

Bryant Planning Commission Meeting

Boswell Municipal Complex - City Hall Court Room

210 SW 3rd Street

YouTube: https://www.youtube.com/c/bryantarkansas

Date: August 12, 2024 - **Time:** 6:00 PM

Call to Order

Approval of Minutes

- 1. Planning Commission Meeting 6/10/2024 Minutes Corrected
 - 2024-06-10 Planning Commission Meeting Minutes CORRECTED.pdf
- 2. Planning Commission Meeting 7/8/2024 Minutes
 - 2024-07-08 Planning Commission Minutes.pdf

Announcements

DRC Report

3. 19 Tanglewood Drive - Conditional Use Permit

Donald Whitfield - Requesting Recommendation for Approval of Conditional Use Permit to allow for additional Accessory Structure footage that exceeds 25% of the principal structure. - RECOMMEDED APPROVAL Based on Completed Application

• <u>0888-APP-01.pdf</u>

4. Skye Blue Duplexes - Hurricane Lake Road - Conditional Use Permit and Subdivison Plat

Hope Consulting - Requesting Approval for Four Conditional Use Permits for the use of four duplexes in an R-M Zoning; Requesting Approval of subdivision plat; and Request for a waiver on portion of street specifications. - RECOMMENDED APPROVAL on CUP requests based on completed application and contingent upon Subdivision Plat Approval. RECOMMENDED APPROVAL on Subdivison Plat and Waiver

5. Andres Woods - Lot 22 and 23 - Replat

Hope Consulting - Requesting Recommendation for Approval of Replat - RECOMMENDED APPROVAL

6. Blessing Addition - Hwy 5 and Midland Road - Commercial Subdivison Plat

Zane Robbins - Requesting Recommendation for Final Plat Approval - RECOMMENDED APPROVAL, Contingent upon update plat showing the dedicated extension to the sewer easement.

7. Leslie Addition - One Lot Subdivison Plat

Zane Robbins - Requesting Recommendation for Final Plat Approval - RECOMMENDED APPROVAL, Contingent upon complete legal description being added to the plat as one parcel.

8. Senior Tequila - 2919 N Reynolds Road - Patio Roof Addition

Requesting Site Plan Approval - APPROVED

- 0891-PLN-03.jpg
- <u>0891-PLN-02.jpg</u>
- 0891-PLN-01.jpg

9. Little Ceasar's - N Reynolds Rd and Brown Lane

Thomas Engineering Requesting Site Plan Approval - APPROVED, Contingent upon Revised Plans with trickle channel shown on plans, and Building elevations.

- 0886-PLN-02.pdf
- 0886-DRN-01.pdf
- 0886-PLT-02.pdf
- 0886-LTR-01.pdf

10. Hillfarm Elementary Greenhouse/ Hoophouse - Saline Co. Master Gardeners

Requesting Site Plan Approval - APPROVED

• 0900-PLN-01.pdf

11. Pathfinder Inc - 2107 Bishop Road - Sign Permit

Action Sign - Requesting Sign Permit Approval - APPROVED, Contingent upon utility locates and maintaining required distance from utilities

- · 92605-SGNAPP-02 Pathfinder.jpg
- · 92605-SGNAPP-01 Pathfinder.pdf

Public Hearing

12. 19 Tanglewood Drive - Conditional Use Permit

Donald Whitfield - Requesting Approval for Conditional Use Permit to allow for additional Accessory Structure footage that exceeds 25% of the principal structure.

· 0888-APP-01.pdf

13. Skye Blue Duplexes - Hurricane Lake Road - Conditional Use Permit

Hope Consulting - Requesting Approval for Four Conditional Use Permits for the use of four duplexes in an R-M Zoning.

- 0889-CUP-01.pdf
- 0889-PLN-01.pdf

Old Business

New Business

14. Skye Blue Duplexes - Hurricane Lake Road - Subdivison Plat

Hope Consulting - Requesting Approval of subdivision plat and Request for a waiver on portion of street specifications.

- 0889-WVR-01.pdf
- 0889-PLN-01.pdf
- <u>0889-DRN-01.pdf</u>

15. Andres Woods - Lot 22 and 23 - Replat

Hope Consulting - Requesting Approval for Replat

- 0889-PLN-01.pdf
- <u>0889-PLN-02.pdf</u>
- · 0889-DRN-01.pdf

16. Blessing Addition - Hwy 5 and Midland Road - Commercial Subdivison Plat

Zane Robbins - Requesting Final Plat Approval

• 0898-PLN-02.pdf

17. Leslie Addition - One Lot Subdivison Plat

Zane Robbins - Requesting Final Plat Approval

• 0901-PLN-02.pdf

18. Planning Commission By-Law Revisions

Discussion and vote on the approval of revisions to by-laws

• Draft Planning Commission By-laws 8-6-24 Redlined.pdf

Adjournments



Bryant Planning Commission Meeting Minutes

Monday, June 10th, 2024
Boswell Municipal Complex – City Hall Courtroom
6:00 PM

Agenda

CALL TO ORDER

- Chairman Lance Penfield calls the meeting to order.
- Commissioners Present: Penfield, Hooten, Statton, Johnson, Burgess, Edwards, Erwin, Speed
- Commissioners Absent: None

ANNOUNCEMENTS

None

APPROVAL OF MINUTES

1. Planning Commission Meeting Minutes 5/13/2024

Motion to Approve Minutes made by Commissioner Stratton, Seconded by Commissioner Burgess. Voice Vote, 8 Yays, 0 nays. 0 Absent.

Vice-Chairman Hooten read the DRC Report.

DRC REPORT

- 2. **A-1 Fireworks 25612 I-30** Temporary Business License Joan Rey - Requesting Approval for TBL for Firework Stand - APPROVED
- 3. **25631 I-30** Fencing McDonald Fencing - Requesting Approval for New Fencing on Site - APPROVED

4. 2312 Bishop Road - Site Plan Addition

Giron Builders - Requesting Approval for New Building Addition - APPROVED with Granted Administrative Waiver on the one Facade of new addition. APPROVED fencing around site as proposed in meeting, contingent upon review of commercial fencing permit.

- 5. **Marketplace II Subdivision Phase 3** Lots 17R, 18R, 22R Site Plans GarNat Engineering Requesting Site Plan Approval, APPROVED, Contingent upon Replat Approval by Planning Commission and Facades Provided for Building Permits
- 6. **Creekside Addition Ph. 2** Replat

 GarNat Engineering Requesting Approval for a Replat to fix a wording error on Plat,

 APPROVED
- 7. **Seven Brew Coffee 2202 Reynolds Road** Sign Permit Springfield Signs - Requesting Sign Permit Approval - APPROVED
- 8. **Practical Wellness Clinic 205 Progress Way Ste 100** Sign Permit L Graphics - Requesting Sign Permit Approval - STAFF APPROVED
- 9. **Evie Brooks 3507 Market Place Ste 100** Sign Permit L Graphics - Requesting Sign Permit Approval - STAFF APPROVED
- 10. **Splash Carwash 107 Bryant Ave** Sign Permit *Arkansas Sign and Neon Requesting Sign Permit Approval STAFF APPROVED*
- 11. **Empire Vape and Tobacco 319 Bryant Ave** Sign Permit Doug Blanford - Requesting Sign Permit Approval - STAFF APPROVED
- 12. **Gassy's Fuel Station 6101 HWY 5** Sign Permit

 Drew Files Requesting Sign Permit Approval STAFF APPROVED
- 13. **Edward Jones 2305 Springhill Road** SIGN PERMIT

 Arkansas Sign & Neon Requesting Sign Permit Approval STAFF APPROVED
- 14. Hill Valley Estates PUD

Hope Consulting - Requesting Approval for PUD Zoning Plan. Project previously named "Legacy Woods - PUD" - RECOMMENDED APPROVAL, Based on Completed Application Requirements

15. **1710 Shoal Road** - Rezoning R-E to R-1 William Kalkbrenner - Requesting Approval for Rezoning from R-E to R-1 -RECOMMENDED APPROVAL, Based on Completed Application Requirements

16. **3927 Springhill Road** - Rezoning R-2 to R-1.S

Tim Lemons - Requesting Approval for Rezoning from R-2 to R-1.S - RECOMMENDED APPROVAL, Based on Completed Application Requirements

17. 307 SW 4th Street - Conditional Use Permit

Bill Gray - Requesting Approval of CUP for Additional Square Footage of Accessory Structure - RECOMMENDED APPROVAL, Based on Completed Application Requirements

18. **2806 Hurricane Lake Road** - Two Lot Subdivision

Hope Consulting - Requesting Approval for Two Lot Subdivision - RECOMMENDED APPROVAL

19. Springhill Retail - Commercial Center - Springhill and HWY 5

Phillip Lewis Engineering - Requesting Approval for Commercial Subdivision Plat, Waiver on Building Multi-Use Trail along the Springhill Road Frontage, and Site Plan. RECOMMENDED APPROVAL of Site Plan and Waiver. APPROVED Site Plan contingent upon updated plat and engineering review of drainage plan.

20. Marketplace II Subdivision Phase 3 - Lots 17, 18, & 22

GarNat Engineering - Requesting Approval for Replat - RECOMMENDED APPROVAL

PUBLIC HEARING

21.Hill Valley Estates - PUD

Hope Consulting - Requesting Approval for PUD Zoning Plan. Project listed as "Legacy Woods - PUD" in DRC report

After a brief discussion on the project, Chairman Penfield asked for anyone wishing to speak to come forward and talk at the podium. Three residents voiced comments and some concerns.

Joyce Koozer - 2805 Barbara Ct. - Stormwater and flooding concerns.

Tenia Marshal - 2800 Mary Kathryn Ct - Concerns over stormwater and wanted to know if any greenspace or trees would be left between the development and the neighboring subdivision.

Tonisha Farmer - 2800 Lynn Ct - Concerned about the loss of the trees and screening. Through discussion, it was found out that her property does not back up to this development, but to the existing building/lot just to the South.

Jonathan Hope addressed the concerns of those that spoke, and after brief discussions between him and the Commission, Chairman Penfield called for a roll call vote to approve. 8 Yays, 0 nays. 0 Absent.

22. **1710 Shoal Road** - Rezoning R-E to R-1

William Kalkbrenner - Requesting Approval for Rezoning from R-E to R-1

After a brief discussion on the project, Chairman Penfield asked for anyone wishing to speak to come forward and talk at the podium. None in attendance came forward to speak. Seeing and hearing none, Chairman Penfield called for a roll call vote to approve. 8 Yays, 0 nays. 0 Absent.

23. 3927 Springhill Road - Rezoning R-2 to R-1.S

Tim Lemons - Requesting Approval for Rezoning from R-2 to R-1.S

After a brief discussion on the project, Chairman Penfield asked for anyone wishing to speak to come forward and talk at the podium. Three residents voiced concerns.

Jack Eoff - 2508 Hurricane Garden - Concerns over stormwater. Existing stormwater and flooding issues in the subdivision. Also concerned over the retaining wall between subdivision and this property.

Stacy Baker - 2527 Hurricane Garden - Concerns of Stormwater and Flooding. POA Board member. There are existing flooding issues in Hurricane and don't want more water to be put off into their subdivision.

Diane Williams - 5513-4 St Regis - Wanted to know where the road would be going on the proposed subdivision. Concerned about the traffic impact to Springhill Road.

There was discussion between Tim Lemons and the Commission on the lot sizes and being able to meet stormwater requirements that are necessary for the potential new development. Tim Lemons addressed the concerns regarding stormwater, stating that they would have to meet the very stringent stormwater guidelines the city has in place. After the discussions, Chairman Penfield called for a roll call vote to approve. 0 Yays, 8 Nays. 0 Absent. Rezoning was not approved, Chairman Penfield stated the reasoning is that they feel he will need the additional space in order to adequately take care of the stormwater for the site.

24. 307 SW 4th Street - Conditional Use Permit

Bill Gray - Requesting Approval of CUP for Additional Square Footage of Accessory Structure

After a brief discussion on the conditional use permit, Chairman Penfield asked for anyone wishing to speak to come forward and talk at the podium. None in attendance came forward to speak. Seeing and hearing none, Chairman Penfield called for a roll call vote to approve. 7 Yays, 1 nay. 0 Absent.

NEW BUSINESS

25. **2806 Hurricane Lake Road** - Two Lot Subdivision

Hope Consulting - Requesting Approval for Two Lot Subdivision

After a brief discussion on the item, Chairman Penfield called for a roll call vote to approve. 8 Yays, 0 nays. 0 Absent.

26. Springhill Retail - Commercial Center - Springhill and HWY 5

Phillip Lewis Engineering - Requesting Approval for Commercial Subdivision Plat, Waiver on Building Multi-Use Trail along the Springhill Road Frontage, and Site Plan

Interim Planning Director Colton Leonard stated that the site plan was approved by the DRC. This approval is for the Commercial Plat to go along with the site plan and a waiver on the proposed multi-use trail that is shown along the East property line.

After a brief discussion on the item, Chairman Penfield called for a roll call vote to approve the plat. 8 Yays, 0 nays. 0 Absent.

Chairman Penfield then called for a roll call vote to approve the waiver on the trail and send it onto City Council for their approval. 8 Yays, 0 nays. 0 Absent.

27. **Marketplace II Subdivision Phase 3** - Lots 17, 18, & 22 *GarNat Engineering - Requesting Approval for Replat*

After a brief discussion on the item, Chairman Penfield called for a roll call vote to approve the plat. 8 Yays, 0 nays. 0 Absent.

28. Planning Commission By-Law Revision

Discussion on Revisions to Commission By-laws

After a brief discussion on the by-law changes, Interim Director Colton Leonard let the commissioners know to review the revisions and send any comments to him through email. The plan is to bring the By-law revisions back before the Planning Commission at the July meeting for a more detailed review and vote on the approval of the changes.

ADJOURNMENT

Motion to Adjour	n made by Commis	sioner Edwards,	Seconded by Co	ommissioner
Buraess. Voice V	ote. 8 Yavs. 0 navs	. 0 Absent. Meet	ing was adiourn	ned.

Date	
	Date Date



Bryant Planning Commission Meeting Minutes

Monday, July 8, 2024
Boswell Municipal Complex – City Hall Courtroom
6:00 PM

Agenda

CALL TO ORDER

- Chairman Lance Penfield calls the meeting to order.
- Commissioners Present: Johnson, Penfield, Hooten, Erwin, Speed
- Commissioners Absent: Statton, Burgess, Edward

APPROVAL OF MINUTES

1. Planning Commission Meeting 6/10/2024 Minutes

Motion to Approve Minutes made by Commissioner Erwin, Seconded by Commissioner Speed. Voice Vote, 5 Yays, 0 nays. 3 Absent.

ANNOUNCEMENTS

Director Ted Taylor asked the Commissioners to share and pass out fliers regarding the upcoming water services survey.

DIRECTORS REPORT

2. Brief Update on Master Pedestrian/Trail Plan

Director Ted Taylor discussed the reworking of the Master Trail Plan and some of the upcoming ideas. He informed the Commission that we will have upcoming workshops on the matter.

Commissioner Hooten read the DRC Report

DRC REPORT

3. **Walgreens - 5500 HWY 5** - Site Plan Revisions

Kimley-Horn - Requesting Approval for Site Plan Revisions - APPROVED

4. **Big Dog Gym** - 201 S Elm- Fencing

Requesting Approval for Fencing - APPROVED

5. **Five Star Fireworks** - Temporary Business License

Mark Bradford - Requesting Approval for Temporary Business License for Firework Sales at: 1.) 5407 HWY 5, 2.) 23395 I-30 APPROVED, contingent upon proof of insurance, copy of state police license, and site inspection at each location.

6. **Hurricane Lake Baptist Church** - 2516 Springhill Road- New Awning Requesting Site Plan Approval for New Awning - APPROVED

7. **Arnold's Fireworks** - Temporary Business License

Terry Harper - Requesting Approval for Temporary Business License for Firework Sales at: 1.) 604 S Reynolds Road, 2.) 2625 Springhill Road - APPROVED, Contingent upon Site Inspections

8. Miller and Hilltop Road - Two Lot Subdivision Plat

Hope Consulting - Requesting Final Plat Approval - RECOMMENDED APPROVAL, Contingent upon ROW Modification to plat, and BOA

9. Little Caesars - N. Reynolds and Brown Ln - Plat

Thomas Engineering - Requesting Approval for One Lot Commercial Subdivision Plat - RECOMMENDED APPROVAL

10. Alcoa 40 Park - Lacrosse Concessions Container

Adam Baker - Requesting Non-standard Building Approval for use of Modified Metal Shipping Container - RECOMMENDED APPROVAL

NEW BUSINESS

11. Miller and Hilltop Road- Two Lot Subdivision Plat

Hope Consulting - Requesting Final Plat Approval

Assistant Director Colton Leonard told the commission that this was a simple 2 lot subdivision. We will ask for half street improvements if there is any further division in the future.

After brief discussion on the item, Chairman Penfield Called for a roll call vote to approve. 5 yays, 0 nays, 3 Absent.

12. Little Caesars - N Reynold's and Brown Ln

Thomas Engineering - Requesting Approval for One Lot Commercial Plat

Assistant Director Colton Leonard stated that the site plan would be Approved by the Development and Review Committee. This approval tonight is just for the one lot commercial subdivision plat.

After brief discussion on the item, Chairman Penfield Called for a roll call vote to approve. 5 yays, 0 nays, 3 Absent.

13. Alcoa 40 Park - Lacrosse Concessions Container

Adam Baker - Requesting Non-standard Building Approval for use of Modified Metal Shipping Container.

It was noted that DRC approved the location. The applicant stated that the container will be 100% metal, but would be painted gray and decorated with decals for the Lacrosse team.

After brief discussion on the item, Chairman Penfield Called for a roll call vote to approve. 5 yays, 0 nays, 3 Absent.

14. Planning Commission By-Law Revisions

Discussion and vote on approval of revisions to by-laws

Discussion was pushed to next month's meeting. Assistant Director Colton Leonard went over some of the changes being made and was given a few comments for revisions to be made. It was noted that the Commissioners present wanted to have more than 5 members present to vote. Motion to table made by Johnson, seconded by Hooten. Voice Vote. 5 yays 0 nays, 3 Absent.

ADJOURNMENT

	Motion to Adjourn made by Commissioner Hooten, Seconded by Commission Johnson. Voice Vote, 5 Yays, 0 nays. 3 Absent. Meeting was adjourned.		
Chairman, Lance Penfield	Date		
Secretary, Tracy Picanco	Date		



Conditional Use Permit Application

Applicants are advised to read the Conditional Use Permit section of Bryant Zoning Code prior to completing and signing this form. The Zoning Code is available at www.cityofbryant.com under the Planning and Community Development tab.

Date: 7/11 /24	
Applicant or Designee:	Project Location:
Name Donald Whitfield	Property Address 19 Tanglewood Dr
Address 19 Tanglewood Dr	Bryant, AR 72022
Phone 501-993-6869	Parcel Number <u>840 - 09527-000</u>
Email Address: dwcpa@att.net	Zoning Classification R-E
Property Owner (If different from Applicant):	
Name Same	
Phone	
Address	
Email Address	
Additional Information: Legal Description (Attach description if necessary Pt. Lot 19 Tanglewood Ac	
	Building and allow existing storage building of Attached letter.

Application Checklist

Requirements for Submission

/	
	Letter stating request of Conditional Use and reasoning for request
	Completed Conditional Use Permit Application
	Submit Conditional Use Permit Application Fee (\$125)
	Submit Copy of completed Public Notice
	Publication: Public Notice shall be published at least one (1) time fifteen (15) days prio to the public hearing at which the variance will be heard. Once published please provide a proof of publication to the Community Development office.
	Posting of Property: The city shall provide a sign to post on the property involved for the fifteen (15) consecutive days leading up to Public hearing. One (1) sign is required for every two hundred (200) feet of street frontage.
	Submit eight (8) Copies of the Development Plan (Site Plan) showing: • Location, size, and use of buildings/signs/land or improvements • Location, size, and arrangement of driveways and parking. Ingress/Egress • Existing topography and proposed grading

Use of adjacent properties

Proposed landscaping and screening

Proposed and existing lighting

- Scale, North Arrow, Vicinity Map
- Additional information that may be requested by the administrative official due to unique conditions of the site.

Once the application is received, the material will be reviewed to make sure all the required information is provided. The applicant will be notified if additional information is required. The application will then go before the Development and Review Committee (DRC) for a recommendation to the Planning Commission. A public hearing will be held at this meeting for comments on the Conditional Use. After the public hearing, the Planning Commission will make a decision on the use.

Note: that this is not an exhaustive guideline regarding the Conditional Use Permit Process.

Additional information is available in the Bryant Zoning Ordinance.

READ CAREFULLY BEFORE SIGNING

do hereby certify that all information contained within this application is true and correct. I further certify that the owner of the property authorizes this proposed application. I understand that I must comply with all City Codes and that it is my responsibility to obtain all necessary permits required.

NOTICE OF PUBLIC HEARING

A public hearing will be held on Monday, <u>August 12th, 2024</u> at	6:00 P.M.
at the Bryant City Office Complex, 210 Southwest 3 ^{et} Street, City of Bryant, Sa	line
County, for the purpose of public comment on a conditional use request at the	site of
19 Tanglewood Drive, Bryant, AR 72022	(address).
A legal description of this property can be obtained by contacting the Bryant D	epartment
of Community Development.	

Lance Penfield Chairman of Planning Commission City of Bryant

This notice is to be run in the legal notices section of the Saline Courier no less than 15 days prior to the public hearing.

Donald Whitfield 19 Tanglewood Drive Bryant, AR 72022

July 11, 2024

City of Bryant, Arkansas Community Development 210 SW 3rd Street Bryant, AR 72022

Re: Variance

The purpose of this letter is to ask for a variance to construct a 26' x 24' storage building at 19 Tanglewood Drive in Bryant, Arkansas and to allow the existing storage buildings of 12' x 16' and 12' x 12' to remain.

Based on the total square footage of my home which is 2,542, the maximum building of 25% of the total square footage would be 635. The new building would be 624 square feet. The square footage currently in the two existing buildings combined is 336 square feet. The total square footage after construction would be 960 square feet. The variance I am requesting would be to allow for an additional 325 square feet on my property which is .82 acres.

Le me know if you have any questions or need additional information.

Thank you,

Sincerely,

Donald Whitfield



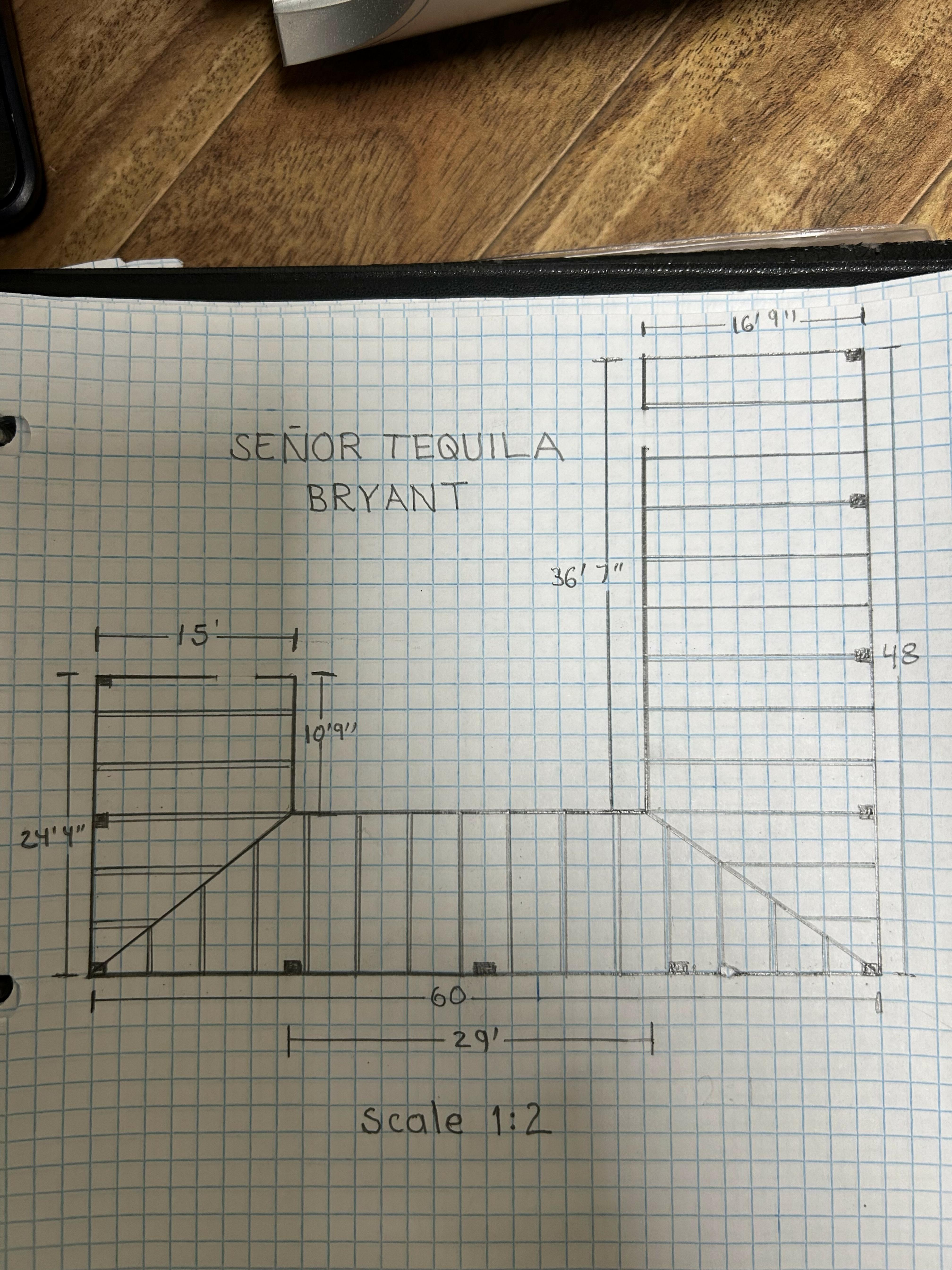
General – Permit Application

Please complete both pages of this application and submit to the City of Bryant Permitting office, located at the address above.

Completed applications can also be scanned and emailed to Comdev@cityofbryant.com.

Date: 7-10-24		
Permit Type:		
Electrical Permit	Remodel Permit	Burn Permit
Plumbing Permit	Demolition Permit	Site Clearance Permit
Mechanical Permit	Accessory Building Permit	Mobile Home Permit
Other if not listed above		
Contractor Information:		
Contractor/Owner	ld whitfield	
Physical Address of Business	Tangle wood	Dr.
City, State, Zip code <u>Brya</u>	nt, AR.	
ι Mailing Address (If different from Above) $_$	Same	
City, State, Zip code		
Email Address dwcpa & a	itt. Not	
Business Phone	Cell Phone <u>501-993"</u> 484	9 Fax
Project Information: Project Address/Location San		
Project Cost	Commercial or Residential?	residential
Square footage (If Applicable)	****	
If new addition, will foam insulation be use	ed? No 🔽 Yes If "Yes", provid	e technical evaluation report on foam
insulation type, and a copy of installer's ce	ertification. (Attach to application when	submitted)
Additional Project Information	in wide X 241 do	ρ
accessory Builty	45	







CONSTRUCTION PLANS FOR LITTLE CAESARS REYNOLDS ROAD BRYANT, ARKANSAS

UTILITY AND GOVERNING AGENCIES CONTACT LIST

WATER COMPANY
CITY OF BRYANT PUBLIC WORKS

TIM FOURNIER
210 SW 3RD STREET
BRYANT, AR 72022
(501) 943-0469

PLANNING DEPARTMENT

ZONING DEPARTMENT

COLTON LEONARD

(501) 943-0469

(800)992-7552

AT & T

210 SW 3RD STREET

CITY OF BRYANT COMMUNITY DEVELOPMENT

(501) 569-2000

DEPARTMENT OF TRANSPORTATION

ARKANSAS DEPARTMENT OF TRANSPORTATION

CITY OF BRYANT PUBLIC WORKS
TIM FOURNIER
COLTON LEONARD
210 SW 3RD STREET
BRYANT, AR 72022
(501) 943-0469

CITY OF BRYANT COMMUNITY DEVELOPMENT
COLTON LEONARD
210 SW 3RD STREET
BRYANT, AR 72022
(501) 943-0469

FIRE MARSHAL

CITY OF BRYANT FIRE DEPARTMENT
THOMAS HAMMOND
312 ROYA LANE
BRYANT, AR 72022
(501) 943-0397

ONTROL PHONE COMPANY

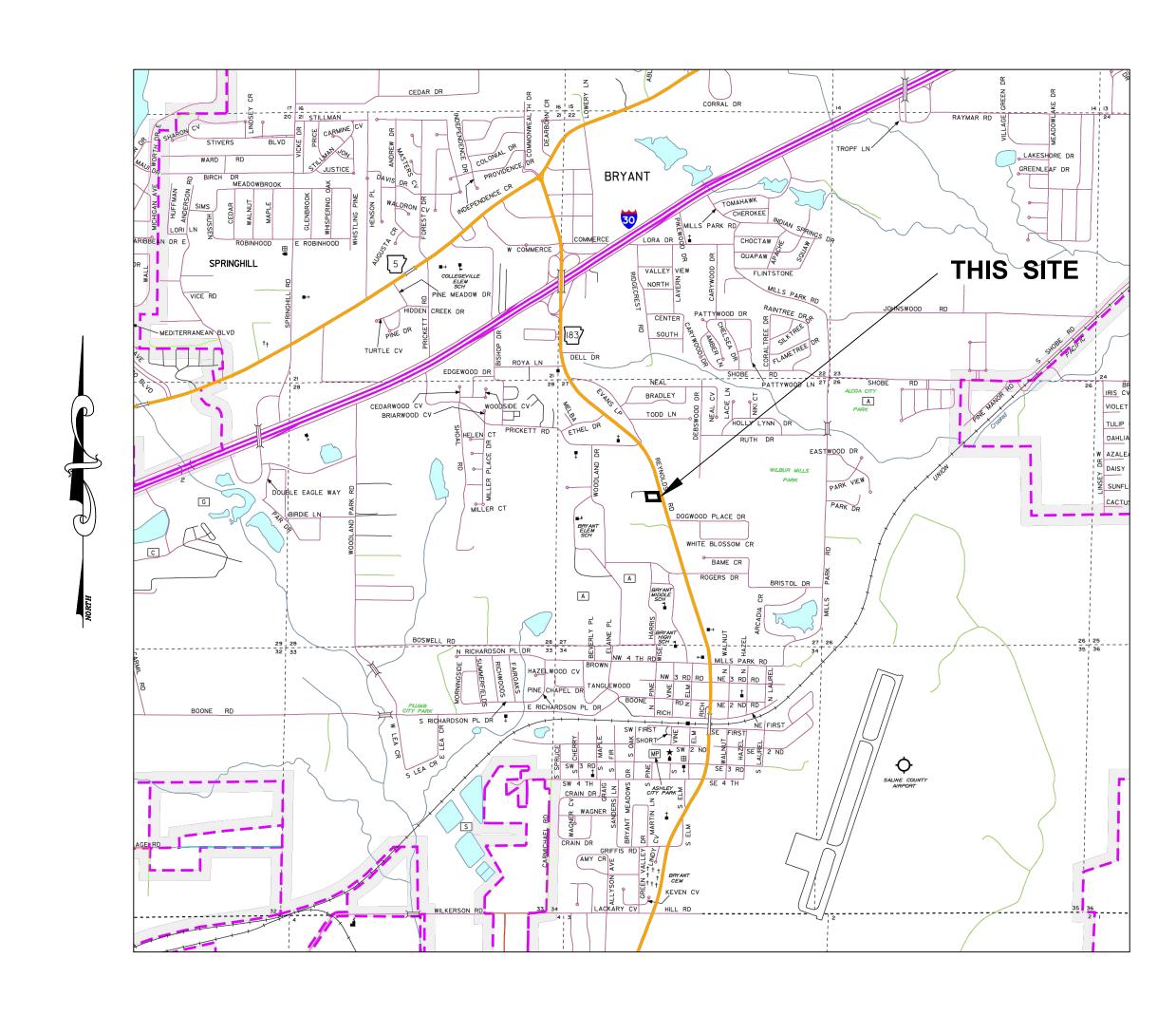
CITY OF BRYANT ENGINEERING/CONSTRUCTION SCOTT CHANDLER 210 SW 3RD STREET BRYANT, AR 501 943-0469

POWER COMPANY
ENTERGY

GAS COMPANY
CENTERPOINT ENERGY

CABLE COMPANY XFINITY (800) 934-6489

(501) 368-3749



CENERAL SITE CONSTRUCTION NOTES:

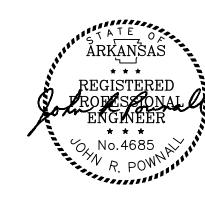
1. THE CONTRACTOR SHALL CONTROL EROSION ON THE SITE. ALL SLOPES SHALL BE FERTILIZED, SEEDED AND MULCHED (OR LANDSCAPED) AS DIRECTED BY THE OWNER OR HIS REPRESENTATIVE. THE SITE SHALL BE GRADED TO MAINTAIN POSITIVE DRAINAGE DURING CONSTRUCTION. THE WATER SHALL NOT BE ALLOWED TO POND.

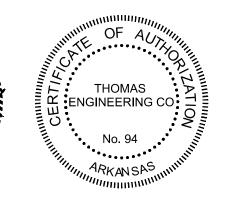
- 2. THE CONTRACTOR SHALL COORDINATE WITH EACH UTILITY COMPANY PRIOR TO ANY EXCAVATION. ANY DAMAGE TO UTILITY LINES CAUSED BY THE CONTRACTOR OPERATIONS SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE. THE CONTRACTOR SHALL VERIFY THE HORIZONTAL AND VERTICAL ALIGNMENT OF EXISTING AND PROPOSED STORM SEWER, SANITARY SEWER AND WATER LINES TO ENSURE THAT THEY ARE INSTALLED WITH ADEQUATE COVER AND CLEARANCE.
- 3. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LAWS, CODES AND ORDINANCES GOVERNING WORK AT THIS TYPE.
- 4. THE CONTRACTORS ATTENTION IS SPECIFICALLY CALLED TO THE LOCATION OF THE EXISTING IMPROVEMENTS. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR DAMAGING ANY EXISTING IMPROVEMENTS WHICH ARE TO REMAIN PRIOR TO SUBMITTING HIS BID. THE CONTRACTOR SHALL REVIEW THE PLANS AND SPECIFICATIONS. HE SHALL VISIT THE SITE AND INSPECT THE CONDITION OF THE SITE AND THE ADJACENT IMPROVEMENTS.
- 5. THE CONTRACTOR SHALL CALL "ONE-CALL" FOR LOCATION OF ALL UTILITIES PRIOR TO COMMENCEMENT OF ANY EXCAVATION.
- 6. ANY EXCESS EXCAVATED MATERIAL SHALL BE STOCKPILED OR PLACED IN AREAS AS DIRECTED. ALL FILLS ON SITE IN AREAS OF FUTURE BUILDING CONSTRUCTION SHALL BE MADE IN 8" LIFTS AND COMPACTED TO 95% MODIFIED PROCTOR DENSITY.

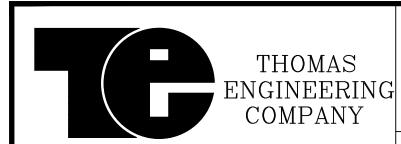
INDEX OF SHEETS

ITLE SHEET	
OPOGRAPHIC SURVEY	V1
ITE PLAN	
RADING PLAN	
TILITY PLAN	
ROSION CONTROL PLAN	
ITE DETAILS	
VATER AND SEWER LINE DETAILS	C7

OWNER & DEVELOPER:
OBWAT HOLDINGS, LLC
7500 LANDERS ROAD
SHERWOOD, AR. 72117





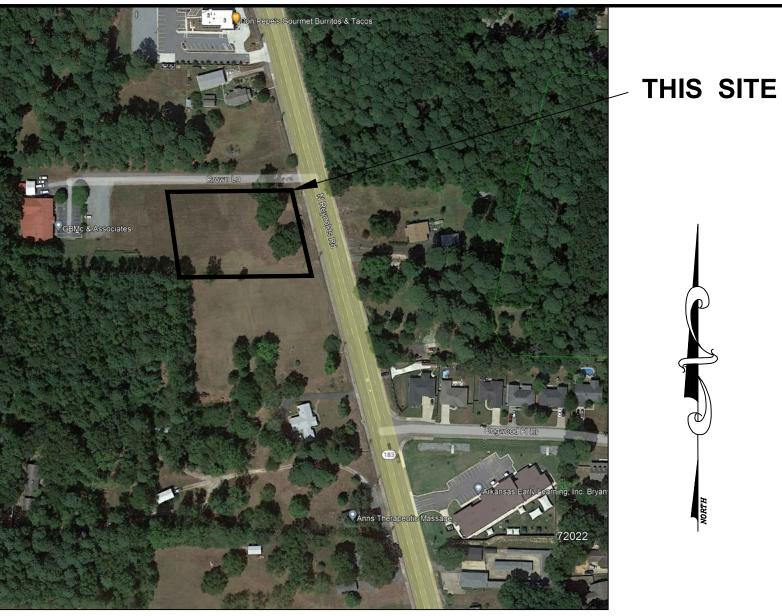


TITLE SHEET LOT 1 LITTLE CAESARS ADDITION BRYANT, ARK.

3810 LOOKOUT ROAD, N. LITTLE ROCK, AR. 72116
TEL: 501-753-4463 FAX: 501-753-6814

TEL: 501-753-4463 FAX: 501-753-6814

A DEVELOPMENT OF OBWAT HOLDINGS, LLC



VICINITY MAP

ISSUING AGENT: FIRST NATIONAL TITLE COMPANY ISSUING OFFICE: 216 W. SEVIER STREET, BENTON, AR 72015 ISSUING OFFICE'S ALTA® REGISTRY ID: 1010363 COMMITMENT NO.: 102-230785-MH-1 ISSUING OFFICE FILE NO.: 102-230785-MH PROPERTY ADDRESS: REYNOLDS ROAD, BRYANT, AR 72022 COMMITMENT DATE: AUGUST 14, 2023 AT 07:00 AM

SCHEDULE B, PART II **EXCEPTIONS**

THIS COMMITMENT DOES NOT REPUBLISH ANY COVENANT, CONDITION, RESTRICTION, OR LIMITATION CONTAINED IN ANY DOCUMENT REFERRED TO IN THIS COMMITMENT TO THE EXTENT THAT THE SPECIFIC COVENANT, CONDITION, RESTRICTION, OR LIMITATION VIOLATES STATE OR FEDERAL LAW BASED ON RACE, COLOR, RELIGION, SEX, SEXUAL ORIENTATION, GENDER IDENTITY, HANDICAP, FAMILIAL STATUS, OR NATIONAL ORIGIN. THE POLICY WILL NOT INSURE AGAINST LOSS OR DAMAGE RESULTING FROM THE TERMS AND PROVISIONS OF ANY LEASE OR EASEMENT IDENTIFIED IN SCHEDULE A, AND WILL INCLUDE THE FOLLOWING EXCEPTIONS UNLESS CLEARED TO THE SATISFACTION OF THE

- 1. DEFECTS, LIENS, ENCUMBRANCES, ADVERSE CLAIMS OR OTHER MATTERS, IF ANY, CREATED, FIRST APPEARING IN THE PUBLIC RECORDS OR ATTACHING SUBSEQUENT TO THE EFFECTIVE DATE HEREOF BUT PRIOR TO THE DATE THE PROPOSED INSURED ACQUIRES FOR VALUE OF RECORD THE ESTATE OR INTEREST OR MORTGAGE THEREON COVERED BY THIS COMMITMENT. NOT SURVEY RELATED.
- 2. ANY ENCROACHMENT, ENCUMBRANCE, VIOLATION, VARIATION, OR ADVERSE CIRCUMSTANCE AFFECTING THE TITLE THAT WOULD BE DISCLOSED BY AN ACCURATE AND COMPLETE SURVEY OF THE LAND. SURVEY SHOWS BOUNDARY LINES AND IMPROVEMENTS.
- 3. RIGHTS OR CLAIMS OF PARTIES IN POSSESSION NOT SHOWN BY THE PUBLIC RECORDS. NOT SURVEY RELATED.
- 4. EASEMENTS, OR CLAIMS OF EASEMENTS, NOT SHOWN BY THE PUBLIC RECORDS.
- 5. ANY LIEN, OR RIGHT TO A LIEN, FOR SERVICES, LABOR, OR MATERIAL HERETOFORE OR HEREAFTER FURNISHED, IMPOSED BY LAW AND NOT SHOWN BY THE PUBLIC RECORDS.
- NOT SURVEY RELATED. 6. TAXES OR SPECIAL ASSESSMENTS WHICH ARE NOT SHOWN AS EXISTING LIENS BY PUBLIC RECORDS.
- 7. ANY PRIOR RESERVATION OR CONVEYANCE, TOGETHER WITH RELEASE OF DAMAGES OF MINERALS, OF EVERY KIND AND CHARACTER,
- INCLUDING, BUT NOT LIMITED TO, OIL, GAS, SAND AND GRAVEL IN, ON AND UNDER SUBJECT PROPERTY. NOT SURVEY RELATED. 8. GENERAL TAXES FOR THE YEAR 2023, WHICH ARE NOT YET DUE AND PAYABLE, AND SUBSEQUENT YEARS, AND FUTURE INSTALMENTS OF THE FOLLOWING SPECIAL IMPROVEMENT DISTRICTS:
- SALEM FIRE PROTECTION DISTRICT; BRYANT WATER & SEWER IMPROVEMENT DISTRICTS;

MISCELLANEOUS BOOK 53 AT PAGE 754.

NOT SURVEY RELATED.

SALINE WATERSHED REGIONAL WATER DISTRIBUTION DISTRICT;

- 9. SUBJECT TO THE RIGHT OF CONTROLLED ACCESS TO AND FROM HIGHWAY 183. NOT SURVEY RELATED.
- 10. UTILITY EASEMENTS AND BUILDING SET BACK LINES OVER AND ACROSS THE SUBJECT PROPERTY.
- EASEMENTS AND SETBACK LINES SHOWN ON THE SURVEY. 11. RIGHT OF WAY EASEMENT IN FAVOR OF THE CITY OF BRYANT ARKANSAS FILED MAY 25, 1999 AS SALINE COUNTY DOCUMENT NO.
- SHOWN ON THE SURVEY. 12. RIGHT OF WAY EASEMENT IN FAVOR OF RELIANT ENERGY ARKANSAS FILED OCTOBER 4, 1999 AS SALINE COUNTY DOCUMENT NO. 1999
- SHOWN ON THE SURVEY. 13. RIGHT OF WAY EASEMENT IN FAVOR OF BRYANT SEWER IMPROVEMENT DISTRICT NO. 1, FILED JULY 7, 1979 IN SALINE COUNTY
- 14. RIGHTS OF THE PUBLIC AND OTHERS ENTITLED THERETO IN AND TO USE OF THAT PORTION OF SUBJECT PROPERTY COMPRISING
- ANY ROAD, STREET, ALLEY, HIGHWAY, OR OTHER PUBLIC RIGHT OF WAY. 15. ANY INACCURACY IN THE AREA, SQUARE FOOTAGE, OR ACREAGE OF LAND DESCRIBED IN SCHEDULE A OR ATTACHED PLAT, IF
- ANY. THE COMPANY DOES NOT INSURE THE AREA, SQUARE FOOTAGE, OR ACREAGE OF THE LAND. NOT SURVEY RELATED. 16. PLANNING AND/OR ZONING RULES, REGULATIONS AND/OR ORDINANCES ADOPTED BY THE SALINE COUNTY PLANNING BOARD,
- THE BRYANT PLANNING COMMISSION AND/OR THE CITY OF BRYANT, SALINE COUNTY, ARKANSAS AND/OR VIOLATIONS THEREOF.

17. MODIFIED EASEMENT BY AND BETWEEN ALCOA INC. TO BENTON PROPERTY INVESTMENTS, LLC DATED NOVEMBER 22,

- 2005 AND FILED NOVEMBER 23, 2005 AS SALINE COUNTY DOCUMENT NO. 2005 131400 AND SUBSEQUENT CONVEYANCES THEREOF.
- 18. EASEMENT BY AND BETWEEN BRYANT SCHOOL DISTRICT NO. 25, ALCOA INC. AND REYNOLDS METALS COMPANY DATED NOVEMBER 2, 2004 AND FILED APRIL 15, 2005 AS SALINE COUNTY DOCUMENT NO. 2005 037378 AND SUBSEQUENT CONVEYANCES THEREOF.
- 19. RIGHTS OR CLAIMS OF PARTIES IN POSSESSION AND EASEMENTS OR CLAIMS OF EASEMENTS NOT SHOWN BY THE PUBLIC RECORDS, BOUNDARY LINE DISPUTES, OVERLAPS, ENCROACHMENTS, AND ANY MATTERS NOT OF RECORD WHICH WOULD BE DISCLOSED BY AN ACCURATE SURVEY AND INSPECTION OF THE LAND.
- 20. LOSS ARISING FROM SECURITY INTEREST EVIDENCED BY FINANCING STATEMENTS FILED OF RECORD UNDER THE ARKANSAS UNIFORM COMMERCIAL CODE, JUDGMENT LIENS OR OTHER LIENS OF RECORD IN ANY UNITED STATES DISTRICT COURT OR BANKRUPTCY COURT, IN THE STATE OF ARKANSAS, AS OF THE EFFECTIVE DATE HEREOF. NOT SURVEY RELATED.

TO CHICAGO TITLE INSURANCE COMPANY, OBWAT HOLDINGS, LLC, FIRST NATIONAL TITLE COMPANY AN ARKANSAS CORPORATION, AND THEIR RESPECTIVE SUCCESSORS AND ASSIGNS: THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS. THE FIELDWORK WAS COMPLETED ON SEPTEMBER 12, 2023.

EASEMENTS, RIGHT OF WAY LINE AND SETBACK LINES SHOWN ON SURVEY.

DATE OF PLAT OR MAP: OCTOBER 3, 2023

JOHN R. POWNALL ARKANSAS REGISTERED LAND SURVEYOR 1215

PART OF THE SE1/4 NW1/4 OF SECTION 27, TOWNSHIP 1 SOUTH, RANGE 14 WEST, IN THE CITY OF BRYANT, SALINE COUNTY, ARKANSAS, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

THENCE ALONG THE WEST LINE OF THE SAID SE1/4 NW1/4 S 00° 00' 00" E FOR 1143.40 FEET;

POINT OF BEGINNING;

THENCE N 13° 04' 16" W FOR 193.28 FEET TO A 5/8" REBAR AND THE SOUTHERLY RIGHT OF WAY LINE OF BROWN LANE;

THENCE ALONG SAID RIGHT OF WAY LINE S 14° 49' 14" E FOR 194.54 FEET TO A 1/2" REBAR;

THENCE N 89° 25' 16" W FOR 201.43 FEET TO THE POINT OF BEGINNING;

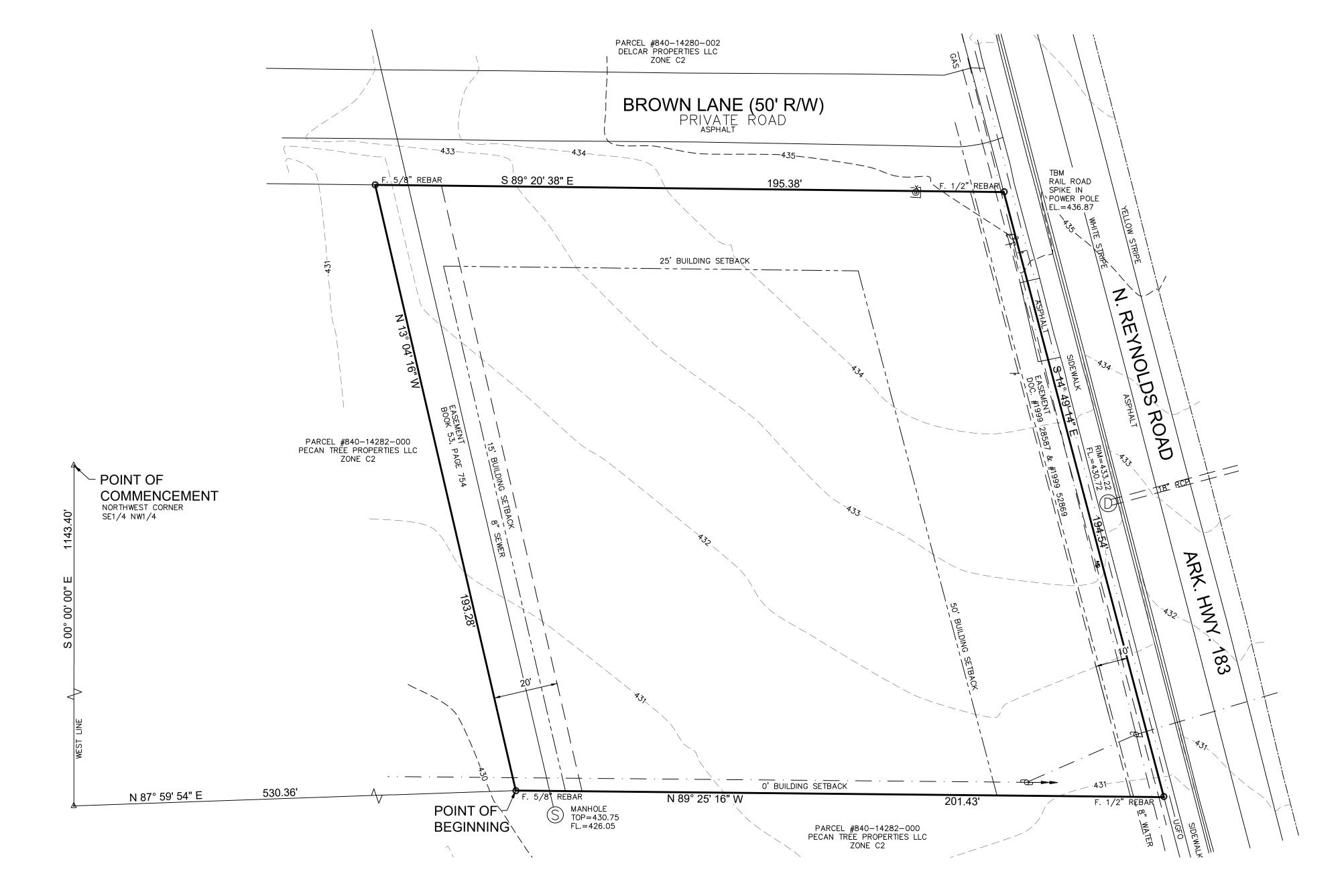


COMMENCING AT THE NORTHWEST CORNER OF SAID SE1/4 NW1/4; THENCE N 87° 59' 54" E FOR 530.36 FEET LEAVING THE WEST LINE OF SAID SE1/4 NW/4 TO A TO 5/8" REBAR AND THE

THENCE ALONG SAID RIGHT OF WAY LINE S 89° 20' 38" E FOR 195.38 FEET TO A 1/2" REBAR AND THE WESTERLY RIGHT OF WAY LINE OF NORTH REYNOLDS ROAD;

LEGEND EASEMENT SANITARY SEWER LINE OVERHEAD ELECTRIC LINE = = = = =STORM DRAIN LINE EDGE OF ASPHALT **CURB & GUTTER** UTILITY POLE & GUY **⊕ GAS METER** TELEPHONE PEDESTAL SIGN CALCULATED POINT

SHOWS FOUND SURVEY MARKER AS DESCRIBED



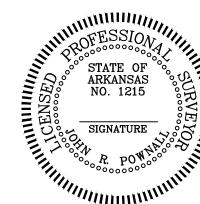
SURVEYOR'S NOTES

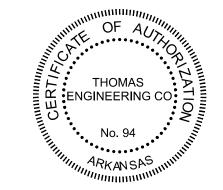
1. THE INFORMATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THIS SURVEY IS BASED ON RECORDS OF EXISTING UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS WERE TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS IN ADVANCE BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES.

2. BASIS OF BEARINGS: ARKANSAS STATE PLANE, NORTH ZONE (ARDOT).

3. PART OF THIS PROPERTY IS NOT SHOWN IN THE 100 YEAR FLOOD PLAIN ON THE FLOOD INSURANCE RATE MAP COMMUNITY PANEL NUMBER 050308 0380 E DATED JUNE 5, 2020.

- 4. THIS PROPERTY IS ZONED: C-2
- 5. THIS TRACT CONTAINS 37,231 SQ. FT. OR 0.855 ACRES, MORE OR LESS.
- 6. SETBACKS SHOWN ARE FOR C-2 ZONING.





SHEET NO.

REVISION: REVISED 1/26/24 UPDATED LEGAL.



GRAPHIC SCALE

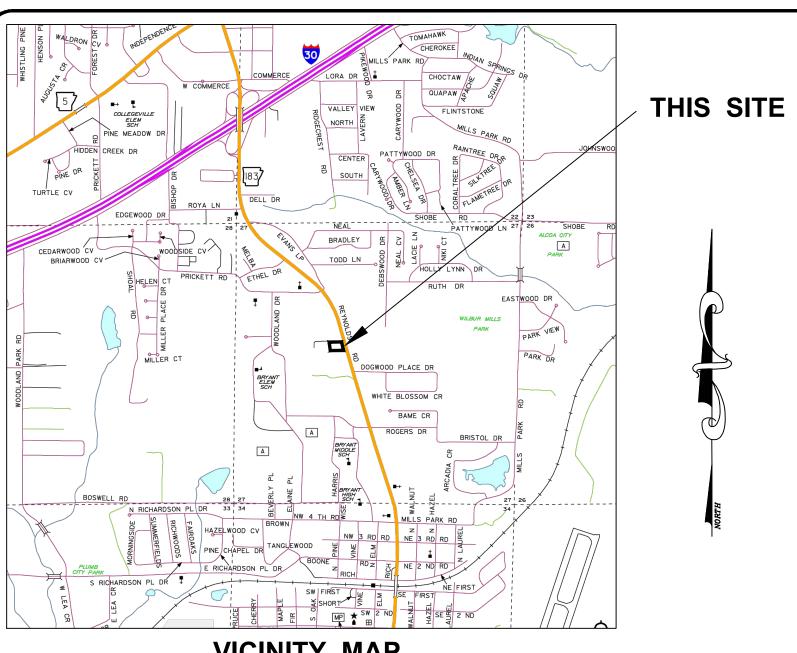
(IN FEET) 1 inch = 20 ft.

THOMAS ENGINEERING

ALTA/NSPS SURVEY OF PART OF THE SE1/4 NW1/4, OF SECTION 27, T-1-S, R-14-W, SALINE COUNTY, ARKANSAS

TEL: 501-753-4463 FAX: 501-753-6814

APPROVED DRAWN BY DATE 10/3/23



VICINITY MAP

GENERAL NOTES: 1. ALL DIMENSIONS SHOWN ARE TO THE BACK OF CURB UNLESS OTHERWISE NOTED. RADII ARE 5 FEET UNLESS OTHERWISE INDICATED.

2. SEE ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF PORCHES, RAMPS, SLOPED PAVING, TRUCK DOCKS, BUILDING UTILITY ENTRANCE LOCATIONS AND PRECISE BUILDING DIMENSIONS.

3. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

4. CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH O.S.H.A. AND ANY OTHER APPLICABLE LOCAL, STATE OR FEDERAL SAFETY REGULATIONS, INCLUDING THE USE OF TRENCH SHORING, ETC.

5. REPAIR. REPLACE OR EXTEND EXISTING DAMAGED OR MISSING CURB AND GUTTER. SIDEWALK, RAMPS OR CONCRETE APRONS ON SITE & WITHIN THE PUBLIC RIGHT-OF-WAY ADJACENT TO THE SITE. REMOVE ABANDONED DRIVEWAYS. ALL WORK WITHIN PUBLIC RIGHT-OF-WAY SHALL CONFORM TO CITY STANDARDS AND ADA GUIDELINES.

6. CONTACT BRYANT STREET DEPARTMENT FOR INSPECTIONS OF ANY WORK IN PUBLIC RIGHT-OF-WAY PRIOR TO PLACEMENT OF CONCRETE OR ASPHALT OR FOR CLARIFICATION OF REQUIREMENTS PRIOR TO TO COMMENCING WORK. FAILURE TO DO SO CAN RESULT IN REMOVAL OF ANY IMPROPERLY PLACED CONCRETE OR ASPHALT AT THE EXPENSE OF THE CONTRACTOR.

7. CONTACT BRYANT FIRE DEPARTMENT FOR LOCATION AND REQUIREMENTS FOR FIRE LANE STRIPING ON SITE BEFORE APPLICATION. FIRE LANES WILL BE 4" WHITE LETTERS ON 6" RED TRAFFIC PAINT AT 15' INTERVALS.

SITE PLAN NOTES

- 1. SITE CONTAINS A PROPOSED DRIVE THRU RESTAURANT.
- 2. BASIS OF BEARINGS: GPS GRID NORTH. 3. THE PROPERTY IS NOT SHOWN IN THE 100 YEAR FLOOD PLAIN ON THE FLOOD INSURANCE RATE MAP COMMUNITY PANEL NUMBER 050308 0380E,
- DATED 6/05/20. 4. THIS PRÓPERTY IS ZONED C-2.
- 5. ALL ABUTTING PROPERTIES ARE ZONED C-2.
- 6. THIS TRACT CONTAINS 37,231 S.F. OR 0.855 ACRES, MORE OR LESS. 7. SETBACKS FOR C-2 ZONING ON HWY 183 ARE:
 - O' SIDE OR 25' ALONG STREET OR RESIDENTIAL 15' REAR OR 55' ABUTTING RESIDENTIAL
- 8. BUILDING TO LOT COVERAGE 5.0% (35% MAX.) IMPERVIOUS SURFACE AREA TO LOT COVERAGE 65%.

SURVEY LEGAL DESCRIPTION:

PART OF THE SE1/4 NW1/4 OF SECTION 27, TOWNSHIP 1 SOUTH, RANGE 14 WEST, IN THE CITY OF BRYANT, SALINE COUNTY, ARKANSAS, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

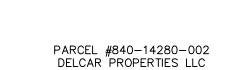
COMMENCING AT THE NORTHWEST CORNER OF SAID SE1/4 NW1/4; THENCE ALONG THE WEST LINE OF THE SAID SE1/4 NW1/4 S 00° 00' 00" E FOR 1143.40 FEET;

THENCE N 87° 59' 54" E FOR 530.36 FEET LEAVING THE WEST LINE OF SAID SE1/4 NW/4 TO A TO 5/8" REBAR AND THE POINT OF BEGINNING; THENCE N 13° 04' 16" W FOR 193.28 FEET TO A 5/8" REBAR AND THE SOUTHERLY RIGHT OF WAY LINE OF BROWN LANE;

THENCE ALONG SAID RIGHT OF WAY LINE S 89° 20' 38" E FOR 195.38 FEET TO A 1/2" REBAR AND THE WESTERLY RIGHT OF WAY LINE OF NORTH REYNOLDS ROAD:

THENCE ALONG SAID RIGHT OF WAY LINE S 14° 49' 14" E FOR 194.54 FEET TO A 1/2" REBAR;

THENCE N 89° 25' 16" W FOR 201.43 FEET TO THE POINT OF BEGINNING;



ZONE C2

BROWN LANE (50' R/W)
PRIVATE ROAD

F. 1/2" REBAR\

TELEPHONE PEDESTAL SIGN CALCULATED POINT SHOWS FOUND SURVEY MARKER AS DESCRIBED

GAS METER

EASEMENT

SANITARY SEWER LINE OVERHEAD ELECTRIC LINE

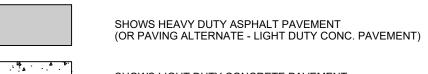
STORM DRAIN LINE

EDGE OF ASPHALT CURB & GUTTER

UTILITY POLE & GUY

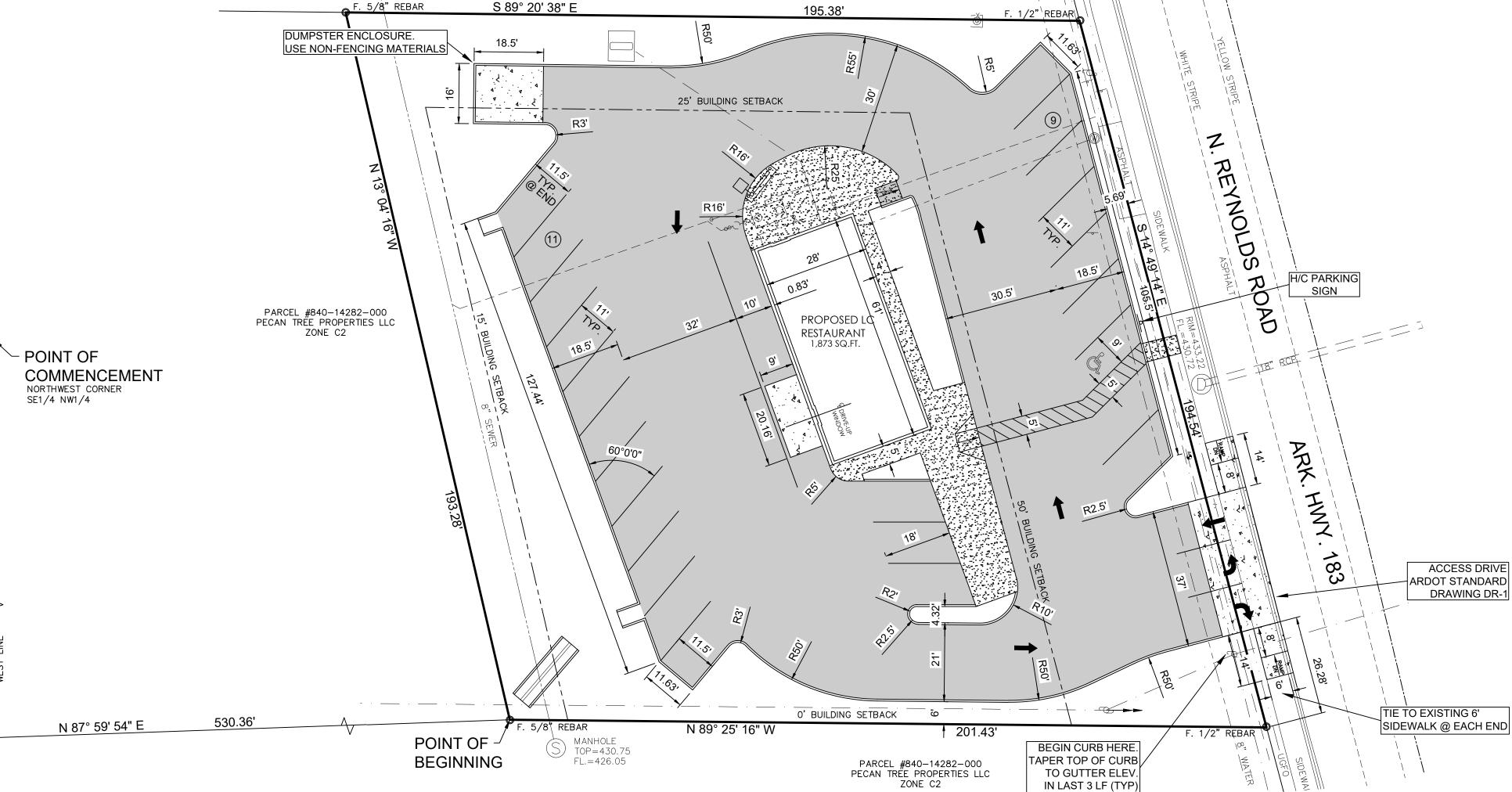
LEGEND

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SHOWS LIGHT DUTY CONCRETE PAVEMENT EXCEPT AT DUMPSTER PAD

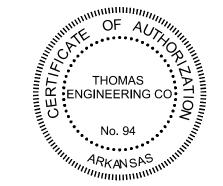
SHOWS CONCRETE SIDEWALK

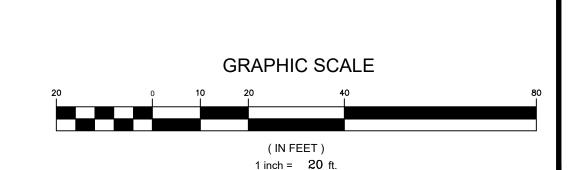


<u>PARKING</u> REGULAR 19 SPACES ACCESSIBLE 1 SPACES 20 SPACES TOTAL

7 SPACES (1 SPACE/300 SF OCCUPIED SPACE)









SITE PLAN LITTLE CAESARS BRYANT, ARKANSAS

APPROVED SHEET NO. DRAWN BY DATE 7/10/24 TEL: 501-753-4463 FAX: 501-753-6814

Know what's **below**.

Know what's **below.**Call before you

PROPERTY LINE
EASEMENT
SANITARY SEWER LINE
OVERHEAD ELECTRIC LINE
STORM DRAIN LINE
EDGE OF ASPHALT
CURB & GUTTER
UTILITY POLE & GUY

GAS METER
TELEPHONE PEDESTAL
SIGN
CALCULATED POINT
SHOWS FOUND SURVEY MARKER AS DESCRIBED

GRADING PLAN GENERAL NOTES

1. THE GENERAL CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO AVOID PROPERTY DAMAGE TO ADJACENT PROPERTIES DURING THE CONSTRUCTION PHASES OF THIS PROJECT. THE CONTRACTOR WILL BE HELD SOLELY RESPONSIBLE FOR ANY DAMAGES TO THE ADJACENT PROPERTIES OCCURRING DURING THE CONSTRUCTION PHASES OF THIS PROJECT.

2. WARRANTY/DISCLAIMER. THE DESIGNS REPRESENTED IN THESE PLANS ARE IN ACCORDANCE WITH ESTABLISHED PRACTICES OF CIVIL ENGINEERING FOR THE DESIGN FUNCTIONS AND USES INTENDED AT THIS TIME. HOWEVER, NEITHER THOMAS ENGINEERING COMPANY, INC., NOR ITS PERSONNEL CAN OR DO WARRANTY THESE DESIGNS OR PLANS AS CONSTRUCTED EXCEPT IN THE SPECIFIC CASES WHERE THOMAS ENGINEERING COMPANY PERSONNEL INSPECT AND CONTROL THE PHYSICAL CONSTRUCTION ON A CONTEMPORARY BASIS AT THE SITE.

3. SAFETY NOTICE TO CONTRACTOR. IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE DUTY OF THE ENGINEER OR OWNER TO CONDUCT CONSTRUCTION REVIEW OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES, IN, ON OR NEAR THE CONSTRUCTION SITE.

4. ENGINEER'S NOTICE TO CONTRACTOR. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

5. SEE ARCHITECTURAL PLANS FOR DETAILS ON CONCRETE RAMPS AND SIDEWALKS ATTACHED TO BUILDINGS.

6. FINISHED GRADE CONTOURS ARE INDICATED ALONG TOP OF COMPLETED STRUCTURES, TOP OF PAVEMENT AND GUTTER LINE OF CURB, UNLESS OTHERWISE SHOWN. FOR ROUGH GRADING, CONTRACTOR SHALL ALLOW FOR DEPTHS OF TOPSOIL AND CONCRETE STRUCTURES. FOR FINISH GRADING, CONTRACTOR SHALL INSTALL TOPSOIL AND CONCRETE STRUCTURES TO FINISHED GRADE AS INDICATED ON THIS

7. THE GENERAL CONTRACTOR SHALL FURNISH "AS—BUILT" DRAWINGS AT END OF

8. ALL STORM DRAIN LINES AND UTILITY LINES UNDER THE PAVEMENT SHALL BE BACK FILLED WITH CRUSHED STONE.

9. PLACE A 4" MINIMUM DEPTH OF TOPSOIL OVER ALL LAWN AND LANDSCAPE

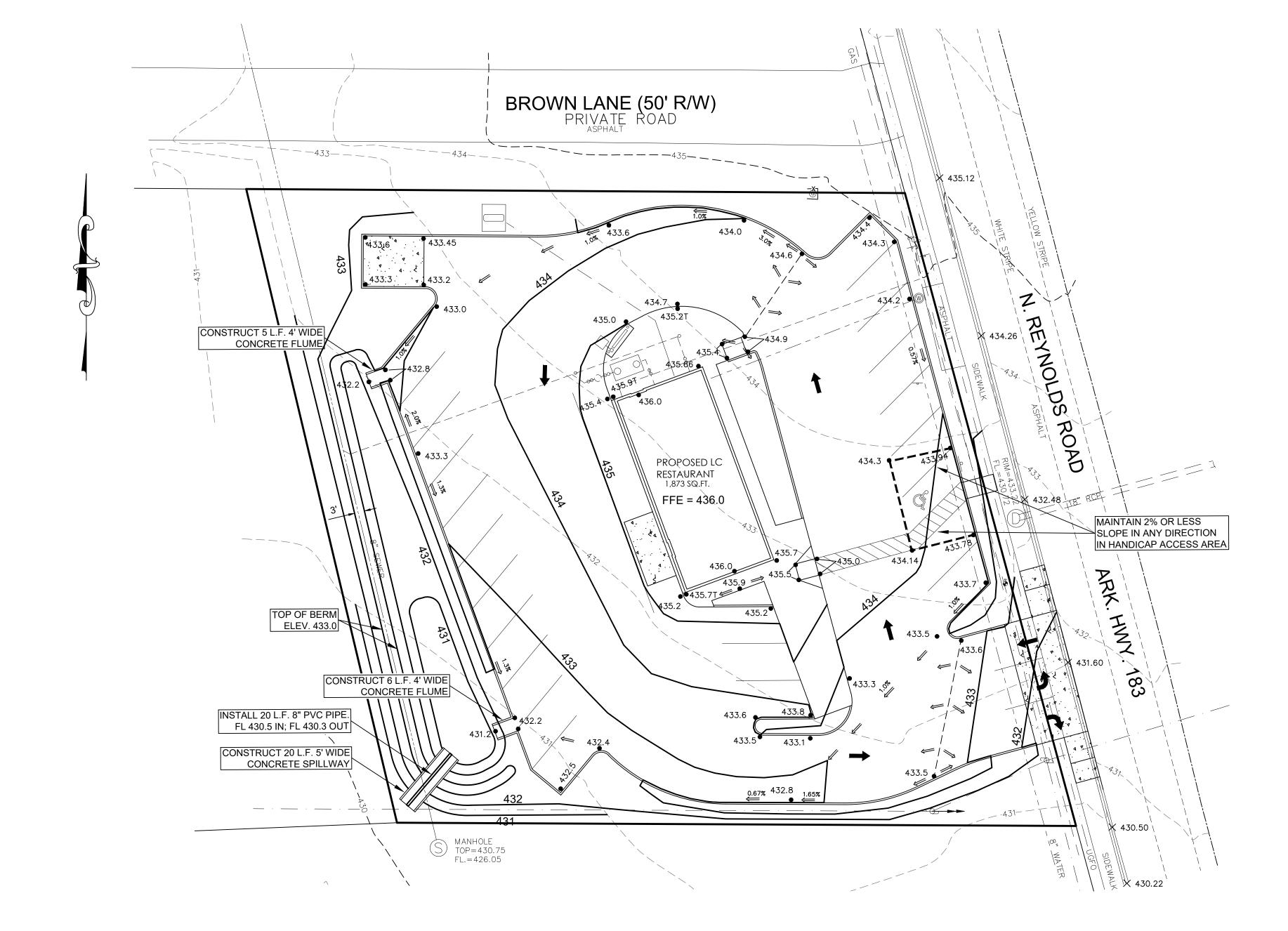
10. REFER TO LANDSCAPE PLAN FOR PERMANENT TURF SOD AND SEEDING AREAS.

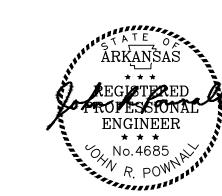
11. PROVIDE TEMPORARY SEEDING AND EROSION CONTROL PER STATE AND LOCAL CODES

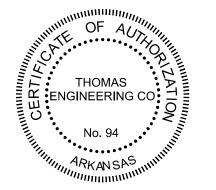
LEGEND

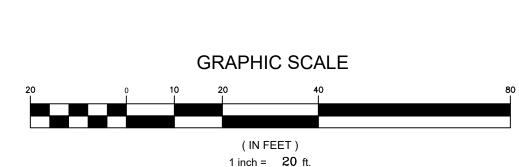
NOTE: SPOT ELEVATIONS FINISHED GRADE UNLESS OTHERWISE SHOWN.

DRAINAGE ARROW











GRADING PLAN LITTLE CAESARS BRYANT, ARKANSAS

3810 LOOKOUT ROAD, N. LITTLE ROCK, AR. 72116
TEL: 501-753-4463 FAX: 501-753-6814

APPROVED DRAWN BY JATE 7/10/24

SCALE 1" = 20'

C3

UTILITY NOTES:

- 1. CONTRACTOR SHALL LOCATE ALL EXISTING UTILITIES IN ACCORDANCE WITH THE ARKANSAS UNDERGROUND FACILITIES DAMAGE PREVENTION ACT. THIS LAW REQUIRES THAT THE CONTRACTOR MAKE A TELEPHONE CALL TO THE ARKANSAS ONE-CALL SYSTEM AT 1-800-482-8998 AT LEAST TWO (2) WORKING DAYS PRIOR TO EXCAVATING TO ENSURE THAT ANY EXISTING UTILITIES CAN BE LOCATED.
- 2. CONTRACTOR TO UNCOVER AND MARK UTILITY LINES BEFORE CONSTRUCTION.
- 3. CONTRACTOR SHALL BEAR ALL RESPONSIBILITY AND COST OF REPAIR OR REPLACEMENT OF EXISTING UTILITIES DAMAGED OR INTERRUPTED AS A RESULT OF THIS CONSTRUCTION.
- 4. CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER AND THE OWNER OF ANY DAMAGED OR INTERRUPTED UTILITIES IMMEDIATELY.
- 5. ALL SEWER MAINS, SERVICES AND APPURTENANCES SHALL BE INSTALLED IN ACCORDANCE TO THE BRYANT WATER WORKS SPECIFICATIONS, THE ARKANSAS DEPARTMENT OF HEALTH AND THE ARKANSAS STATE PLUMBING CODE.
- 6. ALL WATER LINES SERVICES AND APPURTENANCES SHALL BE INSTALLED IN ACCORDANCE TO THE BRYANT WATER WORKS REQUIREMENTS AND THE ARKANSAS STATE PLUMBING CODE.
- 7. SEE PLUMBING PLANS FOR EXACT LOCATION OF UTILITY ENTRANCES TO THE BUILDING.
- 8. IN AREAS WHERE UTILITIES ARE INSTALLED UNDER NEW ASPHALT PAVEMENT, REFER TO DETAIL "PIPE TRENCH & BACKFILL SECTION DETAIL UNDER NEW PAVEMENT."

ELECTRIC UTILITY NOTES:

- 1. CONTRACTOR SHALL VERIFY THE SIZE AND LOCATION OF TRANSFORMER PAD
- AND PROVIDE THE MINIMUM SIZED PAD REQUIRED BY ENTERGY. 2. THE CONTRACTOR SHALL PAY ENTERGY FOR ALL SWITCHGEAR, CONNECTIONS, UNDERGROUND 3 PHASE PRIMARY WIRE, 3 PHASE PAD MOUNTED TRANSFORMER AND SECONDARY UNDERGROUND SERVICE WIRE.

SANITARY SEWER GENERAL NOTES

- 1. 4" SERVICE LINES AND STUBS SHALL BE LAID ON MINIMUM 1% SLOPE.
- 2. MAINTAIN 10' MINIMUM CLEARANCE BETWEEN WATER AND SEWER
- 3. PVC PIPE SHALL HAVE ASTM C33 #7 STONE BEDDING 6" ON ALL SIDES. 4. SEWER SERVICE PIPE MATERIAL SHALL CONFORM TO ONE OF THE FOLLOWING STANDARDS: ASTM D 2665, SCHEDULE 40 DWV OR ASTM D3034, PVC SEWER PIPE, SDR-26

WATER NOTES:

- 1. ALL PIPES TO HAVE A MINIMUM OF 3' OF COVER.
- 2. ALL NON-METALLIC MAINS SHALL HAVE A 12 GA. COPPER TRACING WIRE.
- 3. ALL P.V.C. PIPE SHALL BE CLASS 250.
- 4. MAINTAIN 18" VERTICAL SERRATION BETWEEN WATER/SEWER CROSSINGS.
- 5. MAINTAIN 5' HORIZONTAL SEPARATION BETWEEN PARALLEL UTILITIES. 6. CONTRACTOR TO PAY FOR INSTALLATION OF DOMESTIC AND IRRIGATION

WATER LINE PIPE MATERIALS:

1. DUCTILE IRON PIPE SHALL CONFORM TO ANSI A21.51 (AWWA C151) AND SHALL HAVE A CEMENT MORTAR LINING AND SEAL COAT CONFORMING TO ANSI A21.4 (AWWA C104) AND NSF 61. JOINTS SHALL CONFORM TO ANSI A21.11 (AWWA C111) AND MAY BE MECHANICAL JOINT OR PUSH-ON JOINT UNLESS OTHERWISE SPECIFIED. GASKETS SHALL BE MANUFACTURED IN THE UNITED STATES AND/OR COSTA RICA. THE MINIMUM CLASS OF D.I. PIPE SHALL BE THICKNESS CLASS 50 UNLESS OTHERWISE SPECIFIED. ALL DUCTILE IRON SHALL BE ENCASED IN POLYETHYLENE (POLYWRAPPED) UPON INSTALLATION (SEE SECTION 21 OF THE CAW CONSTRUCTION SPECIFICATIONS FOR SPECIFICS). ALL DUCTILE IRON MAINS SHALL END WITH A FULL JOINT OF MECHANICAL JOINT PIPE WITH A MECHANICAL JOINT PLUG AND ANCHOR COLLAR.

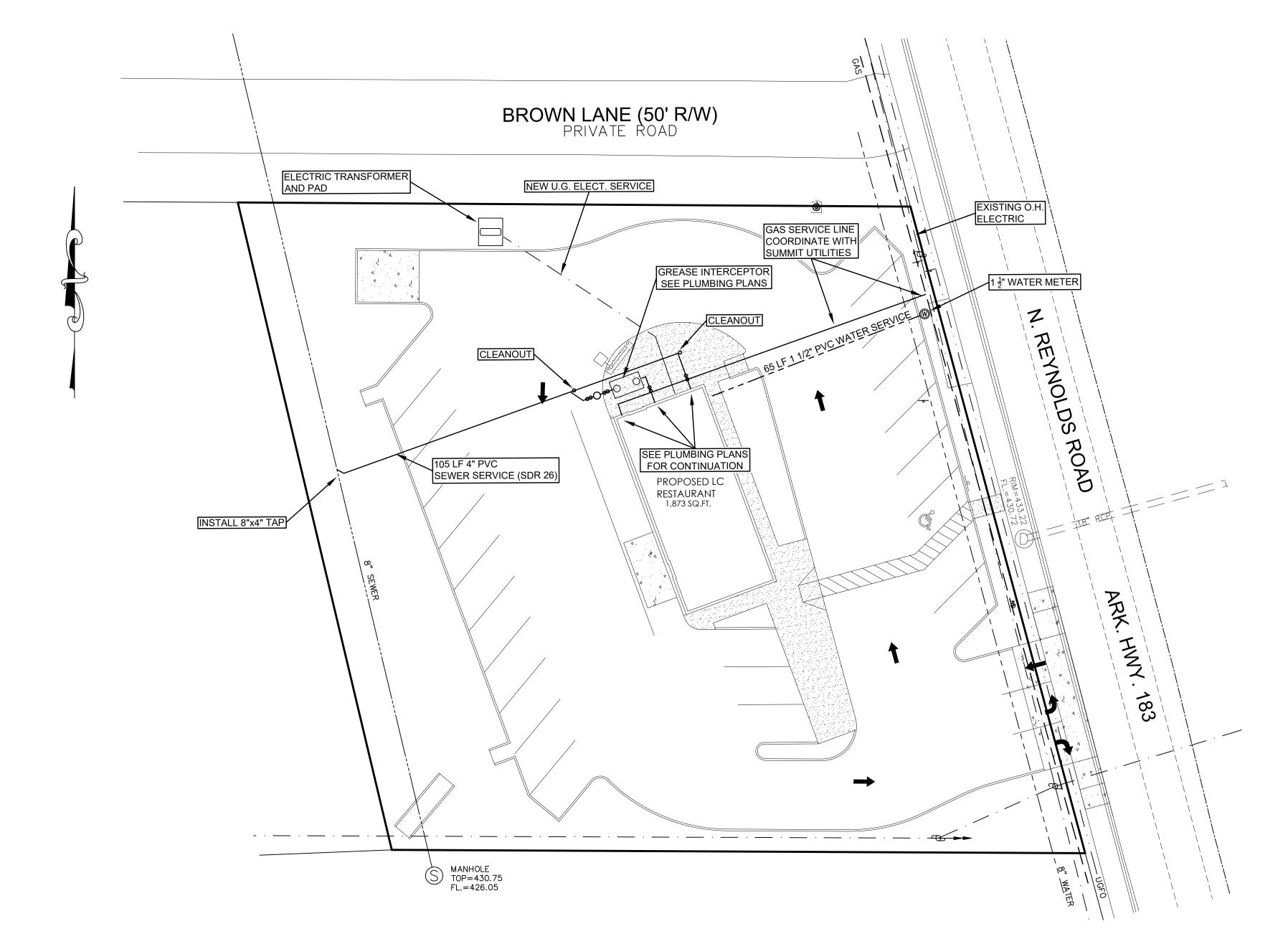
2. PVC WATER MAIN PIPE SHALL CONFORM TO AWWA C900, DR18, PVC PRESSURE PIPE AND FABRICATED FITTINGS 4" THROUGH 12". PVC WATER PIPE SHALL HAVE INTEGRAL BELL JOINTS WITH ELASTOMETRIC GASKETS THAT CONFORM TO ASTM 3212 AND ASTM F477.

3. WATER SERVICE PIPE SHALL CONFORM TO AWWA C904, DR9, CROSS-LINKED POLYETHYLENE (PEX), SDR9, MINIMUM PRESSURE CLASS 160, PRESSURE PIPE AND TUBING, 1/2 IN. THROUGH 3 IN, FOR WATER SERVICE.

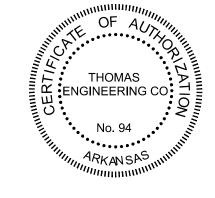


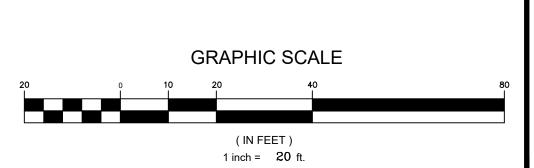
<u>LEGEND</u> EASEMENT SANITARY SEWER LINE OVERHEAD ELECTRIC LINE STORM DRAIN LINE **EDGE OF ASPHALT** CURB & GUTTER **UTILITY POLE & GUY ⊕ GAS METER** TELEPHONE PEDESTAL CALCULATED POINT

SHOWS FOUND SURVEY MARKER AS DESCRIBED











UTILITY PLAN LITTLE CAESARS BRYANT, ARKANSAS

SHEET NO. APPROVED DRAWN BY 7/10/24 TEL: 501-753-4463 FAX: 501-753-6814

SEQUENCE OF CONSTRUCTION

1. INSTALL CONSTRUCTION ENTRANCE AND PERIMETER SILT FENCE. CONTRACTOR SHALL INSTALL WHATEVER DIVERSIONS/SWALES ARE NECESSARY TO ROUTE ALL SEDIMENT LADEN WATER TO THE PROPOSED SILT FENCE LOCATIONS

2. CLEAR SITE AND REMOVE ALL DEMOLITION DEBRIS.

3. BEGIN GRADING OPERATION FOR SITE.

4. BEGIN UTILITY CONSTRUCTION. MAINTAIN ANY DIVERSIONS TO ROUTE ALL UPSTREAM WATER AWAY FROM THE EXISTING STREETS THROUGHOUT CONSTRUCTION.

5. INSTALL CURB AND GUTTER AND SIDEWALKS.6. FINE GRADE ENTIRE SITE, AND COMPLETE PAVING OPERATIONS.

7. INSTALL SEEDNG, VEGETATION, AND PROCEED WITH FINAL SITE STABILIZATION. WATER ALL GRASSED AREAS.

8. INSPECT AND RESOD ALL DISTURBED AREAS AS NECESSARY. UPON FINAL SITE STABILIZATION, CLEAN SILT FROM BEHIND ALL SEDIMENT FENCES AND REMOVE ALL TEMPORARY EROSION CONTROL DEVICES.

EROSION CONTROL NOTES:

1. SEDIMENT CONTROL MEASURES MUST BE INSPECTED AND MAINTAINED REGULARLY IN ORDER TO INSURE THAT THE INTENDED PURPOSES ARE ACCOMPLISHED.

2. ALL DISTURBED AREAS NOT INTENDED FOR PAVING SHALL BE SEEDED OR SODDED AS PER SPECIFICATIONS.

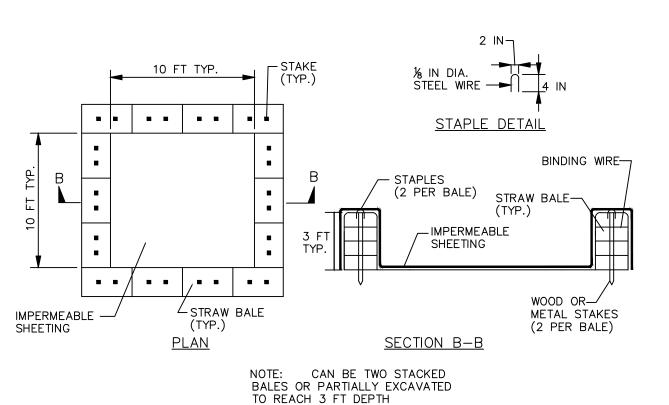
3. STABILIZATION REQUIREMENTS: (NOT NECESSARILY VEGETATION) ALL PERIMETER CONTROLS ARE TO BE STABILIZED WITHIN 7 DAYS OF INSTALLATION. ALL OTHER DISTURBED AREAS ARE TO BE STABILIZED WITHIN 14 DAYS.

4. TEMPORARY SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED UNTIL ALL CONTRIBUTING AREAS ARE GRADED AND STABILIZED.

5. EXCAVATED EARTH SHALL BE PILED ON THE HIGH SIDE OF EXCAVATIONS.

6. EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE.

7. THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO, OR CONCURRENT WITH, LAND—DISTURBING ACTIVITIES.



WASHOUT STRUCTURE WITH STRAW BALES

CONSTRUCTION SPECIFICATIONS

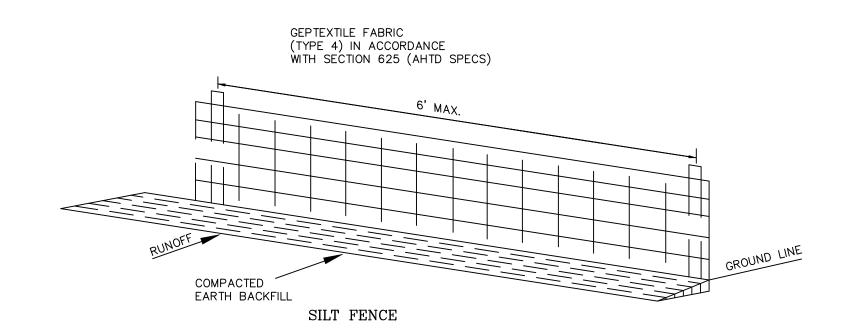
1. LOCATE WASHOUT STRUCTURE A MINIMUM OF 50 FEET AWAY FROM OPEN CHANNELS, STORM DRAIN INLETS, SENSITIVE AREAS, WETLANDS, BUFFERS AND WATER COURSES AND AWAY FROM CONSTRUCTION TRAFFIC.

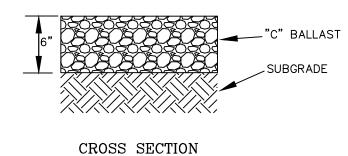
2. SIZE WASHOUT STRUCTURE FOR VOLUME NECESSARY TO CONTAIN WASH WATER AND SOLIDS AND MAINTAIN AT LEAST 4 INCHES OF FREEBOARD. TYPICAL DIMENSIONS ARE 10 FEET X 10 FEET X 3 FEET

3. PREPARE SOIL BASE FREE OF ROCKS OR OTHER DEBRIS THAT MAY CAUSE TEARS OR HOLES IN THE LINER. FOR LINER, USE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING, FREE OF HOLES AND TEARS OR OTHER DEFECTS THAT COMPROMISE IMPERMEABILITY OF THE MATERIAL.

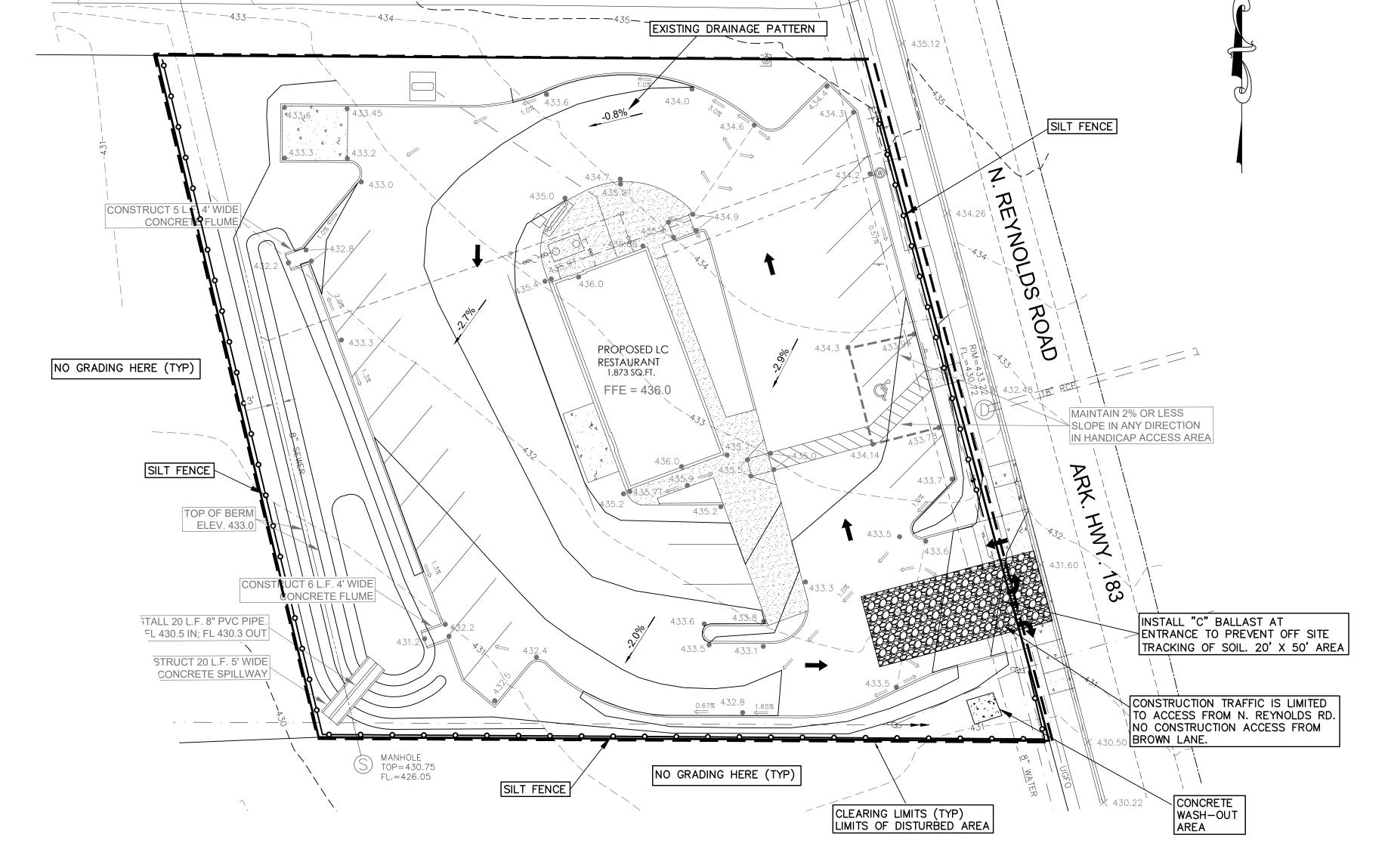
4. PROVIDE A SIGN FOR THE WASHOUT IN CLOSE PROXIMITY TO THE FACILITY.

5. KEEP CONCRETE WASHOUT STRUCTURE WATER TIGHT. REPLACE IMPERMEABLE LINER IF DAMAGED (E.G., RIPPED OR PUNCTURED). EMPTY OR REPLACE WASHOUT STRUCTURE THAT IS 75 PERCENT FULL, AND DISPOSE OF ACCUMULATED MATERIAL PROPERLY. DO NOT REUSE PLASTIC LINER. WET-VACUUM STORED LIQUIDS THAT HAVE NOT EVAPORATED AND DISPOSE OF IN AN APPROVED MANNER. PRIOR TO FORECASTED RAINSTORMS, REMOVE LIQUIDS OR COVER STRUCTURE TO PREVENT OVERFLOWS. REMOVE HARDENED SOLIDS, WHOLE OR BROKEN UP, FOR DISPOSAL OR RECYCLING. MAINTAIN RUNOFF DIVERSION AROUND EXCAVATED WASHOUT STRUCTURE UNTIL STRUCTURE IS REMOVED.





CROSS SECTION GRAVEL ENTRANCE DETAIL





SHOWS SILT FENCE

TOTAL SOIL DISTURBANCE ACREAGE = 0.9 AC.±

LEGEND

BROWN LANE (50' R/W)
PRIVATE ROAD



SHOWS GRAVEL ENTRANCE DRIVE



LEGEND

======

PROPERTY LINE EASEMENT

SANITARY SEWER LINE

STORM DRAIN LINE

EDGE OF ASPHALT

UTILITY POLE & GUY

TELEPHONE PEDESTAL

CALCULATED POINT

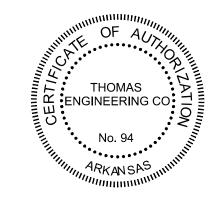
SHOWS FOUND SURVEY MARKER AS DESCRIBED

CURB & GUTTER

GAS METER

SIGN

OVERHEAD ELECTRIC LINE



SHEET NO.





(IN FEET) 1 inch = 20 ft.



EROSION CONTROL PLAN LITTLE CAESARS BRYANT, ARKANSAS

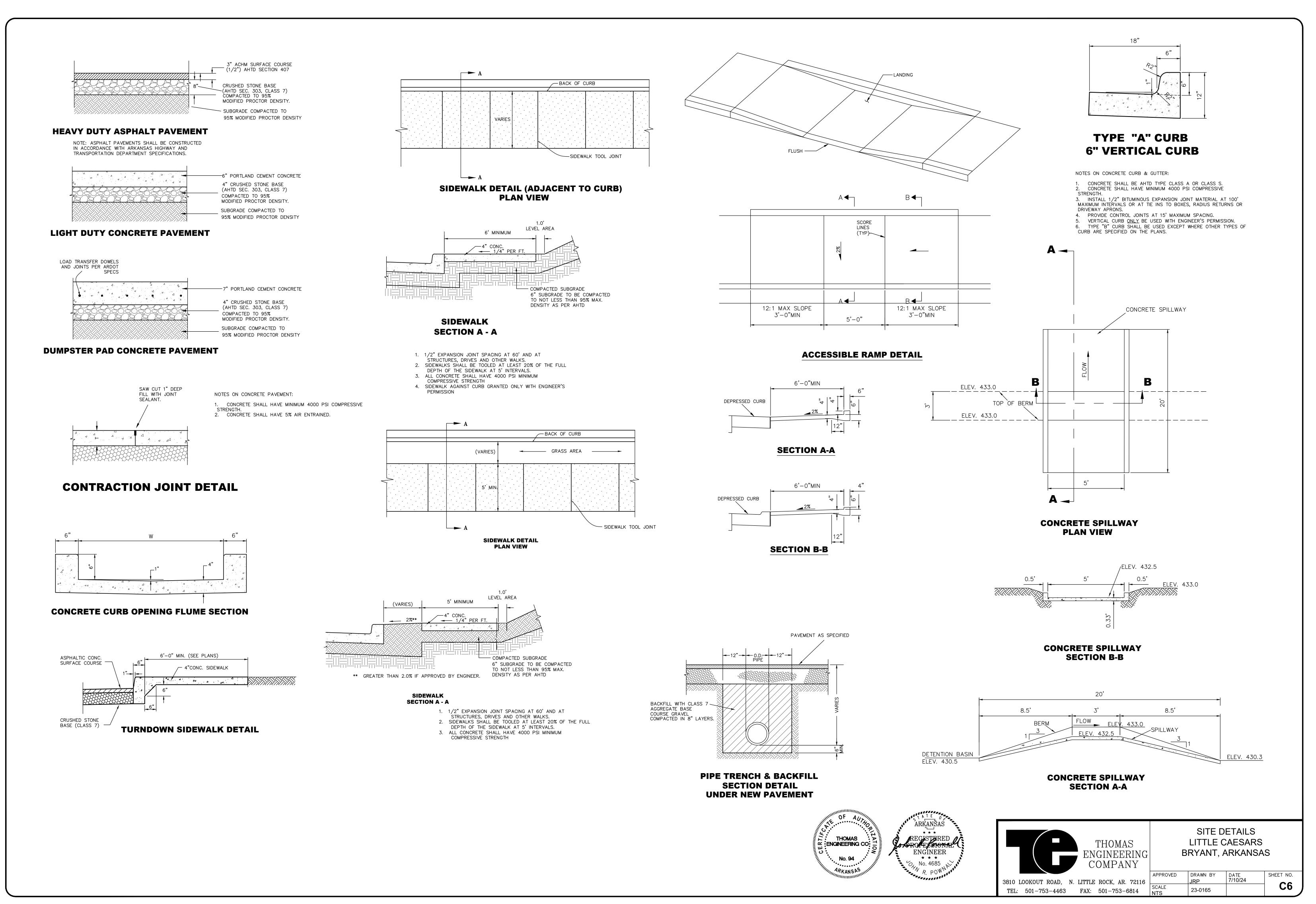
3810 LOOKOUT ROAD, N. LITTLE ROCK, AR. 72116
TEL: 501-753-4463 FAX: 501-753-6814

APPROVED DRAWN BY JRP 7/10/24

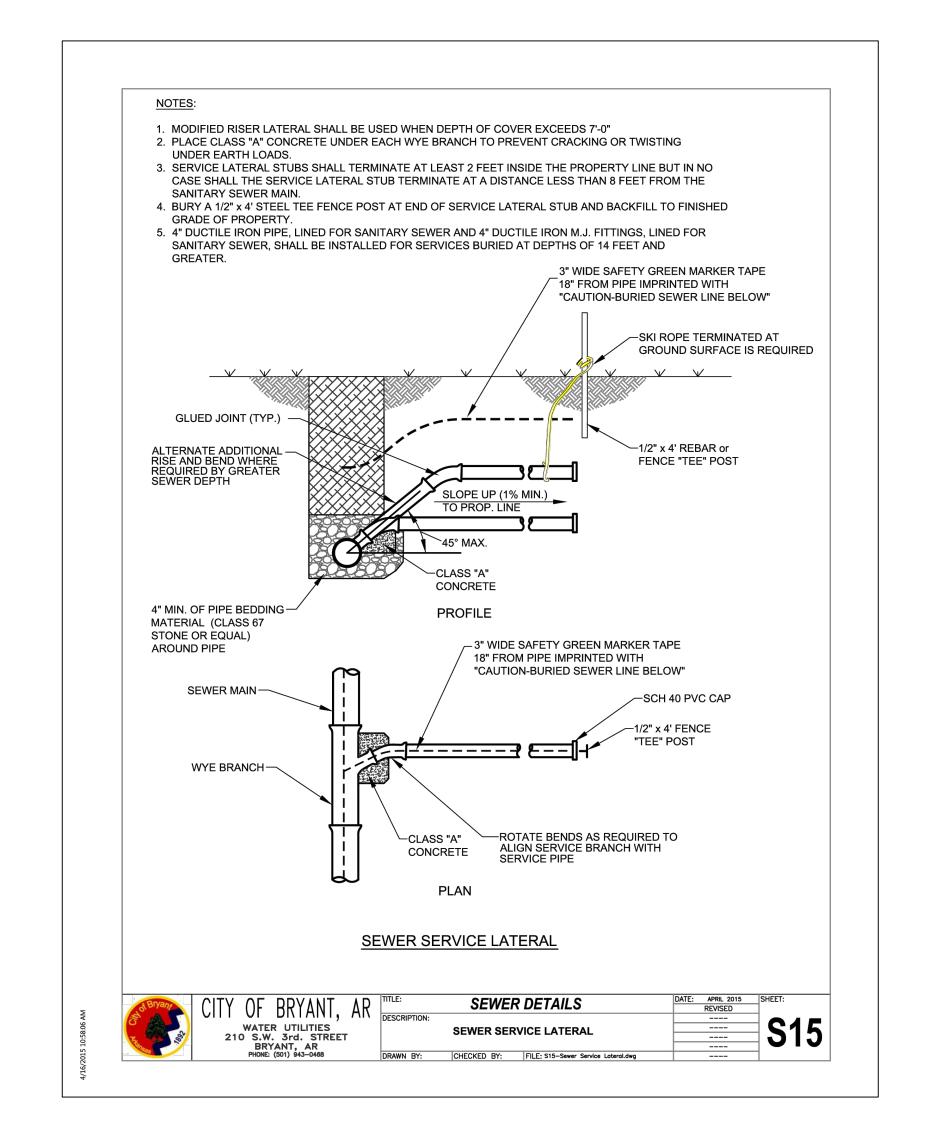
SCALE
1" = 20'

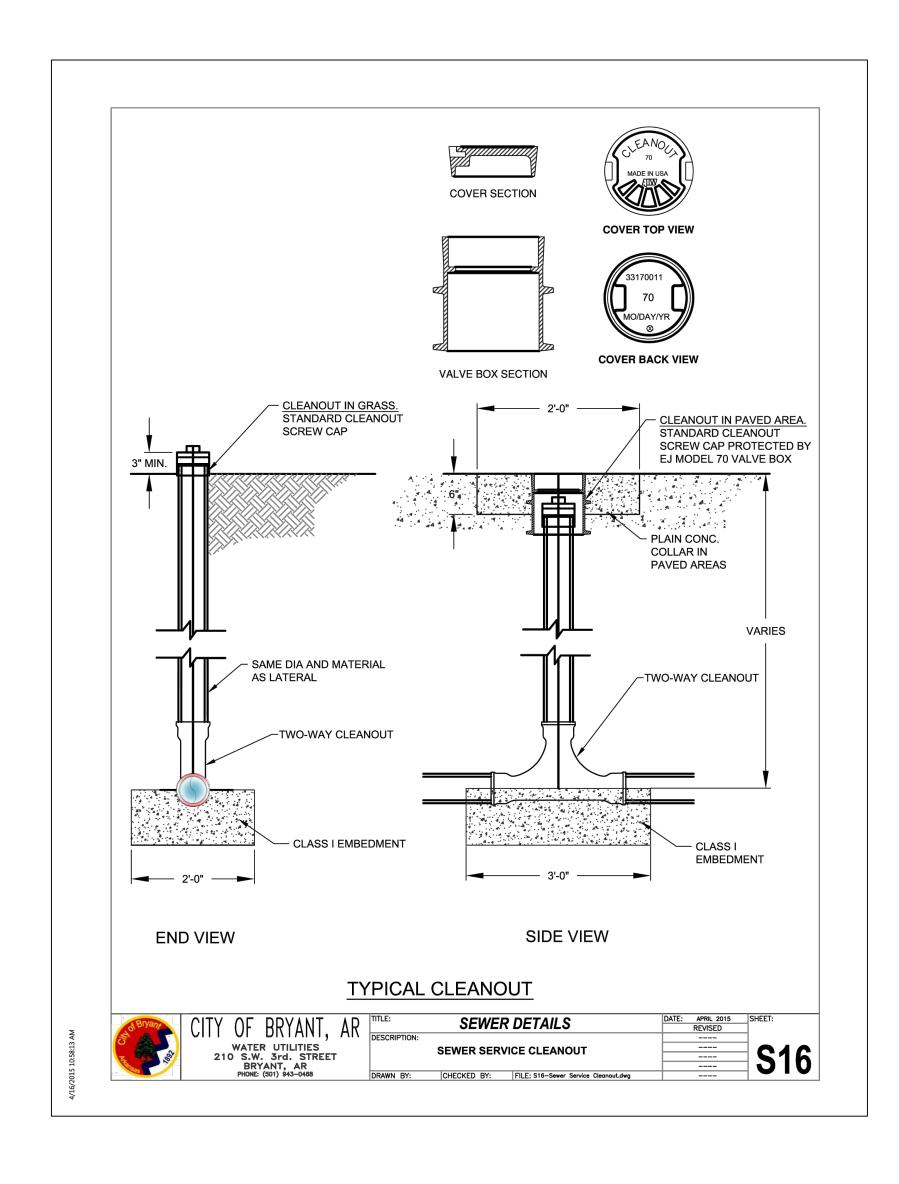


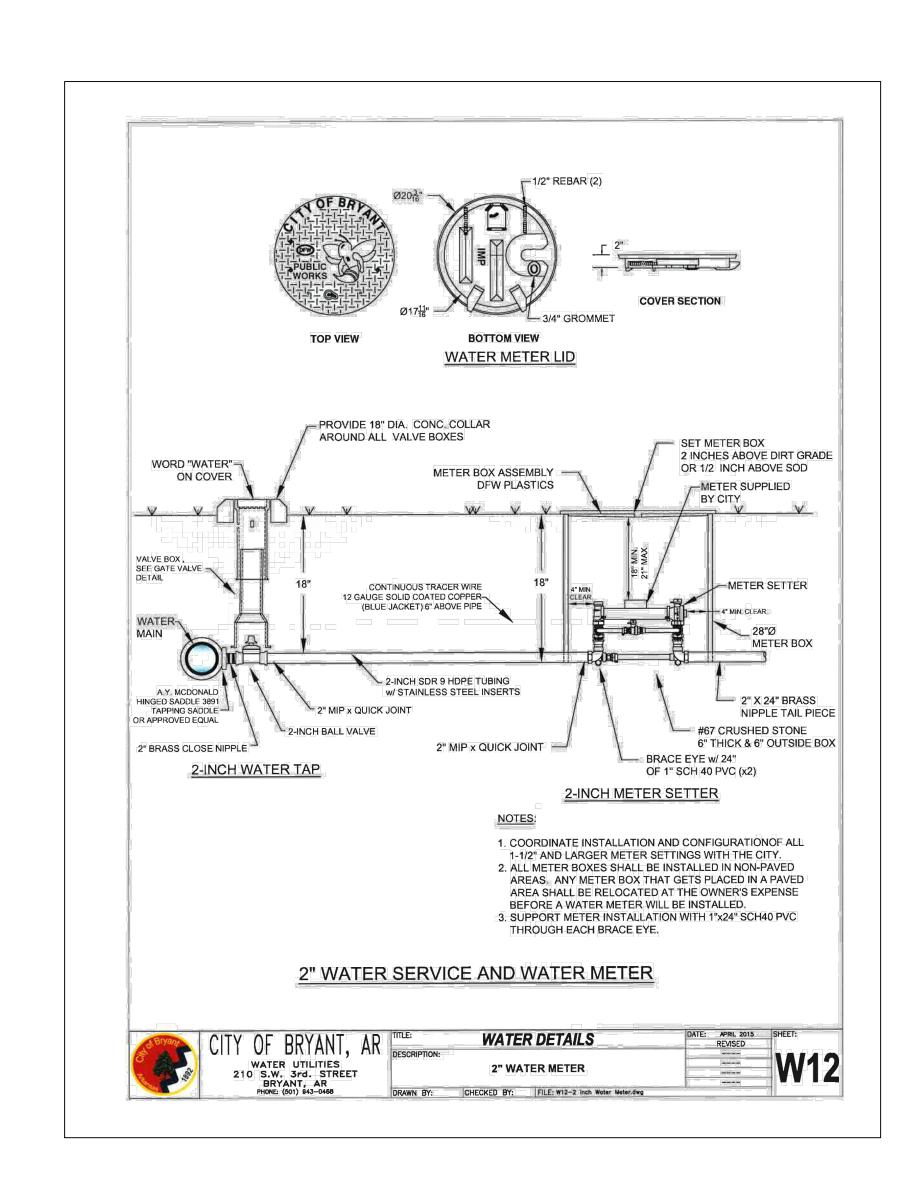


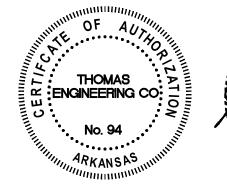
















TEL: 501-753-4463 FAX: 501-753-6814

WATER AND SEWER LINE DETAILS LITTLE CAESARS BRYANT, ARKANSAS

16	APPROVED	DRAWN BY	DATE 7/10/24	SHEET NO.
16		JINE	17.072.	C 7
	SCALE	23-0165		6/)
:	NTS	23-0103		

LITTLE CAESARS DRAINAGE REPORT

DATE 7/10/24 REVISED 7/11/24

PREPARED FOR: CITY OF BRYANT, AR

PREPARED BY:

THOMAS ENGINEERING COMPANY JOHN R POWNALL, P.E. 3810 LOOKOUT ROAD NORTH LITTLE ROCK, AR 72116

CERTIFICATION

I hereby state that this Final Drainage has been prepared by me or under my supervision and meets the standard of care and expertise which is usual and customary in this community of professional engineers. The analysis has been prepared utilizing procedures and practices by the City of Bryant and within the standard accepted practices.

John R. Pownall, P.E.

President

Date: 07/10/24

REVISED: 07/11/24

PROJECT DESCRIPTION

The proposed project is for the construction of a Little Caesars Restaurant located at Reynolds Road and Brown Lane. The proposed development is for a 1,873 square foot building.

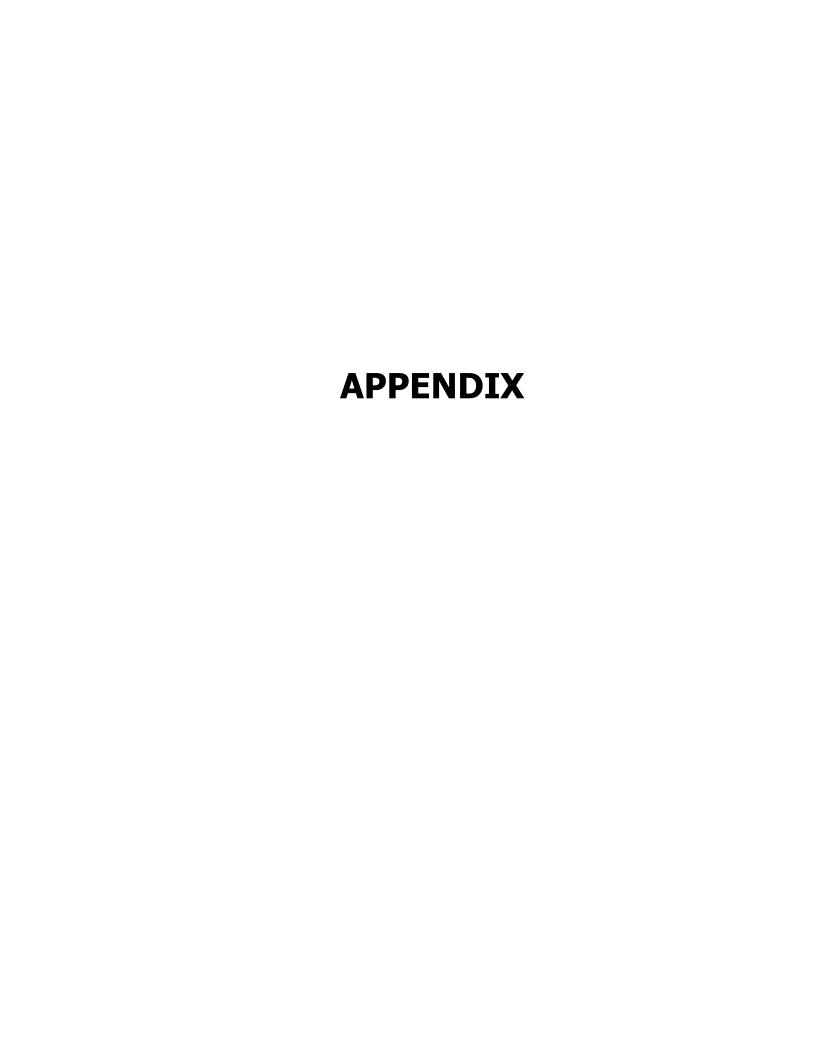
This drainage analysis is to evaluate the predevelopment & post development drainage for the 2YR, 5YR, 10YR, 25YR and 100YR storms. The existing site is grass covered. The developed condition will be covered in approximately 70% impermeable surfaces.

PROPOSED DRAINAGE SYSTEM

The developed site will drain by overland flow to a detention basin on the west side of the site. The detention basin will have a 8" diameter outlet pipe and a 5 foot wide overflow wier. The pre-development and post-development flows are summarized below:

STORM	PRE-DEVELOPMENT	POST-DEVELOPMENT
2	1.10	1.97
5	1.35	2.11
10	1.49	2.22
25	1.71	2.77
100	2.13	3.65

Due to the 8" minimum size of the outlet pipe, the post-development flows are more than the pre-development.



Project Description

File Name	LITTLE CAESARS BRYANT POST DEV.SPF
Description	
·	LITTLE CAESARS BRYANT

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	Rational
Time of Concentration (TOC) Method	SCS TR-55
Link Routing Method	Kinematic Wave
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	

Analysis Options

Start Analysis On	Jun 28, 2024 Jun 28, 2024 0	00:00:00 03:00:00 00:00:00 days days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss days hh:mm:ss seconds

Number of Elements

(וג
Rain Gages 0)
Subbasins	
Nodes	2
Junctions 0)
Outfalls 1	ĺ
Flow Diversions 0)
Inlets 0)
Storage Nodes 1	
Links2	2
Channels 0)
Pipes 0)
Pumps 0)
Orifices 1	i
Weirs 1	
Outlets 0)
Pollutants 0)
Land Uses 0)

Rainfall Details

Return Period	2 year(s)	

Subbasin Summary

SN Subbasin	Area	Weighted	Total	Total	Total	Peak	Time of
ID		Runoff	Rainfall	Runoff	Runoff	Runoff	Concentration
		Coefficient			Volume		
	(ac)		(in)	(in)	(ac-in)	(cfs)	(days hh:mm:ss)
1 Sub-01	0.82	0.3400	0.48	0.16	0.13	1.62	0 00:05:00

Node Summary

SN Element	Element	Invert	Ground/Rim	Initial	Surcharge	Ponded	Peak	Max HGL	Max	
ID	Туре	Elevation	(Max)	Water	Elevation	Area	Inflow	Elevation	Surcharge	F
			Elevation	Elevation				Attained	Depth	
									Attained	
		(ft)	(ft)	(ft)	(ft)	(ft ²)	(cfs)	(ft)	(ft)	
1 Out-01	Outfall	430.30					1.21	430.30		
2 Stor-01	Storage Node	430.50	433.00	430.50		0.00	1.62	431.32		

Link Summary

SN E	lement	Element	From	To (Outlet)	Length	Inlet	Outlet	Average	Diameter or	Manning's	Peak	Design Flow	Peak Flow/	Peak Flow
IE)	Type	(Inlet)	Node		Invert	Invert	Slope	Height	Roughness	Flow	Capacity	Design Flow	Velocity
			Node			Elevation	Elevation	·		· ·			Ratio	·
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)
1 D	ETENTION-OUTLET	Orifice	Stor-01	Out-01		430.50	430.30		8.000		1.21			
2 D	ETENTION-SPILLWAY	Weir	Stor-01	Out-01		430.50	430.30				0.00			

Subbasin Hydrology

Subbasin : Sub-01

Input Data

Area (ac)	0.82
Weighted Bunoff Coefficient	0.3400

Runoff Coefficient

	Aica	COII	Humon
Soil/Surface Description	(acres)	Group	Coeff.
Pasture, less than 25 years	0.82	C (2-6%)	0.34
Composite Area & Weighted Runoff Coeff.	0.82		0.34

Time of Concentration

TOC Method: SCS TR-55

Sheet Flow Equation :

 $Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))$

Where:

Tc = Time of Concentration (hr)

n = Manning's roughness Lf = Flow Length (ft) P = 2 yr, 24 hr Rainfall (inches)

Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation:

 $V = 16.1345 * (Sf^0.5) (unpaved surface) \\ V = 20.3282 * (Sf^0.5) (paved surface) \\ V = 15.0 * (Sf^0.5) (grassed waterway surface) \\ V = 10.0 * (Sf^0.5) (nearly bare & untilled surface) \\ V = 9.0 * (Sf^0.5) (cultivated straight rows surface) \\ V = 7.0 * (Sf^0.5) (short grass pasture surface) \\ V = 5.0 * (Sf^0.5) (woodland surface) \\ V = 2.5 * (Sf^0.5) (forest w/heavy litter surface) \\ Tc = (Lf / V) / (3600 sec/hr) \\ \label{eq:vector}$

Where:

Tc = Time of Concentration (hr)

Lf = Flow Length (ft)

V = Velocity (ft/sec)

Sf = Slope (ft/ft)

Channel Flow Equation :

 $V = (1.49 * (R^{(2/3)}) * (Sf^{0.5})) / n$

R = Aq / Wp

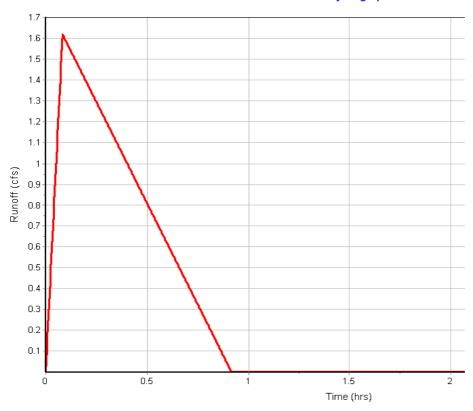
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)

Lf = Flow Length (ft)

Runoff Hydrograph



Storage Nodes

Storage Node : Stor-01

Input Data

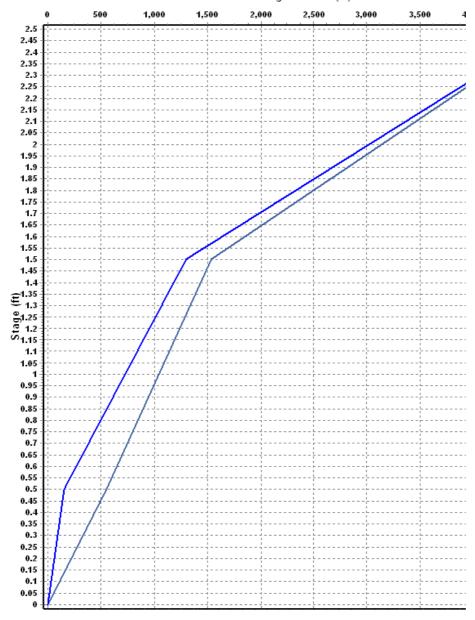
Invert Elevation (ft)	430.50
Max (Rim) Elevation (ft)	433.00
Max (Rim) Offset (ft)	2.50
Initial Water Elevation (ft)	430.50
Initial Water Depth (ft)	0.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves Storage Curve : Storage-01

Stage	Storage	Storage
	Area	Volume
(ft)	(ft²)	(ft³)
0	1	0.000
.5	608	152.25
1.5	1689	1300.75
2.5	5204	4747.25

Storage Area Volume Curves

Storage Volume (ft³)



Storage Node : Stor-01 (continued)

Outflow Weirs

	SN Element ID	Weir Type	Flap Gate	Crest Elevation	Crest Offset	Length
		**		(ft)	(ft)	(ft)
1 DETENTION-SPILLWAY Rectangular No				432.50	2.00	5.00

Outflow Orifices

SN Element	Orifice	Orifice	Flap	Circular	Rectangular
ID	Type	Shape	Gate	Orifice	Orifice
				Diameter	Height
				(in)	(in)
1 DETENTION-OUTLET	Side	CIRCULAR	No	8.00	

Output Summary Results

Peak Inflow (cfs) Peak Lateral Inflow (cfs) Peak Outflow (cfs) Peak Exfiltration Flow Rate (cfm) Max HGL Elevation Attained (ft) Max HGL Depth Attained (ft) Average HGL Elevation Attained (ft) Average HGL Depth Attained (ft) Time of Max HGL Occurrence (days hh:mm)	1.62 1.21 0.00 431.32 0.82 430.68 0.18 0 00:17
• • • • • • • • • • • • • • • • • • • •	
Total Exfiltration Volume (1000-ft³)	
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Project Description

File Name	LITTLE CAESARS BRYANT POST DEV.SPF
Description	
·	LITTLE CAESARS BRYANT

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	Rational
Time of Concentration (TOC) Method	SCS TR-55
Link Routing Method	Kinematic Wave
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	

Analysis Options

Start Analysis On	Jun 28, 2024 Jun 28, 2024 0	00:00:00 03:00:00 00:00:00 days days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss days hh:mm:ss seconds

Number of Elements

Rainfall Details

Subbasin Summary

SN Subbasin	Area	Weighted	Total	Total	Total	Peak	Time of
ID		Runoff	Rainfall	Runoff	Runoff	Runoff	Concentration
		Coefficient			Volume		
	(ac)		(in)	(in)	(ac-in)	(cfs)	(days hh:mm:ss)
1 Sub-01	0.82	0.3400	0.56	0.19	0.16	1.87	0 00:05:00

Node Summary

harge	F
Depth	
tained	
(ft)	

Link Summary

;	SN Element	Element	From	To (Outlet)	Length	Inlet	Outlet	Average	Diameter or	Manning's	Peak	Design Flow	Peak Flow/	Peak Flow
	ID	Type	(Inlet)	Node		Invert	Invert	Slope	Height	Roughness	Flow	Capacity	Design Flow	Velocity
			Node			Elevation	Elevation						Ratio	
_					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)
	1 DETENTION-OUTLET	Orifice	Stor-01	Out-01		430.50	430.30		8.000		1.34			
	2 DETENTION-SPILLWAY	Weir	Stor-01	Out-01		430.50	430.30				0.00			

Subbasin Hydrology

Subbasin : Sub-01

Input Data

Area (ac)	0.82
Weighted Bunoff Coefficient	0.3400

Runoff Coefficient

	Aica	COII	Humon
Soil/Surface Description	(acres)	Group	Coeff.
Pasture, less than 25 years	0.82	C (2-6%)	0.34
Composite Area & Weighted Runoff Coeff.	0.82		0.34

Time of Concentration

TOC Method: SCS TR-55

Sheet Flow Equation :

 $Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))$

Where:

Tc = Time of Concentration (hr)

n = Manning's roughness Lf = Flow Length (ft) P = 2 yr, 24 hr Rainfall (inches)

Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation:

 $V = 16.1345 * (Sf^0.5) (unpaved surface) \\ V = 20.3282 * (Sf^0.5) (paved surface) \\ V = 15.0 * (Sf^0.5) (grassed waterway surface) \\ V = 10.0 * (Sf^0.5) (nearly bare & untilled surface) \\ V = 9.0 * (Sf^0.5) (cultivated straight rows surface) \\ V = 7.0 * (Sf^0.5) (short grass pasture surface) \\ V = 5.0 * (Sf^0.5) (woodland surface) \\ V = 2.5 * (Sf^0.5) (forest w/heavy litter surface) \\ Tc = (Lf / V) / (3600 sec/hr) \\ \\$

Where:

Tc = Time of Concentration (hr)

Lf = Flow Length (ft)

V = Velocity (ft/sec)

Sf = Slope (ft/ft)

Channel Flow Equation :

 $V = (1.49 * (R^{(2/3)}) * (Sf^{0.5})) / n$

R = Aq / Wp

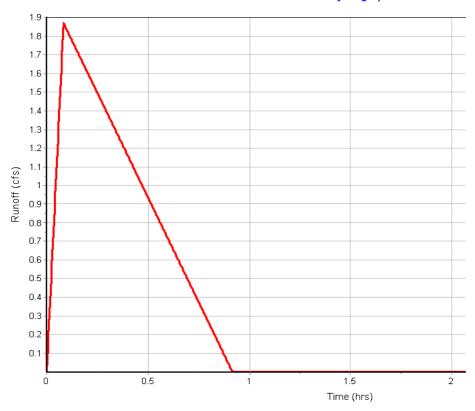
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)

Lf = Flow Length (ft)

Runoff Hydrograph



Storage Nodes

Storage Node : Stor-01

Input Data

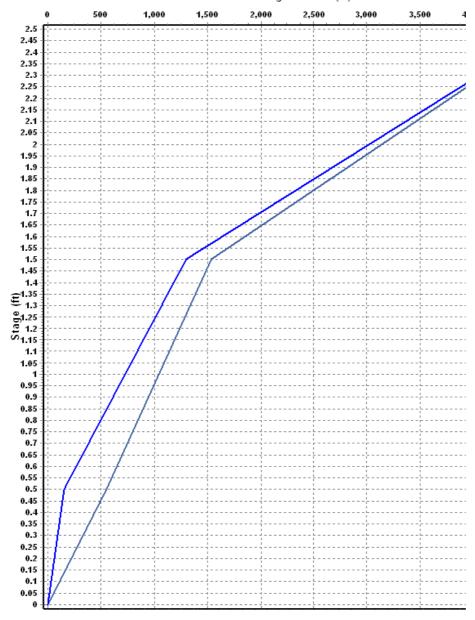
Invert Elevation (ft)	430.50
Max (Rim) Elevation (ft)	433.00
Max (Rim) Offset (ft)	2.50
Initial Water Elevation (ft)	430.50
Initial Water Depth (ft)	0.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves Storage Curve : Storage-01

Stage	Storage	Storage
	Area	Volume
(ft)	(ft²)	(ft³)
0	1	0.000
.5	608	152.25
1.5	1689	1300.75
2.5	5204	4747.25

Storage Area Volume Curves

Storage Volume (ft³)



Storage Node : Stor-01 (continued)

Outflow Weirs

	SN Element ID	Weir Type	Flap Gate	Crest Elevation	Crest Offset	Length
		**		(ft)	(ft)	(ft)
1 DETENTION-SPILLWAY Rectangular No				432.50	2.00	5.00

Outflow Orifices

SN Element ID	Orifice Type		ate Orifice	Rectangular Orifice Height
			Diameter (in)	Height (in)
1 DETENTION-OUTLET	Side	CIRCULAR N	lo 8.00	

Output Summary Results

Peak Inflow (cfs) Peak Lateral Inflow (cfs) Peak Outflow (cfs)	1.87
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	431.44
Max HGL Depth Attained (ft)	0.94
Average HGL Elevation Attained (ft)	430.71
Average HGL Depth Attained (ft)	0.21
Time of Max HGL Occurrence (days hh:mm)	0 00:19
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Project Description

File Name	LITTLE CAESARS BRYANT POST DEV.SPF
Description	
·	LITTLE CAESARS BRYANT

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	Rational
Time of Concentration (TOC) Method	SCS TR-55
Link Routing Method	Kinematic Wave
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	NO

Analysis Options

Start Analysis On	Jun 28, 2024	00:00:00
End Analysis On	Jun 28, 2024	03:00:00
Start Reporting On	Jun 28, 2024	00:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

Qt
0
1
. 2
. 0
. 1
. 0
. 0
. 1
. 2
. 0
. 0
. 0
. 1
. 1
. 0
0
. 0

Rainfall Details

Return Period	10 year(s)

Subbasin Summary

SN Subbasin	Area	Weighted	Total	Total	Total	Peak	Time of
ID		Runoff	Rainfall	Runoff	Runoff	Runoff	Concentration
		Coefficient			Volume		
	(ac)		(in)	(in)	(ac-in)	(cfs)	(days hh:mm:ss)
1 Sub-01	0.82	0.3400	0.63	0.22	0.18	2.12	0 00:05:00

Node Summary

S	N Element	Element	Invert	Ground/Rim	Initial	Surcharge	Ponded	Peak	Max HGL	Max	
	ID	Туре	Elevation	(Max)	Water	Elevation	Area	Inflow	Elevation	Surcharge	F
				Elevation	Elevation				Attained	Depth	
										Attained	
			(ft)	(ft)	(ft)	(ft)	(ft ²)	(cfs)	(ft)	(ft)	
	1 Out-01	Outfall	430.30					1.46	430.30		
	2 Stor-01	Storage Node	430.50	433.00	430.50		0.00	2.12	431.55		

Link Summary

Velocity
(ft/sec)
_

Subbasin Hydrology

Subbasin : Sub-01

Input Data

Area (ac)	0.82
Weighted Bunoff Coefficient	0.3400

Runoff Coefficient

	Aica	COII	Humon
Soil/Surface Description	(acres)	Group	Coeff.
Pasture, less than 25 years	0.82	C (2-6%)	0.34
Composite Area & Weighted Runoff Coeff.	0.82		0.34

Time of Concentration

TOC Method: SCS TR-55

Sheet Flow Equation :

 $Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))$

Where:

Tc = Time of Concentration (hr)

n = Manning's roughness Lf = Flow Length (ft) P = 2 yr, 24 hr Rainfall (inches)

Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation:

 $V = 16.1345 * (Sf^0.5) (unpaved surface) \\ V = 20.3282 * (Sf^0.5) (paved surface) \\ V = 15.0 * (Sf^0.5) (grassed waterway surface) \\ V = 10.0 * (Sf^0.5) (nearly bare & untilled surface) \\ V = 9.0 * (Sf^0.5) (cultivated straight rows surface) \\ V = 7.0 * (Sf^0.5) (short grass pasture surface) \\ V = 5.0 * (Sf^0.5) (woodland surface) \\ V = 2.5 * (Sf^0.5) (forest w/heavy litter surface) \\ Tc = (Lf / V) / (3600 sec/hr) \\ \\$

Where:

Tc = Time of Concentration (hr)

Lf = Flow Length (ft)

V = Velocity (ft/sec)

Sf = Slope (ft/ft)

Channel Flow Equation :

 $V = (1.49 * (R^{(2/3)}) * (Sf^{0.5})) / n$

R = Aq / Wp

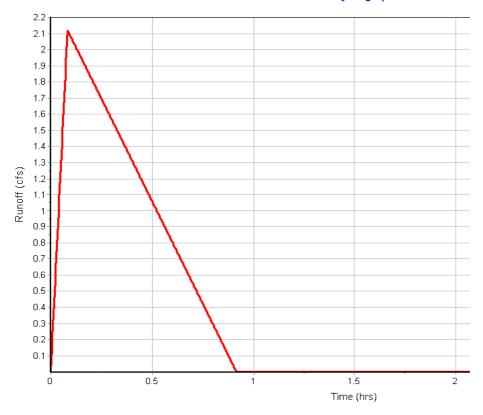
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)

Lf = Flow Length (ft)

Runoff Hydrograph



Storage Nodes

Storage Node : Stor-01

Input Data

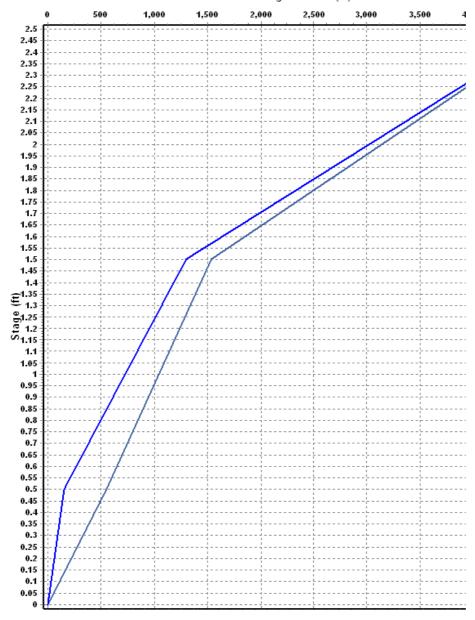
Invert Elevation (ft)	430.50
Max (Rim) Elevation (ft)	433.00
Max (Rim) Offset (ft)	2.50
Initial Water Elevation (ft)	430.50
Initial Water Depth (ft)	0.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves Storage Curve : Storage-01

Stage	Storage	Storage
	Area	Volume
(ft)	(ft²)	(ft³)
0	1	0.000
.5	608	152.25
1.5	1689	1300.75
2.5	5204	4747.25

Storage Area Volume Curves

Storage Volume (ft³)



Storage Node : Stor-01 (continued)

Outflow Weirs

SN Element ID	Weir Type	Flap Gate	Crest Elevation	Crest Offset	Length
	**		(ft)	(ft)	(ft)
1 DETENTION-SPIL	LWAY Rectangu	ılar No	432.50	2.00	5.00

Outflow Orifices

SN Element ID	Orifice Type		ate Orifice	Rectangular Orifice Height
			Diameter (in)	Height (in)
1 DETENTION-OUTLET	Side	CIRCULAR N	lo 8.00	

Output Summary Results

Peak Inflow (cfs) Peak Lateral Inflow (cfs) Peak Outflow (cfs) Peak Exfiltration Flow Rate (cfm) Max HGL Elevation Attained (ft) Max HGL Depth Attained (ft) Average HGL Elevation Attained (ft) Average HGL Depth Attained (ft)	2.12 1.46 0.00 431.55 1.05 430.74 0.24
Max HGL Elevation Attained (ft)	431.55
Max HGL Depth Attained (ft)	1.05
Average HGL Elevation Attained (ft)	430.74
Average HGL Depth Attained (ft)	0.24
Time of Max HGL Occurrence (days hh:mm)	0 00:20
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Project Description

File Name	LITTLE CAESARS BRYANT POST DEV.SPF
Description	
·	LITTLE CAESARS BRYANT

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	Rational
Time of Concentration (TOC) Method	SCS TR-55
Link Routing Method	Kinematic Wave
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	NO

Analysis Options

Start Analysis On	Jun 28, 2024 Jun 28, 2024 0	00:00:00 03:00:00 00:00:00 days days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss days hh:mm:ss seconds

Number of Elements

Qī	ſλ
Rain Gages 0	
Subbasins	
Nodes	
Junctions 0	
Outfalls 1	
Flow Diversions 0	
Inlets 0	
Storage Nodes 1	
Links	
Channels 0	
Pipes 0	
Pumps 0	
Orifices 1	
Weirs 1	
Outlets 0	
Pollutants 0	
Land Uses 0	

Rainfall Details

Return Period	25 year(s)

Subbasin Summary

SN Subbasin	Area	Weighted	Total	Total	Total	Peak	Time of
ID		Runoff	Rainfall	Runoff	Runoff	Runoff	Concentration
		Coefficient			Volume		
	(ac)		(in)	(in)	(ac-in)	(cfs)	(days hh:mm:ss)
1 Sub-01	0.82	0.3400	0.71	0.24	0.20	2.37	0 00:05:00

Node Summary

Invert Ground/Rim Initial Surcharge Ponded Peak	Max HGL Max	
Elevation (Max) Water Elevation Area Inflow	Elevation Surcharge F	
Elevation Elevation	Attained Depth	
	Attained	
(ft) (ft) (ft) (ft) (ft²) (cfs²)	(ft) (ft)	
430.30 1.57	430.30	
430.50 433.00 430.50 0.00 2.37	431.67	
430.30 1.57	(ft) 430.30	

Link Summary

;	SN Element	Element	From	To (Outlet)	Length	Inlet	Outlet	Average	Diameter or	Manning's	Peak	Design Flow	Peak Flow/	Peak Flow
	ID	Type	(Inlet)	Node		Invert	Invert	Slope	Height	Roughness	Flow	Capacity	Design Flow	Velocity
			Node			Elevation	Elevation						Ratio	
					(4.)	(4.)		(-1)						
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)
	1 DETENTION-OUTLET	Orifice	Stor-01	Out-01		430.50	430.30		8.000		1.57			
	2 DETENTION-SPILLWAY	Weir	Stor-01	Out-01		430.50	430.30				0.00			

Subbasin Hydrology

Subbasin : Sub-01

Input Data

Area (ac)	0.82
Weighted Bunoff Coefficient	0.3400

Runoff Coefficient

	Aica	COII	Humon
Soil/Surface Description	(acres)	Group	Coeff.
Pasture, less than 25 years	0.82	C (2-6%)	0.34
Composite Area & Weighted Runoff Coeff.	0.82		0.34

Time of Concentration

TOC Method: SCS TR-55

Sheet Flow Equation :

 $Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))$

Where:

Tc = Time of Concentration (hr)

n = Manning's roughness Lf = Flow Length (ft) P = 2 yr, 24 hr Rainfall (inches)

Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation:

 $V = 16.1345 * (Sf^0.5) (unpaved surface) \\ V = 20.3282 * (Sf^0.5) (paved surface) \\ V = 15.0 * (Sf^0.5) (grassed waterway surface) \\ V = 10.0 * (Sf^0.5) (nearly bare & untilled surface) \\ V = 9.0 * (Sf^0.5) (cultivated straight rows surface) \\ V = 7.0 * (Sf^0.5) (short grass pasture surface) \\ V = 5.0 * (Sf^0.5) (woodland surface) \\ V = 2.5 * (Sf^0.5) (forest w/heavy litter surface) \\ Tc = (Lf / V) / (3600 sec/hr) \\ \\$

Where:

Tc = Time of Concentration (hr)

Lf = Flow Length (ft)

V = Velocity (ft/sec)

Sf = Slope (ft/ft)

Channel Flow Equation :

 $V = (1.49 * (R^{(2/3)}) * (Sf^{0.5})) / n$

R = Aq / Wp

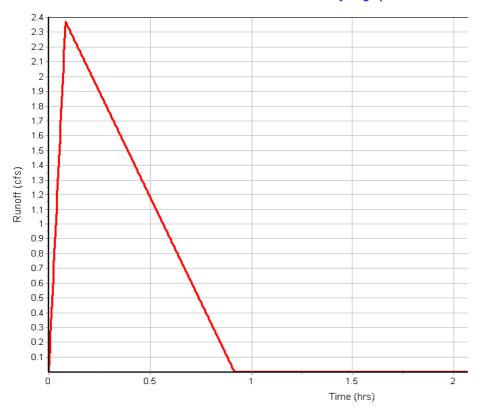
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)

Lf = Flow Length (ft)

Runoff Hydrograph



Storage Nodes

Storage Node : Stor-01

Input Data

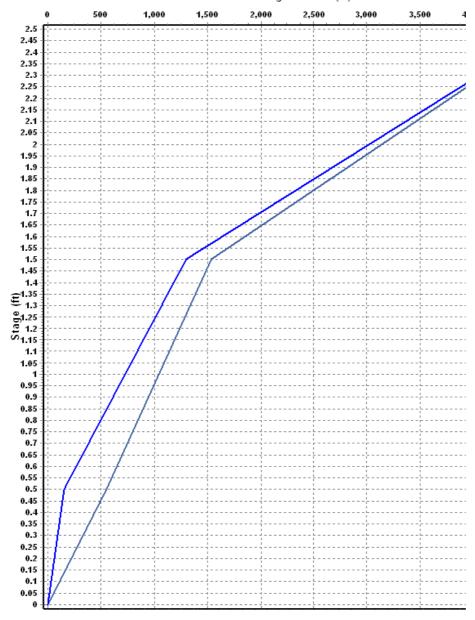
Invert Elevation (ft)	430.50
Max (Rim) Elevation (ft)	433.00
Max (Rim) Offset (ft)	2.50
Initial Water Elevation (ft)	430.50
Initial Water Depth (ft)	0.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves Storage Curve : Storage-01

Stage	Storage	Storage
	Area	Volume
(ft)	(ft²)	(ft³)
0	1	0.000
.5	608	152.25
1.5	1689	1300.75
2.5	5204	4747.25

Storage Area Volume Curves

Storage Volume (ft³)



Storage Node : Stor-01 (continued)

Outflow Weirs

	SN Element ID	Weir Type	Flap Gate	Crest Elevation	Crest Offset	Length
		• •		(ft)	(ft)	(ft)
-	1 DETENTION-SPILL	NAY Rectangu	ılar No	432 50	2.00	5.00

Outflow Orifices

SN Element	Orifice	Orifice	Flap	Circular	Rectangular
ID	Type	Shape	Gate	Orifice	Orifice
				Diameter	Height
				(in)	(in)
1 DETENTION-OUTLET	Side	CIRCULAR	No	8.00	

Output Summary Results

Peak Inflow (cfs)	2.37
Peak Lateral Inflow (cfs)	2.37
Peak Outflow (cfs)	1.57
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	431.67
Max HGL Depth Attained (ft)	. 1.17
Average HGL Elevation Attained (ft)	430.77
Average HGL Depth Attained (ft)	0.27
Time of Max HGL Occurrence (days hh:mm)	0 00:22
Total Exfiltration Volume (1000-ft ³)	0.000
Total Flooded Volume (ac-in)	. 0
Total Time Flooded (min)	. 0
Total Retention Time (sec)	0.00

Project Description

File Name	LITTLE CAESARS BRYANT POST DEV.SPF
Description	
·	LITTLE CAESARS BRYANT

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	Rational
Time of Concentration (TOC) Method	SCS TR-55
Link Routing Method	Kinematic Wave
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	NO

Analysis Options

Start Analysis On	Jun 28, 2024	00:00:00
End Analysis On	Jun 28, 2024	03:00:00
Start Reporting On	Jun 28, 2024	00:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

ty

Rainfall Details

Subbasin Summary

SN Subbasin	Area	Weighted	Total	Total	Total	Peak	Time of
ID		Runoff	Rainfall	Runoff	Runoff	Runoff	Concentration
		Coefficient			Volume		
	(ac)		(in)	(in)	(ac-in)	(cfs)	(days hh:mm:ss)
1 Sub-01	0.82	0.3400	0.83	0.28	0.23	2.79	0 00:05:00

Node Summary

SN Element	Element	Invert	Ground/Rim	Initial	Surcharge	Ponded	Peak	Max HGL	Max
ID	Type	Elevation	(Max)	Water	Elevation	Area	Inflow	Elevation	Surcharge F
			Elevation	Elevation				Attained	Depth
									Attained
		(ft)	(ft)	(ft)	(ft)	(ft ²)	(cfs)	(ft)	(ft)
1 Out-01	Outfall	430.30					1.74	430.30	
2 Stor-01	Storage Node	430.50	433.00	430.50		0.00	2.79	431.86	

Link Summary

;	SN Element	Element	From	To (Outlet)	Length	Inlet	Outlet	Average	Diameter or	Manning's	Peak	Design Flow	Peak Flow/	Peak Flow
	ID	Type	(Inlet)	Node		Invert	Invert	Slope	Height	Roughness	Flow	Capacity	Design Flow	Velocity
			Node			Elevation	Elevation						Ratio	
_					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)
	1 DETENTION-OUTLET	Orifice	Stor-01	Out-01		430.50	430.30		8.000		1.74			
	2 DETENTION-SPILLWAY	Weir	Stor-01	Out-01		430.50	430.30				0.00			

Subbasin Hydrology

Subbasin : Sub-01

Input Data

Area (ac)	0.82
Weighted Bunoff Coefficient	0.3400

Runoff Coefficient

	Aica	COII	Humon
Soil/Surface Description	(acres)	Group	Coeff.
Pasture, less than 25 years	0.82	C (2-6%)	0.34
Composite Area & Weighted Runoff Coeff.	0.82		0.34

Time of Concentration

TOC Method: SCS TR-55

Sheet Flow Equation :

 $Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))$

Where:

Tc = Time of Concentration (hr)

n = Manning's roughness Lf = Flow Length (ft) P = 2 yr, 24 hr Rainfall (inches)

Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation:

 $V = 16.1345 * (Sf^0.5) (unpaved surface) \\ V = 20.3282 * (Sf^0.5) (paved surface) \\ V = 15.0 * (Sf^0.5) (grassed waterway surface) \\ V = 10.0 * (Sf^0.5) (nearly bare & untilled surface) \\ V = 9.0 * (Sf^0.5) (cultivated straight rows surface) \\ V = 7.0 * (Sf^0.5) (short grass pasture surface) \\ V = 5.0 * (Sf^0.5) (woodland surface) \\ V = 2.5 * (Sf^0.5) (forest w/heavy litter surface) \\ Tc = (Lf / V) / (3600 sec/hr) \\ \\$

Where:

Tc = Time of Concentration (hr)

Lf = Flow Length (ft)

V = Velocity (ft/sec)

Sf = Slope (ft/ft)

Channel Flow Equation :

 $V = (1.49 * (R^{(2/3)}) * (Sf^{0.5})) / n$

R = Aq / Wp

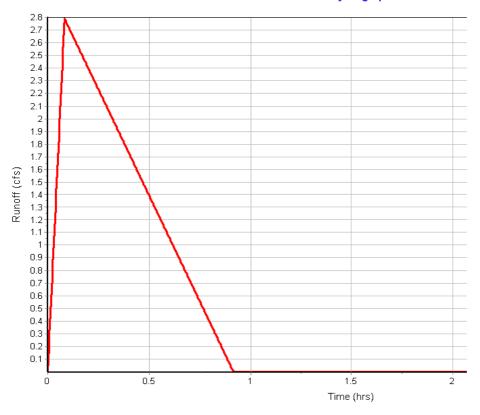
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)

Lf = Flow Length (ft)

Runoff Hydrograph



Storage Nodes

Storage Node : Stor-01

Input Data

Invert Elevation (ft)	430.50
Max (Rim) Elevation (ft)	433.00
Max (Rim) Offset (ft)	2.50
Initial Water Elevation (ft)	430.50
Initial Water Depth (ft)	0.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves Storage Curve : Storage-01

Stage	Storage	Storage
	Area	Volume
(ft)	(ft²)	(ft ³)
0	1	0.000
.5	608	152.25
1.5	1689	1300.75
2.5	5204	4747.25

Storage Area Volume Curves

Storage Volume (ft³)



Storage Node : Stor-01 (continued)

Outflow Weirs

	SN Element ID	Weir Type	Flap Gate	Crest Elevation	Crest Offset	Length
		• •		(ft)	(ft)	(ft)
-	1 DETENTION-SPILL	NAY Rectangu	ılar No	432 50	2.00	5.00

Outflow Orifices

SN Element	Orifice	Orifice	Flap	Circular	Rectangular
ID	Type	Shape	Gate	Orifice	Orifice
				Diameter	Height
				(in)	(in)
1 DETENTION-OUTLET	Side	CIRCULAR	No	8.00	

Output Summary Results

Peak Inflow (cfs) Peak Lateral Inflow (cfs) Peak Outflow (cfs)	2.79
Peak Exfiltration Flow Rate (cfm)	
Max HGL Elevation Attained (ft)	
Max HGL Depth Attained (ft)	1.36
Average HGL Elevation Attained (ft)	430.82
Average HGL Depth Attained (ft)	0.32
Time of Max HGL Occurrence (days hh:mm)	0 00:23
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Project Description

File Name	LITTLE CAESARS BRYANT PREDEV.SPF
Description	•
	LITTLE CAESARS BRYANT

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	Rational
Time of Concentration (TOC) Method	SCS TR-55
Link Routing Method	Kinematic Wave
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	NO

Analysis Options

Start Analysis On	Jun 28, 2024	00:00:00
End Analysis On	Jun 28, 2024	03:00:00
Start Reporting On	Jun 28, 2024	00:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step		days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

Q	τ
Rain Gages 0	
Subbasins	
Nodes	
Junctions 0	
Outfalls 1	
Flow Diversions 0	
Inlets 0	
Storage Nodes 0	
Links0	
Channels 0	
Pipes 0	
Pumps 0	
Orifices 0	
Weirs 0	
Outlets 0	
Pollutants 0	
Land Uses 0	

Rainfall Details

Subbasin Summary

SN Subbasin	Area	Weighted	Total	Total	Total	Peak	Time of
ID		Runoff	Rainfall	Runoff	Runoff	Runoff	Concentration
		Coefficient			Volume		
	(ac)		(in)	(in)	(ac-in)	(cfs)	(days hh:mm:ss)
1 Sub-01	0.82	0.3400	1.01	0.34	0.28	1.10	0 00:15:17

Node Summary

5	SN Element	Element	Invert	Ground/Rim	Initial	Surcharge	Ponded	Peak	Max HGL	Max	
	ID	Type	Elevation	(Max)	Water	Elevation	Area	Inflow	Elevation	Surcharge	Freebo
				Elevation	Elevation				Attained	Depth	Attai
										Attained	
			(ft)	(ft)	(ft)	(ft)	(ft ²)	(cfs)	(ft)	(ft)	
_	1 Out-01	Outfall	(ft) 430.20	(ft)	(ft)	(ft)	(ft²)	(cfs) 0.00	(ft) 0.00	(ft)	

Subbasin Hydrology

Subbasin : Sub-01

Input Data

Area (ac)	0.82
Weighted Runoff Coefficient	0.3400

Runoff Coefficient

	Area	Soli	Runott
Soil/Surface Description	(acres)	Group	Coeff.
Pasture, less than 25 years	0.82 (2 (2-6%)	0.34
Composite Area & Weighted Runoff Coeff.	0.82		0.34

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

 $Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))$

Where:

Tc = Time of Concentration (hr)

n = Manning's roughness Lf = Flow Length (ft) P = 2 yr, 24 hr Rainfall (inches)

Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation:

 $V = 16.1345 * (Sf^0.5) (unpaved surface) \\ V = 20.3282 * (Sf^0.5) (paved surface) \\ V = 15.0 * (Sf^0.5) (grassed waterway surface) \\ V = 10.0 * (Sf^0.5) (nearly bare & untilled surface) \\ V = 9.0 * (Sf^0.5) (cultivated straight rows surface) \\ V = 7.0 * (Sf^0.5) (short grass pasture surface) \\ V = 5.0 * (Sf^0.5) (woodland surface) \\ V = 2.5 * (Sf^0.5) (forest w/heavy litter surface) \\ Tc = (Lf / V) / (3600 sec/hr) \\ \label{eq:vector}$

Where:

Tc = Time of Concentration (hr)

Lf = Flow Length (ft)

V = Velocity (ft/sec)

Sf = Slope (ft/ft)

Channel Flow Equation :

 $V = (1.49 * (R^{(2/3)}) * (Sf^{0.5})) / n$

R = Aq / Wp

Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)

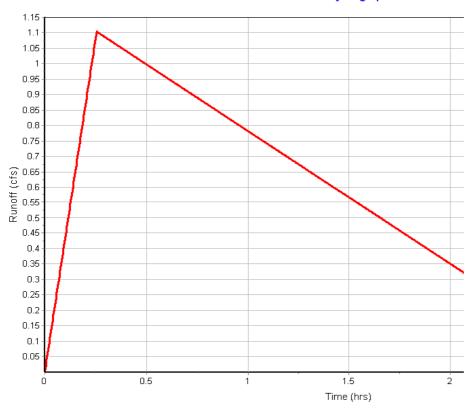
Lf = Flow Length (ft)

	Subarea	Subarea	Subarea
Sheet Flow Computations	Α	В	С
Manning's Roughness :	.3	0.00	0.00
Flow Length (ft):	100	0.00	0.00
Slope (%):	2.2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	4.13	0.00	0.00
Velocity (ft/sec):	0.12	0.00	0.00
Computed Flow Time (min) :	14.45	0.00	0.00
	Subarea	Subarea	Subarea
Shallow Concentrated Flow Computations	Α	В	С
Flow Length (ft):	120	0.00	0.00
		0.00	0.00
Slope (%):	2.2	0.00	0.00
Slope (%): Surface Type:			0.00
1 ()	2.2	0.00	0.00
Surface Type :	2.2 Unpaved	0.00 Unpaved	0.00 Unpaved

Subbasin Runoff Results

Total Rainfall (in)	1.01
Total Runoff (in)	0.34
Peak Runoff (cfs)	1.10
Rainfall Intensity	3.961
Weighted Runoff Coefficient	0.3400
Time of Concentration (days hh:mm:ss)	0 00:15:17

Runoff Hydrograph



Project Description

File Name	LITTLE CAESARS BRYANT PREDEV.SPF
Description	
	LITTLE CAESARS BRYANT

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	Rational
Time of Concentration (TOC) Method	SCS TR-55
Link Routing Method	Kinematic Wave
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	

Analysis Options

Number of Elements

Qt	IJ
Rain Gages 0	
Subbasins	
Nodes	
Junctions 0	
Outfalls 1	
Flow Diversions 0	
Inlets 0	
Storage Nodes 0	
Links 0	
Channels 0	
Pipes 0	
Pumps 0	
Orifices 0	
Weirs 0	
Outlets 0	
Pollutants 0	
Land Uses 0	

Rainfall Details

Subbasin Summary

SN Subbasin	Area	Weighted	Total	Total	Total	Peak	Time of
ID		Runoff	Rainfall	Runoff	Runoff	Runoff	Concentration
		Coefficient			Volume		
	(ac)		(in)	(in)	(ac-in)	(cfs)	(days hh:mm:ss)
1 Sub-01	0.82	0.3400	1.24	0.42	0.35	1.35	0 00:15:17

Node Summary

S	SN Element	Element	Invert	Ground/Rim	Initial	Surcharge	Ponded	Peak	Max HGL	Max	
	ID	Type	Elevation	(Max)	Water	Elevation	Area	Inflow	Elevation	Surcharge	Freebo
				Elevation	Elevation				Attained	Depth	Attai
										Attained	
			(ft)	(ft)	(ft)	(ft)	(ft ²)	(cfs)	(ft)	(ft)	
	1 Out-01	Outfall	430.20	•		•		0.00	0.00	·	

Subbasin Hydrology

Subbasin : Sub-01

Input Data

Area (ac)	0.82
Weighted Runoff Coefficient	0.3400

Runoff Coefficient

	Area	Soil	Runoff
Soil/Surface Description	(acres)	Group	Coeff.
Pasture, less than 25 years	0.82 0	(2-6%)	0.34
Composite Area & Weighted Runoff Coeff.	0.82		0.34

Time of Concentration

TOC Method: SCS TR-55

Sheet Flow Equation :

 $Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))$

Where:

Tc = Time of Concentration (hr)

n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

 $V = 16.1345 * (Sf^0.5) (unpaved surface) \\ V = 20.3282 * (Sf^0.5) (paved surface) \\ V = 15.0 * (Sf^0.5) (grassed waterway surface) \\ V = 10.0 * (Sf^0.5) (nearly bare & untilled surface) \\ V = 9.0 * (Sf^0.5) (cultivated straight rows surface) \\ V = 7.0 * (Sf^0.5) (short grass pasture surface) \\ V = 5.0 * (Sf^0.5) (woodland surface) \\ V = 2.5 * (Sf^0.5) (forest w/heavy litter surface) \\ Tc = (Lf / V) / (3600 sec/hr) \\ \label{eq:vector}$

Where:

Tc = Time of Concentration (hr)

Lf = Flow Length (ft)

V = Velocity (ft/sec)

Sf = Slope (ft/ft)

Channel Flow Equation :

 $V = (1.49 * (R^{(2/3)}) * (Sf^{0.5})) / n$

R = Aq / WpTc = (Lf / V) / (3600 sec/hr)

Where:

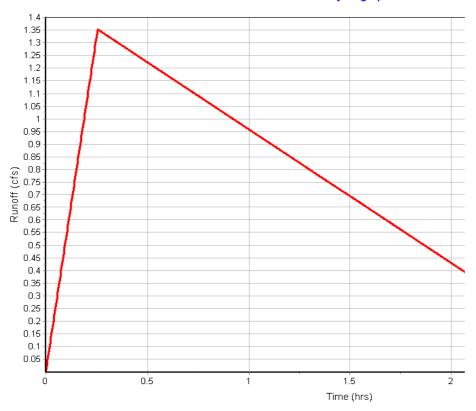
Tc = Time of Concentration (hr)

Lf = Flow Length (ft)

	Subarea	Subarea	Subarea
Sheet Flow Computations	Α	В	С
Manning's Roughness :	.3	0.00	0.00
Flow Length (ft):	100	0.00	0.00
Slope (%):	2.2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	4.13	0.00	0.00
Velocity (ft/sec):	0.12	0.00	0.00
Computed Flow Time (min) :	14.45	0.00	0.00
	Subarea	Subarea	Subarea
Shallow Concentrated Flow Computations	Α	В	С
Flow Length (ft):	120	0.00	0.00
Slope (%):	2.2	0.00	0.00
Surface Type :	Unpaved	Unpaved	Unpaved
Velocity (ft/sec):	2.39	0.00	0.00
Computed Flow Time (min) :	0.84	0.00	0.00
Total TOC (min)15.29			

Subbasin Runoff Results

Runoff Hydrograph



Project Description

File Name	. LITTLE CAESARS BRYANT PREDEV.SPF
Description	
·	LITTLE CAESARS BRYANT

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	Rational
Time of Concentration (TOC) Method	SCS TR-55
Link Routing Method	Kinematic Wave
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	NO

Analysis Options

Start Analysis On	Jun 28, 2024	00:00:00
End Analysis On	Jun 28, 2024	03:00:00
Start Reporting On	Jun 28, 2024	00:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

Q	τ
Rain Gages 0	
Subbasins	
Nodes	
Junctions 0	
Outfalls 1	
Flow Diversions 0	
Inlets 0	
Storage Nodes 0	
Links0	
Channels 0	
Pipes 0	
Pumps 0	
Orifices 0	
Weirs 0	
Outlets 0	
Pollutants 0	
Land Uses 0	

Rainfall Details

Return Period

Subbasin Summary

SN Subbasin	Area	Weighted	Total	Total	Total	Peak	Time of
ID		Runoff	Rainfall	Runoff	Runoff	Runoff	Concentration
		Coefficient			Volume		
	(ac)		(in)	(in)	(ac-in)	(cfs)	(days hh:mm:ss)
1 Sub-01	0.82	0.3400	1.37	0.47	0.38	1.49	0 00:15:17

Node Summary

S	SN Element	Element	Invert	Ground/Rim	Initial	Surcharge	Ponded	Peak	Max HGL	Max	
	ID	Type	Elevation	(Max)	Water	Elevation	Area	Inflow	Elevation	Surcharge	Freebo
				Elevation	Elevation				Attained	Depth	Attai
										Attained	
			(ft)	(ft)	(ft)	(ft)	(ft ²)	(cfs)	(ft)	(ft)	
	1 Out-01	Outfall	430.20	•		•		0.00	0.00	·	

Subbasin Hydrology

Subbasin : Sub-01

Input Data

Area (ac)	0.82
Weighted Bunoff Coefficient	0.3400

Runoff Coefficient

	Area	Soil	Runoff
Soil/Surface Description	(acres)	Group	Coeff.
Pasture, less than 25 years	0.82 C	(2-6%)	0.34
Composite Area & Weighted Runoff Coeff.	0.82		0.34

Time of Concentration

TOC Method: SCS TR-55

Sheet Flow Equation :

 $Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))$

Where:

Tc = Time of Concentration (hr)

n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

 $V = 16.1345 * (Sf^0.5) (unpaved surface) \\ V = 20.3282 * (Sf^0.5) (paved surface) \\ V = 15.0 * (Sf^0.5) (grassed waterway surface) \\ V = 10.0 * (Sf^0.5) (nearly bare & untilled surface) \\ V = 9.0 * (Sf^0.5) (cultivated straight rows surface) \\ V = 7.0 * (Sf^0.5) (short grass pasture surface) \\ V = 5.0 * (Sf^0.5) (woodland surface) \\ V = 2.5 * (Sf^0.5) (forest w/heavy litter surface) \\ Tc = (Lf / V) / (3600 sec/hr) \\ \\$

Where:

Tc = Time of Concentration (hr)

Lf = Flow Length (ft)

V = Velocity (ft/sec)

Sf = Slope (ft/ft)

Channel Flow Equation :

 $V = (1.49 * (R^{(2/3)}) * (Sf^{0.5})) / n$

R = Aq / Wp

Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)

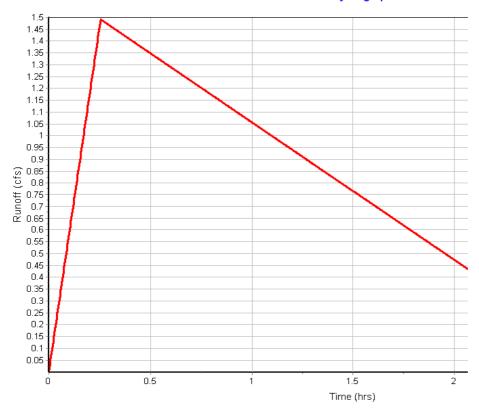
Lf = Flow Length (ft)

	Subarea	Subarea	Subarea
Sheet Flow Computations	Α	В	С
Manning's Roughness :	.3	0.00	0.00
Flow Length (ft):	100	0.00	0.00
Slope (%):	2.2	0.00	0.00
2 yr, 24 hr Rainfall (in):	4.13	0.00	0.00
Velocity (ft/sec):	0.12	0.00	0.00
Computed Flow Time (min):	14.45	0.00	0.00
	Subarea	Subarea	Subarea
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Shallow Concentrated Flow Computations Flow Length (ft):			
· · · · · · · · · · · · · · · · · · ·	А	В	С
Flow Length (ft):	A 120	B 0.00	0.00 0.00
Flow Length (ft): Slope (%):	A 120 2.2	0.00 0.00	0.00 0.00
Flow Length (ft): Slope (%): Surface Type:	A 120 2.2 Unpaved	8 0.00 0.00 Unpaved	0.00 0.00 Unpaved

Subbasin Runoff Results

Total Rainfall (in)	1.37
Total Runoff (in)	
Peak Runoff (cfs)	1.49
Rainfall Intensity	5.352
Weighted Runoff Coefficient	0.3400
Time of Concentration (days hh:mm:ss)	0.00:15:17

Runoff Hydrograph



Project Description

File Name	LITTLE CAESARS BRYANT PREDEV.SPF
Description	
	LITTLE CAESARS BRYANT

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	Rational
Time of Concentration (TOC) Method	SCS TR-55
Link Routing Method	Kinematic Wave
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	

Analysis Options

Start Analysis On	Jun 28, 2024 Jun 28, 2024 0	00:00:00 03:00:00 00:00:00 days days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss days hh:mm:ss seconds

Number of Elements

Q	τ
Rain Gages 0	
Subbasins	
Nodes	
Junctions 0	
Outfalls 1	
Flow Diversions 0	
Inlets 0	
Storage Nodes 0	
Links0	
Channels 0	
Pipes 0	
Pumps 0	
Orifices 0	
Weirs 0	
Outlets 0	
Pollutants 0	
Land Uses 0	

Rainfall Details

Return Period	25 year(s)
neturn renod	25 year(s)

Subbasin Summary

SN Subbasin	Area	Weighted	Total	Total	Total	Peak	Time of
ID		Runoff	Rainfall	Runoff	Runoff	Runoff	Concentration
		Coefficient			Volume		
	(ac)		(in)	(in)	(ac-in)	(cfs)	(days hh:mm:ss)
1 Sub-01	0.82	0.3400	1.57	0.53	0.44	1.71	0 00:15:17

Node Summary

S	SN Element	Element	Invert	Ground/Rim	Initial	Surcharge	Ponded	Peak	Max HGL	Max	
	ID	Type	Elevation	(Max)	Water	Elevation	Area	Inflow	Elevation	Surcharge	Freebo
				Elevation	Elevation				Attained	Depth	Attai
										Attained	
			(ft)	(ft)	(ft)	(ft)	(ft ²)	(cfs)	(ft)	(ft)	
	1 Out-01	Outfall	430.20	•		•		0.00	0.00	·	

Subbasin Hydrology

Subbasin : Sub-01

Input Data

Area (ac)	0.82
Weighted Runoff Coefficient	0.3400

Runoff Coefficient

	Area	Soil	Runoff
Soil/Surface Description	(acres)	Group	Coeff.
Pasture, less than 25 years	0.82 0	(2-6%)	0.34
Composite Area & Weighted Runoff Coeff.	0.82		0.34

Time of Concentration

TOC Method: SCS TR-55

Sheet Flow Equation :

 $Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))$

Where:

Tc = Time of Concentration (hr)

n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

 $V = 16.1345 * (Sf^0.5) (unpaved surface) \\ V = 20.3282 * (Sf^0.5) (paved surface) \\ V = 15.0 * (Sf^0.5) (grassed waterway surface) \\ V = 10.0 * (Sf^0.5) (nearly bare & untilled surface) \\ V = 9.0 * (Sf^0.5) (cultivated straight rows surface) \\ V = 7.0 * (Sf^0.5) (short grass pasture surface) \\ V = 5.0 * (Sf^0.5) (woodland surface) \\ V = 2.5 * (Sf^0.5) (forest w/heavy litter surface) \\ Tc = (Lf / V) / (3600 sec/hr) \\ \label{eq:vector}$

Where:

Tc = Time of Concentration (hr)

Lf = Flow Length (ft)

V = Velocity (ft/sec)

Sf = Slope (ft/ft)

Channel Flow Equation :

 $V = (1.49 * (R^{(2/3)}) * (Sf^{0.5})) / n$

R = Aq / WpTc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)

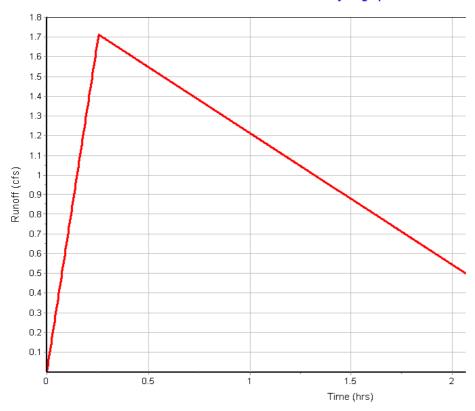
Lf = Flow Length (ft)

	Subarea	Subarea	Subarea
Sheet Flow Computations	Α	В	С
Manning's Roughness :	.3	0.00	0.00
Flow Length (ft):	100	0.00	0.00
Slope (%):	2.2	0.00	0.00
2 yr, 24 hr Rainfall (in):	4.13	0.00	0.00
Velocity (ft/sec):	0.12	0.00	0.00
Computed Flow Time (min) :	14.45	0.00	0.00
	Subarea	Subarea	Subarea
Shallow Concentrated Flow Computations	Α	В	С
Flow Length (ft):	120	0.00	0.00
Slope (%):	2.2	0.00	0.00
Surface Type :	Unpaved	Unpaved	Unpaved
Velocity (ft/sec):	2.39	0.00	0.00
Computed Flow Time (min) :	0.84	0.00	0.00
Total TOC (min)15.29			

Subbasin Runoff Results

Total Rainfall (in)	1.57
Total Runoff (in)	0.53
Peak Runoff (cfs)	1.71
Rainfall Intensity	6.145
Weighted Runoff Coefficient	0.3400
Time of Concentration (days hh:mm:ss)	0 00:15:17

Runoff Hydrograph



Project Description

File Name	LITTLE CAESARS BRYANT PREDEV.SPF
Description	
	LITTLE CAESARS BRYANT

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	Rational
Time of Concentration (TOC) Method	SCS TR-55
Link Routing Method	Kinematic Wave
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	

Analysis Options

Start Analysis On	Jun 28, 2024	00:00:00
End Analysis On	Jun 28, 2024	03:00:00
Start Reporting On	Jun 28, 2024	00:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step		days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

(IJΣ
Rain Gages 0)
Subbasins1	i
Nodes	
Junctions 0)
Outfalls 1	i
Flow Diversions 0)
Inlets 0)
Storage Nodes 0)
Links0)
Channels 0)
Pipes 0)
Pumps 0)
Orifices 0)
Weirs 0)
Outlets 0)
Pollutants 0)
Land Uses 0)

Rainfall Details

Subbasin Summary

SN Subbasin	Area	Weighted	Total	Total	Total	Peak	Time of
ID		Runoff	Rainfall	Runoff	Runoff	Runoff	Concentration
		Coefficient			Volume		
	(ac)		(in)	(in)	(ac-in)	(cfs)	(days hh:mm:ss)
1 Sub-01	0.82	0.3400	1.95	0.66	0.54	2.13	0 00:15:17

Node Summary

S	SN Element	Element	Invert	Ground/Rim	Initial	Surcharge	Ponded	Peak	Max HGL	Max	
	ID	Type	Elevation	(Max)	Water	Elevation	Area	Inflow	Elevation	Surcharge	Freebo
				Elevation	Elevation				Attained	Depth	Attai
										Attained	
			(ft)	(ft)	(ft)	(ft)	(ft ²)	(cfs)	(ft)	(ft)	
	1 Out-01	Outfall	430.20	•		•		0.00	0.00	·	

Subbasin Hydrology

Subbasin : Sub-01

Input Data

Area (ac)	0.82
Weighted Runoff Coefficient	0.3400

Runoff Coefficient

	Area	Soil	Runoff
Soil/Surface Description	(acres)	Group	Coeff.
Pasture, less than 25 years	0.82 0	(2-6%)	0.34
Composite Area & Weighted Runoff Coeff.	0.82		0.34

Time of Concentration

TOC Method: SCS TR-55

Sheet Flow Equation :

 $Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))$

Where:

Tc = Time of Concentration (hr)

n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

 $V = 16.1345 * (Sf^0.5) (unpaved surface) \\ V = 20.3282 * (Sf^0.5) (paved surface) \\ V = 15.0 * (Sf^0.5) (grassed waterway surface) \\ V = 10.0 * (Sf^0.5) (nearly bare & untilled surface) \\ V = 9.0 * (Sf^0.5) (cultivated straight rows surface) \\ V = 7.0 * (Sf^0.5) (short grass pasture surface) \\ V = 5.0 * (Sf^0.5) (woodland surface) \\ V = 2.5 * (Sf^0.5) (forest w/heavy litter surface) \\ Tc = (Lf / V) / (3600 sec/hr) \\ \label{eq:vector}$

Where:

Tc = Time of Concentration (hr)

Lf = Flow Length (ft)

V = Velocity (ft/sec)

Sf = Slope (ft/ft)

Channel Flow Equation :

 $V = (1.49 * (R^{(2/3)}) * (Sf^{0.5})) / n$

R = Aq / WpTc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)

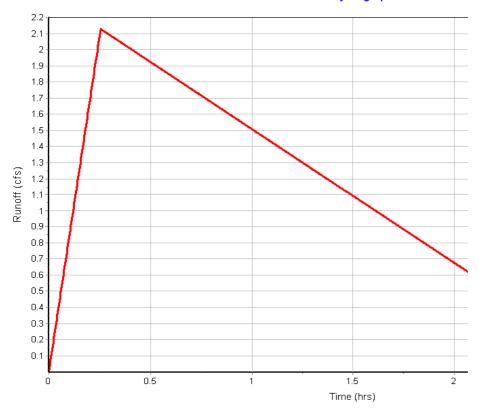
Lf = Flow Length (ft)

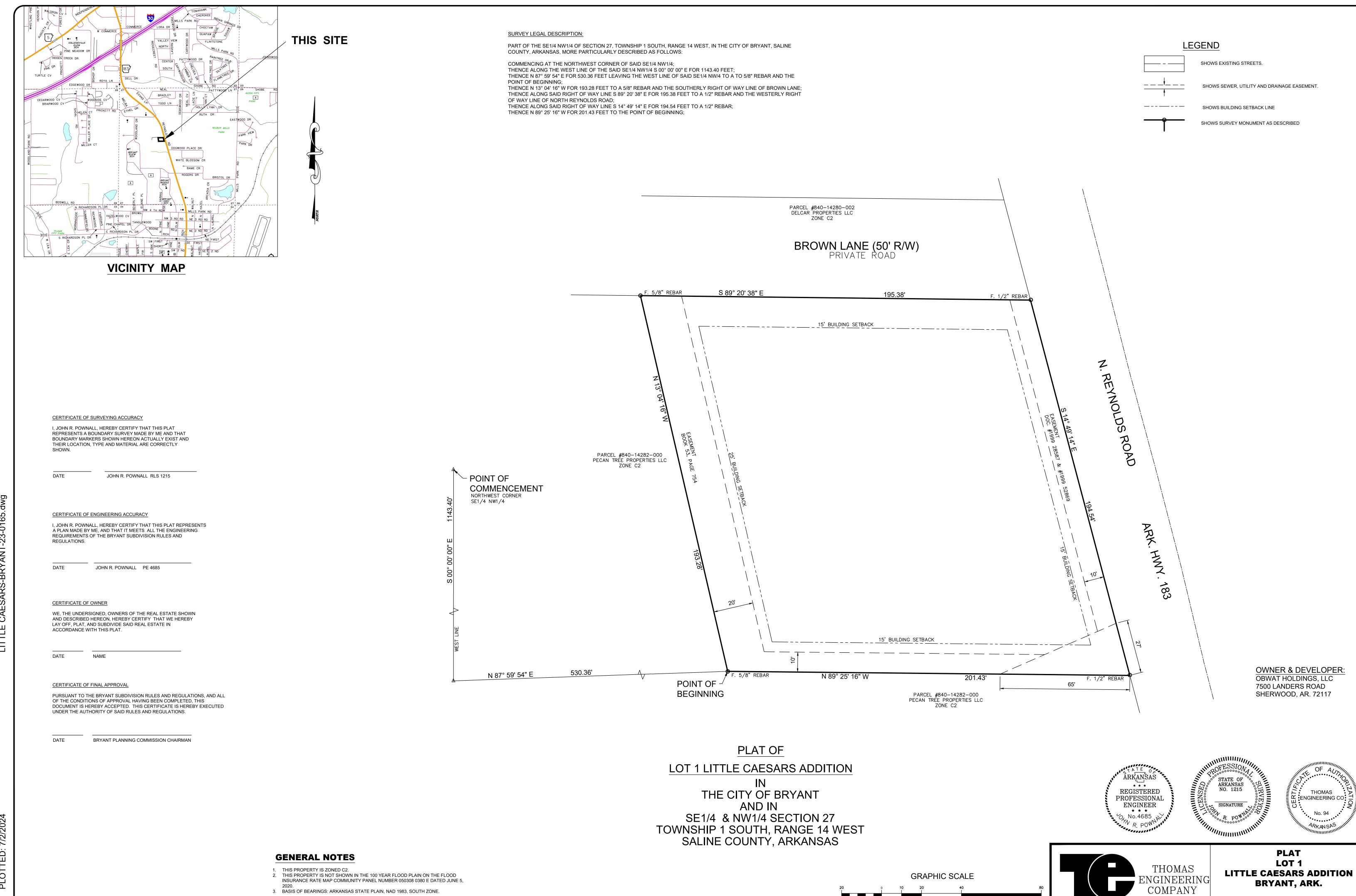
	Subarea	Subarea	Subarea
Sheet Flow Computations	Α	В	С
Manning's Roughness :	.3	0.00	0.00
Flow Length (ft):	100	0.00	0.00
Slope (%):	2.2	0.00	0.00
2 yr, 24 hr Rainfall (in):	4.13	0.00	0.00
Velocity (ft/sec):	0.12	0.00	0.00
Computed Flow Time (min):	14.45	0.00	0.00
	Subarea	Subarea	Subarea
Shallow Concentrated Flow Computations	Α	В	С
Flow Length (ft):	120	0.00	0.00
Slope (%):	2.2	0.00	0.00
Surface Type :	Unpaved	Unpaved	Unpaved
Velocity (ft/sec):	2.39	0.00	0.00
Computed Flow Time (min) :	0.84	0.00	0.00
Total TOC (min)15.29			

Subbasin Runoff Results

Total Rainfall (in)	1.95
Total Runoff (in)	
Peak Runoff (cfs)	2.13
Rainfall Intensity	7.636
Weighted Runoff Coefficient	0.3400
Time of Concentration (days hh:mm:ss)	0.00:15:17

Runoff Hydrograph





SHEET NO.

APPROVED

3810 LOOKOUT ROAD, N. LITTLE ROCK, AR. 72116

TEL: 501-753-4463 FAX: 501-753-6814

(IN FEET) 1 inch = 20 ft. DRAWN BY

DATE 6/20/24

3. BASIS OF BEARINGS: ARKANSAS STATE PLAIN, NAD 1983, SOUTH ZONE.



THOMAS ENGINEERING COMPANY

civil engineers

land surveyors

3810 LOOKOUT RD

NORTH LITTLE ROCK, AR 72116 (501)753-4463 NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

June 19, 2024

Mr. Colton Leonard City of Community Development 210 SW 3rd Street Bryant, AR 72022

RE:

Civil Site Plans and Preliminary Plat

Little Caesars

Dear Mr. Leonard:

Please accept this letter as our application for the above referenced submittal.

The owner is requesting a site plan review and preliminary final plat of Lot 1, Little Caesars Addition to the City of Bryant to allow the construction of a Little Caesars Restaurant and associated parking.

If you have any questions, please give me a call.

Sincerely,

John R. Pownall, P.E.

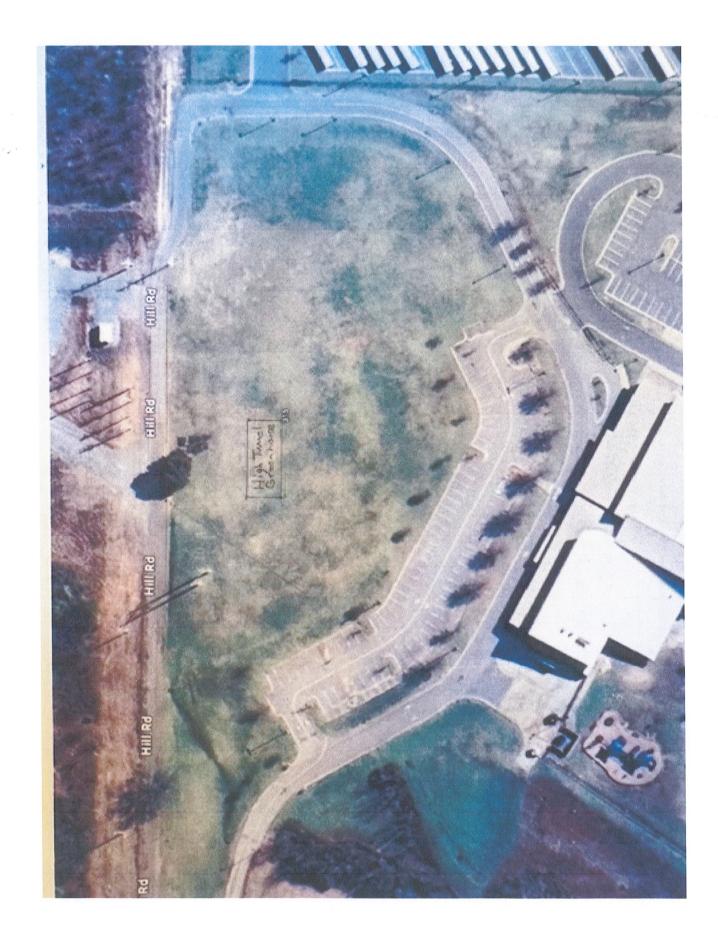
President

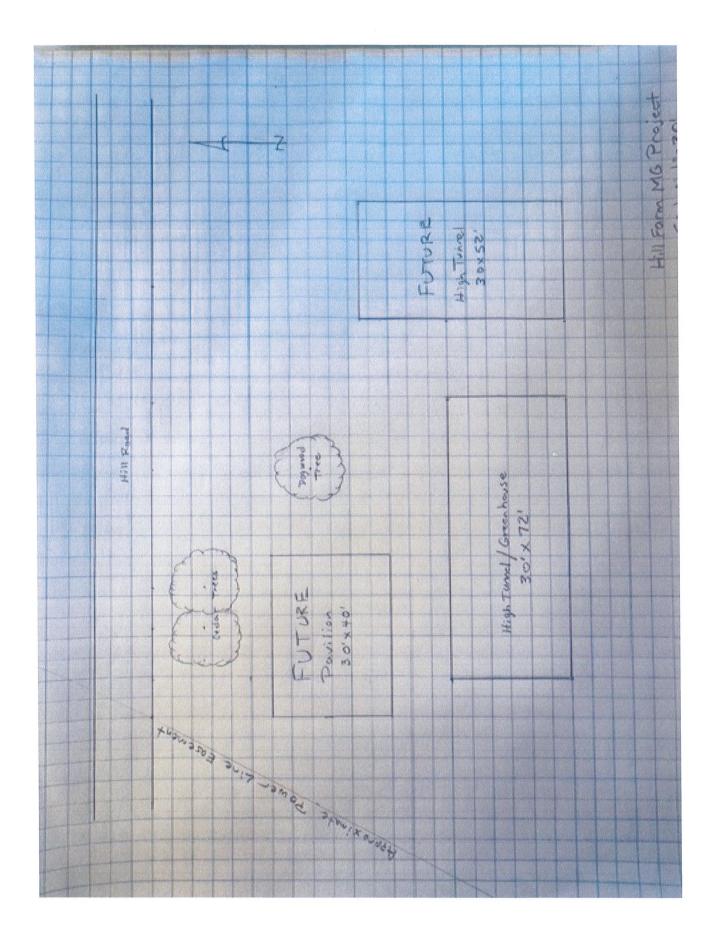
JRP/ab

CC:

Mike Fritz

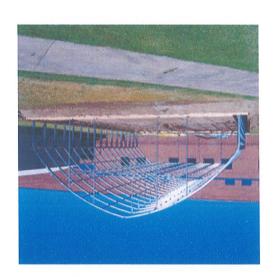
Chris Smith













Folder Name

K:\Art Department\2024\Pathfinder

Designer Courtney

File Name

Pathfinder, Inc..fs

Job Number

30734

QTY: 1 SS Sign w/Acrylic Letters and Brushed Aluminum

Mounted between 2 Metal Posts (See Briarwood Photo for Post Reference



Pathfinder, Inc.
FOSTERING INDEPENDENCE
PREMODO ICF/IID
2107 SIBIOT RD
2107 SIBIO

Posts like the below image something that will not rust



Description QTY: IN FILE

ARTWORK IS PROPERTY OF ACTION SIGN & NEON AND SHALL NOT BE DUPLICATED OR COPIED IN ANY MANNER.



P. O. Box 188 Jacksonville, AR 72076 2700 John Harden Dr. Jacksonville, AR 72076 Ph 501-457-7391 Ph/Text 501-712-0012 Fax 501-457-7393 ARTWORK APPROVAL MUST BE MADE IN WRITING.
THIS CAN BE DONE BY A SIMPLE EMAIL, TEXT, OR FAX
WITH THE APPROVED ARTWORK ATTACHED.
PRODUCTION WILL NOT START OTHERWISE.

 Customer Pathfinder, Inc.
 Name Collin
 Design Time

 Phone 501.596.2090
 Email
 Date 7/8/2024
 Minutes

Design Time Pricing
Design time is at a rate of \$60 per hour, in 15
minute Increments. Your first 15 minutes is
FREE.



SIGN PERMIT APPLICATION

Applicants are advised to read the Sign Ordinance prior to completing and signing this form.

The Sign Ordinance is available at www.cityofbryant.com under the Planning and Community

Development tab.

Date: 7.12.24		Note: Electrical Permits may be Required, Please contact the Community Development Office for more information.	
Sign Co. or Sign Owner	Property Owner		
Name_Action Sign	Name Chris Euban	k:	
Address 2700 John Harden Driv	Address 2107 Bisho	Address 2107 Bishop Roa	
City, State, Zip <u>Jacksonville</u> , AR 7207	City, State, Zip <u>Bryan</u>	t, AR 7202:	
Phone 501.457.739	Phone _501.412.086	<u> </u>	
Email Address_tim@actionsignandneon.co	Email Address <u>chris.eu</u>	banks@pathfinderinc.o	
GENERAL INFORMATION			
Name of Business Pathfinder, Inc			
Address/Location of sign 2107 Bishop Road Bryant, A	R 720		
Zoning Classification			

Please use following page to provide details on the signs requesting approval. Along with information provided on this application, a Site Plan showing placement of sign(s) and any existing sign(s) on the property is required to be submitted. Renderings of the sign(s) showing the correct dimensions is also required to be submitted with the application. A thirty-five dollar (\$35) per sign payment will be collected at the time of permit issuance. According to the Sign Ordinance a fee for and sign variance or special sign permit request shall be one hundred dollars (\$100). Additional documentation may be required by Sign Administrator.

READ CAREFULLY BEFORE SIGNING

 that no sign may be placed in public right of way. I understand that I must comply with all Building and Electrical Codes and that it is my responsibility to obtain all necessary permits.

Use table below to enter information regarding each sign for approval. Please use each letter to reference each sign rendering.

SIGN	Type (Façade, Pole, Monument, other)	Dimensions (Height, Length, Width)	Sqft (Measured in whole as rectangle)		t of Sign om lot surface)	Column for Admin Certifying Approval
				Top of Sign	Bottom of Sign	
А	Pole Sigr	4'x8'	32 SQ F7	5'	10"	
В						
С						
E						
F						
G						



Conditional Use Permit Application

Applicants are advised to read the Conditional Use Permit section of Bryant Zoning Code prior to completing and signing this form. The Zoning Code is available at www.cityofbryant.com under the Planning and Community Development tab.

Date: 7/11 /24	
Applicant or Designee:	Project Location:
Name Donald Whitfield	Property Address 19 Tanglewood Dr
Address 19 Tanglewood Dr	Bryant, AR 72022
Phone 501-993-6869	Parcel Number <u>840 - 09527-000</u>
Email Address: dwcpa@att.net	Zoning Classification R-E
Property Owner (If different from Applicant):	
Name Same	
Phone	
Address	
Email Address	
Additional Information: Legal Description (Attach description if necessary Pt. Lot 19 Tanglewood Ac	
	Building and allow existing storage building of Attached letter.

Application Checklist

Requirements for Submission

/	
	Letter stating request of Conditional Use and reasoning for request
	Completed Conditional Use Permit Application
	Submit Conditional Use Permit Application Fee (\$125)
	Submit Copy of completed Public Notice
	Publication: Public Notice shall be published at least one (1) time fifteen (15) days prio to the public hearing at which the variance will be heard. Once published please provide a proof of publication to the Community Development office.
	Posting of Property: The city shall provide a sign to post on the property involved for the fifteen (15) consecutive days leading up to Public hearing. One (1) sign is required for every two hundred (200) feet of street frontage.
	Submit eight (8) Copies of the Development Plan (Site Plan) showing: • Location, size, and use of buildings/signs/land or improvements • Location, size, and arrangement of driveways and parking. Ingress/Egress • Existing topography and proposed grading

Use of adjacent properties

Proposed landscaping and screening

Proposed and existing lighting

- Scale, North Arrow, Vicinity Map
- Additional information that may be requested by the administrative official due to unique conditions of the site.

Once the application is received, the material will be reviewed to make sure all the required information is provided. The applicant will be notified if additional information is required. The application will then go before the Development and Review Committee (DRC) for a recommendation to the Planning Commission. A public hearing will be held at this meeting for comments on the Conditional Use. After the public hearing, the Planning Commission will make a decision on the use.

Note: that this is not an exhaustive guideline regarding the Conditional Use Permit Process.

Additional information is available in the Bryant Zoning Ordinance.

READ CAREFULLY BEFORE SIGNING

do hereby certify that all information contained within this application is true and correct. I further certify that the owner of the property authorizes this proposed application. I understand that I must comply with all City Codes and that it is my responsibility to obtain all necessary permits required.

NOTICE OF PUBLIC HEARING

A public hearing will be held on Monday, <u>August 12th, 2024</u> at	6:00 P.M.
at the Bryant City Office Complex, 210 Southwest 3 ^{et} Street, City of Bryant, Sa	line
County, for the purpose of public comment on a conditional use request at the	site of
19 Tanglewood Drive, Bryant, AR 72022	(address).
A legal description of this property can be obtained by contacting the Bryant D	epartment
of Community Development.	

Lance Penfield Chairman of Planning Commission City of Bryant

This notice is to be run in the legal notices section of the Saline Courier no less than 15 days prior to the public hearing.

Donald Whitfield 19 Tanglewood Drive Bryant, AR 72022

July 11, 2024

City of Bryant, Arkansas Community Development 210 SW 3rd Street Bryant, AR 72022

Re: Variance

The purpose of this letter is to ask for a variance to construct a 26' x 24' storage building at 19 Tanglewood Drive in Bryant, Arkansas and to allow the existing storage buildings of 12' x 16' and 12' x 12' to remain.

Based on the total square footage of my home which is 2,542, the maximum building of 25% of the total square footage would be 635. The new building would be 624 square feet. The square footage currently in the two existing buildings combined is 336 square feet. The total square footage after construction would be 960 square feet. The variance I am requesting would be to allow for an additional 325 square feet on my property which is .82 acres.

Le me know if you have any questions or need additional information.

Thank you,

Sincerely,

Donald Whitfield



General – Permit Application

Please complete both pages of this application and submit to the City of Bryant Permitting office, located at the address above.

Completed applications can also be scanned and emailed to Comdev@cityofbryant.com.

Date: 7-10-24		
Permit Type:		
Electrical Permit	Remodel Permit	Burn Permit
Plumbing Permit	Demolition Permit	Site Clearance Permit
Mechanical Permit	Accessory Building Permit	Mobile Home Permit
Other if not listed above		
Contractor Information:		
Contractor/Owner	ld whitfield	
Physical Address of Business	Tangle wood	Dr.
City, State, Zip code <u>Brya</u>	nt, AR.	
ι Mailing Address (If different from Above) $_$	Same	
City, State, Zip code		
Email Address dwcpa & a	itt. Not	
Business Phone	Cell Phone <u>501-993"</u> 484	9 Fax
Project Information: Project Address/Location San		
Project Cost	Commercial or Residential?	residential
Square footage (If Applicable)	****	
If new addition, will foam insulation be use	ed? No 🔽 Yes If "Yes", provid	e technical evaluation report on foam
insulation type, and a copy of installer's ce	ertification. (Attach to application when	submitted)
Additional Project Information	in wide X 241 do	ρ
accessory Builty	45	



Conditional Use Permit Application

Applicants are advised to read the Conditional Use Permit section of Bryant Zoning Code prior to completing and signing this form. The Zoning Code is available at www.cityofbryant.com under the Planning and Community Development tab.

Date: 7-24-24
Applicant or Designee: Project Location:
Name Jonathan Hope Property Address Hurricane Lake Rd.
Address 129 N. Main St. Berton, AR
Phone
Email Address: Jona Han @ Mpecansult: Zoning Classification R - X
Property Owner (If different from Applicant):
Name Sky Blue, LLC.
Phone 501-912-2752
Address 3621 Independenc Dr. Bryant, AR 72022
Email Address to bessent @ sbcglobal. net
Additional Information: Legal Description (Attach description if necessary) Attached
Description of Conditional Use Request (Attach any necessary drawings or images) Requesting approval of construction of Ouplexes as allowed in 200119 R-X
Proposed/Current Use of Property

Application Checklist

Requirements for Submission

Letter stating request of Conditional Use and reasoning for request
Completed Conditional Use Permit Application
Submit Conditional Use Permit Application Fee (\$125)
Submit Copy of completed Public Notice
Publication: Public Notice shall be published at least one (1) time fifteen (15) days prior to the public hearing at which the variance will be heard. Once published please provide a proof of publication to the Community Development office.
Posting of Property: The city shall provide a sign to post on the property involved for the fifteen (15) consecutive days leading up to Public hearing. One (1) sign is required for every two hundred (200) feet of street frontage.
Submit eight (8) Copies of the Development Plan (Site Plan) showing: Location, size, and use of buildings/signs/land or improvements Location, size, and arrangement of driveways and parking. Ingress/Egress

- Existing topography and proposed gradingProposed and existing lighting
- Proposed landscaping and screening
- Use of adjacent properties
- Scale, North Arrow, Vicinity Map
- Additional information that may be requested by the administrative official due to unique conditions of the site.

Once the application is received, the material will be reviewed to make sure all the required information is provided. The applicant will be notified if additional information is required. The application will then go before the Development and Review Committee (DRC) for a recommendation to the Planning Commission. A public hearing will be held at this meeting for comments on the Conditional Use. After the public hearing, the Planning Commission will make a decision on the use.

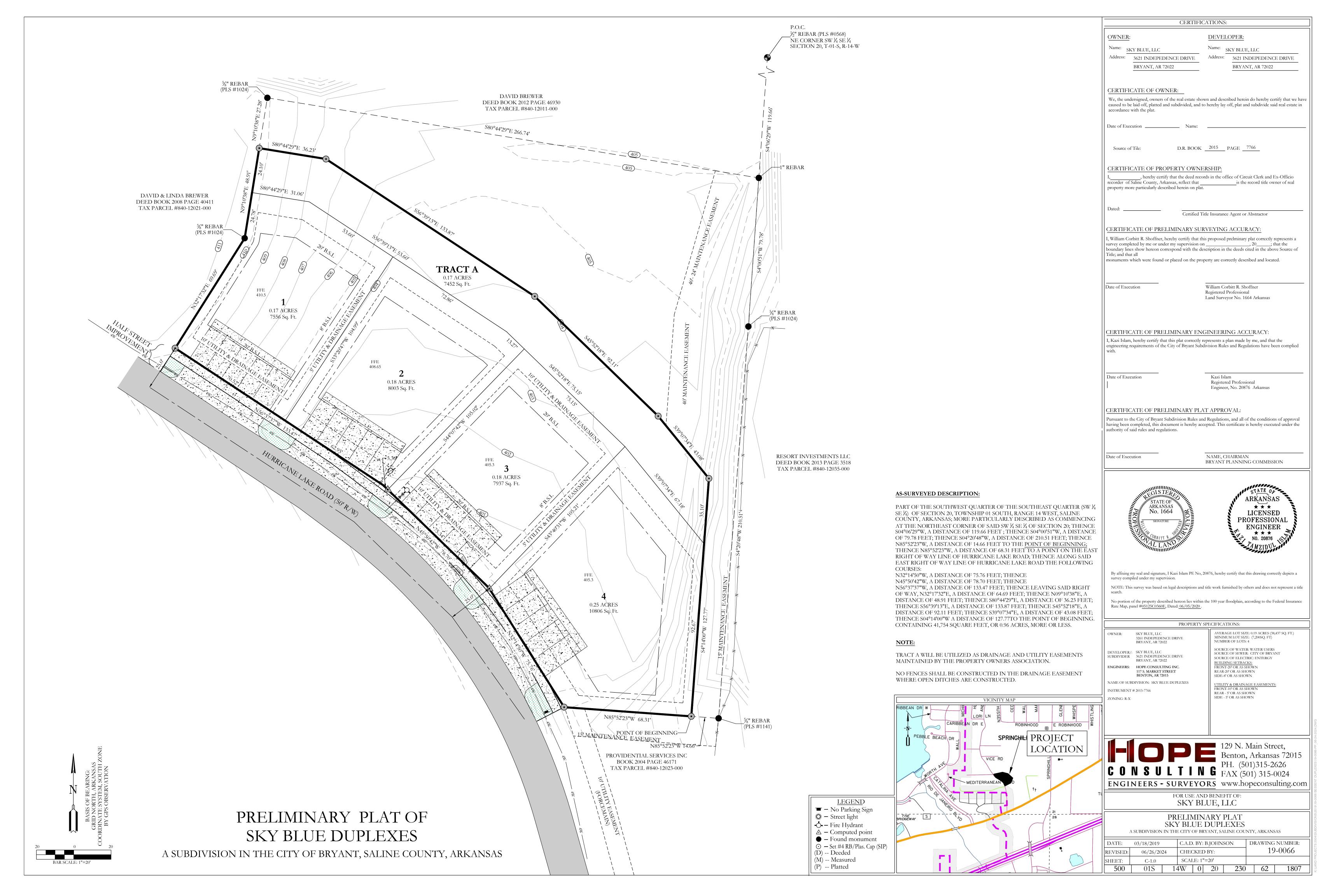
Note: that this is not an exhaustive guideline regarding the Conditional Use Permit Process.

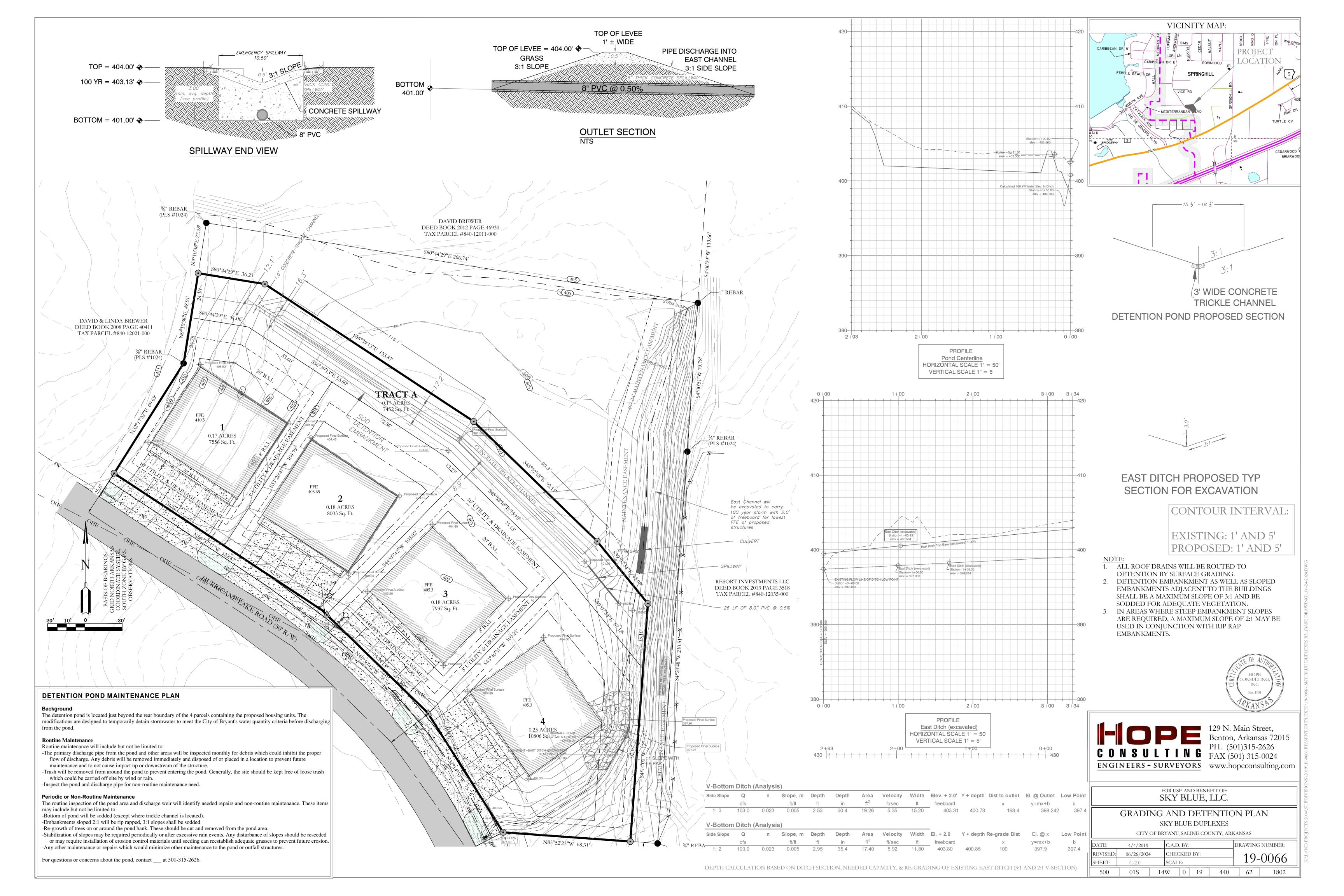
Additional information is available in the Bryant Zoning Ordinance.

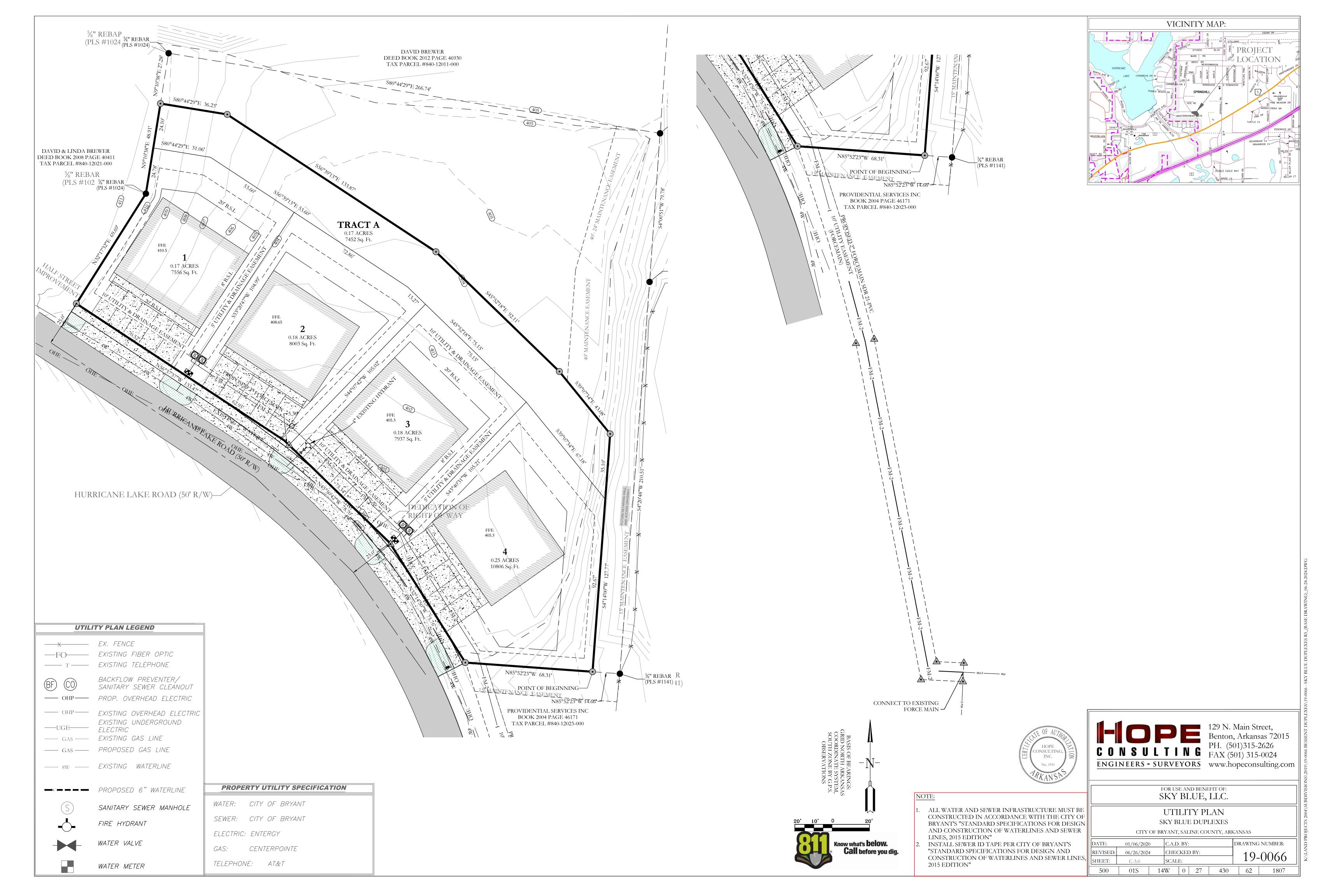
READ CAREFULLY BEFORE SIGNING

	-	11 - 20	
1	Jonathan	ttope	do hereby certify that all information contained within this application is
trı			he owner of the property authorizes this proposed application. I understand that I must
co	mply with all City Code	s and that it is	s my responsibility to obtain all necessary permits required.

AS SURVEYED DESCRIPTION FOR PARCEL #840-12022-000 PART OF THE SOUTHWEST QUARTER OF THE SOUTHEAST QUARTER (SW 1/4 SE 1/4) OF SECTION 20, TOWNSHIP 01 SOUTH, RANGE 14 WEST, SALINE COUNTY, ARKANSAS; MORE PARTICULARLY DESCRIBED AS COMMENCING AT THE NORTHEAST CORNER OF SAID SW 1/4 SE 1/4 OF SECTION 20; THENCE S04°06'29"W, A DISTANCE OF 119.66 FEET; THENCE S04°00'51"W, A DISTANCE OF 79.78 FEET; THENCE S04°20'48"W, A DISTANCE OF 210.51 FEET; THENCE N85°52'23"W, A DISTANCE OF 14.66 FEET TO THE POINT OF BEGINNING; THENCE N85°52'23"W, A DISTANCE OF 68.31 FEET TO A POINT ON THE EAST RIGHT OF WAY LINE OF HURRICANE LAKE ROAD; THENCE ALONG SAID EAST RIGHT OF WAY LINE OF HURRICANE LAKE ROAD THE FOLLOWING COURSES: N32°14'50"W, A DISTANCE OF 75.76 FEET; THENCE N45°50'42"W, A DISTANCE OF 78.70 FEET; THENCE N56°37'37"W, A DISTANCE OF 133.47 FEET; THENCE LEAVING SAID RIGHT OF WAY, N32°17'32"E, A DISTANCE OF 64.69 FEET; THENCE N09°10'38"E, A DISTANCE OF 48.91 FEET; THENCE S80°44'29"E, A DISTANCE OF 36.23 FEET; THENCE S56°39'13"E, A DISTANCE OF 133.87 FEET; THENCE S45°52'18"E, A DISTANCE OF 92.11 FEET: THENCE S39°07'34"E, A DISTANCE OF 43.08 FEET; THENCE S04°14'00"W A DISTANCE OF 127.77TO THE POINT OF BEGINNING. CONTAINING 41,754 SQUARE FEET, OR 0.96 ACRES, MORE OR LESS.









July 26, 2024

Colton Leonard City of Bryant 210 Southwest Third St., Bryant, AR 72022

RE: Request for Modification from Code and Request for CUP (Parcel #:840-12022-000)

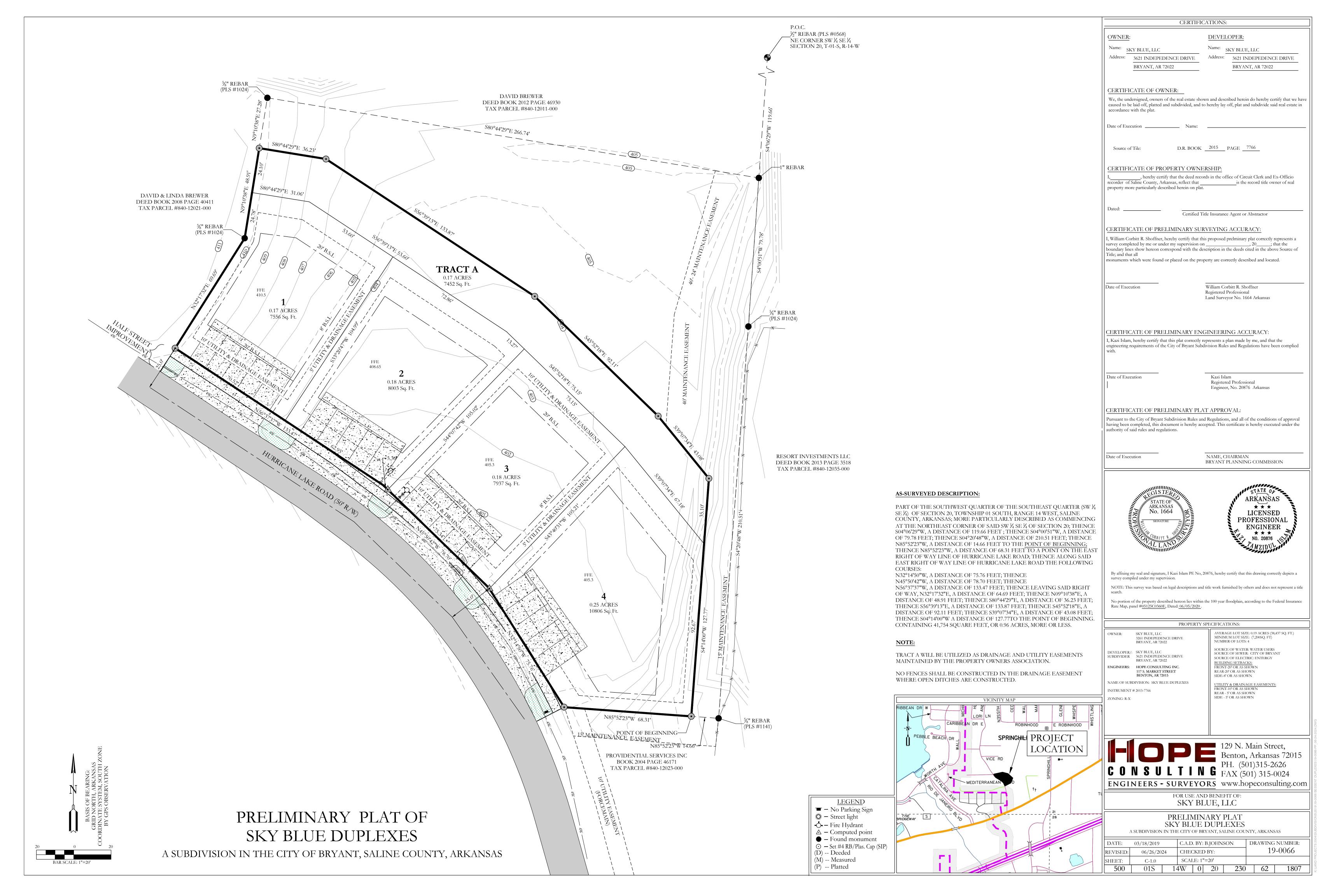
Dear Mr. Leonard,

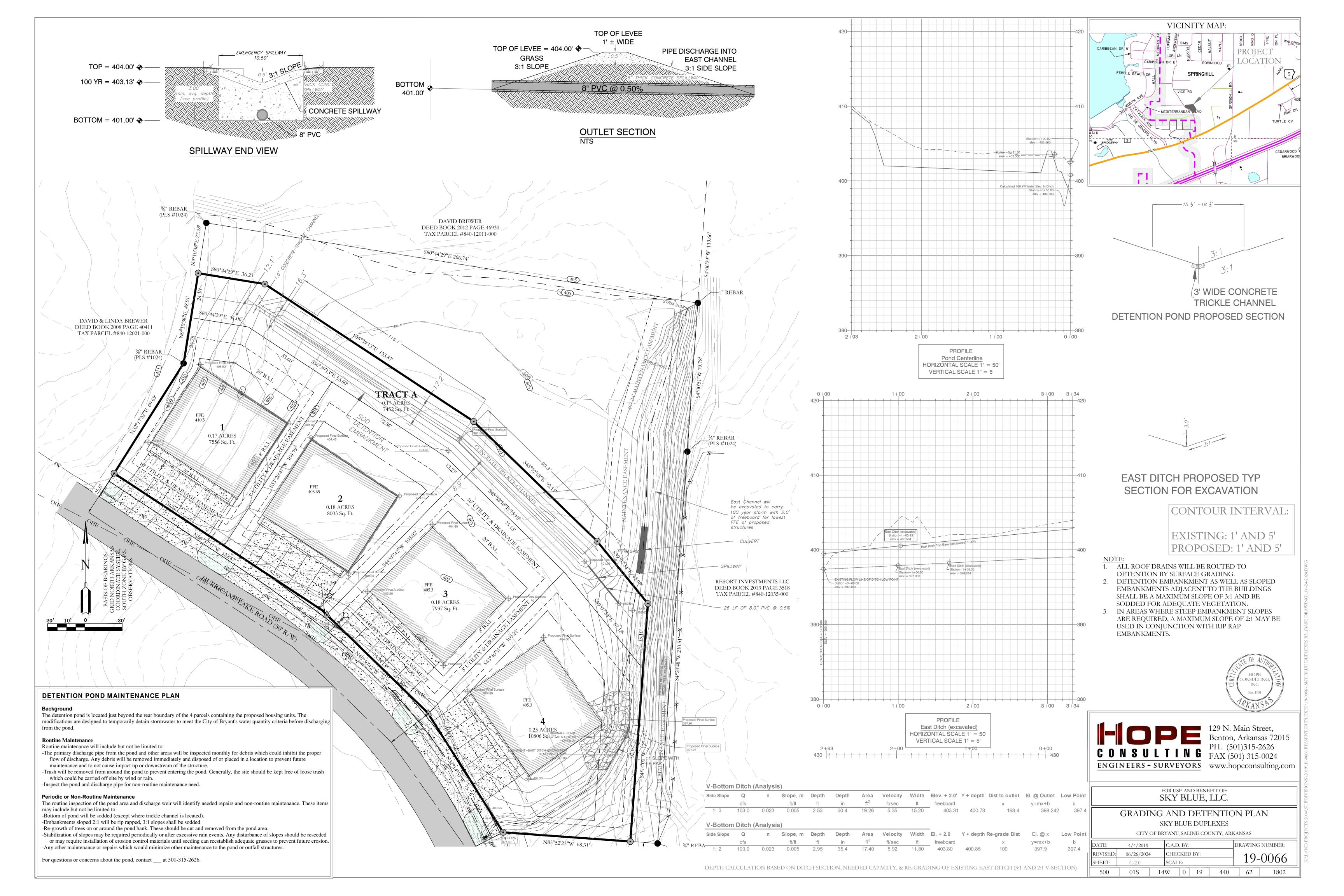
I am requesting a modification from the Walk Bike Drive Code for no curb improvements on this proposed development. We are proposing duplexes on this property and the majority of the property will be driveways. Adding curb to this development would be only in between driveways which would be minimal on this project.

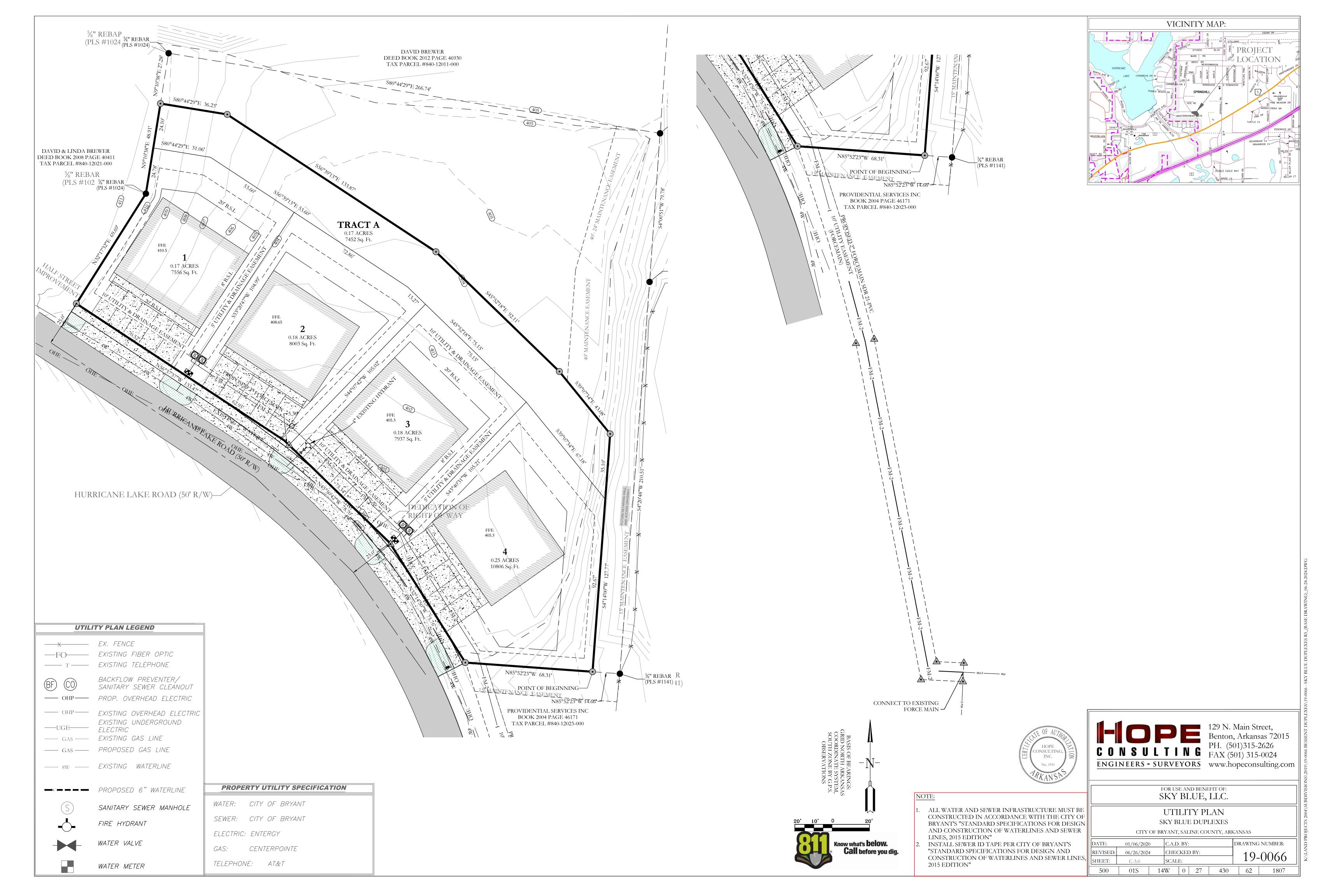
It is our goal to be included on the August 12, 2024 Planning Commission agenda.

Please feel free to contact me with any questions or concerns or if I can be of any further assistance. Sincerely,

Jonathan Hope 'Hope Consulting, Inc.







SKY BLUE DUPLEXES PROPOSED MULTI-FAMILY UNITS

DRAINAGE REPORT

FOR

City of Bryant, AR

DATE

Hurricane Lake Road, Saline County, AR

By:



APPENDIX

Project Description/Summary

Detention Discharge Summary, Composite C Values, & time of concentration

Street Drainage Calculation

East Ditch Calculations

Time of Concentration Calculation

Pond Report

Hydrographs

East Ditch Exhibit

Summary

The following calculations pertain to the detention design for the proposed multi family development Located off Hurricane Lake Road in Bryant, AR.

Proposed Development area = 0.92 Acres

	C	tc (min)
Pre-development:	0.49	23
Post-development:	0.69	23

Detention Pre & Post Development Comparisons

Prior to detention routing:

Event (yrs)	Pre-developed Flow Q (cfs)	Post-developed Flow (no pond) Q (cfs)
2	1.40	1.98
10	1.95	2.75
25	2.26	3.18
50	2.57	3.61
100	2.75	3.87

After routing to detention:

Event (yrs)	Pre-developed Q (cfs)	Post-developed (with pond) Q (cfs)	Water El. (ft)
2	1.40	1.39	402.25
10	1.95	1.72	402.62
25	2.26	1.89	402.85
50	2.57	2.03	403.05
100	2.75	2.16	403.13

Therefore the development will not create any additional flow in the downstream area.

East Channel

The following calculations pertain to the existing east ditch, and are based on proposed re-design and excavation of the existing channel in order to have the needed vertical room necessary for detention and 2.0 feet of freeboard for the finished floor elevations of proposed structures.

time of concentration, tc (min)	REGION 3 IDF							
Pre								
Channel Dimensions and Time of Concentration, tc								
Area (ft2)	1998592.29							
Area (Acre)	46							
Length, L (ft)	2217.0							
Change in Elevation (ft)	60.27							
Slope, S (ft/ft)	0.027							
N (asphalt,grass,etc)	0.400		h (ft)	S				
L(overland, ft)	200		4	0.020				
L(channel 1, ft)	2017		56.27	0.028				
L(channel 2, ft)	0.0		0	0.000				
t _i	45.4	v						
t _{t1}	5.6	6.007023						
t _{t2}	0.0	0						
time of concentration, tc (min)	51.0	use 50 mi	n					

Design Peak Runoff Rates, Qp (cfs)								
Intensity, I (in/hr)	Runoff Coeff	Flow (cfs)						
I	С	Q						
4.19	0.53	101.89						

100year

Qp,max (max flow) cfs

V-Bottom Ditch (Analysis)

Side Slope	Q	n	Slope, m	Depth	Depth	Area	Velocity	Width
	cfs		ft/ft	ft	in	ft ²	ft/sec	ft
1: 3	103.0	0.023	0.005	2.53	30.4	19.26	5.35	15.20

102

STATION 1+68

 Elev. + 2.0'
 Y + depth
 Dist to outlet
 El. @ Outlet
 Low Point

 freeboard
 x
 y=mx+b
 b

 403.31
 400.78
 168.4
 398.242
 397.4

V-Bottom Ditch (Analysis)

Side Slope	Q	n	Slope, m	Depth	Depth	Area	Velocity	Width
	cfs		ft/ft	ft	in	ft ²	ft/sec	ft
1: 2	103.0	0.023	0.005	2.95	35.4	17.40	5.92	11.80

STATION 1+00

El. + 2.0	Y + depth	Re-grade Dist	El. @ x	Low Point	
freeboard		x	y=mx+b	b	
403.80	400.85	100	397.9	397.4	

PRE DEVELOPMENT TOC:

Time of Concentration, tc (min)	Bryant IDF				
Channel Dimensions	and Time of Co	ncentratio	n, tc		
Area (ft2)	40262.9				
Area (Acre)	0.92				
Length, L (ft)	837.0				
Change in Elevation (ft)	32				
Slope, S (ft/ft)	0.038				
N (Coeff. Of roughness, Table 400-3)	0.100		h (ft)	S	
L(overland/sheet flow, ft)	75		1		0.013
L(channel 1, ft)	601		25.00		0.04
L(channel 2, ft)	161.0		1		0.006
t _i	18.4	v			
t _{t1}	3.3	3.0241			
t _{t2}	0.9	2.909438			
time of concentration, tc (min)	22.7			use	23

POST DEVELOPMENT TOC:

time of concentration, tc (min)	Bryant IDF				
Channel Dimension	s and Time of Co	oncentratio	n, tc		
Area (ft2)	40262.9				
Area (Acre)	0.92				
Length, L (ft)	888.0				
Change in Elevation (ft)	32				
Slope, S (ft/ft)	0.036				
N (Coeff. Of roughness, Table 400-3)	0.100		h (ft)	S	
L(overland/sheet flow, ft)	75		1		0.013
L(channel 1, ft)	659		25.00		0.04
L(channel 2, ft)	154.0		3		0.017
t_{i}	18.4	v			
t_{t_1}	3.8	2.887956			
t_{t2}	0.5	4.77828			
time of concentration, tc (min)	22.8			use	23

valt	ershed Model Schemati	C Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc.
Legen	d	
Hyd. Or 1 Ra	igin Description tional PRE DEV FLOW	
	ntional PRE DEV FLOW tional DEVELOPMENT CREATED FLOW	
3 Re	eservoir POST DEV. FLOW	

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

lyd. lo.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	1.404	1	23	1,938				PRE DEV FLOW
2	Rational	1.977	1	23	2,729				DEVELOPMENT CREATED FLOW
2 3	Reservoir	1.391	1 1	23 30	2,729 2,728	2	402.25	649	DEVELOPMENT CREATED FLOW POST DEV. FLOW

Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

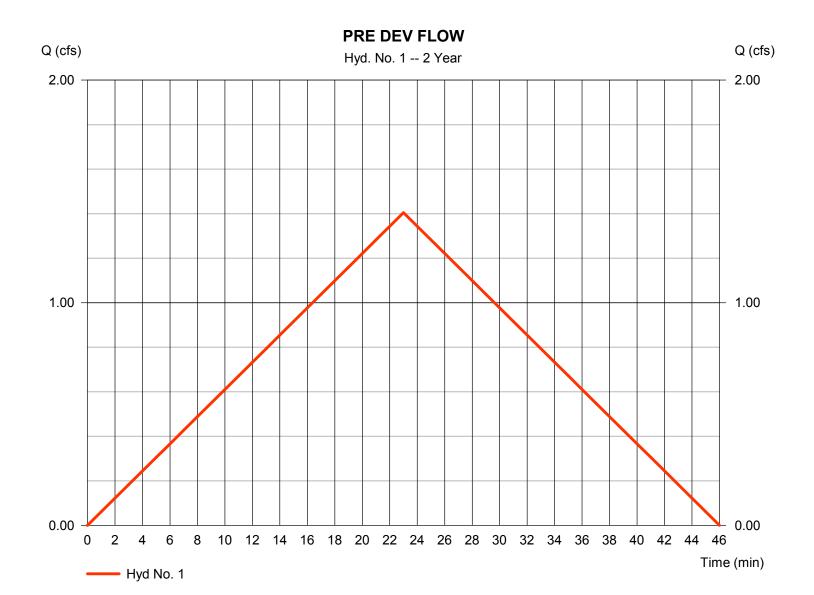
Wednesday, 06 / 26 / 2024

Hyd. No. 1

PRE DEV FLOW

Hydrograph type = Rational Peak discharge = 1.404 cfsStorm frequency = 2 yrs Time to peak = 23 min Time interval = 1 min Hyd. volume = 1,938 cuft Drainage area Runoff coeff. = 0.920 ac= 0.49Tc by User = 23.00 min Intensity = 3.115 in/hr

IDF Curve = Bryant 50.IDF Asc/Rec limb fact = 1/1



Hydrograph Report

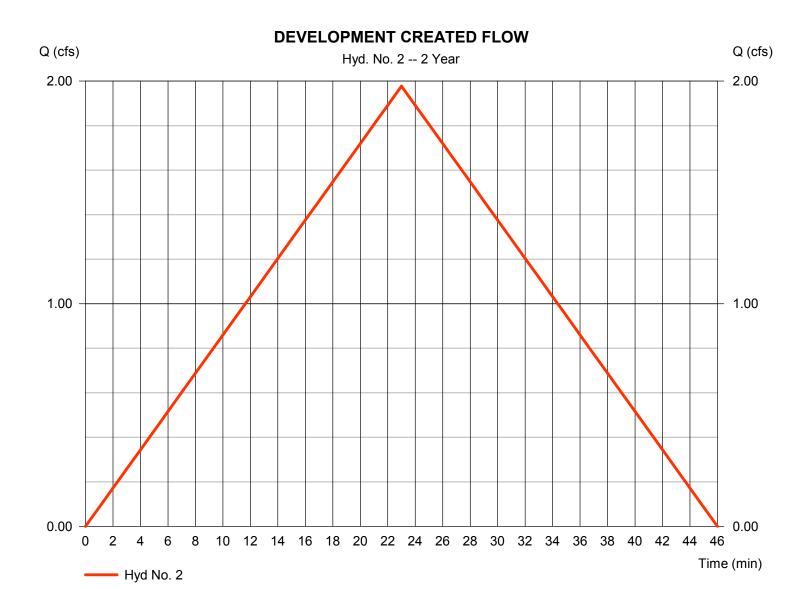
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Wednesday, 06 / 26 / 2024

Hyd. No. 2

DEVELOPMENT CREATED FLOW

Hydrograph type = Rational Peak discharge = 1.977 cfsStorm frequency = 2 yrs Time to peak = 23 min Time interval = 1 min Hyd. volume = 2,729 cuftRunoff coeff. Drainage area = 0.920 ac= 0.69Tc by User $= 23.00 \, \text{min}$ Intensity = 3.115 in/hr= 1/1 IDF Curve Asc/Rec limb fact = Bryant 50.IDF



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

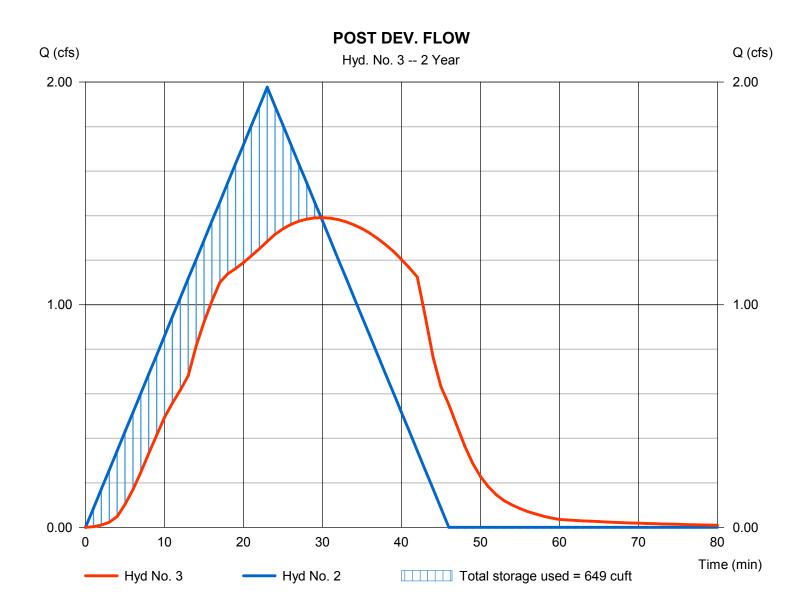
Wednesday, 06 / 26 / 2024

Hyd. No. 3

POST DEV. FLOW

Hydrograph type = Reservoir Peak discharge = 1.391 cfsStorm frequency = 2 yrs Time to peak = 30 min Time interval = 1 min Hyd. volume = 2,728 cuft Inflow hyd. No. = 2 - DEVELOPMENT CREATEIMELOEMEvation = 402.25 ftMax. Storage = DETENTION Reservoir name = 649 cuft

Storage Indication method used.



Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Wednesday, 06 / 26 / 2024

Pond No. 1 - DETENTION

Pond Data

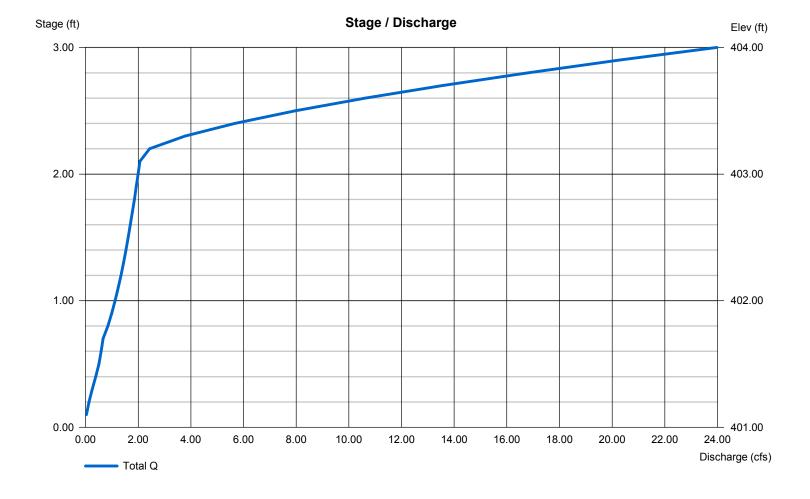
Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 401.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	401.00	80	0	0
1.00	402.00	680	331	331
2.00	403.00	1,994	1,279	1,610
3.00	404.00	3,353	2,644	4,254

Culvert / Orifice Structures Weir Structures [C] [B] [B] [A] [C] [D] [A] [PrfRsr] 0.00 Rise (in) = 8.00 Inactive Inactive Crest Len (ft) = 10.50 0.00 0.00 0.00 = 8.00 0.00 0.00 0.00 Crest El. (ft) = 403.15 0.00 0.00 0.00 Span (in) No. Barrels = 1 0 0 0 Weir Coeff. = 2.60 3.33 3.33 3.33 = 401.00 0.00 0.00 0.00 = Broad Invert El. (ft) Weir Type = 26.000.00 0.00 0.00 Multi-Stage Length (ft) = No No No No = 0.500.00 0.00 n/a Slope (%) N-Value = .013 .013 .013 n/a 0.60 = 0.600.60 0.60 Exfil.(in/hr) = 0.000 (by Wet area) Orifice Coeff. Multi-Stage = n/aNo No No TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

lyd. Io.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	1.952	1	23	2,693				PRE DEV FLOW
2	Rational	2.748	1	23	3,793				DEVELOPMENT CREATED FLOW
2 3	Reservoir	2.748	1 1	23 32	3,793	2	402.62	1,127	DEVELOPMENT CREATED FLOW POST DEV. FLOW

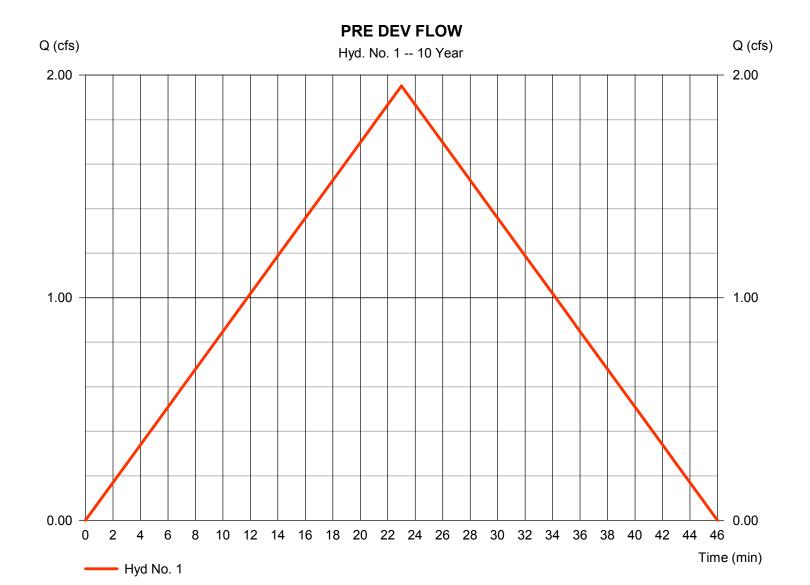
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Wednesday, 06 / 26 / 2024

Hyd. No. 1

PRE DEV FLOW

Hydrograph type = Rational Peak discharge = 1.952 cfsStorm frequency = 10 yrsTime to peak = 23 min Time interval = 1 min Hyd. volume = 2,693 cuftDrainage area Runoff coeff. = 0.920 ac= 0.49Tc by User = 23.00 min Intensity = 4.330 in/hrIDF Curve Asc/Rec limb fact = 1/1= Bryant 50.IDF



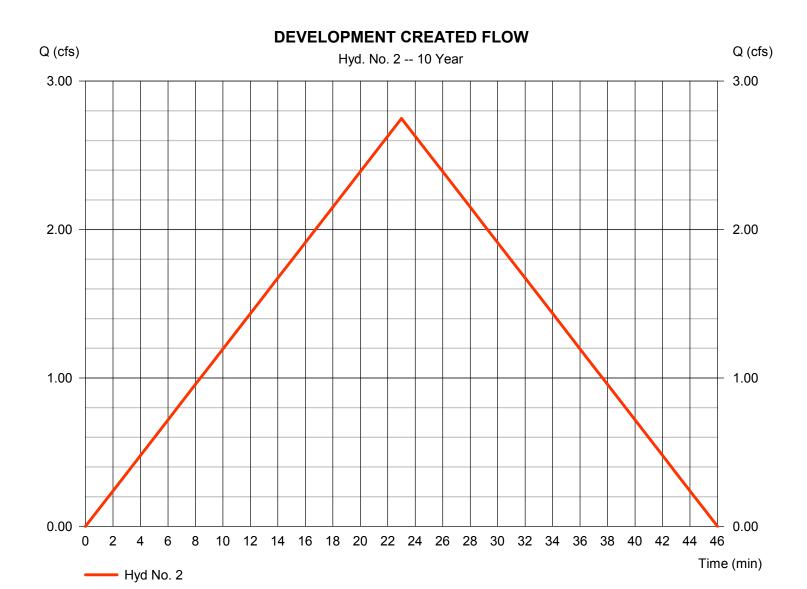
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Wednesday, 06 / 26 / 2024

Hyd. No. 2

DEVELOPMENT CREATED FLOW

= 2.748 cfsHydrograph type = Rational Peak discharge Storm frequency = 10 yrsTime to peak = 23 min Time interval = 1 min Hyd. volume = 3,793 cuftRunoff coeff. Drainage area = 0.920 ac= 0.69Tc by User $= 23.00 \, \text{min}$ Intensity = 4.330 in/hrIDF Curve Asc/Rec limb fact = 1/1 = Bryant 50.IDF



Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

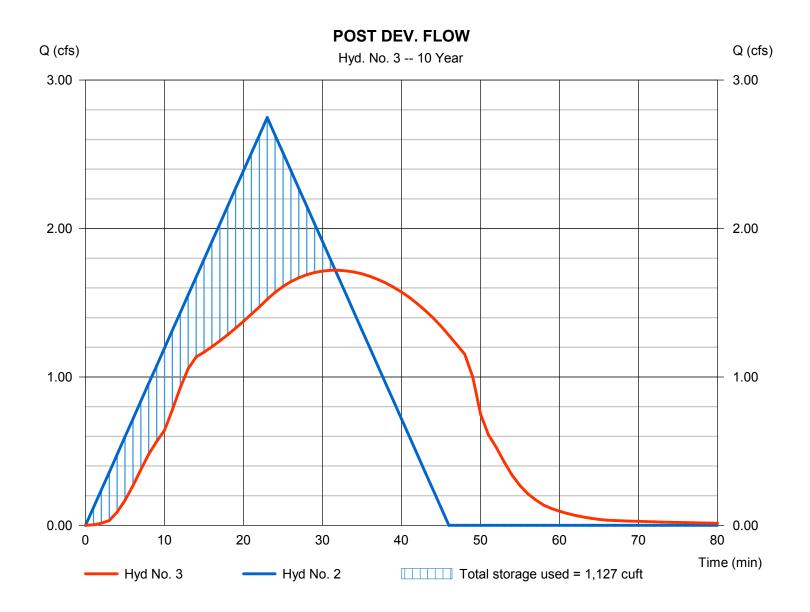
Wednesday, 06 / 26 / 2024

Hyd. No. 3

POST DEV. FLOW

Hydrograph type = Reservoir Peak discharge = 1.719 cfsStorm frequency = 10 yrsTime to peak = 32 min Time interval = 1 min Hyd. volume = 3,792 cuftInflow hyd. No. = 2 - DEVELOPMENT CREATEIMELOEMEvation = 402.62 ft= DETENTION Reservoir name Max. Storage = 1,127 cuft

Storage Indication method used.



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	2.258	1	23	3,116				PRE DEV FLOW
2	Rational	3.180	1	23	4,389				DEVELOPMENT CREATED FLOW
							402.85		
	0066 Bessent								y, 06 / 26 / 2024

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

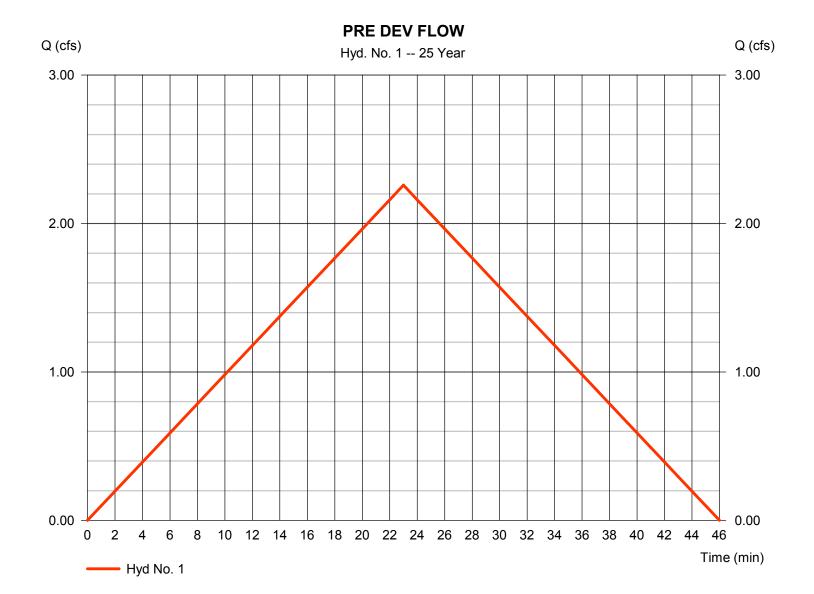
Wednesday, 06 / 26 / 2024

Hyd. No. 1

PRE DEV FLOW

= 2.258 cfsHydrograph type = Rational Peak discharge Storm frequency = 25 yrsTime to peak = 23 min Time interval = 1 min Hyd. volume = 3,116 cuftRunoff coeff. Drainage area = 0.920 ac= 0.49Tc by User = 23.00 min Intensity = 5.010 in/hr

IDF Curve = Bryant 50.IDF Asc/Rec limb fact = 1/1



Time (min)

Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

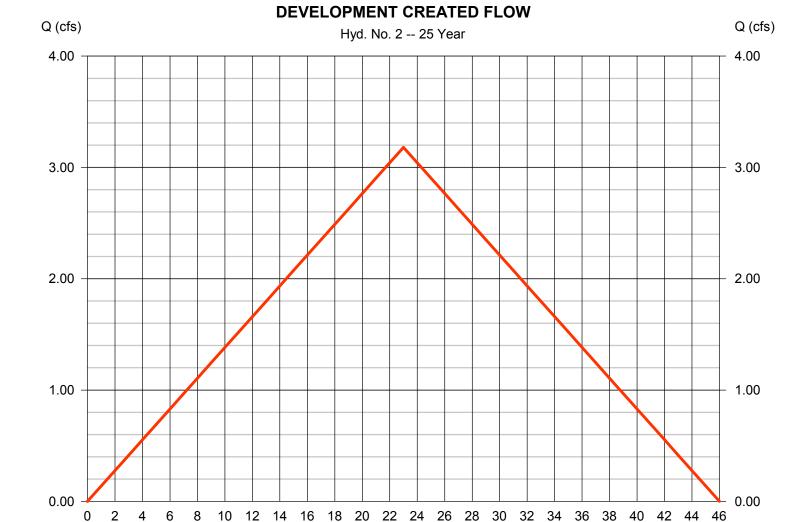
Wednesday, 06 / 26 / 2024

Hyd. No. 2

DEVELOPMENT CREATED FLOW

Hyd No. 2

Hydrograph type = Rational Peak discharge = 3.180 cfsStorm frequency = 25 yrsTime to peak = 23 min Time interval = 1 min Hyd. volume = 4,389 cuftRunoff coeff. Drainage area = 0.920 ac= 0.69Tc by User = 23.00 min Intensity = 5.010 in/hrIDF Curve Asc/Rec limb fact = 1/1 = Bryant 50.IDF



Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

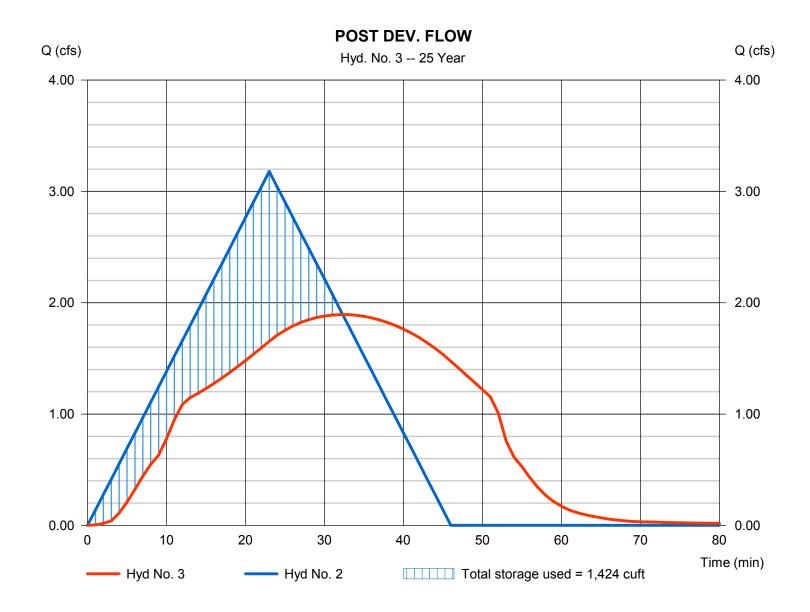
Wednesday, 06 / 26 / 2024

Hyd. No. 3

POST DEV. FLOW

Hydrograph type = Reservoir Peak discharge = 1.894 cfsStorm frequency = 25 yrsTime to peak = 32 min Time interval = 1 min Hyd. volume = 4,388 cuft Inflow hyd. No. = 2 - DEVELOPMENT CREATEIMELOEMEvation $= 402.85 \, ft$ Reservoir name = DETENTION Max. Storage = 1,424 cuft

Storage Indication method used.



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	2.565	1	23	3,539				PRE DEV FLOW
2	Rational	3.612	1	23	4,984				DEVELOPMENT CREATED FLOW
2 3	Rational	3.612 2.030	1 1	23 33	4,984 4,983	2	403.05	1,743	DEVELOPMENT CREATED FLOW POST DEV. FLOW
10-	0066 Bessent	t Dunleye	s 06-26	3-2024 an	w Return [[]	Period: 50 \	/ear	Wednesda	y, 06 / 26 / 2024

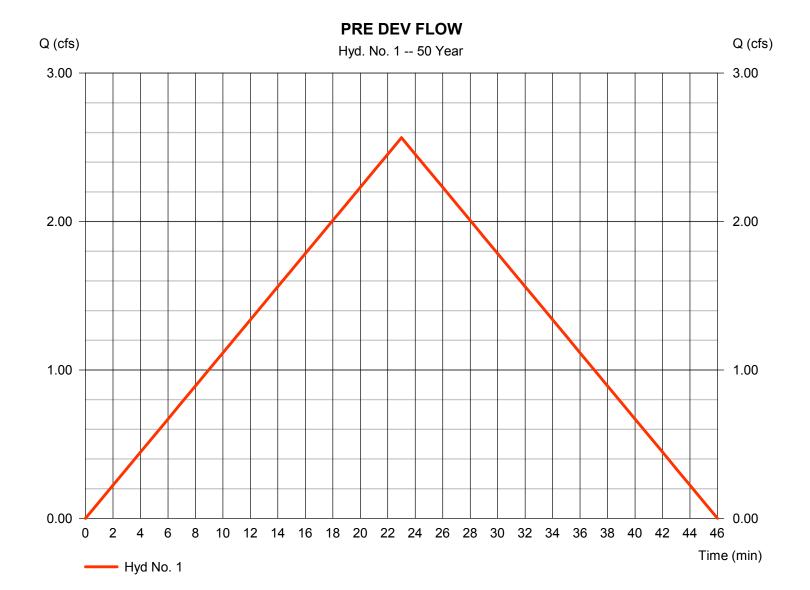
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Wednesday, 06 / 26 / 2024

Hyd. No. 1

PRE DEV FLOW

Hydrograph type = Rational Peak discharge = 2.565 cfsStorm frequency = 50 yrsTime to peak = 23 min Time interval = 1 min Hyd. volume = 3,539 cuftRunoff coeff. Drainage area = 0.920 ac= 0.49Tc by User = 23.00 min Intensity = 5.690 in/hrIDF Curve Asc/Rec limb fact = 1/1= Bryant 50.IDF



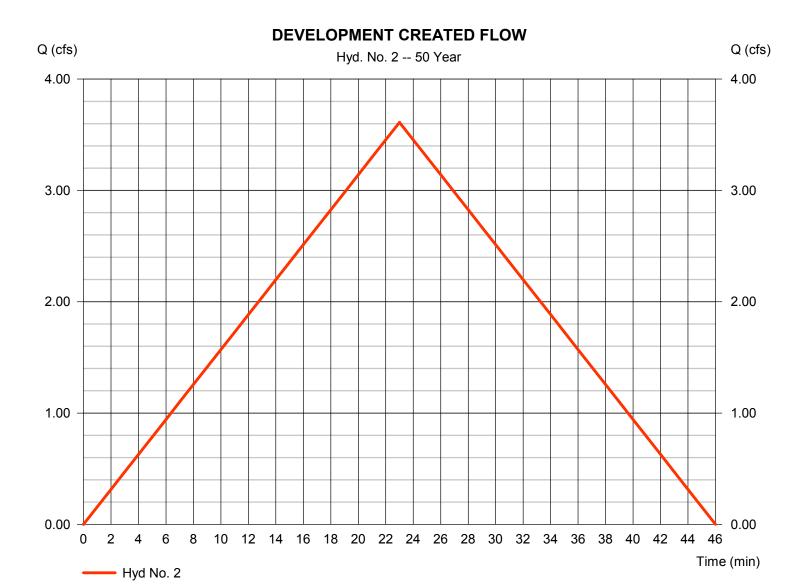
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Wednesday, 06 / 26 / 2024

Hyd. No. 2

DEVELOPMENT CREATED FLOW

Hydrograph type = Rational Peak discharge = 3.612 cfsStorm frequency = 50 yrsTime to peak = 23 min Time interval = 1 min Hyd. volume = 4,984 cuft Runoff coeff. Drainage area = 0.920 ac= 0.69Tc by User = 23.00 min Intensity = 5.690 in/hrIDF Curve Asc/Rec limb fact = 1/1= Bryant 50.IDF



Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

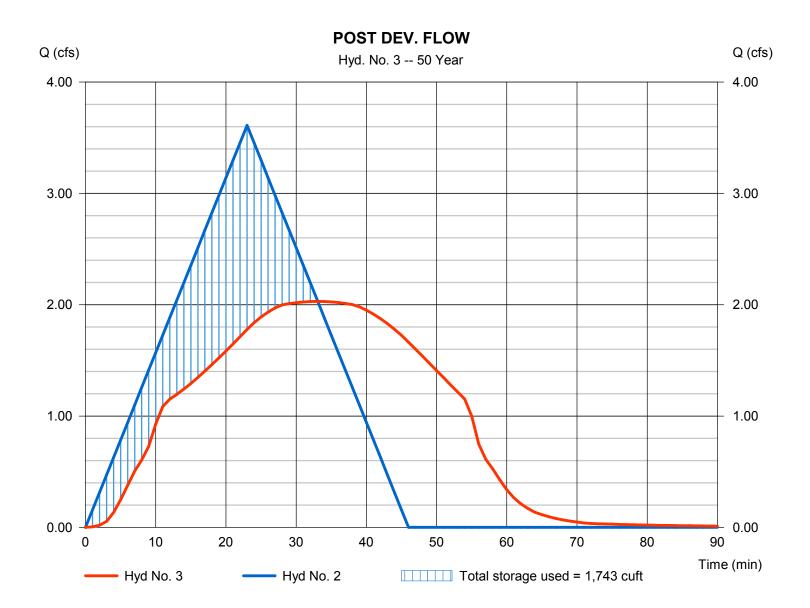
Wednesday, 06 / 26 / 2024

Hyd. No. 3

POST DEV. FLOW

Hydrograph type = Reservoir Peak discharge = 2.030 cfsStorm frequency = 50 yrsTime to peak = 33 min Time interval = 1 min Hyd. volume = 4,983 cuft Inflow hyd. No. = 2 - DEVELOPMENT CREATEIMELOEMEvation $= 403.05 \, \text{ft}$ Reservoir name = DETENTION Max. Storage = 1,743 cuft

Storage Indication method used.



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Time (min)

Hydrograph Report

Hyd No. 1

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Wednesday, 06 / 26 / 2024

Hyd. No. 1

PRE DEV FLOW

= 2.747 cfsHydrograph type = Rational Peak discharge Storm frequency = 100 yrsTime to peak = 23 min Time interval = 1 min Hyd. volume = 3,791 cuftRunoff coeff. Drainage area = 0.920 ac= 0.49= 23.00 min Intensity = 6.093 in/hrTc by User IDF Curve Asc/Rec limb fact = 1/1= Bryant 50.IDF

PRE DEV FLOW Q (cfs) Q (cfs) Hyd. No. 1 -- 100 Year 3.00 3.00 2.00 2.00 1.00 1.00 0.00 0.00 4 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46

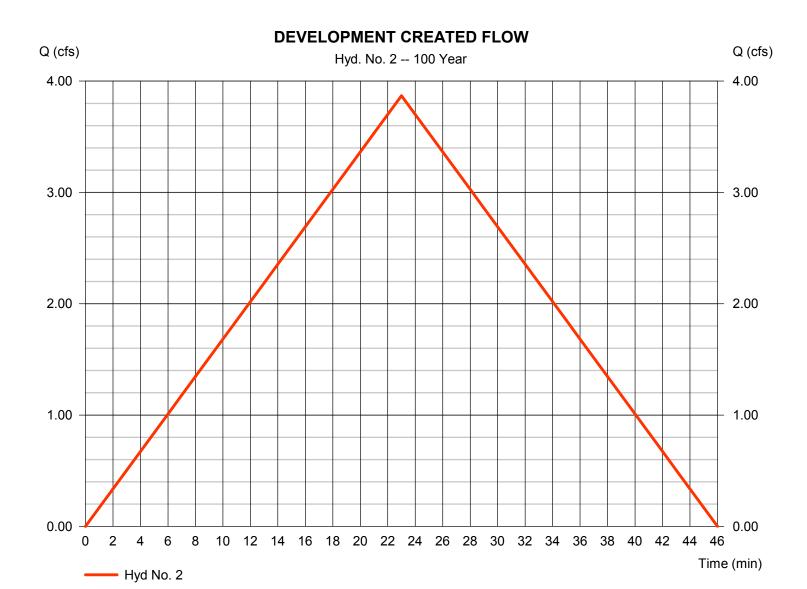
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Wednesday, 06 / 26 / 2024

Hyd. No. 2

DEVELOPMENT CREATED FLOW

Hydrograph type Peak discharge = 3.868 cfs= Rational Storm frequency = 100 yrsTime to peak = 23 min Time interval = 1 min Hyd. volume = 5,338 cuftRunoff coeff. Drainage area = 0.920 ac= 0.69Tc by User = 23.00 min Intensity = 6.093 in/hrIDF Curve Asc/Rec limb fact = 1/1= Bryant 50.IDF



Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

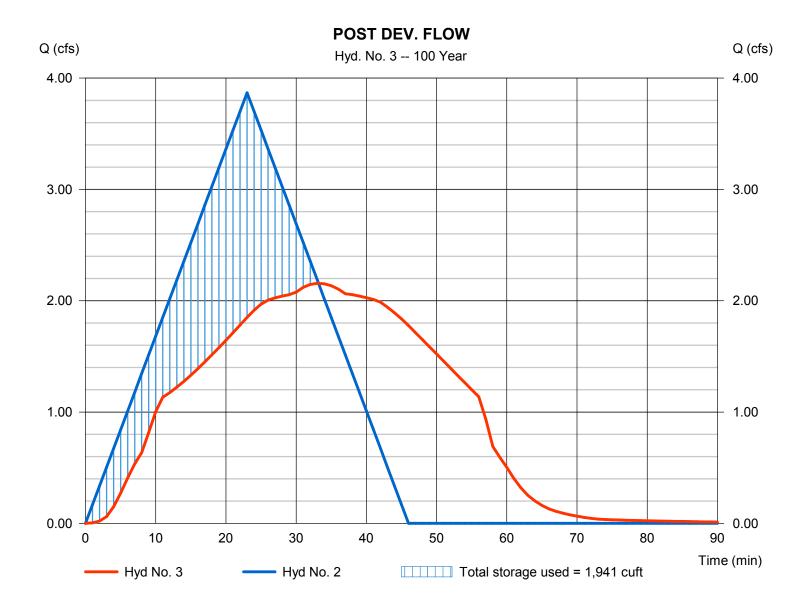
Wednesday, 06 / 26 / 2024

Hyd. No. 3

POST DEV. FLOW

Hydrograph type = Reservoir Peak discharge = 2.156 cfsStorm frequency = 100 yrsTime to peak = 33 min Time interval = 1 min Hyd. volume = 5,337 cuftInflow hyd. No. = 2 - DEVELOPMENT CREATEIMELOEMEvation = 403.13 ftReservoir name = DETENTION Max. Storage = 1,941 cuft

Storage Indication method used.



Hydraflow Rainfall Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Wednesday, 06 / 26 / 2024

Return Period	Intensity-Du	ıration-Frequency E	quation Coefficients	(FHA)
(Yrs)	В	D	E	(N/A)
1	0.0000	0.0000	0.0000	
2	32.2253	7.2000	0.6856	
3	0.0000	0.0000	0.0000	
5	0.0000	0.0000	0.0000	
10	46.3641	10.0000	0.6781	
25	61.8249	11.8000	0.7079	
50	79.0516	13.3000	0.7326	
100	54.7483	10.0000	0.6279	

File name: Bryant 50.IDF

Intensity = $B / (Tc + D)^E$

Return Period (Yrs)												
	5 min	10	15	20	25	30	35	40	45	50	55	60
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	5.80	4.58	3.85	3.35	2.98	2.70	2.48	2.29	2.14	2.01	1.90	1.80
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	7.39	6.08	5.23	4.62	4.16	3.80	3.51	3.27	3.06	2.89	2.73	2.60
25	8.39	6.98	6.03	5.34	4.82	4.40	4.06	3.78	3.54	3.34	3.16	3.00
50	9.40	7.87	6.83	6.06	5.47	5.00	4.62	4.29	4.02	3.79	3.58	3.40
100	10.00	8.34	7.25	6.47	5.87	5.40	5.02	4.69	4.42	4.19	3.98	3.80

Tc = time in minutes. Values may exceed 60.

Precip. file name: C:\Documents and Settings\Will\Desktop\Fleming\fleming.pcp

	Rainfall Precipitation Table (in)							
Storm Distribution	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
SCS 24-hour	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SCS 6-Hr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-1st	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-2nd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-3rd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-4th	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-Indy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Custom	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

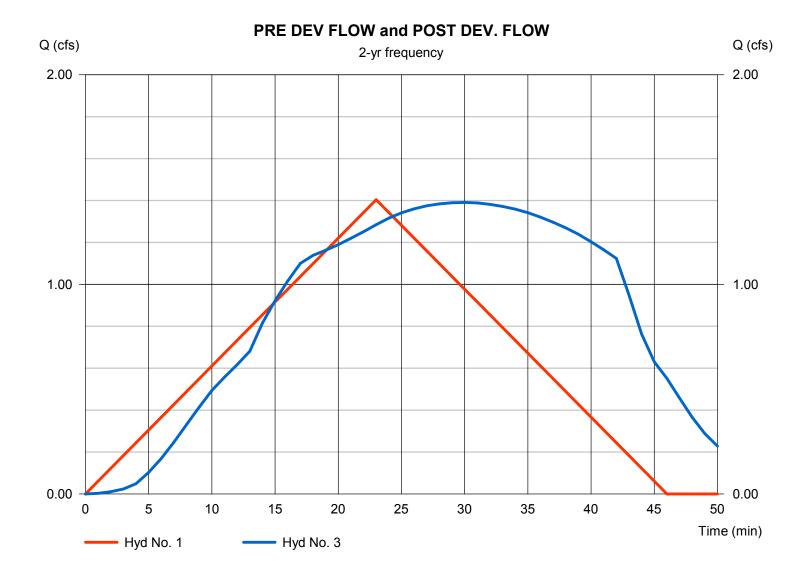
Hyd. No. 1

PRE DEV FLOW

Hydrograph type = Rational Peak discharge = 1.404 cfs Time to peak = 23 min Hyd. Volume = 1,938 cuft Hyd. No. 3

POST DEV. FLOW

Hydrograph type = Reservoir
Peak discharge = 1.39 cfs
Time to peak = 30 min
Hyd. Volume = 2,728 cuft



Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

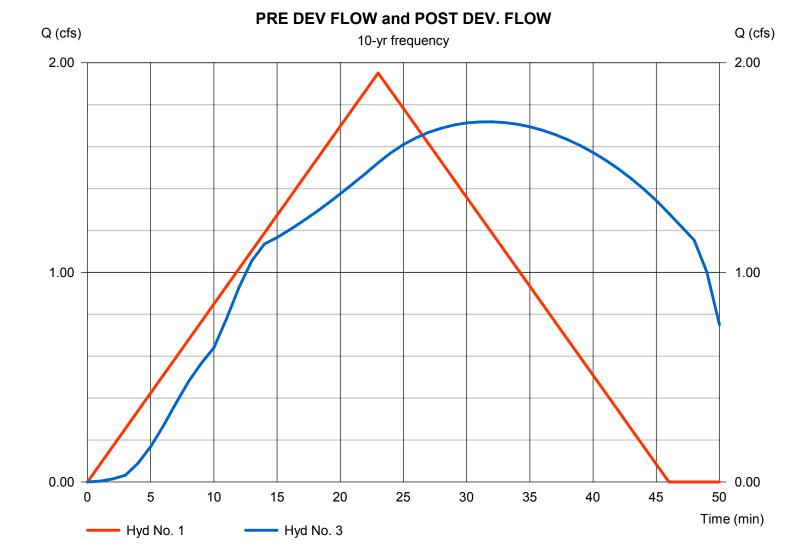
Hyd. No. 1

PRE DEV FLOW

Hydrograph type = Rational Peak discharge = 1.952 cfs Time to peak = 23 min Hyd. Volume = 2,693 cuft Hyd. No. 3

POST DEV. FLOW

Hydrograph type = Reservoir
Peak discharge = 1.72 cfs
Time to peak = 32 min
Hyd. Volume = 3,792 cuft



Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

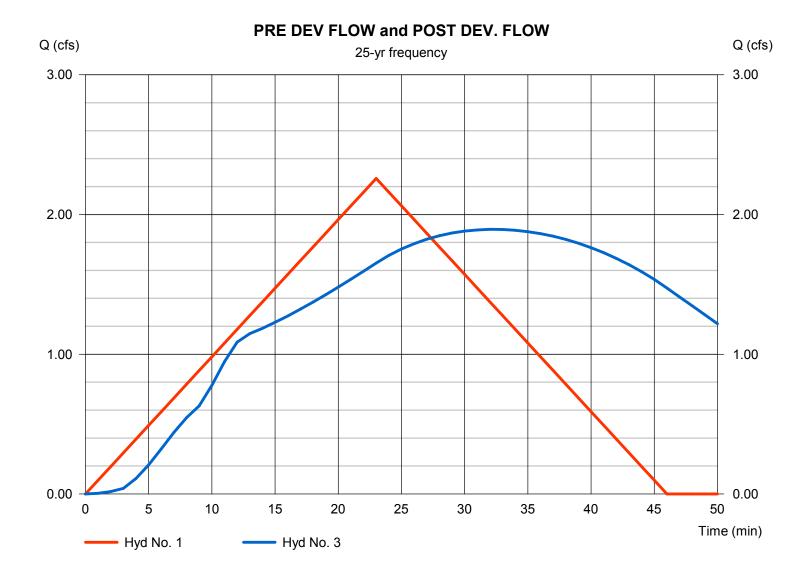
Hyd. No. 1

PRE DEV FLOW

Hydrograph type = Rational Peak discharge = 2.258 cfs Time to peak = 23 min Hyd. Volume = 3,116 cuft Hyd. No. 3

POST DEV. FLOW

Hydrograph type = Reservoir
Peak discharge = 1.89 cfs
Time to peak = 32 min
Hyd. Volume = 4,388 cuft



Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

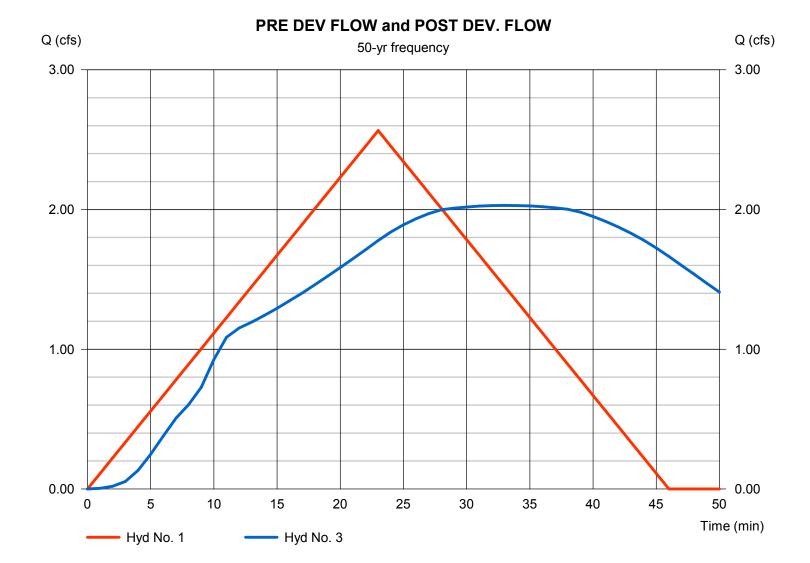
Hyd. No. 1

PRE DEV FLOW

Hydrograph type = Rational Peak discharge = 2.565 cfs Time to peak = 23 min Hyd. Volume = 3,539 cuft Hyd. No. 3

POST DEV. FLOW

Hydrograph type = Reservoir
Peak discharge = 2.03 cfs
Time to peak = 33 min
Hyd. Volume = 4,983 cuft



Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

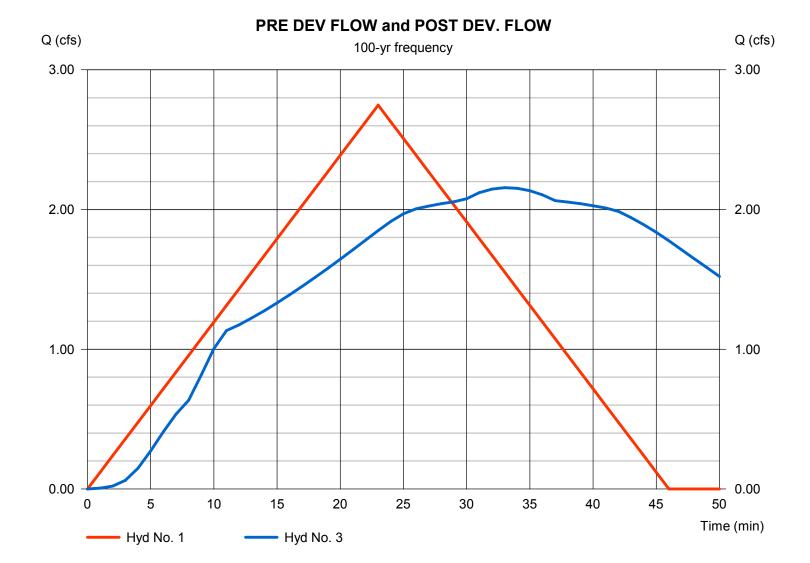
Hyd. No. 1

PRE DEV FLOW

Hydrograph type = Rational Peak discharge = 2.747 cfs Time to peak = 23 min Hyd. Volume = 3,791 cuft Hyd. No. 3

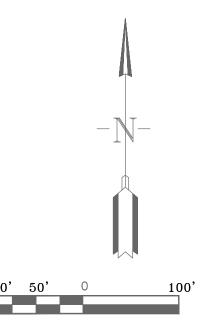
POST DEV. FLOW

Hydrograph type = Reservoir
Peak discharge = 2.16 cfs
Time to peak = 33 min
Hyd. Volume = 5,337 cuft





VICINITY MAP:



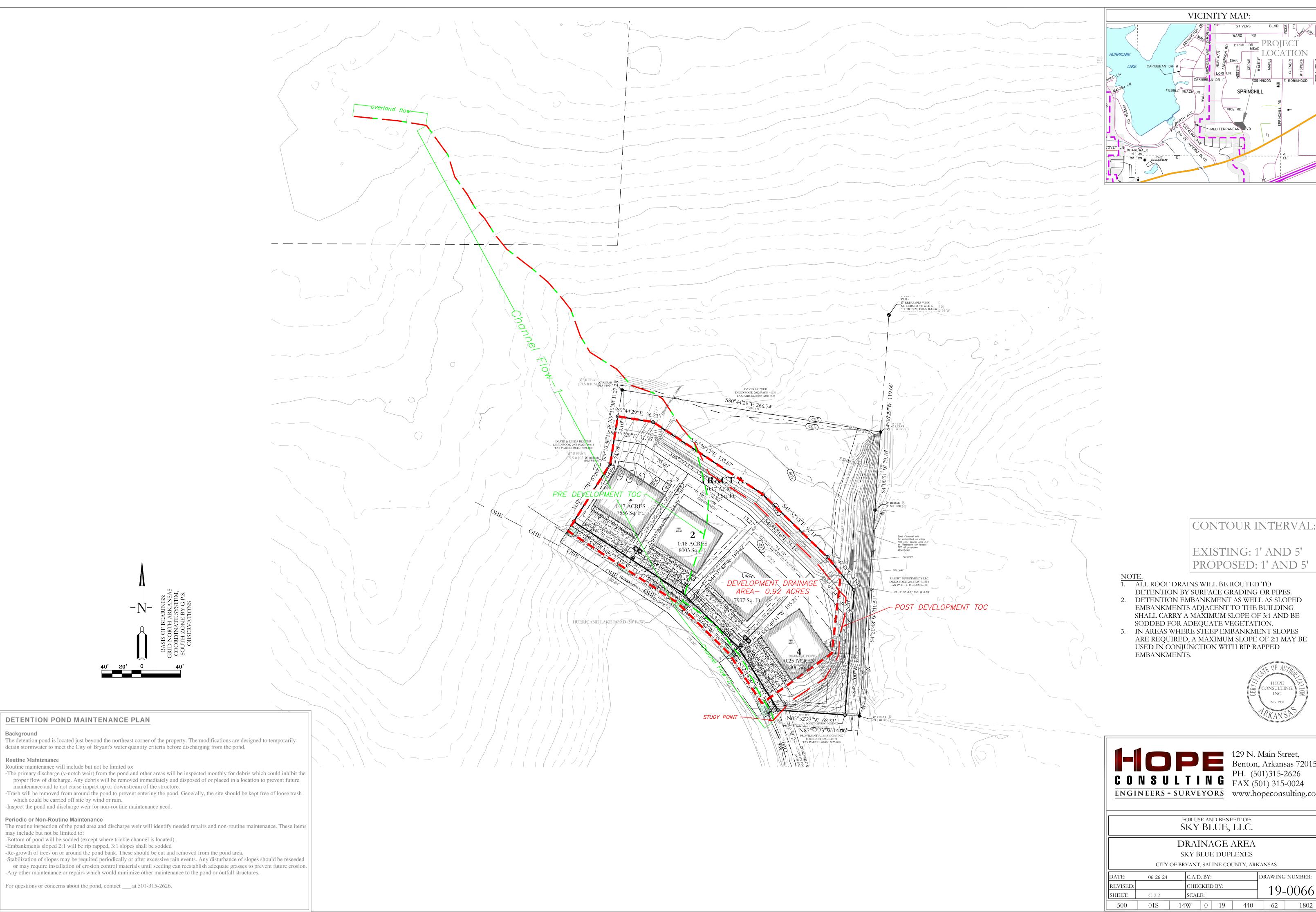


time of concentration, tc (min)	REGION 3 IDF				
Pre					
Channel Dimensions	and Time of Co	oncentratio	n, tc		
Area (ft2)	1998592.29				
Area (Acre)	46				
Length, L (ft)	2217.0				
Change in Elevation (ft)	60.27				
Slope, S (ft/ft)	0.027				
N (asphalt,grass,etc)	0.400		h (ft)	S	
L(overland, ft)	200		4		0.020
L(channel 1, ft)	2017		56.27		0.028
L(channel 2, ft)	0.0		0		0.000
t _i	45.4	V			
t _{t1}	5.6	6.007023			
t_{t2}	0.0	0			
time of concentration, tc (min)	51.0	use 50 m	in		

	Design Peak Runoff Rates, Qp (cfs)							
	Intensity, I (in/hr)	Runoff Coeff	Flow (cfs)					
			С	Q				
100year		4.19	0.53	101.89				
	Qp,max (max flow) cfs			102				

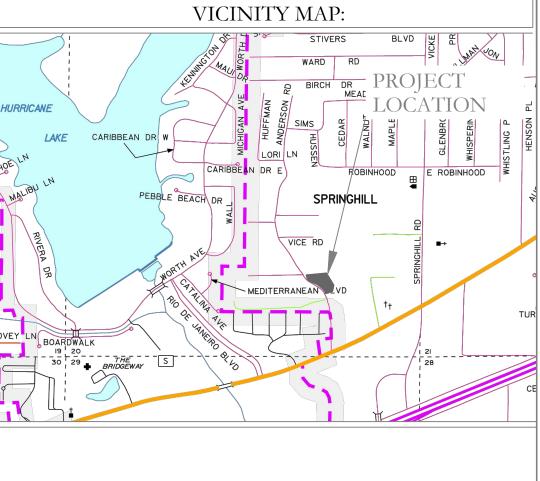
SEWER EXTENSION PLAN PROFILE

DRAWING NUMBER: 17-0532 SCALE: 01S 14W 0 27 430 62 1807



Routine Maintenance

may include but not be limited to:



CONTOUR INTERVAL:

EXISTING: 1' AND 5' PROPOSED: 1' AND 5'

1. ALL ROOF DRAINS WILL BE ROUTED TO

DETENTION BY SURFACE GRADING OR PIPES. 2. DETENTION EMBANKMENT AS WELL AS SLOPED EMBANKMENTS ADJACENT TO THE BUILDING SHALL CARRY A MAXIMUM SLOPE OF 3:1 AND BE

SODDED FOR ADEQUATE VEGETATION. 3. IN AREAS WHERE STEEP EMBANKMENT SLOPES ARE REQUIRED, A MAXIMUM SLOPE OF 2:1 MAY BE USED IN CONJUNCTION WITH RIP RAPPED EMBANKMENTS.



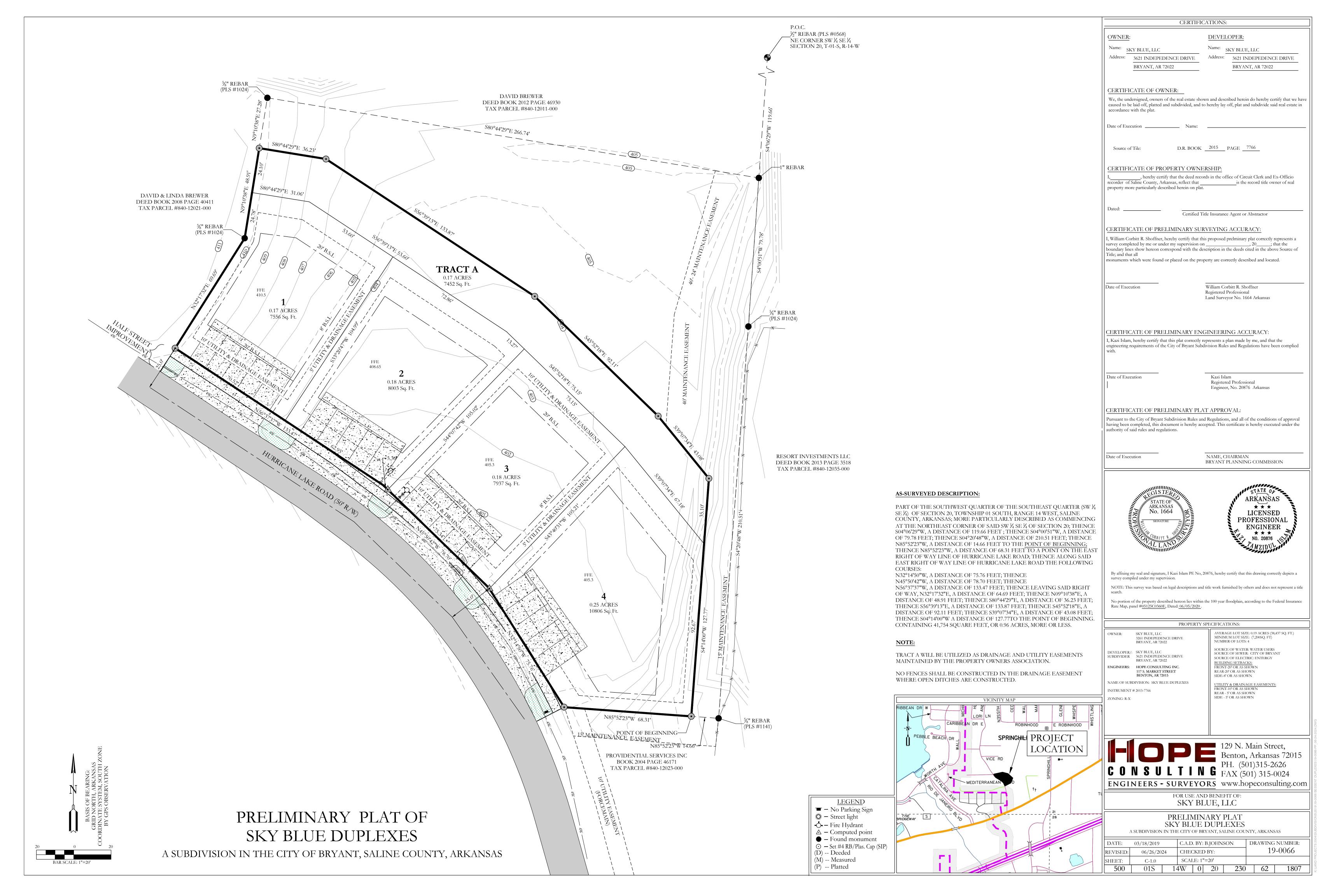


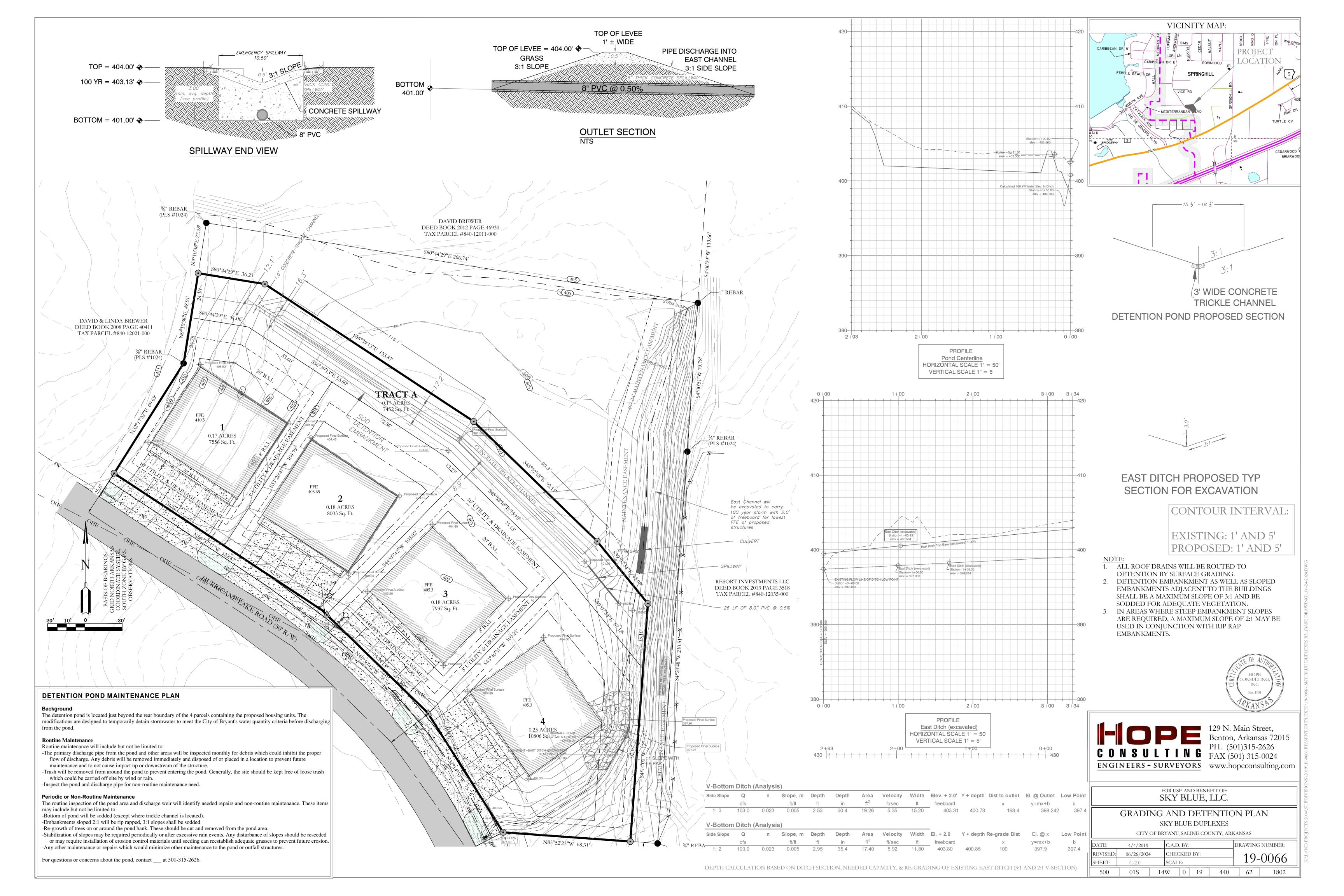
FOR USE AND BENEFIT OF: SKY BLUE, LLC.

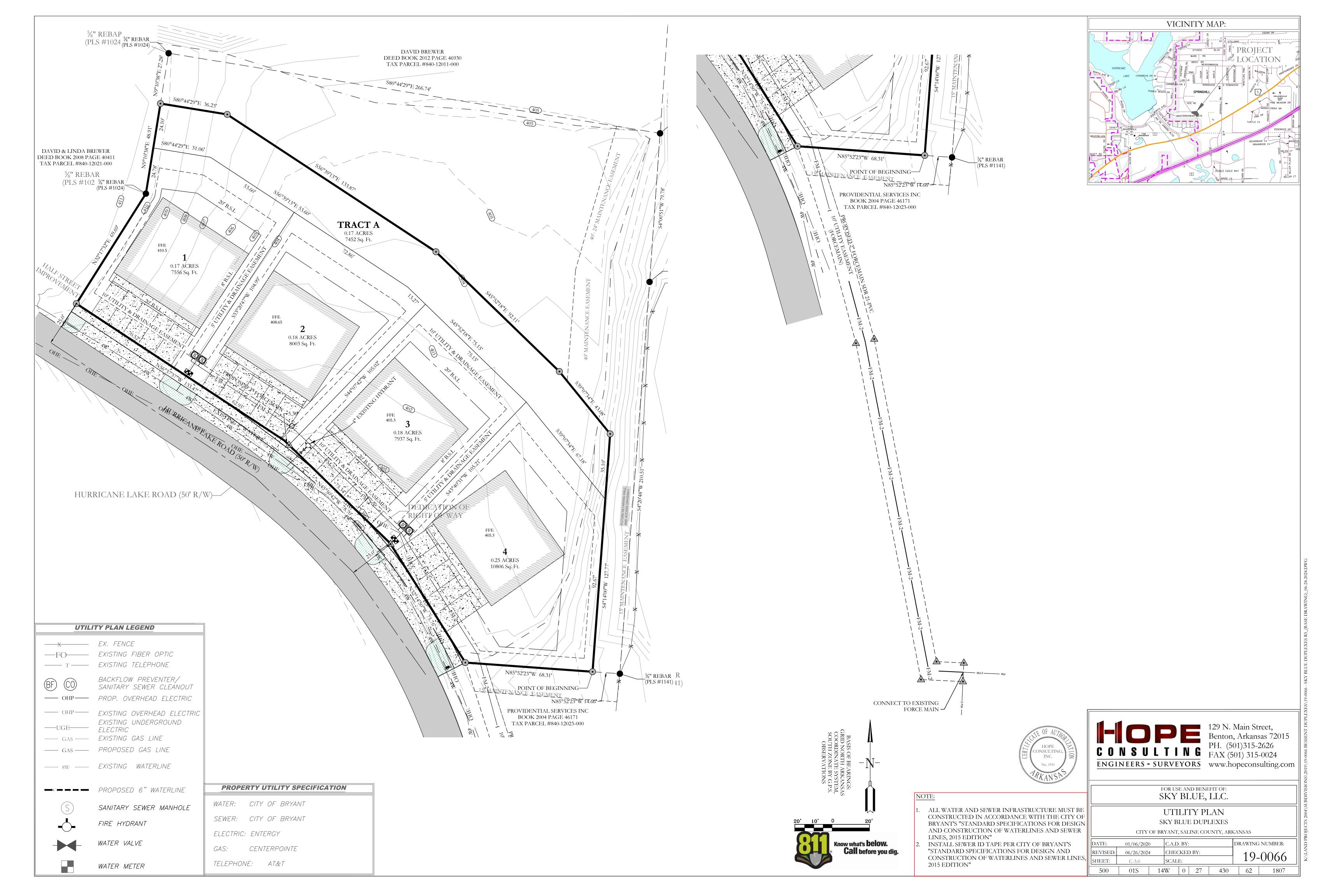
DRAINAGE AREA SKY BLUE DUPLEXES

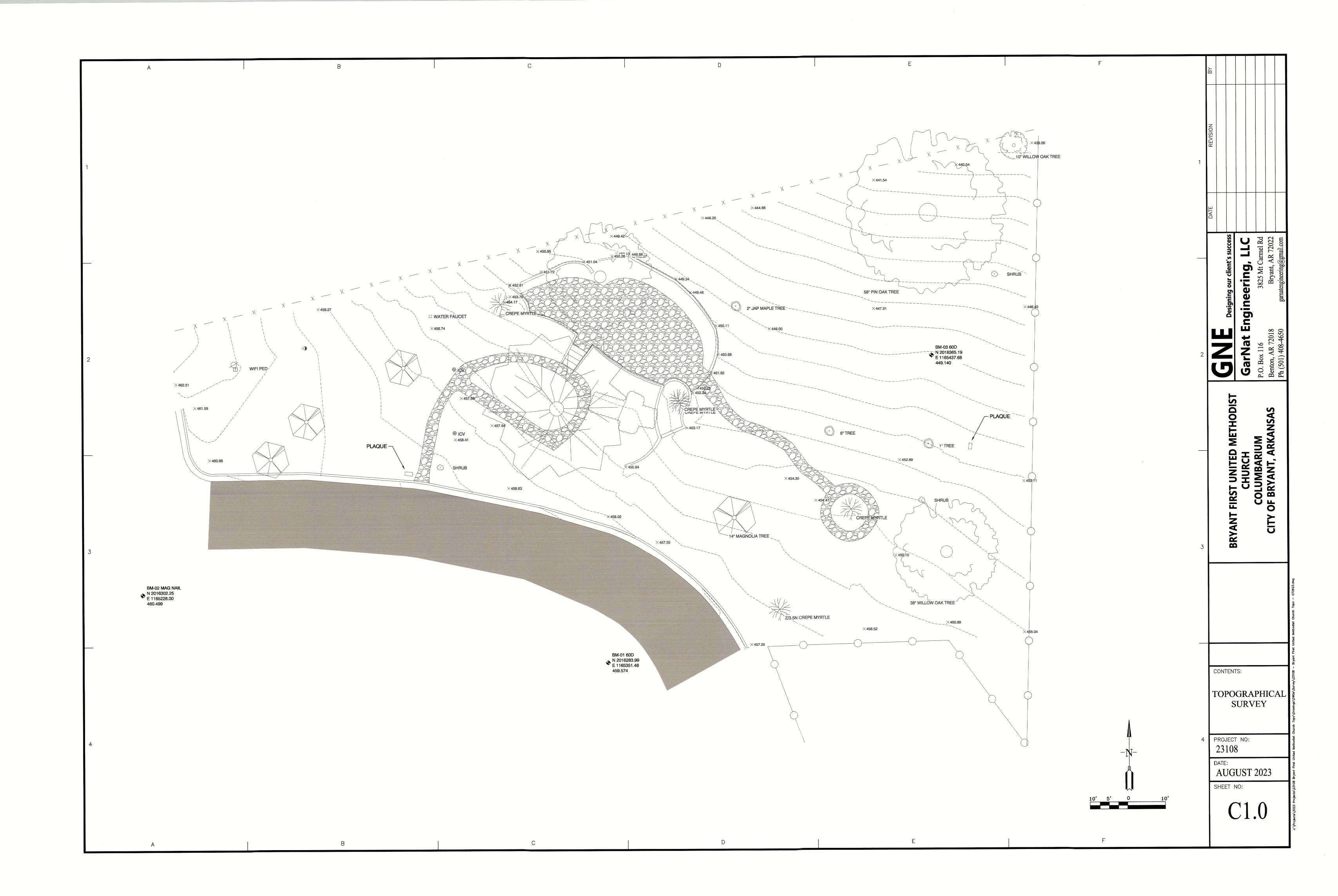
CITY OF BRYANT, SALINE COUNTY, ARKANSAS

DRAWING NUMBER: C.A.D. BY: 06-26-24 CHECKED BY: 19-0066 C-2.2









SKY BLUE DUPLEXES PROPOSED MULTI-FAMILY UNITS

DRAINAGE REPORT

FOR

City of Bryant, AR

DATE

Hurricane Lake Road, Saline County, AR

By:



APPENDIX

Project Description/Summary

Detention Discharge Summary, Composite C Values, & time of concentration

Street Drainage Calculation

East Ditch Calculations

Time of Concentration Calculation

Pond Report

Hydrographs

East Ditch Exhibit

Summary

The following calculations pertain to the detention design for the proposed multi family development Located off Hurricane Lake Road in Bryant, AR.

Proposed Development area = 0.92 Acres

	C	tc (min)
Pre-development:	0.49	23
Post-development:	0.69	23

Detention Pre & Post Development Comparisons

Prior to detention routing:

Event (yrs)	Pre-developed Flow Q (cfs)	Post-developed Flow (no pond) Q (cfs)
2	1.40	1.98
10	1.95	2.75
25	2.26	3.18
50	2.57	3.61
100	2.75	3.87

After routing to detention:

Event (yrs)	Pre-developed Q (cfs)	Post-developed (with pond) Q (cfs)	Water El. (ft)
2	1.40	1.39	402.25
10	1.95	1.72	402.62
25	2.26	1.89	402.85
50	2.57	2.03	403.05
100	2.75	2.16	403.13

Therefore the development will not create any additional flow in the downstream area.

East Channel

The following calculations pertain to the existing east ditch, and are based on proposed re-design and excavation of the existing channel in order to have the needed vertical room necessary for detention and 2.0 feet of freeboard for the finished floor elevations of proposed structures.

time of concentration, tc (min)	REGION 3 IDF					
Pre						
Channel Dimensions and Time of Concentration, to						
Area (ft2)	1998592.29					
Area (Acre)	46					
Length, L (ft)	2217.0					
Change in Elevation (ft)	60.27					
Slope, S (ft/ft)	0.027					
N (asphalt,grass,etc)	0.400		h (ft)	S		
L(overland, ft)	200		4	0.020		
L(channel 1, ft)	2017		56.27	0.028		
L(channel 2, ft)	0.0		0	0.000		
t _i	45.4	v				
t _{t1}	5.6	6.007023				
t _{t2}	0.0	0				
time of concentration, tc (min)	51.0	use 50 mi	n			

Design Peak Runoff Ra	ites, Qp (cfs)	
Intensity, I (in/hr)	Runoff Coeff	Flow (cfs)
I	С	Q
4.19	0.53	101.89

100year

Qp,max (max flow) cfs

V-Bottom Ditch (Analysis)

Side Slope	Q	n	Slope, m	Depth	Depth	Area	Velocity	Width
	cfs		ft/ft	ft	in	ft ²	ft/sec	ft
1: 3	103.0	0.023	0.005	2.53	30.4	19.26	5.35	15.20

102

STATION 1+68

 Elev. + 2.0'
 Y + depth
 Dist to outlet
 El. @ Outlet
 Low Point

 freeboard
 x
 y=mx+b
 b

 403.31
 400.78
 168.4
 398.242
 397.4

V-Bottom Ditch (Analysis)

Side Slope	Q	n	Slope, m	Depth	Depth	Area	Velocity	Width
	cfs		ft/ft	ft	in	ft ²	ft/sec	ft
1: 2	103.0	0.023	0.005	2.95	35.4	17.40	5.92	11.80

STATION 1+00

El. + 2.0	Y + depth	Re-grade Dist	El. @ x	Low Point
freeboard		x	y=mx+b	b
403.80	400.85	100	397.9	397.4

PRE DEVELOPMENT TOC:

Time of Concentration, tc (min)	Bryant IDF				
Channel Dimensions	and Time of Co	ncentratio	n, tc		
Area (ft2)	40262.9				
Area (Acre)	0.92				
Length, L (ft)	837.0				
Change in Elevation (ft)	32				
Slope, S (ft/ft)	0.038				
N (Coeff. Of roughness, Table 400-3)	0.100		h (ft)	S	
L(overland/sheet flow, ft)	75		1		0.013
L(channel 1, ft)	601		25.00		0.04
L(channel 2, ft)	161.0		1		0.006
t _i	18.4	v			
t _{t1}	3.3	3.0241			
t _{t2}	0.9	2.909438			
time of concentration, tc (min)	22.7			use	23

POST DEVELOPMENT TOC:

time of concentration, tc (min)	Bryant IDF				
Channel Dimension	s and Time of Co	oncentratio	n, tc		
Area (ft2)	40262.9				
Area (Acre)	0.92				
Length, L (ft)	888.0				
Change in Elevation (ft)	32				
Slope, S (ft/ft)	0.036				
N (Coeff. Of roughness, Table 400-3)	0.100		h (ft)	S	
L(overland/sheet flow, ft)	75		1		0.013
L(channel 1, ft)	659		25.00		0.04
L(channel 2, ft)	154.0		3		0.017
t_{i}	18.4	v			
t_{t_1}	3.8	2.887956			
t_{t2}	0.5	4.77828			
time of concentration, tc (min)	22.8			use	23

valt	ershed Model Schemati	C Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc.
Legen	d	
Hyd. Or 1 Ra	igin Description tional PRE DEV FLOW	
	ntional PRE DEV FLOW tional DEVELOPMENT CREATED FLOW	
3 Re	eservoir POST DEV. FLOW	

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

lyd. lo.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	1.404	1	23	1,938				PRE DEV FLOW
2	Rational	1.977	1	23	2,729				DEVELOPMENT CREATED FLOW
2 3	Reservoir	1.391	1 1	23 30	2,729 2,728	2	402.25	649	DEVELOPMENT CREATED FLOW POST DEV. FLOW

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

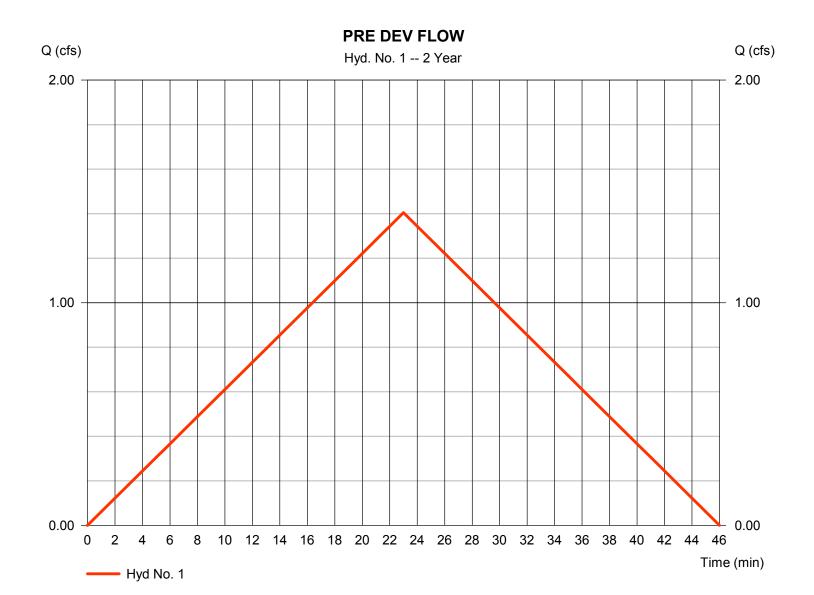
Wednesday, 06 / 26 / 2024

Hyd. No. 1

PRE DEV FLOW

Hydrograph type = Rational Peak discharge = 1.404 cfsStorm frequency = 2 yrs Time to peak = 23 min Time interval = 1 min Hyd. volume = 1,938 cuft Drainage area Runoff coeff. = 0.920 ac= 0.49Tc by User = 23.00 min Intensity = 3.115 in/hr

IDF Curve = Bryant 50.IDF Asc/Rec limb fact = 1/1



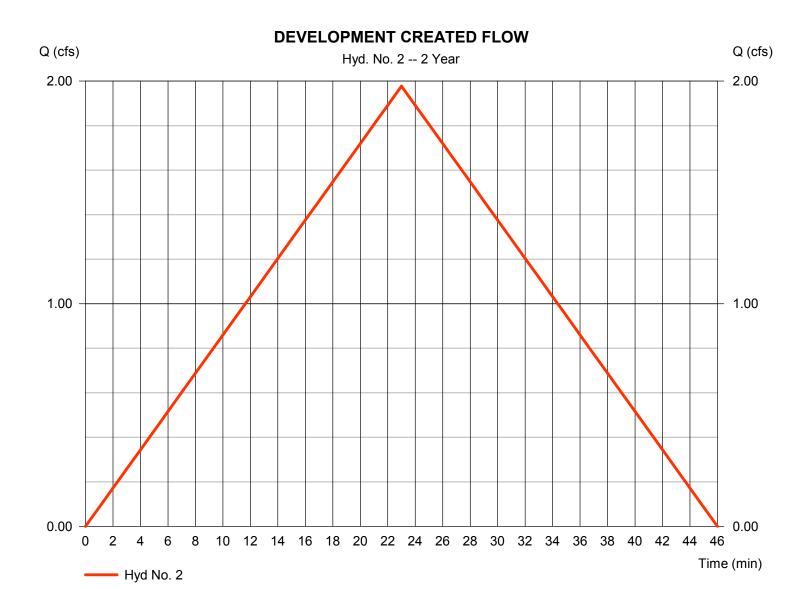
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Wednesday, 06 / 26 / 2024

Hyd. No. 2

DEVELOPMENT CREATED FLOW

Hydrograph type = Rational Peak discharge = 1.977 cfsStorm frequency = 2 yrs Time to peak = 23 min Time interval = 1 min Hyd. volume = 2,729 cuftRunoff coeff. Drainage area = 0.920 ac= 0.69Tc by User $= 23.00 \, \text{min}$ Intensity = 3.115 in/hr= 1/1 IDF Curve Asc/Rec limb fact = Bryant 50.IDF



Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

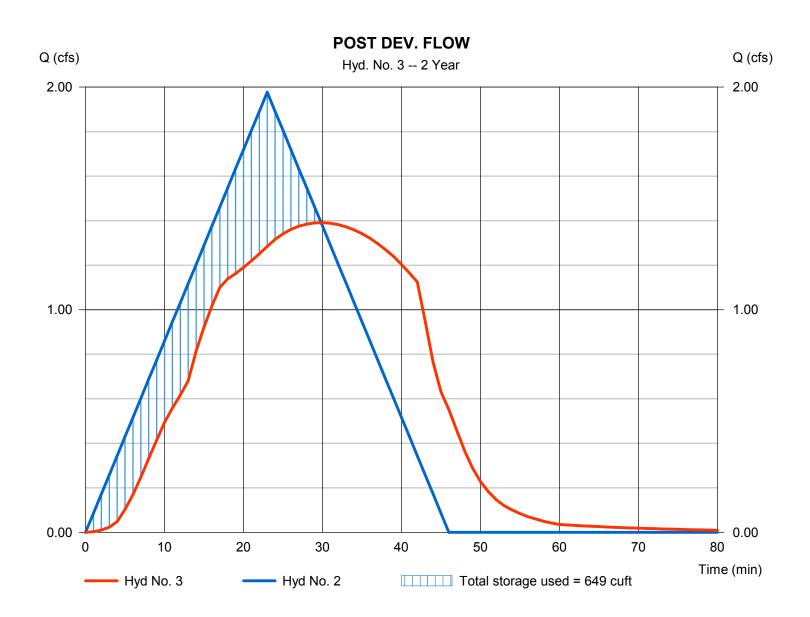
Wednesday, 06 / 26 / 2024

Hyd. No. 3

POST DEV. FLOW

Hydrograph type = Reservoir Peak discharge = 1.391 cfsStorm frequency = 2 yrs Time to peak = 30 min Time interval = 1 min Hyd. volume = 2,728 cuft Inflow hyd. No. = 2 - DEVELOPMENT CREATEIMELOEMEvation = 402.25 ftMax. Storage = DETENTION Reservoir name = 649 cuft

Storage Indication method used.



Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Wednesday, 06 / 26 / 2024

Pond No. 1 - DETENTION

Pond Data

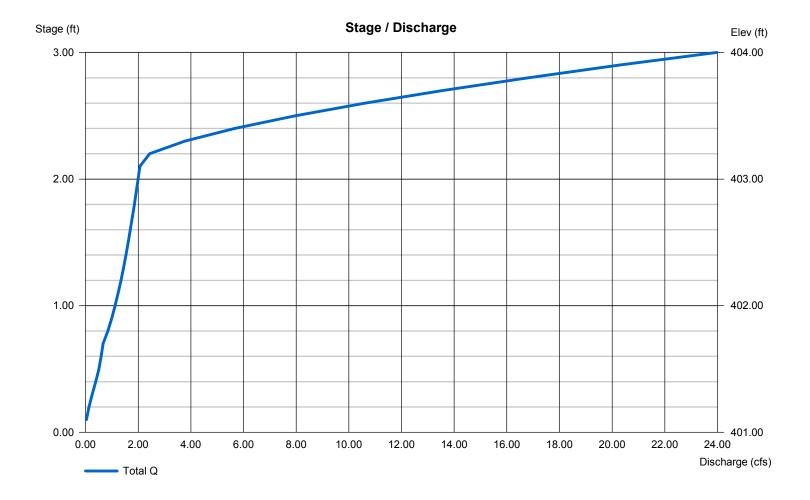
Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 401.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	401.00	80	0	0
1.00	402.00	680	331	331
2.00	403.00	1,994	1,279	1,610
3.00	404.00	3,353	2,644	4,254

Culvert / Orifice Structures Weir Structures [C] [B] [A] [B] [C] [D] [A] [PrfRsr] 0.00 Rise (in) = 8.00 Inactive Inactive Crest Len (ft) = 10.50 0.00 0.00 0.00 = 8.00 0.00 0.00 0.00 Crest El. (ft) = 403.15 0.00 0.00 0.00 Span (in) No. Barrels = 1 0 0 0 Weir Coeff. = 2.60 3.33 3.33 3.33 = 401.00 0.00 0.00 0.00 = Broad Invert El. (ft) Weir Type = 26.000.00 0.00 0.00 Multi-Stage Length (ft) = No No No No = 0.500.00 0.00 n/a Slope (%) N-Value = .013 .013 .013 n/a 0.60 = 0.600.60 0.60 Exfil.(in/hr) = 0.000 (by Wet area) Orifice Coeff. Multi-Stage = n/aNo No No TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

lyd. lo.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	1.952	1	23	2,693				PRE DEV FLOW
2	Rational	2.748	1	23	3,793				DEVELOPMENT CREATED FLOW
2 3	Reservoir	2.748	1 1	23 32	3,793	2	402.62	1,127	POST DEV. FLOW

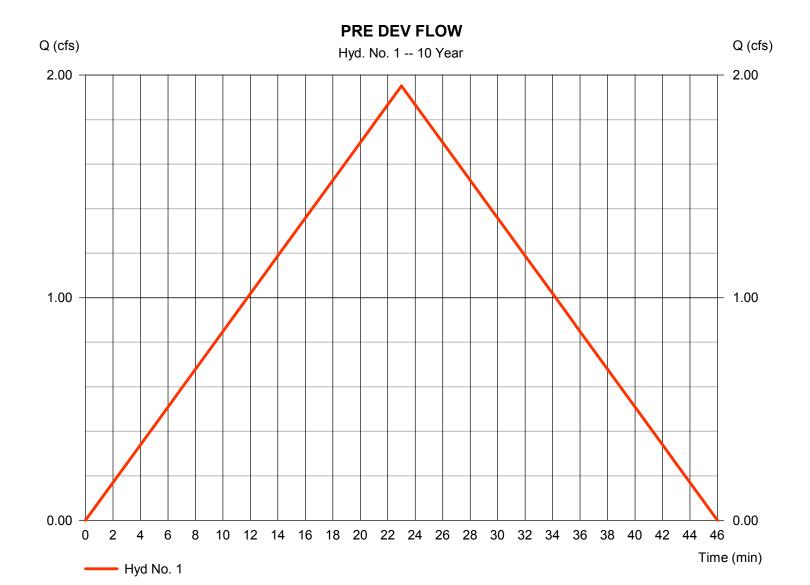
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Wednesday, 06 / 26 / 2024

Hyd. No. 1

PRE DEV FLOW

Hydrograph type = Rational Peak discharge = 1.952 cfsStorm frequency = 10 yrsTime to peak = 23 min Time interval = 1 min Hyd. volume = 2,693 cuftDrainage area Runoff coeff. = 0.920 ac= 0.49Tc by User = 23.00 min Intensity = 4.330 in/hrIDF Curve Asc/Rec limb fact = 1/1= Bryant 50.IDF



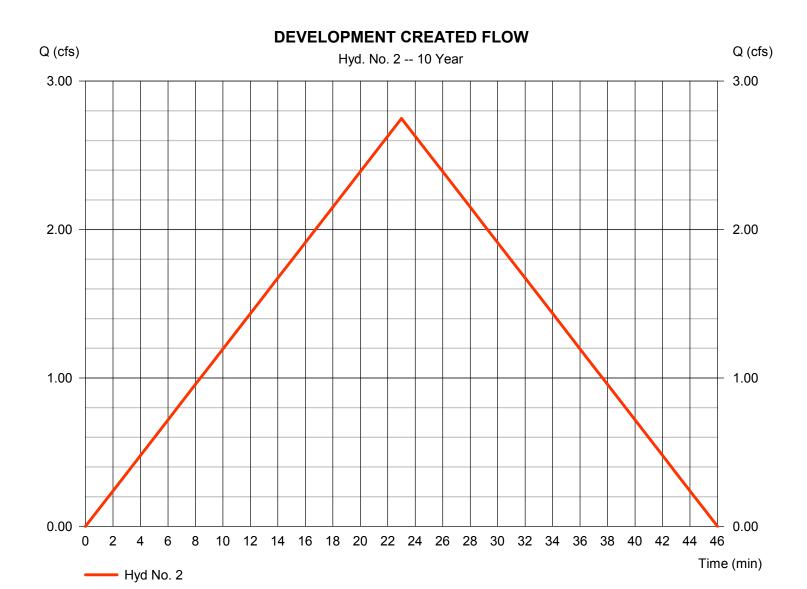
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Wednesday, 06 / 26 / 2024

Hyd. No. 2

DEVELOPMENT CREATED FLOW

= 2.748 cfsHydrograph type = Rational Peak discharge Storm frequency = 10 yrsTime to peak = 23 min Time interval = 1 min Hyd. volume = 3,793 cuftRunoff coeff. Drainage area = 0.920 ac= 0.69Tc by User $= 23.00 \, \text{min}$ Intensity = 4.330 in/hrIDF Curve Asc/Rec limb fact = 1/1 = Bryant 50.IDF



Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

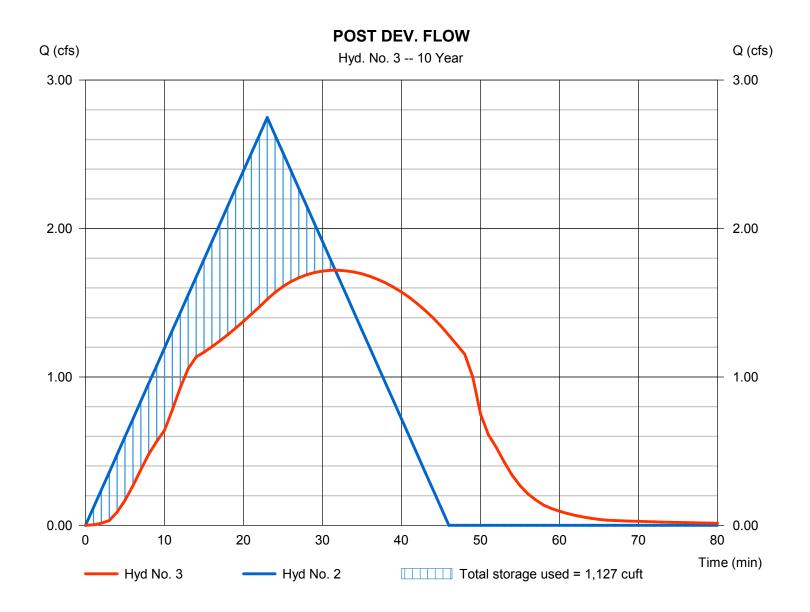
Wednesday, 06 / 26 / 2024

Hyd. No. 3

POST DEV. FLOW

Hydrograph type = Reservoir Peak discharge = 1.719 cfsStorm frequency = 10 yrsTime to peak = 32 min Time interval = 1 min Hyd. volume = 3,792 cuftInflow hyd. No. = 2 - DEVELOPMENT CREATEIMELOEMEvation = 402.62 ft= DETENTION Reservoir name Max. Storage = 1,127 cuft

Storage Indication method used.



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	2.258	1	23	3,116				PRE DEV FLOW
2	Rational	3.180	1	23	4,389				DEVELOPMENT CREATED FLOW
							402.85		
	0066 Bessent								y, 06 / 26 / 2024

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

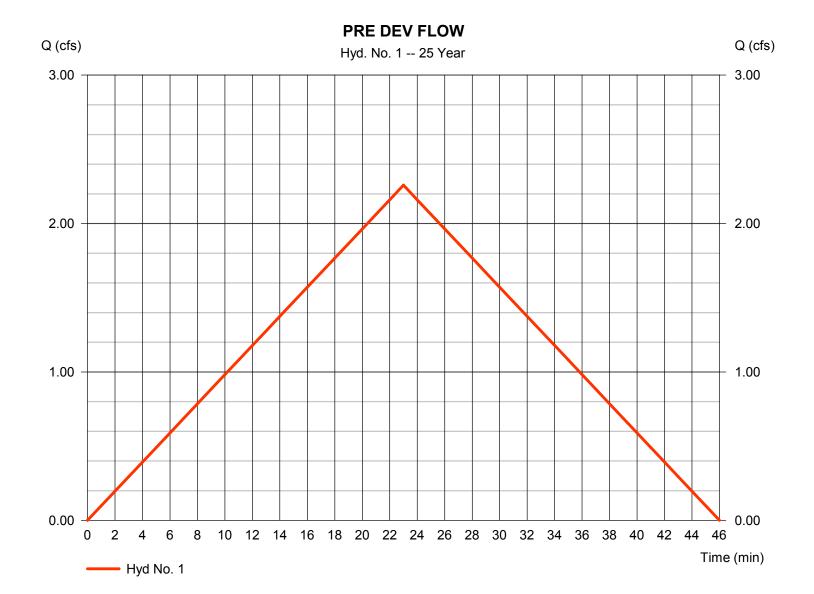
Wednesday, 06 / 26 / 2024

Hyd. No. 1

PRE DEV FLOW

= 2.258 cfsHydrograph type = Rational Peak discharge Storm frequency = 25 yrsTime to peak = 23 min Time interval = 1 min Hyd. volume = 3,116 cuftRunoff coeff. Drainage area = 0.920 ac= 0.49Tc by User = 23.00 min Intensity = 5.010 in/hr

IDF Curve = Bryant 50.IDF Asc/Rec limb fact = 1/1



Time (min)

Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

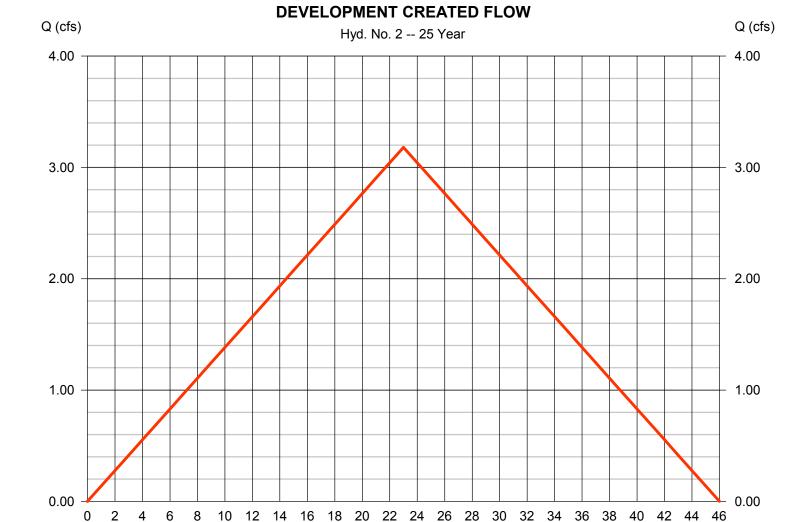
Wednesday, 06 / 26 / 2024

Hyd. No. 2

DEVELOPMENT CREATED FLOW

Hyd No. 2

Hydrograph type = Rational Peak discharge = 3.180 cfsStorm frequency = 25 yrsTime to peak = 23 min Time interval = 1 min Hyd. volume = 4,389 cuftRunoff coeff. Drainage area = 0.920 ac= 0.69Tc by User = 23.00 min Intensity = 5.010 in/hrIDF Curve Asc/Rec limb fact = 1/1 = Bryant 50.IDF



Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

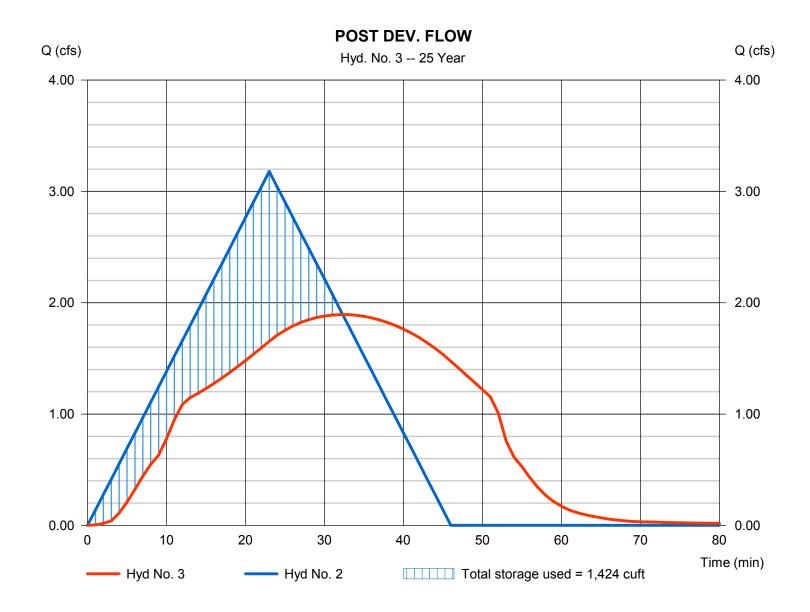
Wednesday, 06 / 26 / 2024

Hyd. No. 3

POST DEV. FLOW

Hydrograph type = Reservoir Peak discharge = 1.894 cfsStorm frequency = 25 yrsTime to peak = 32 min Time interval = 1 min Hyd. volume = 4,388 cuft Inflow hyd. No. = 2 - DEVELOPMENT CREATEIMELOEMEvation $= 402.85 \, ft$ Reservoir name = DETENTION Max. Storage = 1,424 cuft

Storage Indication method used.



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	2.565	1	23	3,539				PRE DEV FLOW
2	Rational	3.612	1	23	4,984				DEVELOPMENT CREATED FLOW
2 3	Rational	3.612 2.030	1 1	23 33	4,984	2	403.05	1,743	DEVELOPMENT CREATED FLOW POST DEV. FLOW
10-	0066 Bessent	Dunleye	s 06-26	3-2024 an	w Return 6	Period: 50 \	/ear	Wednesda	y, 06 / 26 / 2024

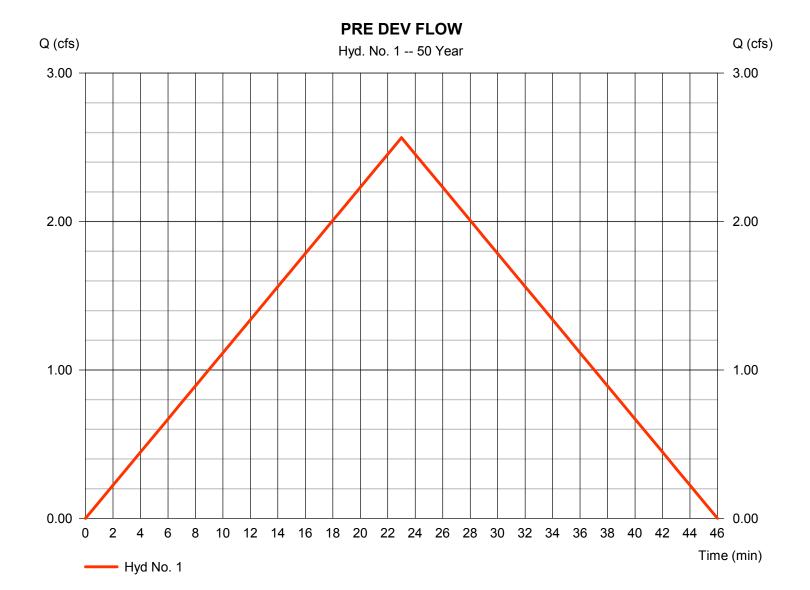
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Wednesday, 06 / 26 / 2024

Hyd. No. 1

PRE DEV FLOW

Hydrograph type = Rational Peak discharge = 2.565 cfsStorm frequency = 50 yrsTime to peak = 23 min Time interval = 1 min Hyd. volume = 3,539 cuftRunoff coeff. Drainage area = 0.920 ac= 0.49Tc by User = 23.00 min Intensity = 5.690 in/hrIDF Curve Asc/Rec limb fact = 1/1= Bryant 50.IDF



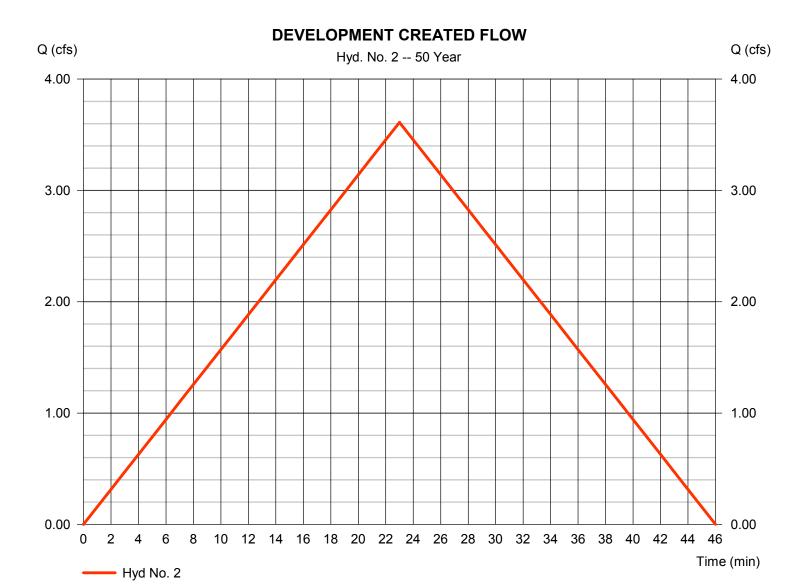
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Wednesday, 06 / 26 / 2024

Hyd. No. 2

DEVELOPMENT CREATED FLOW

Hydrograph type = Rational Peak discharge = 3.612 cfsStorm frequency = 50 yrsTime to peak = 23 min Time interval = 1 min Hyd. volume = 4,984 cuft Runoff coeff. Drainage area = 0.920 ac= 0.69Tc by User = 23.00 min Intensity = 5.690 in/hrIDF Curve Asc/Rec limb fact = 1/1= Bryant 50.IDF



Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

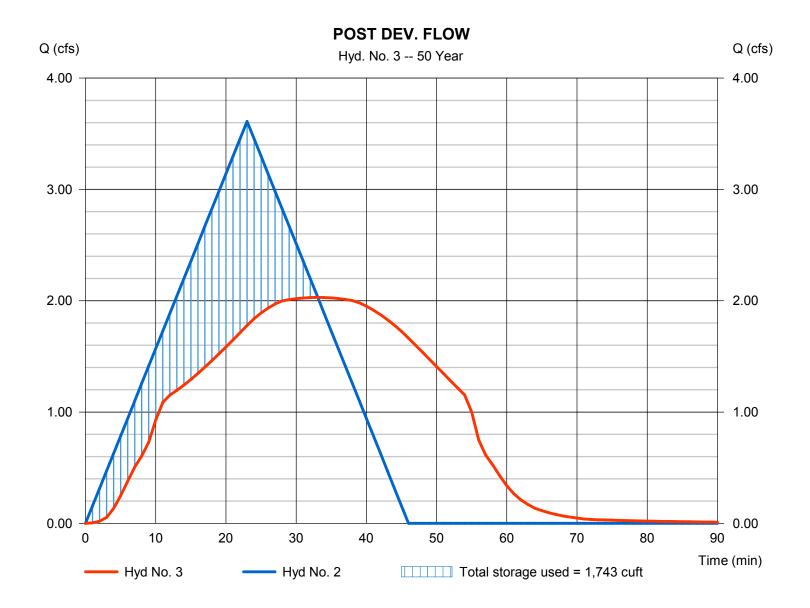
Wednesday, 06 / 26 / 2024

Hyd. No. 3

POST DEV. FLOW

Hydrograph type = Reservoir Peak discharge = 2.030 cfsStorm frequency = 50 yrsTime to peak = 33 min Time interval = 1 min Hyd. volume = 4,983 cuft Inflow hyd. No. = 2 - DEVELOPMENT CREATEIMELOEMEvation $= 403.05 \, \text{ft}$ Reservoir name = DETENTION Max. Storage = 1,743 cuft

Storage Indication method used.



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	2.747	1	23	3,791				PRE DEV FLOW
2	Rational	3.868	1	23	5,338				DEVELOPMENT CREATED FLOW
2 3						2	403.13	1,941	

Time (min)

Hydrograph Report

Hyd No. 1

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Wednesday, 06 / 26 / 2024

Hyd. No. 1

PRE DEV FLOW

= 2.747 cfsHydrograph type = Rational Peak discharge Storm frequency = 100 yrsTime to peak = 23 min Time interval = 1 min Hyd. volume = 3,791 cuftRunoff coeff. Drainage area = 0.920 ac= 0.49= 23.00 min Intensity = 6.093 in/hrTc by User IDF Curve Asc/Rec limb fact = 1/1= Bryant 50.IDF

PRE DEV FLOW Q (cfs) Q (cfs) Hyd. No. 1 -- 100 Year 3.00 3.00 2.00 2.00 1.00 1.00 0.00 0.00 4 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46

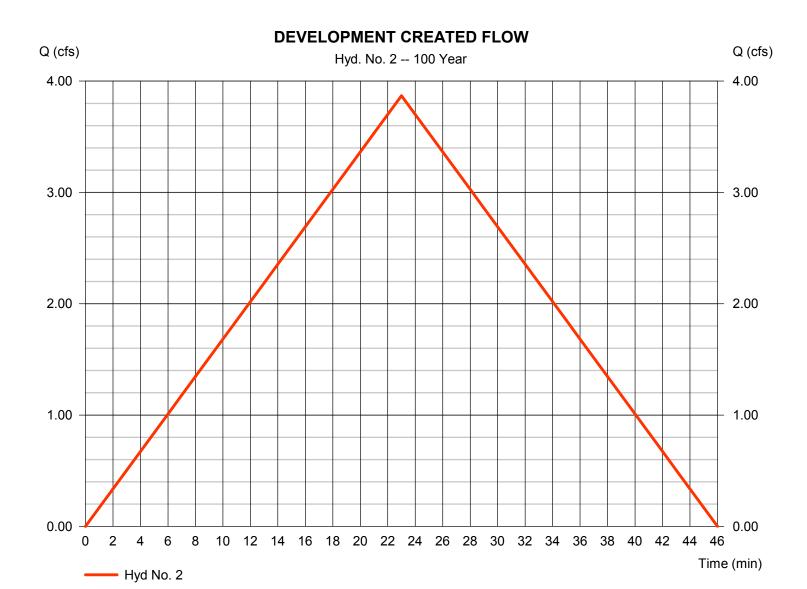
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Wednesday, 06 / 26 / 2024

Hyd. No. 2

DEVELOPMENT CREATED FLOW

Hydrograph type Peak discharge = 3.868 cfs= Rational Storm frequency = 100 yrsTime to peak = 23 min Time interval = 1 min Hyd. volume = 5,338 cuftRunoff coeff. Drainage area = 0.920 ac= 0.69Tc by User = 23.00 min Intensity = 6.093 in/hrIDF Curve Asc/Rec limb fact = 1/1= Bryant 50.IDF



Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

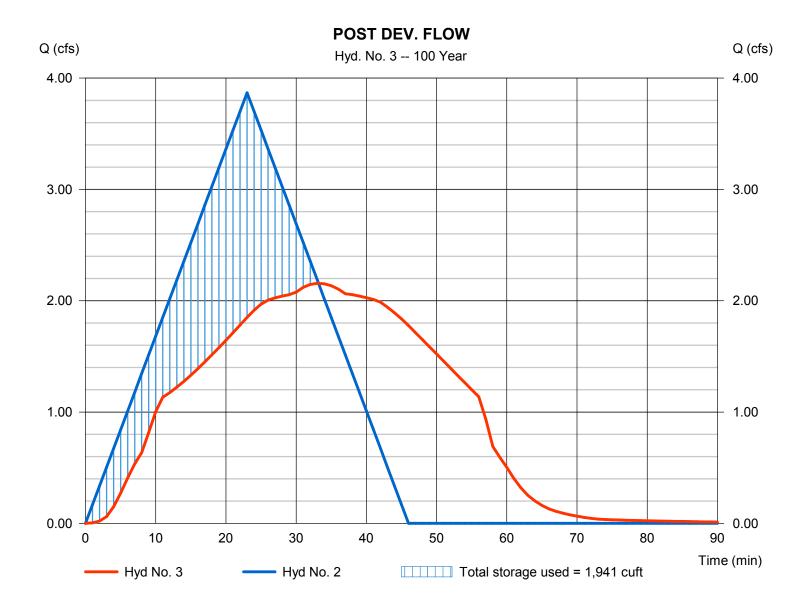
Wednesday, 06 / 26 / 2024

Hyd. No. 3

POST DEV. FLOW

Hydrograph type = Reservoir Peak discharge = 2.156 cfsStorm frequency = 100 yrsTime to peak = 33 min Time interval = 1 min Hyd. volume = 5,337 cuftInflow hyd. No. = 2 - DEVELOPMENT CREATEIMELOEMEvation = 403.13 ftReservoir name = DETENTION Max. Storage = 1,941 cuft

Storage Indication method used.



Hydraflow Rainfall Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Wednesday, 06 / 26 / 2024

Return Period	Intensity-Duration-Frequency Equation Coefficients (FHA)								
(Yrs)	В	D	E	(N/A)					
1	0.0000	0.0000	0.0000						
2	32.2253	7.2000	0.6856						
3	0.0000	0.0000	0.0000						
5	0.0000	0.0000	0.0000						
10	46.3641	10.0000	0.6781						
25	61.8249	11.8000	0.7079						
50	79.0516	13.3000	0.7326						
100	54.7483	10.0000	0.6279						

File name: Bryant 50.IDF

Intensity = $B / (Tc + D)^E$

Return	Intensity Values (in/hr)											
Period (Yrs)	5 min	10	15	20	25	30	35	40	45	50	55	60
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	5.80	4.58	3.85	3.35	2.98	2.70	2.48	2.29	2.14	2.01	1.90	1.80
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	7.39	6.08	5.23	4.62	4.16	3.80	3.51	3.27	3.06	2.89	2.73	2.60
25	8.39	6.98	6.03	5.34	4.82	4.40	4.06	3.78	3.54	3.34	3.16	3.00
50	9.40	7.87	6.83	6.06	5.47	5.00	4.62	4.29	4.02	3.79	3.58	3.40
100	10.00	8.34	7.25	6.47	5.87	5.40	5.02	4.69	4.42	4.19	3.98	3.80

Tc = time in minutes. Values may exceed 60.

Precip. file name: C:\Documents and Settings\Will\Desktop\Fleming\fleming.pcp

Rainfall Precipitation Table (in)								
Storm Distribution	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
SCS 24-hour	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SCS 6-Hr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-1st	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-2nd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-3rd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-4th	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-Indy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Custom	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

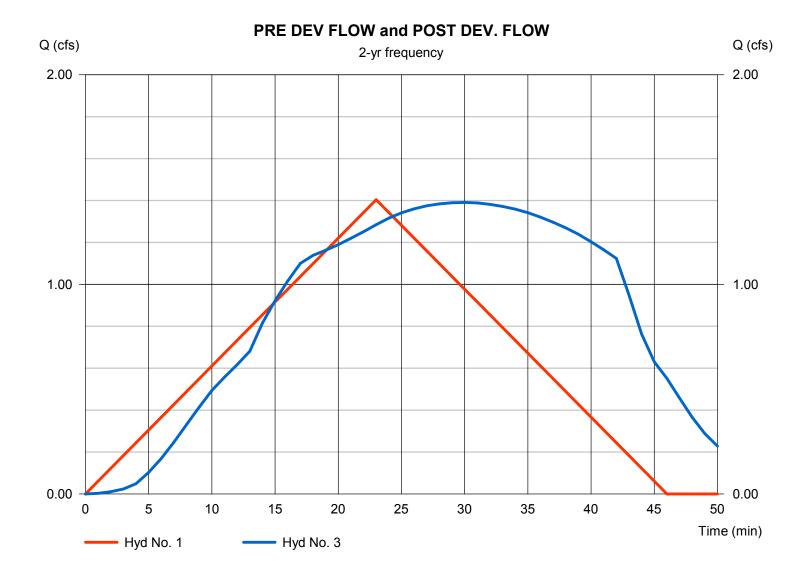
Hyd. No. 1

PRE DEV FLOW

Hydrograph type = Rational Peak discharge = 1.404 cfs Time to peak = 23 min Hyd. Volume = 1,938 cuft Hyd. No. 3

POST DEV. FLOW

Hydrograph type = Reservoir
Peak discharge = 1.39 cfs
Time to peak = 30 min
Hyd. Volume = 2,728 cuft



Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

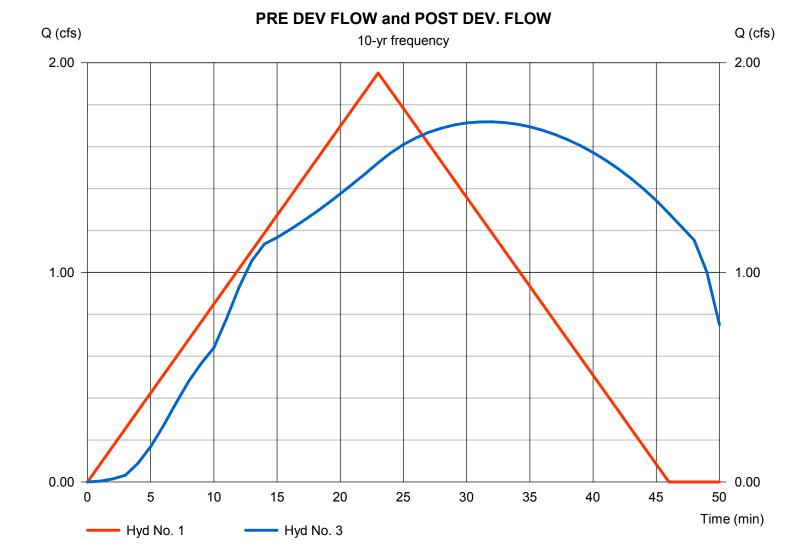
Hyd. No. 1

PRE DEV FLOW

Hydrograph type = Rational Peak discharge = 1.952 cfs Time to peak = 23 min Hyd. Volume = 2,693 cuft Hyd. No. 3

POST DEV. FLOW

Hydrograph type = Reservoir
Peak discharge = 1.72 cfs
Time to peak = 32 min
Hyd. Volume = 3,792 cuft



Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

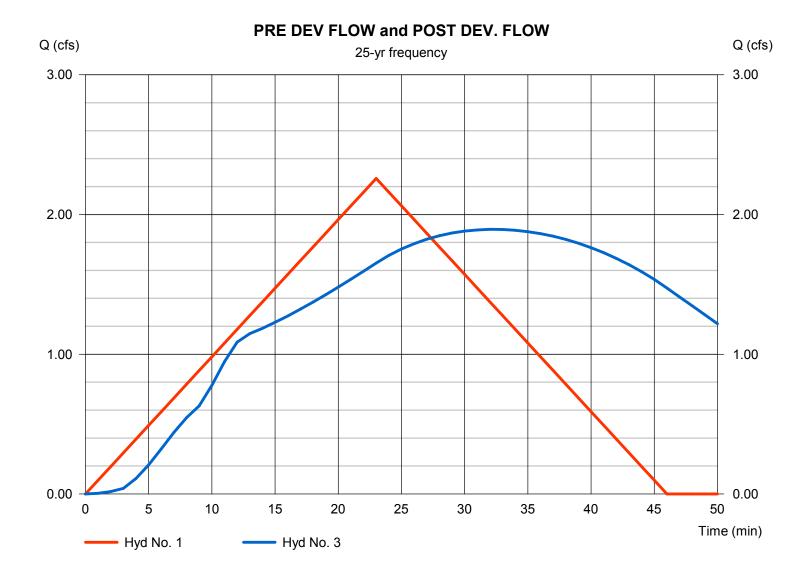
Hyd. No. 1

PRE DEV FLOW

Hydrograph type = Rational Peak discharge = 2.258 cfs Time to peak = 23 min Hyd. Volume = 3,116 cuft Hyd. No. 3

POST DEV. FLOW

Hydrograph type = Reservoir
Peak discharge = 1.89 cfs
Time to peak = 32 min
Hyd. Volume = 4,388 cuft



Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

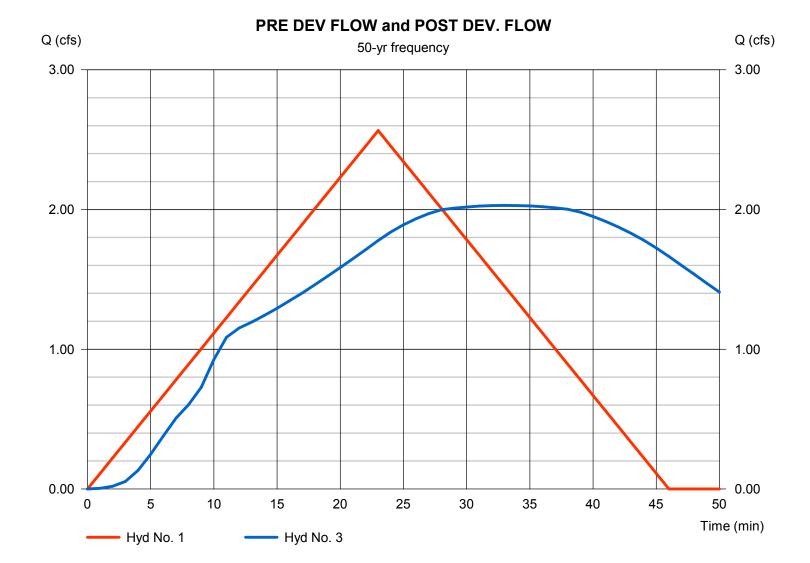
Hyd. No. 1

PRE DEV FLOW

Hydrograph type = Rational Peak discharge = 2.565 cfs Time to peak = 23 min Hyd. Volume = 3,539 cuft Hyd. No. 3

POST DEV. FLOW

Hydrograph type = Reservoir
Peak discharge = 2.03 cfs
Time to peak = 33 min
Hyd. Volume = 4,983 cuft



Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

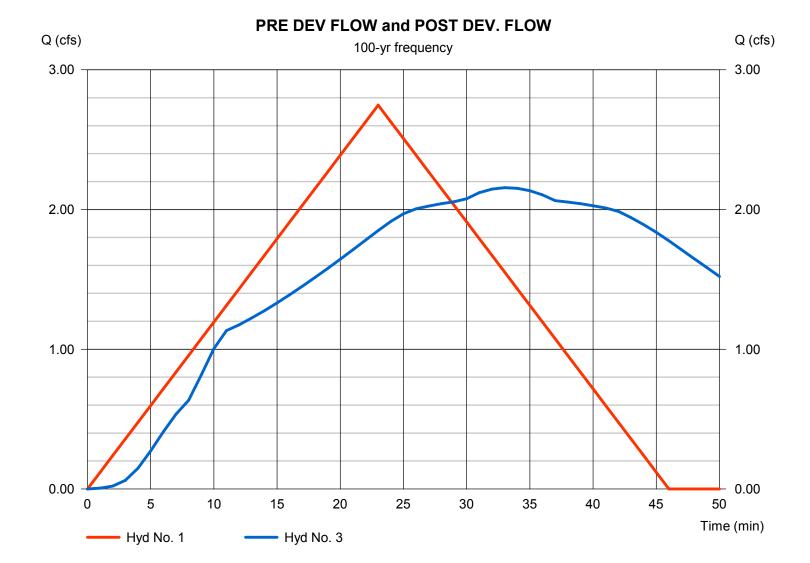
Hyd. No. 1

PRE DEV FLOW

Hydrograph type = Rational Peak discharge = 2.747 cfs Time to peak = 23 min Hyd. Volume = 3,791 cuft Hyd. No. 3

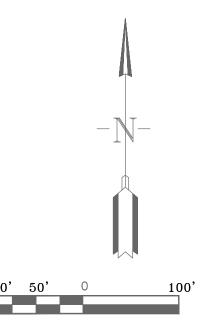
POST DEV. FLOW

Hydrograph type = Reservoir
Peak discharge = 2.16 cfs
Time to peak = 33 min
Hyd. Volume = 5,337 cuft





VICINITY MAP:



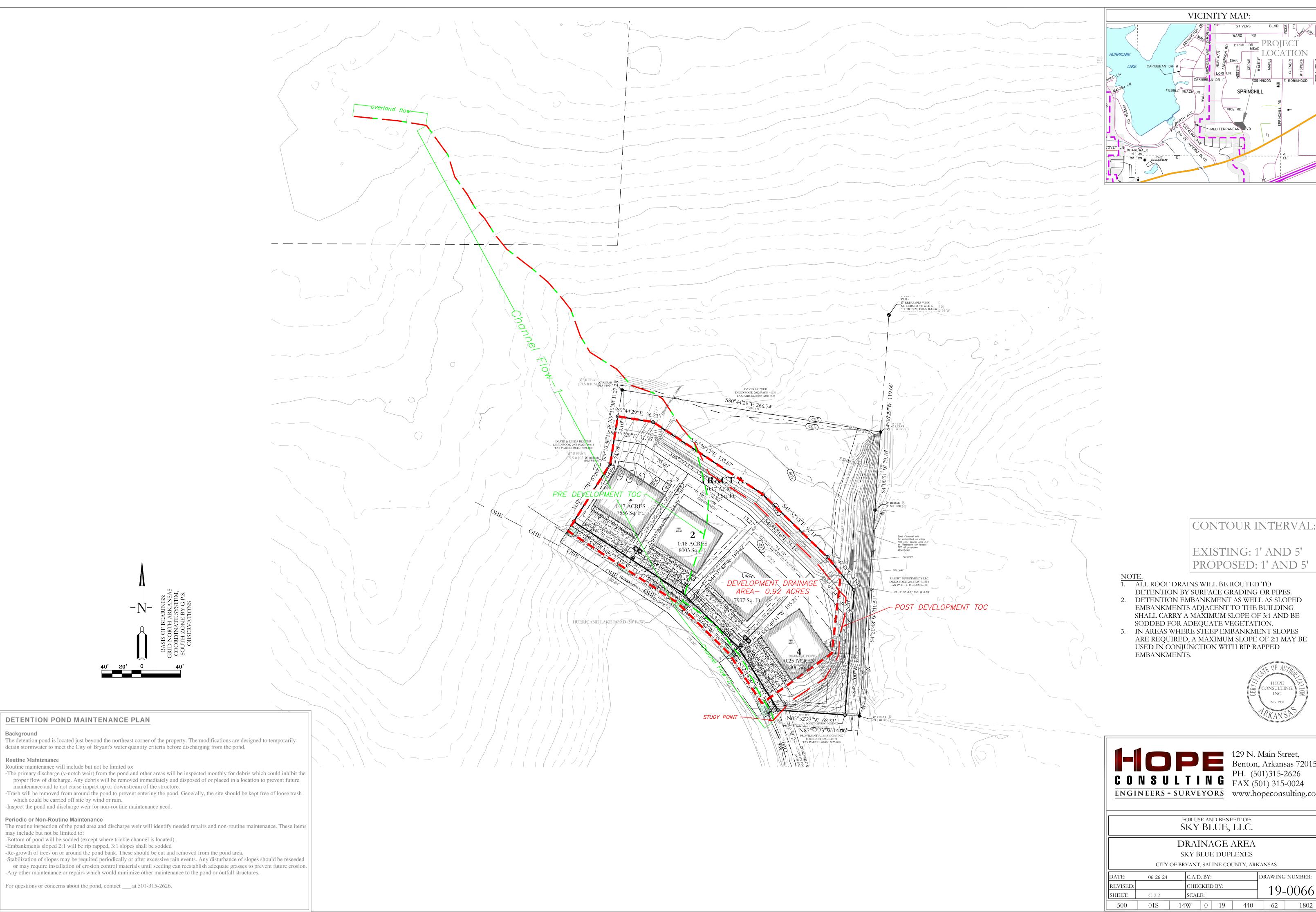


time of concentration, tc (min)	REGION 3 IDF				
Pre					
Channel Dimensions	and Time of Co	oncentratio	n, tc		
Area (ft2)	1998592.29				
Area (Acre)	46				
Length, L (ft)	2217.0				
Change in Elevation (ft)	60.27				
Slope, S (ft/ft)	0.027				
N (asphalt,grass,etc)	0.400	ا	h (ft)	S	
L(overland, ft)	200	4	4		0.020
L(channel 1, ft)	2017	Į.	56.27		0.028
L(channel 2, ft)	0.0	()		0.000
t _i	45.4	V			
t _{t1}	5.6	6.007023			
t_{t2}	0.0	0			
time of concentration, tc (min)	51.0	use 50 mi	in		

	Design Peak Runoff Rates, Qp (cfs)								
	Intensity, I (in/hr)		Runoff Coeff	Flow (cfs)					
			С	Q					
100year		4.19	0.53	101.89					
	Qp,max (max flow) cfs			102					

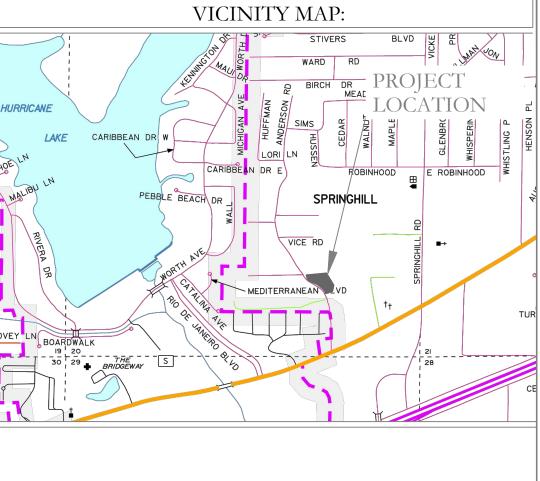
SEWER EXTENSION PLAN PROFILE

DRAWING NUMBER: 17-0532 SCALE: 01S 14W 0 27 430 62 1807



Routine Maintenance

may include but not be limited to:



CONTOUR INTERVAL:

EXISTING: 1' AND 5' PROPOSED: 1' AND 5'

1. ALL ROOF DRAINS WILL BE ROUTED TO

DETENTION BY SURFACE GRADING OR PIPES. 2. DETENTION EMBANKMENT AS WELL AS SLOPED EMBANKMENTS ADJACENT TO THE BUILDING SHALL CARRY A MAXIMUM SLOPE OF 3:1 AND BE

SODDED FOR ADEQUATE VEGETATION. 3. IN AREAS WHERE STEEP EMBANKMENT SLOPES ARE REQUIRED, A MAXIMUM SLOPE OF 2:1 MAY BE USED IN CONJUNCTION WITH RIP RAPPED EMBANKMENTS.



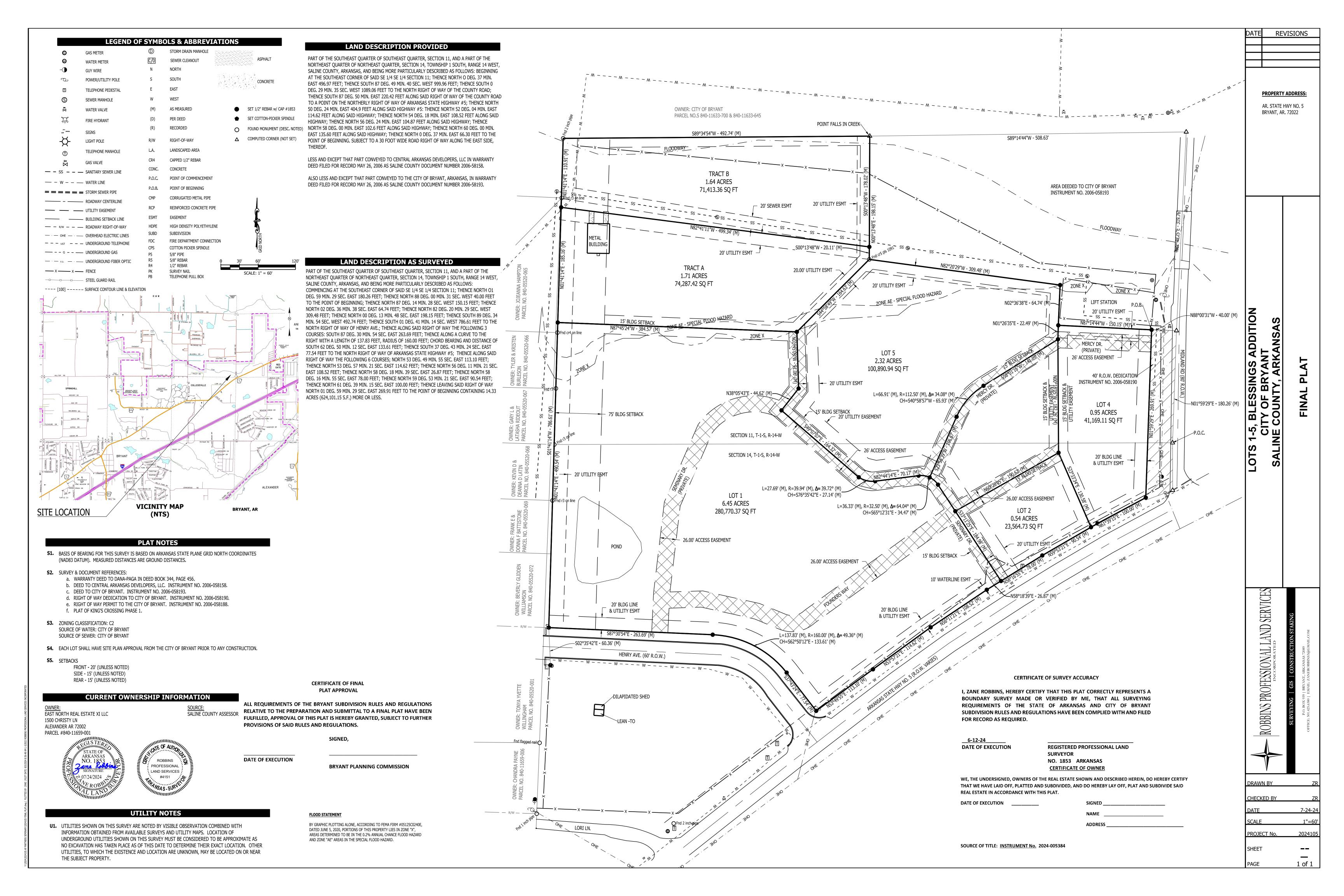


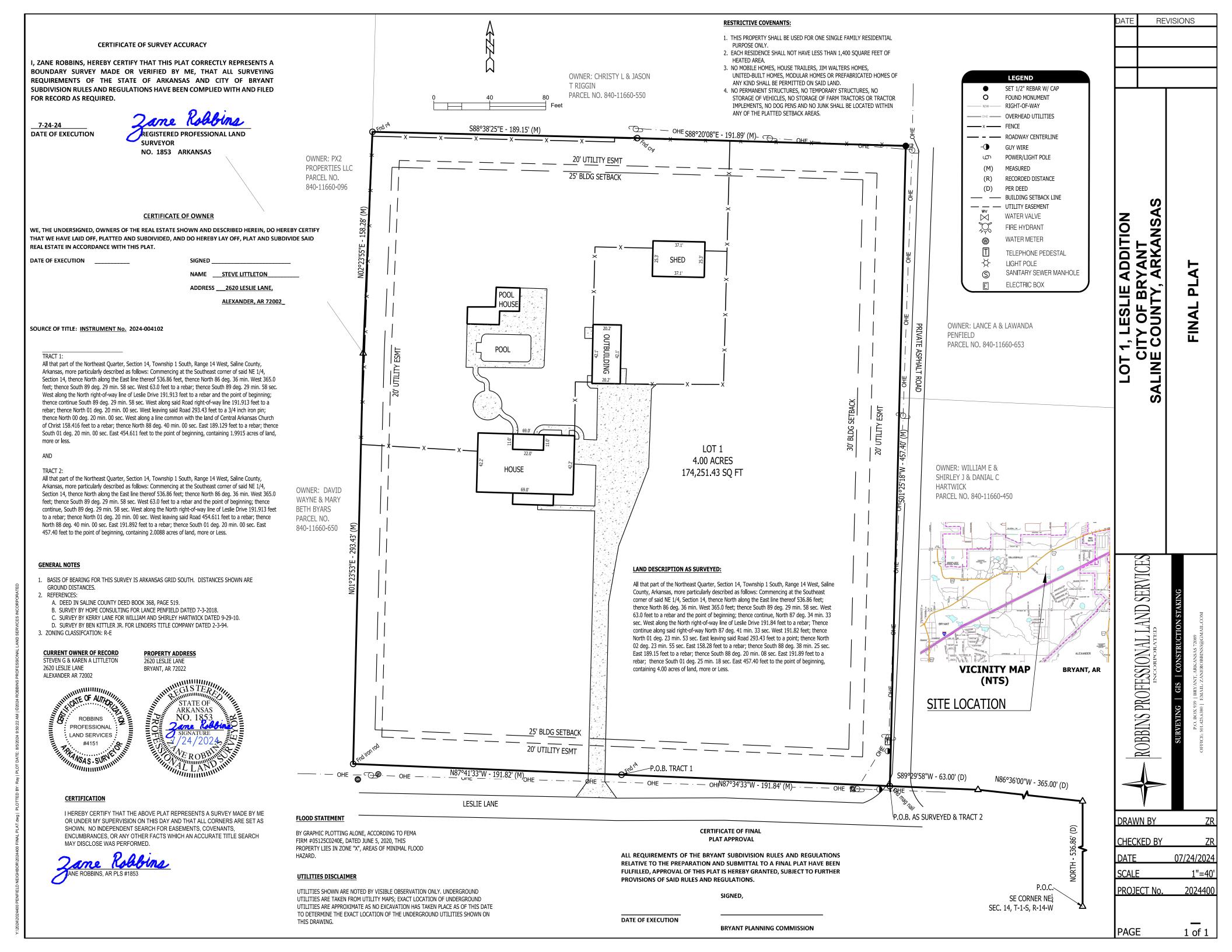
FOR USE AND BENEFIT OF: SKY BLUE, LLC.

DRAINAGE AREA SKY BLUE DUPLEXES

CITY OF BRYANT, SALINE COUNTY, ARKANSAS

DRAWING NUMBER: C.A.D. BY: 06-26-24 CHECKED BY: 19-0066 C-2.2





DRAFT CHANGES 6/10/2024

Planning Commission Bylaws Adopted 07/09/2007

Section I - Purpose of the Bylaws

It is the intent of these Bylaws to prescribe the organization of the City of Bryant City Planning Commission and to establish orderly, equitable, and expeditious procedures for the conduct of its affairs to the end that all may be in-formed and the public well served.

Section II - The Commission

A. Members and Terms

- 1. The membership of the Commission, established May 12, 2007, and the terms of service are stipulated by the City of Bryant Arkansas Ordinance 2007-14. During the general election of 2001 the City of Bryant was redistricted into four (4) equally represented wards, numbered Wards 1, 2, 3, and 4. Therefore, the Planning Commission will consist of eight members who will serve with compensation. The eight positions on the Planning Commission shall be known as: Ward 1 Commissioner Positions 1 and 2; Ward 2 Commissioner Positions 1 and 2; Ward 3 Commissioner Positions 1 and 2; Ward 4 Commissioner Positions 1 and 2.
- 2. Members of the City Planning Commission shall be named and appointed by the Mayor and confirmed by the City Council. Members who are appointed to fill vacancies for unexpired terms shall join the Commission at the next meeting following their appointment and confirmation. All members of the Commission whose terms may expire shall serve until their successors in office have been appointed and confirmed.
- 3. When a member of the Commission has missed more than 25% of all regular meetings of that calendar year, except in case of excused illness or absence, such person shall tender his/her resignation; unless, prior to the next scheduled meeting of the City Council, the member submits in writing his/her desire to remain on the Commission; then the City Council, by a majority vote, shall allow the member to continue to serve.

Commissioners who miss three (3) or more meetings during any one calendar year, except for excused illnesses or absences, shall tender his/her resignation and be replaced. The City Council may consider excessive absenteeism as cause for removal.

- 4. Terms of the members of the City Planning Commission shall be six (6) years.
- 5. A Commissioner may be removed for cause by a two-thirds majority vote of the City Council.

B. Officers

1. Election of Officers

- a. The election of officers, Chairman and Vice-Chairman, shall be held at the December planning commission meeting of each calendar year, with officers taking office on January 1st of each year.
- b. Nomination for Chairman and Vice-Chairman shall come from the floor a nominating committee composed of three Commissioners and shall be elected confirmed to office by a simple majority of Commissioners.
- c. Voting on election of officers in which there is a contest shall be by secret, written ballot.
- d. The office of Secretary shall be filled by appointment of the Mayor of an individual who is an employee of the City.
 The position of Secretary shall be performed by the appointed City staff liaison to the Planning Commission or his/her designee.

2. The Chairman and Vice-Chairman Duties

- a. The offices of Chairman and Vice-Chairman shall be filled for terms of one year each. The Chairman, and the Vice-Chairman, may be re-elected up to three consecutive one-year terms.
- b. The Chairman shall preside at all meetings and hearings of the Commission. In the event of the absence or disability of the Chairman, the Vice-Chairman shall preside. In the absence or disability of both the Chairman and the Vice-Chairman at any meeting, a member of the Planning Commission will be elected, by simple majority of Commissioners present, to act as Chairman during such meeting.
- c. The Chairman shall present to the Commission for its approval the names
 of all persons appointed to committees established by the Commission.
 The Chairman shall designate one member of such Committee to serve as
 the Committee Chairman.
- d. The Chairman shall sign all approved minutes, and when authorized, other documents on behalf of the Commission.

3. Secretary Duties

a. The Secretary City staff liaison shall attend all meetings of the Commission and shall be responsible for:

- i. Preparing the agendas of items to be considered at a meeting.
- ii. Carrying on routine correspondence.
- iii. Maintaining the files of the Commission.
- iv. Maintaining a record of the rules and regulations of the Commission.
- v. Current membership of the Commission with their terms of office.
- vi. Maintaining a record of the organization of the Commission and its staff.
- vii. Keeping the minutes of each meeting.
- viii. Attesting documents of the Commission.
- b. The Secretary City staff liaison shall attend all Commission meetings and shall serve as the Secretary of all standing and technical advisory committees and, at the discretion of the Chairman of all special committees. The Secretary City staff liaison shall advise the Commission on request.

4. Advisory Members

The City Mayor shall assign an advisor and such other staff assistance from the City as deemed necessary for the Commissions work. The staff's appointment, promotion, demotion, or removal shall be subject to the same provisions of law as govern other employees of the City. The City Council may, in the manner provided by law, contract for services necessary to carry out the functions of the Planning Commission. With respect to the operations of the Commission the duties of the Advisor (or his designate) shall include, but not be limited to, the following:

- a. Furnish information to the public and other agencies.
- b. Make field examinations of items presented to the Commission.
- c. Advise the Commission on whether or not submissions comply with Commission regulations, standards, and policies.
- d. Advise the Commission on the effect of such items on adjacent property.
- e. Make regular inspections to confirm that no violations of City regulations, standards, and policies have taken place.
- f. Prepare data for court action on regulations and policy violations.
- g. Attend all hearings conducted under the auspices of the Commission.
- h. Keep subdivision maps and all other maps of record up to date.

5. Ex-Officio

The Mayor shall assign an advisor/liaison from the City Council and such other staff assistance from the City staff as deemed necessary for the proper function of the Commission. The staff's appointment, promotion, demotion or removal shall be subject to the same provisions of law as governed by other employees of the

City.

- a. <u>Executive Secretary</u>: The Assistant Director of Planning and Development shall perform the duties of executive secretary to the Commission and shall attend all meetings of the Planning Commission. The Executive Secretary shall be responsible for:
 - i. Providing updated status reports on City projects.
 - ii. The agendas of items to be considered at meetings as prescribed by the Chairperson
 - iii. Carrying on routine correspondence
 - iv. Maintaining files of the Commission
 - v. Maintaining a record of the Bylaws of the Commission and Current membership of the Commission with their terms of office
 - vi. Maintaining a record of organization of the Commission and its staff
 - vii. Serves as Secretary of all sub-committees and provides minutes of each meeting
 - viii. Preparing the minutes of each meeting and publishing the minutes to the City website attached to the following month's Planning Commission meeting agenda.
- b. <u>City Council Liaison</u>: With respect to the operations of the Commission, the duties of the Liaison shall include, but not be limited to the following:
 - i. Advise the commission on furnishing information to the public and other agencies.
 - ii. Advise and advocate with the City Council concerning the intent and desire of the commission.
 - iii. Advise commission of any possible conflicts with the community concerning the plans or recommendations of the commission.
 - iv. Attend all meetings and gatherings conducted under the auspices of the commission.

Section III - Committees

Standing Committees

- 1. Standing Committees may be created by the Planning Commission and charged with such duties as the Commission deems necessary or desirable.
- 2. Such Committees shall be composed of two or more Commission members, but less than a quorum of the full Commission, and shall hold membership for one year or until succeeded.
- A. Development Review Committee (DRC)
 - 1. The DRC is a standing committee created by the Planning Commission and is comprised of city staff members and Commissioners.
 - 2. Members: The Development Review Committee voting members shall consist of the planning director, a planning department designee, public works director, a public works department designee, city engineer, building code officer or his/her designee, fire chief or his/her designee, Planning Commission chair or designee,

- and a Planning Commission liaison. The Planning Commission chair may appoint a designee to serve in his/her place and shall appoint a Planning Commission liaison. The Mayor shall appoint a City Council liaison to serve as a non-voting member and shall be provide input to the committee. Representatives from private utility providers shall also be invited as non-voting members of the committee to provide input to the committee.
- 3. Purpose and Authority: The purpose of the Development Review Committee shall be to review all applications related to the Zoning Code, Subdivision Code, or other applicable code; and handle approvals as designated by this Code and other applicable city codes. All decisions made by the Development Review Committee may be appealed to the Planning Commission upon written request of appeal submitted to the Administrative Official.
- 4. Meetings: The Development Review Committee shall officially meet bi- weekly according to a schedule maintained by the Planning and Development Department. Such meetings shall be public and open to public attendance.
- 5. Duties: The duties of the Development Review Committee members shall be to attend all meetings, review and provide comments on applications submitted for review prior to meetings, and assist applicants through the review process.
- 6. Report: The Development Review Committee shall provide reports to the Planning Commission and Board of Adjustment regarding each application reviewed by the Committee and/or any matters requiring the attention or action of the Planning Commission.
- 7. Records: The Development Review Committee shall keep permanent records of all actions taken by the committee.

B. Special Committees

1. Special Committees may be created in the same and under the same conditions as Standing Committees, except that the Chairman shall also designate a date for the submission of the Committee's final report. Special Committees shall be dissolved when their particular function or task has been completed. No Special Committees shall exist for a term of more than twelve (12) consecutive months, except by the direction of the Commission.

C. Advisory Committees

 The Commission may create such Advisory Committees as it deems necessary or desirable. Each Advisory Committee shall be composed of at least one Commission member and other officials and private citizens in a number determined by the Commission. Generally, members shall be private, professional or technical representatives, public officials working on the problems with which the committee is concerned, and individuals who have special interest or experience with such problems.

Section IV - Meetings

A. Regular Meetings

- 1. Date The Commission shall, at the last regular meeting of each year, At the last regular meeting of the year, the Commission shall adopt a calendar of regular meeting dates for the forthcoming upcoming year. Normal meeting dates shall be the second Monday of each month.
- 2. Time The Commission shall meet regularly at 6:00 p.m. as indicated by the adopted calendar.
- 3. Place The Commission shall meet regularly in the Bryant City Hall or such other places as directed by the Chairman.
- 4. Notice
 - a. To the Commission Members
 The mailing emailing of a copy of the agenda to each Commission
 member one week prior to the date set for a meeting shall constitute notice
 of such meeting. On the morning of the day of a meeting, it shall be the
 responsibility of each Commission member to notify the Secretary that
 - they will be present at the meeting.
 b. To the Affected Parties
 - Notice to affected parties shall be provided as specified in paragraphs 1 through 3 below.
 - 1. Legal Notice Notice of Public Hearing on plans, regulations, ordinances or amendments thereto shall be published in a local newspaper of general circulation one time at least fifteen (15) days prior to said hearing as required by law.
 - 2. All issues submitted for public hearing as directed by the Zoning Ordinance shall comply with notice provisions as per the Zoning Ordinance.
 - 3. Notification to the local press (more than one organization) of all meetings (regular or called) shall be made at least two (2) four (4) hours before the meeting takes place in order that the public shall have representatives at the meeting.

B. Called Meetings

1. Special meetings shall be called by the Chairman, or by a quorum of the Commission members, or by a majority of those present at a regular or called meeting. Notice of such meeting shall be given as prescribed for a regular meeting, unless such called meeting is to be held within less than three (3) days, in which case, notice by telephone call, text message, or email shall suffice.

Announcement of a special meeting at any meeting at which all members are present shall be sufficient notice of such meeting.

2. Under extraordinary conditions, an emergency meeting may be called at the direction of the Chairman by telephone and without other notice. However, notification to the local press may not be omitted.

C. Adjourned Meetings

Where all applications cannot be disposed of on the day set, the Commission may adjourn from day-to-day of as necessary to complete the hearing of all items docketed. A majority vote of those present shall be required to adjourn.

Section V - Conduct of Business

A. Order of Agenda:

All meetings shall be conducted in accordance with the agenda which shall enumerate the topics and cases in the following:

- 1. Call to Order and Roll Call
- 2. Finding of a quorum
- 3. Approval of previous minutes as mailed
- 4. Announcements
- 5. Development Review Committee (DRC) Report
- 6. Business
- 7. Public Comments
- 8. Commissioners Comments
- 9. Adjournment

B. Order of Public Hearing:

At a Hearing, the order shall be as follows:

- 1. Announcement of the subject by the Chairman and setting of procedures for the hearing.
- 2. Committee Chairman Executive Secretary presents Development Review Committee recommendation.
- 3. Petitioner's or applicant's presentation.
- 4. Objector's or interested property owner's presentation.
- 5. Petitioner's rebuttal
- 6. Commission vote on the request as filed or as amended.
- 7. Additional motion of Commission as may be required to dispose of an issue (such motion shall be placed in the positive)

C. Standard Rules of Procedure

Except as may otherwise be set forth in these By-laws, parliamentary procedure shall be as prescribed in the latest edition of Robert's Rules of Order, Revised. Procedural provisions of these By-laws may be suspended with the consent of three-fourths (3/4) of those Commission members present.

D. Special Rules of Procedure

- 1. Quorum A quorum for the transaction of business shall be five (5) members except when a reduction in force caused by a member(s) resignation(s) makes this impossible. A quorum shall be considered the majority of the remaining members of the Commission.
- 2. Vote and Proxy Each Commission member, including the Chairman, shall be entitled to one (1) vote. No Commission member shall cast a vote for another Commission member by proxy. Any member of the Commission who shall have an economic interest in any property or decision relating to such property, which shall be the subject matter of, or affected by, a decision of the commission shall be disqualified from participating in the public discussion or proceedings in connection therewith. In the event that any member of the Commission is uncertain as to whether or not a conflict of interest exists, that member should obtain an opinion from a designated the city attorney before either participating in the discussion or voting on the matter in question.
- 3. Motion and Voting Any matter of business requiring action by the Commission may be presented by oral motion, and the members present may vote there on by simple voice vote. In case of split vote, the Chair may ask for a show of hands. The minutes shall indicate voting to be "denied" or "passed" and the name of any abstained. Voting on election of officers in which there is a contest shall be by secret, written ballot.

4. Majority Vote

- a. Simple majority of those members present at a meeting shall be sufficient to approve any administrative or procedural action.
- b. An approval or a denial of an issue shall constitute final action. A majority vote of the full Commission shall be required in order to take final action on any issue requiring Planning Commission approval at a Public Hearing.
- c. In those instances where a majority vote of the full Commission can not be obtained to take final action, the matter before the Commission shall be automatically deferred until the next scheduled meeting.
- d. Abstaining or Absence, including recusing one-self, from a vote shall be considered a no vote.
- e. An approval or denial of an issue shall constitute final action.

5. Conduct of Hearing

Public Hearings shall be conducted informally, and the Chairman shall make all rulings and determinations regarding the admissibility of the evidence, the scope of the inquiry, the order in which evidence, objections and arguments shall be heard, and other like matters, except that any member shall be privileged to make inquiries personally and to call for a vote on any ruling of the Chairman with which he does not agree, whereupon the vote shall determine the effective ruling. It shall be the purpose of the Chairman to expedite all hearings, confining them to the presentation of only essential matters in the interest of saving time, but entertaining the presentation of sufficient matter to do substantial justice to all concerned.

E. General Policies

- 1. Formal Action No request for advice, or moot question may be acted upon formally by the Commission.
- 2. Closing of Docket No application for an agenda item shall be submitted to the Commission, or prepared by the Secretary for submission, unless the same has been filed, with supporting documentation, at least two weeks prior to the regular scheduled meeting of the Commission.
- 3. Open Meetings All meetings of the Commission shall be open to the Public as required by law.
- Public Hearings All items for which Commission action is required by law or ordinance shall be made the subjects of open meetings prescribed by law or ordinance.
- 5. Public Records All minutes of Commission meetings and all petitions, applications, reports and other documents on which action has been taken by the Commission shall be open to the public and available for inspection at reasonable times.

6. Reconsideration of Applications

- a. Expunging Action The Commission may, when it deems necessary and for cause, expunge any motion and subsequent action in order to introduce a substitute motion for other action. The motion to accomplish such shall be made immediately and preceding the introduction of the next item of business on that agenda. When an item has been voted on and passed over for the next item of business, it shall not be recalled at the meeting for further action.
- b. Reconsideration Except for cause and with the unanimous consent of all members present at a meeting, no matter on which final action has previously been taken shall be reopened for further consideration unless reconsideration is granted by the Commission, the case will be

- rescheduled for the next regular meeting, a new application will be made (new feels re-posting signage, legal ad, and adjacent property owners renotified so that they may have an opportunity to hear any new evidence and to be heard).
- c. Reapplication No identical or substantially identical application for the redistricting rezoning of a specific parcel or parcels of land which has been denied by the Planning Commission or City Council may be made for a period of one (1) year., nor application for a Variance that has been wholly or partly denied by the Board of Adjustment, shall be resubmitted within a period of one (1) year from date of said denial.
- 7. Withdrawals No application which has been docketed for Public Hearing and advertised for such hearing shall be withdrawn, except as follows:
 - a. Except for cause and with a written request, five working days prior from the applicant of record no case shall be withdrawn.
 - b. When the Public Hearing has already been advertised, the Commission must authorize the withdrawal by motion in the Public Hearing.
 - c. In the event the case is withdrawn after the Public Hearing has been advertised, that same case shall not be resubmitted for a period of one (1) year.
- 8. Deferrals No application which has been docketed for Public Hearing and advertised for such hearing shall be deferred, except as follows:
 - a. Except for cause, with a written request five working days prior from the applicant of record, no case shall be deferred.
 - b. In the event a case may require an additional deferral, a re-notification of property owners shall be required.
 - c. No single request for deferral shall be granted for more than ninety (90) consecutive days, except by unanimous vote of all members present.
 - d. In no case shall more than two requests for deferral from an application be granted.
 - e. In the Public Hearing, the Planning Commission may, for cause, defer an application on its own motion. The length of deferral shall be specified by the Commission in the motion.
- 9. Applicant Attendance at Meeting The applicant, on each item docketed, shall be present or represented at the meeting and prepared to discuss the request.
- 10. Precedents No action of the Commission shall be deemed to set a precedent. Each item docketed shall be decided upon its own merit and circumstances attendant thereto.

- 11. Dissent If a member of the City Planning Commission wishes to dissent from a majority opinion of the Commission, he or she shall communicate a written minority opinion to the following:
 - a. All members of the Planning Commission
 - b. The Secretary of the Planning Commission
 - c. The City Mayor
 - d. All members of the City Council

Section VI - Amendments

These By-laws may be amended or repealed by an affirmative vote of no less than a majority of the full membership of the Commission. A proposed amendment or a motion to repeal shall first be presented in writing at a regular meeting and placed on the agenda of subsequent regular meetings for action, unless ten days written notice has been given to all Commission members, in which case action may be taken at any regular or called meeting.