# **PLANNING & ZONING MEETING**

# Via ZOOM ASHLAND, MO 65010 TUESDAY, APRIL 15, 2021

Zoom: https://us02web.zoom.us/j/89781145853?pwd=RkgyUVFwaVhTL3pnYkx4OUJ5T1Jndz09

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Call the Meeting to Order at 7:00 PM.

Approval of the Agenda for April 15, 2021.

Approval of the Previous Minutes, April 13, 2021.

**Public Comments: None** 

# Old Business:

- 1. Liberty Landing North Site Plan
- 2. Liberty Landing North Preliminary Plat

# **New Business:**

- 1. Southwind Plat 6
- 2. Baptist Home Revised Site Plan
- 3. Selby's Site Plan
- 4. Selby's Final Plat

**Discussion: Special Meetings** 

Mayors Report:

Alderman Liasian's Report:

City Administrator's Report:

**Commissioners Report:** 

If you are unable to attend, please call Ashland City Hall at 573-657-2091 or e-mail adminassistant@ashlandmo.us

Carrie Fischer Administrative Assistant Posted April 14 @ 12:00 p.m.

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# PLANNING AND ZONING MEETING ASHLAND, MO. 65010 TUESDAY, APRIL 13, 2021 Draft Not Approved by Board

# 1. REGULAR MEETING:

Vice Chairman Bryan called the meeting to order Tuesday, April 13, 2021 at 7:00 p.m. via ZOOM Ashland, Missouri. Commissioners in attendance were Jerrod Bryan, Tanner Krueger, Dorise Slinker, Mike Frese, Scott Dooley, Ken Bishop, Cynthia Wills and Nicki Rinehart. Commissioners absent were Cory Berthold

Also present were Mayor Richard Sullivan, Lelande Rehard Asst. City Administrator, Carrie Fischer and Leslie Martin Administrative Assistants, Jeff Sapp Alderman Liasiaon, Dan VandeVoorde Building Inspector, Chris Sander Mcclure Engineering, Bill & Kim Martin, Derek Tamm Baptist Home, Dennis Canote, Ed Musterman, Todd Kempker Bartlet & West, Wes Bolton and Brian Harrington All State Consultants, Linda French, Lucie Hess, Dee Dokken, Ryan Davis, James Creel Streets Supervisor, Angela Sharp, Scott Vogler and Melissa Old Alderwoman.

# 2. Approval of Agenda:

Vice Chairman Bryan called for a motion to approve the April 13, 2021 agenda.

Commissioner Dooley made a motion to approve the April 13, 2021 agenda, seconded by Commissioner Slinker. Motion carried.

## 3. Approval of Previous Minutes:

Vice Chairman Bryan called for a motion to approve the previous minutes dated March 9, 2021. Motion made by Commissioner Slinker to approve the previous minutes as presented dated March 9, 2021, seconded by Commissioner Wills. Motion carried.

# 4. Public Comments:

a.) Ed Musterman, Log Providence Rd. spoke regarding the Lakeside Ashland development. He gave a breif overview of some of the area residents concerns.

# 5. OLD BUSINESS:

a.) Commissioner Dooley stated he had not had time to review the packet and he would be voting "no" on all agenda items should they move forward. Commissioner Dooley made a motion to table all agenda items, seconded by Commissioner Bishop. Roll call vote was taken: Commissioner Dooley - yes, Commissioner Rinehart - yes, Commissioner Bishop - yes, Commissioner Frese - yes, Commissioner Slinker - yes, Commissioner Wills -no, Commissioner Kruger - yes. Motion carried. Commissioner Wills made a motion to have a special meeting on Thursday April 15, 2021 seconded by Commissioner Frese. Roll call vote was taken: Commissioner Kruger - yes, Commissioner Wills - yes, Commissioner Bishop -yes, Commissioner

Rinehart - yes, Commissioner Dooley - yes, Commissioner Freese -yes, Commissioner Slinker - yes. Motin carried.

# 6. NEW BUSINESS:

A. Tabled:

**7. DISCUSSION:** Vice Chairman Bryan asked what the status was regarding special meetings. Assistant City Administrator Lelande Rehard stated they are still working a policy and verbiage to determine when special meetings should be considered.

# 8. Mayor's Report:

- <u>9. City Administrator's Report:</u> Assistant City Administrator Lelande Rehard stated the consulting firm is looking for feedback regarding the Planning & Zoning code revisions.
- 10. Commissioners' Report: Vice Chairman Bryan asked if we needed to elect a new vice chair. Mayor Sullivan stated that Jeff Sapp would be appointed to Planning and Zoning after he is done serving as Alderman and to hold off until the May meeting for new seat placements.

Vice Chairman Bryan called for a motion to adjourn the April 13, 2021, Planning and Zoning Meeting. Commissioner Dooley made a motion to adjourn the April 13, 2021, Planning and Zoning Meeting. Seconded by Commissioner Kruger. Motion carried. Meeting adjourned at 7:27 p.m.

Minutes prepared by Carrie Fischer



# **City of Ashland**

109 East Broadway, Ashland, Missouri 65010

**Department Source:** Community Development

To: Planning & Zoning

From: Dan VandeVoorde

Board Meeting Date: April 13th 2021

Re: Liberty Landing North Preliminary Plat

# **EXECUTIVE SUMMARY:**

Preliminary plat review for a new residential subdivision located north of East Liberty Lane, West of Henry Clay and east of Pallis Nichols. Developer of record is Bill Martin with McClure Engineering as the primary Engineering firm. Review was performed by Bartlett and West on behalf of the City of Ashland.

<u>DISCUSSION:</u> This is the 2<sup>nd</sup> appearance before the Planning & Zoning Commission for approval of the preliminary plat known as Liberty Landing North. This project was tabled during the March 9<sup>th</sup> meeting. Since the last meeting there has been several emails, meeting and discussions from all interested parties to address the major issues that was needed for this to appear before the P&Z Commission for approval. This preliminary plat has been modified to show lots 185-254 being "future development" Some of the key items include the following:

Sewer: A new pump station will be constructed by the developer on lot 503.

Sidewalks: Developer agrees to have sidewalks added on the north side of Liberty Lane and the developer has agrees to construct sidewalk on lots that are developer owned and/or may not develop. The City is also working the Southern Boone School District to complete the sidewalk connection from the subdivision to the Elementary School.

Traffic Study: The Henry Clay/Liberty Lane intersection is currently over capacity during school drop-off and pick-up. The traffic study also shows that a roundabout is needed currently; however, as traffic increases with development the roundabout will be over capacity as well. Reexamining the Ashland Commons reroute of Main Street and traffic flow for the school's drop-off/pick-up could provide an opportunity to relieve the burden on the intersection. The Traffic Study also assumes that connector streets (Minutemen and Rebellion) to Route M will relieve pressure on the Henry Clay/Liberty intersection. Bartlett and West recommended the installation of a connection to Route M before any final plats beyond the already submitted 28 lot final plat are considered. The developer agreed to add the connections once the development reaches 185 lots, which is the entirety of the preliminary plat.

Storm Water Detention Basins: Maintenance of detention basins and structures will be the responsibility of the HOA and not the City of Ashland.

# **FISCAL IMPACT:**

Short Term Impact (cost proposed legislation the next 2 years): No impact

Long Term Impact: Need for a roundabout at Henry Clay and Liberty Lane, currently projected at \$1.5 million in the City of Ashland CIP. This development is not the only factor contributing to the need for this improvement.

# **SUGGESTED BOARD ACTION:**

Staff recommends approval of the preliminary plat, contingent upon a discussion of what should serve as the trigger for the construction of the connection to Route M.

April 12, 2021

# RE: Letter of Intent to Develop 20 Acre tract of Land in Ashland Missouri

To Whom it May Concern:

This non-binding Letter of Intent (LOI) outlines the terms on which Larry & Barbara Welch (Owner) would be willing to pursue development with Michael Welch and William Welch, for a 20-acre tract of land, located in Boone County Missouri, just outside the City of Ashland Mo. The following terms and conditions will serve as an outline of the development.

# 1. Owner:

Larry & Barbara Welch 5050 Persimmon Rd Columbia, MO 65202

# 2. Premises:

The tract of land consists of an agreed area of developable land of approximately 20 acres, located just outside of Ashland MO, in Boone County Missouri.

## 3. Development:

Lavry F. Welch

The proposed development will consist of approximately fifty (50) single family homes.

Thank you for your attention on this matter. Please feel free to contact me at the above address with any questions.

Larry F. Welch

Owner



1719 Southridge Drive, Suite 100 Jefferson City, MO 65109 ph (888) 200-6464

April 9, 2021

Tony St. Romaine City Administrator City of Ashland 109 E. Broadway Ashland, MO 65010

Re: Liberty Landing North Preliminary Plat

Mr. St. Romaine:

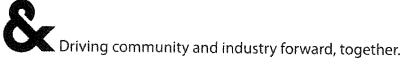
The preliminary plat for Liberty Landing North was originally discussed at the February 2021 Planning and Zoning Commission Meeting. At that point, the Commission expressed concerns with the preliminary plat. These comments included items such as revising the layout to control speeds, providing turnarounds, improving pedestrian accommodations, requiring a traffic impact study and requesting additional drainage information. These items were revised over the last two months, and the letter on February 24<sup>th</sup> from Mr. Chris Sanders expresses many of the changes made.

Additional changes have been made after further reviews by Bartlett & West and discussions with City staff. For instance, a sidewalk was added along the north side of Liberty Lane and the developer has agreed to construct some pieces of sidewalk and curb ramps throughout the subdivision where there was concern that they would not be constructed by the builders.

One of the concerns for the subdivision was the eastern two connections to Liberty Lane. Both Mercenary Courte and Wileycat Avenue were connecting to Liberty Lane offset from the Liberty Landing South roads. Mercenary was also connecting near the low point in Liberty Lane and had poor sight distance connecting to the east. Through discussions with the developer's engineer, this area has been removed from the preliminary plat and is now being shown as "future development". If has also been changed to show Wileycat Avenue connecting at the same location as Allegiance Avenue and the Mercenary Court connection has been removed.

The traffic impact study has also been reviewed. It shows that the Henry Clay and Liberty Lane intersection is already over capacity, which the development only worsens. The study shows that a roundabout at this intersection would address the traffic needs in the short term. However, it also shows that if traffic continues to grow, a roundabout would be over capacity in the future. This is largely caused by the future reconnection of Main Street and the school routing in the morning hours. There may be an opportunity to work with the school to improve these conditions.

To reduce the traffic impacts on Liberty Lane and provide another access point that can assist with emergency access and general traffic flow, it was requested that Minutemen and Rebellion connections to Route M be constructed prior to the approval of any final



plats beyond the 28-lot final plat that has already been submitted. The developer has not incorporated that change and instead has stated that should be constructed before adding more than 185 lots, which is the entirety of the preliminary plat being requested.

This plat is ready to be presented to the Planning and Zoning Commission. While not all of the items were addressed as requested, the majority of the City's comments have been incorporated.

Sincerely,

Todd Kempker, PE

Todd Kank

Senior Project Manager



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Tony St. Romaine – City Administrator Ashland, MO

CC

Todd Kempker, PE – Bartlett & West

FROM

Ryan Davis, PE, PTOE - McClure Engineering Steven Younkin, PE - McClure Engineering Christopher Sanders, PE, PS - McClure Engineering

**SUBJECT** 

Liberty Landing North Traffic Study – Ashland, MO

DATE

Friday, April 8th, 2021

ATTACHED Appendix I-IX

This memorandum addresses the City of Ashland, Missouri's request for a traffic review for the proposed Liberty Landing North development on the north side of Liberty Lane in Ashland, Missouri located between Henry Clay Blvd and Palis Nichols Rd. The proposed site would utilize four proposed accesses off of Liberty Lane as well as a proposed future access along Route M. This memorandum includes a discussion on existing conditions, the proposed site improvements, methodology, analysis and recommendations.

# 1 EXISTING CONDITIONS

The proposed development is a 97.94-acre site on the north side of Liberty Lane in Ashland, Missouri. The proposed site is presently occupied by one single-family dwelling.

Liberty Lane is a two-lane roadway classified as an arterial by the Ashland Transportation Plan. The posted speed limit is 45 miles per hour (mph) in the vicinity of the site transitioning to 20 mph immediately west of the western school entrance. Average Annual Daily Traffic (AADT) volumes along Liberty Lane were unavailable according to Missouri DOT (MODOT)'s interactive map. The AM peak volume is 429 vehicles and the PM peak is 263 vehicles as shown in Exhibit 1 in Appendix V.

Henry Clay Blvd is a two-lane roadway classified as an arterial by the Ashland Transportation Plan. The posted speed limit is 20 mph in the vicinity of Liberty Lane. AADT volumes along Henry Clay Blvd were unavailable according to the Missouri DOT volume map. The AM peak volume is 982 just south of Liberty Lane and 606 in the PM peak hour as shown in Exhibit 1 in Appendix V.

Route M is a two-lane roadway classified as an arterial by the Ashland Transportation Plan. The posted speed limit is 55 mph in the vicinity of the site. AADT volumes were provided by MODOT and are shown at the end of Appendix VI.

Annual growth was assumed to be 2.2% based on the Ashland Commons traffic study and projected to future year 2040. This growth rate was within overall regional growth rates according to regional transportation plans.



Pg 2/12



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## 1.1 EXISTING STUDIES

Several existing studies were consulted for background and data on this memo. First, the May 26<sup>th</sup>, 2020 *Traffic Impact Study for Ashland Commons and the Ashland YMCA* was used to provide information regarding the adjacent Ashland Commons development. This study provided background traffic and assumptions regarding trip distribution and background traffic growth rates which helped inform decisions on this memo.

Another study used was the <u>2015 Transportation Plan</u> for Ashland, MO which is accompanied by a <u>2020 Comprehensive Plan</u> to determine the overall master plan for the city's transportation network. This plan shows that a roundabout is already planned for intersection with Henry Clay Blvd and Liberty Lane. Additionally, guidelines regarding access and intersection spacing were considered.

Finally, an <u>Ashland Future Land Use Map from 2020</u> was read for this study. This map showed a through street connecting Liberty Lane with Route M which was considered in the trip assignment for this memo

# 2 PROPOSED DEVELOPMENT

The proposed development consists of 255 single family units. This development will be constructed in groups of 30 units at a time according to market demand with full build out expected in 10 years. The layout of the site is shown in **Appendix VI**.

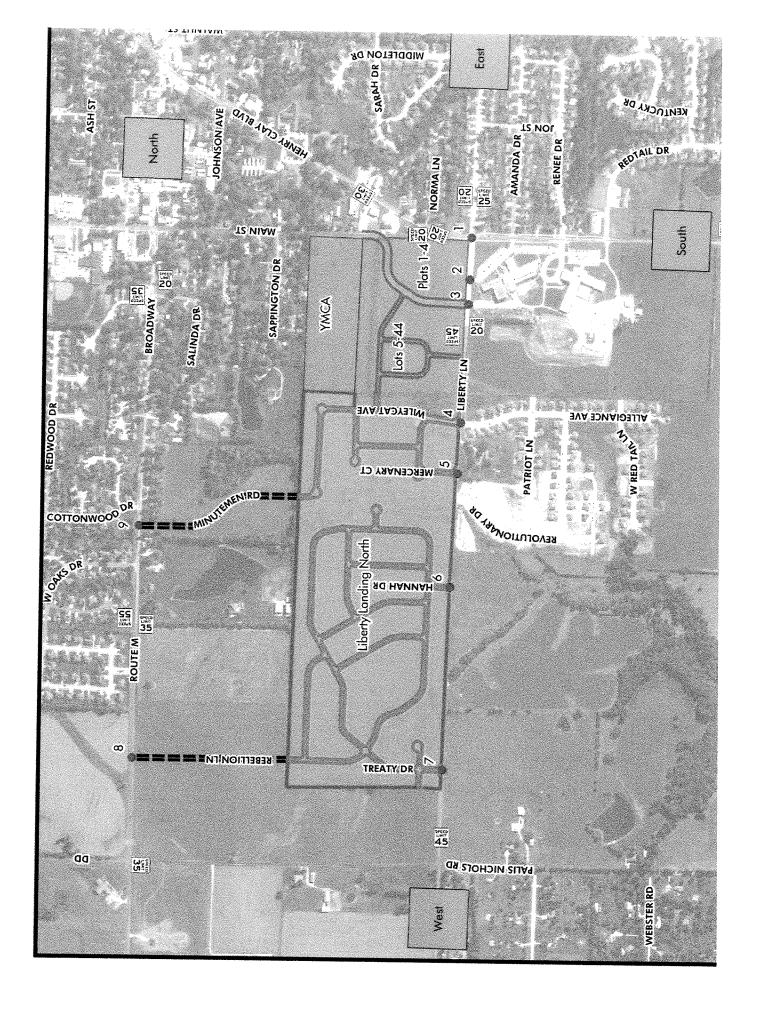
The full build out of this development will be served by six access points as shown in **Figure 1**. The accesses along Liberty Lane will include from east to west: Wileycat Avenue, Mercenary Court, Hannah Drive, and Treaty Drive. Accesses along Route M may be extended and provide two accesses at Rebellion Lane and Minutemen Road. The accesses along Liberty Lane will be constructed first. The access at Route M and Rebellion Lane is planned for construction by 2040 and the access at Route M and Minutemen Road is purely speculative and therefore had no trips assigned to it.

# 3 EXISTING TRAFFIC COUNT DATA

All existing traffic count data for the traffic study were derived from the Ashland Commons Traffic Study conducted in 2020. The existing volumes include existing traffic counts completed for the other study on Tuesday afternoon February 18<sup>th</sup>, 2020 and Wednesday morning February 19<sup>th</sup>, 2020. This information was collected prior to lockdowns associated with COVID-19 and is therefore considered typical of traffic under normal circumstances. Additionally, the trip generation volumes from the previous Ashland Commons study were included with the count data in the traffic called "existing."











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# TRIP GENERATION AND DISTRIBUTION

Trip ends were calculated for the AM and PM peak hour of the adjacent street traffic. Trip generation was calculated using the Institute for Transportation Engineers (ITE) *Trip Generation Manual 10<sup>th</sup> Edition*. Following this methodology, the full build study area generated 186 trips during the AM and 250 trips during the PM peak hours on a standard weekday. For the 2020 analysis, it was assumed that 60 units would be developed while all 255 units were assumed developed in the 2040 design year. A detailed summary of these calculations is shown in **Appendix 1**.

The trip distribution represents the direction the vehicles travelled from as they exit/enter the development. The distributions were derived from those used in the Ashland Commons traffic study with some modifications according to engineering judgement. Traffic split was assumed to be approximately divided in half between the north and south. However, due to the right-in right-out intersection configuration at US 63 and Liberty Lane, the entering/exiting trips were adjusted accordingly. Trip distribution assumptions are shown in **Appendix II** with zone directions shown in **Figure 1**. These distributions were assigned to the drive as turning movements as shown in **Appendix III**. Finally, a summary of trip generations turning movements is shown in **Appendix IV**.

# 5 ANALYSIS SCENARIOS

# 5.1 ANALYSIS DESCRIPTION

This memorandum analyzed three different scenarios:

- 1. No Build 2020 Volumes (Existing Counts + Ashland Commons)
- 2. Partial Build 2020 Volumes (Ex. Counts + Ashland + Liberty Landing Partial Build)
- 3. No Build 2040 Volumes (Ex. Counts + Ashland Commons)
- 4. Full Build 2040 Volumes (Ex. Counts + Ashland Commons + Liberty Landing Full Build)

These studies were analyzed for both the typical AM and typical PM peak hour time periods resulting in a combination of eight different analysis scenarios. Additional alternatives were analyzed using the volumes from the above volume scenarios as shown in **Section 6.3**.

## 5.1 ANALYSIS SCOPE

The intersection analyzed as shown in **Figure 1** included all intersections which would be substantially impacted by the proposed development and likely warrant some improvements, these include:

- 1. Henry Clay Blvd & Liberty Lane
- 2. Liberty Lane & East School Entrance
- 3. Liberty Lane & West School Entrance/Main St

- 4. Liberty Lane & Wileycat Dr/Allegiance Dr
- 5. Liberty Lane & Mercenary Ct
- 6. Liberty Lane & Hannah Dr
- 7. Liberty Lane & Treaty Dr
- 8. Route M & Rebellion Dr
- 9. Route M & Minutemen Rd

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# 5.2 ANALYSIS TRAFFIC CONTROL

Traffic control of each intersection was initially evaluated based on existing and future traffic conditions. The intersection control type was used to analyze the various alternatives for LOS. A summary of intersection traffic control is shown below in **Table 1**. These traffic control types in include two-way stop control (TWSC), all-way stop control (AWSC) and roundabouts (RAB).

Table 1: Intersection Traffic Control by Scenario

Intersection	Scenario Traffic Control				
	EX 20	Build 20	NB 40	FB 40	
Henry Clay Blvd & Liberty Ln	AWSC	RAB	RAB	RAB	
East School Drive & Liberty Ln	TWSC	TWSC	TWSC	TWSC	
West School Drive/Main St & Liberty Ln	AWSC	AWSC	AWSC	RAB	
Allegiance Dr/Wileycat Ave & Liberty Ln	TWSC	TWSC	TWSC	TWSC	
Liberty Ln & Mercenary Ct	TWSC	TWSC	TWSC	TWSC	
Liberty Ln & Hannah Dr	TWSC	TWSC	TWSC	TWSC	
Liberty Ln & Treaty Dr	TWSC	TWSC	TWSC	TWSC	
Rebellion Ln & Route M	TWSC	TWSC	TWSC	TWSC	
Minutemen Rd & Route M	TWSC	TWSC	TWSC	TWSC	

# 5.3 ANALYSIS METHODOLOGY - LOS

A street's capacity is predominantly determined by the operations at its stop-controlled and signalized intersections. Therefore, an intersection analysis was performed at all four driveways to assess operations.

For intersection analysis, the HCM defines LOS in terms of the average control delay at the intersection in seconds per vehicle. The results of an HCM analysis are typically presented in the form of a letter grade (A-F) as seen in **Table 2** that provides a qualitative estimate of the operational efficiency or effectiveness of the corridor. Much like an academic report card, LOS A represents the best range of operating conditions (i.e., motorists experiencing little delay or congestion) and LOS F represents the worst (i.e., extreme delay or severe congestion).

Table 2: Intersection Level of Service Summary for Roundabouts

		Delay (seconds)						
	LOS	TWSC	AWSC	Roundabout				
	Α	<u>&lt;</u> 10	<u>&lt; 10</u>	< 10				
١	В	10 - 15	10 - 15	10 - 15				
	C	15 - 25	15 - 25	15 - 25				
	D	25 - 35	25 - 35	25 - 35				
ı	E	35 - 50	35 -50	35 - 50				
l	F	> 50	> 50	> 50				







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# 5.4 ANALYSIS METHODOLOGY - TRAFFICWARE SYNCHRO

Synchro software was used to create a model of the entire study area and the proposed intersection locations. Stop-controlled intersections were analyzed per Highway Capacity Manual 2010 Edition (HCM) methodologies with HCM reports being generated from the models. When calculating the LOS for stop-controlled intersections, the LOS is calculated for each leg, and the LOS for the stop-controlled legs are noted, as they are the approaches which experience delay. The roundabout LOS analysis was conducted using the Highway Capacity Manual 6<sup>th</sup> Edition.

# 5.5 ANALYSIS METHODOLOGY - SIDRA

The roundabouts were analyzed using the roundabout modeling software SIDRA in addition to Trafficware Synchro. The reason for using SIDRA is because it offers an improved gap-acceptance model for roundabouts which enables more realistic vehicle queuing versus SimTraffic. The resulting queues will more accurately match real-world conditions. According to National Cooperative Highway Research Program (NCHRP) Synthesis 488 (2016), SIDRA is the most commonly used tool US states use to analyze roundabouts. The vehicle queues will tend to be shorter for SIDRA analysis than for SimTraffic as well have shorter delays due to the different analysis methods.

# 5.6 ANALYSIS METHODOLOGY - TURN LANE WARRANTS

Auxiliary turn lane assumptions are made per recommended standards while considering post-development and future operations. These standard guidelines are National Cooperative Highway Research Program, NCHRP Report 745, Left-turn Accommodations at Unsignalized Intersections and NCHRP Report 457, Evaluating Intersection Improvements: An Engineering Study Guide. In addition to these volume-based lane warrants, safety and operational aspects are assessed to determine the need for improvements.

## 6 ANALYSIS RESULTS

## 6.1 LOS ANALYSIS RESULTS

Utilizing the scope, data and methodologies mentioned previously in this memorandum, a detailed analysis was conducted. A summary of the results may be shown below in **Table 3.** A more detailed results output is provided in **Appendix VII**. Movement level summary of LOS is shown in **Table 4**.



east school entrance. Section 6.3 shows queuing from SIDRA reduces by half to 700 ft.

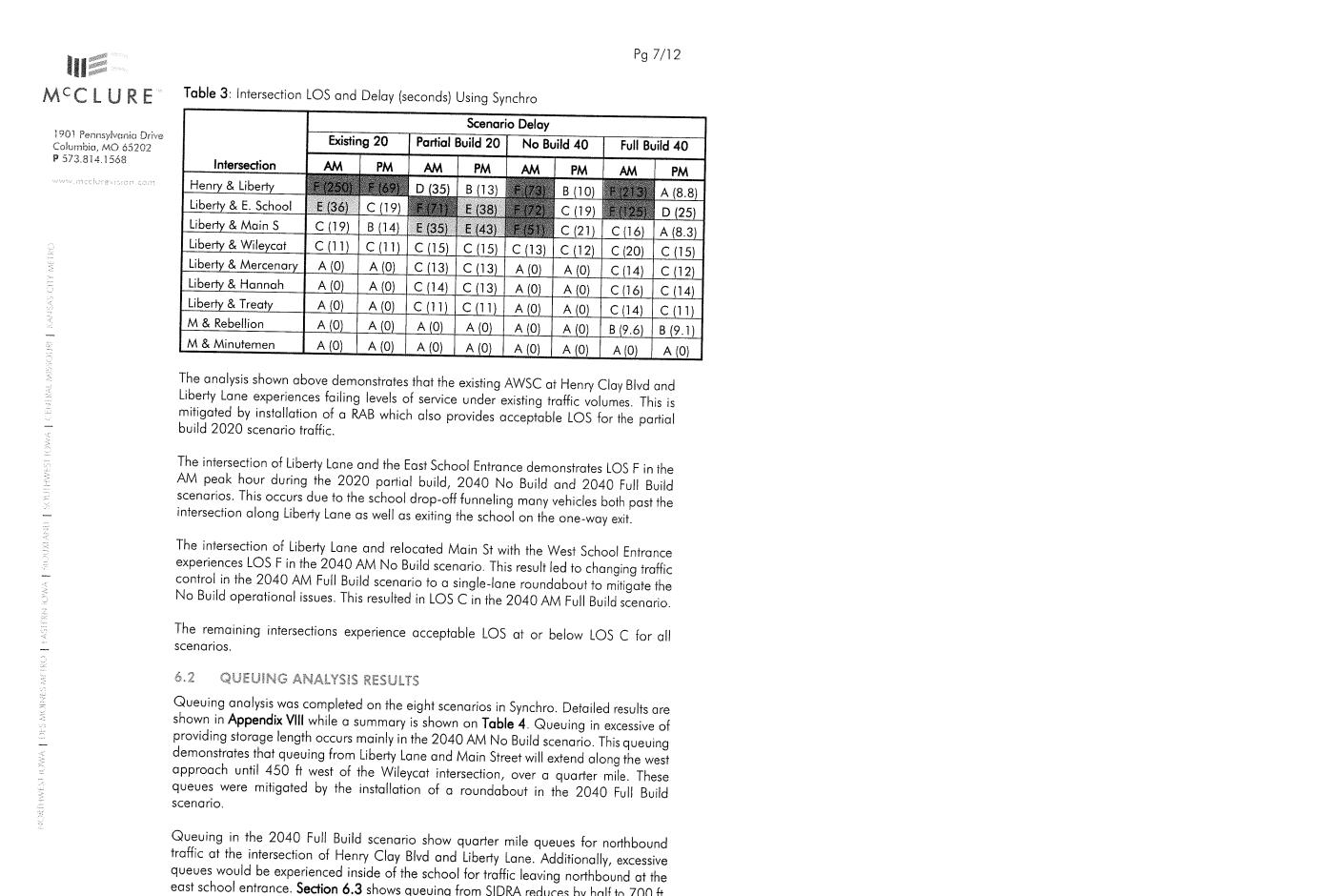
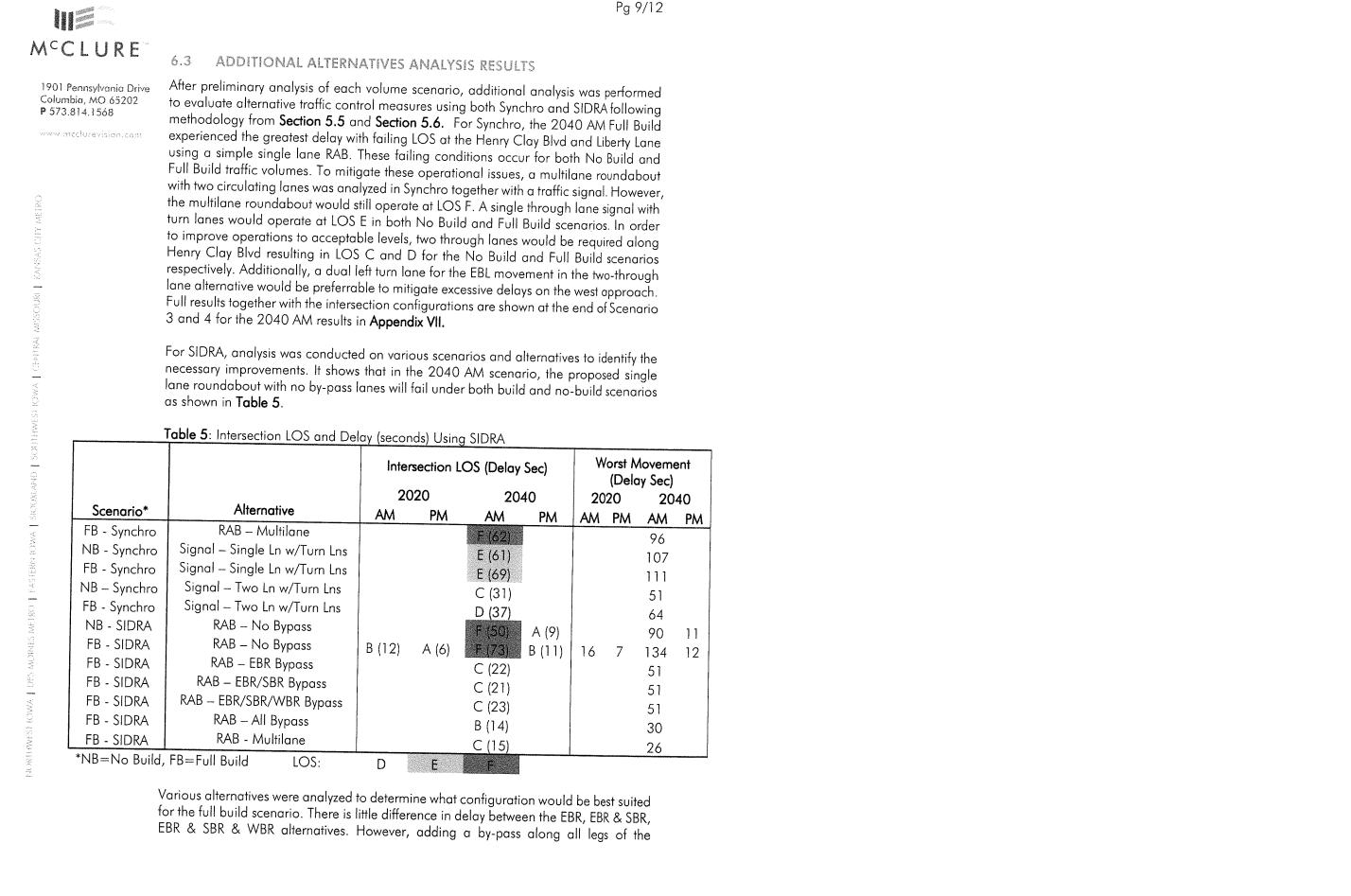


Table 4: Movement LOS, Delay and Queuing – Synchro

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	EBT	F (277)	F (53)	C (16)	, ,		B (12)	F (137	1	·	270 270		270	143	71	23	10
	NBL	F (384)	F (135)		B (14)	E (46)	B (10)	F (435	100		300	270 300	270	143	71	70	43
Ę,	NBR	F (384)	F (135)		B (14)	E (46)	B (10)	F (435)	986 · /	1	300	300	300 300	277	99	129	68
Henry & Liberty	NBT	F (384)	F (135)	E (47)	B (14)	E (46)	B (10)	F (435)		1	300	300	300	277	99 99	129	68
الم	SBL	C (22)	C (17)	B (13)	A (9.6)	B (12)	A (8)	D (31)	A (6.7)	1	300	300	300	63	54	129 64	68
Hen	SBR	C (22)	C (17)	B (13)	A (9.6)	B (12)	A (8)	D (31)	A (6.7)	1	300	300	300	64	57	64	56 56
	SBT	C (22)	C (17)	B (13)	A (9.6)	B (12)	A (8)	D (31)	A (6.7)		300	300	300	63	54	64	56
	WBL	D (33)	C (19)	C (20)	A (8.7)	C (21)	A (8.1)	F (210)	come	3	900	900	900	82	62	76	36 48
	WBR	D (33)	C (19)	C (20)	A (8.7)	C (21)	A (8.1)	F (210)		1	900	900	900	82	62	76	48
	WBT	D (33)	C (19)	C (20)	A (8.7)	C (21)	A (8.1)		A (9.5)		900	900	900	82	62	76	48
Đ	EBL	A (0)	A (0)	A (0)	A (0)	A (0)	A (0)	A (0)	A (0)	180	180	180	180	0	0	0	0
. <u>2</u>	EBT	A (0)	A (0)	A (0)	A (0)	A (0)	A (0)	A (0)	A (0)	180	180	180	180	1	5	2	0
Liberty & East School Drive	NBL	E (36)	C (19)	E (42)	D (21)	F (72)	C (19)	F (125)	D (25)	330	330	330	330	71	53	73	52
Š	NBR	E (36)	C (19)	E (42)	D (21)	F (72)	C (19)	F (125)	D (25)	420	420	420	420	104	57	106	56
ost	NBT	E (36)	C (19)	E (42)	D (21)	F (72)	C (19)	F (125)	D (25)	420	420	420	420	0	0	0	0
νŏ Li	SBL	C (11)	C (11)	C (11)	C (11)	C (12)	C (11)	C (12)	C (12)	330	330	330	330	0	0	0	0
ert-	SBR	C (11)	C (11)	C (11)	C (11)	C (12)	C (11)	C (12)	C (12)	330	330	330	330	36	45	38	48
3	WBR	A (0)	A (0)	A (0)	A (0)	A (0)	A (0)	A (0)	A (0)	270	270	270	270	0	0	0	5
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m,	EBL EBR	C (15)	B (11)	C (18)	B (12)	E (44)	B (13)	C (20)	A (7.6)	200	200	200	1000	59	48	58	51
Ę	EBT	C (15)	B (11)	C (18)	B (12)	E (44)	B (13)	C (20)	A (7.6)	1000	1000	1000	1000	92	64	102	64
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Š	NBT	B (11)	B (10)	B (11)	B (11) B (11)	B (13)	B (11)	A (8.5)	A (6.3)	350	350	350	350	38	48	38	47
& Midiri/ West School Drive	SBL	C (15)	B (13)	C (16)	B (11)	B (13)	B (11)	A (8.5)	A (6.3)	350	350	350	350	38	48	38	47
į	SBR	C (15)	B (13)	C (16)	B (14)	D (29) D (29)	C (20)	A (9.7)	A (8.6)	350	350	350	350	81	75	85	79
5	SBT	C (15)	B (13)	C (16)	B (14)	D (29)	C (20) C (20)	A (9.7)	A (8.6)	350	350	350	350	81	75	85	79
5	WBL	C (24)	C (17)	D (28)	C (22)	F (75)	D (29)	A (9.7) B (15)	A (8.6)	350	350	350	350	81	75	85	79
	WBR	C (24)	C (17)	D (28)	C (22)	F (75)	D (29)	B (15)	A (8.7)	75	75	75	180	47	30	47	32
	WBT	C (24)	C (17)	D (28)	C (22)	F (75)	D (29)	B (15)	A (8.7) A (8.7)	180 180	180	180	180	76	74	80	86
	EBL	A (0)	A (0)	A (0)	A (0.1)	A (0)	A (0)	A (0)		<del> </del>	180	180	180	76	74	80	86
	EBR	A (0)	A (0)	A (0)	A (0.1)	A (0)	A (0)	A (0)	A (0.1) A (0.1)	430	430	430	430	2	0	4	2
	EBT	A (0)	A (0)	A (0)	A (0.1)	A (0)	A (0)	A (0)	A (0.1)	430 430	430	430	430	2	0	4	2
i	NBL	C(11)	C (11)	C (11)	C (12)	C (13)	C (12)	C (15)	C (14)	330	430 330	430	430	2	0	4	2
	NBR	C (11)	C (11)	C (11)	C (12)	C (13)	C (12)	C (15)	C (14)	330	330	330 330	330 330	42	44	45	45
	NBT	C (11)	C (11)	C (11)	C (12)	C (13)	C (12)	C (15)	C (14)	330	330	330	330	42	44	45 45	45
	SBL	A (0)	A (0)	C (13)	C (12)	A (0)	A (0)	C (20)	C (15)	330	330	330	330	42 0	44	45 27	45
	SBR	A (0)	A (0)	C (13)	C (12)	A (0)	A (0)	C (20)	C (15)	330	330	330	330	0	0	26 26	20
	SBT	A (0)	A (0)	C (13)	C (12)	A (0)	A (0)	C (20)	C (15)	330	330	330	330	0	0	26	20
	WBL	A (0.5)	A (1)	A (0.5)	A (0.8)		A (0.7)	A (0.6)	A (0.5)	1000	1000	1000	1000	13	15	15	20 1 <i>7</i>
	WBR	A (0.5)	A (1)	A (0.5)	A (0.8)		A (0.7)	A (0.6)	A (0.5)	1000	1000	1000	1000	13	15	15	17
	WBT	A (0.5)	A (1)	A (0.5)	A (0.8)		A (0.7)	A (0.6)	A (0.5)	1000	1000	1000	1000	13	15	15	17
	EBL	A (0)	A (0)	A (0)	A (0.1)	A (0)	A (0)	A (0)	A (0)	960	960	960	960	0	0	0	2
≥	EBT	A (0)	A (0)	A (0)	A (0.1)	A (0)	A (0)	A (0)	A (0)	960	960	960	960	0	0	0	2
enc.	SBL	A (0)	A (0)	C (11)	C (11)	A (0)	A (0)	C (14)	C (12)	330	330	330	330	0	0	16	15
Mercenary	SBR	A (0)	A (0)	C (11)	C (11)	A (0)	A (0)	C (14)	C (12)	330	330	330	330	0	0	16	15
_	WBR	A (0)	A (0)	A (0)	A (0)	A (0)	A (0)	A (0)	A (0)	430	430	430	430	0	0	0	0
	WBT	A (0)	A (0)	A (0)	A (0)	A (0)	A (0)	A (0)	A (0)	430				-	-	-	•







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roundabout would experience a slight improvement, particularly along the south approach. There are no operational issues for opening day traffic with the roundabout.

Queuing for the various alternatives is shown in **Table 6.** Detailed Analysis results from alternatives SIDRA analysis included in **Appendix IX**.

**Table 6**: Alternatives 95<sup>th</sup> Percentile Queuing in Ft (Worst Approach) at Henry Clay Blvd and Liberty Lane - SIDRA

	202	20	2040		
Alternative	AM	PM	AM	PM	
No Build			1730 (EB)	115 (EB)	
Full Build	308 (EB)	53 (EB)	2448 (EB)	180 (EB)	
Full Build - EBR Bypass		()	725 (NB)	100 (20)	
Full Build - EBR, SBR Bypass			725 (NB)		
Full Build - EBR, SBR, WBR Bypass			725 (NB)		
Full Build - All Bypass			421 (NB)		
Full Build - Multilane			366 (NB)		
	neminated a		000 (IND)		
Queuing: Red Highlight indicates	nicieries dr	ieuing ex	ceeds provide	3d queue	

The results show excessive queuing for the no build and build scenarios in the 2040 AM period without bypass lanes. Adding bypass lanes will bring the queuing down to more reasonable levels around 700 ft. This queuing would block adjacent school entrances, resulting in potential traffic issues in the future peak hour.

# 6.4 TURN LANE ANALYSIS

The intersection approach lane configuration was also analyzed at the proposed accesses. The NCHRP 765 and NCHRP 457 reports were used to evaluated lane configuration. Additional considerations towards safety and operational aspects of the turn lanes were also assessed to determine the need for improvement.

NCHRP 765 table 3 provides a table describing when left-turn lanes are warranted. The projected volumes for each access was generated in the Trip Generation process as shown in **Appendices I-V** and is summarized below in **Table 7**.

Table 7: Turn Lane Warrants – Turning Volume (Thru Volume)

Partial E	Build 20	Full B	uild 40
AM	PM	AM	PM
1 (232)	1 (155)	1 (351)	2 (262)
0 (215)	0 (132)	0 (300)	0 (196)
1 (219)	1 (138)	2 (314)	5 (214)
1 (217)	3 (135)	1 (305)	4 (203)
		8 (196)	31 (158)
	<b>AM</b> 1 (232) 0 (215)	1 (232) 1 (155) 0 (215) 0 (132) 1 (219) 1 (138)	AM         PM         AM           1 (232)         1 (155)         1 (351)           0 (215)         0 (132)         0 (300)           1 (219)         1 (138)         2 (314)

Indicates Scenario not Applicable Indicates Turn Lane Warranted

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The results of the analysis show that only the intersection with Route M and Rebellion Drive will be warranted for a turn lane and not until the 2040 Full Build scenario.

# 6.5 **SIGHT DISTANCE ANALYSIS**

Sight distance of all the accesses were analyzed such to comply with the City's 2020 Comprehensive Plan guidance in their Table 4.1 for intersection spacing based on ITE guidance. A comparison between provided and required access spacing is shown for the proposed access in **Table 8**.

Table 8: Sight Distance Analysis

Intersection	Speed Limit (mph)	Required Access Spacing	Provided Spacing — Ft (West)	Provided Spacing — Ft (East)
Liberty & Wileycat	45	550	420	975
Liberty & Mercenary	45	550	210	420
Liberty & Hannah	45	550	1,530	770
Liberty & Treaty	45	550	800	1,530
Route M & Rebellion	55	550	800	800

Indicates Required Access Spacing not Provided

The results of the analysis show that the intersection of Mercenary Ct with Liberty Lane does not meet the required access spacing guidelines set by the City. Aside from this intersection, all accesses meet required spacing guidelines.









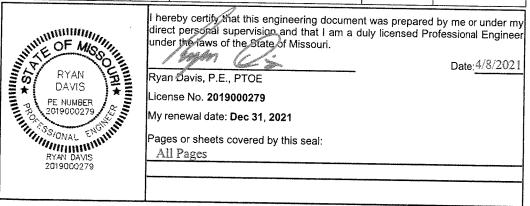
# RECOMMENDATIONS

1901 Pennsylvania Drive Columbia, MO 65202 P 573.814.1568

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**Table 9**: Recommendations

	7 Die 7. Recommen				
#		Ref	Reasoning	Year	Trigger
1	Install single-lane roundabout with EBR bypass lane at Henry Clay Blvd and Liberty Lane	6.1,	Bypass lane mitigates excessive delay and queuing along west leg cause by No Build traffic	Opening Day	Background Growth
2	Maintain ROW around Henry Clay Blvd and Liberty Lane	6.3	Future traffic volumes may necessitate further RAB improvements	Present	Background Growth
3	Install single-lane roundabout at Relocated Main St and Liberty Lane	6.1,	AWSC is inadequate to accommodate No Build traffic volumes	2040	Background Growth
4	Remove access at Mercenary Ct	6.5	Inadequate spacing	Opening Day	Development
5	Provide WBL turn lane at Route M and Rebellion Dr	6.4	Movement meeting turn lane warrants	2040	Development
6	Monitor conditions for converting east school entrance along Liberty Lane to Two-way traffic	6.1, 6.2	Excessive queuing and delay caused by travel patterns within school	As Needed	Background Growth & Development
7	Monitor future traffic patterns as infrastructure improvements alter existing conditions		Current traffic projections highly sensitive on future infrastructure such as additional expressway accesses	As Needed	Background Growth





#### VICINITY MAP PRELIMINARY PLAT (1 OF 2) LIBERTY LANDING NORTH SITE LOCATED IN THE NORTHEAST QUARTER OF SECTION 16 AND THE NORTHWEST QUARTER OF SECTION 15, ALL IN TOWNSHIP 46 NORTH, RANGE 12 WEST, BOONE COUNTY, MISSOURI. (2011 85 DEC S88°42'30"E 2011.89 37 38 39 40 44 46 124 125 £ 126 ₩ 127 128 № 129 130 131 132 133 35 134 LUCYIN TREATY DR 47 56 55 53 52 50 -- 694 122 EX CPWSD#1 WATER 123 121 48 월 120 № 118 33 MAIN (NOT USED FOR THIS DEVELOPMENT) 57 65 106 61 62 107 32 € 63 64 60 87 109 ន្ត 110 8 112 № 113\_ 115 105 TREATY DR 108 )31 g 50' R/W - 32' PVI \_AMBASSADOR RD \_\_ 104 59 ୍69 ଞ 68 67 89 .30 159 103 162 원 161 % 85 146 160 163 90 71 102 84 72 147 29 164 175 73 91 101 83 PROPOSED STORMWATER 157 148 92 165 DETENTION 174 74 AREA 100 82 93 156 149 173 166 501 17 75 81 sea 99 94 155 150 13 167 172 27 76 18 20 80 98 154 95 £ § 151 12 168 171 26 19 79 11 169 153 -152 50' RW - 32' PVM 25 3%----24 23 💆 22 SEE NOTE 23 184 183 SEE NOTE 22-182 LIBERTY LANE 181 50' R/W - 32' PVMT 988 860 864 865 EX CPWSD#1 WATER MAIN (NOT USED FOR THIS DEVELOPMENT) APPROVAL BY THE CITY OF ASHLAND PLANNING AND ZONING COMMISSION THIS \_\_\_\_\_, 2021. RECEIVED AND ACCEPTED BY ORDINANCE OF THE CITY OF ASHLAND AND ITS BOARD OF ALDERMAN THIS... RICHARD SULLIVAN, MAYOR PROPERTY DESCRIPTION: A TRACT OF LAND LOCATED IN THE NORTHWEST QUARTER OF SECTION 15 AND THE A FRACT OF LAND QUARTED IN THE MONTHAYEST QUARTER OF SECTION 18 AND THE MORTHEAST QUARTER OF SECTION 16, ALL IN TOWNSHIP 46 NORTH, RANGE 12 WEST, CITY OF ASHLAND, BOONE COUNTY, MISSOURI BEING ALL OF THE SURVEY RECORDED IN BOOK 1517, PAGE 69. DARLA SAPP, CITY CLERK

#### NOTES:

- WATER DISTRIBUTION TO BE SUPPLIED BY THE CITY OF ASHLAND AND DESIGNED AND INSTALLED BY THE DEVELOPER IN PHASES WITH THE CURRENT PORTION OF DEVELOPMENT.
- ALL WATER MAINS SHALL BE DESIGNED BY THE DEVELOPER IN PHASES. WATER MAIN SIZES WILL BE BASED ON AN UPDATED WATER DISTRIBUTION MODEL PROVIDED BY THE CITY OF ASHLAND TO PROVIDE REQUIRED FIRE FLOW. WATER MAINS SHALL PROVIDE A MINIMUM OF 800 GPM TO FIRE HYDRANTS, WHICH SHALL BE SPACED AT A MINIMUM OF 500 FEET.
- 3. ALL PUBLIC GRAVITY SANITARY SEWER EXTENSIONS SHALL BE MINIMUM OF 8° DIAMETER. SEWERS NOT CONSTRUCTED ALONG FRONTS OF LOTS TO BE LOCATED WITHIN 16 FOOT WIDE EASEMENTS OR EASEMENTS EQUAL TO THE DEPTH OF THE SEWER DEPTH IS GREATER THAN 16 FEET. PUBLIC SANITARY SEWERS SHALL BE BUILT IN COMPLIANCE WITH MISSOURI DEPARTMENT OF NATURAL RESOURCES AND THE CITY OF ASHLAND REGULATIONS.
- THIS DEVELOPMENT WILL BE SERVED BY GRAVITY SEWER EXTENSIONS FROM A NEW SANITARY SEWER LIFT STATION TO BE CONSTRUCTED AS SHOWN ON LOT 503. LOT 503 MAY BE TRANSFERRED TO THE HOME OWNERS ASSOCIATION OR TO THE CITY SANITARY SEWER UTILITY.
- NO PART OF THIS TRACT LIES WITHIN THE 100 YEAR FLOODPLAIN AS ADOPTED BY BOONE COUNTY FIRM PANEL 29019C0370D, DATED MARCH 17, 2011.
- COMMON LOTS 501 AND 502 WILL BE TRANSFERRED TO A COMMON HOMEOWNERS ASSOCIATION OR TO CITY PARKS, ALL DETENTION BASINS WILL BE MAINTAINED BY THE HOME OWNERS ASSOCIATION.
- ALL PROPOSED STREETS SHALL HAVE A 50 FOOT RIGHT OF WAY WITH A 32 FOOT WIDE RESIDENTIAL STREET WITH PARKING ON BOTH SIDES, UNLESS NOTED OTHERWISE. CUIL-DE-SACS SHALL HAVE A 50 FOOT RADIUS RIGHT-OF-WAY WITH 40 FOOT RADIUS PAVEMENT.
- THERE SHALL BE A 10' WIDE (MINIMUM) UTILITY EASEMENT ALONG THE SIDE OF EACH LOT ADJACENT TO STREET RIGHT-OF-WAY.
- NATURAL GAS AND ELECTRIC DISTRIBUTION TO BE DESIGNED BY AMEREN UE.
   NATURAL GAS AND ELECTRIC CONDUIT SHALL BE INSTALLED BY THE DEVELOPER WITH THE CURRENT PHASE OF DEVELOPMENT.
- 10. THIS DEVELOPMENT WILL BE BUILT IN MULTIPLE PHASES OF ABOUT 30 LOTS EACH. TOTAL NUMBER OF LOTS AND PHASES MAY BE ADJUSTED AS NECESSARY TO FACILITATE INFRASTRUCTURE IMPROVEMENTS AS LONG AS GENERAL CONFORMANCE TO THE PRELIMINARY PLAT AND R-1 ZONING ARE MET.
- A 4' WIDE SIDEWALK SHALL BE CONSTRUCTED ALONG ALL LOT FRONTAGE WITH INDIVIDUAL LOT BUILDING CONSTRUCTION THAT SHALL MEET THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT AT THE TIME OF CONSTRUCTION.
- ALL STREET GRADE CHANGES SHALL BE CONNECTED WITH ADEQUATE VERTICAL CURVES AT THE TIME OF FINAL STREET DESIGN.
- 13. DRAINAGE EASEMENTS SHALL HAVE A MINIMUM WIDTH OF 16' OR WIDER AS NEEDED AND SHALL BE PROVIDED TO CONTAIN THE RUNOFF IN CONCENTRATED FLOWS FROM A 100 YEAR RAINFALL EVENT.
- 14. ALL STORM SEWER STRUCTURES AND PIPES SHALL BE SIZED AT THE TIME OF FINAL DESIGN AND SHALL COMPLY WITH CITY OF ASHLAND, CHAPTER 12 CODE REQUIREMENTS.
- 15. STREET GRADES, STORM SEWER PIPE AND STORM INLET SIZES AND LOCATIONS, AND SANITARY SEWER LOCATIONS SHOWN ARE CONCEPTUAL IN NATURE ONLY AND WILL BE REFINED WITH FINAL DESIGN. THE SIZES AND LOCATIONS CAN BE MODIFIED WITHOUT FURTHER REVIEW BY THE PLANNING AND ZONING COMMISSION OR BOARD OF ALDERMEN.
- STREET ALIGNMENTS MAY BE ALTERED WITH FINAL DESIGN AS NEEDED TO MAXIMIZE SIGHT DISTANCE.
- 17. STORM WATER CONVEYANCE WILL BE ADDRESSED WITH EACH PHASE TO SATISFY THE REQUIREMENTS OF CHAPTER 12, APPENDIX F OF THE CITY OF ASHLAND CODE.
- 18. STORM WATER DETENTION WILL BE PROVIDED IN THE LOCATIONS SHOWN AND WILL BE CONSTRUCTED WITH THE CURRENT DEVELOPMENT PHASE. ALL DETENTION SHALL MEET CITY OF ASHLAND CHAPTER 12 CODE REQUIREMENTS. ALL MAINTENANCE OF DETENTION PONDS AND STRUCTURES SHALL BE BY THE HOMEOWNERS ASSOCIATION.
- 19. STREET LIGHTS WILL BE INSTALLED IN COMPLIANCE WITH CHAPTER 12, APPENDIX G OF THE CITY OF ASHLAND CODE.
- 20. ALL FRONT YARD SETBACKS SHALL HAVE A MINIMUM 25 FOOT SETBACK UNLESS NOTED OTHERWISE
- 21. THE ±2.5 ACRE PARCEL SHOWN BY SURVEY 1494-142 IS UNDER CONTRACT FOR PURCHASE BY MARTIN BUILDERS. FOLLOWING PURCHASE OF THIS TRACT A REQUEST FOR ANNEXATION AND ESTABLISHMENT OF PERMANENT R-1 ZONING WILL BE MADE. THE TRACT WILL BE INCORPORATED INTO THE DEVELOPMENT EAST OF THE CREEK OF THIS PRELIMINARY PLAT. FUTURE LAYOUT OF AREA EAST OF THE CREEK AND THE 2.5 ACRE PROPERTY IS SHOWN FOR REFERENCE.
- 22. A 5' SIDEWALK WAY WILL BE CONSTRUCTED AS SHOWN ALONG THE NORTH SIDE OF LIBERTY LANE. SIDEWALK TO BE CONSTRUCTED WITH CONSTRUCTION OF HOMES ON INDIVIDUAL LOTS. SIDEWALK MAY BE LOCATED IN RW OR ON PUBLIC EASEMENT ADJACENT TO LIBERTY LANE AS GRADES AND UTILITIES REQUIRE.
- 23. EXISTING DRAINAGE COURSES TO REMAIN IN PLACE AFTER CONSTRUCTION, AND ANY NEWLY CREATE DRAINAGE COURSES DOWNSTREAM OF DETENTION PONDS SHALL BE PROTECTED BY DRAINAGE EASEMENTS.
- DEVELOPER SHALL CONSTRUCT SIDEWALK ALONG FRONTAGE OF LOT 501, LOT 502, AND LOT 503 AT THE TIME OF ADJACENT STREET CONSTRUCTION.
- DEVELOPER SHALL INSTALL ACCESSIBLE SIDEWALK RAMPS AT INTERSECTIONS AT THE TIME OF STREET CONSTRUCTION.
- 26. NO MORE THAN 184 BUILDING PERMITS FOR LOTS IN THIS DEVELOPMENT SHALL BE ISSUED UNTIL AN ALTERNATE ROADWAY CONNECTION TO ROUTE M IS CONSTRUCTED.

# SITE DATA:

OWNER: MARTIN BUILDERS, INC 7070 HUNTERS BEND RD ASHLAND MO, 65010 (573) 268-985

ZONING: R-1, SINGLE FAMILY

ACREAGE: 97.94 ACRES (±72.3 AC PROPOSED, ±25.6 AC FUTURE)

OTS: THIS PLAT SHOWS 184 PROPOSED RESIDENTIAL LOTS AND 3 COMMON LOTS FOR STORM WATER AND NEIGHBORHOOD AMENITIES

DENSITY: THE DENSITY OF THE PROPOSED DEVELOPMENT IS 2.55 RESIDENTIAL LOTS PER ACRE.



making lives better.

1901 PENNSYLVANIA AVE COLUMBIA, MO 65202 (573), 814-1568

CERTIFICATE OF AUTHORITY No. LS-2012009395

SURVEY PREPARED FOR:
MARTIN BUILDERS, INC.
PROJECT NAME:
LIBERTY LANDING NORTH

PROJECT LOCATION:
ASHLAND, MISSOURI
McCLURE PROJECT No.



100 50 0 100

BEARINGS ARE REFERENCED TO GRID NORTH OF THE MISSOURI STATE PLANE COORDINATE SYSTEM (WESTERN ZONE). OBTAINED FROM GPS OBSERVATION. MODOT CORS VRS NETWORK, NAD83 (2011)

#### GENERAL LEGEND

BOUNDARY LINE	
PROPERTY LINE	
EASEMENT LINE	
CHAINLINK FENCE	
FIELD FENCE	x
ROAD CENTERLINE	

FOUND DRILL HOLE
FOUND DRILL HOLE
FOUND PLSS CORNER
SET 1/2" REBAR
SET DHWITH PK

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SET DHWITH PK

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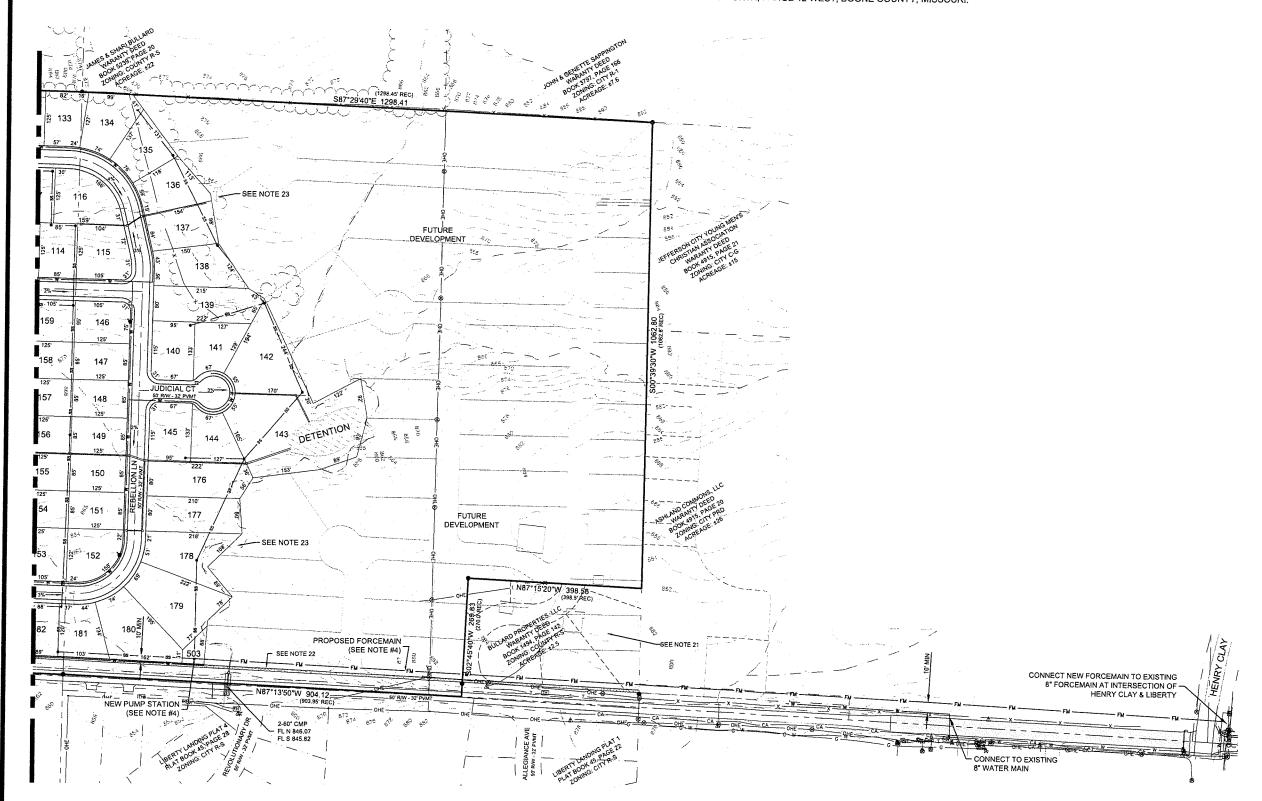


CHRISTOPHER M. SANDER LS-2003013178

# PRELIMINARY PLAT (2 OF 2)

# LIBERTY LANDING NORTH

LOCATED IN THE NORTHEAST QUARTER OF SECTION 16 AND THE NORTHWEST QUARTER OF SECTION 15, ALL IN TOWNSHIP 46 NORTH, RANGE 12 WEST, BOONE COUNTY, MISSOURI.





making lives better.

1901 PENNSYLVANIA AVE. COLUMBIA, MO 65202 (573) 814-1568

CERTIFICATE OF AUTHORITY No. LS-2012009395

SURVEY PREPARED FOR:

MARTIN BUILDERS, INC.

PROJECT NAME:

LIBERTY LANDING NORTH

PROJECT LOCATION:

ASHLAND, MISSOURI



McClure PROJECT No 201319

100 50 0 10

BEARINGS ARE REFERENCED TO GRID NORTH OF THE MISSOURI STATE PLANE COORDINATE SYSTEM (WESTERN ZONE). OBTAINED FROM GPS OBSERVATION. MODOT CORS VRS

# GENERAL LEGEND

<b>BOUNDARY LINE</b>	
PROPERTY LINE	
EASEMENT LINE	
CHAINLINK FENCE	
FIELD FENCE	x
ROAD CENTERLINE	

FOUND PRONPPERCEAR
FOUND DRILL HOLE
FOUND DH WITH PK
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SET IZ REBAR
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ABBREVIATIONS:
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POINT OF BEGINNING
FOUND
CENTERLINE
CL
DRILL HOLE
DH

THIS DOCUMENT HAS BEEN ELECTRONICALLY SIGNED, SEALED AND DATED



CHRISTOPHER M. SANDER LS-2003013178 April 8, 2021



# City of Ashland

109 East Broadway, Ashland, Missouri 65010

**Department Source:** Community Development

To: Planning & Zoning Commission

From: Dan VandeVoorde

**Board Meeting Date:** April 13<sup>th</sup>, 2021

Re: South Winds Plat 6

# **EXECUTIVE SUMMARY:**

Approval for Plat 6 of Southwind Subdivision. Developer of record is Winscott Excavation and Construction with McClure Engineering as design firm. Review was performed by Allstate Consultants on behalf of the City of Ashland.

# **DISCUSSION:**

Plat 6 is a continuation of approved and developed subdivision know as Southwind Subdivision located approximately between old 63 and HWY 63 and south of Peterson Rd. Plat 6 will allow for the continued growth of the currently developed subdivision for single family homes. This phase will contain 30 lots numbered 601-630 and encompass the following streets. Kingfisher, Eagle Pass, Biloxi and Tuscaloosa Dr.

# **FISCAL IMPACT:**

Short Term Impact (cost proposed legislation the next 2 years): \$0

Long Term Impact: \$0

# **SUGGESTED BOARD ACTION:**

Staff recommends: Staff recommends approval of Phase 6.

# Engineering Our Community



April 12, 2021

Ryan Fuller, PE McClure Engineering Company 1901 Pennsylvania Dr. Columbia, MO 65202

RE: Final Plat and Construction Plan Comments South Wind Plat 6 – Ashland, MO

Dear Mr. Fuller,

Allstate Consultants has completed a review of the Final Plat and Construction Plans (Dated March 5, 2021) for the aforementioned project with the following result:

- (X) Approved for consideration by the Planning and Zoning Commission
- ( ) NOT approved for consideration by the Planning and Zoning Commission

All comments have been addressed for the sanitary sewer and water distribution. You may proceed with obtaining the necessary construction permits from the Missouri Department of Natural Resources. Should the Department require revisions to the construction plans and/or design calculations during their review process, please provide the City a revised set of documents.

Please submit executed documents to the City of Ashland prior to final approval by the Board of Aldermen and contact Allstate Consultants (Jamie Jeffries – Final Plat, Wes Bolton – Construction Plans, Stephen Lin – Water/Sewer) with any questions. Please contact the City of Ashland for questions related to the scheduling of Planning and Zoning Commission consideration.

Sincerely,
Allstate Consultants LLC

Wes Bolton, PE, ACTAR



www.mecresults.com

March 5, 2021

City of Ashland Tony St. Romaine 109 East Broadway Ashland, MO 65010

South Wind Plat 6

Mr. St. Romaine,

Enclosed please find 7 copies of the Final Plat, 5 copies of construction plans, signed subdivision plat and site plan review applications, a check to the city for \$669 for application fees, 2 copies each of stormwater calculations, specifications, offsite sewer easements, and the site's DNR Land Disturbance Permit.

An electronic copy of these documents will be sent via email.

Please let me know if we can provide any additional information or if you have any questions.

Sincerely,

McClure Engineering Company



# SITE PLAN Application

<b>SUBMITTAL INFORMATION</b> The undersigned hereby applies to the CITY OF ASHLAND, MISSOURI. For development review as outlined in Chapter 9 Planning and Zoning, Section 9.106, Site Plan Submission, Review Required.
Physical Address: South Terminus, Eagle Pass Dr.
Parcel ID #: _24-504-00-00-002.03 01
Project Name: South Wind, Plat 6
Applicant Name (Please Print) WINSCOTT EXCAVATION AND CONSTRUCTION  Address: PO BOX 474, ASHLAND, MO 65010  Phone #: 573-489-1230 Fax:
REQUIRED SUBMITTALS WITH COMPLETED APPLICATION  □ Property survey  N/A□ Letter of Intent for Zoning Use and Building Use  Site Plan/Drawing (5 signed and sealed copies). These 5 plans must be Standard Size D (24"x36"). A reduced 11 x 17 copy and a PDF disc are also required. The plan shall include the following information:  • Title Sheet that may include the survey  • Site Plan  • Paving/grading/drainage plan  • Utilities sheet (including all existing utilities)  • Detail sheet(s)  • Building elevations  • Sign locations (sing design shall be approved on a separate permit)  • Adjacent zoning and land uses  Stormwater Calculations  Traffic Study  □ Other:  □ Application Fee: \$300.00 Site Plan Review \$100.00 Extension
9.108. Fees An applicant for a site plan approval shall pay to the City fees sufficient to cover the costs reasonably anticipated to be incurred by the City for the services of its planning, engineering and legal consultants and for the administrative expense reasonably anticipated to be incurred by the city in providing the expertise of its own community development, public, works, building department, finance and their administrative support personnel, in connections with the review of the site plan. These fees shall also include payment for the review of final detailed engineering plans, specifications and cost estimates, and field observation fees of the construction and installation of the public improvements for these developments.  Applicant's Signature:  Date 3 8 2021

Page 1 Amended 7/16/19



OFFICE Final Revisions / As-Built Received:

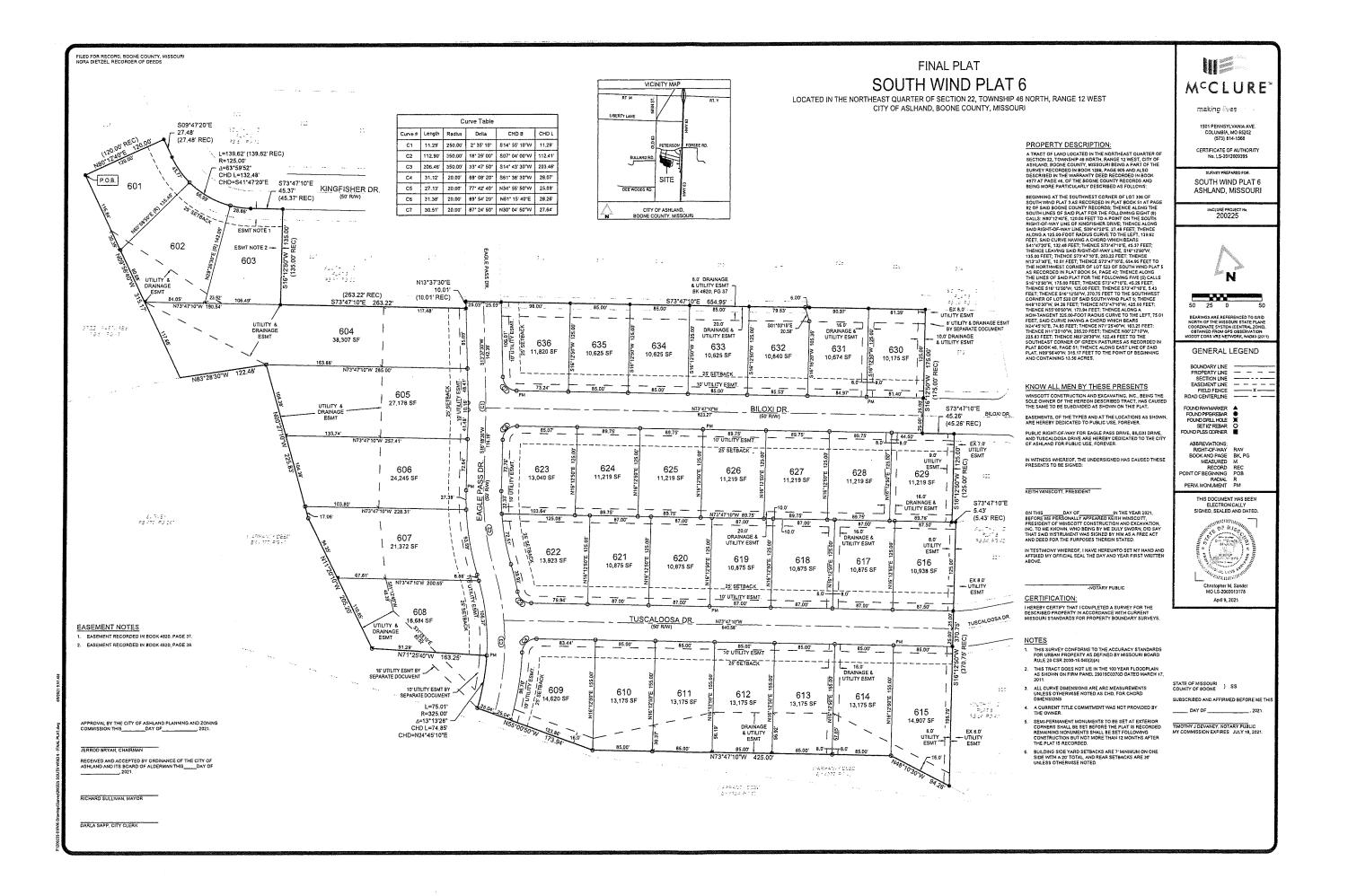
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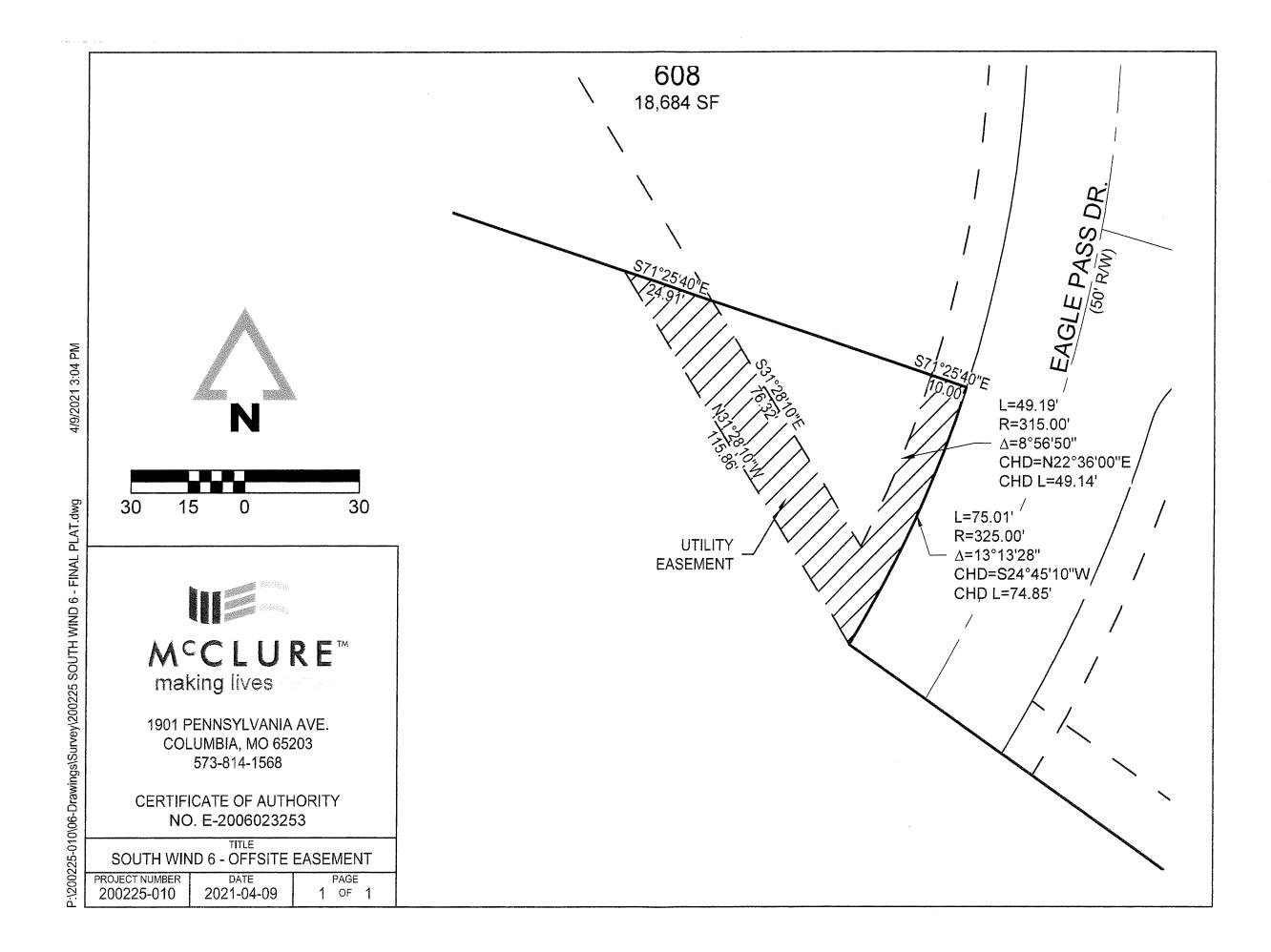
# SUBDIVISION PLAT Application

SUBMITTAL INFORMATION The undersigned hereby applies to the CITY OF ASHLAND, MISSOURI, For development review as outline in Chapter 11, Subdivision Regulations, Section 11.150 Procedure. Physical Address: South terminus, Eagle Pass Dr. Parcel ID #: 24-504-00-00-002.03 01 Project Name: South Wind, Plat 6 Applicant Name (Please Print) WINSCOTT EXCAVATION AND CONSTRUCTION Address: PO Box 474 Phone #: 573-489-1230 ASHLAND, MO 65010 Fax #: E-Mail: keithwinscott@gmail.com Applicant's Signature: Keuk Winsott Date March 4th, 2021 REQUIRED SUBMITTALS WITH COMPLETED APPLICATION ☐ Is this a Major Plat X or a Minor Plat ? ☑ Property survey N/A□ Letter of Intent for Zoning Use or Building Use N/A□ Soil Survey ■ Stormwater Calculations N/A□ Traffic Study Preliminary or Final Plat A. Preliminary plats requires (5) 18" x 24" or (5) 24" x 36" signed and sealed copies for the Planning & Zoning Commission and Board of Aldermen review. A reduced 11" x 17" copy and a PDF disc are also required. Final plats require an executed mylar, (5) 18" x 24" or (5) 24" x 36" signed and sealed copies For the Planning & Zoning Commission and Board of Aldermen review. A reduced 11" x 17" copy and a PDF disc are also required. □ Other: ☐ Application Fee: \$300 (See page 3) Staff Signature \_\_\_\_\_ Date Application: City Staff Review: Planning & Zoning:
Board of Aldermen 1st Reading: Board of Aldermen 2nd Reading:

Page 1

Created 12/19/14





601

GENERAL NOTES:

MISSOURI DNR LAND DISTURBANCE PERMIT FOR THIS TRACT IS MORA 16708

2. PROPOSED TOTAL DISTURBED AREA IS APPROXIMATELY 13.0 ACRES.

ALL SLOPES ARE 3:1 OR FLATTER UNLESS OTHERWISE NOTED.

CONTRACTOR SHALL NOT DISTURB ADJACENT PROPERTIES OUTSIDE THE SHOWN EASEMENTS THAT ARE NOT THE PROPERTY OF THE OWNER, UNLESS WRITTEN AUTHORIZATION IS OBTAINED.

ALL STREET & STORM CONSTRUCTION TO BE IN ACCORDANCE WITH CHAPTER 12 OF THE CITY OF ASHLAND CODE OF

ORDINANCES.

ALL SANITARY SEWER CONSTRUCTION SHALL BE IN ACCORDANCE WITH CHAPTER 14 OF THE CITY OF ASHLAND CODE

ALL SANIMAY SEWER CONSTRUCTION SHALL BE IN ACCORDANCE WITH CHAPTER 1A OF THE CITY OF ASHLAND CODE OF ORDINANCHISS APPROXIMATELY 13.58 ACRES. THIS FLAT CONTAINS APPROXIMATELY 13.58 ACRES. PASSING! DILINES SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL COORDINATE LOCATES (HORIZONTAL AND EXISTING DILINES SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL COORDINATE LOCATES (HORIZONTAL AND ALL ECCLAVATION 10 DE IN ACCORDANCE WITH SECTIONS 3.19 010.319.050, REVISED STATUTES OF THE STATE OF MISSCURE. SUCH COMPUBLACE SHALL HOT, HOWERE, EXCUSE SHAY PERSON ANDWER ANY EXCLAVATION FROM DOING SO IN A CAREFUL AND PRUDENT MANNER, NOR SHALL IT EXCUSE SUCH PERSON FROM LIBERTY FOR ANY DAMAGE OR NUMBER 10 LUMPRECEDIUM DIFFIELD RESIDENTS FROM THE FECAL WAY.

SO IN A CAREFUL AND PRUDENT MANNER, NOS SHALL IR EXCUSE SUCH PERSON FROM LIABILITY FOR ANY DAMAGE OR PUNIETY TO LINDERGROUND INJURIES RESULTING FROM THE EXCANDION.

A GEOTECHNICAL EVALUATION OF THE SUBSUEFACE SOIL, GROUNDWATER CONDITIONS, AND A SLOPE STABILITY ANALYZISH HAS NOT SEEN REPORTMED BY THIS STORIGHER. THE OWNER SHALL SATISTY THEMSELYES OF ALL GEOTECHNICAL CONDITIONS PRIOR TO ANY CONSTRUCTION.

ANY FILL PRECEDENT WITHIN STREET REGISTORY SHALL BE INSPECTED BY THE CITY OF ASHLAND.

REFER TO STORIGHMATER POLILITION PREVENTION FLAN (SWPP) FOR NARRATIVE REPORT AND BMP DESCRIPTIONS AND DETAILS.

ON ALL SLOPES ARE 31 OR PLATTER UNIESS OTHERWISE NOTED.

NI ITS THE INTENT OF THESE PLANS TO COMPLY WITH THE REQUIREMENTS OF THE MONR CLEAN WATER COMMISSION.

II ITS THE INTENT OF THESE PLANS TO COMPLY WITH THE REQUIREMENTS OF THE MONR CLEAN WATER COMMISSION.

II ALL DISTURBED AREAS WITHIN THE "LIMITS OF DISTURBANCE" SHALL BE FINE GRADED, SEEDED, AND MUICHED.

II HE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL ECOSION CONTROL DEVICES AND REMOVING THEM ONCE
THE SITE IS STABILIZED.

II ALL STREET PAVEMENT IS CENTERED WITHIN THE RIGHT-OF MAY.

II ALL STRIPLAY SEVER PIPE TO BE 9" NO'S SOR 33 UNIESS OTHERWISE NOTED.

II ALL SEVERS UNESS SHALL BE CONSTRUCTED AT LEAST 10 FET HORIZONALILY, EDGE TO EDGE, FROM ANY WAITER UNE. FOR CONDITIONS OTHER THAN THOSE IDENTIFIED ABOVE, CONTRACT THE ENGINEER FOR SPECIFIC INSTRUCTIONS.

II ALL SEVERS GEARLET THAN 15 FEET IN DEPTH SHALL BE A MINIMUM OF STAY S. O. ALL MANNHOLDS GEALTER THAN 16 FEET SHALL HAVE DOUBLE STEEL REINFORCEMENT.

I HOPE FIRE I DUAL WALL HICH OPENSITY FOUNTENTED FIPE WITH AN INTEGRALLY FORMED SMOOTH UNER. ALL HOPE PIPE SHALL BE INSTRUCTED FOR MANUFACTURE'S RECOMMENDATIONS EFFEET TO DETAIL FOR PIPE SEDDING REQUIREMENTS,

IN OSTITE CONSTRUCTION ACTIVITES, INCLUDINGS STEE CLEARANCE OR GRADING, SHALL OCCUR PRIOR TO ISSUANCE OF A DEVELOPMENT CONSTRUCTION PERMIT FROM THE CITY OF ASHAMD.

ALL WORK SHALL COMPLY WITH THE CITY OF ASHLAND AND STATE OF MISSOURI D.N.R. REGULATIONS IN REGARDS TO LAND DISTURBANCE.

5. LAND DISTURBANCE SITES SHOULD BE INSPECTED ON A REGULAR SCHEDULE AND WITHIN A REASONABLE TIME PERIOD INOT TO EXCEED 48 HOURS! FOLIOWING HEAVY RAINS. REGULARLY SCHEDULED INSPECTIONS SHALL BE AT A MINIMUM OF ONCE PER WEEK. ANY DEPICIENCIES SHALL BE NOTED IN A WEEKLY REPORT OF THE INSPECTION AND CORRECTED WITHIN SEVEN CALENDAR DAYS OF THE REPORT.

6. IN ORDER TO TERMINATE A STATE OPERATING FERMIT THE MISSOURI DEPARTMENT OF NATURAL RESOURCES IMDNR; REQUIRES THAT THE PERMITTEE SUBMIT A COMPLETED FORMH (INCLUDED WITH THE APPROVED PERMIT TO THE MODER. A PERMIT IS EUGIBLE FOR TERMINATION WHEN SITHER PERENNIAL VEGETAION, PAVEMENT, BUILDINGS, OS TRUCTURES USING PERMANENT MATERIALS COVER ALL REAS THAT HAVE BEEN DISTURBED. VEGETAITIVE COVER SHALL BE AT LEAST 70% OF FULLY ESTABLISHED PLANT DENSITY OVER 100% OF THE DISTURBED. ALL A COPY OF FORMY SHOULD BE SUBMITTED TO THE CITY AT WHICH TIME THE CITY WILL REMOVE THE PROJECT FROM ITS INSPECTION SCHEDULE.

SEE LAND DISTURBANCE PLANS AND SWPPP FOR FURTHER INFORMATION REGARDING LAND DISTURBANCE AND EROSION CONTROL MEASURES AND REQUIREMENTS.

THE FINAL CONTOURS SHOWN ARE APPROXIMATE, AND MAY BE CHANGED IN THE FIELD WITH AUTHORIZATION OF ENGINEER
THE GOAL BEING TO GRADE THE SITE TO MINIMIZE OR ELIMINATE POSSIBLE DRAINAGE PROBLEMS FROM DCCURRING IN THE
FUTURE. CHANGES IN GRADING THAT ALTER THE DESIGN DRAINAGE AREAS SHALL BE SUBJECT TO REFEVIEW BY THE CITY OF
ASHLAND.

THE CONTRACTOR SHALL BE REQUIRED TO HAVE COMPACTION TESTING PERFORMED ON ALL FILL AREAS OUTSIDE OF STREET RIGHT-DEWAY. THIS DATA MUST BE RECORDED IN A FORM THAT THE AREAS TESTED CAN BE RELOCATED ON A PLAN. THE TESTING REQUIRED SHALL BE ONE PASSING ISET FOR EACH B INCHES OF RIL ON EACH LOT WITHIN THE FILLED AREAS.

FILL AREAS WITHIN STREET RIGHT-OF-WAY WILL BE TESTED ACCORDING TO CITY OF ASHLAND CODE OF ORDINANCES APPENDIX A-1.

11. DISPOSE OF MATERIAL REMOVED FROM MAINTENANCE OF TRAPS IN BLACK DIRT STOCK PILES.

12. ALL AREAS DISTURBED SHALL BE SEEDED AND MULCHED AFTER ALL CONSTRUCTION IS COMPLETE AND BE IN COMPUANCE WITH THE STORM WATER POLLUTION PREVENTION PIAN SEEDING MAY BE PHASED SO THAT GROUND COVER IS ESTABLISHED SOONER.

# MDNR REQUIREMENTS:

SUBSTANCES REGULATED BY FEDERAL LAW UNDER THE RESOURCE CONSERVATION AND
RECOVERY ACT RICRAY OR THE COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION
AND ULBAINT ACT (CERCLAY WHICH ARE TRANSPORTED, STORED OR SUSED FOR MAINTENANCE,
CLEARING OR REPAIRS SHALL BE MANAGED ACCORDING TO THE PROVISIONS OF RCRA AND
CLEARING OR REPAIRS SHALL BE MANAGED ACCORDING TO THE PROVISIONS OF RCRA AND

2. ALL PAINTS: SOLVENTS, PETROLEUM PRODUCTS AND PETROLEUM WASTE PRODUCTS (EXCEPT FUELS) AND STORAGE CONTAINERS ISUCH AS DRUMS, CANS, OR CARTONS SHALL BE STORED SUCH THAT THESE MATERIALS ARE NOT EXPOSED TO STORM WATER. SUFFICIENT PRACTICES OF SPICE ITEM TIRES ARE AND/OR MANAGEMENT SHALL REPORT PACHES. SPITE PERMITTION, CONTROL AND/OR MANAGEMENT SHALL REPORT SHALL REPORT AND SHILLS OF THESE FOLLOWARDS ROOM ENTERING A WATER OF THE STATE. ANY CONTAINMENT SYSTEM USED TO INFLUENCE THE REQUIREMENT SHALL BE CONSTRUCTED OF MATERIALS COMMISSIE WITH THE SUBSTANCES CONTAINED AND SHALL ALSO PREVENT THE CONTAINMENT OF GROUNDWATER.

THE APPLICANT SHALL NOTIFY BY TELEPHONE AND IN WRITING THE DEPARTMENT OF NATURAL RESOURCES, WAITER POLIUTION CONTROL PROGRAM, POST OFFICE BOX 176, JEFFERSON CITY, MO 65102, 1800.361.4827, OF ANY OIL SYRLS OR IF HAZARDOUS SUBSTANCES ARE FOUND DURING THE PROSECUTION OF WORK UNDER THIS FERMIT.



#### 602 603 604 636 605 635 634 633 632 631 606 630 BILOXI DRIVE 623 624 607 625 626 627 622 628 608 621 629 620 619 618 617 TUSCALOOSA DRIVE 616

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#### STANDARD LEGEND (PLAN VIEW)

SANITARY SEWER MANHON SANITARY SEWER CLEANON AR RELEASE MANHOLE/DRU STORM SEWER MANHOLE BOLLARD (BUMPER POST STORM SEWER CLEANOUT STORM SEWEL INTAKE SIGMA SEVEL INTAKE
SIGMA SEVEL SEPENS INTAKE
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W WELL DECIDUOUS TREE ORNAMENTAL TREE SHRUB OR BUSH TREE OR SHRUB UNE AONITOZING WELL SATELLITE DISH POWER POLE W/ STREET LIGHT GUY WIRE TRAFFIC SIGNAL

> OWNER: WINSCOTT CONSTRUCTION & EXCAVATING, INC. PO BOX 474

TRAFFIC SIGNAL BOX

TRAFFIC SIGNAL MANHOLE / VALLT RATEOAD CROSSING SIGNAL TELEPHONE MANHOLE / VALLT

ASHLAND, MISSOURI 65010

PREPARED BY:

WATER: CITY OF ASHLAND 109 EAST BROADWAY ASHLAND, MO 65010 [573] 657-2093

101 MADISON STREET #100 JEFFERSON CITY, MO 65101 (800) 552-7583

UTILITY COMPANIES: IOCATES: MSSOURI ONE CALL, INC.

625 CHERRY STREET COLUMBIA, MO 65205

2001 MAGNEE BOUNEVARD

NORTH RIM OF MANHOLE LOCATED APPROXIMATELY 90' EAST OF THE CENTERLINE INTERSECTION OF PETERSON LANE AND EAGLE LAKE DRIVE, ELEV. 670,47'

TRACT LOCATION:

A TRACT OF IAND LOCATED IN THE NORTHEAST QUARTER OF SECTION 22, TOWNSHIP 46 NORTH RANGE 12 WEST, CITY OF ASHIAND, BOONE COUNTY, MISSOURI.

FLOOD PLAIN STATEMENT:

NO PART OF THIS TRACT HES WITHIN THE LOCUE AN

	SHEET INDEX	1
#	TITLE	1
1	COVER SHEET	1
2	LAND DISTURBANCE PLAN	ŀ
3	ROAD P&P 1	l
4	ROAD P&P 2	
5	SANITARY SEWER P&P 1	
ŝ	SANITARY SEWER P&P 2	
7	STORM P&P	
3	WATER PLAN	
9	DETAILS 1	
0	DETAILS 2	
1	DETAILS 3	
2	DETAILS 4	



1901 Pennsylvania Drive Columbia, MO 65202 P 573-814-1568

NOTICE: McOTICE:

McClure Engineering Company webse
any and all responsibility and libelity is
problems which arise from faiblity is
fallow these Plans, Specifications, ade
the engineering intent little convey, of
ser problems which arise from failuse to
abtain and/art fallow the angiene
guidance with respect to only error,
omitisation, inconsistencies, ampliatencies,
or conflicts which are alleged.

MISSOURI CERTIFICATE OF AUTHORITY NO. E-2006023253 EXPIRES: DECEMBER 31, 2022



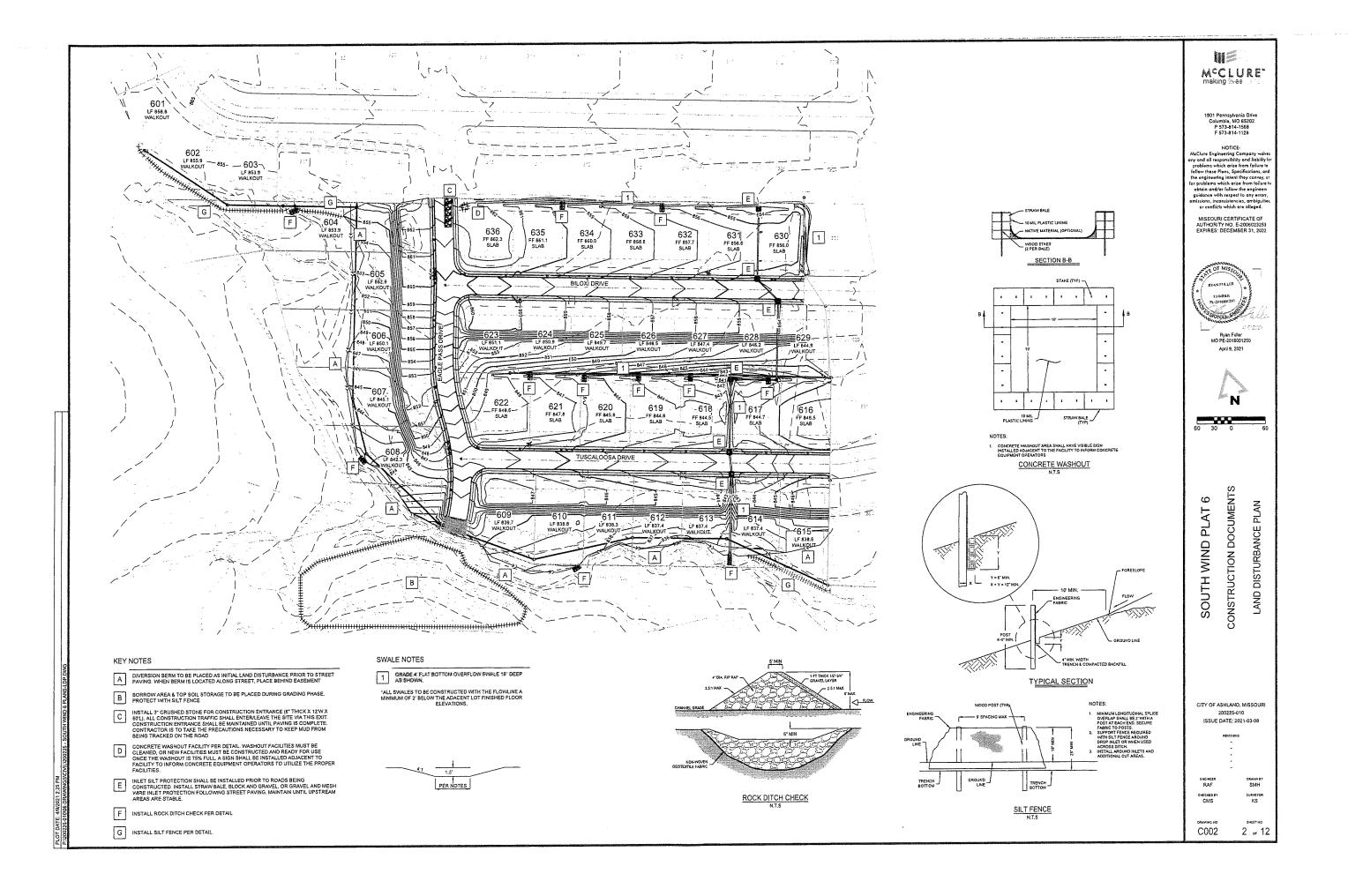
Ryan Fuller MO PE-2016001250

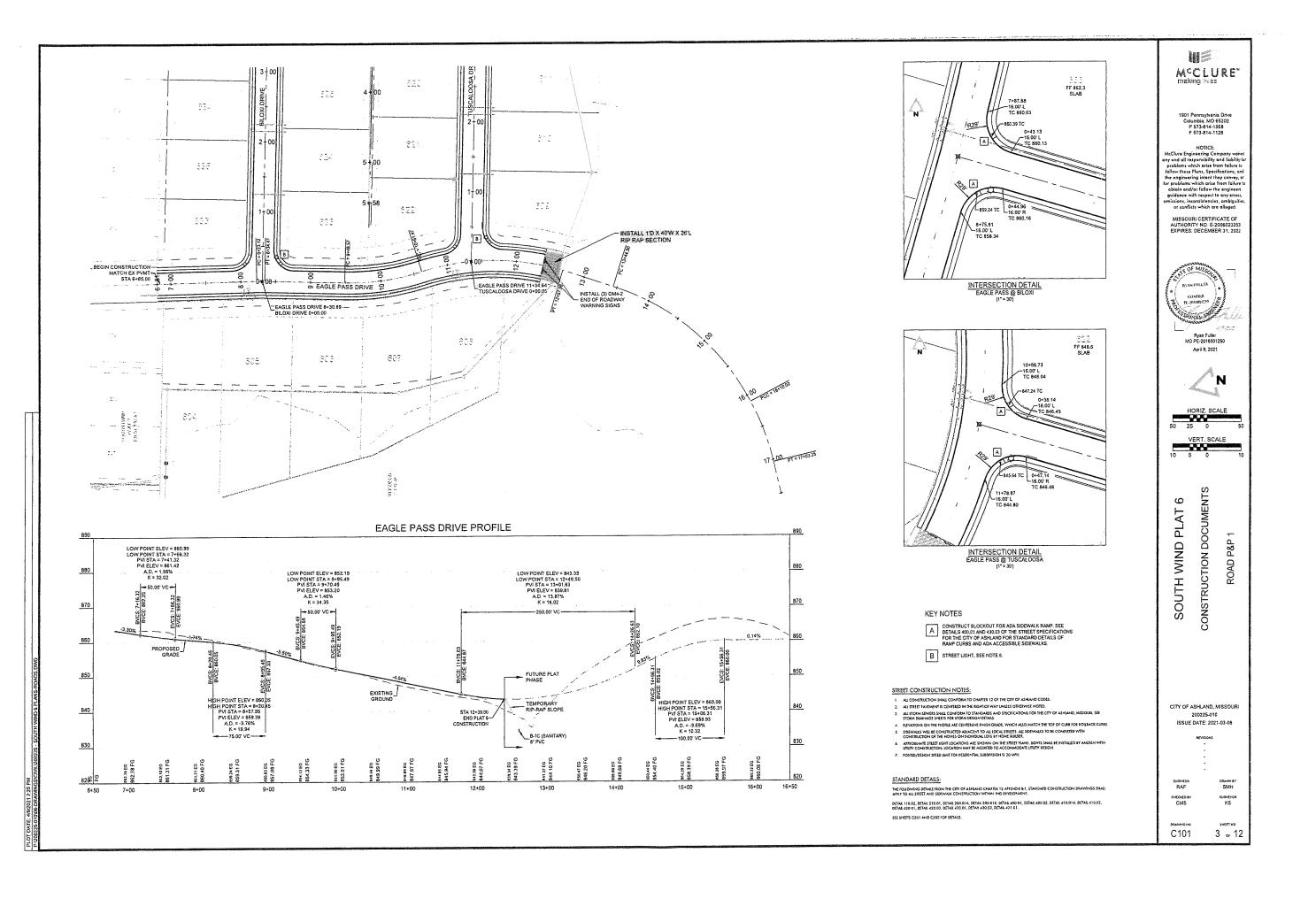
CONSTRUCTION DOCUMENTS SOUTH WIND PLAT

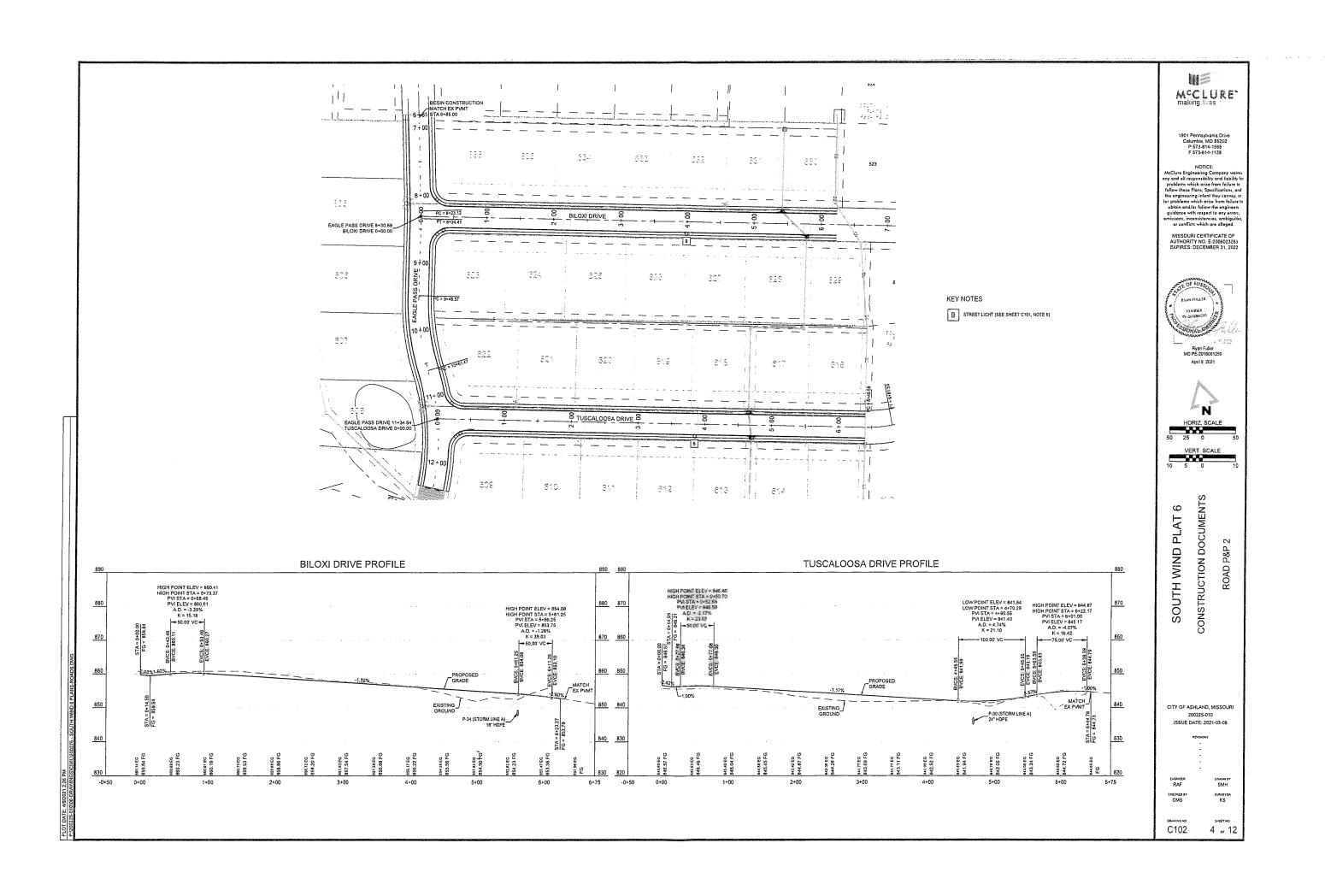
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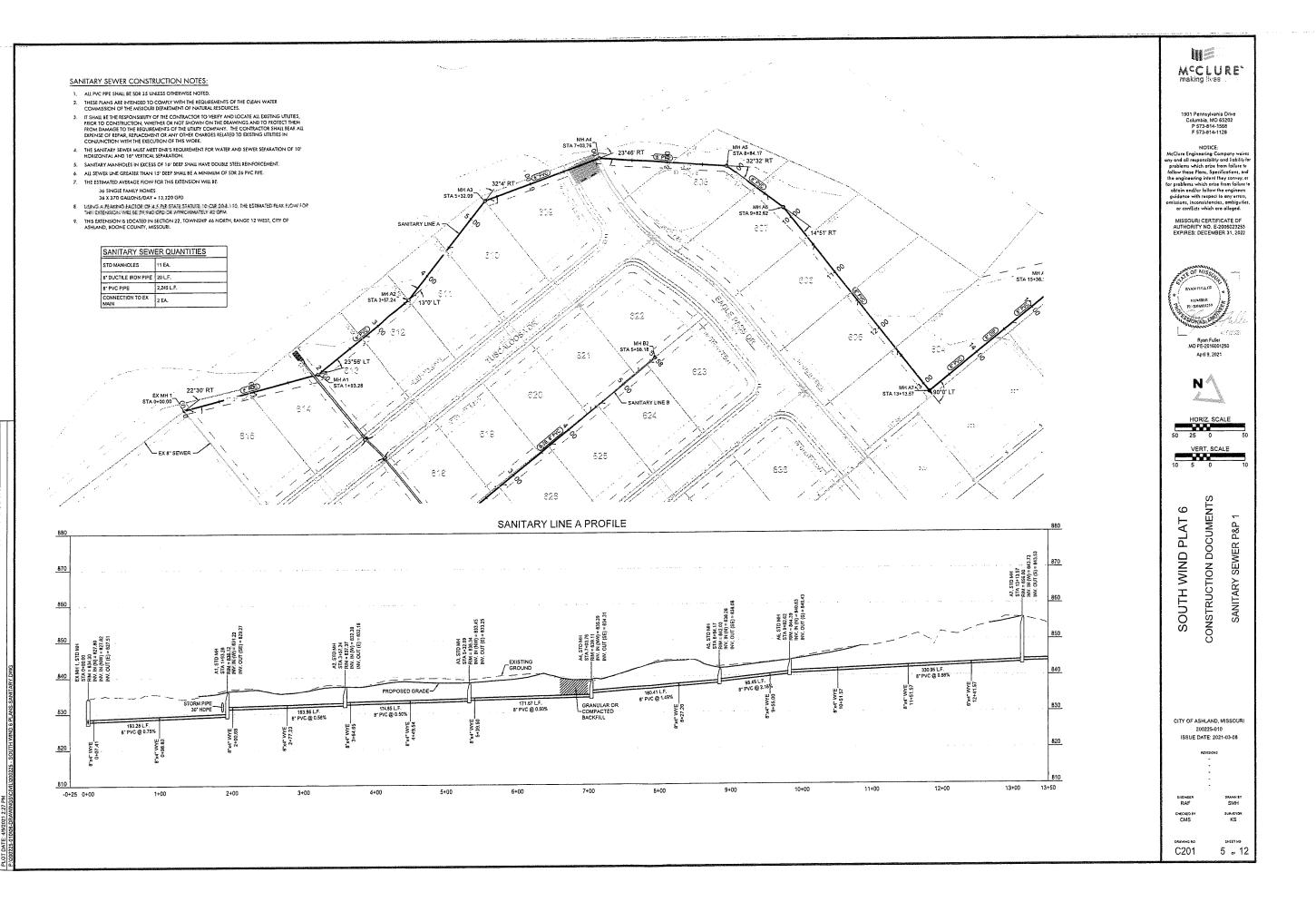
CITY OF ASHLAND, MISSOURI ISSUE DATE: 2021-03-08 RAF

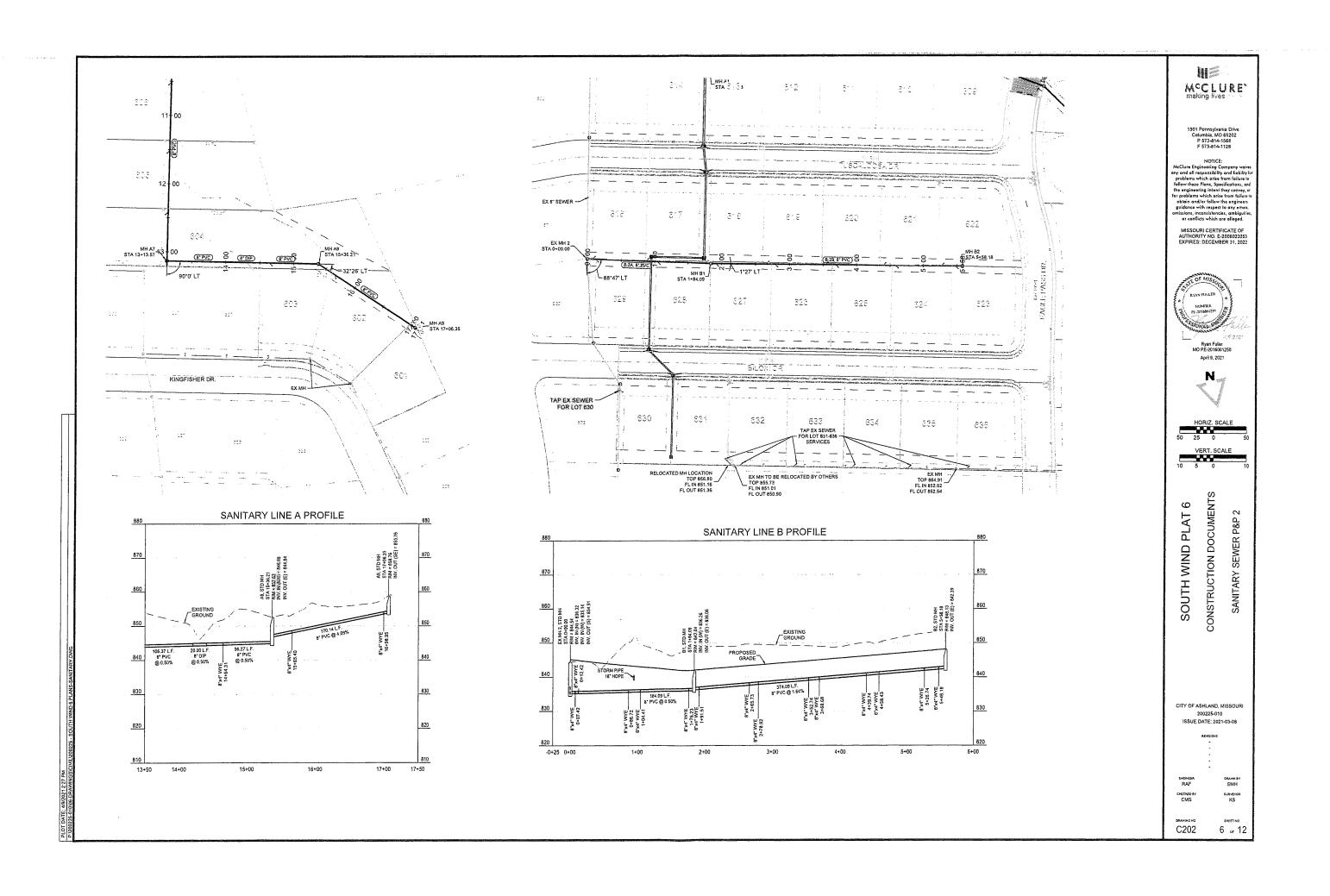
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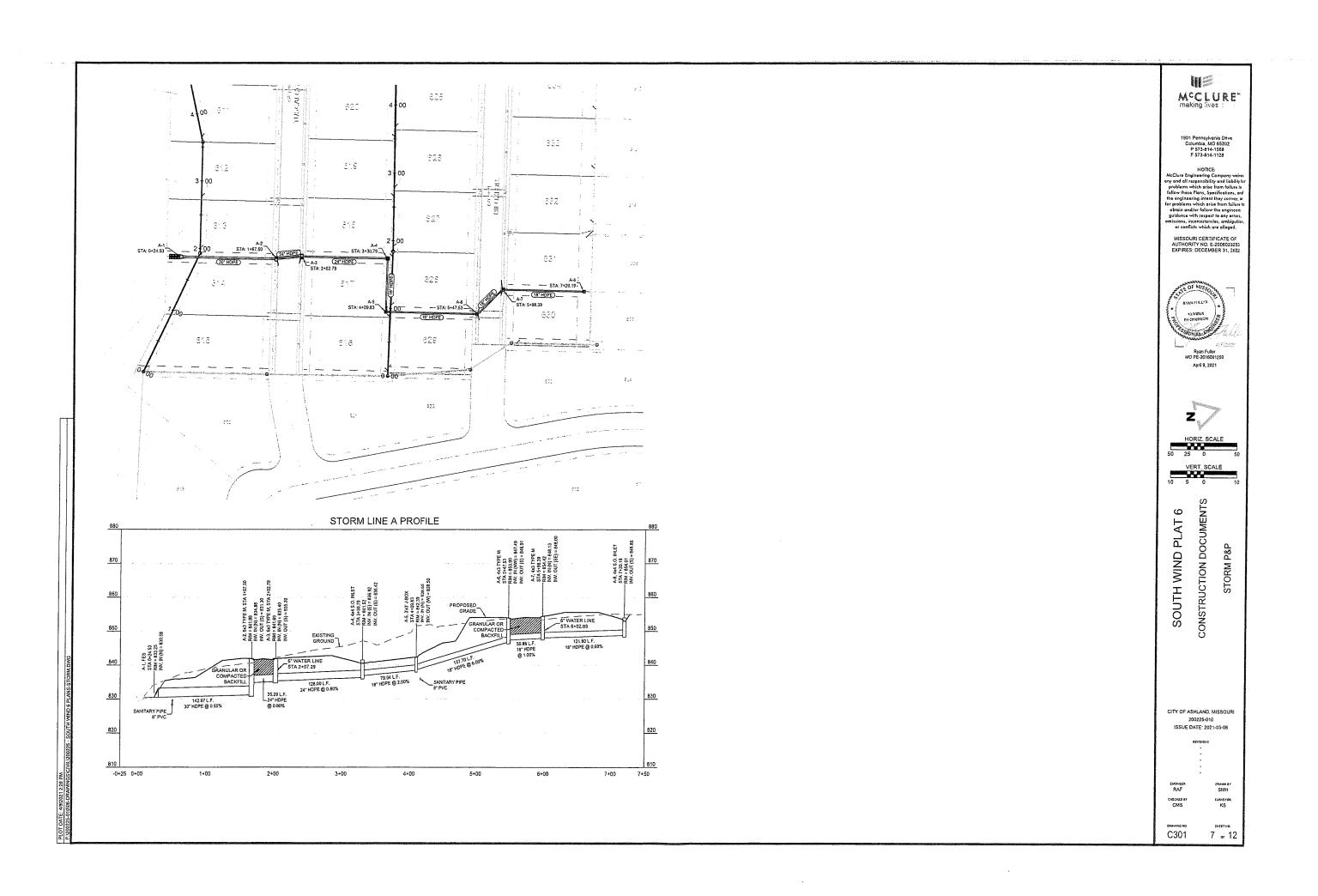


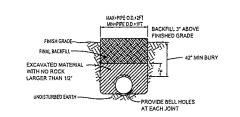




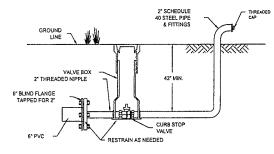






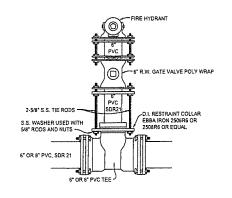


## PVC PIPE EMBEDMENT NOT TO SCALE



LOCATOR WIRE AT VALVE NOT TO SCALE

FLUSH HYDRANT DETAIL NOT TO SCALE



#### WATERUNE NOTES:

TRACER WIRE, #12 SUNGLE STRAND COPPER COATED STEEL WITH HIGH DENSITY POLYETHYLENE JACKET, SHALL BE INSTALLED ALONG ENTIRE LENGTH OF PROJECT AND ALONG WATER SERVICE UNISS TO METER PIT.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ACQUIRE ALL EXISTING UTILITY LOCATIONS FRIOR TO CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO RESTORE ANY AND ALL DAMAGED OR BROKEN UTILITIES TO THE ORIGINAL OR BETTER CONDITION.

ALL WATERLINE CONSTRUCTION SHALL BE APPROXIMATELY 5" INSIDE THE CITY RIGHT-OF-WAY

AIL TRENCHES UNDER STREET PAVEMENT SHALL BE BACKFILLED WITH 1" CLEAN CRUSHED STONE.

ALL WATERLINE FIPE SHALL BE SDR21 PVC OR C-P00 OR APPROVED EQUAL EXCEPT AS OTHERWISE NOTED.

FIRE HYDRAMT ASSEMBLY INCLUDES FIRE HYDRAMT, 6"X6" TEE, 6" GATE VALVE WITH RISER, APPROPRIATE AMOUNT OF 6" PIPE, AND REQUIRED THRUST BLOCKING.

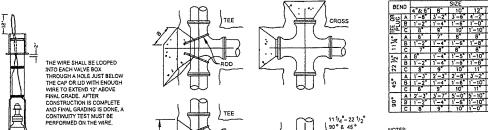
ALL WATER UNES SHALL BE CONSTRUCTED AT LEAST TO FEET HORIZONTALLY, EDGE TO EDGE, FROM ANY STORM OR SANITARY SEWER LINE AND AT LEAST 24 INCHES VERTICALLY BETWEEN THE OUTSIDE LIWITS OF THE STORM OR SANITARY SEWER AND WATERUNE.

ALL WATERLINE SHALL BE INSTALLED, DISINFECTED, AND TESTED IN ACCORDANCE WITH AWWA MANUAL M23.

ALL WATER MAIN SHALL HAVE A MINIMUM OF 42° COVER

INSTALL FITTINGS AS NECESSARY TO AVOID PLACING STRAIN BY BENDING PIPE. MAXIMUM JOINT DEFLECTION SHALL BE 18" PER FULL LENGTH OF PIPE.

METER PIT, YOKE AND METER TO BE INSTALLED BY THE CITY OF ASHLAND.



FOR HORIZONTAL ALIGNMENT

NOTES:

1. ALL BAD DIMENSIONS TO BE AS REQUIRED TO REACH UNDISTURBED EARTH BUT NOT LESS THAN LISTED ON THRUST BLOCK TABLE.

2. CAST-IM-PLACE CONCRETE SHALL BE IN ACCORDANCE WITH THE "CITY OF ASHLAND STREET HAND STORM DRAINAGE SPECIFICATIONS AND STANDARDS," SECTION 250 CONCRETE STRUCTURES.

3. DIMENSIONS A.B. C. APPLY TO ALL BEND CONDITIONS SHOWN.

4. INSTALL PLUGS AT ALL RUNS OR BRANCHES DISCONTINUED FOR FUTURE SERVICES.

5. ALL BENDS, TEES, PLUGS, TITHINGS OR OTHER SIGNIFICANT CHANGES SHALL BE BRACED WITH POURED CONCRETE THRUST BLOCK AS SHOWN ON THIS DETAIL.

6. ALL PLUGS SHALL BE SEPARATED FROM THE CONCRETE THRUST BLOCK BY A 5 MIL LAYER OF PLASTIC SHEETING.

WATER QUANTITIES 1,865 LF A 6" GATE VALVE WITH VALVE BOX AND RESTRAINT 4 EA B 6" TEE WITH RESTRAINT C FIRE HYDRANT ASSEMBLY D 50' OF 1" SERVICE WITH SADDLE TAP AND CORP STOP E 6' BLIND FLANGE TAPPED FOR 2' NIPPLE WITH RESTRAINT



III

M°CLURE"

1901 Pennsylvania Drive Columbia, MO 65202 P 573-814-1568 F 573-814-1128

NOTICE: NOTICE:
McClure Engineering Company waiw
ny and all responsibility and liability
problems which arise from failure te
follow these Plans, Specifications, and
the engineering intent they convoy,
or problems which arise from failure

obtain and/or fallow the engineer guidance with respect to any error

MISSOURI CERTIFICATE OF AUTHORITY NO. E-2005023253 EXPIRES: DECEMBER 31, 2022

April 9, 2021

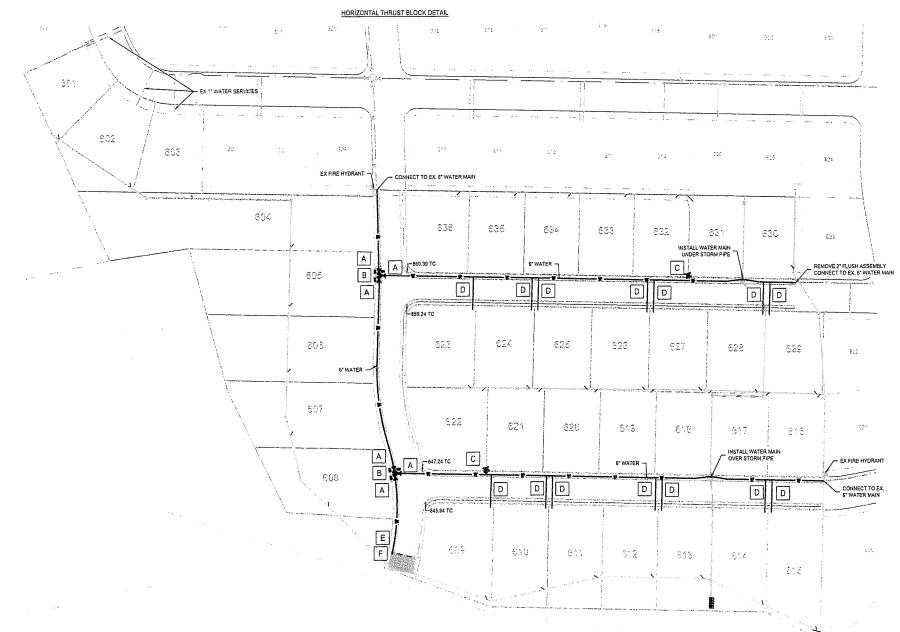


CONSTRUCTION DOCUMENTS 9 SOUTH WIND PLAT PLAN WATER

CITY OF ASHLAND, MISSOURI ISSUE DATE: 2021-03-08 ENGINEER RAF DRAWN BY CMS

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# **City of Ashland**

109 East Broadway, Ashland, Missouri 65010

**Department Source:** Community Development

To: Planning & Zoning Commission

From: Dan VandeVoorde

Board Meeting Date: April 13th, 2021

Re: Baptist Home

## **EXECUTIVE SUMMARY:**

Obtain approval for the expansion of the Baptist Home complex. Owner/developer of record is The Baptist Home C/O Derek Tamm with Allstate Consultants as design firm. Review was performed by MECO Engineering on behalf of the City of Ashland

## **DISCUSSION:**

This phase approval is part of the overall site that will contain a new Assisted Living Facility, private road/drives and parking lots along Baptist Home Ave (private). This section is on the southern portion of property. It also includes the parking lot adjacent to the existing office building.

# **FISCAL IMPACT:**

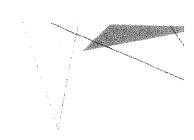
Short Term Impact (cost proposed legislation the next 2 years): \$0

Long Term Impact: \$0

# **SUGGESTED BOARD ACTION:**

Staff recommends: Staff recommends approval of the submitted phase.





April 8, 2021

City of Ashland ATN: Tony St. Romaine 109 E Broadway Ashland MO 65010

RE: Baptist Home

Planning & Zoning Review

Dear Planning & Zoning Committee,

MECO Engineering has reviewed the revised submitted information on this development against the city codes. We questioned the design engineer on stormwater revisions and added a fire hydrant to the project.

We believe the development meets code requirements and should move to planning and zoning meeting for review.

Sincerely,

Scott E. Vogler, P.E.

President, MECO Engineering Co., Inc.



Silon notasifel Dinge i Jefferson C.A. MO SSILON Profile og Seesa Little

# Engineering Our Community



March 9, 2021

Mr. Tony St. Romaine City Administrator City of Ashland 109 E. Broadway Ashland, MO 65010

RE: Revised Site Plan Submittal
The Baptist Home

Dear Mr. St. Romaine,

On behalf of the owners, we respectfully submit a revision to the Site Plan for The Baptist Home. As you are aware, the original site plan was approved by Ashland in 2017 and much of the infrastructure as well as 4 bungalows and 3 patio homes have been built. This revision addresses changes to the master plan some of the un-built portion of the project.

The proposed changes include consolidating the 8 assisted living cottages and Chapel/community center shown in the original plans into one building and provide for additional apartment buildings while reducing the total number of Bungalows. This has the net effect of reducing the total proposed unit count from 174 units to 146 units.

This submittal includes 5 hard copies of the revised plans, 1 11x17 copy of the revised plans, 1 revised storm water report, and one \$300 check for application fees.

Thank you for your consideration of this request and please contact me if you have any questions or need any additional information.

Sincerely,

Allstate Consultants LLC

Brian Harrington, PE, PTOE

Enc.



# SITE PLAN Application

<b>SUBMITTAL INFORMATION</b> The undersigned hereby applies to the CITY OF ASHLAND, For development review as outlined in Chapter 9 Planning and Zoning, Section 9.106, Site Pla Review Required.	MISSOURI, in Submission,
Physical Address: 5751 BAPTIST HOME AVE., ASHLAND, MO 65010	
Parcel ID #: 24 / 200 / 00 / 04 / 001.00	
Project Name:THE BAPTIST HOME	
Applicant Name (Please Print) ALLSTATE CONSULTANTS LLC - BRIAN HARRI Address: 3312 LeMONE IND. BLVD. Phone #: 573-875-8799  COLUMBIA, MO 65201 Fax #: E-Mail: bharrington@allstatecons  Applicant's Signature: Date 03-09-2021	
REQUIRED SUBMITTALS WITH COMPLETED APPLICATION	
<ul> <li>□ Property survey</li> <li>☑ Letter of Intent for Zoning Use and Building Use</li> <li>☑ Site Plan/Drawing (5 signed and sealed copies). These 5 plans must be Standard Size D (24"x A reduced 11 x 17 copy and a PDF disc are also required. The plan shall include the following Title Sheet that may include the survey</li> <li>Site Plan</li> <li>Paving/grading/drainage plan</li> <li>Utilities sheet (including all existing utilities)</li> <li>Detail sheet(s)</li> <li>Building elevations</li> <li>Sign locations (Sign design shall be approved on a separate permit)</li> <li>Adjacent zoning and land uses</li> </ul>	36"). information.
Stormwater Calculations  Traffic Study Other:  Application Fee: \$300.00 Site Plan Pavious \$100.00 Fee:	
Application Fee: \$300.00 Site Plan Review \$100.00 Extension  CONFERENCE A Site Plan Review Conference will be scheduled with City Admini Applicants' Engineer, City Engineer, Department Heads of Maintenance, Fire Department, Services, and Law Enforcement. This is to review the site plan presented.	strator, the Ambulance
Conference Date: Staff Signature	
Application: City Staff Review: Planning & Zoning: Board of Aldermen 1st Reading: Board of Aldermen 2nd Reading: Final Revisions / As-Built Received:	

Page 1 Created 12/16/14

# NEW SALEN LN. LOCATION MAP

R/W MARKER

PROPOSED SAN. SEWER
PROPOSED WATER LINE
PROPOSED GAS LINE

FLOOD PLAIN STATEMENT

A PORTION OF THIS LOT IS LOCATED WITHIN THE 100-YEAR FLOOD PLAIN (ZONE C) PER THE FEDERAL EMERGENCY MANAGEMENT AGENCY, EFFECTIVE DATE: MARCH 17, 2011, COMMUNITY PAREL NUMBER 29019C03700. THE LOCATION OF THE FLOOD PLAIN IS AS SHOWN.

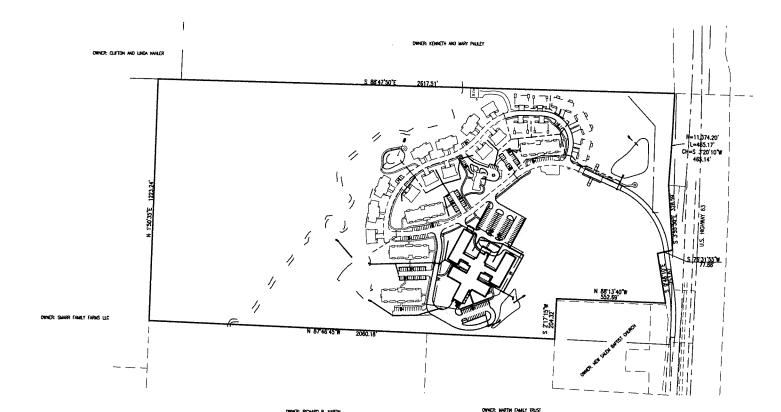
CUY WIRE ANCHOR C LIDAT POLE CAS VALVE CAS METER

DAY () BLECTRIC MANHOLI

[☐ [☐ [☐ CONCRETE ---- S ---- SANTARY SEWER

# THE BAPTIST HOME **ASHLAND CAMPUS** ASHLAND, MISSOURI

MAY 4, 2017



DEVELOPER/OWNER

THE BAPTIST HOME C/O DEREK TAMM 12425 HWY 63 S ASHLAND, MO 65010

#### PROPERTY DESCRIPTION

### PARKING CALCULATIONS:

ROVIDED PARKING:	
PATIO HOMES: 2 GARAGE SPACES + 2 DRIVEWAY SPACES * 16 UNITS =	64 SPACE
BUNGALDINS: I CARAGE SPACE + 1 DRIVENIAY SPACE * 20 LINETS #	44 SPACE
DVERFLOW PULLOFF PARKING ON LEGACY LANE	12 SPACE
APARTHENTS: 56 CONCRED SPACES + 54 PULLOFF SPACES / BLDC =	110 SPACE
ASSISTED LIVING FACILITY=	96 5940
DISTING OFFICE:	12 SPACE
TOTAL PROMIET SPACES (INCLINING 21 MICH SPACES)	11¢ C0400

TEMPORARY SITE BENCHMARK
PK NAL ON THE EXSTERLY SIDE OF A PRIVATE ASPHALT DRIVE, LOCATED APPROX. 122' SOUTH OF THE R/W WARREN FOR U.S. HICHWAY 63, STA. 656-99, 123' ST. AND 4' NOW FROM ITS SOUTH DUO OF A CONCRETE PLANE ON THE WEST SIDE OF SOUTH BOUND U.S. HICHWAY 63.

#### BENCHMARK

### UTILITY CONTACTS

## **INDEX OF SHEETS**

COVER SHEET	1
OVERALL SITE LAYOUT	2
OVERALL GRADING & EROSION CONTROL PLAN	3
EROSION CONTROL NOTES AND DETAILS	4
SITE AND GRADING SHEETS	5-12
STREET PLAN & PROFILES	13-16
SANITARY SEWER PLAN & PROFILES	17-20
STORM SEWER PROFILES	21-22,22
POND STRUCTURE DETAILS	23-24
STANDARD DETAILS	25-29
STANDARD SANITARY SEWER DETAILS	30-31



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COVER SHEET
THE BAPTIST HOME
ASHLAND CAMPUS
ASHLAND, MISSOURI

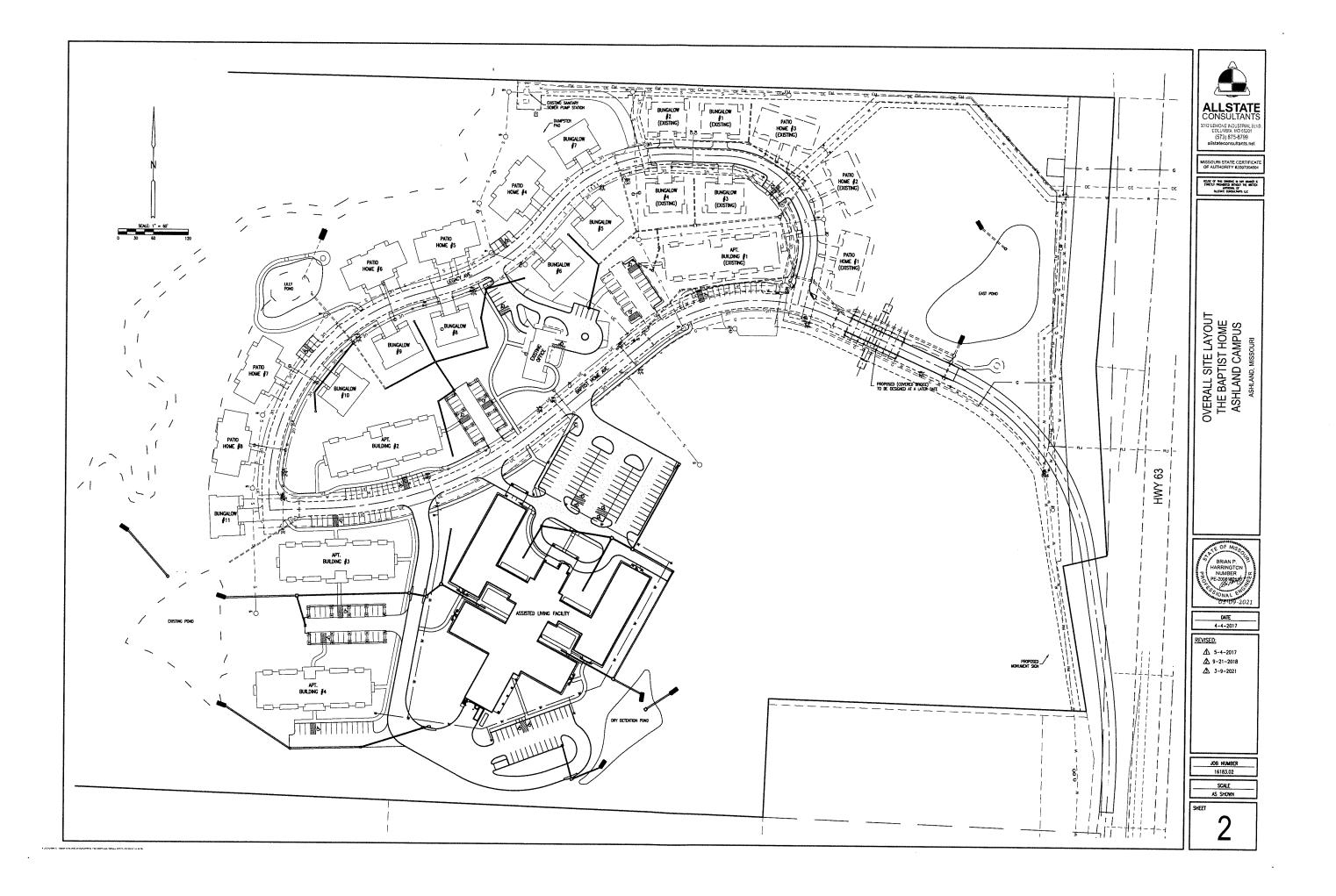


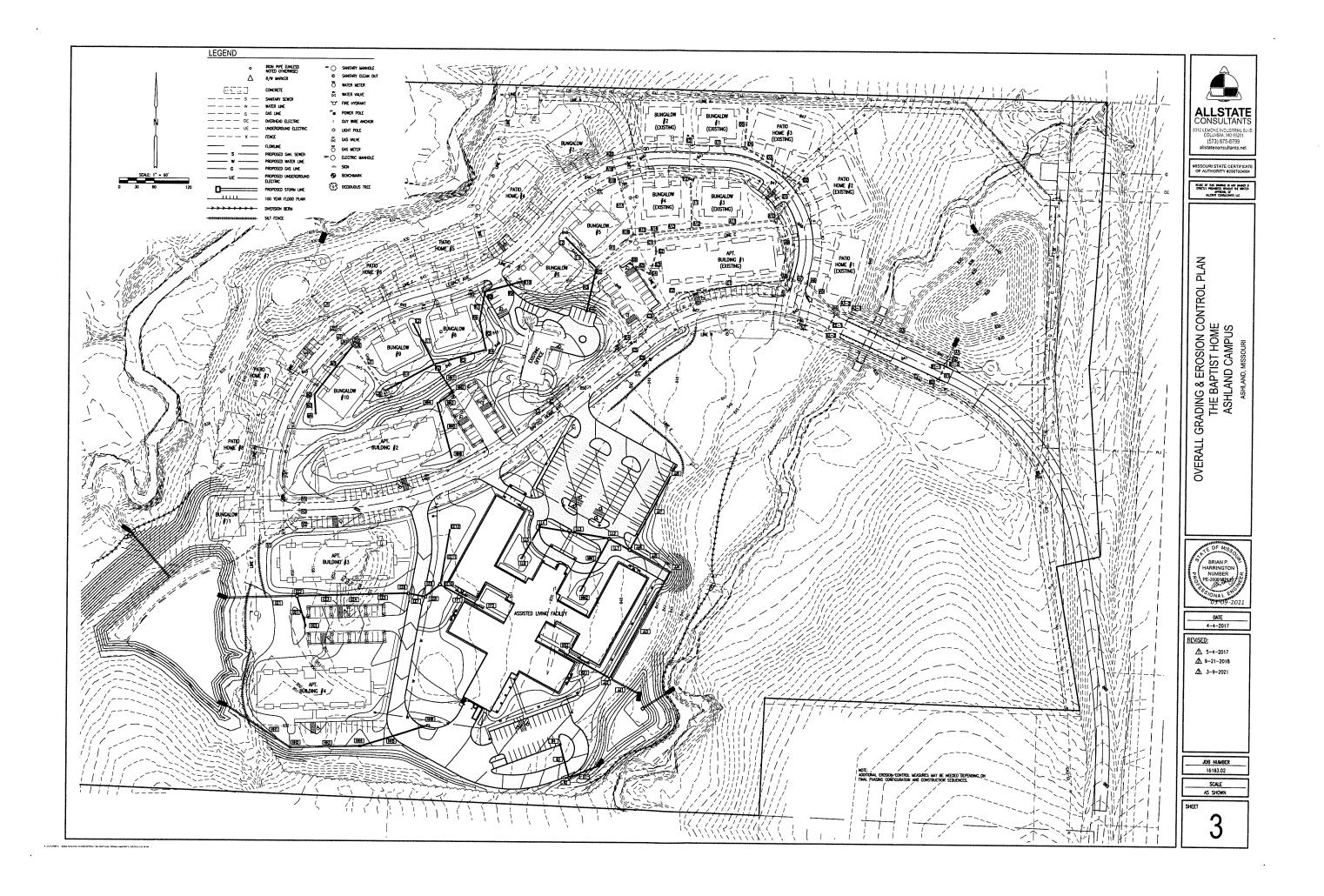
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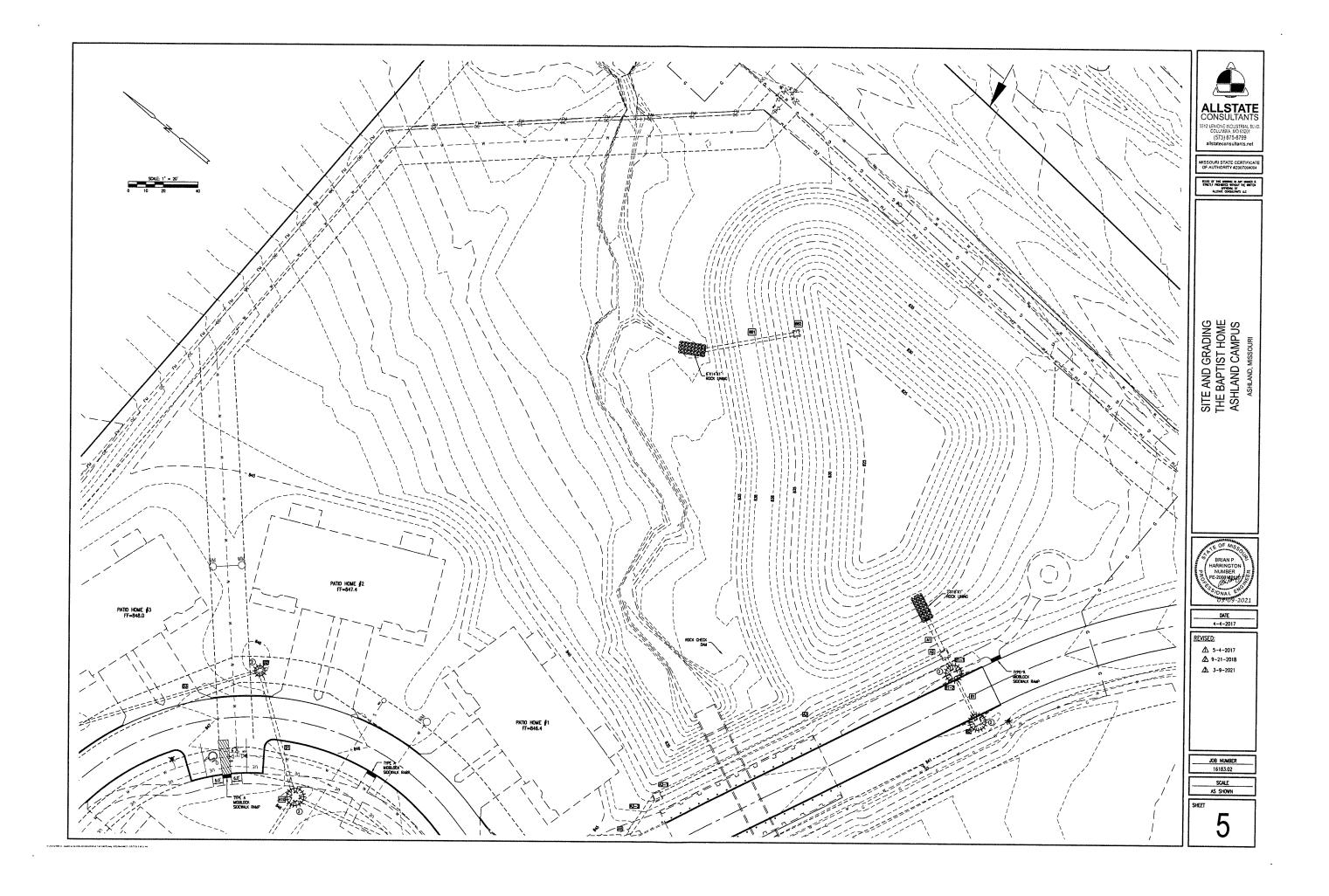
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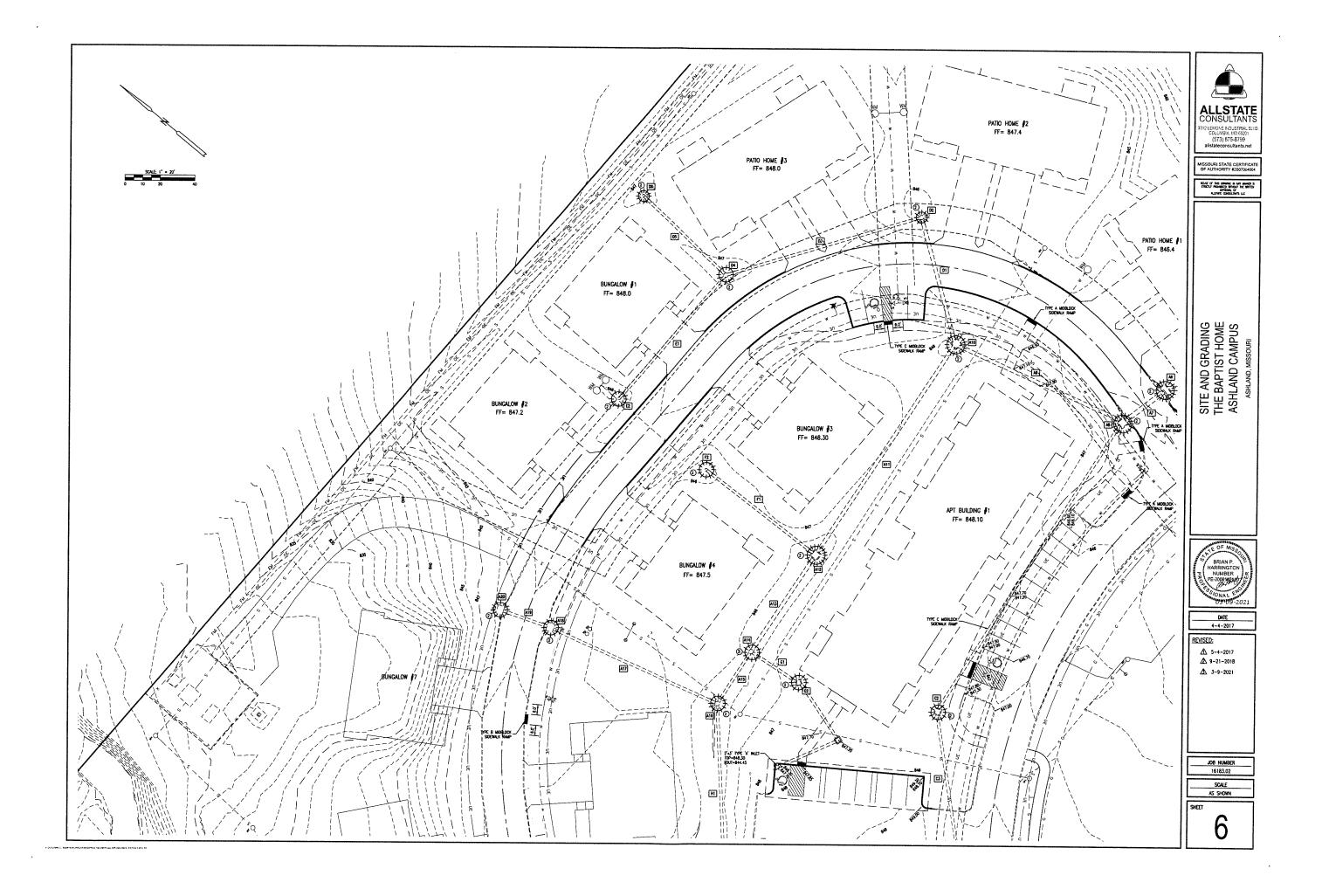
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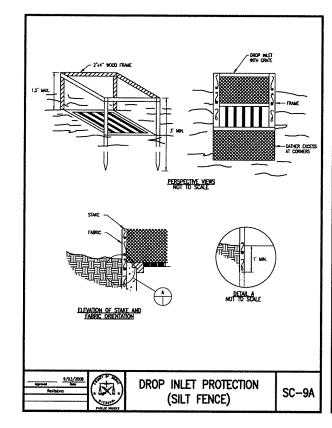
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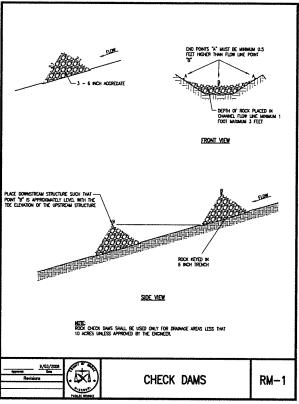


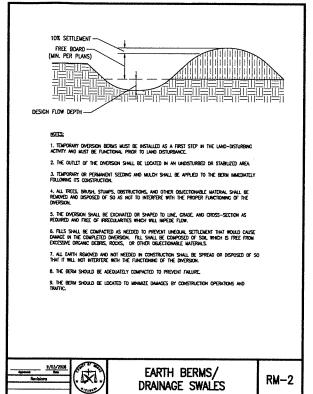












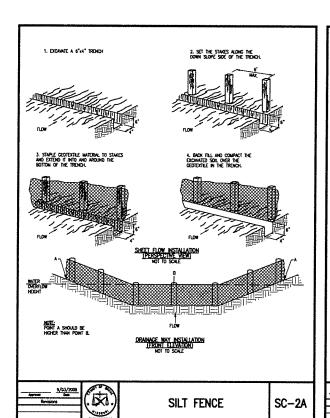
#### EROSION CONTROL NOTES

- ( ) DENOTES EROSION CONTROL STRUCTURES THAT SHOULD BE INSTALLED AS ROUGH GRADING BEGINS.
  THYPOLITY THE EROSION CONTROL STRUCTURES SHOULD BE INSTALLED IN THE AREAS DESTURBED AT THE ENG
  OF EACH DAY.
- Oddnotes eroson control structures that should be installed as rough grading begins and around drainge structures after that are restalled and removed dray for paining departors.
- DENOTES INSTALLATION OF EROSON CONTROL MATTING IN DRAINAGE SMALES IMMEDIATELY FOLLOWING FINISH OF TRAINING TO THE PROPERTY OF THE PROPERTY OF
- 5.  $\rightarrow$   $\rightarrow$   $\rightarrow$  DONOTES TEMPORARY DMERSION BERM AND DRECTION OF FLOW.
- 6. NATURAL CROUND COVER WILL BE MAINTAINED WHERE POSSIBLE
- EROSION CONTROL STRUCTURES TO BE INSTALLED AT LOCATIONS DISTURBED AT END OF EACH DAY WHERE
  PRACTICAL.
- 8. Crosson compol structures to remain in place until removed or replaced by homourl lot construction actimities or paying of streets.
- NISTALL EROSION CONTROL STRUCTURES PARALLEL TO ALL CONSTRUCTED (RELOCATED) DRAINGE CHANGELS AS SOON AS PRACTICAL.
- 10. INLETS SHALL BE PROTECTED WITH SLT FENCE, "GUTTER BUDDIES" OR EQUIPALENT MANEDATELY AFTER CONSTRUCTION.
- EROSON CONTROL STRUCTURES SHALL BE CONSTRUCTED AS NEEDED AFTER STREET PAYING IS COMPLETED TO PREVENT SEDMENT DEPOSITION WITD THE STREET.
- 12. PROVIDE EROSION CONTROL AROUND ANY SOIL STOCKPILE AREAS. 13. EROSION CONTROL STRUCTURES SHOULD BE FIELD MODIFIED TO ADCOMPLISH DESIRED RESILU'S.
- all surfaces must be stable and hon-erosive within the lesser of 30 working days or 120.

  Calender days after completion of the work authorized by the land disturbance permit.
- Contractor shall routinely inspect all erosion control structures for condition and effectiveness. Faling structures shall be adjusted or reconstructed.
- THIS PLAN SHALL BE ANDRED MID UPDATED AS APPROPRIATE DURNS THE TERM OF THE LAND DISTURBANCE. AT A BRHAM, REPORTER THE: 1) DESIGN OFFENDINGS, OR MANTENANCE OF BRE'S IS CHANGED: 2) DESIGN OF THE CONSTRUCTOR PROMOCE OF MICHOED AND SOMEWORTH AFFECTS THE COUNTY OF THE STRING DESIGNACES. 3) PERMITTEES REPORTED SHOULD ENDOCHARDES IN THE PLAN OR ANY BRE'S, MADON 4) THE MISSION DESIGNATION OF MIDWAIN ASSECTION SHOULD FERRITTEE OF GENEROLOGIS IN THIS PLAN THE PROPRIETY OF THE PROPRIETY O
- 17. PROVIDE AT LEAST ONE(1) TEMPORARY GRAVEL CONSTRUCTION ENTRANCE IN ACCORDANCE WITH CITY OF ASSEMBLY DESCRIPTIONS.

#### ENVIRONMENTAL STATEMENTS

- Substances relatated by federal law under the resource conservation and recovery act (ron) or the compredience employmental response composation and laburity act (cercal) finicit are transparited, stored in used for manifolying, cleaning or repairs small be managed according to the provisions of rob and cercal.
- THE PRODUCTS OF THE WAY LETTER AND PETROLLIN WEST. PRODUCTS (DECOPT FUELS) AND STORM CONTINUES (SUCH AS DRIVES, ONES OF CHITCHES) SHALL IR STORED SUCH THAT THESE MATERIALS ARE NOT CONTINUES OF THE STORED SUCH THAT THE WAY THE MANAGEMENT SHALL IR PRODUCT OF THE STORED SUCH THAT AND THE MANAGEMENT SHALL IR PRODUCT OF THE STORED SHALL BE PRODUCT OF THE STATE OF THE STAT
- 1. THE APPLICANT SHALL NOTIFY BY TOLDPHONE AND IN WINDING THE OUPARDIAGHT OF MATURAL RESOLUCES, WATER POLIUTION CONTROL PROGRAM, POST OFFICE BOX 176, APPLICADO, OT, NO ESTOZ, 1-460-3, OF ANY OL SPALS ON F HAZAROOUS SLESTANCES ARE FOUND DURING THE PROSECUTION OF WORK UNDER THIS PROMET



COLORN D. Mark Incompression pressure of sectors and description and pressure of the compression of the comp

# SILT FENCE NOTES: A) INSTALLATION

- REDIGILIDES

  1. THE HOOR OF SELFENCE SHALL BY A MINIBAR OF 18 NOVES ABOVE THE ROBERT GOODING SHAFET AND SHALL NOT DUEDD 34 NOVES ABOVE THE ROBERT GOODING SHAFET AND SHALL NOT DUEDD 34 NOVES ABOVE THE ROBERT SHALL BY A COMPANION FOR LOT OF THE ROBERT SHALL BY A COMPANION FOR HOST ABOVE MINISTERS AND A COMPANION FOR THE SHAPET SHAPET AND THE STREAM SHAPET DUEDDERS ONE SHAPET SHAP

- DOMISION'S SEC OF THE INSIDES SPICE POSTS A MASSIAM OF 8 FILET AWAY.

  3. HE SERVER FORST SHARE STANLED SELECTION TO THE UPSAGE AWAY.

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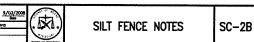
  FA SAT FRACE SHARED SHARED
- USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AS PERMANDITLY STABILIZED. 10. INSTALLATION WITH SUCING METHOD IS PRETERRED.

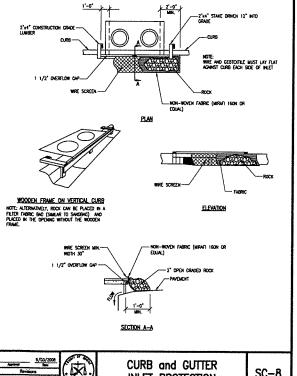
#### 8) TROUBLESHOOTING:

Determine the exact location of underground utlities, before fonce installation so utilities are not disturbed.
 Grade algorithm for fonce needed to produce a broad, nearly level area unstream of fonce to allow somephic collection area

#### C) INSPECTION MAINTENANCE:

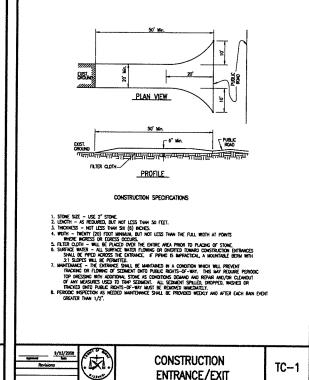
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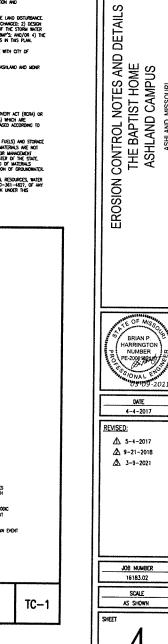




INLET PROTECTION

SC-8





JOB NUMBER 16183.02

SCALE

AS SHOWN

BRIAN P. HARRINGTON NUMBER PE-2008 1924 10

DATE

4-4-2017

**⚠** 5-4-2017

A 9-21-2018 A 3-9-2021

**ALLSTATE** 

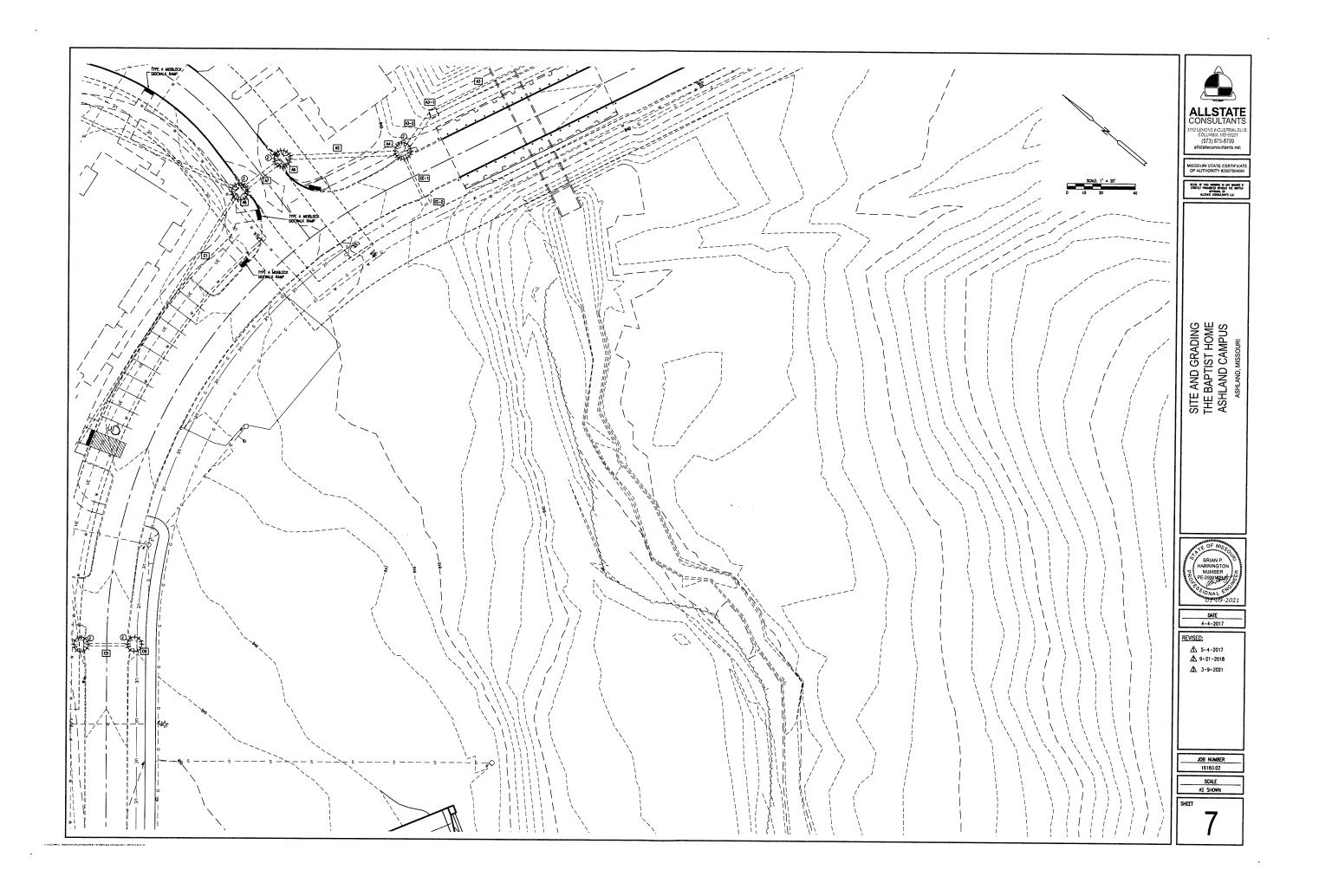
CONSULTANTS

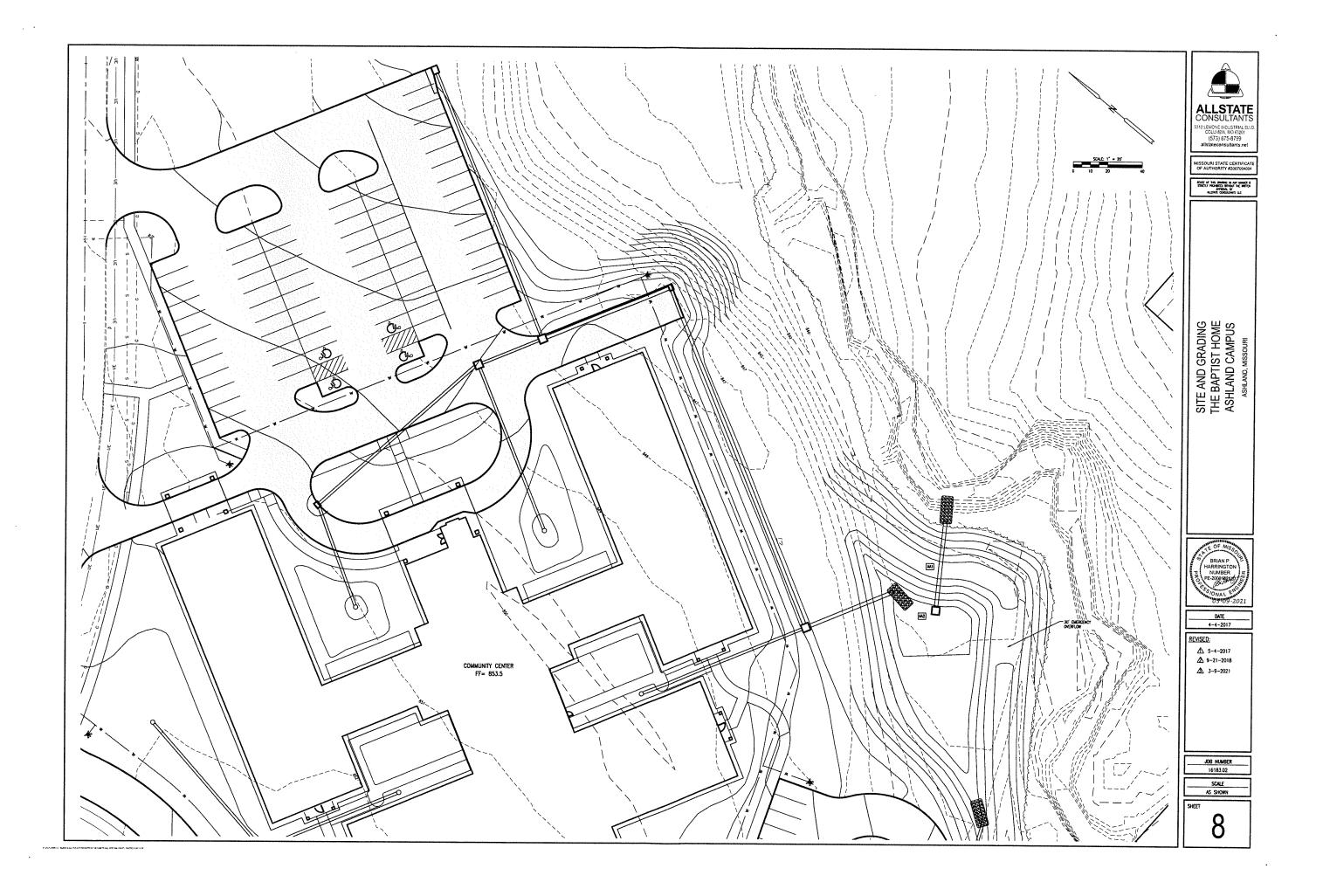
(573) 875-8799 allstateconsultants.net

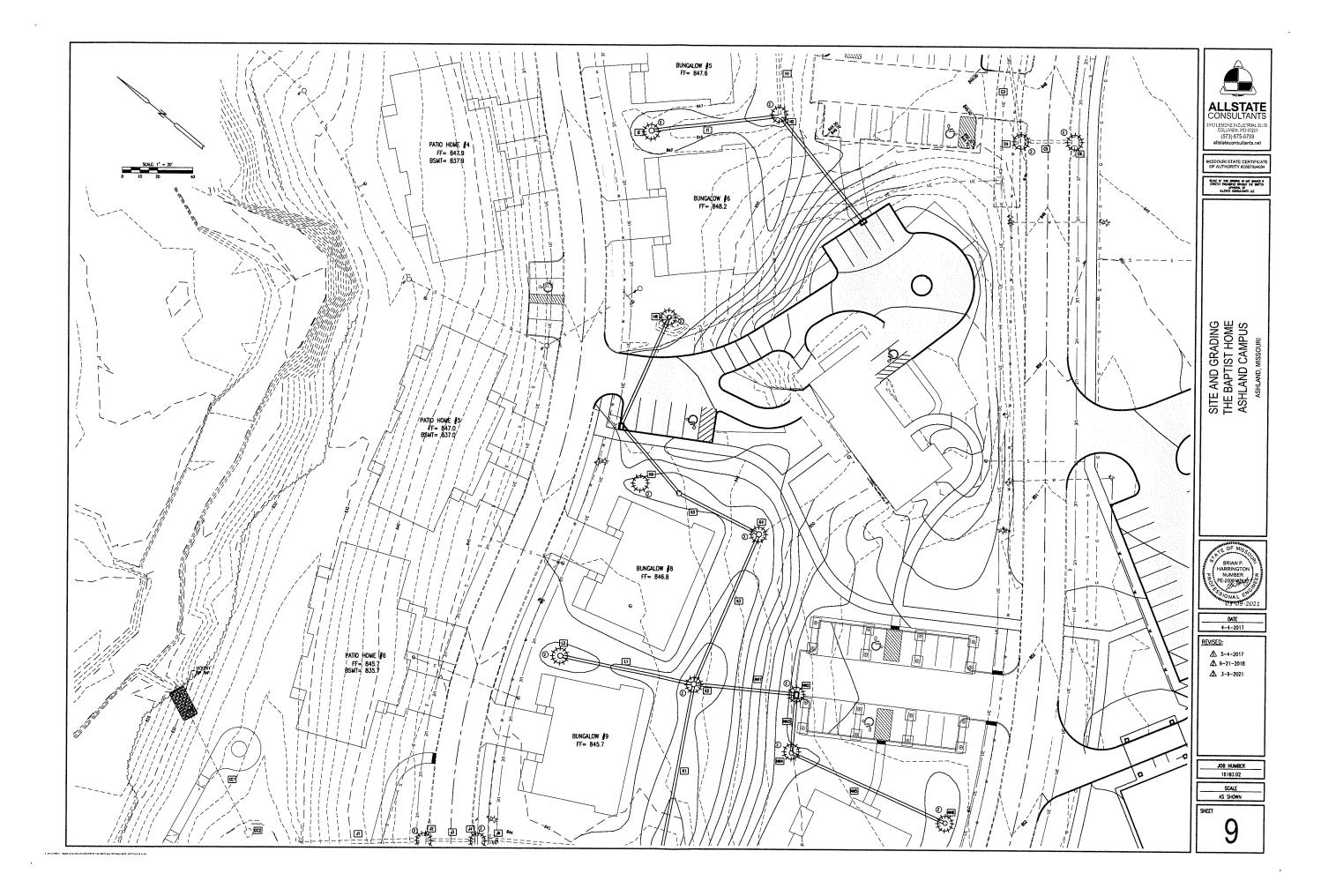
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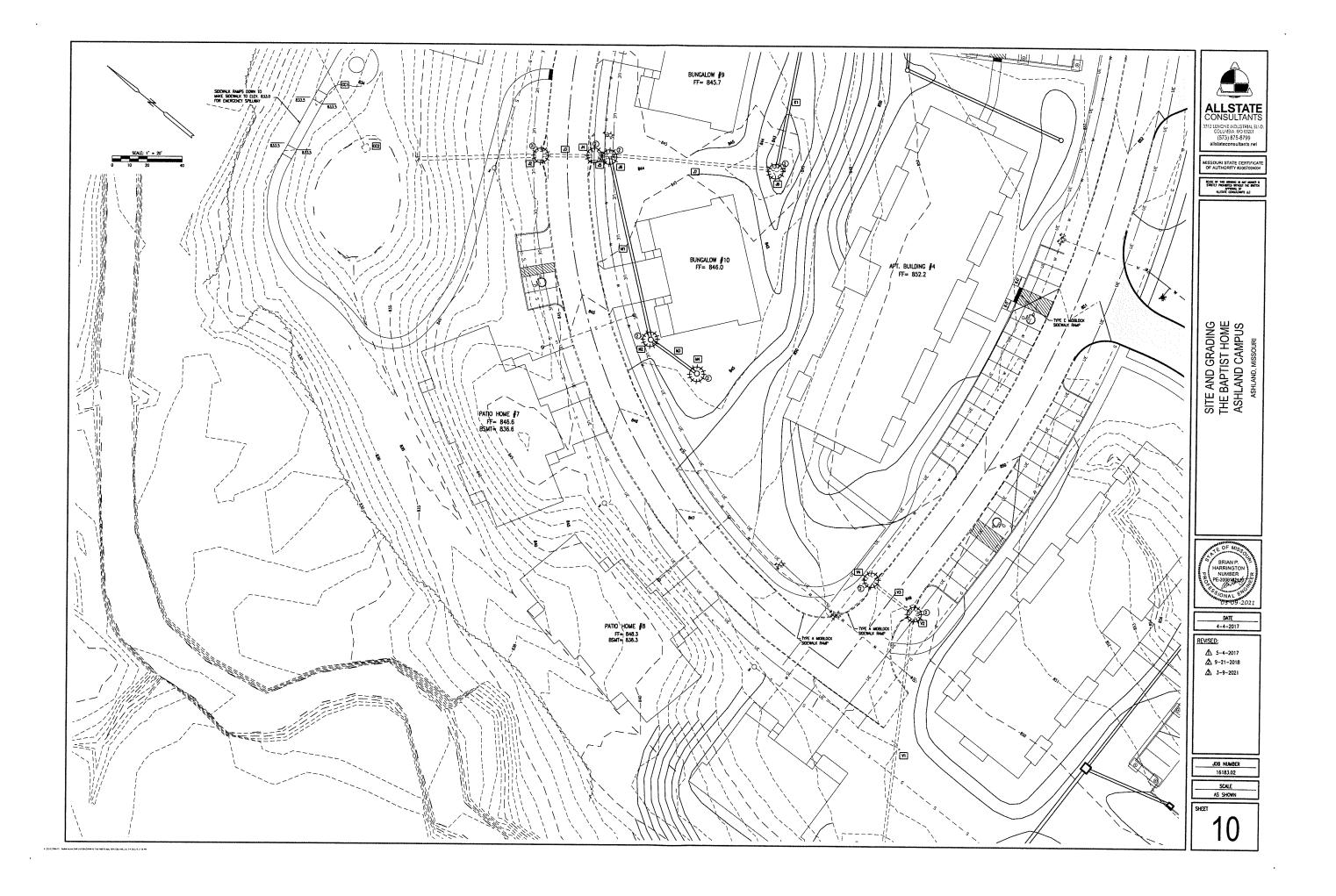
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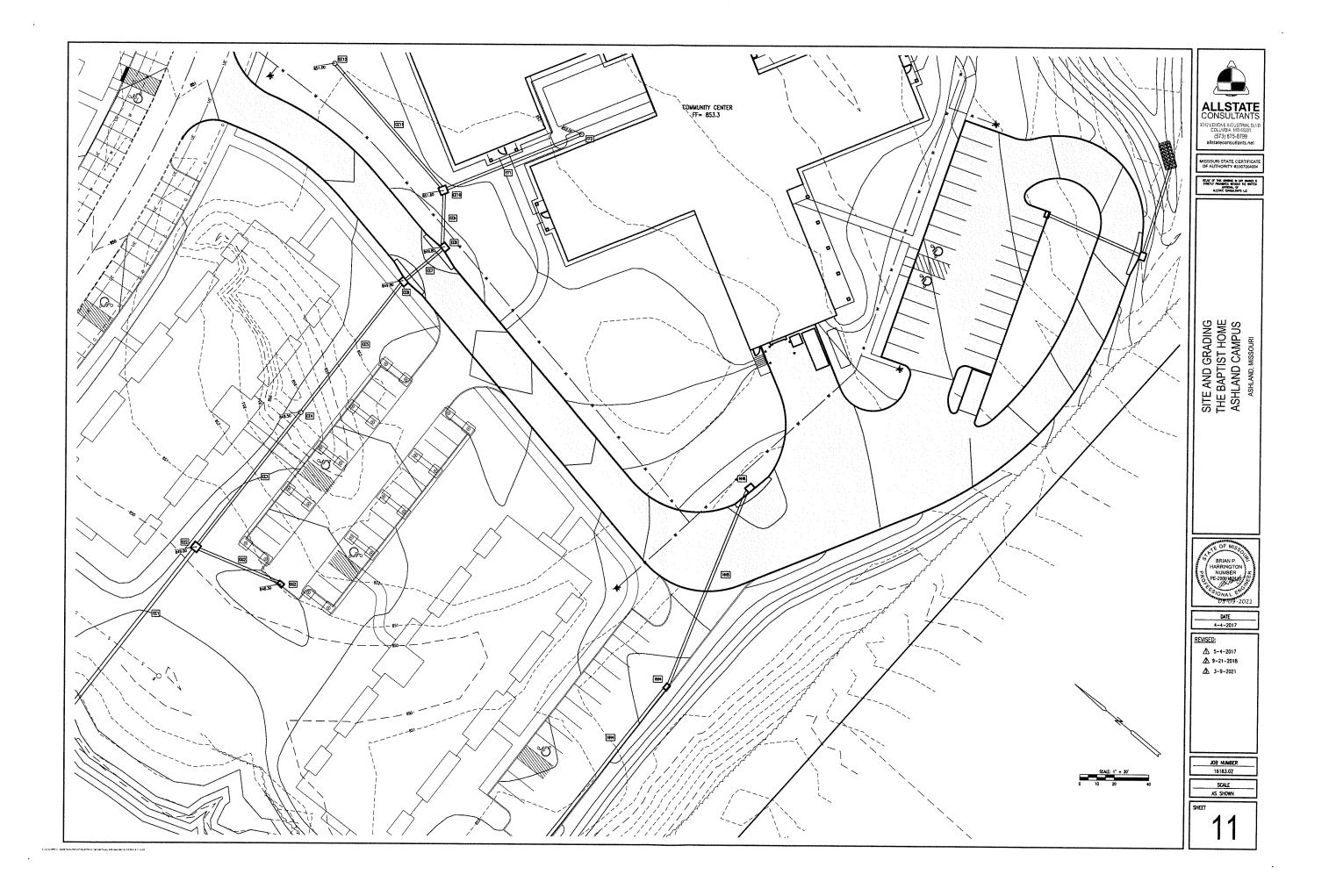
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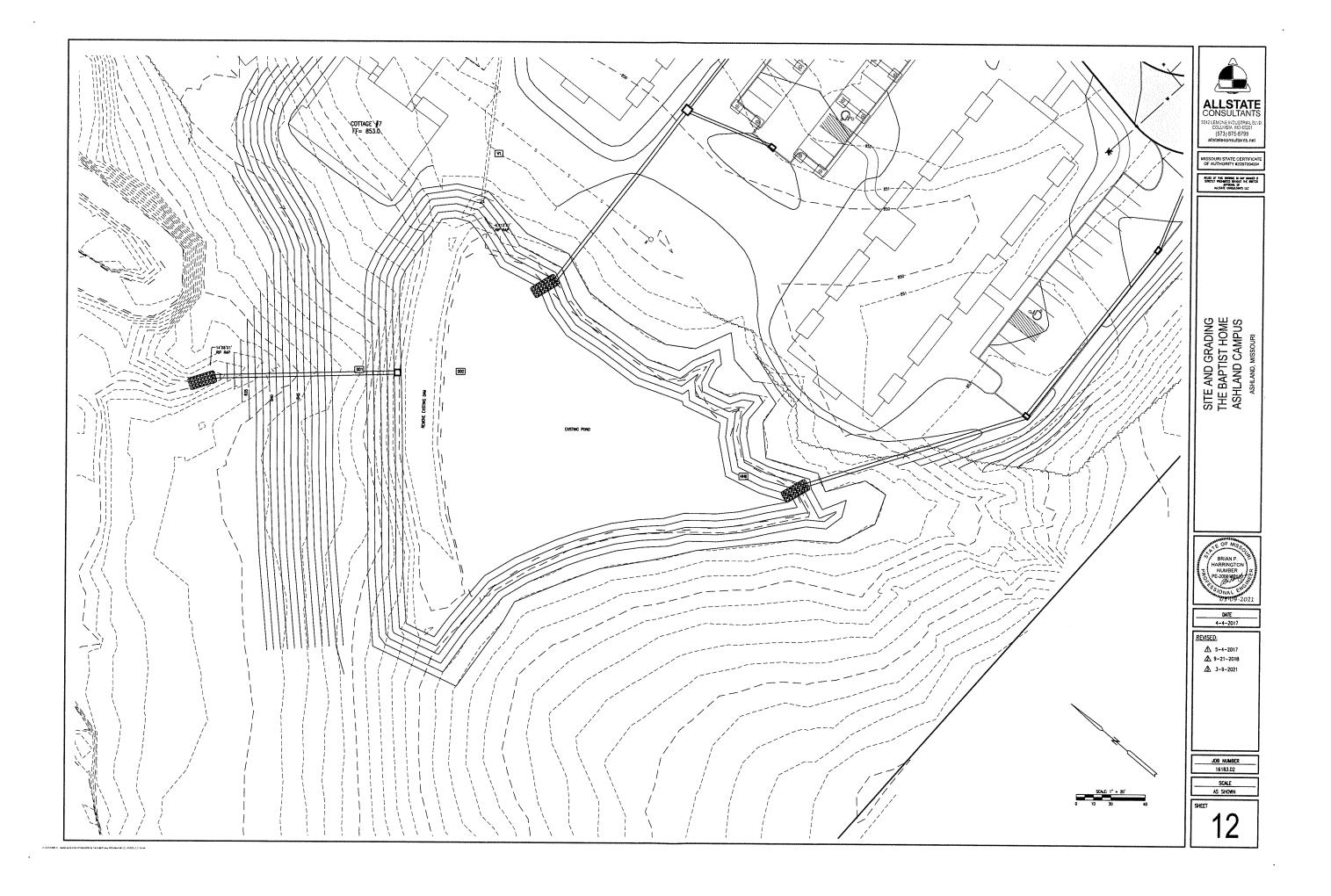


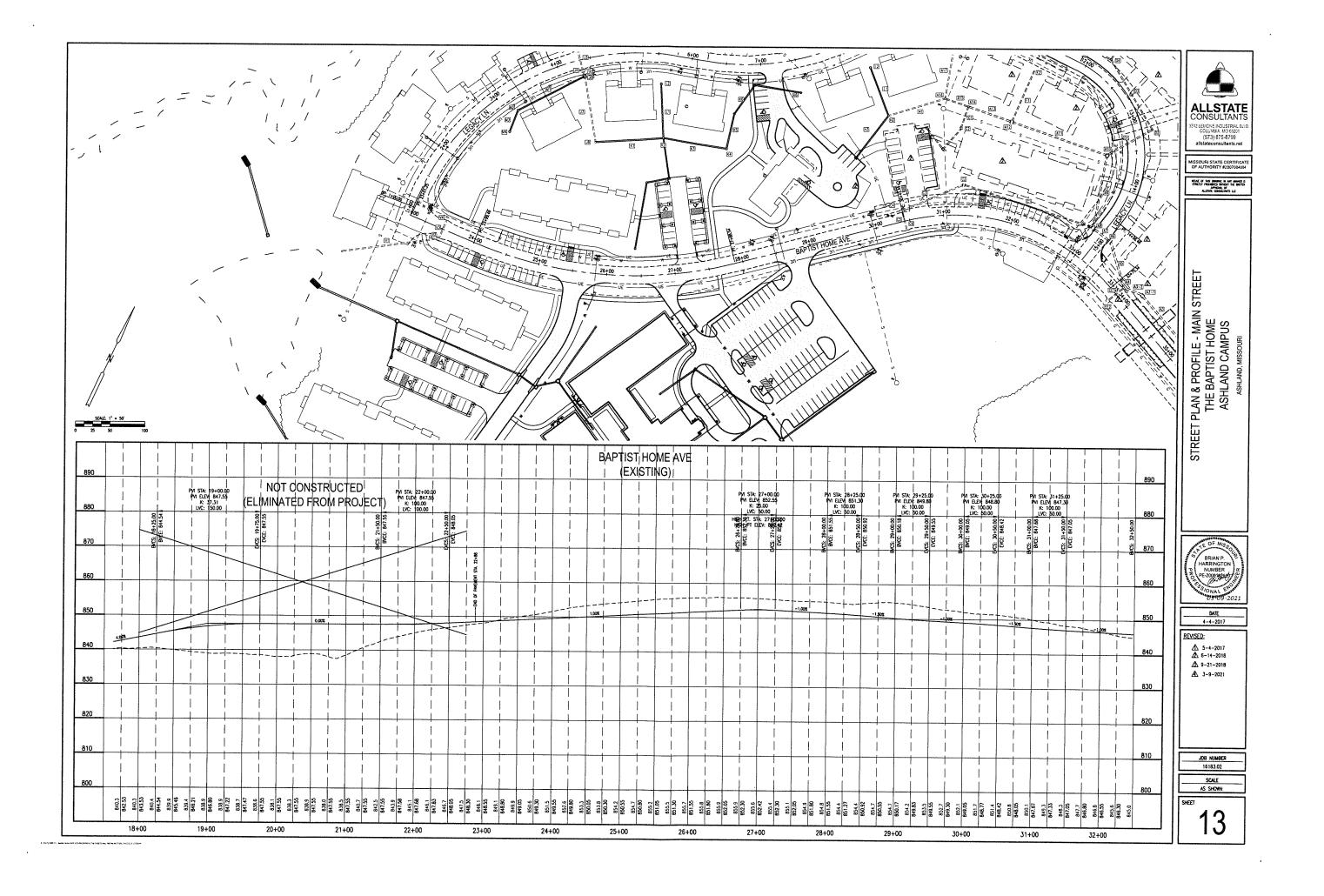


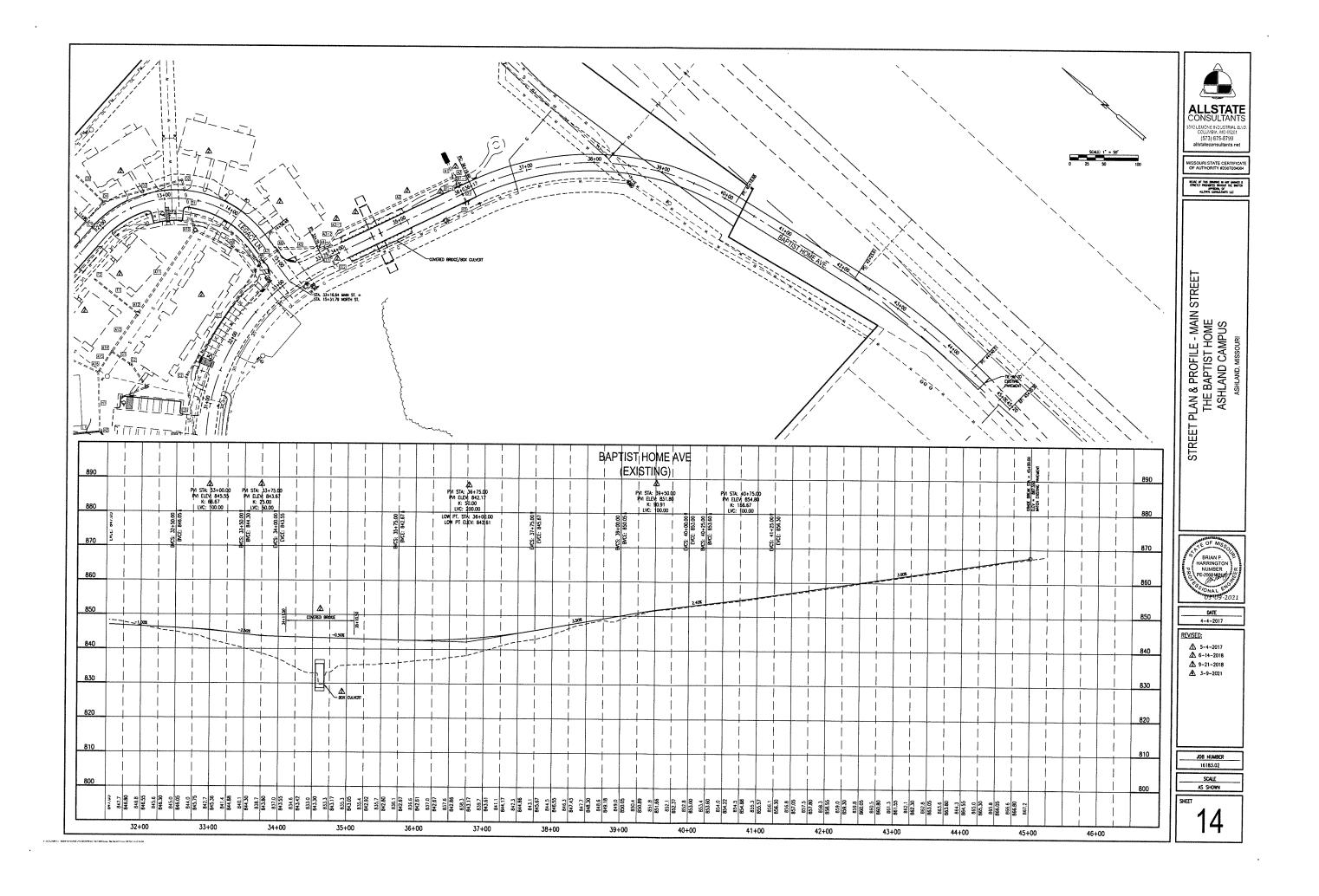


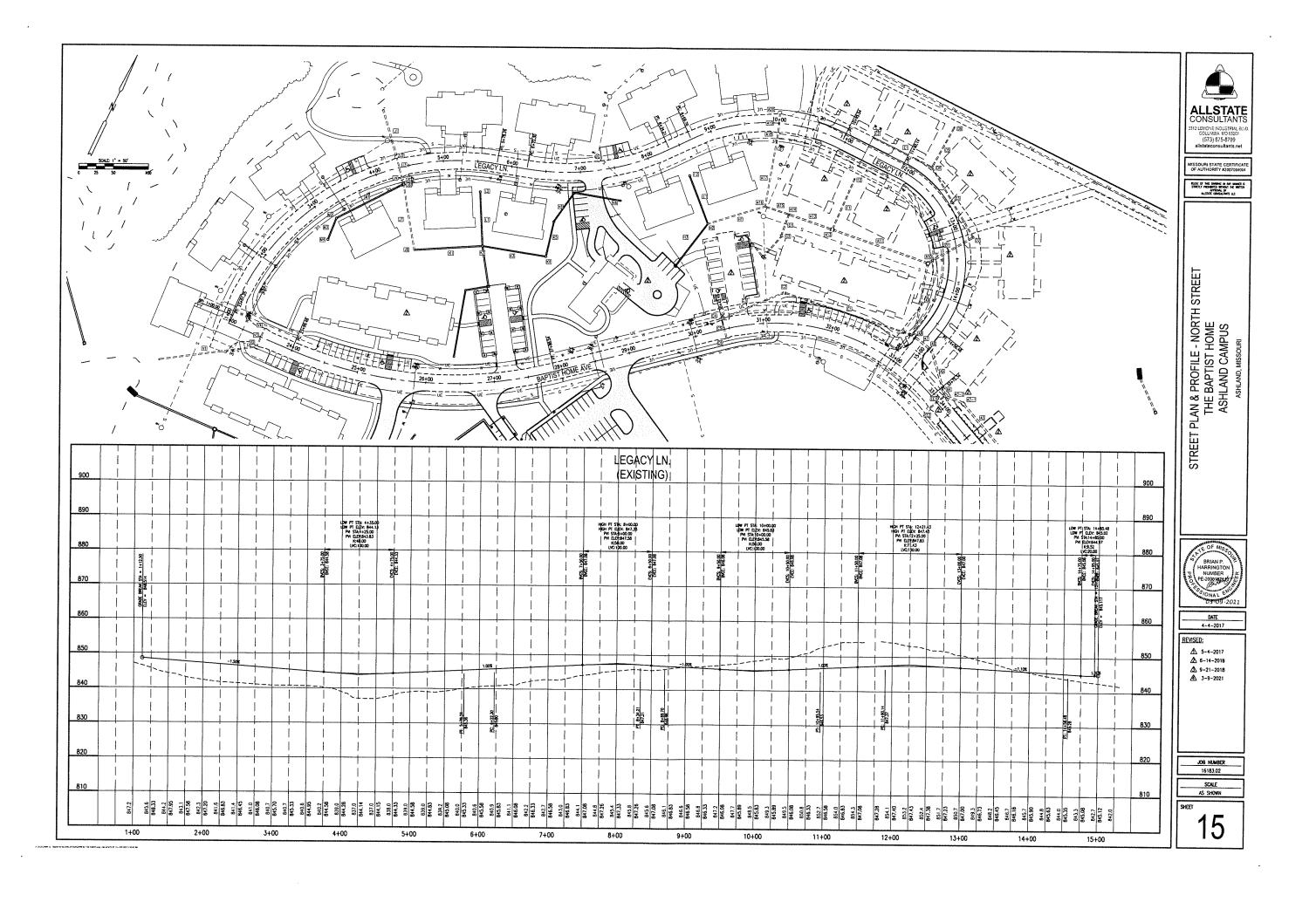


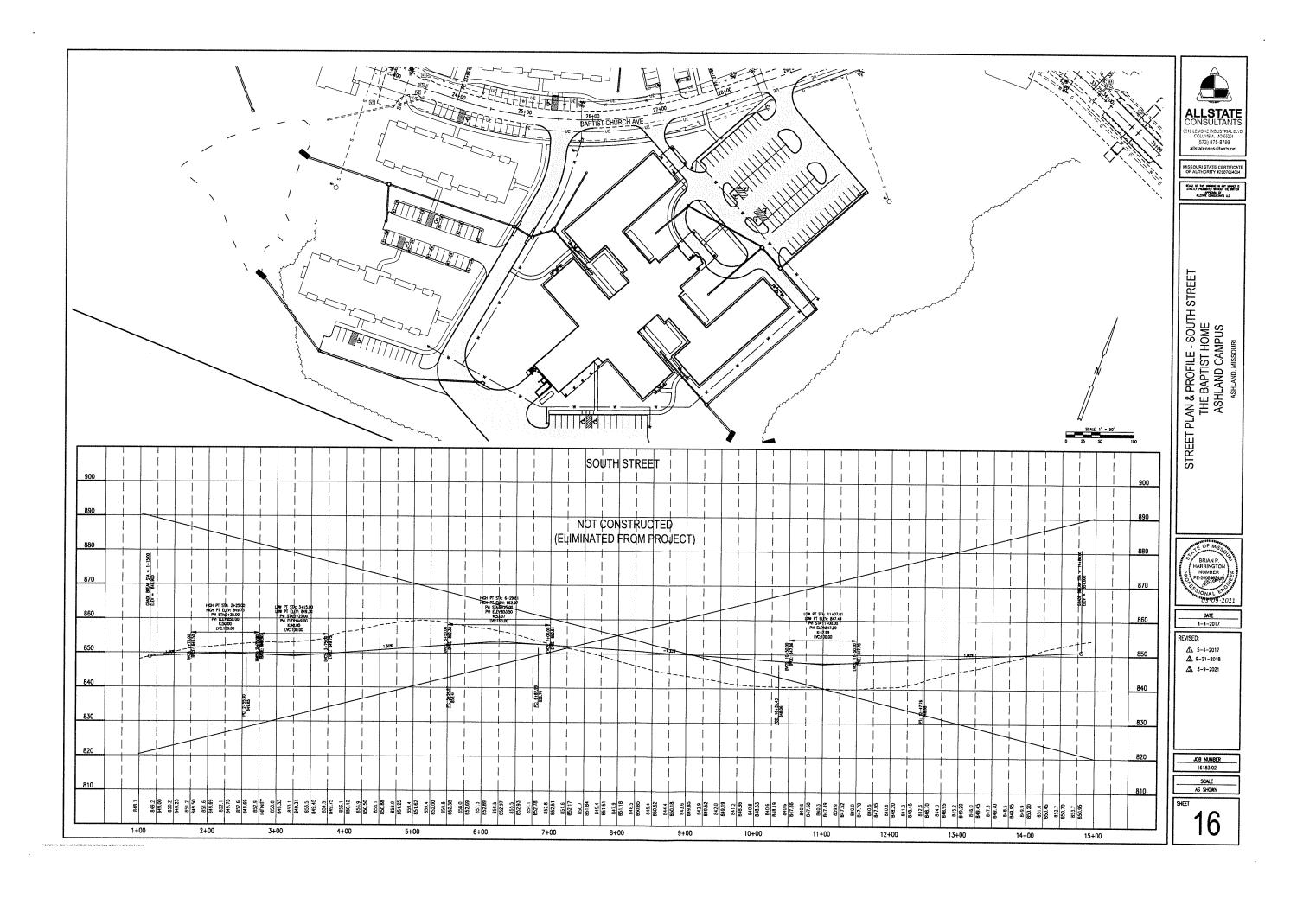


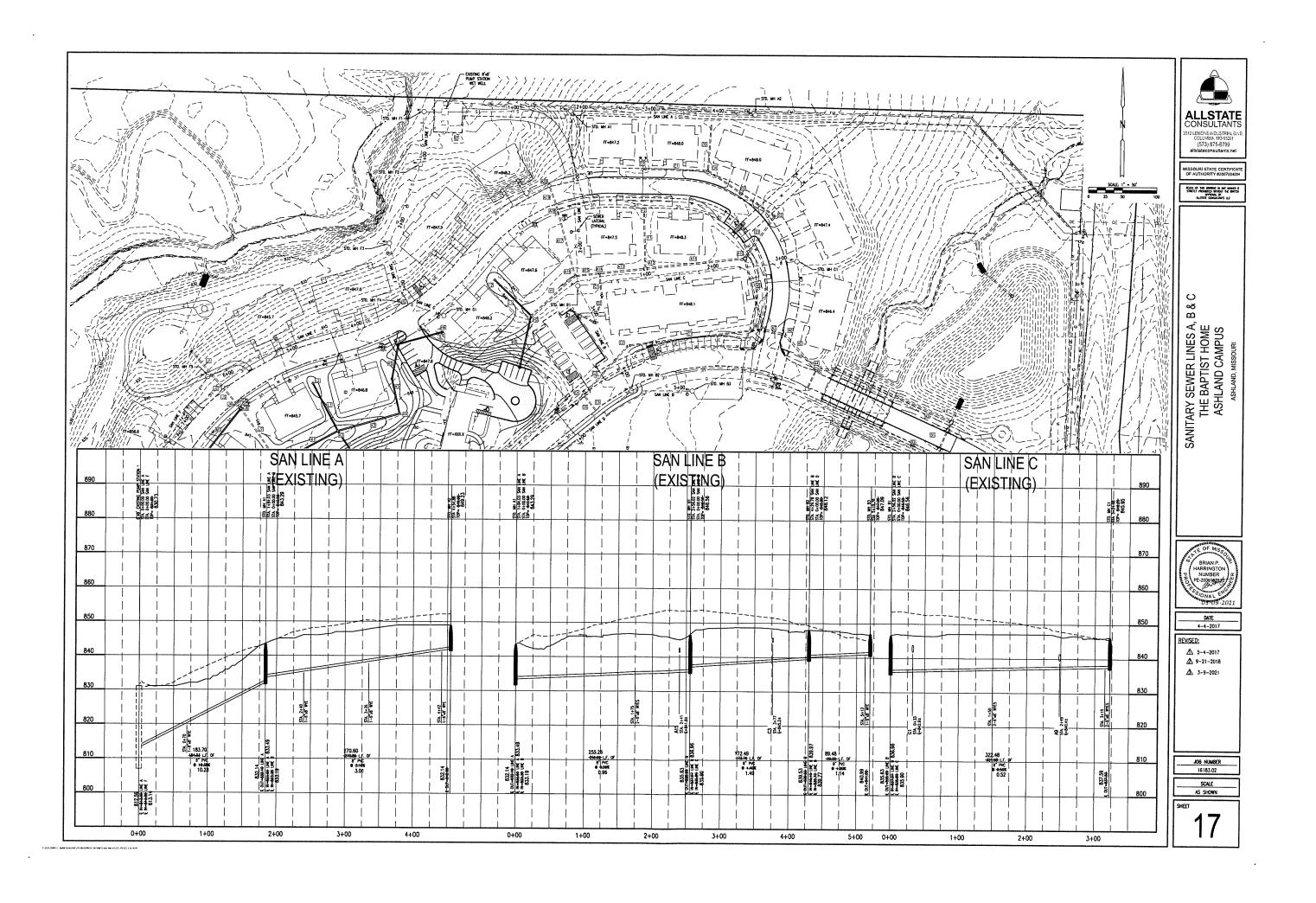


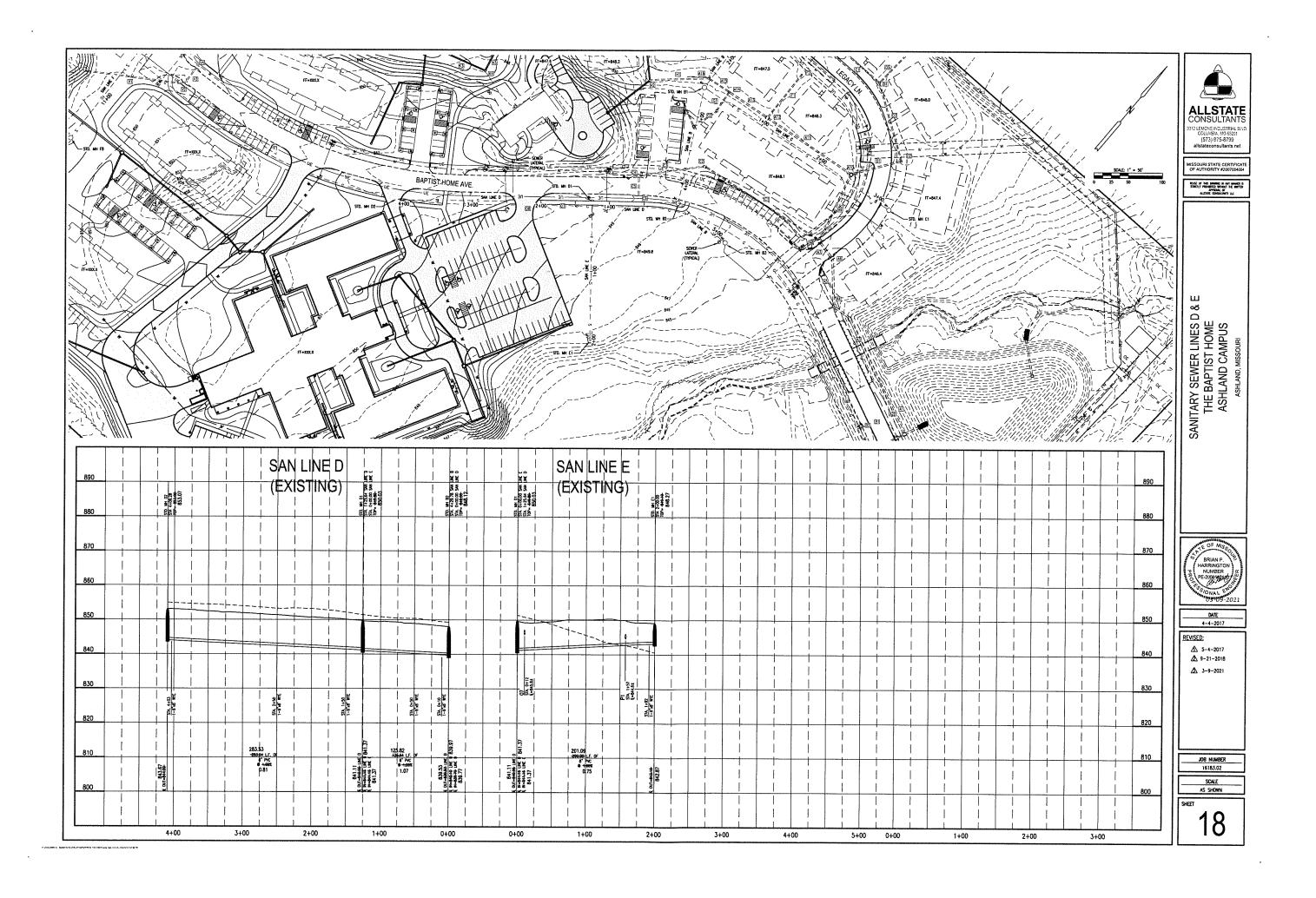


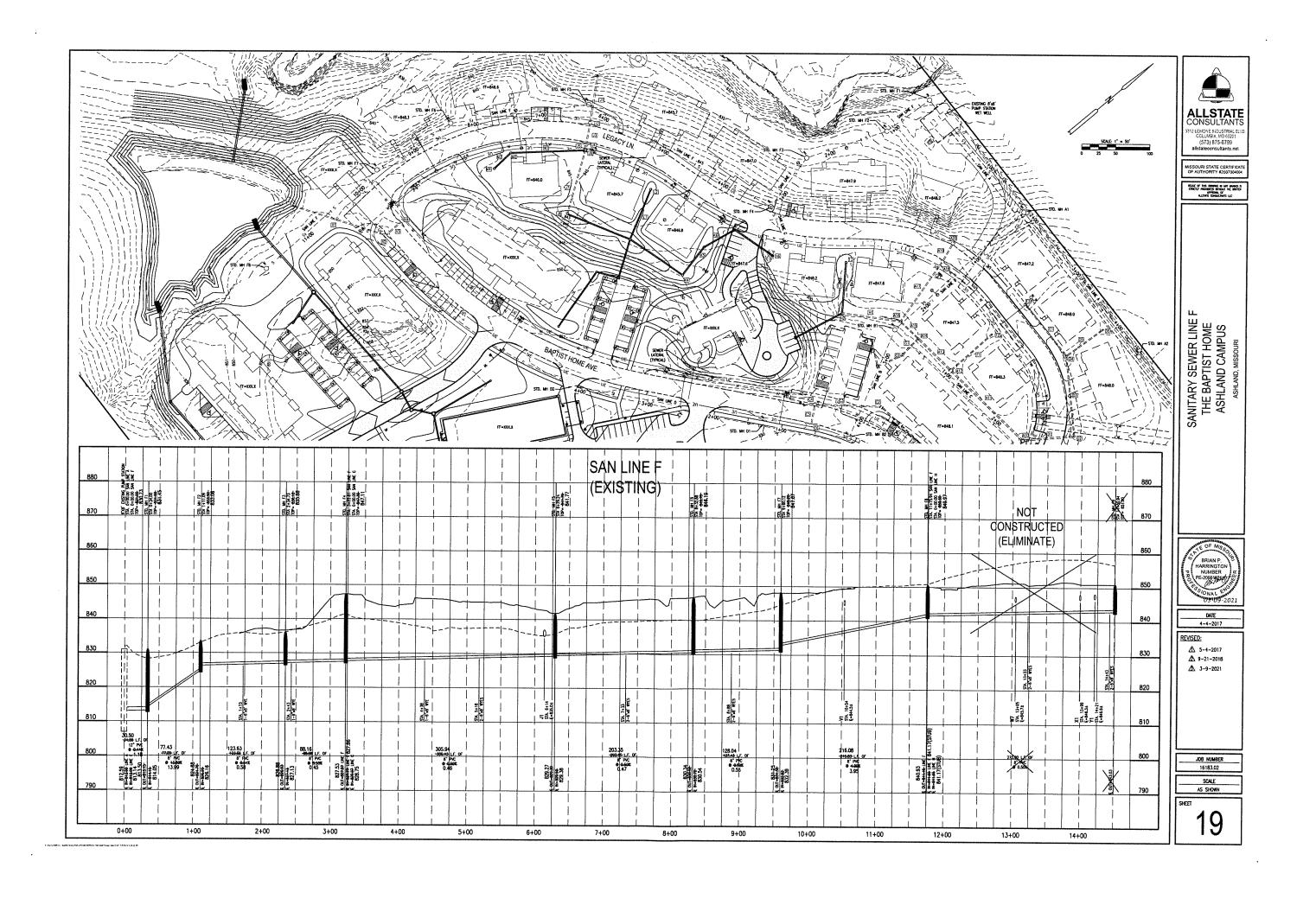


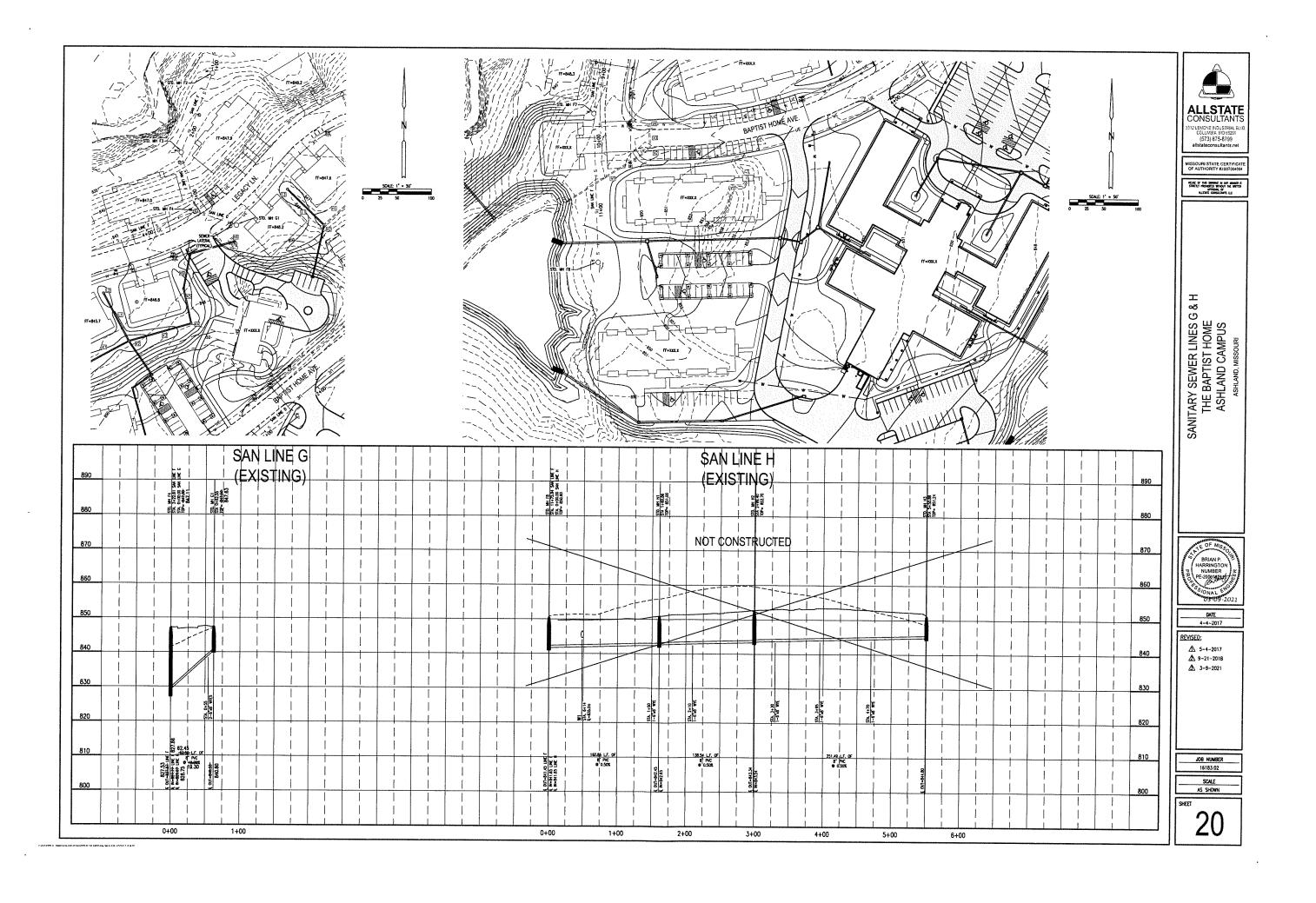


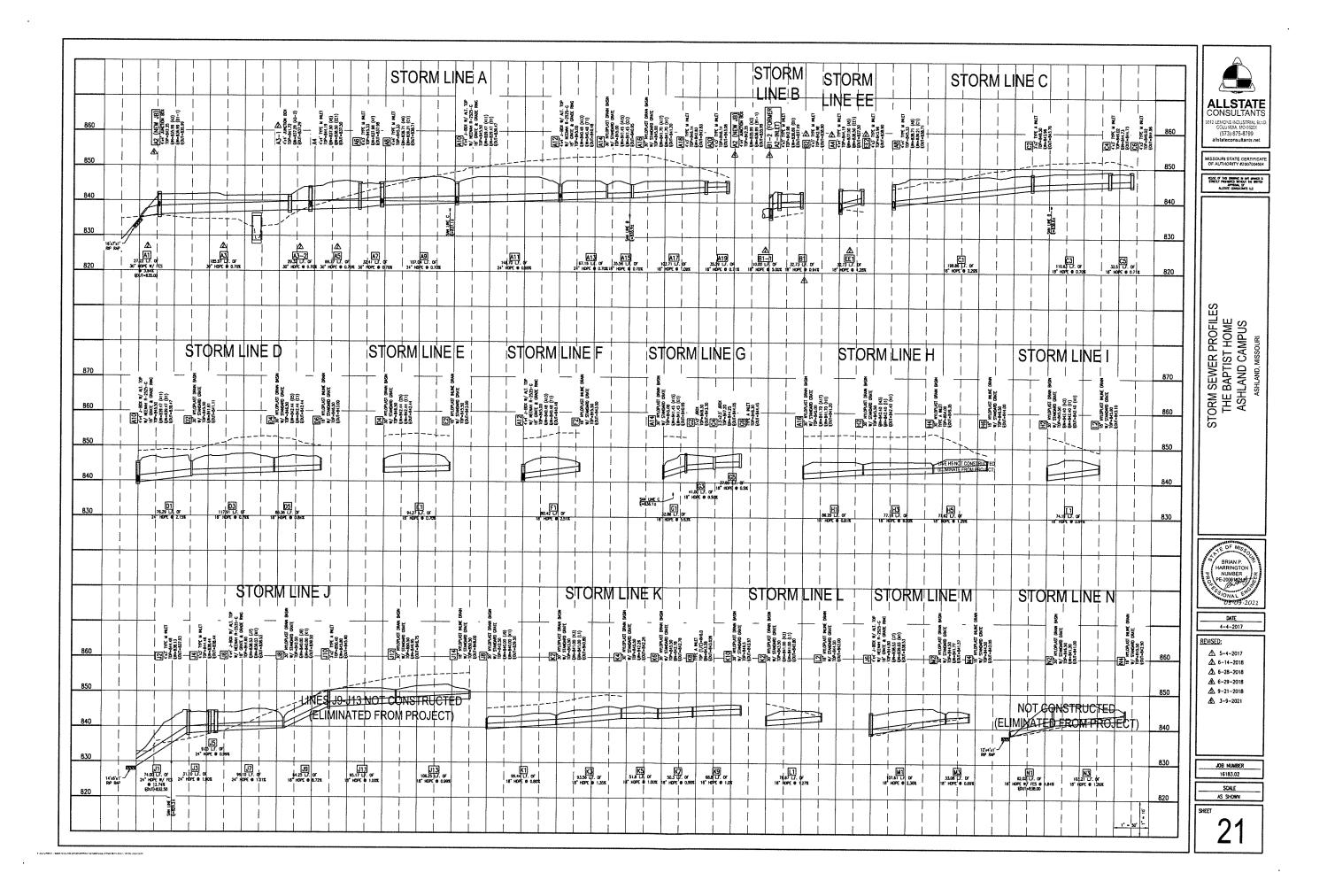


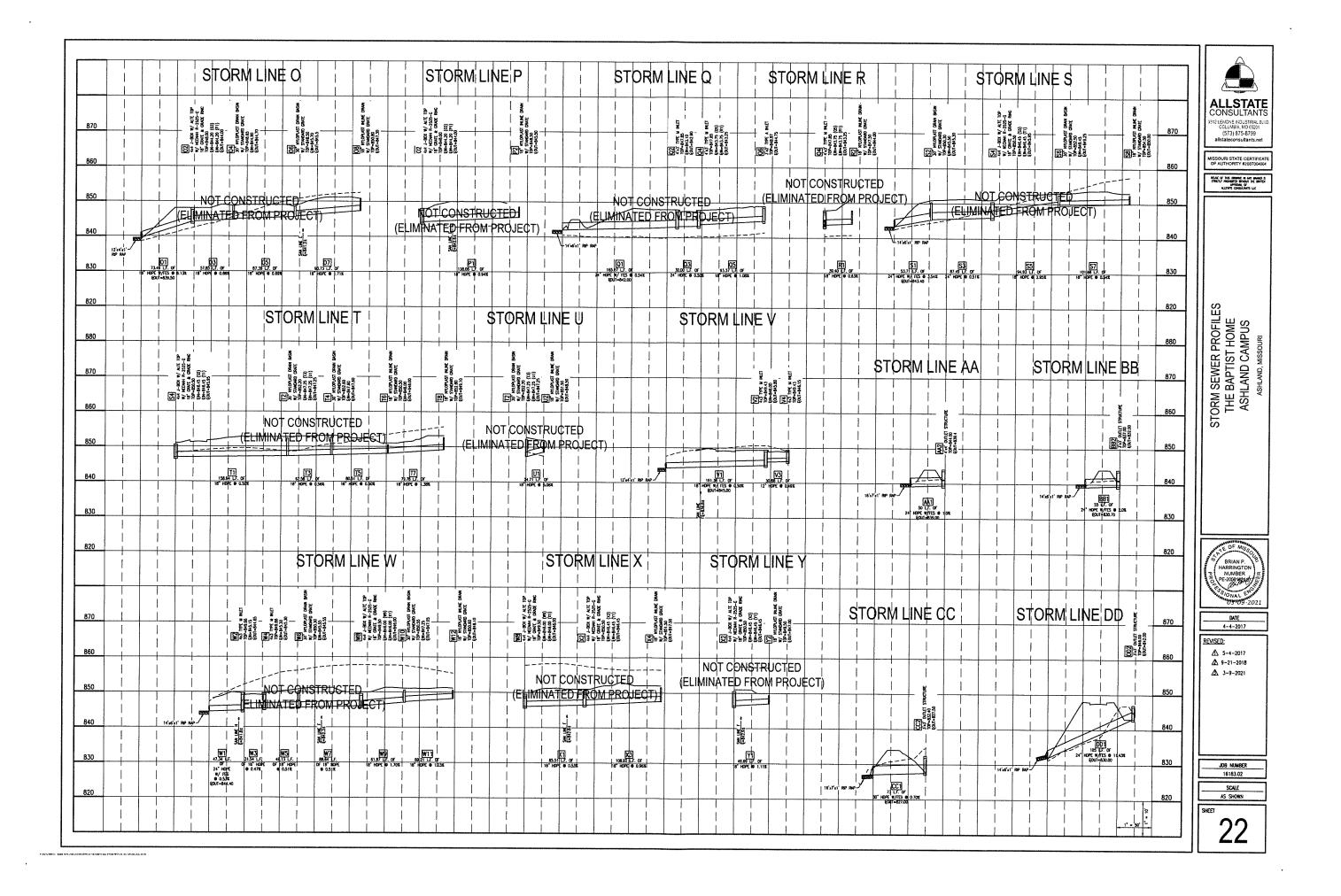


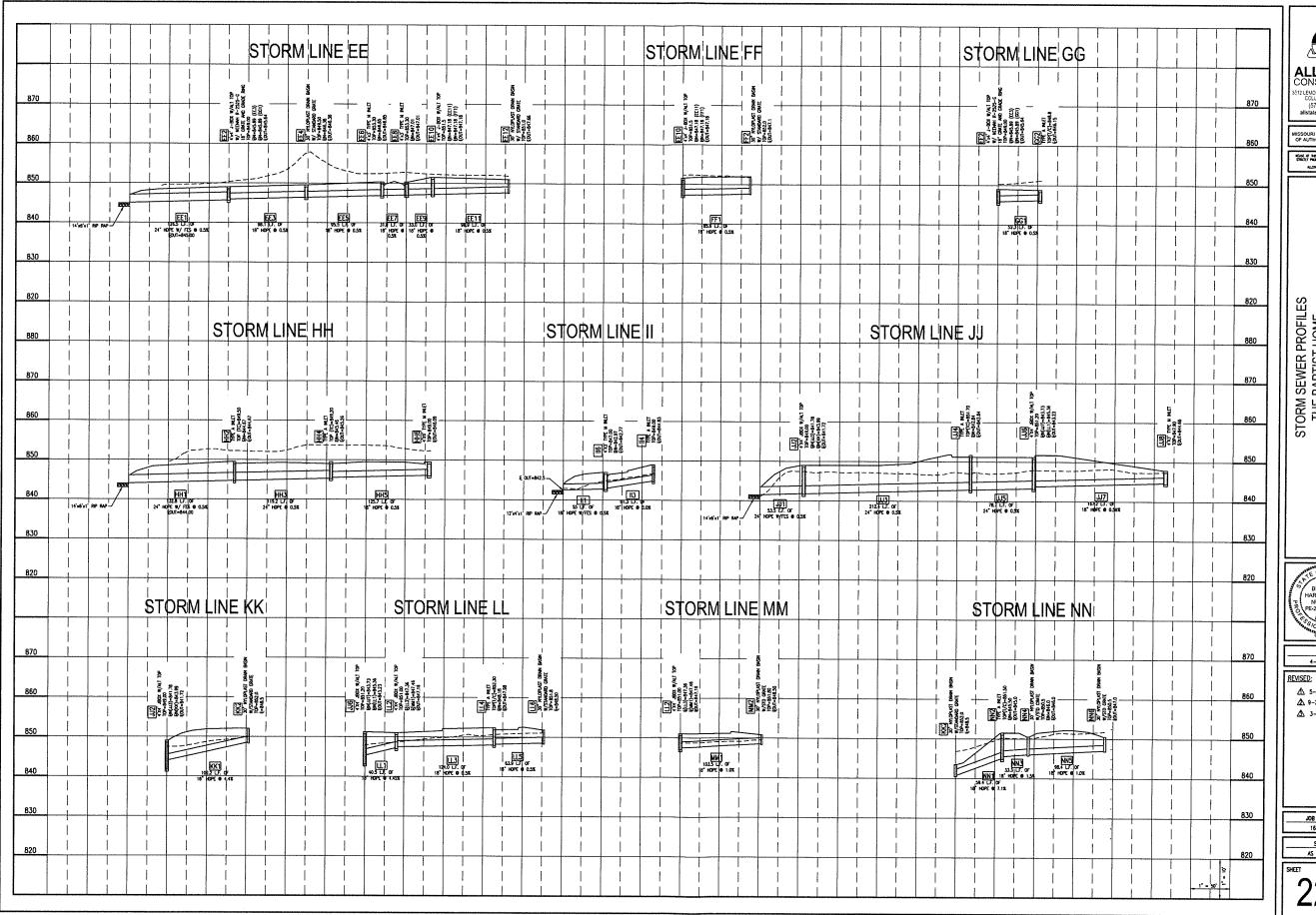














MISSOURI STATE CERTIFICATE OF AUTHORITY #2007004004

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STORM SEWER PROFILES
THE BAPTIST HOME
ASHLAND CAMPUS
ASHLAND, MISSOURI

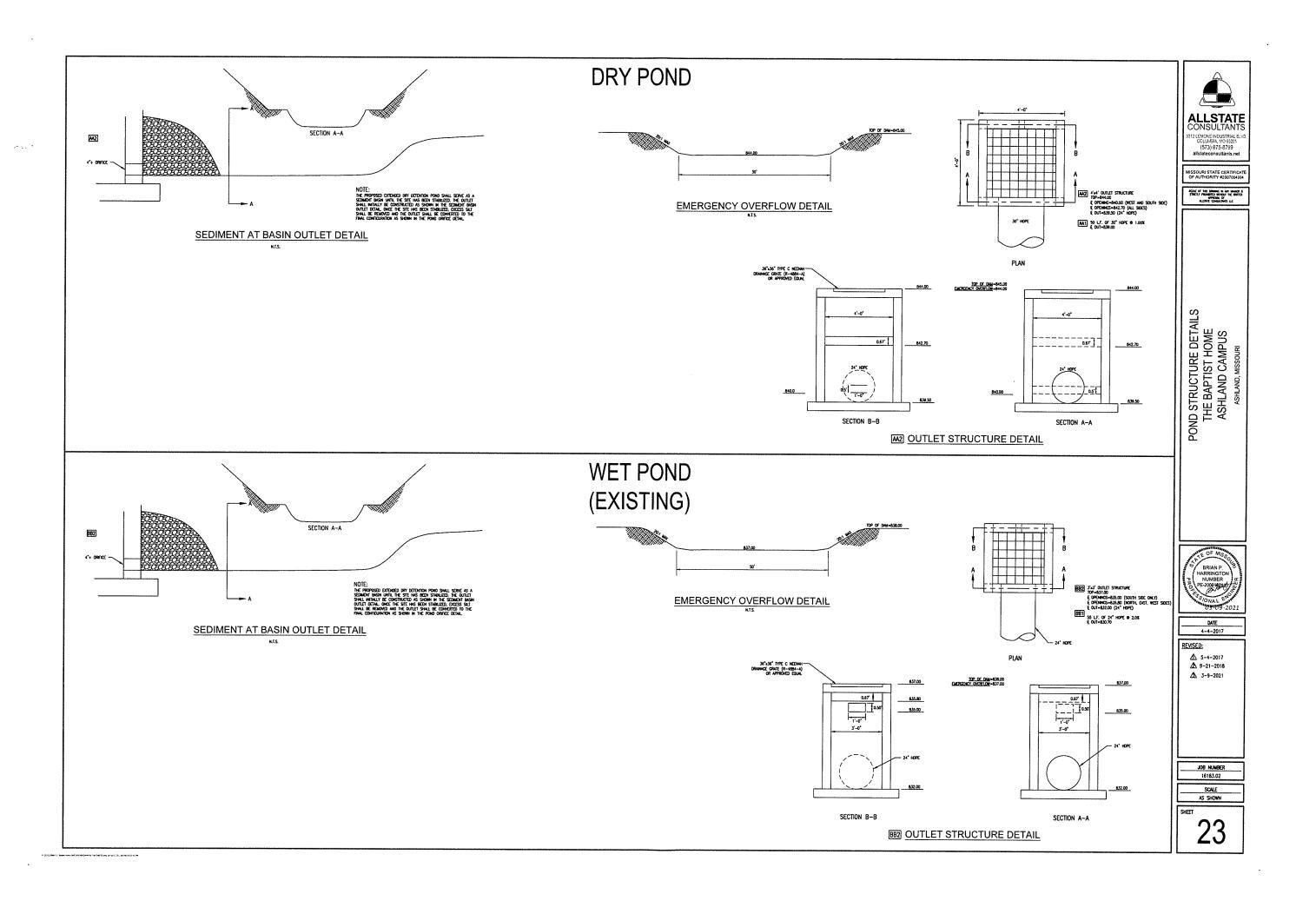


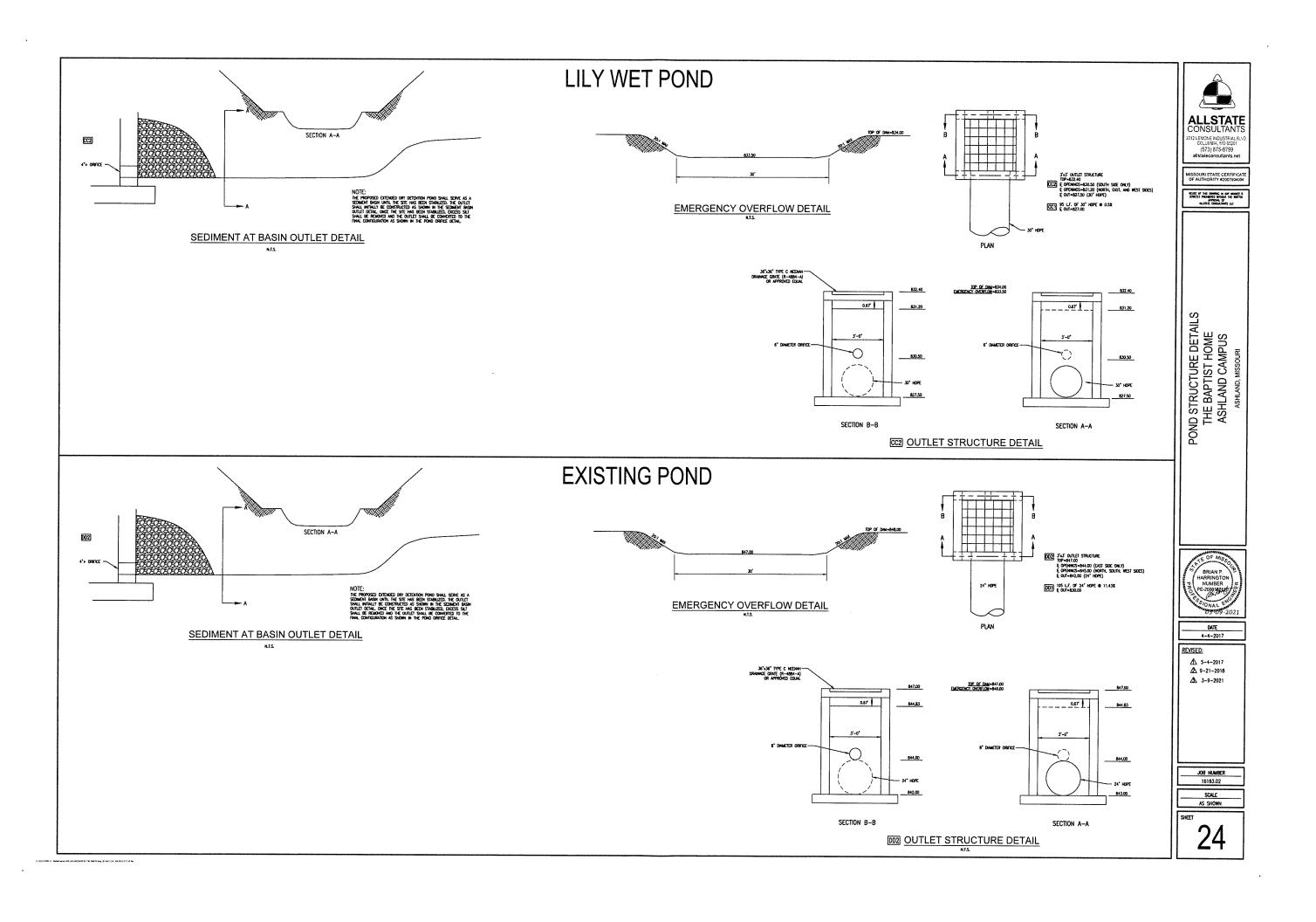
DATE 4-4-2017

₫ 5-4-2017 **△** 9-21-2018 **△** 3-9-2021

> JOB NUMBER 16183.02 SCALE: AS SHOWN

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#### Section 2721

#### Engineered Surface Drainage Products

The grates and frames furnished for all surface drainage inlets shall be ductle into for sizes 6°, 10°, 12°, 15°, 16°, 24° and 30° and shall be made specifically for each bisson so as to provide a round bottom frampe that closely matches the dameter of the surface drainage intel. Grates for drain basins shall be capable of supporting values whele loads as supported by Myolads. 12° and 15° square grates with be highed to the farme using pins. Ductile into used in the manufacture of the castings shall conform to ASTM ASSS grate 70-55-55. Grates and covers shall be provided painted black.

NSTALLATION
The specified PVC surface drainage inlet shall be installed using conventional flerible pipe backfill materials and procedures. The backfill material shall be crushed some or other granuar material meeting the requirements of class 1, class 2, or class 3 motivinal as defined in ASTM D2321. Bedding and backfill for surface distribution of the stall between the stall to the contribution of the stall between the s

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#### Section 2722

#### Engineered Surface Drainage Products

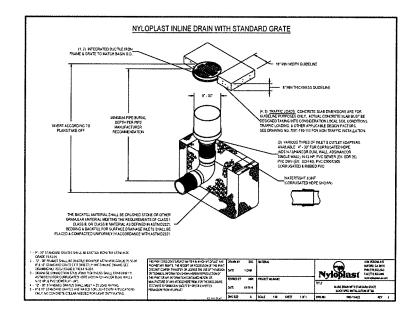
GENERAL
PVC surface drainage inlets shall be of the infine drain type as indicated on the contract drawing and referenced within the contract specifications. The ductile inon grates for each of these fittings are to be considered an integral part of the surface disnage nice and shall be furnished by the same manufacturer. The surface drainage interes shall be an amountaince by thyleplast a division of Advanced Drainage Systems, Inc., or pinc approved equal.

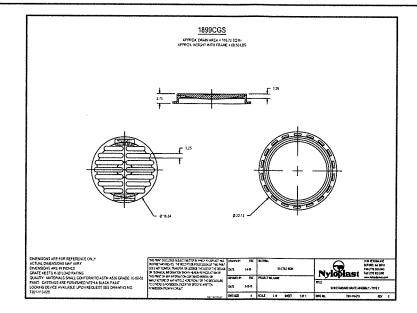
on required for this contract shall be manufactured from PVC pipe stock, utilizing a thermo-molding process to reform the pipe stock to the furnished. The drainage pipe connection stubs shall be manufactured from PVC pipe stock and formed to provide a watertight connection with the specific This pipit highware shall conform to SSTID SSZI pip pints for data may not peaker shall pipe using few/size destinations to self-state conformation to SSTIM EAZY. The pipe bell apply of what the pipe shall pipe used to mine data to be given the state of a swage mechanical joint. The raw material used to see pipe stock of this case for manufacture the inline or and body and pipe stubs of the surface drainage interest and conform to SSTIM set of classical sections.

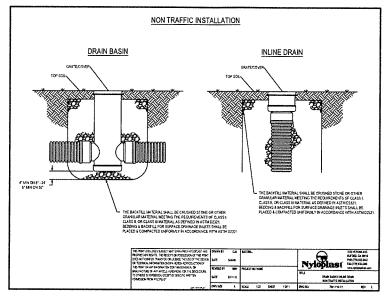
The grates furnished for all surface diarrage inlets shall be dustile iron grates for sizes 6': 10': 12': 15': 18'; 24' and 30' shall be made specifically for each fitting so as to provide a round bottom fange that closely matches the dumeter of the surface drainage inlet. Grates for inline drains shall be capable of supporting H-20 wheel loading for Incl. Craftic areas or H-10 loading for prodestion areas. I 2' and 15' square grates will be hinged to the frame using pins. Metal used in the manufacture of the castings shall conform to 65TM 6556 grade; 70.50.05 for dischleting. Grates shall be provided painted back.

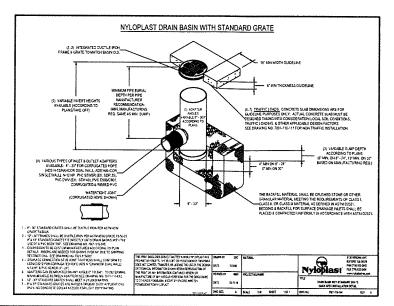
INSTALLATION
The specified PVC surface distinage inlet shall be installed using conventional flexible pipe backfill materials and procedures. The backfill material shall be crushed stone on other grandar material meeting the requirements of class 1, class 2, or class 3 material as defined in ASTM D2221. Bedding and backfill for crushed stone or other procedures. The backfill material shall be grande. No brick, stone or concrete block will be required to set the grate is the first grade begit. For H-20 load rated installations, a concrete ring will be pound under and around the grate and firms. The concrete sib must be despined taking risk consideration local schodiding, traffic and, and other applicable design footors. For other installation considerations such as migration of fines, ground water, and soft foundations refer to ASTM D2231 guidelines.

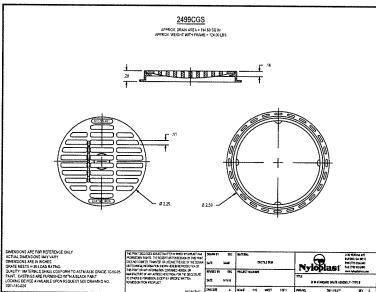
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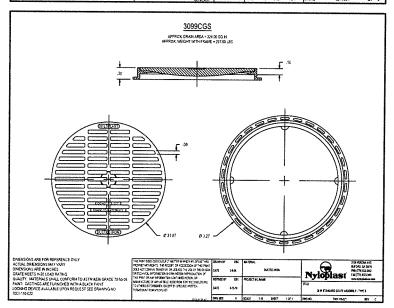














RELUCE OF THE COMMENT OF MATERIAL IN STRICELY PREMISSION SERVICE IN MYTHODAY, OF ALLSWIN CONCENTRAL INC.

STANDARD DETAILS
THE BAPTIST HOME
ASHLAND CAMPUS
ASHLAND, MISSOURI



DATE 4-4-2017

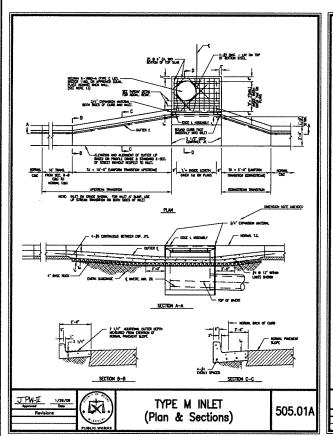
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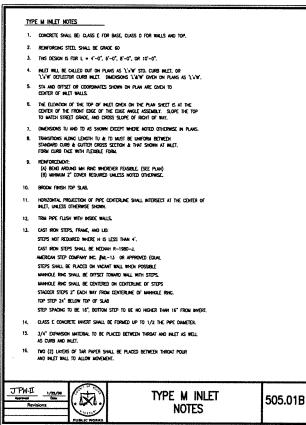
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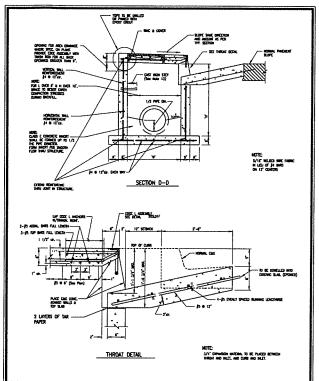
JOB NUMBER 16183.02 SCALE

AS SHOWN

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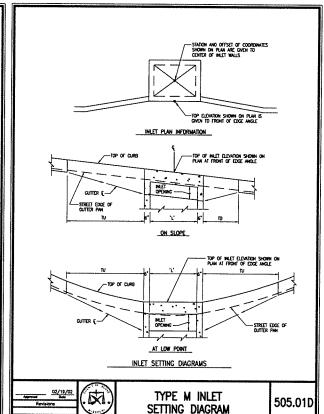


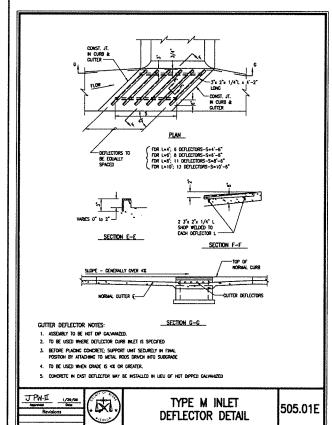


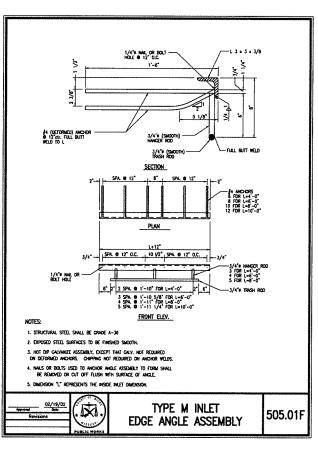
TYPE M INLET

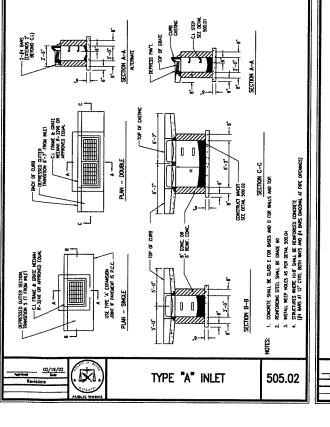
SECTION AND DETAIL

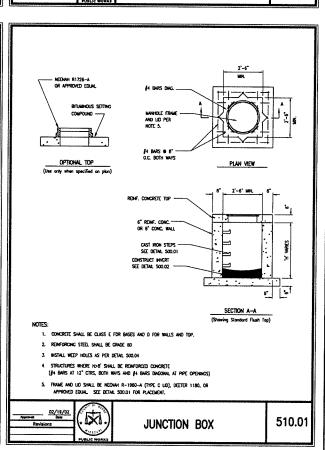
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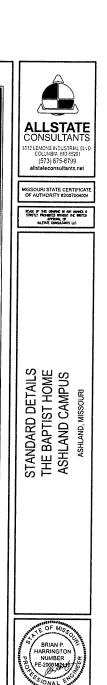












DATE

4-4-2017

REVISED:

△ 5-4-2017

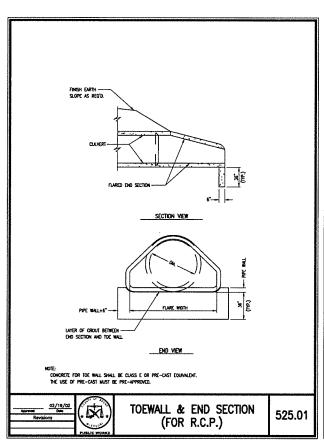
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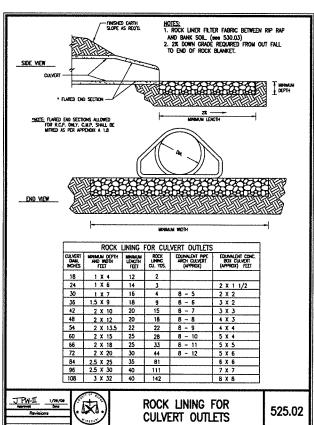
△ 3-9-2021

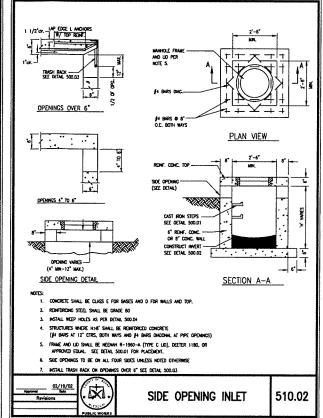
JOB NUMBER
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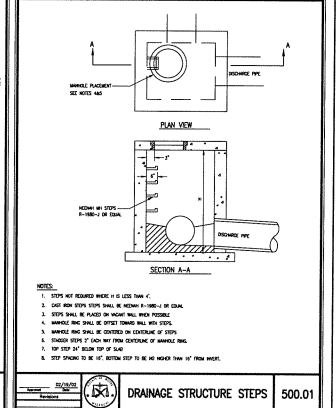
SCALE
AS SHOWN

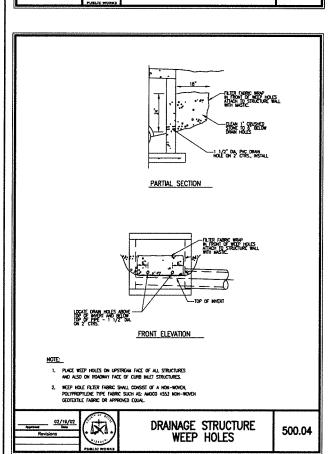
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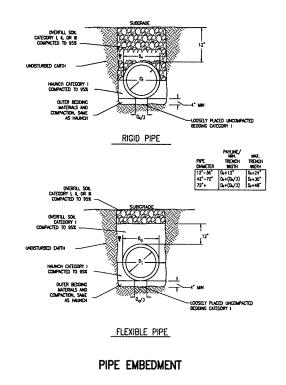


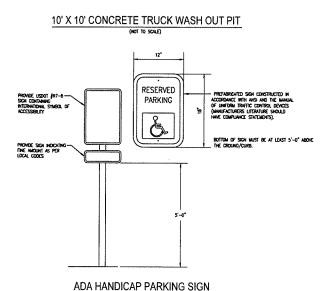






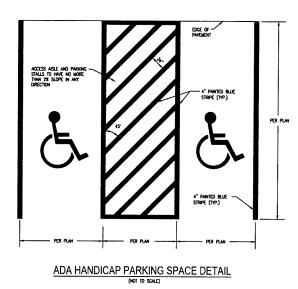


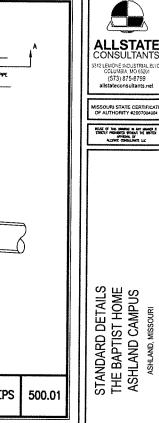




(NOT TO SCALE)

J. WHEN PIT IS FILLED TO 1' DEPTH, CONCRETE SHALL BE REMOVED AND DISPOSED OF AS PER NOTE 2.



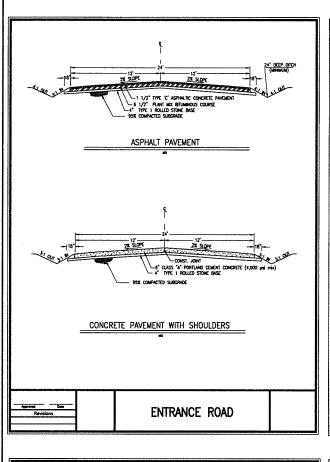


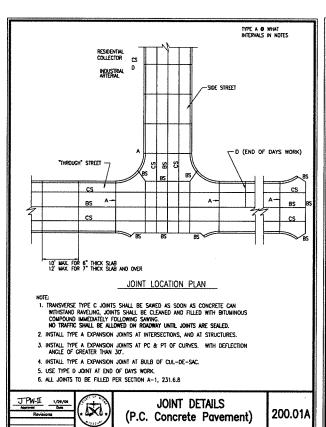


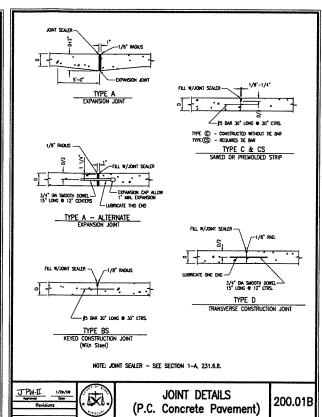
REVISED: ₫ 5-4-2017 **A** 9-21-2018 **△** 3-9-2021

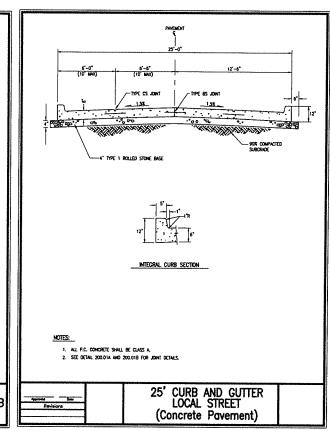
JOB NUMBER 16183.02 SCALE as shown

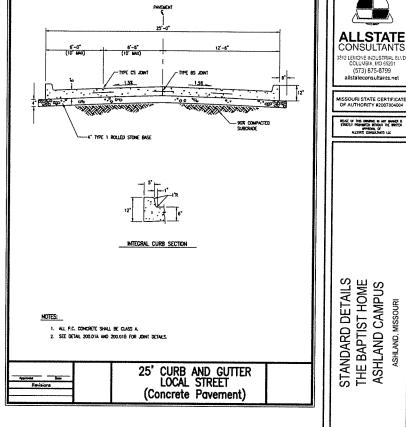
SHEET

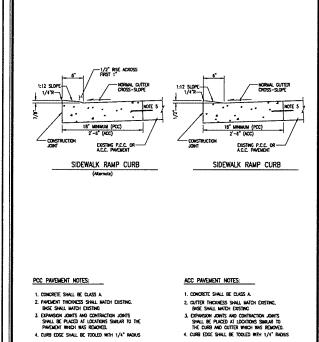


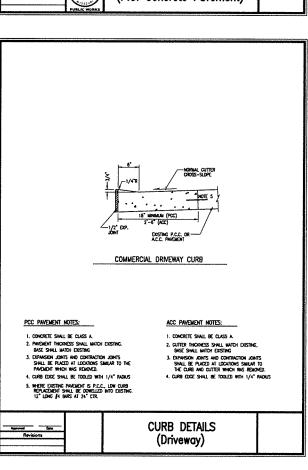


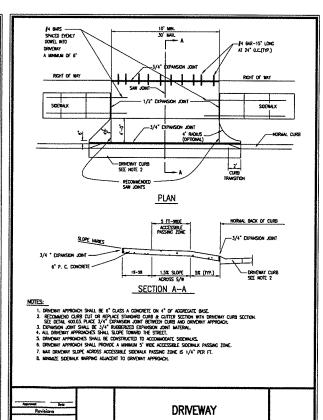


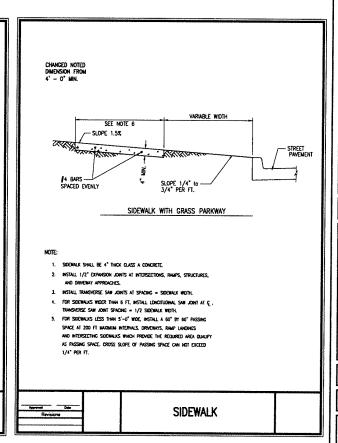


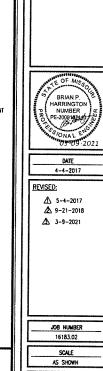






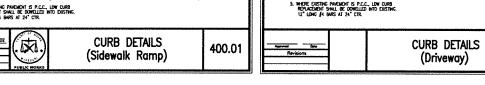


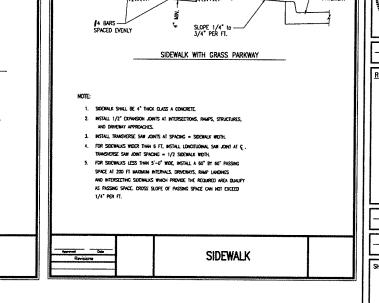


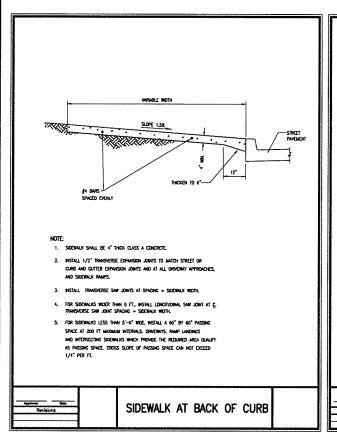


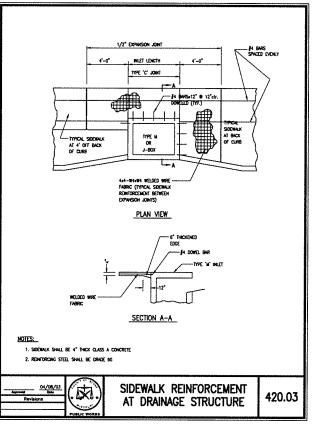
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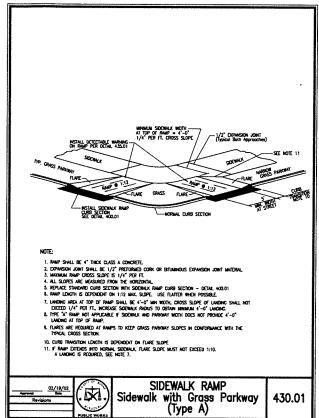
(573) 875-8799

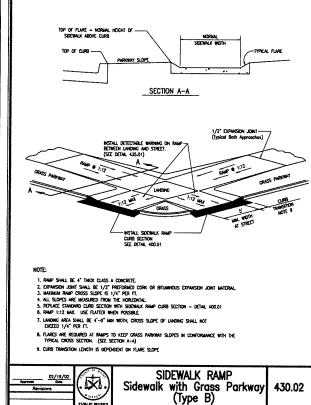


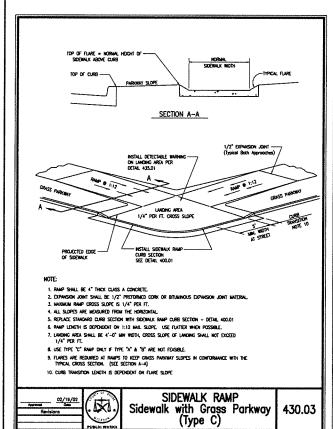


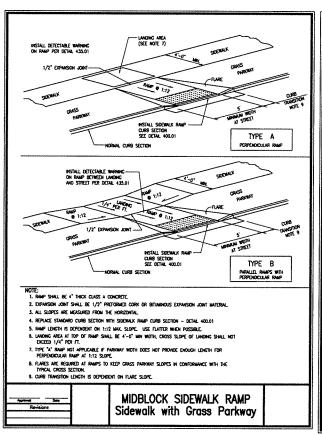


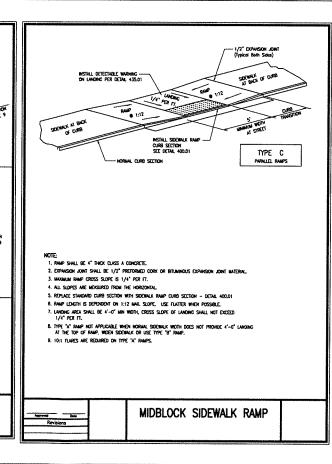


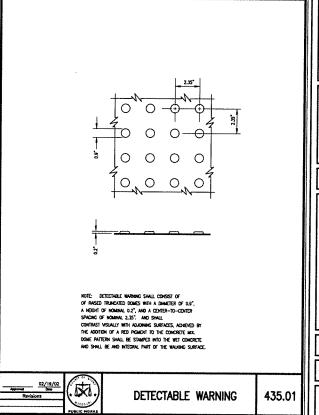














AS SHOWN



## **City of Ashland**

109 East Broadway, Ashland, Missouri 65010

**Department Source:** Community Development

To: Planning & Zoning Commission

From: Dan VandeVoorde

Board Meeting Date: April 13th, 2021

Re: Selby Hair Salon Tract

## **EXECUTIVE SUMMARY:**

Applicant is seeking approval for the Site Plan associated with the construction of a new hair salon near the Henry Clay/Redbud intersection, and approval of variance request for building setbacks. The property owner is Robert Selby with Allstate Consultants as design firm. Review was performed by MECO Engineering on behalf of the City of Ashland.

<u>DISCUSSION:</u> Due to the construction of the round a bout at the Henry Clay/Broadway intersection the owners of the hair salon located 309 E Broadway are wanting to build a new structure to continue the hair salon business north of the current location. This new location will have parking that is accessed off of Redbud.

Due to the irregular shape of the lot and possible grading issue to allow for ample parking they are asking for a variance to reduce the rear yard setback from 25' to 15'.

## **FISCAL IMPACT:**

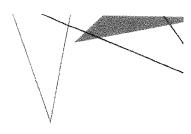
Short Term Impact (cost proposed legislation the next 2 years): \$0

Long Term Impact: \$0

## **SUGGESTED BOARD ACTION:**

Staff recommends approving the Site Plan and variance request.





April 7, 2021

City of Ashland ATN: Tony St. Romaine 109 E Broadway Ashland MO 65010

RE: Hair Studio – Selby Subdivision Planning & Zoning Review

Dear Planning & Zoning Committee,

MECO Engineering has reviewed the submitted information on this development against the city codes. We questioned the design engineer on stormwater issues and received additional information from the architect.

We believe the development meets code requirements and should move to planning and zoning meeting for review.

Sincerely,

Scott E. Vogler, P.E.

President, MECO Engineering Co., Inc.





# SUBDIVISION PLAT Application

**SUBMITTAL INFORMATION** The undersigned hereby applies to the CITY OF ASHLAND, MISSOURI, For development review as outline in Chapter 11, Subdivision Regulations, Section 11.150 Procedure.

Physical Address: 309 E. Broadway, Ashland, N	MO 65010
Parcel ID #: 24-220-00-02-05.033; 24-220-00-	02-055.00
Project Name: Selby Subdivision Plat 1	
Applicant Name (Please Print) Allstate Consultar Address: 3312 LeMone Industrial Blvd.  Columbia, MO 65201  Applicant's Signature: James R. Juffras	Phone #: (573) 875-8799  Fax #: (573) 875-8850  E-Mail: jjeffries@allstateconsultants.net
REQUIRED SUBMITTALS WITH COMPLETED	
☐ Is this a Major Plat or a Minor Plat _X _?  ☐ Property survey ☐ Letter of Intent for Zoning Use or Building Use ☐ Soil Survey ☐ Stormwater Calculations ☐ Traffic Study ☑ Preliminary or Final Plat ☐ A. Preliminary plats requires (5) 18" x 24" or Planning & Zoning Commission and Boat and a PDF disc are also required. ☐ B. Final plats require an executed mylar, (5)	or (5) 24" x 36" signed and sealed copies for the ard of Aldermen review. A reduced 11" x 17" copy  18" x 24" or (5) 24" x 36" signed and sealed copies and Board of Aldermen review. A reduced 11" x 17"
Other:	
☐ Application Fee: \$200 (See page 3)	
Staff Signature	Date
Application: City Staff Review: Planning & Zoning: Board of Aldermen 1st Reading: Board of Aldermen 2nd Reading: Final Revisions / As-Built Received:  ONLY	

Page 1

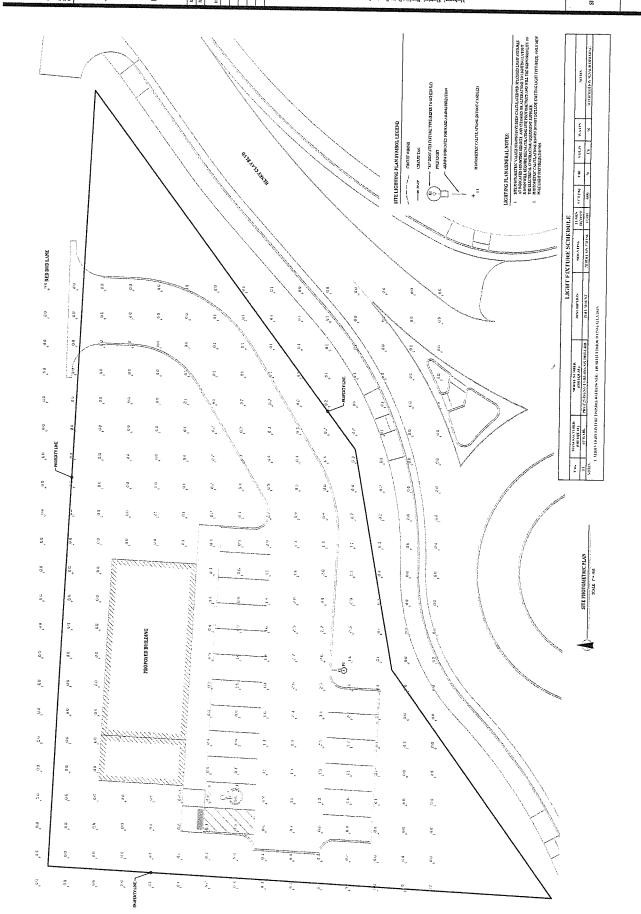
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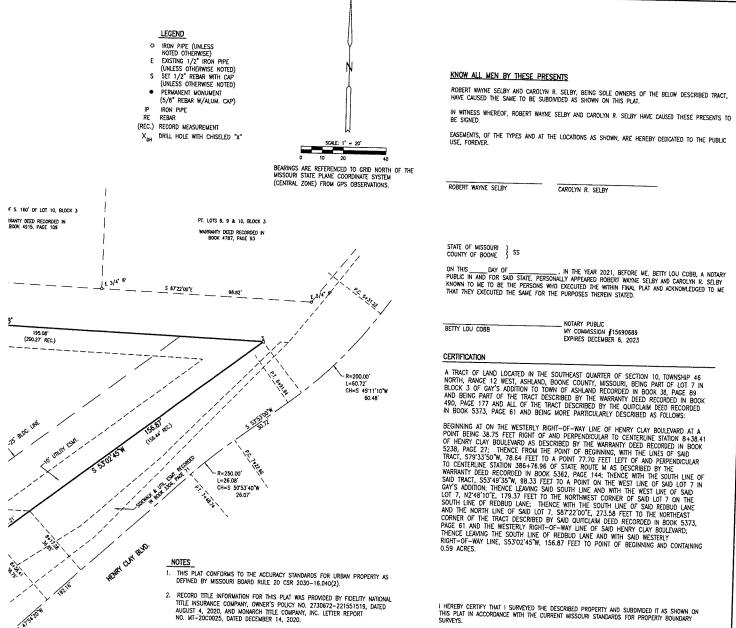


309 E. Broadnay Ashland, Boone County, MO 65010

Mathematic - Electrical - Plannings Design December 600

EL102





ACCORDING TO TESTIMONY BY THE OWNER, THE NORTHWEST PROPERTY CORNER SHOULD BE IN LINE WITH THE EXISTING T-POSTS ON THE WEST LINE. A 3/4" IRON PIPE WAS FOUND ABOUT 1' BELOW THE SURFACE. THIS SURVEY ACCEPTS THE IRON PIPE AS BEING ON THE WEST LINE OF LOT 7 AS SHOWN.

MITERLINE OF PROPOSED NEW ALIGNMENT FOR NRY CLAY BLVD. & BROADWAY AS SHOWN ON TERSECTION INPROVEMENT PLANS FOR THE MISSOURI THAN'S AND TRANSPORTATION COMMISSION EPARED BY BARTLET & WEST

(STATE ROUTE Y)

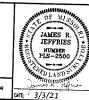
I HEREBY CERTIFY THAT I SURVEYED THE DESCRIBED PROPERTY AND SUBDMIDED IT AS SHOWN ON THIS PLAT IN ACCORDANCE WITH THE CURRENT MISSOURI STANDARDS FOR PROPERTY BOUNDARY SURVEYS.

SURVEY AND PLAT BY ALLSTATE CONSULTANTS LLC

JAMES R. JEFFRIES, PLS-2500 STATE OF MISSOURI COUNTY OF BOONE } ss DATE SUBSCRIBED AND AFFIRMED BEFORE ME THIS \_\_\_ \_\_\_ DAY OF\_\_ NOTARY PURIC BETTY LOU COBB MY COMMISSION \$15690689 EXPIRES DECEMBER 6, 2023

	FINAL PLAT	
SELBY	SUBDIVISION PLAT	
A REPLAT	OF PART OF LOT 7, GAY'S ADDITION	

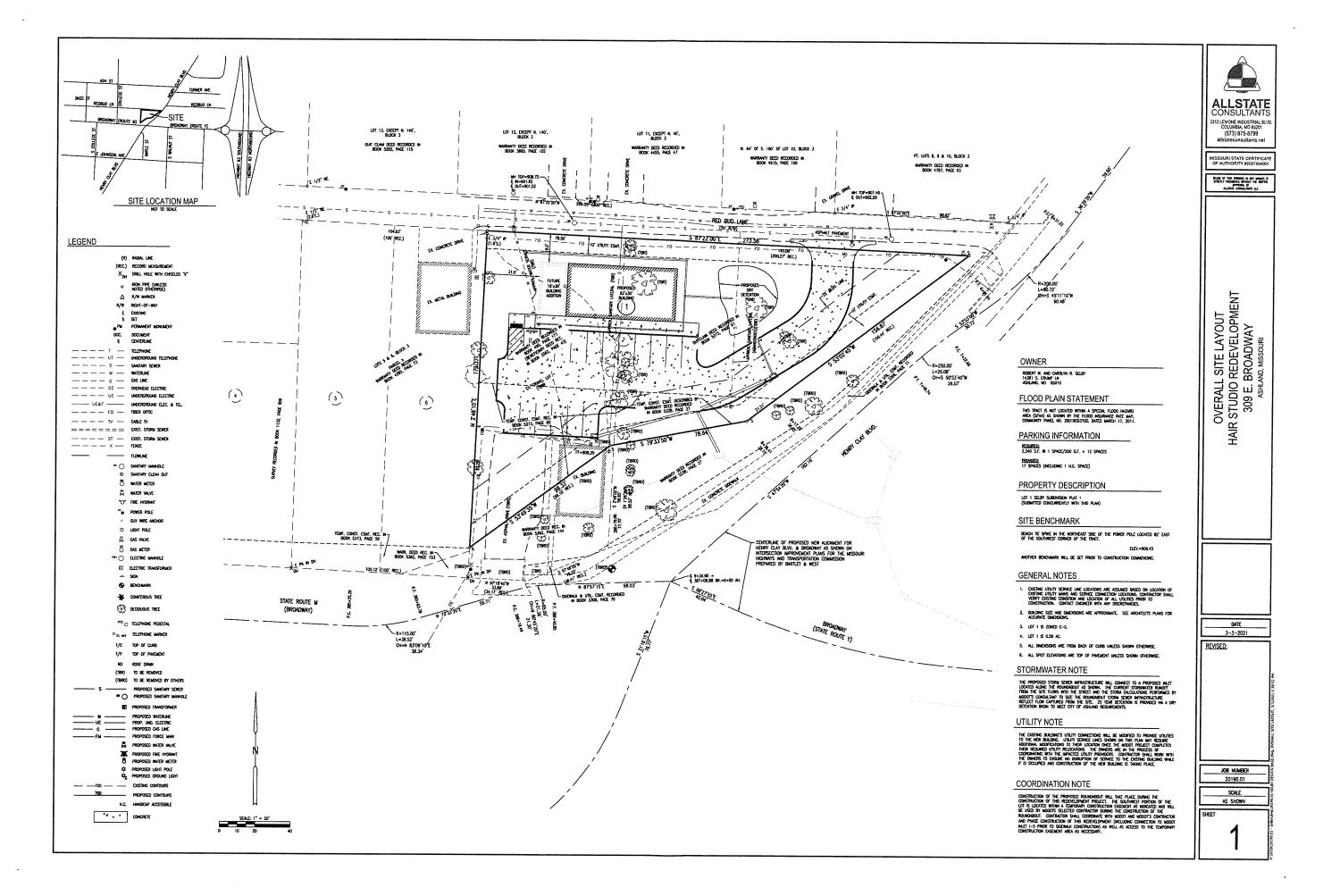
LOCATED IN SECTION 10, TOWNSHIP 46 NORTH, RANGE 12 WEST ASHLAND, BOONE COUNTY, MISSOURI

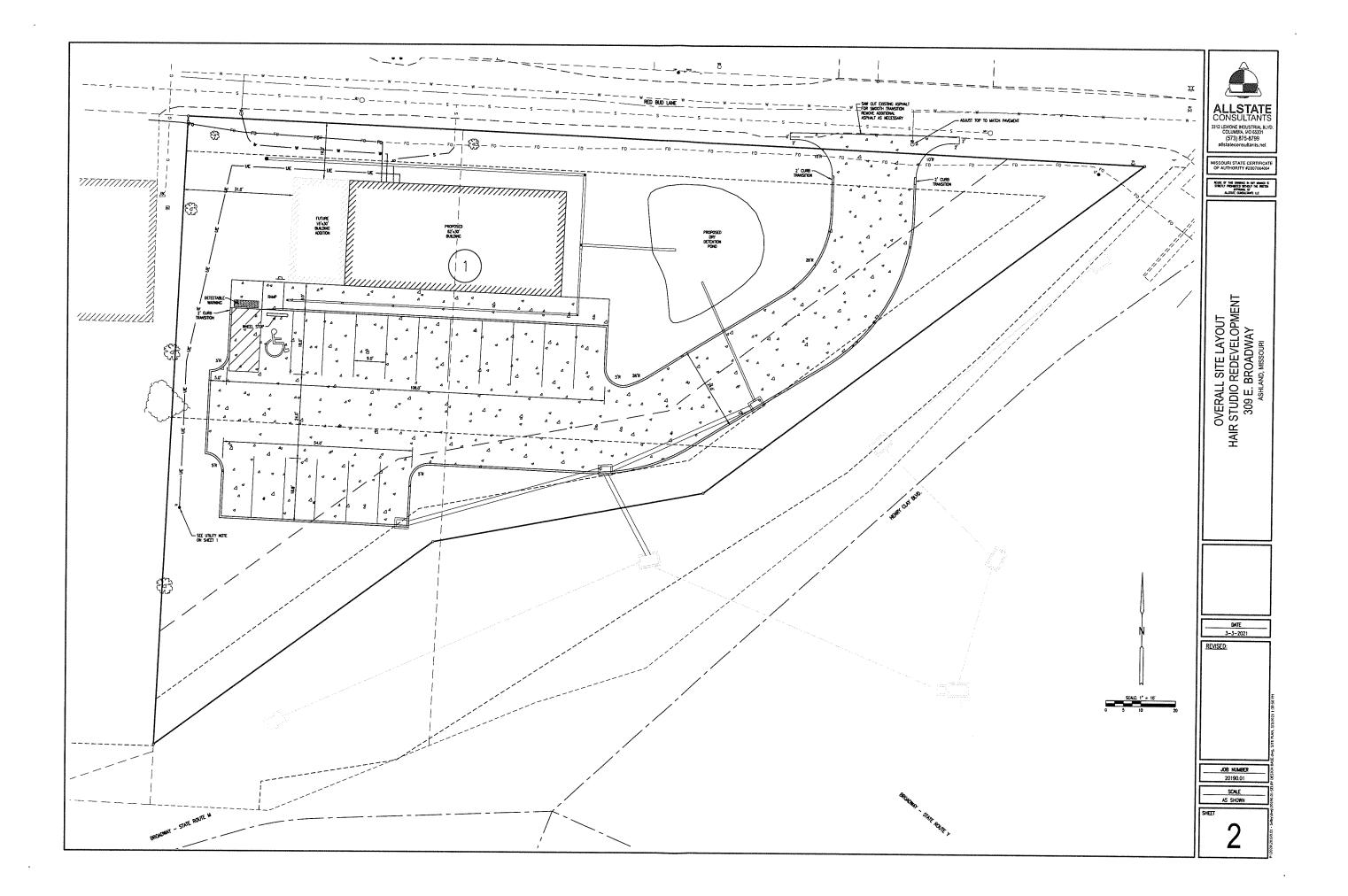


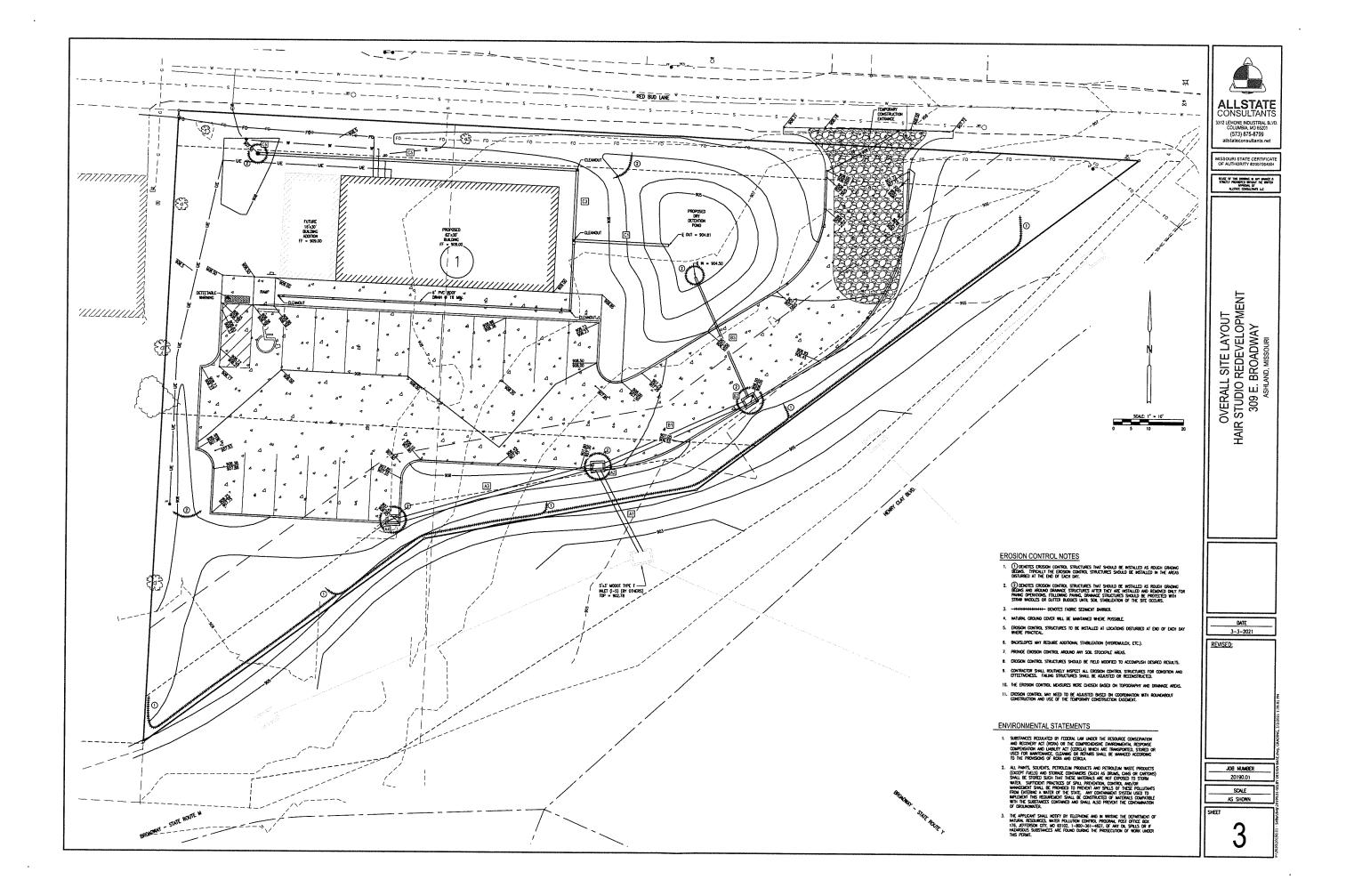
	MARCH 2, 2021	20190.01
	Á	
	ALLS	TATE TANTS
Ì	3312 LEMONE IN	DUSTRIAL BLVD.
ł	COLUMBIA	
ı	(573) 87	5-8799
ı	ALLSTATE CONS	ULTANTS LLC

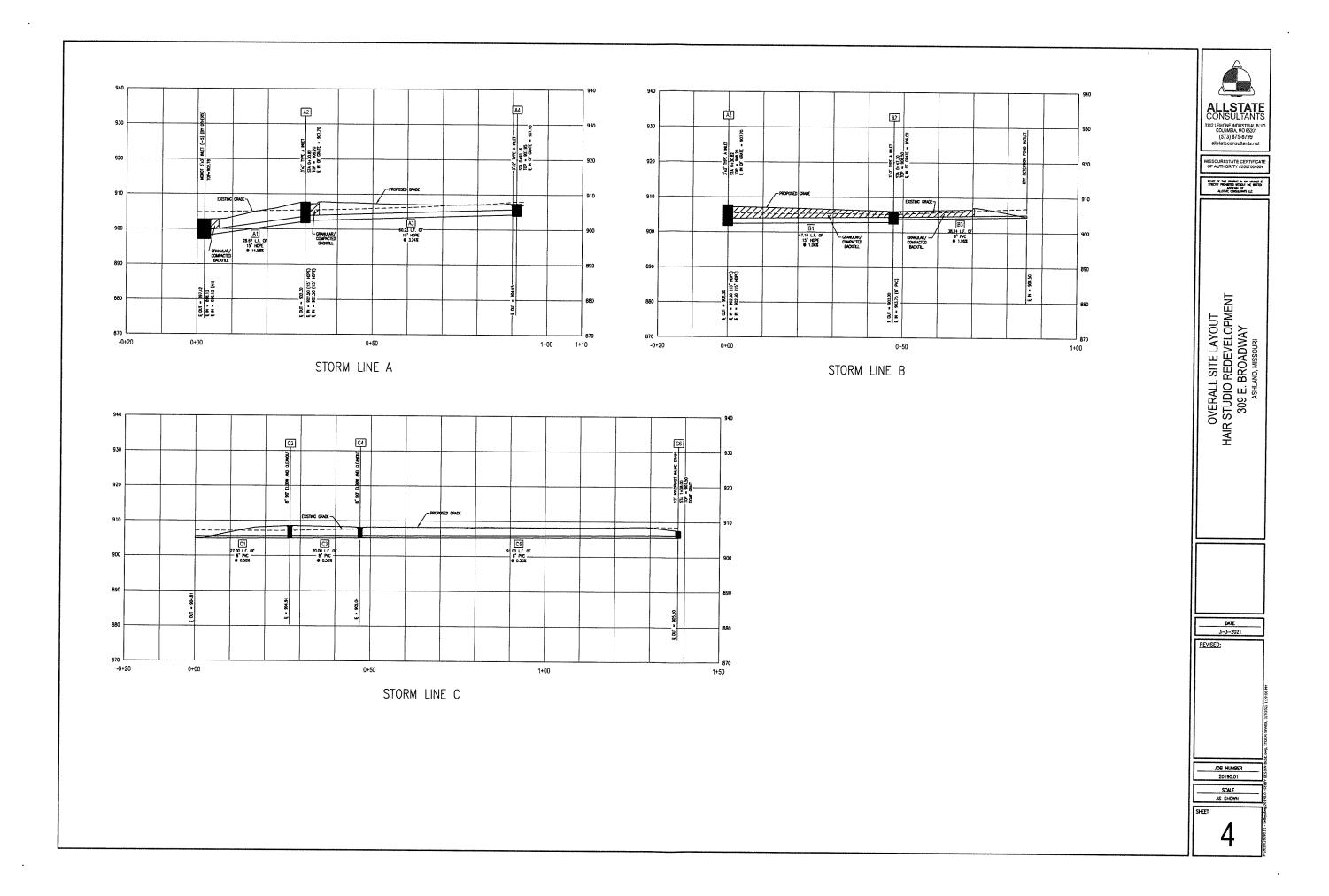
MO PROFESSIONAL LAND SURVEYING CERTIFICATE OF AUTHORITY #20070001

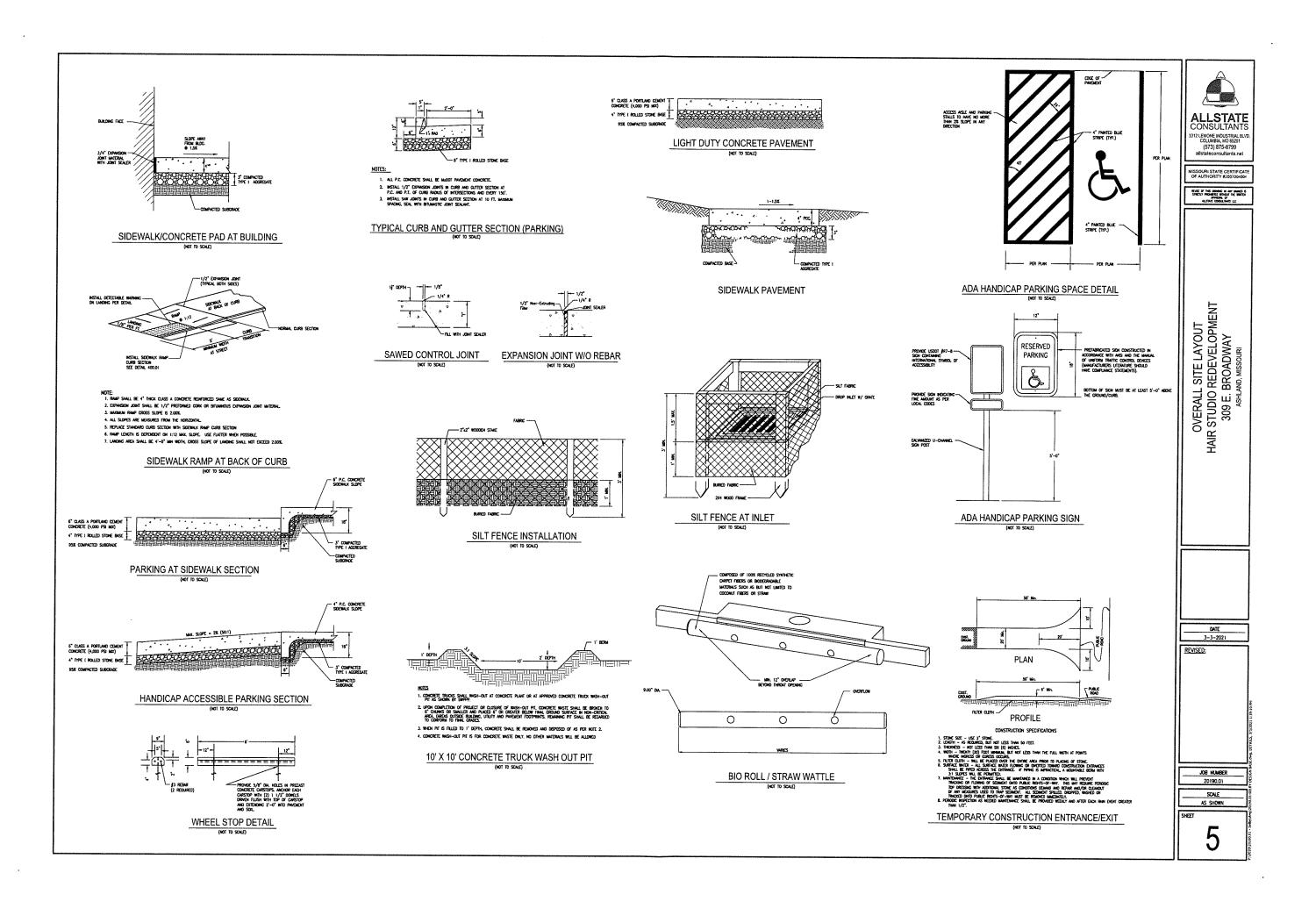
RESERVED FOR RECORDER'S STAMP

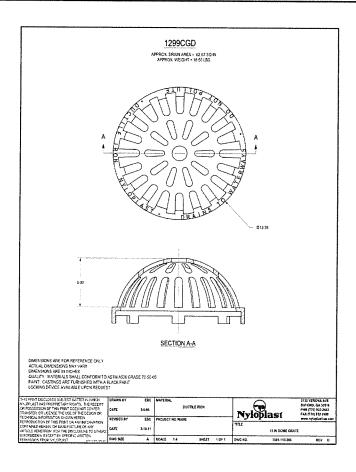












ADS, Inc. Drainage Handbook

## ADS N-12® PLAIN END PIPE (PER AASHTO) SPECIFICATION

This specification describes 4- through 60-inch (100 to 1500 mm) ADS N-12 plain end pipe (per AASHTO) for use in gravity-flow land drainage applications.

- Pipe Requirements
  ADS N-12 plain end pine (per AASHTO) shall have a smooth interior and annular exterior corrugations.

  4. through 10-inch (100 to 250 mm) pipe shall meet AASHTO M252, Type S or SP.

  12- through 60-inch (300 to 1500 mm) pipe shall meet AASHTO M294, Type S or SP, or ASTM F2305.

  Manning's "n' value for use in design shall be 0.012.

Pipe shall be joined with coupling bands covering at least two full corrugations on each end of the pipe. Standard connections shall meet or exceed the soil-tight requirements of AASHTO M252, AASHTO M294, or ASTM F2306.

Gasketed connections shall incorporate a closed-cell synthetic expanded rubber gasket meeting the requirements of ASTM D1056 Grade 2A2. Gaskets, when applicable, shall be installed by the pipe manufacturer.

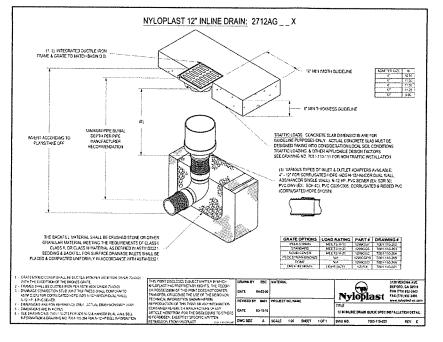
## Fittings Fittings shall conform to AASHTO M252, AASHTO M294, or ASTM F2306.

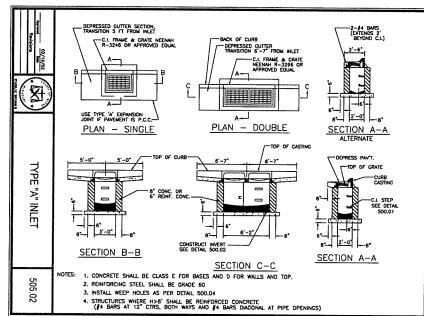
Material Properties
Material Properties
Material for pipe and fifting production shall be high density polyethylene conforming with the minimum
requirements of cell classification 424420C for 4- through 10-inch (100 to 250 mm) diameters, and 435400C
for 12- through 60-inch (300 to 1500 mm) diameters, as defined and described in the latest version of ASTM
03550, except that carbon black content should not exceed 4%. The 12- through 60-inch (300 to 1500mm)
pipe material shall cumply with the notched constant ligament-stress (NCLS) test as specified in Sections 9.5
and 5.1 of AASHT O MZ99 and ASTM FZ306 respectively.

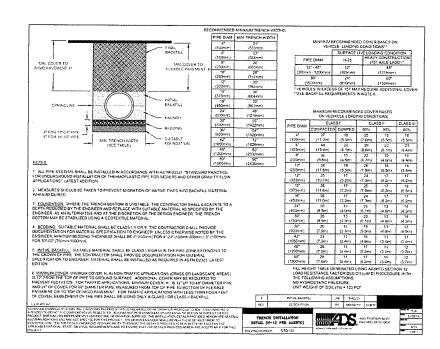
Installation Installation Installation shall be in accordance with ASTM D2321 and ADS recommended installation guidelines, with the exception that minimum cover in trafficked areas for 4- through 48-inch (100 to 1200 mm) diameters shall be one foot (0.0) and for 65-ind-in (1500 mm) diameter the minimum cover shall be 2.1 (0.6 m) in single run applications. Backfill for minimum cover situations shall consist of Class 1 (compacted). Class 2 (minimum 59%, SPD) or Class 3 (minimum 59%), material. Alwarmum fill heights depend on embedientin instellation and compaction flevit, jetage refer to Technical Note 2.01. Contact your local ADS representative or visit our website at large-case-species for a copy of the latest installation guidelines.

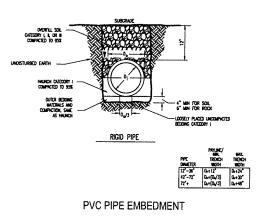
### Pipe Dimensions

	Pice I.														
						10				24					
			11001	(153)	1200	(250)	(300)	(375)	(450)	16000	(750)	(900)	/10501	(1230)	115001
	Car D						14.5								
										26					
			11221	(175)	1 (231	(290)	(306)	14571	15591	(714)	. (914)	110571	(1217)	(1372)	(3702)









**ALLSTATE** CONSULTANTS LEMONE INDUSTRIAL BLV COLUMBIA, MO 65201 (573) 875-8799

SSOURI STATE CERTIFICAT OF AUTHORITY #2007004004

RESSEC OF THIS GROWNER IN ANY MAKINE IS STREETLY PROMINED RETIREM THE WORTH APPENDING OF ALESSAYE CONCRA THISTS LLE

OVERALL SITE LAYOUT HAIR STUDIO REDEVELOPMENT 309 E. BROADWAY ASHLAND, MISSOURI

3-3-2021

REVISED:

20190.01 SCALE AS SHOWN

JOB HUMBER

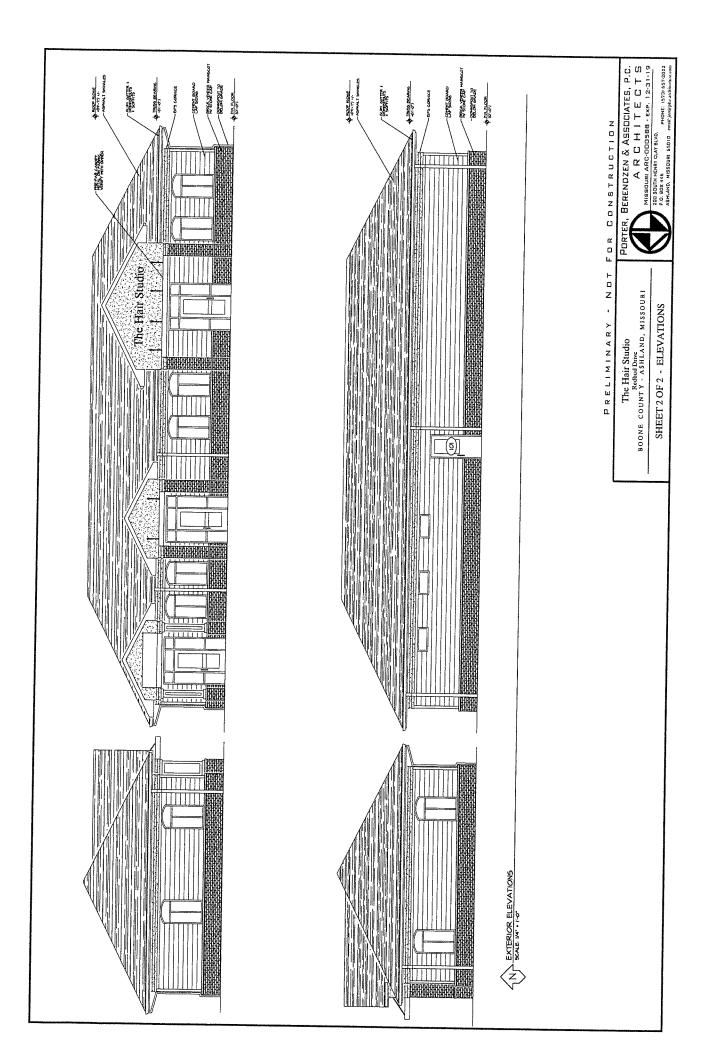
DADS, Inc., March 2020

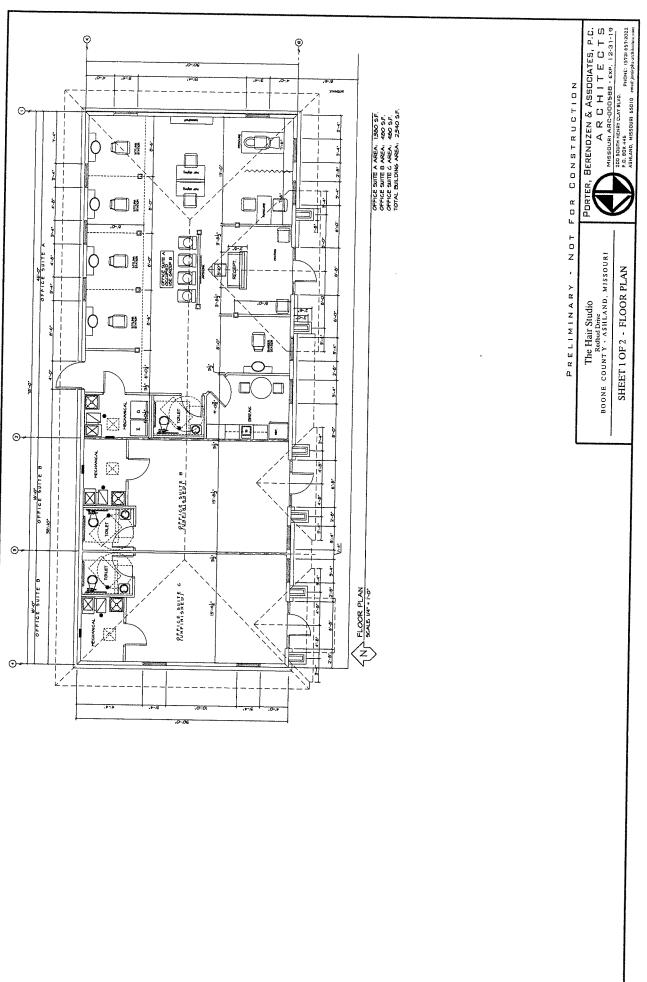


## SITE PLAN Application

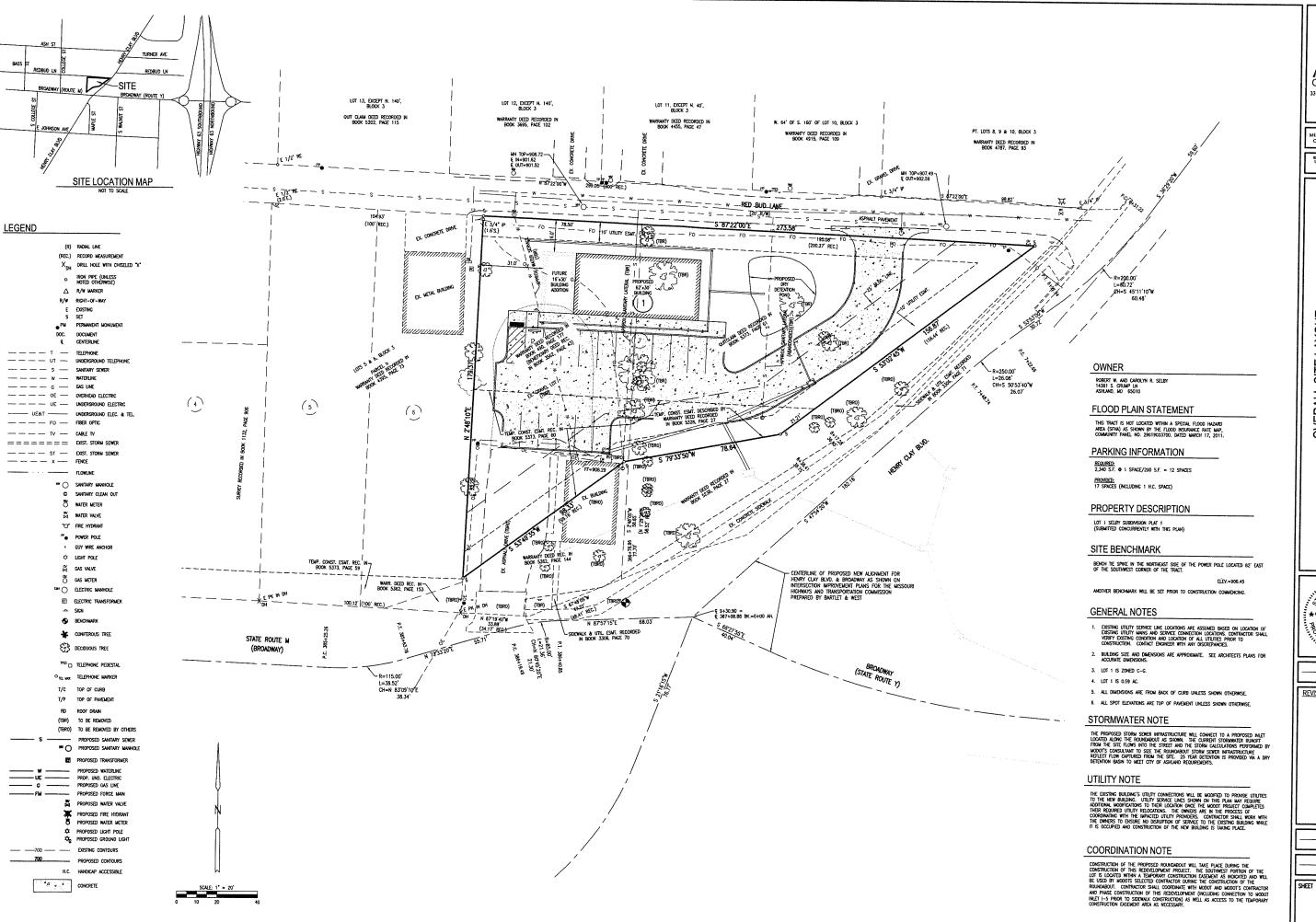
Physical Address: 309 E. Broadway  Parcel ID #: 24-220-00-02-053.00 01, 24-220-00-02-055.00 01  Project Name: Hair Studio Relocation  Applicant Name (Please Print) Allstate Consultants LLC - Wes Bolton, PE, ACTAR  Address: 3312 LeMone Industrial Blvd., Columbia, MO 65201  Phone #: (573) 875-8799 Fax: (573) 875-8850  E-Mail: wbotton@alistateconsultants.net  Property Owner (Please Print): Wayne and Carolyn Selby  Address: 14381 S. Crump Ln.  Phone: Email: ieanselby78@yahoo.com  REQUIRED SUBMITTALS WITH COMPLETED APPLICATION  Property survey  Letter of Intent for Zoning Use and Building Use  Site Plan/Drawing (5 signed and sealed copies). These 5 plans must be Standard Size D (24"x36"). A reduced 11 x 17 copy and a PDF disc are also required. The plan shall include the following information:  Title Sheet that may include the survey  Site Plan  Paving/grading/drainage plan  Utilities sheet (including all existing utilities)  Detail sheet(s)  Building elevations  Sign locations (sing design shall be approved on a separate permit)  Adjacent zoning and land uses  Stormwater Calculations  Traffic Study  Other: Variance Request - Rear Yard Building Setback  Applicant for a site plan approval shall pay to the City fees sufficient to cover the costs reasonably anticipated to be incurred by the City for the services of its planning, engineering and legal consultants and for the administrative expense reasonably anticipated to be incurred by the City for the services of its planning, engineering and legal consultants and for the administrative expense reasonably anticipated to be incurred by the City for the services of its planning, engineering and legal consultants and for the administrative expense reasonably anticipated to be incurred by the City in providing the expertise of its own community development, public, works, building department, finance and their administrative support personnel, in connections with the review of the site plan. These fees shall also include payment for the review of final detailed engineeri	<b>SUBMITTAL INFORMATION</b> The undersigned hereby applies to the CITY OF ASHLANI MISSOURI. For development review as outlined in Chapter 9 Planning and Zoning, Section 9.106 Site Plan Submission, Review Required.
Applicant Name (Please Print) Allstate Consultants LLC - Wes Bolton, PE, ACTAR Address: 3312 LeMone Industrial Bivd., Columbia, MO 65201 Phone #: (573) 875-8799 Fax: (573) 875-8850 E-Mail: wbolton@allstateconsultants.net Property Owner (Please Print): Wayne and Carolyn Selby Address: 14381 S. Crump Ln. Phone: Email: jeanselby78@yahoo.com  REQUIRED SUBMITTALS WITH COMPLETED APPLICATION Property survey Letter of Intent for Zoning Use and Building Use Site Plan/Drawing (5 signed and sealed copies). These 5 plans must be Standard Size D (24"x36"). A reduced 11 x 17 copy and a PDF disc are also required. The plan shall include the following information: Title Sheet that may include the survey Site Plan Paving/grading/drainage plan Utilities sheet (including all existing utilities) Detail sheet(s) Building elevations Sign locations (sing design shall be approved on a separate permit) Adjacent zoning and land uses Stormwater Calculations Traffic Study Other: Variance Request - Rear Yard Building Setback Application Fee: \$300.00 Site Plan Review \$100.00 Extension  9.108. Fees An applicant for a site plan approval shall pay to the City fees sufficient to cover the costs reasonably anticipated to be incurred by the City for the services of its planning, engineering and legal consultants and for the administrative expense reasonably anticipated to be incurred by the City for the services of its planning, engineering and legal consultants and for the administrative expense reasonably anticipated to be incurred by the City for the services of its planning, engineering and legal consultants and for the administrative expense reasonably anticipated to be incurred by the City for the services of its own community development, public, works, building department, finance and their administrative support personnel, in connections with the review of the site plan. These fees shall also include payment for the review of final detailed engineering plans, specifications and cost estimates, and field observation fees of the constructi	Physical Address: 309 E. Broadway
Applicant Name (Please Print) Alistate Consultants LLC - Wes Bolton, PE, ACTAR Address: 3312 LeMone Industrial Bivd., Columbia, MO 65201 Phone #: (573) 875-8799 Fax: (573) 875-8850 E-Mail: wbolton@alistateconsultants.net Property Owner (Please Print): Wayne and Carolyn Selby Address: 14381 S. Crump Ln. Phone: Fax:	Parcel ID #: 24-220-00-02-053.00 01, 24-220-00-02-055.00 01
Address: 3512 Letwone industrial Blvd., Columbia, MO 65201 Phone #: (\$73) 875-8799	Project Name: Hair Studio Relocation
□ Property survey □ Letter of Intent for Zoning Use and Building Use □ Site Plan/Drawing (5 signed and sealed copies). These 5 plans must be Standard Size D (24"x36"). A reduced 11 x 17 copy and a PDF disc are also required. The plan shall include the following information:  ■ Title Sheet that may include the survey ■ Site Plan ■ Paving/grading/drainage plan ■ Utilities sheet (including all existing utilities) ■ Detail sheet(s) ■ Building elevations ■ Sign locations (sing design shall be approved on a separate permit) ■ Adjacent zoning and land uses □ Stormwater Calculations □ Traffic Study □ Other: Variance Request - Rear Yard Building Setback □ Application Fee: \$300.00 Site Plan Review \$100.00 Extension  9.108. Fees An applicant for a site plan approval shall pay to the City fees sufficient to cover the costs reasonably anticipated to be incurred by the City for the services of its planning, engineering and legal consultants and for the administrative expense reasonably anticipated to be incurred by the city in providing the expertise of its own community development, public, works, building department, finance and their administrative support personnel, in connections with the review of the site plan. These fees shall also include payment for the review of final detailed engineering plans, specifications and cost estimates, and field observation fees of the construction and installation of the public improvements for these developments.	Phone #: (573) 875-8799 Fax: (573) 875-8850  E-Mail: wbolton@allstateconsultants.net  Property Owner (Please Print): Wayne and Carolyn Selby  Address: 14381 S. Crump Ln.  Phone: Fax:
An applicant for a site plan approval shall pay to the City fees sufficient to cover the costs reasonably anticipated to be incurred by the City for the services of its planning, engineering and legal consultants and for the administrative expense reasonably anticipated to be incurred by the city in providing the expertise of its own community development, public, works, building department, finance and their administrative support personnel, in connections with the review of the site plan. These fees shall also include payment for the review of final detailed engineering plans, specifications and cost estimates, and field observation fees of the construction and installation of the public improvements for these developments.	Letter of Intent for Zoning Use and Building Use  Site Plan/Drawing (5 signed and sealed copies). These 5 plans must be Standard Size I (24"x36"). A reduced 11 x 17 copy and a PDF disc are also required. The plan shall include the following information:  Title Sheet that may include the survey  Site Plan  Paving/grading/drainage plan  Utilities sheet (including all existing utilities)  Detail sheet(s)  Building elevations  Sign locations (sing design shall be approved on a separate permit)  Adjacent zoning and land uses  Stormwater Calculations  Traffic Study  Other: Variance Request - Rear Yard Building Setback
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	Date <u>3/3/21</u>	
Page 1		Amended 7/16/19





COFFICE SUITE A AREA 1300 SF. TOTAL BUILDING AREA 2340 SF.	PORTER, BERENDZEN & ASSOCIATES, P.C.  A R C H I T E C T S  MISSOURI ARC-GOOS 88 - EXP. 12-31-19  SO SOUTH HEIRT CLA BLVD.  POOD SOUTH HEIRT CLA BLVD.  ASTALLIO, MISSOURI SGITO CONFERENCE CONT.
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MISSOURI STATE CERTIFICA OF AUTHORITY #200700400

REUSE OF THIS DRAWING IN ANY MAINTEN IS STRICTLY PROMETED WITHOUT THE WRITTEN APPROVAL OF ALISTATE CONSULTANTS LLC

OVERALL SITE LAYOUT HAIR STUDIO REDEVELOPMENT 309 E. BROADWAY ASHLAND, MISSOURI

\* WESLEY, BLAKE \* U.SQL TON NUMBER PE-2009002138 3/3/213 SONAL EL

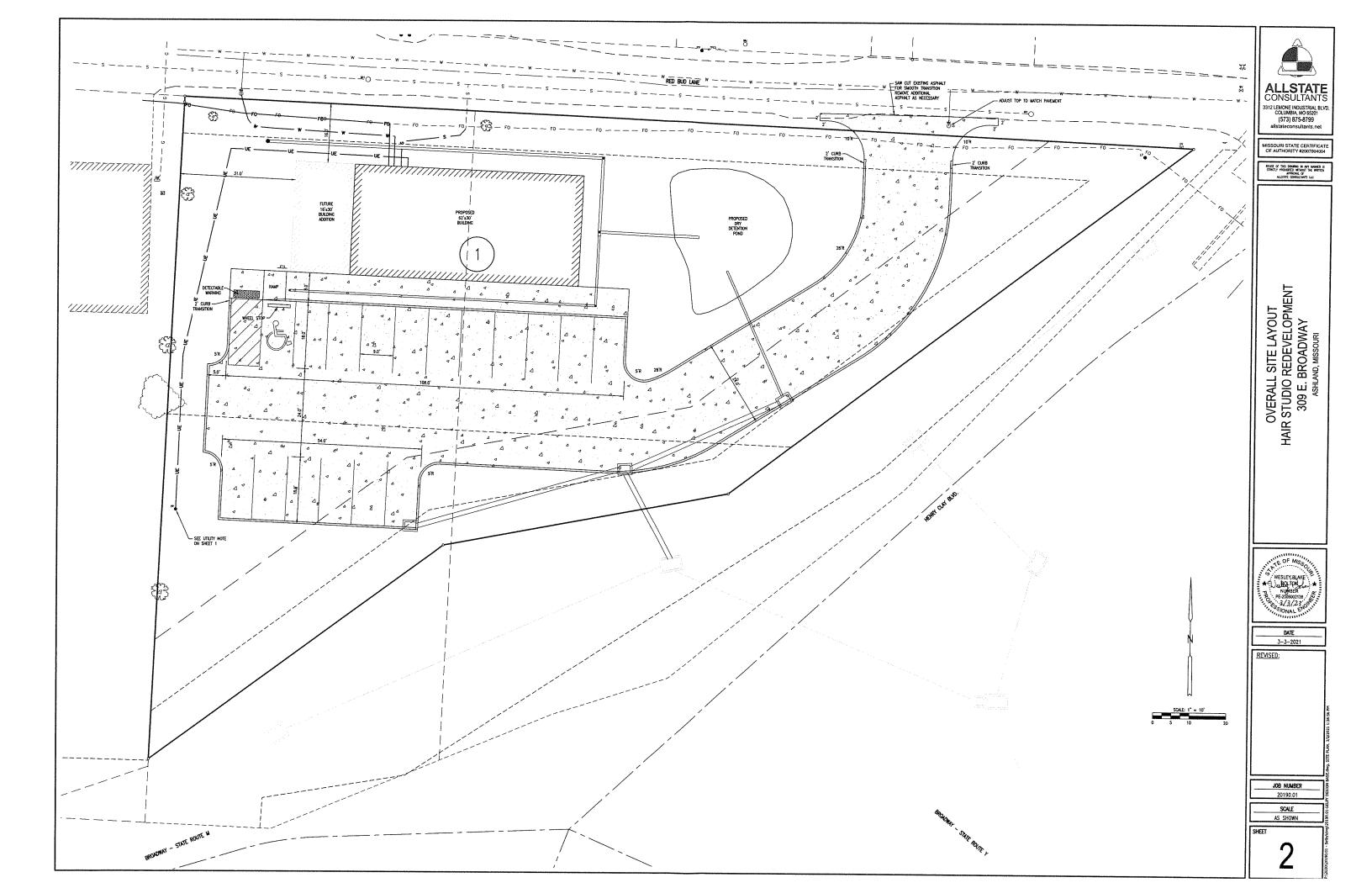
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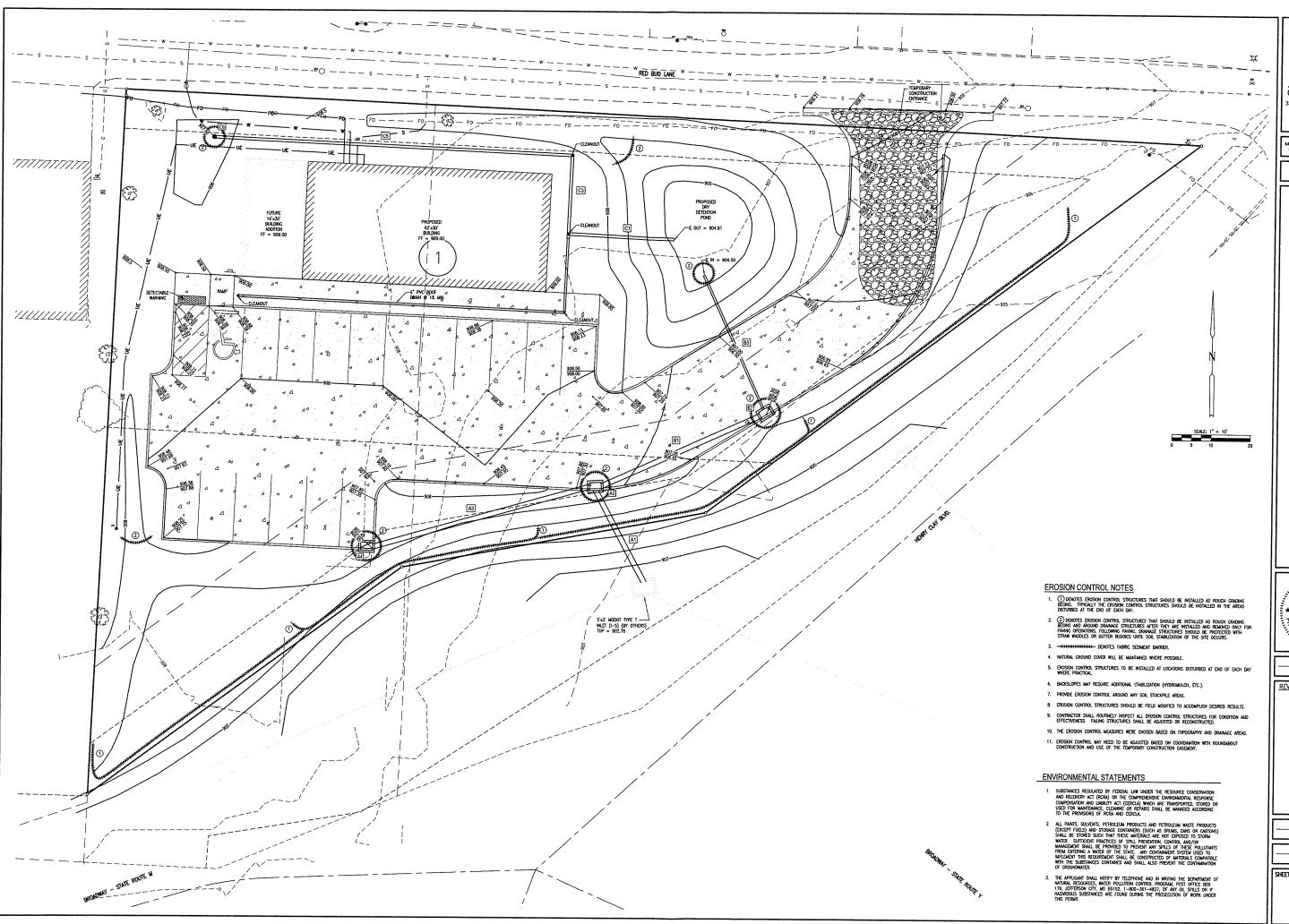
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ALLSTATE CONSULTANTS 3312 LEMONE INDUSTRIAL BLVD. COLUMBIA, MO 65201 (573) 875-8799

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OVERALL SITE LAYOUT HAIR STUDIO REDEVELOPMENT 309 E. BROADWAY ASHLAND, MISSOURI



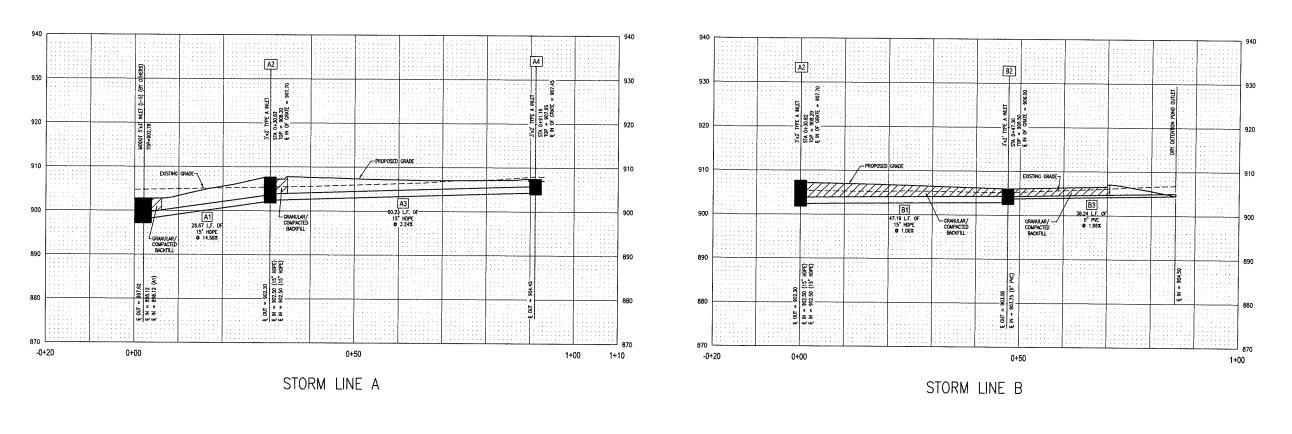
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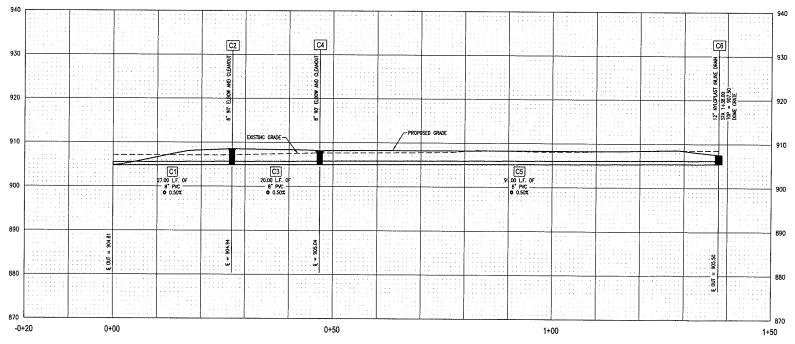
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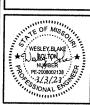
STORM LINE C



MISSOURI STATE CERTIFICATE OF AUTHORITY #2007004004

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OVERALL SITE LAYOUT HAIR STUDIO REDEVELOPMENT 309 E. BROADWAY ASHLAND, MISSOURI



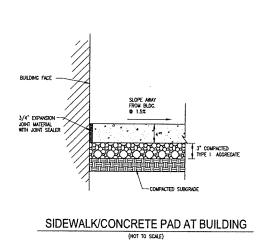
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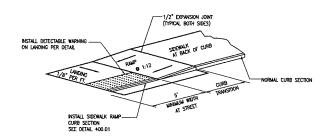
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JOB NUMBER 20190.01

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SHEET



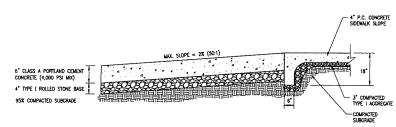


- NOTE:
  1. RAMP SHALL BE 4" THICK CLASS A CONCRETE REINFORCED SAME AS SIDEMALK.

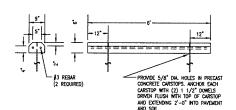
  1. RAMP SHALL BE 4" THICK CLASS A CONCRETE REINFORCED SAME AS SIDEMALK. 2. EXPANSION JOINT SHALL BE 1/2" PREFORMED CORK OR BITUMINOUS EXPANSION JOINT MATERIAL
- 3. MAXIMUM RAMP CROSS SLOPE IS 2.00%.
- 4. ALL SLOPES ARE MEASURED FROM THE HORIZONTAL
- 5. REPLACE STANDARD CURB SECTION WITH SIDEWALK RAMP CURB SECTION
- 6. RAMP LENGTH IS DEPENDENT ON 1:12 MAX. SLOPE. USE FLATTER WHEN POSSIBLE.
- 7. LANDING AREA SHALL BE 4'-0" MIN WIDTH, CROSS SLOPE OF LANDING SHALL NOT EXCEED 2.00%

## SIDEWALK RAMP AT BACK OF CURB 4" TYPE I ROLLED STONE BASE 95% COMPACTED SUBGRADE

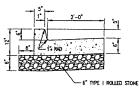
## PARKING AT SIDEWALK SECTION



## HANDICAP ACCESSIBLE PARKING SECTION



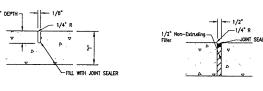
WHEEL STOP DETAIL



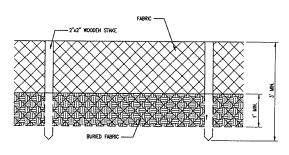
### NOTES:

- 1. ALL P.C. CONCRETE SHALL BE NODOT PAVEMENT CONCRETE.
- INSTALL 1/2" EVANSOON JOHTS IN CURB AND GUTTER SECTION AT P.C. AND P.T. OF CURB RADIUS OF INTERSECTIONS AND EVERY 150.
   INSTALL SAW JOHTS IN CURB AND CUTTER SECTION AT 10 FT. MAXBUM SPACING, SEAL WITH BITUIASTIC JOHN SEALAWIT.

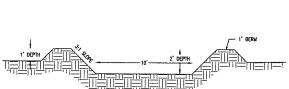
## TYPICAL CURB AND GUTTER SECTION (PARKING)



### SAWED CONTROL JOINT **EXPANSION JOINT W/O REBAR**

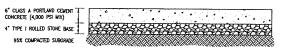


SILT FENCE INSTALLATION

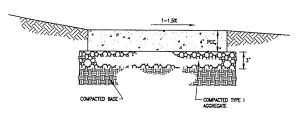


- 3. WHEN PIT IS FILLED TO 1' DEPTH, CONCRETE SHALL BE REMOVED AND DISPOSED OF AS PER NOTE 2.
- 4. CONCRETE WASH-OUT PIT IS FOR CONCRETE WASTE ONLY, NO OTHER MATERIALS WILL BE ALLOWED.

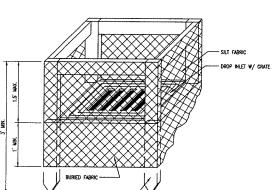
### 10' X 10' CONCRETE TRUCK WASH OUT PIT (NOT TO SCALE)

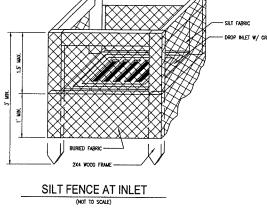


## LIGHT DUTY CONCRETE PAVEMENT



### SIDEWALK PAVEMENT



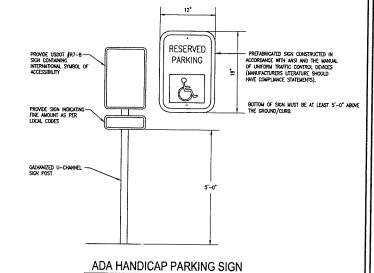


COMPOSED OF 100% RECYCLED SYNTHETIC CARPET FIRERS OR BIODEGRADARIE

0

## ADA HANDICAP PARKING SPACE DETAIL

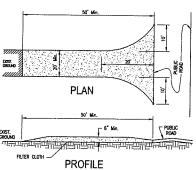
ACCESS AISLE AND PARKING STALLS TO HAVE NO MORE THAN 2% SLOPE IN ANY DIRECTION



MATERIALS SUCH AS BUT NOT UNITED TO COCONUT FIBERS OR STRAW

BIO ROLL / STRAW WATTLE (NOT TO SCALE)

0



CONSTRUCTION SPECIFICATIONS

- ENTY (20) FOOT MENIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS
- 20 OF EDRESS OCCURS
  WILL BE PLACED OVER THE DITTIE AREA PRIOR TO PLACING OF STONE
  ALL SIERAGE WATER FLORING OF DIVERTED TOWARD CONSTRUCTION ENTRANCES
  ED ACROSS THE DITTIANCE. IF PRING IS IMPRIACTICAL, A MOUNTABLE BERN WITH
- SHALL BE PPED ACROSS THE DITANCE. IF PRING IS IMPRICIDED, A MONRADE BORM WITH

  3.1 SLOPE A PEDMITTO.

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  100 PROSESSES USED TO PRESENCE AND ANY REPORT OF ANY MESTER AND FROM CLEARURY

  101 PAY MESTERS USED TO PRESENCE AND ANY REPORT OF THE MESTER PEDGODIC REGISTRO-F-MAY MUST BE READYD INMEDIATED. MISSEED OR REPORT OF THE MESTER PEDGODIC RESISTS OF THE MESTER PEDGODIC MESTER AND ATTER EACH PARIL EXPORT OF THE MESTER PEDGODIC MESTER AND ATTER EACH PARIL EXPORT OF THE MESTER PEDGODIC MESTER AND ATTER EACH PARIL EXPORT OF THE MESTER PEDGODIC MESTER AND ATTER EACH PARIL EXPORT OF THE MESTER PEDGODIC MESTER AND ATTER EACH PARIL EXPORT OF THE MESTER PEDGODIC MESTER AND ATTER EACH PARIL EXPORT OF THE MESTER PEDGODIC MESTER AND ATTER EACH PARIL EXPORT OF THE MESTER PEDGODIC MESTER AND ATTER EACH PARIL EXPORT OF THE MESTER PEDGODIC PEDGODIC MESTER PEDGODIC PED

TEMPORARY CONSTRUCTION ENTRANCE/EXIT



MISSOURI STATE CERTIFICAT OF AUTHORITY #2007004004

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OVERALL SITE LAYOUT HAIR STUDIO REDEVELOPMENT 309 E. BROADWAY ASHLAND, MISSOURI

WESLEY, BLAKE

A D. BOLTON

NUMBER
PE-2008002138

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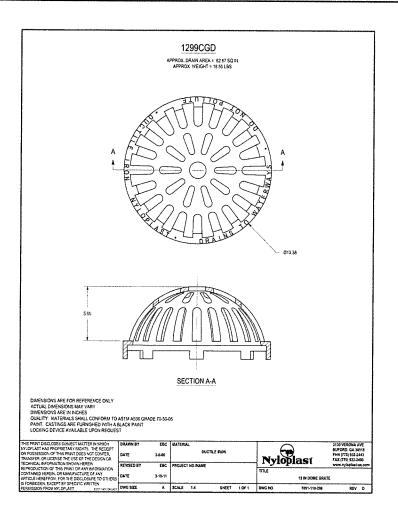
DATE 3-3-2021

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Job Number 20190.01

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### ADS N-12® PLAIN END PIPE (PER AASHTO) SPECIFICATION

This specification describes 4- through 60-inch (100 to 1500 mm) ADS N-12 plain end pipe (per AASHTO) for use in gravity-flow land drainage applications.

- ADS N-12 plain end pipe (per AASHTO) shall have a smooth interior and annular exterior corrugations.
- 4- through 10-inch (100 to 250 mm) pipe shall meet AASHTO M252, Type S or SP.
   12- through 60-inch (300 to 1500 mm) pipe shall meet AASHTO M294, Type S or SP, or ASTM
- Manning's "n" value for use in design shall be 0.012.

Pipe shall be joined with coupling bands covering at least two full corrugations on each end of the pipe. Standard connections shall meet or exceed the soil-tight requirements of AASHTO M252, AASHTO M294, or ASTM F2306.

Gasketed connections shall incorporate a closed-cell synthetic expanded rubber gasket meeting the requirements of ASTM D1056 Grade 2A2. Gaskets, when applicable, shall be installed by the pipe manufacture.

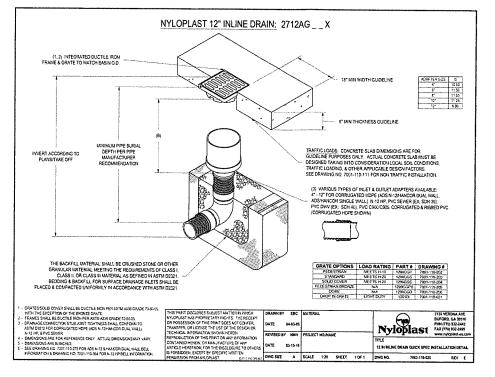
Fittings shall conform to AASHTO M252, AASHTO M294, or ASTM F2306.

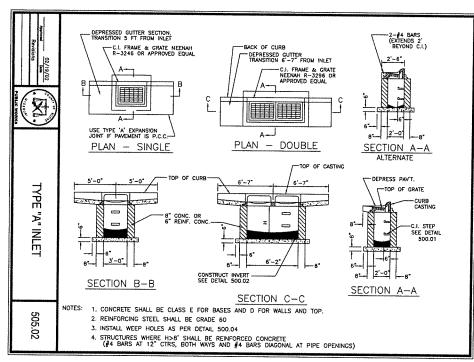
Material Properties
Material Froperties
Material for pipe and fitting production shall be high density polyethylene conforming with the minimum
requirements of cell classification 424420C for 4- through 10-inch (100 to 250 mm) diameters, and 435400C
for 12- through 60-inch (300 to 1500 mm) diameters, as defined and described in the talest version of ASTM
D3350, except that carbon black content should not exceed 4%. The 12- through 60-inch (300 to 1500mm)
pipe material shall comply with the notherd constant ligament-stress (NCLS) test as specified in Sections 9.5
and 5.1 of AASHTO M294 and ASTM F2306 respectively.

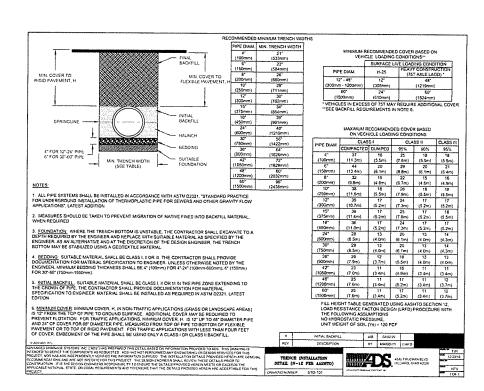
Installation shall be in accordance with ASTM D2321 and ADS recommended installation guidelines, with the exception that minimum cover in trafficked areas for 4- through 48-inch (100 to 1200 mm) diameters shall be one foot. (0.3 m) and for 60-inch (1500 mm) diameter the minimum cover shall be 2 ft. (0.6 m) in single run applications. Backfill for minimum cover shall be 2 ft. (0.6 m) in single run applications. Backfill for minimum cover shall be 2 ft. (0.6 m) in single run 90% SPD) or Class 3 (minimum 69%) material. Maximum fill heights depend on embedment material and compaction level; please refer to Technical Note 2.01. Contact your local XDS representative or visit our website at <a href="https://www.ads-pipe.com">www.ads-pipe.com</a> for a copy of the fatest installation guidelines.

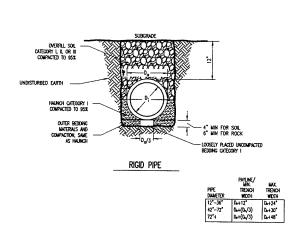
### Pipe Dimensions

					Nomin	ai Diamete	f, in (mm)						
Pipe / D.	4	- 6	ē	10	12	15	18	24	30	36	42	48	60
in (mm)	(100)	(150)	(200)	(250)	(300)	(375)	(450)	(606)	(750)	(900)	(105G)	(1200)	(1500)
Pipe 0.0.*	4.6	6.9	9.1	11.4	14.5	18	22	28	36	42	48	54	67
in (mm)	(122)	(175)	(231)	(290)	(368)	(457)	15591	7111	(914)	(1057)	(1219)	(1372)	(1702)







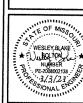


PVC PIPE EMBEDMENT



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OVERALL SITE LAYOUT IR STUDIO REDEVELOPMENT 309 E. BROADWAY ASHLAND, MISSOURI HAIR



DATE 3-3-2021

REVISED:

JOB NUMBER 20190.01

SCALE AS SHOWN

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