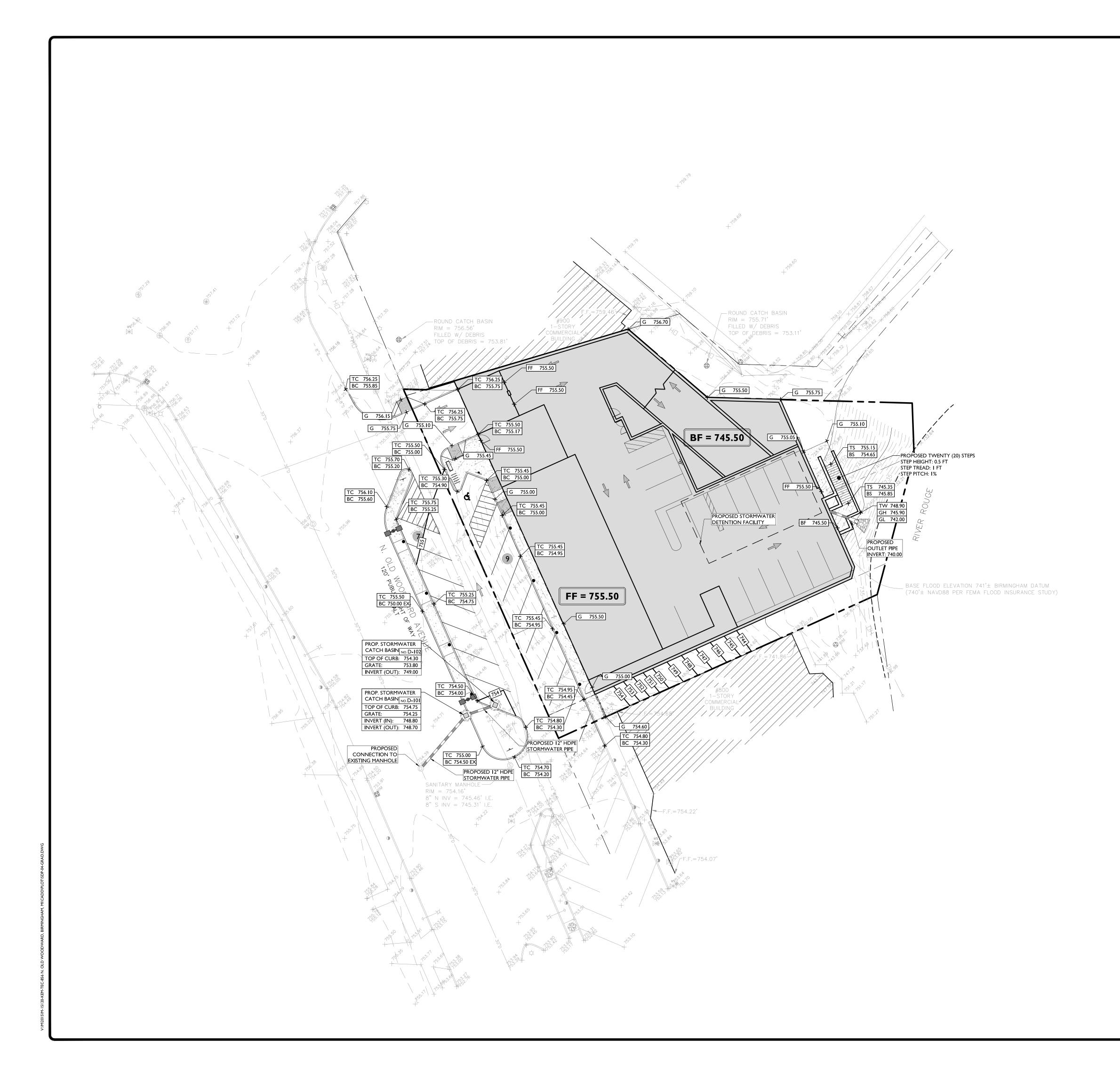
PROPERTY LINE PROPOSED CURB PROPOSED FLUSH CURB PROPOSED SIGN PROPOSED BUILDING PROPOSED CONCRETE PROPOSED TRAFFIC FLOW MARKINGS PARKING STALL COUNTER

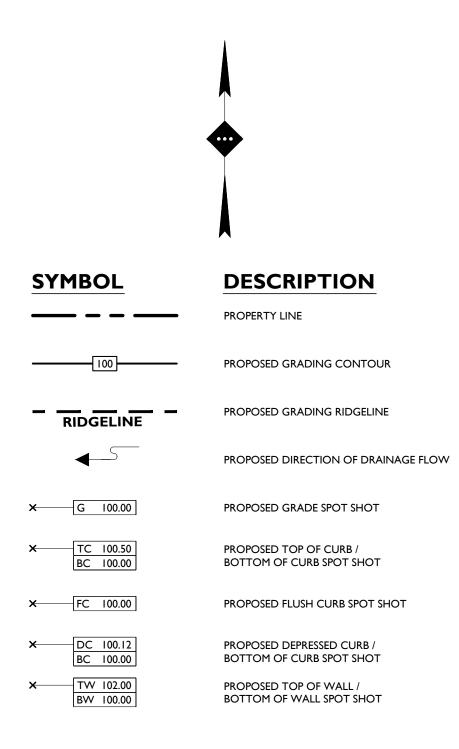
GENERAL NOTES

- I. THE CONTRACTOR SHALL VERIFY AND FAMILIARIZE THEMSELVES WITH THE EXISTING SITE CONDITIONS AND THE PROPOSED SCOPE OF WORK (INCLUDING DIMENSIONS, LAYOUT, ETC.) PRIOR TO INITIATING THE IMPROVEMENTS IDENTIFIED WITHIN THESE DOCUMENTS. SHOULD ANY DISCREPANCY BE FOUND BETWEEN THE EXISTING SITE CONDITIONS AND THE PROPOSED WORK THE CONTRACTOR SHALL NOTIFY STONEFIELD ENGINEERING & DESIGN,
- LLC. PRIOR TO THE START OF CONSTRUCTION. 2. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND ENSURE THAT ALL REQUIRED APPROVALS HAVE BEEN OBTAINED PRIOR TO THE START OF CONSTRUCTION. COPIES OF ALL REQUIRED PERMITS AND APPROVALS SHALL BE KEPT ON SITE AT ALL TIMES DURING CONSTRUCTION.
- 3. ALL CONTRACTORS WILL, TO THE FULLEST EXTENT PERMITTED BY LAW, INDEMNIFY AND HOLD HARMLESS STONEFIELD ENGINEERING & DESIGN, LLC. AND IT'S SUB-CONSULTANTS FROM AND AGAINST ANY DAMAGES AND LIABILITIES INCLUDING ATTORNEY'S FEES ARISING OUT OF CLAIMS BY EMPLOYEES OF THE CONTRACTOR IN ADDITION TO CLAIMS CONNECTED TO THE PROJECT AS A RESULT OF NOT CARRYING THE PROPER INSURANCE FOR WORKERS COMPENSATION, LIABILITY INSURANCE, AND LIMITS OF COMMERCIAL GENERAL LIABILITY INSURANCE.
- 4. THE CONTRACTOR SHALL NOT DEVIATE FROM THE PROPOSED IMPROVEMENTS IDENTIFIED WITHIN THIS PLAN SET UNLESS APPROVAL IS PROVIDED IN WRITING BY STONEFIELD ENGINEERING & DESIGN,
- 5. THE CONTRACTOR IS RESPONSIBLE TO DETERMINE THE MEANS AND METHODS OF CONSTRUCTION. 6. THE CONTRACTOR SHALL NOT PERFORM ANY WORK OR CAUSE DISTURBANCE ON A PRIVATE PROPERTY NOT CONTROLLED BY THE
- PERSON OR ENTITY WHO HAS AUTHORIZED THE WORK WITHOUT PRIOR WRITTEN CONSENT FROM THE OWNER OF THE PRIVATE PROPERTY. 7. THE CONTRACTOR IS RESPONSIBLE TO RESTORE ANY DAMAGED OR
- UNDERMINED STRUCTURE OR SITE FEATURE THAT IS IDENTIFIED TO REMAIN ON THE PLAN SET. ALL REPAIRS SHALL USE NEW MATERIALS TO RESTORE THE FEATURE TO ITS EXISTING CONDITION AT THE CONTRACTORS EXPENSE.
- 8. CONTRACTOR IS RESPONSIBLE TO PROVIDE THE APPROPRIATE SHOP DRAWINGS, PRODUCT DATA, AND OTHER REQUIRED SUBMITTALS FOR REVIEW. STONEFIELD ENGINEERING & DESIGN, LLC. WILL REVIEW THE SUBMITTALS IN ACCORDANCE WITH THE DESIGN INTENT AS REFLECTED WITHIN THE PLAN SET. 9. THE CONTRACTOR IS RESPONSIBLE FOR TRAFFIC CONTROL IN
- ACCORDANCE WITH MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION. 10. THE CONTRACTOR IS REQUIRED TO PERFORM ALL WORK IN THE
- PUBLIC RIGHT-OF-WAY IN ACCORDANCE WITH THE APPROPRIATE GOVERNING AUTHORITY AND SHALL BE RESPONSIBLE FOR THE PROCUREMENT OF STREET OPENING PERMITS. 11. THE CONTRACTOR IS REQUIRED TO RETAIN AN OSHA CERTIFIED
- SAFETY INSPECTOR TO BE PRESENT ON SITE AT ALL TIMES DURING CONSTRUCTION & DEMOLITION ACTIVITIES. 12. SHOULD AN EMPLOYEE OF STONEFIELD ENGINEERING & DESIGN, LLC.
- BE PRESENT ON SITE AT ANY TIME DURING CONSTRUCTION, IT DOES NOT RELIEVE THE CONTRACTOR OF ANY OF THE RESPONSIBILITIES AND REQUIREMENTS LISTED IN THE NOTES WITHIN THIS PLAN SET.

20'	0'	20'	40'
		CALE IN FEET = 20'	

	SITE DEVELOPMENT PLANS		NO			
			T AP			
	856 OLD NORTH WOODWARD		PRO			
		anginaaring & dacign IIc	VEC			
) FC			
		Rutherford NI - Farminsdale NY - Bloomfield Hills MI	OR C			
0	BUILDING WITH RETAIL		ON			
PA	PARCEL ID: 19-25-328-001		r Str	01/06/2016	JAM	REVISED PER CITY REVIW LETTER COMMENTS
85	856 NORTH OLD WOODWARD ROAD	2350 Franklin Road, Suite 210, Bloomfield Hills, MI 48302	– UC ⁻	11/11/2015	JAM	SUBMISSION FOR PRELIMINARY SITE PLAN APPORAL
00	CITY OF BIRMINGHAM OAKLAND COUNTY, MICHIGAN	Phone 248.247.1115	ISSUE ISSUE	DATE	ΒY	DESCRIPTION



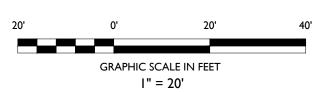


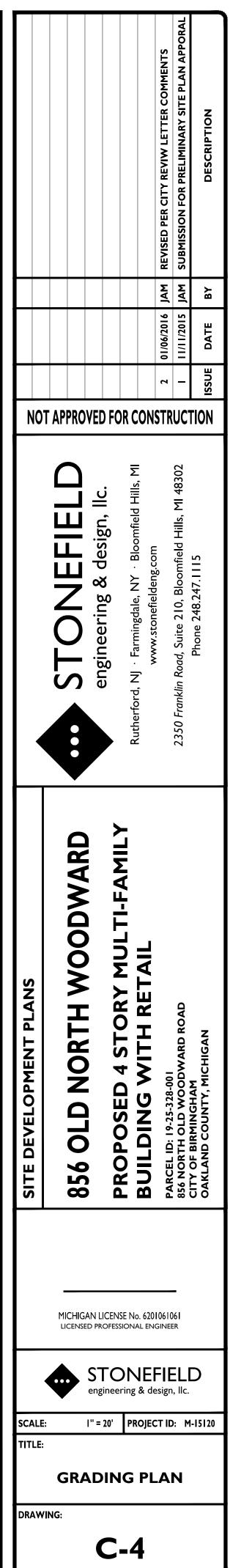
GRADING NOTES

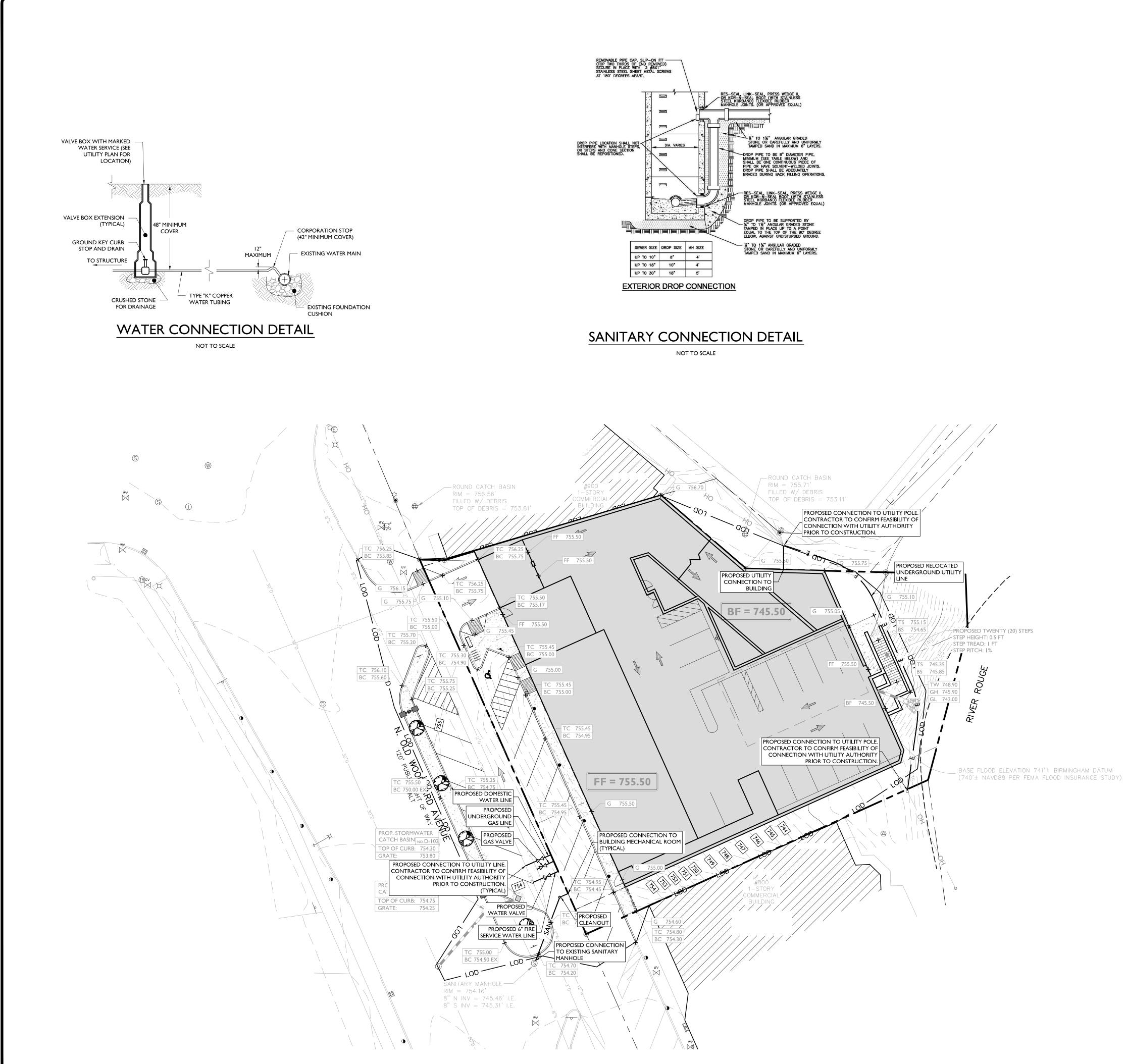
- 1. ALL SOIL AND MATERIAL REMOVED FROM THE SITE SHALL BE DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REQUIREMENTS. ANY GROUNDWATER DE-WATERING PRACTICES SHALL BE PERFORMED UNDER THE SUPERVISION OF A QUALIFIED PROFESSIONAL. THE CONTRACTOR IS REQUIRED TO OBTAIN ALL NECESSARY PERMITS FOR THE DISCHARGE OF DE-WATERED GROUNDWATER. ALL SOIL IMPORTED TO THE SITE SHALL BE CERTIFIED CLEAN FILL. CONTRACTOR SHALL MAINTAIN RECORDS OF ALL FILL MATERIALS BROUGHT TO THE SITE.
- 2. THE CONTRACTOR IS REQUIRED TO PROVIDE TEMPORARY AND/OR PERMANENT SHORING WHERE REQUIRED DURING EXCAVATION ACTIVITIES, INCLUDING BUT NOT LIMITED TO UTILITY TRENCHES, TO ENSURE THE STRUCTURAL INTEGRITY OF NEARBY STRUCTURES AND STABILITY OF THE SURROUNDING SOILS.
- 3. PROPOSED TOP OF CURB ELEVATIONS ARE GENERALLY 4 INCHES TO 7 INCHES ABOVE EXISTING GRADES UNLESS OTHERWISE NOTED. THE CONTRACTOR WILL SUPPLY ALL STAKEOUT CURB GRADE SHEETS TO STONEFIELD ENGINEERING & DESIGN, LLC. FOR REVIEW AND APPROVAL PRIOR TO POURING CURBS.
- THE CONTRACTOR IS RESPONSIBLE TO SET ALL PROPOSED UTILITY COVERS AND RESET ALL EXISTING UTILITY COVERS WITHIN THE PROJECT LIMITS TO PROPOSED GRADE IN ACCORDANCE WITH ANY APPLICABLE MUNICIPAL, COUNTY, STATE AND/OR UTILITY AUTHORITY REGULATIONS.
 MINIMUM SLOPE REQUIREMENTS TO PREVENT PONDING SHALL BE AS FOLLOWS:
- CURB GUTTER: 0.50%
 CONCRETE SURFACES: 1.00%
 ASPHALT SUBFACES: 1.00%
- ASPHALT SURFACES: 1.00%
 A MINIMUM SLOPE OF 1.00% SHALL BE PROVIDED AWAY FROM ALL BUILDINGS. THE CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE FROM THE BUILDING IS ACHIEVED AND SHALL NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC. IF THIS CONDITION CANNOT BE MET.
 FOR PROJECTS WHERE BASEMENTS ARE PROPOSED, THE DEVELOPER IS RESPONSIBLE TO DETERMINE THE DEPTH TO GROUNDWATER AT THE LOCATION OF THE PROPOSED STRUCTURE. IF GROUNDWATER IS ENCOUNTERED WITHIN THE BASEMENT AREA, SPECIAL CONSTRUCTION METHODS SHALL BE UTILIZED AND REVIEWED/APPROVED BY THE CONSTRUCTION CODE OFFICIAL. IF SUMP PUMPS ARE UTILIZED, ALL DISCHARGES SHALL BE CONNECTED DIRECTLY TO THE PUBLIC STORM SEWER SYSTEM WITH APPROVAL FROM THE GOVERNING STORM SEWER SYSTEM AUTHORITY.

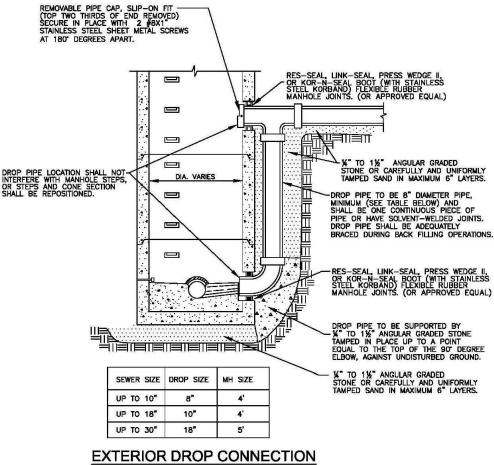
ADA NOTES

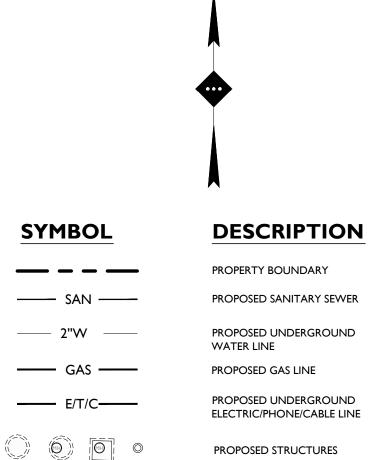
- I. THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 2.00% SLOPE IN ANY DIRECTION WITHIN THE ADA PARKING SPACES AND ACCESS AISLES.
- THE CONTRACTOR SHALL PROVIDE COMPLIANT SIGNAGE AT ALL ADA PARKING AREAS IN ACCORDANCE WITH STATE GUIDELINES.
 THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 5.00% RUNNING SLOPE AND A MAXIMUM OF 2.00% CROSS SLOPE ALONG WALKWAYS WITHIN THE ACCESSIBLE PATH OF TRAVEL (SEE THE SITE PLAN FOR THE LOCATION OF THE ACCESSIBLE PATH). THE CONTRACTOR IS RESPONSIBLE TO ENSURE THE ACCESSIBLE PATH OF TRAVEL IS 36 INCHES WIDE OR GREATER UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET.
- 4. THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 2.00% SLOPE IN ANY DIRECTION AT ALL LANDINGS. LANDINGS INCLUDE, BUT ARE NOT LIMITED TO, THE TOP AND BOTTOM OF AN ACCESSIBLE RAMP, AT ACCESSIBLE BUILDING ENTRANCES, AT AN AREA IN FRONT OF A WALK-UP ATM, AND AT TURNING SPACES ALONG THE ACCESSIBLE PATH OF TRAVEL. THE LANDING AREA SHALL HAVE A MINIMUM CLEAR AREA OF 60 INCHES BY 60 INCHES UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET.
- 5. THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 8.33% RUNNING SLOPE AND A MAXIMUM 2.00% CROSS SLOPE ON ANY CURB RAMPS ALONG THE ACCESSIBLE PATH OF TRAVEL. WHERE PROVIDED, CURB RAMP FLARES SHALL NOT HAVE A SLOPE GREATER THAN 10.00% IF A LANDING AREA IS PROVIDED AT THE TOP OF THE RAMP. FOR ALTERATIONS, A CURB RAMP FLARES SHALL NOT HAVE A SLOPE GREATER THAN 8.33% IF A LANDING AREA IS NOT PROVIDED AT THE TOP OF THE RAMP. CURBS RAMPS SHALL NOT RISE MORE THAN 6 INCHES IN ELEVATION WITHOUT A HANDRAIL. THE CLEAR WIDTH
- OF A CURB RAMP SHALL BE NO LESS THAN 36 INCHES WIDE.
 6. ACCESSIBLE RAMPS WITH A RISE GREATER THAN 6 INCHES SHALL CONTAIN COMPLIANT HANDRAILS ON BOTH SIDES OF THE RAMP AND SHALL NOT RISE MORE THAN 30" IN ELEVATION WITHOUT A LANDING AREA IN BETWEEN RAMP RUNS. LANDING AREAS SHALL ALSO BE PROVIDED AT THE TOP AND BOTTOM OF THE RAMP.
 7. A SLIP RESISTANT SURFACE ALL BE CONSTRUCTED ALONG THE
- ACCESSIBLE PATH AND WITHIN ADA PARKING AREAS. 8. THE CONTRACTOR SHALL ENSURE A MAXIMUM OF ¹/₄ INCHES VERTICAL CHANGE IN LEVEL ALONG THE ACCESSIBLE PATH. WHERE A CHANGE IN LEVEL BETWEEN ¹/₄ INCHES AND ¹/₂ INCHES EXISTS, CONTRACTOR SHALL ENSURE THAT THE TOP ¹/₄ INCH CHANGE IN LEVEL IS BEVELED WITH A SLOPE NOT STEEPER THAN I UNIT VERTICAL AND 2 UNITS HORIZONTAL (2:1 SLOPE).
- 9. THE CONTRACTOR SHALL ENSURE THAT ANY OPENINGS (GAPS OR HORIZONTAL SEPARATION) ALONG THE ACCESSIBLE PATH SHALL NOT ALLOW PASSAGE OF A SPHERE GREATER THAN ½ INCH.







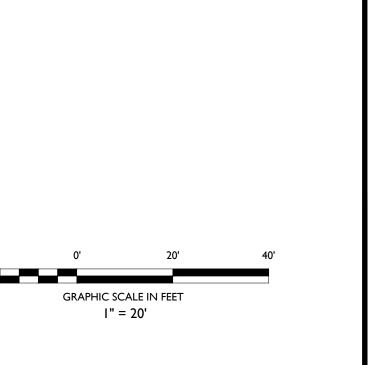




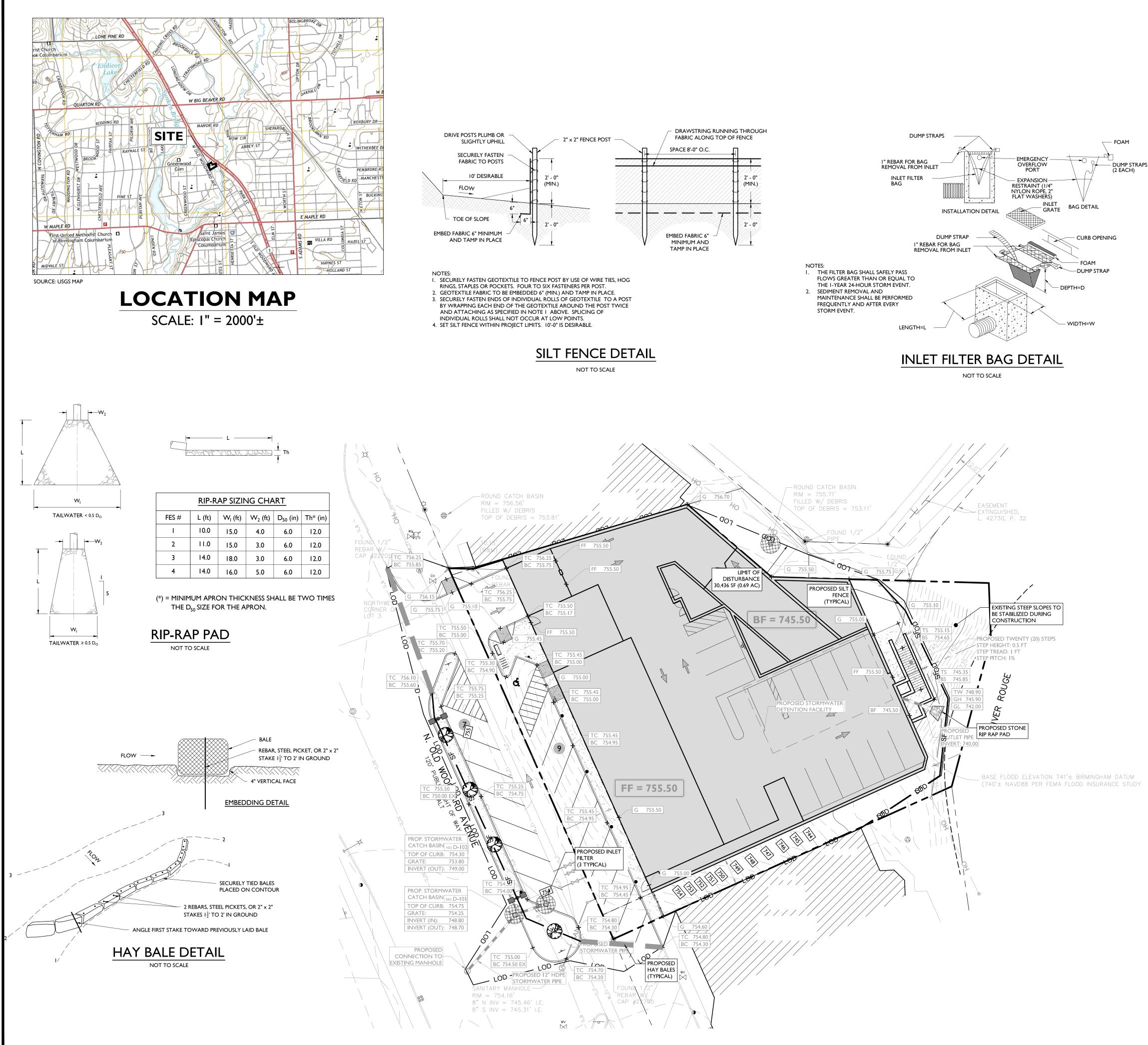
PROPOSED SANITARY SEWER PROPOSED UNDERGROUND PROPOSED UNDERGROUND ELECTRIC/PHONE/CABLE LINE

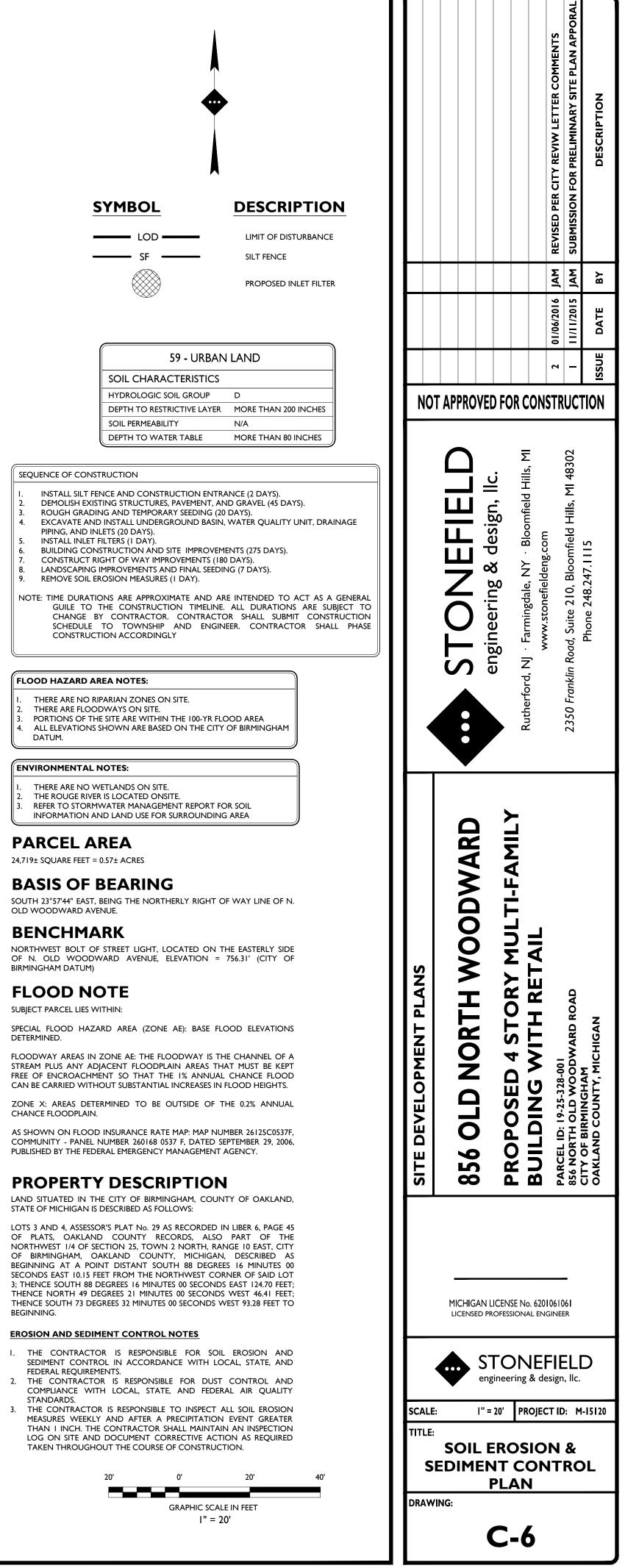
DRAINAGE AND UTILITY NOTES

- I. THE CONTRACTOR IS REQUIRED TO CALL THE APPROPRIATE AUTHORITY FOR NOTICE OF CONSTRUCTION/EXCAVATION AND UTILITY MARK OUT PRIOR TO THE START OF CONSTRUCTION IN ACCORDANCE WITH STATE LAW. CONTRACTOR IS REQUIRED TO CONFIRM THE HORIZONTAL AND VERTICAL LOCATION OF UTILITIES IN THE FIELD. SHOULD A DISCREPANCY EXIST BETWEEN THE FIELD LOCATION OF A UTILITY AND THE LOCATION SHOWN ON THE PLAN SET OR SURVEY, THE CONTRACTOR SHALL NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC. IMMEDIATELY IN WRITING.
- 2. THE CONTRACTOR IS RESPONSIBLE TO PROTECT AND MAINTAIN IN OPERATION ALL UTILITIES NOT DESIGNATED TO BE REMOVED. 3. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE TO ANY EXISTING UTILITY IDENTIFIED TO REMAIN WITHIN THE LIMITS OF
- THE PROPOSED WORK DURING CONSTRUCTION. 4. A MINIMUM HORIZONTAL SEPARATION OF 10 FEET IS REQUIRED BETWEEN ANY SANITARY SEWER SERVICE AND ANY WATER LINES. IF THIS SEPARATION CANNOT BE PROVIDED, A CONCRETE ENCASEMENT SHALL BE UTILIZED FOR THE SANITARY SEWER SERVICE
- AS APPROVED BY STONEFIELD ENGINEERING & DESIGN, LLC. 5. ALL WATER LINES SHALL BE VERTICALLY SEPARATED ABOVE SANITARY SEWER LINES BY A MINIMUM DISTANCE OF 18 INCHES. IF THIS SEPARATION CANNOT BE PROVIDED, A CONCRETE ENCASEMENT SHALL BE UTILIZED FOR THE SANITARY SEWER SERVICE AS APPROVED BY STONEFIELD ENGINEERING & DESIGN, LLC. 6. THE CONTRACTOR TO PERFORM A TEST PIT PRIOR TO
- CONSTRUCTION (RECOMMEND 30 DAYS PRIOR) AT LOCATIONS OF EXISTING UTILITY CROSSINGS FOR WATER AND SANITARY SEWER CONNECTION IMPROVEMENTS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC. IN WRITING. 7. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING GAS,
- ELECTRIC AND TELECOMMUNICATION CONNECTIONS WITH THE APPROPRIATE GOVERNING AUTHORITY. 8. CONTRACTOR SHALL START CONSTRUCTION OF ANY GRAVITY
- SEWER AT THE LOWEST INVERT AND WORK UP-GRADIENT. 7. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN A RECORD SET OF PLANS REFLECTING THE LOCATION OF EXISTING UTILITIES THAT HAVE BEEN CAPPED, ABANDONED, OR RELOCATED BASED ON THE DEMOLITION/REMOVAL ACTIVITIES REQUIRED IN THIS PLAN SET. THIS DOCUMENT SHALL BE PROVIDED TO THE OWNER FOLLOWING COMPLETION OF WORK.
- 8. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN A RECORD OF THE AS-BUILT LOCATIONS OF ALL PROPOSED UNDERGROUND INFRASTRUCTURE. THE CONTRACTOR SHALL NOTE ANY DISCREPANCIES BETWEEN THE AS-BUILT LOCATIONS AND THE LOCATIONS DEPICTED WITHIN THE PLAN SET. THIS RECORD SHALL BE PROVIDED TO THE OWNER FOLLOWING COMPLETION OF WORK.



DRAW	SCALI TITLE			SITE DEVELOPMENT PLANS		NO			
	:					T AP			
UT			ICHIG	856 OLD NORTH WOODWARD		PRO			
	" =				anginaaring & dasign IIc	VEC			
	-) FC			
	1				Rutherford NI · Farmingdale NY · Bloomfield Hills MI	OR C			
		JE & de		BUILDING WITH RETAIL		CON			
4				PARCEL ID: 19-25-328-001		STR	2 01/06/2016	I6 JAM	REVISED PER CITY REVIW LETTER COMMENTS
•				856 NORTH OLD WOODWARD ROAD	2350 Franklin Road, Suite 210, Bloomfield Hills, MI 48302	UC ⁻	11/11/2015	I5 JAM	SUBMISSION FOR PRELIMINARY SITE PLAN APPORAL
	-15120	D		CITY OF BIRMINGHAM OAKLAND COUNTY, MICHIGAN	Phone 248.247.1115			ΒY	DESCRIPTION





THERE ARE NO WETLANDS ON SITE.

PARCEL AREA

24,719± SQUARE FEET = 0.57± ACRES

BASIS OF BEARING

SOUTH 23°57'44" EAST, BEING THE NORTHERLY RIGHT OF WAY LINE OF N. OLD WOODWARD AVENUE.

BENCHMARK

BIRMINGHAM DATUM)

FLOOD NOTE

SUBJECT PARCEL LIES WITHIN:

SPECIAL FLOOD HAZARD AREA (ZONE AE): BASE FLOOD ELEVATIONS DETERMINED.

STREAM PLUS ANY ADJACENT FLOODPLAIN AREAS THAT MUST BE KEPT FREE OF ENCROACHMENT SO THAT THE 1% ANNUAL CHANCE FLOOD CAN BE CARRIED WITHOUT SUBSTANTIAL INCREASES IN FLOOD HEIGHTS.

CHANCE FLOODPLAIN.

COMMUNITY - PANEL NUMBER 260168 0537 F, DATED SEPTEMBER 29, 2006, PUBLISHED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY.

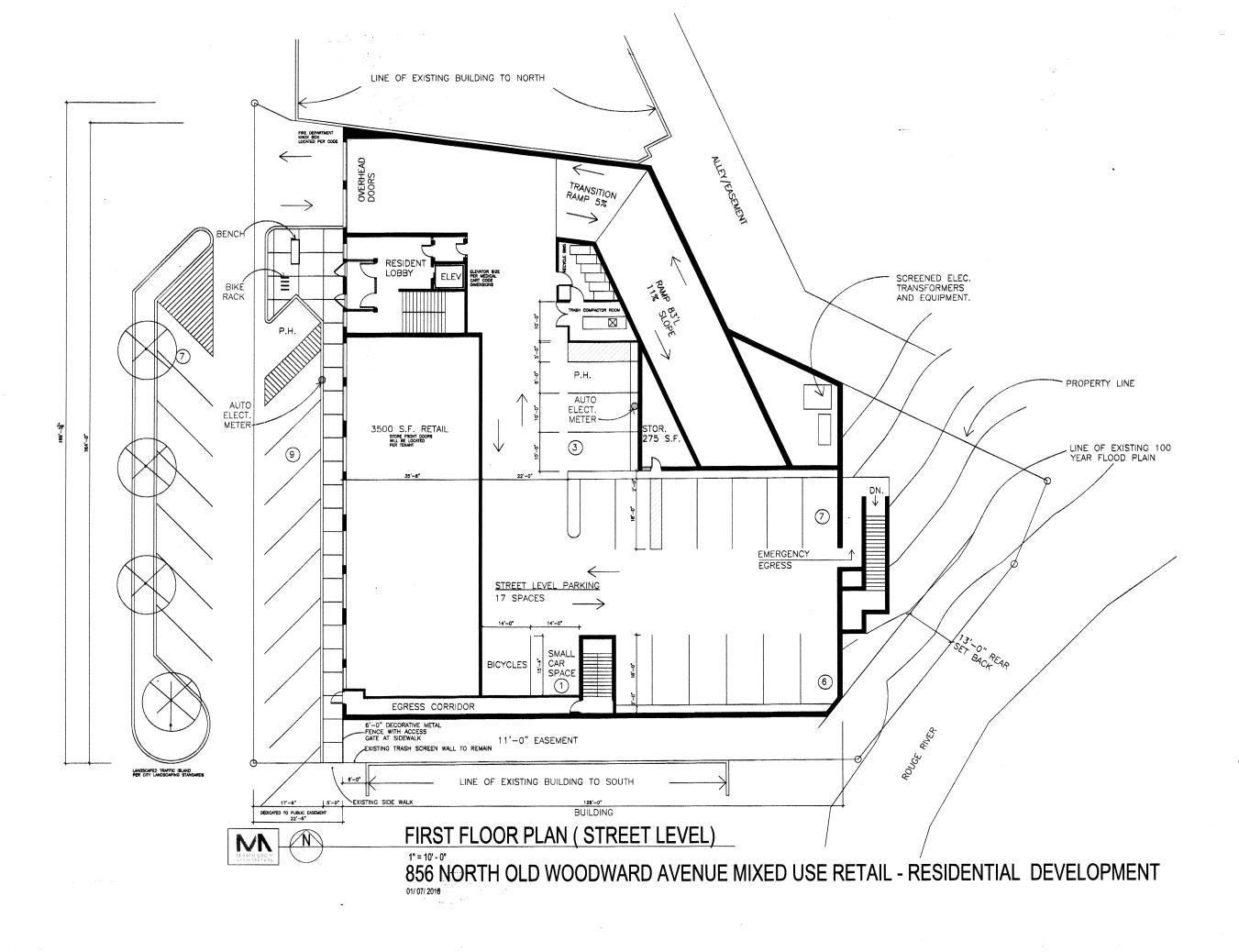
PROPERTY DESCRIPTION

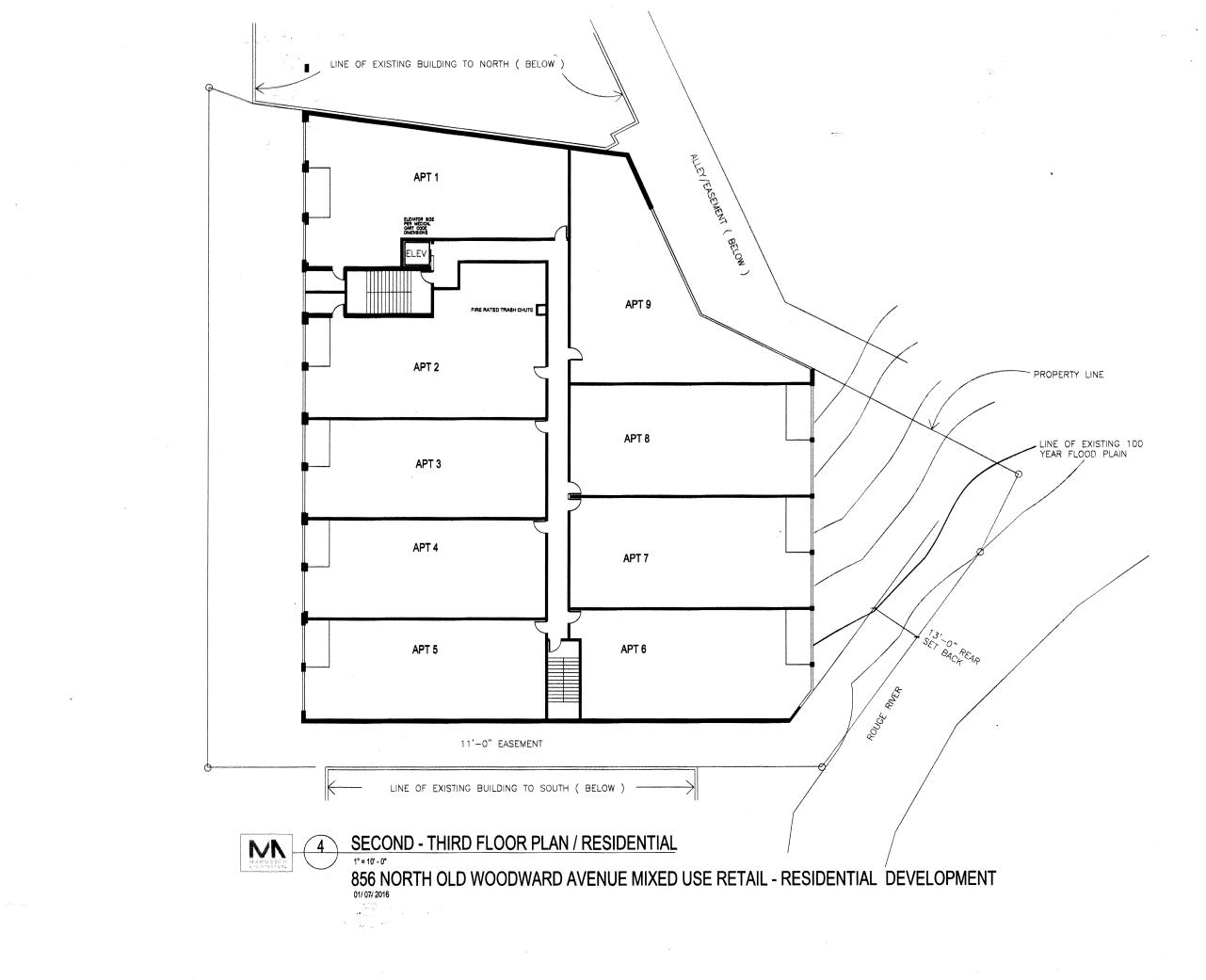
LAND SITUATED IN THE CITY OF BIRMINGHAM, COUNTY OF OAKLAND, STATE OF MICHIGAN IS DESCRIBED AS FOLLOWS:

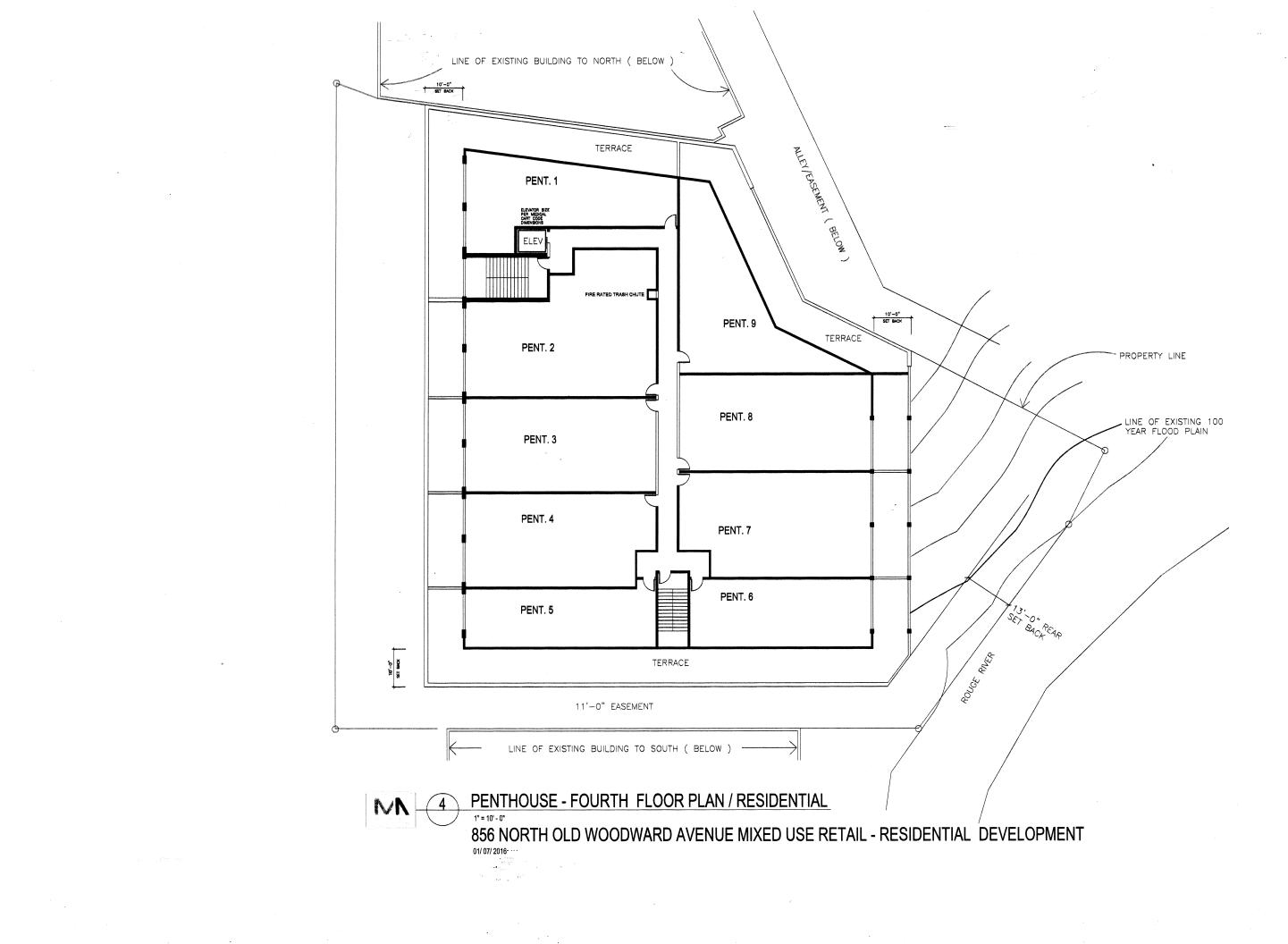
NORTHWEST 1/4 OF SECTION 25, TOWN 2 NORTH, RANGE 10 EAST, CITY OF BIRMINGHAM, OAKLAND COUNTY, MICHIGAN, DESCRIBED AS BEGINNING AT A POINT DISTANT SOUTH 88 DEGREES 16 MINUTES 00 SECONDS EAST 10.15 FEET FROM THE NORTHWEST CORNER OF SAID LOT 3; THENCE SOUTH 88 DEGREES 16 MINUTES 00 SECONDS EAST 124.70 FEET; THENCE NORTH 49 DEGREES 21 MINUTES 00 SECONDS WEST 46.41 FEET; THENCE SOUTH 73 DEGREES 32 MINUTES 00 SECONDS WEST 93.28 FEET TO BEGINNING.

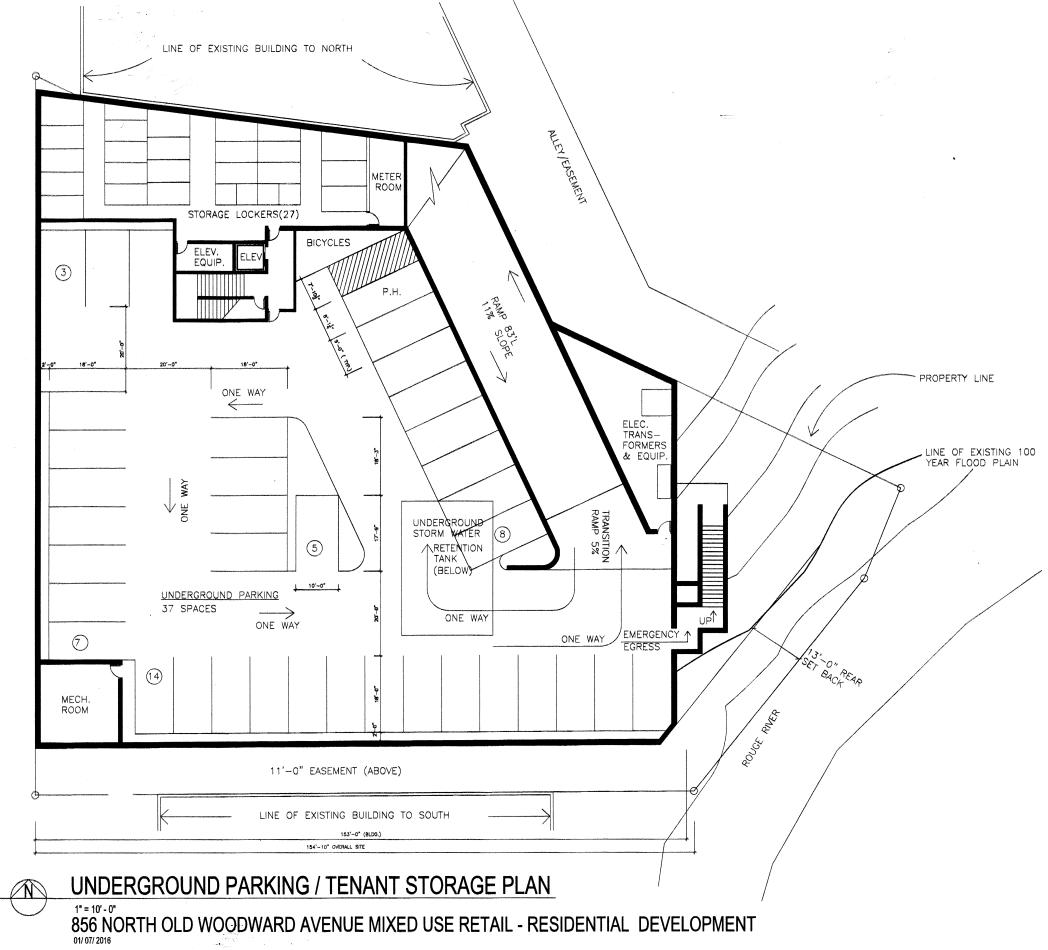
EROSION AND SEDIMENT CONTROL NOTES

- SEDIMENT CONTROL IN ACCORDANCE WITH LOCAL, STATE, AND
- 2. THE CONTRACTOR IS RESPONSIBLE FOR DUST CONTROL AND
- standards.
- MEASURES WEEKLY AND AFTER A PRECIPITATION EVENT GREATER THAN I INCH. THE CONTRACTOR SHALL MAINTAIN AN INSPECTION LOG ON SITE AND DOCUMENT CORRECTIVE ACTION AS REQUIRED TAKEN THROUGHOUT THE COURSE OF CONSTRUCTION.

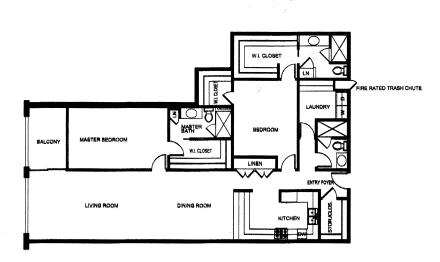




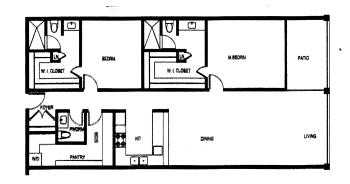




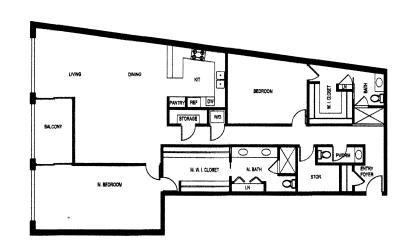
MARGAICS



APARTMENT 2 - 2 BEDROOM



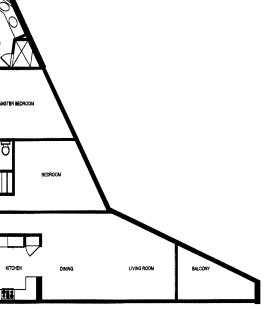
APARTMENTS 3 - 8 - 2 BEDROOM



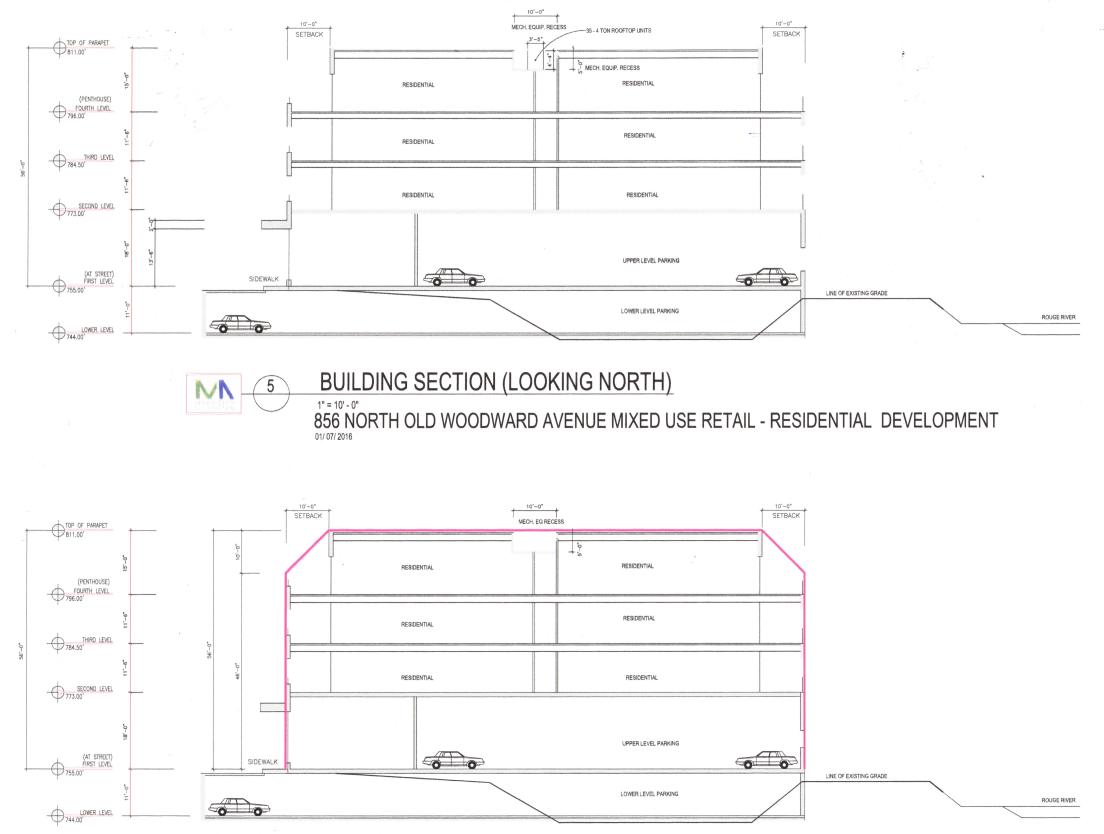
APARTMENT 1 - 2 BEDROOM

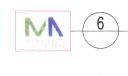






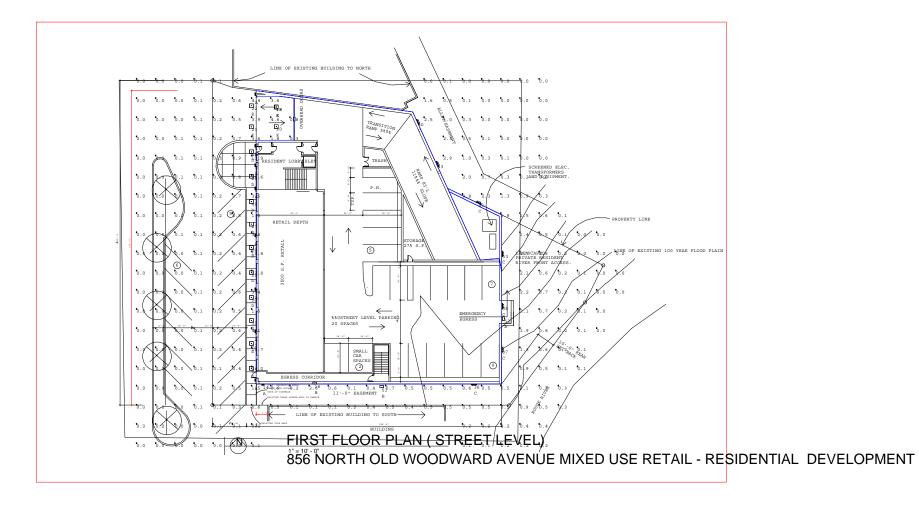
APARTMENT 9 - 2 BEDROOM





BUILDING SECTION (LOOKING NORTH) SETBACK / HT. ENVELOPE COMPLIANCE

1" = 10' - 0" 856 NORTH OLD WOODWARD AVENUE MIXED USE RETAIL - RESIDENTIAL DEVELOPMENT 01/07/2016



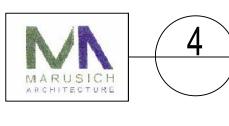
Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Entire Site_1	Illuminance	Fc	0.75	15.6	0.0	N.A.	N.A.
StatArea_1	Illuminance	Fc	0.92	15.6	0.0	N.A.	N.A.

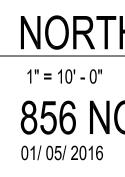
Luminaire	Schedule						
Symbol	Qty	Label	Arrangement	Total Lamp Lumens	LLF	Description	Tag
B	9	822633-S_Photometrics	SINGLE	1800	0.950	1084-18	A
Đ	3	MSL1-35K-12-BZ Led security 1	SINGLE	N.A.	0.950	MLS1-35K-12	В
•	10	2SQ-827N1-WWH	SINGLE	N.A.	0.950	2SQ-827N1-WWH	D
•	5	2SQ-827F1-WWH	SINGLE	N.A.	0.950	2SQ-827F1-WWH	E
	7	VWPH-LED18-740-T2	SINGLE	N.A.	0.950	VWPH-LED18_740-T2-EDD-INV-UNV	C

LumNo	Label	X	Y	Z	Orient	Tilt
3	822633-S_Photometrics	78.906	190.13	6.6	179.868	0
5	822633-S_Photometrics	78.805	153.055	6.6	177.614	0
6	822633-S_Photometrics	78.843	140.961	6.6	176.986	0
7	822633-S_Photometrics	78.787	116.426	6.6	180	0
8	822633-S_Photometrics	78.803	88.34	6.6	180	0
9	822633-S_Photometrics	78.787	66.425	6.6	176.948	0
10	822633-S_Photometrics	78.762	41.009	6.6	180.541	0
14	822633-S_Photometrics	83	38.203	6.6	270	0
16	MSL1-35K-12-BZ Led security 1	110.058	38.839	5.5	269.926	0
18	2SQ-827F1-WWH	89.985	183.332	12	0	0
19	2SQ-827F1-WWH	89.985	183.332	12	0	0
20	2SQ-827F1-WWH	89.985	173.087	12	0	0
22	2SQ-827F1-WWH	77	184	12	0	0
23	2SQ-827F1-WWH	77	173	12	0	0
25	2SQ-827N1-WWH	77	147.211	12	0	0
27	2SQ-827N1-WWH	77	122.211	12	0	0
28	2SQ-827N1-WWH	77	110	12	0	0
29	2SQ-827N1-WWH	77	97	12	0	0
30	2SQ-827N1-WWH	77	84	12	0	0
31	2SQ-827N1-WWH	77	72	12	0	0
32	2SQ-827N1-WWH	77	60	12	0	0
33	2SQ-827N1-WWH	77	47	12	0	0
36	VWPH-LED18-740-T2	193.112	38.558	30	270.205	0
37	VWPH-LED18-740-T2	207.846	56.757	30	359.69	0
38	VWPH-LED18-740-T2	207.925	79.496	20	0.35	0
41	VWPH-LED18-740-T2	195.553	133.442	15	68.303	0
43	VWPH-LED18-740-T2	174.107	153.665	15	24.277	0
47	822633-S_Photometrics	78.862	163.135	6.5	177.615	0
48	2SQ-827N1-WWH	77	160	12	270	0
49	2SQ-827N1-WWH	77	134	12	90	0
50	VWPH-LED18-740-T2	163.884	175.554	15	24.831	0
51	MSL1-35K-12-BZ Led security 1	145	37	15	270	0
52	MSL1-35K-12-BZ Led security 1	209	73	15	0	0
53	VWPH-LED18-740-T2	207.914	106.777	15	359.768	0









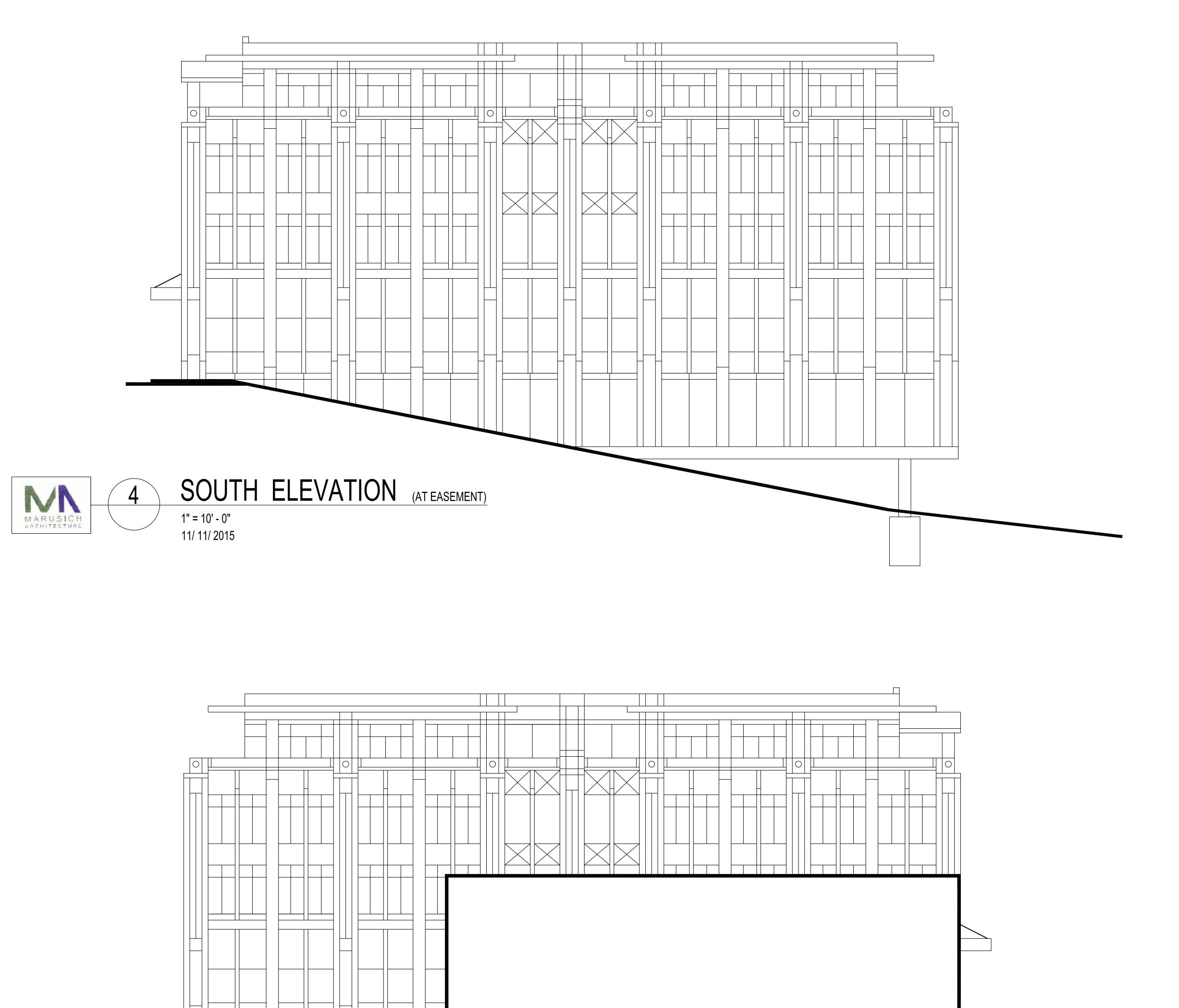
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NORTH ELEVATION

856 NORTH OLD WOODWARD AVENUE MIXED USE RETAIL - RESIDENTIAL DEVELOPMENT

OPEN AIR W/BRONZE SECURITY SCREEN



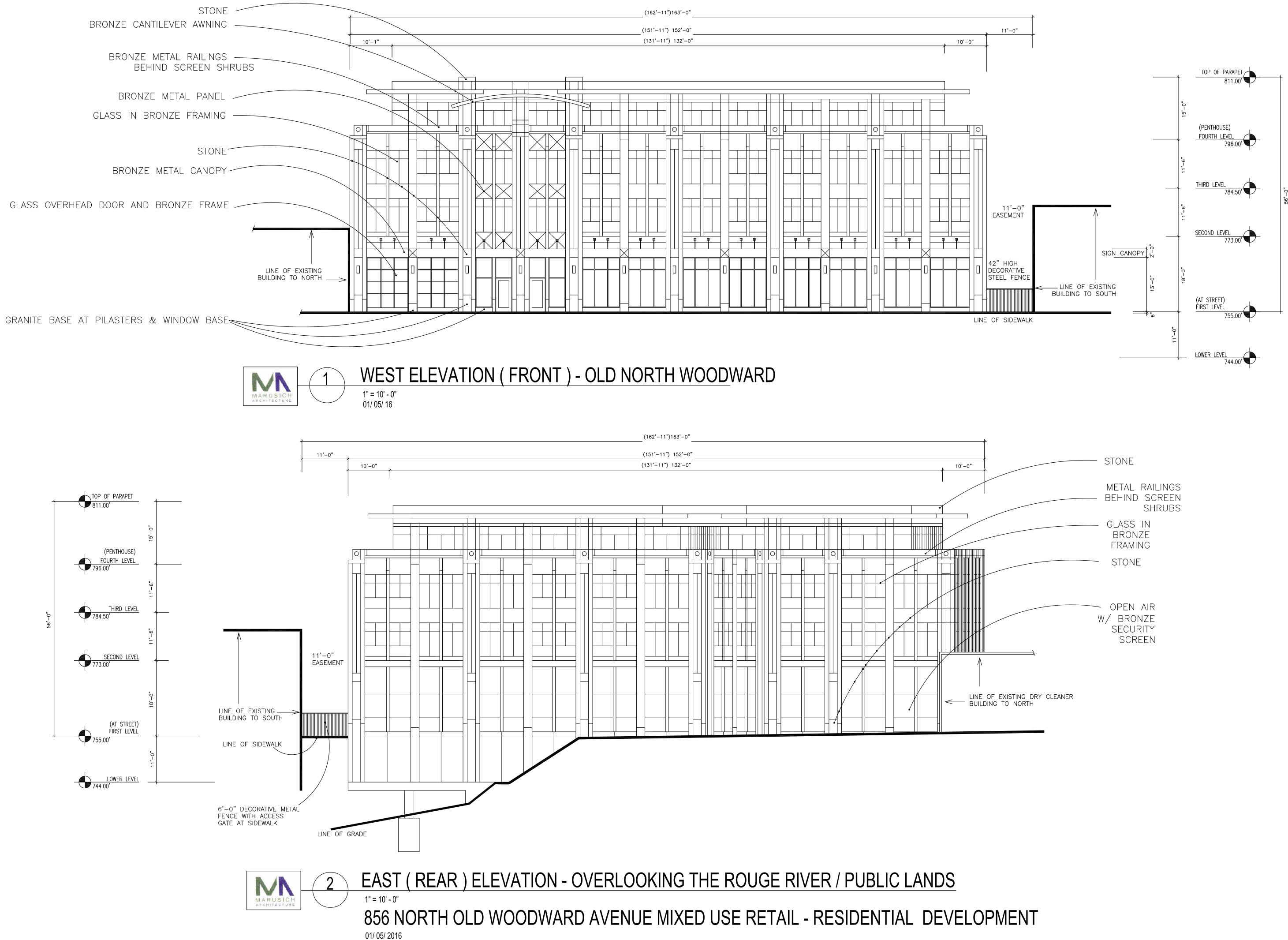




NORTH ELEVATION

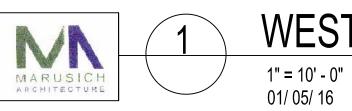
1" = 10' - 0" 01/ 05/ 2016

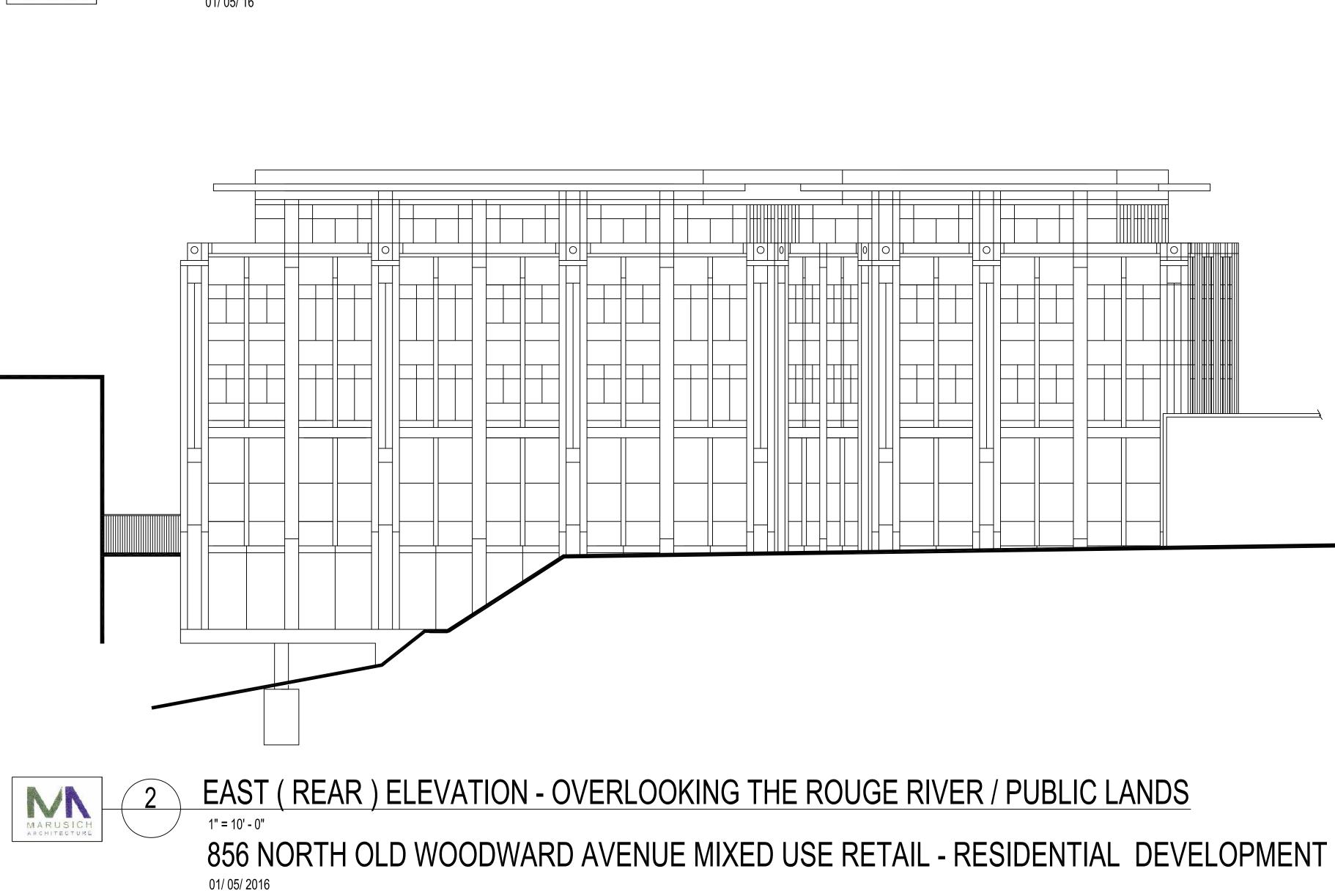
856 NORTH OLD WOODWARD AVENUE MIXED USE RETAIL - RESIDENTIAL DEVELOPMENT



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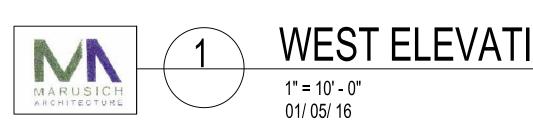


WEST ELEVATION (FRONT) - OLD NORTH WOODWARD





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WEST ELEVATION (FRONT) - OLD NORTH WOODWARD



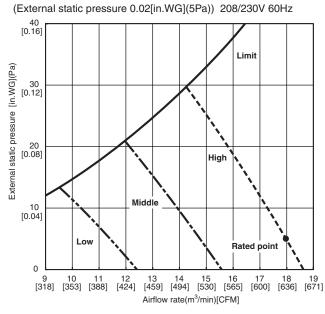
Mr.SLIM.

ob Name:		Location:	Date:
Purchaser:		Engineer:	I
Submitted to:		For Reference	□Approval □Construction
System Designation:		Schedule No.:	
GENERAL FEATURES	 Instate removal; lifts to 21-11/16" Init using A-Control generation of the second second	Voltage Indoor - Outdoor S1-S2 . Indoor - Outdoor S2-S3 . Fan Motor Airflow (Lo - Med - Hi) Cooling	
(PAR-FL32MA; eq.PAR-FA32MA-E □ Wireless Signal Receiver Module	PAR-FA32MA (for PAR-FL32MA)	DIMENSIONS W	UNIT INCHES / MM 46-7/8 / 1,190
Lockdown Bracket for Hand-held	Controller (RCMKP1CB)	D	27-9/16 / 700
Cooling Capacity* Heating Capacity at 47°F* * Rating Conditions (Cooling) - Indoor: 80°F 95°F (35°C) DB, 75°F (24°C) WB. (Heating at 47°F) - Indoor: 70°F (21°C) DB, 6 43°F (6°C) WB. (Heating at 17°F) - Indoor: 70°F (21°C) DB, 6 15°F (-9°C) WB.		External Finish Field Drainpipe Size O.D. Refrigerant Type Refrigerant Pipe Size O.D Gas Side Liquid Side	7-7/8 / 200
Power Supply		MXZ-B SERIES HEAT-PUM	
Ammenum MSZ-GE	SEZ and PEAD-A24AA	MULTI-ZONE OUTDOOR UNIT	 MXZ-B MULTI-ZONE SYSTEMS CAN INCLUD Ducted Indoor Units: SEZ-KD09,12,15,18NA, PEAD-A24AA Nonducted Indoor Units: MSZ-GE06,09,12,15,18,24NA, MSZ-FE09,12,18NA, MFZ-KA09,12,18NA, PCA-A24KA, SLZ-KA09,12,15NA, and PLA-A12,18,24BA A combination of both Ducted and Nonducte Indoor Units Refer to the separate submittal forms for the MSZ-GE, MSZ-FE, MFZ-KA, SEZ-KD, SLZ-K PEAD, PCA, PLA Indoor Units, and MXZ Outo Units.
MSZ-FE			

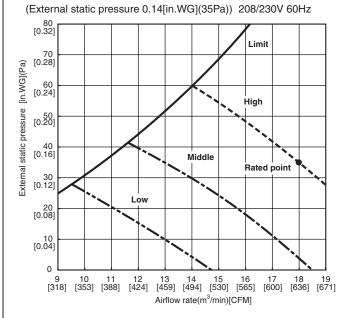
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SEZ-KD18NA INDOOR FAN PERFORMANCE AND CORRECTED AIR FLOW CHARTS

SEZ-KD18NA

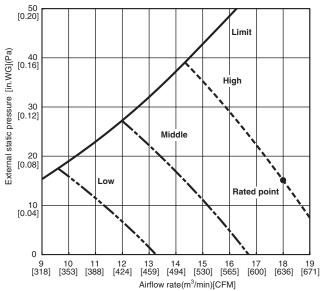


SEZ-KD18NA

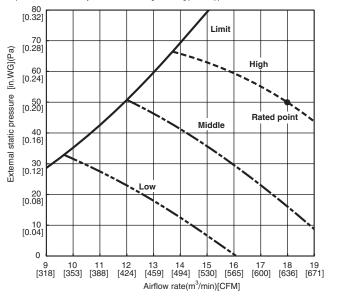


SEZ-KD18NA

(External static pressure 0.06[in.WG](15Pa)) 208/230V 60Hz

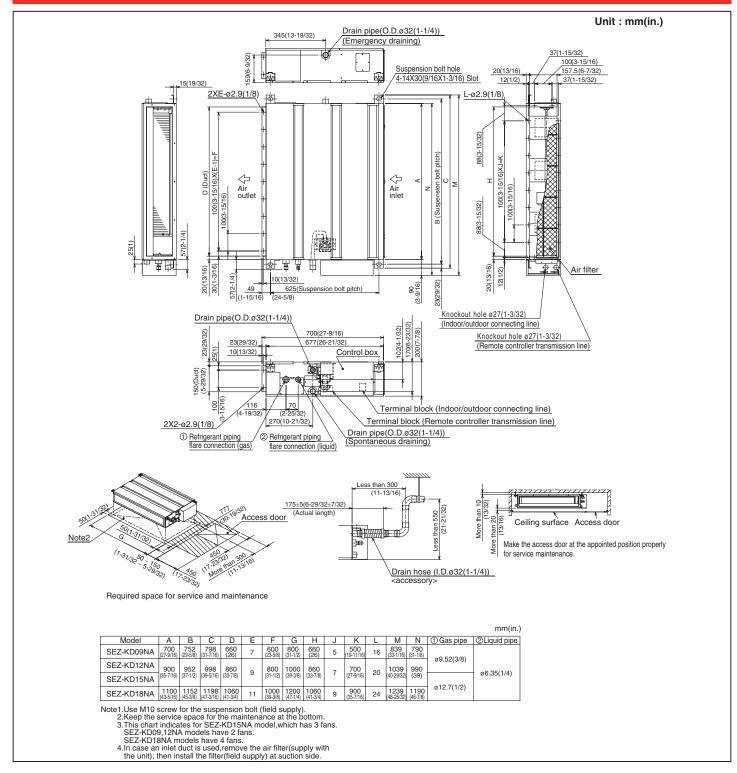


SEZ-KD18NA



(External static pressure 0.20[in.WG](50Pa)) 208/230V 60Hz

DIMENSIONS: SEZ-KD18NA







PARTNER



3400 Lawrenceville Suwanee Rd Suwanee, GA 30024 Tele: 678-376-2900 • Fax: 800-889-9904 Toll Free: 800-433-4822 (#3) www.mehvac.com Specifications are subject to change without notice.

FORM# SEZ-KD18NA - 201108 © 2011 MITSUBISHI ELECTRIC & ELECTRONICS, INC.



COOLING & HEATING



Date:

SUBMITTAL DATA: MXZ-8C48NAHZ

4-TON MULTI-INDOOR INVERTER HEAT-PUMP SYSTEM

Job Name:

System Reference:

GENERAL FEATURES

- · Quiet operation
- · Built-in base pan heater to prevent ice in drain pan
- · Limited warranty: five years parts and seven years compressors

ACCESSORIES

- Three-port Branch Box (PAC-MKA30BC)
- □ Five-port Branch Box (PAC-MKA50BC)
- Distribution Pipe for Flare Connection (MSDD-50AR; necessary for installing two branch boxes) Distribution Pipe for Brazed Connection
- Distribution Pipe for Braze Connection
 (MSDD-50BR; necessary for installing two branch boxes)
 3/8" x 1/2" Port Adapter (MAC-A454JP)
 1/2" x 3/8" Port Adapter (MAC-A455JP)
 1/2" x 5/8" Port Adapter (MAC-A456JP)
 1/4" x 3/8" Port Adapter (PAC-493PI)
 2/0" E 5/9" Port Adapter (PAC-493PI)

- 3/8" x 5/8" Port Adapter (PAC-SG76RJ)
 Drain Socket (PAC-SH71DS-E)
 Airflow Guide (PAC-SH96SG-E)







Outdoor Unit: MXZ-8C48NAHZ

(For data on specific indoor units, see the MXZ-C Technical and Service Manual.)

	Specifications		Model Name	
	Unit Type		MXZ-8C48NAHZ	
	Rated Capacity	Btu/h	48,000 / 48,000	
Cooling* (Non-ducted / Ducted)	Capacity Range	Btu/h	6,000 - 48,000	
(Non-ducted / Ducted)	Rated Total Input	w	4,000 / 5,050	
	Rated Capacity	Btu/h	54,000 / 54,000	
Heating at 47°F* (Non-ducted / Ducted)	Capacity Range	Btu/h	7,200 - 54,000	
(Non-ducted / Ducted)	Rated Total Input	w	4,220 / 4,990	
	Rated Capacity	Btu/h	40,000 / 43,000	
Heating at 17°F* (Non-ducted/Ducted)	Maximum Capacity	Btu/h	54,000 / 54,000	
	Rated Total Input	w	4,340 / 5,250	
Heating at 5°F*	Maximum Capacity	Btu/h	54,000	
	Power Supply	Voltage, Phase, Hertz	208 / 230V, 1-Phase, 60 Hz	
Electrical Requirements	Recommended Fuse/Breaker Size	Α	50	
	MCA	Α	42	
	Indoor - Outdoor S1-S2	v	AC 208 / 230	
Voltage	Indoor - Outdoor S2-S3	v	DC ±24	
Compressor	•	·	Hermetic	
Fan Motor (ECM)		F.L.A.	0.4+0.4	
Fan Motor (ECM) Cooling Cooling			51	
Sound Pressure Level	Heating	dB(A)	54	
External Dimensions (H x W x D)		In / mm	52-11/16 x 41-11/32 x 13+1 1338 x 1050 x 330+25	
Net Weight		Lbs / kg	276 / 125	
External Finish		· · · · · · · · · · · · · · · · · · ·	Munsell No. 3Y 7.8/11	
Refrigerant Pipe Size O.D	Liquid (High Pressure)		3/8 / 9.52	
Eight Ports	Gas (Low Pressure)	In / mm	5/8 / 15.88	
Max. Refrigerant Line Length	· ·	Ft/m	492 (150)	
Max. Piping Length for Each	Indoor Unit	Ft/m	262 (80)	
Max. Refrigerant Pipe Height	If IDU is Above ODU	Et / m	131 (40)	
Difference	If IDU is Below ODU	Ft/m –	164 (50)	
Connection Method	-	·	Flared/Flared	
Refrigerant			R410A	

Cooling | Indoor: 80° F (27° C) DB / 67° F (19° C) WB Cooling | Outdoor: 95° F (35° C) DB / 75° F (24° C) WB Heating at 47°F | Indoor: 70° F (21° C) DB Heating at 47°F | Outdoor: 47° F (8° C) DB / 43° F (6° C) WB

Heating at 17° F | Indoor: 70° F (21° C) DB Heating at 17° F | Outdoor: 17° F (-8° C) DB / 15° F (-9° C) WB

Specifications are subject to change without notice. © 2015 Mitsubishi Electric US, Inc.

SPECIFICATIONS: MXZ-8C48NAHZ, contd.

Operating	Range:
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	Outdoor
Cooling	D.B. 23 to 115° F [D.B. −5 to 46° C]*1
Heating	D.B. –13 to 70° F [D.B. –25 to 21° C]

Energy Efficiencies:

Indoor Unit Type	SEER	EER	HSPF	COP @ 47°F	COP @ 17°F
Non-ducted	18.9	12.0	11.0	3.75	2.70
Ducted and Non-ducted	16.80	10.75	10.50	3.46	2.55
Ducted	14.7	9.5	10.0	3.17	2.40

Multi-zone Indoor/Outdoor Combination Table

	MSZ-FH*	MSZ-GE*	MFZ*	MVZ*	SEZ-KD*	SLZ*	PCA (A24)*	PLA*	PEAD*
MXZ-8C48NAHZ	ОК	ОК	ОК	ОК	ОК	OK	NO	ОК	24, 30, 36 OK

* Refer to indoor unit submittal.

*1. D.B. 5 to 115° F [D.B. –15 to 46° C], when an optional Air Outlet Guide is installed.

Notes:

- Minimum of two Indoor Units must be connected to the MXZ-8C48NAHZ.
- Minimum installed capacity cannot be less than 12,000 Btu/h.
- System can operate with only one Indoor Unit turned on.
- May connect to any style indoor unit or combination.
- Information provided at 208/230V.

Refer to the MXZ-C Technical & Service Manual for detailed specifications and additional information per Indoor Unit Combination.

MVZ CONNECTION RULES:

- Up to 2 MVZ's may be connected to this system.
- When 2 MVZ's are connected, no additional indoor units can be used.
- When 1 MVZ is connected, additional indoor units can be connected.
- · When 1 MVZ is connected, total connected capacity must be 130% or less.
- Connection limitations are altered with the use of the SPTB1 accessory. Refer to the SPTB1 documentation for more details.

Notes:

MXZ-8C48NAHZ SYSTEM DESIGN

Outdoor u	unit		MXZ-8C48NAHZ	
			5HP	
	Rated capacity	Cooling	48	
	(kBTÚ/h)	Heating	54	
	Refrigeran	t	R410A	
Connectable	Capacity		Type 06 to Type 36	
Connectable indoor unit	Capacity		Caution: The indoor unit which rated capacity exceeds 36 kBTU/ h (Type 36) can NOT be connected.	
	Number of units		2 to 8 units	
	Total system wide capacity		25 to 130% of outdoor unit capacity (12 to 62.4 kBTU/h)	
Connectable branch box	Number of units		1 or 2 units	

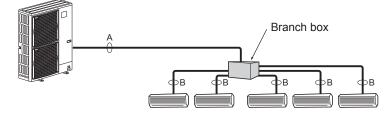
Connectab	ie maoor unit imeups (Heat pump inverter type)	1	-						
	Model type	Model name		Ca	apacity	/ class	s [kBT	U/h]		
			06	09	12	15	18	24	30	36
\A/=!!	Deluxe	MSZ-FE09/12/18NA								
Wall mounted		MSZ-FH09/12/15NA			•	•				
	Standard	MSZ-GE06/09/12/15/18/24NA						٠		
Ceiling	Low static pressure	SEZ-KD09/12/15/18NA								
concealed	Middle static pressure	PEAD-A24/30/36AA4								٠
4-way ceiling	2 by 2 type	SLZ-KA09/12/15NA								
cassette	Standard	PLA-A12/18/24/30/36BA4								
Floor standing		MFZ-KA09/12/18NA								
Multi-position		MVZ-A12/18/24/30/36AA4								

Branch box	PAC-MKA50BC	PAC-MKA30BC
Number of branches (Indoor unit that can be connected)	5 branches (MAX. 5 units)	3 branches (MAX. 3 units)

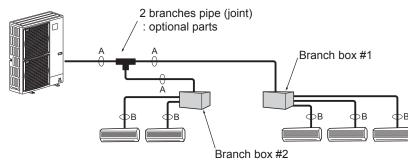
Note: A maximum of 2 branch boxes can be connected to 1 outdoor unit.

If Using One Branch Box

Flare connection employed (No brazing)



If Using Two Branch Boxes



Branch Box Combinations									
Three-port	Five-port								
1	0								
0	1								
1	1								
2	0								
0	2 (Up to 8 IDU)								

Piping connection size

	A	В
Liquid	ø9.52 mm (3/8 inch)	The piping connection size differs according to the type and capacity of indoor units. Match the piping connection size of branch box with indoor unit. If the piping connection size
Gas	¢15.88 mm (5/8 inch)	of branch box does not match the piping connection size of indoor unit, use optional different-diameter (deformed) joints to the branch box side. (Connect deformed joint directly to the branch box side.)

Installation procedure (2 branches pipe (joint))
 Refer to the installation manuals of MSDD-50AR-E and MSDD-50BR-E.

MXZ-8C48NAHZ COOLING AND HEATING CAPACITY AND CHARACTERISTICS

1. Method for obtaining system cooling and heating capacity:

To obtain the system cooling and heating capacity and the electrical characteristics of the outdoor unit, first add up the ratings of all the indoor units connected to the outdoor unit (see table below). For Standard Capacity Diagram, please refer to the MXZ-C Technical & Service Manual.

(1) Capacity of indoor unit

	Model Number for indoor unit	Model 06	Model 09	Model 12	Model 15	Model 18	Model 24	Model 30	Model 36
M series		6.0	9.0	12.0	14.0* ¹ 15.0* ²	17.2* ³ 18.0* ⁴	22.5	_	_
P series	Model Capacity	_	-	12.0	_	18.0	24.0	30.0	35.0
SEZ	[kBtu/h]	_	8.1	11.5	14.1	17.2	—	—	_
SLZ		_	8.4	11.1	15.0	_	_	_	—
MVZ		_	-	12.0	-	18.0	24.0	30.0	36.0

*1 The value is for MSZ-GE15NA.

*² The value is for MSZ-FH15NA.

*3 The value is for MSZ-GE/FH18NA.

*4 The value is for MSZ-FE18NA or MFZ-KA18NA.

(2) Sample calculation

1 System assembled from indoor and outdoor unit (in this example the total capacity of the indoor units is greater than that of the outdoor unit)

Outdoor unit MXZ-5C42NAHZ

• Indoor unit MSZ-GE09NA × 2 + MSZ-FH15NA ×2

2 According to the conditions in 1, the total capacity of the indoor unit will be: 9.0 × 2 + 15.0 × 2 = 48.0

3 The following figures are obtained from the 16.8 total capacity of indoor units, referring the standard capacity diagram in "4-3-3. MXZ-5C42NAHZ <cooling>" and "4-3-4. MXZ-5C42NAHZ <heating>".

Capacity	(kBTU/h)	Outdoor unit power	consumption (kW)	Outdoor unit current (A)/ 230 V			
Cooling	Heating	Cooling	Heating	Cooling	Heating		
A 42.0	B 48.0	3.46	4.37	15.26	19.31		

2. Method for obtaining the heating and cooling capacity of an indoor unit:

(1) The capacity of each indoor unit (kW) = the capacity A (or B) o model capacity of all indoor units

(2) Sample calculation (using the system described above in 4-1-1. (2)):

During cooling:

• The total model capacity of the indoor unit is: 9.0 × 2 + 15.0 × 2 = 48.0 kBTU/h Therefore, the capacity of MSZ-GE09NA and MSZ-FH15NA will be calculated as follows by using the formula in 4-1-2. (1):

Model 09 = 42.0 × $\frac{9.0}{48.0}$ = 7.88 kBTU/h Model 15 = 42.0 × $\frac{15.0}{48.0}$ = 13.13 kBTU/h

During heating:

• The total model capacity of indoor unit is: 10.9 \times 2 + 18.0 \times 2 = 57.8 kBTU/h Therefore, the capacity of MSZ-GE09NA and MSZ-FH15NA will be calculated as follows by using the formula in 4-1-2. (1):

Model 25 = 48.0 × $\frac{10.9}{57.8}$ = 9.05 kBTU/h Model 50 = 48.0 × $\frac{18.0}{57.8}$ = 14.95 kBTU/h

MXZ-8C48NAHZ OPERATIONAL PERFORMANCE

Operational Performance for				ng Capaci					Power	
Indoor Unit Combinations (Unit A + Unit B + Unit C+ Unit D +	Unit A	Unit B	Heati Unit C	ng Capaci Unit D	ty Range (Unit E	Btu/h) Unit F	Unit G	Unit H	Usage Range	Current (208/230V)
Unit E + Unit F + Unit H)									(W)	
6	6000	0	0	0	0	0	0	0	600	3.1/2.7
	7500 9000	0	0	0		0 0	0	0	601 700	3 / 2.8 3.6 / 3.1
9	11300	0		0		0		0	901	4.5 / 4.3
10	12000	0	0	0	0	0	0	0	801	4/3.6
12	15000	0	0	0	0	0	0	0	1200	6 / 5.9
15	15000	0	0	0	0	0	0	0	1001	5/4.4
	18800 18000	0 0	0	0	0	0 0	0	0	1500 1201	7.5/7.4 5.9/5.3
18	22500	0	0	0	0	0		0	1201	9/9
24	24000	0	0	0	0	0	0	0	1600	7.8/7
24	30000	0	0	0	0	0	0	0	2400	12 / 12.1
30	30000	0	0	0	0	0	0	0	2500	12 / 11.5
	37500	0	0	0	0	0	0	0	3450	17 / 16.1
36	36000 45000	0	0	0	0	0	0	0	3800 4502	16.3 / 16 22 / 20.1
	6000	6000	0	0	0	0	0	0	801	4/3.6
6 + 6	7500	7500	0	0	0	0	0	0	1200	6 / 5.9
6 + 9	6000	9000	0	0	0	0	0	0	1001	5/4.4
0 + 9	7520	11280	0	0	0	0	0	0	1500	7.5 / 7.4
6 + 12	6000	12000	0	0	0	0	0	0	1201	5.9/5.3
	7500 6000	15000 15000	0	0		0	0	0	1800 1401	9/9 6.9/6.2
6 + 15	7514	18786		0		0		0	2100	10.5 / 10.5
0 + 40	6000	18000	0	0	0	0	0	0	1600	7.8/7
6 + 18	7500	22500	0	0	0	0	0	0	2400	12 / 12.1
6 + 24	6000	24000	0	0	0	0	0	0	2500	12 / 11.5
	7500	30000	0	0	0	0	0	0	3450	17 / 16.1
6 + 30	6000 7500	30000 37500	0	0	0	0	0	0	3800 4502	16.3 / 16
	6000	36000		0		0	0	0	4000	19.5 / 19.5
6 + 36	6857	41143	0	0	0	0	0	0	5052	24.8 / 22.6
9 + 9	9000	9000	0	0	0	0	0	0	1201	5.9 / 5.3
5 + 5	11250	11250	0	0	0	0	0	0	1800	9/9
9 + 12	9000	12000	0	0	0	0	0	0	1401	6.9/6.2
	<u>11271</u> 9000	15029 15000	0	0	0	0 0	0	0	2100 1600	10.5 / 10.5 7.8 / 7
9 + 15	11250	18750	0	0	0	0	0	0	2400	12/12.1
0.1.40	9000	18000	0	0	0	0	0	0	2050	9.9/9.3
9 + 18	11267	22533	0	0	0	0	0	0	2925	14.5 / 14.1
9 + 24	9000	24000	0	0	0	0	0	0	2950	14.2 / 13.8
	11264	30036	0	0	0	0	0	0	3975	19.5 / 18.1
9 + 30	9000 10731	30000 35769	0	0	0	0	0	0	4100	17.9 / 17.8 23.4 / 21.3
	9000	36000	0	0	0	0	0	0	4525	22.2 / 21
9 + 36	10200	40800	0	0	0	0	0	0	5327	26.2 / 23.8
12 + 12	12000	12000	0	0	0	0	0	0	1600	7.8/7
	15000	15000	0	0	0	0	0	0	2400	12 / 12.1
12 + 15	12000	15000	0	0	0	0	0	0	2050	9.9/9.3
	15022 12000	18778 18000	0	0 0	0 0	0	0 0	0 0	2925 2500	14.5 / 14.1 12 / 11.5
12 + 18	15000	22500	0	0	0	0	0	0	3450	17 / 16.1
12 + 24	12000	24000	0	0	0	0	0	0	3800	16.3 / 16
12 7 24	15000	30000	0	0	0	0	0	0	4502	22 / 20.1
12 + 30	12000	30000	0	0	0	0	0	0	4000	19.5 / 19.5
	13714	34286	0	0 0	0	0	0	0	5052 5052	24.8/22.6
12 + 36	12000 13500	36000 40500	0	0	0	0	0	0	5052 5602	24.8 / 22.5 27.6 / 25
	15000	15000	0	0	0	0	0	0	2500	12 / 11.5
15 + 15	18750	18750	0	0	0	0	0	0	3450	17 / 16.1

MXZ-8C48NAHZ OPERATIONAL PERFORMANCE, contd.

Operational Performance for			Cooli	ng Capaci	ty Range (I	Btu/h)			Power	
Indoor Unit Combinations			Heati	ng Capaci	ty Range (I	3tu/h)			Usage Range (W)	Current (208/230V)
(Unit A + Unit B + Unit C+ Unit D + Unit E + Unit F + Unit H)	Unit A	Unit B	Unit C	Unit D	Unit E	Unit F	Unit G	Unit H		
15 + 18	15000	18000	0	0	0	0	0	0	2950	14.2 / 13.8
	18773	22527	0	0	0	0	0	0	3975	19.5 / 18.1
15 + 24	15000	24000	0	0	0	0	0	0	4100	17.9 / 17.8
	17885 15000	28615 30000	0	0	0	0	0	0	4777 4525	23.4 / 21.3 22.2 / 21
15 + 30	17000	34000	0	0	0	0		0	5327	26.2 / 23.8
45 + 20	14118	33882	0	0	0	0	0	0	4988	24.5 / 22.2
15 + 36	15882	38118	0	0	0	0	0	0	5502	26.9 / 24.5
18 + 18	18000	18000	0	0	0	0	0	0	3800	16.3 / 16
	22500 18000	22500 24000	0 0	0	0	0 0	0	0	4502 4000	22 / 20.1 19.5 / 19.5
18 + 24	20571	27429		0	0	0		0	5052	24.8 / 22.6
10	18000	30000	0	0	0	0	0	0	5052	24.8 / 22.5
18 + 30	20250	33750	0	0	0	0	0	0	5602	27.6 / 25
18 + 36	16000	32000	0	0	0	0	0	0	4923	24.2 / 21.9
	18000	36000	0	0	0	0	0	0	5400	26.3 / 24
24 + 24	24000	24000	0	0	0	0	0	0	5052	24.8 / 22.5
	27000 21333	27000 26667	0	0	0	0	0	0	5602 4923	27.6 / 25 24.2 / 21.9
24 + 30	24000	30000		0	0	0	0	0	5400	26.3/24
04 + 00	19200	28800	0	0	0	0	0	0	4795	23.5/21.3
24 + 36	21600	32400	0	0	0	0	0	0	5250	25.7 / 23.3
30 + 30	24000	24000	0	0	0	0	0	0	4795	23.5 / 21.3
	27000	27000	0	0	0	0	0	0	5250	25.7 / 23.3
6 + 6 + 6	6000 7500	6000 7500	6000 7500	0	0	0	0	0	1201 1800	5.9 / 5.3 9 / 9
	6000	6000	9000	0	0	0	0	0	1401	6.9/6.2
6 + 6 + 9	7514	7514	11271	0	0	0	0	0	2100	10.5 / 10.5
6 + 6 + 12	6000	6000	12000	0	0	0	0	0	1600	7.8/7
0+0+12	7500	7500	15000	0	0	0	0	0	2400	12 / 12.1
6 + 6 + 15	6000	6000	15000	0	0	0	0	0	2050	9.9/9.3
	7511 6000	7511 6000	18778 18000	0 0	0	0 0	0 0	0	2925 2500	14.5 / 14.1 12 / 11.5
6 + 6 + 18	7500	7500	22500	0	0	0	0	0	3450	17 / 16.1
0 + 0 + 04	6000	6000	24000	0	0	0	0	0	3800	16.3 / 16
6 + 6 + 24	7500	7500	30000	0	0	0	0	0	4502	22 / 20.1
6 + 6 + 30	6000	6000	30000	0	0	0	0	0	4000	19.5 / 19.5
	6857	6857	34286	0	0	0	0	0	5052	24.8/22.6
6 + 6 + 36	6000	6000	36000	0	0	0	0	0	5052	24.8 / 22.5 27.6 / 25
	6750 6000	6750 9000	40500 9000	0	0	0	0	0	5602 1600	7.8/7
6 + 9 + 9	7500	11250	11250	0	0	0	0	0	2400	12 / 12.1
6 + 9 + 12	6000	9000	12000	0	0	0	0	0	2050	9.9/9.3
0+9+12	7511	11267	15022	0	0	0	0	0	2925	14.5 / 14.1
6 + 9 + 15	6000	9000	15000	0	0	0	0	0	2500	12 / 11.5
	7500 6000	11250 9000	18750 18000	0	0	0	0	0	3450 2950	<u>17 / 16.1</u> 14.2 / 13.8
6 + 9 + 18	7509	11264	22527	0	0	0		0	3975	19.5 / 18.1
	6000	9000	24000	0	0	0	0	0	4100	17.9 / 17.8
6 + 9 + 24	7154	10731	28615	0	0	0	0	0	4777	23.4 / 21.3
6 + 9 + 30	6000	9000	30000	0	0	0	0	0	4525	22.2 / 21
	6800	10200	34000	0	0	0	0	0	5327	26.2 / 23.8
6 + 9 + 36	5647	8471	33882	0	0	0	0	0	4988	24.5 / 22.2
	6353 6000	9529 12000	38118 12000	0	0	0 0	0	0	5502 2500	26.9 / 24.5 12 / 11.5
6 + 12 + 12	7500	12000	15000	0	0	0	0	0	3450	17 / 16.1
6 + 12 + 15	6000	12000	15000	0	0	0	0	0	2950	14.2 / 13.8
6 + 12 + 15	7509	15018	18773	0	0	0	0	0	3975	19.5 / 18.1
6 + 12 + 18	6000	12000	18000	0	0	0	0	0	3800	16.3 / 16
	7500	15000	22500	0	0	0	0	0	4502	22 / 20.1

MXZ-8C48NAHZ OPERATIONAL PERFORMANCE, contd.

Operational Performance for			Cooli	ng Capaci	ty Range (I	Btu/h)			Power	
Indoor Unit Combinations			Heati	Btu/h)			Usage	Current		
(Unit A + Unit B + Unit C+ Unit D + Unit E + Unit F + Unit H)	Unit A	Unit B	Unit C	Unit D	Unit E	Unit F	Unit G	Unit H	Range (W)	(208/230V)
6 + 12 + 24	6000	12000	24000	0	0	0	0	0	4000	19.5 / 19.5
0 + 12 + 24	6857	13714	27429	0	0	0	0	0	5052	24.8 / 22.6
6 + 12 + 30	6000	12000	30000	0	0	0	0	0	5052	24.8 / 22.5
	6750	13500	33750	0	0	0	0	0	5602	27.6/25
6 + 12 + 36	5333 6000	10667 12000	32000 36000	0	0	0	0	0	4923 5400	24.2 / 21.9 26.3 / 24
	6000	15000	15000	0	0	0	0	0	3800	16.3 / 16
6 + 15 + 15	7500	18750	18750	0	0	0	0	0	4502	22 / 20.1
0 - 45 - 40	6000	15000	18000	0	0	0	0	0	4100	17.9 / 17.8
6 + 15 + 18	7154	17885	21462	0	0	0	0	0	4777	23.4 / 21.3
6 + 15 + 24	6000	15000	24000	0	0	0	0	0	4525	22.2 / 21
0 10 24	6800	17000	27200	0	0	0	0	0	5327	26.2 / 23.8
6 + 15 + 30	5647	14118	28235	0	0	0	0	0	4988	24.5/22.2
	6353	15882	31765	0	0	0	0	0	5502	26.9 / 24.5
6 + 15 + 36	5053 5684	12632 14211	30316 34105	0	0	0	0	0	4859 5325	23.8 / 21.6 26 / 23.7
	6000	18000	18000	0	0	0		0	4000	19.5 / 19.5
6 + 18 + 18	6857	20571	20571	0	0	0	0	0	5052	24.8 / 22.6
	6000	18000	24000	0	0	0	0	0	5052	24.8 / 22.5
6 + 18 + 24	6750	20250	27000	0	0	0	0	0	5602	27.6 / 25
6 + 18 + 20	5333	16000	26667	0	0	0	0	0	4923	24.2 / 21.9
6 + 18 + 30	6000	18000	30000	0	0	0	0	0	5400	26.3 / 24
6 + 18 + 36	4800	14400	28800	0	0	0	0	0	4795	23.5 / 21.3
0 10 10	5400	16200	32400	0	0	0	0	0	5250	25.7 / 23.3
6 + 24 + 24	5333	21333	21333	0	0	0	0	0	4923	24.2/21.9
-	6000	24000	24000	0	0	0	0	0	5400	26.3 / 24
6 + 24 + 30	4800 5400	19200 21600	24000 27000	0	0	0	0	0	4795 5250	23.5 / 21.3 25.7 / 23.3
	9000	9000	9000	0	0	0	0	0	2050	9.9/9.3
9 + 9 + 9	11267	11267	11267	0	0	0	0	0	2925	14.5 / 14.1
	9000	9000	12000	0	0	0	0	0	2500	12 / 11.5
9 + 9 + 12	11250	11250	15000	0	0	0	0	0	3450	17 / 16.1
9 + 9 + 15	9000	9000	15000	0	0	0	0	0	2950	14.2 / 13.8
9+9+15	11264	11264	18773	0	0	0	0	0	3975	19.5 / 18.1
9 + 9 + 18	9000	9000	18000	0	0	0	0	0	3800	16.3 / 16
	11250	11250	22500	0	0	0	0	0	4502	22 / 20.1
9 + 9 + 24	9000	9000	24000	0	0	0	0	0	4000	19.5 / 19.5
	10286 9000	10286 9000	27429 30000	0	0	0	0	0	5052 5052	24.8 / 22.6 24.8 / 22.5
9 + 9 + 30	10125	10125	33750	0	0	0	0	0	5602	27.6 / 25
	8000	8000	32000	0	0	0	0	0	4923	24.2 / 21.9
9 + 9 + 36	9000	9000	36000	0	0	0	0	0	5400	26.3 / 24
0 + 12 + 12	9000	12000	12000	0	0	0	0	0	2950	14.2 / 13.8
9 + 12 + 12	11264	15018	15018	0	0	0	0	0	3975	19.5 / 18.1
9 + 12 + 15	9000	12000	15000	0	0	0	0	0	3800	16.3 / 16
0 - 12 - 10	11250	15000	18750	0	0	0	0	0	4502	22 / 20.1
9 + 12 + 18	9000	12000	18000	0	0	0	0	0	4100	17.9 / 17.8
	10731	14308	21462	0	0	0	0	0	4777	23.4 / 21.3
9 + 12 + 24	9000 10200	12000 13600	24000 27200	0	0	0	0	0	4525 5327	22.2 / 21 26.2 / 23.8
	8471	11294	28235	0	0	0	0	0	4988	24.5 / 22.2
9 + 12 + 30	9529	12706	31765	0	0	0	0	0	5502	26.9 / 24.5
0 + 40 + 00	7579	10105	30316	0	0	0	0	0	4859	23.8 / 21.6
9 + 12 + 36	8526	11368	34105	0	0	0	0	0	5325	26 / 23.7
9 + 15 + 15	9000	15000	15000	0	0	0	0	0	4100	17.9 / 17.8
9 + 15 + 15	10731	17885	17885	0	0	0	0	0	4777	23.4 / 21.3
9 + 15 + 18	9000	15000	18000	0	0	0	0	0	4000	19.5 / 19.5
	10286	17143	20571	0	0	0	0	0	5052	24.8/22.6
9 + 15 + 24	9000	15000	24000	0	0	0	0	0	5052	24.8 / 22.5
-	10125	16875	27000	0	0	0	0	0	5602	27.6 / 25

Operational Performance for		Power								
Indoor Unit Combinations			Heati	ng Capaci	t <mark>y Range</mark> (I	Btu/h)			Usage	Current
(Unit A + Unit B + Unit C+ Unit D + Unit E + Unit F + Unit H)	Unit A	Unit B	Unit C	Unit D	Unit E	Unit F	Unit G	Unit H	Range (W)	(208/230V)
	8000	13333	26667	0	0	0	0	0	4923	24.2/21.9
9 + 15 + 30	9000	15000	30000	0	0	0	0	0	5400	26.3 / 24
9 + 15 + 36	7200	12000	28800	0	0	0	0	0	4795	23.5 / 21.3
	8100	13500	32400	0	0	0	0	0	5250	25.7 / 23.3
9 + 18 + 18	9000	18000	18000	0	0	0	0	0	4525	22.2 / 21
	10200 8471	20400 16941	20400 22588	0	0	0	0	0	5327 4988	26.2 / 23.8 24.5 / 22.2
9 + 18 + 24	9529	19059	25412	0	0	0	0	0	5502	26.9 / 24.5
	7579	15158	25263	0	0	0	0	0	4859	23.8 / 21.6
9 + 18 + 30	8526	17053	28421	0	0	0	0	0	5325	26 / 23.7
9 + 24 + 24	7579	20211	20211	0	0	0	0	0	4859	23.8 / 21.6
	8526	22737	22737	0	0	0	0	0	5325	26 / 23.7
12 + 12 + 12	12000	12000	12000	0	0	0	0	0	3800	16.3 / 16
	15000 12000	15000 12000	15000 15000	0	0	0	0	0	4502	22/20.1
12 + 12 + 15	12000	12000	17885	0		0		0	4100 4777	17.9 / 17.8 23.4 / 21.3
	12000	12000	18000	0	0	0	0	0	4000	19.5 / 19.5
12 + 12 + 18	13714	13714	20571	0	0	0	0	0	5052	24.8 / 22.6
12 + 12 + 24	12000	12000	24000	0	0	0	0	0	5052	24.8 / 22.5
12 + 12 + 24	13500	13500	27000	0	0	0	0	0	5602	27.6 / 25
12 + 12 + 30	10667	10667	26667	0	0	0	0	0	4923	24.2 / 21.9
12 · 12 · 00	12000	12000	30000	0	0	0	0	0	5400	26.3 / 24
12 + 12 + 36	9600	9600	28800	0	0	0	0	0	4795	23.5 / 21.3
	10800 12000	10800 15000	32400 15000	0	0	0	0	0	5250 4000	25.7 / 23.3 19.5 / 19.5
12 + 15 + 15	12000	17143	17143	0		0		0	<u>4000</u> 5052	24.8 / 22.6
	12000	15000	18000	0	0	0	0	0	4525	22.2/21
12 + 15 + 18	13600	17000	20400	0	0	0	0	0	5327	26.2 / 23.8
12 + 15 + 24	11294	14118	22588	0	0	0	0	0	4988	24.5 / 22.2
12 + 15 + 24	12706	15882	25412	0	0	0	0	0	5502	26.9 / 24.5
12 + 15 + 30	10105	12632	25263	0	0	0	0	0	4859	23.8 / 21.6
	11368	14211	28421	0	0	0	0	0	5325	26 / 23.7
12 + 18 + 18	12000	18000	18000	0	0	0	0	0	5052	24.8 / 22.5
	13500 10667	20250 16000	20250 21333	0	0	0	0	0	5602 4923	27.6 / 25 24.2 / 21.9
12 + 18 + 24	12000	18000	24000	0	0	0	0	0	5400	26.3 / 24
40 + 40 + 00	9600	14400	24000	0	0	0	0	0	4795	23.5 / 21.3
12 + 18 + 30	10800	16200	27000	0	0	0	0	0	5250	25.7 / 23.3
12 + 24 + 24	9600	19200	19200	0	0	0	0	0	4795	23.5 / 21.3
	10800	21600	21600	0	0	0	0	0	5250	25.7 / 23.3
15 + 15 + 15	15000	15000	15000	0	0	0	0	0	4525	22.2/21
	17000	17000 15000	17000	0	0	0	0	0	5327	26.2 / 23.8
15 + 15 + 18	15000 16875	16875	18000 20250	0		0	0	0	5052 5602	24.8 / 22.5 27.6 / 25
	13333	13333	21333	0	0	0	0	0	4923	24.2 / 21.9
15 + 15 + 24	15000	15000	24000	0	0	0	0	0	5400	26.3 / 24
45 + 45 + 20	12000	12000	24000	0	0	0	0	0	4795	23.5 / 21.3
15 + 15 + 30	13500	13500	27000	0	0	0	0	0	5250	25.7 / 23.3
15 + 18 + 18	14118	16941	16941	0	0	0	0	0	4988	24.5 / 22.2
	15882	19059	19059	0	0	0	0	0	5502	26.9 / 24.5
15 + 18 + 24	12632	15158	20211	0	0	0	0	0	4859	23.8 / 21.6
	14211 16000	17053 16000	22737	0	0	0 0	0	0	5325 4923	26/23.7
18 + 18 + 18	16000 18000	18000	16000 18000	0	0	0		0	4923 5400	24.2 / 21.9 26.3 / 24
40 - 40 - 04	14400	14400	19200	0	0	0	0	0	4795	23.5 / 21.3
18 + 18 + 24	16200	16200	21600	0	0	0	0	0	5250	25.7 / 23.3
6+6+6+6	6000	6000	6000	6000	0	0	0	0	1600	7.8/7
6 + 6 + 6 + 6	7500	7500	7500	7500	0	0	0	0	2400	12 / 12.1
6 + 6 + 6 + 9	6000	6000	6000	9000	0	0	0	0	2050	9.9 / 9.3
	7511	7511	7511	11267	0	0	0	0	2925	14.5 / 14.1

Operational Performance for		Power								
Indoor Unit Combinations				ng Capaci ng Capaci					Usage	Current
(Unit A + Unit B + Unit C+ Unit D + Unit E + Unit F + Unit H)	Unit A	Unit B	Unit C	Unit D	Unit E	Unit F	Unit G	Unit H	Range (W)	(208/230V)
6 + 6 + 6 + 12	6000	6000	6000	12000	0	0	0	0	2500	12 / 11.5
	7500	7500	7500	15000	0	0	0	0	3450	17 / 16.1
6 + 6 + 6 + 15	6000 7509	6000 7509	6000 7509	15000 18773	0	0	0	0	2950 3975	14.2 / 13.8 19.5 / 18.1
	6000	6000	6000	18000	0	0	0	0	3800	16.3 / 16
6 + 6 + 6 + 18	7500	7500	7500	22500	0	0	0	0	4502	22 / 20.1
6 + 6 + 6 + 24	6000	6000	6000	24000	0	0	0	0	4000	19.5 / 19.5
0 1 0 1 0 1 24	6857	6857	6857	27429	0	0	0	0	5052	24.8 / 22.6
6 + 6 + 6 + 30	6000	6000	6000	30000	0	0	0	0	5052	24.8 / 22.5
	6750 5333	6750 5333	6750 5333	33750 32000	0	0	0	0	5602 4923	27.6 / 25 24.2 / 21.9
6 + 6 + 6 + 36	6000	6000	6000	36000	0	0	0	0	5400	26.3/24
	6000	6000	9000	9000	0	0	0	0	2500	12 / 11.5
6 + 6 + 9 + 9	7500	7500	11250	11250	0	0	0	0	3450	17 / 16.1
6 + 6 + 9 + 12	6000	6000	9000	12000	0	0	0	0	2950	14.2 / 13.8
0.0.0.12	7509	7509	11264	15018	0	0	0	0	3975	19.5 / 18.1
6 + 6 + 9 + 15	6000 7500	6000 7500	9000 11250	15000 18750	0	0	0	0	3800 4502	16.3 / 16 22 / 20.1
	6000	6000	9000	18000	0	0	0	0	4100	17.9 / 17.8
6 + 6 + 9 + 18	7154	7154	10731	21462	0	0	0	0	4777	23.4 / 21.3
	6000	6000	9000	24000	0	0	0	0	4525	22.2 / 21
6 + 6 + 9 + 24	6800	6800	10200	27200	0	0	0	0	5327	26.2 / 23.8
6 + 6 + 9 + 30	5647	5647	8471	28235	0	0	0	0	4988	24.5 / 22.2
0 1 0 1 9 1 30	6353	6353	9529	31765	0	0	0	0	5502	26.9 / 24.5
6 + 6 + 9 + 36	5053	5053	7579	30316	0	0	0	0	4859	23.8 / 21.6
	5684	5684	8526	34105	0	0	0	0	5325	26 / 23.7
6 + 6 + 12 + 12	6000 7500	6000 7500	12000 15000	12000 15000	0	0	0	0	3800 4502	16.3 / 16 22 / 20.1
	6000	6000	12000	15000	0	0	0	0	4100	17.9 / 17.8
6 + 6 + 12 + 15	7154	7154	14308	17885	0	0	0	0	4777	23.4 / 21.3
6 + 6 + 10 + 19	6000	6000	12000	18000	0	0	0	0	4000	19.5 / 19.5
6 + 6 + 12 + 18	6857	6857	13714	20571	0	0	0	0	5052	24.8 / 22.6
6 + 6 + 12 + 24	6000	6000	12000	24000	0	0	0	0	5052	24.8 / 22.5
	6750	6750	13500	27000	0	0	0	0	5602	27.6/25
6 + 6 + 12 + 30	5333 6000	5333 6000	10667 12000	26667 30000	0	0	0	0	4923 5400	24.2 / 21.9 26.3 / 24
	4800	4800	9600	28800	0	0	0	0	4795	23.5 / 21.3
6 + 6 + 12 + 36	5400	5400	10800	32400	0	0	0	0	5250	25.7 / 23.3
	6000	6000	15000	15000	0	0	0	0	4000	19.5 / 19.5
6 + 6 + 15 + 15	6857	6857	17143	17143	0	0	0	0	5052	24.8 / 22.6
6 + 6 + 15 + 18	6000	6000	15000	18000	0	0	0	0	4525	22.2 / 21
	6800	6800	17000	20400	0	0	0	0	5327	26.2 / 23.8
6 + 6 + 15 + 24	5647 6353	5647 6353	14118 15882	22588 25412	0	0	0	0	4988 5502	24.5 / 22.2
	5053	5053	12632	25263	0	0	0	0	4859	26.9 / 24.5
6 + 6 + 15 + 30	5684	5684	14211	28421	0	0	0	0	5325	26/23.7
	6000	6000	18000	18000	0	0	0	0	5052	24.8 / 22.5
6 + 6 + 18 + 18	6750	6750	20250	20250	0	0	0	0	5602	27.6 / 25
6 + 6 + 18 + 24	5333	5333	16000	21333	0	0	0	0	4923	24.2 / 21.9
	6000	6000	18000	24000	0	0	0	0	5400	26.3 / 24
6 + 6 + 18 + 30	4800	4800	14400	24000	0	0	0	0	4795	23.5/21.3
	5400 4800	5400 4800	16200 19200	27000	0 0	0 0	0 0	0	5250 4795	25.7 / 23.3 23.5 / 21.3
6 + 6 + 24 + 24	4800 5400	<u>4800</u> 5400	19200 21600	19200 21600	0	0		0	4795 5250	25.7 / 23.3
	6000	9000	9000	9000	0	0	0	0	2950	14.2 / 13.8
6 + 9 + 9 + 9	7509	11264	11264	11264	0	0	0	0	3975	19.5 / 18.1
6 + 0 + 0 + 12	6000	9000	9000	12000	0	0	0	0	3800	16.3 / 16
6 + 9 + 9 + 12	7500	11250	11250	15000	0	0	0	0	4502	22 / 20.1
6 + 9 + 9 + 15	6000	9000	9000	15000	0	0	0	0	4100	17.9/17.8
	7154	10731	10731	17885	0	0	0	0	4777	23.4 / 21.3

Operational Performance for		Power								
Indoor Unit Combinations			Heati	ng Capaci	ty Range (I	3tu/h)			Usage	Current
(Unit A + Unit B + Unit C+ Unit D + Unit E + Unit F + Unit H)	Unit A	Unit B	Unit C	Unit D	Unit E	Unit F	Unit G	Unit H	Range (W)	(208/230V)
6 + 9 + 9 + 18	6000	9000	9000	18000	0	0	0	0	4000	19.5 / 19.5
	6857	10286	10286	20571	0	0	0	0	5052	24.8/22.6
6 + 9 + 9 + 24	6000 6750	9000 10125	9000 10125	24000 27000		0		0	5052 5602	24.8 / 22.5 27.6 / 25
	6000	9000	12000	12000	0	0	0	0	4100	17.9 / 17.8
6 + 9 + 12 + 12	7154	10731	14308	14308	0	0	0	0	4777	23.4 / 21.3
6 + 9 + 12 + 15	6000	9000	12000	15000	0	0	0	0	4000	19.5 / 19.5
0 - 0 - 12 - 13	6857	10286	13714	17143	0	0	0	0	5052	24.8 / 22.6
6 + 9 + 12 + 18	6000 6800	9000 10200	12000	18000 20400	0	0	0	0	4525 5327	22.2 / 21
	5647	8471	13600 11294	20400	0	0	0	0	4988	26.2 / 23.8 24.5 / 22.2
6 + 9 + 12 + 24	6353	9529	12706	25412	0	0	0	0	5502	26.9 / 24.5
6 + 0 + 12 + 20	5053	7579	10105	25263	0	0	0	0	4859	23.8 / 21.6
6 + 9 + 12 + 30	5684	8526	11368	28421	0	0	0	0	5325	26 / 23.7
6 + 9 + 15 + 15	6000	9000	15000	15000	0	0	0	0	4525	22.2 / 21
	6800	10200	17000	17000	0	0	0	0	5327	26.2 / 23.8
6 + 9 + 15 + 18	6000 6750	9000 10125	15000 16875	18000 20250	0	0	0	0	5052 5602	24.8 / 22.5 27.6 / 25
	5333	8000	13333	21333	0	0	0	0	4923	24.2 / 21.9
6 + 9 + 15 + 24	6000	9000	15000	24000	0	0	0	0	5400	26.3 / 24
6 + 9 + 15 + 30	4800	7200	12000	24000	0	0	0	0	4795	23.5 / 21.3
0+9+13+30	5400	8100	13500	27000	0	0	0	0	5250	25.7 / 23.3
6 + 9 + 18 + 18	5647	8471	16941	16941	0	0	0	0	4988	24.5/22.2
	6353 5053	9529 7579	19059 15158	19059 20211	0	0	0	0	5502	26.9 / 24.5
6 + 9 + 18 + 24	5053 5684	8526	17053	20211		0		0	4859 5325	23.8 / 21.6 26 / 23.7
	6000	12000	12000	12000	0	0	0	0	4000	19.5 / 19.5
6 + 12 + 12 + 12	6857	13714	13714	13714	0	0	0	0	5052	24.8 / 22.6
6 + 12 + 12 + 15	6000	12000	12000	15000	0	0	0	0	4525	22.2 / 21
0 + 12 + 12 + 13	6800	13600	13600	17000	0	0	0	0	5327	26.2 / 23.8
6 + 12 + 12 + 18	6000	12000	12000	18000	0	0	0	0	5052	24.8 / 22.5
-	6750 5333	13500 10667	13500 10667	20250 21333	0	0	0	0	5602	27.6/25
6 + 12 + 12 + 24	<u> </u>	12000	12000	21333	0	0		0	4923 5400	24.2 / 21.9 26.3 / 24
	4800	9600	9600	24000	0	0	0	0	4795	23.5 / 21.3
6 + 12 + 12 + 30	5400	10800	10800	27000	0	0	0	0	5250	25.7 / 23.3
6 + 12 + 15 + 15	6000	12000	15000	15000	0	0	0	0	5052	24.8 / 22.5
0 - 12 - 10 - 10	6750	13500	16875	16875	0	0	0	0	5602	27.6 / 25
6 + 12 + 15 + 18	5647	11294	14118	16941	0	0	0	0	4988	24.5/22.2
	6353 5053	12706 10105	15882 12632	19059 20211	0	0	0	0	5502 4859	26.9 / 24.5 23.8 / 21.6
6 + 12 + 15 + 24	5684	11368	14211	20211	0	0	0	0	5325	26/23.7
	5333	10667	16000	16000	0	0	0	0	4923	24.2 / 21.9
6 + 12 + 18 + 18	6000	12000	18000	18000	0	0	0	0	5400	26.3 / 24
6 + 12 + 18 + 24	4800	9600	14400	19200	0	0	0	0	4795	23.5 / 21.3
	5400	10800	16200	21600	0	0	0	0	5250	25.7 / 23.3
6 + 15 + 15 + 15	5647 6353	14118 15882	14118 15882	14118 15882	0	0	0	0	4988 5502	24.5 / 22.2 26.9 / 24.5
	5333	13333	13333	16000	0	0	0	0	4923	24.2 / 21.9
6 + 15 + 15 + 18	6000	15000	15000	18000	0	0	0	0	5400	26.3/24
6 + 15 + 15 + 24	4800	12000	12000	19200	0	0	0	0	4795	23.5 / 21.3
6 + 15 + 15 + 24	5400	13500	13500	21600	0	0	0	0	5250	25.7 / 23.3
6 + 15 + 18 + 18	5053	12632	15158	15158	0	0	0	0	4859	23.8 / 21.6
	5684	14211	17053	17053	0	0	0	0	5325	26 / 23.7
6 + 18 + 18 + 18	4800	14400	14400	14400	0	0	0	0	4795	23.5 / 21.3
	5400 9000	16200 9000	16200 9000	16200 9000	0	0	0	0	5250 3800	25.7 / 23.3 16.3 / 16
9 + 9 + 9 + 9	11250	11250	11250	11250	0	0	0	0	4502	22 / 20.1
0 + 0 + 0 + 10	9000	9000	9000	12000	0	0	0	0	4100	17.9 / 17.8
9 + 9 + 9 + 12	10731	10731	10731	14308	0	0	0	0	4777	23.4 / 21.3

Operational Performance for		Power								
Indoor Unit Combinations			Heati	ing Capaci	t <mark>y Range</mark> (I	Btu/h)			Usage	Current
(Unit A + Unit B + Unit C+ Unit D + Unit E + Unit F + Unit H)	Unit A	Unit B	Unit C	Unit D	Unit E	Unit F	Unit G	Unit H	Range (W)	(208/230V)
9 + 9 + 9 + 15	9000	9000	9000	15000	0	0	0	0	4000	19.5 / 19.5
9 + 9 + 9 + 13	10286	10286	10286	17143	0	0	0	0	5052	24.8 / 22.6
9 + 9 + 9 + 18	9000	9000	9000	18000	0	0	0	0	4525	22.2 / 21
	10200	10200	10200	20400	0	0	0	0	5327	26.2/23.8
9 + 9 + 9 + 24	8471 9529	8471 9529	8471 9529	22588 25412	0	0	0	0	4988 5502	24.5 / 22.2 26.9 / 24.5
	7579	7579	7579	25263	0	0	0	0	4859	23.8 / 21.6
9 + 9 + 9 + 30	8526	8526	8526	28421	0	0	0	0	5325	26 / 23.7
0 + 0 + 40 + 40	9000	9000	12000	12000	0	0	0	0	4000	19.5 / 19.5
9 + 9 + 12 + 12	10286	10286	13714	13714	0	0	0	0	5052	24.8 / 22.6
9 + 9 + 12 + 15	9000	9000	12000	15000	0	0	0	0	4525	22.2 / 21
	10200	10200	13600	17000	0	0	0	0	5327	26.2 / 23.8
9 + 9 + 12 + 18	9000	9000	12000	18000	0	0	0	0	5052	24.8 / 22.5
	10125 8000	10125 8000	13500 10667	20250 21333	0	0	0	0	5602 4923	27.6 / 25 24.2 / 21.9
9 + 9 + 12 + 24	9000	9000	12000	24000	0	0	0	0	5400	26.3/24
	7200	7200	9600	24000	0	0	0	0	4795	23.5 / 21.3
9 + 9 + 12 + 30	8100	8100	10800	27000	0	0	0	0	5250	25.7 / 23.3
9 + 9 + 15 + 15	9000	9000	15000	15000	0	0	0	0	5052	24.8 / 22.5
9 - 9 - 15 - 15	10125	10125	16875	16875	0	0	0	0	5602	27.6 / 25
9 + 9 + 15 + 18	8471	8471	14118	16941	0	0	0	0	4988	24.5/22.2
	9529	9529	15882	19059	0	0	0	0	5502	26.9 / 24.5
9 + 9 + 15 + 24	7579 8526	7579	12632 14211	20211 22737	0	0	0	0	4859 5325	23.8 / 21.6
	9000	8526 12000	12000	12000	0	0		0	4525	<u>26 / 23.7</u> 22.2 / 21
9 + 12 + 12 + 12	10200	13600	13600	13600	0	0	0	0	5327	26.2 / 23.8
	9000	12000	12000	15000	0	0	0	0	5052	24.8 / 22.5
9 + 12 + 12 + 15	10125	13500	13500	16875	0	0	0	0	5602	27.6 / 25
9 + 12 + 12 + 18	8471	11294	11294	16941	0	0	0	0	4988	24.5 / 22.2
9 + 12 + 12 + 16	9529	12706	12706	19059	0	0	0	0	5502	26.9 / 24.5
9 + 12 + 12 + 24	7579	10105	10105	20211	0	0	0	0	4859	23.8 / 21.6
	8526	11368	11368	22737	0	0	0	0	5325	26/23.7
9 + 12 + 15 + 15	8471 9529	11294 12706	14118 15882	14118 15882	0	0	0	0	4988 5502	24.5 / 22.2 26.9 / 24.5
	8000	10667	13333	16000	0	0	0	0	4923	24.2 / 21.9
9 + 12 + 15 + 18	9000	12000	15000	18000	0	0	0	0	5400	26.3 / 24
0 + 40 + 45 + 04	7200	9600	12000	19200	0	0	0	0	4795	23.5 / 21.3
9 + 12 + 15 + 24	8100	10800	13500	21600	0	0	0	0	5250	25.7 / 23.3
9 + 12 + 18 + 18	7579	10105	15158	15158	0	0	0	0	4859	23.8 / 21.6
0 - 12 - 10 - 10	8526	11368	17053	17053	0	0	0	0	5325	26 / 23.7
9 + 15 + 15 + 15	8000	13333	13333	13333	0	0	0	0	4923	24.2/21.9
	9000 7579	15000 12632	15000 12632	15000 15158	0	0	0	0	5400 4859	26.3 / 24 23.8 / 21.6
9 + 15 + 15 + 18	8526	14211	14211	17053		0		0	5325	26/23.7
	12000	12000	12000	12000	0	0	0	0	5052	24.8 / 22.5
12 + 12 + 12 + 12	13500	13500	13500	13500	0	0	0	0	5602	27.6 / 25
12 + 12 + 12 + 15	11294	11294	11294	14118	0	0	0	0	4988	24.5 / 22.2
12 + 12 + 12 + 13	12706	12706	12706	15882	0	0	0	0	5502	26.9 / 24.5
12 + 12 + 12 + 18	10667	10667	10667	16000	0	0	0	0	4923	24.2/21.9
-	12000	12000	12000	18000	0	0	0	0	5400	26.3/24
12 + 12 + 12 + 24	9600 10800	9600 10800	9600 10800	19200	0	0	0	0	4795 5250	23.5 / 21.3 25.7 / 23.3
	10800	10667	13333	21600 13333	0	0	0	0	4923	24.2 / 21.9
12 + 12 + 15 + 15	12000	12000	15000	15000	0	0	0	0	5400	26.3/24
10 + 40 + 45 + 40	10105	10105	12632	15158	0	0	0	0	4859	23.8 / 21.6
12 + 12 + 15 + 18	11368	11368	14211	17053	0	0	0	0	5325	26 / 23.7
12 + 15 + 15 + 15	10105	12632	12632	12632	0	0	0	0	4859	23.8 / 21.6
12 - 13 - 13 - 13	11368	14211	14211	14211	0	0	0	0	5325	26 / 23.7
12 + 15 + 15 + 18	9600	12000	12000	14400	0	0	0	0	4795	23.5/21.3
	10800	13500	13500	16200	0	0	0	0	5250	25.7 / 23.3

Operational Performance for				ng Capaci					Power	
Indoor Unit Combinations (Unit A + Unit B + Unit C+ Unit D +	Unit A	Unit B	Heati Unit C	ng Capaci Unit D	ty Range (I Unit E	Btu/h) Unit F	Unit G	Unit H	Usage Range	Current (208/230V)
Unit E + Unit F + Unit H)									(W)	
15 + 15 + 15 + 15	12000 13500	12000 13500	12000 13500	12000 13500	0	0	0	0	4795 5250	23.5 / 21.3 25.7 / 23.3
	6000	6000	6000	6000	6000	0	0	0	2500	12 / 11.5
6 + 6 + 6 + 6 + 6	7500	7500	7500	7500	7500	0	0	0	3450	17 / 16.1
	6000	6000	6000	6000	9000	0	0	0	2950	14.2 / 13.8
6 + 6 + 6 + 6 + 9	7509	7509	7509	7509	11264	0	0	0	3975	19.5 / 18.1
6 + 6 + 6 + 6 + 12	6000	6000	6000	6000	12000	0	0	0	3800	16.3 / 16
0+0+0+0+12	7500	7500	7500	7500	15000	0	0	0	4502	22 / 20.1
6 + 6 + 6 + 6 + 15	6000	6000	6000	6000	15000	0	0	0	4100	17.9 / 17.8
	7154	7154	7154	7154	17885	0	0	0	4777	23.4 / 21.3
6 + 6 + 6 + 6 + 18	6000	6000	6000	6000	18000	0	0	0	4000	19.5 / 19.5
	6857 6000	6857 6000	6857 6000	6857 6000	20571 24000	0	0	0	5052 5052	24.8 / 22.6 24.8 / 22.5
6 + 6 + 6 + 6 + 24	6750	6750	6750	6750	27000	0	0	0	5052 5602	24.6722.5
	5333	5333	5333	5333	26667	0	0	0	4923	24.2 / 21.9
6 + 6 + 6 + 6 + 30	6000	6000	6000	6000	30000	0	0	0	5400	26.3/24
	4800	4800	4800	4800	28800	0	0	0	4795	23.5 / 21.3
6 + 6 + 6 + 6 + 36	5400	5400	5400	5400	32400	0	0	0	5250	25.7 / 23.3
	6000	6000	6000	9000	9000	0	0	0	3800	16.3 / 16
6 + 6 + 6 + 9 + 9	7500	7500	7500	11250	11250	0	0	0	4502	22 / 20.1
6 + 6 + 6 + 9 + 12	6000	6000	6000	9000	12000	0	0	0	4100	17.9 / 17.8
0+0+0+9+12	7154	7154	7154	10731	14308	0	0	0	4777	23.4 / 21.3
6 + 6 + 6 + 9 + 15	6000	6000	6000	9000	15000	0	0	0	4000	19.5 / 19.5
	6857	6857	6857	10286	17143	0	0	0	5052	24.8 / 22.6
6 + 6 + 6 + 9 + 18	6000	6000	6000	9000	18000	0	0	0	4525	22.2 / 21
	6800	6800	6800	10200	20400	0	0	0	5327	26.2 / 23.8
6 + 6 + 6 + 9 + 24	5647	5647	5647	8471	22588	0	0	0	4988	24.5/22.2
	6353	6353	6353	9529	25412	0	0	0	5502	26.9/24.5
6 + 6 + 6 + 9 + 30	5053 5684	5053 5684	5053 5684	7579 8526	25263 28421	0	0	0	4859	23.8 / 21.6
	6000	6000	6000	12000	12000	0	0	0	5325 4000	26 / 23.7 19.5 / 19.5
6 + 6 + 6 + 12 + 12	6857	6857	6857	13714	13714	0		0	5052	24.8 / 22.6
	6000	6000	6000	12000	15000	0	0	0	4525	22.2 / 21
6 + 6 + 6 + 12 + 15	6800	6800	6800	13600	17000	0	0	0	5327	26.2 / 23.8
	6000	6000	6000	12000	18000	0	0	0	5052	24.8 / 22.5
6 + 6 + 6 + 12 + 18	6750	6750	6750	13500	20250	0	0	0	5602	27.6 / 25
6 + 6 + 6 + 12 + 24	5333	5333	5333	10667	21333	0	0	0	4923	24.2 / 21.9
0+0+0+12+24	6000	6000	6000	12000	24000	0	0	0	5400	26.3 / 24
6 + 6 + 6 + 12 + 30	4800	4800	4800	9600	24000	0	0	0	4795	23.5 / 21.3
0 1 0 1 0 1 12 1 30	5400	5400	5400	10800	27000	0	0	0	5250	25.7 / 23.3
6 + 6 + 6 + 15 + 15	6000	6000	6000	15000	15000	0	0	0	5052	24.8/22.5
	6750	6750	6750	16875	16875	0	0	0	5602	27.6/25
6 + 6 + 6 + 15 + 18	5647	5647	5647	14118	16941	0	0	0	4988	24.5/22.2
	6353 5053	6353 5053	6353 5053	15882 12632	19059 20211	0	0	0	5502 4859	26.9 / 24.5 23.8 / 21.6
6 + 6 + 6 + 15 + 24	5053 5684	5053 5684	5053 5684	12032	20211	0		0	5325	23.0/21.0
	5333	5333	5333	16000	16000	0	0	0	4923	24.2 / 21.9
6 + 6 + 6 + 18 + 18	6000	6000	6000	18000	18000	0	0	0	5400	26.3/24
	4800	4800	4800	14400	19200	0	0	0	4795	23.5 / 21.3
6 + 6 + 6 + 18 + 24	5400	5400	5400	16200	21600	0	0	0	5250	25.7 / 23.3
	6000	6000	9000	9000	9000	0	0	0	4100	17.9 / 17.8
6 + 6 + 9 + 9 + 9	7154	7154	10731	10731	10731	0	0	0	4777	23.4 / 21.3
6 + 6 + 0 + 0 + 12	6000	6000	9000	9000	12000	0	0	0	4000	19.5 / 19.5
6 + 6 + 9 + 9 + 12	6857	6857	10286	10286	13714	0	0	0	5052	24.8 / 22.6
6 + 6 + 9 + 9 + 15	6000	6000	9000	9000	15000	0	0	0	4525	22.2 / 21
	6800	6800	10200	10200	17000	0	0	0	5327	26.2 / 23.8
6 + 6 + 9 + 9 + 18	6000	6000	9000	9000	18000	0	0	0	5052	24.8 / 22.5
	6750	6750	10125	10125	20250	0	0	0	5602	27.6 / 25
6 + 6 + 9 + 9 + 24	5333	5333	8000	8000	21333	0	0	0	4923	24.2/21.9
	6000	6000	9000	9000	24000	0	0	0	5400	26.3 / 24

Operational Performance for			Cooli	ng Capaci	t <mark>y Range</mark> (I	Btu/h)			Power	
Indoor Unit Combinations			Heati	ng Capaci	ty Range (I	3tu/h)			Usage	Current
(Unit A + Unit B + Unit C+ Unit D + Unit E + Unit F + Unit H)	Unit A	Unit B	Unit C	Unit D	Unit E	Unit F	Unit G	Unit H	Range (W)	(208/230V)
6 + 6 + 9 + 9 + 30	4800	4800	7200	7200	24000	0	0	0	4795	23.5 / 21.3
0+0+9+9+30	5400	5400	8100	8100	27000	0	0	0	5250	25.7 / 23.3
6 + 6 + 9 + 12 + 12	6000	6000	9000	12000	12000	0	0	0	4525	22.2/21
	6800	6800	10200	13600	13600	0	0	0	5327	26.2 / 23.8
6 + 6 + 9 + 12 + 15	6000 6750	6000 6750	9000 10125	12000 13500	15000 16875	0	0	0	5052 5602	24.8 / 22.5 27.6 / 25
	5647	5647	8471	11294	16941	0	0	0	4988	24.5 / 22.2
6 + 6 + 9 + 12 + 18	6353	6353	9529	12706	19059	0	0	0	5502	26.9 / 24.5
6 + 6 + 9 + 12 + 24	5053	5053	7579	10105	20211	0	0	0	4859	23.8 / 21.6
0+0+9+12+24	5684	5684	8526	11368	22737	0	0	0	5325	26 / 23.7
6 + 6 + 9 + 15 + 15	5647	5647	8471	14118	14118	0	0	0	4988	24.5/22.2
	6353	6353	9529	15882	15882	0	0	0	5502	26.9 / 24.5
6 + 6 + 9 + 15 + 18	5333 6000	5333 6000	8000 9000	13333 15000	16000 18000	0	0	0	4923 5400	24.2 / 21.9 26.3 / 24
	4800	4800	7200	12000	19200	0	0	0	4795	23.5 / 21.3
6 + 6 + 9 + 15 + 24	5400	5400	8100	13500	21600	0	0	0	5250	25.7 / 23.3
	5053	5053	7579	15158	15158	0	0	0	4859	23.8 / 21.6
6 + 6 + 9 + 18 + 18	5684	5684	8526	17053	17053	0	0	0	5325	26 / 23.7
6 + 6 + 12 + 12 + 12	6000	6000	12000	12000	12000	0	0	0	5052	24.8 / 22.5
	6750	6750	13500	13500	13500	0	0	0	5602	27.6/25
6 + 6 + 12 + 12 + 15	5647	5647	11294	11294	14118	0	0	0	4988	24.5/22.2
	6353 5333	6353 5333	12706 10667	12706 10667	15882 16000	0	0	0	5502 4923	26.9 / 24.5 24.2 / 21.9
6 + 6 + 12 + 12 + 18	<u> </u>	<u>6000</u>	12000	12000	18000	0		0	5400	26.3/24
	4800	4800	9600	9600	19200	0	0	0	4795	23.5 / 21.3
6 + 6 + 12 + 12 + 24	5400	5400	10800	10800	21600	0	0	0	5250	25.7 / 23.3
	5333	5333	10667	13333	13333	0	0	0	4923	24.2 / 21.9
6 + 6 + 12 + 15 + 15	6000	6000	12000	15000	15000	0	0	0	5400	26.3 / 24
6 + 6 + 12 + 15 + 18	5053	5053	10105	12632	15158	0	0	0	4859	23.8 / 21.6
	5684	5684	11368	14211	17053	0	0	0	5325	26 / 23.7
6 + 6 + 12 + 18 + 18	4800 5400	4800 5400	9600 10800	14400	14400 16200	0	0	0	4795 5250	23.5/21.3
	5053	5053	12632	16200 12632	12632	0	0	0	4859	25.7 / 23.3 23.8 / 21.6
6 + 6 + 15 + 15 + 15	5684	5684	14211	14211	14211	0	0	0	5325	26/23.7
0 + 0 + 45 + 45 + 40	4800	4800	12000	12000	14400	0	0	0	4795	23.5/21.3
6 + 6 + 15 + 15 + 18	5400	5400	13500	13500	16200	0	0	0	5250	25.7 / 23.3
6 + 9 + 9 + 9 + 9	6000	9000	9000	9000	9000	0	0	0	4000	19.5 / 19.5
0.0.0.0	6857	10286	10286	10286	10286	0	0	0	5052	24.8 / 22.6
6 + 9 + 9 + 9 + 12	6000	9000	9000	9000	12000	0	0	0	4525	22.2/21
	6800	10200	10200	10200	13600	0	0	0	5327	26.2 / 23.8 24.8 / 22.5
6 + 9 + 9 + 9 + 15	6000 6750	9000 10125	9000	9000 10125	15000 16875	0		0	5052 5602	24.6722.5
	5647	8471	8471	8471	16941	0	0	0	4988	24.5 / 22.2
6 + 9 + 9 + 9 + 18	6353	9529	9529	9529	19059	0	0	0	5502	26.9 / 24.5
6 + 9 + 9 + 9 + 24	5053	7579	7579	7579	20211	0	0	0	4859	23.8 / 21.6
0+9+9+9+24	5684	8526	8526	8526	22737	0	0	0	5325	26 / 23.7
6 + 9 + 9 + 12 + 12	6000	9000	9000	12000	12000	0	0	0	5052	24.8/22.5
	6750	10125	10125	13500	13500	0	0	0	5602	27.6 / 25
6 + 9 + 9 + 12 + 15	5647 6353	8471 9529	8471 9529	11294 12706	14118 15882	0	0	0	4988 5502	24.5/22.2
	5333	8000	8000	10667	16000	0	0	0	4923	26.9 / 24.5 24.2 / 21.9
6 + 9 + 9 + 12 + 18	6000	9000	9000	12000	18000	0	0	0	5400	26.3 / 24
6 + 0 + 0 + 12 + 24	4800	7200	7200	9600	19200	0	0	0	4795	23.5 / 21.3
6 + 9 + 9 + 12 + 24	5400	8100	8100	10800	21600	0	0	0	5250	25.7 / 23.3
6 + 9 + 9 + 15 + 15	5333	8000	8000	13333	13333	0	0	0	4923	24.2 / 21.9
	6000	9000	9000	15000	15000	0	0	0	5400	26.3 / 24
6 + 9 + 9 + 15 + 18	5053	7579	7579	12632	15158	0	0	0	4859	23.8/21.6
	5684 4800	8526 7200	8526 7200	14211 14400	17053 14400	0	0	0	5325 4795	26 / 23.7 23.5 / 21.3
6 + 9 + 9 + 18 + 18	<u>4800</u> 5400	8100	8100	16200	16200	0		0	5250	25.7 / 23.3
	5400	0100	0100	10200	10200	0	0	<u> </u>	5250	20.1120.0

Operational Performance for				ing Capaci					Power	
Indoor Unit Combinations (Unit A + Unit B + Unit C+ Unit D +	Unit A	Unit B	Heati Unit C	ing Capaci Unit D	ty Range (I Unit E	Btu/h) Unit F	Unit G	Unit H	Usage Range	Current (208/230V)
Unit E + Unit F + Unit H)									(W)	24 5 / 22 2
6 + 9 + 12 + 12 + 12	5647 6353	8471 9529	11294 12706	11294 12706	11294 12706	0	0	0	4988 5502	24.5 / 22.2 26.9 / 24.5
	5333	8000	10667	10667	13333	0	0	0	4923	24.2 / 21.9
6 + 9 + 12 + 12 + 15	6000	9000	12000	12000	15000	0	0	0	5400	26.3 / 24
6 + 9 + 12 + 12 + 18	5053	7579	10105	10105	15158	0	0	0	4859	23.8 / 21.6
0 - 3 - 12 - 12 - 10	5684	8526	11368	11368	17053	0	0	0	5325	26 / 23.7
6 + 9 + 15 + 15 + 15	4800	7200	12000	12000	12000	0	0	0	4795	23.5 / 21.3
	5400 5333	8100 10667	13500 10667	13500 10667	13500 10667	0	0	0	5250 4923	25.7 / 23.3 24.2 / 21.9
6 + 12 + 12 + 12 + 12	6000	12000	12000	12000	12000	0	0	0	5400	26.3/24
0 + 40 + 40 + 40 + 45	5053	10105	10105	10105	12632	0	0	0	4859	23.8/21.6
6 + 12 + 12 + 12 + 15	5684	11368	11368	11368	14211	0	0	0	5325	26 / 23.7
6 + 12 + 12 + 12 + 18	4800	9600	9600	9600	14400	0	0	0	4795	23.5 / 21.3
0 . 12 . 12 . 12 . 10	5400	10800	10800	10800	16200	0	0	0	5250	25.7 / 23.3
6 + 12 + 12 + 15 + 15	4800	9600	9600	12000	12000	0	0	0	4795	23.5 / 21.3
	5400 9000	10800 9000	10800 9000	13500 9000	13500 9000	0	0	0	5250 4525	25.7 / 23.3 22.2 / 21
9 + 9 + 9 + 9 + 9	10200	10200	10200	10200	10200	0	0	0	4323 5327	26.2/23.8
	9000	9000	9000	9000	12000	0	0	0	5052	24.8 / 22.5
9 + 9 + 9 + 9 + 12	10125	10125	10125	10125	13500	0	0	0	5602	27.6 / 25
9 + 9 + 9 + 9 + 15	8471	8471	8471	8471	14118	0	0	0	4988	24.5 / 22.2
9+9+9+9+15	9529	9529	9529	9529	15882	0	0	0	5502	26.9 / 24.5
9 + 9 + 9 + 9 + 18	8000	8000	8000	8000	16000	0	0	0	4923	24.2 / 21.9
	9000	9000	9000	9000	18000	0	0	0	5400	26.3 / 24
9 + 9 + 9 + 9 + 24	7200	7200	7200	7200	19200	0	0	0	4795	23.5 / 21.3
	8100 8471	8100 8471	8100 8471	8100 11294	21600 11294	0	0	0	5250 4988	25.7 / 23.3 24.5 / 22.2
9 + 9 + 9 + 12 + 12	9529	9529	9529	12706	1294	0	0	0	5502	26.9 / 24.5
	8000	8000	8000	10667	13333	0	0	0	4923	24.2 / 21.9
9 + 9 + 9 + 12 + 15	9000	9000	9000	12000	15000	0	0	0	5400	26.3 / 24
9 + 9 + 9 + 12 + 18	7579	7579	7579	10105	15158	0	0	0	4859	23.8 / 21.6
9+9+9+12+16	8526	8526	8526	11368	17053	0	0	0	5325	26 / 23.7
9 + 9 + 9 + 15 + 15	7579	7579	7579	12632	12632	0	0	0	4859	23.8 / 21.6
	8526	8526	8526	14211	14211	0	0	0	5325	26 / 23.7
9 + 9 + 9 + 15 + 18	7200 8100	7200 8100	7200 8100	12000 13500	14400 16200	0	0	0	4795 5250	23.5 / 21.3 25.7 / 23.3
	8000	8000	10667	10667	10200	0	0	0	4923	24.2 / 21.9
9 + 9 + 12 + 12 + 12	9000	9000	12000	12000	12000	0	0	0	5400	26.3 / 24
0 + 0 + 40 + 40 + 45	7579	7579	10105	10105	12632	0	0	0	4859	23.8/21.6
9 + 9 + 12 + 12 + 15	8526	8526	11368	11368	14211	0	0	0	5325	26 / 23.7
9 + 9 + 12 + 12 + 18	7200	7200	9600	9600	14400	0	0	0	4795	23.5 / 21.3
0 . 0 . 12 . 12 . 10	8100	8100	10800	10800	16200	0	0	0	5250	25.7 / 23.3
9 + 9 + 12 + 15 + 15	7200	7200	9600	12000	12000	0	0	0	4795	23.5 / 21.3
	8100 7579	8100 10105	10800 10105	13500 10105	13500 10105	0	0	0	5250 4859	25.7 / 23.3 23.8 / 21.6
9 + 12 + 12 + 12 + 12	8526	11368	11368	11368	11368	0	0	0	5325	26/23.7
	7200	9600	9600	9600	12000	0	0	0	4795	23.5 / 21.3
9 + 12 + 12 + 12 + 15	8100	10800	10800	10800	13500	0	0	0	5250	25.7 / 23.3
12 + 12 + 12 + 12 + 12	9600	9600	9600	9600	9600	0	0	0	4795	23.5 / 21.3
12 + 12 + 12 + 12 + 12	10800	10800	10800	10800	10800	0	0	0	5250	25.7 / 23.3
6+6+6+6+6+6	6000	6000	6000	6000	6000	6000	0	0	3800	16.3 / 16
	7500	7500	7500	7500	7500	7500	0	0	4502	22/20.1
6 + 6 + 6 + 6 + 6 + 9	6000	6000	6000	6000	6000 7154	9000	0	0	4100	17.9/17.8
	7154 6000	7154 6000	7154 6000	7154 6000	6000	10731 12000	0	0	4777 4000	23.4 / 21.3 19.5 / 19.5
6 + 6 + 6 + 6 + 6 + 12	6857	6857	6857	6857	6857	12000	0	0	5052	24.8 / 22.6
	6000	6000	6000	6000	6000	15000	0	0	4525	22.2 / 21
6 + 6 + 6 + 6 + 6 + 15	6800	6800	6800	6800	6800	17000	0	0	5327	26.2 / 23.8
6 + 6 + 6 + 6 + 6 + 18	6000	6000	6000	6000	6000	18000	0	0	5052	24.8 / 22.5
	6750	6750	6750	6750	6750	20250	0	0	5602	27.6 / 25

Operational Performance for			Cooli	ng Capaci	ty Range (I	Btu/h)			Power	
Indoor Unit Combinations			Heati	ng Capaci	ty Range (I	3tu/h)			Usage	Current
(Unit A + Unit B + Unit C+ Unit D + Unit E + Unit F + Unit H)	Unit A	Unit B	Unit C	Unit D	Unit E	Unit F	Unit G	Unit H	Range (W)	(208/230V)
6 + 6 + 6 + 6 + 6 + 24	5333	5333	5333	5333	5333	21333	0	0	4923	24.2 / 21.9
0+0+0+0+0+24	6000	6000	6000	6000	6000	24000	0	0	5400	26.3 / 24
6 + 6 + 6 + 6 + 6 + 30	4800	4800	4800	4800	4800	24000	0	0	4795	23.5 / 21.3
	5400	5400	5400	5400	5400	27000	0	0	5250	25.7 / 23.3
6 + 6 + 6 + 6 + 9 + 9	6000	6000	6000	6000	9000	9000	0	0	4000	19.5 / 19.5
	6857 6000	6857 6000	6857 6000	6857 6000	10286 9000	10286 12000	0	0	5052 4525	24.8 / 22.6 22.2 / 21
6 + 6 + 6 + 6 + 9 + 12	6800	6800	6800	6800	10200	13600	0	0	5327	26.2 / 23.8
	6000	6000	6000	6000	9000	15000	0	0	5052	24.8 / 22.5
6 + 6 + 6 + 6 + 9 + 15	6750	6750	6750	6750	10125	16875	0	0	5602	27.6 / 25
6 + 6 + 6 + 6 + 9 + 18	5647	5647	5647	5647	8471	16941	0	0	4988	24.5 / 22.2
0+0+0+0+9+10	6353	6353	6353	6353	9529	19059	0	0	5502	26.9 / 24.5
6 + 6 + 6 + 6 + 9 + 24	5053	5053	5053	5053	7579	20211	0	0	4859	23.8 / 21.6
0.0.0.0.0.0.21	5684	5684	5684	5684	8526	22737	0	0	5325	26 / 23.7
6 + 6 + 6 + 6 + 12 + 12	6000	6000	6000	6000	12000	12000	0	0	5052	24.8 / 22.5
	6750	6750	6750	6750	13500	13500	0	0	5602	27.6/25
6 + 6 + 6 + 6 + 12 + 15	5647 6353	5647 6353	5647 6353	5647 6353	11294 12706	14118 15882	0	0	4988 5502	24.5 / 22.2 26.9 / 24.5
	5333	5333	5333	5333	10667	16000	0	0	4923	24.2 / 21.9
6 + 6 + 6 + 6 + 12 + 18	6000	6000	6000	6000	12000	18000	0	0	5400	26.3/24
	4800	4800	4800	4800	9600	19200	0	0	4795	23.5 / 21.3
6 + 6 + 6 + 6 + 12 + 24	5400	5400	5400	5400	10800	21600	0	0	5250	25.7 / 23.3
	5333	5333	5333	5333	13333	13333	0	0	4923	24.2/21.9
6 + 6 + 6 + 6 + 15 + 15	6000	6000	6000	6000	15000	15000	0	0	5400	26.3 / 24
	5053	5053	5053	5053	12632	15158	0	0	4859	23.8 / 21.6
6 + 6 + 6 + 6 + 15 + 18	5684	5684	5684	5684	14211	17053	0	0	5325	26 / 23.7
6 + 6 + 6 + 6 + 18 + 18	4800	4800	4800	4800	14400	14400	0	0	4795	23.5 / 21.3
	5400	5400	5400	5400	16200	16200	0	0	5250	25.7 / 23.3
6+6+6+9+9+9	6000	6000	6000	9000	9000	9000	0	0	4525	22.2 / 21
	6800	6800	6800	10200	10200	10200	0	0	5327	26.2 / 23.8
6 + 6 + 6 + 9 + 9 + 12	6000	6000	6000	9000	9000	12000	0	0	5052	24.8/22.5
	6750	6750	6750	10125	10125	13500	0	0	5602	27.6/25
6 + 6 + 6 + 9 + 9 + 15	5647 6353	5647 6353	5647 6353	8471 9529	8471 9529	14118 15882	0	0	4988 5502	24.5 / 22.2 26.9 / 24.5
	5333	5333	5333	8000	8000	16000	0	0	4923	24.2 / 21.9
6 + 6 + 6 + 9 + 9 + 18	6000	6000	6000	9000	9000	18000	0	0	5400	26.3/24
	4800	4800	4800	7200	7200	19200	0	0	4795	23.5 / 21.3
6 + 6 + 6 + 9 + 9 + 24	5400	5400	5400	8100	8100	21600	0	0	5250	25.7 / 23.3
	5647	5647	5647	8471	11294	11294	0	0	4988	24.5 / 22.2
6 + 6 + 6 + 9 + 12 + 12	6353	6353	6353	9529	12706	12706	0	0	5502	26.9 / 24.5
6 + 6 + 6 + 9 + 12 + 15	5333	5333	5333	8000	10667	13333	0	0	4923	24.2 / 21.9
0 1 0 1 0 1 3 1 12 1 13	6000	6000	6000	9000	12000	15000	0	0	5400	26.3 / 24
6 + 6 + 6 + 9 + 12 + 18	5053	5053	5053	7579	10105	15158	0	0	4859	23.8 / 21.6
	5684	5684	5684	8526	11368	17053	0	0	5325	26 / 23.7
6 + 6 + 6 + 9 + 15 + 15	5053	5053	5053	7579	12632	12632	0	0	4859	23.8 / 21.6
	5684 4800	5684 4800	5684 4800	8526 7200	14211 12000	14211	0	0	5325 4795	26/23.7
6 + 6 + 6 + 9 + 15 + 18	4800 5400	4800 5400	5400	8100	12000	14400 16200	0	0	5250	23.5 / 21.3 25.7 / 23.3
	5333	5333	5333	10667	10667	10200	0	0	4923	24.2 / 21.9
6 + 6 + 6 + 12 + 12 + 12	6000	6000	6000	12000	12000	12000	0	0	5400	26.3/24
	5053	5053	5053	10105	10105	12632	0	0	4859	23.8 / 21.6
6 + 6 + 6 + 12 + 12 + 15	5684	5684	5684	11368	11368	14211	0	0	5325	26 / 23.7
6 + 6 + 6 + 12 + 12 + 12	4800	4800	4800	9600	9600	14400	0	0	4795	23.5 / 21.3
6 + 6 + 6 + 12 + 12 + 18	5400	5400	5400	10800	10800	16200	0	0	5250	25.7 / 23.3
6 + 6 + 6 + 12 + 15 + 15	4800	4800	4800	9600	12000	12000	0	0	4795	23.5 / 21.3
0 - 0 - 0 - 12 - 10 + 10	5400	5400	5400	10800	13500	13500	0	0	5250	25.7 / 23.3
6 + 6 + 9 + 9 + 9 + 9	6000	6000	9000	9000	9000	9000	0	0	5052	24.8 / 22.5
	6750	6750	10125	10125	10125	10125	0	0	5602	27.6 / 25
6 + 6 + 9 + 9 + 9 + 12	5647	5647	8471	8471	8471	11294	0	0	4988	24.5/22.2
	6353	6353	9529	9529	9529	12706	0	0	5502	26.9 / 24.5

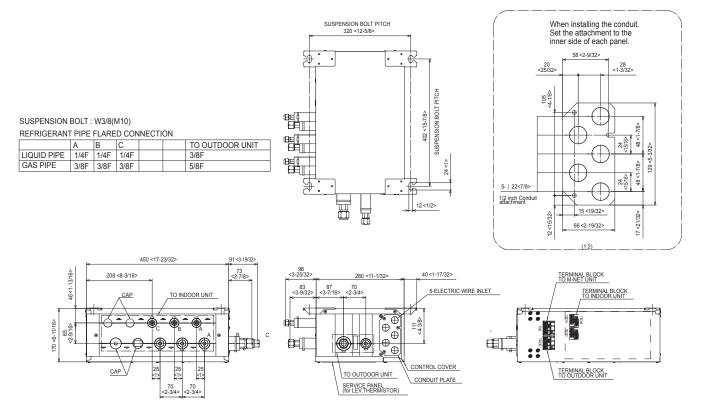
Operational Performance for				ng Capaci					Power	
Indoor Unit Combinations (Unit A + Unit B + Unit C+ Unit D +		Unit D		ng Capaci				11-411	Usage Range	Current (208/230V)
Unit E + Unit F + Unit H)	Unit A	Unit B	Unit C	Unit D	Unit E	Unit F	Unit G	Unit H	(W)	
6 + 6 + 9 + 9 + 9 + 15	5333	5333	8000	8000	8000	13333	0	0	4923	24.2/21.9
	6000 5053	6000 5053	9000 7579	9000 7579	9000 7579	15000 15158	0	0	5400 4859	26.3 / 24 23.8 / 21.6
6 + 6 + 9 + 9 + 9 + 18	5684	5684	8526	8526	8526	17053	0	0	5325	26/23.7
	5333	5333	8000	8000	10667	10667	0	0	4923	24.2 / 21.9
6 + 6 + 9 + 9 + 12 + 12	6000	6000	9000	9000	12000	12000	0	0	5400	26.3 / 24
6 + 6 + 9 + 9 + 12 + 15	5053	5053	7579	7579	10105	12632	0	0	4859	23.8 / 21.6
0 1 0 1 0 1 0 1 0 1 12 1 13	5684	5684	8526	8526	11368	14211	0	0	5325	26 / 23.7
6 + 6 + 9 + 9 + 12 + 18	4800	4800	7200	7200	9600	14400	0	0	4795	23.5/21.3
	5400 4800	5400 4800	8100 7200	8100 7200	10800 12000	16200 12000	0	0	5250 4795	25.7 / 23.3 23.5 / 21.3
6 + 6 + 9 + 9 + 15 + 15	<u>4800</u> 5400	<u> </u>	8100	8100	12000	13500	0	0	5250	25.7 / 23.3
	5053	5053	7579	10105	10105	10105	0	0	4859	23.8 / 21.6
6 + 6 + 9 + 12 + 12 + 12	5684	5684	8526	11368	11368	11368	0	0	5325	26 / 23.7
0 + 0 + 0 + 40 + 40 + 45	4800	4800	7200	9600	9600	12000	0	0	4795	23.5 / 21.3
6 + 6 + 9 + 12 + 12 + 15	5400	5400	8100	10800	10800	13500	0	0	5250	25.7 / 23.3
6 + 6 + 12 + 12 + 12 + 12	4800	4800	9600	9600	9600	9600	0	0	4795	23.5 / 21.3
	5400	5400	10800	10800	10800	10800	0	0	5250	25.7 / 23.3
6 + 9 + 9 + 9 + 9 + 9	5647	8471	8471	8471	8471	8471	0	0	4988	24.5/22.2
	6353 5333	9529 8000	9529 8000	9529 8000	9529 8000	9529 10667	0	0	5502 4923	26.9 / 24.5 24.2 / 21.9
6 + 9 + 9 + 9 + 9 + 12	<u> </u>	9000	9000	9000	9000	12000	0	0	<u> </u>	26.3/24
	5053	7579	7579	7579	7579	12632	0	0	4859	23.8 / 21.6
6 + 9 + 9 + 9 + 9 + 15	5684	8526	8526	8526	8526	14211	0	0	5325	26 / 23.7
	4800	7200	7200	7200	7200	14400	0	0	4795	23.5 / 21.3
6 + 9 + 9 + 9 + 9 + 18	5400	8100	8100	8100	8100	16200	0	0	5250	25.7 / 23.3
6 + 9 + 9 + 9 + 12 + 12	5053	7579	7579	7579	10105	10105	0	0	4859	23.8 / 21.6
	5684	8526	8526	8526	11368	11368	0	0	5325	26 / 23.7
6 + 9 + 9 + 9 + 12 + 15	4800	7200	7200	7200	9600	12000	0	0	4795	23.5 / 21.3
	5400 4800	8100 7200	8100 7200	8100 9600	10800 9600	13500 9600	0	0	5250 4795	25.7 / 23.3 23.5 / 21.3
6 + 9 + 9 + 12 + 12 + 12	5400	8100	8100	10800	10800	10800	0	0	5250	25.7 / 23.3
	8000	8000	8000	8000	8000	8000	0	0	4923	24.2 / 21.9
9 + 9 + 9 + 9 + 9 + 9	9000	9000	9000	9000	9000	9000	0	0	5400	26.3 / 24
9 + 9 + 9 + 9 + 9 + 12	7579	7579	7579	7579	7579	10105	0	0	4859	23.8 / 21.6
9 + 9 + 9 + 9 + 12	8526	8526	8526	8526	8526	11368	0	0	5325	26 / 23.7
9 + 9 + 9 + 9 + 9 + 15	7200	7200	7200	7200	7200	12000	0	0	4795	23.5 / 21.3
	8100	8100	8100	8100	8100	13500	0	0	5250	25.7 / 23.3
9 + 9 + 9 + 9 + 12 + 12	7200	7200 8100	7200	7200	9600	9600	0	0	4795	23.5/21.3
	8100 6000	6000	8100 6000	8100 6000	10800 6000	10800 6000	6000	0	<u>5250</u> 4000	25.7 / 23.3 19.5 / 19.5
6 + 6 + 6 + 6 + 6 + 6 + 6	6857	6857	6857	6857	6857	6857	6857	0	5052	24.8 / 22.6
	6000	6000	6000	6000	6000	6000	12000	0	5052	24.8 / 22.5
6 + 6 + 6 + 6 + 6 + 6 + 12	6750	6750	6750	6750	6750	6750	13500	0	5602	27.6 / 25
6 + 6 + 6 + 6 + 6 + 6 + 15	5647	5647	5647	5647	5647	5647	14118	0	4988	24.5 / 22.2
	6353	6353	6353	6353	6353	6353	15882	0	5502	26.9 / 24.5
6 + 6 + 6 + 6 + 6 + 6 + 18	5333	5333	5333	5333	5333	5333	16000	0	4923	24.2/21.9
	6000 4800	6000 4800	6000 4800	6000 4800	6000 4800	6000	18000 19200	0	5400	26.3 / 24
6 + 6 + 6 + 6 + 6 + 6 + 24	5400	<u>4800</u> 5400	5400	5400	5400	4800 5400	21600	0	4795 5250	23.5 / 21.3 25.7 / 23.3
	6000	6000	6000	6000	6000	9000	9000	0	5052	24.8 / 22.5
6+6+6+6+9+9	6750	6750	6750	6750	6750	10125	10125	0	5602	27.6/25
	5647	5647	5647	5647	5647	8471	11294	0	4988	24.5 / 22.2
6 + 6 + 6 + 6 + 6 + 9 + 12	6353	6353	6353	6353	6353	9529	12706	0	5502	26.9 / 24.5
6 + 6 + 6 + 6 + 6 + 9 + 15	5333	5333	5333	5333	5333	8000	13333	0	4923	24.2 / 21.9
	6000	6000	6000	6000	6000	9000	15000	0	5400	26.3 / 24
6 + 6 + 6 + 6 + 6 + 9 + 18	5053	5053	5053	5053	5053	7579	15158	0	4859	23.8 / 21.6
	5684	5684 5333	<u>5684</u>	5684	5684	8526 10667	17053	0	5325 4023	26/23.7
6 + 6 + 6 + 6 + 6 + 12 + 12	5333 6000	5333 6000	5333 6000	5333 6000	5333 6000	10667 12000	10667 12000	0	4923 5400	24.2 / 21.9 26.3 / 24
	0000	0000	0000	0000	0000	12000	12000	0	00+00	20.0724

Operational Performance for				ng Capaci	the second se		-		Power	
Indoor Unit Combinations			Heati	ng Capaci	ty Range (I	3tu/h)			Usage	Current
(Unit A + Unit B + Unit C+ Unit D + Unit E + Unit F + Unit H)	Unit A	Unit B	Unit C	Unit D	Unit E	Unit F	Unit G	Unit H	Range (W)	(208/230V)
6 + 6 + 6 + 6 + 6 + 12 + 15	5053 5684	5053 5684	5053 5684	5053 5684	5053 5684	10105 11368	12632 14211	0	4859 5325	23.8 / 21.6 26 / 23.7
	4800	4800	4800	4800	4800	9600	14400	0	4795	23.5 / 21.3
6 + 6 + 6 + 6 + 6 + 12 + 18	5400	5400	5400	5400	5400	10800	16200	0	5250	25.7 / 23.3
	4800	4800	4800	4800	4800	12000	12000	0	4795	23.5 / 21.3
6 + 6 + 6 + 6 + 6 + 15 + 15	5400	5400	5400	5400	5400	13500	13500	0	5250	25.7 / 23.3
	5647	5647	5647	5647	8471	8471	8471	0	4988	24.5 / 22.2
6+6+6+6+9+9+9	6353	6353	6353	6353	9529	9529	9529	0	5502	26.9 / 24.5
6 + 6 + 6 + 6 + 9 + 9 + 12	5333	5333	5333	5333	8000	8000	10667	0	4923	24.2 / 21.9
0+0+0+0+9+9+12	6000	6000	6000	6000	9000	9000	12000	0	5400	26.3 / 24
6 + 6 + 6 + 6 + 9 + 9 + 15	5053	5053	5053	5053	7579	7579	12632	0	4859	23.8 / 21.6
0 1 0 1 0 1 0 1 9 1 9 1 13	5684	5684	5684	5684	8526	8526	14211	0	5325	26 / 23.7
6 + 6 + 6 + 6 + 9 + 9 + 18	4800	4800	4800	4800	7200	7200	14400	0	4795	23.5 / 21.3
	5400	5400	5400	5400	8100	8100	16200	0	5250	25.7 / 23.3
6 + 6 + 6 + 6 + 9 + 12 + 12	5053	5053	5053	5053	7579	10105	10105	0	4859	23.8 / 21.6
	5684	5684	5684	5684	8526	11368	11368	0	5325	26 / 23.7
6 + 6 + 6 + 6 + 9 + 12 + 15	4800	4800	4800	4800	7200	9600	12000	0	4795	23.5 / 21.3
0 - 0 - 0 - 0 - 0 - 12 - 13	5400	5400	5400	5400	8100	10800	13500	0	5250	25.7 / 23.3
6 + 6 + 6 + 6 + 12 + 12 + 12	4800	4800	4800	4800	9600	9600	9600	0	4795	23.5 / 21.3
	5400	5400	5400	5400	10800	10800	10800	0	5250	25.7 / 23.3
6+6+6+9+9+9+9	5333	5333	5333	8000	8000	8000	8000	0	4923	24.2 / 21.9
	6000	6000	6000	9000	9000	9000	9000	0	5400	26.3 / 24
6 + 6 + 6 + 9 + 9 + 9 + 12	5053	5053	5053	7579	7579	7579	10105	0	4859	23.8 / 21.6
0.0.0.0.0.0.0.12	5684	5684	5684	8526	8526	8526	11368	0	5325	26 / 23.7
6 + 6 + 6 + 9 + 9 + 9 + 15	4800	4800	4800	7200	7200	7200	12000	0	4795	23.5 / 21.3
	5400	5400	5400	8100	8100	8100	13500	0	5250	25.7 / 23.3
6 + 6 + 6 + 9 + 9 + 12 + 12	4800	4800	4800	7200	7200	9600	9600	0	4795	23.5 / 21.3
0 - 0 - 0 - 0 - 0 - 12 - 12	5400	5400	5400	8100	8100	10800	10800	0	5250	25.7 / 23.3
6+6+9+9+9+9+9	5053	5053	7579	7579	7579	7579	7579	0	4859	23.8 / 21.6
	5684	5684	8526	8526	8526	8526	8526	0	5325	26 / 23.7
6 + 6 + 9 + 9 + 9 + 9 + 12	4800	4800	7200	7200	7200	7200	9600	0	4795	23.5 / 21.3
	5400	5400	8100	8100	8100	8100	10800	0	5250	25.7 / 23.3
6+9+9+9+9+9+9	4800	7200	7200	7200	7200	7200	7200	0	4795	23.5/21.3
	5400	8100	8100	8100	8100	8100	8100	0	5250	25.7 / 23.3
6 + 6 + 6 + 6 + 6 + 6 + 6 + 6	6000	6000	6000	6000	6000	6000	6000	6000	5052	24.8 / 22.5
	6750	6750	6750	6750	6750	6750	6750	6750	5602	27.6/25
6+6+6+6+6+6+9	5647	5647	5647	5647	5647	5647	5647	8471	4988	24.5/22.2
	6353	6353	6353	6353	6353	6353	6353	9529	5502	26.9/24.5
6 + 6 + 6 + 6 + 6 + 6 + 6 + 12	5333	5333	5333	5333	5333	5333	5333	10667	4923	24.2/21.9
	6000 5052	6000 5052	6000 5052	6000 5052	6000 5052	6000 5052	6000 5052	12000	5400	26.3/24
6 + 6 + 6 + 6 + 6 + 6 + 6 + 15	5053	5053	5053	5053	5053	5053	5053	12632	4859	23.8/21.6
	5684 4800	5684 4800	5684 4800	5684 4800	5684 4800	5684 4800	5684 4800	14211 14400	5325 4795	26 / 23.7 23.5 / 21.3
6 + 6 + 6 + 6 + 6 + 6 + 6 + 18	5400	5400	5400	5400	5400	<u>4800</u> 5400	5400	16200	5250	
	5333	5333	5333	5333	5333	5333	8000	8000	4923	25.7 / 23.3 24.2 / 21.9
6 + 6 + 6 + 6 + 6 + 9 + 9	<u> </u>	6000	6000	<u>6000</u>	<u>6000</u>	<u>6000</u>	9000	9000	5400	26.3/24
	5053	5053	5053	5053	5053	5053	7579	10105	4859	
6 + 6 + 6 + 6 + 6 + 6 + 9 + 12	5684	<u> </u>	5684	5055 5684	5053 5684	5055 5684	8526	11368	5325	23.8 / 21.6 26 / 23.7
	4800	4800	4800	4800	4800	4800	7200	12000	i	·
6 + 6 + 6 + 6 + 6 + 9 + 15	<u>4800</u> 5400	<u>4800</u> 5400	<u>4800</u> 5400	4800 5400	4800 5400	<u>4800</u> 5400	8100	12000	4795 5250	23.5 / 21.3
	4800	4800	4800	4800	4800	4800	9600	9600	4795	23.5 / 21.3
6 + 6 + 6 + 6 + 6 + 6 + 12 + 12	<u>4800</u> 5400	4800 5400	5400	4800 5400	<u>4800</u> 5400	<u>4800</u> 5400	10800	10800	5250	25.7/21.3
<u> </u>	5053	5053	5053	5053	5053	7579	7579	7579	4859	23.8 / 21.6
6 + 6 + 6 + 6 + 6 + 9 + 9 + 9	5053 5684	5053 5684	5053 5684	5053 5684	5053 5684	8526	8526	8526	5325	23.6/21.0
	4800	4800	4800	4800	4800	7200	7200	9600	4795	23.5 / 21.3
6 + 6 + 6 + 6 + 6 + 9 + 9 + 12	4800 5400	4800 5400	5400	4800 5400	5400	8100	8100	10800	5250	25.7 / 23.3
	4800	4800	4800	4800	7200	7200	7200	7200	4795	23.5 / 21.3
6 + 6 + 6 + 6 + 9 + 9 + 9 + 9	<u>4800</u> 5400	4800 5400	5400	<u>4800</u> 5400	8100	8100	8100	8100	5250	25.7 / 23.3
1	J+00	3400	3400	3400	0100	0100	0100	0100	5250	20.1120.0

DIMENSIONS: PAC-MKA30BC AND PAC-MKA50BC BRANCH BOXES

PAC-MKA30BC

Unit: mm <in>



PAC-MKA50BC

SUSPENSION BOLT : W3/8(M10)

GAS PIPE

REFRIGERANT PIPE FLARED CONNECTION

1/4F 3/8F

3/8F 3/8F 3/8F 3/8F 1/2F 5/8F

LIQUID PIPE 1/4F 1/4F 1/4F 1/4F

Unit: mm <in>

48<1

5

17 <21/32>

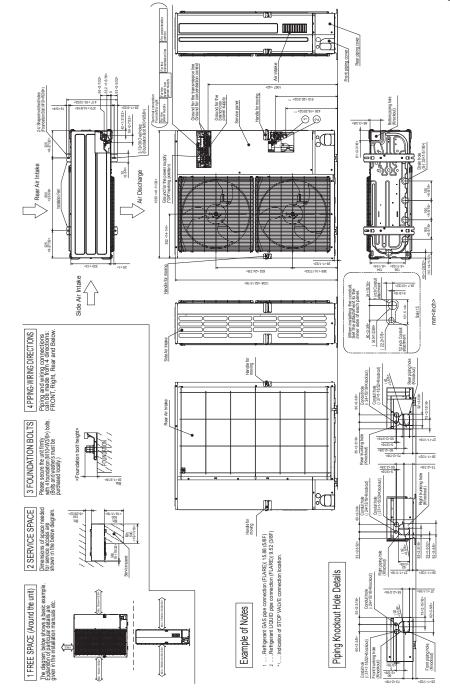
When installing the conduit. Set the attachment to the inner side of each panel. 58<2-9/32> SUSPENSION BOLT PITCH 320 <12-5/8> 20 <25/32> 28 <1-3/32> ¢ 105 4-1/8> Ħ SUSPENSION BOLT PITCH 24 :15/16> 402 <15-7/8> FΗ TODOUTDOOR UNIT B 24 15/16> 5-{ 22<7/8> 24 < 1> 1/2 inch Conduit attachment 15 <19/32> 돍 ų 66 <2-19/32> 12<1 12 <1/2> Ħ (1:2) TERMINAL BLOCK TO M-NET UNIT 96 <3-25/32> 40 <1-17/32> 280 <11-1/32 > TERMINAL BLOCK TO INDOOR UNIT 87 <3-7/16>

13/16> 91 <3-19/32> 450 <17-23/32> 73 <2-7/8> 67 <2-9/16> 70 <2-3/4 83 <3-9/32> TO INDOOR UNIT 5-ELECTRIC WIRE INLET 4 - \cap 啣ゴ 111 170 <6-11/16 \bigcirc 65 в 0 **b**aí 0 ۲ ⊕ ¢ 0 CONTROL COVER 25 25 <1> TERMINAL BLOCK TO OUTDOOR UNIT CONDUIT PLATE TO OUTDOOR UNIT SERVICE PANEL (for LEV, THERMISTOR)

Specifications are subject to change without notice. © 2015 Mitsubishi Electric US, Inc.

DIMENSIONS: MXZ-8C48NAHZ

Unit: mm <in>







MITSUBISHI ELECTRIC

1340 Satellite Boulevard Suwanee, GA 30024 Toll Free: 800-433-4822 www.mehvac.com

FORM# MXZ-8C48NAHZ for Multiple Indoor Unit Styles - 201505

January 7, 2016

RE: 856 N. Old Woodard, Mixed Use – Retail and Residential

As requested, the Building Department has examined the plans for the proposed project referenced above. The plans were provided to the Planning Department for site plan review purposes only and present conceptual elevations and floor plans. Although the plans lack sufficient detail to perform a code review, the following comments are offered:

Standard Comments:

- 1. The City of Birmingham enforces the State of Michigan Building, Electrical, Plumbing, and Mechanical codes. These codes are as follows:
 - **2012 Michigan Building Code.** Applies to all buildings other than those regulated by the *Michigan Residential Code.*
 - 2009 Michigan Residential Code. Applies to all detached one and two-family dwellings and multiple single-family dwellings (townhouses) not more than three stories in height with a separate means of egress and their accessory structures.
 - 2012 Michigan Mechanical Code. (Residential requirements for mechanical construction in all detached one and two-family dwellings and multiple single-family dwellings (townhouses) not more than three stories in height with a separate means of egress and their accessory structures are contained in the Michigan Residential Code)
 - 2012 Michigan Plumbing Code. (Residential requirements for plumbing construction in all detached one and two-family dwellings and multiple single-family dwellings (townhouses) not more than three stories in height with a separate means of egress and their accessory structures are contained in the Michigan Residential Code)
 - 2014 National Electrical Code along with the Michigan Part 8 Rules. (Residential requirements for electrical construction in all detached one and two-family dwellings and multiple single-family dwellings (townhouses) not more than three stories in height with a separate means of egress and their accessory structures are contained in the Michigan Residential Code)
- 2. An application for permit will be required per section 105.3 of the building code.
- 3. The requirement for professional architect and engineering services are outlined in section 107 of the building code.
- 4. The proposed use group(s) for the building needs to be shown on the plans per section 302 of the building code.

- 5. The proposed construction type will need to be indicated along with the height and area calculations showing how the construction type was determined per chapter 5 and 6 of the building code.
- 6. Fire resistant materials and construction is regulated by chapter 7 of the building code.
- 7. Interior finishes including flame and smoke development ratings shall be per chapter 8 of the building code.
- 8. Fire protection systems including suppression and alarms shall be per chapter 9 of the building code.
- 9. Means of egress shall be per chapter 10 of the code.
- 10. Chapter 11 of the building code is part of the Michigan Barrier Free design Law.
- 11. The interior environment such as room sizes, ventilation, light, etc shall be per chapter 12 of the building code.
- 12. Chapter 13 of the building code requires buildings designed and constructed in accordance with the Michigan Uniform Energy Code.
- 13. Exterior wall coverings shall be per chapter 14 of the code.
- 14. Roofs and roof structures shall be per chapter 15 of the building code.
- 15. Structural loads shall be per chapter 16 of the building code and shall be shown on the plans.
- 16. Structural test and inspections shall be per chapter 17 of the building code.
- 17. Foundations shall be designed and installed per chapter 18 of the building code.
- 18. Concrete shall be designed and meet the requirements of chapter 19 of the building code.
- 19. Lightweight metals shall meet the requirements of chapter 20 of the building code.
- 20. Masonry shall be designed and installed per chapter 21 of the building code.
- 21. Steel shall be designed and meet the requirements of chapter 22 of the building code.
- 22. All wood products shall meet the requirements of chapter 23 of the building code.
- 23. Glass and glazing shall meet the requirements of chapter 24 of the building code.

- 24. Gypsum board and plaster shall meet the requirements of chapter 25 of the building code.
- 25. All plastics shall meet the requirements of chapter 26 of the code.
- 26. Elevators and conveying systems shall meet the requirements of chapter 30 of the building code.
- 27. Special construction regulations shall be per chapter 31 of the building code.
- 28. Construction in the public right-of-way shall meet the requirements of chapter 32 of the building code.
- 29. Site work, demolition and construction shall meet the requirements of chapter 33 of the building code.
- 30. Existing structures shall meet the requirements of chapter 34 of the building code.

Additional Comments:

- 1. The exit discharge for the for the two emergency rear exits from the parking levels needs to terminate at a public way. A public way is a street, alley or parcel of land open to the outside air that has been deeded, dedicated or otherwise permanently made available for public use with a clear width and height of ten feet.
- 2. Exterior doors cannot swing over the public sidewalk.
- 3. MDEQ approval/permit will be required for the work occurring in and over the 100-year floodplain.
- 4. The lower level of the building does not fit within the zoning ordinance definition of basement because of the sloping grade. Accordingly, it will count as a story. The sloping grade on this site is unique and a decent case could be made to the Board of Zoning Appeals for a variance for this story.
- 5. The apartments will need to comply with the accessibility requirements in Chapter 11 of the building code for Type A and B dwelling units.

RIVERVIEW PLACE LIMITD PARTNERSHIP 800 N. OLD WOODWARD, SUITE 200 BIRMINGHAM, MI 48009 (248) 647-5600

October 26, 2015

Ms. Jan Ecker Birmingham Planning Commission

Dear Ms. Ecker

The proposal for a four story building at 856 N. Old Woodward Avenue will have a tremendous impact on the existing buildings in this area.

The enclosed drawing, shows the scale of the proposed building which overwhelms the present two story and one story structures.

The 20,000 sq. ft. building, is way out of line with the area.

The surrounding buildings have no parking availability for the adjacent business. In addition any maintenance and construction workers have no place to park, therefore making it impossible for our existing tenants to find parking.

The project is not suitable at the existing building site.

Sincerely,

RIVERVIEW PLACE LIMITED PARTNERSHIP

Norman Ziegelman, Pres.

NZ/c

Enclosure

I was planning on Jusonelly speaking however since the proposed meeting was however, Del be and of town winted fastgored, Del be and of town winted (country) Yan 12/14/15.

Alere Jusent for Me

Thank your & Butitu



Hello, my name is Carolyn Butcher, I'm a resident of Birmingham for the last 49 years, and work for Norm Ziegelman, the Architect, who owns the office building adjacent to the proposed new construction. @ 8 ~ N. OCL law

While we would all love to see something being built in the "hole" created by the demolition of the former Carrie Lee Restaurant, we respectfully should consider the neighborhood, and it's dynamics. The retail customers will park in the closest space, and by adding the additional 12 spaces diagonally in front of the new building, unless some of them are strictly designated for long term parking, they will be filled. The residential component of the building will help our parking, since the majority of them will park in their specified spaces, but they will have guests, cleaning people, maintenance people, who will park anywhere, irrespective of them not being in the parking authority for Lot #6.

We have finally worked on renting our entire building, and now our tenants and their employees cannot find parking when they leave their parking spaces for lunch or errands. I only work part time, and Norm pays \$65.00 a month for me to park in our area. When I arrive at 10:00 or 11:00 each morning, there are "no parking places" where I can park for four hours. The retail spaces that park at an angle in front of our building are metered, and for one hour parking.

I have spoken to the police department, the building department, Paul Omera, and Kon Comput, the Parking Authority, in the Chester Street Garage, and everybody is sympathetic, however have not solved the problem of there being "NO" parking spaces available. The parking people even admitted they sold more "hang tags" than they have spaces to park. And the retail customers can park in all of the spaces that we can "only park in", because they are for long term parking. And it is illegal to "fill the meter" again. Someone suggested that I park in the Garage at the corner of Willits and North Old Woodward and walk. I ask you, do I look like someone who could walk a half mile down and up the hill twice a day? No pun intended? I live actually closer than that on Adams and Derby, and it's not uphill.

We do not need more retail space in Birmingham, creating yet more parking problems. And a four story building adjacent to the current one story cleaners, to the North, and Norm's two story building to the south, will vastly overpower the area.

One of the answers to the current parking problem in Birmingham is to lease forty spaces from one of the Church's at Maple and Pleasant, and shuttle the people back and forth. This may be a short term solution, but we need a long term solution, such as "have you thought of building another parking garage on this lot?"

You cannot in good conscience approve "More Construction" until you solve this long term problem.

Thank you.

Carolyn Batcher

Administrative Approvals

Period : Jan 01/2015 - Dec 31/2015

Reference	Permit Type	Date Issued
15-0002	РВ	1/16/2015
15-0003	PB	1/28/2015
15-0005	РВ	2/10/2015
15-0006	РВ	2/10/2015
15-0008	РВ	2/10/2015
15-0010	РВ	2/24/2015
15-0013	РВ	2/27/2015
15-0016	РВ	3/26/2015
15-0018	РВ	3/27/2015
15-0024	РВ	4/23/2015
15-0027	PB	
15-0028	PB	
15-0030	PB	
15-0036	PB	
15-0043	PB	6/3/2015
15-0044	PB	6/3/2015
15-0045	PB	6/9/2015
15-0046	РВ	6/15/2015
15-0048	РВ	6/19/2015
15-0049	РВ	6/25/2015
15-0051	РВ	7/7/2015
15-0052	РВ	6/19/2015
15-0054	PB	6/25/2015
15-0055	PB	6/25/2015
15-0056	PB	6/26/2015
15-0057	PB	6/26/2015
15-0060	PB	7/7/2015
15-0066	PB	7/14/2015
15-0067	PB	7/28/2015
15-0068	PB	7/14/2015
15-0071	РВ	8/7/2015
15-0075	PB	7/22/2015
15-0077	РВ	7/24/2015
15-0081	PB	8/10/2015
15-0082	PB	8/13/2015
15-0084	PB	8/31/2015
15-0085	PB	8/14/2015
15-0087	PB	8/27/2015
15-0093	PB	8/25/2015
15-0094	PB	8/27/2015
15-0095	PB	9/2/2015
15-0097	РВ	9/9/2015

15-0101	PB	9/16/2015
15-0105	PB	10/15/2015
15-0119	PB	11/12/2015
15-0121	PB	11/4/2015
15-0133	PB	12/9/2015
15-0139	PB	12/17/2015
15-0140	PB	12/17/2015

Address

Description

2055 E 14 MILE 835 HAYNES 34602 WOODWARD 442 S OLD WOODWARD 600 N OLD WOODWARD 2450 COLE 250 N OLD WOODWARD 250 N OLD WOODWARD 33588 WOODWARD 34901 WOODWARD 617 N OLD WOODWARD 266 ELM **575 S ETON** 33588 WOODWARD 300 + 350 WOODLAND VILLA 203 PIERCE / TOAST 555 S OLD WOODWARD 820 E MAPLE 690 E MAPLE **1964 SOUTHFIELD 33588 WOODWARD 185 N OLD WOODWARD** 808 S OLD WOODWARD 115 WILLITS **1964 SOUTHFIELD** 400 + 450 WOODLAND VILLA 555 S OLD WOODWARD **304 HAMILTON** 820 E MAPLE **1940 YOSEMITE 575 S ETON** 400 S OLD WOODWARD 2200 HOLLAND 555 S ADAMS **1006 TOTTENHAM 375 S ETON 575 S ETON** 34901 WOODWARD **33690 WOODWARD 870 HENRIETTA** 685 E MAPLE 33101 WOODWARD

GENERATOR / SCREEN SIGN (SLUP) HAZEL (SLUP) NO NEW WINDOWS SIGN (SLUP) RTU MISC **NEW ELEVATORS ELIMINATE CURB CUT MINOR CHANGES REPLACE DRIVE** DECK/PERGOLA **MINOR CHANGES TO CANOPY & STORAGE** DENIED **DESIGN CHANGES** AWNINGS/PLATFORM CHANGE OUTDOOR DINING CHANGES FUEL TANK / TRANSFORMER LOCATION TEMP PKG **REPLACE CONCRETE IN BACK CANOPY / GROUND SIGN** EXTEND BAR **REPLACE ROOF** DUCTWORK FOR DISHWASHER **NEW SIDEWALK + PHOTOMETRIC** DESIGN AND LANDSCAPING DUMPSTER ENCLOSURE SCREENING **CORRECT GRADING & SCREEN WALLS ROOF REPLACE ENTRANCE** EXTERIOR CHANGE TRANSLUCENT PANELS **RTU SCREENING** NEW FENCE **EXTERIOR REVISIONS** SECOND GRAIN SILO GRIFFIN CLAW **EXT CHANGES RTU SCREENING** 2 NEW AC UNITS SIGN CHANGE SCREENING

34660 WOODWARD 111 ELM 735 FOREST 33588 WOODWARD 2080 E MAPLE 34901 & 34953 WOODWARD 270 N OLD WOODWARD ROOF REPLACEMENT ALLSEASONS DAY TANK SIGN PAINT COLOR / ICE MACHINE CELL TOWER EXTERIOR CHANGES SIGN

rjohnthebad

Plain talk on building and development

Parking Hysteria is the norm -and that ain't right

<u>December 17, 2015</u> <u>rjohnanderson</u>



I was in Southwestern Michigan recently where I encountered an odd idea about parking on the street. In many of the residential neighborhoods you cannot park overnight on the public street. I asked if this was to facilitate snow removal during Winter months. I was told that the ordinance is in effect all year. Maybe there was a freak blizzard in July in years long past and that event lead folks to want to err on the side of caution.

Parking is a volatile subject. Anyone who has ever be frustrated trying to find a place to park is an expert on the subject without applying any effort or legitimate mental rigor to the topic. Proposals to change parking rules can whip up the kind of hysteria that makes you question the mental capacity of folks you used to hold in some regard.

12/28/2015

Parking Hysteria is the norm - and that ain't right - rjohnthebad

What does this mean for a small developer looking to get relief from the municipality's minimum parking requirements? Don't assume that common sense will prevail. Parking can be such a hot button issue that it clouds the minds of otherwise reasonable people. If you want to challenge or change the local parking rules, you really should not expect grownup behavior from your neighbors, city staff, or elected officials. Don't base your project on an assumption that you will get any reduction in parking, particularly if that relief will require a public hearing. You may be able to get some relief, but don't count on it to make your project pencil.

Many municipalities are getting rid of minimum off-street parking requirements, recognizing that cities have done a lousy job of guessing how much parking is going to be needed for any given use. Other cities have figured out what a nifty tool charging the right price for parking is for managing the supply of public parking in desirable areas. These islands of common sense are still too rare. Professor Donald Shoup has done excellent work debunking common parking myths. I recommend reading his book <u>The High Cost of Free Parking (now in paperback)</u> (<u>http://www.amazon.com/High-Cost-Parking-Updated-Edition/dp/193236496X</u>) to anyone serious about understanding how to manage parking issues.

If you are not ready to read a 700 page book about parking, I recommend this short paper by Prof. Shoup as an illustration of how warped and hysterical everyday thinking about parking has become: <u>Roughly Right or Precisely Wrong</u>

(http://shoup.bol.ucla.edu/RoughlyRightOrPreciselyWrong.pdf) Parking Bloat is needless and wasteful. It is born of myth and sloppy thinking. Providing alternatives will require clear thinking and well-informed local leadership, (so it is going to take a while)...

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	\$94.68		

 incremental development, infill, parking, parking bloat, small developer/builders, Uncategorized
 donald shoup, Parking Bloat

4 thoughts on "Parking Hysteria is the norm -and that ain't right"

1. **DW**

December 18, 2015 / 1:50 pm What cities have eliminated minimum parking requirements?

<u>Reply</u>

<u>RJOHNANDERSON</u>

December 18, 2015 / 2:20 pm

Off-street minimums are being eliminated in lots of places, frequently this is being done in downtowns. Off the top of my head, Kalamazoo, Michigan has done this. Fayetteville, Arkansas did recently. Follow this link to a map showing what cities have come to their senses: <u>http://www.strongtowns.org/journal/2015/11/18/a-map-of-cities-that-got-rid-of-parking-minimumshttps://rjohnthebad.wordpress.com/wp-admin/edit-comments.php?</u> p=427#comments-form

- <u>Reply</u>
- DW

December 18, 2015 / 2:26 pm Thanks...awesome!

2. DW

December 18, 2015 / 2:35 pm The link you provided did not work, but I just found the map anyways.

http://www.strongtowns.org/journal/2015/11/18/a-map-of-cities-that-got-rid-of-parkingminimums?rq=A%20map%20of%20cities%20that%20got%20rid%20of%20parking

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Roughly Right _____ or ____ Precisely Wrong

BY DONALD SHOUP

Los Angeles 298.417

632.125

San Diego

Beware of certainty where none exists. DANIEL PATRICK MOYNIHAN

OW FAR IS IT from San Diego to San Francisco? An estimate of 632.125 miles is precise—but not accurate. An estimate of somewhere between 400 and 500 miles is less precise but more accurate because the correct answer is 460 miles. Nevertheless, if you had no idea how far it is from San Diego to San Francisco, whom would you believe: someone who confidently says 632.125 miles, or someone who tentatively says somewhere between 400 and 500 miles? Probably the first, because precision implies certainty.

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Although reporting estimates with extreme precision indicates confidence in their accuracy, transportation engineers and urban planners often use precise numbers to report uncertain estimates. To illustrate this practice, I will draw on two manuals published by the Institute of Transportation Engineers (ITE)— *Parking Generation* and *Trip Generation*. These manuals have enormous practical consequences for transportation and land use. Urban planners rely on parking generation rates to establish off-street parking requirements, and transportation planners rely on trip generation rates to predict traffic effects of proposed developments. Many transportation models also incorporate trip generation rates. Yet a close look at the data shows that unwarranted trust in these precise but uncertain estimates of travel behavior can lead to bad transportation, parking, and land-use policies.

TRIP GENERATION

Trip Generation reports the number of vehicle trips as a function of land use. The sixth (and most recent) edition of *Trip Generation* (1997) describes the data base used to estimate trip generation rates:

This document is based on more than 3,750 trip generation studies submitted to the Institute by public agencies, developers, consulting firms, and associations. . . . Data were primarily collected at suburban localities with little or no transit service, nearby pedestrian amenities, or travel demand management (TDM) programs.

ITE says nothing about the price of parking, but the 1990 Nationwide Personal Transportation Survey found that parking is free for 99 percent of vehicle trips in the US, so the surveyed sites probably offer free parking. Of the 1,515 trip generation rates, half are based on five or fewer studies, and 23 percent are based on a single study. Trip generation rates thus typically measure the number of vehicle trips observed at a few suburban sites with free parking but no public transit, no nearby pedestrian amenities, and no TDM programs. Urban planners who rely on these trip generation rates as guides when designing transportation systems are therefore reinforcing automobile dependency.

Figure 1 is a facsimile of a page from the fourth edition of *Trip Generation* (1987). It reports the number of vehicle trips to and from fast food restaurants on a weekday. Each point in the

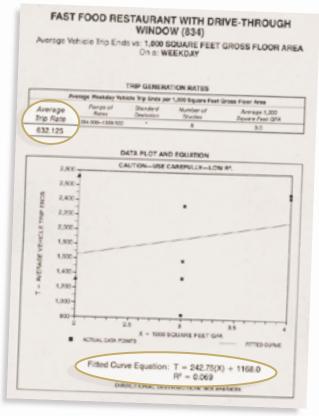




figure represents a single restaurant, showing the average number of vehicle trips it generates and its floor area. Dividing the number of vehicle trips by the floor area gives the trip generation rate for that restaurant, and the rates range from 284 to 1,359.5 trips per 1,000 square feet for the eight studies.

A glance at the figure suggests that vehicle trips are unrelated to floor area in this sample, and the equation at the bottom of the figure (R^2 =0.069) confirms this impression. Nevertheless, ITE reports the sample's average trip generation rate (which urban planners normally interpret as *the* relationship between floor area and vehicle trips) as *precisely* 632.125 trips per day per 1,000 square feet. The trip generation rate looks accurate because it is so precise, but the precision is misleading. Few transportation or land-use decisions would be changed if ITE reported the trip generation rate as 632 rather than 632.125 trips per 1,000 square feet, so the three-decimal-point precision serves no purpose.

Reporting an *average* rate suggests that larger restaurants generate more vehicle trips—but according to the figure, the smallest restaurant generated the most trips, and a mid-sized restaurant generated the fewest. The page does contain the \succ

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A C C E S S NUMBER 20, SPRING 2002 warning, "Caution—Use Carefully—Low R²," which is good advice because the data show no relationship between vehicle trips and floor area. Nevertheless, the *average* trip generation rate is still reported at the top of the page as if it were relevant. Despite its precision, the number is far too uncertain to use in transportation planning.

PARKING GENERATION

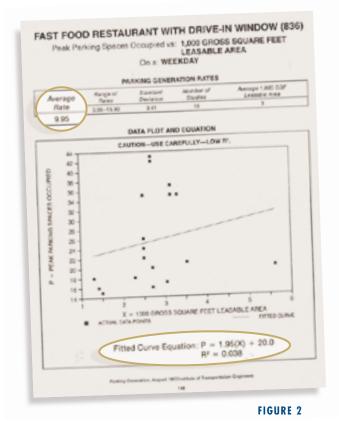
Parking generation rates suffer from similar uncertainty. *Parking Generation* reports the average peak parking occupancy as a function of land use. The most recent edition of *Parking Generation* (1987) explains the survey process:

A vast majority of the data... is derived from suburban developments with little or no significant transit ridership.... The ideal site for obtaining reliable parking generation data would ... contain ample, convenient parking facilities for the exclusive use of the traffic generated by the site.... The objective of the survey is to count the number of vehicles parked at the time of peak parking demand.

Half the 101 parking generation rates in the second edition are based on four or fewer surveys, and 22 percent are based on a single survey. Therefore, parking generation rates typically measure the peak parking demand observed at a few suburban sites with ample free parking and no public transit. Urban planners who use these rates to set off-street parking requirements are therefore planning a city where people will drive wherever they go and park free when they get there.

Figure 2 shows the page for fast food restaurants from the most recent edition of *Parking Generation* (1987). The equation at the bottom of the figure again confirms the visual impression that parking demand is unrelated to floor area in this sample. The largest restaurant generated one of the lowest peak parking occupancies, while a mid-sized restaurant generated the highest. Nevertheless, ITE reports the average parking generation rate for a fast food restaurant as *precisely* 9.95 parking spaces per 1,000 square feet of floor area.

I do not mean to imply that vehicle trips and parking demand are unrelated to a restaurant's size. Common sense suggests some correlation. Nevertheless, we should recognize that these two samples do not show a statistically significant relationship between floor area and either vehicle trips or parking demand, and it is misleading to publish precise average rates based on these data.



ITE's stamp of authority relieves planners from the obligation to think for themselves—the answers are right there in the book. ITE offers a precise number without raising difficult public policy questions, although it does warn, "Users of this report should exercise extreme caution when utilizing data that is based on a small number of studies." Nevertheless, many planners recommend using the parking generation rates as minimum parking requirements because they are the best data available. For example, the median number of parking spaces required by law for fast food restaurants in the US is 10 spaces per 1,000 square feet—almost identical to ITE's reported parking generation rate. After all, planners expect minimum parking requirements to meet the peak demand for free parking, and parking generation rates seem to have predicted this demand precisely! When ITE speaks, urban planners listen.

STATISTICAL SIGNIFICANCE

This breathtaking combination of extreme precision and statistical insignificance in the parking and trip generation rates at fast food restaurants raises an important question: how many rates for other land uses are statistically significant? Surely some of the rates must be suspect, but they are all reported to threedigit precision.

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ITE first stated a policy regarding statistical significance in the fifth edition of *Trip Generation* (1991):

Best fit curves are shown in this report only when each of the following three conditions is met:

- The R² is greater than or equal to 0.25.
- The sample size is greater than or equal to 4.
- The number of trips increases as the size of the independent variable increases.

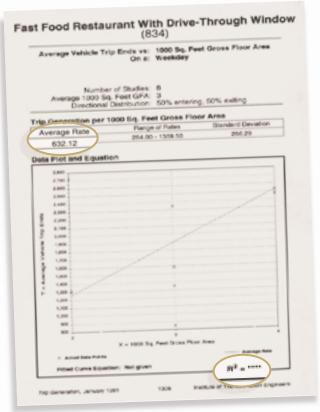
The third criterion lacks a scientific basis. For example, suppose the R^2 is greater than 0.25 (which means that variation in floor area explains more than 25 percent of the variation in vehicle trips), the sample size is greater than 4, and vehicle trips decrease as floor area increases. The first two criteria are met but the third criterion is not. In such a case ITE would report the *average* trip generation rate (which implies that vehicle trips *increase* as floor area increases), but not the equation. The stated policy would therefore conceal evidence that contradicts the predicted relationship.

Figure 3, from the fifth edition of *Trip Generation* (1991), shows how this policy affects the report on fast food restaurants. It shows the same eight data points as the fourth edition, but omits the regression equation, the R^2 , as well as the warning "Caution—Use Carefully—Low R^2 ." (The fifth edition is, however, more cautious about needless precision: it truncates the average trip generation rate from 632.125 to 632.12 trips per 1,000 square feet.)

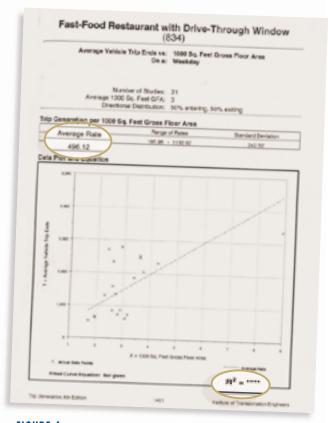
ITE revised its reporting policy in the most recent edition of *Trip Generation* (1997). Now it shows the regression equation only if the R^2 is greater than or equal to 0.5, but the other two criteria remain the same. This edition reports regression equations for only 34 percent of the reported rates, which means 66 percent of the trip generation rates fail to meet at least one of the three criteria.

Figure 4 shows the trip generation report for a fast food restaurant from the sixth edition. The number of studies increased to 21, and the average trip generation rate fell to 496.12 trips per 1,000 square feet. Since the fifth edition's rate was 632.12 trips per 1,000 square feet, anyone comparing the two editions might conclude that vehicle trips to fast food restaurants declined 22 percent between 1991 and 1997. But both the previous rate (632.12) and the new one (496.12) were derived from data showing almost no relation between floor area and vehicle trips, so this decline is uncertain.

Not including the equation is ITE's subtle way of pointing out that the information is statistically insignificant, but \succ











reporting the misleadingly precise averages anyway creates serious problems. Many people rely on ITE manuals to predict how urban development will affect parking and traffic. When estimating traffic impacts, for example, developers and cities often battle fiercely over whether a precise trip generation rate is correct; given the uncertainty involved, the debates are ludicrous. But few seem to pay attention to this; in fact, some cities base zoning categories on ITE's trip generation rates. Consider the zoning ordinance in Beverly Hills, California:

The intensity of use will not exceed either sixteen (16) vehicle trips per hour or 200 vehicle trips per day for each 1,000 gross square foot of floor area for uses as specified in the most recent edition of the Institute of Traffic Engineers' publication entitled "Trip Generation."

The precise but uncertain ITE data thus govern which land uses a city will allow. Once they have been incorporated into municipal codes, parking and trip generation rates are difficult to challenge. Planning is an uncertain activity, but it is difficult to incorporate uncertainty into regulations. Besides, admitting the flimsy basis of zoning decisions would expose them to countless lawsuits.

PLANNING FOR FREE PARKING

Not only are most ITE samples too small to draw statistically significant conclusions, but ITE's method of collecting data also skews observations to sites with high parking and trip generation rates. Larger samples might solve the problem of statistical insignificance, but a basic problem with these rates would remain: they measure the peak parking demand and the number of vehicle trips at *suburban sites with ample free parking*.

Consider the process of planning for free parking:

- Transportation engineers survey peak parking demand at suburban sites with ample free parking, and ITE publishes the results in *Parking Generation* with misleading precision.
- Urban planners consult *Parking Generation* to set minimum parking requirements. The maximum observed parking demand thus becomes the minimum required parking supply.
- Developers provide all the required parking. The ample supply of parking drives the price of most parking to zero, which increases vehicle travel.

- 4) Transportation engineers survey vehicle trips to and from suburban sites with ample free parking, and ITE publishes the results in *Trip Generation* with misleading precision.
- 5) Transportation planners consult *Trip Generation* to design the transportation system that brings cars to the free parking.
- 6) Urban planners limit density so that new development with the required free parking will not generate more vehicle trips than nearby roads can carry. This lower density spreads activities farther apart, further increasing vehicle travel and parking demand.

The loop is completed when transportation engineers again survey the peak parking demand at suburban sites that offer free parking and—surprise!—find that more parking is needed. Misusing precise numbers to report uncertain data gives a veneer of rigor to this elaborate but unsystematic practice, and the circular logic explains why planning for transportation and land use has gone subtly, incrementally wrong. Cities require off-street parking without considering parking prices, the cost of parking spaces, or the wider consequences for transportation, land use, the economy, and the environment.

ITE manuals do not *cause* this circular and cumulative process, and ITE of course deplores any misuse of its parking and trip generation rates. ITE warns users to be careful when the R² is low, but removed this advice from the data plots in the two most recent editions of *Trip Generation*. ITE also advises:

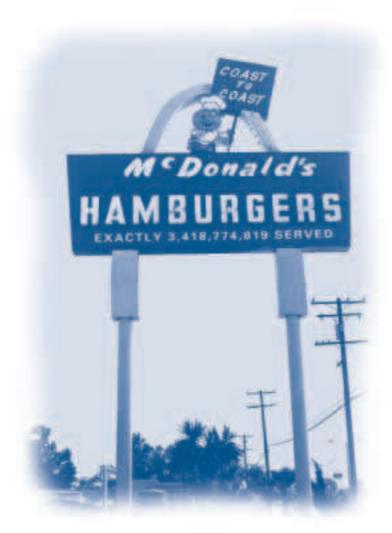
At specific sites, the user may want to modify the trip generation rates presented in this document to reflect the presence of public transportation service, ridesharing or other TDM measures, enhanced pedestrian and bicycle trip-making opportunities, or other special characteristics of the site or surrounding area.

Nevertheless, there is no suggestion about *how* a user might modify the rates, and the price of parking is prominently *not* on the list of special characteristics that might affect trip generation.

The users of any data should always ask themselves whether the data are appropriate for the intended purpose. Only users can misuse data, but ITE invites such misuse. The spurious precision of ITE's statistically insignificant estimates has helped establish parking requirements and trip generation rates as dogma in the planning profession.

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LESS PRECISION AND MORE TRUTH

Parking and trip generation estimates respond to a real demand for essential information. Citizens want to know how development will affect parking demand and traffic congestion in their neighborhoods. Developers want to know how many parking spaces they should provide for their employees and customers. Planners want to regulate development to prevent problems with parking and traffic. Politicians want to avoid complaints from unhappy parkers. These are all valid concerns, but false precision does not resolve them. To unsophisticated users, the precise rates look like constants, similar to the boiling point of water or the speed of light. Many planners treat parking and trip generation like physical laws and the reported rates like scientific observations. But parking and trip generation are poorly understood phenomena, and they both depend on the price of parking. Demand is a function of price, not a fixed number, and this does not cease to be true merely because transportation engineers and urban planners ignore it. Most cities are planned on the unstated assumption that parking should be free-no matter how high the cost.

American motor vehicles alone consume one eighth of the world's total oil production, and ubiquitous free parking contributes to our automobile dependency. What can be done to improve this situation? Here are four suggestions:

- ITE should report the parking and trip generation rates as ranges, not as precise averages. This puts the information in the most accessible form for potential users who are not statistically trained.
- 2) ITE should show the regression equation and the R² for each parking and trip generation report, and state whether the floor area (or other independent variable) has a statistically significant relation to parking demand or trip rates.
- 3) ITE should state in the report for each parking and trip generation rate that the rate refers only to suburban sites with ample free parking and without transit service, pedestrian amenities, or TDM programs.
- 4) Urban planners should recognize that even if the ITE data were accurate, using them to set parking requirements will contribute to free parking and automobile dependency.

ITE's parking and trip generation rates illustrate a familiar problem with statistics in transportation planning. Placing unwarranted trust in the accuracy of these precise but uncertain data leads to bad policy choices. Being roughly right is better than being precisely wrong. We need less precision—and more truth—in transportation planning. ◆

FURTHER READING

Parking Generation. Second Edition. Washington, D.C.: Institute of Transportation Engineers. 1987.

Trip Generation. Fourth Edition. Washington, D.C.: Institute of Transportation Engineers. 1987.

Trip Generation. Fifth Edition. Washington, D.C.: Institute of Transportation Engineers. 1991.

Trip Generation. Sixth Edition. Washington, D.C.: Institute of Transportation Engineers. 1997.

Planning Advisory Service. Off-Street Parking Requirements: A National Review of Standards. Planning Advisory Service Report Number 432. Chicago: American Planning Association. 1991.

Donald Shoup, "Truth in Transportation Planning," *Journal of Transportation and Statistics*, 2002.

