

Receipt # 12.1922
Yvonne A. 2/20/19

	City of Fitchburg Planning/Zoning Department 5520 Lacy Road Fitchburg, WI 53711 (608-270-4200)	<h2>REZONING APPLICATION</h2>
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The undersigned owner, or owner's authorized agent, of property herein described hereby petitions to amend the zoning district map of the Fitchburg zoning ordinance by reclassifying from the PDD/GIP district to the PDD/SIP district the following described property:

1. **Location of Property/Street Address:** 2556 South Fish Hatchery Road

Legal Description - (Metes & Bounds, or Lot No. And Plat):

See attached description

***Also submit in electronic format (MS WORD or plain text) by email to: planning@fitchburgwi.gov

2. **Proposed Use of Property - Explanation of Request:**

Independent senior apartments.
See attached narrative for the request explanation.

3. **Proposed Development Schedule:** start construction summer of 2019, complete construction in late Spring 2020

***Pursuant to Section 22-3(b) of the Fitchburg Zoning Ordinance, all Rezoning shall be consistent with the currently adopted City of Fitchburg Comprehensive Plan.

***Attach three (3) copies of a site plan which shows any proposed land divisions, plus vehicular access points and the location and size of all existing and proposed structures and parking areas. Two (2) of the three (3) copies shall be no larger than 11" x 17". Submit one (1) electronic pdf document of the entire submittal to planning@fitchburgwi.gov. Additional information may be requested.

Type of Residential Development (If Applicable): senior apartments and townhouses

Total Dwelling Units Proposed: 60 apartments, 8 townhouses **No. Of Parking Stalls:** _____

Type of Non-residential Development (If Applicable): _____

Proposed Hours of Operation: _____ **No. Of Employees:** _____

Floor Area: _____ **No. Of Parking Stalls:** _____

Sewer: Municipal Private **Water:** Municipal Private

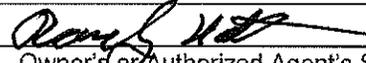
Current Owner of Property: Randy Koth

Address: 2546 S Fish Hatchery Road, Fitchburg WI **Phone No:** _____

Contact Person: Jacob Klein, JT Klein Company, Inc.

Email: jacon@jtkeli.com

Address: 818 S Park Street, Madison, WI 53715 **Phone No:** 612-202-1577

Respectfully Submitted By:  Randy Koth
Owner's or Authorized Agent's Signature Print Owner's or Authorized Agent's Name

PLEASE NOTE - Applicants shall be responsible for legal or outside consultant costs incurred by the City. Submissions shall be made at least four (4) weeks prior to desired plan commission meeting.

For City Use Only: **Date Received:** 2/19/19 **Publish:** _____ and _____

Ordinance Section No. _____ **Fee Paid:** \$ 875.00

Permit Request No. 12-2273-19



City of Fitchburg
 Planning/Zoning Department
 5520 Lacy Road
 Fitchburg, WI 53711
 (608-270-4200)

ARCHITECTURAL & DESIGN REVIEW APPLICATION

Applicant/Contact Person: Brian Stoddard

Address: 7601 University Ave #201 **Phone Number of Contact Person:** 608-836-3690

City, State, Zip Code: Middleton, WI 53562 **Email of Contact Person:** bstoddard@knothebruce.com

Project Address: 2556 S Fish Hatchery Road **Lot:** _____ **Subdivision:** _____

Project Type: **Multi-Family** **Commercial** **Industrial** **Other**
 New **Addition**

Impervious Surface Ratio (ISR): 61.3% (City Standard: maximum 65% ISR)

All items listed below must be included with the application to be considered complete. If an item is not included with the application, the applicant must provide in writing the basis for not including it. Building and site plans submitted to the Fitchburg Plan Commission for architectural and design review shall contain the following information:

Site Data:

- 1. Lot or property dimensions.
- 2. Orientation (to north).
- 3. Adjacent highways, roads, drive, etc.
- 4. Existing natural features (rivers, ponds, wetlands).
- 5. Existing buildings and/or improvements.
- 6. Existing and proposed site drainage.
- 7. Utility plans, including main/lateral sizes and existing fire hydrants on site or within 300 feet of the site
- 8. ISR shall be indicated on all plans.
- 9. Stormwater management plans and details, including grading plan.
- 10. Lighting plan in footcandles and light fixture cut sheets.

Building:

- 1. Building size, configuration and orientation.
- 2. Distance from lot lines.
- 3. Distance from other buildings, improvements and natural features.
- 4. Location of well, septic tank, drainfield, etc. (if applicable)
- 5. Additional proposed additions or new structures, including trash/recycling enclosure(s).
- 6. Construction type (wood frame, structural steel, etc.).
- 7. Foundation type (full basement, slab on grade, etc.).
- 8. Number of levels.
- 9. Siding/exterior covering type, color, texture, etc.
- 10. Roof type (gable, hip, shed, flat, etc.) and pitch.
- 11. Roofing material type, color, texture, etc.
- 12. Exterior door and window location, size, type, etc.
- 13. Fire protection sprinklers or fire alarm systems.

Ingress, Egress, Parking:

- 1. Location of highway and road access points.
- 2. Location, size, configuration of drivers and walks.
- 3. Number, size, location of parking spaces.
- 4. Location of handicapped parking and accessible building entrances.
- 5. Bicycle rack(s).

ARCHITECTURAL AND DESIGN REVIEW APPLICATION

Page 2

Landscaping:

- 1. Location, species, size of existing trees, shrubs, and plantings.
- 2. Location, species, size of proposed plantings.
- 3. Location and size of all paved, seeded/sodded and gravelled areas.
- 4. Location of all retaining walls, fences, berms and other landscape features.

***It is highly recommended that an applicant hold at least one neighborhood meeting prior to submitting an ADR application to identify any concerns or issues of surrounding residents.**

The preceding information is considered to be the minimum information for submission, and the City may require additional information for its review. Any interpretations provided by city officials as the result of submitting the attached information are based on the submitted plans, and any plan changes, may affect the interpretations.

It is the responsibility of the owner/applicant to insure compliance with all local and state requirements. The below signed applicant acknowledges the above information and hereby submits the attached information for the City's Architectural and Design Review Process.

Signed:  Date: 2/19/19
Applicant or Authorized Agent

***** Application shall be accompanied by one (1) sets of full-size plans, two (2) sets no larger than 11"x17", and one (1) pdf document of the complete submittal to planning@fitchburgwi.gov. Applications are due at least 4 weeks prior to the desired Plan Commission Meeting. The time frame assumes a complete set of plans is provided, and if it is not provided the Plan Commission date will be adjusted.**

FOR CITY USE ONLY

Date Received: 2/19/19 Plan Commission Date: 3/19/19

Comments:

DESCRIPTION

PARCEL A: All that part of the NE $\frac{1}{4}$ of the SE $\frac{1}{4}$ of Section 16, Township 06 North, Range 09 East, in the City of Fitchburg, Dane County, Wisconsin, described as follows: Beginning at the NE corner of the NE $\frac{1}{4}$ of the SE $\frac{1}{4}$ of said Section 16; thence West along the North line of the NE $\frac{1}{4}$ of the SE $\frac{1}{4}$, 497.5 feet to the centerline of highway; thence Southerly along said centerline, 175.0 feet; thence East, 502.4 feet to a point on the East line of said Section 16, 175.0 feet South of the point of beginning; thence North along the East line of said Section 16, 175.0 feet to the point of beginning. EXCEPT for land conveyed in Warranty Deed recorded as Document No. 4540740.

TOGETHER WITH

PARCEL B: All that part of the NE $\frac{1}{4}$ of the SE $\frac{1}{4}$ of Section 16, Township 06 North, Range 09 East, in the City of Fitchburg, Dane County, Wisconsin, described as follows: Commencing at the NE corner of said NE $\frac{1}{4}$ of the SE $\frac{1}{4}$; thence South along the East line of said NE $\frac{1}{4}$ of the SE $\frac{1}{4}$, a distance of 175.00 feet to the point of beginning of this description; thence West 502.4 feet to the centerline of the highway and a point 175 feet South of the North line of said SE $\frac{1}{4}$; thence South along said centerline 100 feet; thence East 505.0 feet more or less to a point on the East line of said Section, 100 feet South of the point of beginning; thence North along said line 100 feet to the point of beginning. EXCEPT for land conveyed in Warranty Deed recorded as Document No. 4540740.

February 19, 2019

Sonja Kruesel
City Planner- City of Fitchburg
5520 Lacy Road
Fitchburg, WI 53711

Re: 2556 South Fish Hatchery Road
Oak Ridge SIP

Dear Ms. Kruesel,

On October 9, 2018 the City of Fitchburg Common Council approved Ordinance 2018-0-24 (RZ-2216-18) rezoning of 2556 South Fish Hatchery Road to PDD-GIP (Planned Development District General Implementation Plan) to allow for the development of up to 73 units of independent senior apartments.

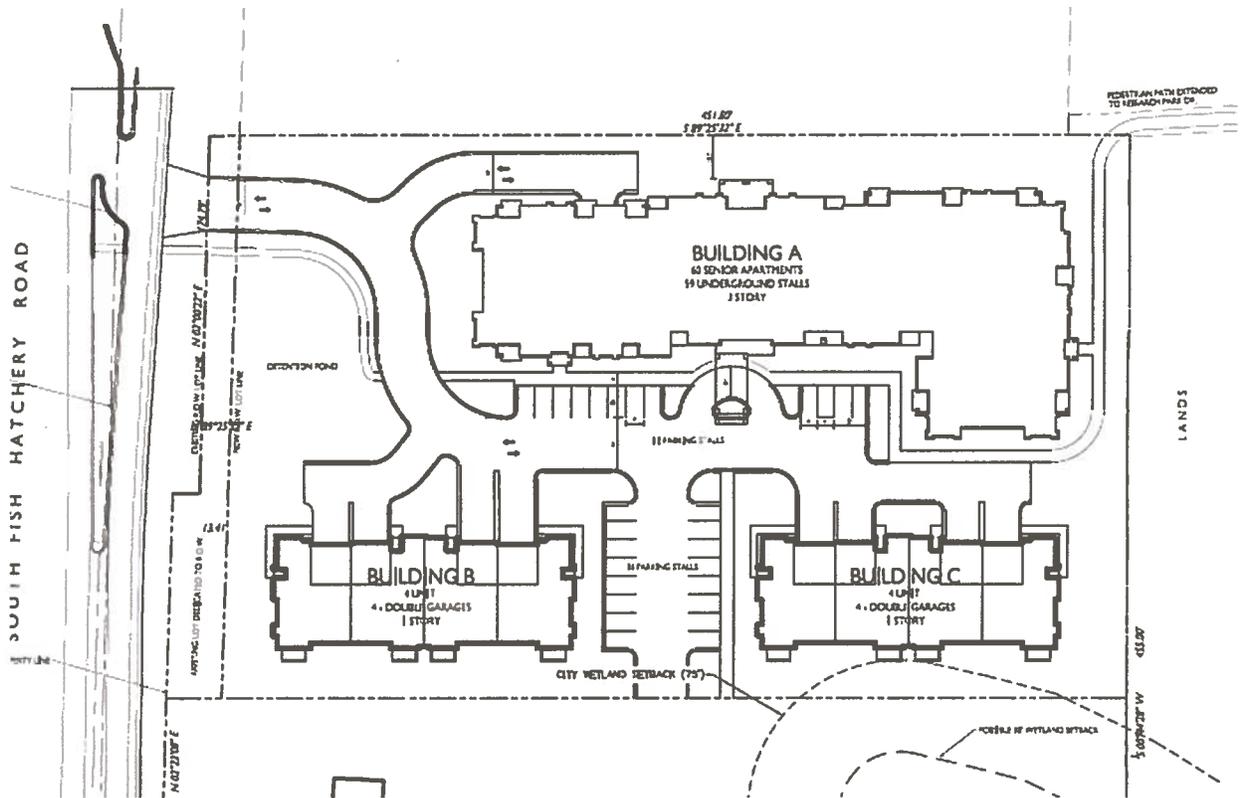
At this time, JT Klein Company, Inc. is formally submitting this application to finalize the zoning for this project and seeking approval of PDD-SIP (Planned Development District Specific Implementation Plan) for a 60 unit three story independent senior building and (2) cottage style four plex units.

As the next step in the PDD process, this letter is intended to outline the final development plan of the properties known as 2556 S Fish Hatchery Rd Fitchburg, WI, tax parcel IDs 225/0609-164-8020-3 and 225/0609-164-8001-6, from their current zoning of PDD-GIP to PDD-SIP.

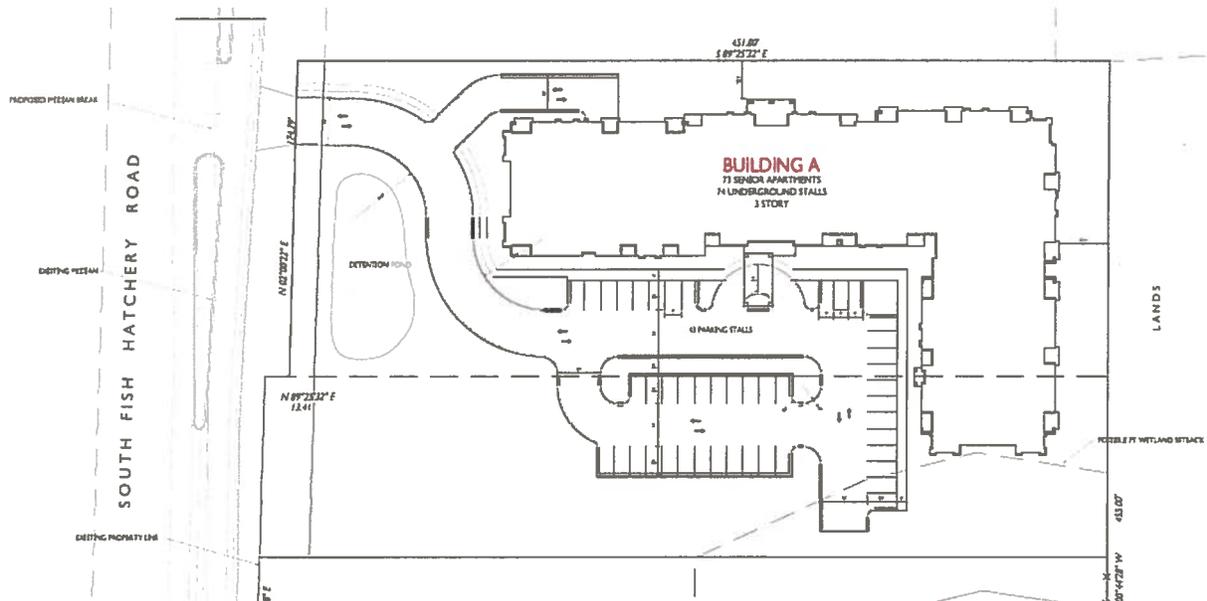
Development Overview

Oak Ridge will offer Fitchburg seniors housing options tailored to meet the needs of independent older adults in the community and targeted to individuals at a wide range of income levels. Our revised plans include one three story building which contain a total of 60 units as well as two single story 4 plex buildings for a total of 68 units on 2.78 acres, which equates to a density of 24.5 units per acre.

The Current Site Plan is included below:



For Comparison This is the GIP Approved Site Plan



By reducing the length of the north/south wing of the building we were able to move the 3 story building further from the neighbor to the South. In addition, we added two four plex single story buildings that are

cottage style units which depending on the market conditions will be built as a for sale or rental product. The reason why we added these 4 plexes was in response to the City's recently adopted Fitchburg Housing Plan. On page 34-35 of the plan it states a goal of **“Continuing to build various attached unit housing forms into new and existing neighborhoods especially “missing middle” housing”** It continues to state, “As such, the City should actively encourage the development of those other sometimes refer to as “missing middle housing” townhome duplexes, fourplexes, etc. When planning neighborhoods, these units are often appropriate as a transition form between commercial and single family residential uses, or between higher density residential buildings and single family residential areas.”

Upon completion, the development will offer 60 units of independent senior housing in a three story building constructed on the northeast side of the property. Of these 60 units, 100% of units will be affordable to individuals earning no more than 80% of the Dane County Area Median Income (AMI). These affordable units are designed to appeal to retired seniors living on fixed incomes and will allow lifetime Fitchburg residents to remain in the community. These seniors are particularly vulnerable to the rising cost of housing in Dane County, as their income is inflexible and cannot adjust for an increase in living expenses.

The independent senior building will offer a mix of one and two bedroom units and will be truly mixed income: priced to be affordable to a range of residents with incomes up to 30% to 80% AMI. This building will meet the Wisconsin Housing and Economic Development Authority's (WHEDA) standards for affordability and will also be built with high quality finishes sought after by market rate tenants. These high quality finishes include a stainless steel appliance package and granite countertops. As is the case with all of JT Klein Company's past projects, the finish level and sustainable design features are second to none in the market.



Ample parking will be available onsite. The 60 unit building has a total of 84 stalls including 57 underground and 27 surface parking spaces. This creates a ratio of 1.4 stalls per unit, which is substantially higher than our estimated need for senior housing. The four plex buildings each have a 2 car garage and parking in front of the garage available for visitors.

Comparison of PDD SIP to HDR Zoning

A final zoning change from PDD- GIP to PDD SIP is necessary to accommodate the use outlined above. Currently, no zoning designation exists in the city which would allow for the proposed use and density.

The Fitchburg zoning district that most closely fits the spirit of the project is R-H High Density Residential, and it is notable that the Fitchburg Future Land Use Plan for this site is High Density

Residential. However, the R-H High Density Residential Zoning District has several constraints that would preclude this proposed use, including a minimum requirement of two parking spaces per unit. Additionally, according to Section 22-146 of the zoning code R-H zoning is only applicable to properties 90,000 square feet or less if the zoning is designated after October 12, 2010. This property is approximately 121,097 square feet, making the R-H zoning designation incompatible.

However, using the methodology for density from the R-H High Density Residential Zoning this project complies with the density allowed in that district.

R-H Residential Zoning

	Min Lot Area Per Unit	Oak Ridge Units	Total Sf Required
One Bedroom	2,200	37	81,400
Two Bedroom	2,400	31	74,400
Land SF Required			155,800
Credit for Parking	500	73	36,500
Net Land Required			119,300
Site Square Footage(Actual)			121,097

Economic, Social, and Environmental Impacts

Once stabilized this property will generate significantly increased tax revenues for the City of Fitchburg. Currently, the two parcels that compose the subject site are assessed for taxes totaling \$7,723 for 2017, based on a total property value of \$345,500. Upon completion, Oak Ridge Fitchburg will bring 60 units of independent senior apartments onto the tax rolls with an estimated assessed value of \$60,000 per unit additionally the 4 plexes should add an estimated value of \$100,000-300,000 per unit. Upon stabilization the estimated value of the property will be approximately \$5,600,000-7,200,000. This

significant and permanent increase in the tax revenue potential of the property will contribute to the long term fiscal security of the city.

The positive social impacts of this project include the addition of independent senior apartments affordable to residents with a wide range of incomes. This will occur in an area of Fitchburg most conducive to senior housing due to its access to downtown municipal facilities such as the senior center and library. By adding residential density to this service-rich area of Fitchburg, the project will help to increase the walkability and improve the street life of the downtown area by allowing more residents to walk and bike to these municipal locations.

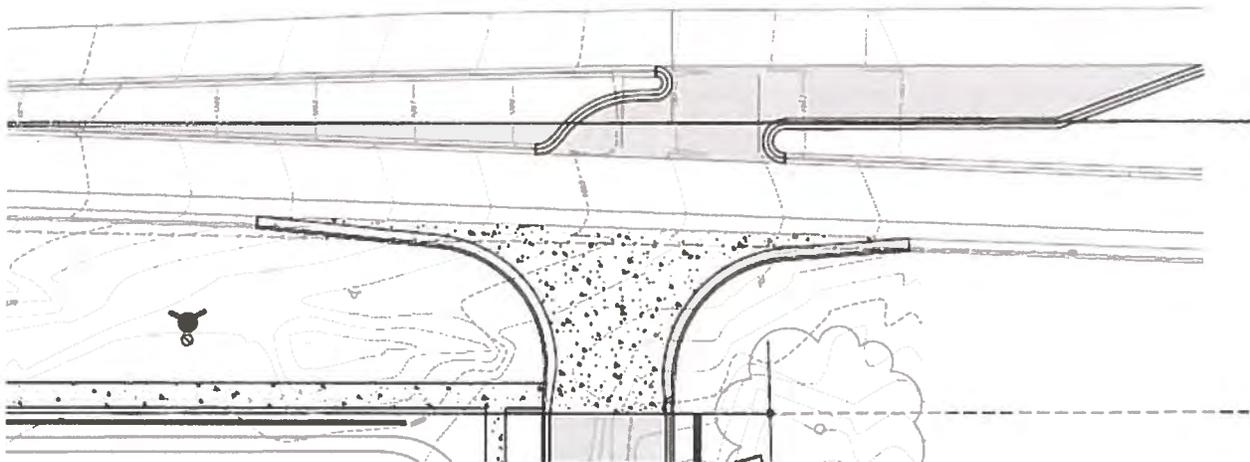
Discussions with the Senior Director of the Fitchburg Senior Center revealed that there may be interest in having senior Fitchburg residents utilize the project's amenities including the on-site salon and community room due to the considerable popularity of the Senior Center and the significant demand for salon appointments and event space. This project may be able to alleviate some of this demand by increasing the amount of space and affordable salon appointments available to Fitchburg seniors. We have offered to work with the Senior Center to set up a system allowing Fitchburg residents to reserve salon appointments and the community room at the new building, and we are excited for the opportunity to offer useful amenities to the Fitchburg community at large in addition to our future residents.

Environmentally, the project will maintain a significant amount of green space onsite for resident use and will mitigate all stormwater runoff. The project will be built to Wisconsin Green Built Homes Standards (scoring 150 points or greater), will utilize the Wisconsin Focus on Energy program, and will also conform to WHEDA's Energy Efficiency and Sustainability guidelines. Oak Ridge Fitchburg will additionally be a non-smoking building.

Ingress and Egress

One condition placed on the GIP approval was the that *"The Developer will work with the City Staff and Dane County to satisfactorily address safety and traffic congestion regarding the ingress and egress to and from the site as part of its Specific Implementation Plan."* On February 18th, JT Klein Company and its consultants from Vierbicher and KL Engineering met with Dane County and City Staff to discuss ingress and egress to the site and satisfactorily resolve this condition. At the request of Dane County and concurrence by City Staff we have made 2 substantial improvements to satisfy the condition of approval listed above.

- 1) Median has been redesigned to not allow any traffic to make a left hand turn out from the property.
- 2) The driveway apron is now tapered approximately 35' south of the entrance and 15' north of the entrance to allow residents to more safely enter and exit the property on Fish Hatchery Road. This taper solution was requested by Greggar from Dane County and was agreed to by all parties.



Fitchburg Housing Plan

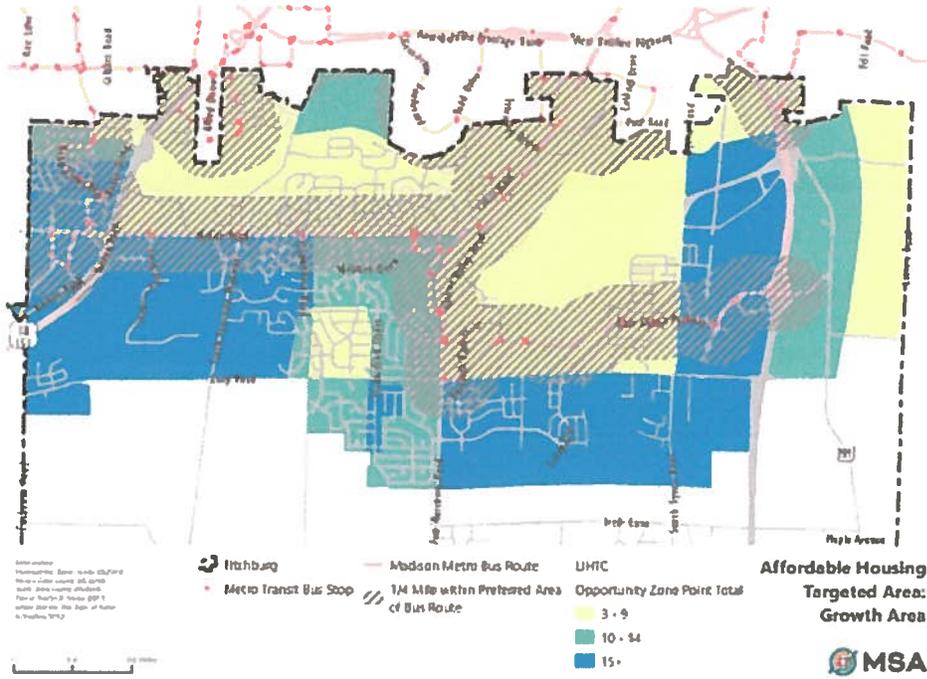
On February 12th the Common Council approved the Fitchburg Housing Plan which evaluates the City's current housing needs and identifies strategies to help meet it housing needs over the upcoming years. One of the goals outlined in that Plan that is most applicable to this project was goal number nine listed below.

9. Support the housing needs of senior citizens- Fitchburg will need approximately 640 new or redeveloped units to meet the needs of residents age 55+ between 2018-2030. Approximately 80% of these units, or 512, should be affordable.

Our project will help meet this clearly identified need for high quality affordable senior housing in Fitchburg. From our experience in other communities when new senior housing developments are constructed the majority of residents who move in to these new units are selling a home. Those homes are often perfect starter homes that are affordable for younger families. This regentrification process allows for families to build equity in their homes through moderate rehabilitation, ie updating bathrooms, kitchens and creating value.

In order to finance this development and include affordable senior housing units we have applied to WHEDA for state and federal tax credits. To be successful in obtaining these highly sought after tax credits projects must compete with other developments across the State of Wisconsin for this finite resource. Below is Figure 29 from the Fitchburg Housing Plan which is a map detailing where the highest scoring sites are in Fitchburg (ie most preferred by WHEDA and likely to be awarded tax credits).

Figure 29. Affordable Housing Targeted Areas - WHEDA Scoring and Transit Access



The reason why this site is so desirable for affordable senior housing is that it is in an area close to the senior center and other amenities, but also in one of its high priority 15+ census areas and also scores points for being with .5 miles of a bus stop.

Schedule for Completion

We have applied for State and Federal Affordable Housing Tax Credits from Wisconsin Housing and Economic Development Authority (WHEDA). We anticipate the project closing and construction start occurring in Summer 2019. Construction of the independent senior building is anticipated to be completed in Fall 2020.

Conclusion

Oak Ridge Fitchburg will have significant economic, social, and environmental benefits to Fitchburg residents and will add much needed affordable senior housing to the city.

This SIP Submittal substantially complies with the GIP approval and we have made changes that we feel make this a better project for the City and the Neighborhood. We have reduced the density from 73 to 68 units which includes switching 8 units in the apartment development to single story fourplexes to buffer the development for the single family homes to the South. Additionally we have met with Dane County City Staff and our own engineering team to resolve the access concerns to the site. All modifications that have occurred since the project’s PPD GIP approval and this submittal been done to incorporate the

feedback we have received from Fitchburg residents, elected officials, and city staff. Please do not hesitate to contact me with any questions concerning this project proposal and thank you very much for your time and consideration.

Sincerely,

A handwritten signature in black ink, appearing to read 'Jacob T. Klein', written in a cursive style.

Jacob T. Klein
President



D-Series Size 0 LED Area Luminaire



Catalog Number
Notes
Type

Hit the Tab key or mouse over the page to see all interactive elements.

A+ Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and system-level interoperability.

- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency
- This luminaire is A+ Certified when ordered with DTL® controls marked by a **shaded background**. DTL DLL equipped luminaires meet the A+ specification for luminaire to photocontrol interoperability¹
- This luminaire is part of an A+ Certified solution for ROAM® or XPoint™ Wireless control networks, providing out-of-the-box control compatibility with simple commissioning, when ordered with drivers and control options marked by a **shaded background**¹

To learn more about A+, visit www.acuitybrands.com/aplus.

- See ordering tree for details.
- A+ Certified Solutions for ROAM require the order of one ROAM node per luminaire. Sold Separately: [Link to Roam](#); [Link to DTL DLL](#)

Specifications

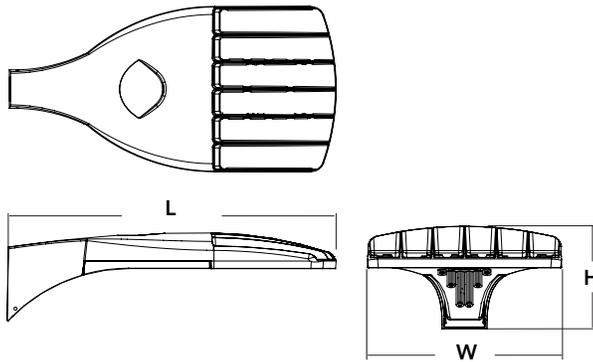
EPA: 0.95 ft²
(.09 m²)

Length: 26"
(66.0 cm)

Width: 13"
(33.0 cm)

Height: 7"
(17.8 cm)

Weight (max): 16 lbs
(7.25 kg)



A+ Capable options indicated by this color background.

Ordering Information

EXAMPLE: DSX0 LED P6 40K T3M MVOLT SPA DDBXD

DSX0 LED					
Series	LEDs	Color temperature	Distribution	Voltage	Mounting
DSX0 LED	Forward optics P1 P4 P7 P2 P5 P3 P6 Rotated optics P10 ¹ P12 ¹ P11 ¹ P13 ¹	30K 3000 K 40K 4000 K 50K 5000 K AMBPC Amber phosphor converted ²	T1S Type I short T2S Type II short T2M Type II medium T3S Type III short T3M Type III medium T4M Type IV medium TFTM Forward throw medium TSVS Type V very short T5S Type V short T5M Type V medium T5W Type V wide BLC Backlight control ^{2,3} LCCO Left corner cutoff ³ RCCO Right corner cutoff ³	MVOLT ^{4,5} 120 ⁶ 208 ^{5,6} 240 ^{5,6} 277 ⁶ 347 ^{5,6,7} 480 ^{5,6,7}	Shipped included SPA Square pole mounting RPA Round pole mounting WBA Wall bracket SPUMBA Square pole universal mounting adaptor ⁸ RPUMBA Round pole universal mounting adaptor ⁸ Shipped separately KMA8 DDBXD U Mast arm mounting bracket adaptor (specify finish) ⁹

Control options	Other options	Finish (required)
Shipped installed NLTAIR2 nLight AIR generation 2 enabled ¹⁰ PER NEMA twist-lock receptacle only (control ordered separate) ¹¹ PER5 Five-wire receptacle only (control ordered separate) ^{11,12} PER7 Seven-wire receptacle only (control ordered separate) ^{11,12} DMG 0-10V dimming extend out back of housing for external control (control ordered separate) PIR Bi-level, motion/ambient sensor, 8-15' mounting height, ambient sensor enabled at 5fc ^{5,13,14} PIRH Bi-level, motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 5fc ^{5,13,14} PIRHN Network, Bi-Level motion/ambient sensor ¹⁵ PIR1FC3V Bi-level, motion/ambient sensor, 8-15' mounting height, ambient sensor enabled at 1fc ^{5,13,14}	PIRH1FC3V Bi-level, motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 1fc ^{5,13,14} BL30 Bi-level switched dimming, 30% ^{5,16,17} BL50 Bi-level switched dimming, 50% ^{5,16,17} PNMTDD3 Part night, dim till dawn ^{5,18} PNMT5D3 Part night, dim 5 hrs ^{5,18} PNMT6D3 Part night, dim 6 hrs ^{5,18} PNMT7D3 Part night, dim 7 hrs ^{5,18} FAO Field adjustable output ¹⁹	Shipped installed HS House-side shield ²⁰ SF Single fuse (120, 277, 347V) ⁶ DF Double fuse (208, 240, 480V) ⁶ L90 Left rotated optics ¹ R90 Right rotated optics ¹ DDL Diffused drop lens ²⁰ Shipped separately BS Bird spikes ²¹ EGS External glare shield ²¹
		DDBXD Dark bronze DBLXD Black DNAXD Natural aluminum DWHXD White DDBTXD Textured dark bronze DBLBXD Textured black DNATXD Textured natural aluminum DWHGXD Textured white



Ordering Information

Accessories

Ordered and shipped separately.

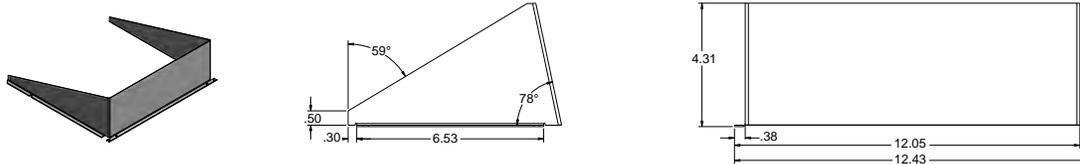
DLL127F 1.5 JU	Photocell - SSL twist-lock (120-277V) ²²
DLL347F 1.5 CUL JU	Photocell - SSL twist-lock (347V) ²²
DLL480F 1.5 CUL JU	Photocell - SSL twist-lock (480V) ²²
DSHORT SBK U	Shorting cap ²²
DSX0HS 20C U	House-side shield for 20 LED unit ²⁰
DSX0HS 30C U	House-side shield for 30 LED unit ²⁰
DSX0HS 40C U	House-side shield for 40 LED unit ²⁰
DSX0DDL U	Diffused drop lens (polycarbonate) ²⁰
PUMBA DDBXD U*	Square and round pole universal mounting bracket adaptor (specify finish) ²³
KMA8 DDBXD U	Mast arm mounting bracket adaptor (specify finish) ²³

For more control options, visit [DTL](#) and [ROAM](#) online.

NOTES

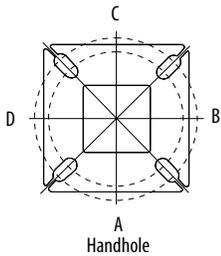
- P10, P11, P12 and P13 and rotated options (L90 or R90) only available together.
- AMBPC is not available with BLC, LCCO, RCCO, P4, P7 or P13.
- Not available with HS or DDL.
- MVOLT driver operates on any line voltage from 120-277V (50/60 Hz).
- Any PIRx with BL30, BL50 or PNMT, is not available with 208V, 240V, 347V, 480V or MVOLT. It is only available in 120V or 277V specified.
- Single fuse (SF) requires 120V, 277V or 347V. Double fuse (DF) requires 208V, 240V or 480V.
- Not available in P4, P7 or P13. Not available with BL30, BL50 or PNMT options.
- Existing drilled pole only. Available as a separate combination accessory; for retrofit use only: PUMBA (finish U); 1.5 G vibration load rating per ANCI C136.31.
- Must order fixture with SPA mounting. Must be ordered as a separate accessory; see Accessories information. For use with 2-3/8" mast arm (not included).
- Must be ordered with PIRHN.
- Photocell ordered and shipped as a separate line item from Acuity Brands Controls. See accessories. Shorting Cap included.
- If ROAM[®] node required, it must be ordered and shipped as a separate line item from Acuity Brands Controls. Shorting Cap included.
- Reference Motion Sensor table on page 3.
- Reference PER Table on page 3 to see functionality.
- Must be ordered with NLTAIR2. For more information on nLight Air 2 visit [this link](#).
- Requires (2) separately switched circuits.
- Not available with 347V, 480V or PNMT. For PER5 or PER7 see PER Table on page 3. Requires isolated neutral.
- Not available with 347V, 480V, BL30 and BL50. For PER5 or PER7 see PER Table on page 3. Separate Dusk to Dawn required.
- Not available with other dimming controls options.
- Not available with BLC, LCCO and RCCO distribution. Also available as a separate accessory; see Accessories information.
- Must be ordered with fixture for factory pre-drilling.
- Requires luminaire to be specified with PER, PER5 or PER7 option. See PER Table on page 3.
- For retrofit use only.

External Glare Shield



Drilling

HANDHOLE ORIENTATION



Tenon Mounting Slipfitter**

Tenon O.D.	Single Unit	2 at 180°	2 at 90°	3 at 120°	3 at 90°	4 at 90°
2-3/8"	AST20-190	AST20-280	AST20-290	AST20-320	AST20-390	AST20-490
2-7/8"	AST25-190	AST25-280	AST25-290	AST25-320	AST25-390	AST25-490
4"	AST35-190	AST35-280	AST35-290	AST35-320	AST35-390	AST35-490

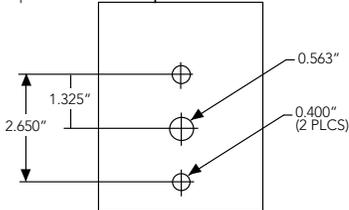
Pole drilling nomenclature: # of heads at degree from handhole (default side A)

DM19AS	DM28AS	DM29AS	DM32AS	DM39AS	DM49AS
1 @ 90°	2 @ 280°	2 @ 90°	3 @ 120°	3 @ 90°	4 @ 90°
Side B	Side B & D	Side B & C	Round pole only	Side B, C, & D	Sides A, B, C, D

Note: Review luminaire spec sheet for specific nomenclature

Template #8

Top of Pole



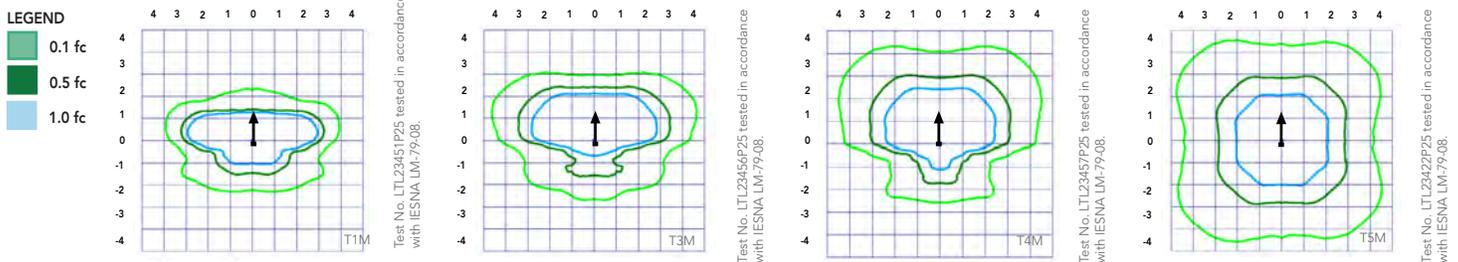
Pole top or tenon O.D.	4.5" @ 90°	4" @ 90°	3.5" @ 90°	3" @ 90°	4.5" @ 120°	4" @ 120°	3.5" @ 120°	3" @ 120°
DSX SPA	Y	Y	Y	N	-	-	-	-
DSX RPA	Y	Y	N	N	Y	Y	Y	Y
DSX SPUMBA	Y	N	N	N	-	-	-	-
DSX RPUMBA	N	N	N	N	Y	Y	Y	N

*3 fixtures @ 120 require round pole top/tenon.

Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit [Lithonia Lighting's D-Series Area Size 0 homepage](#).

Isofootcandle plots for the DSX0 LED 40C 1000 40K. Distances are in units of mounting height (20').



Performance Data

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient		Lumen Multiplier
0°C	32°F	1.04
5°C	41°F	1.04
10°C	50°F	1.03
15°C	59°F	1.02
20°C	68°F	1.01
25°C	77°F	1.00
30°C	86°F	0.99
35°C	95°F	0.98
40°C	104°F	0.97

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a **25°C ambient**, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	25000	50000	100000
Lumen Maintenance Factor	0.96	0.92	0.85

Electrical Load

	Performance Package	LED Count	Drive Current	Wattage	Current (A)					
					120	208	240	277	347	480
Forward Optics (Non-Rotated)	P1	20	530	38	0.32	0.18	0.15	0.15	0.10	0.08
	P2	20	700	49	0.41	0.23	0.20	0.19	0.14	0.11
	P3	20	1050	71	0.60	0.37	0.32	0.27	0.21	0.15
	P4	20	1400	92	0.77	0.45	0.39	0.35	0.28	0.20
	P5	40	700	89	0.74	0.43	0.38	0.34	0.26	0.20
	P6	40	1050	134	1.13	0.65	0.55	0.48	0.39	0.29
	P7	40	1300	166	1.38	0.80	0.69	0.60	0.50	0.37
Rotated Optics (Requires L90 or R90)	P10	30	530	53	0.45	0.26	0.23	0.21	0.16	0.12
	P11	30	700	72	0.60	0.35	0.30	0.27	0.20	0.16
	P12	30	1050	104	0.88	0.50	0.44	0.39	0.31	0.23
	P13	30	1300	128	1.08	0.62	0.54	0.48	0.37	0.27

Motion Sensor Default Settings

Option	Dimmed State	High Level (when triggered)	Photocell Operation	Dwell Time	Ramp-up Time	Ramp-down Time
PIR or PIRH	3V (37%) Output	10V (100%) Output	Enabled @ 5FC	5 min	3 sec	5 min
*PIR1FC3V or PIRH1FC3V	3V (37%) Output	10V (100%) Output	Enabled @ 1FC	5 min	3 sec	5 min

*for use with Inline Dusk to Dawn or timer.

PER Table

Control	PER (3 wire)	PER5 (5 wire)		PER7 (7 wire)	
		Wire 4/Wire5	Wire 4/Wire5	Wire 4/Wire5	Wire 6/Wire7
Photocontrol Only (On/Off)	✓	⚠	⚠	⚠	Wires Capped inside fixture
ROAM	⊘	✓	⚠	⚠	Wires Capped inside fixture
ROAM with Motion (ROAM on/off only)	⊘	⚠	⚠	⚠	Wires Capped inside fixture
Future-proof*	⊘	⚠	✓	✓	Wires Capped inside fixture
Future-proof* with Motion	⊘	⚠	✓	✓	Wires Capped inside fixture

✓	Recommended
⊘	Will not work
⚠	Alternate

*Future-proof means: Ability to change controls in the future.

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Forward Optics																												
LED Count	Drive Current	Power Package	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)					AMBPC (Amber Phosphor Converted)								
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW				
20	530	P1	38W	T1S	4,369	1	0	1	115	4,706	1	0	1	124	4,766	1	0	1	125	2,541	1	0	1	73				
				T2S	4,364	1	0	1	115	4,701	1	0	1	124	4,761	1	0	1	125	2,589	1	0	1	74				
				T2M	4,387	1	0	1	115	4,726	1	0	1	124	4,785	1	0	1	126	2,539	1	0	1	73				
				T3S	4,248	1	0	1	112	4,577	1	0	1	120	4,634	1	0	1	122	2,558	1	0	1	73				
				T3M	4,376	1	0	1	115	4,714	1	0	1	124	4,774	1	0	1	126	2,583	1	0	1	74				
				T4M	4,281	1	0	1	113	4,612	1	0	2	121	4,670	1	0	2	123	2,570	1	0	1	73				
				TFTM	4,373	1	0	1	115	4,711	1	0	2	124	4,771	1	0	2	126	2,540	1	0	1	73				
				TSVS	4,548	2	0	0	120	4,900	2	0	0	129	4,962	2	0	0	131	2,650	1	0	0	76				
				TSS	4,552	2	0	0	120	4,904	2	0	0	129	4,966	2	0	0	131	2,690	1	0	0	77				
				TSM	4,541	3	0	1	120	4,891	3	0	1	129	4,953	3	0	1	130	2,658	2	0	0	76				
				TSW	4,576	3	0	2	120	4,929	3	0	2	130	4,992	3	0	2	131	2,663	2	0	1	73				
				BLC	3,586	1	0	1	94	3,863	1	0	1	102	3,912	1	0	1	103									
				LCCO	2,668	1	0	1	70	2,874	1	0	2	76	2,911	1	0	2	77									
				RCCO	2,668	1	0	1	70	2,874	1	0	2	76	2,911	1	0	2	77									
				20	700	P2	49W	T1S	5,570	1	0	1	114	6,001	1	0	1	122	6,077	2	0	2	124	3,144	1	0	1	70
								T2S	5,564	1	0	2	114	5,994	1	0	2	122	6,070	2	0	2	124	3,203	1	0	1	71
T2M	5,593	1	0					1	114	6,025	1	0	1	123	6,102	1	0	1	125	3,141	1	0	1	70				
T3S	5,417	1	0					2	111	5,835	1	0	2	119	5,909	2	0	2	121	3,165	1	0	1	70				
T3M	5,580	1	0					2	114	6,011	1	0	2	123	6,087	1	0	2	124	3,196	1	0	1	71				
T4M	5,458	1	0					2	111	5,880	1	0	2	120	5,955	1	0	2	122	3,179	1	0	1	71				
TFTM	5,576	1	0					2	114	6,007	1	0	2	123	6,083	1	0	2	124	3,143	1	0	1	70				
TSVS	5,799	2	0					0	118	6,247	2	0	0	127	6,327	2	0	0	129	3,278	2	0	0	73				
TSS	5,804	2	0					0	118	6,252	2	0	0	128	6,332	2	0	1	129	3,328	2	0	0	74				
TSM	5,789	3	0					1	118	6,237	3	0	1	127	6,316	3	0	1	129	3,288	2	0	1	73				
TSW	5,834	3	0					2	119	6,285	3	0	2	128	6,364	3	0	2	130	3,295	2	0	1	73				
BLC	4,572	1	0					1	93	4,925	1	0	1	101	4,987	1	0	1	102									
LCCO	3,402	1	0					2	69	3,665	1	0	2	75	3,711	1	0	2	76									
RCCO	3,402	1	0					2	69	3,665	1	0	2	75	3,711	1	0	2	76									
20	1050	P3	71W					T1S	7,833	2	0	2	110	8,438	2	0	2	119	8,545	2	0	2	120					
								T2S	7,825	2	0	2	110	8,429	2	0	2	119	8,536	2	0	2	120					
				T2M	7,865	2	0	2	111	8,473	2	0	2	119	8,580	2	0	2	121									
				T3S	7,617	2	0	2	107	8,205	2	0	2	116	8,309	2	0	2	117									
				T3M	7,846	2	0	2	111	8,452	2	0	2	119	8,559	2	0	2	121									
				T4M	7,675	2	0	2	108	8,269	2	0	2	116	8,373	2	0	2	118									
				TFTM	7,841	2	0	2	110	8,447	2	0	2	119	8,554	2	0	2	120									
				TSVS	8,155	3	0	0	115	8,785	3	0	0	124	8,896	3	0	0	125									
				TSS	8,162	3	0	1	115	8,792	3	0	1	124	8,904	3	0	1	125									
				TSM	8,141	3	0	2	115	8,770	3	0	2	124	8,881	3	0	2	125									
				TSW	8,204	3	0	2	116	8,838	4	0	2	124	8,950	4	0	2	126									
				BLC	6,429	1	0	2	91	6,926	1	0	2	98	7,013	1	0	2	99									
				LCCO	4,784	1	0	2	67	5,153	1	0	2	73	5,218	1	0	2	73									
				RCCO	4,784	1	0	2	67	5,153	1	0	2	73	5,218	1	0	2	73									
				20	1400	P4	92W	T1S	9,791	2	0	2	106	10,547	2	0	2	115	10,681	2	0	2	116					
								T2S	9,780	2	0	2	106	10,536	2	0	2	115	10,669	2	0	2	116					
T2M	9,831	2	0					2	107	10,590	2	0	2	115	10,724	2	0	2	117									
T3S	9,521	2	0					2	103	10,256	2	0	2	111	10,386	2	0	2	113									
T3M	9,807	2	0					2	107	10,565	2	0	2	115	10,698	2	0	2	116									
T4M	9,594	2	0					2	104	10,335	2	0	3	112	10,466	2	0	3	114									
TFTM	9,801	2	0					2	107	10,558	2	0	2	115	10,692	2	0	2	116									
TSVS	10,193	3	0					1	111	10,981	3	0	1	119	11,120	3	0	1	121									
TSS	10,201	3	0					1	111	10,990	3	0	1	119	11,129	3	0	1	121									
TSM	10,176	4	0					2	111	10,962	4	0	2	119	11,101	4	0	2	121									
TSW	10,254	4	0					3	111	11,047	4	0	3	120	11,186	4	0	3	122									
BLC	8,036	1	0					2	87	8,656	1	0	2	94	8,766	1	0	2	95									
LCCO	5,979	1	0					2	65	6,441	1	0	2	70	6,523	1	0	3	71									
	5,979	1	0					2	65	6,441	1	0	2	70	6,523	1	0	3	71									

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Forward Optics																								
LED Count	Drive Current	Power Package	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)					AMBPC (Amber Phosphor Converted)				
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
40	700	P5	89W	T1S	10,831	2	0	2	122	11,668	2	0	2	131	11,816	2	0	2	133					
				T2S	10,820	2	0	2	122	11,656	2	0	2	131	11,803	2	0	2	133					
				T2M	10,876	2	0	2	122	11,716	2	0	2	132	11,864	2	0	2	133					
				T3S	10,532	2	0	2	118	11,346	2	0	2	127	11,490	2	0	2	129					
				T3M	10,849	2	0	2	122	11,687	2	0	2	131	11,835	2	0	2	133					
				T4M	10,613	2	0	3	119	11,434	2	0	3	128	11,578	2	0	3	130					
				TFTM	10,842	2	0	2	122	11,680	2	0	2	131	11,828	2	0	2	133					
				TSVS	11,276	3	0	1	127	12,148	3	0	1	136	12,302	3	0	1	138					
				TSS	11,286	3	0	1	127	12,158	3	0	1	137	12,312	3	0	1	138					
				TSM	11,257	4	0	2	126	12,127	4	0	2	136	12,280	4	0	2	138					
				TSW	11,344	4	0	3	127	12,221	4	0	3	137	12,375	4	0	3	139					
				BLC	8,890	1	0	2	100	9,576	1	0	2	108	9,698	1	0	2	109					
				LCCO	6,615	1	0	3	74	7,126	1	0	3	80	7,216	1	0	3	81					
				RCCO	6,615	1	0	3	74	7,126	1	0	3	80	7,216	1	0	3	81					
40	1050	P6	134W	T1S	14,805	3	0	3	110	15,949	3	0	3	119	16,151	3	0	3	121	6,206	2	0	2	68
				T2S	14,789	3	0	3	110	15,932	3	0	3	119	16,134	3	0	3	120	6,322	2	0	2	69
				T2M	14,865	3	0	3	111	16,014	3	0	3	120	16,217	3	0	3	121	6,201	2	0	2	68
				T3S	14,396	3	0	3	107	15,509	3	0	3	116	15,705	3	0	3	117	6,247	1	0	2	69
				T3M	14,829	2	0	3	111	15,975	3	0	3	119	16,177	3	0	3	121	6,308	2	0	2	69
				T4M	14,507	2	0	3	108	15,628	3	0	3	117	15,826	3	0	3	118	6,275	1	0	2	69
				TFTM	14,820	2	0	3	111	15,965	3	0	3	119	16,167	3	0	3	121	6,203	1	0	2	68
				TSVS	15,413	4	0	1	115	16,604	4	0	1	124	16,815	4	0	1	125	6,671	2	0	0	73
				TSS	15,426	3	0	1	115	16,618	4	0	1	124	16,828	4	0	1	126	6,569	2	0	0	72
				TSM	15,387	4	0	2	115	16,576	4	0	2	124	16,786	4	0	2	125	6,491	3	0	1	71
				TSW	15,506	4	0	3	116	16,704	4	0	3	125	16,915	4	0	3	126	6,504	3	0	2	71
				BLC	12,151	1	0	2	91	13,090	1	0	2	98	13,255	1	0	2	99					
				LCCO	9,041	1	0	3	67	9,740	1	0	3	73	9,863	1	0	3	74					
				RCCO	9,041	1	0	3	67	9,740	1	0	3	73	9,863	1	0	3	74					
40	1300	P7	166W	T1S	17,023	3	0	3	103	18,338	3	0	3	110	18,570	3	0	3	112					
				T2S	17,005	3	0	3	102	18,319	3	0	3	110	18,551	3	0	3	112					
				T2M	17,092	3	0	3	103	18,413	3	0	3	111	18,646	3	0	3	112					
				T3S	16,553	3	0	3	100	17,832	3	0	3	107	18,058	3	0	3	109					
				T3M	17,051	3	0	3	103	18,369	3	0	3	111	18,601	3	0	3	112					
				T4M	16,681	3	0	3	100	17,969	3	0	3	108	18,197	3	0	3	110					
				TFTM	17,040	3	0	3	103	18,357	3	0	4	111	18,590	3	0	4	112					
				TSVS	17,723	4	0	1	107	19,092	4	0	1	115	19,334	4	0	1	116					
				TSS	17,737	4	0	2	107	19,108	4	0	2	115	19,349	4	0	2	117					
				TSM	17,692	4	0	2	107	19,059	4	0	2	115	19,301	4	0	2	116					
				TSW	17,829	5	0	3	107	19,207	5	0	3	116	19,450	5	0	3	117					
				BLC	13,971	2	0	2	84	15,051	2	0	2	91	15,241	2	0	2	92					
				LCCO	10,396	1	0	3	63	11,199	1	0	3	67	11,341	1	0	3	68					
					10,396	1	0	3	63	11,199	1	0	3	67	11,341	1	0	3	68					

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Rotated Optics																															
LED Count	Drive Current	Power Package	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)					AMBPC (Amber Phosphor Converted)											
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW							
30	530	P10	53W	T1S	6,727	2	0	2	127	7,247	3	0	3	137	7,339	3	0	3	138												
				T2S	6,689	3	0	3	126	7,205	3	0	3	136	7,297	3	0	3	138												
				T2M	6,809	3	0	3	128	7,336	3	0	3	138	7,428	3	0	3	140												
				T3S	6,585	3	0	3	124	7,094	3	0	3	134	7,183	3	0	3	136												
				T3M	6,805	3	0	3	128	7,331	3	0	3	138	7,424	3	0	3	140												
				T4M	6,677	3	0	3	126	7,193	3	0	3	136	7,284	3	0	3	137												
				TFTM	6,850	3	0	3	129	7,379	3	0	3	139	7,472	3	0	3	141												
				T5VS	6,898	3	0	0	130	7,431	3	0	0	140	7,525	3	0	0	142												
				T5S	6,840	2	0	1	129	7,368	2	0	1	139	7,461	2	0	1	141												
				T5M	6,838	3	0	1	129	7,366	3	0	2	139	7,460	3	0	2	141												
				T5W	6,777	3	0	2	128	7,300	3	0	2	138	7,393	3	0	2	139												
				BLC	5,626	2	0	2	106	6,060	2	0	2	114	6,137	2	0	2	116												
				LCCO	4,018	1	0	2	76	4,328	1	0	2	82	4,383	1	0	2	83												
				RCCO	4,013	3	0	3	76	4,323	3	0	3	82	4,377	3	0	3	83												
				30	700	P11	72W	T1S	8,594	3	0	3	119	9,258	3	0	3	129	9,376	3	0	3	130								
T2S	8,545	3	0					3	119	9,205	3	0	3	128	9,322	3	0	3	129												
T2M	8,699	3	0					3	121	9,371	3	0	3	130	9,490	3	0	3	132												
T3S	8,412	3	0					3	117	9,062	3	0	3	126	9,177	3	0	3	127												
T3M	8,694	3	0					3	121	9,366	3	0	3	130	9,484	3	0	3	132												
T4M	8,530	3	0					3	118	9,189	3	0	3	128	9,305	3	0	3	129												
TFTM	8,750	3	0					3	122	9,427	3	0	3	131	9,546	3	0	3	133												
T5VS	8,812	3	0					0	122	9,493	3	0	0	132	9,613	3	0	0	134												
T5S	8,738	3	0					1	121	9,413	3	0	1	131	9,532	3	0	1	132												
T5M	8,736	3	0					2	121	9,411	3	0	2	131	9,530	3	0	2	132												
T5W	8,657	4	0					2	120	9,326	4	0	2	130	9,444	4	0	2	131												
BLC	7,187	3	0					3	100	7,742	3	0	3	108	7,840	3	0	3	109												
LCCO	5,133	1	0					2	71	5,529	1	0	2	77	5,599	1	0	2	78												
RCCO	5,126	3	0					3	71	5,522	3	0	3	77	5,592	3	0	3	78												
30	1050	P12	104W					T1S	12,149	3	0	3	117	13,088	3	0	3	126	13,253	3	0	3	127								
				T2S	12,079	4	0	4	116	13,012	4	0	4	125	13,177	4	0	4	127												
				T2M	12,297	3	0	3	118	13,247	3	0	3	127	13,415	3	0	3	129												
				T3S	11,891	4	0	4	114	12,810	4	0	4	123	12,972	4	0	4	125												
				T3M	12,290	3	0	3	118	13,239	4	0	4	127	13,407	4	0	4	129												
				T4M	12,058	4	0	4	116	12,990	4	0	4	125	13,154	4	0	4	126												
				TFTM	12,369	4	0	4	119	13,325	4	0	4	128	13,494	4	0	4	130												
				T5VS	12,456	3	0	1	120	13,419	3	0	1	129	13,589	4	0	1	131												
				T5S	12,351	3	0	1	119	13,306	3	0	1	128	13,474	3	0	1	130												
				T5M	12,349	4	0	2	119	13,303	4	0	2	128	13,471	4	0	2	130												
				T5W	12,238	4	0	3	118	13,183	4	0	3	127	13,350	4	0	3	128												
				BLC	10,159	3	0	3	98	10,944	3	0	3	105	11,083	3	0	3	107												
				LCCO	7,256	1	0	3	70	7,816	1	0	3	75	7,915	1	0	3	76												
				RCCO	7,246	3	0	3	70	7,806	4	0	4	75	7,905	4	0	4	76												
				30	1300	P13	128W	T1S	14,438	3	0	3	113	15,554	3	0	3	122	15,751	3	0	3	123								
T2S	14,355	4	0					4	112	15,465	4	0	4	121	15,660	4	0	4	122												
T2M	14,614	3	0					3	114	15,744	4	0	4	123	15,943	4	0	4	125												
T3S	14,132	4	0					4	110	15,224	4	0	4	119	15,417	4	0	4	120												
T3M	14,606	4	0					4	114	15,735	4	0	4	123	15,934	4	0	4	124												
T4M	14,330	4	0					4	112	15,438	4	0	4	121	15,633	4	0	4	122												
TFTM	14,701	4	0					4	115	15,836	4	0	4	124	16,037	4	0	4	125												
T5VS	14,804	4	0					1	116	15,948	4	0	1	125	16,150	4	0	1	126												
T5S	14,679	3	0					1	115	15,814	3	0	1	124	16,014	3	0	1	125												
T5M	14,676	4	0					2	115	15,810	4	0	2	124	16,010	4	0	2	125												
T5W	14,544	4	0					3	114	15,668	4	0	3	122	15,866	4	0	3	124												
BLC	7919	3	0					3	62	8531	3	0	3	67	8639	3	0	3	67												
LCCO	5145	1	0					2	40	5543	1	0	2	43	5613	1	0	2	44												
									5139	3	0	3	40	5536	3	0	3	43	5606	3	0	3	44								

FEATURES & SPECIFICATIONS

INTENDED USE

The sleek design of the D-Series Size 0 reflects the embedded high performance LED technology. It is ideal for many commercial and municipal applications, such as parking lots, plazas, campuses, and pedestrian areas.

CONSTRUCTION

Single-piece die-cast aluminum housing has integral heat sink fins to optimize thermal management through conductive and convective cooling. Modular design allows for ease of maintenance and future light engine upgrades. The LED driver is mounted in direct contact with the casting to promote low operating temperature and long life. Housing is completely sealed against moisture and environmental contaminants (IP65). Low EPA (0.95 ft²) for optimized pole wind loading.

FINISH

Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a minimum 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling. Available in both textured and non-textured finishes.

OPTICS

Precision-molded proprietary acrylic lenses are engineered for superior area lighting distribution, uniformity, and pole spacing. Light engines are available in 3000 K, 4000 K or 5000 K (70 CRI) configurations. The D-Series Size 0 has zero uplight and qualifies as a Nighttime Friendly™ product, meaning it is consistent with the LEED® and Green Globes™ criteria for eliminating wasteful uplight.

ELECTRICAL

Light engine(s) configurations consist of high-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long life (up to L85/100,000 hours at 25°C). Class 1 electronic drivers are designed to have a power factor >90%, THD <20%, and an expected life of

100,000 hours with <1% failure rate. Easily serviceable 10kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).

INSTALLATION

Included mounting block and integral arm facilitate quick and easy installation. Stainless steel bolts fasten the mounting block securely to poles and walls, enabling the D-Series Size 0 to withstand up to a 3.0 G vibration load rating per ANSI C136.31. The D-Series Size 0 utilizes the AERIS™ series pole drilling pattern (template #8). Optional terminal block and NEMA photocontrol receptacle are also available.

LISTINGS

UL Listed for wet locations. Light engines are IP66 rated; luminaire is IP65 rated. Rated for -40°C minimum ambient. U.S. Patent No. D672,492 S. International patent pending.

DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

International Dark-Sky Association (IDA) Fixture Seal of Approval (FSA) is available for all products on this page utilizing 3000K color temperature only.

WARRANTY

5-year limited warranty. Complete warranty terms located at: www.acuitybrands.com/CustomResources/Terms_and_conditions.aspx

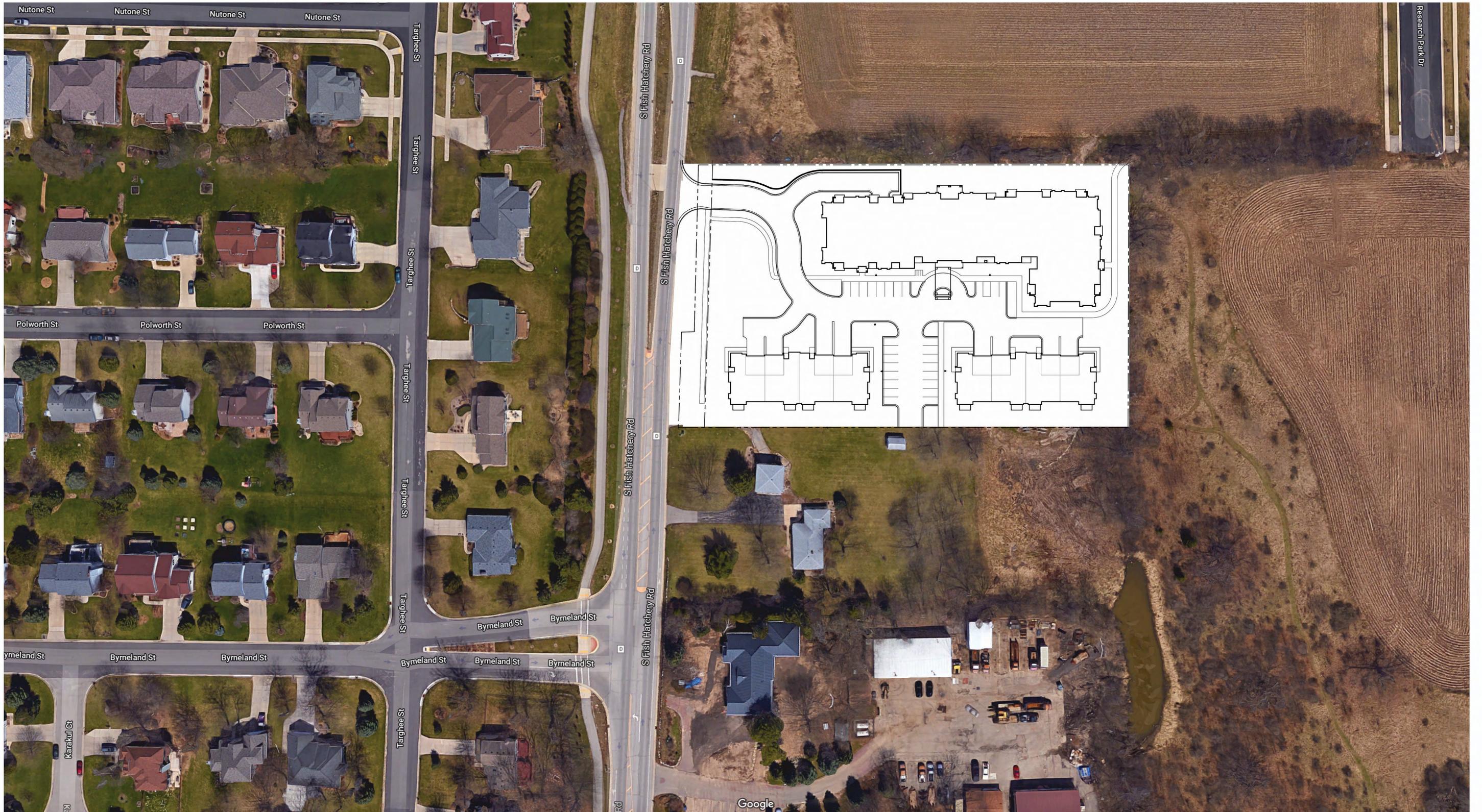
Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.





Aerial
2556 S. Fish Hatchery Rd.
Fitchburg, WI





Oak Ridge Senior Apartments
Aerial -Site Plan
2556 S. Fish Hatchery Rd
February 19, 2019

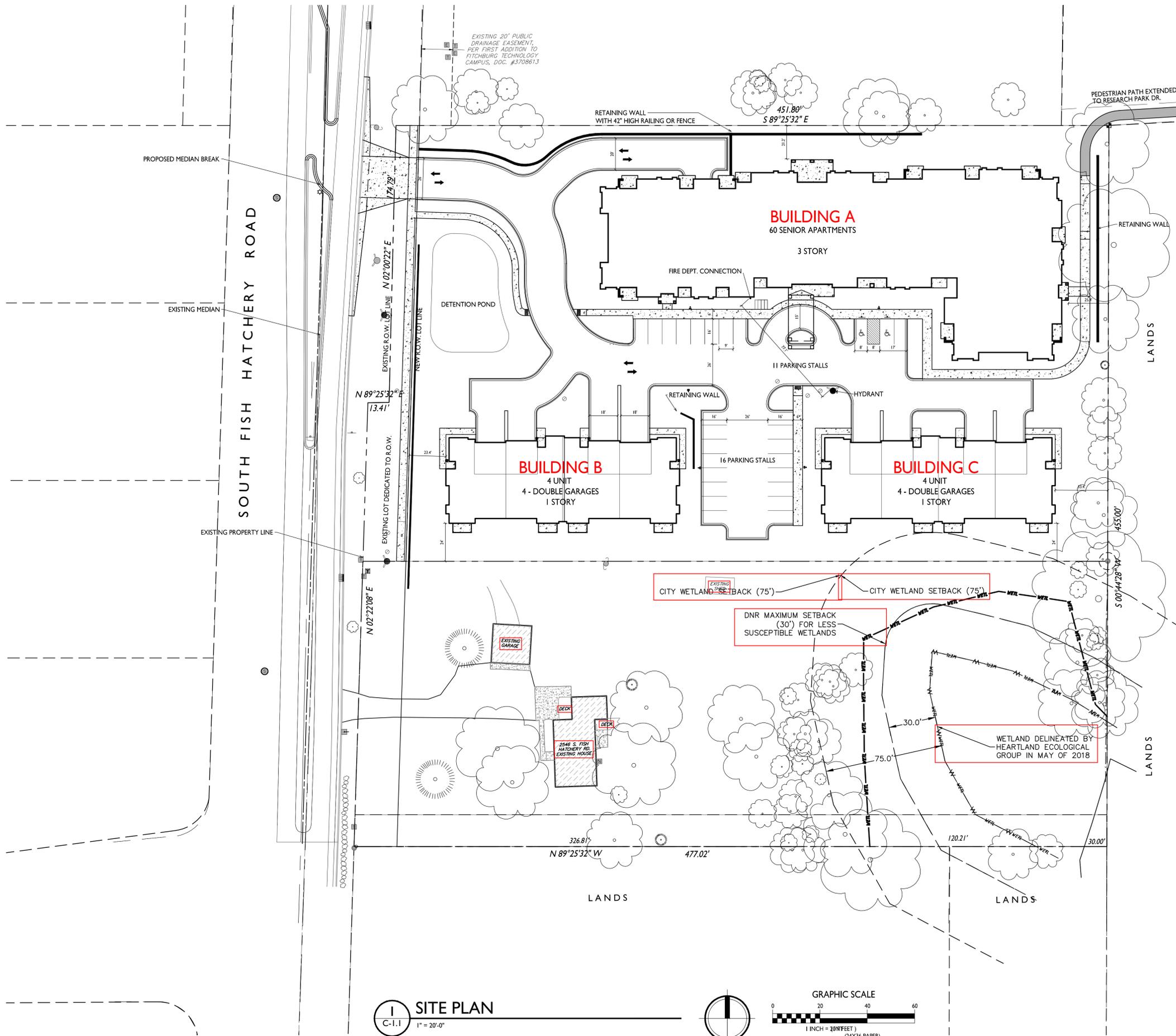


SHEET INDEX

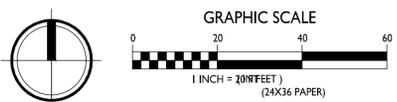
SITE	
C-1.1	SITE PLAN
C-1.2	SITE LIGHTING PLAN
C-1.3	FIRE DEPARTMENT ACCESS
C-2.0 EXISTING CONDITIONS PLAN	
C-3.0	DEMOLITION PLAN
C-4.0	GRADING & EROSION CONTROL PLAN
C-4.1	GRADING & EROSION CONTROL PLAN
C-5.0	UTILITY PLAN
C-6.0	CONSTRUCTION DETAILS
C-6.1	CONSTRUCTION DETAILS
C-6.2	CONSTRUCTION DETAILS
C-6.3	CONSTRUCTION DETAILS
C-6.4	CONSTRUCTION DETAILS
L-1.1 LANDSCAPE PLAN	
ARCHITECTURAL	
A-1.0A BASEMENT PLAN	
A-1.1A	FIRST FLOOR PLAN
A-1.2A	SECOND FLOOR PLAN
A-1.3A	THIRD FLOOR PLAN
A-2.1A	ELEVATIONS
A-2.2A	ELEVATIONS
A-1.0B BASEMENT & FIRST FLOOR PLAN	
A-2.1B	ELEVATIONS

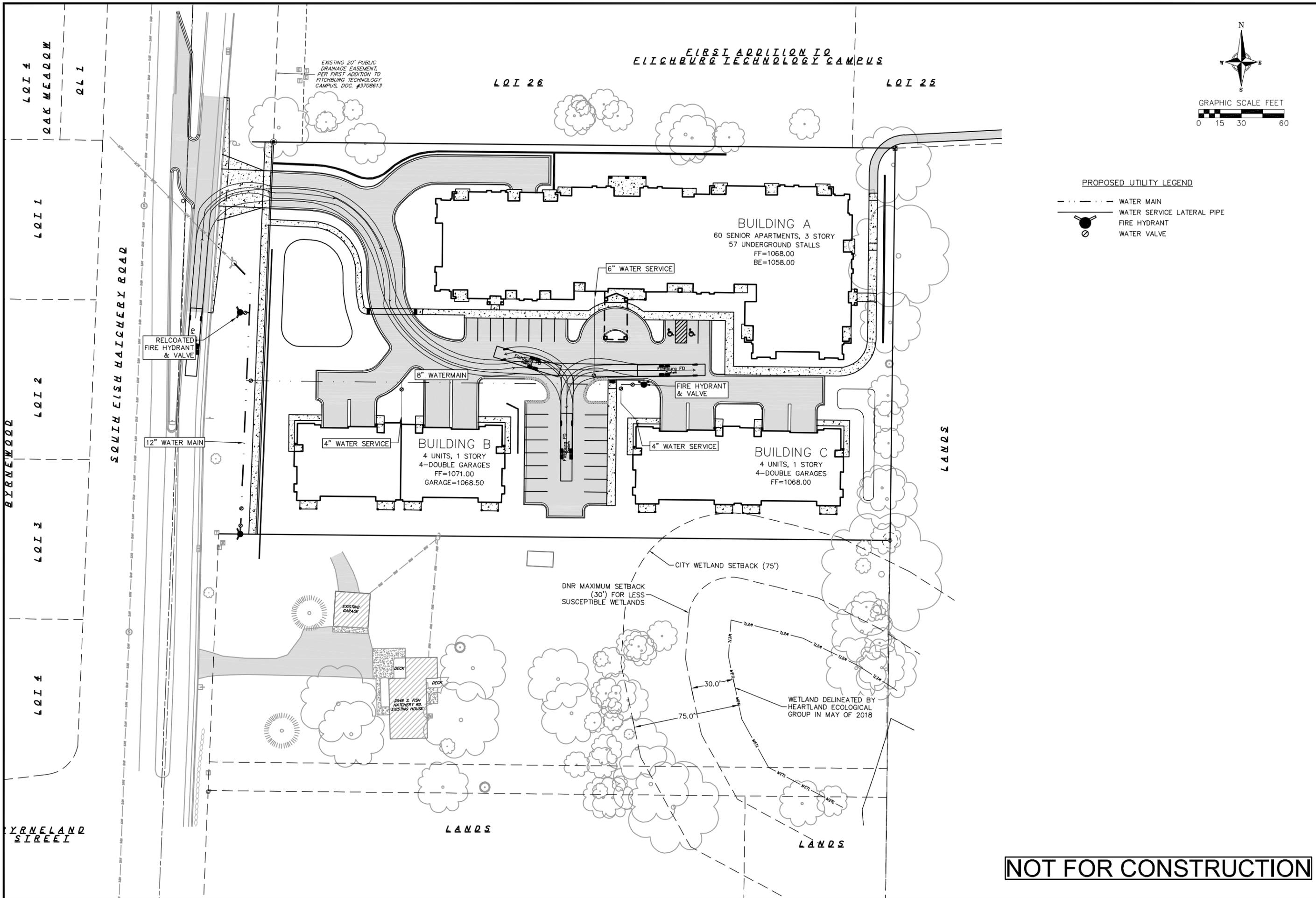
SITE DEVELOPMENT DATA:

LOT AREA	121,097 SF / 2.78 ACRES
DWELLING UNITS	68 DU
DENSITY	68 UNITS/ 2.9 ACRES = 23.44 UNITS / ACRE
PERVIOUS AREA	46,868 SF
IMPERVIOUS AREA	74,229 SF
IMPERVIOUS SURFACE RATIO	61.3%
DWELLING UNIT MIX:	
	BLDG A B C TOTAL
ONE BEDROOM	37 0 0 37
TWO BEDROOM	23 4 4 31
TOTAL DWELLING UNITS	60 4 4 68
VEHICLE PARKING:	
SURFACE (INCL. GARAGE DRIVE)	43 STALLS
SURFACE GARAGE / COVERED	16 STALLS
UNDERGROUND / COVERED	57 STALLS
TOTAL	116 STALLS
BIKE PARKING:	
SURFACE	4 STALLS
GARAGES / COVERED	8 STALLS
UNDERGROUND / COVERED	13 STALLS
TOTAL	25 STALLS

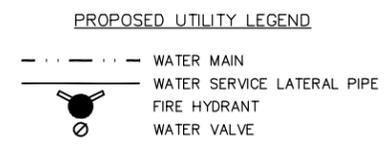
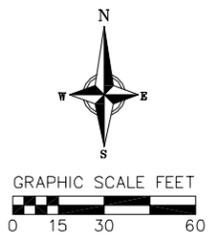


SITE PLAN
C-1.1
1" = 20'-0"





FIRST ADDITION TO
ELICHBURG TECHNOLOGY CAMPUS



REVISIONS	NO.	DATE	REMARKS

SCALE: AS SHOWN

DATE: 03/08/2019

DRAFTER: NUJH

CHECKED: RKOL

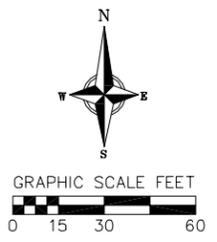
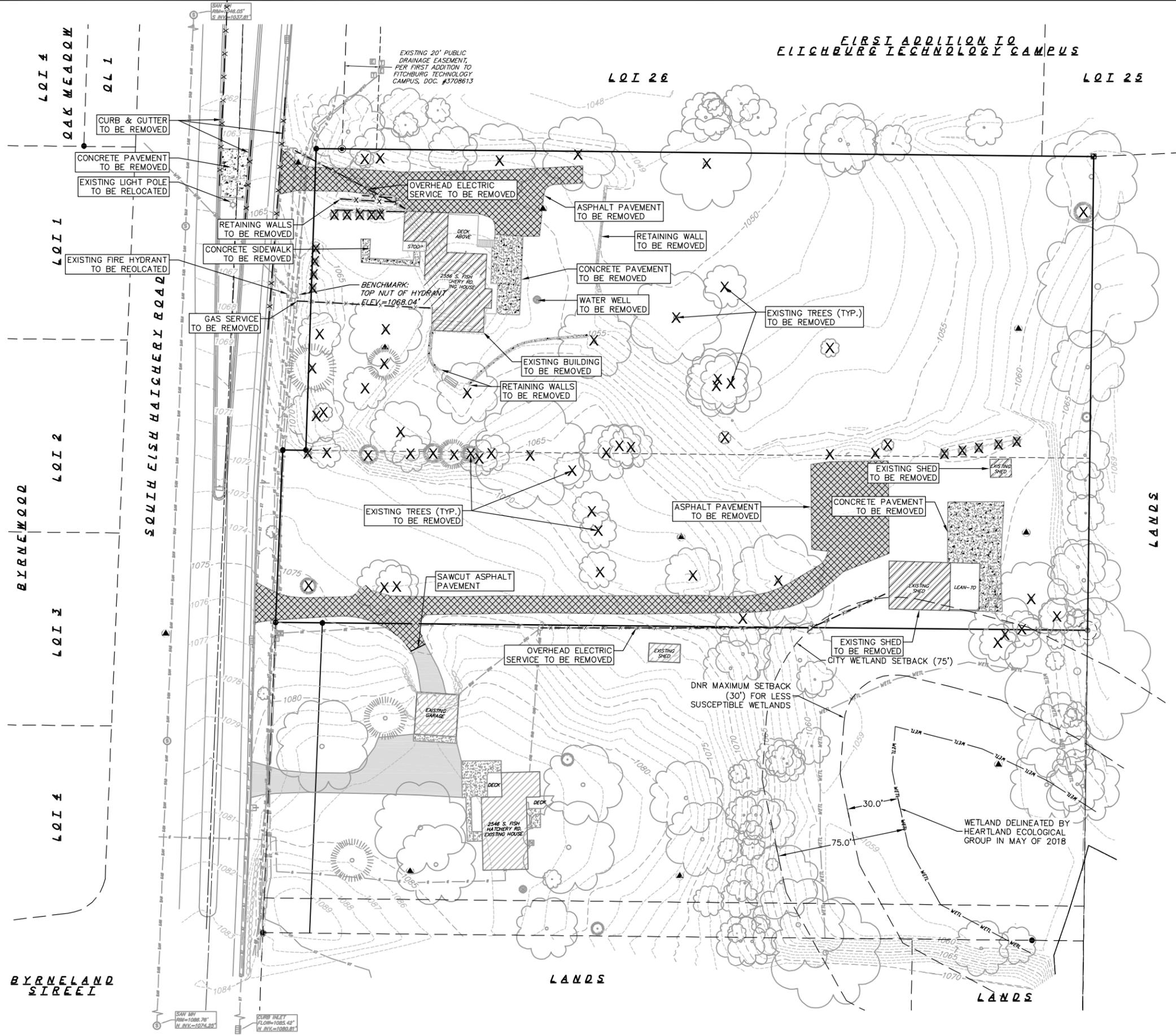
PROJECT NO.: 180065

SHEET: 1 OF 1

DWG. NO.: C-1.3

NOT FOR CONSTRUCTION

FIRST ADDITION TO
ELICHBURG TECHNOLOGY CAMPUS



- SURVEY LEGEND**
- PUBLIC LAND CORNER AS NOTED
 - ⊙ FOUND 1" Ø IRON PIPE
 - ⊙ FOUND 1 1/4" Ø IRON ROD
 - FOUND 3/4" Ø IRON ROD

- TOPOGRAPHIC SYMBOL LEGEND**
- ▭ EXISTING MAILBOX
 - ⊕ EXISTING SIGN
 - ⊕ EXISTING CURB INLET
 - ⊕ EXISTING SANITARY MANHOLE
 - ⊕ EXISTING FIRE HYDRANT
 - ⊕ EXISTING WELL
 - ⊕ EXISTING GAS VALVE
 - ⊕ EXISTING GAS METER
 - ⊕ EXISTING AIR CONDITIONING PEDESTAL
 - ⊕ EXISTING TRANSFORMER
 - ⊕ EXISTING LIGHT POLE
 - ⊕ EXISTING UTILITY POLE
 - ⊕ EXISTING TELEPHONE PEDESTAL
 - ⊕ EXISTING SHRUB
 - ⊕ EXISTING CONIFEROUS TREE
 - ⊕ EXISTING DECIDUOUS TREE

- TOPOGRAPHIC LINEWORK LEGEND**
- UT --- UT --- EXISTING UNDERGROUND TELEPHONE
 - RW --- RW --- EXISTING RETAINING WALL
 - WF --- WF --- EXISTING WIRE FENCE
 - UE --- UE --- EXISTING UNDERGROUND ELECTRIC LINE
 - GU --- GU --- EXISTING OVERHEAD GENERAL UTILITIES
 - SAN --- SAN --- EXISTING SANITARY SEWER LINE
 - ST --- ST --- EXISTING STORM SEWER LINE
 - WM --- WM --- EXISTING WATER MAIN
 - B20 --- B20 --- EXISTING MAJOR CONTOUR
 - 818 --- 818 --- EXISTING MINOR CONTOUR

NOTE:
 INFORMATION DEPICTED ON THE EXISTING CONDITIONS PLAN HAS BEEN PROVIDED TO THE ENGINEER BY OTHERS. A FIELD VERIFICATION OF THESE CONDITIONS HAS NOT BEEN PERFORMED. THE ENGINEER IS NOT RESPONSIBLE FOR ERRORS AND/OR OMISSIONS IN THE EXISTING CONDITIONS DEPICTED ON THE PLAN. USERS ARE ENCOURAGED TO CONFIRM INFORMATION PRIOR TO USE.

- DEMOLITION PLAN LEGEND**
- X --- X --- CURB AND GUTTER REMOVAL
 - ▨ ASPHALT REMOVAL
 - ▨ CONCRETE REMOVAL
 - ▨ BUILDING REMOVAL
 - ⊕ TREE REMOVAL
 - SAWCUT --- SAWCUT
 - ⊕ UTILITY STRUCTURE REMOVAL
 - X --- X --- UTILITY LINE REMOVAL

NOT FOR CONSTRUCTION

REVISIONS	NO.	DATE	REMARKS

SCALE: AS SHOWN

DATE: 03/08/2019

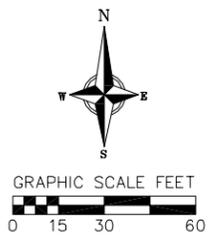
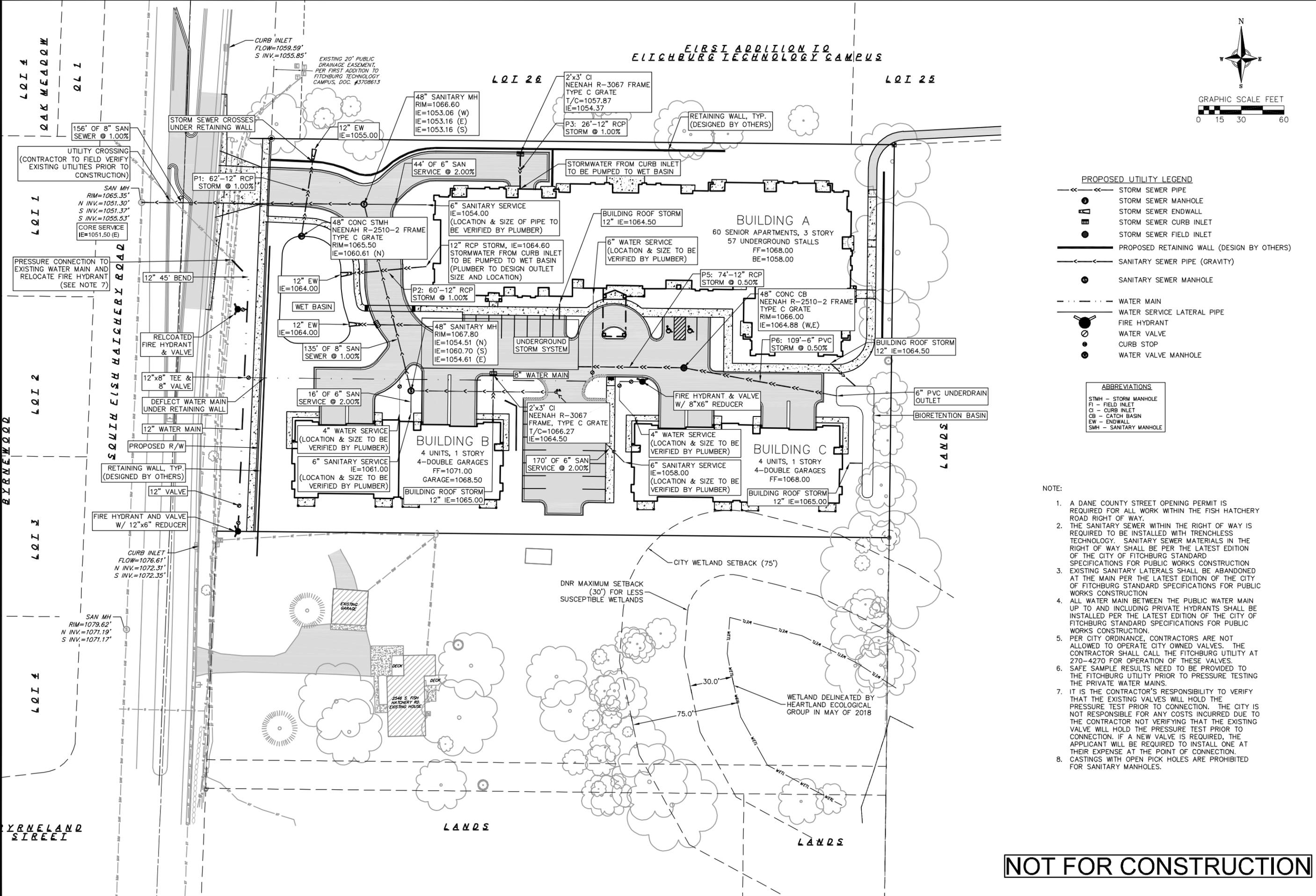
DRAFTER: JZAM

CHECKED: JDOY

PROJECT NO.: 180065

SHEET: 2 OF 9

DWG. NO.: C-3.0



- PROPOSED UTILITY LEGEND**
- >---> STORM SEWER PIPE
 - STORM SEWER MANHOLE
 - ▭ STORM SEWER ENDWALL
 - ▭ STORM SEWER CURB INLET
 - STORM SEWER FIELD INLET
 - PROPOSED RETAINING WALL (DESIGN BY OTHERS)
 - >---> SANITARY SEWER PIPE (GRAVITY)
 - SANITARY SEWER MANHOLE
 - WATER MAIN
 - WATER SERVICE LATERAL PIPE
 - FIRE HYDRANT
 - WATER VALVE
 - CURB STOP
 - WATER VALVE MANHOLE

- ABBREVIATIONS**
- SMH - STORM MANHOLE
 - FI - FIELD INLET
 - CI - CURB INLET
 - CB - CATCH BASIN
 - EW - ENDWALL
 - SMH - SANITARY MANHOLE

- NOTE:**
1. A DANE COUNTY STREET OPENING PERMIT IS REQUIRED FOR ALL WORK WITHIN THE FISH HATCHERY ROAD RIGHT OF WAY.
 2. THE SANITARY SEWER WITHIN THE RIGHT OF WAY IS REQUIRED TO BE INSTALLED WITH TRENCHLESS TECHNOLOGY. SANITARY SEWER MATERIALS IN THE RIGHT OF WAY SHALL BE PER THE LATEST EDITION OF THE CITY OF FITCHBURG STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
 3. EXISTING SANITARY LATERALS SHALL BE ABANDONED AT THE MAIN PER THE LATEST EDITION OF THE CITY OF FITCHBURG STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
 4. ALL WATER MAIN BETWEEN THE PUBLIC WATER MAIN UP TO AND INCLUDING PRIVATE HYDRANTS SHALL BE INSTALLED PER THE LATEST EDITION OF THE CITY OF FITCHBURG STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
 5. PER CITY ORDINANCE, CONTRACTORS ARE NOT ALLOWED TO OPERATE CITY OWNED VALVES. THE CONTRACTOR SHALL CALL THE FITCHBURG UTILITY AT 270-4270 FOR OPERATION OF THESE VALVES.
 6. SAFE SAMPLE RESULTS NEED TO BE PROVIDED TO THE FITCHBURG UTILITY PRIOR TO PRESSURE TESTING THE PRIVATE WATER MAINS.
 7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THAT THE EXISTING VALVES WILL HOLD THE PRESSURE TEST PRIOR TO CONNECTION. THE CITY IS NOT RESPONSIBLE FOR ANY COSTS INCURRED DUE TO THE CONTRACTOR NOT VERIFYING THAT THE EXISTING VALVE WILL HOLD THE PRESSURE TEST PRIOR TO CONNECTION. IF A NEW VALVE IS REQUIRED, THE APPLICANT WILL BE REQUIRED TO INSTALL ONE AT THEIR EXPENSE AT THE POINT OF CONNECTION.
 8. CASTINGS WITH OPEN PICK HOLES ARE PROHIBITED FOR SANITARY MANHOLES.

NOT FOR CONSTRUCTION

REVISIONS		NO.	DATE	REMARKS

SCALE: AS SHOWN

DATE: 03/08/2019

DRAFTER: JARC

CHECKED: JDOY

PROJECT NO.: 180065

SHEET: 4 OF 9

DWG. NO.: C-5.0

EROSION CONTROL MEASURES

- EROSION CONTROL SHALL BE IN ACCORDANCE WITH THE CITY OF FITCHBURG EROSION CONTROL ORDINANCE AND CHAPTER NR 216 OF THE WISCONSIN ADMINISTRATIVE CODE.
- CONSTRUCT AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH WISCONSIN DNR TECHNICAL STANDARDS (<http://dnr.wi.gov/runoff/stormwater/techstds.htm>) AND WISCONSIN CONSTRUCTION SITE BEST MANAGEMENT PRACTICE HANDBOOK.
- INSTALL SEDIMENT CONTROL PRACTICES (TRACKING PAD, PERIMETER SILT FENCE, SEDIMENT BASINS, ETC.) PRIOR TO INITIATING OTHER LAND DISTURBING CONSTRUCTION ACTIVITIES.
- THE CONTRACTOR IS REQUIRED TO MAKE EROSION CONTROL INSPECTIONS AT THE END OF EACH WEEK AND WHEN 0.5 INCHES OF RAIN FALLS WITHIN 24 HOURS. INSPECTION REPORTS SHALL BE PREPARED AND FILED AS REQUIRED BY THE DNR AND/OR CITY. ALL MAINTENANCE WILL FOLLOW AN INSPECTION WITHIN 24 HOURS.
- EROSION CONTROL IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ACCEPTANCE OF THIS PROJECT. EROSION CONTROL MEASURES AS SHOWN SHALL BE THE MINIMUM PRECAUTIONS THAT WILL BE ALLOWED. ADDITIONAL EROSION CONTROL MEASURES, AS REQUESTED IN WRITING BY THE STATE OR LOCAL INSPECTORS, OR THE DEVELOPER'S ENGINEER, SHALL BE INSTALLED WITHIN 24 HOURS.
- A 3" CLEAR STONE TRACKING PAD SHALL BE INSTALLED AT THE CONSTRUCTION ENTRANCE TO PREVENT SEDIMENT FROM BEING TRACKED ONTO THE ADJACENT PAVED PUBLIC ROADWAY. SEDIMENT TRACKING PAD SHALL CONFORM TO WISDNR TECHNICAL STANDARD 1057. SEDIMENT REACHING THE PUBLIC ROAD SHALL BE REMOVED BY STREET CLEANING (NOT HYDRAULIC FLUSHING) BEFORE THE END OF EACH WORK DAY.
- CHANNELIZED RUNOFF:** FROM ADJACENT AREAS PASSING THROUGH THE SITE SHALL BE DIVERTED AROUND DISTURBED AREAS.
- STABILIZED DISTURBED GROUND:** ANY SOIL OR DIRT PILES WHICH WILL REMAIN IN EXISTENCE FOR MORE THAN 7-CONSECUTIVE DAYS, WHETHER TO BE WORKED DURING THAT PERIOD OR NOT, SHALL NOT BE LOCATED WITHIN 25- FEET OF ANY ROADWAY, PARKING LOT, PAVED AREA, OR DRAINAGE STRUCTURE OR CHANNEL (UNLESS INTENDED TO BE USED AS PART OF THE EROSION CONTROL MEASURES). TEMPORARY STABILIZATION AND CONTROL MEASURES (SEEDING, MULCHING, TARPING, EROSION MATTING, BARRIER FENCING, ETC.) ARE REQUIRED FOR THE PROTECTION OF DISTURBED AREAS AND SOIL PILES, WHICH WILL REMAIN UN-WORKED FOR A PERIOD OF MORE THAN 14-CONSECUTIVE CALENDAR DAYS. THESE MEASURES SHALL REMAIN IN PLACE UNTIL SITE HAS STABILIZED.
- SITE DE-WATERING:** WATER PUMPED FROM THE SITE SHALL BE TREATED BY TEMPORARY SEDIMENTATION BASINS OR OTHER APPROPRIATE CONTROL MEASURES. SEDIMENTATION BASINS SHALL HAVE A DEPTH OF AT LEAST 3 FEET, BE SURROUNDED BY SNOWFENCE OR EQUIVALENT BARRIER AND HAVE SUFFICIENT SURFACE AREA TO PROVIDE A SURFACE SETTLING RATE OF NO MORE THAN 750 GALLONS PER SQUARE FOOT PER DAY AT THE HIGHEST DEWATERING PUMPING RATE. WATER MAY NOT BE DISCHARGED IN A MANNER THAT CAUSES EROSION OF THE SITE, A NEIGHBORING SITE, OR THE BED OR BANKS OF THE RECEIVING WATER. POLYMERS MAY BE USED AS DIRECTED BY DNR TECHNICAL STANDARD 1061 (DE-WATERING).
- INLET FILTERS ARE TO BE PLACED IN STORMWATER INLET STRUCTURES AS SOON AS THEY ARE INSTALLED. ALL PROJECT AREA STORM INLETS NEED WISCONSIN D.O.T. TYPE D INLET PROTECTION. THE FILTERS SHALL BE MAINTAINED UNTIL THE CITY HAS ACCEPTED THE BINDER COURSE OF ASPHALT.
- USE DETENTION BASINS AS SEDIMENT BASINS DURING CONSTRUCTION (DO NOT USE INFILTRATION AREAS). AT THE END OF CONSTRUCTION, REMOVE SEDIMENT AND RESTORE PER PLAN.
- RESTORATION (SEED, FERTILIZE AND MULCH) SHALL BE PER SPECIFICATIONS ON THIS SHEET UNLESS SPECIAL RESTORATION IS CALLED FOR ON THE LANDSCAPE PLAN OR THE DETENTION BASIN DETAIL SHEET.
- TERRACES SHALL BE RESTORED WITH 6" TOPSOIL, PERMANENT SEED, FERTILIZER AND MULCH. LOTS SHALL BE RESTORED WITH 6" TOPSOIL, TEMPORARY SEED, FERTILIZER AND MULCH.
- AFTER DETENTION BASIN GRADING IS COMPLETE, THE BOTTOM OF DRY BASINS SHALL RECEIVE 6" TOPSOIL AND SHALL BE CHISEL-PLOWED TO A MINIMUM DEPTH OF 12" PRIOR TO RESTORATION.
- SEED, FERTILIZER AND MULCH SHALL BE APPLIED WITHIN 7 DAYS AFTER FINAL GRADE HAS BEEN ESTABLISHED. IF DISTURBED AREAS WILL NOT BE RESTORED IMMEDIATELY AFTER ROUGH GRADING, TEMPORARY SEED SHALL BE PLACED.
- FOR THE FIRST SIX WEEKS AFTER RESTORATION (E.G. SEED & MULCH, EROSION MAT, SOD) OF A DISTURBED AREA, INCLUDE SUMMER WATERING PROVISIONS OF ALL NEWLY SEEDED AND MULCHED AREAS WHENEVER 7 DAYS ELAPSE WITHOUT A RAIN EVENT.
- EROSION MAT (CLASS I, TYPE A URBAN PER WISCONSIN D.O.T. P.A.L.) SHALL BE INSTALLED ON ALL SLOPES 3:1 OR GREATER BUT LESS THAN 1:1.
- EROSION MAT (CLASS I, TYPE B URBAN PER WISCONSIN D.O.T. P.A.L.) SHALL BE INSTALLED ON THE BOTTOM (INVERT) OF ROADSIDE DITCHES/SWALES AS SHOWN ON THIS PLAN, 1 ROLL WIDTH.
- SOIL STABILIZERS SHALL BE APPLIED TO DISTURBED AREAS WITH SLOPES BETWEEN 10% AND 3:1 (DO NOT USE IN CHANNELS). SOIL STABILIZERS SHALL BE TYPE B, PER WISCONSIN D.O.T. P.A.L. (PRODUCT ACCEPTABILITY LIST), OR EQUAL. APPLY AT RATES AND METHODS SPECIFIED PER MANUFACTURER. SOIL STABILIZERS SHALL BE RE-APPLIED WHENEVER VEHICLES OR OTHER EQUIPMENT TRACK ON THE AREA.
- SILT FENCE OR EROSION MAT SHALL BE INSTALLED ALONG THE CONTOURS AT 100 FOOT INTERVALS DOWN THE SLOPE ON THE DISTURBED SLOPES STEEPER THAN 5% AND MORE THAN 100 FEET LONG THAT SHEET FLOW TO THE ROADWAY UNLESS SOIL STABILIZERS ARE USED.
- INSTALL MINIMUM 6'-7' WIDE EROSION MAT ALONG THE BACK OF CURB AFTER TOPSOIL HAS BEEN PLACED IN THE TERRACE IF THIS AREA WILL NOT BE SEEDED AND MULCHED WITHIN 48 HOURS OF PLACING TOPSOIL.
- SILT FENCE TO BE USED ACROSS AREAS OF THE LOT THAT SLOPE TOWARDS A PUBLIC STREET OR WATERWAY. SEE DETAILS.
- SEDIMENT SHALL BE CLEANED FROM CURB AND GUTTER AFTER EACH RAINFALL AND PRIOR TO PROJECT ACCEPTANCE.
- ACCUMULATED CONSTRUCTION SEDIMENT SHALL BE REMOVED FROM ALL PERMANENT BASINS TO THE ELEVATION SHOWN ON THE GRADING PLAN FOLLOWING THE STABILIZATION OF DRAINAGE AREAS.
- ALL CONSTRUCTION ENTRANCES SHALL HAVE TEMPORARY ROAD CLOSED SIGNS THAT WILL BE IN PLACE WHEN THE ENTRANCE IS NOT IN USE AND AT THE END OF EACH DAY.
- ANY PROPOSED CHANGES TO THE EROSION CONTROL PLAN MUST BE SUBMITTED AND APPROVED BY DANE COUNTY LAND CONSERVATION OR PERMITTING MUNICIPALITY.
- THE CITY, OWNER AND/OR ENGINEER MAY REQUIRE ADDITIONAL EROSION CONTROL MEASURES AT ANY TIME DURING CONSTRUCTION.

CONSTRUCTION SEQUENCE:

- INSTALL SILT FENCE AND TRACKING PAD
- STRIP TOPSOIL-DETENTION BASINS
- ROUGH GRADE DETENTION BASINS
- SEED DETENTION BASINS
- STRIP TOPSOIL-STREETS & LOTS
- ROUGH GRADE STREETS & LOTS
- SEED LOT AREAS AND INSTALL DRIVE-OVER VELOCITY CHECKS
- CONSTRUCT UNDERGROUND UTILITIES
- INSTALL INLET PROTECTION
- CONSTRUCT PARKING LOT DRIVES (STONE BASE, CURB & GUTTER, AND SIDEWALK). REMOVE DRIVE-OVER VELOCITY CHECKS WHEN BASE COURSE IS PLACED
- RESTORE TERRACES
- REMOVE TRACKING PAD, SILT FENCE AND DIVERSION BERM MEASURES AFTER DISTURBED AREAS ARE RESTORED

SEEDING RATES:

TEMPORARY:

- USE ANNUAL OATS AT 3.0 LB./1,000 S.F. FOR SPRING AND SUMMER PLANTINGS
- USE WINTER WHEAT OR RYE AT 3.0 LB./1,000 SF FOR FALL PLANTINGS STARTED

AFTER SEPTEMBER 15.

PERMANENT:

- USE WISCONSIN D.O.T. SEED MIX #40 AT 2 LB./1,000 S.F.

FERTILIZING RATES:

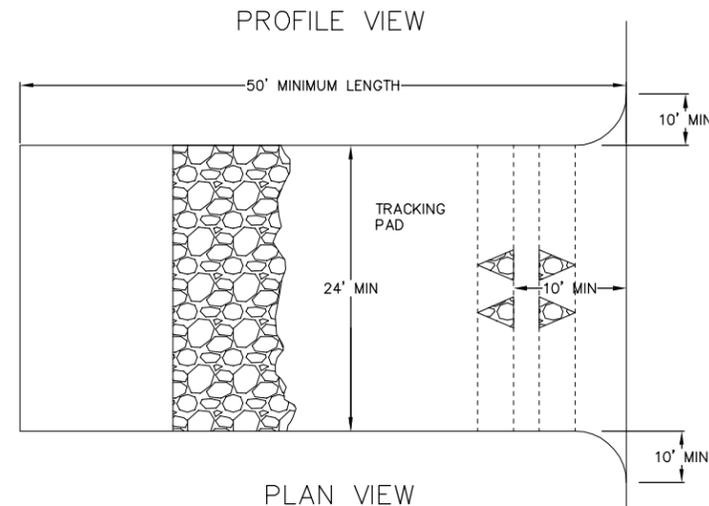
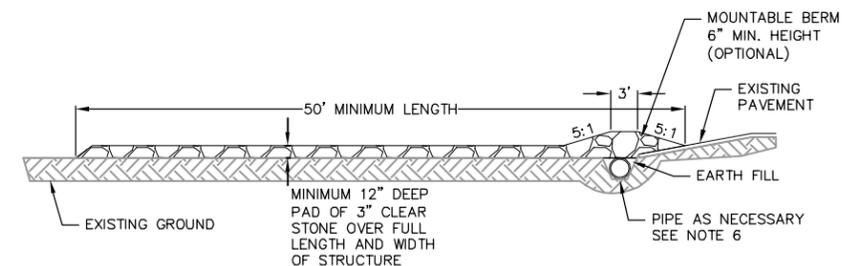
TEMPORARY AND PERMANENT:

- USE WISCONSIN D.O.T. TYPE A OR B AT 7 LB./1,000 S.F.

MULCHING RATES:

TEMPORARY AND PERMANENT:

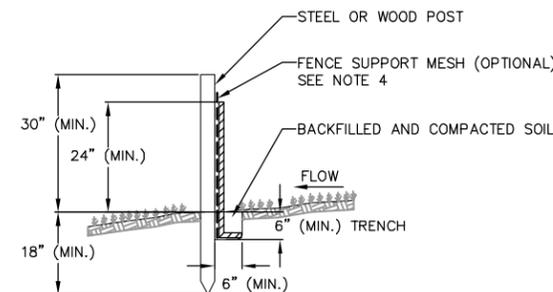
- USE 1/2" TO 1-1/2" STRAW OR HAY MULCH, CRIMPED PER SECTION 607.3.2.3, OR OTHER RATE AND METHOD PER SECTION 627, WISCONSIN D.O.T. STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION



- FOLLOW WISCONSIN DNR TECHNICAL STANDARD 1057 FOR FURTHER DETAILS AND INSTALLATION.
- LENGTH - MINIMUM OF 50'
- WIDTH - 24' MINIMUM, SHOULD BE FLARED AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
- ON SITES WITH A HIGH GROUND WATER TABLE OR WHERE SATURATED CONDITIONS EXIST, GEOTEXTILE FABRIC SHALL BE PLACED OVER EXISTING GROUND PRIOR TO PLACING STONE. FABRIC SHALL BE WISDOT TYPE-HR GEOTEXTILE FABRIC.
- STONE - CRUSHED 3" CLEAR STONE SHALL BE PLACED AT LEAST 12" DEEP OVER THE ENTIRE LENGTH AND WIDTH OF ENTRANCE.
- SURFACE WATER - ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARDS CONSTRUCTION ENTRANCES SHALL BE PIPED THROUGH THE ENTRANCE. MAINTAINING POSITIVE DRAINAGE. PIPE INSTALLED THROUGH THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE PROTECTED WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND MINIMUM OF 6" STONE OVER THE PIPE. PIPE SHALL BE SIZED ACCORDING TO THE DRAINAGE REQUIREMENTS. WHEN THE ENTRANCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY A PIPE SHALL NOT BE NECESSARY. THE MINIMUM PIPE DIAMETER SHALL BE 6". CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF SAID PIPE.
- LOCATION - A STABILIZED CONSTRUCTION ENTRANCE SHALL BE LOCATED WHERE CONSTRUCTION TRAFFIC ENTERS AND/OR LEAVES THE CONSTRUCTION SITE. VEHICLES LEAVING THE SITE MUST TRAVEL OVER THE ENTIRE LENGTH OF THE TRACKING PAD.

1 TRACKING PAD

C-6.0 NOT TO SCALE



NOTES:

- INSTALL SILT FENCE TO FOLLOW THE GROUND CONTOURS AS CLOSELY AS POSSIBLE.
- CURVE THE SILT FENCE UP THE SLOPE TO PREVENT WATER FROM RUNNING AROUND THE ENDS.
- POST SPACING WITH FENCE SUPPORT MESH = 10 FT. (MAX.)
POST SPACING WITHOUT FENCE SUPPORT MESH = 6 FT. (MAX.)
- SILT FENCE SUPPORT MESH CONSISTS OF 14-GAUGE STEEL WIRE WITH A MESH SPACING OF 6 IN. X 6 IN. OR PREFABRICATED POLYMERIC MESH OF EQUIVALENT STRENGTH

2 SILT FENCE

C-6.0 NOT TO SCALE

REVISIONS	NO.	DATE	REMARKS

SCALE: AS SHOWN

DATE: 03/08/2019

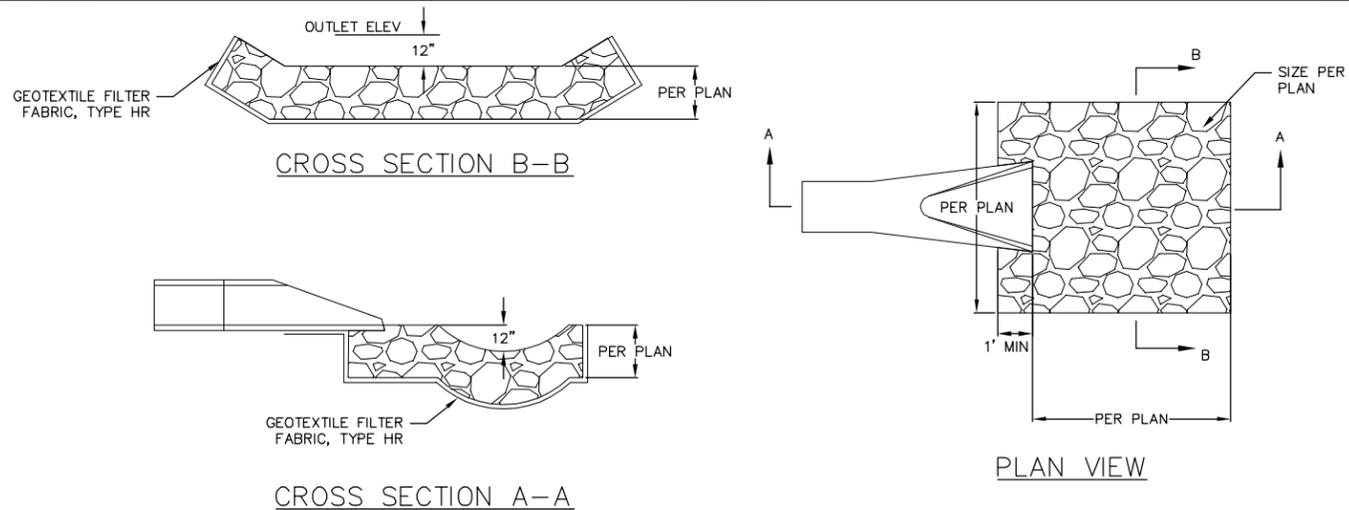
DRAFTER: JZAM

CHECKED: JOOY

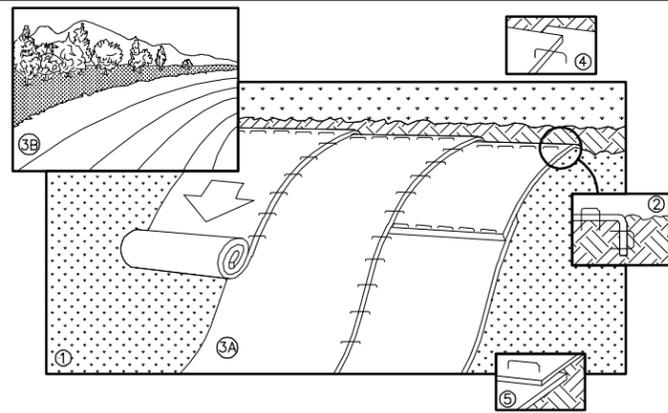
PROJECT NO.: 180065

SHEET: 5 OF 9

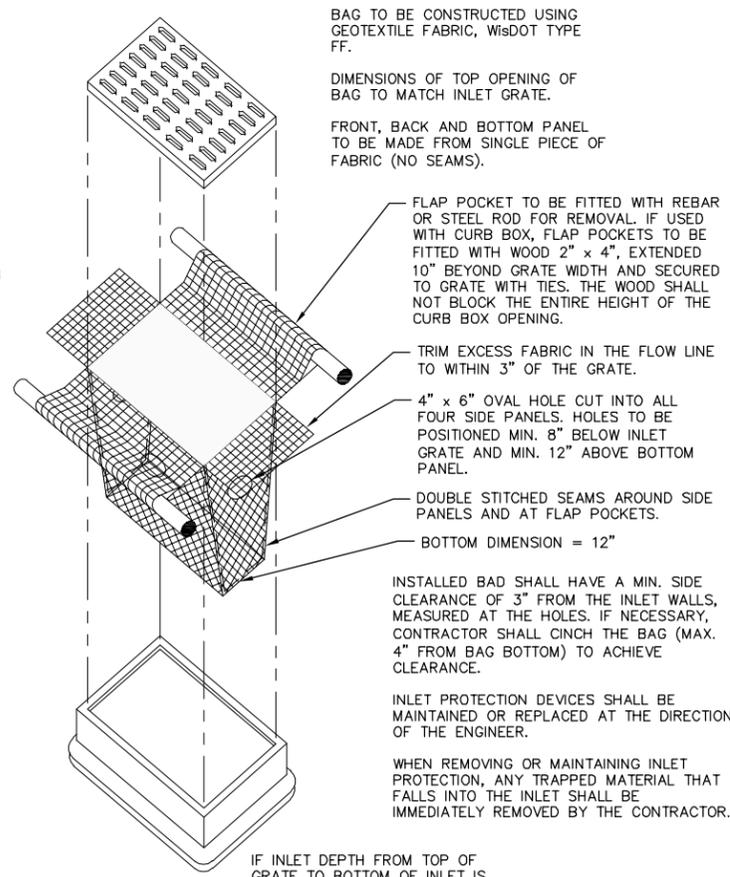
DWG. NO.: C-6.0



1 RIP-RAP OUTLET
 C-6.1 NOT TO SCALE

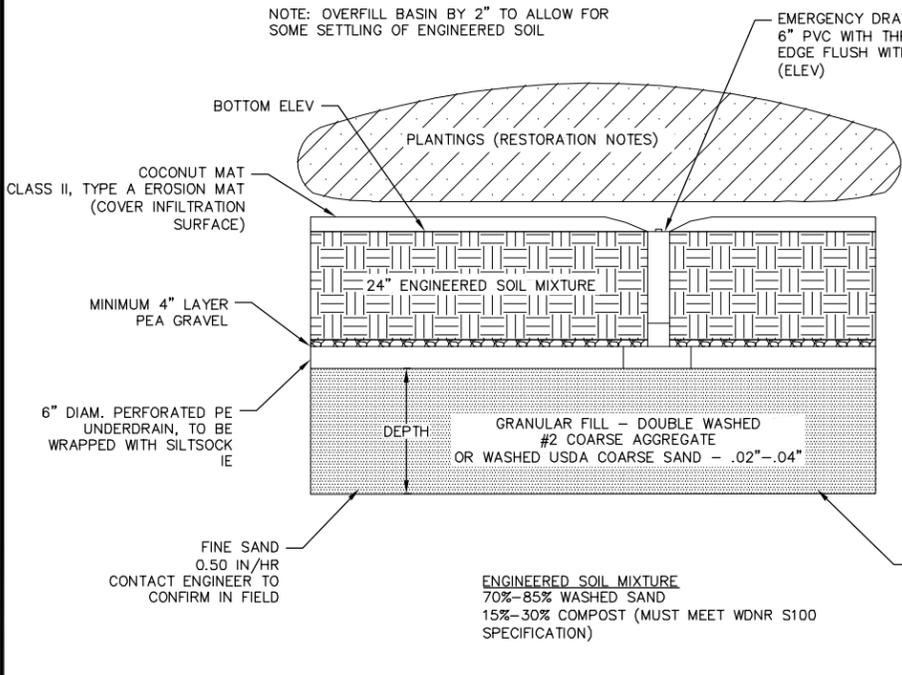


2 EROSION MAT
 C-6.1 NOT TO SCALE



3 INLET PROTECTION TYPE D
 C-6.1 NOT TO SCALE

NOTE: OVERFILL BASIN BY 2" TO ALLOW FOR SOME SETTLING OF ENGINEERED SOIL



BIO-RETENTION AREA RESTORATION SPECIFICATIONS:
 NOTE: BIO-RETENTION AREA MUST NOT BE CONSTRUCTED (INSTALLED) UNTIL THE SITE IS STABILIZED, I.E. THE GRASS COVER IS WELL ESTABLISHED.

BIO-RETENTION AREA MUST CONFORM TO WISCONSIN DNR TECHNICAL STANDARD 1004 (BIORETENTION FOR INFILTRATION)

USE RAINWATER GARDEN LIVE NATIVE PLANT PLUGS FROM AGRECOL (SUNNY, SHORT, OR MEDIUM STATURE) - OR ENGINEER APPROVED EQUAL.

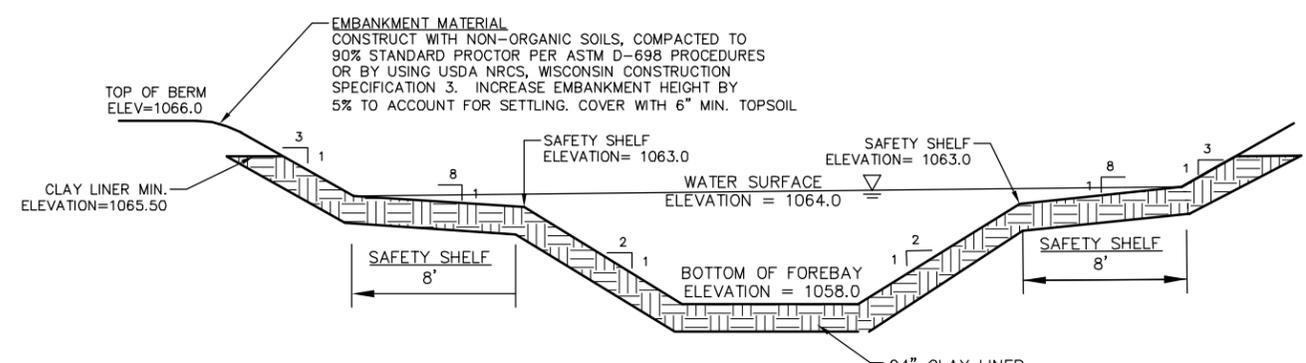
PLANT PLUGS AT 1 PER SQUARE FOOT.

PLANTING, MULCH, AND MAINTENANCE NOTES:
 PLANTING SHOULD TAKE PLACE BETWEEN AVAILABILITY OF PLANTS IN SPRING AND JUNE 30TH, OR BETWEEN SEPTEMBER 1ST AND OCTOBER 15TH. IF PLANTED JULY 1ST THROUGH AUGUST 31ST, HEAVILY WATER THE PLANTS AT THE TIME THEY ARE PLANTED, AND EVERY OTHER DAY FOR A TOTAL OF 4 WATERINGS. A RAIN EVENT GREATER THAN 0.5 INCHES CONSTITUTES A WATERING. IF PLANTED SEPTEMBER 1ST THROUGH OCTOBER 15TH, PLACE CERTIFIED WEED-FREE STRAW MULCH AT 3" MINIMUM THICKNESS BETWEEN PLANTS TO HELP PREVENT FROST HEAVE. IF PLANTING IS TO OCCUR AFTER OCTOBER 15TH, IT MUST BE POSTPONED UNTIL THE FOLLOWING SPRING (MAY). FOR THE FIRST 3 YEARS AFTER PLANTING, SPOT TREAT THE AREA WITH HERBICIDE TO REMOVE WEEDS.

RESTORATION OF THE INFILTRATION AREA (NOT INCLUDING SIDE SLOPES):

- OVER-EXCAVATE THE AREA TO INFILTRATIVE LAYER TO BE DETERMINED IN THE FIELD, DURING EXCAVATION, BY DESIGN ENGINEER.
- CHISEL PLOW, OR ROTO-TILL THE BASE OF THE AREA TO BREAK UP ANY HARDPAN IN THE NATIVE SOIL LAYER.
- PLACE WASHED SAND (FREE OF P200 PARTICLES) TO 46 INCHES BELOW GROUND SURFACE (IF REQUIRED).
- PLACE 24 INCHES OF ENGINEERED SOIL, COMPRISED OF:
 70-85% WASHED SAND
 15-30% COMPOST (MUST MEET WDNR S100 SPECIFICATION)
- PLANT PLUG, MULCH, WATER, AND MAINTAIN AS DIRECTED ABOVE.

4 BIO-RETENTION BASIN
 C-6.1 NOT TO SCALE



5 WET BASIN CROSS-SECTION
 C-6.1 NOT TO SCALE

REVISIONS	NO.	DATE	REMARKS

SCALE: AS SHOWN

DATE: 03/08/2019

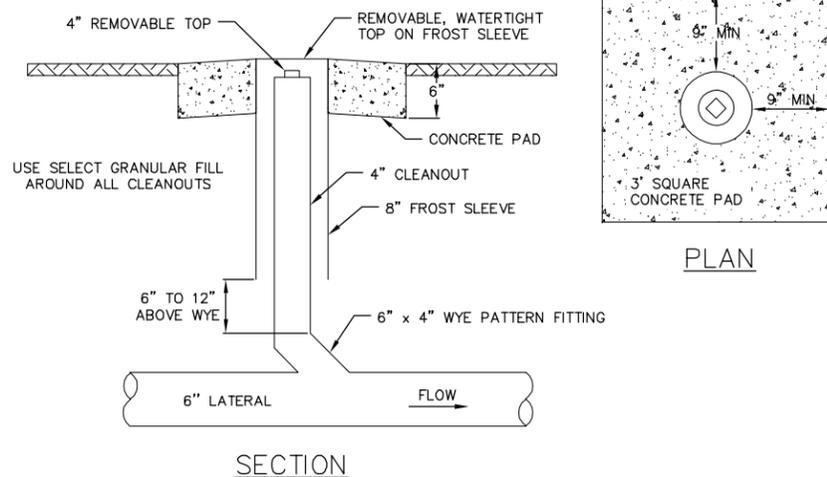
DRAFTER: JZAM

CHECKED: JOY

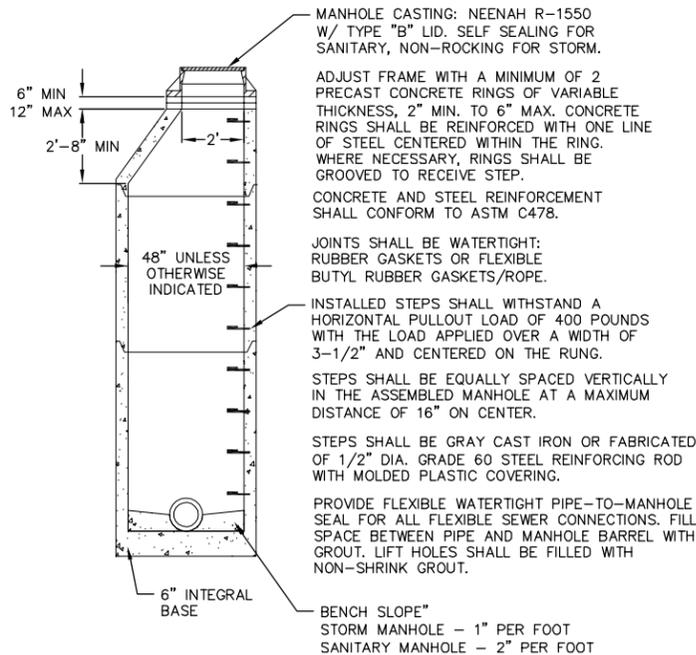
PROJECT NO.: 180065

SHEET: 6 OF 9

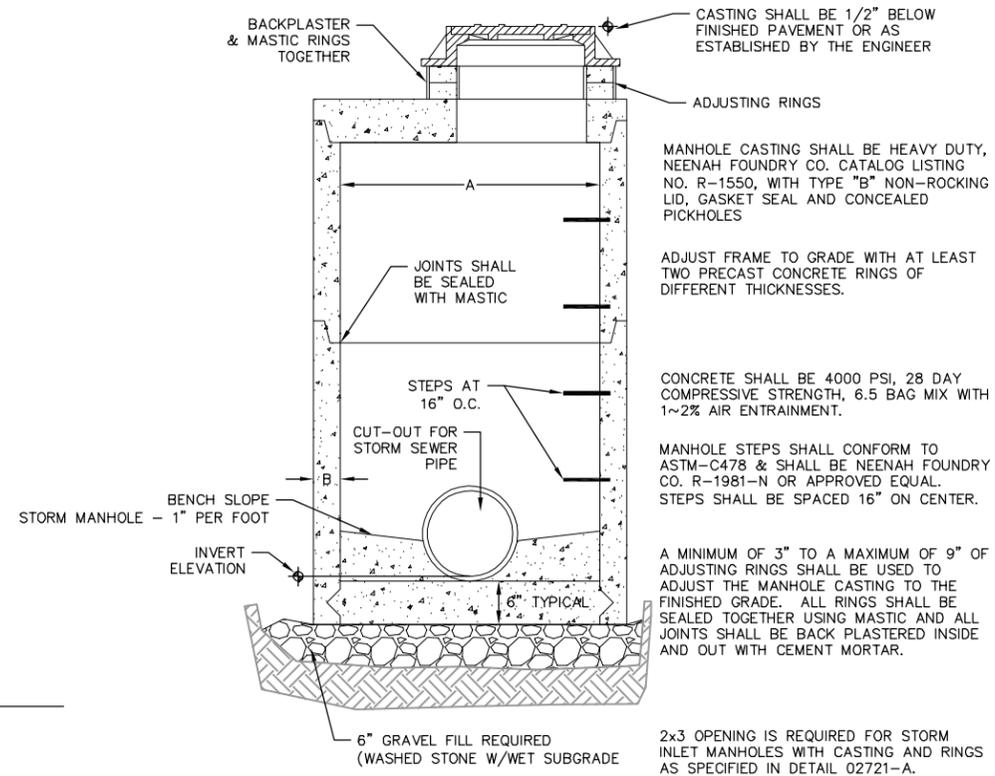
DWG. NO.: C-6.1



1 6" SANITARY CLEANOUT
C-6.3 NOT TO SCALE



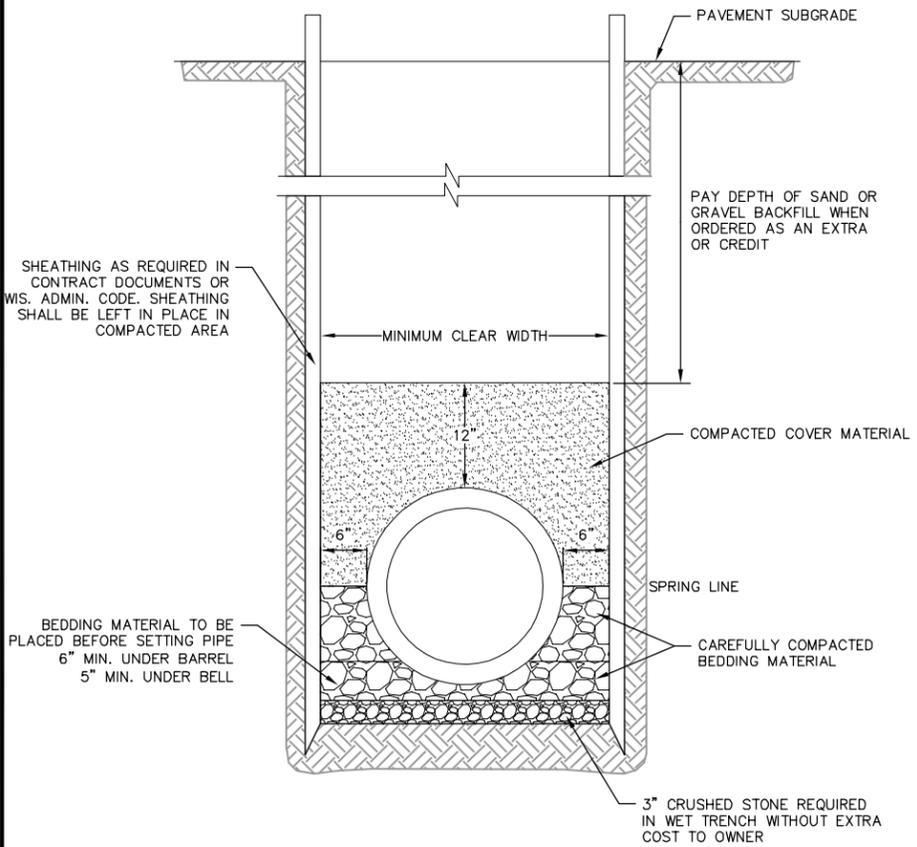
3 PRECAST CONCRETE MANHOLE
C-6.3 NOT TO SCALE



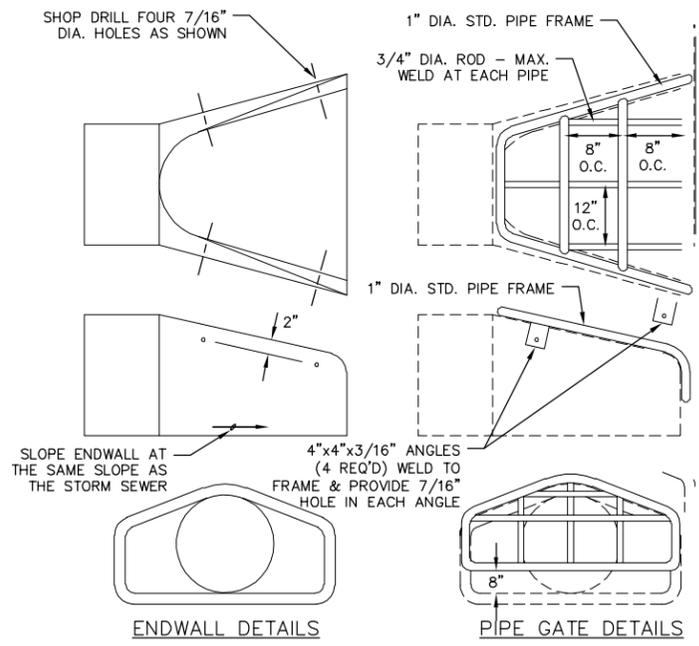
5 STORM SEWER MANHOLE
C-6.3 NOT TO SCALE

STORM MANHOLE DIMENSIONS

MANHOLE SIZE	DIMENSION	
	A	B (MIN.)
48"	48"	5"
60"	60"	6"
72"	72"	7"
84"	84"	7"
96"	96"	9"



2 CLASS B BEDDING COMPACTED SECTION
C-6.3 NOT TO SCALE

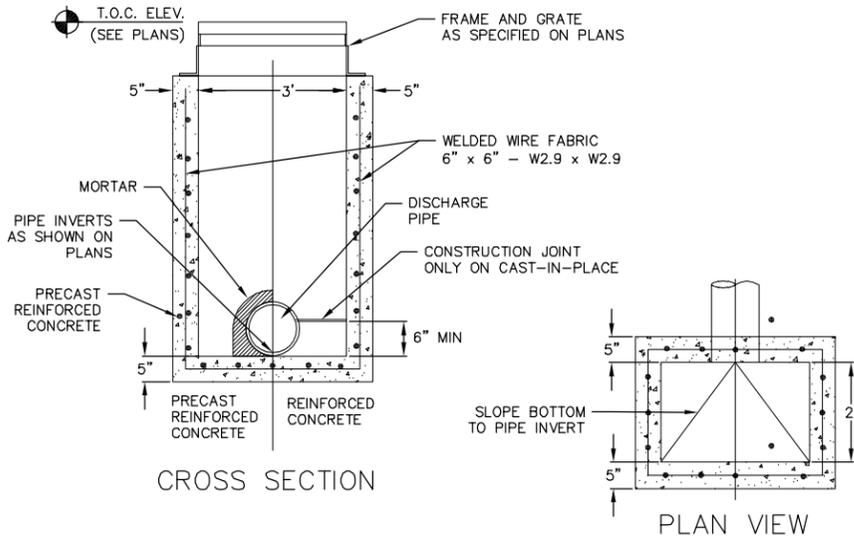


NOTES:
 - THE CONTRACTOR SHALL BOLT THE PIPE GATE TO THE CONCRETE ENDWALL WITH FOUR 3/8"x6" MACHINE BOLTS WITH NUTS ON INSIDE WALL.
 - THE CONTRACTOR SHALL PROVIDE JOINT TIES ON STORM SEWER SYSTEM INFALL AND OUTFALL PIPES. TIE THE ENDWALL AND THE LAST 2 PIPE SECTIONS.

PAINTING SPECIFICATIONS:
 - THE PIPE GATE SHALL RECEIVE THE FOLLOWING PREPARATION & PAINTING. THE FIRST COAT SHALL BE RUS-OLEUM X-60 RED BARE METAL PRIMER OR APPROVED EQUAL. THE SECOND COAT SHALL BE RUS-OLEUM 960 ZINC CHROMATE PRIMER OR APPROVED EQUAL. THE THIRD COAT SHALL BE RUS-OLEUM 1282 HIGH GLOSS METAL FINISH OR APPROVED EQUAL.

PREPARATION STEPS:
 1. BARE METAL SURFACES - TREAT WITH THE THREE-COAT PAINTING SYSTEM LISTED AFTER A THOROUGH SCRAPING, WIRE BRUSHING & CLEANING.
 2. EACH COAT OF PAINT SHALL BE APPLIED OVER THE ENTIRE GATE SURFACE.
 3. ALLOW 24-48 HOURS DRYING TIME AT 60° OR ABOVE BETWEEN COATS.

4 STANDARD ENDWALL
C-6.3 NOT TO SCALE



6 CURB INLET - TYPE 3, 2' x 3' BASIN
C-6.3 NOT TO SCALE

REVISIONS	NO.	DATE	REMARKS

SCALE: AS SHOWN
 DATE: 03/08/2019
 DRAFTER: JZAM
 CHECKED: JOY
 PROJECT NO.: 180065
 SHEET: 8 OF 9
 DWG. NO.: C-6.3



SITE DEVELOPMENT DATA:

LOT AREA	121,097 SF / 2.78 ACRES
DWELLING UNITS	68 DU
DENSITY	68 UNITS / 2.9 ACRES = 23.44 UNITS / ACRE
PERVIOUS AREA	46,868 SF
IMPERVIOUS AREA	74,229 SF
IMPERVIOUS SURFACE RATIO	61.3%
DWELLING UNIT MIX:	
	BLDG A B C TOTAL
ONE BEDROOM	37 0 0 37
TWO BEDROOM	23 4 4 31
TOTAL DWELLING UNITS	60 4 4 68
VEHICLE PARKING:	
SURFACE (INCL. GARAGE DRIVE)	43 STALLS
SURFACE GARAGE / COVERED	16 STALLS
UNDERGROUND / COVERED	57 STALLS
TOTAL	116 STALLS
BIKE PARKING:	
SURFACE	4 STALLS
GARAGES / COVERED	8 STALLS
UNDERGROUND / COVERED	13 STALLS
TOTAL	25 STALLS

Oak Ridge Senior Apartments
 Site Plan
 S. Fish Hatchery
 March 8, 2019



EXTERIOR MATERIAL SCHEDULE	
BALCONY	METAL - MATCH WITH WINDOW TRIM
STONE VENEER	BLUECHEL STONE CORP - MILL CREEK COUNTRY SQUIRE
PRECAST	EDWARDS - COLOR TO MATCH STONE VENEER
A - COMPOSITE HORIZONTAL SIDING	JAMES HARDIE - AGED PEWTER
B - COMPOSITE HORIZONTAL SIDING	JAMES HARDIE - IRON GRAY
VINYL WINDOWS	VISIONS - CAMEO
ALUMINUM RAILING	SUPERIOR - BLACK
GARAGE DOORS	MATCH BRICK
BUILDING ENTRANCES	ALUMINUM STOREFRONT - ARCTIC SILVER
COMPOSITE BOARD & BATTEN, BRACKETS	JAMES HARDIE - COBBLESTONE
COMPOSITE DOOR & WINDOW TRIM, POSTS	JAMES HARDIE - COBBLESTONE
STANDING SEAM METAL ROOF	SILVER METALLIC
SOFFITS & FASCIA	SW6126 NAVAJO WHITE
METAL DOORS & FRAMES	SW6126 NAVAJO WHITE
SHINGLES	WEATHERED WOOD



2 EAST ELEVATION
 A-2.2A 3/32" = 1'-0"

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 Issued for SIP submittal - February 19, 2019
 Supplement - March 8, 2019



1 NORTH ELEVATION
 A-2.2A 3/32" = 1'-0"

PROJECT TITLE
Oak Ridge Senior Apartments

Fitchburg, WI
 SHEET TITLE
Elevations

SHEET NUMBER

A-2.2A

PROJECT NO. **1807**
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EXTERIOR MATERIAL SCHEDULE	
BALCONY	METAL - MATCH WITH WINDOW TRIM
STONE VENEER	BUECHEL STONE CORP - MILL CREEK COUNTRY SQUIRE
PRECAST	EDWARDS - COLOR TO MATCH STONE VENEER
A - COMPOSITE HORIZONTAL SIDING	JAMES HARDIE - AGED PEWTER
B - COMPOSITE HORIZONTAL SIDING	JAMES HARDIE - IRON GRAY
VINYL WINDOWS	VISIONS - CAMEO
ALUMINUM RAILING	SUPERIOR - BLACK
GARAGE DOORS	MATCH BRICK
BUILDING ENTRANCES	ALUMINUM STOREFRONT - ARCTIC SILVER
COMPOSITE BOARD & BATTEN, BRACKETS	JAMES HARDIE - COBBLESTONE
COMPOSITE DOOR & WINDOW TRIM, POSTS	JAMES HARDIE - COBBLESTONE
STANDING SEAM METAL ROOF	SILVER METALLIC
SOFFITS & FASCIA	SW6126 NAVAJO WHITE
METAL DOORS & FRAMES	SW6126 NAVAJO WHITE
SHINGLES	WEATHERED WOOD

West Elevation along Fish Hatchery Rd.



South Elevation

Oak Ridge Senior Apartments
 Elevations
 S. Fish Hatchery
 March 8, 2019





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ARCHITECTS

Phone: 7601 University Ave, Ste 201
608.836.3690 Middleton, WI 53562

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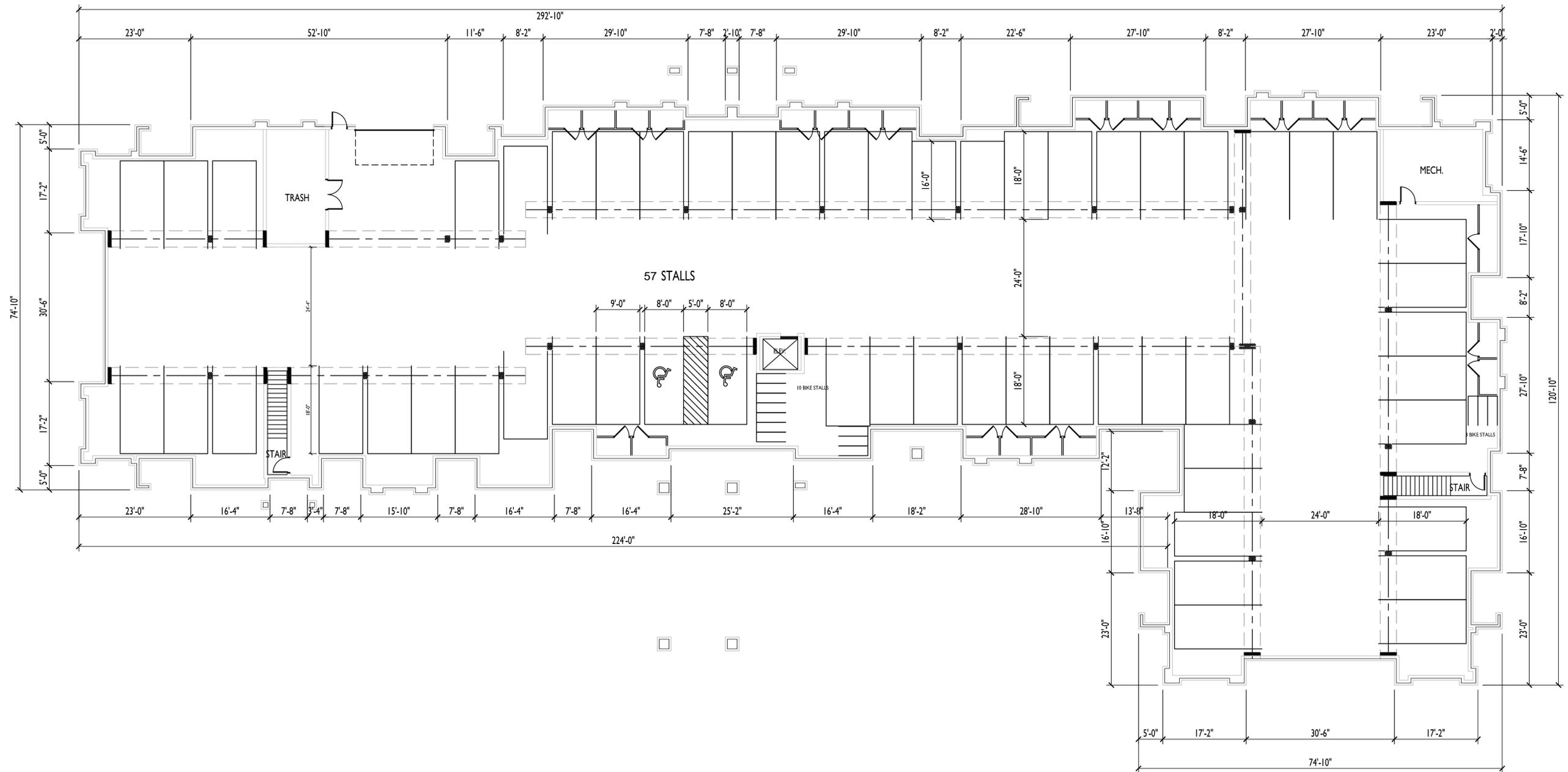
PROJECT TITLE
**Oak Ridge
Senior
Apartments**

Fitchburg, WI
SHEET TITLE
Basement Plan

SHEET NUMBER

A-1.0A

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I BASEMENT PLAN
A-1.0A 3/32" = 1'-0"





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PROJECT TITLE
**Oak Ridge
Senior
Apartments**

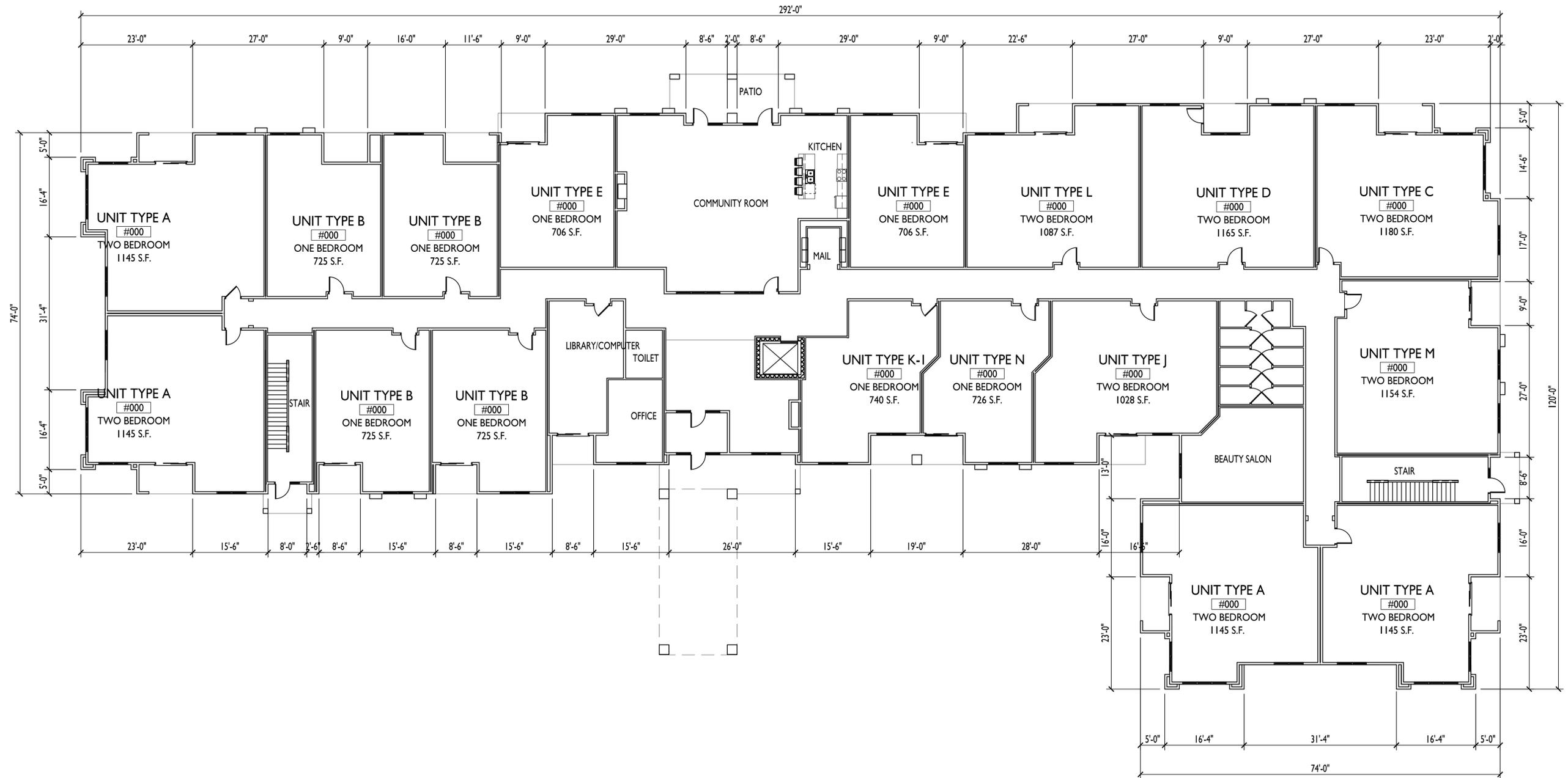
Fitchburg, WI
SHEET TITLE
First Floor Plan

SHEET NUMBER

A-1.1A

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FIRST FLOOR PLAN
A-1.1A 3/32" = 1'-0"





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PROJECT TITLE
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Senior
Apartments**

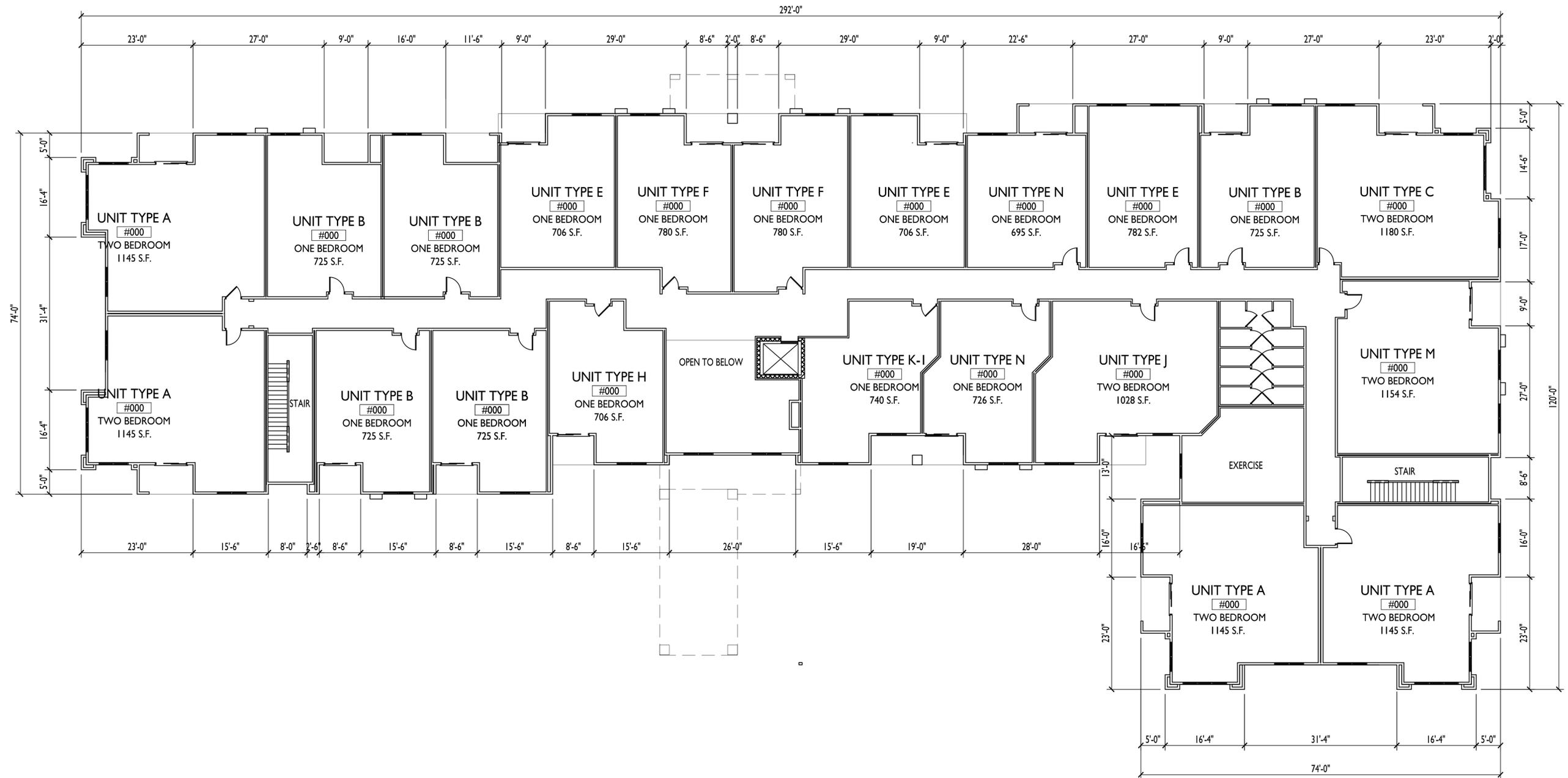
Fitchburg, WI
SHEET TITLE
Second Floor Plan

SHEET NUMBER

A-1.2A

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SECOND FLOOR PLAN
A-1.2A 3/32" = 1'-0"





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PROJECT TITLE
**Oak Ridge
Senior
Apartments**

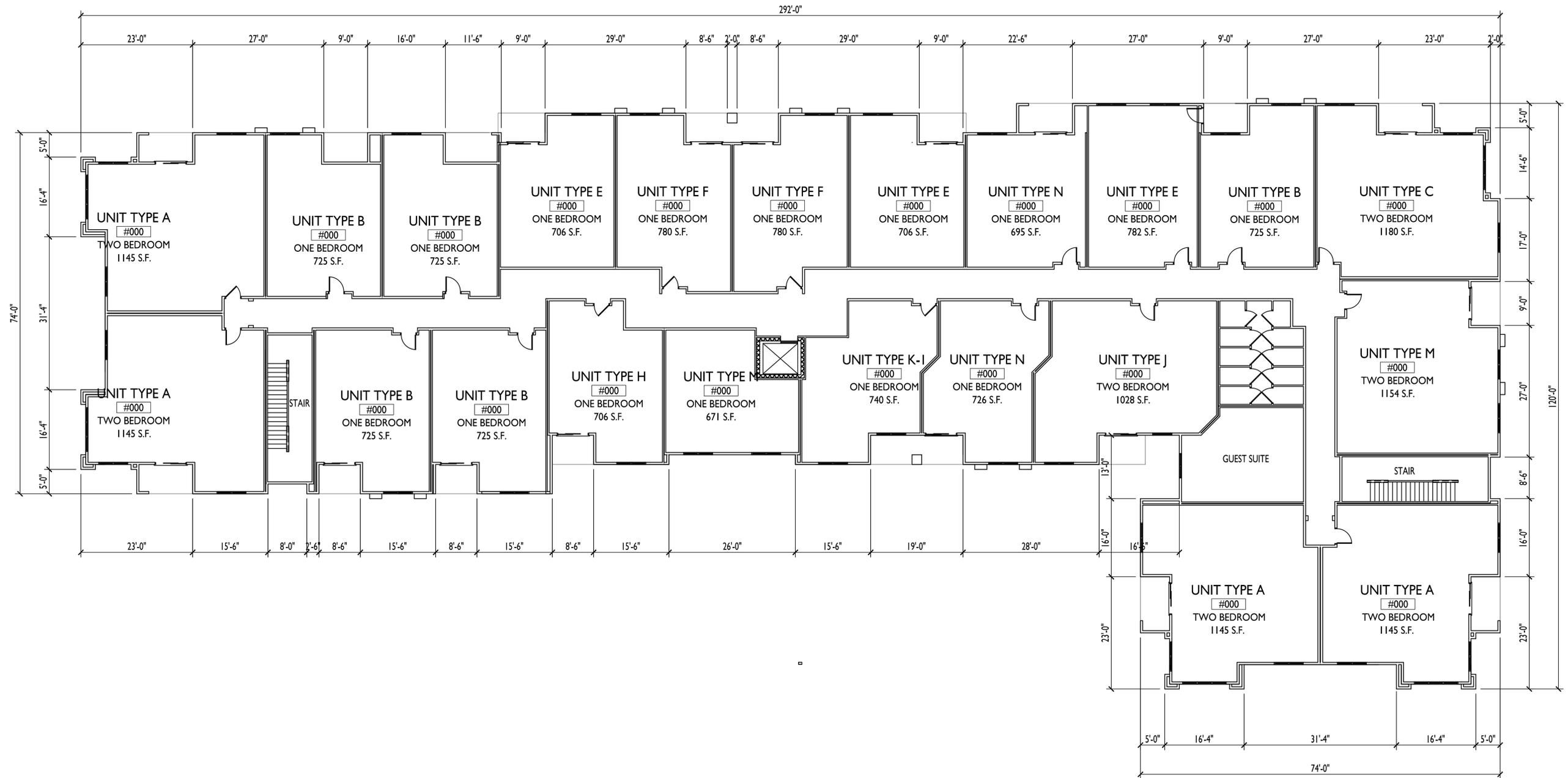
Fitchburg, WI
SHEET TITLE
Third Floor Plan

SHEET NUMBER

A-1.3A

PROJECT NO. **1807**

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THIRD FLOOR PLAN
A-1.3A 3/32" = 1'-0"





North Elevation



West Elevation along Fish Hatchery Rd.

EXTERIOR MATERIAL SCHEDULE	
BALCONY	METAL - MATCH WITH WINDOW TRIM
STONE VENEER	BUECHEL STONE CORP - MILL CREEK COUNTRY SQUIRE
PRECAST	EDWARDS - COLOR TO MATCH STONE VENEER
A - COMPOSITE HORIZONTAL SIDING	JAMES HARDIE - AGED PEWTER
B - COMPOSITE HORIZONTAL SIDING	JAMES HARDIE - IRON GRAY
VINYL WINDOWS	VISIONS - CAMEO
ALUMINUM RAILING	SUPERIOR - BLACK
GARAGE DOORS	MATCH BRICK
BUILDING ENTRANCES	ALUMINUM STOREFRONT - ARCTIC SILVER
COMPOSITE BOARD & BATTEN, BRACKETS	JAMES HARDIE - COBBLESTONE
COMPOSITE DOOR & WINDOW TRIM, POSTS	JAMES HARDIE - COBBLESTONE
STANDING SEAM METAL ROOF	SILVER METALLIC
SOFFITS & FASCIA	SW6126 NAVAJO WHITE
METAL DOORS & FRAMES	SW6126 NAVAJO WHITE
SHINGLES	WEATHERED WOOD



South Elevation

Oak Ridge Senior Apartments
Elevations
S. Fish Hatchery
March 8, 2019

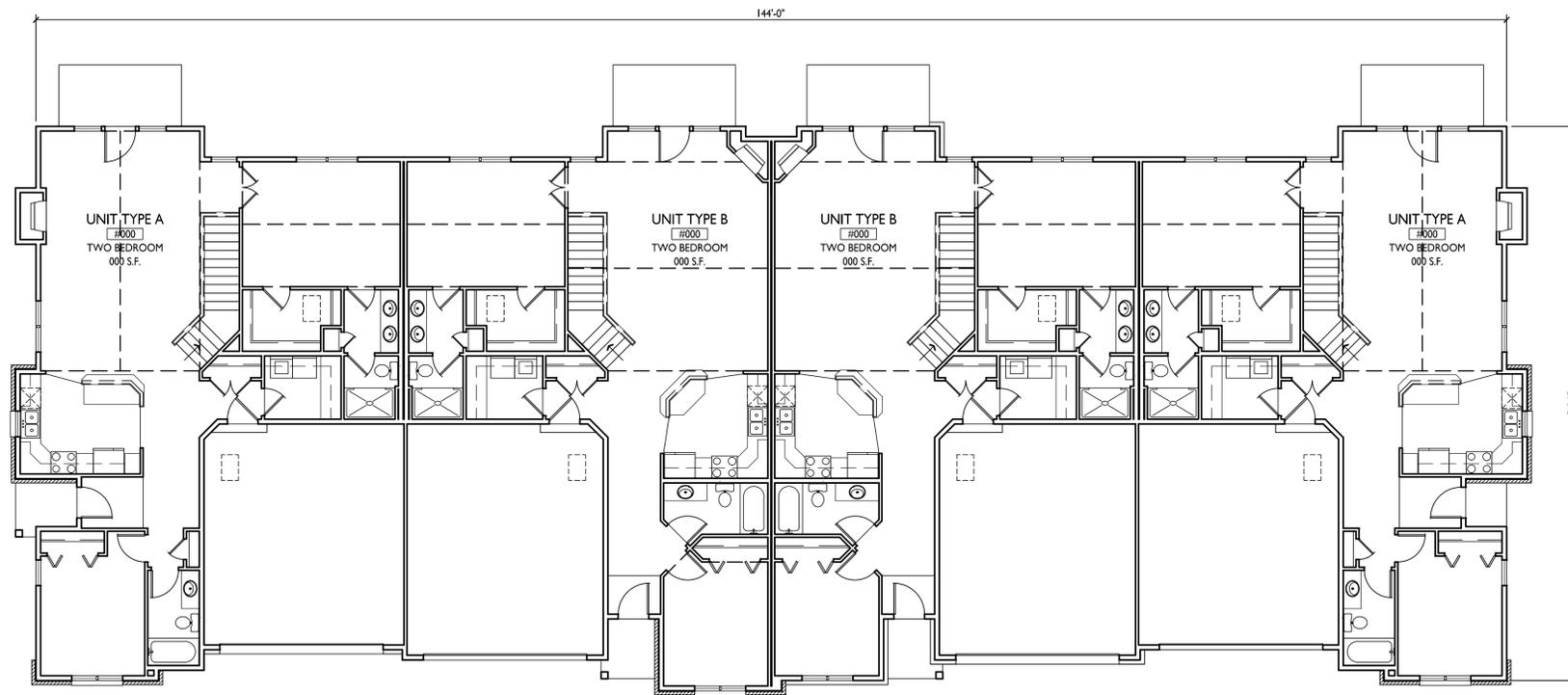




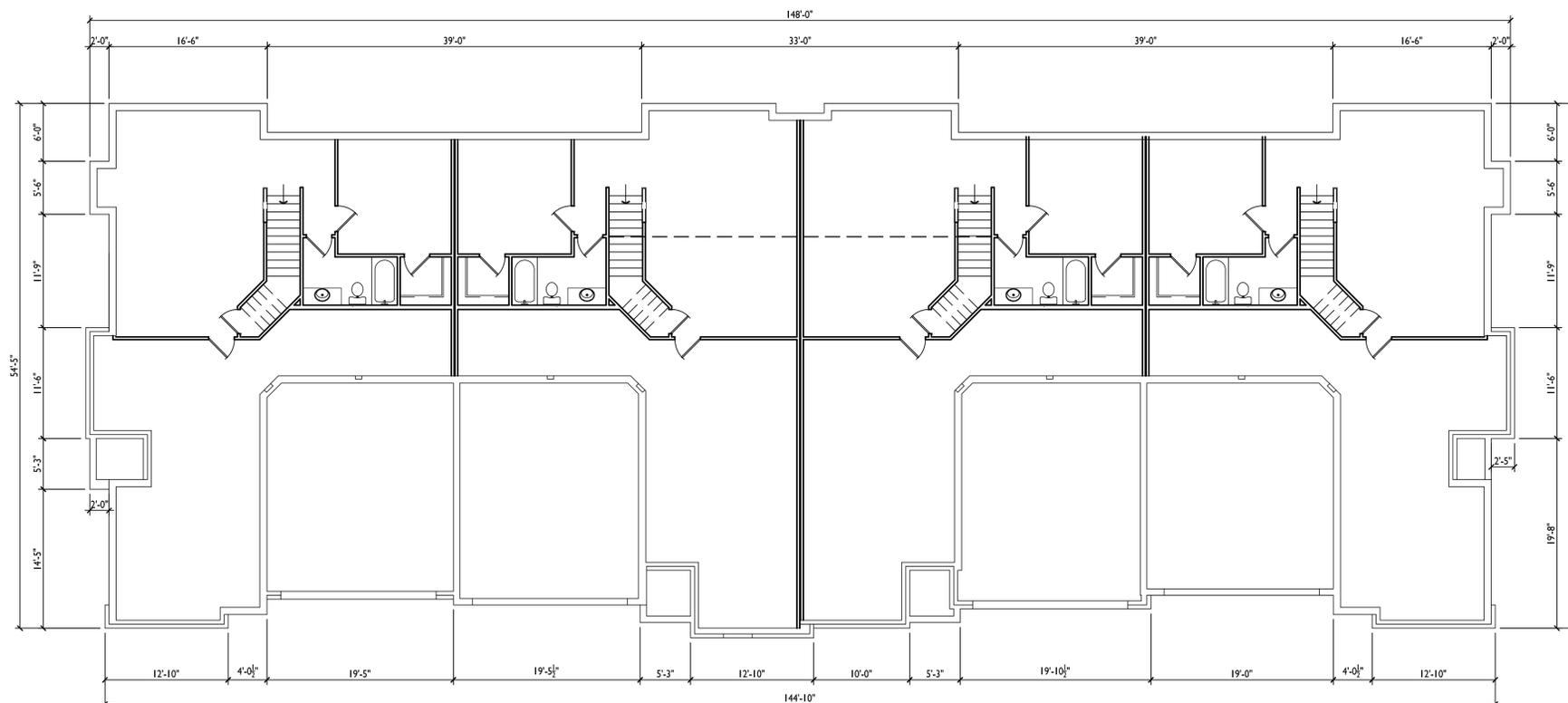
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1 FIRST FLOOR PLAN
A-1.0B 1/8" = 1'-0"



2 LOWER LEVEL PLAN
A-1.0B 1/8" = 1'-0"



PROJECT TITLE
**Oak Ridge
Senior
Apartments**

Fitchburg, WI
SHEET TITLE
**Buildings B & C
Floor Plans**

SHEET NUMBER

A-1.0B

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Stormwater Management Summary

2546 & 2556 S. Fish Hatchery Road City of Fitchburg, Wisconsin

Prepared For:
JT Klein, Inc
906 Bear Claw Way
Madison, WI 53717

Prepared By:
Vierbicher
999 Fourier Drive, Suite 201
Madison, WI 53717

Prepared On:
March 1, 2019

Project #180065

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vierbicher
planners | engineers | advisors



Narrative

1.1 Introduction

The purpose of this stormwater management summary is to evaluate the impacts of the stormwater runoff leaving the site, to verify assumptions, and to ensure that the stormwater requirements are being met. A full stormwater report, including erosion control calculations, shall be provided with the land disturbing and stormwater management permit applications.

The project is located to the east of S. Fish Hatchery Road, approximately 700' south of Nobel Drive (Site) in the City of Fitchburg (City). The area of the project is approximately 2.78 acres. The project involves construction of one senior apartment building, two townhomes, and associated parking.

The stormwater runoff from the Site currently splits into two watersheds. The northwest watershed releases to the north property. The southeast watershed is a closed watershed and the low point is located on the property to the southeast of the Site. The stormwater management will be addressed through a combination of underground stormwater systems, biofiltration basins, and a wet basin. Each of the stormwater management facilities shall have maintenance provisions, which shall be outlined in a stormwater management maintenance agreement. This agreement shall be recorded prior to obtaining building occupancy.

1.2 Soils Description

A Custom Soil Resource Report from the United States Department of Agriculture (USDA) and National Resources Conservation Service (NRCS) is included in Section 2. According to the report, there are underlying soils suitable for infiltration and the hydrologic soil group for the Site is B. However, for modeling purposes a hydrologic soil group C will be utilized and a runoff curve number of 79 for pre-development, permeable areas per Dane County (City's hydrologic soil group C runoff curve number is 78). A soils report, including soil borings shall be provided with the full stormwater report as necessary. The existing topsoil, fill, and clay material will be removed and backfilled with native sandy material to the bottom of the infiltration facility. An infiltration rate of 0.5 in/hr was assumed in the design calculations.

1.3 Design Criteria

Stormwater quality, runoff rate control, infiltration and internally drained watershed requirements are required to be met on site. According to the City, Dane County (County), and Wisconsin Department of Natural Resources (WDNR) here is the abbreviated list of requirements the Site is meeting:

- Stormwater quality or sediment control: Reduce total suspended solids (TSS) load leaving the site by eighty percent (80%), based on the average annual rainfall, as compared to no runoff management controls. As well as, retain soil particles greater than five (5) microns on the site, as measured during a one (1) year 24-hour storm event.
- Runoff rate control: Maintain pre-development peak runoff rates for the one-year (2.5 inches over 24-hour duration), two-year (2.9 inches over 24-hour duration), the ten-year (4.2 inches over 24-hour duration), and 100-year, 24-hour storm



events (6.0 inches over 24-hour duration). Safely pass storm events in excess of the 100-year, 24-hour storm event (6.0 inches over 24-hour duration).

- Infiltration: Infiltrate sufficient runoff volume so that post-development infiltration volume shall be at least ninety percent (90%) of the pre-development infiltration volume, based upon average annual rainfall.
- Internally drained watersheds: Infiltrate one hundred percent (100%) of the average annual pre-development infiltration volume, regardless of the effective area of the infiltration system.

1.4 Summary of Results

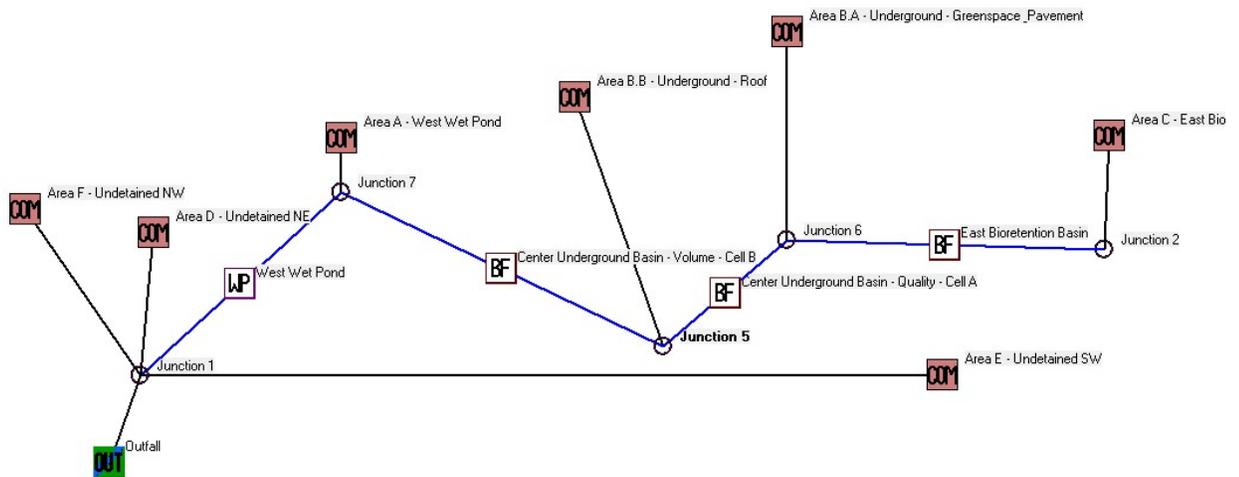
The required infiltration volume was determined by taking the areas of the existing greenspace and multiplying this area by the average annual rainfalls that are 0.5" or less. The areas of existing greenspace adds up to 109,910 square feet (SF). The total average annual rainfall for this region is 28.81". The post-development infiltration volume of the site shall be at least 90% of the pre-development infiltration volume.

100% infiltration volume is $109,910 \text{ SF} \times 28.81 \text{ IN} / 12 \text{ FT} \times 100\% = 263,876 \text{ cubic feet (CF)}$

The required infiltration volume is $109,910 \text{ SF} \times 28.81 \text{ IN} / 12 \text{ FT} \times 90\% = 237,488 \text{ cubic feet (CF)}$

The infiltration requirement shall be addressed by conveying roofwater and lawns to two stormwater facilities, as shown and detailed on the Utility Plan. The east stormwater facility is a bioretention basin and the center stormwater facility is an underground stormwater facility. The infiltration facilities were modeled using WinSLAMM v10.3.4:

Here is a depiction of the model:



Here is a summary of the Input Data:

Data file name: M:\JT Klein\180065_2546 & 2556 S. Fish Hatchery Rd, Fitchburg\Design Development\Stormwater and Erosion Control\Modeling\TSS Removal\Proposed Conditions 20190301.mdb

WinSLAMM Version 10.3.4

Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Madison WI 1981.RAN



Particulate Solids Concentration file name: C:\WinSLAMM Files\v10.1 WI_AVG01.pscx
Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx
Residential Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Commercial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Other Urban Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std
Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False
Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppd
Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv
Cost Data file name:
Seed for random number generator: -42
Study period starting date: 01/01/81 Study period ending date: 12/31/81
Start of Winter Season: 12/02 End of Winter Season: 03/12
Date: 03-04-2019 Time: 14:51:38
Site information:

LU# 1 - Commercial: Area B - Underground Infil. Total area (ac): 0.629
13 - Paved Parking 1: 0.230 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
51 - Small Landscaped Areas 1: 0.399 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 2 - Commercial: Area C - East Bio Total area (ac): 0.440
1 - Roofs 1: 0.168 ac. Flat Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
13 - Paved Parking 1: 0.140 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
51 - Small Landscaped Areas 1: 0.132 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 3 - Commercial: Area A - West Wet Pond Total area (ac): 0.529
13 - Paved Parking 1: 0.370 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
51 - Small Landscaped Areas 1: 0.159 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 4 - Commercial: Area D - Undetained NE Total area (ac): 0.315
31 - Sidewalks 1: 0.063 ac. Disconnected Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
51 - Small Landscaped Areas 1: 0.252 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 5 - Commercial: Area E - Undetained SW Total area (ac): 0.118
51 - Small Landscaped Areas 1: 0.118 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz



LU# 6 - Commercial: Area F - Undetained NW Total area (ac): 0.049
25 - Driveways 1: 0.049 ac. Connected Source Area PSD File: C:\WinSLAMM
Files\NURP.cpz

LU# 7 - Commercial: Commercial 10 Total area (ac): 0.702
1 - Roofs 1: 0.702 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM
Files\NURP.cpz

Control Practice 1: Biofilter CP# 1 (DS) - East Bioretention Basin

1. Top area (square feet) = 1650
2. Bottom area (square feet) = 800
3. Depth (ft): 4.5
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0.5
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.01
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 1.5
10. Porosity of rock filled volume = 0.33
11. Engineered soil infiltration rate: 3.6
12. Engineered soil depth (ft) = 2
13. Engineered soil porosity = 0.27
14. Percent solids reduction due to flow through engineered soil = 80
15. Biofilter peak to average flow ratio = 3.8
16. Number of biofiltration control devices = 1
17. Particle size distribution file: Not needed - calculated by program
18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

User-Defined Soil Type 1.000

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 5
2. Weir crest width (ft): 5
3. Height of datum to bottom of weir opening: 4.17

Outlet type: Drain Tile/Underdrain

1. Underdrain outlet diameter (ft): 0.5
2. Invert elevation above datum (ft): 1
3. Number of underdrain outlets: 1

Control Practice 2: Biofilter CP# 2 (DS) - Center Underground Basin - Volume - Cell B

1. Top area (square feet) = 2580
2. Bottom area (square feet) = 2579
3. Depth (ft): 8
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0.5
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.01
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 4
10. Porosity of rock filled volume = 0.33
11. Engineered soil infiltration rate: 0
12. Engineered soil depth (ft) = 0
13. Engineered soil porosity = 0.27



- 14. Percent solids reduction due to flow through engineered soil = 0
- 15. Biofilter peak to average flow ratio = 3.8
- 16. Number of biofiltration control devices = 1
- 17. Particle size distribution file: Not needed - calculated by program
- 18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

- 1. Weir crest length (ft): 5
- 2. Weir crest width (ft): 5
- 3. Height of datum to bottom of weir opening: 7.5

Outlet type: Surface Discharge Pipe

- 1. Surface discharge pipe outlet diameter (ft): 0.25
- 2. Pipe invert elevation above datum (ft): 4
- 3. Number of surface pipe outlets: 1

Control Practice 3: Wet Detention Pond CP# 1 (DS) - West Wet Pond

Particle Size Distribution file name: Not needed - calculated by program

Initial stage elevation (ft): 6

Peak to Average Flow Ratio: 3.8

Maximum flow allowed into pond (cfs): No maximum value entered

Outlet Characteristics:

Outlet type: Orifice 1

- 1. Orifice diameter (ft): 0.33
- 2. Number of orifices: 1
- 3. Invert elevation above datum (ft): 6

Outlet type: Broad Crested Weir

- 1. Weir crest length (ft): 5
- 2. Weir crest width (ft): 5
- 3. Height from datum to bottom of weir opening: 7.75

Outlet type: Vertical Stand Pipe

- 1. Stand pipe diameter (ft): 3.8
- 2. Stand pipe height above datum (ft): 7.5

Pond stage and surface area

Entry Number	Stage (ft)	Pond Area (acres)	Natural Seepage (in/hr)	Other Outflow (cfs)
0	0.00	0.0000	0.00	0.00
1	0.01	0.0060	0.00	0.00
2	5.00	0.0330	0.00	0.00
3	6.00	0.0700	0.00	0.00
4	7.00	0.0980	0.00	0.00
5	8.00	0.1180	0.00	0.00

Control Practice 4: Biofilter CP# 3 (DS) - Center Underground Basin - Quality - Cell A

- 1. Top area (square feet) = 1271
- 2. Bottom area (square feet) = 1270
- 3. Depth (ft): 8
- 4. Biofilter width (ft) - for Cost Purposes Only: 10
- 5. Infiltration rate (in/hr) = 0.5
- 6. Random infiltration rate generation? No
- 7. Infiltration rate fraction (side): 0.01
- 8. Infiltration rate fraction (bottom): 1
- 9. Depth of biofilter that is rock filled (ft) 4



- 10. Porosity of rock filled volume = 0.33
 - 11. Engineered soil infiltration rate: 0
 - 12. Engineered soil depth (ft) = 0
 - 13. Engineered soil porosity = 0
 - 14. Percent solids reduction due to flow through engineered soil = 0
 - 15. Biofilter peak to average flow ratio = 3.8
 - 16. Number of biofiltration control devices = 1
 - 17. Particle size distribution file: Not needed - calculated by program
 - 18. Initial water surface elevation (ft): 0
- Soil Data Soil Type Fraction in Eng. Soil
- Biofilter Outlet/Discharge Characteristics:
- Outlet type: Broad Crested Weir
 - 1. Weir crest length (ft): 5
 - 2. Weir crest width (ft): 5
 - 3. Height of datum to bottom of weir opening: 7.5
 - Outlet type: Surface Discharge Pipe
 - 1. Surface discharge pipe outlet diameter (ft): 1
 - 2. Pipe invert elevation above datum (ft): 5.5
 - 3. Number of surface pipe outlets: 1

Here is a summary of the Output Data Related to Infiltration:

Runoff Volume Total (cf) at the Outfall							
Rain Number	Start Date	Rain Total (in)	Outfall Total (cf)	Rv	Total Losses (in.)	Calculated CN*	Event Peak Flow (cfs)
Minimum:		0.00	0	0.013	0.01	69.1	0.001
Maximum:		2.59	4722	0.181	2.12	99.6	0.270
Average:		0.26	326.5	0.061	0.23	82.0	0.120
Total:		28.81	35588		25.35		
* Note: NRCS does not recommend using CN method for rains < 0.5 in.							
See 'PreDevelopment Areas and CN' Help for more info.							

Infiltration Volume Provided = Tributary Area X Total Losses
 = 121,186 Acres X 25.35"
 = **256,005 CF**

Infiltration Volumes

Annual Pre-developed Infiltration Volume (CF/Yr)	Post-Developed Infiltration Volume (CF/Yr)	% Annual Infiltration Volume
263,876	256,005	97.0%

The site must meet an infiltration goal of 90% of the pre-development infiltration volume. The site will exceed this goal.



Here is a summary of the Output Data Related to TSS Reduction:

Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Madison WI 1981.RAN
 Particulate Solids Concentration file name: C:\WinSLAMM Files\v10.1 WI_AVG01.pscx
 Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx
 Residential Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
 Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
 Commercial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
 Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
 Other Urban Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
 Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std
 Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GE003.ppd
 Start of Winter Season: 12/02 End of Winter Season: 03/12
 Model Run Start Date: 01/01/81 Model Run End Date: 12/31/81
 Date of run: 03-04-2019 Time of run: 14:51:15
 Total Area Modeled (acres): 2.782
 Years in Model Run: 1.00

	Runoff Volume (cu ft)	Percent Runoff Volume Reduction	Particulate Solids Conc. (mg/L)	Particulate Solids Yield (lbs)	Percent Particulate Solids Reduction
Total of all Land Uses without Controls:	147706	-	81.79	754.1	-
Outfall Total with Controls:	35588	75.91%	52.14	115.8	84.64%
Annualized Total After Outfall Controls:	35686			116.2	

TSS Reduction Summary

No Controls	After Stormwater Controls	% Reduction
754.1 lbs.	115.8 lbs.	84.64%

The site is required to meet 80% TSS reduction from a no control condition. The stormwater facilities have been designed to treat site runoff and has achieved greater than 80% TSS removal rate.

Runoff Rate Control

Complete Site (Watershed A through F)

Storm Frequency (Year)	Pre-Developed (2.782 AC, 6 MIN TOC) CFS	Post-Developed (2.782 AC, 6 MIN TOC) CFS
1	1.85	1.08
2	2.70	1.36
10	6.26	2.54
100	14.92	4.85

1.5 Conclusions

It is understood that the proposed stormwater facilities will address the infiltration, quality control, and peak runoff rate control requirements for the proposed development.



SECTION 2

Custom Soil Resource Report





United States
Department of
Agriculture

NRCS

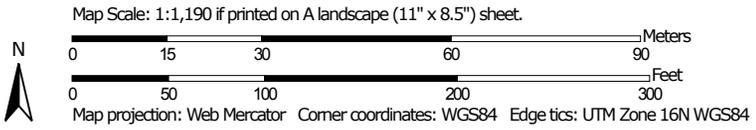
Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for Dane County, Wisconsin



Custom Soil Resource Report Soil Map



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

Water Features

 Streams and Canals

Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Dane County, Wisconsin
 Survey Area Data: Version 16, Oct 5, 2017

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Data not available.

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
DoC2	Dodge and Kidder soils, 6 to 20 percent slopes, eroded	3.1	59.1%
MdC2	McHenry silt loam, 6 to 12 percent slopes, eroded	0.7	14.1%
TrB	Troxel silt loam, 0 to 3 percent slopes	1.4	26.8%
Totals for Area of Interest		5.2	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or

Custom Soil Resource Report

landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Dane County, Wisconsin

DoC2—Dodge and Kidder soils, 6 to 20 percent slopes, eroded

Map Unit Setting

National map unit symbol: t91x
Mean annual precipitation: 28 to 33 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 135 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Dodge and similar soils: 50 percent
Kidder and similar soils: 50 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Dodge

Setting

Landform: Recessional moraines, terminal moraines
Landform position (two-dimensional): Shoulder, backslope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loess over sandy loam glacial till

Typical profile

H1 - 0 to 9 inches: silt loam
H2 - 9 to 29 inches: silty clay loam
H3 - 29 to 40 inches: clay loam
H4 - 40 to 60 inches: loam

Properties and qualities

Slope: 6 to 20 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: High (about 10.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Forage suitability group: High AWC, adequately drained with limitations (G095BY009WI)
Hydric soil rating: No

Description of Kidder

Setting

Landform: Recessional moraines, terminal moraines
Down-slope shape: Convex
Across-slope shape: Convex

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Parent material: Glacial till

Typical profile

H1 - 0 to 9 inches: loam

H2 - 9 to 30 inches: sandy clay loam

H3 - 30 to 60 inches: sandy loam

Properties and qualities

Slope: 6 to 20 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water storage in profile: Moderate (about 8.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: B

Forage suitability group: Mod AWC, adequately drained with limitations (G095BY006WI)

Hydric soil rating: No

MdC2—McHenry silt loam, 6 to 12 percent slopes, eroded

Map Unit Setting

National map unit symbol: 2tjyt

Elevation: 750 to 1,540 feet

Mean annual precipitation: 31 to 37 inches

Mean annual air temperature: 45 to 48 degrees F

Frost-free period: 110 to 174 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

McHenry, eroded, and similar soils: 90 percent

Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of McHenry, Eroded

Setting

Landform: Moraines

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Linear

Across-slope shape: Convex

Parent material: Loess over loamy till

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Typical profile

Ap - 0 to 6 inches: silt loam
Bt1 - 6 to 22 inches: silty clay loam
2Bt2 - 22 to 31 inches: loam
2Bt3 - 31 to 36 inches: fine sandy loam
2C - 36 to 79 inches: gravelly sandy loam

Properties and qualities

Slope: 6 to 12 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 30 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Moderate (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Forage suitability group: High AWC, adequately drained (G095BY008WI)
Hydric soil rating: No

Minor Components

Kendall

Percent of map unit: 5 percent
Landform: Drainageways
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Kidder, eroded

Percent of map unit: 5 percent
Landform: Moraines
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

TrB—Troxel silt loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2wsqw
Elevation: 750 to 1,150 feet
Mean annual precipitation: 31 to 37 inches
Mean annual air temperature: 45 to 66 degrees F
Frost-free period: 110 to 185 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Troxel, wet substratum, and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Troxel, Wet Substratum

Setting

Landform: Depressions, moraines
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Silty colluvium

Typical profile

Ap - 0 to 31 inches: silt loam
Bt - 31 to 54 inches: silty clay loam
BC - 54 to 79 inches: silt loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: About 36 to 72 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Very high (about 12.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: B
Forage suitability group: High AWC, adequately drained (G095BY008WI)
Hydric soil rating: No

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Minor Components

Elburn

Percent of map unit: 8 percent

Landform: Drainageways

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Base slope

Down-slope shape: Concave

Across-slope shape: Linear

Hydric soil rating: No

Plano

Percent of map unit: 7 percent

Landform: Till plains

Landform position (two-dimensional): Summit

Landform position (three-dimensional): Interfluve

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: No