City of Bartlett

David Parsons, Mayor

Municipal Planning Commission

AGENDA

Monday, December 4, 2023 — 6:30 p.m.

Bartlett City Hall Assembly Chamber

Opening Prayer

****Official Business of the Day****

Minutes of the Monday, November 6, 2023 Meeting

NEW BUSINESS
Public Hearing
Special Use Permit

1. Christian Life Tabernacle, School Use, 9375 Davies Plantation Road (Roy Lamica, EFI Global)

   Roy Lamica with EFI Global, on behalf of Christian Life Church Memphis, is requesting approval of an amended Special Use Permit to allow for a school use to be added to the existing church use on property located at 9375 Davies Plantation Road. This property is in the "R-E" Residential Estate Zoning District.

Master Plan

2. Hy-Vee, Northeast Corner of New Brunswick Road & Old Brunswick Road (Mike Rogers, Fisher & Arnold, Inc.)

   Mike Rogers, with Fisher & Arnold, Inc. is requesting Planning Commission approval of the Master Plan for the Hy-Vee, Inc. Subdivision. The plan includes a proposal to subdivide and develop the land, with lot dimensions, easements, master grading and drainage plan, master utility plan, and tree removal plan.

Construction Plan

3. Shamali Subdivision, 7771 Highway 70 (David Bray, The Bray Firm)

   David Bray with the Bray Firm, on behalf of Marwan Shamali, is requesting Construction Plan approval of the Shamali Subdivision to include the following: sewer layouts, comprehensive drainage plan, landscape plan, planting schedule, and grading plan.

Final Plan

4. Shamali Subdivision Lot 1, 7771 Highway 70 (David Bray, The Bray Firm)

   The Final Plan/Plat includes building setback lines, a written boundary survey, reservations for all easements, restrictive covenants, and street names. This is the document that will be recorded with the Shelby County register of Deeds if approved by the Planning commission.

5. Croy Subdivision, 7410 Shadowlawn Road (Tim McCaskill, The Reaves Firm, Inc.)

   The Final Plan/Plat includes building setback lines, a written boundary survey, reservations for all easements, restrictive covenants, and street names. This is the document that will be recorded with the Shelby County register of Deeds if approved by the Planning commission.

Site Plan

6. Dunkin Donuts, Appling Road & Highway 70 (John Granberry, Granberry & Associates, LLC)

   John Granberry, with Granberry & Associates, LLC, is requesting Site Plan approval for a new Dunkin Donuts. This property is in the "C-H" Highway Business Zoning District.

7. Club Car Wash, 8274 Highway 64 (Don Collins, TTL, Inc.)

   Don Collins, with TTL, Inc., is requesting approval of a Site Plan for a new Club Car Wash. This property is in the "C-H" Highway Business Zoning District.

8. Chipotle, Stage Road West of Kirby Whitten Parkway (Taylor Webb, Rockfield Engineering LLC)

   Taylor Webb, with Rockfield Engineering, LLC, is requesting approval of a Site Plan for a new Chipotle. This property is in the "SC-1" Planned Unit

Commercial Development Zoning District.

Ordinance Amendment

9. Proposed Bartlett Zoning Ordinance Amendment, Smoke Shop and Tobacco Store

   Ordinance 23-08, an ordinance to amend the City of Bartlett Zoning Ordinance, Article 1, Section 2, Definitions, to add Smoke Shop and Tobacco Store; and, to amend Article V, Chart 1, Uses Permitted, to add Smoke Shops and Tobacco Stores in certain Zoning Districts with a Special Use Permit.

10. Proposed Bartlett Zoning Ordinance Amendment, Hookah Lounge and Smoking Lounge

    Ordinance 23-09, an ordinance to amend the City of Bartlett Zoning Ordinance, Article 1, Section 2, Definitions, to add Hookah Lounge and Smoking Lounge; and to amend Article V, Chart 1, Uses Permitted, to add Hookah Lounge and Smoking Lounge in the C-H Highway Business Zoning District with a Special Use Permit.

11. Proposed Bartlett Zoning Ordinance Amendment, Discount Stores

    Ordinance 23-10, an ordinance to amend the City of Bartlett Zoning Ordinance, Article 1, Section 2 Definitions, to add Small Box Retail Stores, Liquidation Stores and Liquidation Warehouse Sellers; and, to amend Article V Chart 1 Uses Permitted to add Small Box Retail Stores, Liquidation Retail Stores, and Liquidation Warehouse Sellers in certain Zoning Districts with a Special Use Permit; and add to Article VI, Supplementary District Regulations Section 31, Small Box Retail Stores, Liquidation Stores, and Liquidation Warehouse Sellers.

Open Discussion

The public shall be provided an opportunity to address the Board or Commission during an Open Discussion period at the end of each regular and special meeting of the governing body. Prior to the start of the meeting, individuals will be required to complete and present to the Clerk the Open Discussion Citizen form provided at each meeting. The Open Discussion period for regular and special meetings of the Board or Commission shall be limited to twenty (20) minutes. Individuals shall be allowed to speak for up to three (3) minutes each. Open Discussion periods will not be held for any meeting where there are no actionable items on the agenda or meetings where the governing body is conducting a disciplinary hearing for a member of the governing body or a person whose profession or activities fall within the jurisdiction of the governing body.

Adjourn

City of Bartlett, Tennessee
Municipal Planning Commission
Staff Report

Special Use Permit Amendment

School Use in Existing Church Use

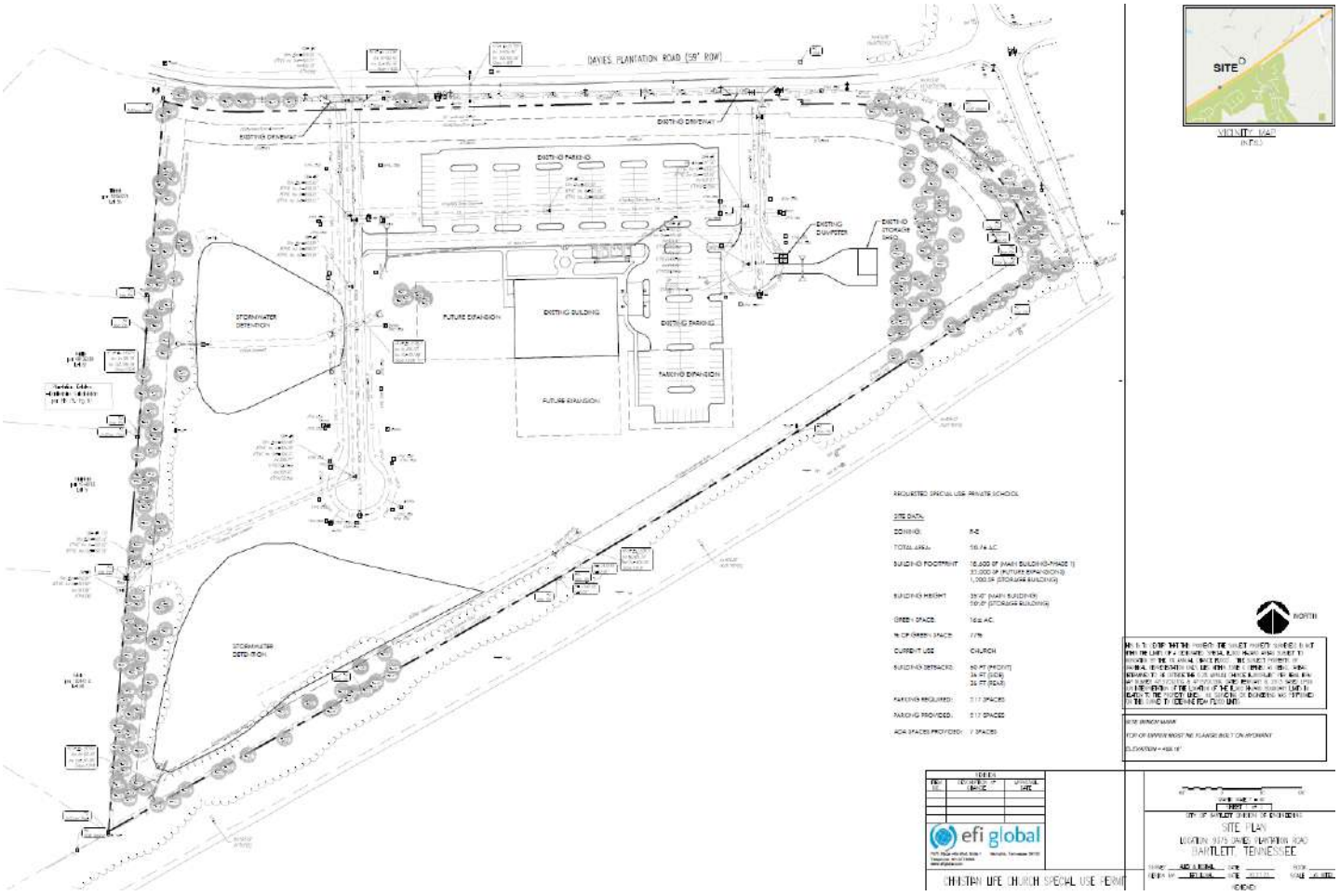
DATE:	December 4, 2023
STAFF:	Kim Taylor, Planning Director; Leslie Brock, Planner; John Horne, Engineering Director; Erin Campbell, Assistant Engineering Director; Max Gomez-Pedro, Land Development Engineer; Trey Arthur, Code Enforcement Director; Matt Crenshaw, Public Works Director; Aaron Davidson, Public Works Assistant Director; Howard McNatt, Fire Marshal; Craig Jones, Deputy Fire Marshal
SUBJECT:	Planning Commission Special Use Permit Application Amendment Review
APPLICANT:	Roy Lamica, EFI Global
DEVELOPER:	Christian Life Church
SITE LOCATION:	9375 Davies Plantation Road
SITE ACREAGE:	20.76 acres
ZONING:	"R-E" Residential Estate District
LOTS:	1

INTRODUCTION:

Mr. Roy Lamica with EFI Global is requesting Planning Commission approval of a favorable recommendation for a Special Use Permit to allow a private school use with an existing church. The subject property is located at 9375 Davies Plantation Road within the "R-E" Residential Estate Zoning District.

BACKGROUND:

August 6, 2012, the Planning Commission approved a Special Use permit to allow a new church at 9375 Davies Plantation. November 2, 2015, the Planning Commission approved the Site Plan for Christian Life Church with an 18,600 square foot main building and a 1,200 square foot storage building. Surrounding uses include residential single-family homes, museum, and a church.



DISCUSSION:

The specific request by the applicant is for Planning Commission's approval of a favorable recommendation to the Board of Mayor and Aldermen for a Special Use Permit (SUP) to allow the church to add a 17,428 square foot school with new playground to the church property. The school was not a part of the original SUP concept plan for Christian Life Church.

The school will start with Pre-K through Third Grade with additional grades to be added in the future. The school plans to open with approximately 30 students expanding as growth occurs. The Church estimates 150 students at its maximum with 20 % of the student body coming from outside Christian Life Church. However, according to the applicant a realistic number of students would be 50-60 students after several years of operation.

Recommendation: Approval of a favorable recommendation to the Board of Mayor and Aldermen with conditions.

Engineering Conditions:

General:

1. A Commercial Site Plan contract may be required and will be prepared by Engineering and submitted to the developer/engineer for review to cover the fees to be paid to the City of Bartlett.
2. Applicant/ Engineer shall provide a **digital set of drawing** files showing the sanitary sewer lines, drainage lines, lot lines and all improvements in AutoCAD format to dhubbard@cityofbartlett.org and ecampbell@cityofbartlett.org for use in the preparation of the Water Design Plan. This plan will be coordinated with the site design engineer to resolve any conflicts.
3. A SWPPP and a TDEC permit may be required and shall be submitted to TDEC and also to the City of Bartlett Engineering office.
4. All new utilities shall be underground.

Plans:

5. Grading and drainage plan will be required.
6. A fire suppression system will be required.
7. Applicant must verify the detention pond is appropriately sized to handle additional required detention.

Planning Conditions:

1. The owner/applicant shall be present at the meeting in order to make decisions relative to any changes that may be suggested by the Planning Commission.
2. The applicant shall be present at the corresponding Board of Mayor and Aldermen meetings to make decisions relative to any changes that maybe suggested by the Board of Mayor and Aldermen.
3. Should the Special Use Permit be approved by the Board of Mayor and Aldermen, the applicant shall submit site plan applications for approval by the Planning Commission and Design Review Commission.

Bartlett Planning and
Economic Development Department
6382 Stage Road, P.O. Box 341148
Bartlett, TN 38184-1148
901-385-6417 FAX 901-385-6419
www.cityofbartlett.org

Bartlett Planning Commission

Application for Special Use Permit Approval

Consultation with the staff is encouraged prior to the completion of this application form.

Requested Special Use Private School

Property Address 9375 Davies Plantation Road

Present Zoning R-E

Owner/Developer Contact Pastor Caleb Adams Phone 901-606-3000

Company Name Christian Life Tabernacle Inc. Fax

Address 9375 Davies Plantation Road

Email Address pastor@cltmemphis.org

Architect Contact Phone

Company Name Fax

Address

Email Address

Engineer Contact Roy Lamica, P.E. Phone 901-355-1347

Company Name EFI Global Fax

Address 7975 Stage Hills Blvd, Suite 1

Email Address roy.lamica@efiglobal.com

Submitted by Roy Lamica, P.E. Roy D Lamica 10/20/23
(printed name) **(signature)** **(date)**

Email Address roy.lamica@efiglobal.com **Phone** 901-355-1347 Fax

RL Acknowledge (by initials in the blank to the left) that the "**Application Instructions: Planning Commission**" were obtained and read prior to submitting this application.

RL Attach a checked-off "**Special Use Permit Checklist**" and all items required therein.

RL Provide 18-folded (± 10"x13") sets of plans with a copy of the signed application attached to each set.

RL Provide an electronic PDF file of the plans. Note that an updated electronic file is required when plans are revised. The electronic file shall be labeled with the project name and accurately dated.

RL Include a fee with this application (check payable to the City of Bartlett) of $500 for five (5) acres or less, plus $50 per acre (after the first five) to a maximum of $3,000. **The fee is not refundable.**

I, the property owner(s) hereby authorize the filing of this application.

_____, _____
(print name) **(signature)** **(date)**

Bartlett Planning and
Economic Development Department
6382 Stage Road, P.O. Box 341148
Bartlett, TN 38184-1148
901-385-6417 FAX 901-385-6419
www.cityofbartlett.org

Special Use Permit Checklist

Plot Plan and Legal Description (each parcel, if more than one)

__X__ Plot plan, drawn to scale, showing the following information for each parcel (several parcels may be included on one sheet):

- __X__ Adjoining public street rights-of-way
- __X__ Area (acres)
- __X__ Present zoning
- __X__ Requested special use, including purpose (attach statement, one page maximum)
- __X__ Area in which buildings are proposed to be located, showing setback dimensions from line.
- __X__ Drainage
- __X__ Driveways
- __X__ Parking area
- __X__ Buffer planting areas
- __X__ Type and location of any easements
- __N/A__ If Site Plan application and approval are necessary, conformance to Tree Ordinance is required.

__X__ Other pertinent information as required through staff consultation.

__X__ Legal description (may be attached to plot plan).

__X__ One (1) PDF file of the plot plan, for display at the Planning Commission meeting.

Vicinity Map

__X__ Vicinity map, drawn to a convenient scale, showing the subject property and all parcels within a 1,000-foot radius. Every parcel shall indicate owner's name and the streets, roads or alleys that each parcel fronts upon.

__X__ One (1) PDF file of the vicinity map, for display at the Planning Commission meeting.

Property Owners

__X__ List of all property owners within 1,000 feet or a minimum of fifty (50) property owners, whichever results in the greater number of owners. A xerographic copy of the mailing labels may serve as the list.

__X__ Self-adhesive mailing labels for the list of property owners (two sets).

INCOMPLETE APPLICATIONS WILL NOT BE PROCESSED

DAVIES PLANTATION ROAD (59' ROW)

20' LANDSCAPE BUFFER

EX. DRIVEWAY ENTRANCE

SIGN

50' BUILDING SETBACK

PRAYER WALKING PATH

35' LANDSCAPE BUFFER WITH FENCE

ASPHALT PARKING

PKG LOT LIGHTING, TYP.

YOUTH SOCCER

15' SANITARY SEWER ESMT.

LANDSCAPE

GYM AND CLASSROOMS

SANCTUARY AND OFFICES

ASPHALT PARKING

LIGHTING, TYP.

LANDSCAPED ISLAND, TYP.

PAVILION / PICNIC AREA

10' DRAINAGE ESMT.

WATER RETENTION AREA / WATER FEATURE

DUMPSTER ENCLOSURE

ASPHALT DRIVE

MAINTENANCE SHED

35' BUILDING SETBACK

BLEACHERS

PLAYGROUND

RESTROOM

PRAYER WALKING PATH

YOUTH BASEBALL / ADULT SOFTBALL

BALL FIELD LIGHTING, TYP.

STORM WATER DETENTION AREA

35' LANDSCAPE BUFFER

U.S. INTERSTATE NO. 40 (ROW VARIES)

35' LANDSCAPE BUFFER WITH FENCE

STORM WATER DETENTION AREA

35' LANDSCAPE BUFFER

10' DRAINAGE ESMT.

ORIGINAL APPROVED SUP PLOT PLAN

SITE DATA:

PRESENT ZONING:	R-E
TOTAL AREA:	20.76 AC.
GREEN SPACE:	16± AC.
% OF GREEN SPACE:	77%
PARKING REQUIRED:	154 SPACES
PARKING PROVIDED:	222 SPACES
ADA SPACES REQUIRED:	7 SPACES
ADA SPACES PROVIDED:	7 SPACES



VICINITY MAP

Allen & Hoshall
engineering since 1915

NORTH

25' 0 50' 100'

Allen & Hoshall
1661 International Drive Memphis, TN 38120
901 820 0820 fax 901 683 1001

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CHRISTIAN LIFE TABERNACLE

BARTLETT, TN

No.	Revision	Date

SPECIAL USE PERMIT
PLOT PLAN

JOB NO:
DATE: 06.22.12
DRAWN:
CHECKED:
CAD FILE:

SUP-1



VICINITY MAP
(N.T.S.)

DAVIES PLANTATION ROAD (59' ROW)

EXISTING DRIVEWAY

EXISTING PARKING

EXISTING BUILDING

FUTURE EXPANSION

PARKING EXPANSION

EXISTING DUMPSTER

EXISTING STORAGE SHED

STORMWATER DETENTION

Thrash
per 10053278
Lot 53

Martin
per 08136238
Lot 52

Plantation Estates
-Davieshire Subdivision
per PB 79, Pg 67

Saunders
per Y2-8203
Lot 51

Nolan
per 10064212
Lot 50

REQUESTED SPECIAL USE: PRIVATE SCHOOL

SITE DATA:

ZONING:	R-E
TOTAL AREA:	20.76 AC.
BUILDING FOOTPRINT	18,600 SF (MAIN BUILDING-PHASE 1) 32,000 SF (FUTURE EXPANSIONS) 1,200 SF (STORAGE BUILDING)
BUILDING HEIGHT	35'-0" (MAIN BUILDING) 20'-0" (STORAGE BUILDING)
GREEN SPACE:	16± AC.
% OF GREEN SPACE:	77%
CURRENT USE	CHURCH
BUILDING SETBACKS	50 FT (FRONT) 35 FT (SIDE) 35 FT (REAR)
PARKING REQUIRED:	217 SPACES
PARKING PROVIDED:	217 SPACES
ADA SPACES PROVIDED:	7 SPACES

NORTH

THIS IS TO CERTIFY THAT THIS PROPERTY (THE SUBJECT PROPERTY SURVEYED) IS NOT WITHIN THE LIMITS OF A DESIGNATED "SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD". THE SUBJECT PROPERTY, BY GRAPHICAL REPRESENTATION ONLY, LIES WITHIN ZONE X DEFINED AS BEING, "AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN" PER FEMA FIRM MAP NUMBER 47157C0310G & 47157C0330G DATED FEBRUARY 6, 2013 BASED UPON OUR INTERPRETATION OF THE LOCATION OF THE FLOOD HAZARD BOUNDARY LIMITS IN RELATION TO THE PROPERTY LINES. NO SURVEYING OR ENGINEERING WAS PERFORMED FOR THIS SURVEY TO DETERMINE FEMA FLOOD LIMITS.

SITE BENCH MARK

TOP OF UPPER MOST NE FLANGE BOLT ON HYDRANT

ELEVATION = 409.16'

REVISION

ITEM NO.	DESCRIPTION of CHANGE	APPROVAL DATE

efi global
7975 Stage Hills Blvd, Suite 1 Memphis, Tennessee 38133
Telephone: 901.377.9984
www.efiglobal.com

60' 0 60' 120'
GRAPHIC SCALE 1" = 60'

SHEET 1 of 1

CITY OF BARTLETT DIVISION OF ENGINEERING

SITE PLAN

LOCATION: 9375 DAVIES PLANTATION ROAD
BARTLETT, TENNESSEE

SURVEY ALLEN & HOSHALL DATE BOOK
DESIGN BY: EFI GLOBAL DATE 10.27.23 SCALE AS NOTED

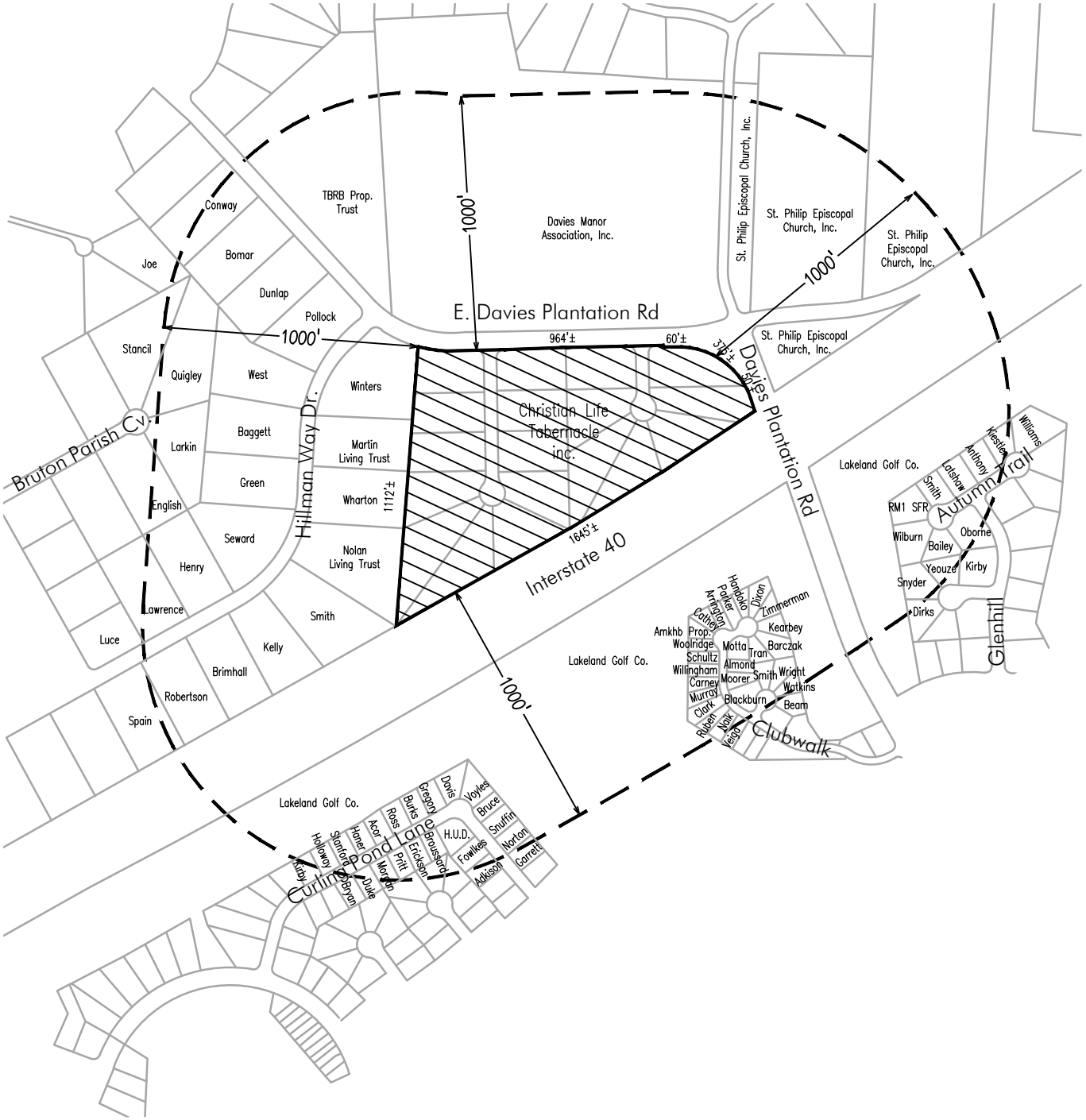
REVIEWED

DEPUTY CITY ENGINEER DATE CITY ENGINEER DATE

CHRISTIAN LIFE CHURCH SPECIAL USE PERMIT

OWNER: CHRISTIAN LIFE CHURCH
ENGINEER: EFI GLOBAL

Vicinity Map



Vicinity Map prepared by:

efi global
7975 Stage Hills Blvd, Suite 1 Memphis, Tennessee 38133
Telephone: 901.377.9984
www.efiglobal.com

LEGAL DESCRIPTION

Being all of Lots 1 through 18, inclusive, Davies Cove (closed) and Old Manor Cove (closed) of the Davies Manor Subdivision as shown on Plat of record in Plat Book 222, Page 27 in the Shelby County Register's Office, City of Memphis, Shelby County, State of Tennessee.

BEGINNING at the intersection of the southeast corner of Lot 50 of the Plantation Estates – Davieshire subdivision as recorded in Plat Book 79, Page 67 at the Shelby County Register's office, City of Memphis, Shelby County, State of Tennessee with the northwest right of way line of U.S. Interstate 40, said intersection being the southwest corner of the property herein describe and the TRUE POINT OF BEGINNING; thence with the east line of said Lot 50, Lots 51, 52 and 53, North 04°19'46" East a distance of 1104.18' to the intersection with the south right of way line of Davies Plantation Road (34' from centerline); thence with said south right of way line in a southeasterly direction along the arc of a non-tangent curve to the left having a radius of 444.00' (Long Chord = S82°56'22"E, 128.72') an arc length of 129.18' to a point of tangency; thence North 88°43'33" East a distance of 836.38' to a point; thence South 00°44'06" East a distance of 7.00' to a point; thence North 89°21'54" East a distance of 59.60' to a point of curvature; thence in a southeasterly direction along the arc of a curve to the right having a radius of 298.10' (Long Chord = S54°33'27"E, 350.18') an arc length of 375.06' to a point of tangency; thence South 18°30'49" East a distance of 50.49' to the intersection with said north right of way line of U.S. Interstate 40; thence with said north right of way line, South 56°16'26" West a distance of 187.86' to a point of curvature in said line; thence continuing with said north right of way line in a southwesterly direction along the arc of a curve to the right having a radius of 11442.66' (Long Chord = S58°27'25"W, 871.76') an arc length of 871.97' to a point of tangency; thence continuing with said north right of way line, South 60°42'51" West a distance of 584.27' to said TRUE POINT OF BEGINNING.

Said described proprety containing 903,117 square feet or 20.73 acres, more or less.

REDD KEVIN C & JENNIFER L
9531 AUTUMN TRAIL CV #
LAKELAND TN 38002

KIESTLER JONATHAN
9530 AUTUMN TRAIL CV #
LAKELAND TN 38002

ANTHONY CHRISTOPHER & COURTNEY BRICKER-
9524 AUTUMN TRAIL CV #
LAKELAND TN 38002

LATSHAW SARA G & JASON M
9516 AUTUMN TRAIL CV #
ARLINGTON TN 38002

SMITH KIMBERLY & JAMES S
9508 AUTUMN TRAIL CV #
LAKELAND TN 38002

RM1 SFR PROPCO B L P
1850 PARKWAY PL #
MARIETTA GA 30067

WILBURN PHILLIP C & MARTHA D
9503 AUTUMN TRAIL CV #
LAKELAND TN 38002

BAILEY CHAD M
9509 AUTUMN TRAIL CV #
ARLINGTON TN 38002

OBORNE JOHN L & NANCY K
9515 AUTUMN TRAIL CV #
LAKELAND TN 38002

KIRBY JERRY D & SANDRA J
9524 GLENHILL CV #
ARLINGTON TN 38002

YEOUZE DAVID A & KRISTINA A
9512 GLENHILL CV #
LAKELAND TN 38002

SNYDER CHARLES & KERI
9508 GLENHALL CV #
LAKELAND TN 38002

DIRKS TRENTON C
9509 GLENHILL CV #
LAKELAND TN 38002

CHRISTIAN LIFE TABERNACLE INC
9375 DAVIES PLANTATION RD #
BARTLETT TN 38133

JOE BEVERLY W
9170 GUNTHER CV #
BARTLETT TN 38133

LAKELAND GOLF CO
6345 TORRINGTON RD #
NASHVILLE TN 37202

LAKELAND GOLF CO
6345 TORRINGTON RD #
NASHVILLE TN 37202

BEAM JOHN E & BRINDA L
3246 CLUB GROVE CV #
LAKELAND TN 38002

WATKINS MYRA
3252 CLUB GROVE CV #
LAKELAND TN 38002

WRIGHT BELINDA B
3253 CLUB GROVE CV #
LAKELAND TN 38002

SMITH WILLIAM & MARIAN
3247 CLUB GROVE CV #
LAKELAND TN 38002

BLACKBURN KENNETH E & RUTH R
9420 CLUB WALK CT #
LAKELAND TN 38002

MOORER ROBIN T & JEFFREY A
9404 CLUB WALK CT #
LAKELAND TN 38002

ALMOND RICHARD & BARBARA
9392 CLUB WALK CT #
ARLINGTON TN 38002

MOTTA JESSICA
9376 CLUB WALK CT #
LAKELAND TN 38002

NGUYEN TRAN FAMILY REVOCABLE LIVING
10278 SILVER HERON LN #
LAKELAND TN 38002

BARCZAK DAVID & ALISON
9346 CLUB WALK CT #
LAKELAND TN 38002

KEARBEY LARRY E
9340 CLUB WALK CT #
LAKELAND TN 38002

ZIMMERMAN PARKER A & ALLYSON K
9339 CLUB WALK CT #
LAKELAND TN 38002

DIXON KENNETH A & GRETA G
9345 CLUB WALK CT #
LAKELAND TN 38002

HANDOKO LIEDY
9351 CLUB WALK CT #
ARLINGTON TN 38002

CLARK LAURIE H
9411 CLUB WALK CT #
LAKELAND TN 38002

CONWAY PAUL J III & DONNA
9233 DAVIES PLANTATION RD #
MEMPHIS TN 38133

PARKER RONALD R & SANDRA
9357 CLUB WALK CT #
LAKELAND TN 38002

RUBEN CLEOTRIES SR
9417 CLUB WALK CT #
LAKELAND TN 38002

BOMAR CHARLES K & SHERYL L
9241 DAVIES PLANTATION RD #
MEMPHIS TN 38133

ARRINGTON CHELSEY B
12066 CRANSTON DR #
LAKELAND TN 38002

NAIK DHARMESH & NUTAN
9423 CLUB WALK CT #
ARLINGTON TN 38002

POLLOCK GREGORY D & ASHLEY H
9269 DAVIES PLANTATION RD #
BARTLETT TN 38133

CATHEY WALTER E
9369 CLUB WALK CT #
LAKELAND TN 38002

VEIGA JUSSARA B
1118 FRAGILE SAIL CT #
KATY TX 77495

WEST JIMMY R LIVING TRUST
9266 HILLMAN WAY DR #
MEMPHIS TN 38133

AMKHB PROPERTY 1 LLC
1557 W 925 #
SYRACUSE UT 84075

BRIMHALL REBECCA B
9250 DAVIES PLANTATION RD #
BARTLETT TN 38133

BAGGETT PAUL D
9260 HILLMAN WAY DR #
MEMPHIS TN 38133

WOOLDRIDGE RACHEL LIVING TRUST
9381 CLUB WALK CT #
LAKELAND TN 38002

ST PHILIP EPISCOPAL CHURCH DAVIESHIRE
9380 DAVIES PLANTATION RD #
MEMPHIS TN 38133

GREEN MARY A AND STEVEN A GREEN (RS)
8228 WOODSTOCK CUBA RD #
MILLINGTON TN 38053

SCHULZ OLAF H
9387 CLUB WALK CT #
ARLINGTON TN 38002

DAVIES MANOR ASSOC INC
PO BOX 56 #
BRUNSWICK TN 38014

SEWARD BEN A & MOLLY M
9244 HILLMAN WAY DR #
MEMPHIS TN 38133

WILLINGHAM CHARLES E AND SHARON D MILLER
9393 CLUB WALK CT #
LAKELAND TN 38002

ST PHILIP EPISCOPAL CHURCH
9380 DAVIES PLANTATION RD #
MEMPHIS TN 38133

HENRY FORREST AND PEGGY HENRY LIVING
9224 HILLMAN WAY DR #
MEMPHIS TN 38133

CARNEY BOBBIE G
9399 CLUB WALK CT #
ARLINGTON TN 38002

ST PHILIP EPISCOPAL CHURCH INC
9830 DAVIES PLANTATION RD #
MEMPHIS TN 38133

LAWRENCE JOSEPH K & AUDREY L
9206 HILLMAN WAY DR #
MEMPHIS TN 38133

MURRAY LINDA & WILLIAM H
9405 CLUB WALK CT #
LAKELAND TN 38002

ST PHILIP EPISCOPAL CHURCH INC
9830 DAVIES PLANTATION RD #
MEMPHIS TN 38133

LUCE NATHAN & ANGELA
9188 HILLMAN WAY DR #
MEMPHIS TN 38133

ENGLISH REVOCABLE LIVING TRUST
9183 BRUTON PARISH CV #
BARTLETT TN 38133

LARKIN ELTON E JR & MARY T
9191 BURTON PARISH CV #
MEMPHIS TN 38133

QUIGLEY KYLE A & BRENNAN A AND
9196 BRUTON PARISH CV #
BARTLETT TN 38133

STANCIL STEPHEN P & JESSICA D
9190 BRUTON PARISH CV #
BARTLETT TN 38133

SPAIN ROBIN L & BONNIE S
9187 HILLMAN WAY DR #
BARTLETT TN 38133

ROBERTSON FRANCES L (LE) AND JANICE R
9203 HILLMAN WAY DR #
BARTLETT TN 38133

BRIMHALL NICHOLAS & CATHERINE
9221 HILLMAN WAY DR #
MEMPHIS TN 38133

KELLY CHRISTOPHER J & KIMBERLY A
9237 HILLMAN WAY DR #
MEMPHIS TN 38133

SMITH GLENN L & BRENDA C
9245 HILLMAN WAY DR #
MEMPHIS TN 38133

NOLAN KATHLEEN L REVOCABLE LIVING TRUST
9249 HILLMAN WAY DR #
BARTLETT TN 38133

WHARTON CLIFFORD C & SANDRA K
9253 HILLMAN WAY DR #
MEMPHIS TN 38133

MARTIN LYDIA K REVOCABLE LIVING TRUST
9259 HILLMAN WAY DR #
MEMPHIS TN 38133

WINTERS DAVID & DIANA
9289 DAVIES PLANTATION RD #
BARTLETT TN 38133

DUNLAP REVOCABLE LIVING TRUST
9255 DAVIES PLANTATION RD #
MEMPHIS TN 38133

WHITE LARRY D & BONNIE L
3176 BIRCHTON GLADE CV #
ARLINGTON TN 38002

MOORE DYLAN R
3180 BIRCHTON GLADE CV #
LAKELAND TN 38002

FKH SFR PROPCO A LP
1850 PARKWAY PL #
MARIETTA GA 30067

BRYAN JUDY & PHILLIP E
9289 CURLING POND LN #
LAKELAND TN 38002

DUKE PAMELA AND RACHEL DUKE (RS)
9295 CURLING POND LN #
LAKELAND TN 38002

MORGAN ROGER D
9301 CURLING POND LN #
LAKELAND TN 38002

PRITT PAUL T & SANDRA S
9309 CURLING POND LN #
LAKELAND TN 38002

ERICKSON BETHANY M & ZACHARY EMINETH
9315 CURLING POND LN #
LAKELAND TN 38002

BROUSSARD KIM & SHEILA NAZEMI
1040 CEDARVIEW LN #
FRANKLIN TN 37067

JN US INVESTMENTS LLC
#

FOWLKES KATHY A
3201 GLADE VERDE LN #
LAKELAND TN 38002

ADKISON DAVID W & KIMBERLY A
3195 GLADE VERDE LN #
ARLINGTON TN 38002

GARRETT DERRICK & TAMMY
3190 GLADE VERDE LN #
LAKELAND TN 38002

NORTON JULIA R
3196 GLADE VERDE LN #
LAKELAND TN 38002

SNUFFIN GARY R & MARION L
3202 GLADE VERDE LN #
ARLINGTON TN 38002

BRUCE MARTIN JR & KIMBERLY
3208 GLADE VERDE LN #
LAKELAND TN 38002

VOYLES RUBEN M & CYNTHIA A
3218 GLADE VERDE LN #
LAKELAND TN 38002

DAVIS RICHARD A JR
9332 CURLING POND LN #
LAKELAND TN 38002

GREGORY PAUL R
50 S 100 #
MILLVILLE UT 84326

BURKS CATHERINE L
9320 CURLING POND LN #
ARLINGTON TN 38002

ROSS TOMMY D & CATHERINE M
2100 LATTING HILLS CV #
CORDOVA TN 38016

ACOR JACK O
9308 CURLING POND LN #
L,AKELAND TN 38002

HANER CHARLES D & ROBIN G
9300 CURLING POND LN #
LAKELAND TN 38002

STANFORD JUSTIN & LILLIAN ZALDUONDO
9292 CURLING POND LN #
LAKELAND TN 38002

HOLLOWAY COLEMAN & SHANNON
9286 CURLING POND LN #
LAKELAND TN 38002

KIRBY JEANNETTE E
9280 CURLING POND LN #
LAKELAND TN 38002

City of Bartlett
attn: Kim Taylor
6382 Stage Rd.
Bartlett, TN 38134

To whom it may concern:

The reason I am writing to you today, is to show my support for the Special Use Permit requested by Christian Life Church, located at 9375 Davies Plantation in Bartlett. I understand that the church intends to build a Christian school on its property. As a mom and a citizen of Bartlett, I think this will be a blessing to our community.

Being a resident of Bartlett, I am asking you to approve this resolution at the meeting on December 4th. Thank you so much for your time and diligence in this matter.

Sincerely,

Shelley Bass

City of Bartlett
Attn: Kim Taylor
6382 Stage Road
Bartlett TN. 38134

To Whom It May Concern,

I am writing to express my support for the Special Use Permit requested by Christian Life Church, which is located at 9375 Davies Plantation in Bartlett. I understand that the church intends to establish a Christian school on its premises, and I strongly believe that this will be a valuable addition to our community.

As a resident of Bartlett, I urge the Planning Commission to approve this resolution at their meeting on December 4th. Thank you for considering my opinion on this matter.

Sincerely,

Michaela George

Michaela George

3453 Flintlock Dr.
Bartlett, TN 38135

City of Bartlett
Attn: Kim Taylor
6382 Stage Road
Bartlett TN. 38134

To Whom It May Concern,

I am writing to express my support for the Special Use Permit requested by Christian Life Church, which is located at 9375 Davies Plantation in Bartlett. I understand that the church intends to establish a Christian school on its premises, and I strongly believe that this will be a most valuable and beneficial addition to our community.

As a Bartlett resident, I encourage the Planning Commission to approve this Special Use Permit request at their meeting on December 4th. Thank you for considering my opinion regarding this matter.

Sincerely,

James E Pinkston

James Pinkston

3453 Flintlock Dr
Bartlett, TN 38135

City of Bartlett
Attn: Kim Taylor
6382 Stage Road
Bartlett TN. 38134

To Whom It May Concern,

I am writing to express my support for the Special Use Permit requested by Christian Life Church, which is located at 9375 Davies Plantation in Bartlett. I understand that the church intends to establish a Christian school on its premises, and I strongly believe that this will be a valuable and beneficial addition to our community.

As a Bartlett resident, I encourage the Planning Commission to approve this Special Use Permit request at their meeting on December 4th. I appreciate your consideration regarding this matter.

Sincerely,

Kathie Pinkston

Kathie Pinkston

3453 Flintlock Dr.
Bartlett, TN 38135

HEATHER PATE

9420 Gypsy CV Bartlett, TN | 870-638-3060 | hpate82@gmail.com

11/29/30

City of Bartlett
Attn: Kim Taylor
6382 Stage Rd.
Bartlett, TN 38134

Dear City of Bartlett:

I am writing regarding my support for the Special Use Permit requested by Christian Life Church, which is located at 9375 Davies Plantation in Bartlett. It is my understanding that the church is planning to establish a Christian school and I am in favor of this addition to our community.

As a Bartlett resident and elementary school teacher, a Christian school will serve our community and provide an alternative schooling option for current residents and those that will relocate into the neighborhood. With the growth in the area, an additional Christian school option nearby will be an asset.

I encourage the Planning Commission to approve this resolution at their meeting on December 4th.

Thank you so much for considering my thoughts and opinion on this matter.

Sincerely,

Heather Pate

Heather Pate

City of Bartlett, Tennessee
Municipal Planning Commission
Staff Report

Subdivision: Master Plan

Hy-Vee Subdivision

DATE:	December 4, 2023
STAFF:	Kim Taylor, Planning Director; Leslie Brock, Planner; John Horne, Engineering Director; Erin Campbell, Assistant Engineering Director; Max Gomez-Pedro, Land Development Engineer; Trey Arthur, Code Enforcement Director; Matt Crenshaw, Public Works Director; Aaron Davidson, Public Works Assistant Director; Howard McNatt, Fire Marshal; Craig Jones, Deputy Fire Marshal
SUBJECT:	Planning Commission Master Plan Application Review
APPLICANT:	Mike Rogers, Fisher & Arnold, Inc.
DEVELOPER:	Hy-Vee, Inc.
SITE LOCATION:	Northeast Corner of New Brunswick Road & Old Brunswick Road
SITE ACREAGE:	20.76 acres
ZONING:	"C-H" Highway Business District
LOTS:	3

INTRODUCTION:

Mr. Michael Rogers with Fisher & Arnold, Inc. is requesting Planning Commission approval of a Master Plan for the Hy-Vee Subdivision. The subject property is located at the Northeast corner of New Brunswick Road and Old Brunswick Road. The property is zoned "C-H" Highway Business District.

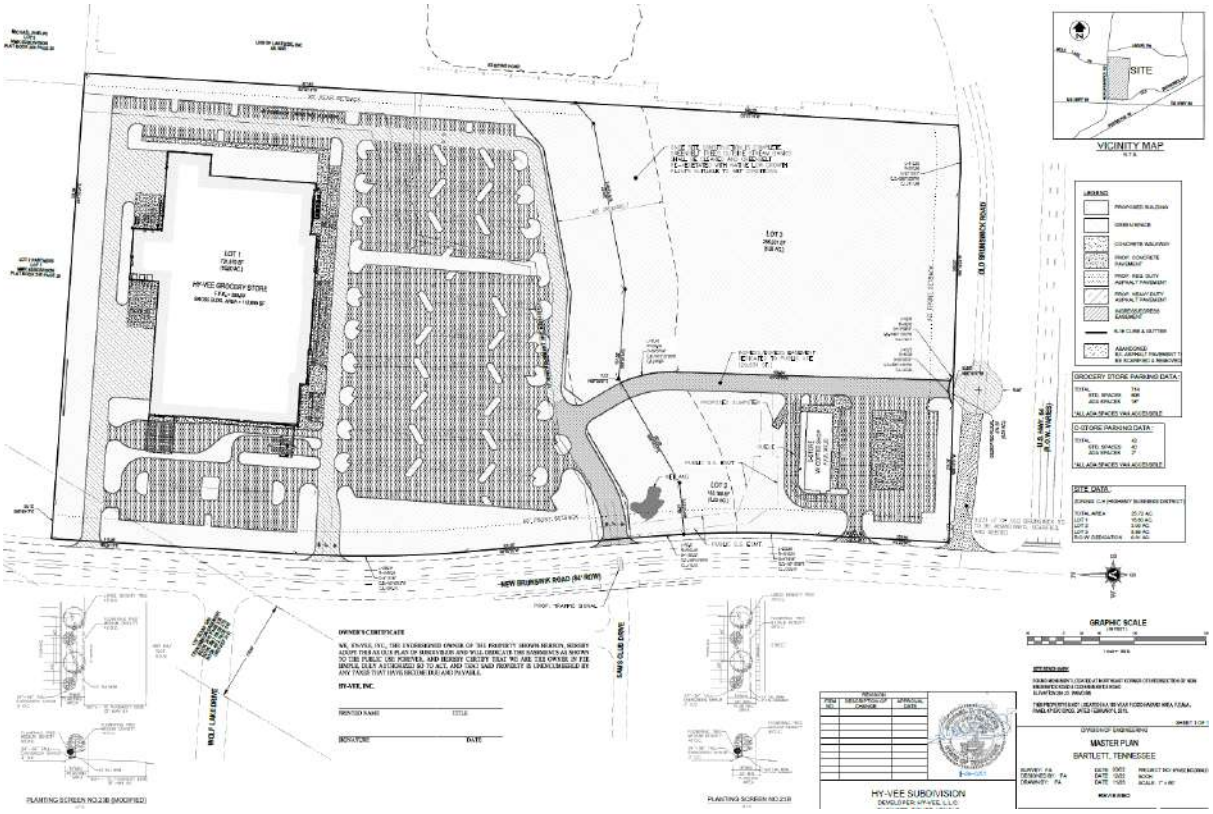
BACKGROUND:

The subject property is vacant land that was created by deed October, 26, 1962.



DISCUSSION:

The specific request by the applicant is for Master Plan approval to subdivide the 25.72 acres of land into a 3-lot commercial subdivision. Lot 1 will be 16.80 acres, Lot 2 will be 3.03 acres and Lot 3 will be 5.88 acres. The primary access to the development will be from 4 entrances off New Brunswick Road. A secondary entrance will be from Old Brunswick Road. Additionally, the proposed development will have a grocery store on Lot 1, a convenience store with gas station on Lot 2, and a greenbelt with wetland. Lot 3 does not have a proposed use and will remain undeveloped at this time. Staff is studying the possible closure of 231-foot section of Old Brunswick Road at New Brunswick Road.



Recommendation: Approval with conditions.

Engineering Conditions:

General:

1. A Commercial Site Plan contract may be required and will be prepared by Engineering and submitted to the developer/engineer for review to cover the fees to be paid to the City of Bartlett.
2. A Plat (not submitted) showing all lots, descriptions, easements, Property Owners Association responsibilities should be submitted.
3. A Property Owner's Association should be set up by the owner with responsibilities specified on the Final recorded Plat.
4. There is a Texas Gas Easement and pipeline across a portion of this site. Plans and necessary applications should be submitted to Texas Gas and the proper permits acquired from Texas Gas where necessary.
5. All new utilities shall be underground.
6. Sidewalk should be installed along the entire length of the East side of New Brunswick Road.

Erosion Control & Stream Buffer:

The following items were agreed on based on the 11/28/23 meeting between Michael Rodgers (Fisher & Arnold), John Horne, Erin Campbell, Don Fent, & Joellyn Brazile (TDEC Local Director):

7. A SWPPP, ARAP Permit and a TDEC permit will be required and shall be submitted to TDEC and also to the City of Bartlett Engineering office.
8. Based on the Site Hydrological Determination:
    a. The onsite stream that flows from East to West along this site is a Blue Line Stream.
    b. The stream that flows from North to south is a wet weather conveyance (NOT a Blue Line Stream).
9. A Greenbelt (Stream Buffer) is correctly shown on the plans encompassing the Blue Line Stream. This is a requirement of the City's Storm Water Ordinance. This area shall not be encroached upon by any building, structure, or parking area, and shall be so noted on the final plat of the subdivision.
10. The maintenance of this stream and buffer is the responsibility of the Property Owner's Association.
11. It is allowable for this development to discharge un-detained storm water runoff into the Blue Line Stream upstream of the proposed detention as long as it is designed in such a way that no erosion of the banks or the stream bed takes place. The engineer will be required to design Best Management Principles to ensure this at each discharge point into the Blue Line Stream.

12. Once Construction is complete, and a Notice of Termination is received from TDEC regarding the TDEC Permit, The Property Owner's Association may be allowed to remove some trees from within the Greenbelt (Stream Buffer). The design engineer has submitted a Tree Removal Plan that outlines this. Following are the requirements for acceptance of this Tree Removal Plan:
    a. No Trees can be removed in the area between the stream banks.
    b. No trees can be removed outside the stream bank if their root system extends into the bank.
    c. After further review and a site visit, some of the trees shown on the plan to be removed may need to remain permanently.
    d. Replanting of Trees (not shown) must be shown on this plan.
    e. An alteration of the City Storm water Ordinance may be required prior to this action taking place.
13. There is an area designated as Wetlands shown on the plans. The design Engineer must submit complete Hydraulic calculations to the City and TDEC for approval to confirm that the proposed detention pond will not alter the wetlands area.
14. Erosion Control plans will be required.

Water :

15. The attached Utility Plan show 8" water lines. This will not be adequate for the required Fire Flow Demand. The required Fire Flow will be determined by the City of Bartlett Fire Marshall. The City of Bartlett Engineering Staff will conduct fire flow testing in the site area and produce a sealed water plan.
16. The Engineer shall provide a **digital set of drawing** files showing the sanitary sewer lines, drainage lines, lot lines and all improvements in AutoCAD format to dhubbard@cityofbartlett.org and ecampbell@cityofbartlett.org for use in the preparation of the Water Design Plan. This plan will be coordinated with the site design engineer to resolve any conflicts.

Grading & Drainage:

17. Pipe table required, difference between public and private. As-built data must be provided.
18. Detention will be required. The applicant's engineer shall submit the stamped and signed detention calculations for the proposed detention basin and show the 'pre' and the 'post' runoff for the 2, 5, 10, 25-year storms.
19. As-built data will be required on detention basin.

Sewer:

20. Any sewer cleanout located in a paved area shall comply with the detail approved by Bartlett Codes, which involves brass connections and a concrete collar.

21. The on-site existing sanitary sewer line is recorded with a 10' wide permanent easement and should be re-recorded as a 30' wide easement.
22. This property is in the Fletcher Creek sewer basin, so a sewer holding tank design and outflow rates will need to be submitted to the City of Bartlett and City of Memphis for acceptance. This design will require approval from the City of Memphis. This will be required before this project can proceed to contract, plan signature, and construction.
23. The developer will epoxy coat up to two sewer manholes downstream of the new pump station and surge tanks for H2S protection.
24. Some of the Sewer Lines shown on the sewer plan labeled as "Public" will need to be re labeled "private".
25. The Sewer Plan includes a Sewer Holding tank, Sewer Pump Station and Force main, comprising (1) sewer holding tank/pump system to accommodate all (3) commercial lots. This design is not satisfactory. Each Lot must have its own holding tank and pump station so that each lot owner (not a Property Owner's Association) will be responsible for maintenance and responsibility of adequate sewer service.
26. Plan and profile views will be required.

Transportation:

27. The Site Plan shows the closing of Brunswick Road at the current intersection with New Brunswick Road. This will be completed by installing a cove as shown. This is necessary because of:
    a. Safety Concerns at the intersection of New Brunswick Road & Brunswick Road.
    b. The current inefficiency of the New Brunswick Road & Brunswick Road intersection.
27. Both TDOT and City Staff are in agreement with this closure. TDOT has stated that the Planning Commission Meeting will satisfy TDOT's requirement for Public Notification of the closure of Brunswick Road.
28. The owner will be required to apply for and get a TDOT permit for this road closure.
29. Based on the proposed plan, traffic on Brunswick Road can continue west bound to New Brunswick:
    a. By way of Ladurl Road or
    b. By exiting the proposed Brunswick Road Cove and entering the New Commercial Site.
33. All roads shown within the Commercial Development shall be Private.

34. In the future, Wolf Lake Drive will likely need a signal. Additional signal easement/ROW may be required for signal poles/cabinet, as the west side of the intersection is in the Texas Gas Easement.

35. The AASHTO Greenbook recommends driveway spacing's for a 40 mph design speed road be at least 305' apart.

    a. The Proposed North most Hy-Vee driveway is approximately 218' from Wolf Lake Drive. This proposed driveway should not allow left turns out. Left turns into Hy-Vee at this driveway are acceptable.

    b. The Proposed Hy-Vee driveway second from the North is approximately 180' from Wolf Lake Drive. This proposed driveway must have Right-in-right-out access only. This potential driveway is too close to the Wolf Lake intersection to allow lefts in or out. However if this driveway location can be shifted South to a location approximately 305' South of Wolf Lake Drive, then this drive way can be allowed to have Left turns in and out.

34. The Traffic Study shows the Level of Service (LOS) for the New Brunswick-US 64 intersection (overall) dropping from LOS C to LOS D. This is not acceptable. The following items may be required in order to maintain or improve existing level of service) at this intersection:

    a. Provide Signal Coordination between the proposed Hy-Vee Signal and the existing signal at New Brunswick-US 64 intersection. This includes design work, necessary installation of fiber to coordinate the two signals (and associated timings) and complete modifications to US 64 signal. It also includes any collaboration with the City of Memphis & TDOT.

    b. The traffic study shows the LOS of East Bound Left Turn movements on US 64 dropping from LOS D to E. The Following may be required in order to maintain a LOS D for this movement: Extend the East Bound Left Turn lane on US 64 (per F&A Traffic Study) and add an additional East Bound Left turn lane, creating a double left turn lane (Similar to the Walmart Drive-US 64 intersection).

    c. Install a Right Turn lane on West Bound US 64.



Planning Comments:

1. Should the decision be made to close 231-feet of Old Brownsville Road, the applicant may need to submit an application for road closure to the Planning Commission.

Planning Conditions:

1. The applicant shall include the greenspace/open space percentages in the site data table.
2. The applicant shall revise the site plan to show the required 20-feet of landscape buffer along both New Brunswick and Old Brunswick Roads.
3. The applicant will be responsible for irrigation and landscape maintenance in perpetuity.
4. The applicant shall apply to the Planning Commission for the approval of the Construction Plan and the Final Plan prior to legally recording this subdivision.
5. Once the subdivision applications are completed, the applicant must obtain Site Plan application approvals from the Planning Commission and the Design Review Commission.
6. The applicant shall be present at the meetings in order to make decisions to any changes that may be suggested by the Planning Commission.

Bartlett Planning and Economic Development Department 6382 Stage Road, P.O. Box 341148 Bartlett, TN 38184-1148 901-385-6417 FAX 901-385-6419 www.cityofbartlett.org	*Bartlett Planning Commission* **Application for Master Subdivision Plan Approval**

Subdivision Name Hy-Vee Subdivision No. of Lots 3

Subdivision Location Northeast corner of New Brunswick Road & Old Brunswick Road

Owner/Developer Contact Randy Downs Phone (515) 559-5703

Company Name Hy-Vee, Inc. Fax (515) 559-2507

Address 5820 Westown Parkway - West Des Moines, IA 50266

Email Address rdowns@hy-vee.com

Architect Contact Tonia Householder Phone (515) 559-5763

Company Name Hy-Vee, Inc. Fax (515) 559-2507

Address 5820 Westown Parkway - West Des Moines, IA 50266

Email Address thouseholder@hy-vee.com

Engineer Contact Michael Rogers Phone (901) 748-1811

Company Name Fisher & Arnold, Inc. Fax

Address 9180 Crestwyn Hills Drive - Memphis, TN 38125

Email Address mrogers@fisherarnold.com

Submitted by Michael Rogers (signature) 10/31/23
(printed name) **(signature)** **(date)**

Email Address mrogers@fisherarnold.com **Phone** (901) 748-1811 **Fax**

MDR Acknowledge (by initials in the blank to the left) that the "**Application Instructions: Planning Commission**" were obtained and read prior to submitting this application.

MDR The "**Master Subdivision Plan Checklist**"has been completed and required all items have been provided. (See reverse page/or attached checklist)

MDR Provide 18-folded (± 10"x13") sets of plans with a copy of the signed application attached to each set.

MDR Provide an electronic PDF file of the plans. Note that an updated electronic file is required when plans are revised. The electronic file shall be labeled with the project name and accurately dated.

MDR Include a fee of $500.00 plus $20.00 per lot with this application (check payable to the City of Bartlett). **The fee is not refundable.**

I, the property owner(s) hereby authorize the filing of this application.

William Ross Felt Inster 11/1/23
(print name) **(signature)** **(date)**

Bartlett Planning and Economic Development Department
6382 Stage Road, P.O. Box 341148
Bartlett, TN 38184-1148
901-385-6417 FAX 901-385-6419
www.cityofbartlett.org

Master Subdivision Plan Checklist

The applicant shall either indicate that the following items have been completed by a check (√) or that they are not applicable (n/a):

X Date, north point and scale

X Location sketch map

X Boundary survey, showing location of point of beginning, true or grid bearing and length of each line, and area in acres

X Name and addresses of adjoining owners on gum labels. (one set)

Existing and Proposed:

X Tree Survey with Tree Table

X Tree Protection Plan with Tree Table

X Existing Survey/Conditions Plan

X Site Plan/Layout of development with areas reserved for detention/retention

X Grading/Drainage Plan showing all drain manholes, inlets,and drainage areas picked up

X Contour intervals

X Streets

X Structures

X Water courses

X Rights-of-way

X Sewers

N/A Bridges

X Culverts

N/A Springs (water)

X Water mains

X Easements for drainage, water, sewer, landscape, and signage

X Utility lines including utility easements along property lines

N/A Location and extent of all land subject to flooding

Proposed:

N/A* Plat with signature blocks and notes

X Lot or parcel layout plan with dimensions and area

X Street rights-of-way

N/A* Erosion Control Plan with phasing

N/A* Traffic Control Plan with phasing and notes

X Landscape Plan (Streetscapes)

X Drainage improvements study

N/A* Drainage Pipe Table with all inlets and capacities and Q25 design

X Detention Basin Calculations for 2, 5, 10, 25, 50, and 100 year design

N/A* Sediment Basin Design and Calculations

N/A Flood hazard area details

N/A Floodways

X Utility Plan with size of meters required and location of fire sprinkler room

N/A* Plan and Profile of all streets

N/A* Sewer Plan and Profile

X Setback lines

Zoning Classification:

X Site (with area indicated)

X Adjoining land

In addition to the Master Plan drawing, the following shall be provided:

X One PDF file of the pictorial portion of the Master Plan, for display at the Planning Commission meeting.

INCOMPLETE APPLICATIONS WILL NOT BE PROCESSED

N/A* - To be included with Construction Plans, Final Subdivison & Final Site Plan Applications

FISHER ARNOLD

ENGINEERS | ARCHITECTS | CONSULTANTS | PLANNERS

November 6, 2023

Ms. Kimberly Taylor
Director of Planning & Economic Development
City of Bartlett
6382 Stage Road
Bartlett, Tennessee 38134

RE: Hy-Vee Subdivision
Master Subdivision Plan

Dear Ms. Taylor:

On behalf of the developer, Hy-Vee, Inc., we hereby submit a Master Subdivision Plan application for the proposed development of the property at the northeast corner of New Brunswick Road and Old Brunswick Road. The purpose of this application is to establish the master plan of subdividing and development of the property. As shown on the Master Plan included with this application, the developer is proposing to subdivide the property into three (3) lots. The developer will follow with full development of two (2) lots: Lot 1 for a Hy-Vee grocery store and Lot 2 for a Hy-Vee convenience store/gas station/coffee shop with drive thru. Lot 3 will not be developed at this time but will be for future sale and development. It could be further subdivided later depending on the sale and later planned use(s). Hy-Vee will control the remaining property and sale to potential buyer(s) that plan a use(s) that don't/doesn't conflict with the proposed grocery store and convenience store uses are developed at this location.

As you are aware from earlier discussions and correspondence, as part of this plan of development, we are proposing to close a portion of Old Brunswick Road to cut it off from New Brunswick Road. The current intersection is dangerous and does not meet current AASHTO standards for intersection spacing. We are proposing an ingress/egress easement through the development that will go north from Old Brunswick Road up to a major drive out west to New Brunswick Road. This drive will align directly across New Brunswick Road from the Sam's Club driveway on the west side of New Brunswick. This ingress/egress easement will be dedicated to public use and thereby provide vehicular access for west bound Old Brunswick traffic over to New Brunswick. TDOT is aware of and supportive of this closure. In a letter from TDOT to Bartlett City Engineer Mr. John Horne, they would like public comment on the closure. Following up with Mr. Gary Scruggs, TDOT Region 4 Director of Preconstruction, he said the public hearing of this Master Subdivision Plan and the subsequent Site Plan and Final Construction Plan applications would satisfy that requirement.

9180 Crestwyn Hills Drive
Memphis, TN 38125

901.748.1811
Fax: 901.748.3115
Toll Free: 1.888.583.9724

www.fisherarnold.com

In conjunction with this proposed ingress/egress easement, we are proposing a traffic signal to be installed at the ingress/egress easement/Sam's Club driveway intersection with New Brunswick. Include with this submittal is a Traffic Study which shows this proposed intersection will warrant a traffic signal.

This proposed plan also references the development plans for the greenbelt along the existing jurisdictional stream which flow from the east property line of the Hy-Vee site to New Brunswick Road. As previously discussed in meetings with the City of Bartlett and the Tennessee Department of Environment (TDEC) Memphis Environmental Field Office (Memphis EFO), it is the intent to maintain the existing vegetation with a construction buffer during the master grading and development of the property. Once the construction for the grocery store and the convenience store is complete and sites stabilized, the developer can remove all trees within the greenbelt that are not directly on the natural stream banks, and replace with lower, wetland suitable vegetative plantings. This proposed planting plan will be submitted to Bartlett along with the site plans as another phase to be completed at that time.

Concerning this plan of development, we understand that sewer connection in this basin requires City of Memphis approval and are simultaneously submitting our request for connection with calculated sewer flows for the proposed development. The Master Utility Plan included herein shows the preliminary design for the holding tank and pump to tie to the sewer outfall. As part of this preliminary design, we are proposing a sewer collection system to tie directly to existing public sewer in a way that once the tank is no longer needed and can be taken offline, that plugged portions of sewer line can be opened to allow direct outflow. The City of Memphis will confirm the proposed tank size and provide the parameters for off-hours pumping for use in final design at such time as we submit Construction Plans.

The Master Grading & Drainage Plan includes summary drainage data that shows the peak storm water flows exciting and entering the property for both pre-development and post-development conditions. We are proposing to use the natural, low, greenbelt area for storm water detention. The control the increase flows to the greenbelt due to this proposed development, we are proposing a restrictor plate be installed on the existing headwall for the 60" RCP that runs under New Brunswick Road. Twin 54" RCPs will be placed under the proposed ingress/egress drive to ensure good equalization between the western and eastern portions of the greenbelt separated by the drive. A drainage report will be submitted to Mr. John Horne separately in the coming days, but summary information is included on the plan.

In association with this submittal, please find the following with this cover letter, a copy of the TDOT reply letter to Mr. John Horne, a copy of the Traffic Study, and eighteen (18) copies of the submitted plans folded along with a copy of the application. Additionally, please find a notification map with notification labels, a flash drive with PDF copies of all submitted material and a check made payable to the City of Bartlett in the amount of $560.00 ($500 base fee + $20/lot). For existing conditions, we have included in the plan set the ALTA Boundary & Topographic Survey consisting of five (5) sheets total, including tree plan and tables.

Additionally, the plans include the Master Plan with lot dimensions, easements, etc., Master Grading & Drainage Plan, Master Utility Plan and a Tree Removal Plan.

We look forward to working with City staff as this application moves toward the December 4th Planning Commission. If you have any questions or need additional information, please let us know.

Sincerely,
Fisher Arnold

Michael Rogers, PE, RLS, QHP, LEED AP BD+C, CPESC

Attachments

Cc: Mr. Randy Downs, Hy-Vee, Inc.
Mr. Rob Wadle, Hy-Vee, Inc.

HY-VEE SUBDIVISION

MASTER SUBDIVISION PLAN

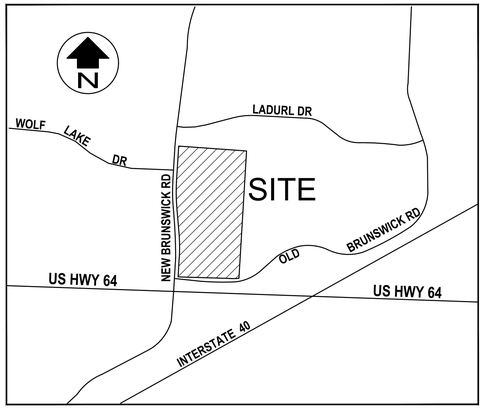
OWNER/DEVELOPER:

Hy-Vee, Inc.

5820 Westtown Parkway, West Des Moines, IA 50266

ENGINEER:

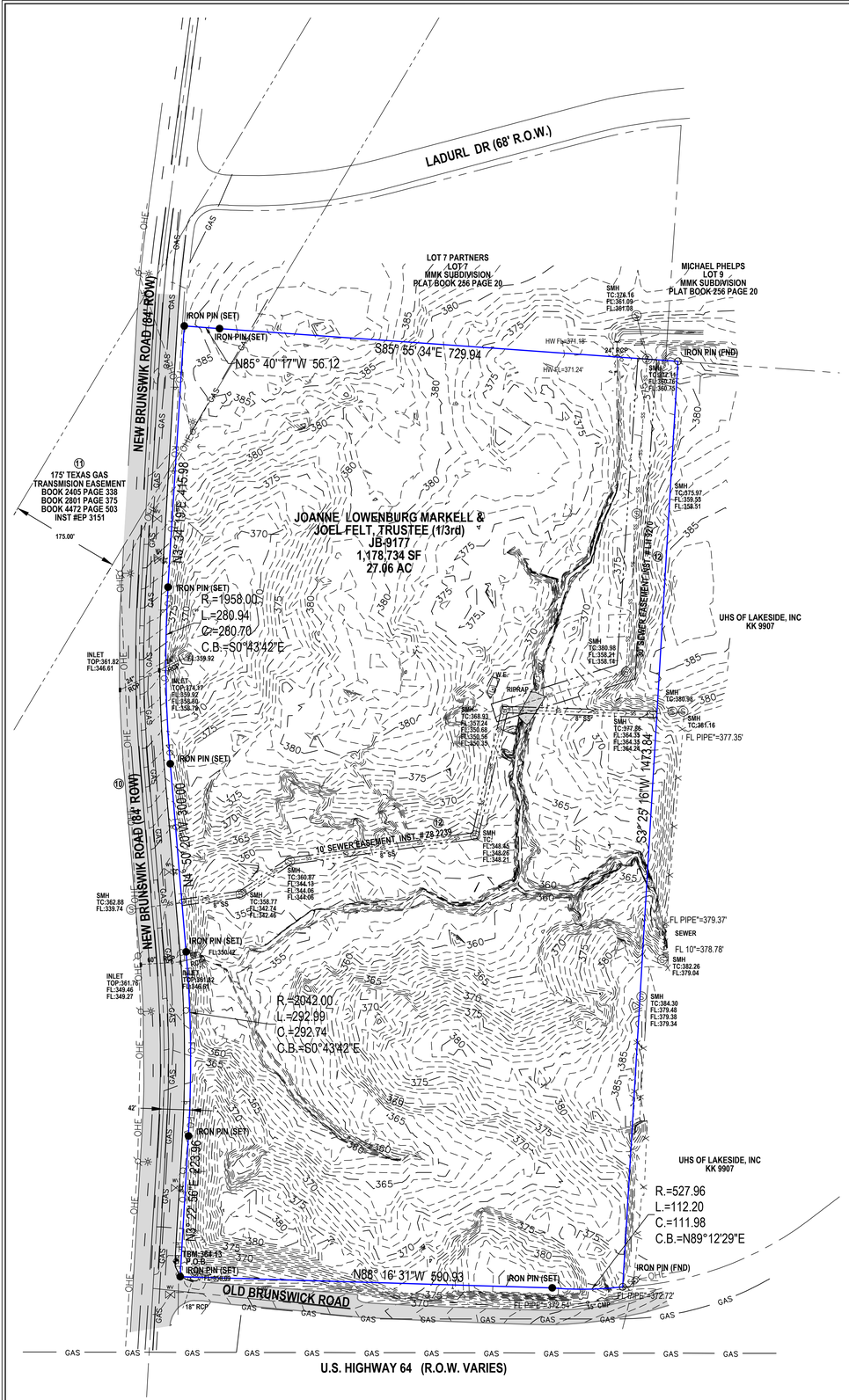
FISHER ARNOLD
ENGINEERS | ARCHITECTS | CONSULTANTS | PLANNERS
9180 Crestwyn Hills Drive | Memphis, Tennessee 38125-8538
901.748.1811 | Fax: 901.748.3115 | www.fisherarnold.com



VICINITY MAP
N.T.S.

INDEX

1. ALTA BOUNDARY & TOPOGRAPHIC SURVEY (EXISTING CONDITIONS)
2. ALTA BOUNDARY & TOPOGRAPHIC SURVEY (EXISTING CONDITIONS)
3. ALTA BOUNDARY & TOPOGRAPHIC SURVEY (EXISTING CONDITIONS)
4. ALTA BOUNDARY & TOPOGRAPHIC SURVEY (EXISTING CONDITIONS)
5. ALTA BOUNDARY & TOPOGRAPHIC SURVEY (EXISTING CONDITIONS)
6. MASTER PLAN
7. MASTER GRADING & DRAINAGE PLAN
8. MASTER UTILITY PLAN
9. TREE REMOVAL PLAN



SCHEDULE B, PART II
Exceptions

1. Any defect, lien, encumbrance, adverse claim, or other matter that appears for the first time in the Public Records or is created, attaches, or is disclosed between the Commitment Date and the date on which all of the Schedule B, Part I-Requirements are met. NOT A SURVEY MATTER.

2. Rights or claims of parties in possession not shown by the public records. NOT A SURVEY MATTER.

3. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land. FISHER ARNOLD COMPLETED A FIELD SURVEY ON APRIL 1, 2022.

4. Easements, or claims of easements, not shown by the public records. NOT A SURVEY MATTER.

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 A SURVEY MATTER.

6. Taxes or special assessments which are not shown as existing liens by the public records. NOT A SURVEY MATTER.

7. If improvements are completed after January 1 of any year, and the law, pursuant to TCA 67-5-509 and TCA 67-5-603, requires supplemental assessment for the year in which improvements are completed, the company assumes no liability for taxes assessed by correction or supplemental assessment. NOT A SURVEY MATTER.

8. Taxes for the year 2021, a lien due and payable, but not delinquent. NOT A SURVEY MATTER.

9. Taxes for the year 2022, a lien, but not yet due or payable. NOT A SURVEY MATTER.

10. Subject to all matters shown on the Plan of record in Plat Book 129, Page 68, Register's Office for Shelby County, Tennessee. THIS INSTRUMENT DEDICATES NEW BRUNSWICK ROAD, WHICH IS PLOTTED HEREON.

11. Right of Way Agreements of record in Book 2405, Page 338, as corrected in Book 2801, page 375; Book 4472, page 503 and Instrument No. E9-3151, in the Register's Office for Shelby County, Tennessee. THE TEXAS GAS EASEMENT DESCRIBED IN THIS INSTRUMENT IS PLOTTED HEREON.

12. Sewer Easements of record in Instrument Number Z8-2239 and Instrument No. LH-9270, in the Register's Office for Shelby County, Tennessee. Z8 2239; THE 10' SEWER EASEMENT DESCRIBED IN THIS INSTRUMENT IS PLOTTED HEREON. LH 9270; THE 30' SEWER EASEMENT DESCRIBED IN THIS INSTRUMENT IS PLOTTED HEREON.

13. Application for Greenbelt Assessment of record in Instrument Number KM-3362 and Instrument No. CN-9143, in the Register's Office for Shelby County, Tennessee. THE SUBJECT PROPERTY IS NAMED IN THESE TWO INSTRUMENTS. THIS IS NOT A SURVEY MATTER.

14. Survey of record in Instrument Number W7-6161, in the Register's Office for Shelby County, Tennessee. THE SUBJECT PROPERTY DOES NOT LIE WITHIN THE AREA SHOWN IN THIS INSTRUMENT.

15. Acreage content of the subject property is not hereby insured. Reference to acreage is left in the description merely for convenience in identifying the tract. THE ACERAGE IS PLOTTED HEREON.

16. No insurance is offered to title to that portion of the premises embraced within the bounds of any roads, streets, or highways. NO PORTION OF THE SUBJECT PROPERTY LIES WITHIN THE BOUNDS OF ANY ROAD, STREET, OR HIGHWAY.

Title Commitment Property Description

The land referred to herein below is situated in the County of Shelby, State of Tennessee, and described as follows:

Part of the West 30 acres of the east 55 acres of the F. R. King 84.5 acres and more particularly described as follows:
Beginning at a point in the north R.O.W. line of U.S. Highway 64, said point also lying in the east line of the R. A. Tripeer, Inc. property as shown in Warranty Deed E7 0105 in the Shelby County Register's Office, Shelby County, Tennessee; thence North 3°36'40" West along said east line a distance of 1511.4 feet to a point; thence North 86°52'02" East along the south line of the J. D. McClanahan property as shown in Book 6015, page 34, of said Shelby County Registers Office a distance of 786.06 feet to a point; thence South 3°48'13" East along the west line of the Tranquilaire Nursing Home property a distance of 1473.84 feet to a point in North R.O.W. line of U.S. Highway 64, said point being 175 feet north of the centerline of the road; thence 112.21 feet to the right along a curve with a radius of 527.96 feet to a point, said point lying in the north R.O.W. line of U.S. Highway 64 and said point being 165 feet north of the centerline of the road; thence South 84°30'00" West along said north R.O.W. line and parallel with the centerline of the road a distance of 679.70 feet to the point of beginning and containing 27.06 acres.

Being the same property conveyed to William A. Loewenberg by Warranty Deed from William Van Hersh and Frank S. Groner of record in Instrument No. G6-6442 Register's Office for Shelby County, Tennessee, dated January 17, 1972 and recorded on January 19, 1972. William A. Loewenberg died May 1, 1996, and his Will probated at Docket No. B0027417 in Shelby County Tennessee, vested the property in his heirs Joanne L. Markell, Fredricka Felt and William I. Loewenberg.

Being the same property conveyed to Joel Felt, as to a 1/3 Interest by Quitclaim Deed from Fredricka Loewenberg Felt of record in Instrument No. HZ-1468 Register's Office for Shelby County, Tennessee, dated December 9, 1998 and recorded on December 10, 1998.

Being the same property conveyed to Ross Felt, Trustee of Rachel F. Tasch Trust dated January 11, 1999, as to 1/9 Interest by Quitclaim Deed from Joel Felt of record in Instrument No. JB-6353 Register's Office for Shelby County, Tennessee, dated January 21, 1999 and recorded on January 22, 1999.

Being the same property conveyed to Gwyn F. Wachtel Trust dated January 11, 1999, as to 1/9 Interest by Quitclaim Deed from Joel Felt of record in Instrument No. JB-6354 Register's Office for Shelby County, Tennessee, dated January 21, 1999 and recorded on January 22, 1999.

Being the same property conveyed to Ross Felt, Trustee of the Ross Felt Trust dated January 11, 1999, as to 1/9 Interest by Quitclaim Deed from Joel Felt of record in Instrument No. JB-6355 Register's Office for Shelby County, Tennessee, dated January 21, 1999 and recorded on January 22, 1999.

Being the same property conveyed to Joel Felt, Trustee Under Joanne Lowenberg Markell Trust dated 11th day of January, 1999, as to 1/3 Interest by Quitclaim Deed from Joanne Lowenberg Markell of record in Instrument No. JB-9177 Register's Office for Shelby County, Tennessee, dated January 25, 1999 and recorded on January 27, 1999.

Property Description:

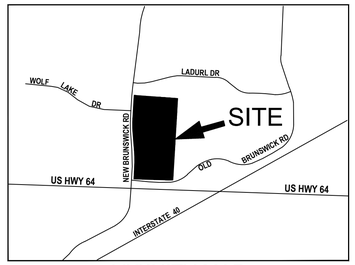
That certain parcel of land in Shelby County, Tennessee as described in Instrument No. JB 9177, recorded in the Shelby County Register Office, and being more particularly described by meet and bounds as follow:

Beginning at a 1/2 inch rebar with cap (SET) at the tangent intersection of the east line of New Brunswick Road (84' Right of Way) and the north line of U.S. Highway 64 (Right of Way Varies) and having Tennessee State Plane Coordinates of Northing: 339,023.0995, Easting: 840,212.5731; thence North 03 Degrees 22 Minutes 56 Seconds East, along the east line of New Brunswick Road, a distance of 223.96 feet to a 1/2 inch rebar with cap (SET); thence, along the east line of New Brunswick Road, with a curve to the left having a radius of 2,042.00 feet, an arc length of 292.99 feet, a chord bearing of North 00 Degrees 43 Minutes 42 Seconds West and a chord distance of 292.74 feet to a 1/2 inch rebar with cap (SET); thence North 04 Degrees 50 Minutes 20 Seconds West, along the east line of New Brunswick Road, a distance of 300.00 feet to a 1/2 inch rebar with cap (SET); thence, along the east line of New Brunswick Road, with a curve to the right having a radius of 1,958.00 feet, an arc length of 280.94 feet, a chord bearing of North 00 Degrees 43 Minutes 42 Seconds West and a chord distance of 280.70 feet to a 1/2 inch rebar with cap (SET); thence North 03 Degrees 34 Minutes 19 Seconds East, along the east line of New Brunswick Road, a distance of 415.98 feet to a 1/2 inch rebar with cap (SET) said rebar being the southwest corner of Lot 7 of the MMK Subdivision (Plat Book 256 Page 20); thence South 85 Degrees 40 Minutes 17 Seconds East along the south line of Lot 7, a distance of 56.12 feet to a ½ inch rebar with cap (SET) on said south line; thence South 85 Degrees 55 Minutes 34 Seconds East, along the south line of Lot 7 and Lot 9 of the MMK Subdivision (Pat Book 256 Page 20, a distance of 729.94 feet to a Found Iron Pin, said iron pin being the northwest corner of the UHS of Lakeside, Inc property (Instrument No. KK 9907); thence South 03 Degrees 25 Minutes 16 Seconds West, along the west line of the UHS of Lakeside, INC. property, a distance of 1,473.84 feet to Iron Pin (FOUND) on the north line of U.S. Highway 64; thence along the north line of U.S. Highway 64, with a non-tangent curve to the right having a radius of 527.96 feet, an arc length of 112.20 feet, a chord bearing of South 89 Degrees 12 Minutes 29 Seconds West and a chord distance of 111.98 feet, to a 1/2 inch rebar with cap (SET) on said north line; thence North 88 Degrees 16 Minutes 31 Seconds West, along said north line, a distance of 590.93 feet to POINT OF BEGINNING; and containing 1,120,332.34 square feet or 25.719 acres more or less.

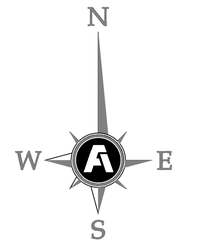
This being the same property described in Chicago Title Insurance Company's Title Commitment Number 20222027CNTwith affective date of February 01, 2022 at 8:00AM.

LEGEND

	IRON PIN (FOUND)
	IRON PIN (SET)
	SEWER CLEANOUT
S	SEWER MANHOLE
D	DRAINAGE MANHOLE
T	TELEPHONE MANHOLE
E	ELECTRIC MANHOLE
	6-72 INLET
	2' X 2' INLET
	2' X 4' INLET
	FIRE HYDRANT
WM	WATER METER
W	WATER VALVE
	IRRIGATION CONTROL VALVE
GV	GAS VALVE
	CABLE TELEVISION BOX
	TELEPHONE BOX
	TRANSFORMER
	ELECTRIC PULL-BOX
	ELECTRIC METER
A/C	HVAC UNIT
	POWER POLE
	GUY WIRE
	GUY POLE
	LAMP POST
	LIGHT POLE
	DOUBLE LIGHT POLE
	FLOOD LIGHT
	SIGN
	BOLLARD
	TREE
— OHE —	OVERHEAD UTILITY LINE
— D —	DRAINAGE PIPE
— SS —	SANITARY SEWER LINE
— W —	WATER LINE
— G —	GAS LINE
— X —	FENCE LINE
	ASHPHALT SURFACE
	CONCRETE SURFACE
	GRAVEL SURFACE



VICINITY MAP
N.T.S.



GRAPHIC SCALE (IN FEET)
100' 0 50' 100' 200'
1 inch = 100 ft.

GENERAL NOTES

1. Bearings as shown hereon are based on Tennessee State Plane Coordinates.
2. This map or plat is a copyrighted document produced by Fisher & Arnold, Inc. and should not be relied upon unless the stamp and seal of the surveyor is in blue ink.
3. All recorded instruments shown hereon are in the Register's Office of Shelby County, Tennessee.
4. By graphic plotting and scaled map location, this property lies within Zone "X" OTHER as designated by current Federal Emergency Management Agency Maps which make up a part of the National Flood Insurance Administration Report; Community Panel 47157C0310G, dated February 6, 2013, which is the current Flood Insurance Rate Map for the Community in which said premises is situated. Said map defines Zone "X" under "Other Areas" as areas determined to be outside the 0.2% annual chance floodplain.
5. This Surveyor has been furnished with a copy of Chicago Title Insurance Company Commitment Number 20220207CTN with an affective date of February 01, 2022 at 8:00 am.

SPECIAL UTILITY NOTE

This surveyor has not physically located the underground utilities. Above grade and underground utilities shown were taken from visible appurtenances at the site, public records and/or maps prepared by others. The surveyor makes no guarantee that the underground utilities shown comprise all such utilities in the area, either in service or abandoned. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated. Therefore, reliance upon the type, size and location of utilities shown should be done so with this circumstance considered. Detailed verification of existence, location and depth should also be made prior to any decision relative thereto is made. Availability and cost of service should be confirmed with the appropriate utility company. In Tennessee it is a requirement, per "The Underground Utility Damage Prevention Act", that anyone who engages in excavation must notify all known underground utility owners, no less than (3) three nor more than (10) ten working days prior to the date of their intent to excavate and also to avoid any possible hazard or conflict. Tennessee One Call 1-615-355-1987 or 1-800-351-1111.

This is to certify that to the best of my knowledge and belief, I have conducted a true and accurate Category 1 Boundary and Topographic Survey with an unadjusted accuracy of 1:10,000 and it was done in compliance with the current Tennessee Minimum Standards of Practice.

SURVEYORS STATEMENT

To:

Hy-Vee, Inc.
Chicago Title Insurance Company

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2021 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes Items 1-5, 6(b), 7(a), 8, 9, 11(a), 16, 17, and 20 of Table A thereof. The fieldwork was completed on April 01,2022.

Date of Plat or Map: _____

_____
J. Mark Sorsby, TN RLS No. 2227

FISHER ARNOLD
ENGINEERS | ARCHITECTS | CONSULTANTS | PLANNERS
9180 Crestwyn Hills Drive | Memphis, Tennessee 38125-8538
901.748.1811 | Fax: 901.748.3115 | www.fisherarnold.com

BOUNDARY AND TOPOGRAPHIC SURVEY

HY-VEE, INC
BARTLETT, TENNESSEE

Rev.	Date	Revision Description

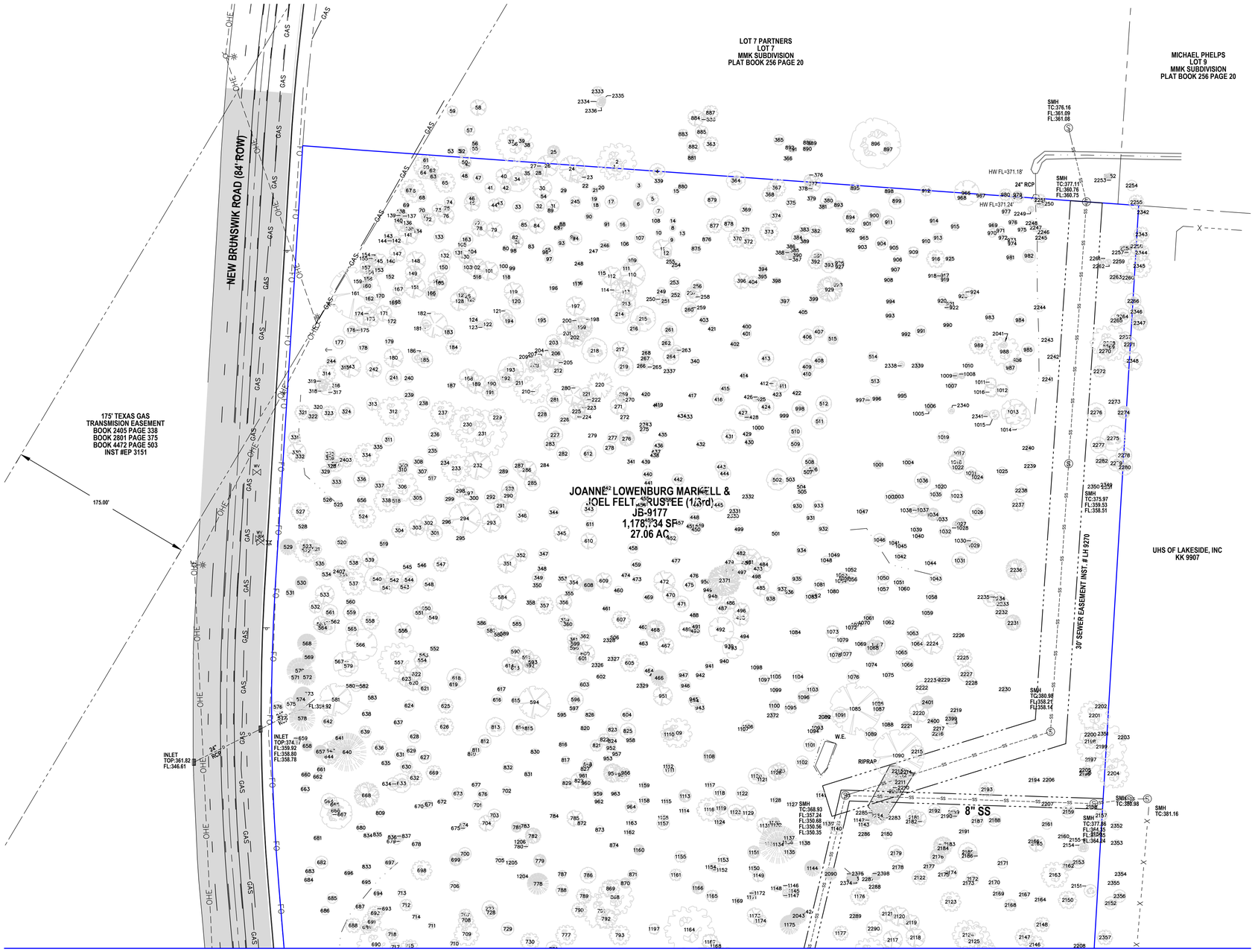
TENNESSEE
J. MARK SORSBY
REGISTERED
LAND SURVEYOR
NO. 2227
ARNOLD

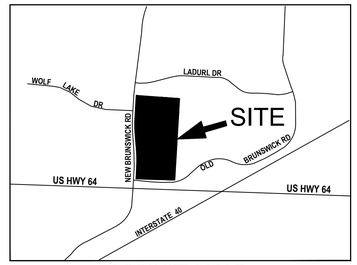
Issue Date:	11/06/2023
F&A Project No:	HYVEEINC.0001EN
Drafted By:	raw
Checked By:	JMS

Sheet Title:
ALTA/NSPS SURVEY

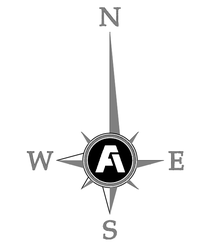
Sheet No.
1 OF 1

Copyright 2023 Fisher & Arnold, Inc., all rights reserved
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Last Saved: Monday, November 06, 2023 - 7:38 am
Plotted: Monday, November 06, 2023 - 7:38 am
By: cwooten





VICINITY MAP



GRAPHIC SCALE (IN FEET)

50' 0 12.5' 25' 50'

1 inch = 50 ft.

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BOUNDARY AND TOPOGRAPHIC SURVEY

HY-VEE, INC
BARTLETT, TENNESSEE

Rev.	Date	Revision Description

MARK SCISSOM
TENNESSEE
REGISTERED
LAND SURVEYOR
2579
11/06/2023
SURVEYOR

Issue Date:	11/06/2023
F&A Project No:	HYVEEINC.0001EN
Drafted By:	raw
Checked By:	JMS

Sheet Title:

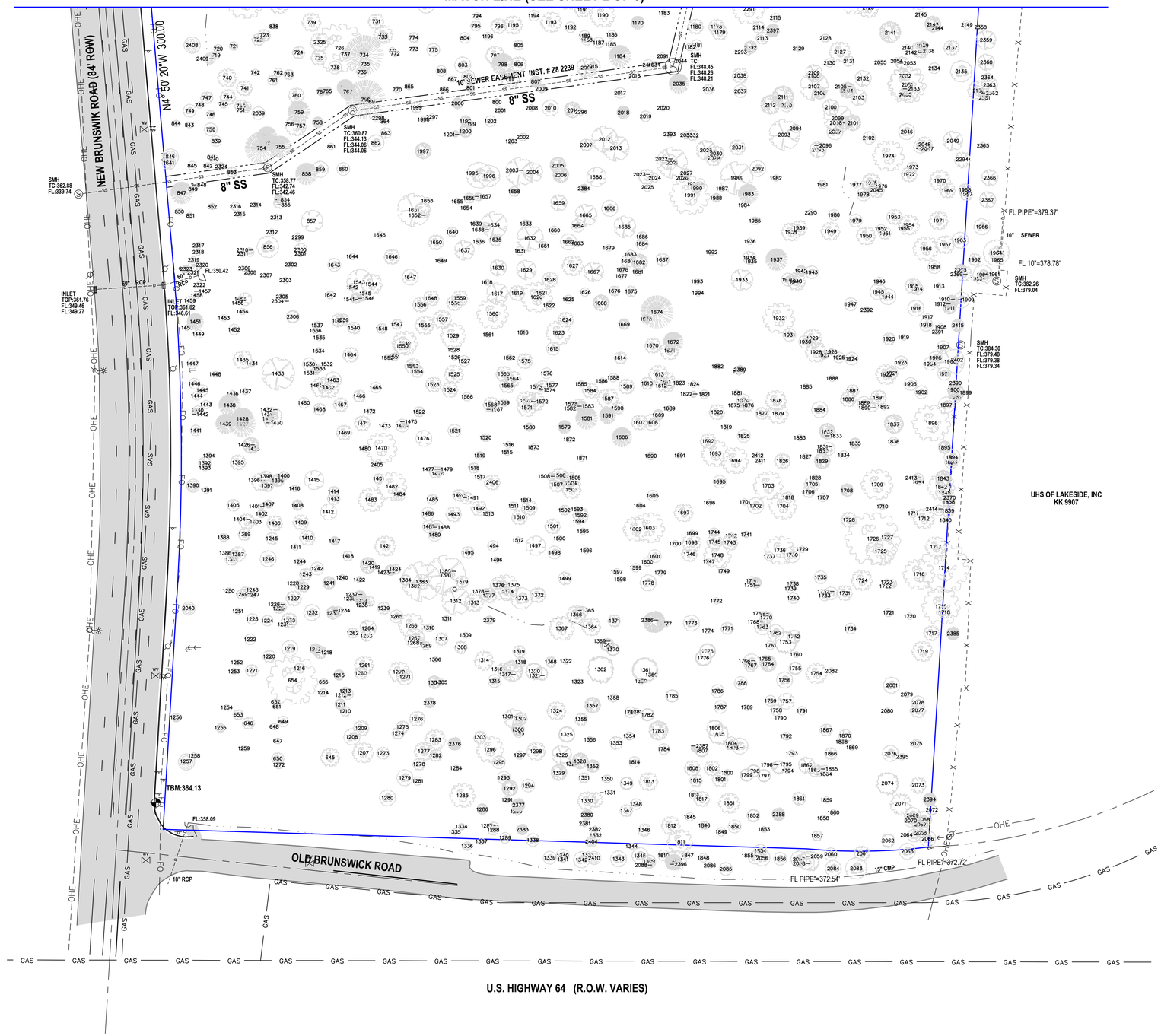
ALTA/NSPS SURVEY

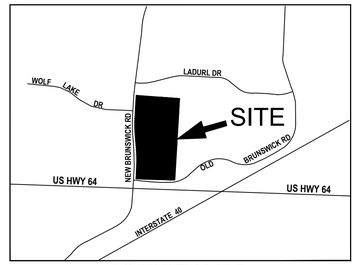
Sheet No.

2 OF 5

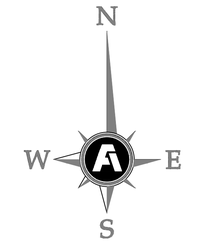
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Layout: Name: 24 x 36 SHEET 2
Plotted: Monday, November 06, 2023 - 7:36 am
By: awooten

MATCH LINE (SEE SHEET 2 OF 5)





VICINITY MAP



GRAPHIC SCALE (IN FEET)

50' 0 12.5' 25' 50'

1 inch = 50 ft.

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BOUNDARY AND TOPOGRAPHIC SURVEY

HY-VEE, INC
BARTLETT, TENNESSEE

Rev.	Date	Revision Description



Issue Date:	11/06/2023
F&A Project No:	HYVEEINC.0001EN
Drafted By:	raw
Checked By:	JMS

Sheet Title:

ALTA/NSPS SURVEY

Sheet No.

3 OF 5

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Filename: Z:\HYVEEINC.0001EN\Surveyor\plans\HYVEEINC.0001EN_Bound-Topo_ALTA.dwg
Layout Name: ALTA SHEET 3
Plotted: Monday, November 06, 2023 - 7:35 am
By: awooten

Point Table

Point #	Description
1	18"Oak
2	38"Oak
3	6"Elm
4	15"Elm
5	12"Oak
6	10"Persimmon
7	10"Elm
8	6"Elm
9	6"Elm
10	6"Elm
11	18"Gum
12	10"Elm
13	6"Elm
14	6"Elm
15	6"Elm
16	12"Elm
17	12"Elm
18	8"Elm
19	6"Elm
20	6"Elm
21	6"Elm
22	6"Elm
23	15"Gum
24	24"Gum
25	12"Persimmon /?
26	20"Gum
27	6"Persimmon /TRIPLE
28	10"Gum
29	6"Elm
30	18"Gum
31	12"Gum
32	10"Gum
33	10"Elm
34	24"Elm
35	12"Gum
36	36"Oak
37	6"Elm
38	6"Elm
39	6"Persimmon /?
40	15"Gum
41	10"Gum
42	10"Gum
43	10"Maple
44	12"Gum
45	15"Gum
46	12"Oak
47	10"Oak
48	8"Maple
49	6"Tree
50	12"Gum
51	6"Tree
52	10"Tree
53	6"Tree
54	6"Elm
55	10"Bodock
56	6"Persimmon /TWIN
57	10"Gum
58	15"Gum
59	10"Gum
60	24"Oak
61	6"Gum
62	6"Oak
63	8"Persimmon
64	12"Oak
65	20"Oak
66	24"Oak
67	8"Cherry
68	ELM8
69	6"Maple /TWIN
70	6"Maple
71	8"Maple
72	12"Gum
73	12"Gum
74	10"Maple
75	6"Gum
76	15"Gum
77	8"Maple
78	15"Gum

Point Table

Point #	Description
79	15"Gum
80	6"Gum
81	12"Gum
82	10"Maple
83	6"Elm
84	15"Gum
85	10"Maple
86	6"Oak
87	6"Oak
88	6"Oak
89	6"Oak
90	8"Oak
91	6"Persimmon
92	6"Elm
93	8"Oak
94	12"Elm
95	10"Elm
96	6"Elm
97	8"Elm
98	6"Elm
99	6"Elm
100	8"Elm
101	18"Gum
102	18"Gum
103	10"Gum
104	8"Oak
105	8"Maple
106	6"Oak
107	10"Elm
108	6"Elm
109	10"Elm
110	24"Gum
111	6"Elm
112	18"Gum
113	20"Gum
114	20"Gum
115	6"Maple
116	8"Elm
117	6"Elm
118	6"Gum
119	18"Maple
120	15"Elm
121	12"Elm
122	10"Gum
123	6"Elm
124	8"Elm
125	6"Elm
126	18"Gum
127	6"Elm
128	18"Gum
129	10"Maple
130	12"Gum
131	10"Oak
132	12"Maple
133	10"Elm
134	6"Gum
135	10"Elm
136	15"Oak
137	6"Bodock
138	6"Elm
139	6"Oak
140	6"Bodock
141	18"Gum
142	8"Gum
143	8"Elm
144	6"Bodock
145	15"Maple
146	8"Elm
147	15"Gum
148	18"Gum
149	15"Gum
150	12"Elm
151	20"Gum
152	6"Elm
153	8"Gum
154	8"Gum
155	8"Gum
156	15"Gum

Point Table

Point #	Description
157	12"Gum
158	6"Gum
159	6"Gum
160	10"Elm
161	48"Gum
162	10"Elm
163	12"Elm
164	18"Gum
165	12"Elm
166	12"Maple
167	12"Bodock
168	10"Gum
169	6"Elm
170	6"Persimmon
171	15"Gum
172	8"Elm
173	15"Gum
174	18"Gum
175	6"Elm
176	15"Elm
177	12"Elm
178	10"Elm
179	8"Elm
180	18"Maple
181	10"Elm
182	24"Gum
183	12"Elm
184	15"Oak
185	15"Elm
186	10"Elm
187	6"Maple
188	18"Maple
189	18"Gum
190	15"Elm
191	15"Elm
192	18"Elm
193	24"Elm
194	12"Elm /TWIN
195	12"Elm
196	8"Elm
197	18"Gum
198	15"Gum
199	20"Gum
200	20"Gum
201	20"Gum
202	18"Gum
203	15"Elm
204	18"Gum
205	18"Gum
206	6"Elm
207	15"Gum
208	12"Gum
209	12"Oak
210	36"Oak
211	8"Oak
212	10"Elm
213	18"Elm
214	18"Elm
215	24"Elm
216	12"Elm
217	15"Gum
218	24"Elm
219	18"Elm /TWIN
220	24"Bodock
221	12"Elm
222	12"Gum
223	15"Gum
224	12"Gum
225	15"Gum
226	10"Gum
227	15"Elm
228	15"Elm
229	18"Oak
230	36"Oak
231	48"Oak
232	26"Gum /TWIN
233	28"Oak
234	8"Oak

Point Table

Point #	Description
235	10"Elm
236	12"Elm
237	24"Oak
238	12"Elm
239	10"Elm
240	8"Elm
241	15"Elm
242	15"Gum
243	20"Gum
244	10"Hickory
245	10"Maple
246	10"Elm
247	10"Elm
248	6"Elm
249	8"Gum
250	10"Gum
251	8"Bodock
252	10"Elm
253	10"Elm
254	8"Elm
255	6"Maple
256	12"Elm
257	8"Elm
258	15"Elm
259	6"Elm
260	15"Elm
261	15"Elm
262	15"Elm
263	10"Elm
264	15"Elm
265	12"Maple
266	6"Gum
267	6"Gum
268	6"Gum
269	15"Gum
270	6"Gum
271	15"Gum
272	8"Gum
273	8"Gum
274	8"Elm
275	8"Elm
276	15"Persimmon
277	10"Elm
278	12"Elm
279	"Oak
280	18"Gum
281	15"Elm
282	12"Elm
283	12"Gum
284	/15"Elm TWIN
285	15"Elm
286	18"Gum
287	12"Elm
288	15"Elm
289	10"Elm
290	15"Gum
291	12"Maple
292	12"Elm
293	18"Gum
294	30"Gum
295	6"Elm
296	8"Elm
297	12"Birch
298	12"Gum
299	10"Elm
300	8"Elm
301	15"Elm
302	15"Gum
303	15"Gum
304	15"Oak
305	15"Elm
306	30"Oak /TWIN
307	10"Elm
308	10"Elm
309	10"Elm
310	10"Elm
311	12"Elm
312	30"Oak

Point Table

Point #	Description
313	12"Gum
314	18"Oak
315	6"Elm
316	6"Elm
317	15"Elm
318	12"Elm
319	12"Oak
320	"Oak
321	15"Oak
322	10"Persimmon
323	15"Oak
324	15"Elm
325	10"Elm
326	10"Elm
327	15"Elm
328	10"Elm
329	10"Elm
330	18"Gum
331	12"Oak
332	8"Oak
333	10"Pear
334	24"Oak
335	8"Elm /TWIN
336	15"Elm
337	10"Oak
338	24"Oak
339	6"Elm
340	8"Elm
341	6"Elm
342	6"Elm
343	15"Elm
344	10"Elm
345	15"Gum /TRIPLE
346	12"Gum
347	10"Elm
348	8"Elm
349	12"Oak
350	6"Oak
351	18"Gum
352	12"Gum
353	8"Elm
354	15"Gum
355	6"Gum
356	15"Gum
357	18"Oak
358	6"Persimmon
359	12"Oak
360	12"Oak
361	12"Gum
362	10"Gum
363	15"Oak
364	18"Elm
365	10"Elm
366	6"Pear
367	18"Oak
368	15"Oak
369	12"Oak
370	18"Oak
371	6"Elm
372	15"Oak
373	18"Oak
374	12"Oak
375	10"Oak
376	12"Oak
377	15"Gum
378	8"Oak
379	6"Cherry
380	15"Elm
381	6"Cherry
382	12"Oak
383	10"Elm
384	12"Elm
385	6"Elm
386	6"Elm
387	6"Persimmon
388	10"Cherry
389	6"Elm
390	6"Oak

Point Table

Point #	Description
391	12"Elm
392	15"Oak
393	15"Elm
394	8"Cherry
395	8"Cherry
396	15"Gum
397	10"Oak
398	6"Cherry
399	8"Persimmon
400	6"Elm
401	10"Elm
402	8"Pear
403	8"Pear /TWIN
404	12"Oak
405	6"Elm
406	15"Elm
407	12"Oak
408	15"Elm
409	15"Elm
410	10"Elm
411	12"Elm
412	12"Elm
413	15"Elm
414	6"Cherry
415	10"Oak
416	12"Oak
417	6"Elm
418	6"Elm
419	6"Elm
420	6"Elm
421	6"Elm
422	6"Elm
423	8"Elm /TWIN
424	15"Elm
425	6"Elm
426	6"Tree
427	15"Elm
428	6"Elm /TWIN
429	6"Tree
430	8"Persimmon
431	15"Oak /TWIN
432	8"Elm
433	8"Elm
434	8"Elm
435	6"Elm /TWIN
436	10"Elm
437	8"Elm
438	6"Elm
439	6"Elm
440	10"Elm
441	6"Elm
442	12"Oak
443	12"Oak
444	12"Elm
445	12"Elm
446	12"Elm
447	10"Elm
448	10"Oak
449	6"Cherry
450	10"Elm
451	6"Persimmon
452	12"Gum
453	8"Elm
454	12"Elm
455	6"Elm
456	6"Elm
457	6"Elm
458	10"Elm
459	10"Elm
460	8"Elm
461	6"Elm
462	6"Elm
463	8"Elm
464	10"Elm
465	6"Elm
466	15"Pine
467	15"Gum
468	18"Cherry

Point Table

Point #	Description
469	10"Elm /TWIN
470	15"Elm
471	15"Elm
472	20"Gum /TWIN
473	8"Elm
474	6"Elm
475	12"Elm
476	6"Elm
477	6"Elm
478	15"Maple
479	6"Elm
480	30"Gum
481	15"Gum
482	15"Elm
483	12"Gum
484	15"Gum
485	15"Gum
486	12"Maple /TWIN
487	12"Oak
488	6"Elm
489	15"Birch
490	10"Elm
491	8"Elm
492	24"Sycamore
493	20"Sycamore
494	8"Elm
495	15"Gum
496	15"Gum
497	6"Elm
498	6"Elm
499	8"Elm
500	XTRAV /500
501	6"Elm
502	20"Elm
503	6"Elm
504	6"Elm
505	6"Persimmon
506	12"Elm
507	12"Elm
508	15"Elm
509	15"Elm
510	12"Elm
511	15"Elm
512	15"Elm
513	10"Elm
514	10"Oak
515	10"Pear
516	6"Oak
517	6"Ash
518	8"Ash
519	8"Persimmon
520	12"Tree
521	12"Oak
522	24"Oak
523	15"Oak
524	24"Oak
525	8"Oak
526	8"Oak
527	18"Oak
528	6"Elm
529	15"Pine
530	12"Pine
531	8"Pear
532	12"Gum
533	18"Gum
534	10"Elm
535	12"Oak
536	12"Oak
537	24"Oak
538	15"Oak
539	15"Gum
540	24"Elm
541	12"Gum
542	18"Oak
543	12"Elm /TWIN
544	15"Elm
545	8"Elm
546	6"Elm

Point Table

Point #	Description
547	15"Oak
548	12"Gum
549	12"Gum /TWIN
550	12"Gum
551	12"Gum
552	6"Oak
553	6"Elm
554	15"Elm
555	15"Gum
556	15"Gum
557	40"Oak
558	18"Oak
559	15"Elm
560	6"Elm
561	15"Elm
562	15"Elm
563	15"Gum
564	10"Elm
565	12"Elm
566	30"Sycamore
567	24"Sycamore
568	18"Pine
569	12"Pine
570	24"Pine
571	6"Pine
572	15"Pine
573	15"Pine
574	15"Pine
575	12"Gum
576	10"Elm
577	8"Gum
578	24"Pine
579	12"Sycamore
580	10"Elm
581	30"Gum /TWIN
582	8"Elm
583	8"Elm
584	24"Gum
585	15"Elm
586	10"Elm
587	12"Oak
588	12"Gum
589	6"Elm
590	10"Gum
591	15"Gum
592	15"Gum
593	15"Gum
594	30"Gum
595	6"Elm
596	15"Elm
597	8"Elm
598	12"Oak
599	6"Maple
600	18"Gum
601	12"Elm
602	6"Elm
603	10"Elm
604	12"Elm
605	18"Oak
606	6"Elm
607	18"Oak
608	12"Pine
609	15"Gum
610	15"Gum
611	8"Elm
612	15"Elm
613	15"Elm
614	15"Gum
615	8"Oak
616	10"Elm
617	6"Elm
618	18"Elm
619	10"Elm
620	15"Gum /TRIPLE
621	12"Elm
622	12"Elm
623	15"Gum
624	10"Elm

Point Table

Point #	Description
625	15"Oak
626	18"Oak
627	12"Elm
628	12"Elm
629	10"Oak
630	12"Oak
631	10"Elm
632	15"Oak
633	18"Elm
634	12"Elm
635	6"Oak
636	15"Oak
637	8"Elm
638	8"Elm
639	12"Oak
640	36"Pine
641	6"Elm
642	12"Oak
643	18"Gum
644	15"Gum
645	18"Oak /TRIPLE
646	12"Oak
647	6"Oak
648	6"Elm
649	10"Elm
650	12"Oak /TWIN
651	6"Elm
652	6"Oak
653	10"Oak
654	48"Tree
655	6"Elm
656	8"Elm
657	12"Pine
658	10"Pine
659	6"Elm
660	6"Pine
661	8"Oak
662	8"Elm
663	8"Oak
664	15"Elm
665	8"Elm
666	10"Oak
667	30"Elm
668	24"Cherry
669	15"Oak
670	8"Elm
671	8"Oak
672	6"Elm
673	12"Oak
674	6"Elm
675	6"Elm
676	10"Elm
677	6"Elm
678	8"Elm
679	8"Elm
680	8"Elm
681	6"Oak
682	12"Elm /TRIPLE
683	8"Elm
684	8"Elm
685	10"Elm
686	8"Elm
687	8"Oak
688	15"Oak
689	12"Oak
690	36"Oak
691	18"Oak
692	15"Oak
693	8"Oak
694	8"Oak
695	6"Elm
696	6"Elm
697	10"Elm
698	20"Oak
699	12"Cherry
700	12"Elm
701	10"Tree
702	8"Elm

Point Table

Point #	Description
703	12"Elm
704	15"Gum
705	8"Elm
706	10"Maple /TWIN
707	12"Oak
708	15"Oak
709	24"Oak
710	8"Elm /TWIN
711	6"Elm
712	12"Oak
713	8"Elm
714	6"Oak
715	8"Elm
716	18"Oak
717	10"Oak
718	12"Oak
719	8"Hickory
720	8"Elm
721	8"Elm
722	12"Oak
723	12"Oak
724	12"Oak
725	15"Oak
726	48"Oak
727	15"Elm
728	12"Elm
729	12"Elm
730	18"Oak
731	15"Oak
732	18"Oak
733	10"Elm
734	36"Pine
735	12"Oak
736	10"Elm
737	8"Oak
738	12"Elm
739	18"Oak
740	18"Oak
741	15"Oak
742	6"Elm
743	12"Oak
744	15"Oak
745	8"Oak
746	8"Oak
747	12"Oak
748	6"Elm /TWIN
749	12"Elm
750	12"Elm
751	10"Elm
752	18"Pine
753	15"Pine
754	30"Pine
755	20"Pine
756	20"Oak
757	8"Oak /TWIN
758	10"Pine
759	20"Pine
760	15"Oak
761	10"Oak
762	8"Elm
763	10"Hickory
764	8"Pine
765	8"Pine
766	15"Pine
767	15"Pine
768	36"Pine
769	10"Elm
770	6"Elm
771	6"Elm
772	6"Elm
773	6"Oak
774	10"Oak
775	12"Elm
776	15"Elm
777	20"Oak
778	20"Pine
779	12"Cherry
780	8"Elm

Point Table

Point #	Description
781	10"Cherry
782	15"Cherry
783	6"Elm
784	6"Elm
785	15"Gum
786	15"Elm
787	8"Oak
788	12"Oak
789	15"Oak
790	15"Oak
791	36"Oak
792	20"Oak
793	20"Oak
794	6"Elm
795	10"Oak
796	15"Oak
797	18"Oak
798	20"Pine
799	18"Oak
800	6"Cherry
801	8"Pine
802	12"Elm
803	15"Elm
804	10"Elm
805	10"Oak
806	15"Oak
807	10"Pine
808	10"Elm
809	8"Elm
810	6"Elm
811	10"Elm
812	12"Elm
813	18"Elm
814	15"Elm
815	12"Elm
816	6"Elm
817	8"Oak
818	10"Gum
819	6"Cherry
820	6"Elm
821	12"Oak /TWIN
822	12"Oak
823	12"Oak
824	8"Oak
825	15"Elm
826	10"Elm
827	8"Elm
828	15"Gum
829	10"Gum
830	6"Elm
831	6"Elm
832	10"Elm
833	6"Elm
834	6"Elm
835	6"Elm
836	6"Elm
837	6"Elm
838	6"Elm
839	10"Elm
840	8"Elm
841	6"Elm /TWIN
842	6"Elm
843	6"Oak
844	6"Pear
845	8"Elm
846	15"Pear
847	20"Pine
848	6"Elm
849	6"Gum
850	6"Gum
851	6"Elm
852	6"Persimmon
853	10"Oak
854	8"Persimmon
855	12"Oak
856	20"Elm
857	20"Sycamore
858	20"Pine

Point Table

Point #	Description
859	15"Elm
860	12"Elm
861	6"Elm
862	15"Elm
863	10"Gum
864	6"Elm
865	6"Pine
866	6"Oak
867	6"Oak
868	36"Oak
869	18"Oak
870	10"Cherry
871	10"Oak
872	6"Elm
873	8"Elm
874	6"Oak
875	10"Oak
876	8"Elm
877	15"Oak
878	15"Elm
879	15"Elm
880	8"Oak
881	8"Cherry
882	12"Gum
883	10"Oak
884	15"Gum
885	12"Gum
886	6"Gum
887	15"Oak
888	8"Oak
889	8"Oak
890	6"Oak
891	6"Oak
892	6"Oak
893	8"Persimmon
894	15"Oak
895	10"Elm
896	48"Elm
897	6"Pear
898	6"Pear
899	15"Elm
900	12"Persimmon
901	10"Elm
902	6"Elm
903	8"Elm
904	12"Elm
905	8"Elm
906	8"Elm
907	6"Elm
908	6"Elm /TWIN
909	10"Birch
910	6"Elm
911	12"Elm
912	10"Maple
913	10"Oak
914	8"Pear
915	8"Oak
916	18"Oak
917	8"Elm
918	6"Elm
919	6"Elm
920	8"Elm
921	6"Elm
922	6"Elm
923	8"Elm /TWIN
924	12"Elm
925	6"Oak
926	10"Oak
927	6"Persimmon
928	8"Oak
929	24"Cherry
930	12"Elm
931	8"Elm
932	10"Elm
933	10"Birch
934	10"Elm
935	10"Elm
936	10"Elm

Point Table

Point #	Description
937	10"Elm
938	12"Elm
939	6"Elm
940	6"Elm
941	8"Elm
942	8"Elm
943	10"Oak
944	12"Oak
945	6"Elm
946	10"Elm
947	10"Elm
948	18"Elm
949	6"Elm
950	6"Oak
951	18"Gum
952	10"Oak
953	6"Elm
954	18"Cherry
955	15"Oak
956	8"Oak
957	6"Elm
958	6"Elm
959	10"Elm
960	10"Elm
961	6"Elm
962	6"Elm
963	6"Elm
964	12"Oak /TWIN
965	6"Birch
966	24"Sycamore
967	6"Oak
968	6"Oak
969	6"Sycamore
970	8"Sycamore
971	8"Sycamore
972	6"Sycamore
973	6"Sycamore
974	6"Sycamore
975	6"Sycamore
976	6"Sycamore
977	8"Oak
978	12"Hickory
979	8"Hickory
980	12"Oak
981	6"Birch /TWIN
982	12"Pear
983	8"Birch
984	12"Elm
985	12"Elm
986	6"Elm
987	12"Elm
988	30"Oak
989	18"Oak
990	6"Elm
991	10"Elm
992	6"Elm
993	8"Elm
994	6"Elm
995	8"Elm
996	6"Elm
997	8"Elm
998	15"Elm
999	8"Elm /TWIN
1000	6"Elm
1001	8"Cherry
1002	12"Elm
1003	6"Elm
1004	8"Oak
1005	6"Cherry
1006	6"Cherry
1007	6"Cherry
1008	6"Cherry
1009	6"Cherry
1010	6"Elm
1011	10"Birch
1012	12"Birch
1013	24"Sycamore
1014	24"Sycamore

Point Table

Point #	Description
1015	10"Oak
1016	12"Birch
1017	12"Elm
1018	15"Birch
1019	12"Oak
1020	6"Persimmon
1021	12"Elm
1022	12"Elm
1023	12"Birch
1024	12"Elm
1025	8"Elm
1026	15"Elm
1027	10"Cherry
1028	6"Elm
1029	15"Elm
1030	6"Oak
1031	15"Elm
1032	12"Oak
1033	6"Elm
1034	12"Cherry
1035	12"Elm
1036	15"Elm
1037	12"Cherry
1038	12"Elm
1039	6"Elm
1040	6"Persimmon
1041	6"Elm
1042	8"Elm /TWIN
1043	12"Elm /TWIN
1044	6"Elm
1045	6"Elm
1046	12"Elm
1047	6"Cherry
1048	8"Elm
1049	6"Elm /TWIN
1050	12"Elm
1051	8"Elm
1052	6"Elm
1053	6"Elm
1054	6"Elm
1055	10"Elm
1056	10"Elm
1057	10"Elm
1058	10"Elm
1059	8"Elm
1060	6"Elm
1061	8"Persimmon
1062	10"Elm
1063	12"Elm
1064	12"Elm
1065	12"Elm
1066	12"Elm /TWIN
1067	15"Elm
1068	15"Cherry
1069	6"Elm
1070	6"Elm
1071	6"Elm
1072	6"Cherry
1073	12"Birch
1074	6"Elm
1075	6"Elm
1076	12"Elm
1077	10"Oak
1078	15"Elm
1079	6"Elm
1080	6"Elm
1081	10"Elm
1082	6"Elm
1083	12"Elm
1084	8"Elm
1085	48"Gum
1086	10"Elm
1087	10"Elm
1088	8"Elm
1089	12"Elm
1090	48"Gum
1091	15"Elm
1092	8"Elm

Point Table

Point #	Description
1093	10"Cherry
1094	6"Elm
1095	12"Oak
1096	12"Cherry /TWIN
1097	10"Oak
1098	6"Elm
1099	6"Elm
1100	10"Cherry
1101	12"Elm
1102	12"Elm
1103	12"Elm
1104	10"Elm
1105	10"Elm
1106	12"Elm
1107	6"Oak
1108	12"Cherry
1109	30"Oak
1110	12"Cherry
1111	12"Elm
1112	6"Elm
1113	12"Cherry
1114	6"Elm /TWIN
1115	6"Elm
1116	24"Oak
1117	6"Elm
1118	12"Elm
1119	12"Elm
1120	15"Elm
1121	10"Elm
1122	12"Elm
1123	15"Elm
1124	8"Cherry
1125	15"Gum
1126	15"Gum
1127	6"Elm
1128	6"Gum
1129	15"Gum
1130	10"Dogwood
1131	15"Gum
1132	8"Elm
1133	6"Elm
1134	36"Pine
1135	12"Elm
1136	6"Gum
1137	8"Gum
1138	6"Pine
1139	6"Gum
1140	12"Elm
1141	8"Elm
1142	12"Elm
1143	6"Birch
1144	15"Pine
1145	10"Elm
1146	8"Gum
1147	8"Gum
1148	6"Gum
1149	12"Gum
1150	10"Elm
1151	12"Cherry
1152	10"Oak
1153	10"Elm
1154	6"Elm
1155	12"Oak
1156	6"Elm
1157	12"Elm
1158	8"Gum /TWIN
1159	6"Persimmon
1160	10"Cherry
1161	12"Oak
1162	6"Elm
1163	6"Elm
1164	48"Oak
1165	12"Oak
1166

Point Table

Point #	Description
1249	10"Oak
1250	6"Oak
1251	6"Elm
1252	6"Elm
1253	6"Elm
1254	6"Oak
1255	8"Pear
1256	8"Pear /TRIPLE
1257	15"Pear
1258	6"Elm
1259	6"Elm
1260	12"Oak
1261	18"Oak
1262	10"Oak
1263	10"Gum
1264	15"Gum
1265	12"Elm
1266	24"Oak
1267	18"Elm
1268	6"Elm
1269	8"Oak
1270	20"Oak
1271	15"Elm
1272	8"Oak
1273	12"Oak
1274	12"Oak
1275	12"Oak /TWIN
1276	15"Oak
1277	18"Oak
1278	12"Oak
1279	15"Elm
1280	15"Elm
1281	8"Elm
1282	12"Oak
1283	20"Oak
1284	6"Oak
1285	24"Oak
1286	10"Persimmon
1287	10"Elm
1288	10"Elm
1289	10"Elm
1290	8"Oak
1291	6"Elm
1292	15"Cherry
1293	12"Elm
1294	12"Elm
1295	12"Elm
1296	26"Oak
1297	8"Elm
1298	18"Oak
1299	8"Elm
1300	12"Cherry
1301	18"Gum
1302	12"Oak
1303	12"Bodock
1304	12"Cherry
1305	6"Tree
1306	6"Oak
1307	12"Bodock
1308	12"Bodock
1309	6"Oak
1310	8"Oak
1311	6"Oak
1312	26"Gum
1313	18"Oak
1314	18"Bodock /TRIPLE
1315	12"Elm
1316	12"Gum
1317	20"Cherry
1318	10"Oak
1319	12"Oak
1320	15"Locust
1321	12"Locust
1322	6"Oak
1323	6"Elm
1324	18"Oak
1325	15"Pecan
1326	18"Gum

Point Table

Point #	Description
1327	6"Pecan
1328	15"Cherry
1329	15"Cherry
1330	18"Oak
1331	15"Oak
1332	10"Elm
1333	6"Elm
1334	6"Pear
1335	6"Elm
1336	8"Pear
1337	6"Elm
1338	12"Elm
1339	12"Elm
1340	12"Elm
1341	6"Elm
1342	15"Elm
1343	15"Elm
1344	6"Pecan
1345	15"Elm
1346	12"Bodock /TRIPLE
1347	12"Oak
1348	10"Elm
1349	12"Pecan
1350	8"Oak
1351	10"Oak
1352	12"Cherry
1353	12"Gum
1354	8"Pecan
1355	12"Bodock /TRIPLE
1356	6"Cherry
1357	15"Cherry
1358	8"Bodock /TWIN
1359	6"Oak
1360	6"Oak
1361	24"Pecan
1362	24"Locust
1363	12"Pecan
1364	18"Oak /TWIN
1365	12"Oak
1366	18"Oak
1367	24"Oak
1368	10"Bodock
1369	12"Pecan
1370	12"Pecan
1371	12"Oak
1372	15"Oak
1373	20"Elm
1374	18"Oak
1375	26"Oak
1376	15"Elm
1377	15"Oak
1378	12"Oak
1379	12"Oak
1380	6"Oak
1381	36"Gum
1382	36"Gum
1383	15"Oak
1384	10"Pecan
1385	12"Oak
1386	10"Oak /TWIN
1387	15"Oak
1388	8"Oak
1389	12"Oak
1390	12"Pear
1391	6"Elm
1392	12"Oak /AND
1393	6"Oak /TWIN
1394	6"Elm
1395	15"Hickory
1396	18"Oak
1397	12"Oak
1398	10"Gum
1399	12"Cherry
1400	8"Gum
1401	6"Oak
1402	8"Cherry
1403	6"Oak
1404	15"Oak

Point Table

Point #	Description
1405	12"Hickory
1406	15"Oak
1407	8"Cherry
1408	10"Cherry
1409	15"Oak
1410	15"Oak
1411	6"Elm
1412	15"Hackberry
1413	12"Oak
1414	10"Oak /TWIN
1415	18"Hackberry
1416	6"Gum
1417	8"Cherry /TWIN
1418	10"Oak
1419	15"Cherry
1420	6"Cherry
1421	20"Oak /TWIN
1422	6"Cherry
1423	10"Cherry
1424	10"Oak
1425	8"Elm
1426	15"Cherry
1427	24"Pine
1428	20"Pine
1429	10"Elm
1430	10"Elm /TWIN
1431	15"Elm
1432	8"Elm
1433	30"Gum
1434	6"Oak
1435	18"Oak
1436	6"Elm
1437	6"Gum
1438	20"Pine
1439	18"Pine
1440	8"Elm
1441	10"Elm
1442	6"Oak
1443	8"Elm
1444	8"Elm
1445	10"Elm
1446	10"Elm
1447	10"Elm
1448	6"Oak /TWIN
1449	8"Elm
1450	6"Oak
1451	15"Pine
1452	10"Elm
1453	6"Elm
1454	6"Elm
1455	6"Elm
1456	12"Sycamore
1457	6"Cherry
1458	6"Elm
1459	8"Elm
1460	10"Elm
1461	20"Oak
1462	20"Oak
1463	15"Elm
1464	15"Oak
1465	10"Elm
1466	12"Oak
1467	14"Oak /TWIN
1468	12"Oak
1469	15"Oak
1470	30"Oak
1471	15"Oak
1472	6"Elm
1473	6"Elm
1474	12"Elm
1475	6"Elm
1476	15"Sycamore
1477	12"Oak
1478	6"Oak
1479	8"Oak
1480	6"Elm
1481	10"Oak
1482	28"Oak

Point Table

Point #	Description
1483	24"Oak
1484	12"Elm
1485	10"Oak
1486	12"Elm
1487	12"Elm
1488	12"Elm
1489	12"Elm
1490	12"Oak
1491	12"Oak
1492	15"Oak
1493	15"Oak
1494	10"Elm
1495	12"Oak
1496	6"Oak
1497	18"Sycamore
1498	12"Elm
1499	12"Gum
1500	6"Oak
1501	15"Oak
1502	10"Oak
1503	18"Oak
1504	18"Oak
1505	15"Oak
1506	15"Oak
1507	15"Oak
1508	8"Oak
1509	15"Oak
1510	15"Oak
1511	8"Oak
1512	6"Gum
1513	6"Oak
1514	6"Elm
1515	6"Elm
1516	6"Elm
1517	6"Oak
1518	10"Oak
1519	8"Hickory
1520	8"Oak
1521	12"Elm
1522	10"Oak
1523	15"Oak
1524	15"Oak
1525	18"Oak
1526	6"Elm
1527	10"Elm
1528	6"Oak
1529	24"Oak
1530	12"Elm
1531	8"Oak
1532	6"Dogwood
1533	6"Elm
1534	6"Elm
1535	6"Elm
1536	6"Oak
1537	8"Oak
1538	12"Gum
1539	12"Oak
1540	12"Oak
1541	10"Cherry
1542	8"Oak
1543	24"Sycamore
1544	20"Oak
1545	6"Elm
1546	8"Oak
1547	10"Oak
1548	10"Oak
1549	24"Oak
1550	15"Elm
1551	8"Oak
1552	6"Elm
1553	15"Oak
1554	12"Oak
1555	18"Oak
1556	15"Oak
1557	18"Oak /TWIN
1558	15"Oak
1559	15"Oak
1560	30"Oak

Point Table

Point #	Description
1561	6"Oak
1562	6"Oak
1563	15"Oak
1564	15"Oak
1565	15"Oak
1566	8"Elm
1567	6"Elm
1568	15"Oak
1569	8"Oak
1570	18"Oak
1571	18"Oak
1572	18"Oak
1573	6"Oak
1574	12"Oak
1575	15"Oak
1576	10"Elm
1577	8"Oak
1578	6"Oak
1579	12"Pine
1580	8"Cherry
1581	20"Pine
1582	12"Oak
1583	10"Cherry
1584	15"Oak
1585	6"Cherry
1586	6"Oak
1587	20"Oak
1588	8"Elm
1589	15"Oak
1590	12"Oak
1591	15"Pine
1592	15"Oak
1593	6"Oak
1594	6"Oak
1595	6"Elm
1596	6"Elm
1597	6"Elm
1598	6"Oak
1599	8"Elm
1600	8"Elm
1601	12"Elm
1602	24"Oak /TWIN
1603	30"Oak
1604	6"Oak
1605	10"Elm
1606	18"Pine
1607	15"Oak
1608	15"Elm
1609	CRYB10
1610	12"Oak
1611	20"Oak
1612	12"Oak
1613	18"Oak
1614	12"Oak
1615	12"Elm
1616	6"Oak
1617	20"Gum /TWIN
1618	6"Hickory
1619	15"Oak
1620	30"Oak
1621	6"Elm
1622	8"Oak
1623	24"Oak
1624	15"Oak
1625	8"Elm
1626	8"Elm
1627	20"Oak
1628	15"Oak
1629	18"Gum
1630	15"Gum
1631	8"Elm
1632	24"Gum
1633	8"Oak
1634	24"Gum
1635	12"Oak
1636	6"Elm
1637	18"Gum
1638	10"Oak

Point Table

Point #	Description
1639	6"Elm
1640	10"Oak
1641	12"Pear
1642	8"Oak
1643	12"Elm
1644	6"Sycamore
1645	6"Sycamore
1646	15"Oak
1647	15"Elm
1648	15"Oak
1649	6"Oak
1650	15"Oak
1651	30"Gum
1652	15"Oak
1653	6"Elm
1654	6"Hickory
1655	6"Elm
1656	10"Oak
1657	8"Oak
1658	10"Oak
1659	15"Gum
1660	8"Elm
1661	8"Elm
1662	15"Elm
1663	6"Elm
1664	12"Elm
1665	20"Gum
1666	15"Elm
1667	18"Gum
1668	15"Cherry
1669	10"Cherry
1670	15"Oak
1671	18"Oak
1672	18"Pine
1673	8"Pine
1674	30"Pine
1675	10"Gum
1676	10"Oak
1677	6"Elm
1678	6"Elm
1679	6"Elm
1680	12"Gum
1681	8"Oak
1682	15"Cherry
1683	8"Elm
1684	12"Oak
1685	20"Gum
1686	10"Oak
1687	12"Gum
1688	18"Sycamore /TWIN
1689	6"Oak
1690	8"Oak
1691	6"Elm
1692	15"Oak
1693	26"Oak
1694	26"Oak
1695	12"Elm
1696	6"Elm
1697	18"Oak
1698	18"Oak
1699	6"Elm
1700	6"Elm
1701	6"Elm
1702	15"Elm
1703	28"Oak
1704	26"Oak
1705	15"Oak
1706	12"Oak
1707	8"Elm
1708	12"Cherry
1709	30"Oak
1710	6"Oak
1711	8"Elm
1712	20"Oak
1713	20"Oak
1714	48"Oak
1715	36"Oak
1716	30"Oak

Point Table

Point #	Description
1717	15"Oak
1718	12"Oak
1719	20"Oak
1720	6"Elm
1721	8"Elm
1722	8"Elm
1723	6"Elm
1724	20"Oak
1725	28"Oak
1726	52"Oak
1727	8"Cherry
1728	15"Oak
1729	6"Elm
1730	15"Elm
1731	15"Oak
1732	12"Elm
1733	10"Elm
1734	10"Elm
1735	12"Elm
1736	28"Oak
1737	8"Elm
1738	6"Elm
1739	8"Elm
1740	10"Elm
1741	6"Cherry
1742	6"Elm
1743	15"Oak
1744	8"Elm
1745	15"Oak
1746	15"Oak
1747	6"Elm
1748	26"Oak
1749	6"Elm /TWIN
1750	8"Elm
1751	10"Persimmon
1752	12"Locust
1753	20"Locust
1754	20"Tree
1755	12"Pecan
1756	15"Elm
1757	15"Hackberry
1758	10"Hackberry
1759	10"Elm
1760	6"Oak
1761	8"Elm
1762	15"Elm
1763	15"Elm
1764	15"Persimmon
1765	6"Persimmon
1766	15"Elm
1767	12"Elm
1768	6"Bodock
1769	12"Bodock
1770	12"Bodock
1771	12"Tree
1772	6"Elm
1773	15"Elm
1774	6"Pecan
1775	15"Pecan
1776	15"Pecan
1777	6"Oak
1778	15"Elm
1779	6"Elm
1780	10"Elm
1781	6"Elm
1782	12"Pecan
1783	18"Cherry
1784	10"Elm
1785	12"Pecan
1786	12"Elm
1787	12"Elm
1788	12"Elm
1789	6"Hackberry
1790	/6"Tree
1791	8"Beech
1792	8"Tree
1793	6"Elm
1794	6"Tree

Point Table

Point #	Description
1795	12"Locust
1796	6"Locust
1797	12"Pecan
1798	12"Pecan
1799	12"Pecan
1800	6"Cherry
1801	15"Oak
1802	15"Oak
1803	15"Elm
1804	12"Elm
1805	18"Locust
1806	15"Locust
1807	12"Pecan
1808	15"Oak
1809	12"Elm
1810	10"Elm
1811	24"Oak
1812	18"Oak
1813	18"Oak
1814	10"Elm
1815	12"Oak
1816	8"Elm
1817	15"Oak
1818	10"Elm
1819	6"Oak
1820	15"Oak
1821	8"Elm /TWIN
1822	6"Cherry
1823	6"Elm
1824	6"Elm
1825	12"Elm
1826	15"Oak
1827	6"Elm
1828	6"Elm
1829	15"Cherry
1830	6"Elm
1831	12"Elm
1832	15"Cherry
1833	10"Elm
1834	8"Elm
1835	10"Cherry
1836	8"Elm
1837	18"Cherry
1838	12"Oak
1839	12"Oak
1840	6"Elm
1841	16"Oak
1842	26"Oak
1843	15"Cherry
1844	6"Elm
1845	8"Elm
1846	8"Oak
1847	6"Elm
1848	8"Elm
1849	8"Elm
1850	12"Elm
1851	20"Oak
1852	12"Pecan
1853	6"Oak
1854	12"Elm
1855	12"Elm
1856	12"Elm
1857	10"Tree
1858	6"Pecan
1859	6"Elm
1860	6"Pecan
1861	12"Gum
1862	15"Gum
1863	12"Hackberry
1864	10"Elm
1865	8"Elm
1866	12"Tree
1867	12"Tree
1868	6"Tree
1869	6"Tree
1870	12"Hackberry
1871	6"Elm
1872	6"Oak

Point Table

Point #	Description
1873	6"Elm
1874	12"Elm
1875	10"Elm
1876	12"Oak
1877	12"Oak
1878	20"Oak
1879	20"Oak
1880	6"Elm
1881	6"Oak
1882	6"Elm /TEIN
1883	6"Elm
1884	15"Elm
1885	6"Elm
1886	15"Oak
1887	12"Oak
1888	6"Elm
1889	12"Elm
1890	12"Elm
1891	15"Oak
1892	6"Elm
1893	12"Elm
1894	15"Elm
1895	12"Cherry
1896	36"Oak
1897	15"Elm
1898	12"Elm
1899	15"Cherry
1900	12"Oak
1901	12"Elm
1902	12"Elm
1903	12"Elm
1904	12"Elm
1905	12"Elm
1906	26"Gum
1907	12"Elm
1908	6"Elm
1909	15"Elm
1910	12"Persimmon
1911	12"Persimmon
1912	6"Persimmon
1913	6"Elm
1914	12"Oak
1915	15"Oak
1916	15"Elm
1917	6"Elm
1918	12"Elm
1919	6"Oak
1920	12"Oak
1921	12"Oak
1922	20"Oak
1923	12"Elm
1924	12"Elm
1925	10"Elm
1926	6"Persimmon
1927	8"Persimmon
1928	20"Oak
1929	18"Oak
1930	12"Elm
1931	12"Elm
1932	30"Oak
1933	20"Gum
1934	12"Gum
1935	6"Elm
1936	6"Elm
1937	20"Pine
1938	18"Oak
1939	15"Oak
1940	12"Elm
1941	12"Elm
1942	10"Cherry
1943	12"Elm
1944	15"Elm
1945	15"Elm
1946	8"Elm
1947	12"Elm
1948	18"Oak
1949	18"Oak
1950	18"Oak

Point Table

Point #	Description
1951	12"Oak
1952	8"Elm
1953	15"Oak
1954	20"Oak
1955	6"Oak
1956	24"Oak
1957	18"Oak
1958	12"Elm
1959	8"Elm
1960	18"Elm
1961	6"Elm
1962	12"Oak
1963	15"Elm
1964	24"Elm
1965	6"Gum
1966	15"Elm
1967	12"Oak
1968	12"Oak
1969	15"Oak
1970	20"Oak
1971	18"Oak
1972	15"Oak
1973	10"Oak
1974	30"Oak
1975	18"Oak
1976	12"Oak /TWIN
1977	6"Elm
1978	12"Elm
1979	12"Elm
1980	10"Elm
1981	8"Gum
1982	6"Cherry
1983	18"Pine
1984	6"Elm
1985	8"Oak
1986	30"Gum
1987	6"Oak
1988	8"Cherry
1989	8"Sycamore
1990	10"Cherry
1991	38"Oak
1992	6"Locust
1993	6"Elm
1994	6"Elm
1995	24"Elm
1996	20"Elm
1997	15"Cherry
1998	6"Elm
1999	10"Gum
2000	10"Pine
2001	6"Elm
2002	8"Oak
2003	26"Gum
2004	18"Gum /TWIN
2005	15"Cherry
2006	15"Cherry
2007	12"Oak
2008	6"Elm
2009	8"Cherry
2010	15"Elm
2011	15"Cherry
2012	24"Gum /TWIN
2013	24"Gum
2014	18"Gum
2015	15"Elm
2016	10"Oak
2017	10"Elm
2018	12"Pine
2019	10"Elm
2020	6"Oak
2021	28"Gum
2022	15"Gum
2023	15"Oak
2024	8"Elm
2025	8"Elm
2026	8"Elm
2027	8"Elm
2028	18"Gum

Point Table

Point #	Description
2029	15"Oak
2030	15"Oak
2031	15"Oak
2032	10"Gum
2033	8"Oak
2034	6"Cherry
2035	18"Pine
2036	10"Oak
2037	12"Elm
2038	15"Oak
2039	12"Elm /TWIN
2040	12"Pear
2041	6"Elm
2042	15"Pine
2043	15"Pine
2044	6"Elm
2045	15"Oak
2046	15"Elm
2047	12"Elm
2048	15"Oak
2049	18"Gum
2050	12"Gum
2051	36"Oak
2052	10"Gum
2053	12"Gum
2054	6"Elm
2055	6"Elm
2056	15"Elm
2057	15"Elm
2058	15"Elm TRIPLE
2059	18"Locust
2060	12"Elm
2061	15"Oak
2062	12"Locust /TWIN
2063	15"Elm
2064	12"Elm
2065	15"Elm
2066	15"Elm
2067	15"Elm
2068	15"Elm
2069	15"Elm
2070	12"Elm
2071	20"Bodock
2072	10"Pecan
2073	15"Bodock /TRIPLE
2074	20"Locust
2075	8"Oak
2076	15"Elm
2077	15"Oak
2078	12"Elm
2079	6"Oak
2080	6"Oak
2081	15"Elm
2082	6"Pecan
2083	20"Elm
2084	15"Elm
2085	12"Elm
2086	6"Elm
2087	20"Oak
2088	12"Elm
2089	8"Elm
2090	12"Pine
2091	6"Elm
2092	15"Elm
2093	28"Gum
2094	8"Elm
2095	15"Gum
2096	8"Gum
2097	15"Elm
2098	12"Persimmon
2099	26"Gum
2100	15"Gum
2101	15"Persimmon
2102	12"Sycamore
2103	15"Gum
2104	15"Cherry
2105	10"Elm
2106	12"Cherry

Point Table

Point #	Description
2107	26"Gum
2108	12"Oak
2109	15"Gum
2110	12"Elm /TWIN
2111	20"Cherry
2112	18"Cherry
2113	12"Oak
2114	12"Oak
2115	8"Elm
2116	6"Elm
2117	18"Gum
2118	18"Gum
2119	15"Gum
2120	18"Gum
2121	15"Gum
2122	15"Tree
2123	20"Oak
2124	30"Oak
2125	34"Oak
2126	20"Oak
2127	20"Oak
2128	8"Tree
2129	6"Tree
2130	8"Elm
2131	10"Gum
2132	15"Gum
2133	32"Oak
2134	10"Elm
2135	20"Elm
2136	20"Oak
2137	15"Oak
2138	15"Oak
2139	8"Cherry
2140	6"Elm
2141	20"Cherry
2142	15"Oak
2143	15"Cherry
2144	6"Oak
2145	6"Hackberry
2146	18"Oak
2147	18"Oak
2148	15"Oak
2149	8"Elm
2150	18"Oak
2151	12"Elm
2152	12"Elm
2153	12"Elm
2154	8"Elm
2155	8"Elm
2156	6"Elm
2157	12"Oak
2158	6"Elm
2159	12"Elm
2160	6"Elm
2161	10"Elm /TWIN
2162	10"Cherry
2163	26"Oak
2164	6"Elm
2165	15"Gum
2166	6"Elm
2167	8"Elm
2168	12"Oak
2169	10"Elm
2170	10"Elm
2171	10"Elm
2172	12"Elm
2173	6"Elm
2174	12"Gum
2175	8"Elm
2176	15"Cherry
2177	8"Persimmon
2178	10"Elm
2179	15"Elm
2180	10"Gum
2181	15"Gum
2182	15"Gum
2183	18"Cherry
2184	8"Persimmon

Point Table

Point #	Description
2185	18"Elm
2186	6"Persimmon
2187	12"Oak
2188	12"Elm
2189	10"Elm
2190	8"Elm
2191	6"Elm
2192	12"Elm
2193	15"Oak
2194	6"Elm
2195	10"Persimmon
2196	6"Persimmon
2197	6"Oak
2198	15"Oak
2199	48"Oak
2200	6"Elm
2201	30"Oak
2202	6"Elm
2203	6"Pear
2204	30"Oak
2205	6"Persimmon
2206	6"Elm
2207	6"Elm
2208	6"Persimmon
2209	6"Sycamore
2210	6"Sycamore
2211	6"Sycamore
2212	8"Birch
2213	10"Birch
2214	8"Sycamore
2215	12"Gum
2216	12"Elm
2217	8"Elm
2218	10"Elm
2219	6"Elm
2220	18"Gum
2221	8"Cherry
2222	12"Elm /TWIN
2223	6"Elm
2224	20"Gum
2225	18"Oak
2226	6"Elm
2227	15"Elm
2228	10"Elm
2229	8"Elm
2230	6"Pear
2231	15"Cherry
2232	12"Elm
2233	12"Elm
2234	12"Elm
2235	15"Elm
2236	20"Cherry
2237	12"Gum /TWIN
2238	12"Elm
2239	8"Elm
2240	6"Pear
2241	8"Sycamore
2242	6"Sycamore
2243	6"Sycamore
2244	8"Elm
2245	10"Tree /TWIN
2246	8"Tree
2247	8"Tree
2248	6"Tree
2249	6"Tree
2250	10"Tree /TRIPLE
2251	12"Tree
2252	6"Pear /TWIN
2253	6"Pear /TRIPLE
2254	10"Elm
2255	15"Hickory
2256	6"Elm
2257	12"Oak
2258	15"Oak
2259	6"Elm
2260	12"Oak
2261	6"Oak
2262	6"Oak

Point Table

Point #	Description
2263	12"Elm
2264	15"Elm
2265	12"Elm
2266	15"Elm
2267	10"Elm /TWIN
2268	36"Oak
2269	18"Elm
2270	15"Elm
2271	15"Elm
2272	12"Oak
2273	6"Elm
2274	12"Persimmon /TWIN
2275	24"Elm
2276	18"Elm
2277	15"Elm
2278	15"Elm /TWIN
2279	15"Elm
2280	15"Elm
2281	8"Elm
2282	12"Elm
2283	6"Oak
2284	18"Cherry
2285	12"Elm
2286	8"Elm
2287	6"Elm
2288	10"Gum
2289	8"Oak
2290	15"Sycamore
2291	30"Oak
2292	12"Cherry
2293	8"Elm
2294	15"Bodock
2295	6"Elm
2296	6"Elm
2297	6"Elm
2298	8"Elm
2299	8"Elm
2300	12"Sycamore
2301	6"Elm
2302	6"Elm
2303	6"Elm
2304	6"Elm
2305	6"Elm
2306	12"Pecan
2307	6"Elm
2308	6"Elm
2309	6"Elm
2310	8"Elm
2311	6"Elm
2312	6"Elm
2313	6"Sycamore
2314	6"Pear /TWIN
2315	6"Elm
2316	8"Elm
2317	6"Elm
2318	6"Elm
2319	6"Elm /TWIN
2320	12"Elm
2321	6"Oak
2322	6"Elm
2323	8"Oak
2324	8"Oak
2325	18"Oak
2326	6"Elm
2327	6"Elm
2328	6"Elm
2329	6"Pine
2330	8"Elm
2331	10"Elm
2332	6"Elm
2333	10"Tree
2334	8"Elm
2335	6"Elm
2336	8"Elm
2337	6"Elm
2338	6"Elm
2339	6"Cherry

MICHAEL PHELPS
LOT 9
MMK SUBDIVISION
PLAT BOOK 256 PAGE 20

UHS OF LAKESIDE, INC
KK 9907

EXISTING POND

827.61'
S3°25'16"W

20' REAR SETBACK

30' SEWER EASEMENT INST. # LH 9270

770.64'
S85°45'54"E

LOT 7 PARTNERS
LOT 7
MMK SUBDIVISION
PLAT BOOK 256 PAGE 20

LOT 1
731,870 SF
(16.80 AC.)

HY-VEE GROCERY STORE
F.F.E. = 380.50
GROSS BLDG. AREA = 112,655 SF

IRON PIPE

B-0.20

56.12'
S85°40'17"E

415.88'
N3°44'19"E

646.23'
S3°25'16"W

ONCE SITE CONSTRUCTION IS COMPLETE, GREENBELT TREES OUTSIDE STREAM BANKS SHALL BE CLEARED AND GREENBELT RE-VEGETATED WITH NATIVE LOW GROWTH PLANTS SUITABLE TO WET CONDITIONS

386.96'
N3°25'16"W

180' GREENBELT

LOT 3
256,001 SF
(5.88 AC.)

L=112.20
R=527.96
D=12°10'33"
C.D.=S89°12'28"W
C.L.=111.98

386.52'
N88°16'31"W

OLD BRUNSWICK ROAD

40' FRONT SETBACK

L=12.20
R=50.00
D=13°58'51"
C.D.=N63°13'32"W
C.L.=12.17

L=43.72
R=50.00
D=50°05'57"
C.D.=S84°44'04"W
C.L.=42.34

53.05'
N88°36'31"W

R40'

L=91.45
R=200.50
D=26°07'54"
C.D.=N11°20'28"W
C.L.=90.65

151.58'
S85°35'54"E

7.12'
N59°35'57"E

INGRESS/EGRESS EASEMENT DEDICATED TO PUBLIC USE (29,631 SF.)

466.64'
N1°43'28"E

PROPOSED DUMPSTER

106.89'
N28°35'57"E

QUEUE

C-STORE
W/ COFFEE SHOP
F.F.E. 387.50

DEDICATED R.O.W.
274 SF
(0.01 AC.)

231.36'
N88°16'31"W

U.S. HWY 64
(R.O.W. VARIES)

PUBLIC S.S. ESMT.

WETLAND

LOT 2
132,188 SF
(3.03 AC.)

86.17'
N35°33'33"E

±231 LF OF OLD BRUNSWICK RD. TO BE ABANDONED, SCARIFIED, AND SEEDED

223.96'
N3°22'56"E

40' FRONT SETBACK

300.00'
N4°50'20"W

L=70.31
R=2042.00
D=1°58'22"
C.D.=N3°51'09"W
C.L.=70.30

L=222.68
R=2042.00
D=6°14'54"
C.D.=N0°15'29"E
C.L.=222.57

L=280.94
R=1958.00
D=8°13'16"
C.D.=N0°43'42"W
C.L.=280.70

NEW BRUNSWIK ROAD (84' ROW)

PROP. TRAFFIC SIGNAL

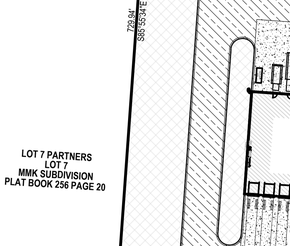
SAMS CLUB DRIVE

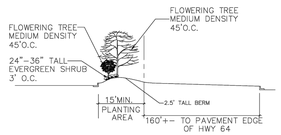
WOLF LAKE DRIVE

175' TEXAS GAS TRANSMISSION EASEMENT BOOK 2497 PAGE 338 BOOK 2497 PAGE 342 BOOK 2497 PAGE 346 INST. #07 3151

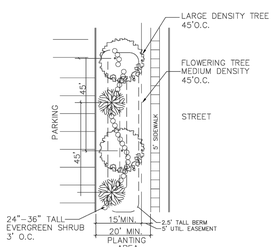
175.86'

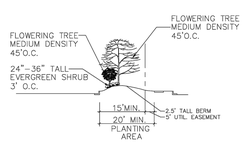
HWY 64 / TDOT R.O.W.





PLANTING SCREEN NO.23B (MODIFIED)
N.T.S.
HWY 64 AND BRUNSWICK ROAD FRONTAGES





PLANTING SCREEN NO.23B
N.T.S.
NEW BRUNSWICK ROAD

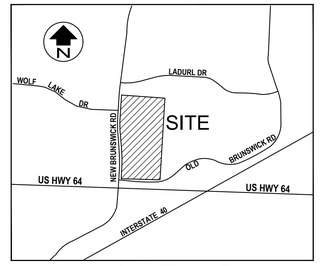
OWNER'S CERTIFICATE

WE, HY-VEE, INC., THE UNDERSIGNED OWNER OF THE PROPERTY SHOWN HEREON, HEREBY ADOPT THIS AS OUR PLAN OF SUBDIVISION AND WILL DEDICATE THE EASEMENTS AS SHOWN TO THE PUBLIC USE FOREVER, AND HEREBY CERTIFY THAT WE ARE THE OWNER IN FEE SIMPLE, DULY AUTHORIZED SO TO ACT, AND THAT SAID PROPERTY IS UNENCUMBERED BY ANY TAXES THAT HAVE BECOME DUE AND PAYABLE.

HY-VEE, INC.

PRINTED NAME _____ TITLE _____

SIGNATURE _____ DATE _____



VICINITY MAP
N.T.S.

LEGEND

- PROPOSED BUILDING
- GREEN SPACE
- CONCRETE WALKWAY
- PROP. CONCRETE PAVEMENT
- PROP. REG. DUTY ASPHALT PAVEMENT
- PROP. HEAVY DUTY ASPHALT PAVEMENT
- INGRESS/EGRESS EASEMENT
- 6-18 CURB & GUTTER
- ABANDONED EX. ASPHALT PAVEMENT TO BE SCARIFIED & REMOVED

GROCERY STORE PARKING DATA :

TOTAL	714
STD. SPACES	696
ADA SPACES	18*

*ALL ADA SPACES VAN ACCESSIBLE

C-STORE PARKING DATA :

TOTAL	42
STD. SPACES	40
ADA SPACES	2*

*ALL ADA SPACES VAN ACCESSIBLE

SITE DATA :

ZONING: C-H (HIGHWAY BUSINESS DISTRICT)

TOTAL AREA	25.72 AC.
LOT 1	16.80 AC.
LOT 2	3.03 AC.
LOT 3	5.88 AC.
R.O.W. DEDICATION	0.01 AC.



GRAPHIC SCALE
(IN FEET)

60 0 30 60 120 240

1 inch = 60 ft.

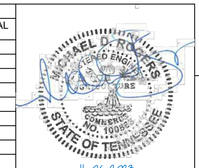
SITE BENCHMARK

FOUND MONUMENT LOCATED AT NORTHEAST CORNER OF INTERSECTION OF NEW BRUNSWICK ROAD & OLD BRUNSWICK ROAD
ELEVATION 364.13 (NGVD 88)

THIS PROPERTY IS NOT LOCATED IN A 100 YEAR FLOOD HAZARD AREA. F.E.M.A. PANEL 47157C 0310G, DATED FEBRUARY 6, 2013.

SHEET 1 OF 1

REVISION		
ITEM NO.	DESCRIPTION OF CHANGE	APPROVAL DATE



HY-VEE SUBDIVISION
DEVELOPER: HY-VEE, L.L.C.
ENGINEER: FISHER ARNOLD

DIVISION OF ENGINEERING

MASTER PLAN

BARTLETT, TENNESSEE

SURVEY: FA	DATE: 03/22	PROJECT NO: HYVEEINC.0004LD
DESIGNED BY: FA	DATE: 12/22	BOOK:
DRAWN BY: FA	DATE: 11/23	SCALE: 1" = 60'

REVIEWED

CITY ENGINEER _____ DATE _____

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Reference: 2 HYVEEINC.0004LD BARTLETT DEV(CAD)\PLANS\HYVEEINC SP01.dwg
Layout Name: 03 MASTER PLAN
Plotted: Monday, November 06, 2023 - 12:45 pm
By: thughes

PEAK FLOW EXITING VIA LAKE OUTLET
D.A.= 33.00 AC.
Q2= 43.2 CFS
Q5= 57.0 CFS
Q10= 70.0 CFS
Q25= 87.0 CFS
Q50= 100.4 CFS
Q100= 114.6 CFS

EXISTING POND

PEAK FLOW NORTH OFF-SITE
D.A.= 14.62 AC.
Q2= 27.0 CFS
Q5= 37.1 CFS
Q10= 45.2 CFS
Q25= 56.4 CFS
Q50= 65.5 CFS
Q100= 74.5 CFS

HY-VEE GROCERY STORE
F.F.E. = 380.50
GROSS BLDG. AREA = 112,655 SF

180' GREENBELT

GREENBELT EAST PEAK STAGE
2 YR= 356.32
5 YR= 357.41
10 YR=358.32
25 YR= 359.50
50 YR= 360.35
100 YR= 361.00

TWIN 54" TYPE D HDWL
FL= 351.00

90 LF TWIN 54" RCP @ 0.33%

TWIN 54" TYPE D HDWL
FL= 350.70

GREENBELT WEST PEAK STAGE
2 YR= 356.11
5 YR= 357.16
10 YR=358.01
25 YR= 359.12
50 YR= 3659.90
100 YR= 360.54

PROP. RESTRICTOR PLATE TO BE INSTALLED OVER 60" OPENING ON EX. HDWL W/ 1-6" DIA. OPENING @ 350.42 & 1-44" DIA. OPENING @ 351.60

C-STORE
W/ COFFEE SHOP
F.F.E. 367.50

OLD BRUNSWICK ROAD

NEW BRUNSWIK ROAD (84' ROW)

SAMS CLUB DRIVE

KE DRIVE

PEAK FLOW TO EX. 60" RCP

PRE-DEVELOPMENT
D.A.= 69.32 AC.
Q2= 74.2 CFS
Q5= 104.1 CFS
Q10= 130.0 CFS
Q25= 167.4 CFS
Q50= 198.0 CFS
Q100= 229.6 CFS

POST-DEVELOPMENT
D.A.= 75.08 AC.
Q2= 118.1 CFS
Q5= 152.1 CFS
Q10= 171.7 CFS
Q25= 205.2 CFS
Q50= 221.7 CFS
Q100= 241.1 CFS

PEAK FLOW EXITING VIA. 60" RCP

PRE-DEVELOPMENT
Q2= 68.5 CFS
Q5= 93.5 CFS
Q10= 113.8 CFS
Q25= 139.4 CFS
Q50= 157.7 CFS
Q100= 175.6 CFS

POST-DEVELOPMENT
Q2= 85.3 CFS
Q5= 100.5 CFS
Q10= 111.3 CFS
Q25= 123.9 CFS
Q50= 132.1 CFS
Q100= 138.5 CFS

GRAPHIC SCALE
(IN FEET)
60 0 30 60 120 240
1 inch = 60ft.

SITE BENCHMARK

FOUND MONUMENT LOCATED AT NORTHEAST CORNER OF INTERSECTION OF NEW BRUNSWICK ROAD & OLD BRUNSWICK ROAD
ELEVATION 364.13 (NGVD 88)

THIS PROPERTY IS NOT LOCATED IN A 100 YEAR FLOOD HAZARD AREA. F.E.M.A. PANEL 47157C 0310G, DATED FEBRUARY 6, 2013.

SHEET 1 OF 1

REVISION		
ITEM NO.	DESCRIPTION OF CHANGE	APPROVAL DATE

MICHAEL D. ROGERS
REGISTERED ENGINEER
No. 109205
STATE OF TENNESSEE
11-01-2023

HY-VEE SUBDIVISION
DEVELOPER: HY-VEE, L.L.C.
ENGINEER: FISHER ARNOLD

DIVISION OF ENGINEERING

OVERALL MASTER GRADING & DRAINAGE PLAN
BARTLETT, TENNESSEE

SURVEY: FA
DESIGNED BY: FA
DRAWN BY: FA

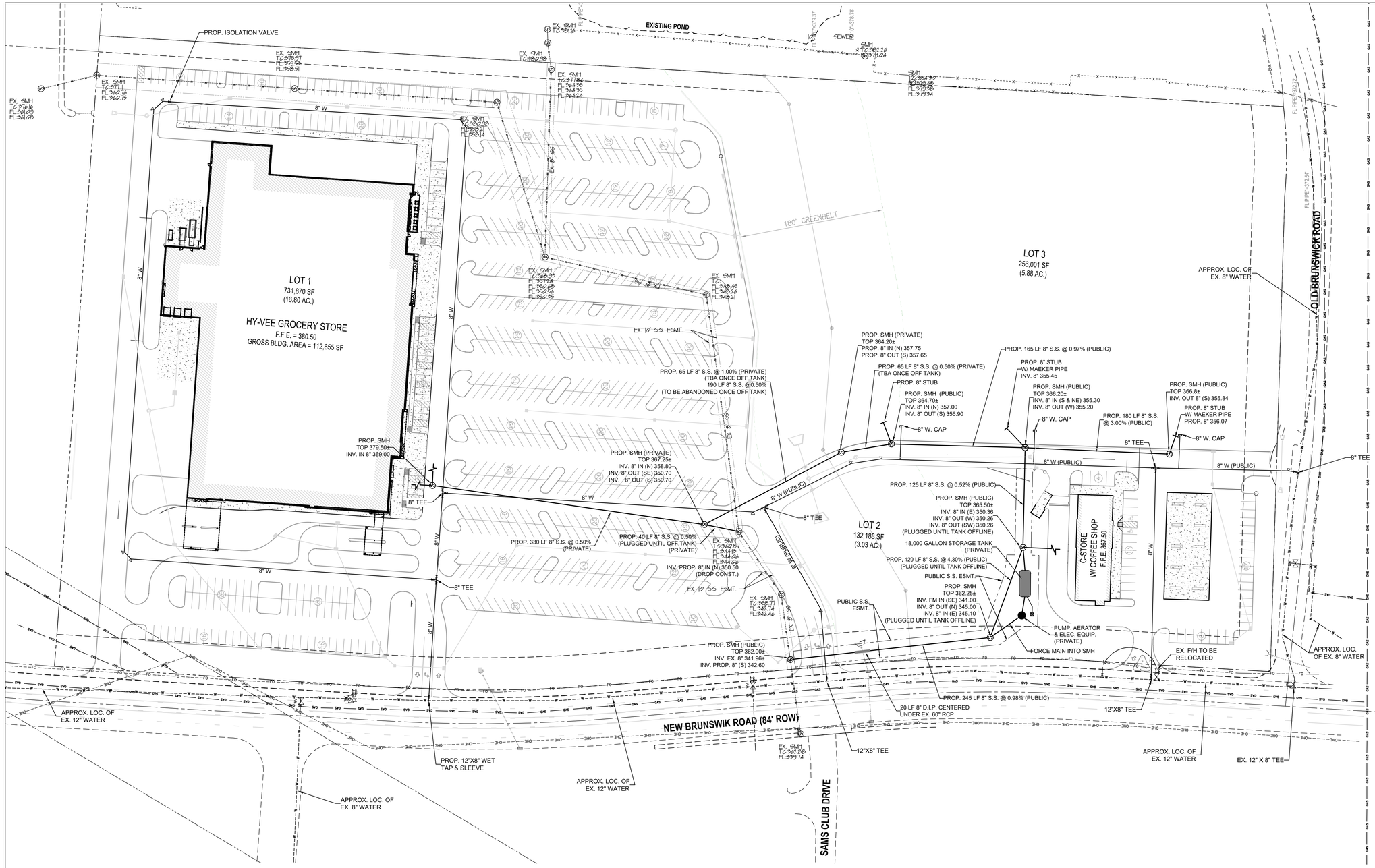
DATE: 03/22
DATE: 12/22
DATE: 11/23

PROJECT NO: HYVEEINC.0004LD
BOOK:
SCALE: 1" = 60'

REVIEWED

CITY ENGINEER _____ DATE _____

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Filename: Z:\HYVEEINC\0004LD\LAND DEV\CAD\PLANS\HYVEEINC GD01.dwg
Layout Name: 06 OVERALL GRADING & DRAINAGE PLAN
Plotted: Monday, November 06, 2023 - 12:47 pm
By: tinghes



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Filename: Z:\HYVEEINC\0004LD\LAND DEV\CAD\PLANS\HYVEEINC UT01.dwg
Layout Name: UTILITY PLAN
Plotted: Monday, November 06, 2023 - 9:19 am
By: fang

REVISION		
ITEM NO.	DESCRIPTION OF CHANGE	APPROVAL DATE

MICHAEL D. ROGERS
REGISTERED ENGINEER
TENNESSEE
No. 100981
STATE OF TENNESSEE
11-01-2023

HY-VEE SUBDIVISION
DEVELOPER: HY-VEE, L.L.C.
ENGINEER: FISHER ARNOLD

SITE BENCHMARK

FOUND MONUMENT LOCATED AT NORTHEAST CORNER OF INTERSECTION OF NEW BRUNSWICK ROAD & OLD BRUNSWICK ROAD
ELEVATION 364.13 (NGVD 88)

THIS PROPERTY IS NOT LOCATED IN A 100 YEAR FLOOD HAZARD AREA. F.E.M.A. PANEL 47157C 0310G, DATED FEBRUARY 6, 2013.

SHEET 1 OF 1

DIVISION OF ENGINEERING

UTILITY PLAN

BARTLETT, TENNESSEE

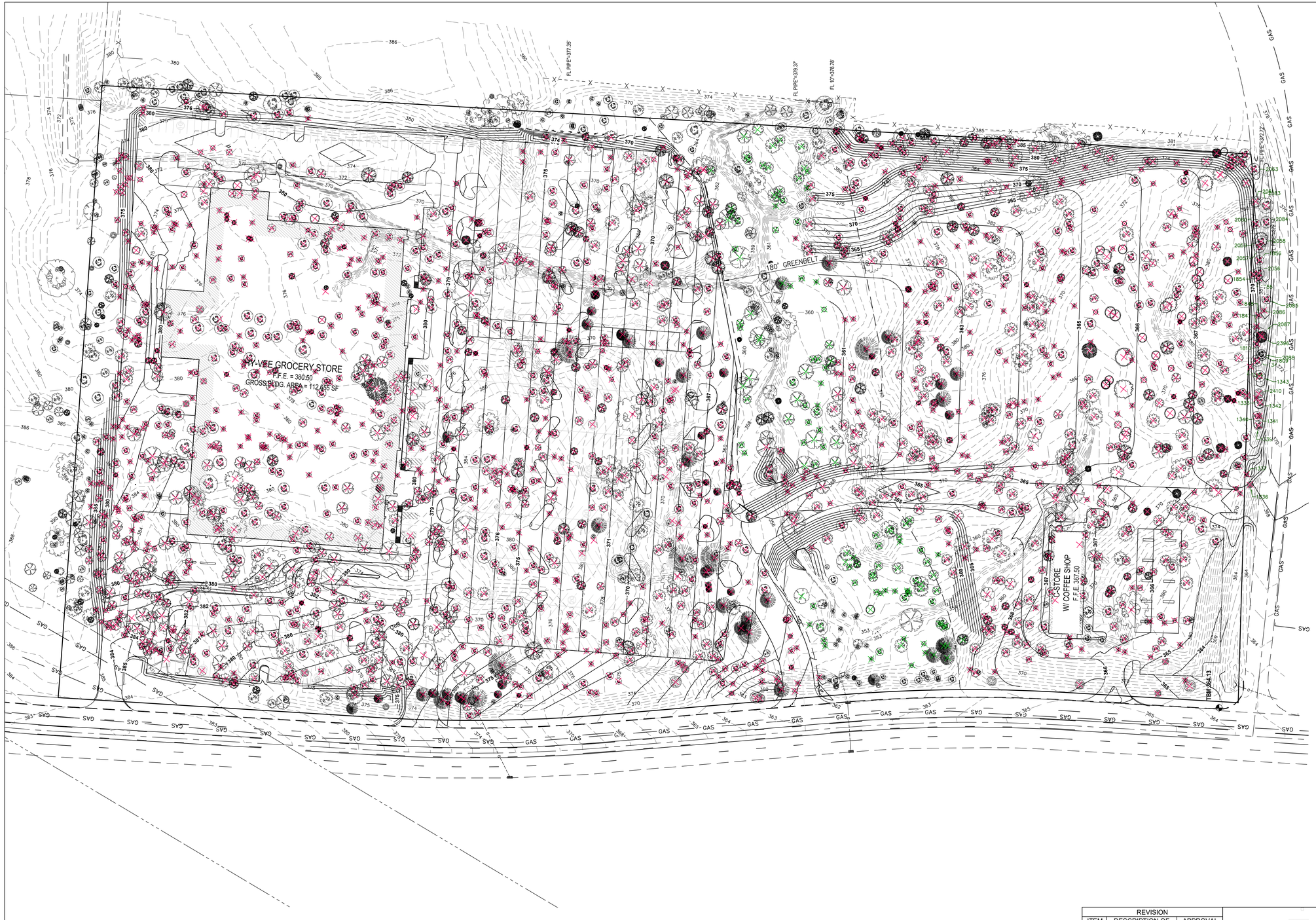
SURVEY: FA
DESIGNED BY: FA
DRAWN BY: FA

DATE: 03/22
DATE: 12/22
DATE: 11/23

PROJECT NO: HYVEEINC.0004LD
BOOK:
SCALE: 1" = 60'

REVIEWED

CITY ENGINEER _____ DATE



N E S W

GRAPHIC SCALE
(IN FEET)

60 0 30 60 120 240

1 inch = 60 ft.

TREE TO BE REMOVED DURING SITE CONSTRUCTION PHASE

TREE TO BE REMOVED DURING GREENBELT RE-VEGETATION PHASE

SITE BENCHMARK

FOUND MONUMENT LOCATED AT NORTHEAST CORNER OF INTERSECTION OF NEW BRUNSWICK ROAD & OLD BRUNSWICK ROAD
ELEVATION 364.13 (NGVD 88)

THIS PROPERTY IS NOT LOCATED IN A 100 YEAR FLOOD HAZARD AREA. F.E.M.A. PANEL 47157C 0310G, DATED FEBRUARY 6, 2013.

SHEET 1 OF 1

REVISION		
ITEM NO.	DESCRIPTION OF CHANGE	APPROVAL DATE

MICHAEL D. ROGERS
REGISTERED ENGINEER
NO. 100891
STATE OF TENNESSEE
11-06-2023

HY-VEE SUBDIVISION
DEVELOPER: HY-VEE, L.L.C.
ENGINEER: FISHER ARNOLD

DIVISION OF ENGINEERING

TREE REMOVAL PLAN

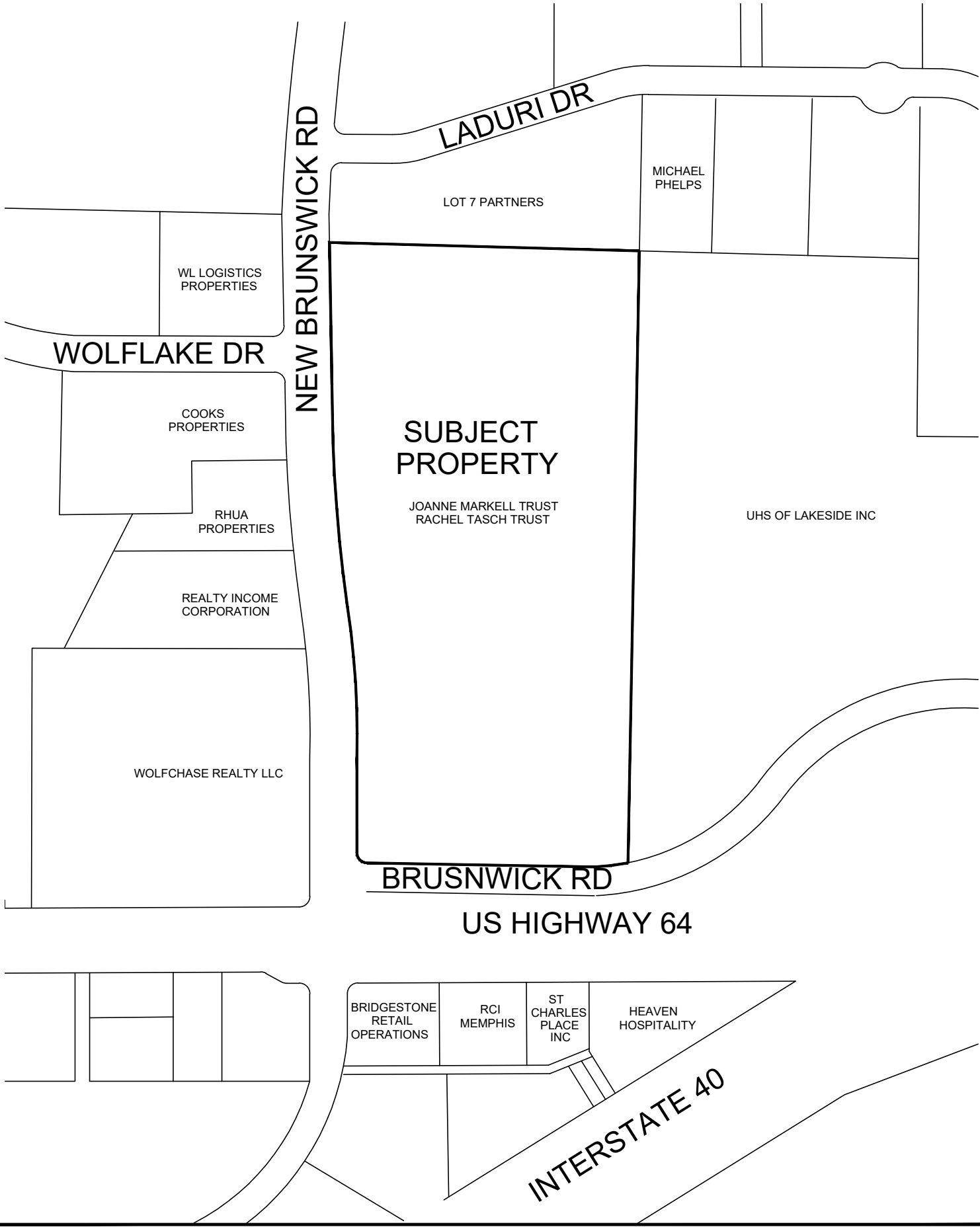
BARTLETT, TENNESSEE

SURVEY: FA DATE: 03/22 PROJECT NO: HYVEEINC.0004LD
DESIGNED BY: FA DATE: 12/22 BOOK:
DRAWN BY: FA DATE: 11/23 SCALE: 1" = 60'

REVIEWED

CITY ENGINEER DATE

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File name: J:\HYVEEINC.0004LD\CAD\PLANS\HYVEEINC TR01.dwg
Layout Name: 9.0 TREE REMOVAL PLAN
Plotted: Monday, November 06, 2023 - 1:02 pm
By: smg



VICINITY MAP

N

SCALE:
1" = ±300'

FISHER ARNOLD
ENGINEERS | ARCHITECTS | PLANNERS | CONSULTANTS
9180 Crestwyn Hills Drive | Memphis, Tennessee 38125-8538
901.748.1871 | Fax 901.748.1815 | www.fisherarnold.com

WOLFCHASE REALTY LLC
4605 S HOUSTON LEVEE RD
COLLIERVILLE, TN 38107

OCCUPANT
8500 HIGHWAY 64
BARTLETT, TN

REALTY INCOME CORPORATION
11995 ELCAMINO REAL
SAN DIEGO, CA 92130W

RHUA PROPERTIES
10649 BROADLAND PASS
THONOTOSASSA, FL 33592

OCCUPANT
2965 NEW BRUNSWICK RD
BARTLETT, TN

COOKS PROPERTIES LLC
8527 WOLF LAKE DR
BARTLETT, TN

COOKS PROPERTIES LLC
P.O. BOX 669
DECATUR, AL 35602

WL LOGISTICS PROPERTIES
4728 SPOTSWOOD AVE, STE 207
MEMPHIS, TN 38117

LOT 7 PARTNERS
7700 WOLF RIVER BLVD
GERMANTOWN, TN 38138

JOANNE MARKELL TRUST
RACHEL TASCH TRUST
6580 QUAIL POINTE CIR N
MEMPHIS, TN 38120

UHS OF LAKESIDE INC
6200 UTSA BLVD, BLDG 2
SAN ANTONIO, TX 78249

UHS OF LAKESIDE INC
2911 BRUNSWICK RD
BARTLETT, TN 38133

BRIDGESTONE RETAIL OPERATIONS
2870 NEW BRUNSWICK RD
MEMPHIS, TN 38133

BRIDGESTONE RETAIL OPERATIONS
200 4TH AVE S, SUITE 100
NASHVILLE, TN 37201

RCI MEMPHIS LLC
8592 RICKY BELL CV
MEMPHIS, TN 38133

RCI MEMPHIS LLC
16300 S MIDNIGHT RD
COEURD ALERIE, ID 83814

OCCUPANT
8610 RICKY BELL CV
MEMPHIS, 38133

ST CHARLES PLACE INC
5390 ESTATE OFFICE DR STE 2
MEMPHIS, TN 38119

HEAVEN HOSPITALITY LLC
8635 US HIGHWAY 64
MEMPHIS, TN 38133

MICHAEL PHELPS
3982 POINTE DR
ARLINGTON, TN 38002

TENNESSEE DEPARTMENT OF
TRANSPORTATION REGION 4
ATTEN: GARY SCRUGGS, P.E.
300 BENCHMARK PLACE
JACKSON, TN 38301

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
REGION 4 PRECONSTRUCTION
300 BENCHMARK PLACE
JACKSON, TENNESSEE 38301
(731) 935-0149

BUTCH ELEY
DEPUTY GOVERNOR &
COMMISSIONER OF TRANSPORTATION

BILL LEE
GOVERNOR

DATE: November 1, 2023

TO: John T. Horne, P.E., City Engineer, City of Bartlett

FROM: Gary Scruggs, P.E., TDOT Region 4 Director of Preconstruction

RE: Proposed New Brunswick Rd. Intersection closure at (Old) Brunswick Rd. Bartlett,TN

Mr. Horne:

TDOT Region 4 (the "Department") received a request for comments via e-mail on August 16, 2023 concerning the intersection of New Brunswick Rd. with Old Brunswick Rd. in Bartlett, TN. The city of Bartlett is proposing to terminate (Old) Brunswick Rd. in a cul-de-sac east of the existing intersection, abandon and scarify the remaining 230 feet of roadway on (Old) Brunswick Rd., and provide a right-in/right-out driveway to a private development just to the north of the existing intersection. The purpose of this termination is to serve a proposed private development.

As you may be aware, the Department is in the process of developing plans for an I-40 widening and interchange reconstruction project (PIN 107532.00) which will include significant alterations to the flow of traffic along Stage Rd (S.R. 15/US 64) in this vicinity. After review, the Department does not believe that the City of Bartlett's proposed closure will have any adverse impacts to the proposed widening project at this time. The proposed improvements along Stage Rd (S.R. 15/US 64) end at the New Brunswick Rd. intersection; therefore no improvements are currently planned along New Brunswick Rd., but that is subject to change as the design develops.

After some research, the Department has determined that Old Brunswick Rd. was originally constructed as a frontage road to the I-40 interchange at Stage Rd (SR 15/US 64), and is therefore entirely inside TDOT Right-of-Way (ROW). This being the case, the site developer will need to execute a ROW Entry Permit (attached) prior to any work commencing inside TDOT ROW. These permits are normally executed with District 49 Maintenance (Arlington Office, supervisor Marcus Powell).

Also, in discussion with our regional Legal Counsel we think it would be appropriate to solicit public comment on the proposed plan prior to work commencing. There have been prior instances of local municipalities closing access to or near State Routes that have not been well

received by residents, and we would like to avoid this situation if at all possible. The Department reserves the right to withhold approval of the ROE Permit contingent upon this public outreach effort. We also understand that such a public outreach effort may already be a part of your private development process.

If significant changes are made to this proposal please do not hesitate to reach out to the Department for further coordination. Furthermore as our I-40 widening and interchange reconstruction develops we will coordinate with the city of Bartlett as appropriate.

Sincerely,

Gary A. Scruggs, P.E.
TDOT Region 4 Director of Preconstruction

Cc: Jason Baker, TDOT Region 4 Director
Jennifer Ivy
Jason Moody
GSP
file

TRAFFIC IMPACT STUDY

FOR

HYVEE

OFF NEW BRUNSWICK ROAD

IN

BARTLETT, TN

Prepared For:

Hy-Vee, Inc.
5820 Westown Parkway
West Des Moines, Iowa 50266



Prepared By:

Matthew Kennedy, PE, PTOE
Fisher & Arnold, Inc.
9180 Crestwyn Hills Dr
Memphis, TN 38125

July 2023

CONTENTS

EXECUTIVE SUMMARY 5
INTRODUCTION 8
Purpose 8
Tools used for Analysis 8
EXISTING CONDITIONS 9
Site Location 9
Existing Roadway & Land Uses 9
Existing Traffic Volumes 16
PROPOSED CONDITIONS 24
Site Layout & Description 24
Background Growth and Horizon Year 29
Trip Generation 30
Trip Distribution & Assignment 31
Proposed Traffic Volumes 36
CAPACITY ANALYSIS 52
Intersection of New Brunswick Rd and Hwy 64 54
Intersection of New Brunswick Rd and Old Brunswick Rd 55
Intersection of New Brunswick Rd and Sam's Club / Primary Access Drive 56
Intersection of New Brunswick Rd and Secondary Access Drive 58
Intersection of New Brunswick Rd and Wolf Lake Dr 59
Intersection of New Brunswick Rd and Ladurl Dr 60
TRAFFIC SIGNAL WARRANT ANALYSIS 61
Warrant 1: Eight-Hour Vehicular Volume 61
CRASH HISTORY 64
RECOMMENDATIONS 65
APPENDIX 66
Appendix A – Traffic Counts 67
Appendix B – Background Growth Rate Calculations 75
Appendix C – Trip Generation Calculations 78
Appendix D – Traffic Volume Development Sheets 81
Appendix E – Crash Data 88
Appendix F – Capacity Analysis Reports 94

List of Figures

Figure 1. Vicinity Map 11
Figure 2. Existing Intersection Configuration at New Brunswick and Hwy 64 12
Figure 3. Existing Intersection Configuration at New Brunswick Rd and Sam's Club Private Drive 13
Figure 4. Existing Intersection Configuration at New Brunswick Rd and Wolf Lake Dr 14
Figure 5. Existing Intersection Configuration at New Brunswick Rd and Ladurl Dr 15
Figure 6. Existing 2022 Peak Hour Traffic Volumes (New Brunswick Rd at Hwy 64) 17
Figure 7. Existing 2022 Peak Hour Traffic Volumes (New Brunswick Rd at Old Brunswick Rd) 18
Figure 8. Existing 2022 Peak Hour Traffic Volumes (New Brunswick Rd at Sam's Club) 19
Figure 9. Existing 2022 Peak Hour Traffic Volumes (New Brunswick Rd at Sam's Club) - SATURDAY 20
Figure 10. Existing 2022 Peak Hour Traffic Volumes (New Brunswick Rd at Wolf Lake Dr) 21
Figure 11. Existing 2022 Peak Hour Traffic Volumes (New Brunswick Rd at Wolf Lake Dr) - SATURDAY 22
Figure 12. Existing 2022 Peak Hour Traffic Volumes (New Brunswick Rd at Ladurl Dr) 23
Figure 13. Proposed Development Site Layout 26
Figure 14. Proposed Intersection Layout (New Brunswick Rd at Sam's Club / Primary Access Drive) 27
Figure 15. Proposed Intersection Layout (New Brunswick Rd at Secondary Access Drive) 28
Figure 16. Distribution of Build 2025 Peak Hour Traffic Volumes Generated by the Site (Entering) 32
Figure 17. Distribution of Build 2025 Peak Hour Traffic Volumes Generated by the Site (Exiting) 33
Figure 18. Assignment of Build 2025 Peak Hour Traffic Volumes Generated by the Site (Entering) 34
Figure 19. Assignment of Build 2025 Peak Hour Traffic Volumes Generated by the Site (Exiting) 35
Figure 20. Future Peak Hour Traffic Volumes for No-Build 2025 (New Brunswick at Hwy 64)) 37
Figure 21. Future Peak Hour Traffic Volumes for No-Build 2025 (New Brunswick Rd at Old Brunswick Rd) 38
Figure 22. Future Peak Hour Traffic Volumes for No-Build 2025 (New Brunswick Rd at Sam's Club Access Drive) 39
Figure 23. Future Peak Hour Traffic Volumes for No-Build 2025 (New Brunswick Rd at Wolf Lake Dr) 40
Figure 24. Future Peak Hour Traffic Volumes for No-Build 2025 (New Brunswick Rd at Ladurl Dr) 41
Figure 25. Future Peak Hour Traffic Volumes for Build 2025 (New Brunswick Dr at Hwy 64) 42
Figure 26. Future Peak Hour Traffic Volumes for Build 2025 (New Brunswick at Sam's Club / Primary Access Drive) 43
Figure 27. Future Peak Hour Traffic Volumes for Build 2025 (New Brunswick Rd at Secondary Access Drive) 44
Figure 28. Future Peak Hour Traffic Volumes for Build 2025 (New Brunswick Rd at Wolf Lake Dr) 45
Figure 29. Future Peak Hour Traffic Volumes for Build 2025 (New Brunswick Rd at Ladurl Dr) 46
Figure 30. Future Peak Hour Traffic Volumes for Build 2028 (New Brunswick Rd at Hwy 64) 47
Figure 31. Future Peak Hour Traffic Volumes for Build 2028 (New Brunswick Rd at Sam's Club / Primary Access Drive) 48
Figure 32. Future Peak Hour Traffic Volumes for Build 2028 (New Brunswick Rd at Secondary Access Drive) 49
Figure 33. Future Peak Hour Traffic Volumes for Build 2028 (New Brunswick Rd at Wolf Lake Dr) 50
Figure 34. Future Peak Hour Traffic Volumes for Build 2028 (New Brunswick Rd at Ladurl Dr) 51

List of Tables

Table 1. Analysis of Existing Traffic Volumes 16
Table 2. Proposed Land Use 24
Table 3. Background Growth Rate 29
Table 4. Trips Generated by Site 30
Table 5. Trips Reductions 31
Table 6. Level-of-Service 52
Table 7. Results of Capacity Analysis (New Brunswick and Hwy 64) 54
Table 8. Results of Capacity Analysis (New Brunswick Rd and Old Brunswick Rd) 55
Table 9. Results of Capacity Analysis (New Brunswick Rd at Sam's Club / Primary Access Drive) 57
Table 10. Results of Capacity Analysis (New Brunswick Rd and Secondary Access Drive) 58
Table 11. Results of Capacity Analysis (New Brunswick Rd and Wolf Lake Dr) 59
Table 12. Results of Capacity Analysis (New Brunswick Rd and Wolf Lake Dr) 60
Table 13. Results of Warrant 1 Condition A 63
Table 14. Summary of Crash History 64

EXECUTIVE SUMMARY

The City of Bartlett requested a traffic study to determine impacts directly related to the proposed development on the adjacent road network. The proposed development includes a 115,000 SF HyVee supermarket store, a 4,500 SF Gas Station with Convenience Store, and a 1,500 SF dine-in Coffee Shop with a drive-through. The following intersections were analyzed:

1. New Brunswick Rd at Hwy 64
2. New Brunswick Rd at Old Brunswick Rd
3. New Brunswick Rd at Sam's Club / Primary Access Drive
4. New Brunswick Rd at Secondary Access Drive
5. New Brunswick Rd at Wolf Lake Dr
6. New Brunswick Rd at Ladurl Dr

For purposes of this report, traffic impacts are based on a Level-of-Service (LOS) capacity analysis, measured in average delay per vehicle. The LOS analysis was performed for 2023 Existing, 2025 No-Build, 2025 Build, and 2025 Build conditions for the above listed intersections. In addition, a traffic signal warrant analysis was performed for the intersection of New Brunswick Rd and Sam's Club / Primary Access Drive to see if a new traffic signal is justified. Also, a Crash History was put together to show crashes from 2020 to present at the intersections of New Brunswick Rd and Hwy 64, as well as at Old Brunswick Rd.

Existing 2023 traffic counts were taken at all five (5) existing studied intersections. The AM and PM peak hours were determined, and volumes were adjusted to both 2025 (full buildout) and 2028 (three years past buildout) horizon years using a 1.7% growth rate for New Brunswick Rd. Trips generated by the site were added to each horizon year. Trips associated with the closure of Old Brunswick Rd were added to each horizon year as well. These combined volumes are the future peak hour traffic volumes used in the Build 2025 and Build 2028 analysis.

Summary of Results and Recommendations:

Based on the data collected for this report, the following results were determined from the proposed development.

1. The Eight Hour Vehicular Volume signal warrant is satisfied at the intersection of New Brunswick Rd and Sam's Club / Primary Access Drive.
2. The results of the capacity analysis displayed in Tables 7-12 show the proposed development will have minor impacts to the surrounding roadway network, with the exception of New Brunswick Rd and Hwy 64. While this intersection already performs adequately at best, the proposed development adds enough trips to

increase EBL delay by 20.0 and 23.7 seconds per vehicle for the AM and PM peak hours, respectively. The EBL turn queue length for the 2025 conditions increases from 127' (No-Build) to 361' (Build). Similarly, the EBL LOS slips from a "C" to "D" and "D" to "E" between the 2025 No-Build to 2025 Build conditions in the AM and PM peak hours, respectively. All other intersections and performed at a LOS "C" or better for the 2025 build condition. In addition, the Primary and Secondary Access Drives to the proposed development operate at a favorable LOS "C" or better for the overall intersection.

3. The results of the Crash History show a significant number of angular crashes at the intersections of New Brunswick Rd and Hwy 64, as well as at Old Brunswick Rd.

Based on the results of the Capacity Analysis, Warrant Analysis, and Crash History, the following recommendations are made due to impacts from the proposed development.

1. **New Brunswick Rd at Hwy 64**
    a. Adjust signal timings to better serve future volumes.
    b. Increase EBL storage length from 200' to 365' plus 180' upstream taper.
2. **New Brunswick Rd at Old Brunswick Rd**
    a. The closure of Old Brunswick Rd may improve intersection safety.
3. **New Brunswick Rd at Sam's Club / Primary Access Drive**
    a. Signal control for the intersection is recommended as a traffic signal is warranted and a high number of peak hour left turns are expected into the site. Signal timing coordination with the intersection of Hwy 64 is recommended.
    b. Lane Configuration and Signal Phasing:
        i. Option A (single WBL): Provide one (1) lane entering and two (2) lanes exiting the site. The two (2) exiting lanes should be configured as one (1) Westbound Left-turn lane (245' storage) and one (1) shared Westbound Thru/Right lane. Left turn phasing can be protected-permissive for all approaches.
        ii. Option B (double WBL): Provide one (1) lane entering and three (3) lanes exiting the site. The three (3) lanes exiting should be configurated as two (2) Westbound left-turn lanes (protected phasing) (140' storage) and one (1) shared Westbound Thru/Right lane. All left turn phasing, other than WBL, can be protected-permissive.
    c. Restripe the New Brunswick Rd to include Stop Lines, NBL turn striping, and SBL turn striping.
4. **New Brunswick Rd at Secondary Access Drive**
    a. Stop control for the intersection is recommended.

b. Provide one (1) lane entering and two (2) lanes exiting the site. The two (2) exiting lanes should be configured as one (1) Westbound Left-turn lane (50’ storage) and one (1) exclusive Westbound Right-turn lane.

5. **New Brunswick Rd at Wolf Lake Dr**
    a. No changes recommended due to acceptable LOS results.
6. **New Brunswick Rd at Ladurl Dr**
    a. No changes recommended due to acceptable LOS results.

INTRODUCTION

The City of Bartlett requested a traffic study for the HyVee Proposed Development in Bartlett, TN. Included in this study are Level-of-Service (LOS) Capacity analysis for five (5) intersections, a traffic signal Warrant analysis for one (1) intersection, and a Crash analysis of one (1) intersection.

Purpose

The purpose of this study is to provide recommendations from a Level-of-Service (LOS) Capacity analysis, traffic signal Warrant analysis, and Crash analysis. The following intersections were analyzed:

- New Brunswick Rd at Hwy 64 (Capacity Analysis & Crash Analysis)
- New Brunswick Rd at Old Brunswick Rd (Capacity Analysis & Crash Analysis)
- New Brunswick Rd at Sam's Club (Capacity Analysis & Warrant Analysis)
- New Brunswick Rd at Wolf Lake Dr (Capacity Analysis)
- New Brunswick Rd at Ladurl Dr (Capacity Analysis)

Tools used for Analysis

Various resources were used in this traffic study. Calculations for the capacity analysis are based on ***Synchro 11*** software by CUBIC. Trip Generations for the proposed development utilized the **ITE Trip Generation Manual (11th Edition)**. Determination of traffic signal warrants are based on the current edition of **The Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD)**. Data for the Crash History utilized the **Enhanced Tennessee Roadway Information Management System (E-Trims).**

EXISTING CONDITIONS

Site Location

The existing intersections studied in this report are New Brunswick Rd at the intersections of Hwy 64, Old Brunswick Rd, Sam's Club, Wolf Lake Dr, and Ladurl Dr. The proposed development is located on the east side of New Brunswick between Old Brunswick and just south of Ladurl Dr in Bartlett, TN. Figure 1 shows the location of the studied intersections and proposed development.

Existing Roadway & Land Uses

New Brunswick Rd is a local road and not classified by the Tennessee Department of Transportation (TDOT) or Memphis Planning Organization (MPO). It begins in the south at Hwy 64 with a five (5) lane section and extends north approximately 1.5 miles, where the road ties into Brunswick Rd. The posted speed limit is 40 mph.

U.S. Highway 64 is classified as a Principal Arterial by TDOT and part of the National Highway System. The studied section of Hwy 64 runs East/West, has a six (6) lane with divided median typical section, and has a posted speed limit of 45 mph. This section of Hwy 64 is also known as State Route 15.

Old Brunswick Rd is classified as a Major Collector by TDOT and mostly runs North/South. It begins at New Brunswick Rd and terminates back into New Brunswick Rd after 2 miles. The studied section of Old Brunswick Rd runs East/West, has a two (2) lane section, and has a posted Speed Limit of 35mph.

Sam's Club access drive is a private drive not classified by TDOT or the MPO. It begins in the east at New Brunswick Rd and terminates into a Sam's Club development. This drive does not have a posted speed limit.

Wolf Lake Dr is a local road and not classified by TDOT or the MPO. It begins in the east at New Brunswick Rd with a three (3) lane section and terminates in the west at a dead end. Future plans may connect the dead end further west to Germantown Pkwy/State Route 177. There is no posted speed limit on this street.

Ladurl Dr is a local road and not classified by TDOT or the MPO. It begins in the west at New Brunswick Rd with a two (2) lane section and terminates in the east at Brunswick Rd after approximately 0.5 miles. The posted speed limit is 35 mph.

The existing intersection configurations for the five (5) existing intersections are shown in Figures 2-5.

The proposed development is currently zoned C-H (Highway Business District). Land uses adjacent to the studied are also zoned C-H, per the City of Bartlett Zoning Map.

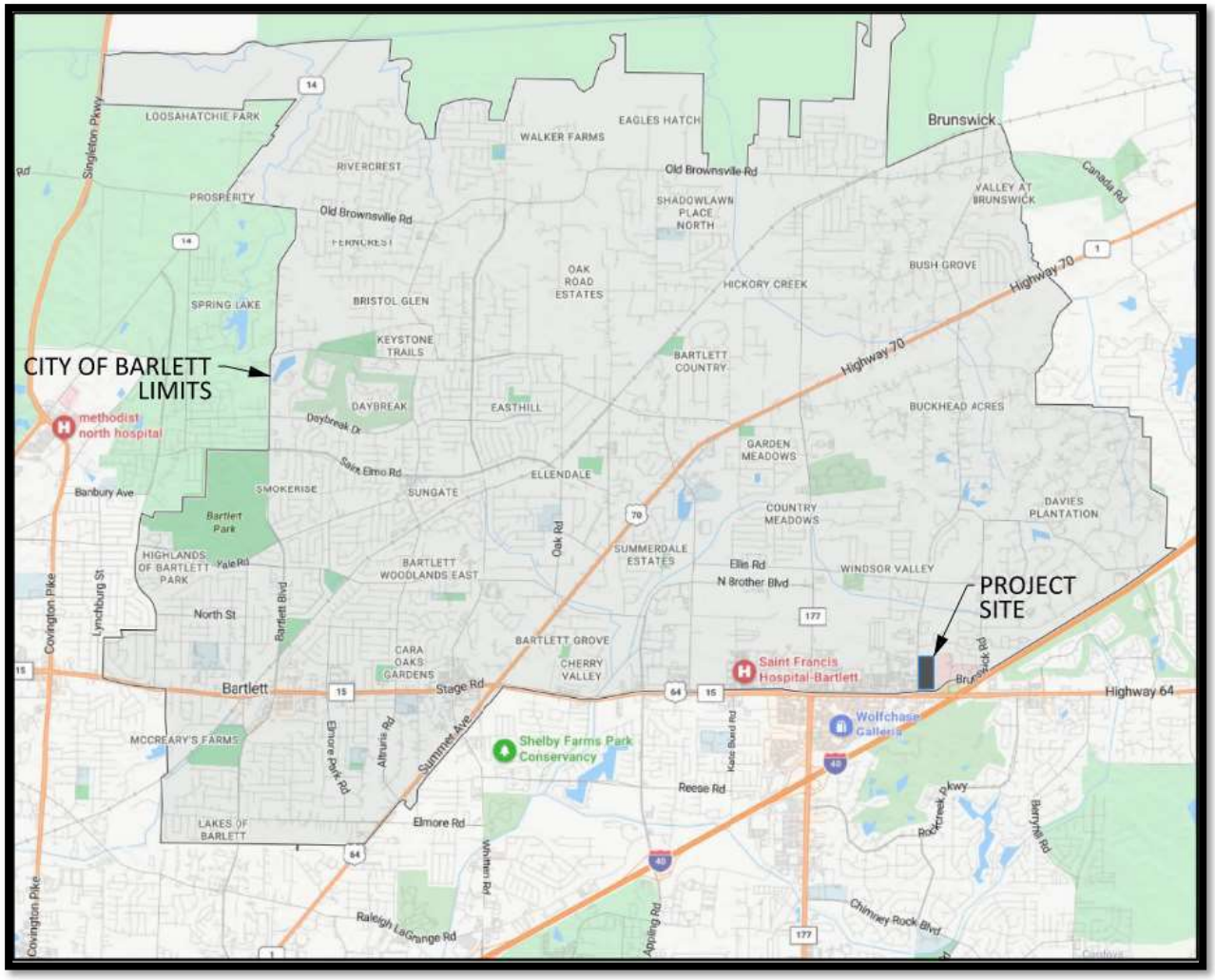


Figure 1. Vicinity Map

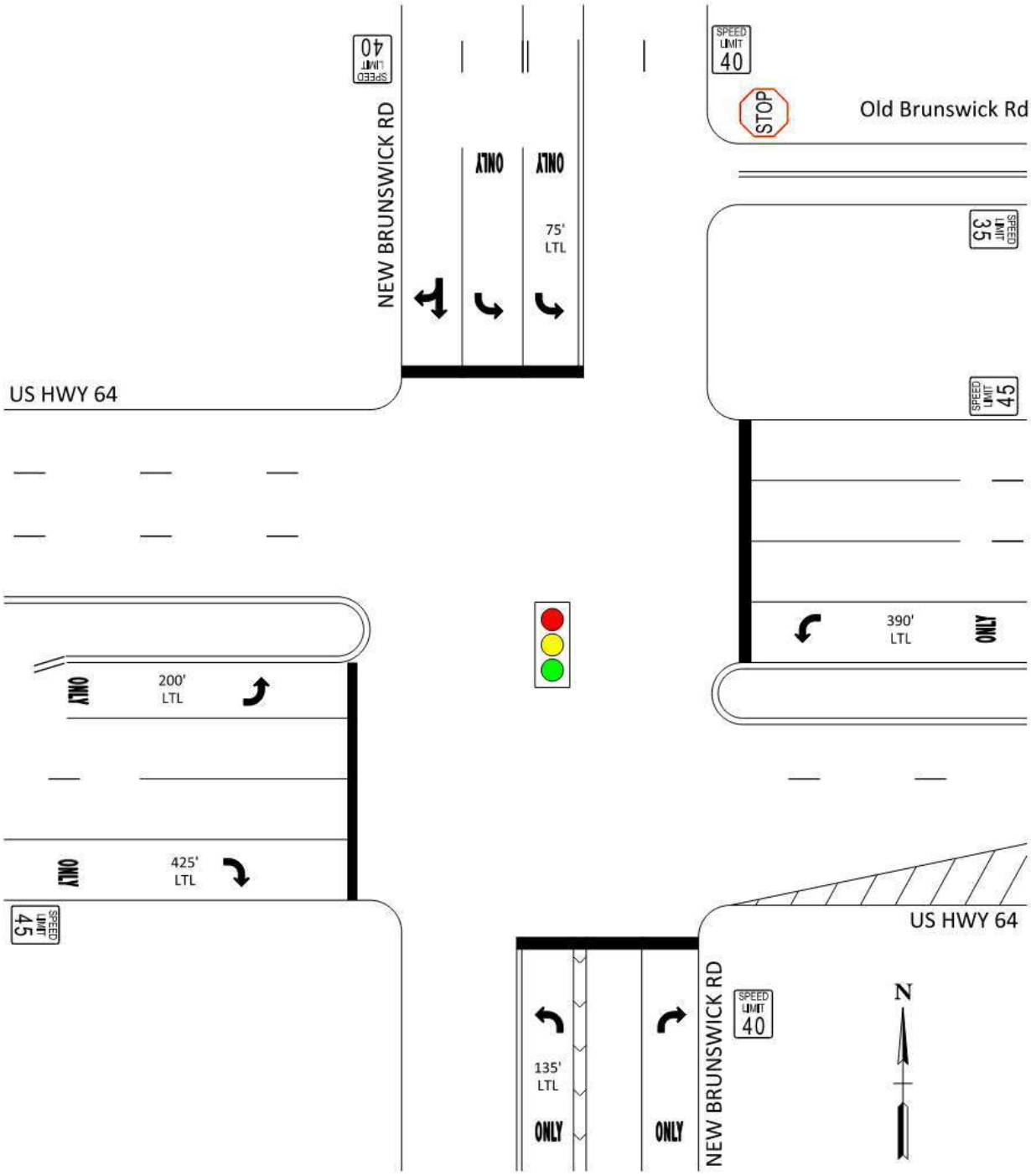


Figure 2. Existing Intersection Configuration at New Brunswick and Hwy 64

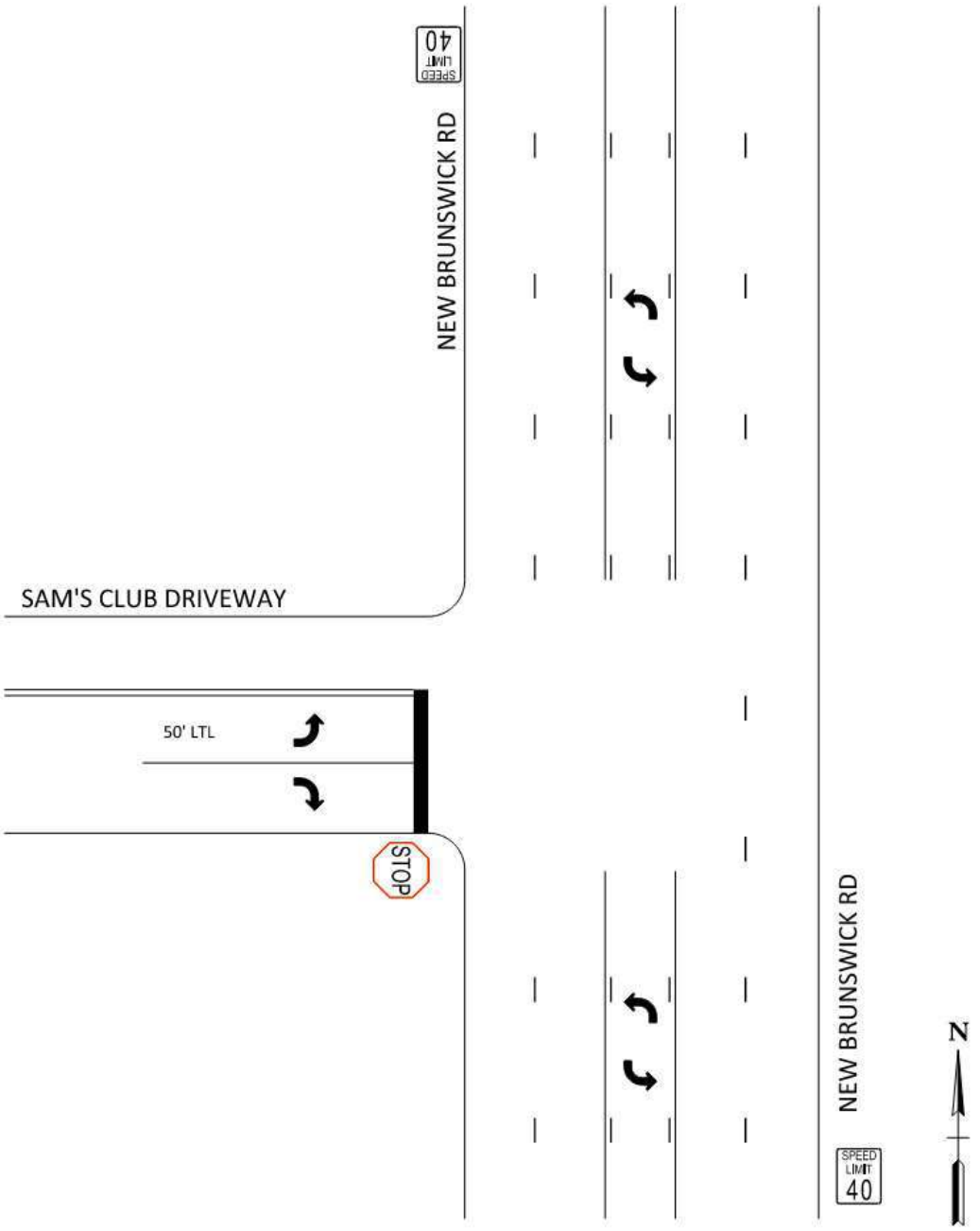


Figure 3. Existing Intersection Configuration at New Brunswick Rd and Sam's Club Private Drive

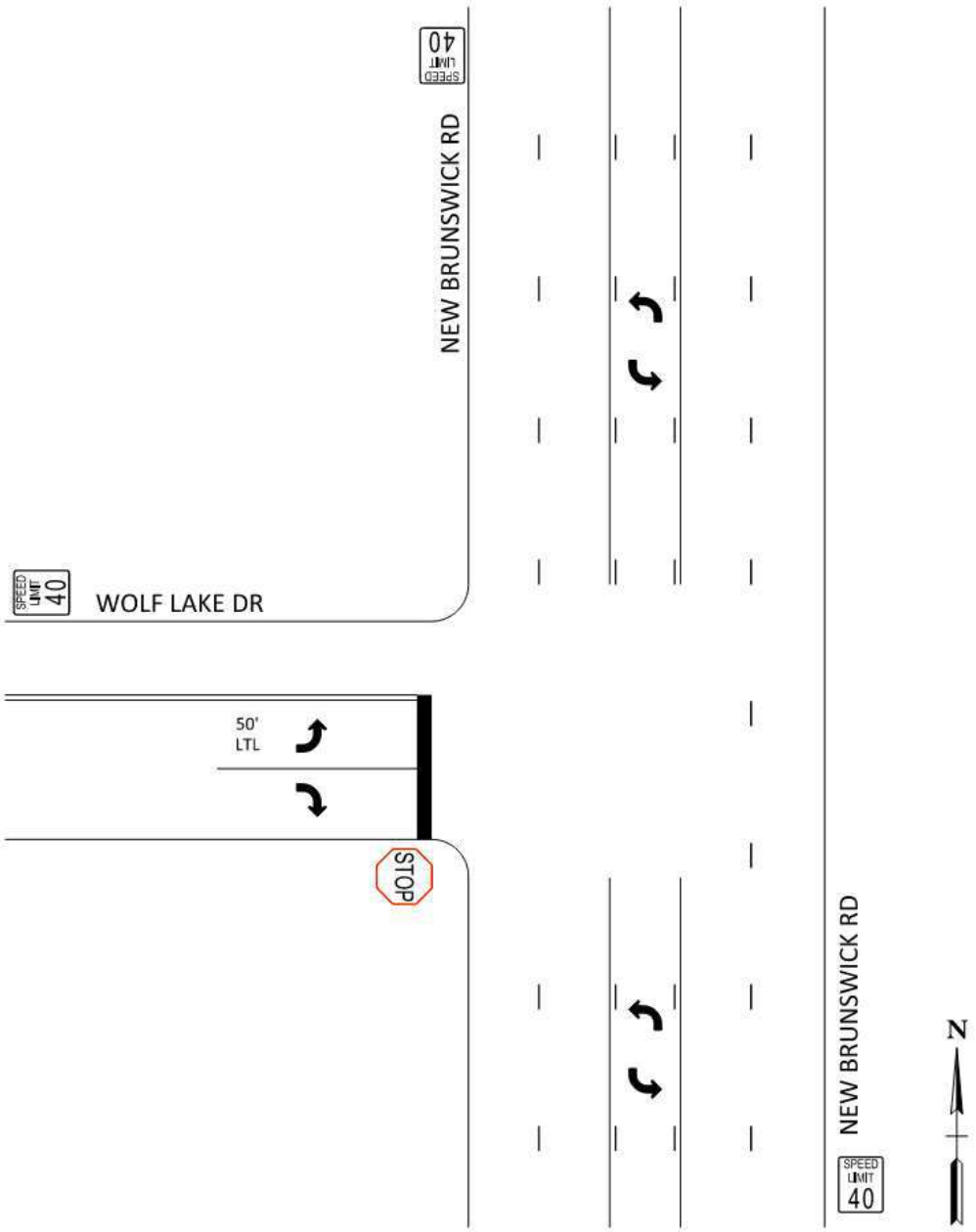


Figure 4. Existing Intersection Configuration at New Brunswick Rd and Wolf Lake Dr

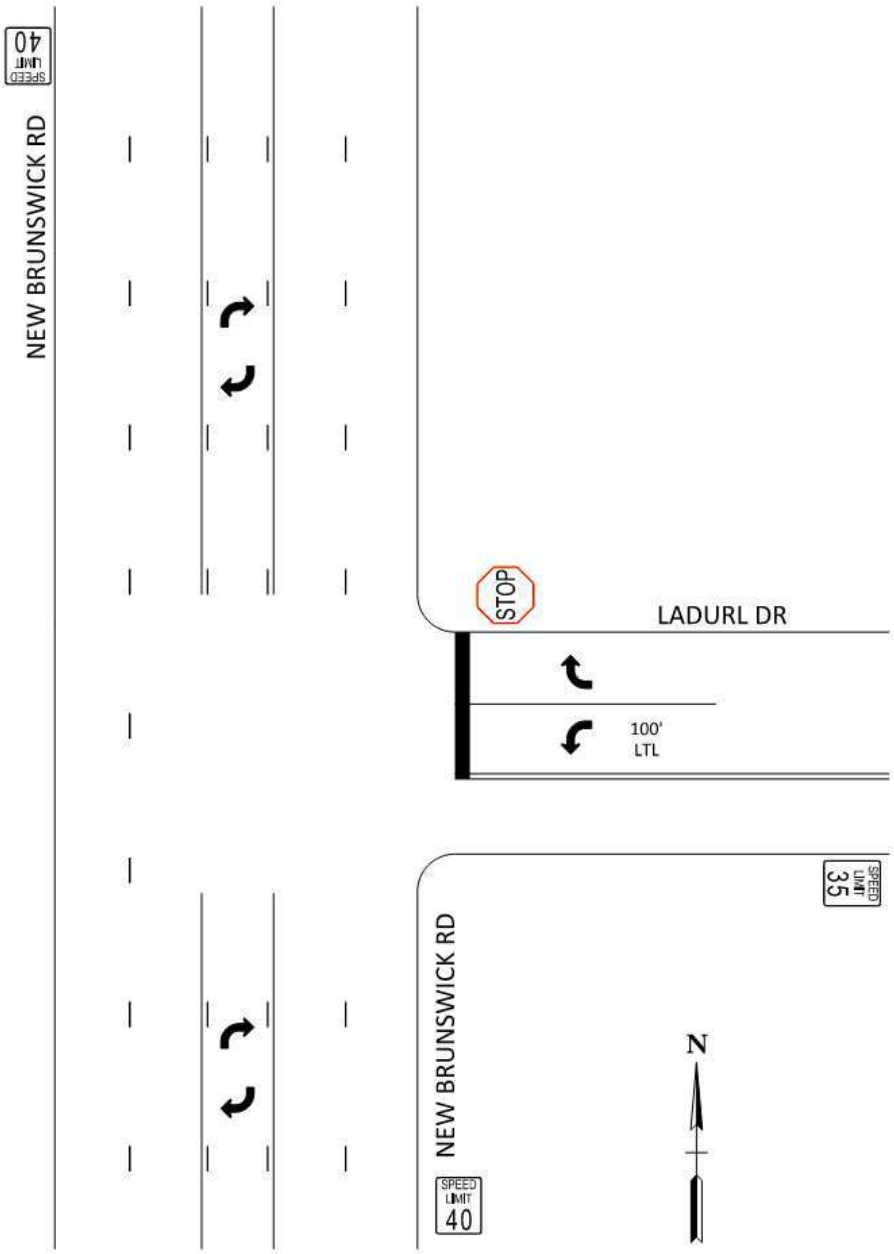


Figure 5. Existing Intersection Configuration at New Brunswick Rd and Ladurl Dr

Existing Traffic Volumes

Existing turning movement traffic counts were taken at the five (5) existing intersections listed below. The counts were taken between Tuesday May 2nd, 2023, Thursday May 4th, 2023, and Saturday May 6th, 2023. These were taken during the school year and on a weekday (other than Saturday) when traffic was expected to be the highest. The counts were analyzed to determine AM & PM peak hours and peak hour factors (PHF). Table 1 summarizes these findings. A movement-by-movement breakdown of the existing AM and PM peak hour counts are shown in Figures 6-12. The raw traffic counts are shown in Appendix A.

Table 1. Analysis of Existing Traffic Volumes

Intersection	Peak Hour	Period	Vehicles	PHF
New Brunswick Rd at Hwy 64	AM	7:15 – 8:15	2,879	0.86
	PM	4:45 – 5:45	4,179	0.93
New Brunswick Rd at Old Brunswick Rd	AM	7:15 – 8:15	955	0.93
	PM	4:45 – 5:45	1,331	0.91
New Brunswick Rd at Sam's Club	AM	8:45 – 9:45	905	0.89
	PM	4:30 – 5:30	1,271	0.93
New Brunswick Rd at Sam's Club (Saturday)	AM	10:15 – 11:15	891	0.94
	PM	3:45 – 4:45	1,018	0.97
New Brunswick Rd at Wolf Lake Dr	AM	7:15 – 8:15	790	0.94
	PM	4:30 – 5:30	1,136	0.94
New Brunswick Rd at Wolf Lake Dr (Saturday)	AM	10:30 – 11:30	714	0.98
	PM	3:45 – 4:45	805	0.91
New Brunswick Rd at Ladurl Dr	AM	8:45 – 9:45	696	0.91
	PM	4:30 – 5:30	1,018	0.95

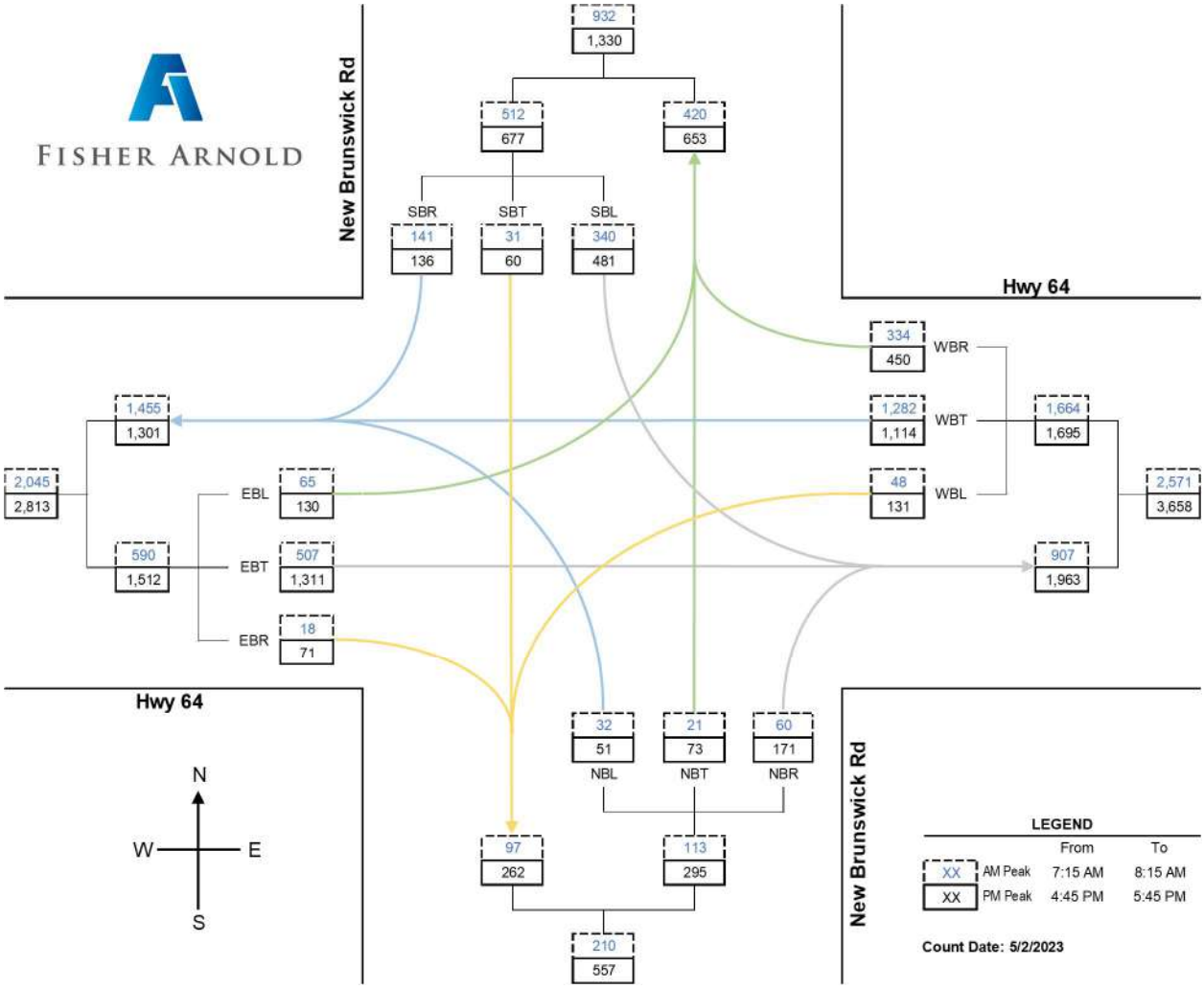


Figure 6. Existing 2022 Peak Hour Traffic Volumes (New Brunswick Rd at Hwy 64)

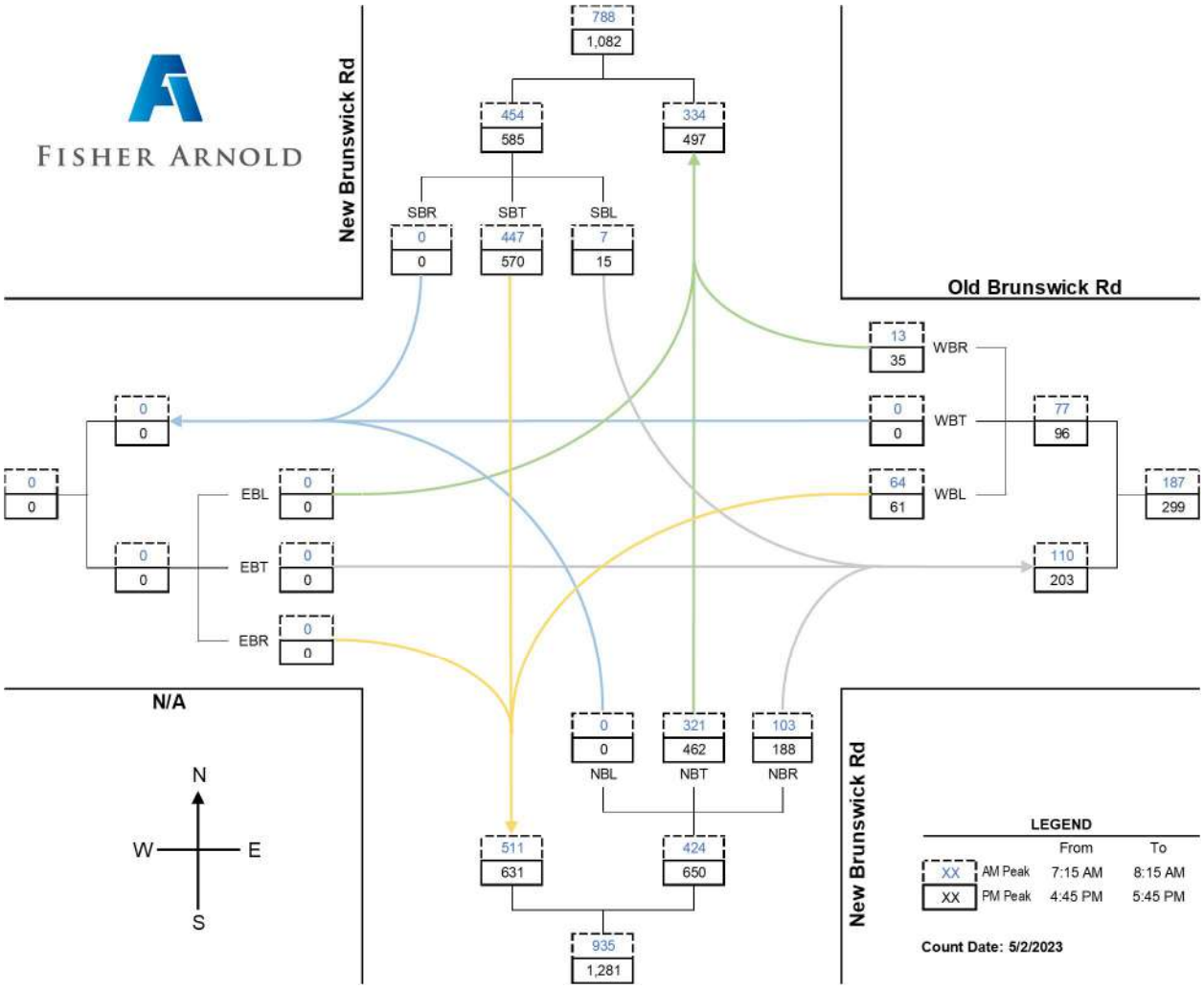


Figure 7. Existing 2022 Peak Hour Traffic Volumes (New Brunswick Rd at Old Brunswick Rd)

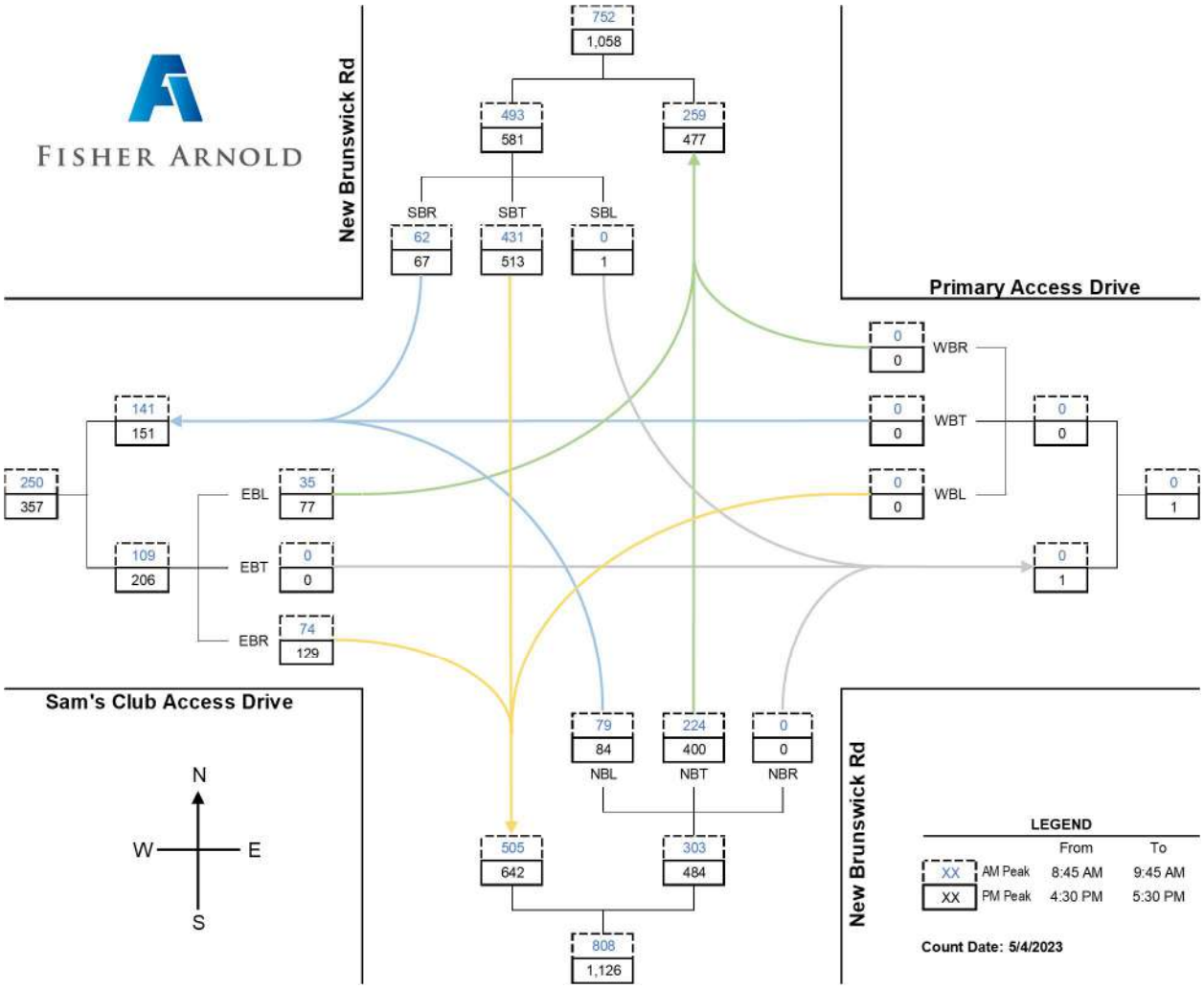


Figure 8. Existing 2022 Peak Hour Traffic Volumes (New Brunswick Rd at Sam's Club)

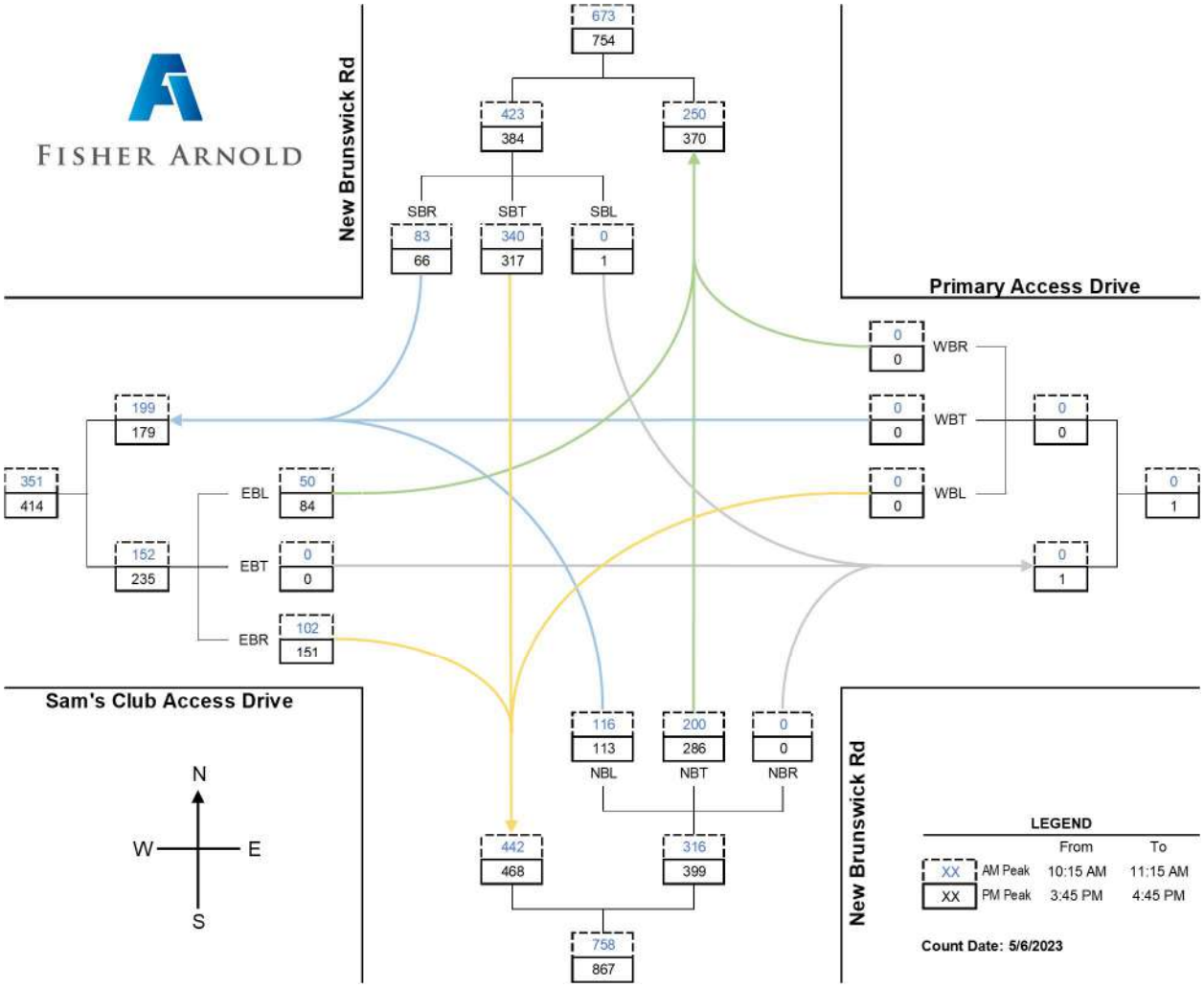


Figure 9. Existing 2022 Peak Hour Traffic Volumes (New Brunswick Rd at Sam's Club) - SATURDAY

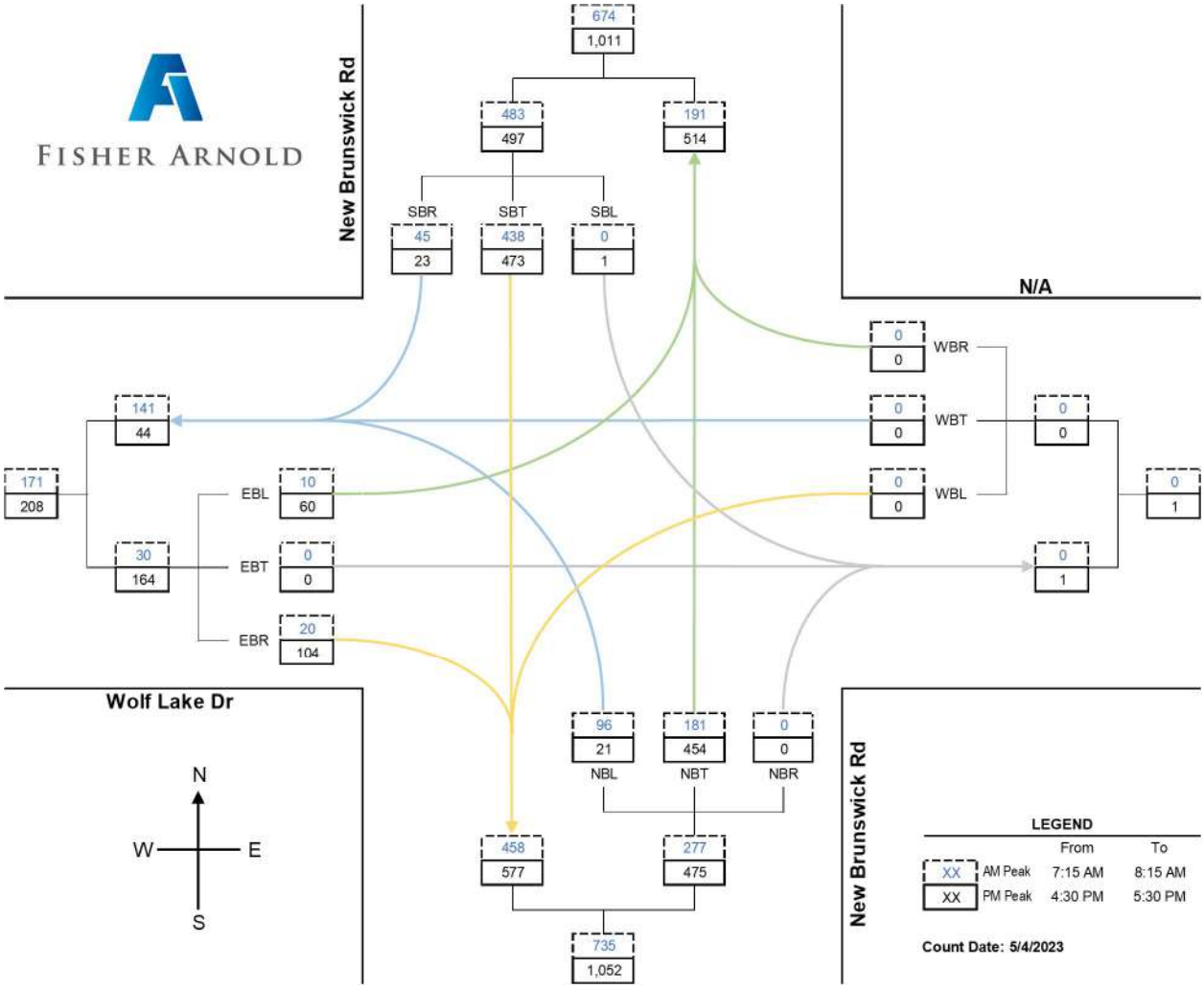


Figure 10. Existing 2022 Peak Hour Traffic Volumes (New Brunswick Rd at Wolf Lake Dr)

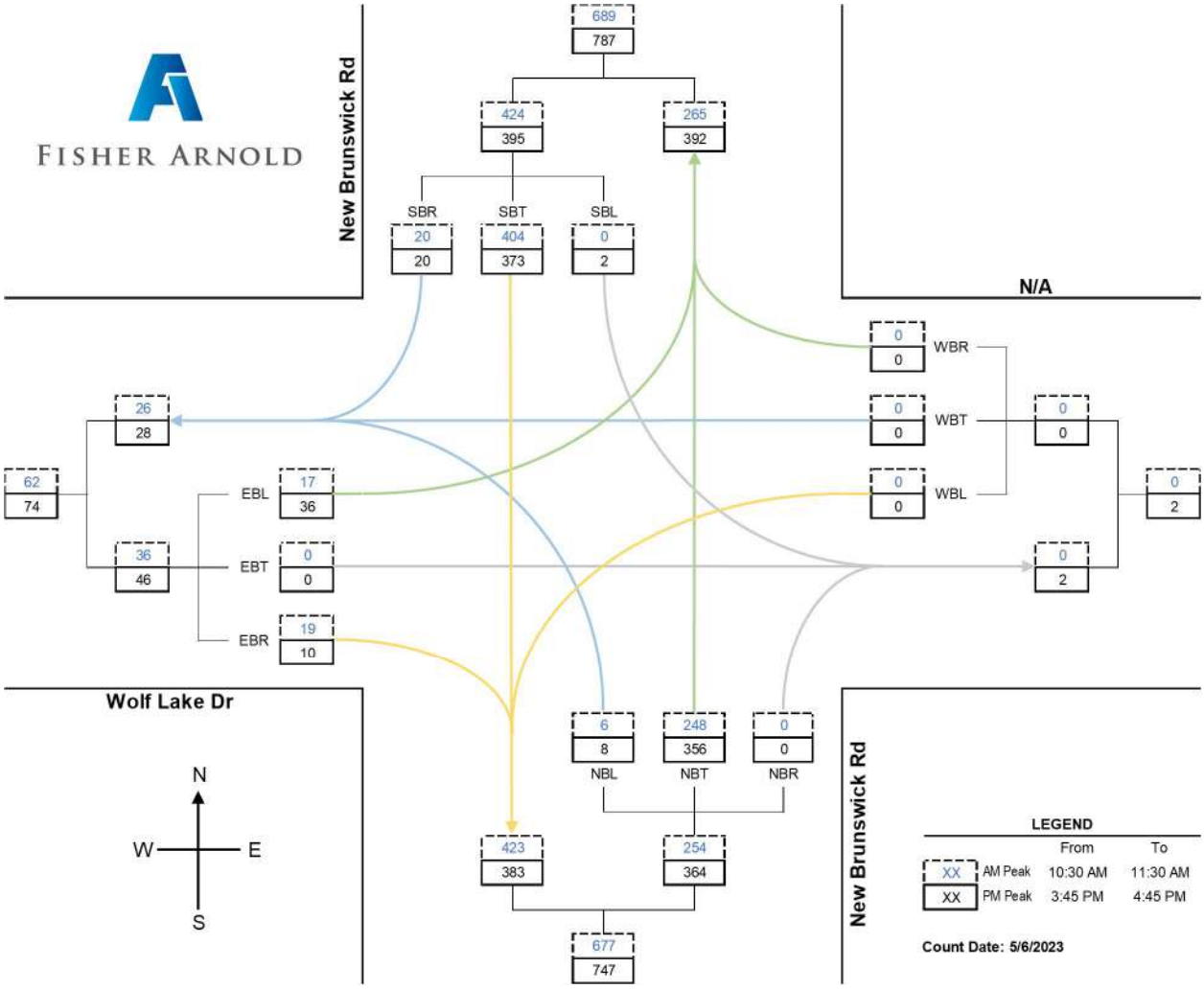


Figure 11. Existing 2022 Peak Hour Traffic Volumes (New Brunswick Rd at Wolf Lake Dr) - SATURDAY

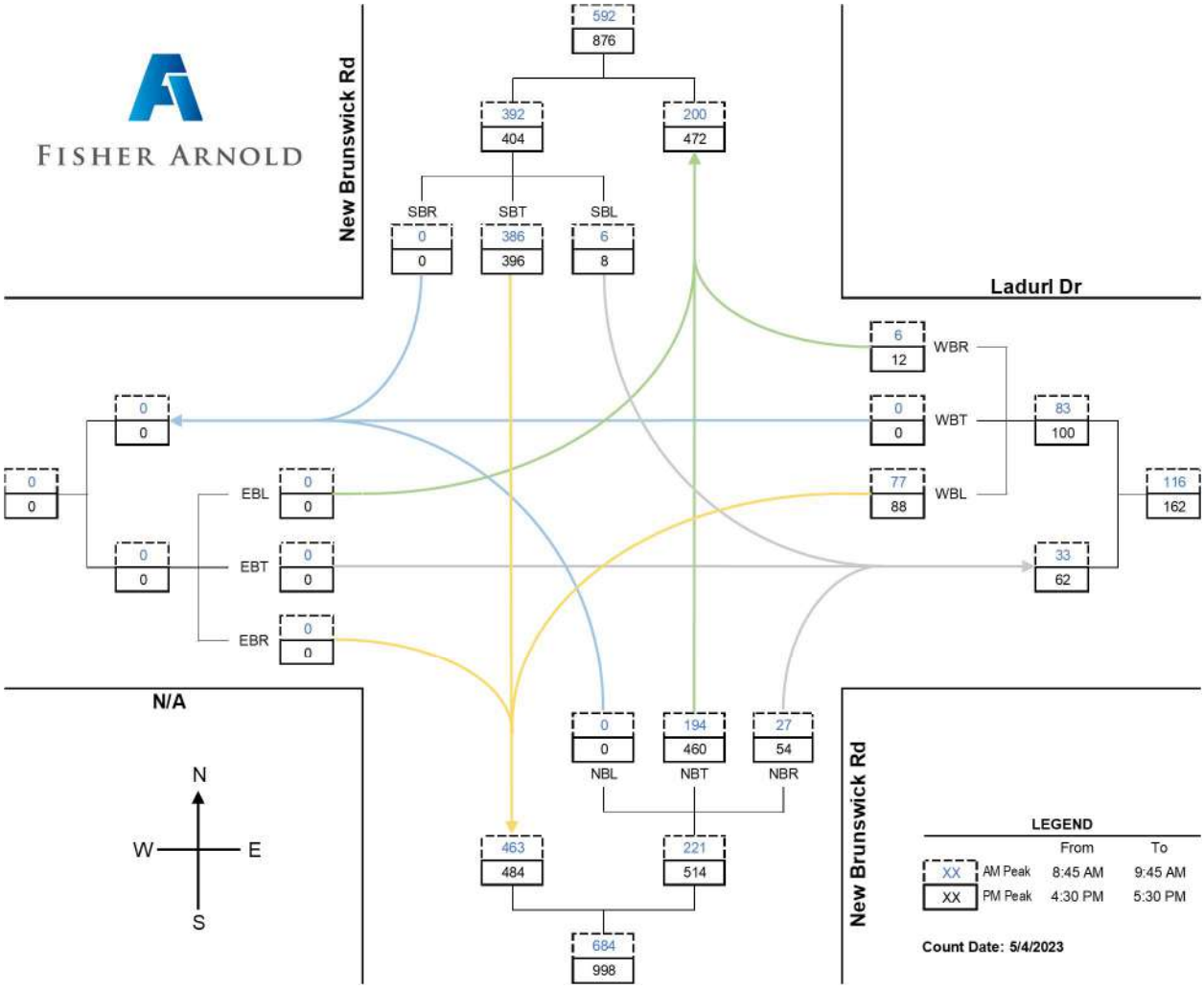


Figure 12. Existing 2022 Peak Hour Traffic Volumes (New Brunswick Rd at Ladurl Dr)

PROPOSED CONDITIONS

Site Layout & Description

The developer provided a site layout plan for the proposed development and is shown in Figure 13. **Old Brunswick Rd will be modified to terminate into the Gas Station (via a cul-de-sac) and will no longer connect with New Brunswick Rd.**

The development will include a Supermarket, Gas Station with a convenience store, and a drive through/dine in coffee shop. Table 2 summarizes the proposed land use for the site per the ITE Trip Generation Manual.

Table 2. Proposed Land Use

Proposed Land Use	GFA
LUC 950 – Supermarket	115,000
LUC 937 – Coffee/Donut with Drive-Through Window	1,500
LUC 945 – Convenience Store/Gas Station – GFA (4-5.5k)	4,500

The site is expected to have five (5) access drives. The gas station will have two (2) access drives with an internal connector road to the Supermarket. The Supermarket will have three (3) access drives. The primary access drive is located at the existing T-intersection of New Brunswick Rd and Sam's Club, approximately 750' north of the signalized intersection of New Brunswick Rd and Hwy 64. The second primary access is located approximately 500' north of the primary access drive, and approximately 230' south of Wolf Lake Dr. The remaining three (3) access drives are not anticipated to carry significant volumes or are right-in-right-out (RIRO) only. For purposes of this report, only the primary and secondary access drives were analyzed.

The new four (4) leg intersection created by the addition of the Primary Access Drive at New Brunswick and Sam's Club will operate as a signalized intersection. The RIRO access drive at the Gas Station will operate as free flow for New Brusnwick and yield

control for the site Access Drive. The remaining three (3) access drives will operate as two-way-stop-controlled (TWSC).

The primary Access Drive will have one (1) inbound lane and two (2) outbound lanes. The two (2) outbound lanes will be an exclusive left-turn lane and a shared through-right turn lane. As a second configuration option, a double WBL turning movement out of the site was also analyzed. The proposed configurations of the Primary Access Drive are shown in Figure 14.

The Secondary Access Drive will have one (1) inbound lane and two (2) outbound lanes. The two (2) outbound lanes will be an exclusive left-turn lane and an exclusive right turn lane. The proposed configuration of the Secondary Access Drive is shown in Figure 15.

Construction is expected to occur in one buildout phase and completed by 2025.

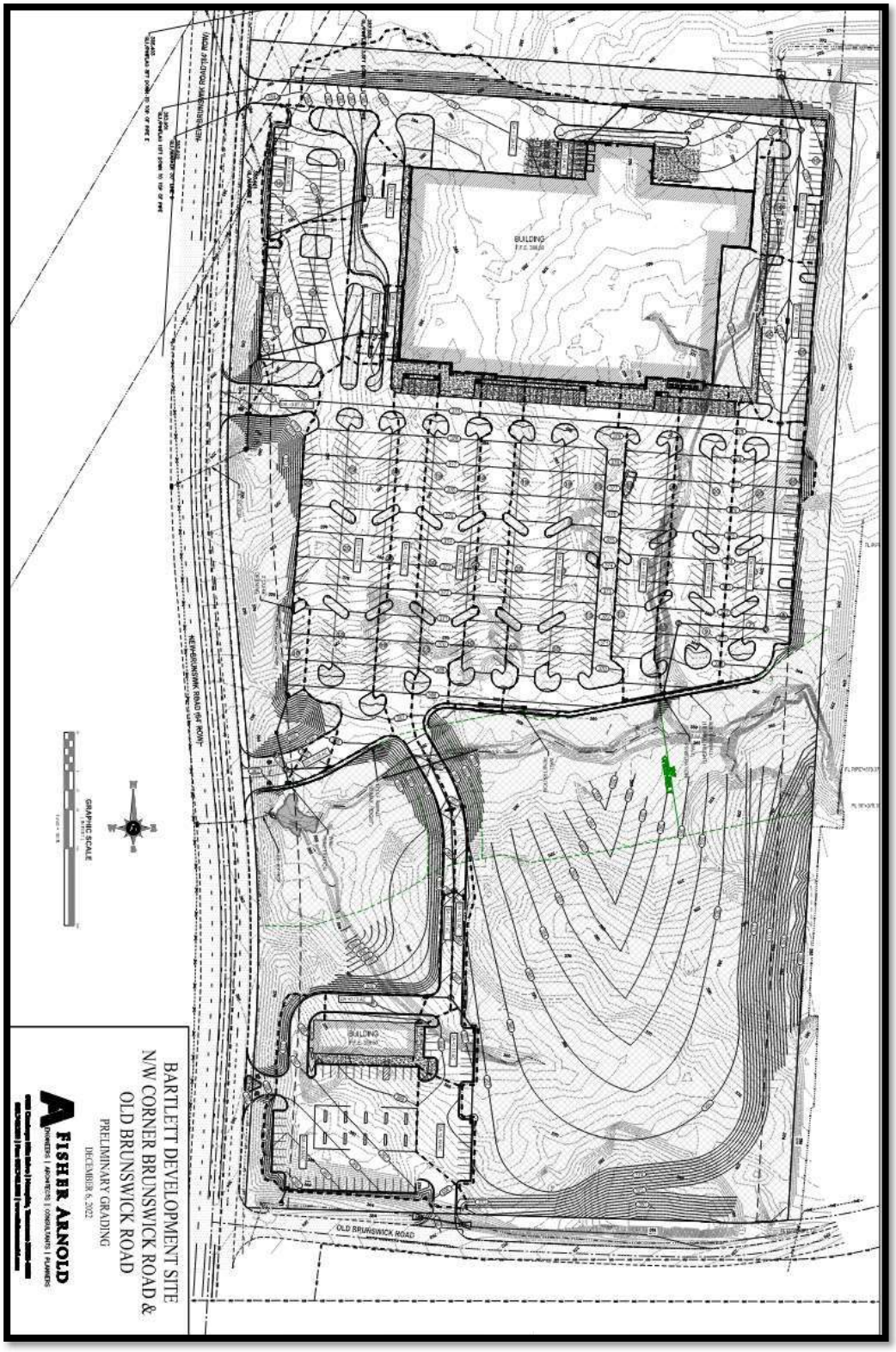


Figure 13. Proposed Development Site Layout

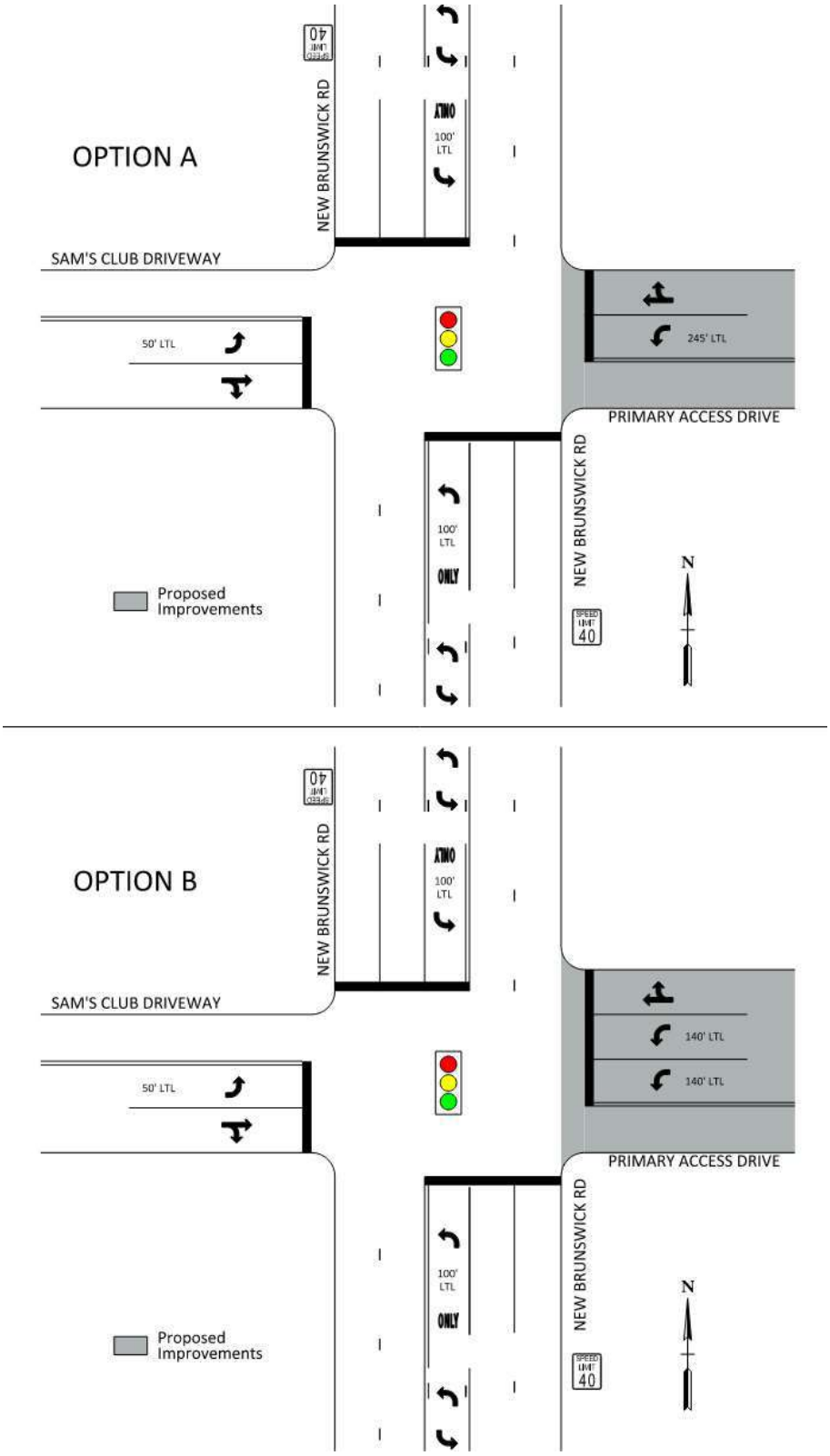


Figure 14. Proposed Intersection Layout (New Brunswick Rd at Sam's Club / Primary Access Drive)

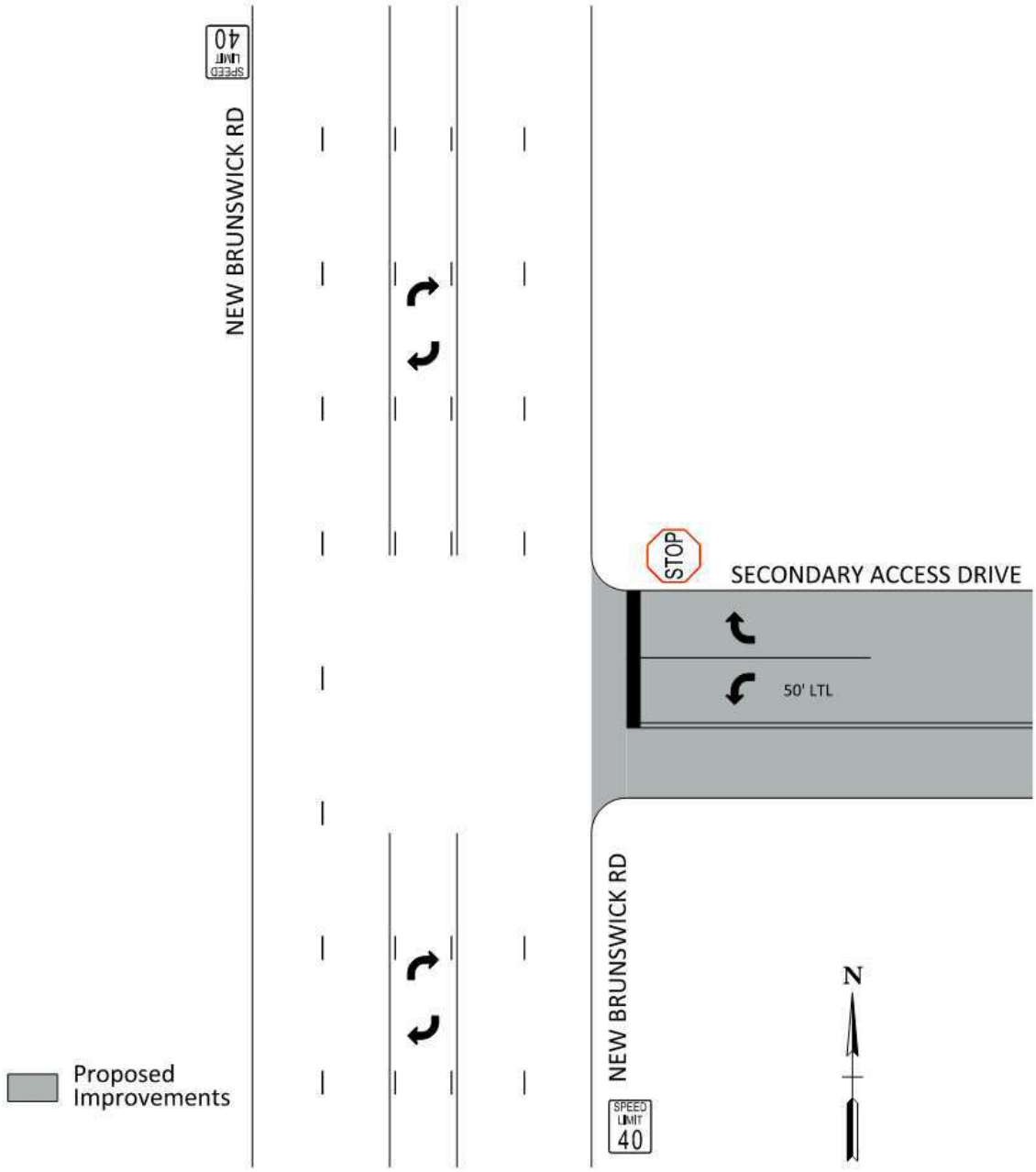


Figure 15. Proposed Intersection Layout (New Brunswick Rd at Secondary Access Drive)

Background Growth and Horizon Year

Background traffic volumes are the growth or decline in traffic between two or more years. These volumes are estimated to occur regardless of construction of the proposed development. The growth or decline in traffic volumes come from a variety of sources such as traffic history, population growth, the completion of developments other than this project, and roadway improvements.

For purposes of this study, background traffic growth was determined from historical traffic data near the intersection. Ten (10) years of AADT (annual average daily traffic) from TDOT's traffic history were regressed to determine an expected growth rate with the results shown in Table 3. Background growth rate calculations are shown in Appendix B. The background growth rate was applied to the existing traffic volumes for the **horizon years 2025 (full buildout) and 2028 (Three years past full buildout)** with calculations shown in the Appendix.

Table 3. Background Growth Rate

Road	Growth Rate per year
New Brunswick Rd	1.7%
Hwy 64	0.4%
Old Brunswick Rd	0%
Sam's Club Access Drive	0%
Wolf Lake Dr	0%
Ladurl Dr	0%

Note: TDOT traffic history was not available for the side roads of Old Brunswick, Sam's Club, Wolf Lake Dr, or Ladurl Dr. A zero percent growth rate for these side roads was assumed due to the characteristics of the existing road termini, current adjacent buildout levels, and relatively low volumes.

Trip Generation

Traffic generated from the proposed site was estimated from the Institute of Transportation Engineers Trip Generation Manual, 11th Edition. Peak hour volumes were generated for the weekday when traffic volumes are typically highest.

Table 4 displays the anticipated traffic generated from the site for Daily, AM, and PM Peak hours. Trip generation calculations can be found in Appendix C.

Table 4. Trips Generated by Site

ITE Land Use Code		GFA	Calculated Trips		
			Daily	AM Peak	PM Peak
950	Supermarket	115,000	10,129	329	866
937	Coffee/Donut Shop with Drive-Through Window	1,500	800	129	58
945	Convenience Store/Gas Station	4,500	1,157	122	102
Total			12,086	580	1,026

Trip reductions are estimated for Pass-by trips, defined as the number of trips already traveling on the adjacent road that will stop while on their way elsewhere, and for Internal Capture trips, defined as the number of trips that go to multiple locations within the same development on the same trip.

Pass-by trips are subtracted from the Trip Generation volumes for non-access drive movements only. Internal Capture trips are subtracted from the Trip Generation volumes for all movements. Table 5 displays the anticipated Trip Reduction percentages for each land use during the Daily, AM, and PM periods. Movement by movement reductions can be found in Appendix D.

Table 5. Trips Reductions

ITE Land Use Code		GFA	Trip Reductions		
			Pass-By	Internal Capture	Total
950	Supermarket	115,000	22%	5%	27%
937	Coffee/Donut Shop with Drive-Through Window	1,500	75%	5%	80%
945	Convenience Store/Gas Station	4,500	75%	5%	80%
Total (Weighted Average)			31%	5%	36%

Trip Distribution & Assignment

Trip distribution, measured as percent of peak hour trip generation, was determined from existing traffic patterns and roadway networks in the area. The distribution of both AM and PM peak hour trips coming from the south (via Hwy 64) was estimated to be 74%. Furthermore, it was estimated 25% come from the north (via New Brunswick and Old Brunswick), and 1% will come from the Sam's Club development area.

Distribution leaving the primary access drive for both AM and PM peak hours was estimated to be 70% of the total trips generated. This includes 5% Westbound Right, 1% Westbound Thru to Sam's Club, and 64% Westbound Left towards Hwy 64. Similarly, all entering trips will mostly follow the same distribution. It should be noted that the exiting left-turn restriction for the RIRO access drive at the gas station resulted in an increase in left-turn volumes exiting over entering at the Primary Access Drive. Distribution for trips generated by the site for all five (5) studied intersections is expected to be the same for both the AM and PM peak hours and is shown in Figure 16 (Entering) and Figure 17 (Exiting).

Trip assignments for the proposed development are shown in Figure 18 (Entering) and Figure 19 (Exiting). Trip assignments are defined as the proportional number of peak hour trips for each movement approach.

No additional traffic volumes are expected from nearby developments.

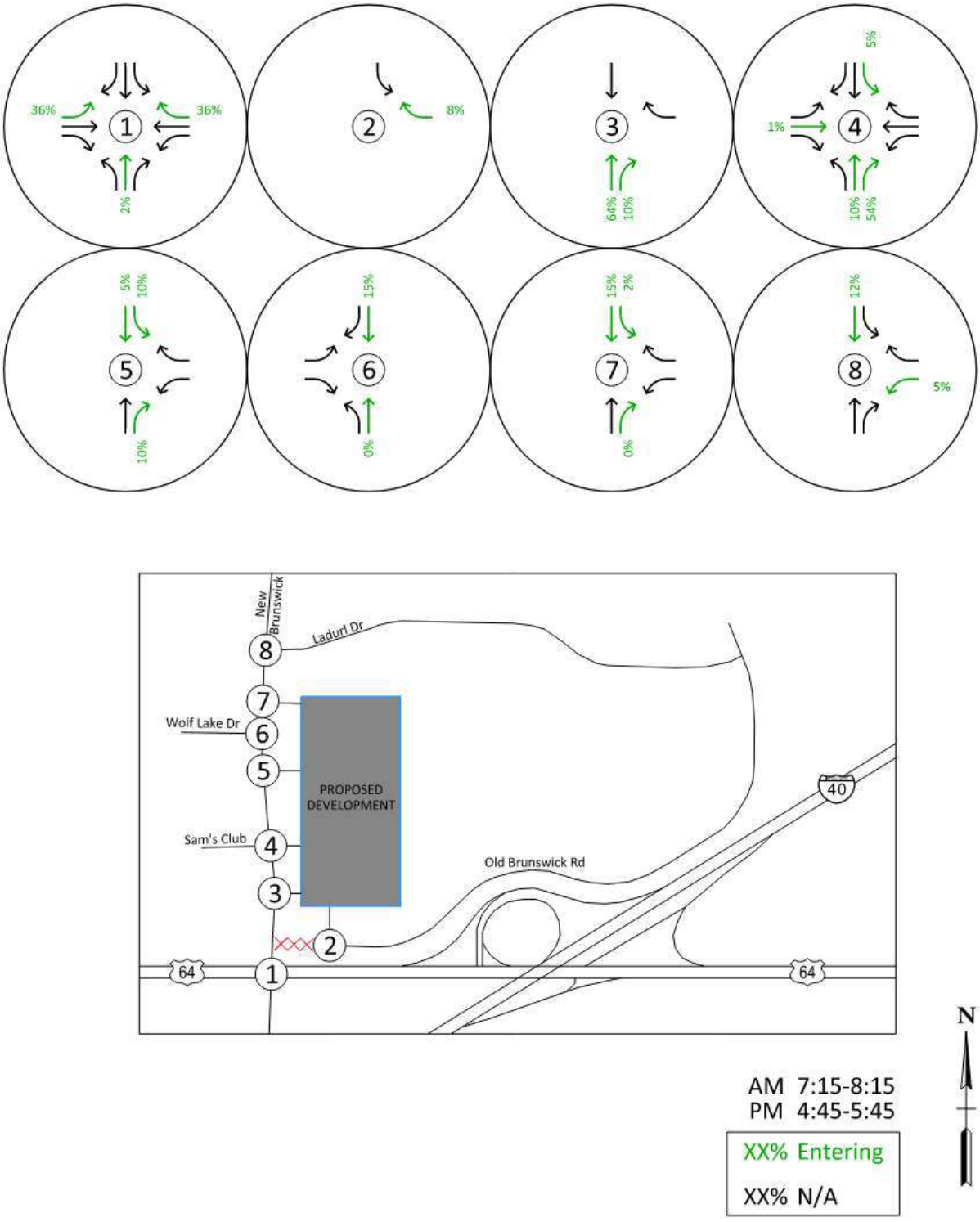


Figure 16. Distribution of Build 2025 Peak Hour Traffic Volumes Generated by the Site (Entering)

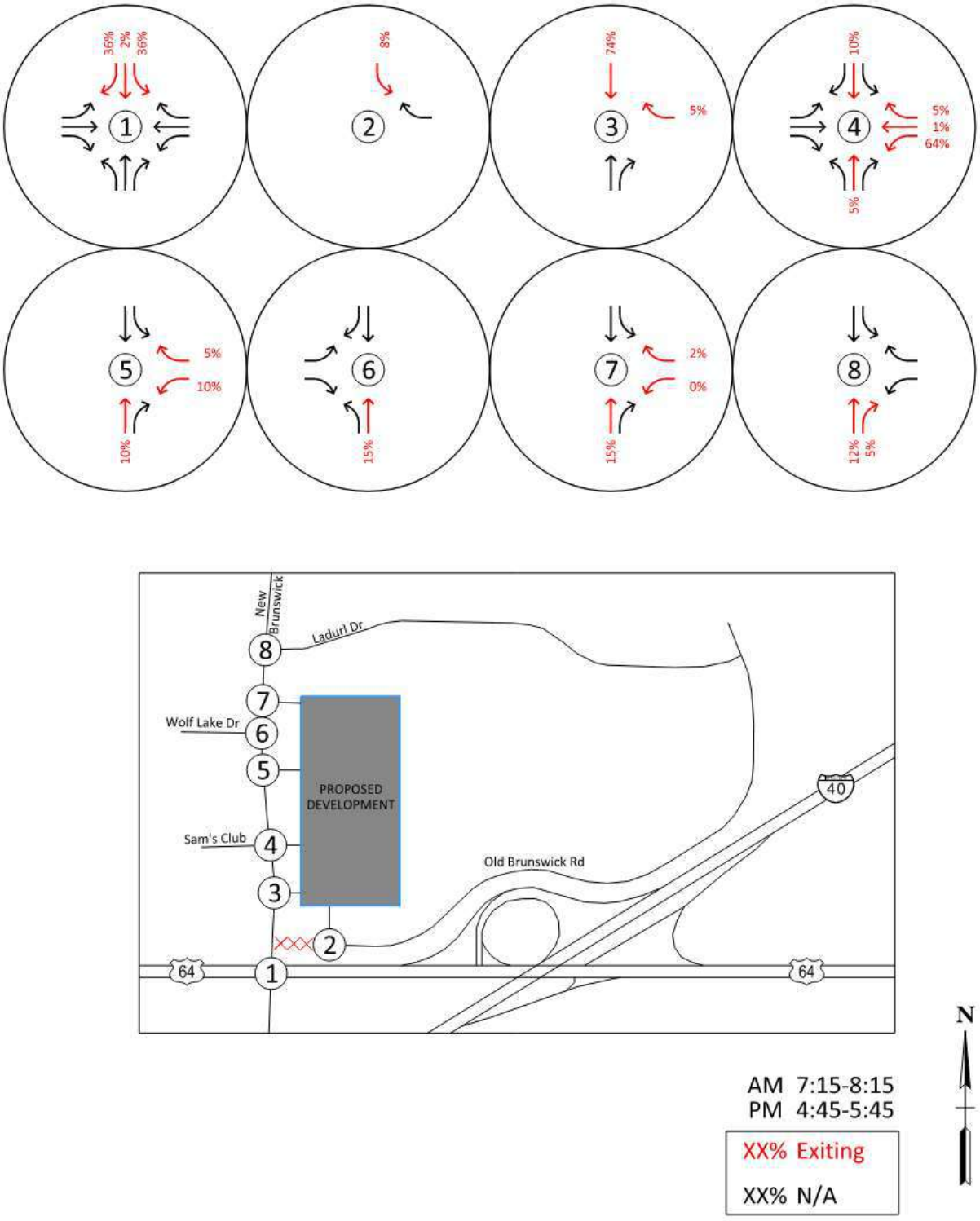


Figure 17. Distribution of Build 2025 Peak Hour Traffic Volumes Generated by the Site (Exiting)

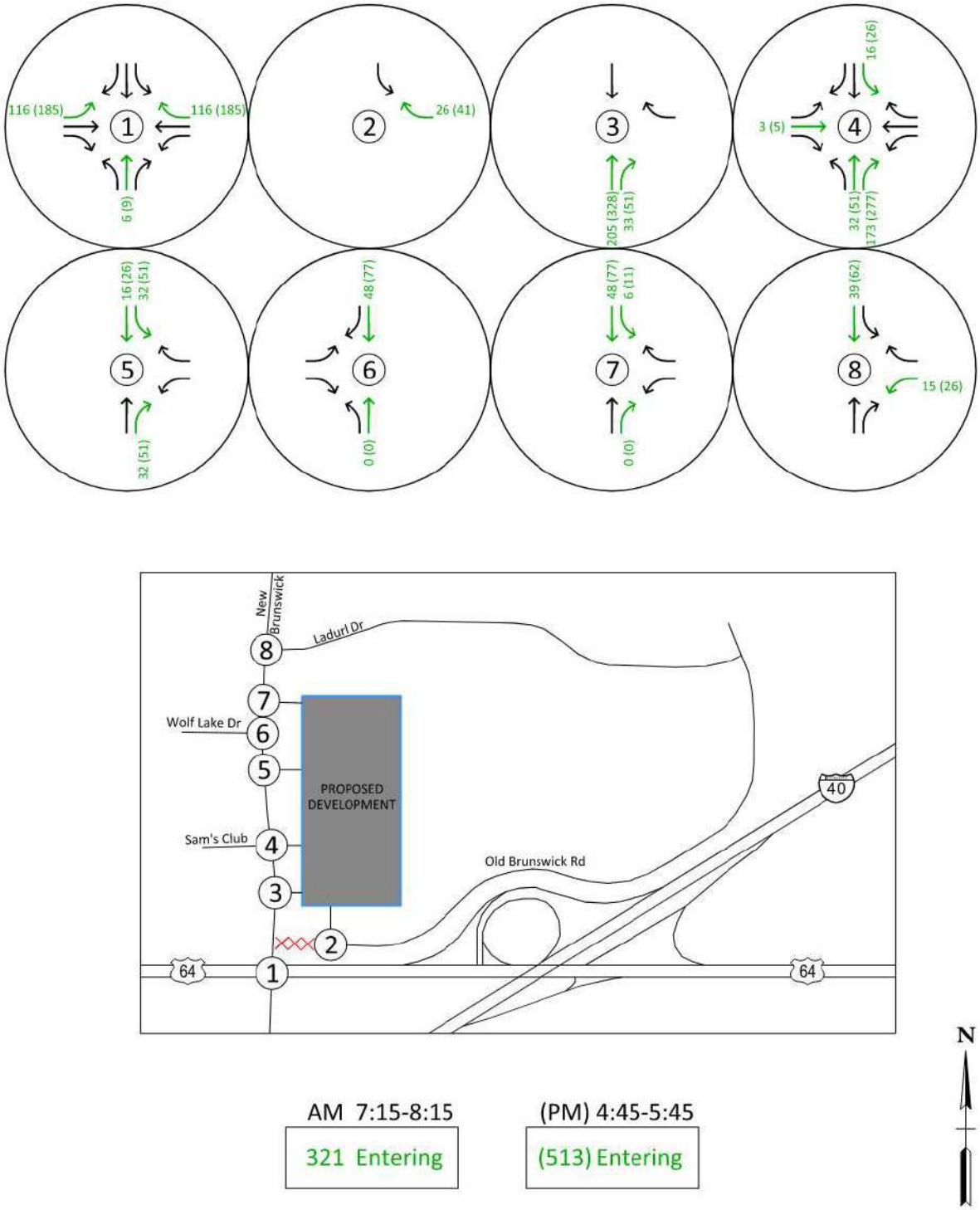


Figure 18. Assignment of Build 2025 Peak Hour Traffic Volumes Generated by the Site (Entering)

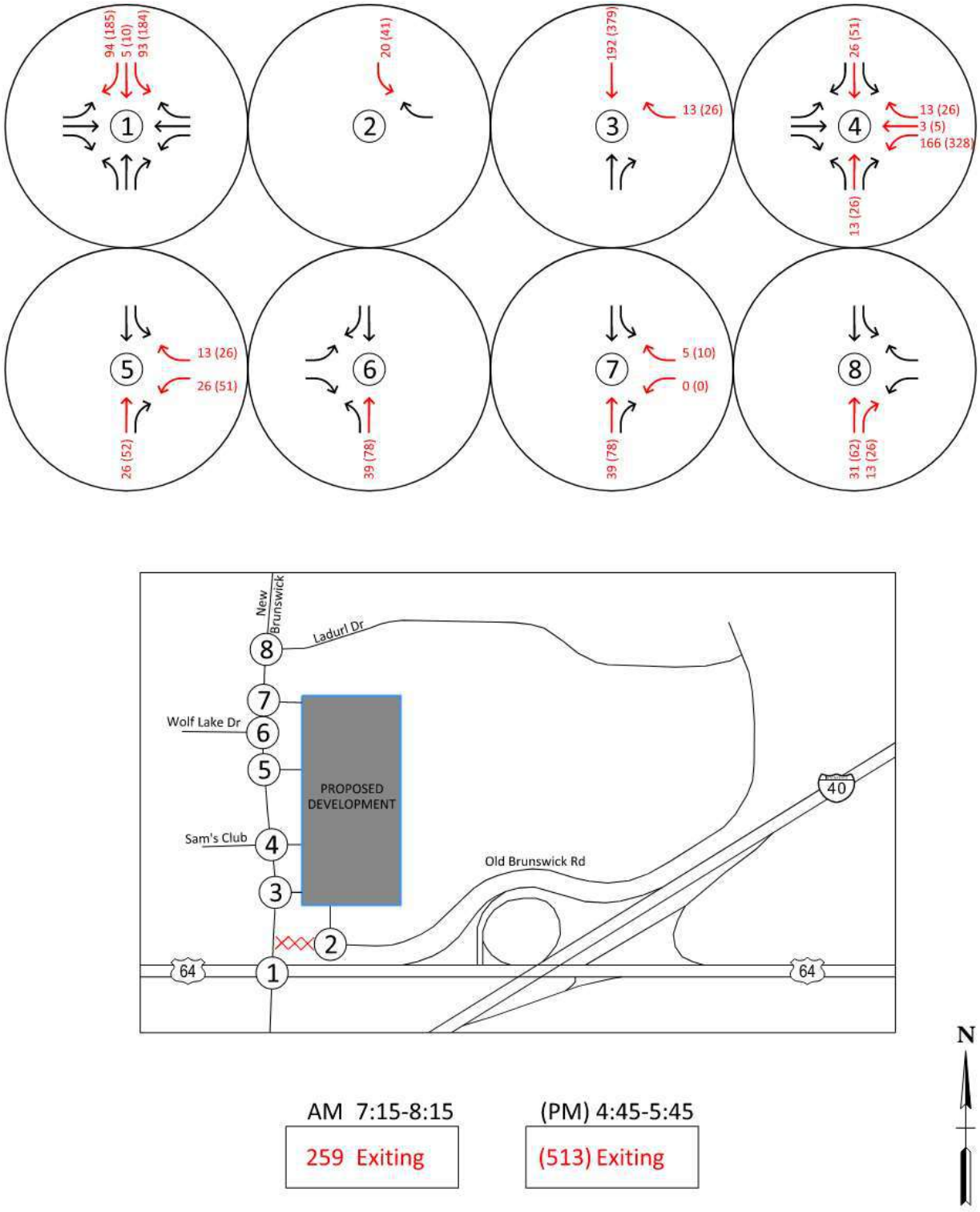


Figure 19. Assignment of Build 2025 Peak Hour Traffic Volumes Generated by the Site (Exiting)

Proposed Traffic Volumes

Proposed traffic volumes are the total traffic volumes expected in the future because of background traffic growth and the trips generated from the site (and nearby sites). They were developed for the AM and PM peak hour periods for three (3) conditions:

1. No-Build 2025, as shown in Figures 20-24.
    a. New Brunswick at Hwy 64
    b. New Brunswick at Old Brunswick Rd
    c. New Brunswick at Sam's Club
    d. New Brunswick at Wolf Lake Dr
    e. New Brunswick at Ladurl Dr
2. Build 2025, as shown in Figures 25-29.
    a. New Brunswick at Hwy 64
    b. New Brunswick at Sam's Club / Primary Access Drive
    c. New Brunswick at Secondary Access Drive
    d. New Brunswick at Wolf Lake Dr
    e. New Brunswick at Ladurl Dr
3. Build 2028, as shown in Figures 30-34.
    a. New Brunswick at Hwy 64
    b. New Brunswick at Sam's Club / Primary Access Drive
    c. New Brunswick at Secondary Access Drive
    d. New Brunswick at Wolf Lake Dr
    e. New Brunswick at Ladurl Dr

The proposed traffic volumes were determined as follows:

1. No-Build 2025 = Existing 2023 + Background Growth to 2025
2. Build 2025 = Existing 2023 + Background Growth to 2025 + Trip Generation – Trip Reductions + Volumes from Old Brunswick Rd closure
3. Build 2028 = Existing 2023 + Background Growth to 2028 + Trip Generation – Trip Reductions + Volumes from Old Brunswick Rd closure

Appendix D shows the proposed traffic volume development sheets.

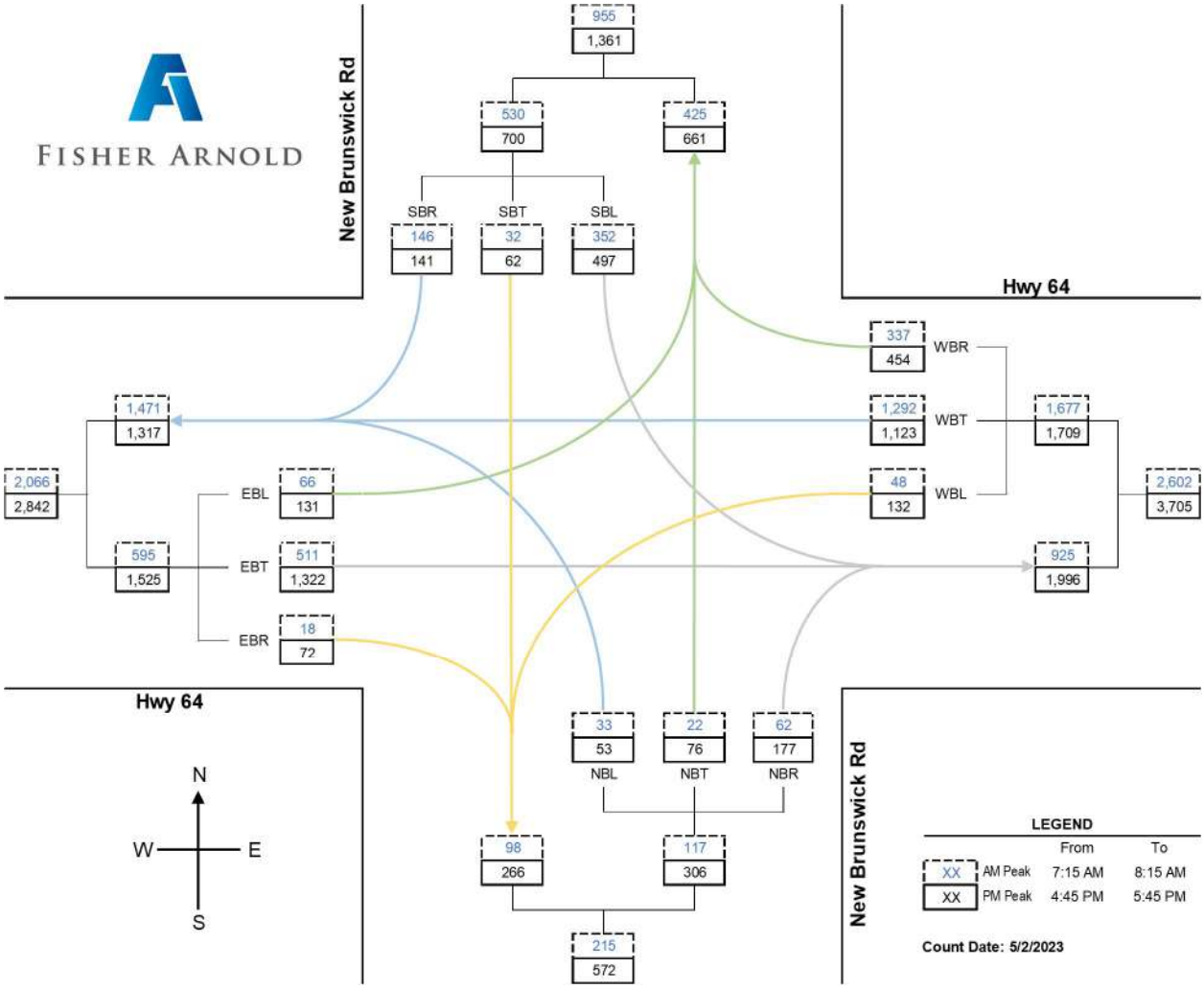


Figure 20. Future Peak Hour Traffic Volumes for No-Build 2025 (New Brunswick at Hwy 64))

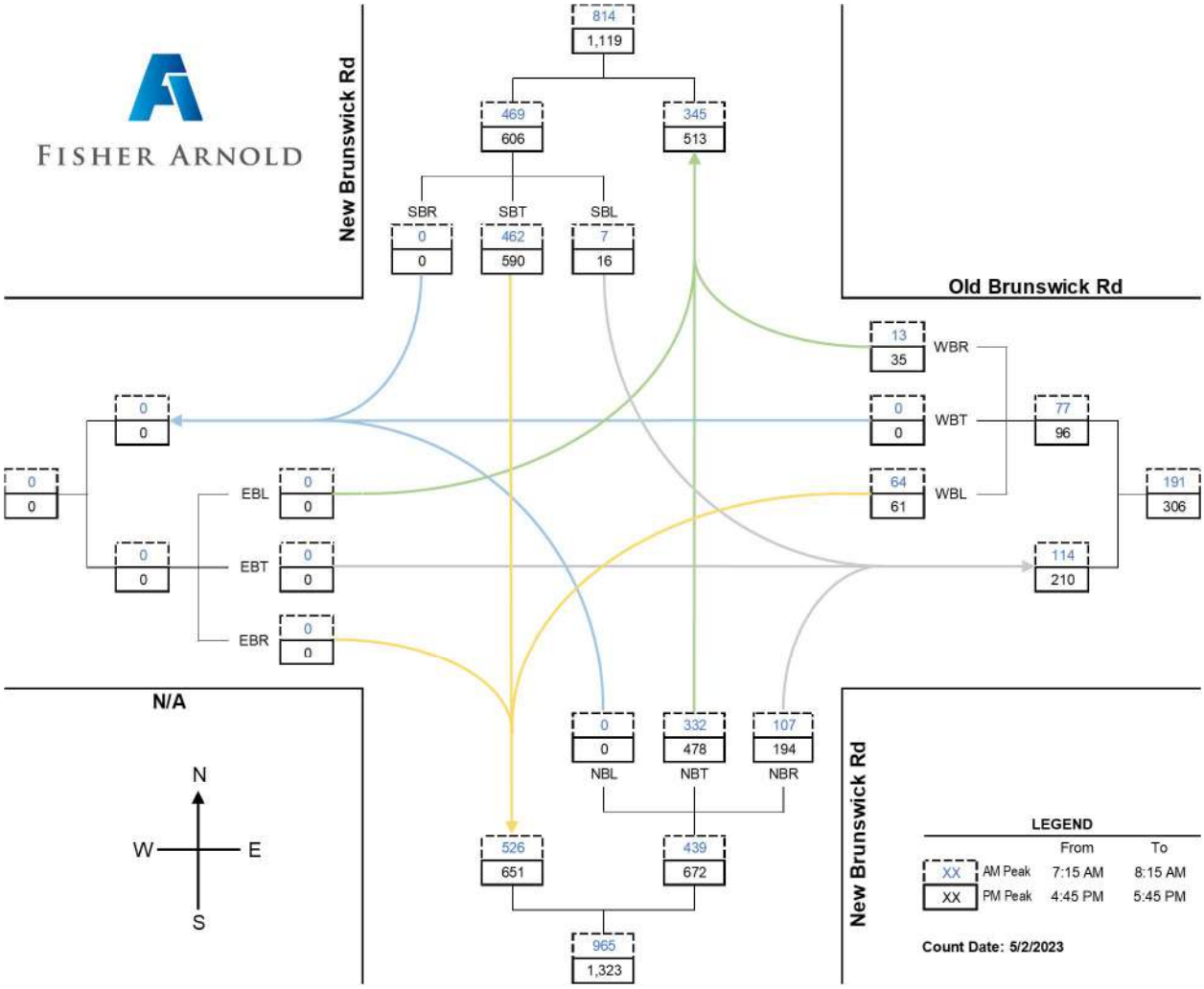


Figure 21. Future Peak Hour Traffic Volumes for No-Build 2025 (New Brunswick Rd at Old Brunswick Rd)

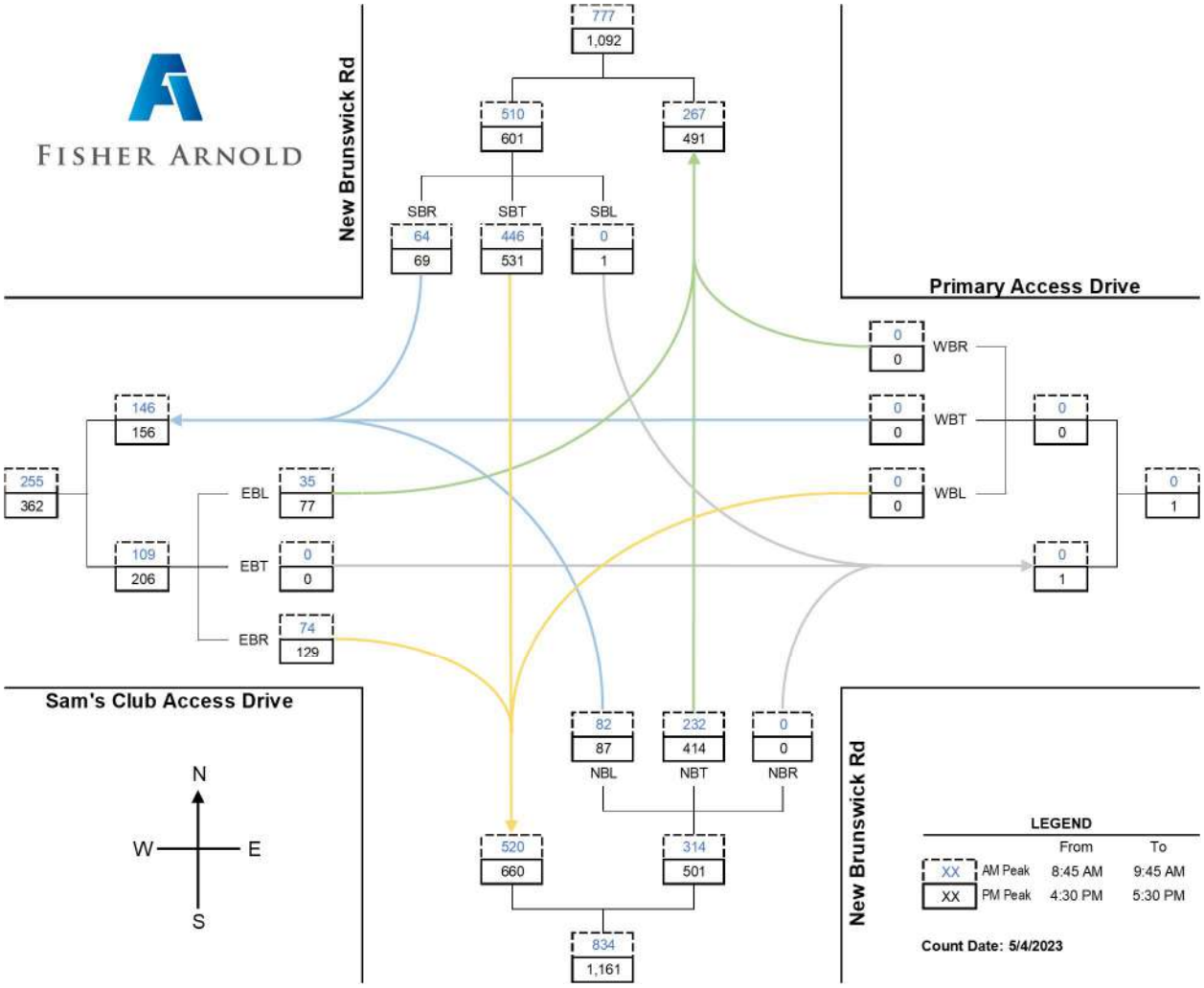


Figure 22. Future Peak Hour Traffic Volumes for No-Build 2025 (New Brunswick Rd at Sam's Club Access Drive)

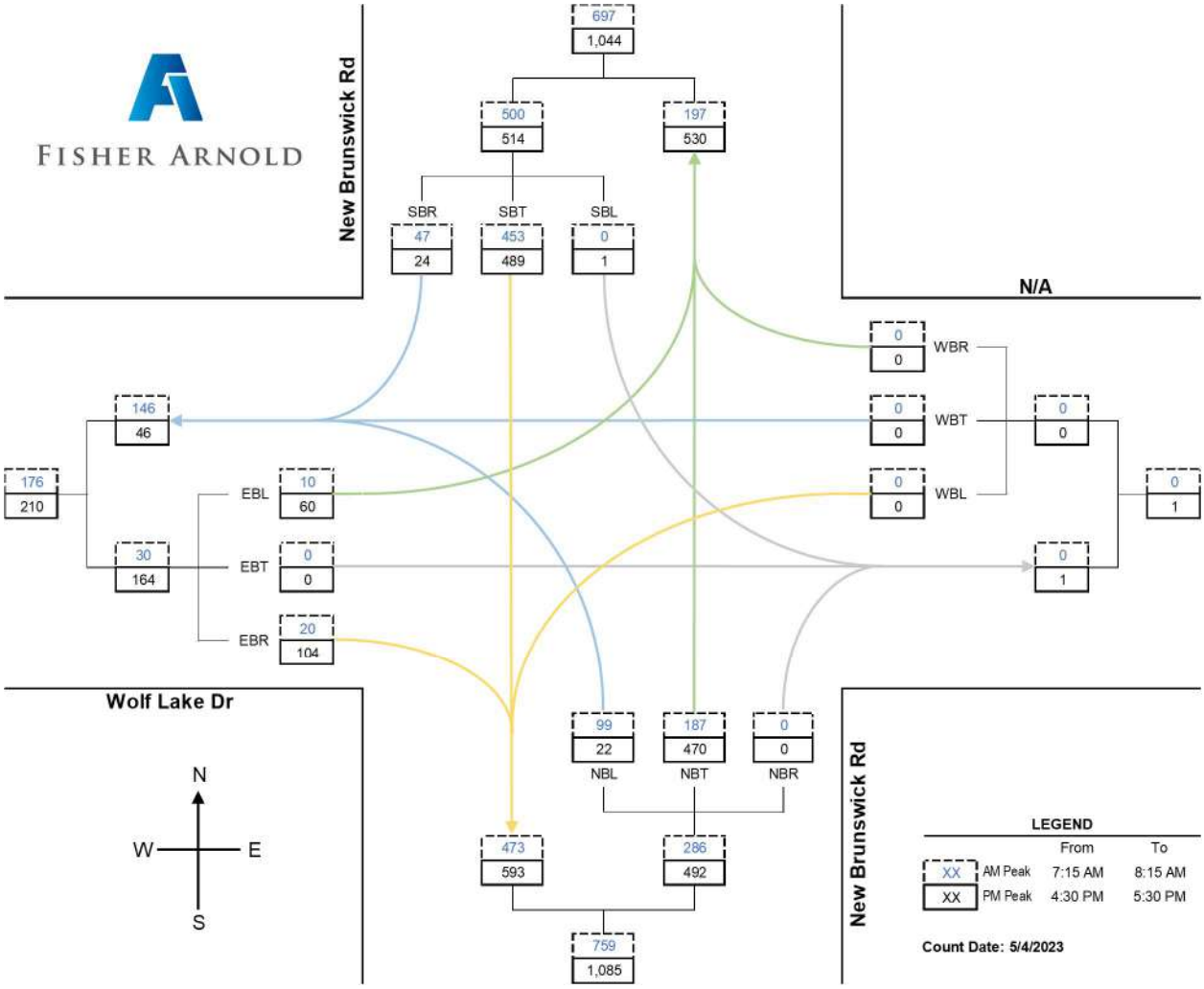


Figure 23. Future Peak Hour Traffic Volumes for No-Build 2025 (New Brunswick Rd at Wolf Lake Dr)

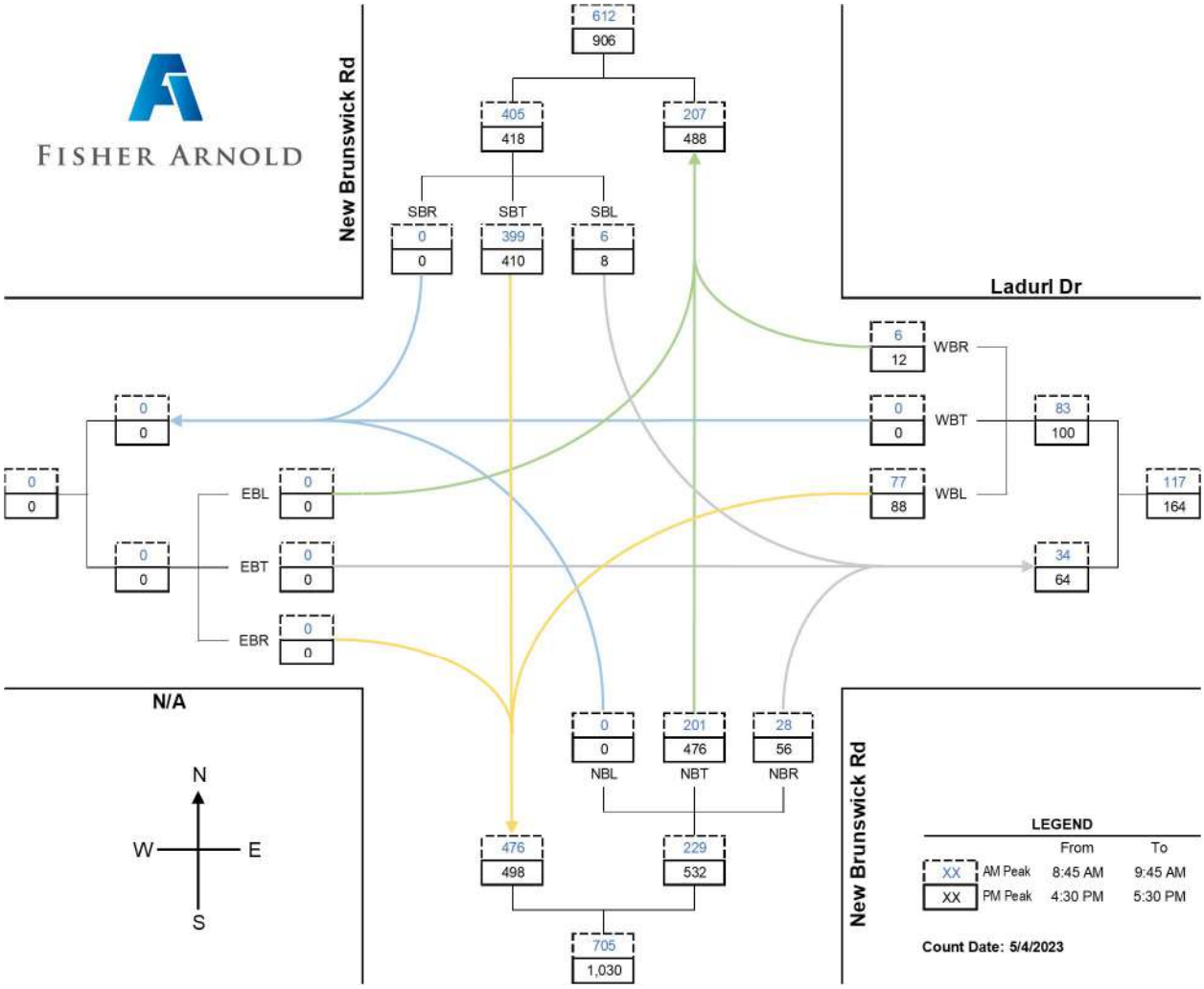


Figure 24. Future Peak Hour Traffic Volumes for No-Build 2025 (New Brunswick Rd at Ladurl Dr)

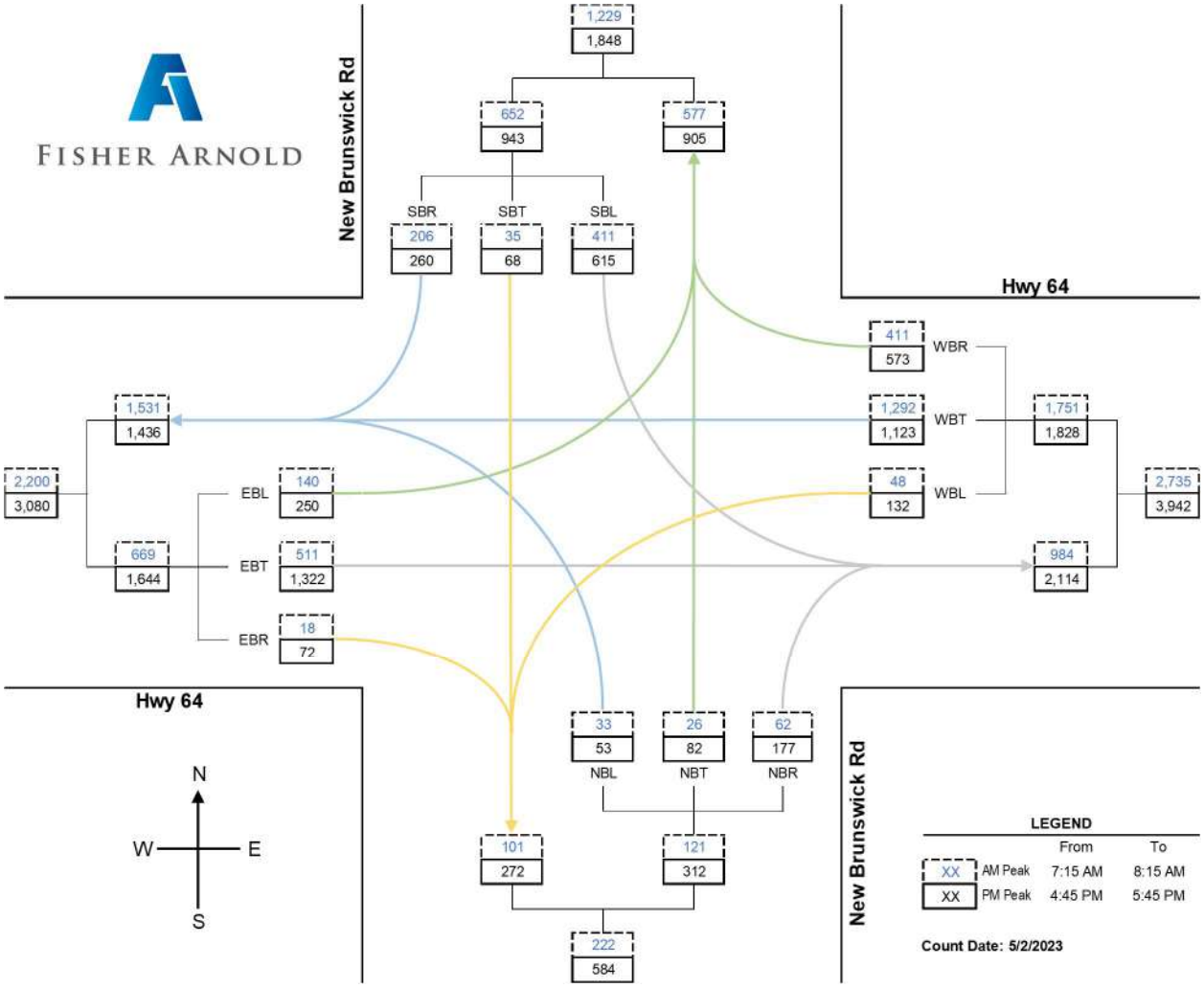


Figure 25. Future Peak Hour Traffic Volumes for Build 2025 (New Brunswick Dr at Hwy 64)

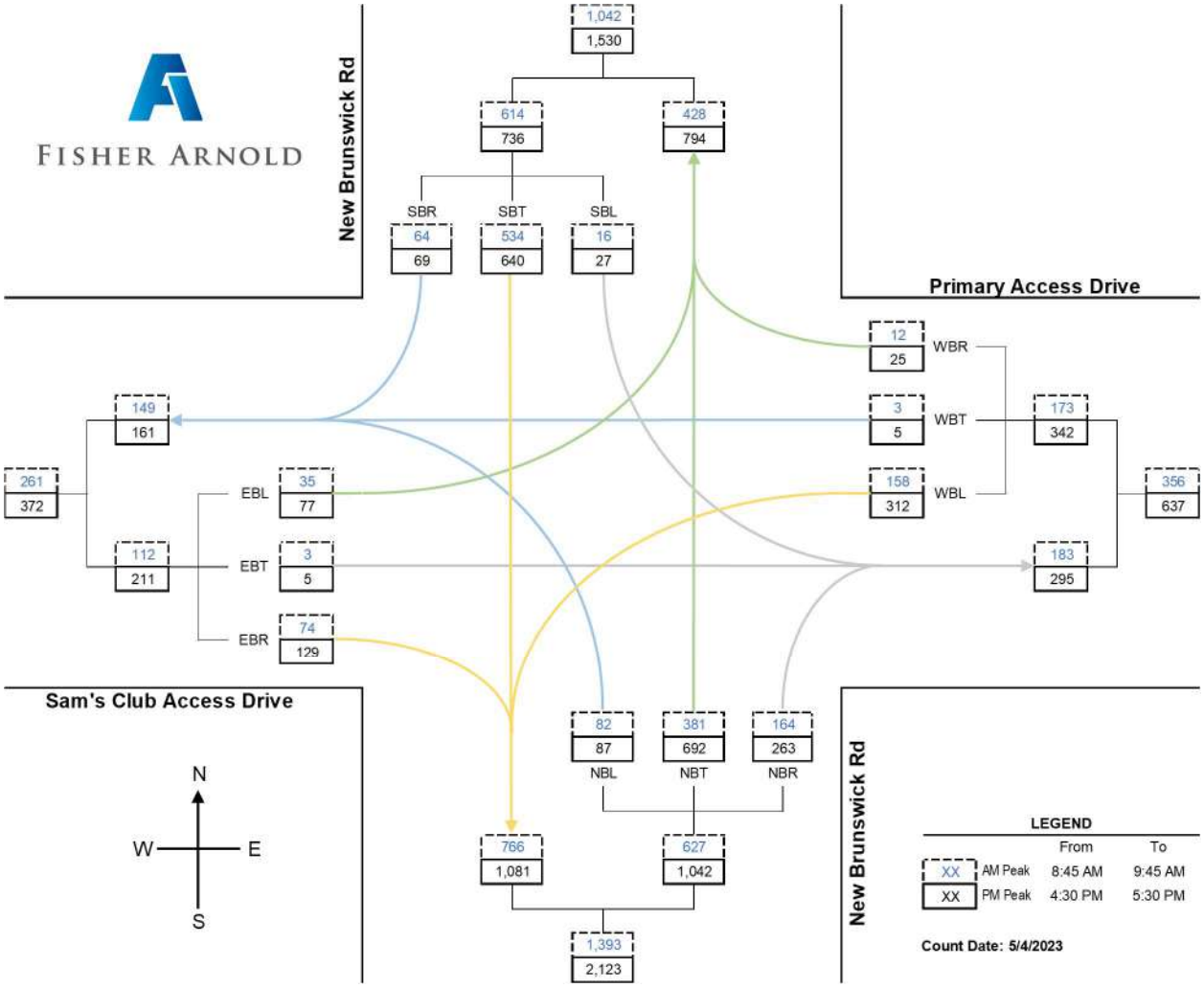


Figure 26. Future Peak Hour Traffic Volumes for Build 2025 (New Brunswick at Sam's Club / Primary Access Drive)

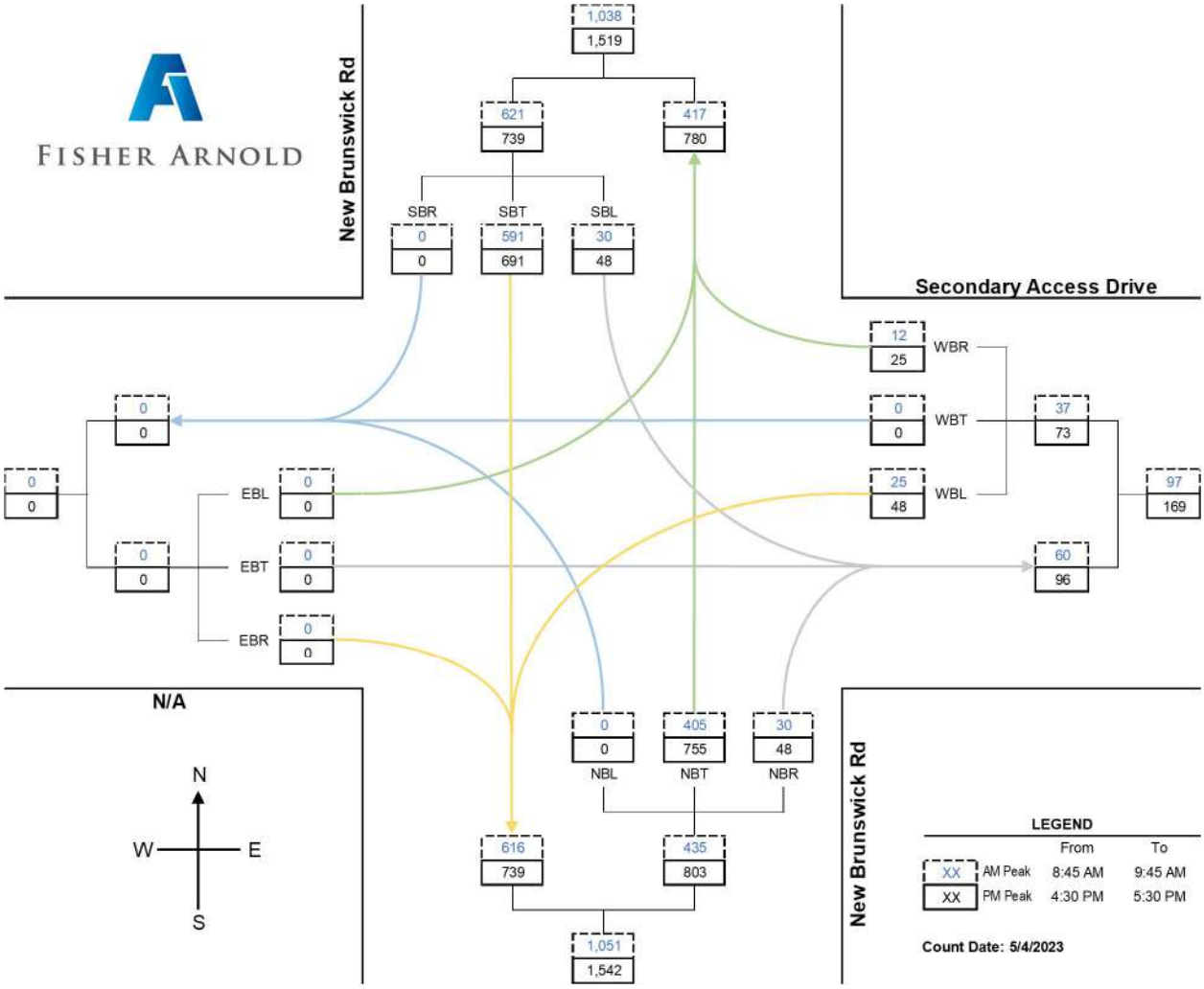


Figure 27. Future Peak Hour Traffic Volumes for Build 2025 (New Brunswick Rd at Secondary Access Drive)

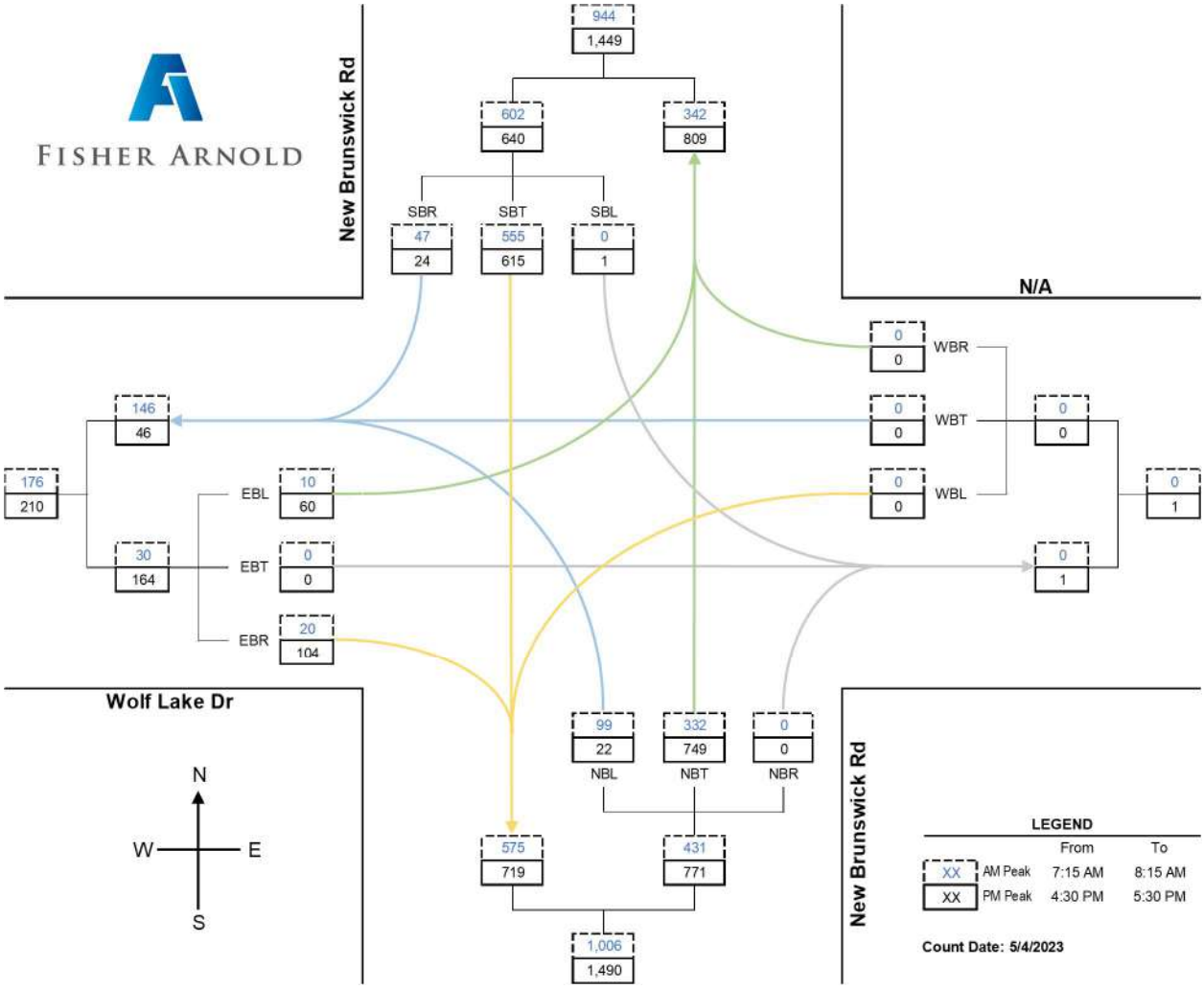


Figure 28. Future Peak Hour Traffic Volumes for Build 2025 (New Brunswick Rd at Wolf Lake Dr)

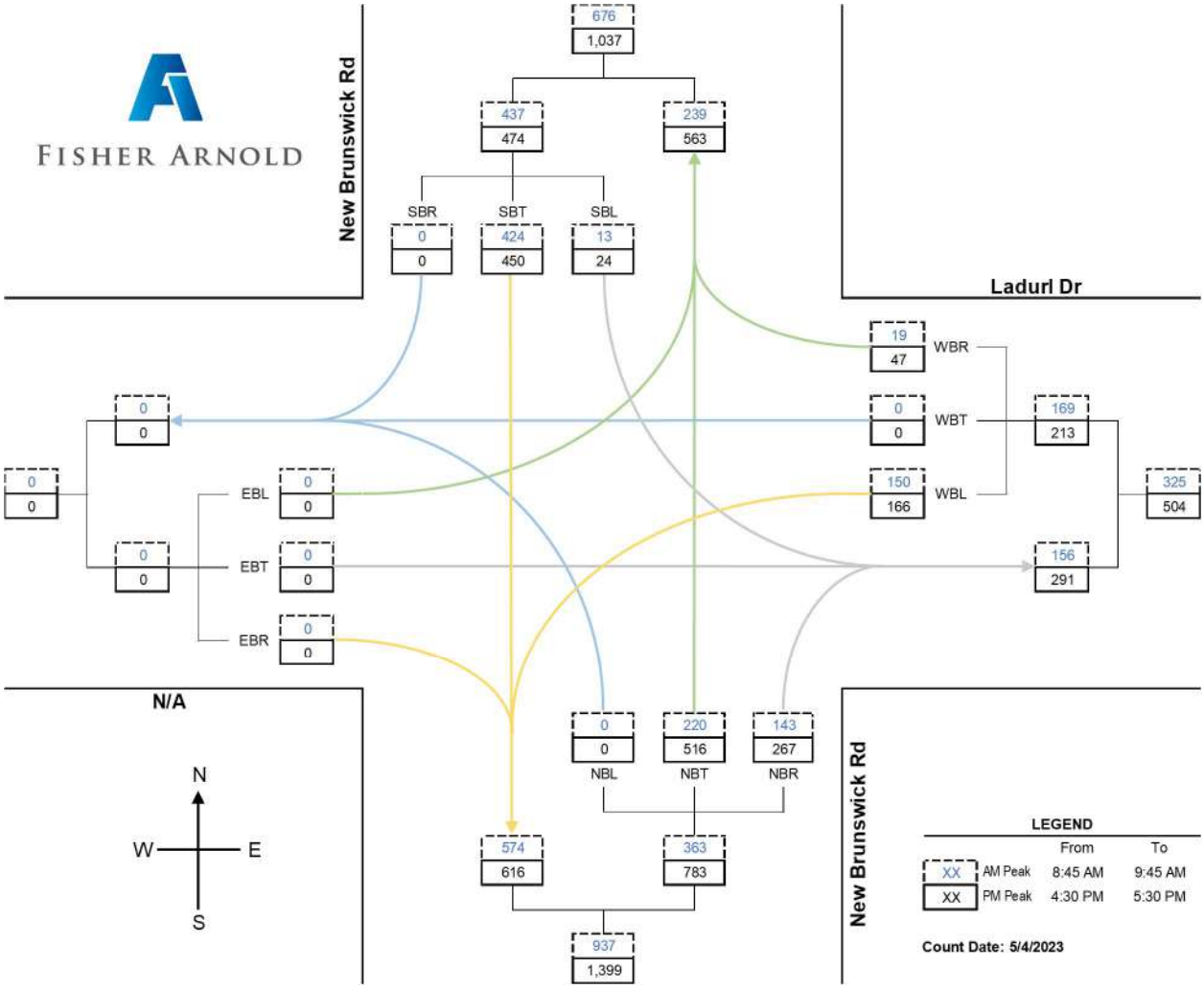


Figure 29. Future Peak Hour Traffic Volumes for Build 2025 (New Brunswick Rd at Ladurl Dr)

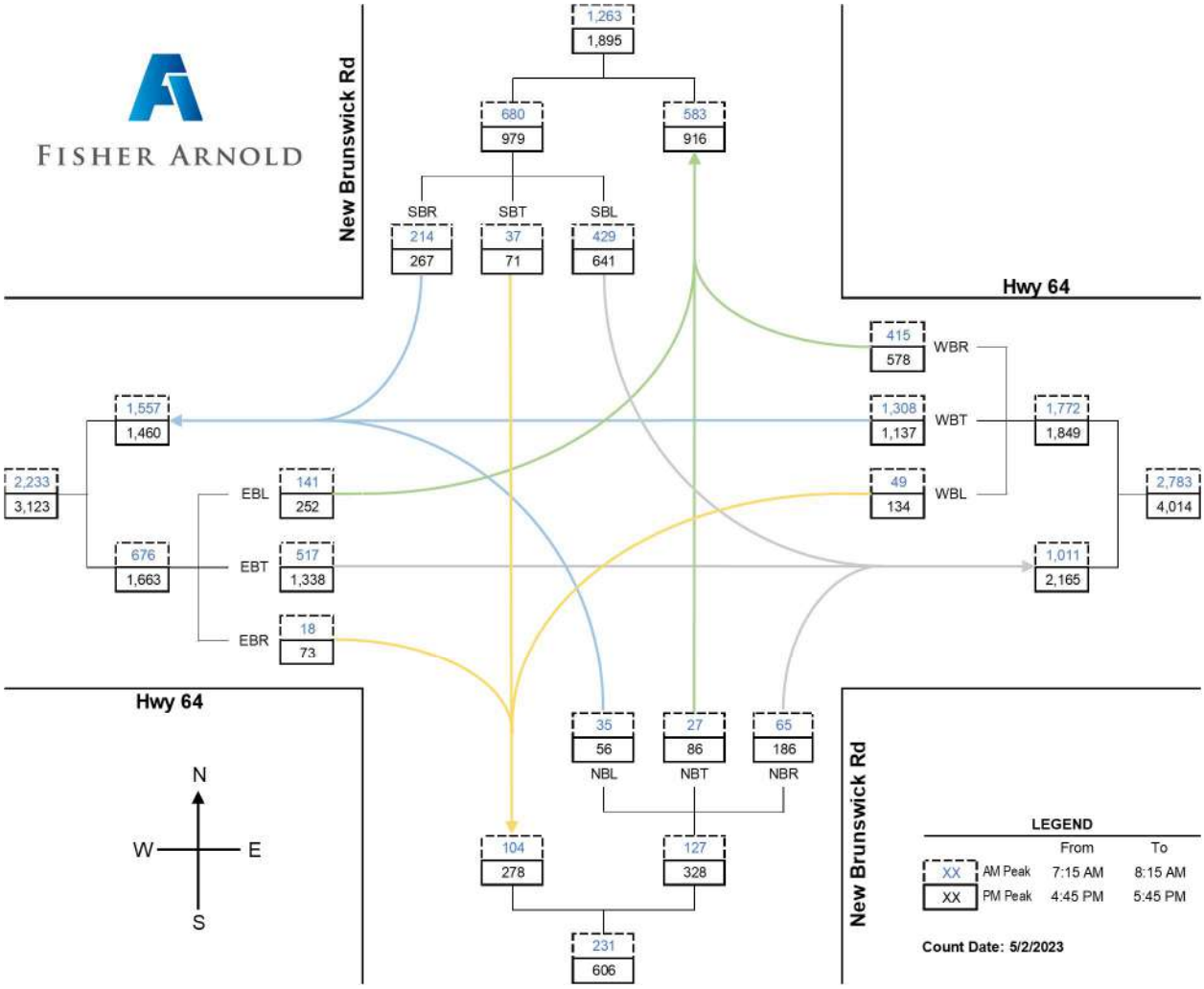


Figure 30. Future Peak Hour Traffic Volumes for Build 2028 (New Brunswick Rd at Hwy 64)

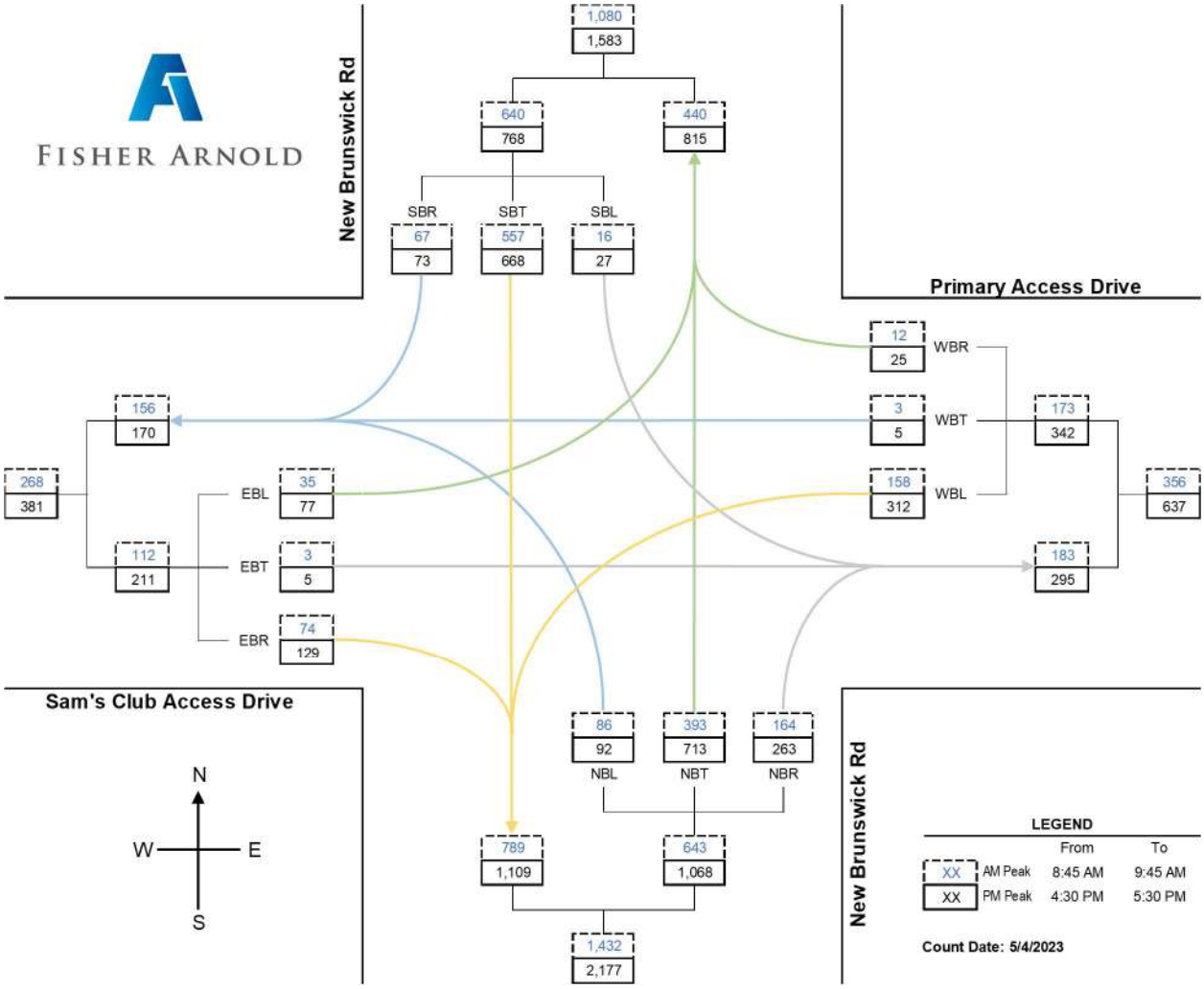


Figure 31. Future Peak Hour Traffic Volumes for Build 2028 (New Brunswick Rd at Sam's Club / Primary Access Drive)

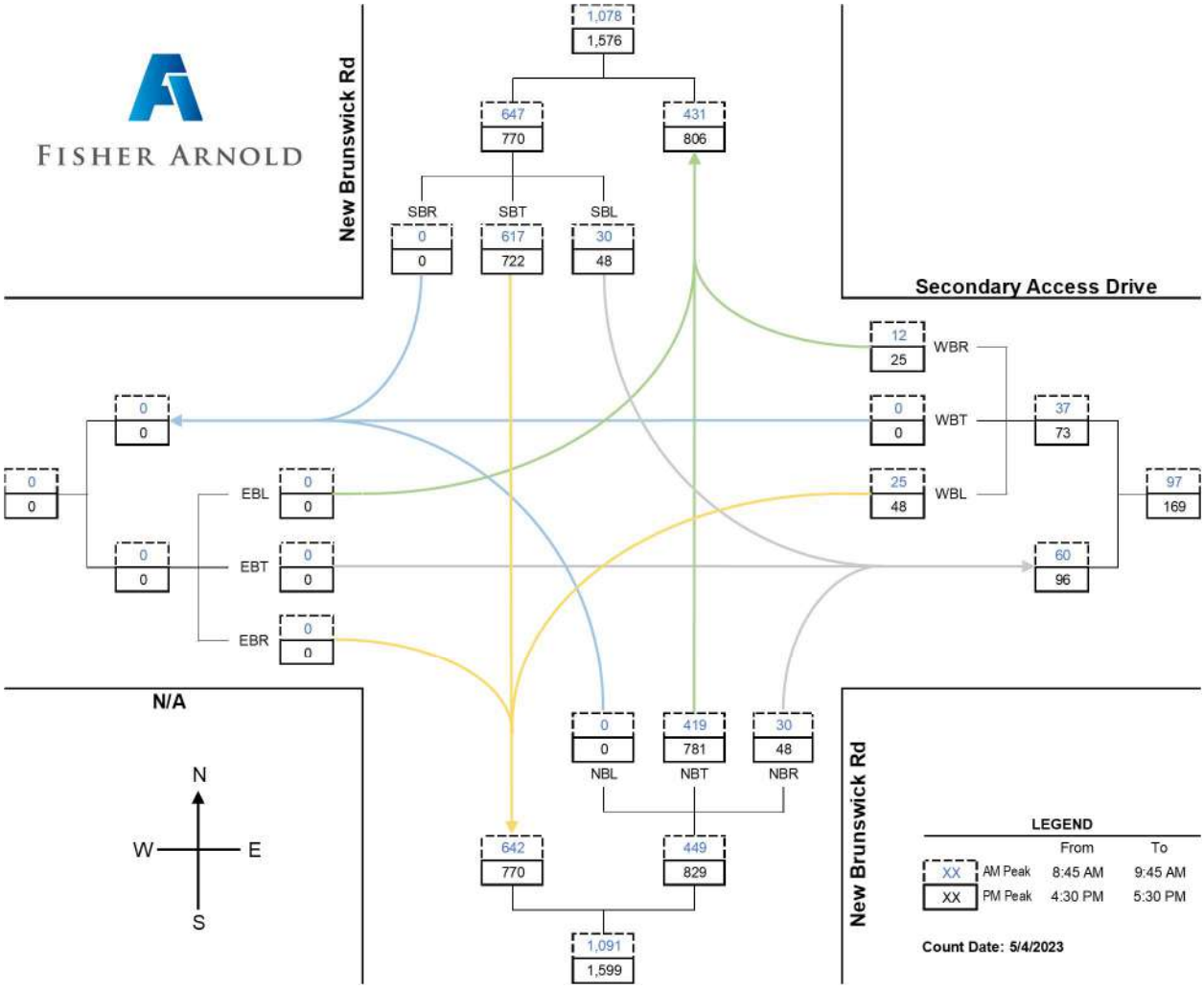


Figure 32. Future Peak Hour Traffic Volumes for Build 2028 (New Brunswick Rd at Secondary Access Drive)

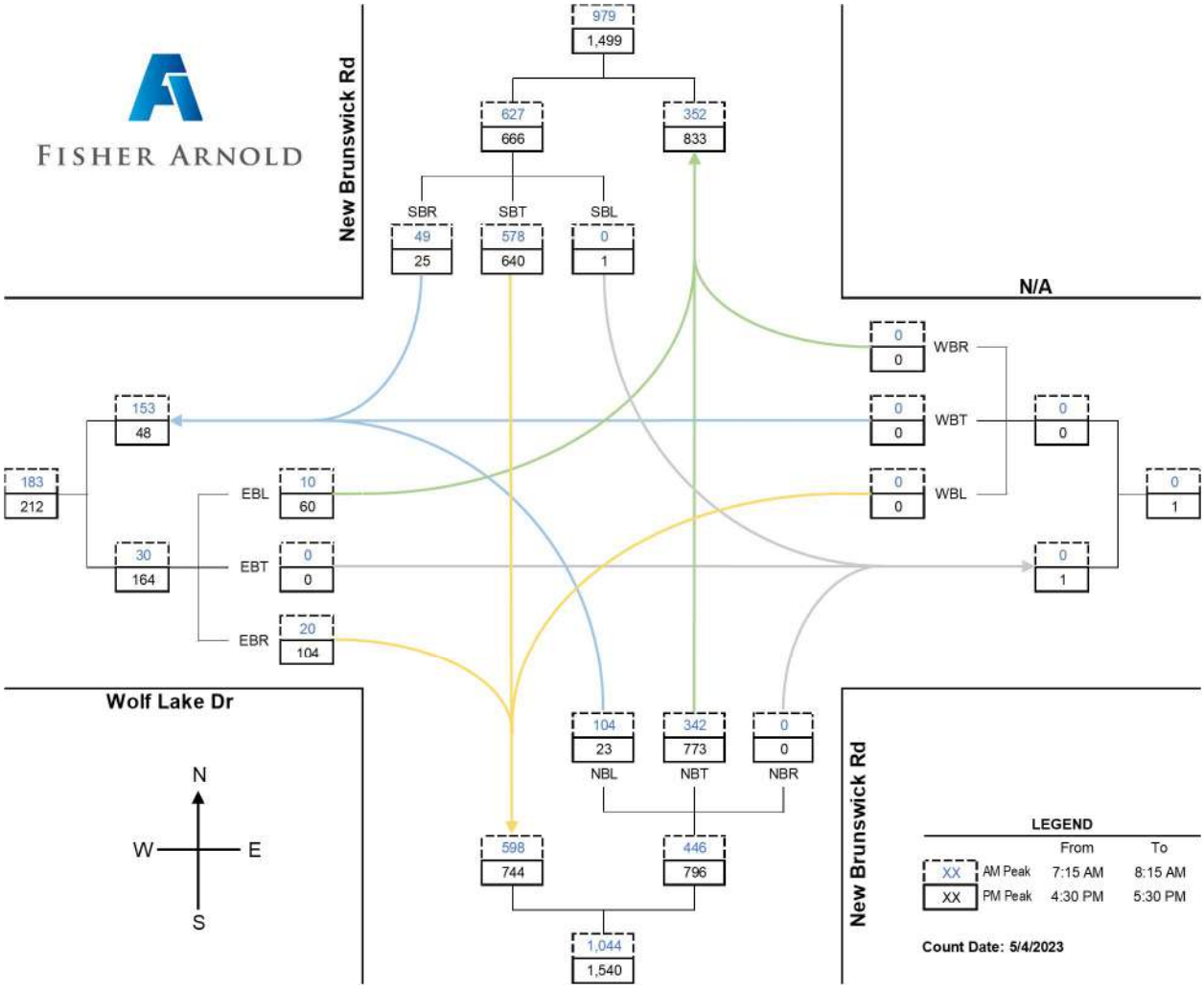


Figure 33. Future Peak Hour Traffic Volumes for Build 2028 (New Brunswick Rd at Wolf Lake Dr)

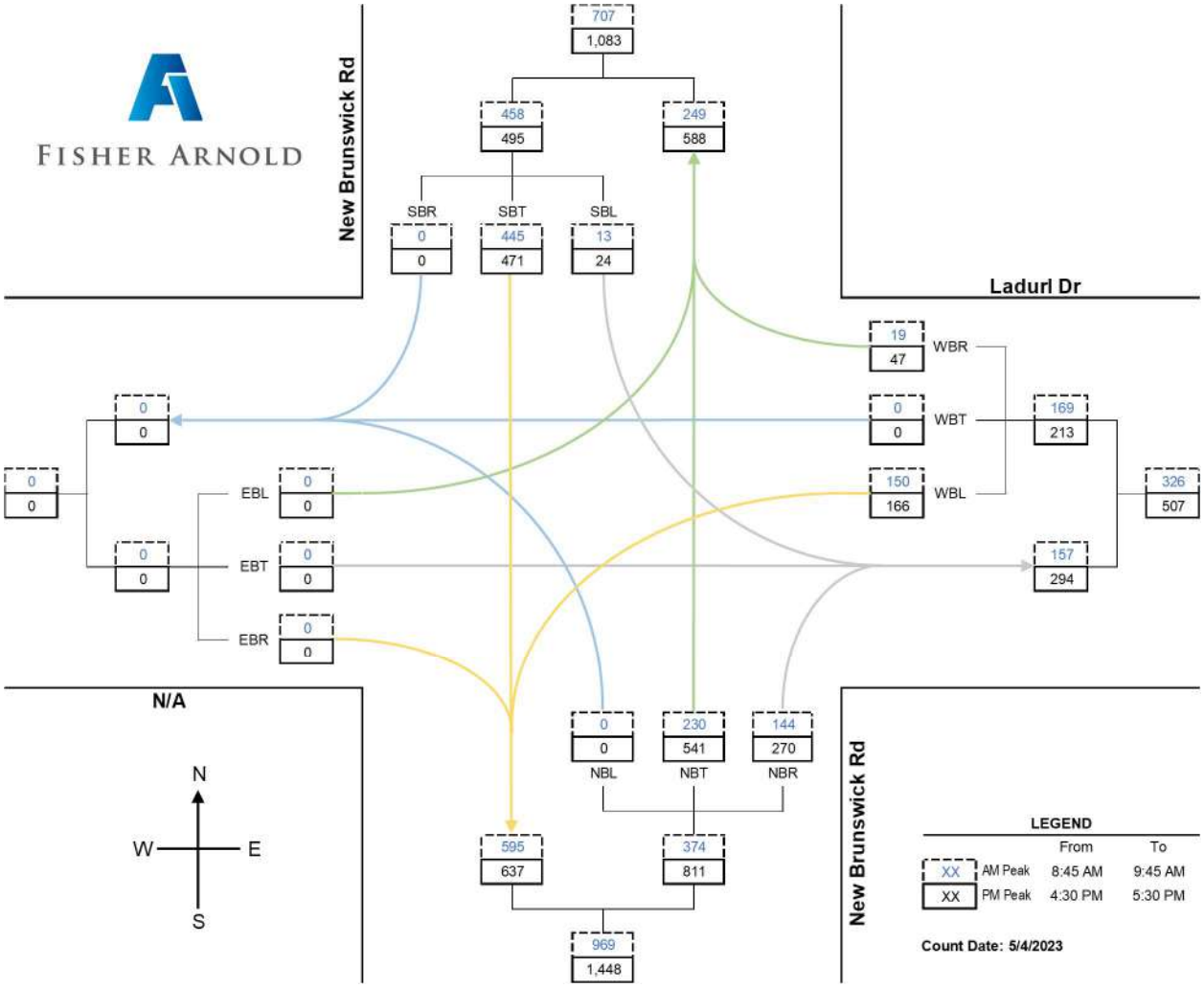


Figure 34. Future Peak Hour Traffic Volumes for Build 2028 (New Brunswick Rd at Ladurl Dr)

CAPACITY ANALYSIS

A capacity analysis was performed to determine how the studied intersection(s) will handle future traffic. Results are measured by Level-of-Service (LOS) and volume-to-capacity (v/c) ratios.

LOS for an intersection is defined in the Highway Capacity Manual in terms of delay, which is a measure of driver discomfort, frustration, fuel consumption and lost travel time. Six LOS are defined with letters designating each level from A to F, with LOS "A" representing the best operating conditions and LOS "F" representing the worst. Table 6 shows the ranges in average vehicle delay, measured in seconds per vehicle, associated with each LOS letter grade.

Table 6. Level-of-Service

Level-of-Service	Average Total Delay (Sec/Veh)	
	Unsignalized	Signalized
A	≤10	≤10
B	>10 and ≤15	>10 and ≤20
C	>15 and ≤25	>20 and ≤35
D	>25 and ≤35	>35 and ≤55
E	>35 and ≤50	>55 and ≤80
F	>50	>80

Volume to Capacity (v/c) is the ratio between the traffic volume of a road and the capacity of a road. If the v/c ratio exceeds 1.0 the LOS is automatically an "F" even if the delay threshold is not met.

A capacity analysis was performed at the following intersections using Synchro 11 software:

- **New Brunswick Rd at Hwy 64 (signalized)**
- **New Brunswick Rd at Old Brunswick Rd (unsignalized)**
- **New Brunswick Rd at Sam's Club / Primary Access Drive (unsignalized and signalized)**
- **New Brunswick Rd at Secondary Access Drive (unsignalized)**
- **New Brunswick Rd at Wolf Lake Dr (unsignalized)**
- **New Brunswick Rd at Ladurl Dr (unsignalized)**

The following conditions were analyzed for each of the above-mentioned intersections:

1. **Existing 2023**: Shows existing traffic level with no intersection improvements or developments. Existing intersection control was utilized. If signalized, existing signal timings were utilized.
2. **No-Build 2025**: Shows opening day future traffic impacts with the new development using Existing 2023 and Background 2025 traffic volumes. Existing intersection control was utilized. If signalized, existing signal timings were utilized.
3. **Build 2025**: Shows opening day future traffic impacts with the new development using Existing, Background, Trip Generation, and distribution of Old Brunswick Rd closure traffic volumes. Existing signal timings were utilized for Hwy 64, proposed signal timings were utilized for Sam's Club / Primary Access Drive.
4. **Build 2028**: Shows future traffic impacts three (3) years past opening day using Existing, Background, Trip Generation, and distribution of Old Brunswick Rd closure traffic volumes. Existing signal timings were utilized for Hwy 64, proposed signal timings were utilized for Sam's Club / Primary Access Drive.

Intersection of New Brunswick Rd and Hwy 64

A capacity analysis was performed at the signalized intersection of New Brunswick Rd and Hwy 64. The results of the capacity analysis displayed in Table 7 show the overall intersection performed with a favorable LOS "C" for all analyzed conditions, except for the Build PM peak hours which slipped to a "D". Existing signal timings were maintained for all conditions.

When comparing the No-Build 2025 and Build 2025 conditions, intersection LOS remained at "C" for the AM peak hour, but slipped from a "C" to a "D" in the PM peak hour. The overall delay increased by 5.8 sec/veh in the AM peak hour and 10.4 sec/veh in the PM peak hour. The results show the highest increase in delay for the EBL and WBT movements. The EBL movement increased delay by 20.0 and 23.7 sec/veh for the AM and PM periods, respectively. The WBT movement increased delay by 8.6 and 18.4 sec/veh for the AM and PM periods, respectively. The 2025 EBL queue length increased in the PM peak hour from 127' (No-Build) to 361' (Build). The EBL turn Volume-to-Capacity (v/c) ratio increased from 0.70 to 0.90 in the PM peak hour. Similarly, the WBT v/c ratio increased from 0.74 to 0.96 in the PM peak hour.

See Appendix F for the capacity reports.

Table 7. Results of Capacity Analysis (New Brunswick and Hwy 64)

INTERSECTION OF NEW BRUNSWICK AND HWY 64																									
Movement	Existing 2023 Signalized						No-Build 2025 Signalized						Build 2025 Signalized						**Change in 2025 Delay**		Build 2028 Signalized					
	AM			PM			AM			PM			AM			PM			**AM**	**PM**	AM			PM		
	Delay sec/veh	LOS	QUEUE	Delay sec/veh	LOS	QUEUE	Delay sec/veh	LOS	QUEUE	Delay sec/veh	LOS	QUEUE	Delay sec/veh	LOS	QUEUE	Delay sec/veh	LOS	QUEUE	**Delay sec/veh**	**Delay sec/veh**	Delay sec/veh	LOS	QUEUE	Delay sec/veh	LOS	QUEUE
EBL	21.4	C	51	40.3	D	127	21.6	C	52	40.0	D	127	41.6	D	134	63.7	E	361	**20.0**	**23.7**	43.7	D	137	70.7	E	364
EBT	16.2	B	177	36.2	D	765	16.5	B	180	37.7	D	776	18.0	B	189	44.9	D	776	**1.5**	**7.2**	18.6	B	194	48.6	D	790
EBR	0.1	A	0	0.2	A	0	0.1	A	0	0.2	A	0	0.1	A	0	0.3	A	0	**0.0**	**0.1**	0.1	A	0	0.3	A	0
WBL	9.5	A	33	39.2	D	129	9.7	A	33	39.3	D	129	11.1	B	35	36.4	D	116	**1.4**	**-2.9**	11.4	B	37	37.0	D	119
WBT	22.0	C	451	27.5	C	488	22.6	C	462	28.3	C	494	31.2	C	620	46.7	D	588	**8.6**	**18.4**	32.5	C	634	48.7	D	601
WBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-	-	-
NBL	32.5	C	43	30.0	C	54	32.3	C	43	29.9	C	55	31.2	C	42	29.6	C	55	**-1.1**	**-0.3**	31.0	C	43	29.9	C	57
NBT	53.7	D	43	60.0	E	108	54.0	D	46	61.1	E	113	54.5	D	51	65.5	E	125	**0.5**	**4.4**	54.7	D	53	67.9	E	133
NBR	2.3	A	0	15.2	B	68	2.4	A	0	17.4	B	77	2.4	A	0	21.4	C	90	**0.0**	**4.0**	2.6	A	0	25.4	C	114
SBL	55.6	E	186	54.0	D	244	55.4	E	191	53.8	D	251	54.6	D	217	53.7	D	308	**-0.8**	**-0.1**	54.3	D	224	53.9	D	322
SBT	12.9	B	80	25.3	C	148	12.6	B	81	25.7	C	155	11.4	B	92	27.4	C	249	**-1.2**	**1.7**	13.1	B	104	28.4	C	259
SBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-	-	-
Intersection	24.0	C	-	33.6	C	-	24.4	C	-	34.5	C	-	30.2	C	-	44.9	D	-	**5.8**	**10.4**	31.2	C	-	47.3	D	-

Intersection of New Brunswick Rd and Old Brunswick Rd

A capacity analysis was performed at the unsignalized intersection of New Brunswick Rd and Old Brunswick Rd. As part of the proposed development, Old Brunswick Rd will be closed; therefore, only 2023 Existing and 2025 No-Build conditions were analyzed.

The results of the capacity analysis displayed in Table 8 show the overall intersection performed with a favorable delay of less than 1.2 seconds per vehicle for all analyzed conditions. Existing intersection control (Two-Way-Stop-Controlled) was maintained for all conditions.

It should be noted that this intersection is often blocked by Southbound traffic as it queues at the Hwy 64 intersection. This blockage effectively increases the WBL delay.

See Appendix F for the capacity reports.

Table 8. Results of Capacity Analysis (New Brunswick Rd and Old Brunswick Rd)

INTERSECTION OF NEW BRUNSWICK AND OLD BRUNSWICK RD												
Movement	Existing 2023 Unsignalized						No-Build 2025 Unsignalized					
	AM			PM			AM			PM		
	Delay sec/veh	LOS	QUEUE	Delay sec/veh	LOS	QUEUE	Delay sec/veh	LOS	QUEUE	Delay sec/veh	LOS	QUEUE
EBL	-	-	-	-	-	-	-	-	-	-	-	-
EBT	-	-	-	-	-	-	-	-	-	-	-	-
EBR	-	-	-	-	-	-	-	-	-	-	-	-
WBL	13.1	B	13	16.1	C	15	13.3	B	13	16.5	C	15
WBT	-	-	-	-	-	-	-	-	-	-	-	-
WBR	10.7	B	3	12.9	B	8	10.8	B	3	13.2	B	8
NBL	-	-	-	-	-	-	-	-	-	-	-	-
NBT	-	-	-	-	-	-	-	-	-	-	-	-
NBR	-	-	-	-	-	-	-	-	-	-	-	-
SBL	8.3	A	0	9.2	A	3	8.3	A	0	9.2	A	3
SBT	-	-	-	-	-	-	-	-	-	-	-	-
SBR	-	-	-	-	-	-	-	-	-	-	-	-
Intersection	1.1	A	-	1.2	A	-	1.1	A	-	1.2	A	-

Intersection of New Brunswick Rd and Sam's Club / Primary Access Drive

A capacity analysis was performed at the unsignalized intersection of New Brunswick Rd and Sam's Club Access Drive for 2023 Existing and 2025 No-Build conditions as a TWSC T-intersection. However, for the 2025 Build and 2028 Build conditions, the intersection is improved into a signalized four (4) way intersection to include the Primary Access Drive. A double WBL was also analyzed for the 2025 Build condition. The results of the capacity analysis are displayed in Table 9.

The overall intersection operated favorably with LOS "B" or better for all conditions, except for the PM Build conditions where the LOS slipped to "C". Similarly, all individual movements operated favorably with a LOS "C" or better, other than the 2025 Build and 2028 Build conditions where the EBT low volume movement resulted in LOS "D". The increase in intersection delay between 2025 No-Build (unsignalized) and 2025 Build (signalized) is 12.8 and 18.2 seconds per vehicle for the AM and PM periods, respectively.

The reported queue lengths based off the 2025 Build conditions are as follows:

- EBL: 65'
- WBL: 241' (single left option); 139' (double left option)
- NBL: 45'
- SBL: 18'

The results show the 2025 Build condition performs favorably with a traffic signal improvement. Phasing for this signal provided for protected-permissive left turns. As an option to reduce the WBL queue length, a double WBL turn movement with a protected left-turn phase is estimated to result in a queue length of 139'.

While traffic counts were also taken on a Saturday, the data shows similar volumes. It is reasonable to conclude the results of a Saturday analysis are similar as well. A separate analysis was not completed for this reason.

See Appendix F for the capacity reports.

Table 9. Results of Capacity Analysis (New Brunswick Rd at Sam's Club / Primary Access Drive)

INTERSECTION OF NEW BRUNSWICK AND SAM'S CLUB																								
Movement	Existing 2023 Unsignalized						No-Build 2025 Unsignalized						Build 2025 Signalized						**Change in 2025 Delay**		Build 2028 Signalized			
	AM			PM			AM			PM			AM			PM			**AM**	**PM**	AM			PM		
	Delay sec/veh	LOS	QUEUE	Delay sec/veh	LOS	QUEUE	Delay sec/veh	LOS	QUEUE	Delay sec/veh	LOS	QUEUE	Delay sec/veh	LOS	QUEUE	Delay sec/veh	LOS	QUEUE	**Delay sec/veh**	**Delay sec/veh**	Delay sec/veh	LOS	QUEUE	Delay sec/veh	LOS	QUEUE
EBL	15.1	C	0.3	18.6	C	23	15.4	C	8	19.3	C	25	23.2	C	37	22.0	C	65	**7.8**	**2.7**	20.5	C	35	22.1	C	65
EBT	-	-	-	-	-	-	-	-	-	-	-	-	39.3	D	10	36.0	D	13	**-**	**-**	36.0	D	10	36.0	D	13
EBR	10.7	B	0.4	11.6	B	20	10.7	B	10	11.7	B	20	6.7	A	14	6.5	A	29	**-4.0**	**-5.2**	4.5	A	13	6.5	A	29
WBL	-	-	-	-	-	-	-	-	-	-	-	-	35.9	D	123	32.8	C	241	**-**	**-**	32.8	C	117	33.5	C	241
WBT	-	-	-	-	-	-	-	-	-	-	-	-	20.1	C	19	13.1	B	25	**-**	**-**	18.1	B	18	13.2	B	25
WBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-	-	-
NBL	8.9	A	0.3	9.2	A	8	9.0	A	8	9.3	A	8	8.4	A	42	12.4	B	45	**-0.6**	**3.1**	10.3	B	47	12.6	B	47
NBT	-	-	-	-	-	-	-	-	-	-	-	-	10.2	B	137	19.6	B	300	**-**	**-**	12.4	B	153	19.3	B	304
NBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-	-	-
SBL	-	-	-	-	-	-	-	-	-	-	-	-	8.0	A	12	10.8	B	18	**-**	**-**	9.6	A	13	10.8	B	18
SBT	-	-	-	-	-	-	-	-	-	-	-	-	15.3	B	186	22.1	C	218	**-**	**-**	18.3	B	209	22.1	C	230
SBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-	-	-
Intersection	2.2	A	-	2.9	A	-	2.2	A	-	2.9	A	-	15.0	B	-	21.1	C	-	**12.8**	**18.2**	16.6	B	-	21.0	C	-

INTERSECTION OF NEW BRUNSWICK AND SAM'S CLUB with Double WBL																				
Movement	Existing 2023 Unsignalized						No-Build 2025 Unsignalized						Build 2025 - Mitigation Signalized						**Change in 2025 Delay**	
	AM			PM			AM			PM			AM			PM			**AM**	**PM**
	Delay sec/veh	LOS	QUEUE	Delay sec/veh	LOS	QUEUE	Delay sec/veh	LOS	QUEUE	Delay sec/veh	LOS	QUEUE	Delay sec/veh	LOS	QUEUE	Delay sec/veh	LOS	QUEUE	**Delay sec/veh**	**Delay sec/veh**
EBL	15.1	C	0.3	18.6	C	23	15.4	C	8	19.3	C	25	26.9	C	40	23.9	C	66	**11.5**	**4.6**
EBT	-	-	-	-	-	-	-	-	-	-	-	-	39.7	D	10	36.0	D	13	**-**	**-**
EBR	10.7	B	0.4	11.6	B	20	10.7	B	10	11.7	B	20	2.9	A	0	6.5	A	29	**-7.8**	**-5.2**
WBL	-	-	-	-	-	-	-	-	-	-	-	-	41.2	D	77	43.1	D	139	**-**	**-**
WBT	-	-	-	-	-	-	-	-	-	-	-	-	22.1	C	21	14.2	B	26	**-**	**-**
WBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**	**-**
NBL	8.9	A	0.3	9.2	A	8	9.0	A	8	9.3	A	8	6.4	A	35	10.4	B	43	**-2.6**	**1.1**
NBT	-	-	-	-	-	-	-	-	-	-	-	-	8.3	A	122	16.1	B	279	**-**	**-**
NBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**	**-**
SBL	-	-	-	-	-	-	-	-	-	-	-	-	5.9	A	10	9.3	A	18	**-**	**-**
SBT	-	-	-	-	-	-	-	-	-	-	-	-	12.4	B	163	18.0	B	199	**-**	**-**
SBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**	**-**
Intersection	2.2	A	-	2.9	A	-	2.2	A	-	2.9	A	-	13.5	B	-	19.8	B	-	**11.3**	**16.9**

Intersection of New Brunswick Rd and Secondary Access Drive

A capacity analysis was performed at the proposed unsignalized intersection of New Brunswick Rd and Secondary Access Drive. As this is one of the two main access drives to the site, only the 2025 Build and 2028 Build conditions were analyzed. The results of the capacity analysis displayed in Table 10 show the overall intersection performed with a favorable LOS "A" and average delay per vehicle of less than 2 seconds.

The reported queue lengths based off the 2025 Build condition are as follows:

- WBL: 20'
- SBL: 5'

See Appendix F for the capacity reports.

Table 10. Results of Capacity Analysis (New Brunswick Rd and Secondary Access Drive)

INTERSECTION OF NEW BRUNSWICK AND SECONDARY ACCESS DRIVE												
Movement	Build 2025 Unsignalized						Build 2028 Unsignalized					
	AM			PM			AM			PM		
	Delay sec/veh	LOS	QUEUE	Delay sec/veh	LOS	QUEUE	Delay sec/veh	LOS	QUEUE	Delay sec/veh	LOS	QUEUE
EBL	-	-	-	-	-	-	-	-	-	-	-	-
EBT	-	-	-	-	-	-	-	-	-	-	-	-
EBR	-	-	-	-	-	-	-	-	-	-	-	-
WBL	14.3	B	5	21.9	C	18	14.5	B	5	22.7	C	20
WBT	-	-	-	-	-	-	-	-	-	-	-	-
WBR	9.8	A	3	11.7	B	5	9.8	A	3	11.8	B	5
NBL	-	-	-	-	-	-	-	-	-	-	-	-
NBT	-	-	-	-	-	-	-	-	-	-	-	-
NBR	-	-	-	-	-	-	-	-	-	-	-	-
SBL	8.4	A	3	10.0	B	5	8.5	A	3	10.2	B	5
SBT	-	-	-	-	-	-	-	-	-	-	-	-
SBR	-	-	-	-	-	-	-	-	-	-	-	-
Intersection	0.7	A	-	1.2	A	-	0.7	A	-	1.1	A	-

Intersection of New Brunswick Rd and Wolf Lake Dr

A capacity analysis was performed at the proposed unsignalized intersection of New Brunswick Rd and Wolf Lake Dr. All four (4) conditions were analyzed as unsignalized for this intersection. The results of the capacity analysis displayed in Table 11 show the overall intersection performed with a favorable LOS "A" and average delay per vehicle of less than 2 seconds.

The reported queue lengths based off the 2025 Build condition are as follows:

- EBL: 18'
- NBL: 10'

While traffic counts were also taken on a Saturday, the data shows similar volumes. It is reasonable to conclude the results of a Saturday analysis are similar as well. A separate analysis was not completed for this reason.

See Appendix F for the capacity reports.

Table 11. Results of Capacity Analysis (New Brunswick Rd and Wolf Lake Dr)

INTERSECTION OF NEW BRUNSWICK AND WOLF LAKE DRIVE																									
Movement	Existing 2023 Unsignalized						No-Build 2025 Unsignalized						Build 2025 Unsignalized						**Change in 2025 Delay**		Build 2028 Unsignalized					
	AM			PM			AM			PM			AM			PM			**AM**	**PM**	AM			PM		
	Delay sec/veh	LOS	QUEUE	Delay sec/veh	LOS	QUEUE	Delay sec/veh	LOS	QUEUE	Delay sec/veh	LOS	QUEUE	Delay sec/veh	LOS	QUEUE	Delay sec/veh	LOS	QUEUE	**Delay sec/veh**	**Delay sec/veh**	Delay sec/veh	LOS	QUEUE	Delay sec/veh	LOS	QUEUE
EBL	14.1	B	0.1	14.9	B	13	14.4	B	3	15.2	C	13	16.2	C	3	18.7	C	18.0	**1.8**	**3.5**	16.7	C	3	19.3	C	18
EBT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-	-	-
EBR	10.0	B	0.1	10.8	B	13	10.1	B	3	10.9	B	13	10.5	B	3	11.6	B	15	**0.4**	**0.7**	10.6	B	3	11.8	B	15
WBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-	-	-
WBT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-	-	-
WBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-	-	-
NBL	8.8	A	0.3	8.6	A	3	8.9	A	8	8.6	A	3	9.3	A	10	9.1	A	3	**0.4**	**0.5**	9.5	A	10	9.2	A	3
NBT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-	-	-
NBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-	-	-
SBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-	-	-
SBT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-	-	-
SBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-	-	-
Intersection	1.5	A	-	1.9	A	-	1.5	A	-	1.9	A	-	1.2	A	-	1.6	A	-	**-0.3**	**-0.3**	1.2	A	-	1.6	A	-

Intersection of New Brunswick Rd and Ladurl Dr

A capacity analysis was performed at the proposed unsignalized intersection of New Brunswick Rd and Ladurl Dr. All four (4) conditions were analyzed as unsignalized for this intersection. The results of the capacity analysis displayed in Table 12 show the overall intersection performed with a favorable LOS "A" or better and an average delay per vehicle of less than 3.3 seconds.

The reported queue lengths based off the 2025 Build condition are as follows:

- WBL: 65'
- SBL: 3'

See Appendix F for the capacity reports.

Table 12. Results of Capacity Analysis (New Brunswick Rd and Wolf Lake Dr)

INTERSECTION OF NEW BRUNSWICK AND LADURL DR																									
Movement	Existing 2023 Unsignalized						No-Build 2025 Unsignalized						Build 2025 Unsignalized						**Change in 2025 Delay**		Build 2028 Unsignalized					
	AM			PM			AM			PM			AM			PM			**AM**	**PM**	AM			PM		
	Delay sec/veh	LOS	QUEUE	Delay sec/veh	LOS	QUEUE	Delay sec/veh	LOS	QUEUE	Delay sec/veh	LOS	QUEUE	Delay sec/veh	LOS	QUEUE	Delay sec/veh	LOS	QUEUE	**Delay sec/veh**	**Delay sec/veh**	Delay sec/veh	LOS	QUEUE	Delay sec/veh	LOS	QUEUE
EBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EBT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WBL	12.0	B	0.5	15.0	C	20	12.1	B	13	15.3	C	20	14.8	B	33	24.3	C	65	**2.7**	**9.0**	15.1	C	33	25.6	D	68
WBT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WBR	9.0	A	0	10.0	B	3	9.0	A	0	10.1	B	3	9.6	A	3	11.7	B	8	**0.6**	**1.6**	9.6	A	3	11.8	B	8
NBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NBT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SBL	7.7	A	0	8.5	A	0	7.8	A	0	8.6	A	0	8.2	A	0	9.6	A	3	**0.4**	**1.0**	8.2	A	0	9.8	A	3
SBT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Intersection	1.5	A	-	1.5	A	-	1.4	A	-	1.5	A	-	2.6	A	-	3.3	A	-	**1.2**	**1.8**	2.5	A	-	3.3	A	-

TRAFFIC SIGNAL WARRANT ANALYSIS

A traffic signal warrant analysis was performed for the Build 2025 condition at the intersection of New Brunswick Rd and Sam's Club / Primary Access Drive. The Manual on Uniform Traffic Control Devices (MUTCD) outlines nine (9) different warrants to justify the installation of a traffic signal. The traffic signal should not be installed unless one or more of these warrants are satisfied. After reviewing the available traffic data, only Warrant 1 (Eight-Hour Vehicular Volume) was considered for analysis.

Development of Traffic Volumes

Twelve hours of trip generations were estimated from the ITE Trip Generation Manual, Appendix A. To produce the volumes used in this analysis, each hour of trip generation was added to the hourly sum of the 2025 Horizon Year traffic volumes, plus volumes from the Old Brunswick Rd closure, and minus Trip Reductions. Right turning movements were removed from these volumes for analysis.

Warrant 1: Eight-Hour Vehicular Volume

The MUTCD states the following for Warrant 1:

The need for a traffic control signal shall be considered if an engineering study finds that one of the following conditions exist for each of any 8 hours of an average day:

A. *The vehicles per hour given in both of the 100 percent columns of Condition A in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection; or*
B. *The vehicles per hour given in both of the 100 percent columns of Condition B in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection.*

In applying each condition, the major-street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of these 8 hours.

Table 4C-1. Warrant 1, Eight-Hour Vehicular Volume

Condition A—Minimum Vehicular Volume

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	500	400	350	280	150	120	105	84
2 or more	1	600	480	420	336	150	120	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112

Condition B—Interruption of Continuous Traffic

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	750	600	525	420	75	60	53	42
2 or more	1	900	720	630	504	75	60	53	42
2 or more	2 or more	900	720	630	504	100	80	70	56
1	2 or more	750	600	525	420	100	80	70	56

For Warrant 1 analysis, New Brunswick Rd is the major-street and Sam's Club / Primary Access Drive is the minor-street. The proposed condition shows two-lanes for the major-street and one-lane for the minor-street. With the traffic conditions at this intersection, first Condition A is tested, and if not warranted then Condition B is also tested. The 2025 volumes for northbound and southbound New Brunswick were totaled and compared to the minimum requirements found in the 100% columns for Condition A. Similarly, 2025 westbound Primary Access Drive traffic volumes were compared to the minimum 100% columns in Conditions A. Again, right turning movement volumes were excluded from the volumes used for major and minor street traffic volumes.

The results of Warrant 1 Condition A analysis show that 12 of the required 8 hours were satisfied at the intersection of New Brunswick Rd and Sam's Club / Primary Access Drive under 2025 Build conditions. Condition A results are shown in Table 13. The 2025 Build traffic volumes do justify a traffic signal.

Warrant 1: Eight-Hour Vehicular Volume (Condition A) 100% Column from MUTCD Table 4C-1									
Intersection: New Brunswick Rd at Sam's Club / Access Drive						2025 Traffic Volumes			
Period		New Brunswick Rd (Major Street)				Sam's Club / Access Drive (Minor Street)			Hour Satisfied?
From	To	NB	SB	Total	Minimum Requirement	EB	WB	Minimum Requirement	Y / N
6:00 AM	7:00 AM	221	301	522	600	40	44	150	N
7:00 AM	8:00 AM	332	475	**807**	600	55	103	150	N
8:00 AM	9:00 AM	384	421	**805**	600	77	**170**	150	**Y**
9:00 AM	10:00 AM	354	503	**857**	600	132	**204**	150	**Y**
10:00 AM	11:00 AM	357	365	**722**	600	119	**236**	150	**Y**
11:00 AM	12:00 PM	445	444	**889**	600	131	**303**	150	**Y**
12:00 PM	1:00 PM	528	452	**980**	600	**177**	**394**	150	**Y**
1:00 PM	2:00 PM	446	383	**829**	600	**190**	**304**	150	**Y**
2:00 PM	3:00 PM	492	409	**901**	600	**170**	**365**	150	**Y**
3:00 PM	4:00 PM	506	515	**1,021**	600	**190**	**342**	150	**Y**
4:00 PM	5:00 PM	569	542	**1,111**	600	**206**	**380**	150	**Y**
5:00 PM	6:00 PM	619	540	**1,159**	600	**214**	**374**	150	**Y**
6:00 PM	7:00 PM	437	390	**827**	600	**175**	**359**	150	**Y**
7:00 PM	8:00 PM	427	292	**719**	600	142	**258**	150	**Y**

Results: 12 hours satsified out of minimum of 8 hours.

Note: Right Turn volumes are excluded from volumes used in this analysis.

Indicates Major Street Hour is satisfied.

Indicates Minor Street Hour is satisfied.

Table 13. Results of Warrant 1 Condition A

CRASH HISTORY

A Crash History was compiled for the intersections of New Brunswick Rd and Hwy 64, as well as New Brunswick Rd and Old Brunswick Rd. Crash Data was collected from TDOT's E-Trims website and analyzed for the years between 2020 and 2023.

The data provided by TDOT will not accurately distinguish between two intersections separated by a distance of less than 175', which is the case in this report. As a result, this analysis breaks the crash history down into three (3) segments: Hwy 64, New Brunswick Rd, and Old Brunswick Rd. Due to the road name similarity, the data might overlap.

The data shows most crashes were angle. The second most common type of crash was rear ends. There were zero (0) pedestrians struck during the studied time period, with zero (0) fatalities. The total number of crashes during the period of study was 269 along Hwy 64, 49 along New Brunswick, and 16 along Old Brunswick. The table below summarizes these findings. The raw data is found in the Appendix.

Table 14. Summary of Crash History

Type of Crash	Hwy 64	New Brunswick*	Old Brunswick*
Angle	194	29	8
Rear-End	69	5	5
Head-on	3	-	-
Other	30	11	3
Total	269	49	16

*Note: Data did not explicitly state type of crash, but numbers were estimated from descriptions.

RECOMMENDATIONS

Based on the results of the Capacity Analysis, Warrant Analysis, and Crash History, the following recommendations are made due to impacts from the proposed development.

1. **New Brunswick Rd at Hwy 64**
    a. Adjust signal timings to better serve future volumes.
    b. Increase EBL storage length from 200’ to 365’ plus 180’ upstream taper.
2. **New Brunswick Rd at Old Brunswick Rd**
    a. The closure of Old Brunswick Rd may improve intersection safety.
3. **New Brunswick Rd at Sam’s Club / Primary Access Drive**
    a. Signal control for the intersection is recommended as a traffic signal is warranted and a high number of peak hour left turns are expected into the site. Signal timing coordination with the intersection of Hwy 64 is recommended.
    b. Lane Configuration and Signal Phasing:
        i. Option A (single WBL): Provide one (1) lane entering and two (2) lanes exiting the site. The two (2) exiting lanes should be configured as one (1) Westbound Left-turn lane (245’ storage) and one (1) shared Westbound Thru/Right lane. Left turn phasing can be protected-permissive for all approaches.
        ii. Option B (double WBL): Provide one (1) lane entering and three (3) lanes exiting the site. The three (3) lanes exiting should be configurated as two (2) Westbound left-turn lanes (protected phasing) (140’ storage) and one (1) shared Westbound Thru/Right lane. All left turn phasing, other than WBL, can be protected-permissive.
    c. Restripe the New Brunswick Rd to include Stop Lines, NBL turn striping, and SBL turn striping.
4. **New Brunswick Rd at Secondary Access Drive**
    a. Stop control for the intersection is recommended.
    b. Provide one (1) lane entering and two (2) lanes exiting the site. The two (2) exiting lanes should be configured as one (1) Westbound Left-turn lane (50’ storage) and one (1) exclusive Westbound Right-turn lane.
5. **New Brunswick Rd at Wolf Lake Dr**
    a. No changes recommended due to acceptable LOS results.
6. **New Brunswick Rd at Ladurl Dr**
    a. No changes recommended due to acceptable LOS results.

APPENDIX

Appendix A – Traffic Counts

AUTO **East Leg: Hwy 64** **North Leg: New Brunswick Rd** **Date: Tuesday, May 2, 2023**

West Leg: Hwy 64 **South Leg: New Brunswick Rd** **By: Fisher Arnold**

	INTERVAL		Hwy 64 EASTBOUND				Hwy 64 WESTBOUND				New Brunswick Rd NORTHBOUND				New Brunswick Rd SOUTHBOUND				Directional		15 min.	Hourly
	From	To	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	E-W Total	N-S Total	Total	Total
	6:00 AM	6:15 AM	7	48	3	58	8	85	34	127	2	0	6	8	55	2	13	70	185	78	263	1,632
	6:15 AM	6:30 AM	9	82	2	93	7	124	42	173	4	3	17	24	48	2	13	63	266	87	353	1,938
	6:30 AM	6:45 AM	13	92	2	107	6	147	53	206	2	3	11	16	82	4	20	106	313	122	435	2,241
	6:45 AM	7:00 AM	11	101	0	112	6	236	80	322	7	9	19	35	77	4	31	112	434	147	581	2,512
	7:00 AM	7:15 AM	18	98	2	118	10	221	88	319	10	1	8	19	84	8	21	113	437	132	569	2,767
	7:15 AM	7:30 AM	11	118	2	131	10	271	76	357	8	4	11	23	90	10	45	145	488	168	656	**2,879**
	7:30 AM	7:45 AM	12	116	3	131	11	329	70	410	6	5	14	25	96	10	34	140	541	165	706	2,858
	7:45 AM	8:00 AM	23	141	6	170	18	406	106	530	7	8	18	33	65	5	33	103	700	136	836	2,771
	8:00 AM	8:15 AM	19	132	7	158	9	276	82	367	11	4	17	32	89	6	29	124	525	156	681	2,660
A	8:15 AM	8:30 AM	16	125	9	150	10	245	81	336	5	10	21	36	86	9	18	113	486	149	635	2,705
M	8:30 AM	8:45 AM	19	107	4	130	14	256	76	346	3	2	16	21	86	6	30	122	476	143	619	2,741
	8:45 AM	9:00 AM	25	152	8	185	21	261	92	374	13	11	21	45	76	17	28	121	559	166	725	2,735
	9:00 AM	9:15 AM	17	140	5	162	15	338	61	414	6	4	16	26	68	4	52	124	576	150	726	2,618
	9:15 AM	9:30 AM	13	157	7	177	11	269	56	336	6	6	14	26	93	5	34	132	513	158	671	2,434
	9:30 AM	9:45 AM	6	140	3	149	12	219	60	291	11	5	13	29	88	7	49	144	440	173	613	2,403
	9:45 AM	10:00 AM	8	140	3	151	18	238	73	329	8	5	10	23	73	7	25	105	480	128	608	2,389
	10:00 AM	10:15 AM	13	124	2	139	13	196	64	273	5	1	19	25	70	6	29	105	412	130	542	2,492
	10:15 AM	10:30 AM	23	187	8	218	18	251	52	321	8	2	19	29	37	8	27	72	539	101	640	2,616
	10:30 AM	10:45 AM	14	135	3	152	15	216	64	295	10	4	25	39	71	9	33	113	447	152	599	2,694
	10:45 AM	11:00 AM	28	187	5	220	24	258	70	352	10	3	13	26	75	12	26	113	572	139	711	2,873
	11:00 AM	11:15 AM	20	187	8	215	21	224	59	304	9	5	15	29	59	13	46	118	519	147	666	2,984
	11:15 AM	11:30 AM	21	201	6	228	13	262	60	335	8	12	20	40	67	7	41	115	563	155	718	3,125
	11:30 AM	11:45 AM	27	204	12	243	29	254	66	349	15	9	20	44	79	12	51	142	592	186	778	3,264
M	11:45 AM	12:00 PM	29	253	10	292	28	283	64	375	8	12	17	37	65	15	38	118	667	155	822	3,320
I	12:00 PM	12:15 PM	23	212	10	245	25	265	68	358	20	22	25	67	71	19	47	137	603	204	807	**3,333**
D	12:15 PM	12:30 PM	28	249	6	283	24	285	85	394	8	19	30	57	79	10	34	123	677	180	857	3,317
D	12:30 PM	12:45 PM	39	230	13	282	24	252	63	339	15	13	37	65	85	13	50	148	621	213	834	3,228
A	12:45 PM	1:00 PM	33	275	7	315	22	264	63	349	11	15	28	54	69	6	42	117	664	171	835	3,181
Y	1:00 PM	1:15 PM	35	225	13	273	22	255	74	351	10	7	28	45	81	9	32	122	624	167	791	3,176
	1:15 PM	1:30 PM	34	244	6	284	12	258	67	337	8	10	26	44	54	12	37	103	621	147	768	3,201
	1:30 PM	1:45 PM	33	227	6	266	34	247	75	356	10	11	25	46	80	9	30	119	622	165	787	3,261
	1:45 PM	2:00 PM	38	269	12	319	23	261	74	358	8	5	26	39	64	14	36	114	677	153	830	3,314
	2:00 PM	2:15 PM	15	265	15	295	7	255	74	336	19	9	36	64	74	7	40	121	631	185	816	3,364
	2:15 PM	2:30 PM	32	262	10	304	25	282	76	383	10	13	29	52	60	11	18	89	687	141	828	3,403
	2:30 PM	2:45 PM	25	255	6	286	20	262	78	360	6	12	31	49	98	6	41	145	646	194	840	3,517
	2:45 PM	3:00 PM	40	283	15	338	31	276	87	394	10	15	24	49	68	6	25	99	732	148	880	3,576
	3:00 PM	3:15 PM	25	292	7	324	33	188	98	319	10	14	36	60	99	17	36	152	643	212	855	3,641
	3:15 PM	3:30 PM	30	293	13	336	37	256	114	407	13	16	38	67	87	12	33	132	743	199	942	3,753
	3:30 PM	3:45 PM	22	270	10	302	24	224	83	331	14	16	33	63	144	11	48	203	633	266	899	3,806
	3:45 PM	4:00 PM	30	314	11	355	32	277	83	392	13	6	33	52	92	17	37	146	747	198	945	3,928
	4:00 PM	4:15 PM	19	325	15	359	42	242	94	378	14	16	45	75	107	16	32	155	737	230	967	3,973
	4:15 PM	4:30 PM	27	331	18	376	42	264	89	395	12	19	43	74	110	14	26	150	771	224	995	4,131
	4:30 PM	4:45 PM	20	358	11	389	22	282	106	410	8	15	40	63	110	11	38	159	799	222	1,021	4,163
P	4:45 PM	5:00 PM	30	288	13	331	39	253	118	410	11	21	46	78	112	19	40	171	741	249	990	**4,179**
M	5:00 PM	5:15 PM	28	357	19	404	31	331	110	472	11	24	28	63	145	14	27	186	876	249	1,125	4,128
	5:15 PM	5:30 PM	35	328	19	382	29	256	108	393	17	13	55	85	113	18	36	167	775	252	1,027	3,932
	5:30 PM	5:45 PM	37	338	20	395	32	274	114	420	12	15	42	69	111	9	33	153	815	222	1,037	3,799
	5:45 PM	6:00 PM	24	299	18	341	33	260	98	391	12	21	41	74	84	13	36	133	732	207	939	3,594
	6:00 PM	6:15 PM	34	300	17	351	48	248	90	386	11	13	38	62	87	7	36	130	737	192	929	3,468
	6:15 PM	6:30 PM	29	263	15	307	47	236	80	363	15	18	42	75	96	19	34	149	670	224	894	3,306
	6:30 PM	6:45 PM	25	310	15	350	34	231	72	337	10	9	31	50	52	8	35	95	687	145	832	3,161
	6:45 PM	7:00 PM	26	230	21	277	29	249	84	362	14	14	30	58	74	12	30	116	639	174	813	3,015
	7:00 PM	7:15 PM	23	268	18	309	31	177	69	277	15	14	40	69	69	13	30	112	586	181	767	2,848
	7:15 PM	7:30 PM	34	253	20	307	34	183	71	288	14	13	38	65	60	11	18	89	595	154	749	
	7:30 PM	7:45 PM	24	256	9	289	19	150	72	241	14	12	47	73	52	6	25	83	530	156	686	
	7:45 PM	8:00 PM	22	194	20	236	26	149	65	240	19	11	37	67	68	6	29	103	476	170	646	
	Movement Total		1,321	12,230	548	14,099	1,280	13,757	4,331	19,368	576	579	1,508	2,663	4,534	563	1,857	6,954	33,467	9,617	43,084	
	Movement % Distribution		9%	87%	4%	100%	7%	71%	22%	100%	22%	22%	57%	100%	65%	8%	27%	100%	78%	22%	100%	
	Approach Total		14,099				19,368				2,663				6,954							
	Approach % Distribution		33%				45%				6%				16%							

PEAK HOUR	INTERVAL		Hwy 64 EASTBOUND				Hwy 64 WESTBOUND				New Brunswick Rd NORTHBOUND				New Brunswick Rd SOUTHBOUND				Directional		Hourly	
	From	To	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	E-W Total	N-S Total	Total	PHF
AM	7:15 AM	8:15 AM	65	507	18	590	48	1,282	334	1,664	32	21	60	113	340	31	141	512	2,254	625	2,879	0.86
MIDDAY	12:00 PM	1:00 PM	123	966	36	1,125	95	1,066	279	1,440	54	69	120	243	304	48	173	525	2,565	768	3,333	0.97
PM	4:45 PM	5:45 PM	130	1,311	71	1,512	131	1,114	450	1,695	51	73	171	295	481	60	136	677	3,207	972	4,179	0.93

AUTO **East Leg: Old Brunswick Rd** **North Leg: New Brunswick Rd** **Date: Tuesday, May 2, 2023**

West Leg: N/A **South Leg: New Brunswick Rd** **By: Fisher Arnold**

	INTERVAL		N/A				Old Brunswick Rd				New Brunswick Rd				New Brunswick Rd				Directional		15 min.	Hourly
			EASTBOUND				WESTBOUND				NORTHBOUND				SOUTHBOUND				E-W	N-S		
	From	To	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Total	Total	Total	Total
	6:00 AM	6:15 AM	0	0	0	0	11	0	2	13	0	32	10	42	3	58	0	61	13	103	116	636
	6:15 AM	6:30 AM	0	0	0	0	10	0	2	12	1	34	18	53	0	61	0	61	12	114	126	744
	6:30 AM	6:45 AM	0	0	0	0	12	0	1	13	0	43	27	70	1	90	0	91	13	161	174	863
	6:45 AM	7:00 AM	0	0	0	0	9	0	1	10	0	74	30	104	4	102	0	106	10	210	220	916
	7:00 AM	7:15 AM	0	0	0	0	17	0	2	19	0	79	29	108	0	97	0	97	19	205	224	953
	7:15 AM	7:30 AM	0	0	0	0	29	0	5	34	0	75	18	93	3	115	0	118	34	211	245	**955**
	7:30 AM	7:45 AM	0	0	0	0	17	0	3	20	0	66	22	88	1	118	0	119	20	207	227	939
	7:45 AM	8:00 AM	0	0	0	0	11	0	4	15	0	101	33	134	2	106	0	108	15	242	257	933
	8:00 AM	8:15 AM	0	0	0	0	7	0	1	8	0	79	30	109	1	108	0	109	8	218	226	932
A	8:15 AM	8:30 AM	0	0	0	0	9	0	5	14	0	77	32	109	2	104	0	106	14	215	229	913
M	8:30 AM	8:45 AM	0	0	0	0	8	0	3	11	0	81	17	98	1	111	0	112	11	210	221	902
	8:45 AM	9:00 AM	0	0	0	0	18	0	4	22	0	92	37	129	1	104	0	105	22	234	256	896
	9:00 AM	9:15 AM	0	0	0	0	20	0	2	22	0	69	20	89	1	95	0	96	22	185	207	834
	9:15 AM	9:30 AM	0	0	0	0	10	0	3	13	0	48	29	77	0	128	0	128	13	205	218	813
	9:30 AM	9:45 AM	0	0	0	0	9	0	3	12	0	57	20	77	3	123	0	126	12	203	215	749
	9:45 AM	10:00 AM	0	0	0	0	11	0	2	13	0	67	21	88	1	92	0	93	13	181	194	727
	10:00 AM	10:15 AM	0	0	0	0	3	0	2	5	0	61	23	84	1	96	0	97	5	181	186	746
	10:15 AM	10:30 AM	0	0	0	0	8	0	1	9	0	67	12	79	0	66	0	66	9	145	154	769
	10:30 AM	10:45 AM	0	0	0	0	10	0	4	14	0	67	17	84	1	94	0	95	14	179	193	839
	10:45 AM	11:00 AM	0	0	0	0	9	0	4	13	0	80	18	98	2	100	0	102	13	200	213	889
	11:00 AM	11:15 AM	0	0	0	0	15	0	4	19	0	72	19	91	1	98	0	99	19	190	209	891
	11:15 AM	11:30 AM	0	0	0	0	13	0	5	18	0	71	24	95	3	108	0	111	18	206	224	940
	11:30 AM	11:45 AM	0	0	0	0	12	0	7	19	0	89	17	106	0	118	0	118	19	224	243	973
M	11:45 AM	12:00 PM	0	0	0	0	7	0	0	7	0	74	29	103	2	103	0	105	7	208	215	996
I	12:00 PM	12:15 PM	0	0	0	0	15	0	6	21	0	94	19	113	1	123	0	124	21	237	258	**1,018**
D	12:15 PM	12:30 PM	0	0	0	0	10	0	5	15	0	93	31	124	2	116	0	118	15	242	257	994
D	12:30 PM	12:45 PM	0	0	0	0	13	0	9	22	0	87	30	117	4	123	0	127	22	244	266	965
A	12:45 PM	1:00 PM	0	0	0	0	10	0	3	13	0	84	26	110	3	111	0	114	13	224	237	932
Y	1:00 PM	1:15 PM	0	0	0	0	12	0	0	12	0	84	31	115	3	104	0	107	12	222	234	937
	1:15 PM	1:30 PM	0	0	0	0	11	0	4	15	1	89	23	113	2	98	0	100	15	213	228	928
	1:30 PM	1:45 PM	0	0	0	0	9	0	2	11	0	95	23	118	0	104	0	104	11	222	233	921
	1:45 PM	2:00 PM	0	0	0	0	11	0	3	14	0	93	26	119	1	108	0	109	14	228	242	953
	2:00 PM	2:15 PM	0	0	0	0	13	0	2	15	0	80	25	105	0	105	0	105	15	210	225	974
	2:15 PM	2:30 PM	0	0	0	0	13	0	6	19	0	94	30	124	3	75	0	78	19	202	221	1,054
	2:30 PM	2:45 PM	0	0	0	0	21	0	4	25	0	79	36	115	2	123	0	125	25	240	265	1,160
	2:45 PM	3:00 PM	0	0	0	0	14	0	1	15	0	92	51	143	3	102	0	105	15	248	263	1,232
	3:00 PM	3:15 PM	0	0	0	0	11	0	13	24	0	96	46	142	7	132	0	139	24	281	305	1,263
	3:15 PM	3:30 PM	0	0	0	0	18	0	14	32	0	124	40	164	11	120	0	131	32	295	327	1,227
	3:30 PM	3:45 PM	0	0	0	0	25	0	8	33	0	86	36	122	8	174	0	182	33	304	337	1,185
	3:45 PM	4:00 PM	0	0	0	0	16	0	10	26	1	91	31	123	5	140	0	145	26	268	294	1,127
	4:00 PM	4:15 PM	0	0	0	0	12	0	1	13	0	102	28	130	1	125	0	126	13	256	269	1,141
	4:15 PM	4:30 PM	0	0	0	0	14	0	5	19	0	88	48	136	3	127	0	130	19	266	285	1,236
	4:30 PM	4:45 PM	0	0	0	0	13	0	7	20	0	102	44	146	2	111	0	113	20	259	279	1,276
P	4:45 PM	5:00 PM	0	0	0	0	19	0	6	25	0	122	46	168	2	113	0	115	25	283	308	**1,331**
M	5:00 PM	5:15 PM	0	0	0	0	16	0	10	26	0	112	48	160	5	173	0	178	26	338	364	1,300
	5:15 PM	5:30 PM	0	0	0	0	12	0	7	19	0	115	40	155	5	146	0	151	19	306	325	1,217
	5:30 PM	5:45 PM	0	0	0	0	14	0	12	26	0	113	54	167	3	138	0	141	26	308	334	1,169
	5:45 PM	6:00 PM	0	0	0	0	15	0	8	23	0	93	47	140	1	113	0	114	23	254	277	1,050
	6:00 PM	6:15 PM	0	0	0	0	13	0	6	19	0	88	47	135	3	124	0	127	19	262	281	1,012
	6:15 PM	6:30 PM	0	0	0	0	13	0	2	15	0	96	32	128	2	132	0	134	15	262	277	966
	6:30 PM	6:45 PM	0	0	0	0	9	0	3	12	0	69	40	109	1	93	0	94	12	203	215	906
	6:45 PM	7:00 PM	0	0	0	0	5	0	1	6	0	90	35	125	1	107	0	108	6	233	239	877
	7:00 PM	7:15 PM	0	0	0	0	18	0	11	29	0	70	39	109	4	93	0	97	29	206	235	840
	7:15 PM	7:30 PM	0	0	0	0	18	0	6	24	0	72	46	118	5	70	0	75	24	193	217	
	7:30 PM	7:45 PM	0	0	0	0	12	0	0	12	0	82	24	106	0	68	0	68	12	174	186	
	7:45 PM	8:00 PM	0	0	0	0	7	0	6	13	0	69	28	97	1	91	0	92	13	189	202	
	Movement Total		0	0	0	0	717	0	251	968	3	4,599	1,702	6,304	128	6,077	0	6,205	968	12,509	13,477	
	Movement % Distribution						74%	0%	26%	100%	0%	73%	27%	100%	2%	98%	0%	100%	7%	93%	100%	
	Approach Total		0				968				6,304				6,205							
	Approach % Distribution		0%				7%				47%				46%							

PEAK HOUR	INTERVAL		N/A				Old Brunswick Rd				New Brunswick Rd				New Brunswick Rd				Directional		Hourly	
			EASTBOUND				WESTBOUND				NORTHBOUND				SOUTHBOUND				E-W	N-S		
	From	To	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Total	Total	Total	PHF
AM	7:15 AM	8:15 AM	0	0	0	0	64	0	13	77	0	321	103	424	7	447	0	454	77	878	955	0.93
MIDDAY	12:00 PM	1:00 PM	0	0	0	0	48	0	23	71	0	358	106	464	10	473	0	483	71	947	1,018	0.96
PM	4:45 PM	5:45 PM	0	0	0	0	61	0	35	96	0	462	188	650	15	570	0	585	96	1,235	1,331	0.91

AUTO **East Leg: Primary Access Drive** **North Leg: New Brunswick Rd** **Date: Thursday, May 4, 2023**

West Leg: Sam's Club Access Drive **South Leg: New Brunswick Rd** **By: Fisher Arnold**

	INTERVAL		Sam's Club Access Drive				Primary Access Drive				New Brunswick Rd				New Brunswick Rd				Directional		15 min.	Hourly
			EASTBOUND				WESTBOUND				NORTHBOUND				SOUTHBOUND				E-W	N-S		
	From	To	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Total	Total	Total	Total
	6:00 AM	6:15 AM	2	0	5	7	0	0	0	0	6	23	0	29	0	47	4	51	7	80	87	519
	6:15 AM	6:30 AM	0	0	14	14	0	0	0	0	9	25	0	34	0	58	3	61	14	95	109	603
	6:30 AM	6:45 AM	2	0	7	9	0	0	0	0	2	37	0	39	0	75	6	81	9	120	129	699
	6:45 AM	7:00 AM	5	0	5	10	0	0	0	0	8	84	0	92	0	86	6	92	10	184	194	766
	7:00 AM	7:15 AM	5	0	8	13	0	0	0	0	7	51	0	58	0	90	10	100	13	158	171	805
	7:15 AM	7:30 AM	5	0	9	14	0	0	0	0	10	62	0	72	0	111	8	119	14	191	205	827
	7:30 AM	7:45 AM	6	0	9	15	0	0	0	0	7	53	0	60	0	108	13	121	15	181	196	814
	7:45 AM	8:00 AM	4	0	8	12	0	0	0	0	15	76	0	91	0	115	15	130	12	221	233	829
	8:00 AM	8:15 AM	6	0	9	15	0	0	0	0	13	61	0	74	0	89	15	104	15	178	193	806
A	8:15 AM	8:30 AM	8	0	14	22	0	0	0	0	21	51	0	72	0	80	18	98	22	170	192	825
M	8:30 AM	8:45 AM	7	0	13	20	0	0	0	0	15	72	0	87	0	89	15	104	20	191	211	861
	8:45 AM	9:00 AM	7	0	11	18	0	0	0	0	16	63	0	79	0	99	14	113	18	192	210	**905**
	9:00 AM	9:15 AM	8	0	20	28	0	0	0	0	14	67	0	81	0	88	15	103	28	184	212	899
	9:15 AM	9:30 AM	6	0	24	30	0	0	0	0	23	46	0	69	0	111	18	129	30	198	228	859
	9:30 AM	9:45 AM	14	0	19	33	0	0	0	0	26	48	0	74	0	133	15	148	33	222	255	820
	9:45 AM	10:00 AM	11	0	27	38	0	0	0	0	11	46	0	57	0	97	12	109	38	166	204	761
	10:00 AM	10:15 AM	7	0	19	26	0	0	0	0	23	38	0	61	0	68	17	85	26	146	172	747
	10:15 AM	10:30 AM	8	0	26	34	0	0	0	0	17	38	0	55	0	80	20	100	34	155	189	782
	10:30 AM	10:45 AM	2	0	21	23	0	0	0	0	22	57	0	79	0	79	15	94	23	173	196	822
	10:45 AM	11:00 AM	17	0	16	33	0	0	0	0	21	61	0	82	0	66	9	75	33	157	190	834
	11:00 AM	11:15 AM	10	0	21	31	0	0	0	0	23	57	0	80	0	88	8	96	31	176	207	876
	11:15 AM	11:30 AM	7	0	14	21	0	0	0	0	19	80	0	99	0	95	14	109	21	208	229	929
	11:30 AM	11:45 AM	9	0	25	34	0	0	0	0	24	59	0	83	0	80	11	91	34	174	208	945
M	11:45 AM	12:00 PM	11	0	30	41	0	0	0	0	18	67	0	85	0	91	15	106	41	191	232	966
I	12:00 PM	12:15 PM	18	0	25	43	0	0	0	0	24	70	0	94	0	111	12	123	43	217	260	**976**
D	12:15 PM	12:30 PM	15	0	20	35	0	0	0	0	30	75	0	105	0	89	16	105	35	210	245	943
D	12:30 PM	12:45 PM	15	0	34	49	0	0	0	0	23	80	0	103	0	65	12	77	49	180	229	939
A	12:45 PM	1:00 PM	22	0	23	45	0	0	0	0	23	77	0	100	0	76	21	97	45	197	242	923
Y	1:00 PM	1:15 PM	11	0	30	41	0	0	0	0	23	63	0	86	0	82	18	100	41	186	227	886
	1:15 PM	1:30 PM	16	0	37	53	0	0	0	0	22	65	0	87	0	90	11	101	53	188	241	899
	1:30 PM	1:45 PM	14	0	21	35	0	0	0	0	20	75	0	95	0	63	20	83	35	178	213	867
	1:45 PM	2:00 PM	25	0	32	57	0	0	0	0	19	60	0	79	0	59	10	69	57	148	205	897
	2:00 PM	2:15 PM	18	0	21	39	0	0	0	0	24	90	0	114	0	69	18	87	39	201	240	919
	2:15 PM	2:30 PM	14	0	23	37	0	0	0	0	11	76	0	87	0	71	14	85	37	172	209	888
	2:30 PM	2:45 PM	19	0	33	52	0	0	0	0	13	73	0	86	0	91	14	105	52	191	243	940
	2:45 PM	3:00 PM	12	0	26	38	0	0	0	0	20	75	0	95	0	76	18	94	38	189	227	966
	3:00 PM	3:15 PM	14	0	33	47	0	0	0	0	20	64	0	84	0	64	14	78	47	162	209	988
	3:15 PM	3:30 PM	18	0	32	50	0	0	0	0	25	71	0	96	0	102	13	115	50	211	261	1,056
	3:30 PM	3:45 PM	14	0	23	37	0	0	0	0	25	70	0	95	0	123	14	137	37	232	269	1,038
	3:45 PM	4:00 PM	17	0	34	51	0	0	0	0	22	68	0	90	0	98	10	108	51	198	249	1,083
	4:00 PM	4:15 PM	19	0	40	59	0	0	0	0	19	89	0	108	0	95	15	110	59	218	277	1,144
	4:15 PM	4:30 PM	20	0	26	46	0	0	0	0	14	77	0	91	0	87	19	106	46	197	243	1,209
	4:30 PM	4:45 PM	19	0	25	44	0	0	0	0	22	96	0	118	1	136	15	152	44	270	314	**1,271**
P	4:45 PM	5:00 PM	17	0	35	52	0	0	0	0	28	99	0	127	0	109	22	131	52	258	310	1,253
M	5:00 PM	5:15 PM	19	0	34	53	0	0	0	0	23	105	0	128	0	147	14	161	53	289	342	1,167
	5:15 PM	5:30 PM	22	0	35	57	0	0	0	0	11	100	0	111	0	121	16	137	57	248	305	1,057
	5:30 PM	5:45 PM	19	0	32	51	0	0	0	0	26	108	0	134	0	92	19	111	51	245	296	965
	5:45 PM	6:00 PM	19	0	29	48	0	0	0	0	20	82	0	102	0	63	11	74	48	176	224	896
	6:00 PM	6:15 PM	19	0	28	47	0	0	0	0	17	77	0	94	0	79	12	91	47	185	232	853
	6:15 PM	6:30 PM	18	0	32	50	0	0	0	0	19	59	0	78	0	73	12	85	50	163	213	846
	6:30 PM	6:45 PM	17	0	30	47	0	0	0	0	16	76	0	92	0	71	17	88	47	180	227	835
	6:45 PM	7:00 PM	15	0	12	27	0	0	0	0	13	60	0	73	0	70	11	81	27	154	181	775
	7:00 PM	7:15 PM	11	0	28	39	0	0	0	0	24	85	0	109	0	66	11	77	39	186	225	737
	7:15 PM	7:30 PM	12	0	23	35	0	0	0	0	14	77	0	91	0	62	14	76	35	167	202	
	7:30 PM	7:45 PM	13	0	26	39	0	0	0	0	11	63	0	74	0	45	9	54	39	128	167	
	7:45 PM	8:00 PM	11	0	15	26	0	0	0	0	9	54	0	63	0	46	8	54	26	117	143	
	Movement Total		699	0	1,271	1,970	0	0	0	0	1,000	3,781	0	4,781	1	4,814	756	5,571	1,970	10,352	12,322	
	Movement % Distribution		35%	0%	65%	100%					21%	79%	0%	100%	0%	86%	14%	100%	16%	84%	100%	
	Approach Total		1,970				0				4,781				5,571							
	Approach % Distribution		16%				0%				39%				45%							

PEAK HOUR	INTERVAL		Sam's Club Access Drive				Primary Access Drive				New Brunswick Rd				New Brunswick Rd				Directional		Hourly	
			EASTBOUND				WESTBOUND				NORTHBOUND				SOUTHBOUND				E-W	N-S		
	From	To	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Total	Total	Total	PHF
AM	8:45 AM	9:45 AM	35	0	74	109	0	0	0	0	79	224	0	303	0	431	62	493	109	796	905	0.89
MIDDAY	12:00 PM	1:00 PM	70	0	102	172	0	0	0	0	100	302	0	402	0	341	61	402	172	804	976	0.94
PM	4:30 PM	5:30 PM	77	0	129	206	0	0	0	0	84	400	0	484	1	513	67	581	206	1,065	1,271	0.93

AUTO **East Leg: Primary Access Drive** **North Leg: New Brunswick Rd** **Date: Saturday, May 6, 2023**

West Leg: Sam's Club Access Drive **South Leg: New Brunswick Rd** **By: Fisher Arnold**

	INTERVAL		Sam's Club Access Drive EASTBOUND				Primary Access Drive WESTBOUND				New Brunswick Rd NORTHBOUND				New Brunswick Rd SOUTHBOUND				Directional		15 min.	Hourly
	From	To	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	E-W Total	N-S Total	Total	Total
	6:00 AM	6:15 AM	1	0	5	6	0	0	0	0	2	12	0	14	0	14	3	17	6	31	37	179
	6:15 AM	6:30 AM	2	0	2	4	0	0	0	0	3	14	0	17	0	22	2	24	4	41	45	221
	6:30 AM	6:45 AM	2	0	4	6	0	0	0	0	3	9	0	12	0	15	1	16	6	28	34	252
	6:45 AM	7:00 AM	4	0	1	5	0	0	0	0	6	21	0	27	0	28	3	31	5	58	63	301
	7:00 AM	7:15 AM	3	0	11	14	0	0	0	0	4	22	0	26	0	34	5	39	14	65	79	349
	7:15 AM	7:30 AM	4	0	6	10	0	0	0	0	9	19	0	28	0	31	7	38	10	66	76	389
	7:30 AM	7:45 AM	4	0	11	15	0	0	0	0	10	22	0	32	0	31	5	36	15	68	83	466
	7:45 AM	8:00 AM	0	0	9	9	0	0	0	0	16	31	0	47	0	43	12	55	9	102	111	523
	8:00 AM	8:15 AM	5	0	7	12	0	0	0	0	26	21	0	47	0	43	17	60	12	107	119	542
A	8:15 AM	8:30 AM	7	0	14	21	0	0	0	0	20	29	0	49	0	68	15	83	21	132	153	584
M	8:30 AM	8:45 AM	7	0	14	21	0	0	0	0	20	34	0	54	0	53	12	65	21	119	140	607
	8:45 AM	9:00 AM	4	0	12	16	0	0	0	0	17	28	0	45	0	62	7	69	16	114	130	653
	9:00 AM	9:15 AM	6	0	13	19	0	0	0	0	16	21	0	37	0	87	18	105	19	142	161	734
	9:15 AM	9:30 AM	4	0	17	21	0	0	0	0	17	27	0	44	0	100	11	111	21	155	176	758
	9:30 AM	9:45 AM	8	0	16	24	0	0	0	0	21	46	0	67	0	80	15	95	24	162	186	819
	9:45 AM	10:00 AM	12	0	20	32	0	0	0	0	30	44	0	74	0	82	23	105	32	179	211	839
	10:00 AM	10:15 AM	9	0	27	36	0	0	0	0	28	27	0	55	0	74	20	94	36	149	185	852
	10:15 AM	10:30 AM	14	0	36	50	0	0	0	0	29	46	0	75	0	90	22	112	50	187	237	**887**
	10:30 AM	10:45 AM	14	0	16	30	0	0	0	0	27	50	0	77	0	84	15	99	30	176	206	883
	10:45 AM	11:00 AM	11	0	25	36	0	0	0	0	30	52	0	82	0	83	23	106	36	188	224	879
	11:00 AM	11:15 AM	15	0	23	38	0	0	0	0	25	55	0	80	0	86	16	102	38	182	220	877
	11:15 AM	11:30 AM	16	0	31	47	0	0	0	0	33	60	0	93	0	78	15	93	47	186	233	875
	11:30 AM	11:45 AM	14	0	31	45	0	0	0	0	25	49	0	74	0	63	20	83	45	157	202	872
M	11:45 AM	12:00 PM	22	0	27	49	0	0	0	0	21	47	0	68	0	85	20	105	49	173	222	924
I	12:00 PM	12:15 PM	11	0	28	39	0	0	0	0	37	44	0	81	0	83	15	98	39	179	218	954
D	12:15 PM	12:30 PM	21	0	42	63	0	0	0	0	27	56	0	83	0	72	12	84	63	167	230	971
D	12:30 PM	12:45 PM	21	0	37	58	0	0	0	0	29	61	0	90	0	83	23	106	58	196	254	**1,000**
A	12:45 PM	1:00 PM	23	0	41	64	0	0	0	0	33	61	0	94	0	75	19	94	64	188	252	991
Y	1:00 PM	1:15 PM	13	0	36	49	0	0	0	0	29	56	0	85	0	81	20	101	49	186	235	964
	1:15 PM	1:30 PM	17	0	38	55	0	0	0	0	38	62	0	100	0	87	17	104	55	204	259	997
	1:30 PM	1:45 PM	19	0	36	55	0	0	0	0	24	73	0	97	0	78	15	93	55	190	245	954
	1:45 PM	2:00 PM	24	0	33	57	0	0	0	0	25	62	0	87	0	67	14	81	57	168	225	924
	2:00 PM	2:15 PM	19	0	52	71	0	0	0	0	25	68	0	93	0	79	25	104	71	197	268	919
	2:15 PM	2:30 PM	16	0	39	55	0	0	0	0	20	61	0	81	0	60	20	80	55	161	216	903
	2:30 PM	2:45 PM	18	0	28	46	0	0	0	0	19	56	0	75	0	82	12	94	46	169	215	914
	2:45 PM	3:00 PM	13	0	34	47	0	0	0	0	17	60	0	77	0	78	18	96	47	173	220	930
	3:00 PM	3:15 PM	20	0	38	58	0	0	0	0	25	65	0	90	0	87	17	104	58	194	252	943
	3:15 PM	3:30 PM	18	0	33	51	0	0	0	0	27	63	0	90	0	74	12	86	51	176	227	952
	3:30 PM	3:45 PM	17	0	33	50	0	0	0	0	32	65	0	97	0	71	13	84	50	181	231	986
	3:45 PM	4:00 PM	19	0	35	54	0	0	0	0	21	71	0	92	0	76	11	87	54	179	233	**1,018**
	4:00 PM	4:15 PM	22	0	37	59	0	0	0	0	45	61	0	106	0	71	25	96	59	202	261	979
	4:15 PM	4:30 PM	20	0	42	62	0	0	0	0	23	75	0	98	0	82	19	101	62	199	261	944
	4:30 PM	4:45 PM	23	0	37	60	0	0	0	0	24	79	0	103	1	88	11	100	60	203	263	889
P	4:45 PM	5:00 PM	18	0	37	55	0	0	0	0	17	55	0	72	0	57	10	67	55	139	194	845
M	5:00 PM	5:15 PM	20	0	45	65	0	0	0	0	22	59	0	81	0	67	13	80	65	161	226	853
	5:15 PM	5:30 PM	26	0	38	64	0	0	0	0	15	61	0	76	0	55	11	66	64	142	206	843
	5:30 PM	5:45 PM	21	0	26	47	0	0	0	0	21	55	0	76	0	81	15	96	47	172	219	821
	5:45 PM	6:00 PM	9	0	29	38	0	0	0	0	20	52	0	72	0	78	14	92	38	164	202	816
	6:00 PM	6:15 PM	23	0	32	55	0	0	0	0	25	59	0	84	0	68	9	77	55	161	216	808
	6:15 PM	6:30 PM	17	0	26	43	0	0	0	0	11	58	0	69	0	63	9	72	43	141	184	761
	6:30 PM	6:45 PM	15	0	23	38	0	0	0	0	19	69	0	88	0	72	16	88	38	176	214	765
	6:45 PM	7:00 PM	25	0	25	50	0	0	0	0	13	59	0	72	0	63	9	72	50	144	194	729
	7:00 PM	7:15 PM	12	0	19	31	0	0	0	0	21	52	0	73	0	56	9	65	31	138	169	691
	7:15 PM	7:30 PM	16	0	27	43	0	0	0	0	16	51	0	67	0	66	12	78	43	145	188	
	7:30 PM	7:45 PM	12	0	23	35	0	0	0	0	14	56	0	70	0	64	9	73	35	143	178	
	7:45 PM	8:00 PM	15	0	17	32	0	0	0	0	15	59	0	74	0	42	8	50	32	124	156	
	Movement Total		771	0	1,444	2,215	0	0	0	0	1,187	2,730	0	3,917	1	3,742	769	4,512	2,215	8,429	10,644	
	Movement % Distribution		35%	0%	65%	100%					30%	70%	0%	100%	0%	83%	17%	100%	21%	79%	100%	
	Approach Total		2,215				0				3,917				4,512							
	Approach % Distribution		21%				0%				37%				42%							

PEAK HOUR	INTERVAL		Sam's Club Access Drive EASTBOUND				Primary Access Drive WESTBOUND				New Brunswick Rd NORTHBOUND				New Brunswick Rd SOUTHBOUND				Directional		Hourly	
	From	To	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	E-W Total	N-S Total	Total	PHF
AM	10:15 AM	11:15 AM	50	0	102	152	0	0	0	0	116	200	0	316	0	340	83	423	152	739	891	0.94
MIDDAY	12:30 PM	1:30 PM	74	0	152	226	0	0	0	0	129	240	0	369	0	326	79	405	226	774	1,000	0.97
PM	3:45 PM	4:45 PM	84	0	151	235	0	0	0	0	113	286	0	399	1	317	66	384	235	783	1,018	0.97

AUTO **East Leg: N/A** **North Leg: New Brunswick Rd** **Date: Thursday, May 4, 2023**

West Leg: Wolf Lake Dr **South Leg: New Brunswick Rd** **By: Fisher Arnold**

	INTERVAL		Wolf Lake Dr EASTBOUND				N/A WESTBOUND				New Brunswick Rd NORTHBOUND				New Brunswick Rd SOUTHBOUND				Directional		15 min.	Hourly
	From	To	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	E-W Total	N-S Total	Total	Total
AM	6:00 AM	6:15 AM	0	0	2	2	0	0	0	0	6	18	0	24	0	48	5	53	2	77	79	466
	6:15 AM	6:30 AM	0	0	0	0	0	0	0	0	8	16	0	24	1	56	5	62	0	86	86	557
	6:30 AM	6:45 AM	0	0	0	0	0	0	0	0	16	23	0	39	0	83	2	85	0	124	124	677
	6:45 AM	7:00 AM	0	0	2	2	0	0	0	0	36	48	0	84	0	82	9	91	2	175	177	734
	7:00 AM	7:15 AM	0	0	1	1	0	0	0	0	24	36	0	60	0	96	13	109	1	169	170	766
	7:15 AM	7:30 AM	2	0	1	3	0	0	0	0	23	44	0	67	0	117	19	136	3	203	206	**790**
	7:30 AM	7:45 AM	0	0	8	8	0	0	0	0	17	42	0	59	0	108	6	114	8	173	181	746
	7:45 AM	8:00 AM	3	0	4	7	0	0	0	0	31	48	0	79	0	116	7	123	7	202	209	765
	8:00 AM	8:15 AM	5	0	7	12	0	0	0	0	25	47	0	72	0	97	13	110	12	182	194	746
	8:15 AM	8:30 AM	4	0	5	9	0	0	0	0	9	47	0	56	0	90	7	97	9	153	162	741
	8:30 AM	8:45 AM	3	0	7	10	0	0	0	0	18	66	0	84	0	100	6	106	10	190	200	763
	8:45 AM	9:00 AM	4	0	11	15	0	0	0	0	14	52	0	66	0	102	7	109	15	175	190	786
	9:00 AM	9:15 AM	3	0	12	15	0	0	0	0	19	59	0	78	0	92	4	96	15	174	189	769
	9:15 AM	9:30 AM	2	0	2	4	0	0	0	0	5	47	0	52	0	124	4	128	4	180	184	716
	9:30 AM	9:45 AM	3	0	8	11	0	0	0	0	9	55	0	64	0	142	6	148	11	212	223	687
	9:45 AM	10:00 AM	2	0	9	11	0	0	0	0	12	46	0	58	0	100	4	104	11	162	173	629
	10:00 AM	10:15 AM	2	0	11	13	0	0	0	0	7	38	0	45	0	76	2	78	13	123	136	616
	10:15 AM	10:30 AM	5	0	8	13	0	0	0	0	4	41	0	45	0	90	7	97	13	142	155	663
	10:30 AM	10:45 AM	4	0	13	17	0	0	0	0	7	55	0	62	0	83	3	86	17	148	165	703
	10:45 AM	11:00 AM	6	0	6	12	0	0	0	0	12	62	0	74	0	65	9	74	12	148	160	700
MID DAY	11:00 AM	11:15 AM	12	0	12	24	0	0	0	0	12	57	0	69	0	79	11	90	24	159	183	736
	11:15 AM	11:30 AM	9	0	10	19	0	0	0	0	17	68	0	85	0	83	8	91	19	176	195	774
	11:30 AM	11:45 AM	4	0	12	16	0	0	0	0	11	55	0	66	0	79	1	80	16	146	162	783
	11:45 AM	12:00 PM	7	0	8	15	0	0	0	0	9	68	0	77	0	95	9	104	15	181	196	800
	12:00 PM	12:15 PM	5	0	22	27	0	0	0	0	14	75	0	89	0	97	8	105	27	194	221	**808**
	12:15 PM	12:30 PM	10	0	8	18	0	0	0	0	16	73	0	89	0	93	4	97	18	186	204	779
	12:30 PM	12:45 PM	6	0	11	17	0	0	0	0	19	76	0	95	0	65	2	67	17	162	179	772
	12:45 PM	1:00 PM	4	0	12	16	0	0	0	0	16	82	0	98	0	84	6	90	16	188	204	768
	1:00 PM	1:15 PM	12	0	13	25	0	0	0	0	16	58	0	74	0	83	10	93	25	167	192	731
	1:15 PM	1:30 PM	10	0	14	24	0	0	0	0	12	67	0	79	1	89	4	94	24	173	197	750
	1:30 PM	1:45 PM	1	0	9	10	0	0	0	0	11	78	0	89	0	71	5	76	10	165	175	745
	1:45 PM	2:00 PM	9	0	8	17	0	0	0	0	13	70	0	83	0	61	6	67	17	150	167	777
PM	2:00 PM	2:15 PM	12	0	8	20	0	0	0	0	11	97	0	108	0	77	6	83	20	191	211	809
	2:15 PM	2:30 PM	13	0	13	26	0	0	0	0	8	84	0	92	0	70	4	74	26	166	192	773
	2:30 PM	2:45 PM	5	0	12	17	0	0	0	0	8	87	0	95	0	92	3	95	17	190	207	801
	2:45 PM	3:00 PM	8	0	10	18	0	0	0	0	7	79	0	86	0	86	9	95	18	181	199	830
	3:00 PM	3:15 PM	10	0	11	21	0	0	0	0	10	67	0	77	0	70	7	77	21	154	175	834
	3:15 PM	3:30 PM	17	0	11	28	0	0	0	0	7	79	0	86	0	102	4	106	28	192	220	888
	3:30 PM	3:45 PM	13	0	26	39	0	0	0	0	4	79	0	83	1	110	3	114	39	197	236	903
	3:45 PM	4:00 PM	3	0	12	15	0	0	0	0	3	85	0	88	0	93	7	100	15	188	203	956
	4:00 PM	4:15 PM	10	0	13	23	0	0	0	0	4	100	0	104	0	97	5	102	23	206	229	1,017
	4:15 PM	4:30 PM	19	0	4	23	0	0	0	0	5	96	0	101	0	105	6	111	23	212	235	1,090
	4:30 PM	4:45 PM	17	0	40	57	0	0	0	0	7	106	0	113	0	112	7	119	57	232	289	**1,136**
	4:45 PM	5:00 PM	16	0	13	29	0	0	0	0	8	108	0	116	1	114	4	119	29	235	264	1,099
	5:00 PM	5:15 PM	15	0	31	46	0	0	0	0	4	117	0	121	0	128	7	135	46	256	302	1,024
	5:15 PM	5:30 PM	12	0	20	32	0	0	0	0	2	123	0	125	0	119	5	124	32	249	281	925
	5:30 PM	5:45 PM	12	0	12	24	0	0	0	0	4	120	0	124	0	97	7	104	24	228	252	811
	5:45 PM	6:00 PM	7	0	7	14	0	0	0	0	0	102	0	102	0	68	5	73	14	175	189	756
	6:00 PM	6:15 PM	10	0	15	25	0	0	0	0	0	97	0	97	1	76	4	81	25	178	203	729
	6:15 PM	6:30 PM	5	0	4	9	0	0	0	0	5	71	0	76	0	79	3	82	9	158	167	708
	6:30 PM	6:45 PM	8	0	7	15	0	0	0	0	3	90	0	93	0	80	9	89	15	182	197	711
	6:45 PM	7:00 PM	6	0	3	9	0	0	0	0	1	69	0	70	0	79	4	83	9	153	162	651
	7:00 PM	7:15 PM	7	0	3	10	0	0	0	0	3	93	0	96	0	73	3	76	10	172	182	614
	7:15 PM	7:30 PM	3	0	5	8	0	0	0	0	2	86	0	88	0	71	3	74	8	162	170	
	7:30 PM	7:45 PM	7	0	0	7	0	0	0	0	2	75	0	77	0	53	0	53	7	130	137	
	7:45 PM	8:00 PM	4	0	1	5	0	0	0	0	1	63	0	64	0	54	2	56	5	120	125	
	Movement Total		376	0	537	913	0	0	0	0	577	3,890	0	4,467	5	4,951	329	5,285	913	9,752	10,665	
	Movement % Distribution		41%	0%	59%	100%					13%	87%	0%	100%	0%	94%	6%	100%	9%	91%	100%	
	Approach Total		913				0				4,467				5,285							
	Approach % Distribution		9%				0%				42%				50%							

PEAK HOUR	INTERVAL		Wolf Lake Dr EASTBOUND				N/A WESTBOUND				New Brunswick Rd NORTHBOUND				New Brunswick Rd SOUTHBOUND				Directional		Hourly	
	From	To	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	E-W Total	N-S Total	Total	PHF
AM	7:15 AM	8:15 AM	10	0	20	30	0	0	0	0	96	181	0	277	0	438	45	483	30	760	790	0.94
MIDDAY	12:00 PM	1:00 PM	25	0	53	78	0	0	0	0	65	306	0	371	0	339	20	359	78	730	808	0.91
PM	4:30 PM	5:30 PM	60	0	104	164	0	0	0	0	21	454	0	475	1	473	23	497	164	972	1,136	0.94

AUTO **East Leg: N/A** **North Leg: New Brunswick Rd** **Date: Saturday, May 6, 2023**

West Leg: Wolf Lake Dr **South Leg: New Brunswick Rd** **By: Fisher Arnold**

	INTERVAL		Wolf Lake Dr EASTBOUND				N/A WESTBOUND				New Brunswick Rd NORTHBOUND				New Brunswick Rd SOUTHBOUND				Directional		15 min.	Hourly
	From	To	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	E-W Total	N-S Total	Total	Total
	6:00 AM	6:15 AM	1	0	0	1	0	0	0	0	3	10	0	13	0	15	0	15	1	28	29	154
	6:15 AM	6:30 AM	0	0	0	0	0	0	0	0	0	13	0	13	0	23	1	24	0	37	37	190
	6:30 AM	6:45 AM	0	0	2	2	0	0	0	0	0	12	0	12	0	15	1	16	2	28	30	214
	6:45 AM	7:00 AM	0	0	0	0	0	0	0	0	1	21	0	22	0	32	4	36	0	58	58	255
	7:00 AM	7:15 AM	1	0	1	2	0	0	0	0	2	21	0	23	0	37	3	40	2	63	65	292
	7:15 AM	7:30 AM	0	0	1	1	0	0	0	0	3	16	0	19	0	36	5	41	1	60	61	314
	7:30 AM	7:45 AM	4	0	1	5	0	0	0	0	1	24	0	25	0	35	6	41	5	66	71	379
	7:45 AM	8:00 AM	1	0	1	2	0	0	0	0	3	27	0	30	0	56	7	63	2	93	95	419
	8:00 AM	8:15 AM	3	0	5	8	0	0	0	0	0	24	0	24	0	53	2	55	8	79	87	432
A	8:15 AM	8:30 AM	3	0	3	6	0	0	0	0	3	33	0	36	0	77	7	84	6	120	126	477
M	8:30 AM	8:45 AM	4	0	2	6	0	0	0	0	0	40	0	40	0	61	4	65	6	105	111	487
	8:45 AM	9:00 AM	4	0	3	7	0	0	0	0	6	23	0	29	0	64	8	72	7	101	108	527
	9:00 AM	9:15 AM	0	0	3	3	0	0	0	0	3	21	0	24	0	101	4	105	3	129	132	587
	9:15 AM	9:30 AM	5	0	3	8	0	0	0	0	1	29	0	30	0	93	5	98	8	128	136	604
	9:30 AM	9:45 AM	3	0	5	8	0	0	0	0	5	47	0	52	0	87	4	91	8	143	151	644
	9:45 AM	10:00 AM	2	0	3	5	0	0	0	0	3	52	0	55	0	100	8	108	5	163	168	664
	10:00 AM	10:15 AM	6	0	4	10	0	0	0	0	2	37	0	39	0	90	10	100	10	139	149	677
	10:15 AM	10:30 AM	2	0	1	3	0	0	0	0	3	54	0	57	0	108	8	116	3	173	176	710
	10:30 AM	10:45 AM	5	0	7	12	0	0	0	0	3	59	0	62	0	92	5	97	12	159	171	**716**
	10:45 AM	11:00 AM	4	0	4	8	0	0	0	0	1	63	0	64	0	104	5	109	8	173	181	705
	11:00 AM	11:15 AM	6	0	4	10	0	0	0	0	6	62	0	68	0	95	9	104	10	172	182	711
	11:15 AM	11:30 AM	7	0	8	15	0	0	0	0	3	71	0	74	0	83	10	93	15	167	182	689
	11:30 AM	11:45 AM	8	0	4	12	0	0	0	0	2	62	0	64	0	78	6	84	12	148	160	673
M	11:45 AM	12:00 PM	12	0	6	18	0	0	0	0	4	63	0	67	0	98	4	102	18	169	187	713
I	12:00 PM	12:15 PM	5	0	0	5	0	0	0	0	0	55	0	55	0	95	5	100	5	155	160	718
D	12:15 PM	12:30 PM	5	0	3	8	0	0	0	0	2	72	0	74	0	80	4	84	8	158	166	746
D	12:30 PM	12:45 PM	8	0	3	11	0	0	0	0	3	80	0	83	0	104	2	106	11	189	200	770
A	12:45 PM	1:00 PM	9	0	3	12	0	0	0	0	4	75	0	79	0	90	11	101	12	180	192	767
Y	1:00 PM	1:15 PM	6	0	2	8	0	0	0	0	2	70	0	72	0	99	9	108	8	180	188	756
	1:15 PM	1:30 PM	7	0	3	10	0	0	0	0	6	70	0	76	0	96	8	104	10	180	190	**780**
	1:30 PM	1:45 PM	7	0	5	12	0	0	0	0	3	87	0	90	1	87	7	95	12	185	197	754
	1:45 PM	2:00 PM	10	0	2	12	0	0	0	0	2	82	0	84	0	77	8	85	12	169	181	745
	2:00 PM	2:15 PM	10	0	3	13	0	0	0	0	3	81	0	84	0	100	15	115	13	199	212	744
	2:15 PM	2:30 PM	9	0	4	13	0	0	0	0	1	74	0	75	0	73	3	76	13	151	164	728
	2:30 PM	2:45 PM	12	0	2	14	0	0	0	0	1	74	0	75	0	93	6	99	14	174	188	736
	2:45 PM	3:00 PM	9	0	4	13	0	0	0	0	1	72	0	73	0	91	3	94	13	167	180	726
	3:00 PM	3:15 PM	3	0	4	7	0	0	0	0	4	78	0	82	0	100	7	107	7	189	196	737
	3:15 PM	3:30 PM	9	0	0	9	0	0	0	0	1	75	0	76	0	80	7	87	9	163	172	731
	3:30 PM	3:45 PM	9	0	4	13	0	0	0	0	1	80	0	81	0	79	5	84	13	165	178	762
	3:45 PM	4:00 PM	12	0	2	14	0	0	0	0	3	85	0	88	1	85	3	89	14	177	191	**805**
	4:00 PM	4:15 PM	6	0	3	9	0	0	0	0	2	80	0	82	1	92	6	99	9	181	190	769
	4:15 PM	4:30 PM	8	0	3	11	0	0	0	0	0	92	0	92	0	97	3	100	11	192	203	748
	4:30 PM	4:45 PM	10	0	2	12	0	0	0	0	3	99	0	102	0	99	8	107	12	209	221	705
P	4:45 PM	5:00 PM	6	0	0	6	0	0	0	0	0	75	0	75	0	69	5	74	6	149	155	658
M	5:00 PM	5:15 PM	11	0	2	13	0	0	0	0	3	75	0	78	0	75	3	78	13	156	169	664
	5:15 PM	5:30 PM	6	0	0	6	0	0	0	0	0	87	0	87	0	65	2	67	6	154	160	664
	5:30 PM	5:45 PM	4	0	3	7	0	0	0	0	5	70	0	75	0	90	2	92	7	167	174	655
	5:45 PM	6:00 PM	3	0	2	5	0	0	0	0	0	60	0	60	0	90	6	96	5	156	161	663
	6:00 PM	6:15 PM	5	0	2	7	0	0	0	0	0	83	0	83	0	77	2	79	7	162	169	664
	6:15 PM	6:30 PM	5	0	0	5	0	0	0	0	0	69	0	69	0	71	6	77	5	146	151	636
	6:30 PM	6:45 PM	3	0	4	7	0	0	0	0	1	87	0	88	0	84	3	87	7	175	182	635
	6:45 PM	7:00 PM	6	0	1	7	0	0	0	0	0	82	0	82	0	71	2	73	7	155	162	602
	7:00 PM	7:15 PM	4	0	0	4	0	0	0	0	1	64	0	65	0	67	5	72	4	137	141	572
	7:15 PM	7:30 PM	9	0	1	10	0	0	0	0	0	64	0	64	0	74	2	76	10	140	150	
	7:30 PM	7:45 PM	6	0	4	10	0	0	0	0	3	65	0	68	0	69	2	71	10	139	149	
	7:45 PM	8:00 PM	3	0	0	3	0	0	0	0	3	68	0	71	0	51	7	58	3	129	132	
	Movement Total		306	0	142	448	0	0	0	0	116	3,314	0	3,430	3	4,303	293	4,599	448	8,029	8,477	
	Movement % Distribution		68%	0%	32%	100%					3%	97%	0%	100%	0%	94%	6%	100%	5%	95%	100%	
	Approach Total		448				0				3,430				4,599							
	Approach % Distribution		5%				0%				40%				54%							

PEAK HOUR	INTERVAL		Wolf Lake Dr EASTBOUND				N/A WESTBOUND				New Brunswick Rd NORTHBOUND				New Brunswick Rd SOUTHBOUND				Directional		Hourly	
	From	To	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	E-W Total	N-S Total	Total	PHF
AM	10:30 AM	11:30 AM	17	0	19	36	0	0	0	0	6	248	0	254	0	404	20	424	36	678	714	0.98
MIDDAY	1:15 PM	2:15 PM	34	0	13	47	0	0	0	0	14	320	0	334	1	360	38	399	47	733	780	0.92
PM	3:45 PM	4:45 PM	36	0	10	46	0	0	0	0	8	356	0	364	2	373	20	395	46	759	805	0.91

AUTO **East Leg: Ladurl Dr** **North Leg: New Brunswick Rd** **Date: Thursday, May 4, 2023**

West Leg: N/A **South Leg: New Brunswick Rd** **By: Fisher Arnold**

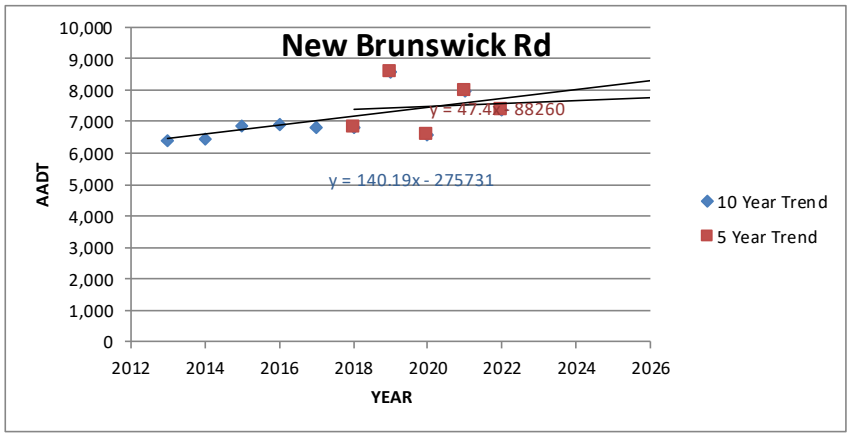
	INTERVAL		N/A				Ladurl Dr				New Brunswick Rd				New Brunswick Rd				Directional		15 min.	Hourly
			EASTBOUND				WESTBOUND				NORTHBOUND				SOUTHBOUND				E-W	N-S		
	From	To	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Total	Total	Total	Total
	6:00 AM	6:15 AM	0	0	0	0	8	0	0	8	0	18	0	18	0	42	0	42	8	60	68	401
	6:15 AM	6:30 AM	0	0	0	0	12	0	1	13	0	13	2	15	1	53	0	54	13	69	82	482
	6:30 AM	6:45 AM	0	0	0	0	23	0	2	25	0	18	3	21	0	60	0	60	25	81	106	580
	6:45 AM	7:00 AM	0	0	0	0	25	0	1	26	0	38	8	46	3	70	0	73	26	119	145	630
	7:00 AM	7:15 AM	0	0	0	0	27	0	0	27	1	31	5	37	4	81	0	85	27	122	149	658
	7:15 AM	7:30 AM	0	0	0	0	29	0	0	29	0	38	4	42	1	108	0	109	29	151	180	670
	7:30 AM	7:45 AM	0	0	0	0	26	0	2	28	0	37	3	40	0	88	0	88	28	128	156	639
	7:45 AM	8:00 AM	0	0	0	0	29	0	1	30	0	35	10	45	2	96	0	98	30	143	173	660
	8:00 AM	8:15 AM	0	0	0	0	22	0	0	22	0	44	7	51	2	86	0	88	22	139	161	652
A	8:15 AM	8:30 AM	0	0	0	0	21	0	4	25	0	35	14	49	0	75	0	75	25	124	149	653
M	8:30 AM	8:45 AM	0	0	0	0	29	0	1	30	0	58	8	66	4	77	0	81	30	147	177	681
	8:45 AM	9:00 AM	0	0	0	0	21	0	1	22	0	55	0	55	1	87	0	88	22	143	165	**696**
	9:00 AM	9:15 AM	0	0	0	0	17	0	3	20	0	51	12	63	1	78	0	79	20	142	162	683
	9:15 AM	9:30 AM	0	0	0	0	18	0	2	20	0	43	5	48	3	106	0	109	20	157	177	639
	9:30 AM	9:45 AM	0	0	0	0	21	0	0	21	0	45	10	55	1	115	0	116	21	171	192	604
	9:45 AM	10:00 AM	0	0	0	0	17	0	0	17	0	43	3	46	1	88	0	89	17	135	152	557
	10:00 AM	10:15 AM	0	0	0	0	18	0	1	19	0	35	6	41	0	58	0	58	19	99	118	549
	10:15 AM	10:30 AM	0	0	0	0	22	0	0	22	0	39	5	44	1	75	0	76	22	120	142	593
	10:30 AM	10:45 AM	0	0	0	0	21	0	3	24	0	48	9	57	0	64	0	64	24	121	145	617
	10:45 AM	11:00 AM	0	0	0	0	16	0	1	17	0	60	9	69	1	57	0	58	17	127	144	611
	11:00 AM	11:15 AM	0	0	0	0	15	0	1	16	0	55	15	70	3	73	0	76	16	146	162	645
	11:15 AM	11:30 AM	0	0	0	0	20	0	2	22	0	58	17	75	2	67	0	69	22	144	166	673
	11:30 AM	11:45 AM	0	0	0	0	19	0	1	20	0	52	8	60	3	56	0	59	20	119	139	686
M	11:45 AM	12:00 PM	0	0	0	0	17	0	0	17	0	63	8	71	3	87	0	90	17	161	178	691
I	12:00 PM	12:15 PM	0	0	0	0	23	0	4	27	0	70	11	81	3	79	0	82	27	163	190	692
D	12:15 PM	12:30 PM	0	0	0	0	25	0	1	26	1	70	11	82	1	70	0	71	26	153	179	663
D	12:30 PM	12:45 PM	0	0	0	0	18	0	1	19	0	74	5	79	0	46	0	46	19	125	144	655
A	12:45 PM	1:00 PM	0	0	0	0	23	0	2	25	0	73	10	83	3	68	0	71	25	154	179	669
Y	1:00 PM	1:15 PM	0	0	0	0	14	0	2	16	0	58	8	66	1	78	0	79	16	145	161	631
	1:15 PM	1:30 PM	0	0	0	0	29	0	0	29	0	68	11	79	1	62	0	63	29	142	171	662
	1:30 PM	1:45 PM	0	0	0	0	15	0	0	15	0	69	10	79	0	64	0	64	15	143	158	663
	1:45 PM	2:00 PM	0	0	0	0	16	0	0	16	0	65	10	75	2	48	0	50	16	125	141	**700**
	2:00 PM	2:15 PM	0	0	0	0	20	0	3	23	0	93	12	105	1	63	0	64	23	169	192	737
	2:15 PM	2:30 PM	0	0	0	0	12	0	1	13	0	83	13	96	0	63	0	63	13	159	172	697
	2:30 PM	2:45 PM	0	0	0	0	13	0	4	17	0	86	8	94	1	83	0	84	17	178	195	731
	2:45 PM	3:00 PM	0	0	0	0	13	0	2	15	0	72	11	83	1	79	0	80	15	163	178	750
	3:00 PM	3:15 PM	0	0	0	0	14	0	0	14	0	66	10	76	0	62	0	62	14	138	152	760
	3:15 PM	3:30 PM	0	0	0	0	34	0	4	38	0	80	15	95	2	71	0	73	38	168	206	818
	3:30 PM	3:45 PM	0	0	0	0	30	0	9	39	1	85	6	92	1	82	0	83	39	175	214	839
	3:45 PM	4:00 PM	0	0	0	0	15	0	1	16	0	73	15	88	0	84	0	84	16	172	188	871
	4:00 PM	4:15 PM	0	0	0	0	14	0	1	15	0	96	11	107	3	85	0	88	15	195	210	925
	4:15 PM	4:30 PM	0	0	0	0	19	0	1	20	0	103	13	116	2	89	0	91	20	207	227	982
	4:30 PM	4:45 PM	0	0	0	0	27	0	4	31	0	110	14	124	1	90	0	91	31	215	246	**1,018**
P	4:45 PM	5:00 PM	0	0	0	0	19	0	2	21	0	110	15	125	0	96	0	96	21	221	242	1,011
M	5:00 PM	5:15 PM	0	0	0	0	22	0	4	26	0	116	12	128	4	109	0	113	26	241	267	947
	5:15 PM	5:30 PM	0	0	0	0	20	0	2	22	0	124	13	137	3	101	0	104	22	241	263	869
	5:30 PM	5:45 PM	0	0	0	0	17	0	3	20	0	118	12	130	6	83	0	89	20	219	239	768
	5:45 PM	6:00 PM	0	0	0	0	13	0	1	14	0	96	11	107	2	55	0	57	14	164	178	719
	6:00 PM	6:15 PM	0	0	0	0	25	0	1	26	0	93	14	107	1	55	0	56	26	163	189	702
	6:15 PM	6:30 PM	0	0	0	0	19	0	1	20	0	62	16	78	4	60	0	64	20	142	162	686
	6:30 PM	6:45 PM	0	0	0	0	15	0	2	17	0	82	15	97	3	73	0	76	17	173	190	684
	6:45 PM	7:00 PM	0	0	0	0	15	0	1	16	0	66	11	77	1	67	0	68	16	145	161	632
	7:00 PM	7:15 PM	0	0	0	0	16	0	0	16	0	83	14	97	1	59	0	60	16	157	173	593
	7:15 PM	7:30 PM	0	0	0	0	12	0	0	12	0	70	18	88	1	59	0	60	12	148	160	
	7:30 PM	7:45 PM	0	0	0	0	6	0	0	6	0	71	12	83	2	47	0	49	6	132	138	
	7:45 PM	8:00 PM	0	0	0	0	9	0	0	9	0	48	16	64	2	47	0	49	9	113	122	
	Movement Total		0	0	0	0	1,075	0	84	1,159	3	3,645	554	4,202	90	4,124	0	4,214	1,159	8,416	9,575	
	Movement % Distribution						93%	0%	7%	100%	0%	87%	13%	100%	2%	98%	0%	100%	12%	88%	100%	
	Approach Total		0				1,159				4,202				4,214							
	Approach % Distribution		0%				12%				44%				44%							

PEAK HOUR	INTERVAL		N/A				Ladurl Dr				New Brunswick Rd				New Brunswick Rd				Directional		Hourly	
			EASTBOUND				WESTBOUND				NORTHBOUND				SOUTHBOUND				E-W	N-S		
	From	To	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Total	Total	Total	PHF
AM	8:45 AM	9:45 AM	0	0	0	0	77	0	6	83	0	194	27	221	6	386	0	392	83	613	696	0.91
MIDDAY	1:45 PM	2:45 PM	0	0	0	0	61	0	8	69	0	327	43	370	4	257	0	261	69	631	700	0.90
PM	4:30 PM	5:30 PM	0	0	0	0	88	0	12	100	0	460	54	514	8	396	0	404	100	918	1,018	0.95

Appendix B – Background Growth Rate Calculations

Estimated AADT for intersection of: **New Brunswick Rd north of SR1**
AADT counts from: **TDOT Station 79000046**

YEAR	$AADT_{10}$	$AADT_5$
2028	8,571	7,868
2027	8,430	7,820
2026	8,290	7,773
2025	8,150	7,726
2024	8,010	7,678
2023	7,870	7,631
2022	7,378	7,378
2021	7,999	7,999
2020	6,622	6,622
2019	8,603	8,603
2018	6,839	6,839
2017	6,843	
2016	6,944	
2015	6,876	
2014	6,463	
2013	6,414	



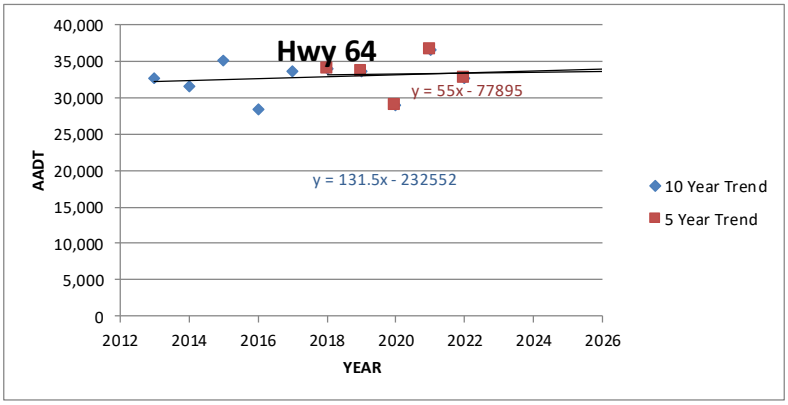
TDOT Traffic History
Estimated AADT from Trend Line

TIME PERIOD	ANNUAL GROWTH RATE (AGR)
5 Year Trend	0.6%
10 Year Trend	1.7%

$$AADT_{future} = AADT_{2020} \times (1 + AGR)^5$$

Estimated AADT for intersection of: **Hwy 64 / SR15 / Stage Rd WEST of New Brunswick Rd**
AADT counts from: **TDOT Station 79000886**

YEAR	$AADT_{10}$	$AADT_5$
2028	34,125	33,645
2027	33,993	33,590
2026	33,862	33,535
2025	33,730	33,480
2024	33,599	33,425
2023	33,467	33,370
2022	32,781	32,781
2021	36,620	36,620
2020	29,004	29,004
2019	33,608	33,608
2018	34,012	34,012
2017	33,676	
2016	28,400	
2015	35,068	
2014	31,532	
2013	32,732	



TDOT Traffic History
Estimated AADT from Trend Line

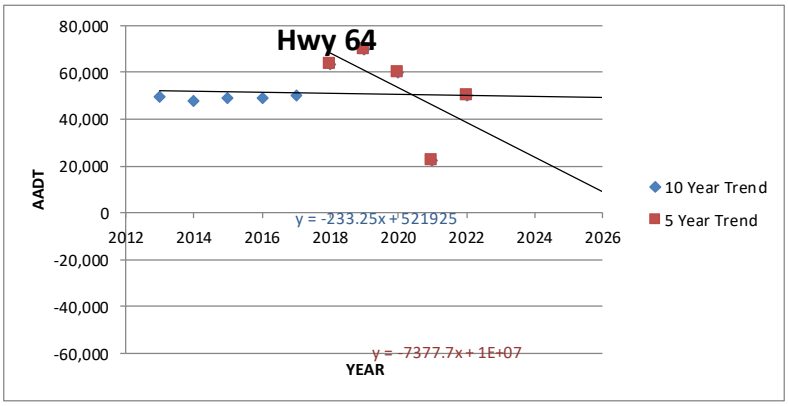
TIME PERIOD	ANNUAL GROWTH RATE (AGR)
5 Year Trend	0.2%
10 Year Trend	0.4%

$$AADT_{2024} = AADT_{2019} \times (1 + AGR)^5$$

Estimated AADT for intersection of: **Hwy 64 / SR15 / Stage Rd EAST of New Brunswick Rd**

AADT counts from: **TDOT Station 79000886**

YEAR	$AADT_{10}$	$AADT_5$
2028	48,898	-5,634
2027	49,131	1,745
2026	49,364	9,122
2025	49,597	16,500
2024	49,831	23,878
2023	50,064	31,256
2022	50,435	50,435
2021	22,591	22,591
2020	60,338	60,338
2019	69,916	69,916
2018	63,661	63,661
2017	50,620	
2016	49,345	
2015	49,073	
2014	47,865	
2013	49,618	



TDOT Traffic History

Estimated AADT from Trend Line

TIME PERIOD	ANNUAL GROWTH RATE (AGR)
5 Year Trend	-171.0%
10 Year Trend	-0.5%

$$AADT_{2024} = AADT_{2019} \times (1 + AGR)^5$$

Appendix C – Trip Generation Calculations

Supermarket – LUC 850

T = number of vehicles (trips)

X = GFA per 1,000 SF

Average Daily Traffic

T = 83.39(**X**) + 539.33

T = 83.39(**115**) + 539.33

T = 10,129 vehicles

Directional Distribution:

50% Entering; 50% Exiting

Enter = 50% * 10,129 = 5,065 vehicles

Exit = 50% * 10,129 = 5,064 vehicles

AM Peak Hour

T = 2.86(**X**)

T = 2.86(**115**)

T = 329 vehicles

Directional Distribution:

59% Entering; 41% Exiting

Enter = 59% * 329 = 194 vehicles

Exit = 41% * 329 = 135 vehicles

PM Peak Hour

Ln(T) = 0.81 * Ln(**X**) + 2.92

Ln(T) = 0.81 * Ln(**115**) + 2.92

T = 866 vehicles

Directional Distribution:

50% Entering; 50% Exiting

Enter = 50% * 866 = 433 vehicles

Exit = 50% * 866 = 433 vehicles

Source: Trip Generation Manual, 11th Edition by Institute of Transportation Engineers

Coffee/Donut Shop with Drive-Through Window – LUC 937

T = number of vehicles (trips)

X = GFA per 1,000 SF

Average Daily Traffic

T = 533.57(**X**)

T = 533.57(**1.5**)

T = 800 vehicles

Directional Distribution:

50% Entering; 50% Exiting

Enter = 50% * 800 = 400 vehicles

Exit = 50% * 800 = 400 vehicles

AM Peak Hour

T = 85.88(**X**)

T = 85.88(**1.5**)

T = 129 vehicles

Directional Distribution:

51% Entering; 49% Exiting

Enter = 51% * 129 = 66 vehicles

Exit = 49% * 129 = 63 vehicles

PM Peak Hour

T = 38.99(**X**)

T = 38.99(**1.5**)

T = 58 vehicles

Directional Distribution:

50% Entering; 50% Exiting

Enter = 50% * 58 = 29 vehicles

Exit = 50% * 58 = 29 vehicles

Source: Trip Generation Manual, 11th Edition by Institute of Transportation Engineers

Convenience Store/Gas Station – GFA (4-5.5k) – LUC 945

T = number of vehicles (trips)

X = GFA per 1,000 SF

Average Daily Traffic

T = 257.13(**X**)

T = 257.13(**4.5**)

T = 1,157 vehicles

Directional Distribution:

50% Entering; 50% Exiting

Enter = 50% * 1,157 = 579 vehicles

Exit = 50% * 1,157 = 578 vehicles

AM Peak Hour

T = 27.04(**X**)

T = 27.04(**4.5**)

T = 122 vehicles

Directional Distribution:

50% Entering; 50% Exiting

Enter = 50% * 122 = 61 vehicles

Exit = 50% * 122 = 61 vehicles

PM Peak Hour

T = 22.76(**X**)

T = 22.76(**4.5**)

T = 102 vehicles

Directional Distribution:

50% Entering; 50% Exiting

Enter = 50% * 102 = 51 vehicles

Exit = 50% * 102 = 51 vehicles

Source: Trip Generation Manual, 11th Edition by Institute of Transportation Engineers

Appendix D – Traffic Volume Development Sheets

Approach	Growth Rate
EASTBOUND Hwy 64	0.4%
WESTBOUND Hwy 64	0.4%
NORTHBOUND New Brunswick Rd	1.7%
SOUTHBOUND New Brunswick Rd	1.7%

Existing Year	Years to Full Buildout	Horizon Year Buildout	Years Past Buildout	Horizon Year past Buildout
2023	2	2025	3	2028

TRAFFIC VOLUME DEVELOPMENT SHEET

	AM PEAK	Hwy 64 EASTBOUND				Hwy 64 WESTBOUND				New Brunswick Rd NORTHBOUND				New Brunswick Rd SOUTHBOUND				Directional		Hourly Total
		Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	E-W Total	N-S Total	
1	**2023 Existing**	**65**	**507**	**18**	**590**	**48**	**1,282**	**334**	**1,664**	**32**	**21**	**60**	**113**	**340**	**31**	**141**	**512**	**2,254**	**625**	**2,879**
2	Growth Rate	0.4%	0.4%	0.4%		0.4%	0.4%	0.4%		1.7%	1.7%	1.7%		1.7%	1.7%	1.7%				
3	2025 Horizon Year	66	511	18	0	48	1292	337	0	33	22	62	0	352	32	146	0	0	0	0
4	**2025 No Build**	**66**	**511**	**18**	**595**	**48**	**1,292**	**337**	**1,677**	**33**	**22**	**62**	**117**	**352**	**32**	**146**	**530**	**2,272**	**647**	**2,919**
5	Trips from Development	116			116			116	116		6		6	93	5	94	192	232	198	430
6	Less Pass-By Trips (31%)	36			36			36	36		2		2	29	2	29	60	72	62	134
7	Less Internal Capture Trips (5%)	6			6			6	6		0		0	5	0	5	10	12	10	22
8	Net Trips	74			74			74	74		4		4	59	3	60	122	148	126	274
9	**2025 Build**	**140**	**511**	**18**	**669**	**48**	**1,292**	**411**	**1,751**	**33**	**26**	**62**	**121**	**411**	**35**	**206**	**652**	**2,420**	**773**	**3,193**
10	Growth Rate	0.4%	0.4%	0.4%		0.4%	0.4%	0.4%		1.7%	1.7%	1.7%		1.7%	1.7%	1.7%				
11	2028 Horizon Year	67	517	18	602	49	1,308	341	1,698	35	23	65	123	370	34	154	558	2,300	681	2,981
12	**2028 Build (Line 8+11)**	**141**	**517**	**18**	**676**	**49**	**1,308**	**415**	**1,772**	**35**	**27**	**65**	**127**	**429**	**37**	**214**	**680**	**2,448**	**807**	**3,255**

2025 Horizon Year = 2023 Existing * (1+Growth Rate) ^ 2yrs

2028 Horizon Year = 2025 Horizon Year * (1+Growth Rate) ^ 3yrs

TRAFFIC VOLUME DEVELOPMENT SHEET

	PM PEAK	Hwy 64 EASTBOUND				Hwy 64 WESTBOUND				New Brunswick Rd NORTHBOUND				New Brunswick Rd SOUTHBOUND				Directional		Hourly Total
		Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	E-W Total	N-S Total	
1	**2023 Existing**	**130**	**1,311**	**71**	**1,512**	**131**	**1,114**	**450**	**1,695**	**51**	**73**	**171**	**295**	**481**	**60**	**136**	**677**	**3,207**	**972**	**4,179**
2	Growth Rate	0.4%	0.4%	0.4%		0.4%	0.4%	0.4%		1.7%	1.7%	1.7%		1.7%	1.7%	1.7%				
3	2025 Horizon Year	131	1322	72	0	132	1123	454	0	53	76	177	0	497	62	141	0	0	0	0
4	**2025 No Build**	**131**	**1,322**	**72**	**1,525**	**132**	**1,123**	**454**	**1,709**	**53**	**76**	**177**	**306**	**497**	**62**	**141**	**700**	**3,234**	**1,006**	**4,240**
5	Trips from Development	185			185			186	186		9		9	184	10	185	379	371	388	759
6	Less Pass-By Trips (31%)	57			57			58	58		3		3	57	3	57	117	115	120	235
7	Less Internal Capture Trips (5%)	9			9			9	9		0		0	9	1	9	19	18	19	37
8	Net Trips	119			119			119	119		6		6	118	6	119	243	238	249	487
9	**2025 Build**	**250**	**1,322**	**72**	**1,644**	**132**	**1,123**	**573**	**1,828**	**53**	**82**	**177**	**312**	**615**	**68**	**260**	**943**	**3,472**	**1,255**	**4,727**
10	Growth Rate	0.4%	0.4%	0.4%		0.4%	0.4%	0.4%		1.7%	1.7%	1.7%		1.7%	1.7%	1.7%				
11	2028 Horizon Year	133	1,338	73	1,544	134	1,137	459	1,730	56	80	186	322	523	65	148	736	3,274	1,058	4,332
12	**2028 Build (Line 8+11)**	**252**	**1,338**	**73**	**1,663**	**134**	**1,137**	**578**	**1,849**	**56**	**86**	**186**	**328**	**641**	**71**	**267**	**979**	**3,512**	**1,307**	**4,819**

2025 Horizon Year = 2023 Existing * (1+Growth Rate) ^ 2yrs

2028 Horizon Year = 2025 Horizon Year * (1+Growth Rate) ^ 3yrs

Approach	Growth Rate
EASTBOUND N/A	0.0%
WESTBOUND Old Brunswick Rd	0.0%
NORTHBOUND New Brunswick Rd	1.7%
SOUTHBOUND New Brunswick Rd	1.7%

Existing Year	Years to Full Buildout	Horizon Year Buildout	Years Past Buildout	Horizon Year past Buildout
2023	2	2025	3	2028

TRAFFIC VOLUME DEVELOPMENT SHEET

AM PEAK	N/A				Old Brunswick Rd				New Brunswick Rd				New Brunswick Rd				Directional		Hourly Total
	EASTBOUND				WESTBOUND				NORTHBOUND				SOUTHBOUND				E-W	N-S	
	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Total	Total	
2023 Existing	**0**	**0**	**0**	**0**	**64**	**0**	**13**	**77**	**0**	**321**	**103**	**424**	**7**	**447**	**0**	**454**	**77**	**878**	**955**
Growth Rate	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%		1.7%	1.7%	1.7%		1.7%	1.7%	1.7%				
2025 Horizon Year	0	0	0	0	64	0	13	0	0	332	107	0	7	462	0	0	0	0	0
Trips from Nearby Developments				0				0				0				0	0	0	0
2025 No Build	**0**	**0**	**0**	**0**	**64**	**0**	**13**	**77**	**0**	**332**	**107**	**439**	**7**	**462**	**0**	**469**	**77**	**908**	**985**

2025 Horizon Year = 2023 Existing * (1+Growth Rate) ^ 2yrs

TRAFFIC VOLUME DEVELOPMENT SHEET

PM PEAK	N/A				Old Brunswick Rd				New Brunswick Rd				New Brunswick Rd				Directional		Hourly Total
	EASTBOUND				WESTBOUND				NORTHBOUND				SOUTHBOUND				E-W	N-S	
	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Total	Total	
2023 Existing	**0**	**0**	**0**	**0**	**61**	**0**	**35**	**96**	**0**	**462**	**188**	**650**	**15**	**570**	**0**	**585**	**96**	**1,235**	**1,331**
Growth Rate	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%		1.7%	1.7%	1.7%		1.7%	1.7%	1.7%				
2025 Horizon Year	0	0	0	0	61	0	35	0	0	478	194	0	16	590	0	0	0	0	0
Trips from Nearby Developments				0				0				0				0	0	0	0
2025 No Build	**0**	**0**	**0**	**0**	**61**	**0**	**35**	**96**	**0**	**478**	**194**	**672**	**16**	**590**	**0**	**606**	**96**	**1,278**	**1,374**

2025 Horizon Year = 2023 Existing * (1+Growth Rate) ^ 2yrs

Approach	Growth Rate
EASTBOUND Sam's Club Access Driv	0.0%
WESTBOUND Primary Access Drive	0.0%
NORTHBOUND New Brunswick Rd	1.7%
SOUTHBOUND New Brunswick Rd	1.7%

Existing Year	Years to Full Buildout	Horizon Year Buildout	Years Past Buildout	Horizon Year past Buildout
2023	2	2025	3	2028

TRAFFIC VOLUME DEVELOPMENT SHEET

	AM PEAK	Sam's Club Access Drive EASTBOUND				Primary Access Drive WESTBOUND				New Brunswick Rd NORTHBOUND				New Brunswick Rd SOUTHBOUND				Directional E-W	Directional N-S	Hourly Total
		Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Total	Total	
1	**2023 Existing**	**35**	**0**	**74**	**109**	**0**	**0**	**0**	**0**	**79**	**224**	**0**	**303**	**0**	**431**	**62**	**493**	**109**	**796**	**905**
2	Growth Rate	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%		1.7%	1.7%	1.7%		1.7%	1.7%	1.7%				
3	2025 Horizon Year	35	0	74	0	0	0	0	0	82	232	0	0	0	446	64	0	0	0	0
4	**2025 No Build**	**35**	**0**	**74**	**109**	**0**	**0**	**0**	**0**	**82**	**232**	**0**	**314**	**0**	**446**	**64**	**510**	**109**	**824**	**933**
5	Trips from Development		3		3	166	3	13	182		45	173	218	16	26		42	185	260	445
6	Less Pass-By Trips (31%)				0				0		14		14		8		8	0	22	22
7	Less Internal Capture Trips (5%)		0		0	8	0	1	9		2	9	11		1		1	9	12	21
8	Net Trips	0	3	0	3	158	3	12	173	0	29	164	193	16	17	0	33	176	226	402
9	Traffic due to Old Brunswick Closure										120		120		71		71	0	191	191
10	**2025 Build**	**35**	**3**	**74**	**112**	**158**	**3**	**12**	**173**	**82**	**381**	**164**	**627**	**16**	**534**	**64**	**614**	**285**	**1,241**	**1,526**
11	Growth Rate	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%		1.7%	1.7%	1.7%		1.7%	1.7%	1.7%				
12	2028 Horizon Year	35	0	74	109	0	0	0	0	86	244	0	330	0	469	67	536	109	866	975
13	**2028 Build (Line 8+9+12)**	**35**	**3**	**74**	**112**	**158**	**3**	**12**	**173**	**86**	**393**	**164**	**643**	**16**	**557**	**67**	**640**	**285**	**1,283**	**1,568**

2025 Horizon Year = 2023 Existing * (1+Growth Rate) ^ 2yrs

2028 Horizon Year = 2025 Horizon Year * (1+Growth Rate) ^ 3yrs

TRAFFIC VOLUME DEVELOPMENT SHEET

	PM PEAK	Sam's Club Access Drive EASTBOUND				Primary Access Drive WESTBOUND				New Brunswick Rd NORTHBOUND				New Brunswick Rd SOUTHBOUND				Directional E-W	Directional N-S	Hourly Total
		Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Total	Total	
1	**2023 Existing**	**77**	**0**	**129**	**206**	**0**	**0**	**0**	**0**	**84**	**400**	**0**	**484**	**1**	**513**	**67**	**581**	**206**	**1,065**	**1,271**
2	Growth Rate	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%		1.7%	1.7%	1.7%		1.7%	1.7%	1.7%				
3	2025 Horizon Year	77	0	129	0	0	0	0	0	87	414	0	0	1	531	69	0	0	0	0
4	**2025 No Build**	**77**	**0**	**129**	**206**	**0**	**0**	**0**	**0**	**87**	**414**	**0**	**501**	**1**	**531**	**69**	**601**	**206**	**1,102**	**1,308**
5	Trips from Development		5		5	328	5	26	359		77	277	354	26	51		77	364	431	795
6	Less Pass-By Trips (31%)				0				0		24		24		16		16	0	40	40
7	Less Internal Capture Trips (5%)		0		0	16	0	1	17		4	14	18		3		3	17	21	38
8	Net Trips	0	5	0	5	312	5	25	342	0	49	263	312	26	32	0	58	347	370	717
9	Traffic due to Old Brunswick Closure										229		229		77		77	0	306	306
10	**2025 Build**	**77**	**5**	**129**	**211**	**312**	**5**	**25**	**342**	**87**	**692**	**263**	**1042**	**27**	**640**	**69**	**736**	**553**	**1,778**	**2,331**
11	Growth Rate	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%		1.7%	1.7%	1.7%		1.7%	1.7%	1.7%				
12	2028 Horizon Year	77	0	129	206	0	0	0	0	92	435	0	527	1	559	73	633	206	1,160	1,366
13	**2028 Build (Line 8+9+12)**	**77**	**5**	**129**	**211**	**312**	**5**	**25**	**342**	**92**	**713**	**263**	**1,068**	**27**	**668**	**73**	**768**	**553**	**1,836**	**2,389**

2025 Horizon Year = 2023 Existing * (1+Growth Rate) ^ 2yrs

2028 Horizon Year = 2025 Horizon Year * (1+Growth Rate) ^ 3yrs

Approach	Growth Rate
EASTBOUND N/A	0.0%
WESTBOUND Secondary Access Drive	0.0%
NORTHBOUND New Brunswick Rd	1.7%
SOUTHBOUND New Brunswick Rd	1.7%

Existing Year	Years to Full Buildout	Horizon Year Buildout	Years Past Buildout	Horizon Year past Buildout
2023	2	2025	3	2028

TRAFFIC VOLUME DEVELOPMENT SHEET

	AM PEAK	N/A EASTBOUND				Secondary Access Drive WESTBOUND				New Brunswick Rd NORTHBOUND				New Brunswick Rd SOUTHBOUND				Directional		Hourly Total
		Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	E-W Total	N-S Total	
1	**2023 Existing**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**259**	**0**	**259**	**0**	**493**	**0**	**493**	**0**	**752**	**752**
2	Growth Rate	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%		1.7%	1.7%	1.7%		1.7%	1.7%	1.7%				
3	2025 Horizon Year	0	0	0	0	0	0	0	0	0	268	0	0	0	510	0	0	0	0	0
4	**2025 No Build**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**268**	**0**	**268**	**0**	**510**	**0**	**510**	**0**	**778**	**778**
5	Trips from Development				0	26		13	39		26	32	58	32	16		48	39	106	145
6	Less Pass-By Trips (31%)				0				0		8		8		5		5	0	13	13
7	Less Internal Capture Trips (5%)				0	1		1	2		1	2	3	2	1		3	2	6	8
8	Net Trips	0	0	0	0	25	0	12	37	0	17	30	47	30	10	0	40	37	87	124
9	Traffic due to Old Brunswick Closure										120		120		71		71	0	191	191
10	**2025 Build**	**0**	**0**	**0**	**0**	**25**	**0**	**12**	**37**	**0**	**405**	**30**	**435**	**30**	**591**	**0**	**621**	**37**	**1,056**	**1,093**
11	Growth Rate	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%		1.7%	1.7%	1.7%		1.7%	1.7%	1.7%				
12	2028 Horizon Year	0	0	0	0	0	0	0	0	0	282	0	282	0	536	0	536	0	818	818
13	**2028 Build (Line 8+9+12)**	**0**	**0**	**0**	**0**	**25**	**0**	**12**	**37**	**0**	**419**	**30**	**449**	**30**	**617**	**0**	**647**	**37**	**1,096**	**1,133**

2025 Horizon Year = 2023 Existing * (1+Growth Rate) ^ 2yrs

2028 Horizon Year = 2025 Horizon Year * (1+Growth Rate) ^ 3yrs

TRAFFIC VOLUME DEVELOPMENT SHEET

	PM PEAK	N/A EASTBOUND				Secondary Access Drive WESTBOUND				New Brunswick Rd NORTHBOUND				New Brunswick Rd SOUTHBOUND				Directional		Hourly Total
		Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	E-W Total	N-S Total	
1	**2023 Existing**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**477**	**0**	**477**	**0**	**577**	**0**	**577**	**0**	**1,054**	**1,054**
2	Growth Rate	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%		1.7%	1.7%	1.7%		1.7%	1.7%	1.7%				
3	2025 Horizon Year	0	0	0	0	0	0	0	0	0	493	0	0	0	597	0	0	0	0	0
4	**2025 No Build**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**493**	**0**	**493**	**0**	**597**	**0**	**597**	**0**	**1,090**	**1,090**
5	Trips from Development				0	51		26	77		52	51	103	51	26		77	77	180	257
6	Less Pass-By Trips (31%)				0				0		16		16		8		8	0	24	24
7	Less Internal Capture Trips (5%)				0	3		1	4		3	3	6	3	1		4	4	10	14
8	Net Trips	0	0	0	0	48	0	25	73	0	33	48	81	48	17	0	65	73	146	219
9	Traffic due to Old Brunswick Closure										229		229		77		77	0	306	306
10	**2025 Build**	**0**	**0**	**0**	**0**	**48**	**0**	**25**	**73**	**0**	**755**	**48**	**803**	**48**	**691**	**0**	**739**	**73**	**1,542**	**1,615**
11	Growth Rate	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%		1.7%	1.7%	1.7%		1.7%	1.7%	1.7%				
12	2028 Horizon Year	0	0	0	0	0	0	0	0	0	519	0	519	0	628	0	628	0	1,147	1,147
13	**2028 Build (Line 8+9+12)**	**0**	**0**	**0**	**0**	**48**	**0**	**25**	**73**	**0**	**781**	**48**	**829**	**48**	**722**	**0**	**770**	**73**	**1,599**	**1,672**

2025 Horizon Year = 2023 Existing * (1+Growth Rate) ^ 2yrs

2028 Horizon Year = 2025 Horizon Year * (1+Growth Rate) ^ 3yrs

Approach	Growth Rate
EASTBOUND Wolf Lake Dr	0.0%
WESTBOUND N/A	0.0%
NORTHBOUND New Brunswick Rd	1.7%
SOUTHBOUND New Brunswick Rd	1.7%

Existing Year	Years to Full Buildout	Horizon Year Buildout	Years Past Buildout	Horizon Year past Buildout
2023	2	2025	3	2028

TRAFFIC VOLUME DEVELOPMENT SHEET

	AM PEAK	Wolf Lake Dr EASTBOUND				N/A WESTBOUND				New Brunswick Rd NORTHBOUND				New Brunswick Rd SOUTHBOUND				Directional		Hourly Total
		Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	E-W Total	N-S Total	
1	**2023 Existing**	**10**	**0**	**20**	**30**	**0**	**0**	**0**	**0**	**96**	**181**	**0**	**277**	**0**	**438**	**45**	**483**	**30**	**760**	**790**
2	Growth Rate	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%		1.7%	1.7%	1.7%		1.7%	1.7%	1.7%				
3	2025 Horizon Year	10	0	20	0	0	0	0	0	99	187	0	0	0	453	47	0	0	0	0
4	**2025 No Build**	**10**	**0**	**20**	**30**	**0**	**0**	**0**	**0**	**99**	**187**	**0**	**286**	**0**	**453**	**47**	**500**	**30**	**786**	**816**
5	Trips from Development				0				0		39		39		48		48	0	87	87
6	Less Pass-By Trips (31%)				0				0		12		12		15		15	0	27	27
7	Less Internal Capture Trips (5%)				0				0		2		2		2		2	0	4	4
8	Net Trips	0	0	0	0	0	0	0	0	0	25	0	25	0	31	0	31	0	56	56
9	Traffic due to Old Brunswick Closure										120		120		71		71	0	191	191
10	**2025 Build**	**10**	**0**	**20**	**30**	**0**	**0**	**0**	**0**	**99**	**332**	**0**	**431**	**0**	**555**	**47**	**602**	**30**	**1,033**	**1,063**
11	Growth Rate	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%		1.7%	1.7%	1.7%		1.7%	1.7%	1.7%				
12	2028 Horizon Year	10	0	20	30	0	0	0	0	104	197	0	301	0	476	49	525	30	826	856
13	**2028 Build (Line 8+9+12)**	**10**	**0**	**20**	**30**	**0**	**0**	**0**	**0**	**104**	**342**	**0**	**446**	**0**	**578**	**49**	**627**	**30**	**1,073**	**1,103**

2025 Horizon Year = 2023 Existing * (1+Growth Rate) ^ 2yrs

2028 Horizon Year = 2025 Horizon Year * (1+Growth Rate) ^ 3yrs

TRAFFIC VOLUME DEVELOPMENT SHEET

	PM PEAK	Wolf Lake Dr EASTBOUND				N/A WESTBOUND				New Brunswick Rd NORTHBOUND				New Brunswick Rd SOUTHBOUND				Directional		Hourly Total
		Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	E-W Total	N-S Total	
1	**2023 Existing**	**60**	**0**	**104**	**164**	**0**	**0**	**0**	**0**	**21**	**454**	**0**	**475**	**1**	**473**	**23**	**497**	**164**	**972**	**1,136**
2	Growth Rate	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%		1.7%	1.7%	1.7%		1.7%	1.7%	1.7%				
3	2025 Horizon Year	60	0	104	0	0	0	0	0	22	470	0	0	1	489	24	0	0	0	0
4	**2025 No Build**	**60**	**0**	**104**	**164**	**0**	**0**	**0**	**0**	**22**	**470**	**0**	**492**	**1**	**489**	**24**	**514**	**164**	**1,006**	**1,170**
5	Trips from Development				0				0		78		78		77		77	0	155	155
6	Less Pass-By Trips (31%)				0				0		24		24		24		24	0	48	48
7	Less Internal Capture Trips (5%)				0				0		4		4		4		4	0	8	8
8	Net Trips	0	0	0	0	0	0	0	0	0	50	0	50	0	49	0	49	0	99	99
9	Traffic due to Old Brunswick Closure										229		229		77		77	0	306	306
10	**2025 Build**	**60**	**0**	**104**	**164**	**0**	**0**	**0**	**0**	**22**	**749**	**0**	**771**	**1**	**615**	**24**	**640**	**164**	**1,411**	**1,575**
11	Growth Rate	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%		1.7%	1.7%	1.7%		1.7%	1.7%	1.7%				
12	2028 Horizon Year	60	0	104	164	0	0	0	0	23	494	0	517	1	514	25	540	164	1,057	1,221
13	**2028 Build (Line 8+9+12)**	**60**	**0**	**104**	**164**	**0**	**0**	**0**	**0**	**23**	**773**	**0**	**796**	**1**	**640**	**25**	**666**	**164**	**1,462**	**1,626**

2025 Horizon Year = 2023 Existing * (1+Growth Rate) ^ 2yrs

2028 Horizon Year = 2025 Horizon Year * (1+Growth Rate) ^ 3yrs

Approach	Growth Rate
EASTBOUND N/A	0.0%
WESTBOUND Ladurl Dr	0.0%
NORTHBOUND New Brunswick Rd	1.7%
SOUTHBOUND New Brunswick Rd	1.7%

Existing Year	Years to Full Buildout	Horizon Year Buildout	Years Past Buildout	Horizon Year past Buildout
2023	2	2025	3	2028

TRAFFIC VOLUME DEVELOPMENT SHEET

	AM PEAK	N/A EASTBOUND				Ladurl Dr WESTBOUND				New Brunswick Rd NORTHBOUND				New Brunswick Rd SOUTHBOUND				Directional		Hourly Total
		Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	E-W Total	N-S Total	
1	**2023 Existing**	**0**	**0**	**0**	**0**	**77**	**0**	**6**	**83**	**0**	**194**	**27**	**221**	**6**	**386**	**0**	**392**	**83**	**613**	**696**
2	Growth Rate	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%		1.7%	1.7%	1.7%		1.7%	1.7%	1.7%				
3	2025 Horizon Year	0	0	0	0	77	0	6	0	0	201	28	0	6	399	0	0	0	0	0
4	**2025 No Build**	**0**	**0**	**0**	**0**	**77**	**0**	**6**	**83**	**0**	**201**	**28**	**229**	**6**	**399**	**0**	**405**	**83**	**634**	**717**
5	Trips from Development				0	15			15		31	13	44		39		39	15	83	98
6	Less Pass-By Trips (31%)				0	5			5		10	4	14		12		12	5	26	31
7	Less Internal Capture Trips (5%)				0	1			1		2	1	3		2		2	1	5	6
8	Net Trips	0	0	0	0	9	0	0	9	0	19	8	27	0	25	0	25	9	52	61
9	Traffic due to Old Brunswick Closure					64		13	77			107	107	7			7	77	114	191
10	**2025 Build**	**0**	**0**	**0**	**0**	**150**	**0**	**19**	**169**	**0**	**220**	**143**	**363**	**13**	**424**	**0**	**437**	**169**	**800**	**969**
11	Growth Rate	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%		1.7%	1.7%	1.7%		1.7%	1.7%	1.7%				
12	2028 Horizon Year	0	0	0	0	77	0	6	83	0	211	29	240	6	420	0	426	83	666	749
13	**2028 Build (Line 8+9+12)**	**0**	**0**	**0**	**0**	**150**	**0**	**19**	**169**	**0**	**230**	**144**	**374**	**13**	**445**	**0**	**458**	**169**	**832**	**1,001**

2025 Horizon Year = 2023 Existing * (1+Growth Rate) ^ 2yrs

2028 Horizon Year = 2025 Horizon Year * (1+Growth Rate) ^ 3yrs

TRAFFIC VOLUME DEVELOPMENT SHEET

	PM PEAK	N/A EASTBOUND				Ladurl Dr WESTBOUND				New Brunswick Rd NORTHBOUND				New Brunswick Rd SOUTHBOUND				Directional		Hourly Total
		Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	E-W Total	N-S Total	
1	**2023 Existing**	**0**	**0**	**0**	**0**	**88**	**0**	**12**	**100**	**0**	**460**	**54**	**514**	**8**	**396**	**0**	**404**	**100**	**918**	**1,018**
2	Growth Rate	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%		1.7%	1.7%	1.7%		1.7%	1.7%	1.7%				
3	2025 Horizon Year	0	0	0	0	88	0	12	0	0	476	56	0	8	410	0	0	0	0	0
4	**2025 No Build**	**0**	**0**	**0**	**0**	**88**	**0**	**12**	**100**	**0**	**476**	**56**	**532**	**8**	**410**	**0**	**418**	**100**	**950**	**1,050**
5	Trips from Development				0	26			26		62	26	88		62		62	26	150	176
6	Less Pass-By Trips (31%)				0	8			8		19	8	27		19		19	8	46	54
7	Less Internal Capture Trips (5%)				0	1			1		3	1	4		3		3	1	7	8
8	Net Trips	0	0	0	0	17	0	0	17	0	40	17	57	0	40	0	40	17	97	114
9	Traffic due to Old Brunswick Closure					61		35	96			194	194	16			16	96	210	306
10	**2025 Build**	**0**	**0**	**0**	**0**	**166**	**0**	**47**	**213**	**0**	**516**	**267**	**783**	**24**	**450**	**0**	**474**	**213**	**1,257**	**1,470**
11	Growth Rate	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%		1.7%	1.7%	1.7%		1.7%	1.7%	1.7%				
12	2028 Horizon Year	0	0	0	0	88	0	12	100	0	501	59	560	8	431	0	439	100	999	1,099
13	**2028 Build (Line 8+9+12)**	**0**	**0**	**0**	**0**	**166**	**0**	**47**	**213**	**0**	**541**	**270**	**811**	**24**	**471**	**0**	**495**	**213**	**1,306**	**1,519**

2025 Horizon Year = 2023 Existing * (1+Growth Rate) ^ 2yrs

2028 Horizon Year = 2025 Horizon Year * (1+Growth Rate) ^ 3yrs

Appendix E – Crash Data

Query: SR15 @ New Brunswick Rd
COUNTY.County Name = SHELBY
CR_CRASH.Route = SR015
CR_CRASH.Log Mile >= 8 And CR_CRASH.Log Mile <= 9
CR_DRIVER_VEH.Vehicle Going Direction = E

BMP	Route	Case Number	Year Of Crash	Date of Crash	Total Killed	Manner of First Collision	Vehicle Going Direction	Vehicle Maneuver
8.041	SR015	300883445	2023	4/29/2023	0	ANGLE	E	Going Straight
8.041	SR015	300883445	2023	4/29/2023	0	ANGLE	E	Going Straight
8.05	SR015	300699133	2021	4/11/2021	0	ANGLE	E	Not Applicable
8.05	SR015	300699133	2021	4/11/2021	0	ANGLE	E	Going Straight
8.053	SR015	300803073	2022	5/19/2022	0	ANGLE	E	Going Straight
8.127	SR015	300785753	2022	3/12/2022	0	ANGLE	E	Stopped In Traffic Lane
8.127	SR015	300785753	2022	3/12/2022	0	ANGLE	E	Stopped In Traffic Lane
8.135	SR015	300758826	2021	11/22/2021	0	ANGLE	E	Changing Lanes Or Merging
8.135	SR015	300758826	2021	11/22/2021	0	ANGLE	E	Stopped In Traffic Lane
8.186	SR015	300848757	2022	11/23/2022	0	ANGLE	E	Not Applicable
8.198	SR015	300681043	2021	1/18/2021	0	ANGLE	E	Going Straight
8.2	SR015	300686510	2021	2/12/2021	0	ANGLE	E	Going Straight
8.2	SR015	300748187	2021	10/16/2021	0	ANGLE	E	Going Straight
8.2	SR015	300819055	2022	7/26/2022	0	ANGLE	E	Going Straight
8.2	SR015	300842060	2022	10/28/2022	0	ANGLE	E	Turning Left
8.2	SR015	300842060	2022	10/28/2022	0	ANGLE	E	Going Straight
8.206	SR015	300691816	2021	3/12/2021	0	ANGLE	E	Going Straight
8.207	SR015	300631610	2020	6/17/2020	0	ANGLE	E	Turning Left
8.207	SR015	300631610	2020	6/17/2020	0	ANGLE	E	Going Straight
8.207	SR015	300730441	2021	8/9/2021	0	ANGLE	E	Going Straight
8.208	SR015	300598770	2020	1/6/2020	0	ANGLE	E	Going Straight
8.209	SR015	300711418	2021	5/28/2021	0	ANGLE	E	Going Straight
8.21	SR015	300675045	2020	12/19/2020	0	ANGLE	E	Turning Left
8.21	SR015	300675045	2020	12/19/2020	0	ANGLE	E	Going Straight
8.212	SR015	300728097	2021	7/30/2021	0	ANGLE	E	Going Straight
8.217	SR015	300614741	2020	3/11/2020	0	ANGLE	E	Going Straight
8.217	SR015	300614741	2020	3/11/2020	0	ANGLE	E	Going Straight
8.25	SR015	300648507	2020	8/30/2020	0	ANGLE	E	Turning Left
8.25	SR015	300648507	2020	8/30/2020	0	ANGLE	E	Going Straight
8.299	SR015	300780942	2022	2/15/2022	0	ANGLE	E	Unknown
8.299	SR015	300780942	2022	2/15/2022	0	ANGLE	E	Going Straight
8.319	SR015	300780688	2022	2/19/2022	0	ANGLE	E	Going Straight
8.319	SR015	300828405	2022	9/1/2022	0	ANGLE	E	Going Straight
8.319	SR015	300828405	2022	9/1/2022	0	ANGLE	E	Going Straight
8.319	SR015	300845544	2022	11/10/2022	0	ANGLE	E	Going Straight
8.319	SR015	300845544	2022	11/10/2022	0	ANGLE	E	Going Straight
8.319	SR015	300845544	2022	11/10/2022	0	ANGLE	E	Going Straight
8.341	SR015	300627255	2020	5/27/2020	0	ANGLE	E	Going Straight
8.058	SR015	300607805	2020	2/12/2020	0	ANGLE	E	Turning Right-RTOR Permitted Not Known
8.058	SR015	300607805	2020	2/12/2020	0	ANGLE	E	Turning Left
8.063	SR015	300626426	2020	5/22/2020	0	ANGLE	E	Going Straight
8.063	SR015	300681658	2021	1/21/2021	0	ANGLE	E	Going Straight
8.063	SR015	300761734	2021	12/3/2021	0	ANGLE	E	Stopped In Traffic Lane
8.063	SR015	300761734	2021	12/3/2021	0	ANGLE	E	Changing Lanes Or Merging
8.163	SR015	300696109	2021	3/30/2021	0	ANGLE	E	Going Straight
8.2	SR015	300763333	2021	12/9/2021	0	ANGLE	E	Going Straight
8.2	SR015	300848150	2022	11/20/2022	0	ANGLE	E	Going Straight
8.204	SR015	300676030	2020	12/23/2020	0	ANGLE	E	Going Straight
8.269	SR015	300728202	2021	7/31/2021	0	ANGLE	E	Turning Left
8.317	SR015	300786302	2022	3/8/2022	0	ANGLE	E	Turning Left
8.32	SR015	300608434	2020	2/15/2020	0	ANGLE	E	Going Straight
8.32	SR015	300615958	2020	3/17/2020	0	ANGLE	E	Turning Right-RTOR Permitted
8.32	SR015	300618611	2020	4/3/2020	0	ANGLE	E	Turning Left
8.32	SR015	300639261	2020	7/22/2020	0	ANGLE	E	Turning Left
8.32	SR015	300644637	2020	8/13/2020	0	ANGLE	E	Turning Left
8.32	SR015	300656737	2020	10/3/2020	0	ANGLE	E	Going Straight
8.32	SR015	300675998	2020	12/23/2020	0	ANGLE	E	Going Straight
8.32	SR015	300679150	2021	1/7/2021	0	ANGLE	E	Going Straight
8.32	SR015	300682517	2021	1/15/2021	0	ANGLE	E	Unknown
8.32	SR015	300682517	2021	1/15/2021	0	ANGLE	E	Going Straight
8.32	SR015	300683853	2021	1/29/2021	0	ANGLE	E	Turning Left
8.32	SR015	300703700	2021	4/28/2021	0	ANGLE	E	Going Straight
8.32	SR015	300705390	2021	5/6/2021	0	ANGLE	E	Going Straight
8.32	SR015	300741083	2021	9/20/2021	0	ANGLE	E	Turning Left
8.32	SR015	300741496	2021	9/17/2021	0	ANGLE	E	Going Straight
8.32	SR015	300741496	2021	9/17/2021	0	ANGLE	E	Turning Left
8.32	SR015	300748829	2021	10/18/2021	0	ANGLE	E	Turning Left
8.32	SR015	300759238	2021	11/23/2021	0	ANGLE	E	Turning Right-RTOR Permitted
8.32	SR015	300760921	2021	11/29/2021	0	ANGLE	E	Turning Left
8.32	SR015	300763075	2021	12/8/2021	0	ANGLE	E	Turning Left
8.32	SR015	300767530	2021	12/23/2021	0	ANGLE	E	Going Straight
8.32	SR015	300768438	2021	12/28/2021	0	ANGLE	E	Turning Left
8.32	SR015	300769826	2022	1/3/2022	0	ANGLE	E	Going Straight
8.32	SR015	300772057	2022	1/13/2022	0	ANGLE	E	Going Straight
8.32	SR015	300776011	2022	1/31/2022	0	ANGLE	E	Turning Left
8.32	SR015	300782912	2022	2/28/2022	0	ANGLE	E	Turning Right-RTOR Permitted
8.32	SR015	300787466	2022	3/19/2022	0	ANGLE	E	Turning Left
8.32	SR015	300789219	2022	3/26/2022	0	ANGLE	E	Turning Left
8.32	SR015	300826586	2022	8/26/2022	0	ANGLE	E	Not Applicable
8.32	SR015	300830398	2022	9/11/2022	0	ANGLE	E	Turning Left
8.32	SR015	300831407	2022	9/15/2022	0	ANGLE	E	Going Straight
8.32	SR015	300832572	2022	9/20/2022	0	ANGLE	E	Turning Left
8.32	SR015	300837936	2022	10/11/2022	0	ANGLE	E	Going Straight
8.32	SR015	300837936	2022	10/11/2022	0	ANGLE	E	Going Straight
8.32	SR015	300841796	2022	10/27/2022	0	ANGLE	E	Going Straight
8.32	SR015	300844215	2022	11/5/2022	0	ANGLE	E	Going Straight
8.32	SR015	300844215	2022	11/5/2022	0	ANGLE	E	Turning Left
8.32	SR015	300849929	2022	11/29/2022	0	ANGLE	E	Turning Left
8.32	SR015	300849929	2022	11/29/2022	0	ANGLE	E	Going Straight
8.32	SR015	300850233	2022	11/29/2022	0	ANGLE	E	Turning Left
8.32	SR015	300850859	2022	12/2/2022	0	ANGLE	E	Going Straight
8.32	SR015	300850859	2022	12/2/2022	0	ANGLE	E	Going Straight
8.32	SR015	300873009	2023	3/13/2023	0	ANGLE	E	Turning Left
8.32	SR015	300881715	2023	4/21/2023	0	ANGLE	E	Going Straight
8.32	SR015	300882018	2023	4/23/2023	0	ANGLE	E	Going Straight
8.32	SR015	300885447	2023	5/8/2023	0	ANGLE	E	Turning Right-RTOR Permitted
8.32	SR015	300891387	2023	6/5/2023	0	ANGLE	E	Going Straight
8.063	SR015	300789612	2022	3/28/2022	0	ANGLE	E	Going Straight
8.063	SR015	300789612	2022	3/28/2022	0	ANGLE	E	Parked
8.193	SR015	300658036	2020	10/9/2020	0	ANGLE	E	Going Straight
8.196	SR015	300816002	2022	7/13/2022	0	ANGLE	E	Going Straight
8.196	SR015	300884569	2023	5/4/2023	0	ANGLE	E	Going Straight
8.197	SR015	300752413	2021	10/30/2021	0	ANGLE	E	Going Straight
8.2	SR015	300759212	2021	11/23/2021	0	ANGLE	E	Turning Left
8.2	SR015	300759212	2021	11/23/2021	0	ANGLE	E	Going Straight
8.32	SR015	300608060	2020	2/13/2020	0	ANGLE	E	Turning Left
8.32	SR015	300673317	2020	12/10/2020	0	ANGLE	E	Going Straight
8.32	SR015	300753118	2021	11/2/2021	0	ANGLE	E	Other
8.32	SR015	300817032	2022	7/17/2022	0	ANGLE	E	Turning Left
8.32	SR015	300817032	2022	7/17/2022	0	ANGLE	E	Going Straight
8.32	SR015	300824555	2022	8/17/2022	0	ANGLE	E	Going Straight
8.32	SR015	300824555	2022	8/17/2022	0	ANGLE	E	Going Straight
8.32	SR015	300833142	2022	9/21/2022	0	ANGLE	E	Turning Left
8.32	SR015	300869119	2023	2/23/2023	0	ANGLE	E	Going Straight
8.212	SR015	300855497	2022	12/16/2022	0	ANGLE	E	Going Straight
8.166	SR015	300656528	2020	10/3/2020	1	ANGLE	E	Unknown
8.196	SR015	300752157	2021	10/29/2021	0	ANGLE	E	Going Straight
8.202	SR015	300696548	2021	4/1/2021	0	ANGLE	E	Going Straight
8.204	SR015	300703378	2021	4/28/2021	0	ANGLE	E	Going Straight
8.225	SR015	300752190	2021	10/29/2021	0	ANGLE	E	Going Straight
8.225	SR015	300752190	2021	10/29/2021	0	ANGLE	E	Going Straight
8.251	SR015	300798010	2022	4/30/2022	0	ANGLE	E	Unknown
8.251	SR015	300798010	2022	4/30/2022	0	ANGLE	E	Going Straight
8.319	SR015	300751940	2021	10/29/2021	0	ANGLE	E	Changing Lanes Or Merging
8.319	SR015	300751940	2021	10/29/2021	0	ANGLE	E	Going Straight
8.28	SR015	300656774	2020	10/3/2020	0	ANGLE	E	Going Straight
8.28	SR015	300656774	2020	10/3/2020	0	ANGLE	E	Going Straight

Query: SR15 @ New Brunswick Rd
COUNTY.County Name = SHELBY
CR_CRASH.Route = SR015
CR_CRASH.Log Mile >= 8 And CR_CRASH.Log Mile <= 9
CR_DRIVER_VEH.Vehicle Going Direction = E

BLM	Route	Case Number	Year Of Crash	Date of Crash	Total Killed	Manner of First Collision	Vehicle Going Direction	Vehicle Maneuver
8.105	SR015	300681667	2021	1/21/2021	0	REAR-END	E	Going Straight
8.105	SR015	300681667	2021	1/21/2021	0	REAR-END	E	Stopped In Traffic Lane
8.2	SR015	300814358	2022	7/3/2022	0	REAR-END	E	Going Straight
8.2	SR015	300814358	2022	7/3/2022	0	REAR-END	E	Other
8.298	SR015	300668648	2020	11/20/2020	0	REAR-END	E	Going Straight
8.298	SR015	300668648	2020	11/20/2020	0	REAR-END	E	Going Straight
8.298	SR015	300668648	2020	11/20/2020	0	REAR-END	E	Going Straight
8.298	SR015	300668648	2020	11/20/2020	0	REAR-END	E	Going Straight
8.311	SR015	300868271	2023	2/20/2023	0	REAR-END	E	Going Straight
8.311	SR015	300868271	2023	2/20/2023	0	REAR-END	E	Going Straight
8.319	SR015	300858835	2023	1/4/2023	0	SIDESWIPE, SAME DIR	E	Turning Left
8.319	SR015	300858835	2023	1/4/2023	0	SIDESWIPE, SAME DIR	E	Turning Left
8.32	SR015	300649215	2020	9/2/2020	0	REAR-END	E	Slowing In Traffic Lane
8.32	SR015	300649215	2020	9/2/2020	0	REAR-END	E	Stopped In Traffic Lane
8.202	SR015	300644724	2020	8/14/2020	0	NO COLLISION W/ VEHICLE	E	Going Straight
8.063	SR015	300626178	2020	5/21/2020	0	SIDESWIPE, SAME DIR	E	Turning Left
8.063	SR015	300626178	2020	5/21/2020	0	SIDESWIPE, SAME DIR	E	Turning Left
8.063	SR015	300632745	2020	6/21/2020	0	NO COLLISION W/ VEHICLE	E	Going Straight
8.063	SR015	300677146	2020	12/28/2020	0	NO COLLISION W/ VEHICLE	E	Going Straight
8.063	SR015	300740424	2021	9/15/2021	0	SIDESWIPE, SAME DIR	E	Not Applicable
8.063	SR015	300740424	2021	9/15/2021	0	SIDESWIPE, SAME DIR	E	Changing Lanes Or Merging
8.063	SR015	300755635	2021	11/11/2021	0	REAR-END	E	Stopped In Traffic Lane
8.063	SR015	300755635	2021	11/11/2021	0	REAR-END	E	Stopped In Traffic Lane
8.063	SR015	300755635	2021	11/11/2021	0	REAR-END	E	Going Straight
8.32	SR015	300632984	2020	6/24/2020	0	HEAD-ON	E	Turning Left
8.32	SR015	300649210	2020	9/2/2020	0	REAR-END	E	Going Straight
8.32	SR015	300649210	2020	9/2/2020	0	REAR-END	E	Going Straight
8.32	SR015	300672911	2020	12/10/2020	0	REAR-END	E	Going Straight
8.32	SR015	300685746	2021	2/10/2021	0	REAR-END	E	Going Straight
8.32	SR015	300685746	2021	2/10/2021	0	REAR-END	E	Going Straight
8.32	SR015	300785848	2022	3/12/2022	0	OTHER	E	Going Straight
8.32	SR015	300857619	2022	12/28/2022	0	OTHER	E	Going Straight
8.32	SR015	300875083	2023	3/23/2023	0	REAR TO SIDE	E	Turning Left
8.063	SR015	103032917	2021	6/25/2021	0	OTHER	E	Stopped In Traffic Lane
8.063	SR015	103032917	2021	6/25/2021	0	OTHER	E	Stopped In Traffic Lane
8.063	SR015	103032917	2021	6/25/2021	0	OTHER	E	Going Straight
8.063	SR015	300633486	2020	6/26/2020	0	REAR-END	E	Going Straight
8.063	SR015	300633486	2020	6/26/2020	0	REAR-END	E	Going Straight
8.063	SR015	300661944	2020	10/26/2020	0	REAR-END	E	Controlled Maneuver
8.063	SR015	300661944	2020	10/26/2020	0	REAR-END	E	Slowing In Traffic Lane
8.135	SR015	300802567	2022	5/17/2022	0	REAR-END	E	Going Straight
8.135	SR015	300802567	2022	5/17/2022	0	REAR-END	E	Going Straight
8.192	SR015	300728048	2021	7/30/2021	0	REAR-END	E	Going Straight
8.192	SR015	300728048	2021	7/30/2021	0	REAR-END	E	Slowing In Traffic Lane
8.272	SR015	300785579	2022	3/8/2022	0	REAR-END	E	Going Straight
8.272	SR015	300785579	2022	3/8/2022	0	REAR-END	E	Stopped In Traffic Lane
8.053	SR015	300798173	2022	5/1/2022	0	REAR-END	E	Stopped In Traffic Lane
8.053	SR015	300798173	2022	5/1/2022	0	REAR-END	E	Starting In Traffic Lane
8.083	SR015	300809429	2022	6/14/2022	0	REAR-END	E	Slowing In Traffic Lane
8.083	SR015	300809429	2022	6/14/2022	0	REAR-END	E	Stopped In Traffic Lane
8.2	SR015	300649218	2020	9/2/2020	0	HEAD-ON	E	Not Applicable
8.2	SR015	300649218	2020	9/2/2020	0	HEAD-ON	E	Turning Left
8.2	SR015	300764591	2021	12/10/2021	0	SIDESWIPE, SAME DIR	E	Going Straight
8.2	SR015	300764591	2021	12/10/2021	0	SIDESWIPE, SAME DIR	E	Going Straight
8.211	SR015	300655607	2020	9/29/2020	0	NO COLLISION W/ VEHICLE	E	Going Straight
8.31	SR015	300648661	2020	8/30/2020	0	REAR-END	E	Going Straight
8.31	SR015	300648661	2020	8/30/2020	0	REAR-END	E	Going Straight
8.216	SR015	300848129	2022	11/17/2022	0	OTHER	E	Going Straight
8.255	SR015	300643329	2020	8/8/2020	0	REAR-END	E	Slowing In Traffic Lane
8.255	SR015	300643329	2020	8/8/2020	0	REAR-END	E	Changing Lanes Or Merging

Query: SR15 @ New Brunswick Rd
COUNTY.County Name = SHELBY
CR_CRASH.Route = SR015
CR_CRASH.Log Mile >= 8 And CR_CRASH.Log Mile <= 9
CR_DRIVER_VEH.Vehicle Going Direction = W

BLM	Route	Year Of Cras	Total Kille	Manner of First Collision	Vehicle Going Directio	Vehicle Maneuver
8.318	SR015	2022		0 SIDESWIPE, SAME DIR	W	Unknown
8.318	SR015	2022		0 SIDESWIPE, SAME DIR	W	Going Straight
8.319	SR015	2021		0 ANGLE	W	Going Straight
8.319	SR015	2021		0 ANGLE	W	Other
8.319	SR015	2021		0 REAR-END	W	Going Straight
8.319	SR015	2021		0 REAR-END	W	Going Straight
8.319	SR015	2021		0 REAR-END	W	Stopped In Traffic Lane
8.319	SR015	2022		0 REAR-END	W	Going Straight
8.319	SR015	2022		0 REAR-END	W	Stopped In Traffic Lane
8.319	SR015	2022		0 REAR-END	W	Stopped In Traffic Lane
8.319	SR015	2022		0 REAR-END	W	Stopped In Traffic Lane
8.319	SR015	2022		0 UNKNOWN	W	Unknown
8.457	SR015	2022		0 ANGLE	W	Changing Lanes Or Merging
8.317	SR015	2022		0 ANGLE	W	Going Straight
8.32	SR015	2020		0 REAR-END	W	Going Straight
8.32	SR015	2020		0 REAR-END	W	Going Straight
8.32	SR015	2020		0 ANGLE	W	Going Straight
8.32	SR015	2020		0 ANGLE	W	Turning Left
8.32	SR015	2020		0 ANGLE	W	Going Straight
8.32	SR015	2020		0 ANGLE	W	Turning Left
8.32	SR015	2020		0 ANGLE	W	Going Straight
8.32	SR015	2020		0 ANGLE	W	Going Straight
8.32	SR015	2020		0 HEAD-ON	W	Going Straight
8.32	SR015	2020		0 REAR-END	W	Going Straight
8.32	SR015	2020		0 REAR-END	W	Going Straight
8.32	SR015	2020		0 ANGLE	W	Not Applicable
8.32	SR015	2020		0 ANGLE	W	Going Straight
8.32	SR015	2020		0 ANGLE	W	Going Straight
8.32	SR015	2020		0 REAR-END	W	Slowing In Traffic Lane
8.32	SR015	2020		0 REAR-END	W	Stopped In Traffic Lane
8.32	SR015	2020		0 ANGLE	W	Going Straight
8.32	SR015	2020		0 ANGLE	W	Turning Left
8.32	SR015	2020		0 ANGLE	W	Not Applicable
8.32	SR015	2020		0 UNKNOWN	W	Unknown
8.32	SR015	2020		0 UNKNOWN	W	Turning Left
8.32	SR015	2020		0 REAR-END	W	Going Straight
8.32	SR015	2020		0 ANGLE	W	Turning Left
8.32	SR015	2021		0 ANGLE	W	Going Straight
8.32	SR015	2021		0 ANGLE	W	Going Straight
8.32	SR015	2021		0 ANGLE	W	Turning Left
8.32	SR015	2021		0 ANGLE	W	Turning Left
8.32	SR015	2021		0 REAR-END	W	Going Straight
8.32	SR015	2021		0 REAR-END	W	Slowing In Traffic Lane
8.32	SR015	2021		0 REAR-END	W	Stopped In Traffic Lane
8.32	SR015	2021		0 ANGLE	W	Turning Right-RTOR Permitted
8.32	SR015	2021		0 ANGLE	W	Unknown
8.32	SR015	2021		0 ANGLE	W	Going Straight
8.32	SR015	2021		0 ANGLE	W	Going Straight
8.32	SR015	2021		0 ANGLE	W	Going Straight
8.32	SR015	2021		0 ANGLE	W	Going Straight
8.32	SR015	2021		0 ANGLE	W	Turning Left
8.32	SR015	2021		0 ANGLE	W	Going Straight
8.32	SR015	2021		0 ANGLE	W	Going Straight
8.32	SR015	2021		0 ANGLE	W	Going Straight
8.32	SR015	2022		0 ANGLE	W	Turning Left
8.32	SR015	2022		0 ANGLE	W	Turning Left
8.32	SR015	2022		0 ANGLE	W	Going Straight
8.32	SR015	2022		0 ANGLE	W	Going Straight
8.32	SR015	2022		0 ANGLE	W	Turning Left
8.32	SR015	2022		0 OTHER	W	Going Straight
8.32	SR015	2022		0 ANGLE	W	Going Straight
8.32	SR015	2022		0 ANGLE	W	Not Applicable
8.32	SR015	2022		0 ANGLE	W	Going Straight
8.32	SR015	2022		0 REAR-END	W	Going Straight
8.32	SR015	2022		0 REAR-END	W	Stopped In Traffic Lane
8.32	SR015	2022		0 ANGLE	W	Going Straight
8.32	SR015	2022		0 ANGLE	W	Going Straight
8.32	SR015	2022		0 ANGLE	W	Turning Left
8.32	SR015	2022		0 ANGLE	W	Going Straight
8.32	SR015	2022		0 OTHER	W	Turning Left
8.32	SR015	2023		0 ANGLE	W	Unknown
8.32	SR015	2023		0 ANGLE	W	Going Straight
8.32	SR015	2023		0 ANGLE	W	Going Straight
8.32	SR015	2023		0 REAR TO SIDE	W	Going Straight
8.32	SR015	2023		0 REAR-END	W	Going Straight
8.32	SR015	2023		0 REAR-END	W	Going Straight
8.32	SR015	2023		0 ANGLE	W	Going Straight
8.32	SR015	2023		0 ANGLE	W	Turning Left
8.32	SR015	2023		0 ANGLE	W	Going Straight
8.32	SR015	2023		0 ANGLE	W	Turning Left
8.32	SR015	2023		0 UNKNOWN	W	Unknown
8.32	SR015	2023		0 UNKNOWN	W	Going Straight
8.32	SR015	2023		0 ANGLE	W	Changing Lanes Or Merging
8.32	SR015	2023		0 ANGLE	W	Going Straight
8.32	SR015	2020		0 NO COLLISION W/ VEHICLE	W	Going Straight
8.32	SR015	2020		0 REAR-END	W	Going Straight
8.32	SR015	2020		0 REAR-END	W	Going Straight
8.32	SR015	2020		0 ANGLE	W	Going Straight
8.32	SR015	2021		0 ANGLE	W	Going Straight
8.32	SR015	2021		0 ANGLE	W	Going Straight
8.32	SR015	2021		0 ANGLE	W	Not Applicable
8.32	SR015	2021		0 ANGLE	W	Going Straight
8.32	SR015	2021		0 ANGLE	W	Going Straight
8.32	SR015	2022		0 ANGLE	W	Turning Left
8.32	SR015	2022		0 ANGLE	W	Going Straight
8.32	SR015	2022		0 ANGLE	W	Going Straight
8.32	SR015	2022		0 ANGLE	W	Going Straight
8.32	SR015	2023		0 ANGLE	W	Turning Left
8.45	SR015	2020		0 ANGLE	W	Going Straight
8.318	SR015	2020		0 REAR-END	W	Going Straight
8.318	SR015	2020		0 REAR-END	W	Going Straight
8.338	SR015	2021		0 ANGLE	W	Changing Lanes Or Merging
8.338	SR015	2021		0 ANGLE	W	Going Straight
8.419	SR015	2021		0 REAR-END	W	Stopped In Traffic Lane
8.419	SR015	2021		0 REAR-END	W	Going Straight
8.455	SR015	2021		0 REAR-END	W	Going Straight
8.455	SR015	2021		0 REAR-END	W	Stopped In Traffic Lane
8.404	SR015	2020		0 REAR-END	W	Not Applicable
8.404	SR015	2020		0 REAR-END	W	Not Applicable

Query: New Brunswick Rd - Crash Route = 0L254
CR_CRASH.Route = 0L254
CR_CRASH.Log Mile >= 0 And CR_CRASH.Log Mile <= 1
CR_DRIVER_VEH.Vehicle Going Direction = N

BLM	County	Year Of Crash	Total Killed	Manner of First Collision	Driver Actions	Vehicle Going Direction	Vehicle Maneuver
0.008	SHELBY	2021	0	SIDESWIPE, SAME DIR	Careless Erratic Driving	N	Changing Lanes Or Merging
0.008	SHELBY	2021	0	SIDESWIPE, SAME DIR	No Contributing Actions	N	Going Straight
0.034	SHELBY	2022	0	ANGLE	Failure to Yield Right of Way	N	Turning Left
0.039	SHELBY	2021	0	ANGLE	Careless Erratic Driving	N	Controlled Maneuver
0.039	SHELBY	2021	0	ANGLE	No Contributing Actions	N	Going Straight
0.07	SHELBY	2022	0	SIDESWIPE, SAME DIR	Other (Narrative)	N	Changing Lanes Or Merging
0.07	SHELBY	2022	0	SIDESWIPE, SAME DIR	No Contributing Actions	N	Going Straight
0.084	SHELBY	2022	0	ANGLE	Failure to Yield Right of Way	N	Turning Left
0.084	SHELBY	2022	0	ANGLE	No Contributing Actions	N	Going Straight
0.448	SHELBY	2023	0	NO COLLISION W/ VEHICLE	No Contributing Actions	N	Going Straight
0.333	SHELBY	2023	0	ANGLE	Inattentive (Eating, Reading, Talking, etc.)	N	Going Straight
0.333	SHELBY	2023	0	ANGLE	No Contributing Actions	N	Controlled Maneuver
0.238	SHELBY	2020	0	NO COLLISION W/ VEHICLE	Careless Erratic Driving	N	Not Applicable
0.598	SHELBY	2022	0	NO COLLISION W/ VEHICLE	Careless Erratic Driving	N	Going Straight
0.172	SHELBY	2022	0	ANGLE	Swerved or Avoided	N	Controlled Maneuver
0.172	SHELBY	2022	0	ANGLE	No Contributing Actions	N	Going Straight
0.694	SHELBY	2023	0	ANGLE	Careless Erratic Driving	N	Going Straight

Query: New Brunswick Rd - Crash Route = 0L254
CR_CRASH.Route = 0L254
CR_CRASH.Log Mile >= 0 And CR_CRASH.Log Mile <= 1
CR_DRIVER_VEH.Vehicle Going Direction = S

BLM	Location	Year Of Crash	Date of Crash	Total Killed	Manner of First Collision	Vehicle Going Direction	Vehicle Maneuver
0.034	Along Roadway	2022	5/14/2022	0	ANGLE	S	Going Straight
0.107	Along Roadway	2022	12/22/2022	0	ANGLE	S	Going Straight
0.107	Along Roadway	2022	12/22/2022	0	ANGLE	S	Changing Lanes Or Merging
0.238	At an Intersection	2022	12/13/2022	0	ANGLE	S	Going Straight
0.333	At an Intersection	2022	1/14/2022	0	ANGLE	S	Controlled Maneuver
0.333	At an Intersection	2022	1/14/2022	0	ANGLE	S	Going Straight
0.238	At an Intersection	2023	2/22/2023	0	ANGLE	S	Going Straight
0.113	Along Roadway	2021	9/25/2021	0	ANGLE	S	Going Straight
0.178	Along Roadway	2023	5/6/2023	0	ANGLE	S	Going Straight
0.694	Along Roadway	2023	1/3/2023	0	ANGLE	S	Going Straight

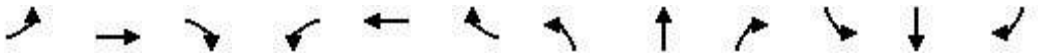
Query: Brunswick Rd(2)
CR_CRASH.Route = 01459
RD_SGMNT.Beg LM >= 0
RD_SGMNT.End LM <= 0.5
CR_DRIVER_VEH.Vehicle Going Direction = E

BLM	ELM	Road Name	Driver Actions	Vehicle Going Direction	Vehicle Maneuver
0	0.034	NEW BRUNSWICK RD.	No Contributing Actions	E	Not Applicable
0	0.034	NEW BRUNSWICK RD.	Following Improperly	E	Not Applicable
0	0.034	NEW BRUNSWICK RD.	Operator Inexperience	E	Backing Up Other Than Parking
0	0.034	NEW BRUNSWICK RD.	No Contributing Actions	E	Stopped In Traffic Lane
0	0.034	NEW BRUNSWICK RD.	Failure to Yield Right of Way	E	Controlled Maneuver
0	0.034	NEW BRUNSWICK RD.	No Contributing Actions	E	Stopped In Traffic Lane
0	0.034	NEW BRUNSWICK RD.	Failure to Yield Right of Way	E	Turning Left
0	0.034	NEW BRUNSWICK RD.	Inattentive (Eating, Reading, Talking, etc.)	E	Going Straight
0	0.034	NEW BRUNSWICK RD.	No Contributing Actions	E	Going Straight
0	0.034	NEW BRUNSWICK RD.	Failure to Yield Right of Way	E	Turning Left
0	0.034	NEW BRUNSWICK RD.	Inattentive (Eating, Reading, Talking, etc.)	E	Turning Left
0	0.034	NEW BRUNSWICK RD.	No Contributing Actions	E	Not Applicable
0	0.034	NEW BRUNSWICK RD.	Careless Erratic Driving	E	Other
0	0.034	NEW BRUNSWICK RD.	Failure to Yield Right of Way	E	Turning Left
0.034	0.156	BRUNSWICK RD.	Failure to Yield Right of Way	E	Turning Left
0.034	0.156	BRUNSWICK RD.	Aggressive Driving Road Rage	E	Going Straight
0.034	0.156	BRUNSWICK RD.	Aggressive Driving Road Rage	E	Going Straight
0.034	0.156	BRUNSWICK RD.	Inattentive (Eating, Reading, Talking, etc.)	E	Going Straight
0.034	0.156	BRUNSWICK RD.	No Contributing Actions	E	Going Straight
0.034	0.156	BRUNSWICK RD.	Inattentive (Eating, Reading, Talking, etc.)	E	Turning Left
0.034	0.156	BRUNSWICK RD.	Careless Erratic Driving	E	Other
0.034	0.156	BRUNSWICK RD.	Failure to Yield Right of Way	E	Turning Left

RD_SGMNT.End LM <= 0.5
CR_CRASH.Year Of Crash >= 2020
CR_DRIVER_VEH.Vehicle Going Direction = W

BLM	ELM	Road Name	Driver Actions	Vehicle Going Directio	Vehicle Maneuver
0	0.034	NEW BRUNSWICK RD.	Failure to Yield Right of Way	W	Turning Left
0	0.034	NEW BRUNSWICK RD.	Failure to Yield Right of Way	W	Controlled Maneuver
0	0.034	NEW BRUNSWICK RD.	No Contributing Actions	W	Going Straight
0	0.034	NEW BRUNSWICK RD.	Improper Turn	W	Controlled Maneuver
0	0.034	NEW BRUNSWICK RD.	Failure to Yield Right of Way	W	Turning Left
0	0.034	NEW BRUNSWICK RD.	Inattentive (Eating, Reading, Talking, etc.)	W	Turning Left
0	0.034	NEW BRUNSWICK RD.	Failure to Yield Right of Way	W	Controlled Maneuver
0	0.034	NEW BRUNSWICK RD.	Following Improperly	W	Going Straight
0	0.034	NEW BRUNSWICK RD.	No Contributing Actions	W	Not Applicable
0	0.034	NEW BRUNSWICK RD.	Failure to Yield Right of Way	W	Turning Left
0	0.034	NEW BRUNSWICK RD.	Failure to Yield Right of Way	W	Turning Left
0.034	0.156	BRUNSWICK RD.	Failure to Yield Right of Way	W	Turning Left
0.034	0.156	BRUNSWICK RD.	Failure to Yield Right of Way	W	Controlled Maneuver
0.034	0.156	BRUNSWICK RD.	No Contributing Actions	W	Going Straight
0.034	0.156	BRUNSWICK RD.	Failure to Yield Right of Way	W	Turning Left
0.034	0.156	BRUNSWICK RD.	Inattentive (Eating, Reading, Talking, etc.)	W	Turning Left
0.034	0.156	BRUNSWICK RD.	Failure to Yield Right of Way	W	Controlled Maneuver
0.034	0.156	BRUNSWICK RD.	Failure to Yield Right of Way	W	Turning Left
0.034	0.156	BRUNSWICK RD.	Failure to Yield Right of Way	W	Turning Left

Appendix F – Capacity Analysis Reports



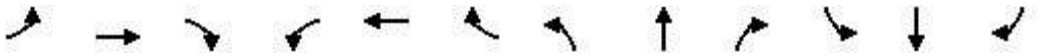
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	507	18	48	1282	334	32	21	60	340	31	141
Future Volume (vph)	65	507	18	48	1282	334	32	21	60	340	31	141
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	385		0	165		165	300		0
Storage Lanes	1		1	1		0	1		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	0.91	1.00	1.00	1.00	0.97	1.00	1.00
Frt			0.850		0.969				0.850		0.877	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	4928	0	1770	1863	1583	3433	1634	0
Flt Permitted	0.063			0.396			0.632			0.950		
Satd. Flow (perm)	117	3539	1583	738	4928	0	1177	1863	1583	3433	1634	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			145		63				150		164	
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		1539			1344			382			175	
Travel Time (s)		23.3			20.4			6.5			3.0	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	76	590	21	56	1491	388	37	24	70	395	36	164
Shared Lane Traffic (%)												
Lane Group Flow (vph)	76	590	21	56	1879	0	37	24	70	395	200	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6			4		4			
Detector Phase	5	2	2	1	6		7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	4.0	10.0	10.0	4.0	10.0		4.0	10.0	10.0	4.0	10.0	
Minimum Split (s)	7.0	16.5	16.5	7.0	16.5		9.0	16.0	16.0	9.0	16.0	
Total Split (s)	15.0	53.0	53.0	15.0	53.0		15.0	16.0	16.0	36.0	37.0	
Total Split (%)	12.5%	44.2%	44.2%	12.5%	44.2%		12.5%	13.3%	13.3%	30.0%	30.8%	
Maximum Green (s)	12.0	46.5	46.5	12.0	46.5		10.0	10.0	10.0	31.0	31.0	
Yellow Time (s)	3.0	4.5	4.5	3.0	4.5		3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	3.0	6.5	6.5	3.0	6.5		5.0	6.0	6.0	5.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	5.0	5.0	2.0	5.0		3.0	3.0	3.0	3.0	3.0	
Minimum Gap (s)	2.0	2.5	2.5	2.0	2.5		3.0	3.0	3.0	3.0	3.0	
Time Before Reduce (s)	0.0	10.0	10.0	0.0	10.0		0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	20.0	20.0	0.0	20.0		0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	C-Min	C-Min	None	C-Min		None	Min	Min	None	Min	
Act Effct Green (s)	75.0	65.9	65.9	74.0	65.4		18.3	10.0	10.0	19.1	26.2	
Actuated g/C Ratio	0.62	0.55	0.55	0.62	0.54		0.15	0.08	0.08	0.16	0.22	
v/c Ratio	0.47	0.30	0.02	0.11	0.69		0.17	0.15	0.26	0.72	0.41	
Control Delay	21.4	16.2	0.1	9.5	22.0		32.5	53.7	2.3	55.6	12.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	21.4	16.2	0.1	9.5	22.0		32.5	53.7	2.3	55.6	12.9	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	B	A	A	C		C	D	A	E	B	
Approach Delay		16.3			21.6			20.3			41.3	
Approach LOS		B			C			C			D	
Queue Length 50th (ft)	20	128	0	15	372		21	18	0	151	24	
Queue Length 95th (ft)	51	177	0	33	451		43	43	0	186	80	
Internal Link Dist (ft)		1459			1264			302			95	
Turn Bay Length (ft)	200			385			165		165	300		
Base Capacity (vph)	240	1944	935	576	2716		255	155	269	886	546	
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio	0.32	0.30	0.02	0.10	0.69		0.15	0.15	0.26	0.45	0.37	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 82 (68%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay: 24.0		Intersection LOS: C	
Intersection Capacity Utilization 71.8%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: Hwy 64 & New Brunswick Rd





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	1311	71	131	1114	450	51	73	171	481	60	136
Future Volume (vph)	130	1311	71	131	1114	450	51	73	171	481	60	136
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	385		0	165		165	300		0
Storage Lanes	1		1	1		0	1		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	0.91	1.00	1.00	1.00	0.97	1.00	1.00
Frt			0.850		0.957				0.850		0.896	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	4867	0	1770	1863	1583	3433	1669	0
Flt Permitted	0.073			0.072			0.626			0.950		
Satd. Flow (perm)	136	3539	1583	134	4867	0	1166	1863	1583	3433	1669	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			145		98				184		90	
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		1539			1344			382			175	
Travel Time (s)		23.3			20.4			6.5			3.0	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	140	1410	76	141	1198	484	55	78	184	517	65	146
Shared Lane Traffic (%)												
Lane Group Flow (vph)	140	1410	76	141	1682	0	55	78	184	517	211	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6			4		4			
Detector Phase	5	2	2	1	6		7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	4.0	10.0	10.0	4.0	10.0		4.0	10.0	10.0	4.0	10.0	
Minimum Split (s)	7.0	16.5	16.5	7.0	16.5		9.0	16.0	16.0	9.0	16.0	
Total Split (s)	15.0	52.0	52.0	15.0	52.0		17.0	16.0	16.0	37.0	36.0	
Total Split (%)	12.5%	43.3%	43.3%	12.5%	43.3%		14.2%	13.3%	13.3%	30.8%	30.0%	
Maximum Green (s)	12.0	45.5	45.5	12.0	45.5		12.0	10.0	10.0	32.0	30.0	
Yellow Time (s)	3.0	4.5	4.5	3.0	4.5		3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	3.0	6.5	6.5	3.0	6.5		5.0	6.0	6.0	5.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	5.0	5.0	2.0	5.0		3.0	3.0	3.0	3.0	3.0	
Minimum Gap (s)	2.0	2.5	2.5	2.0	2.5		3.0	3.0	3.0	3.0	3.0	
Time Before Reduce (s)	0.0	10.0	10.0	0.0	10.0		0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	20.0	20.0	0.0	20.0		0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	C-Min	C-Min	None	C-Min		None	Min	Min	None	Min	
Act Effct Green (s)	68.3	55.8	55.8	68.9	56.2		20.0	11.1	11.1	23.3	28.6	
Actuated g/C Ratio	0.57	0.46	0.46	0.57	0.47		0.17	0.09	0.09	0.19	0.24	
v/c Ratio	0.71	0.86	0.09	0.70	0.72		0.24	0.45	0.59	0.78	0.45	
Control Delay	40.3	36.2	0.2	39.2	27.5		30.0	60.0	15.2	54.0	25.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	40.3	36.2	0.2	39.2	27.5		30.0	60.0	15.2	54.0	25.3	

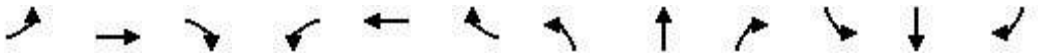
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	D	D	A	D	C		C	E	B	D	C	
Approach Delay		34.9			28.4			28.8			45.7	
Approach LOS		C			C			C			D	
Queue Length 50th (ft)	50	492	0	50	346		29	59	0	197	81	
Queue Length 95th (ft)	127	#765	0	129	488		54	108	68	244	148	
Internal Link Dist (ft)		1459			1264			302			95	
Turn Bay Length (ft)	200			385			165		165	300		
Base Capacity (vph)	243	1646	814	242	2329		294	172	313	915	496	
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio	0.58	0.86	0.09	0.58	0.72		0.19	0.45	0.59	0.57	0.43	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 109 (91%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.86
Intersection Signal Delay: 33.6 Intersection LOS: C
Intersection Capacity Utilization 83.5% ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Hwy 64 & New Brunswick Rd





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	66	511	18	48	1292	337	33	22	62	352	32	146
Future Volume (vph)	66	511	18	48	1292	337	33	22	62	352	32	146
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	385		0	165		165	300		0
Storage Lanes	1		1	1		0	1		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	0.91	1.00	1.00	1.00	0.97	1.00	1.00
Frt			0.850		0.969				0.850		0.877	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	4928	0	1770	1863	1583	3433	1634	0
Flt Permitted	0.064			0.393			0.628			0.950		
Satd. Flow (perm)	119	3539	1583	732	4928	0	1170	1863	1583	3433	1634	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			145		64				150		170	
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		1539			1344			382			175	
Travel Time (s)		23.3			20.4			6.5			3.0	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	77	594	21	56	1502	392	38	26	72	409	37	170
Shared Lane Traffic (%)												
Lane Group Flow (vph)	77	594	21	56	1894	0	38	26	72	409	207	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6			4		4			
Detector Phase	5	2	2	1	6		7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	4.0	10.0	10.0	4.0	10.0		4.0	10.0	10.0	4.0	10.0	
Minimum Split (s)	7.0	16.5	16.5	7.0	16.5		9.0	16.0	16.0	9.0	16.0	
Total Split (s)	15.0	53.0	53.0	15.0	53.0		15.0	16.0	16.0	36.0	37.0	
Total Split (%)	12.5%	44.2%	44.2%	12.5%	44.2%		12.5%	13.3%	13.3%	30.0%	30.8%	
Maximum Green (s)	12.0	46.5	46.5	12.0	46.5		10.0	10.0	10.0	31.0	31.0	
Yellow Time (s)	3.0	4.5	4.5	3.0	4.5		3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	3.0	6.5	6.5	3.0	6.5		5.0	6.0	6.0	5.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	5.0	5.0	2.0	5.0		3.0	3.0	3.0	3.0	3.0	
Minimum Gap (s)	2.0	2.5	2.5	2.0	2.5		3.0	3.0	3.0	3.0	3.0	
Time Before Reduce (s)	0.0	10.0	10.0	0.0	10.0		0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	20.0	20.0	0.0	20.0		0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	C-Min	C-Min	None	C-Min		None	Min	Min	None	Min	
Act Effct Green (s)	74.5	65.4	65.4	73.5	64.9		18.3	10.0	10.0	19.6	26.7	
Actuated g/C Ratio	0.62	0.54	0.54	0.61	0.54		0.15	0.08	0.08	0.16	0.22	
v/c Ratio	0.47	0.31	0.02	0.11	0.70		0.18	0.17	0.27	0.73	0.42	
Control Delay	21.6	16.5	0.1	9.7	22.6		32.3	54.0	2.4	55.4	12.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	21.6	16.5	0.1	9.7	22.6		32.3	54.0	2.4	55.4	12.6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	B	A	A	C		C	D	A	E	B	
Approach Delay		16.6			22.2			20.6			41.0	
Approach LOS		B			C			C			D	
Queue Length 50th (ft)	21	130	0	15	380		21	19	0	156	24	
Queue Length 95th (ft)	52	180	0	33	462		43	46	0	191	81	
Internal Link Dist (ft)		1459			1264			302			95	
Turn Bay Length (ft)	200			385			165		165	300		
Base Capacity (vph)	240	1929	928	569	2695		254	155	269	886	552	
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio	0.32	0.31	0.02	0.10	0.70		0.15	0.17	0.27	0.46	0.38	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 82 (68%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay: 24.4		Intersection LOS: C	
Intersection Capacity Utilization 72.4%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: Hwy 64 & New Brunswick Rd





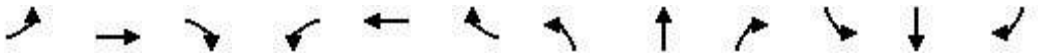
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	131	1322	72	132	1123	454	53	76	177	497	62	141
Future Volume (vph)	131	1322	72	132	1123	454	53	76	177	497	62	141
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	385		0	165		165	300		0
Storage Lanes	1		1	1		0	1		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	0.91	1.00	1.00	1.00	0.97	1.00	1.00
Frt			0.850		0.957				0.850		0.896	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	4867	0	1770	1863	1583	3433	1669	0
Flt Permitted	0.074			0.073			0.621			0.950		
Satd. Flow (perm)	138	3539	1583	136	4867	0	1157	1863	1583	3433	1669	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			145		98				182		91	
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		1539			1344			382			175	
Travel Time (s)		23.3			20.4			6.5			3.0	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	141	1422	77	142	1208	488	57	82	190	534	67	152
Shared Lane Traffic (%)												
Lane Group Flow (vph)	141	1422	77	142	1696	0	57	82	190	534	219	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6			4		4			
Detector Phase	5	2	2	1	6		7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	4.0	10.0	10.0	4.0	10.0		4.0	10.0	10.0	4.0	10.0	
Minimum Split (s)	7.0	16.5	16.5	7.0	16.5		9.0	16.0	16.0	9.0	16.0	
Total Split (s)	15.0	52.0	52.0	15.0	52.0		17.0	16.0	16.0	37.0	36.0	
Total Split (%)	12.5%	43.3%	43.3%	12.5%	43.3%		14.2%	13.3%	13.3%	30.8%	30.0%	
Maximum Green (s)	12.0	45.5	45.5	12.0	45.5		12.0	10.0	10.0	32.0	30.0	
Yellow Time (s)	3.0	4.5	4.5	3.0	4.5		3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	3.0	6.5	6.5	3.0	6.5		5.0	6.0	6.0	5.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	5.0	5.0	2.0	5.0		3.0	3.0	3.0	3.0	3.0	
Minimum Gap (s)	2.0	2.5	2.5	2.0	2.5		3.0	3.0	3.0	3.0	3.0	
Time Before Reduce (s)	0.0	10.0	10.0	0.0	10.0		0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	20.0	20.0	0.0	20.0		0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	C-Min	C-Min	None	C-Min		None	Min	Min	None	Min	
Act Effct Green (s)	67.8	55.2	55.2	68.3	55.5		20.1	11.1	11.1	23.9	29.1	
Actuated g/C Ratio	0.56	0.46	0.46	0.57	0.46		0.17	0.09	0.09	0.20	0.24	
v/c Ratio	0.70	0.87	0.10	0.70	0.74		0.24	0.48	0.61	0.78	0.46	
Control Delay	40.0	37.7	0.2	39.3	28.3		29.9	61.1	17.4	53.8	25.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	40.0	37.7	0.2	39.3	28.3		29.9	61.1	17.4	53.8	25.7	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	D	D	A	D	C		C	E	B	D	C	
Approach Delay		36.2			29.1			30.4			45.7	
Approach LOS		D			C			C			D	
Queue Length 50th (ft)	51	507	0	51	357		30	62	6	204	85	
Queue Length 95th (ft)	127	#776	0	129	494		55	113	77	251	155	
Internal Link Dist (ft)		1459			1264			302			95	
Turn Bay Length (ft)	200			385			165		165	300		
Base Capacity (vph)	243	1628	806	242	2303		293	172	311	915	498	
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio	0.58	0.87	0.10	0.59	0.74		0.19	0.48	0.61	0.58	0.44	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 109 (91%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 34.5		Intersection LOS: C	
Intersection Capacity Utilization 84.3%		ICU Level of Service E	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 3: Hwy 64 & New Brunswick Rd





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	511	18	48	1292	411	33	26	62	411	35	206
Future Volume (vph)	140	511	18	48	1292	411	33	26	62	411	35	206
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	385		0	165		165	300		0
Storage Lanes	1		1	1		0	1		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	0.91	1.00	1.00	1.00	0.97	1.00	1.00
Frt			0.850		0.964				0.850		0.872	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	4902	0	1770	1863	1583	3433	1624	0
Flt Permitted	0.069			0.421			0.587			0.950		
Satd. Flow (perm)	129	3539	1583	784	4902	0	1093	1863	1583	3433	1624	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			145		78				150		237	
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		1539			1344			382			388	
Travel Time (s)		23.3			20.4			6.5			6.6	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	163	594	21	56	1502	478	38	30	72	478	41	240
Shared Lane Traffic (%)												
Lane Group Flow (vph)	163	594	21	56	1980	0	38	30	72	478	281	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6			4		4			
Detector Phase	5	2	2	1	6		7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	4.0	10.0	10.0	4.0	10.0		4.0	10.0	10.0	4.0	10.0	
Minimum Split (s)	7.0	16.5	16.5	7.0	16.5		9.0	16.0	16.0	9.0	16.0	
Total Split (s)	15.0	53.0	53.0	15.0	53.0		15.0	16.0	16.0	36.0	37.0	
Total Split (%)	12.5%	44.2%	44.2%	12.5%	44.2%		12.5%	13.3%	13.3%	30.0%	30.8%	
Maximum Green (s)	12.0	46.5	46.5	12.0	46.5		10.0	10.0	10.0	31.0	31.0	
Yellow Time (s)	3.0	4.5	4.5	3.0	4.5		3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	3.0	6.5	6.5	3.0	6.5		5.0	6.0	6.0	5.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	5.0	5.0	2.0	5.0		3.0	3.0	3.0	3.0	3.0	
Minimum Gap (s)	2.0	2.5	2.5	2.0	2.5		3.0	3.0	3.0	3.0	3.0	
Time Before Reduce (s)	0.0	10.0	10.0	0.0	10.0		0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	20.0	20.0	0.0	20.0		0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	C-Min	C-Min	None	C-Min		None	Min	Min	None	Min	
Act Effct Green (s)	74.0	63.0	63.0	66.7	57.1		18.3	10.0	10.0	22.0	29.1	
Actuated g/C Ratio	0.62	0.52	0.52	0.56	0.48		0.15	0.08	0.08	0.18	0.24	
v/c Ratio	0.74	0.32	0.02	0.12	0.83		0.18	0.19	0.27	0.76	0.49	
Control Delay	41.6	18.0	0.1	11.1	31.2		31.2	54.5	2.4	54.6	11.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	41.6	18.0	0.1	11.1	31.2		31.2	54.5	2.4	54.6	11.4	

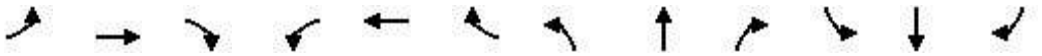
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	D	B	A	B	C		C	D	A	D	B	
Approach Delay		22.5			30.7			21.4			38.6	
Approach LOS		C			C			C			D	
Queue Length 50th (ft)	67	136	0	16	452		21	22	0	182	28	
Queue Length 95th (ft)	134	189	0	35	#620		42	51	0	217	92	
Internal Link Dist (ft)		1459			1264			302			308	
Turn Bay Length (ft)	200			385			165		165	300		
Base Capacity (vph)	255	1857	899	568	2375		247	155	269	886	605	
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio	0.64	0.32	0.02	0.10	0.83		0.15	0.19	0.27	0.54	0.46	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 82 (68%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 30.2 Intersection LOS: C
Intersection Capacity Utilization 79.9% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Hwy 64 & New Brunswick Rd





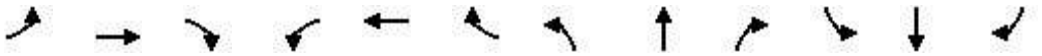
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	250	1322	72	132	1123	573	53	82	177	615	68	260
Future Volume (vph)	250	1322	72	132	1123	573	53	82	177	615	68	260
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	385		0	165		165	300		0
Storage Lanes	1		1	1		0	1		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	0.91	1.00	1.00	1.00	0.97	1.00	1.00
Frt			0.850		0.949				0.850		0.881	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	4826	0	1770	1863	1583	3433	1641	0
Flt Permitted	0.084			0.090			0.550			0.950		
Satd. Flow (perm)	156	3539	1583	168	4826	0	1025	1863	1583	3433	1641	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			145		124				171		153	
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		1539			1344			382			388	
Travel Time (s)		23.3			20.4			6.5			6.6	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	269	1422	77	142	1208	616	57	88	190	661	73	280
Shared Lane Traffic (%)												
Lane Group Flow (vph)	269	1422	77	142	1824	0	57	88	190	661	353	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6			4		4			
Detector Phase	5	2	2	1	6		7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	4.0	10.0	10.0	4.0	10.0		4.0	10.0	10.0	4.0	10.0	
Minimum Split (s)	7.0	16.5	16.5	7.0	16.5		9.0	16.0	16.0	9.0	16.0	
Total Split (s)	15.0	52.0	52.0	15.0	52.0		17.0	16.0	16.0	37.0	36.0	
Total Split (%)	12.5%	43.3%	43.3%	12.5%	43.3%		14.2%	13.3%	13.3%	30.8%	30.0%	
Maximum Green (s)	12.0	45.5	45.5	12.0	45.5		12.0	10.0	10.0	32.0	30.0	
Yellow Time (s)	3.0	4.5	4.5	3.0	4.5		3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	3.0	6.5	6.5	3.0	6.5		5.0	6.0	6.0	5.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	5.0	5.0	2.0	5.0		3.0	3.0	3.0	3.0	3.0	
Minimum Gap (s)	2.0	2.5	2.5	2.0	2.5		3.0	3.0	3.0	3.0	3.0	
Time Before Reduce (s)	0.0	10.0	10.0	0.0	10.0		0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	20.0	20.0	0.0	20.0		0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	C-Min	C-Min	None	C-Min		None	Min	Min	None	Min	
Act Effct Green (s)	66.7	51.9	51.9	58.4	45.5		19.4	10.5	10.5	27.7	32.4	
Actuated g/C Ratio	0.56	0.43	0.43	0.49	0.38		0.16	0.09	0.09	0.23	0.27	
v/c Ratio	0.90	0.93	0.10	0.69	0.96		0.27	0.54	0.65	0.83	0.64	
Control Delay	63.7	44.9	0.3	36.4	46.7		29.6	65.5	21.4	53.7	27.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	63.7	44.9	0.3	36.4	46.7		29.6	65.5	21.4	53.7	27.4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	E	D	A	D	D		C	E	C	D	C	
Approach Delay		45.8			46.0			34.4			44.6	
Approach LOS		D			D			C			D	
Queue Length 50th (ft)	152	548	0	51	473		28	66	14	251	138	
Queue Length 95th (ft)	#361	#776	0	116	#588		55	#124	90	308	245	
Internal Link Dist (ft)		1459			1264			302			308	
Turn Bay Length (ft)	200			385			165		165	300		
Base Capacity (vph)	299	1531	767	245	1906		274	162	294	915	558	
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio	0.90	0.93	0.10	0.58	0.96		0.21	0.54	0.65	0.72	0.63	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 109 (91%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay: 44.9		Intersection LOS: D	
Intersection Capacity Utilization 92.2%		ICU Level of Service F	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 3: Hwy 64 & New Brunswick Rd





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	141	517	18	49	1308	415	35	27	65	429	37	214
Future Volume (vph)	141	517	18	49	1308	415	35	27	65	429	37	214
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	385		0	165		165	300		0
Storage Lanes	1		1	1		0	1		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	0.91	1.00	1.00	1.00	0.97	1.00	1.00
Frt			0.850		0.964				0.850		0.872	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	4902	0	1770	1863	1583	3433	1624	0
Flt Permitted	0.068			0.417			0.581			0.950		
Satd. Flow (perm)	127	3539	1583	777	4902	0	1082	1863	1583	3433	1624	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			145		78				150		234	
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		1539			1344			382			388	
Travel Time (s)		23.3			20.4			6.5			6.6	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	164	601	21	57	1521	483	41	31	76	499	43	249
Shared Lane Traffic (%)												
Lane Group Flow (vph)	164	601	21	57	2004	0	41	31	76	499	292	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6			4		4			
Detector Phase	5	2	2	1	6		7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	4.0	10.0	10.0	4.0	10.0		4.0	10.0	10.0	4.0	10.0	
Minimum Split (s)	7.0	16.5	16.5	7.0	16.5		9.0	16.0	16.0	9.0	16.0	
Total Split (s)	15.0	53.0	53.0	15.0	53.0		15.0	16.0	16.0	36.0	37.0	
Total Split (%)	12.5%	44.2%	44.2%	12.5%	44.2%		12.5%	13.3%	13.3%	30.0%	30.8%	
Maximum Green (s)	12.0	46.5	46.5	12.0	46.5		10.0	10.0	10.0	31.0	31.0	
Yellow Time (s)	3.0	4.5	4.5	3.0	4.5		3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	3.0	6.5	6.5	3.0	6.5		5.0	6.0	6.0	5.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	5.0	5.0	2.0	5.0		3.0	3.0	3.0	3.0	3.0	
Minimum Gap (s)	2.0	2.5	2.5	2.0	2.5		3.0	3.0	3.0	3.0	3.0	
Time Before Reduce (s)	0.0	10.0	10.0	0.0	10.0		0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	20.0	20.0	0.0	20.0		0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	C-Min	C-Min	None	C-Min		None	Min	Min	None	Min	
Act Effct Green (s)	73.3	62.2	62.2	66.1	56.5		18.4	10.0	10.0	22.7	27.4	
Actuated g/C Ratio	0.61	0.52	0.52	0.55	0.47		0.15	0.08	0.08	0.19	0.23	
v/c Ratio	0.75	0.33	0.02	0.12	0.85		0.20	0.20	0.28	0.77	0.53	
Control Delay	43.7	18.6	0.1	11.4	32.5		31.0	54.7	2.6	54.3	13.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	43.7	18.6	0.1	11.4	32.5		31.0	54.7	2.6	54.3	13.1	

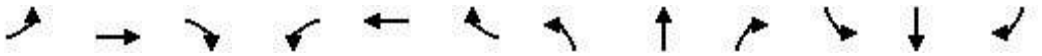
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	D	B	A	B	C		C	D	A	D	B	
Approach Delay		23.3			31.9			21.4			39.1	
Approach LOS		C			C			C			D	
Queue Length 50th (ft)	69	141	0	17	468		22	23	0	190	37	
Queue Length 95th (ft)	137	194	0	37	#634		43	53	0	224	104	
Internal Link Dist (ft)		1459			1264			302			308	
Turn Bay Length (ft)	200			385			165		165	300		
Base Capacity (vph)	251	1835	890	561	2349		246	155	269	886	596	
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio	0.65	0.33	0.02	0.10	0.85		0.17	0.20	0.28	0.56	0.49	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 82 (68%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 31.2 Intersection LOS: C
Intersection Capacity Utilization 80.8% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Hwy 64 & New Brunswick Rd





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	252	1338	73	134	1137	578	56	86	186	641	71	267
Future Volume (vph)	252	1338	73	134	1137	578	56	86	186	641	71	267
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	385		0	165		165	300		0
Storage Lanes	1		1	1		0	1		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	0.91	1.00	1.00	1.00	0.97	1.00	1.00
Frt			0.850		0.949				0.850		0.881	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	4826	0	1770	1863	1583	3433	1641	0
Flt Permitted	0.084			0.090			0.545			0.950		
Satd. Flow (perm)	156	3539	1583	168	4826	0	1015	1863	1583	3433	1641	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			145		123				169		151	
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		1539			1344			382			388	
Travel Time (s)		23.3			20.4			6.5			6.6	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	271	1439	78	144	1223	622	60	92	200	689	76	287
Shared Lane Traffic (%)												
Lane Group Flow (vph)	271	1439	78	144	1845	0	60	92	200	689	363	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6			4		4			
Detector Phase	5	2	2	1	6		7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	4.0	10.0	10.0	4.0	10.0		4.0	10.0	10.0	4.0	10.0	
Minimum Split (s)	7.0	16.5	16.5	7.0	16.5		9.0	16.0	16.0	9.0	16.0	
Total Split (s)	15.0	52.0	52.0	15.0	52.0		17.0	16.0	16.0	37.0	36.0	
Total Split (%)	12.5%	43.3%	43.3%	12.5%	43.3%		14.2%	13.3%	13.3%	30.8%	30.0%	
Maximum Green (s)	12.0	45.5	45.5	12.0	45.5		12.0	10.0	10.0	32.0	30.0	
Yellow Time (s)	3.0	4.5	4.5	3.0	4.5		3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	3.0	6.5	6.5	3.0	6.5		5.0	6.0	6.0	5.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	5.0	5.0	2.0	5.0		3.0	3.0	3.0	3.0	3.0	
Minimum Gap (s)	2.0	2.5	2.5	2.0	2.5		3.0	3.0	3.0	3.0	3.0	
Time Before Reduce (s)	0.0	10.0	10.0	0.0	10.0		0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	20.0	20.0	0.0	20.0		0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	C-Min	C-Min	None	C-Min		None	Min	Min	None	Min	
Act Effct Green (s)	66.0	51.3	51.3	58.5	45.5		19.3	10.3	10.3	28.5	32.9	
Actuated g/C Ratio	0.55	0.43	0.43	0.49	0.38		0.16	0.09	0.09	0.24	0.27	
v/c Ratio	0.93	0.95	0.10	0.69	0.97		0.28	0.58	0.69	0.85	0.65	
Control Delay	70.7	48.6	0.3	37.0	48.7		29.9	67.9	25.4	53.9	28.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	70.7	48.6	0.3	37.0	48.7		29.9	67.9	25.4	53.9	28.4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	E	D	A	D	D		C	E	C	D	C	
Approach Delay		49.9			47.8			37.3			45.1	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	~160	571	0	53	482		29	69	23	261	146	
Queue Length 95th (ft)	#364	#790	0	119	#601		57	#133	#114	322	259	
Internal Link Dist (ft)		1459			1264			302			308	
Turn Bay Length (ft)	200			385			165		165	300		
Base Capacity (vph)	290	1511	759	245	1906		272	159	289	915	560	
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio	0.93	0.95	0.10	0.59	0.97		0.22	0.58	0.69	0.75	0.65	

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 109 (91%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.97	
Intersection Signal Delay: 47.3	Intersection LOS: D
Intersection Capacity Utilization 93.4%	ICU Level of Service F
Analysis Period (min) 15	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Hwy 64 & New Brunswick Rd



Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	64	13	321	103	7	447
Future Vol, veh/h	64	13	321	103	7	447
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	69	14	345	111	8	481

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	658	401	0	0	456	0
Stage 1	401	-	-	-	-	-
Stage 2	257	-	-	-	-	-
Critical Hdwy	6.63	6.23	-	-	4.13	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.219	-
Pot Cap-1 Maneuver	413	648	-	-	1103	-
Stage 1	675	-	-	-	-	-
Stage 2	763	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	410	648	-	-	1103	-
Mov Cap-2 Maneuver	512	-	-	-	-	-
Stage 1	675	-	-	-	-	-
Stage 2	758	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.7	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	512	648	1103	-
HCM Lane V/C Ratio	-	-	0.134	0.022	0.007	-
HCM Control Delay (s)	-	-	13.1	10.7	8.3	-
HCM Lane LOS	-	-	B	B	A	-
HCM 95th %tile Q(veh)	-	-	0.5	0.1	0	-

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	61	35	462	188	15	570
Future Vol, veh/h	61	35	462	188	15	570
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	67	38	508	207	16	626

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	957	612	0	0	715	0
Stage 1	612	-	-	-	-	-
Stage 2	345	-	-	-	-	-
Critical Hdwy	6.63	6.23	-	-	4.13	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.219	-
Pot Cap-1 Maneuver	270	492	-	-	883	-
Stage 1	540	-	-	-	-	-
Stage 2	689	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	265	492	-	-	883	-
Mov Cap-2 Maneuver	392	-	-	-	-	-
Stage 1	540	-	-	-	-	-
Stage 2	677	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.9	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	392	492	883	-
HCM Lane V/C Ratio	-	-	0.171	0.078	0.019	-
HCM Control Delay (s)	-	-	16.1	12.9	9.2	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.6	0.3	0.1	-

Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	64	13	332	107	7	462
Future Vol, veh/h	64	13	332	107	7	462
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	69	14	357	115	8	497

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	680	415	0	0	472	0
Stage 1	415	-	-	-	-	-
Stage 2	265	-	-	-	-	-
Critical Hdwy	6.63	6.23	-	-	4.13	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.219	-
Pot Cap-1 Maneuver	400	637	-	-	1088	-
Stage 1	665	-	-	-	-	-
Stage 2	756	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	397	637	-	-	1088	-
Mov Cap-2 Maneuver	502	-	-	-	-	-
Stage 1	665	-	-	-	-	-
Stage 2	751	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.9	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	502	637	1088	-
HCM Lane V/C Ratio	-	-	0.137	0.022	0.007	-
HCM Control Delay (s)	-	-	13.3	10.8	8.3	-
HCM Lane LOS	-	-	B	B	A	-
HCM 95th %tile Q(veh)	-	-	0.5	0.1	0	-

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	61	35	478	194	16	590
Future Vol, veh/h	61	35	478	194	16	590
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	67	38	525	213	18	648

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	992	632	0	0	738	0
Stage 1	632	-	-	-	-	-
Stage 2	360	-	-	-	-	-
Critical Hdwy	6.63	6.23	-	-	4.13	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.219	-
Pot Cap-1 Maneuver	257	479	-	-	866	-
Stage 1	529	-	-	-	-	-
Stage 2	677	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	252	479	-	-	866	-
Mov Cap-2 Maneuver	381	-	-	-	-	-
Stage 1	529	-	-	-	-	-
Stage 2	663	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.3	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	381	479	866	-
HCM Lane V/C Ratio	-	-	0.176	0.08	0.02	-
HCM Control Delay (s)	-	-	16.5	13.2	9.2	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.6	0.3	0.1	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	35	74	79	224	431	62
Future Vol, veh/h	35	74	79	224	431	62
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	39	83	89	252	484	70

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	823	277	554	0	-	0
Stage 1	519	-	-	-	-	-
Stage 2	304	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	312	720	1012	-	-	-
Stage 1	562	-	-	-	-	-
Stage 2	722	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	285	720	1012	-	-	-
Mov Cap-2 Maneuver	397	-	-	-	-	-
Stage 1	513	-	-	-	-	-
Stage 2	722	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.1	2.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1012	-	397	720	-	-
HCM Lane V/C Ratio	0.088	-	0.099	0.115	-	-
HCM Control Delay (s)	8.9	-	15.1	10.7	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0.3	-	0.3	0.4	-	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	77	129	84	400	513	67
Future Vol, veh/h	77	129	84	400	513	67
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	83	139	90	430	552	72

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	983	312	624	0	-	0
Stage 1	588	-	-	-	-	-
Stage 2	395	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	246	684	953	-	-	-
Stage 1	518	-	-	-	-	-
Stage 2	650	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	223	684	953	-	-	-
Mov Cap-2 Maneuver	346	-	-	-	-	-
Stage 1	469	-	-	-	-	-
Stage 2	650	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.2	1.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	953	-	346	684	-	-
HCM Lane V/C Ratio	0.095	-	0.239	0.203	-	-
HCM Control Delay (s)	9.2	-	18.6	11.6	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0.3	-	0.9	0.8	-	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	35	74	82	232	446	64
Future Vol, veh/h	35	74	82	232	446	64
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	39	83	92	261	501	72

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	852	287	573	0	-	0
Stage 1	537	-	-	-	-	-
Stage 2	315	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	299	710	996	-	-	-
Stage 1	550	-	-	-	-	-
Stage 2	713	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	271	710	996	-	-	-
Mov Cap-2 Maneuver	385	-	-	-	-	-
Stage 1	499	-	-	-	-	-
Stage 2	713	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.2	2.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	996	-	385	710	-	-
HCM Lane V/C Ratio	0.093	-	0.102	0.117	-	-
HCM Control Delay (s)	9	-	15.4	10.7	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0.3	-	0.3	0.4	-	-

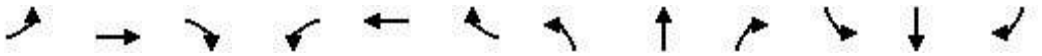
Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	77	129	87	414	531	69
Future Vol, veh/h	77	129	87	414	531	69
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	83	139	94	445	571	74

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1019	323	645	0	-	0
Stage 1	608	-	-	-	-	-
Stage 2	411	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	233	673	936	-	-	-
Stage 1	506	-	-	-	-	-
Stage 2	638	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	210	673	936	-	-	-
Mov Cap-2 Maneuver	334	-	-	-	-	-
Stage 1	455	-	-	-	-	-
Stage 2	638	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.5	1.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	936	-	334	673	-	-
HCM Lane V/C Ratio	0.1	-	0.248	0.206	-	-
HCM Control Delay (s)	9.3	-	19.3	11.7	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0.3	-	1	0.8	-	-

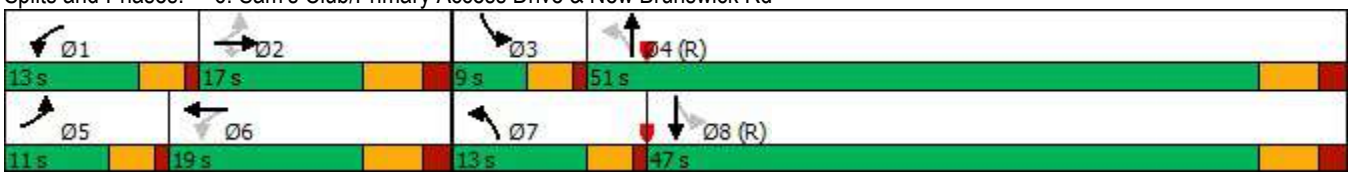


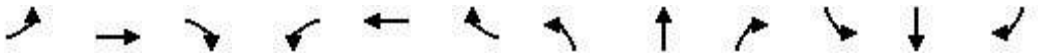
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	3	74	158	3	12	82	381	164	16	534	64
Future Volume (vph)	35	3	74	158	3	12	82	381	164	16	534	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	0		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.878			0.956			0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1635	0	1770	3383	0	1770	3483	0
Flt Permitted	0.747			0.675			0.316			0.423		
Satd. Flow (perm)	1391	1863	1583	1257	1635	0	589	3383	0	788	3483	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			133		13			101			19	
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		409			559			350			520	
Travel Time (s)		7.0			9.5			6.0			8.9	
Peak Hour Factor	0.89	0.92	0.89	0.92	0.92	0.92	0.89	0.89	0.92	0.92	0.89	0.89
Adj. Flow (vph)	39	3	83	172	3	13	92	428	178	17	600	72
Shared Lane Traffic (%)												
Lane Group Flow (vph)	39	3	83	172	16	0	92	606	0	17	672	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6			4			8		
Detector Phase	5	2	2	1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.0	11.0	11.0	9.0	11.0		9.0	11.0		9.0	11.0	
Total Split (s)	11.0	17.0	17.0	13.0	19.0		13.0	51.0		9.0	47.0	
Total Split (%)	12.2%	18.9%	18.9%	14.4%	21.1%		14.4%	56.7%		10.0%	52.2%	
Maximum Green (s)	7.0	11.0	11.0	9.0	13.0		9.0	45.0		5.0	41.0	
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.0	6.0	4.0	6.0		4.0	6.0		4.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	
Act Effct Green (s)	18.2	5.9	5.9	18.4	10.8		58.3	52.8		54.2	47.4	
Actuated g/C Ratio	0.20	0.07	0.07	0.20	0.12		0.65	0.59		0.60	0.53	
v/c Ratio	0.11	0.02	0.37	0.52	0.08		0.19	0.30		0.03	0.36	
Control Delay	23.2	39.3	6.7	35.9	20.1		8.4	10.2		8.0	15.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	23.2	39.3	6.7	35.9	20.1		8.4	10.2		8.0	15.3	
LOS	C	D	A	D	C		A	B		A	B	
Approach Delay		12.6			34.5			10.0			15.1	
Approach LOS		B			C			B			B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	16	2	0	92	2		19	64		3	121	
Queue Length 95th (ft)	37	10	14	123	19		42	137		12	186	
Internal Link Dist (ft)		329			479			270			440	
Turn Bay Length (ft)							100					
Base Capacity (vph)	354	227	310	335	281		502	2094		539	1893	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.11	0.01	0.27	0.51	0.06		0.18	0.29		0.03	0.35	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 4:NBTL and 8:SBTL, Start of Green			
Natural Cycle: 45			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.52			
Intersection Signal Delay: 15.0		Intersection LOS: B	
Intersection Capacity Utilization 50.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 6: Sam's Club/Primary Access Drive & New Brunswick Rd



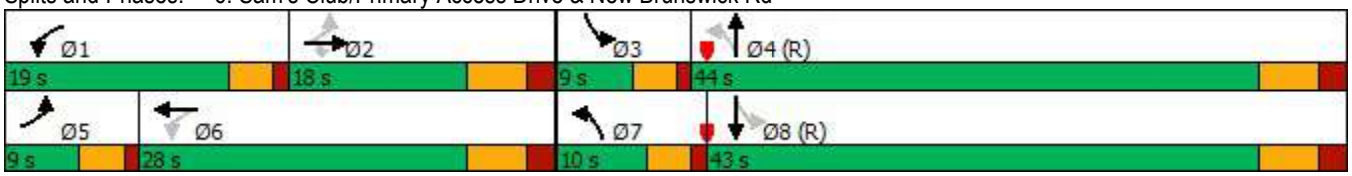


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	5	129	312	5	25	87	692	263	27	640	69
Future Volume (vph)	77	5	129	312	5	25	87	692	263	27	640	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	0		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.873			0.958			0.985	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1626	0	1770	3391	0	1770	3486	0
Flt Permitted	0.736			0.567			0.233			0.173		
Satd. Flow (perm)	1371	1863	1583	1056	1626	0	434	3391	0	322	3486	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			182		27			77			15	
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		409			559			350			520	
Travel Time (s)		7.0			9.5			6.0			8.9	
Peak Hour Factor	0.93	0.92	0.93	0.92	0.92	0.92	0.93	0.93	0.92	0.92	0.93	0.93
Adj. Flow (vph)	83	5	139	339	5	27	94	744	286	29	688	74
Shared Lane Traffic (%)												
Lane Group Flow (vph)	83	5	139	339	32	0	94	1030	0	29	762	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6			4			8		
Detector Phase	5	2	2	1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	9.0	16.0	16.0	9.0	16.0		9.0	16.0		9.0	16.0	
Total Split (s)	9.0	18.0	18.0	19.0	28.0		10.0	44.0		9.0	43.0	
Total Split (%)	10.0%	20.0%	20.0%	21.1%	31.1%		11.1%	48.9%		10.0%	47.8%	
Maximum Green (s)	5.0	12.0	12.0	15.0	22.0		6.0	38.0		5.0	37.0	
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.0	6.0	4.0	6.0		4.0	6.0		4.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	
Act Effct Green (s)	21.8	10.0	10.0	30.2	20.4		47.5	42.3		44.2	37.1	
Actuated g/C Ratio	0.24	0.11	0.11	0.34	0.23		0.53	0.47		0.49	0.41	
v/c Ratio	0.22	0.02	0.41	0.69	0.08		0.28	0.63		0.11	0.53	
Control Delay	22.0	36.0	6.5	32.8	13.1		12.4	19.6		10.8	22.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	22.0	36.0	6.5	32.8	13.1		12.4	19.6		10.8	22.1	
LOS	C	D	A	C	B		B	B		B	C	
Approach Delay		12.8			31.1			19.0			21.6	
Approach LOS		B			C			B			C	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	27	3	0	131	2		28	213		8	192	
Queue Length 95th (ft)	65	13	29	241	25		45	300		18	218	
Internal Link Dist (ft)		329			479			270			440	
Turn Bay Length (ft)							100					
Base Capacity (vph)	386	248	368	497	445		339	1639		257	1552	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.22	0.02	0.38	0.68	0.07		0.28	0.63		0.11	0.49	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 4:NBTL and 8:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 21.1		Intersection LOS: C	
Intersection Capacity Utilization 69.0%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 6: Sam's Club/Primary Access Drive & New Brunswick Rd

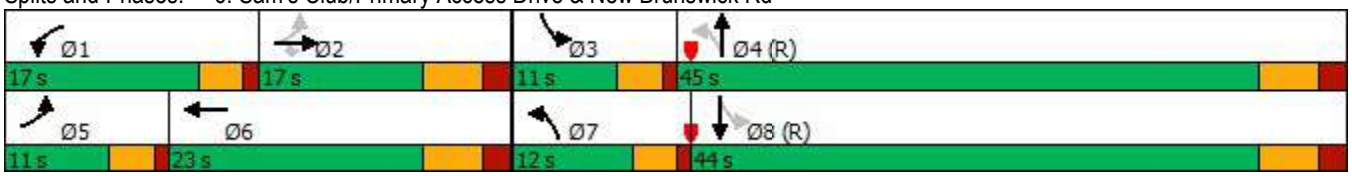


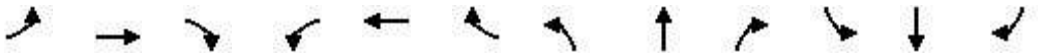
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	3	74	158	3	12	82	381	164	16	534	64
Future Volume (vph)	35	3	74	158	3	12	82	381	164	16	534	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	0		0
Storage Lanes	1		1	2		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.878			0.956			0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	3433	1635	0	1770	3383	0	1770	3483	0
Flt Permitted	0.676			0.950			0.332			0.423		
Satd. Flow (perm)	1259	1863	1583	3433	1635	0	618	3383	0	788	3483	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			182		13			89			18	
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		409			559			350			520	
Travel Time (s)		7.0			9.5			6.0			8.9	
Peak Hour Factor	0.89	0.92	0.89	0.92	0.92	0.92	0.89	0.89	0.92	0.92	0.89	0.89
Adj. Flow (vph)	39	3	83	172	3	13	92	428	178	17	600	72
Shared Lane Traffic (%)												
Lane Group Flow (vph)	39	3	83	172	16	0	92	606	0	17	672	0
Turn Type	pm+pt	NA	Perm	Prot	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2				4			8		
Detector Phase	5	2	2	1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.0	11.0	11.0	9.0	11.0		9.0	11.0		9.0	11.0	
Total Split (s)	11.0	17.0	17.0	17.0	23.0		12.0	45.0		11.0	44.0	
Total Split (%)	12.2%	18.9%	18.9%	18.9%	25.6%		13.3%	50.0%		12.2%	48.9%	
Maximum Green (s)	7.0	11.0	11.0	13.0	17.0		8.0	39.0		7.0	38.0	
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.0	6.0	4.0	6.0		4.0	6.0		4.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	
Act Effct Green (s)	16.1	5.7	5.7	9.9	9.1		61.9	56.6		58.2	51.4	
Actuated g/C Ratio	0.18	0.06	0.06	0.11	0.10		0.69	0.63		0.65	0.57	
v/c Ratio	0.13	0.03	0.31	0.46	0.09		0.18	0.28		0.03	0.34	
Control Delay	26.9	39.7	2.9	41.2	22.1		6.4	8.3		5.9	12.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	26.9	39.7	2.9	41.2	22.1		6.4	8.3		5.9	12.4	
LOS	C	D	A	D	C		A	A		A	B	
Approach Delay		11.3			39.5			8.1			12.2	
Approach LOS		B			D			A			B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	17	2	0	47	2		16	56		3	107	
Queue Length 95th (ft)	40	10	0	77	21		35	122		10	163	
Internal Link Dist (ft)		329			479			270			440	
Turn Bay Length (ft)							100					
Base Capacity (vph)	307	227	353	495	323		530	2160		593	1998	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.13	0.01	0.24	0.35	0.05		0.17	0.28		0.03	0.34	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 4:NBTL and 8:SBTL, Start of Green			
Natural Cycle: 45			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.46			
Intersection Signal Delay: 13.5		Intersection LOS: B	
Intersection Capacity Utilization 45.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 6: Sam's Club/Primary Access Drive & New Brunswick Rd



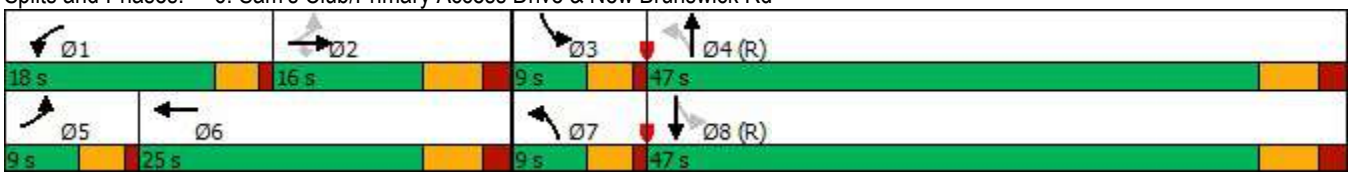


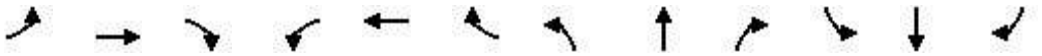
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	5	129	312	5	25	87	692	263	27	640	69
Future Volume (vph)	77	5	129	312	5	25	87	692	263	27	640	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	0		0
Storage Lanes	1		1	2		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.873			0.958			0.985	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	3433	1626	0	1770	3391	0	1770	3486	0
Flt Permitted	0.736			0.950			0.262			0.198		
Satd. Flow (perm)	1371	1863	1583	3433	1626	0	488	3391	0	369	3486	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			182		27			82			17	
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		409			559			350			520	
Travel Time (s)		7.0			9.5			6.0			8.9	
Peak Hour Factor	0.93	0.92	0.93	0.92	0.92	0.92	0.93	0.93	0.92	0.92	0.93	0.93
Adj. Flow (vph)	83	5	139	339	5	27	94	744	286	29	688	74
Shared Lane Traffic (%)												
Lane Group Flow (vph)	83	5	139	339	32	0	94	1030	0	29	762	0
Turn Type	pm+pt	NA	Perm	Prot	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2				4			8		
Detector Phase	5	2	2	1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	9.0	16.0	16.0	9.0	16.0		9.0	16.0		9.0	16.0	
Total Split (s)	9.0	16.0	16.0	18.0	25.0		9.0	47.0		9.0	47.0	
Total Split (%)	10.0%	17.8%	17.8%	20.0%	27.8%		10.0%	52.2%		10.0%	52.2%	
Maximum Green (s)	5.0	10.0	10.0	14.0	19.0		5.0	41.0		5.0	41.0	
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.0	6.0	4.0	6.0		4.0	6.0		4.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	
Act Effct Green (s)	21.0	10.0	10.0	13.3	17.0		51.5	46.8		48.6	42.0	
Actuated g/C Ratio	0.23	0.11	0.11	0.15	0.19		0.57	0.52		0.54	0.47	
v/c Ratio	0.22	0.02	0.41	0.67	0.10		0.25	0.57		0.10	0.47	
Control Delay	23.9	36.0	6.5	43.1	14.2		10.4	16.1		9.3	18.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	23.9	36.0	6.5	43.1	14.2		10.4	16.1		9.3	18.0	
LOS	C	D	A	D	B		B	B		A	B	
Approach Delay		13.5			40.6			15.6			17.7	
Approach LOS		B			D			B			B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	33	3	0	94	2		22	166		7	158	
Queue Length 95th (ft)	66	13	29	139	26		43	279		18	199	
Internal Link Dist (ft)		329			479			270			440	
Turn Bay Length (ft)							100					
Base Capacity (vph)	370	207	337	546	383		374	1826		289	1695	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.22	0.02	0.41	0.62	0.08		0.25	0.56		0.10	0.45	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 4:NBTL and 8:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay: 19.8		Intersection LOS: B	
Intersection Capacity Utilization 60.6%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 6: Sam's Club/Primary Access Drive & New Brunswick Rd





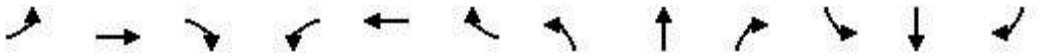
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	3	74	158	3	12	86	393	164	16	557	67
Future Volume (vph)	35	3	74	158	3	12	86	393	164	16	557	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	0		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.878			0.957			0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1635	0	1770	3387	0	1770	3483	0
Flt Permitted	0.726			0.756			0.283			0.412		
Satd. Flow (perm)	1352	1863	1583	1408	1635	0	527	3387	0	767	3483	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			133		13			90			18	
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		409			559			350			520	
Travel Time (s)		7.0			9.5			6.0			8.9	
Peak Hour Factor	0.89	0.92	0.89	0.92	0.92	0.92	0.89	0.89	0.92	0.92	0.89	0.89
Adj. Flow (vph)	39	3	83	172	3	13	97	442	178	17	626	75
Shared Lane Traffic (%)												
Lane Group Flow (vph)	39	3	83	172	16	0	97	620	0	17	701	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Detector Phase	7	4	4	3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	10.0	10.0	4.0	10.0		4.0	10.0		4.0	10.0	
Minimum Split (s)	8.0	16.0	16.0	8.0	16.0		8.0	16.0		8.0	16.0	
Total Split (s)	10.0	20.0	20.0	12.0	22.0		12.0	48.0		10.0	46.0	
Total Split (%)	11.1%	22.2%	22.2%	13.3%	24.4%		13.3%	53.3%		11.1%	51.1%	
Maximum Green (s)	6.0	14.0	14.0	8.0	16.0		8.0	42.0		6.0	40.0	
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.0	6.0	4.0	6.0		4.0	6.0		4.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	
Act Effct Green (s)	21.4	10.0	10.0	20.4	14.5		54.7	49.0		50.2	43.3	
Actuated g/C Ratio	0.24	0.11	0.11	0.23	0.16		0.61	0.54		0.56	0.48	
v/c Ratio	0.10	0.01	0.28	0.46	0.06		0.23	0.33		0.03	0.42	
Control Delay	20.5	36.0	4.5	32.8	18.1		10.3	12.4		9.6	18.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	20.5	36.0	4.5	32.8	18.1		10.3	12.4		9.6	18.3	
LOS	C	D	A	C	B		B	B		A	B	
Approach Delay		10.2			31.6			12.1			18.1	
Approach LOS		B			C			B			B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	15	2	0	92	2		23	78		4	143	
Queue Length 95th (ft)	35	10	13	117	18		47	153		13	209	
Internal Link Dist (ft)		329			479			270			440	
Turn Bay Length (ft)							100					
Base Capacity (vph)	401	289	358	376	340		438	1959		497	1795	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.10	0.01	0.23	0.46	0.05		0.22	0.32		0.03	0.39	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.46			
Intersection Signal Delay: 16.6		Intersection LOS: B	
Intersection Capacity Utilization 51.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 6: Sam's Club/Primary Access Drive & New Brunswick Rd



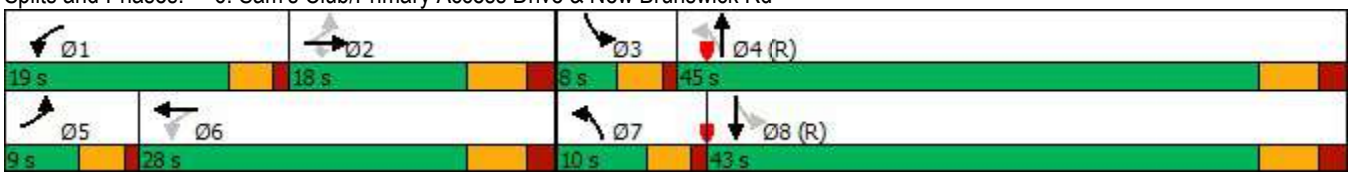


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	5	129	312	5	25	92	713	263	27	668	73
Future Volume (vph)	77	5	129	312	5	25	92	713	263	27	668	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	0		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.873			0.959			0.985	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1626	0	1770	3394	0	1770	3486	0
Flt Permitted	0.736			0.566			0.218			0.169		
Satd. Flow (perm)	1371	1863	1583	1054	1626	0	406	3394	0	315	3486	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			182		27			75			16	
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		409			559			350			520	
Travel Time (s)		7.0			9.5			6.0			8.9	
Peak Hour Factor	0.93	0.92	0.93	0.92	0.92	0.92	0.93	0.93	0.92	0.92	0.93	0.93
Adj. Flow (vph)	83	5	139	339	5	27	99	767	286	29	718	78
Shared Lane Traffic (%)												
Lane Group Flow (vph)	83	5	139	339	32	0	99	1053	0	29	796	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6			4			8		
Detector Phase	5	2	2	1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	4.0	10.0	10.0	4.0	10.0		4.0	10.0		4.0	10.0	
Minimum Split (s)	8.0	16.0	16.0	8.0	16.0		8.0	16.0		8.0	16.0	
Total Split (s)	9.0	18.0	18.0	19.0	28.0		10.0	45.0		8.0	43.0	
Total Split (%)	10.0%	20.0%	20.0%	21.1%	31.1%		11.1%	50.0%		8.9%	47.8%	
Maximum Green (s)	5.0	12.0	12.0	15.0	22.0		6.0	39.0		4.0	37.0	
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.0	6.0	4.0	6.0		4.0	6.0		4.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	
Act Effct Green (s)	21.8	10.0	10.0	29.9	20.0		48.1	42.9		44.2	37.5	
Actuated g/C Ratio	0.24	0.11	0.11	0.33	0.22		0.53	0.48		0.49	0.42	
v/c Ratio	0.22	0.02	0.41	0.70	0.08		0.30	0.64		0.12	0.54	
Control Delay	22.1	36.0	6.5	33.5	13.2		12.6	19.3		10.8	22.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	22.1	36.0	6.5	33.5	13.2		12.6	19.3		10.8	22.1	
LOS	C	D	A	C	B		B	B		B	C	
Approach Delay		12.9			31.8			18.7			21.7	
Approach LOS		B			C			B			C	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	28	3	0	136	2		29	211		8	196	
Queue Length 95th (ft)	65	13	29	241	25		47	304		18	230	
Internal Link Dist (ft)		329			479			270			440	
Turn Bay Length (ft)							100					
Base Capacity (vph)	386	248	368	489	438		329	1668		249	1553	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.22	0.02	0.38	0.69	0.07		0.30	0.63		0.12	0.51	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 4:NBTL and 8:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 21.0		Intersection LOS: C	
Intersection Capacity Utilization 68.7%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 6: Sam's Club/Primary Access Drive & New Brunswick Rd



Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	25	12	405	30	30	591
Future Vol, veh/h	25	12	405	30	30	591
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	13	440	33	33	642

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	844	237	0	0	473	0
Stage 1	457	-	-	-	-	-
Stage 2	387	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	302	764	-	-	1085	-
Stage 1	604	-	-	-	-	-
Stage 2	656	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	293	764	-	-	1085	-
Mov Cap-2 Maneuver	416	-	-	-	-	-
Stage 1	604	-	-	-	-	-
Stage 2	636	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.8	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	416	764	1085	-
HCM Lane V/C Ratio	-	-	0.065	0.017	0.03	-
HCM Control Delay (s)	-	-	14.3	9.8	8.4	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.1	0.1	-

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	48	25	755	48	48	691
Future Vol, veh/h	48	25	755	48	48	691
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	52	27	821	52	52	751

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1327	437	0	0	873	0
Stage 1	847	-	-	-	-	-
Stage 2	480	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	147	567	-	-	768	-
Stage 1	381	-	-	-	-	-
Stage 2	588	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	137	567	-	-	768	-
Mov Cap-2 Maneuver	265	-	-	-	-	-
Stage 1	381	-	-	-	-	-
Stage 2	548	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.4	0	0.7
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	265	567	768	-
HCM Lane V/C Ratio	-	-	0.197	0.048	0.068	-
HCM Control Delay (s)	-	-	21.9	11.7	10	-
HCM Lane LOS	-	-	C	B	B	-
HCM 95th %tile Q(veh)	-	-	0.7	0.2	0.2	-

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	25	12	419	30	30	617
Future Vol, veh/h	25	12	419	30	30	617
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	13	455	33	33	671

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	874	244	0	0	488	0
Stage 1	472	-	-	-	-	-
Stage 2	402	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	289	757	-	-	1071	-
Stage 1	594	-	-	-	-	-
Stage 2	644	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	280	757	-	-	1071	-
Mov Cap-2 Maneuver	405	-	-	-	-	-
Stage 1	594	-	-	-	-	-
Stage 2	624	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	405	757	1071	-
HCM Lane V/C Ratio	-	-	0.067	0.017	0.03	-
HCM Control Delay (s)	-	-	14.5	9.8	8.5	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.1	0.1	-

Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	48	25	781	48	48	722
Future Vol, veh/h	48	25	781	48	48	722
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	52	27	849	52	52	785

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1372	451	0	0	901	0
Stage 1	875	-	-	-	-	-
Stage 2	497	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	137	556	-	-	750	-
Stage 1	368	-	-	-	-	-
Stage 2	577	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	128	556	-	-	750	-
Mov Cap-2 Maneuver	255	-	-	-	-	-
Stage 1	368	-	-	-	-	-
Stage 2	537	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19	0	0.6
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	255	556	750	-
HCM Lane V/C Ratio	-	-	0.205	0.049	0.07	-
HCM Control Delay (s)	-	-	22.7	11.8	10.2	-
HCM Lane LOS	-	-	C	B	B	-
HCM 95th %tile Q(veh)	-	-	0.8	0.2	0.2	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	20	96	181	438	45
Future Vol, veh/h	10	20	96	181	438	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	200	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	21	102	193	466	48

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	791	257	514	0	-	0
Stage 1	490	-	-	-	-	-
Stage 2	301	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	327	742	1048	-	-	-
Stage 1	581	-	-	-	-	-
Stage 2	725	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	295	742	1048	-	-	-
Mov Cap-2 Maneuver	406	-	-	-	-	-
Stage 1	525	-	-	-	-	-
Stage 2	725	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.4	3.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1048	-	406	742	-	-
HCM Lane V/C Ratio	0.097	-	0.026	0.029	-	-
HCM Control Delay (s)	8.8	-	14.1	10	-	-
HCM Lane LOS	A	-	B	B	-	-
HCM 95th %tile Q(veh)	0.3	-	0.1	0.1	-	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	60	104	21	454	473	23
Future Vol, veh/h	60	104	21	454	473	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	200	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	64	111	22	483	503	24

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	801	264	527	0	-	0
Stage 1	515	-	-	-	-	-
Stage 2	286	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	322	734	1036	-	-	-
Stage 1	565	-	-	-	-	-
Stage 2	737	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	315	734	1036	-	-	-
Mov Cap-2 Maneuver	426	-	-	-	-	-
Stage 1	553	-	-	-	-	-
Stage 2	737	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.3	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1036	-	426	734	-	-
HCM Lane V/C Ratio	0.022	-	0.15	0.151	-	-
HCM Control Delay (s)	8.6	-	14.9	10.8	-	-
HCM Lane LOS	A	-	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.5	0.5	-	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	20	99	187	453	47
Future Vol, veh/h	10	20	99	187	453	47
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	200	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	21	105	199	482	50

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	817	266	532	0	-	0
Stage 1	507	-	-	-	-	-
Stage 2	310	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	314	732	1032	-	-	-
Stage 1	570	-	-	-	-	-
Stage 2	717	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	282	732	1032	-	-	-
Mov Cap-2 Maneuver	395	-	-	-	-	-
Stage 1	512	-	-	-	-	-
Stage 2	717	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.5	3.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1032	-	395	732	-	-
HCM Lane V/C Ratio	0.102	-	0.027	0.029	-	-
HCM Control Delay (s)	8.9	-	14.4	10.1	-	-
HCM Lane LOS	A	-	B	B	-	-
HCM 95th %tile Q(veh)	0.3	-	0.1	0.1	-	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	60	104	22	470	489	24
Future Vol, veh/h	60	104	22	470	489	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	200	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	64	111	23	500	520	26

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	829	273	546	0	-	0
Stage 1	533	-	-	-	-	-
Stage 2	296	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	309	725	1019	-	-	-
Stage 1	553	-	-	-	-	-
Stage 2	729	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	302	725	1019	-	-	-
Mov Cap-2 Maneuver	415	-	-	-	-	-
Stage 1	540	-	-	-	-	-
Stage 2	729	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.5	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1019	-	415	725	-	-
HCM Lane V/C Ratio	0.023	-	0.154	0.153	-	-
HCM Control Delay (s)	8.6	-	15.2	10.9	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.5	0.5	-	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	20	99	332	555	47
Future Vol, veh/h	10	20	99	332	555	47
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	75	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	21	105	353	590	50

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1002	320	640	0	-	0
Stage 1	615	-	-	-	-	-
Stage 2	387	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	239	676	940	-	-	-
Stage 1	502	-	-	-	-	-
Stage 2	656	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	212	676	940	-	-	-
Mov Cap-2 Maneuver	333	-	-	-	-	-
Stage 1	446	-	-	-	-	-
Stage 2	656	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.4	2.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	940	-	333	676	-	-
HCM Lane V/C Ratio	0.112	-	0.032	0.031	-	-
HCM Control Delay (s)	9.3	-	16.2	10.5	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0.4	-	0.1	0.1	-	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	60	104	22	749	615	24
Future Vol, veh/h	60	104	22	749	615	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	75	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	64	111	23	797	654	26

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1112	340	680	0	-	0
Stage 1	667	-	-	-	-	-
Stage 2	445	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	203	656	908	-	-	-
Stage 1	472	-	-	-	-	-
Stage 2	613	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	198	656	908	-	-	-
Mov Cap-2 Maneuver	327	-	-	-	-	-
Stage 1	460	-	-	-	-	-
Stage 2	613	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.2	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	908	-	327	656	-	-
HCM Lane V/C Ratio	0.026	-	0.195	0.169	-	-
HCM Control Delay (s)	9.1	-	18.7	11.6	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.7	0.6	-	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	20	104	342	578	49
Future Vol, veh/h	10	20	104	342	578	49
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	75	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	21	111	364	615	52

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1045	334	667	0	-	0
Stage 1	641	-	-	-	-	-
Stage 2	404	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	224	662	919	-	-	-
Stage 1	487	-	-	-	-	-
Stage 2	643	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	197	662	919	-	-	-
Mov Cap-2 Maneuver	319	-	-	-	-	-
Stage 1	428	-	-	-	-	-
Stage 2	643	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.6	2.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	919	-	319	662	-	-
HCM Lane V/C Ratio	0.12	-	0.033	0.032	-	-
HCM Control Delay (s)	9.5	-	16.7	10.6	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0.4	-	0.1	0.1	-	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	60	104	23	773	640	25
Future Vol, veh/h	60	104	23	773	640	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	75	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	64	111	24	822	681	27

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1154	354	708	0	-	0
Stage 1	695	-	-	-	-	-
Stage 2	459	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	190	642	887	-	-	-
Stage 1	456	-	-	-	-	-
Stage 2	603	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	185	642	887	-	-	-
Mov Cap-2 Maneuver	315	-	-	-	-	-
Stage 1	444	-	-	-	-	-
Stage 2	603	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.5	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	887	-	315	642	-	-
HCM Lane V/C Ratio	0.028	-	0.203	0.172	-	-
HCM Control Delay (s)	9.2	-	19.3	11.8	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.7	0.6	-	-

Intersection	
Int Delay, s/veh	1.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	77	6	194	27	6	386
Future Vol, veh/h	77	6	194	27	6	386
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	85	7	213	30	7	424

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	454	122	0	0	243	0
Stage 1	228	-	-	-	-	-
Stage 2	226	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	535	906	-	-	1320	-
Stage 1	788	-	-	-	-	-
Stage 2	790	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	532	906	-	-	1320	-
Mov Cap-2 Maneuver	602	-	-	-	-	-
Stage 1	788	-	-	-	-	-
Stage 2	786	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.8	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	602	906	1320	-
HCM Lane V/C Ratio	-	-	0.141	0.007	0.005	-
HCM Control Delay (s)	-	-	12	9	7.7	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.5	0	0	-

Intersection	
Int Delay, s/veh	1.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	88	12	460	54	8	396
Future Vol, veh/h	88	12	460	54	8	396
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	93	13	484	57	8	417

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	738	271	0	0	541	0
Stage 1	513	-	-	-	-	-
Stage 2	225	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	353	727	-	-	1024	-
Stage 1	566	-	-	-	-	-
Stage 2	791	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	350	727	-	-	1024	-
Mov Cap-2 Maneuver	451	-	-	-	-	-
Stage 1	566	-	-	-	-	-
Stage 2	785	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.4	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	451	727	1024	-
HCM Lane V/C Ratio	-	-	0.205	0.017	0.008	-
HCM Control Delay (s)	-	-	15	10	8.5	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.8	0.1	0	-

Intersection	
Int Delay, s/veh	1.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	77	6	201	28	6	399
Future Vol, veh/h	77	6	201	28	6	399
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	85	7	221	31	7	438

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	470	126	0	0	252	0
Stage 1	237	-	-	-	-	-
Stage 2	233	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	522	901	-	-	1310	-
Stage 1	780	-	-	-	-	-
Stage 2	784	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	519	901	-	-	1310	-
Mov Cap-2 Maneuver	593	-	-	-	-	-
Stage 1	780	-	-	-	-	-
Stage 2	780	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.9	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	593	901	1310	-
HCM Lane V/C Ratio	-	-	0.143	0.007	0.005	-
HCM Control Delay (s)	-	-	12.1	9	7.8	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.5	0	0	-

Intersection	
Int Delay, s/veh	1.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	88	12	476	56	8	410
Future Vol, veh/h	88	12	476	56	8	410
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	93	13	501	59	8	432

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	763	280	0	0	560	0
Stage 1	531	-	-	-	-	-
Stage 2	232	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	341	717	-	-	1007	-
Stage 1	554	-	-	-	-	-
Stage 2	785	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	338	717	-	-	1007	-
Mov Cap-2 Maneuver	441	-	-	-	-	-
Stage 1	554	-	-	-	-	-
Stage 2	779	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.7	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	441	717	1007	-
HCM Lane V/C Ratio	-	-	0.21	0.018	0.008	-
HCM Control Delay (s)	-	-	15.3	10.1	8.6	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.8	0.1	0	-

Intersection	
Int Delay, s/veh	2.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	150	19	220	143	13	424
Future Vol, veh/h	150	19	220	143	13	424
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	165	21	242	157	14	466

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	582	200	0	0	399	0
Stage 1	321	-	-	-	-	-
Stage 2	261	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	444	808	-	-	1156	-
Stage 1	708	-	-	-	-	-
Stage 2	759	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	439	808	-	-	1156	-
Mov Cap-2 Maneuver	532	-	-	-	-	-
Stage 1	708	-	-	-	-	-
Stage 2	750	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.2	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	532	808	1156	-
HCM Lane V/C Ratio	-	-	0.31	0.026	0.012	-
HCM Control Delay (s)	-	-	14.8	9.6	8.2	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	1.3	0.1	0	-

Intersection	
Int Delay, s/veh	3.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	166	47	516	267	24	450
Future Vol, veh/h	166	47	516	267	24	450
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	175	49	543	281	25	474

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	971	412	0	0	824	0
Stage 1	684	-	-	-	-	-
Stage 2	287	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	250	589	-	-	802	-
Stage 1	462	-	-	-	-	-
Stage 2	736	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	242	589	-	-	802	-
Mov Cap-2 Maneuver	358	-	-	-	-	-
Stage 1	462	-	-	-	-	-
Stage 2	713	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	21.5	0	0.5
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	358	589	802	-
HCM Lane V/C Ratio	-	-	0.488	0.084	0.032	-
HCM Control Delay (s)	-	-	24.3	11.7	9.6	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	2.6	0.3	0.1	-

Intersection	
Int Delay, s/veh	2.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	150	19	230	144	13	445
Future Vol, veh/h	150	19	230	144	13	445
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	165	21	253	158	14	489

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	605	206	0	0	411	0
Stage 1	332	-	-	-	-	-
Stage 2	273	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	429	800	-	-	1144	-
Stage 1	699	-	-	-	-	-
Stage 2	748	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	424	800	-	-	1144	-
Mov Cap-2 Maneuver	521	-	-	-	-	-
Stage 1	699	-	-	-	-	-
Stage 2	739	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.5	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	521	800	1144	-
HCM Lane V/C Ratio	-	-	0.316	0.026	0.012	-
HCM Control Delay (s)	-	-	15.1	9.6	8.2	-
HCM Lane LOS	-	-	C	A	A	-
HCM 95th %tile Q(veh)	-	-	1.3	0.1	0	-

Intersection	
Int Delay, s/veh	3.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	166	47	541	270	24	471
Future Vol, veh/h	166	47	541	270	24	471
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	175	49	569	284	25	496

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1009	427	0	0	853	0
Stage 1	711	-	-	-	-	-
Stage 2	298	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	237	576	-	-	782	-
Stage 1	448	-	-	-	-	-
Stage 2	727	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	229	576	-	-	782	-
Mov Cap-2 Maneuver	346	-	-	-	-	-
Stage 1	448	-	-	-	-	-
Stage 2	704	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	22.6	0	0.5
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	346	576	782	-
HCM Lane V/C Ratio	-	-	0.505	0.086	0.032	-
HCM Control Delay (s)	-	-	25.6	11.8	9.8	-
HCM Lane LOS	-	-	D	B	A	-
HCM 95th %tile Q(veh)	-	-	2.7	0.3	0.1	-

City of Bartlett, Tennessee
Municipal Planning Commission
Staff Report

Subdivision: Construction Plan

Shamali Subdivision

DATE:	December 4, 2023
STAFF:	Kim Taylor, Planning Director; Leslie Brock, Planner; John Horne, Engineering Director; Erin Campbell, Assistant Engineering Director; Max Gomez-Pedro, Land Development Engineer; Trey Arthur, Code Enforcement Director; Matt Crenshaw, Public Works Director; Aaron Davidson, Public Works Assistant Director; Howard McNatt, Fire Marshal; Craig Jones, Deputy Fire Marshal
SUBJECT:	Planning Commission Construction Plan Application Review
APPLICANT:	David Bray, The Bray Firm
DEVELOPER:	Marwan Shamali
SITE LOCATION:	7771 Highway 70
SITE ACREAGE:	1.05 acres
ZONING:	"C-H" Highway Business District
LOTS:	2

INTRODUCTION:

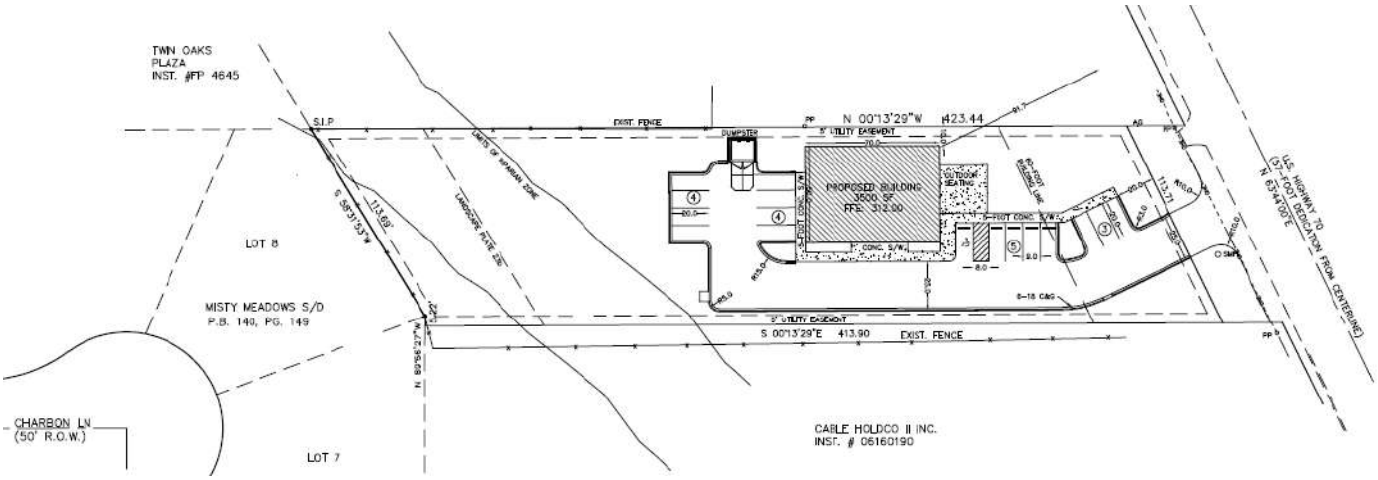
Mr. David Bray with the Bray Firm is requesting Planning Commission approval of a Construction Plan for the Shamali Subdivision. The subject property is located at 7771 Highway 70. The property is located within the "C-H" Highway Business District.

BACKGROUND:

On February 16, 2023, the Board of Zoning approved a minimum lot width variance application for the Shamali Subdivision. On April 3, 2023, the Planning Commission approved a Master Plan application for the Shamali Subdivision.

DISCUSSION:

The specific request by the applicant is for the approval of the Construction Plan for the Shamali Subdivision. The applicant is proposing to subdivide the existing 1.05 acre subject property into two lots. Lot 1 is proposed to be 23,085 square feet, and Lot 2 is proposed to be 22,783 square feet. Once Lots 1 and 2 are recorded on the plat, the applicant will re-record the plat to combine the lots to create one legal lot of record that is eligible for a building permit. Access to the subdivision will be from a new curb cut on Highway 70.



Recommendation: Approval with conditions.

Engineering Conditions:

General:

1. A Commercial Subdivision Plan contract will be required and will be prepared by Engineering and submitted to the developer/engineer for review to cover the fees to be paid to the City of Bartlett. The Developer's name on the Construction Plans must match the Developer's name on the Bond & Contract.
2. All new utilities shall be underground.
3. All mark-ups and corrections shall be addressed on the revised plans.

Plat:

4. ROW dedication of 57' from the centerline will be required, this shall be called out as "To be dedicated to the City of Bartlett."
5. Any public easements for utilities shall also be shown

Site Plan:

6. Construction plans will be required.
7. Construction of a paved shoulder of an additional 10' wide will be required on HWY 70. This additional asphalt section shall be full depth pavement, consistent with the existing roadway, and must conform to TDOT standards. This shall be added to the construction plans with TDOT approval. This shall be coordinated with TDOT as this is a state route.
8. The driveway on HWY 70 will require a TDOT permit. A construction detail shall be added to the plans.
9. Utility work in HWY 70 will require a TDOT permit.

Sewer Plan:

10. The existing sewer line along HWY 70 shall be shown on the drawings, and the Developer's engineer is responsible for insuring that the sewer is deep enough to provide sewer service for the desired building's location.
11. Since this project is located in the Fletcher Creek Sewer Basin new tap approval is dependent on developer receiving written approval from the City of Memphis for sewer connection. Developer's engineer will be responsible for establishing if an existing tap is in place. If no tap exists then the developers engineer shall work with City of Memphis on holding tank design and approval.

Water Plan:

12. Developer's engineer will be responsible for establishing if an existing tap is in place. If not, a new 2" Water Service will be required. Applicant must request and purchase a Water Meter. The water tap will need to be a reverse tap.
13. An 8" water line is available across the street and/or directly behind the property. It may be necessary to loop these for the required Fire flows. This would require HWY 70 to be bored. In addition, a 12" waterline will need to be installed across the entire frontage on Hwy 70. Certified as-builts will be required on the public water.
14. An additional fire hydrant may be required on site.
15. Fire protection must be approved by the City of Bartlett Fire Marshall.

Grading and Drainage and Detention Plan:

16. Detention will be required.
17. Applicant's engineer shall submit the stamped and signed detention calculations for the proposed detention basin and show the 'pre' and the 'post' runoff for the 2, 5, 10, 25-year storms.
18. A structure table and pipe table must be labeled to show public and private drainage lines.
19. There is an existing blue line stream along the south property line. The storm water ordinance requires a minimum buffer of 30' from the stream in all locations with an overall average of 60'. This stream buffer shall be drawn in and hatched as non-buildable area on both sides of the existing blue line stream.

Erosion Control Plan:

20. The Engineer shall prepare and submit a SWPPP to TDEC with a copy sent to the City of Bartlett Engineering Department.
21. Once TDEC has issued the Notice of Coverage (NOC), a copy shall be sent to the City of Bartlett Engineering Department.
22. Metal posts with wired backed fence are required on the proposed silt fences.

Planning Conditions:

1. The applicant must add Landscape Plate 23D template to the plat along the southern property line that borders Misty Meadows Subdivision.
2. The Site Plan in the packet showing 1 lot is a conceptual plan for the site and cannot be approved by the Planning Commission until the Final Plat is recorded.
3. The commercial property owner will be responsible for landscape maintenance of the entire lot and the fence adjacent to the residential neighbors in perpetuity.
4. The applicant shall be present at the meeting in order to make decisions relative to any changes that may be suggested by the Planning Commission.

Bartlett Planning and Economic Development Department
6382 Stage Road, P.O. Box 341148
Bartlett, TN 38184-1148
901-385-6417 FAX 901-385-6419
www.cityofbartlett.org

Bartlett Planning Commission

Application for Construction Plan Approval

Subdivision Name [redacted] SHAMALI SUBDIVISION No. of Lots 2* *ULTIMATELY 1

Subdivision Location 7771 HIGHWAY 70

Owner/Developer Contact MARWAN SHAMALI Phone _____

Company Name _____ Fax _____

Address 7899 JILLS CREEK DR BARTLETT 38133 email _____

Architect Contact _____ Phone _____

Company Name _____ Fax _____

Address _____ email _____

Engineer Contact DAVID BRAY Phone 901.383.8668

Company Name THE BRAY FIRM Fax _____

Address 2950 STAGE PLAZA NORTH BARTLETT 38134 email dybray@comcast.net

---

Submitted by DAVID BRAY (printed name) (signature) 11.06.23 (date)

Email Address dybray@comcast.net **Phone** 901.383.3668 **Fax** _____

DB Attach a checked-off "**Construction Plan Checklist**" and all items required therein.

DB Acknowledge (by initials in the blank to the left) that the "**Application Instructions: Planning Commission**" were obtained and read prior to submitting this application.

DB Provide 5-folded (± 10"x13") sets of plans with a copy of the signed application attached to each set.

DB Provide an electronic PDF file of the plans. Note that an updated electronic file is required when plans are revised. The electronic file shall be labeled with the project name and accurately dated.

DB Include a fee of $500.00 plus $20.00 per lot with this application (check payable to the City of Bartlett).

I, the property owner(s) hereby authorize the filing of this application.

MARWAN SHAMALI , _____ _____
(print name) (signature) **(date)**

Bartlett Planning and Economic Development Department
6382 Stage Road, P.O. Box 341148
Bartlett, TN 38184-1148
901-385-6417 FAX 901-385-6419
www.cityofbartlett.org

Construction Plan Checklist

The applicant shall either indicate that the following items have been completed by a check (√) or that they are not applicable (n/a).

In addition to all the requirements of the Master Plan, the Construction Plan shall show

- ✓ Signature and Seal of Designer, a Professional Civil Engineer Registered in Tennessee
- ✓ * Grading Plan, existing & finished contours for the site and fifty (50) feet beyond property
- ✓ * Extent and elevation of land below the 100-year flood
- ✓ Detailed plan of sewer layouts
- ✓ Plan and profile sheets and engineering data for streets, storm drainage, controls for surface and ground water, water and sewer layouts
- ✓ Landscape plan and planting schedule as required
- ✓ Comprehensive drainage plan
- ✓ Construction traffic access plan

Certificates: (As applicable)

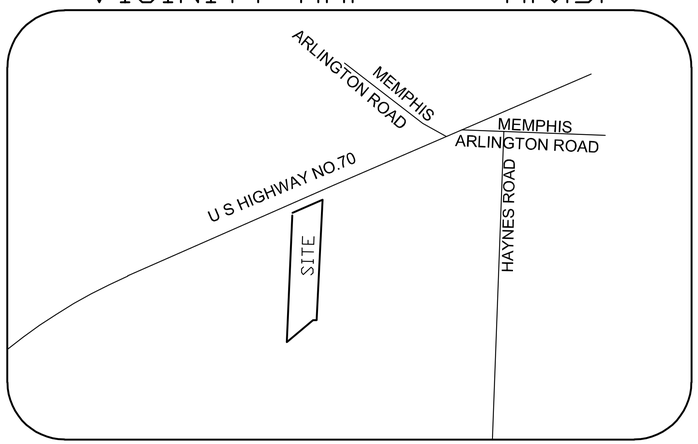
- n/a Suitability of Soils for Septic Tanks
- ✓ Approval of Water and Sewerage Systems
- ✓ Accuracy of Engineering and Design
- ✓ Approval of Water and Sewer Lines
- ✓ Approval of Street and Drainage Improvements
- ✓ Quality of Construction
- n/a Compliance with requirements of EPA
- n/a Approval of Flood Administrator

In addition to the Construction Plan drawings, the following shall be provided:

- ✓ One PDF file of the pictorial portion of the Construction Plan sheets indicated above by an asterisk (*), for display at the Planning Commission meeting.

INCOMPLETE APPLICATIONS WILL NOT BE PROCESSED

VICINITY MAP n.t.s.



CONSTRUCTION DRAWINGS

LOT 1, SHAMALI SUBDIVISION

BARTLETT, TENNESSEE

MARWAN AND HANEEN SHAMALI
OWNER/DEVELOPER

The Bray Firm
ENGINEER

SCHEDULE OF DRAWINGS

COVER PAGE	1
FINAL PLAT (2 SHEETS)	2
SITE PLAN	4
SANITARY SEWER PLAN	5
EROSION CONTROL PLAN	6
GRADING AND DRAINAGE	7
SITE DETAILS	8

GENERAL NOTES

CONSTRUCTION NOTES:

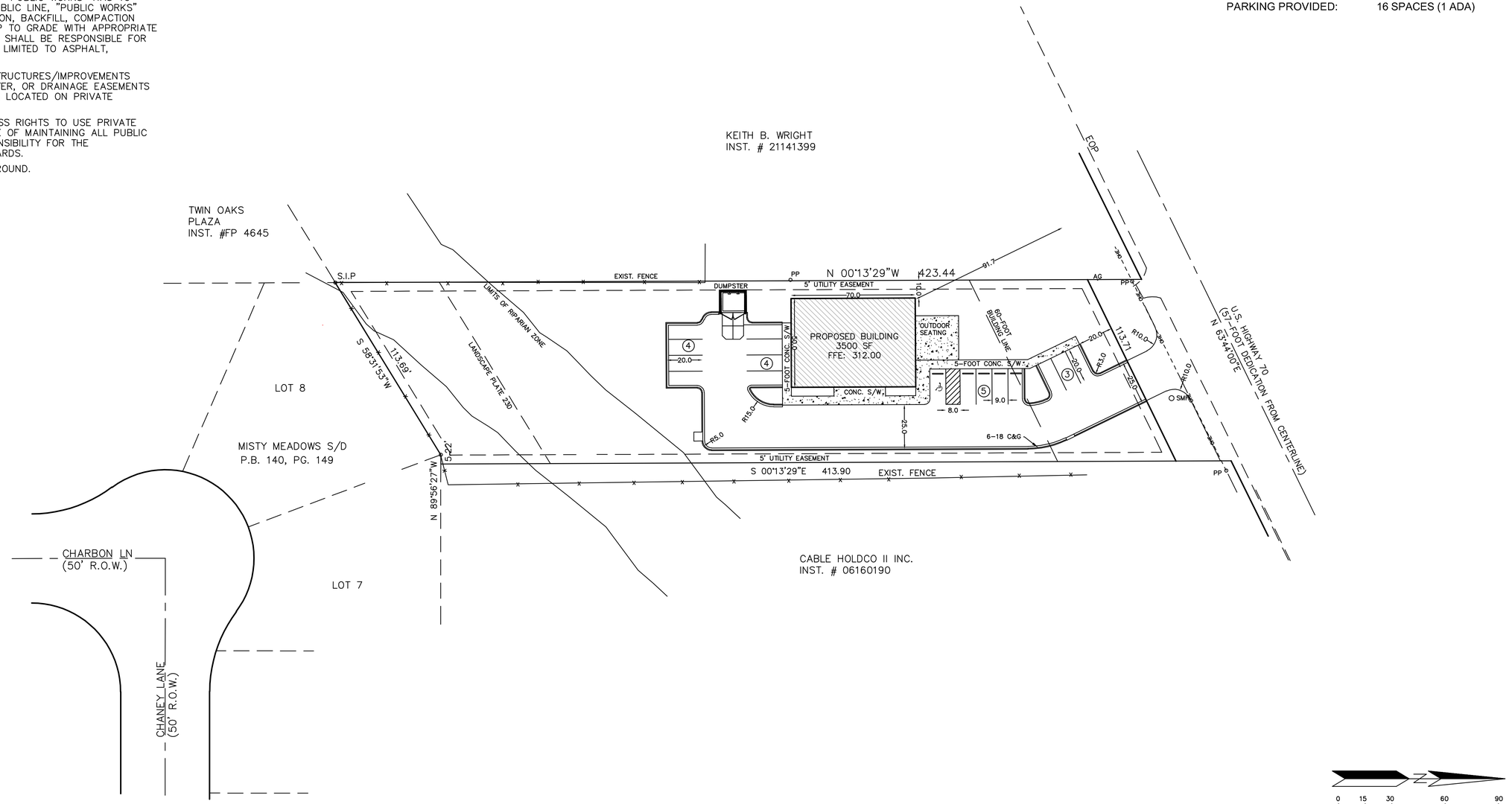
1. PROPERTY LINES SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION. GRADING, CLEARING AND THE ERECTION OR REMOVAL OF FENCES ALONG PROPERTY LINES SHALL BE FULLY COORDINATED WITH ADJACENT PROPERTY OWNERS.
2. THE CONTRACTOR SHALL VERIFY ANY EXISTING DATA AND REPORT ANY SIGNIFICANT DISCREPANCIES TO THE ENGINEER.
3. THE CONTRACTOR SHALL NOT ENTER UPON, WORK UPON NOR CAUSE DAMAGE TO ANY ADJACENT PROPERTIES WITHOUT PRIOR PERMISSION FROM SAID PROPERTY OWNER.
4. LOCATION OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE AND ARE NOT NECESSARILY ALL OF SAME. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE APPROPRIATE UTILITY COMPANY TO DETERMINE THE EXACT LOCATION OF ALL UTILITIES AND/OR UNDERGROUND STRUCTURES PRIOR TO THE INITIATION OF ANY CONSTRUCTION. CONTRACTOR SHALL ALSO ASSUME FULL RESPONSIBILITY FOR DAMAGE TO ANY EXISTING UTILITIES ENCOUNTERED WITHIN THE CONSTRUCTION PERIMETERS. FOR SITE LOCATION OF EXISTING UTILITIES INVOLVING M.L.G&W., SOUTH CENTRAL BELL, AND/OR TEXAS GAS COMPANY, PLEASE CALL 1-800-351-1111. FOR SEWER SERVICE LOCATIONS, CALL 385-6499.
5. CONTRACTOR SHALL MAINTAIN ACCESS TO ALL PROPERTIES.
6. TYPICAL SIDE SLOPES TO BE 1 FOOT VERTICAL TO 4 FEET HORIZONTAL.
7. ALL AREAS IN CUT OR FILL WHERE VEGETATION HAS BEEN REMOVED SHALL BE SEEDED, MULCHED, FERTILIZED, AND/OR SODDED AS REQUIRED TO PREVENT EROSION.
8. 24 HOURS PRIOR TO ANY CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE CITY OF BARTLETT ENGINEER'S OFFICE AT 385-6499.
9. ALL CONSTRUCTION MATERIALS & PROCEDURES SHALL MEET STANDARD CITY OF BARTLETT SPECIFICATIONS.
10. ALL FILL AND/OR TRENCH BACKFILL SHALL BE COMPACTED IN 6 INCH LIFTS TO 95% STANDARD PROCTOR WITHIN 3% OF OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D698-78 LATEST REVISION (STANDARD PROCTOR).
11. THE CONTRACTOR SHALL INSTALL AND MAINTAIN A SILT FENCE PARALLELED WITH HAY BALES AT THE TOP OF ALL DITCH BANKS FOR THE WIDTH OF THE CONSTRUCTION LIMITS AND CONTINUOUSLY ALONG THE "STREAMSIDE" CONSTRUCTION LIMIT.
12. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN EROSION CONTROL DURING CONSTRUCTION BY THE PLACEMENT OF SILT FENCES AND HAY BALES WHERE NECESSARY TO PREVENT DOWNSTREAM SILTATION OF ANY DITCHES, PIPES, DRAINAGE STRUCTURES OR ADJACENT PROPERTIES. THE CONTRACTOR SHALL PROVIDE ANY ADDITIONAL EROSION CONTROL AS NEEDED OR AS DIRECTED BY THE ENGINEER.
13. CONTRACTOR SHALL PROVIDE ALL NECESSARY EROSION CONTROL METHODS AS PER THE CITY OF BARTLETT, SHELBY COUNTY, AND STATE OF TENNESSEE REGULATIONS.
14. ENGINEERS CERTIFICATE: THIS PROJECT HAS BEEN DESIGNED IN ACCORDANCE WITH THE CITY OF BARTLETT SUBDIVISION REGULATIONS AND SPECIFICATIONS.
15. LOT GRADING AND DRAINAGE:
FINISH GRADE SHALL BE SLOPED AWAY FROM THE FOUNDATION FOR DRAINAGE. THE FINISH GRADE MUST BEGIN AT LEAST 10 INCHES BELOW THE TOP OF THE FOUNDATION WALL OR THE GRADE OF THE CONCRETE SLAB AND FOUNDATION. THE MINIMUM GRADE AWAY FROM THE FOUNDATION WALL SHALL BE AT LEAST 5 PERCENT IN ALL DIRECTIONS. THE DRIVEWAY SHALL BE SLOPED DOWN AT 2 PERCENT FOR AT LEAST 8 FEET FROM THE STRUCTURE.
16. THE CITY OF BARTLETT SHALL HAVE INGRESS/EGRESS RIGHT TO USE PRIVATE DRIVES AND YARDS FOR THE PURPOSE OF MAINTAINING ALL PUBLIC UTILITIES AND SHALL BEAR NO RESPONSIBILITY FOR THE MAINTENANCE OF SAID DRIVES AND YARDS.

NOTES :

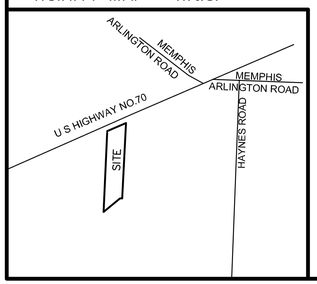
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3. IF SETTLEMENT OCCURS ALONG ANY OF THE THE PUBLIC EASEMENTS WITHIN THE PRIVATE PROPERTY, THE OWNER SHALL BE RESPONSIBLE FOR ALL REPAIRS. IN THE EVENT THAT "PUBLIC WORKS" HAS TO EXCAVATE TO REPAIR A LEAK IN A PUBLIC LINE, "PUBLIC WORKS" SHALL BE RESPONSIBLE FOR EXCAVATION, BACKFILL, COMPACTION AND BRINGING THE AFFECTED AREA UP TO GRADE WITH APPROPRIATE SUB–BASE MATERIAL, BUT THE OWNER SHALL BE RESPONSIBLE FOR ALL FINISH WORK INCLUDING, BUT NOT LIMITED TO ASPHALT, CONCRETE AND LANDSCAPING.
4. DRIVEWAYS AND OTHER PERMANENT STRUCTURES/IMPROVEMENTS SHALL NOT BE PLACED IN SEWER, WATER, OR DRAINAGE EASEMENTS OR OVER SEWER AND WATER SERVICES LOCATED ON PRIVATE PROPERTY.
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6. ALL NEW UTILITIES SHALL BE UNDERGROUND.

SITE DATA:

PROPOSED USE:	RETAIL
SITE AREA:	0.98 ACRES
BUILDING SIZE:	3500 S.F. STORE
FAR:	0.08
REQUIRED GREENSPACE:	35%
PROVIDED GREENSPACE:	59%
PARKING REQUIRED:	12 SPACES
PARKING PROVIDED:	16 SPACES (1 ADA)



VICINITY MAP n.t.s.



Pavement recommendations:

The recommendations for pavement sections are as follows:
FLEXIBLE PAVEMENT
HEAVY DUTY PAVEMENT:
1.0 inches wearing course Hot Mix Asphaltic Concrete
2.0 inches binder course Hot Mix Asphaltic Concrete
6.0 inches Soil Cement Base or
10.0 inches Crushed Stone Base

LIGHT DUTY PAVEMENT (parking area)
1.0 inches wearing course Hot Mix Asphaltic Concrete
2.0 inches binder course Hot Mix Asphaltic Concrete
6.0 inches Soil Cement Base or
8.0 inches Crushed Stone Base
RIGID PAVEMENT
HEAVY DUTY:
6.0 inches Portland Cement Concrete
6.0 inches Granular Sub Base
LIGHT DUTY
5.0 inches Portland Cement Concrete
6.0 inches Granular Sub Base (optional)
Dumpster areas and truck loading areas shall have be 7.0 inches.

ELEV.	STORAGE CUFT	OUTFLOW CFS
308.00	0	0
308.50	624	2.1
309.00	2053	4.4
309.42	3486	6.1

DETENTION BASIN SUMMARY
DRAINAGE AREA: 1.3 ACRES (0.6 offsite)
Cpre=0.58 Tcpre=5 MIN.
Cpost=0.85 Tcpost=5 minutes

RETURN	ALLOWABLE FLOW	ACTUAL OUTFLOW	STORAGE	W.S.E.
YRS	CFS	CFS	CUFT	FT.
2	4.4	3.7	1637	308.85
5	5.1	4.2	1955	308.97
10	5.5	4.6	2189	309.04
25	6.3	5.0	2576	309.15
100	7.5	5.8	3213	309.34

REVISIONS		
ITEM NO.	DESCRIPTION OF CHANGE	DATE APPROVED

DAVID GEAN BRAY JR. 10-25-2023
REGISTERED
AGRICULTURIST
No. 0011007
STATE OF TENNESSEE

SHAMALI SUBDIVISION

DEVELOPER: MARWAN AND HANEEN SHAMALI
ENGINEER: THE BRAY FIRM

0 15 30 60 90
GRAPHIC SCALE IN FEET: 1"=30'

DIVISION OF ENGINEERING

SITE PLAN

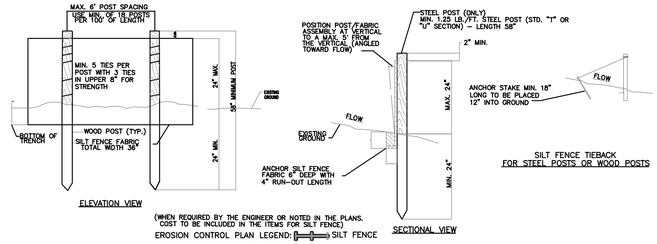
BARTLETT, TENNESSEE

SURVEY: TBF DATE: 12–2022 BOOK: _____
DESIGN: TBF DATE: 11–2023 SCALE 1"=30'
REVIEWED BY

_____
CITY ENGINEER DATE

NOTES :

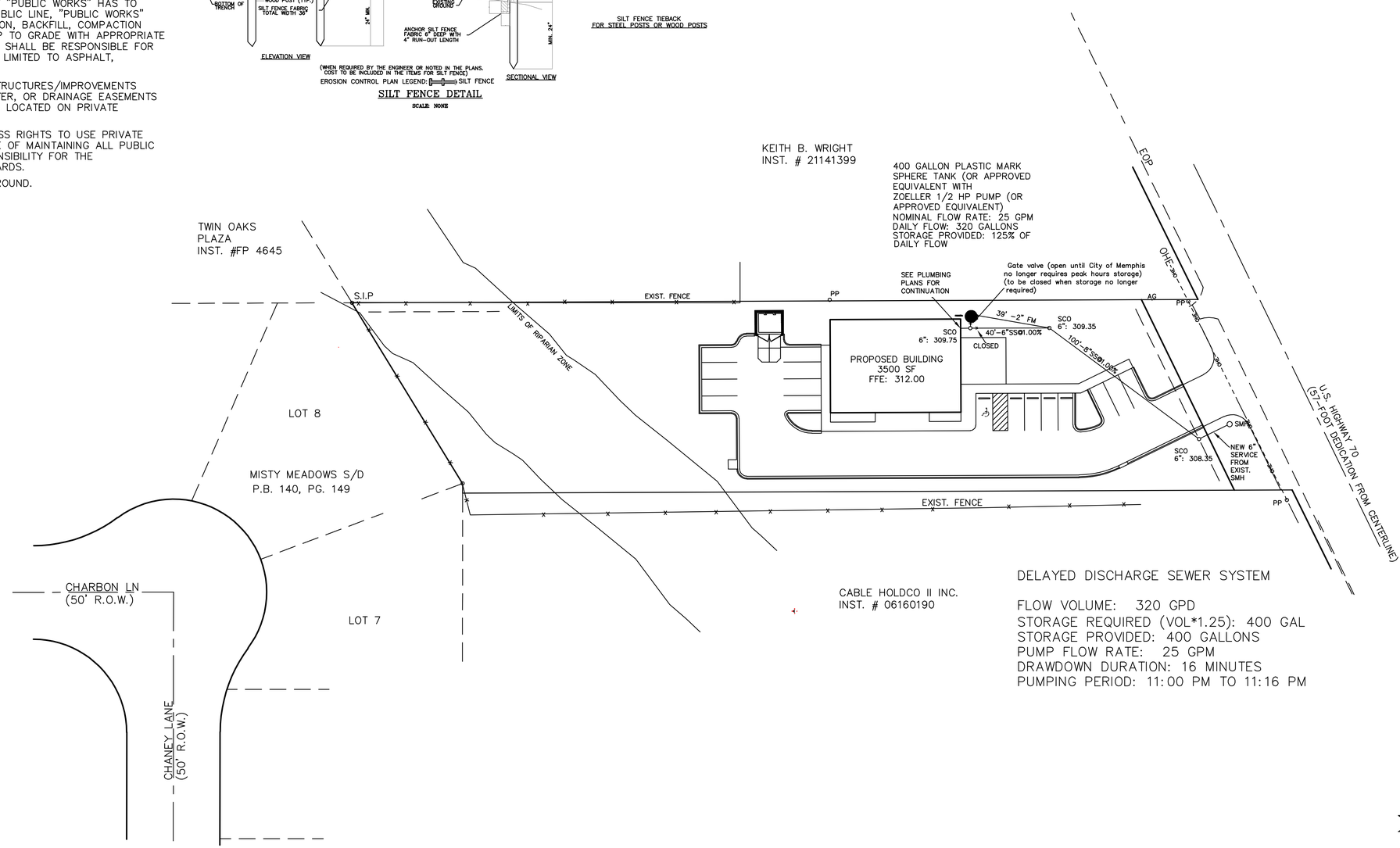
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6. ALL NEW UTILITIES SHALL BE UNDERGROUND.



(WHEN REQUIRED BY THE ENGINEER OR NOTED IN THE PLANS. COST TO BE INCLUDED IN THE ITEMS FOR SILT FENCE)
EROSION CONTROL PLAN LEGEND: SILT FENCE

SILT FENCE DETAIL

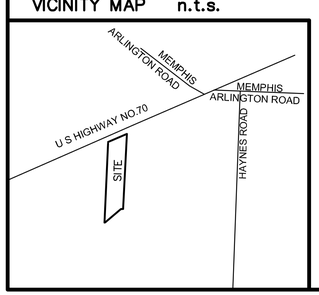
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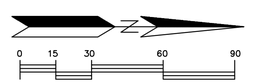


DELAYED DISCHARGE SEWER SYSTEM

FLOW VOLUME: 320 GPD
STORAGE REQUIRED (VOL*1.25): 400 GAL
STORAGE PROVIDED: 400 GALLONS
PUMP FLOW RATE: 25 GPM
DRAWDOWN DURATION: 16 MINUTES
PUMPING PERIOD: 11:00 PM TO 11:16 PM

VICINITY MAP n.t.s.





GRAPHIC SCALE IN FEET: 1"=30'

REVISIONS		
ITEM NO.	DESCRIPTION OF CHANGE	DATE APPROVED

DAVID GEAN BRAY — REGISTERED ENGINEER — 29121 — AGRICULTURE — 6/30/2023 — STATE OF TENNESSEE

SHAMALI SUBDIVISION

DEVELOPER: MARWAN AND HANEEN SHAMALI
ENGINEER: THE BRAY FIRM

DIVISION OF ENGINEERING

SANITARY SEWER PLAN

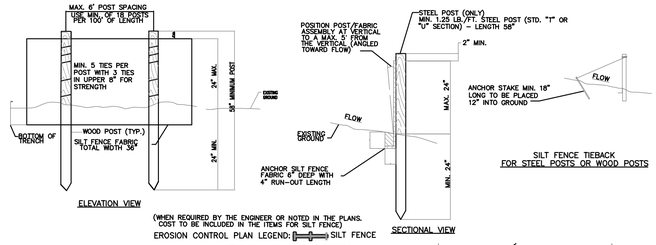
BARTLETT, TENNESSEE

SURVEY: TBF DATE: 12–2022 BOOK: _____
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CITY ENGINEER DATE

NOTES :

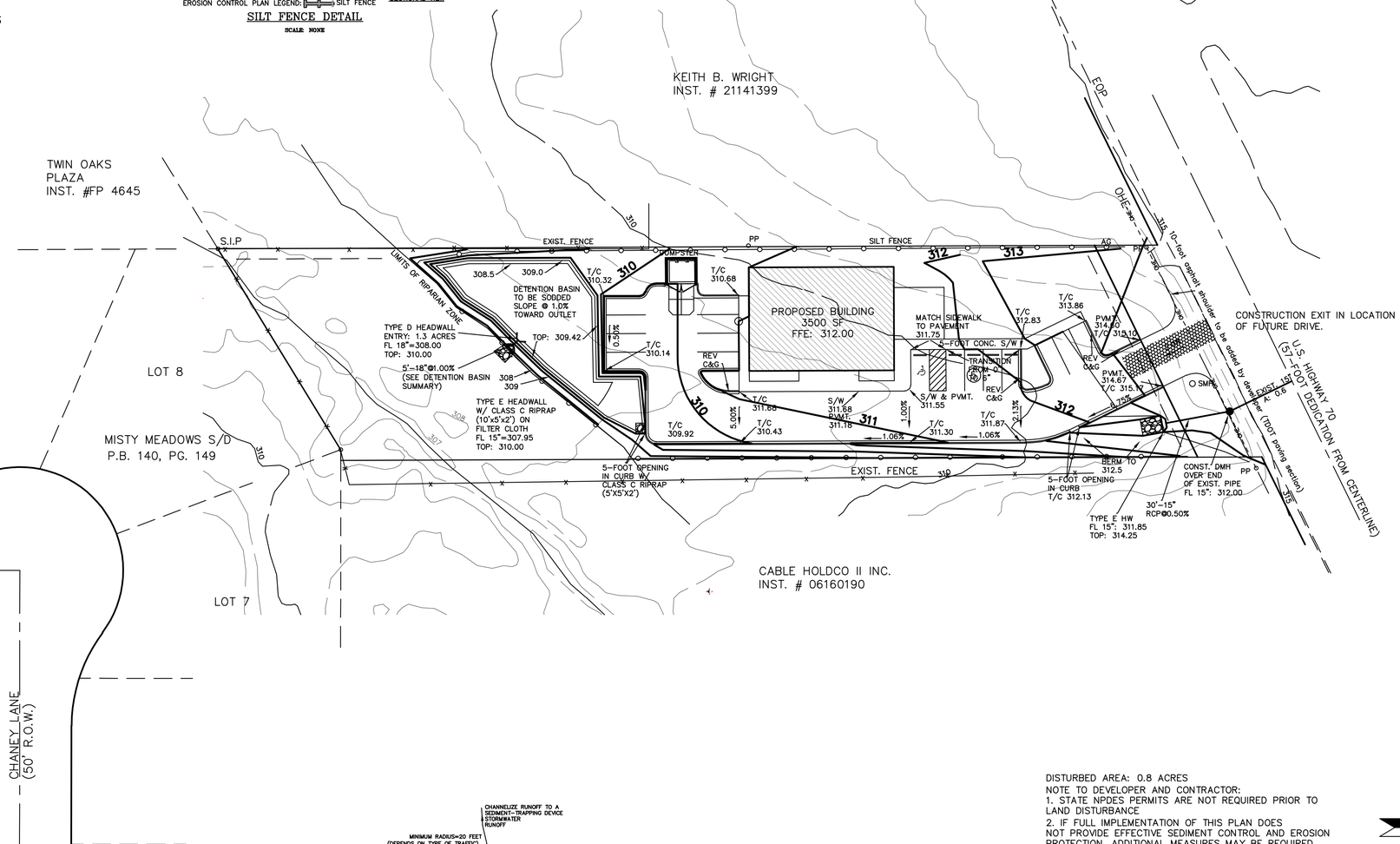
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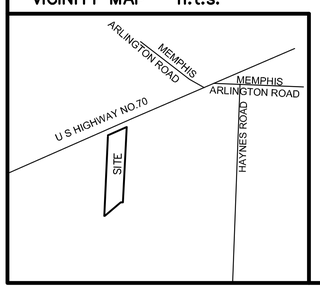
SILT FENCE DETAIL

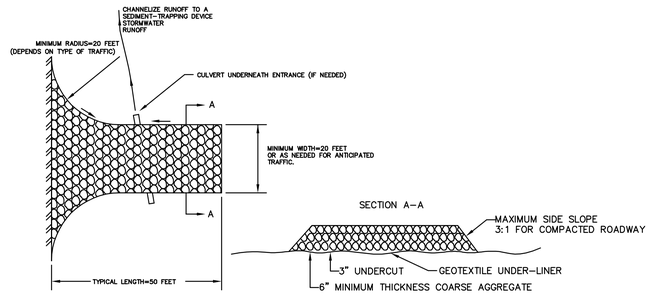
SCALE: NONE

EROSION CONTROL NOTES:
1. EROSION AND SEDIMENT CONTROL MEASURES MUST BE IN PLACE AND FUNCTIONAL PRIOR TO COMMENCEMENT OF EARTH MOVING OPERATIONS.
2. ALL EROSION AND SEDIMENT CONTROL MEASURES MUST BE PROPERLY CONSTRUCTED AND MAINTAINED THROUGHOUT THE CONSTRUCTION PROCESS.
3. CHECK ALL EROSION AND SEDIMENT CONTROL MEASURES PER TDEC TWICE WEEKLY AT LEAST 72 HOURS APART. DAILY CHECKING IS REQUIRED DURING PROLONGED RAINFALL. MAINTAIN A PERMANENT LOG OF CHECKS AND MAINTENANCE MEASURES.
4. KEEP CONSTRUCTION DEBRIS FROM ENTERING STORM SEWER.
5. PROMPTLY BACKFILL AND STABILIZE TRENCHES AND/OR PITS.
6. DESIGNATE A SPECIFIC INDIVIDUAL (MUST BE TDEC LEVEL 1 CERTIFIED) TO BE RESPONSIBLE FOR EROSION AND SEDIMENT CONTROLS AND TO KEEP THE PERMANENT LOG.
7. EROSION CONTROLS ARE NOT LIMITED TO THE SPECIFIED PRACTICES, HOWEVER, ALTERNATVIE MEASURES MUST BE AT LEAST AS EFFECTIVE IN CONTROLLING EROSION AND SEDIMENTATION.
8. RE–VEGETATION OF EXPOSED GROUND SHOULD BEGIN AS SOON AS CONSTRUCTION IS COMPLETED
9. INSTALL STAKED AND ENTRENCHED SILT FENCE ALONG THE BASE OF ALL BACKFILLS AND CUTS, ON THE DOWNHILL SIDE OF STOCKPILED SOIL, AND ALONG DITCH BANKS IN CLEARED AREAS TO PREVENT EROSION INTO DITCHES, DO NOT PLACE SILT FENCE IN FLOWING DITCH.



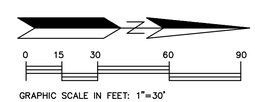
VICINITY MAP n.t.s.





DISTURBED AREA: 0.8 ACRES

NOTE TO DEVELOPER AND CONTRACTOR:
1. STATE NPDES PERMITS ARE NOT REQUIRED PRIOR TO LAND DISTURBANCE
2. IF FULL IMPLEMENTATION OF THIS PLAN DOES NOT PROVIDE EFFECTIVE SEDIMENT CONTROL AND EROSION PROTECTION, ADDITIONAL MEASURES MAY BE REQUIRED.



GRAPHIC SCALE IN FEET: 1"=30'

REVISIONS

ITEM NO.	DESCRIPTION OF CHANGE	DATE APPROVED

DAVID GEAN BRAY JR. REGISTERED 10/15/2023 ENGINEER AGRICULTURE No. 0011007 STATE OF TENNESSEE

SHAMALI SUBDIVISION

DEVELOPER: MARWAN AND HANEEN SHAMALI
ENGINEER: THE BRAY FIRM

DIVISION OF ENGINEERING

EROSION CONTROL PLAN

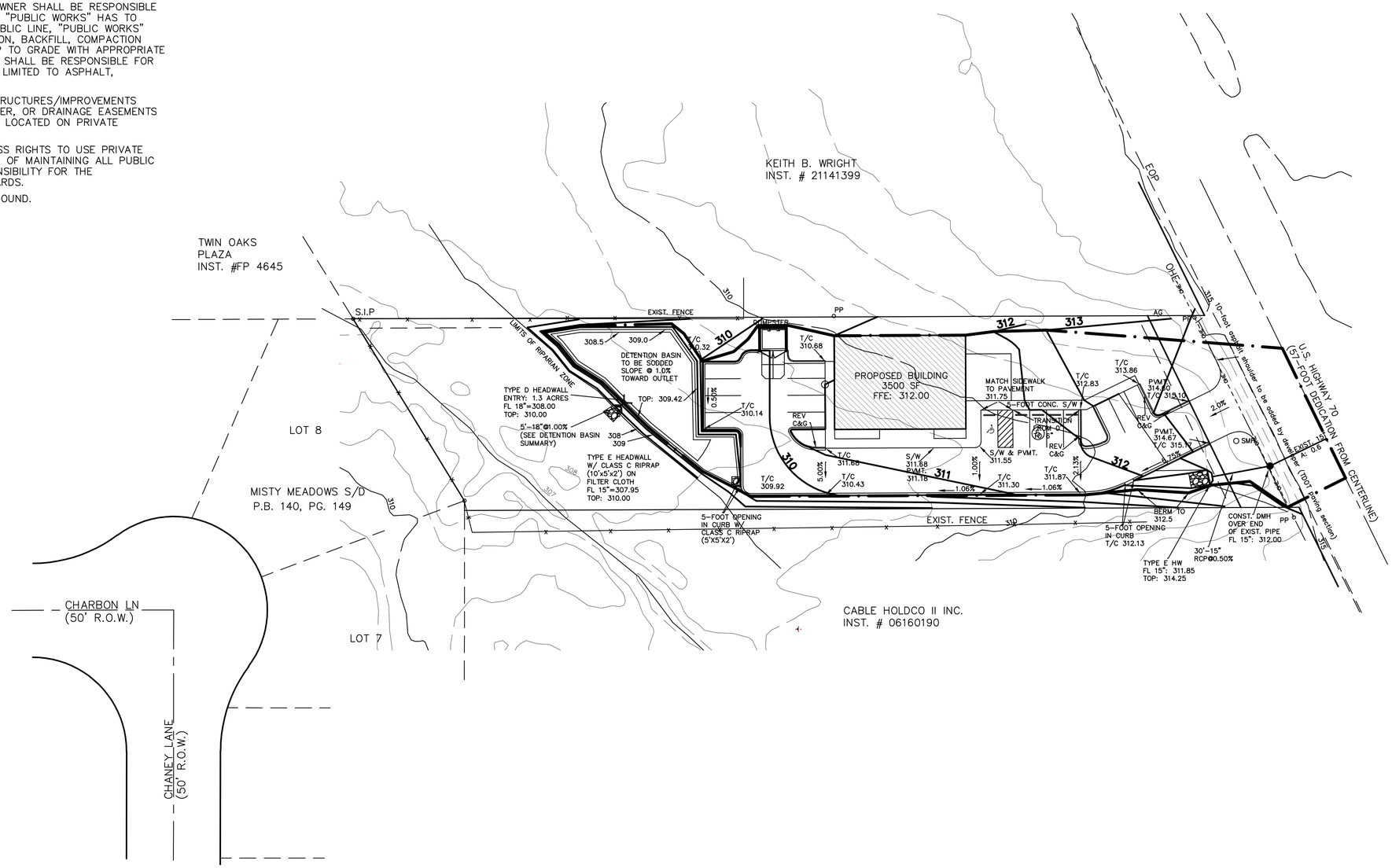
BARTLETT, TENNESSEE

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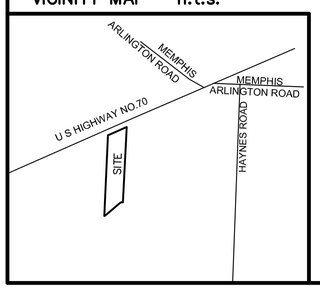
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   C. MIN. REAR– 20 FEET
2. THIS PROPERTY IS NOT LOCATED IN A SPECIAL FLOOD HAZARD AREA PER FEMA FLOOD MAP #47157C0270F SEPTEMBER 28, 2007.
3. IF SETTLEMENT OCCURS ALONG ANY OF THE THE PUBLIC EASEMENTS WITHIN THE PRIVATE PROPERTY, THE OWNER SHALL BE RESPONSIBLE FOR ALL REPAIRS. IN THE EVENT THAT "PUBLIC WORKS" HAS TO EXCAVATE TO REPAIR A LEAK IN A PUBLIC LINE, "PUBLIC WORKS" SHALL BE RESPONSIBLE FOR EXCAVATION, BACKFILL, COMPACTION AND BRINGING THE AFFECTED AREA UP TO GRADE WITH APPROPRIATE SUB–BASE MATERIAL, BUT THE OWNER SHALL BE RESPONSIBLE FOR ALL FINISH WORK INCLUDING, BUT NOT LIMITED TO ASPHALT, CONCRETE AND LANDSCAPING.
4. DRIVEWAYS AND OTHER PERMANENT STRUCTURES/IMPROVEMENTS SHALL NOT BE PLACED IN SEWER, WATER, OR DRAINAGE EASEMENTS OR OVER SEWER AND WATER SERVICES LOCATED ON PRIVATE PROPERTY.
5. THE CITY SHALL HAVE INGRESS/ EGRESS RIGHTS TO USE PRIVATE DRIVES AND YARDS FOR THE PURPOSE OF MAINTAINING ALL PUBLIC UTILITIES AND SHALL BEAR NO RESPONSIBILITY FOR THE MAINTENANCE OF SAID DRIVES AND YARDS.
6. ALL NEW UTILITIES SHALL BE UNDERGROUND.



VICINITY MAP n.t.s.



ELEV.	STORAGE CUFT	OUTFLOW CFS
308.00	0	0
308.50	624	2.1
309.00	2053	4.4
309.42	3486	6.1

DETENTION BASIN SUMMARY
DRAINAGE AREA: 1.3 ACRES (0.6 offsite)
Cpre=0.58 Tcpre=5 MIN.
Cpost=0.85 Tcpost=5 minutes

RETURN	ALLOWABLE	ACTUAL		
	FLOW	OUTFLOW	STORAGE	W.S.E.
YRS	CFS	CFS	CUFT	FT.
2	4.4	3.7	1637	308.85
5	5.1	4.2	1955	308.97
10	5.5	4.6	2189	309.04
25	6.3	5.0	2576	309.15
100	7.5	5.8	3213	309.34

REVISIONS

ITEM NO.	DESCRIPTION OF CHANGE	DATE APPROVED

DAVID GEAN BRAY JR. 2075 REGISTERED LICENSED AGRICULTURE STATE OF TENNESSEE 6-13-2023

0 15 30 60 90
GRAPHIC SCALE IN FEET: 1"=30'

SHAMALI SUBDIVISION

DEVELOPER: MARWAN AND HANEEN SHAMALI
ENGINEER: THE BRAY FIRM

DIVISION OF ENGINEERING

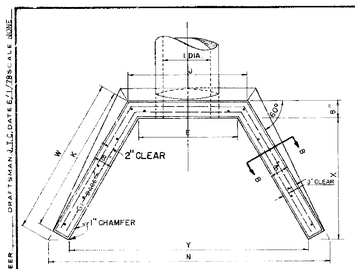
GRADING & DRAINAGE PLAN

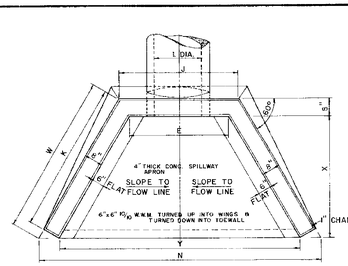
BARTLETT, TENNESSEE

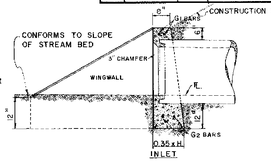
SURVEY: TBF DATE: 12–2022 BOOK: _____
DESIGN: TBF DATE: 11–2023 SCALE 1"=30'
REVIEWED BY

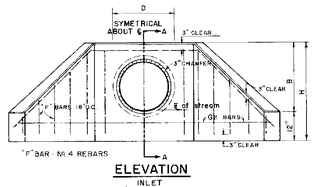
_____
CITY ENGINEER DATE

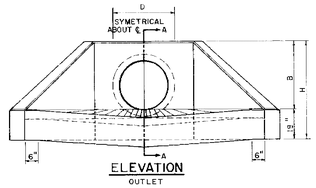
BUREAU, STREET DESIGN — BUREAU ENGINEER — DRAFTSMAN, J.T.D. DATE 6/1/78 SCALE NONE

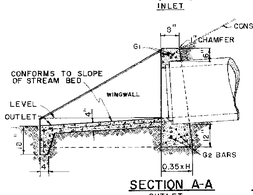


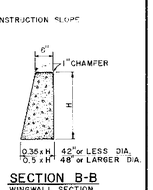


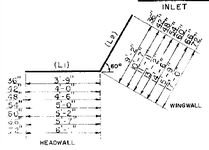












NOTE: RIGHT WING LOOKING INTO PIPE, LEFT WING OPPOSITE HAND

Conc. to be CLASS 'A'

TABLE OF DIMENSIONS AND DIAMETERS*

DIA	15"	18"	21"	24"	30"	36"	42"	48"	54"	60"	66"	72"
B	1'-11½"	2'-2¼"	2'-5¼"	2'-8½"	3'-3"	3'-9½"	4'-4"	4'-10½"	5'-5"	6'-0"	6'-6½"	7'-1"
D	1'-7¼"	1'-10½"	2'-1½"	2'-5"	3'-0"	3'-7"	4'-2"	4'-9"	5'-4"	6'-0"	6'-7"	7'-2"
E	1'-9¼"	2'-0½"	2'-3½"	2'-7"	3'-2"	3'-9"	4'-4"	4'-10"	5'-6"	6'-2"	6'-9"	7'-4"
H	3'-1¼"	3'-4½"	3'-7½"	3'-11"	4'-6"	5'-1"	5'-8"	6'-3"	6'-10"	7'-6"	8'-1"	8'-8"
J	2'-7½"	2'-10⅞"	3'-1⅞"	3'-5⅜"	4'-0⅜"	4'-10⅛"	5'-2⅜"	5'-9⅜"	6'-4⅜"	7'-0⅜"	7'-7⅜"	8'-2⅜"
K	4'-10⅝"	5'-5¾"	6'-0⅝"	6'-8¼"	7'-11¼"	9'-2¼"	10'-5¼"	11'-8¼"	12'-11¼"	14'-3½"	15'-6½"	16'-9½"
N	7'-11½"	8'-9⅞"	9'-7⅞"	10'-6⅞"	12'-4⅞"	14'-2⅞"	16'-0⅞"	17'-10⅞"	19'-8⅞"	21'-9⅛"	23'-7⅛"	25'-5⅛"
W	5'-3¾"	5'-11"	6'-5⅛"	7'-1½"	8'-4½"	9'-7½"	10'-10½"	12'-1½"	13'-4½"	14'-8⅝"	15'-11⅝"	17'-2⅝"
X	3'-10⅛"	4'-4½"	4'-10½"	5'-5"	6'-6"	7'-7"	8'-8"	9'-9"	10'-10"	12'-0"	13'-1"	14'-2"
Y	6'-2⅝"	7'-1⅛"	7'-11"	8'-10⅛"	10'-8⅛"	12'-6⅛"	14'-4⅛"	16'-2⅛"	18'-0⅛"	20'-0¼"	21'-10¼"	23'-8¼"

*This Table of Dimensions is for 2:1 Construction Slope

REVISIONS

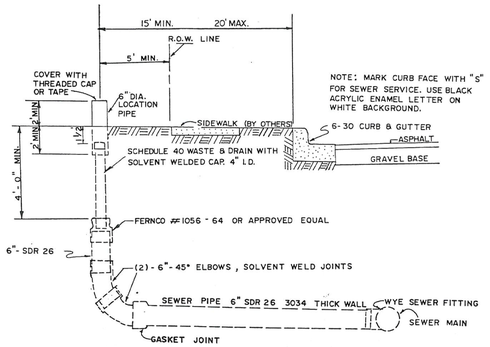
NO.	DATE	BY	REMARKS
1	MAY 21, 1979	J.T.C.	Dimension changes
2	5-30-85	L.R.H.	REMOVED DIV. OF PUBLIC WORKS (T. BLK.)
3	7-22-87	D.H.G.	ADD: 2" CLEAR ; CLASS 'A'
4	2-29-88	D.H.G.	REMOVED DEPARTMENT (T.BLK.)

CITY OF MEMPHIS
DIVISION OF ENGINEERING

DESIGN STANDARD FOR TYPE "D" HEADWALL with WINGWALLS

DEPUTY CITY ENGINEER — DATE

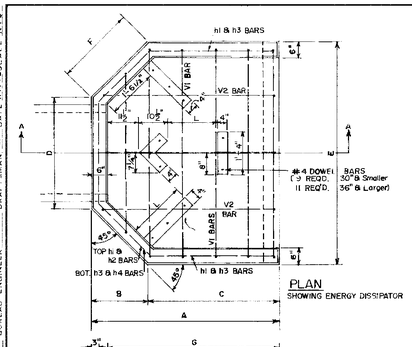
DWG. NO. 62



TYPICAL HOUSE SERVICES

N. T. S.

BUREAU, CIVIL DESIGN — BUREAU ENGINEER — DRAFTSMAN, db — DATE 11/1979 — SCALE N.T.S.



NOTE: USE CLASS 'A' CONC.

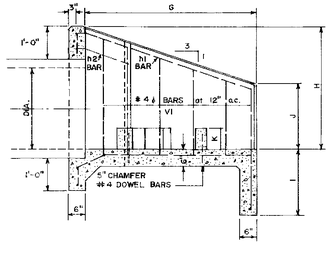
REVISIONS

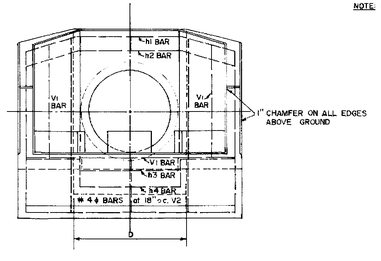
NO.	DATE	BY	REMARKS
1	5-30-85	L.R.H.	REMOVED DIV. OF PUBLIC WORKS (T. BLK.)
2	7-21-87	D.H.G.	ADD: CLASS 'A' CONC.
3	2-29-88	D.H.G.	REMOVED DEPARTMENT (T.BLK.)
4	2-26-02	L.R.H.	ADDED 72" PIPE & NOTE

TABLE OF DIMENSIONS AND DIAMETERS

DIA	15"	18"	21"	24"	30"	36"	42"	48"	54"	60"	72"
A	5'-3⅜	5'-6¾"	5'-6¾"	5'-7½"	5'-9"	7'-4½"	9'-0"	9'-1½"	10'-9"	12'-6"	15'-6"
B	1'-8½"	1'-8½"	1'-8½"	1'-8½"	1'-9"	1'-9"	1'-9"	1'-9"	1'-9"	1'-9"	1'-9"
C	3'-0⅞"	3'-4¼"	3'-10¼"	3'-11"	4'-0"	5'-7½"	7'-3"	7'-4½"	9'-0"	10'-9"	13'-9"
D	2'-0¼"	2'-3½"	2'-6½"	2'-10"	3'-5"	4'-0"	4'-7"	5'-2"	5'-9"	6'-5"	7'-9"
E	5'-5¼"	5'-8½"	5'-11½"	6'-3"	6'-11½"	7'-6"	8'-1"	8'-8"	9'-3"	9'-11"	11'-3"
F	2'-4¼"	2'-4¼"	2'-4¼"	2'-4¼"	2'-4¼"	2'-5⅛"	2'-5⅛"	2'-5⅛"	2'-5⅛"	2'-5⅛"	2'-5¾"
G	4'-9⅜"	5'-0¼"	5'-0¼"	5'-0¼"	5'-1⅞"	5'-3"	6'-10½"	8'-6"	8'-7½"	10'-3"	12'-0"	15'-0"
H	2'-5⅛"	2'-8½"	2'-11½"	3'-2½"	3'-9"	4'-3½"	4'-10"	5'-4½"	5'-11"	6'-6"	7'-6"
I	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	3'-0"	3'-0"	3'-0"	3'-0"	3'-0"	3'-0"
J	0'-10"	1'-0"	1'-3"	1'-6"	2'-0"	2'-0"	2'-0"	2'-6"	2'-6"	2'-6"	2'-6"
K	9"	9"	9"	9"	1'-0"	1'-0"	1'-0"	1'-3"	1'-3"	1'-3"	1'-6"
L	1'-5"	1'-6"	1'-7"	1'-9"	1'-11"	2'-2"	2'-5"	2'-6"	2'-9"	3'-0"	3'-6"

NOTE: FOR 72" HEADWALL ONLY VERTICAL BARS V1 SHOWN IN SECTION A-A AS #4 BARS AT 12" O/C" SHALL BE #5 BARS AT 12" O/C





HIGH VELOCITY OUTLET

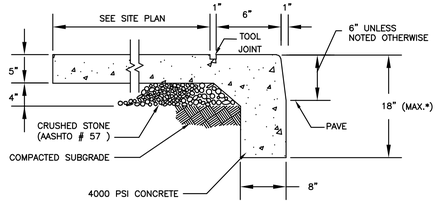
CITY OF MEMPHIS
DIVISION OF ENGINEERING

DESIGN STANDARD FOR TYPE "E" HEADWALL WITH WINGWALLS

PRINCIPAL CIVIL ENGINEER — 12-19-79

DEPUTY DIRECTOR / CIVIL ENGINEER — DATE

DWG. NO. 27



* 18" MAX., 12" MIN., DEPENDING ON CURB REVEAL DIMENSION

INTEGRAL SIDEWALK/CURB DETAIL

JOB 5706

REVISIONS

ITEM NO.	DESCRIPTION OF CHANGE	DATE APPROVED

DAVID GEAN DEAN — REGISTERED ENGINEER — 29075 — AGRICULTURE — COMMISSIONED — STATE OF TENNESSEE — 10/10/2023

DIVISION OF ENGINEERING

SITE DETAILS

BARTLETT, TENNESSEE

SURVEY: TBF DATE: 12-2022 BOOK:_____

DESIGN: TBF DATE: 11-2023 SCALE: NONE

REVIEWED BY

CITY ENGINEER DATE

SHAMALI SUBDIVISION

DEVELOPER: MARWAN AND HANEEN SHAMALI

ENGINEER: THE BRAY FIRM

City of Bartlett, Tennessee
Municipal Planning Commission
Staff Report

Subdivision: Final Plan

Shamali Subdivision

DATE:	December 4, 2023
STAFF:	Kim Taylor, Planning Director; Leslie Brock, Planner; John Horne, Engineering Director; Erin Campbell, Assistant Engineering Director; Max Gomez-Pedro, Land Development Engineer; Trey Arthur, Code Enforcement Director; Matt Crenshaw, Public Works Director; Aaron Davidson, Public Works Assistant Director; Howard McNatt, Fire Marshal; Craig Jones, Deputy Fire Marshal
SUBJECT:	Planning Commission Final Plan Application Review
APPLICANT:	David Bray, The Bray Firm
DEVELOPER:	Marwan Shamali
SITE LOCATION:	7771 Highway 70
SITE ACREAGE:	1.05 acres
ZONING:	"C-H" Highway Business District
LOTS:	2

INTRODUCTION:

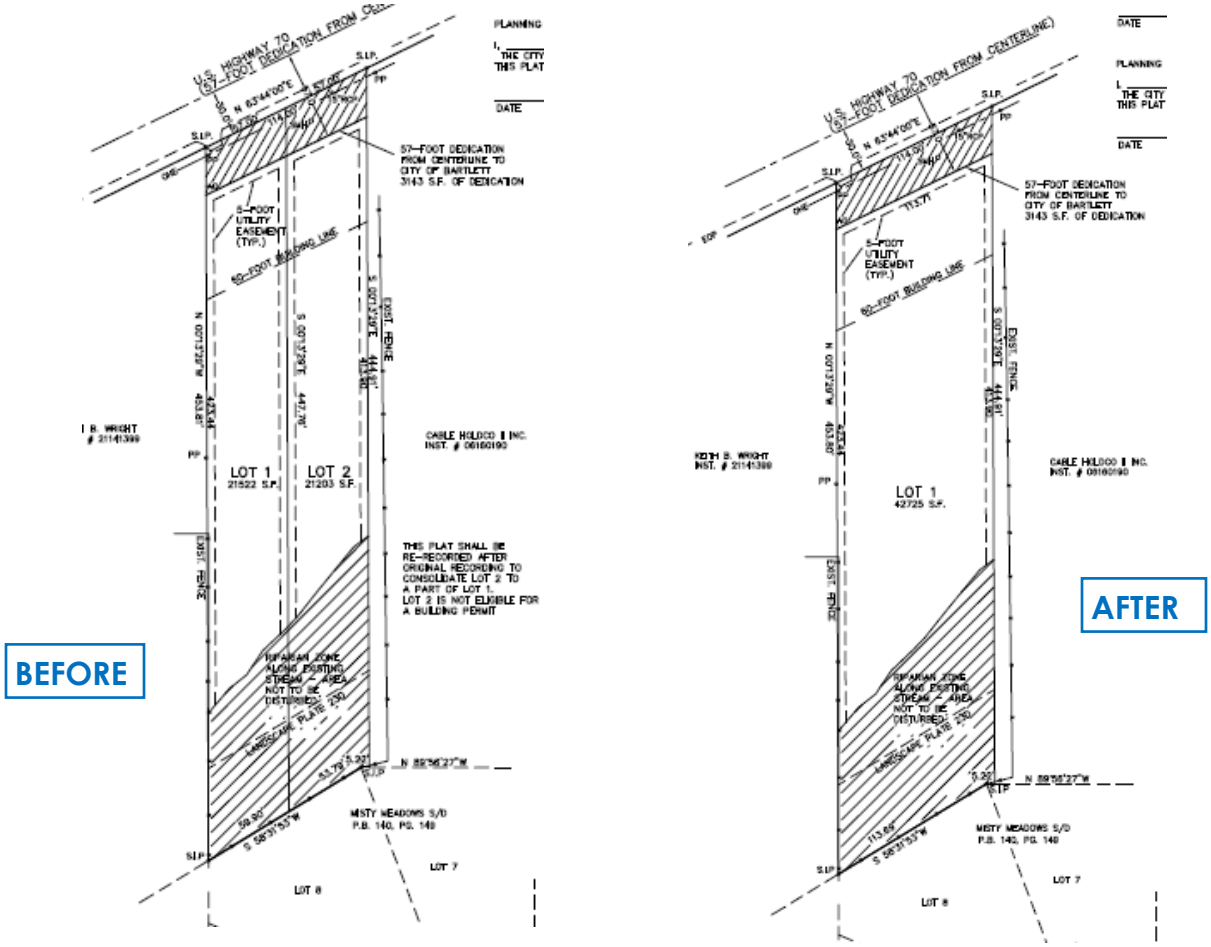
Mr. David Bray with the Bray Firm is requesting Planning Commission approval of a Final Plan for the Shamali Subdivision. The subject property is located at 7771 Highway 70. The property is located within the "C-H" Highway Business District.

BACKGROUND:

On February 16, 2023, the Board of Zoning approved a minimum lot width variance application for the Shamali Subdivision. On April 3, 2023, the Planning Commission approved a Master Plan application for the Shamali Subdivision.

DISCUSSION:

The specific request by the applicant is for the approval of the Final Plan for the Shamali Subdivision. The applicant is proposing to subdivide the existing 1.05 acre subject property into two lots. Lot 1 is proposed to be 23,085 square feet, and Lot 2 is proposed to be 22,783 square feet. Once Lots 1 and 2 are recorded on the plat, the applicant will re-record the plat to combine the lots to create one legal lot of record that is eligible for a building permit. Access to the subdivision will be from a new curb cut on Highway 70.



Recommendation: Approval with conditions.

Engineering Conditions:

General:

1. A Commercial Subdivision Plan contract will be required and will be prepared by Engineering and submitted to the developer/engineer for review to cover the fees to be paid to the City of Bartlett. The Developer's name on the Construction Plans must match the Developer's name on the Bond & Contract.
2. All new utilities shall be underground.
3. All mark-ups and corrections shall be addressed on the revised plans.

Plat:

4. ROW dedication of 57' from the centerline will be required, this shall be called out as "To be dedicated to the City of Bartlett."
5. Any public easements for utilities shall also be shown

Site Plan:

6. Construction plans will be required.
7. Construction of a paved shoulder of an additional 10' wide will be required on HWY 70. This additional asphalt section shall be full depth pavement, consistent with the existing roadway, and must conform to TDOT standards. This shall be added to the construction plans with TDOT approval. This shall be coordinated with TDOT as this is a state route.
8. The driveway on HWY 70 will require a TDOT permit. A construction detail shall be added to the plans.
9. Utility work in HWY 70 will require a TDOT permit.

Sewer Plan:

10. The existing sewer line along HWY 70 shall be shown on the drawings, and the Developer's engineer is responsible for insuring that the sewer is deep enough to provide sewer service for the desired building's location.
11. Since this project is located in the Fletcher Creek Sewer Basin new tap approval is dependent on developer receiving written approval from the City of Memphis for sewer connection. Developer's engineer will be responsible for establishing if an existing tap is in place. If no tap exists then the developers engineer shall work with City of Memphis on holding tank design and approval.

Water Plan:

12. Developer's engineer will be responsible for establishing if an existing tap is in place. If not, a new 2" Water Service will be required. Applicant must request and purchase a Water Meter. The water tap will need to be a reverse tap.

13. An 8" water line is available across the street and/or directly behind the property. It may be necessary to loop these for the required Fire flows. This would require HWY 70 to be bored. In addition, a 12" waterline will need to be installed across the entire frontage on Hwy 70. Certified as-builts will be required on the public water.
14. An additional fire hydrant may be required on site.
15. Fire protection must be approved by the City of Bartlett Fire Marshall.

Grading and Drainage and Detention Plan:

16. Detention will be required.
17. Applicant's engineer shall submit the stamped and signed detention calculations for the proposed detention basin and show the 'pre' and the 'post' runoff for the 2, 5, 10, 25-year storms.
18. A structure table and pipe table must be labeled to show public and private drainage lines.
19. There is an existing blue line stream along the south property line. The storm water ordinance requires a minimum buffer of 30' from the stream in all locations with an overall average of 60'. This stream buffer shall be drawn in and hatched as non-buildable area on both sides of the existing blue line stream.

Erosion Control Plan:

20. The Engineer shall prepare and submit a SWPPP to TDEC with a copy sent to the City of Bartlett Engineering Department.
21. Once TDEC has issued the Notice of Coverage (NOC), a copy shall be sent to the City of Bartlett Engineering Department.
22. Metal posts with wired backed fence are required on the proposed silt fences.

Planning Conditions:

1. The applicant must add Landscape Plate 23D template to the plat along the southern property line that borders Misty Meadows Subdivision.
2. The Site Plan in the packet showing 1 lot is a conceptual plan for the site and cannot be approved by the Planning Commission until the Final Plat is recorded.
3. The commercial property owner will be responsible for landscape maintenance of the entire lot and the fence adjacent to the residential neighbors in perpetuity.
4. The applicant shall be present at the meeting in order to make decisions relative to any changes that may be suggested by the Planning Commission.

Bartlett Planning and Economic Development Department 6382 Stage Road, P.O. Box 341148 Bartlett, TN 38184-1148 901-385-6417 FAX 901-385-6419 www.cityofbartlett.org	***Bartlett Planning Commission*** **Application for Final Subdivision Plan/Plat Approval**

Subdivision Name SHAMALI SUBDIVISION No. of Lots 2* * ONE ULTIMATELY

Subdivision Location 7771 HIGHWAY 70

Owner/Developer Contact MARWAN SHAMALI Phone

Company Name Fax

Address 7899 JILLS CREEK BARTLETT, TN 38133

Email Address

Architect Contact Phone

Company Name Fax

Address

Email Address

Engineer Contact DAVID BRAY Phone 901.383.8668

Company Name THE BRAY FIRM Fax

Address 2950 STAGE PLAZA NORTH

Email Address dybray@comcast.net

Submitted by DAVID BRAY (signature) 11.06.23
(printed name) **(date)**

Email Address dybray@comcast.net **Phone** 901.383.8668 **Fax**

DYB Acknowledge (by initials in the blank to the left) that the "**Application Instructions: Planning Commission**" were obtained and read prior to submitting this application.

DYB The "**Final Subdivision Plan Checklist**"has been completed and required all items have been provided. (See reverse page/or attached checklist)

DYB Provide 18-folded (± 10"x13") sets of plans with a copy of the signed application attached to each set.

DYB Provide an electronic PDF file of the plans. Note that an updated electronic file is required when plans are revised.

DYB Include a fee of $500.00 plus $20.00 per lot with this application (check payable to the City of Bartlett). **The fee is not refundable.**

I, the property owner(s) hereby authorize the filing of this application.

MARWAN SHAMALI
(print name)

(signature) **(date)**

Bartlett Planning and Economic Development Department
6382 Stage Road, P.O. Box 341148
Bartlett, TN 38184-1148
901-385-6417 FAX 901-385-6419
www.cityofbartlett.org

Final Subdivision Plan/Plat Checklist

The applicant shall either indicate that the following items have been completed by a check (√) or that they are not applicable (n/a).

- ✓ Drawn in ink on 20" x 24" mylar, at a scale of 1" = 100'.
- ✓ Bearing and length of every street line, lot line, boundary line, block line and building line whether curved or straight.
- ✓ Subdivision name and location
- ✓ Location sketch map
- ✓ Date
- ✓ "Grid" or "true" north point
- ✓ Name of adjoining landowers, developments
- ✓ Written boundary survey
- ✓ Location and description of a clearly identified and verifiable point of beginning for the survey
- ✓ Buildings setback lines
- ✓ Reservations for all easements
- ✓ Areas dedicated for public use
- ✓ Areas of non-residental use
- ✓ Areas of flood hazard
- ✓ Lots numbered in numerical order
- ✓ Landscaped buffer strips
- ✓ Street names
- ✓ Restrictive covenants

The following, with dimensions to nearest one hundredth (1/100th) of a foot and angles or true or grid bearings to the nearest twenty seconds of arc (20"):

- ✓ Lot lines
- ✓ Street & road lines
- ✓ Alley lines

The following completed certificates where applicable:

- ✓ Owner
- ✓ Surveyor or Engineer
- ✓ Storm drainage
- ✓ Board of Mayor and Aldermen
- ✓ Planning Commission
- ✓ Mortgagee

In addition to the Final Plan drawing, the following shall be provided:

- ✓ One PDF file of the pictorial portion of the Final Plan, for display at the Planning Commission meeting.

INCOMPLETE APPLICATIONS WILL NOT BE PROCESSED

CERTIFICATE OF SURVEY:

I, TIMOTHY A. SULLIVAN, DO HEREBY CERTIFY THAT I AM A REGISTERED LAND SURVEYOR, AND I HAVE SURVEYED THE LANDS EMBRACED WITHIN THE PLAT DESIGNATED AS SHAMALI SUBDIVISION. A SUBDIVISION ALL LYING WITHIN THE CORPORATE LIMITS OF THE CITY OF BARTLETT, TENNESSEE, THAT SAID PLAT IS A TRUE AND CORRECT PLAT OF THE LANDS EMBRACED THEREIN, SHOWING THE SUBDIVISION THEREOF IN ACCORDANCE WITH THE SUBDIVISION REGULATIONS OF THE CITY OF BARTLETT, TENNESSEE. I FURTHER CERTIFY THAT THE SURVEY OF THE LANDS EMBRACED WITHIN SAID PLAT HAS BEEN CORRECTLY MONUMENTED IN ACCORDANCE WITH THE SUBDIVISION REGULATIONS OF THE CITY OF BARTLETT, TENNESSEE.

IN WITNESS WHEREOF, I , THE SAID TIMOTHY A. SULLIVAN, SURVEYOR, HEREUNTO SET OUT HAND AND AFFIX MY SEAL THIS 6TH DAY OF NOVEMBER, 2023. Timothy A. Sullivan, R.L.S.

LAND SURVEYOR
STATE OF TENNESSEE CERTIFICATE NO. 2160

TIMOTHY A. SULLIVAN — 2160 — REGISTERED LAND SURVEYOR — STATE OF TENNESSEE NO. 2160 — 11/06/2023

CERTIFICATE OF ADEQUACY OF STORM DRAINAGE

I, DAVID GEAN BRAY, HEREBY CERTIFY THAT I AM A REGISTERED PROFESSIONAL CIVIL ENGINEER, AND THAT I HAVE DESIGNED ALL STORM WATER DRAINAGE FOR SHAMALI SUBDIVISION TO ASSURE THAT NEITHER SAID SUBDIVISION NOR ADJOINING PROPERTY WILL BE DAMAGED BY THE CHARACTER OF LAND USE BE AFFECTED BY THE VELOCITY AND VOLUME OF WATER ENTERING OR

IN WITNESS WHEREOF, I, THE SAID PROFESSIONAL CIVIL ENGINEER HERETO SET OUT HAND AND AFFIX MY SEAL THIS 2ND DAY OF NOVEMBER, 2023

PROFESSIONAL CIVIL ENGINEER David Gean Bray P.E. 11/02/2023
STATE OF TENNESSEE CERTIFICATE NO. 001100701

DAVID GEAN BRAY, P.E. — LICENSED PROFESSIONAL ENGINEER — AGRICULTURE — No. 001100701 — STATE OF TENNESSEE

BOARD OF MAYOR AND ALDERMAN CERTIFICATE;

I, _____ HEREBY CERTIFY THAT ALL REQUIRED IMPROVEMENTS HAVE BEEN INSTALLED OR THAT A PERFORMANCE BOND OR OTHER COLLATERAL IN SUFFICIENT AMOUNT TO ASSURE COMPLETION OF ALL REQUIRED IMPROVEMENTS HAS BEEN POSTED FOR THE SUBDIVISION SHOWN ON THIS PLAT AND ARE HEREBY APPROVED BY THE CITY OF BARTLETT, TENNESSEE.

_____ DATE

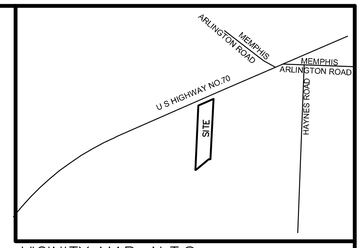
_____ MAYOR, CITY OF BARTLETT

PLANNING COMMISSION CERTIFICATE

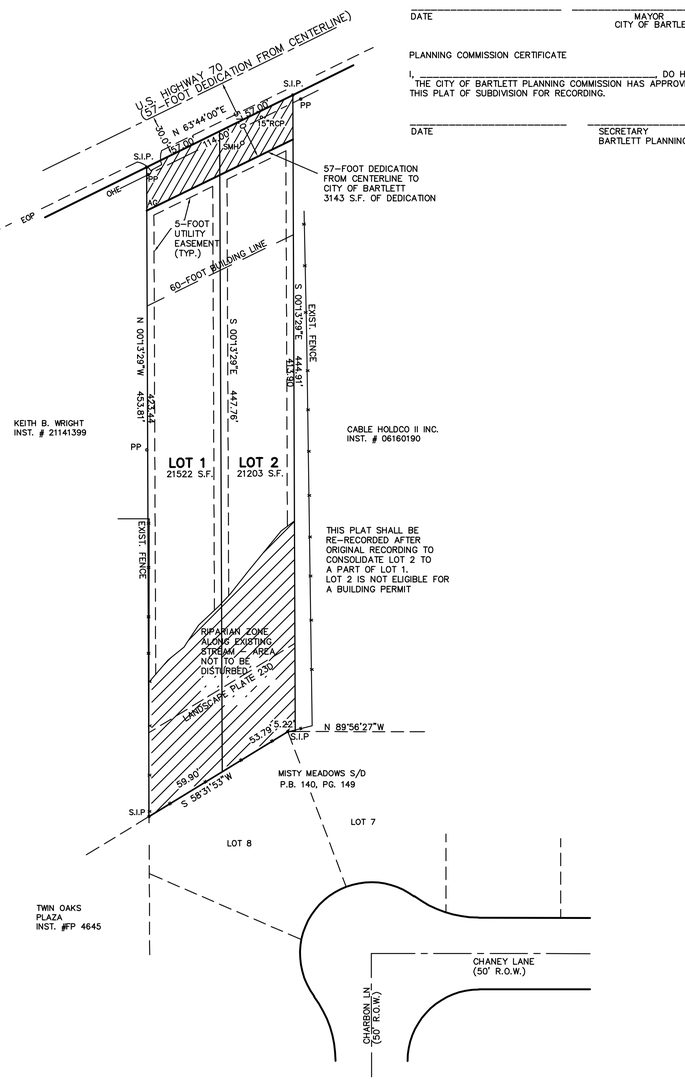
I, _____ DO HEREBY CERTIFY THAT THE CITY OF BARTLETT PLANNING COMMISSION HAS APPROVED THIS PLAT OF SUBDIVISION FOR RECORDING.

_____ DATE

_____ SECRETARY, BARTLETT PLANNING COMMISSION

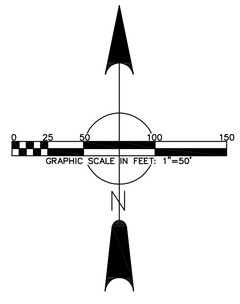


VICINITY MAP, N.T.S.



NOTES :

1. SETBACKS
   A. MIN. FRONT– 60 FEET
   B. MIN SIDE YARD– NONE
   C. MIN. REAR– 20 FEET
2. THIS PROPERTY IS NOT LOCATED IN A SPECIAL FLOOD HAZARD AREA PER FEMA FLOOD MAP #47157C0270F SEPTEMBER 28, 2007.
3. IF SETTLEMENT OCCURS ALONG ANY OF THE THE PUBLIC EASEMENTS WITHIN THE PRIVATE PROPERTY, THE OWNER SHALL BE RESPONSIBLE FOR ALL REPAIRS. IN THE EVENT THAT "PUBLIC WORKS" HAS TO EXCAVATE TO REPAIR A LEAK IN A PUBLIC LINE, "PUBLIC WORKS" SHALL BE RESPONSIBLE FOR EXCAVATION, BACKFILL, COMPACTION AND BRINGING THE AFFECTED AREA UP TO GRADE WITH APPROPRIATE SUB–BASE MATERIAL, BUT THE OWNER SHALL BE RESPONSIBLE FOR ALL FINISH WORK INCLUDING, BUT NOT LIMITED TO ASPHALT, CONCRETE AND LANDSCAPING.
4. DRIVEWAYS AND OTHER PERMANENT STRUCTURES/IMPROVEMENTS SHALL NOT BE PLACED IN SEWER, WATER, OR DRAINAGE EASEMENTS OR OVER SEWER AND WATER SERVICES LOCATED ON PRIVATE PROPERTY.
5. THE CITY SHALL HAVE INGRESS/ EGRESS RIGHTS TO USE PRIVATE DRIVES AND YARDS FOR THE PURPOSE OF MAINTAINING ALL PUBLIC UTILITIES AND SHALL BEAR NO RESPONSIBILITY FOR THE MAINTENANCE OF SAID DRIVES AND YARDS.
6. ALL NEW UTILITIES SHALL BE UNDERGROUND.



OWNER'S CERTIFICATE:

I, _____, OWNER OF THE PROPERTY SHOWN HEREON, HEREBY ADOPT THIS PLAT AS MY PLAN OF SUBDIVISION, AND DEDICATE THE STREETS, RIGHTS–OF–WAYS, EASEMENTS, AND RIGHTS OF ACCESS AS SHOWN AND /OR DESCRIBED TO THE PUBLIC USE FOREVER, AND HEREBY CERTIFY THAT I AM THE OWNER IN FEE SIMPLE, DULY AUTHORIZED TO ACT AND THAT SAID PROPERTY IS UNENCUMBERED BY ANY TAXES WHICH HAVE BECOME DUE AND PAYABLE.

_____ MARWAN AND HANEEN SHAMALI

_____ DATE

STATE OF TENNESSEE
COUNTY OF SHELBY

BEFORE ME, THE UNDERSIGNED, A NOTARY PUBLIC, IN AND FOR SAID STATE AND COUNTY AT MEMPHIS, DULY COMMISSIONED AND QUALIFIED, PERSONALLY APPEARED _____ WITH WHOM I AM PERSONALLY ACQUAINTED AND WHO UPON OATH ACKNOWLEDGED THAT HE EXECUTED THE FOREGOING INSTRUMENT FOR THE PURPOSES THEREIN CONTAINED AS HIS OWN FREE ACT AND DEED.

WITNESS MY HAND AND NOTARIAL SEAL, THIS _____DAY OF _____,2023.

MY COMMISSION EXPIRES_____

_____NOTARY PUBLIC

SHEET 1 OF 1
FINAL PLAT

SHAMALI SUBDIVISION

BARTLETT, TENNESSEE

MARWAN AND HANEEN SHAMALI
7899 JILLS CREEK DRIVE
BARTLETT, TENNESSEE 38133
OWNER/DEVELOPER

THE BRAY FIRM
2950 STAGE PLAZA NORTH
BARTLETT, TN 38134
901–383–8668
ENGINEER

DATE: NOVEMBER 2023 SCALE: 1"=50' LOTS: 2 1.05 ACRES ZONED: C–H

CERTIFICATE OF SURVEY:

I, TIMOTHY A. SULLIVAN, DO HEREBY CERTIFY THAT I AM A REGISTERED LAND SURVEYOR, AND I HAVE SURVEYED THE LANDS EMBRACED WITHIN THE PLAT DESIGNATED AS SHAMALI SUBDIVISION. A SUBDIVISION ALL LYING WITHIN THE CORPORATE LIMITS OF THE CITY OF BARTLETT, TENNESSEE, THAT SAID PLAT IS A TRUE AND CORRECT PLAT OF THE LANDS EMBRACED THEREIN, SHOWING THE SUBDIVISION THEREOF IN ACCORDANCE WITH THE SUBDIVISION REGULATIONS OF THE CITY OF BARTLETT, TENNESSEE. I FURTHER CERTIFY THAT THE SURVEY OF THE LANDS EMBRACED WITHIN SAID PLAT HAS BEEN CORRECTLY MONUMENTED IN ACCORDANCE WITH THE SUBDIVISION REGULATIONS OF THE CITY OF BARTLETT, TENNESSEE.

IN WITNESS WHEREOF, I , THE SAID TIMOTHY A. SULLIVAN, SURVEYOR, HEREUNTO SET OUT HAND AND AFFIX MY SEAL THIS 30TH DAY OF NOVEMBER, 2023. Timothy A. Sullivan, R.L.S.

LAND SURVEYOR
STATE OF TENNESSEE CERTIFICATE NO. 2160 DATE 12.2.2023

CERTIFICATE OF ADEQUACY OF STORM DRAINAGE

I, DAVID GEAN BRAY, HEREBY CERTIFY THAT I AM A REGISTERED PROFESSIONAL CIVIL ENGINEER, AND THAT I HAVE DESIGNED ALL STORM WATER DRAINAGE FOR SHAMALI SUBDIVISION TO ASSURE THAT NEITHER SAID SUBDIVISION NOR ADJOINING PROPERTY WILL BE DAMAGED OR THE CHARACTER OF LAND USE BE AFFECTED BY THE VELOCITY AND VOLUME OF WATER ENTERING OR

IN WITNESS WHEREOF, I, THE SAID PROFESSIONAL CIVIL ENGINEER HERETO SET OUT HAND AND AFFIX MY SEAL THIS 2ND DAY OF NOVEMBER, 2023.

PROFESSIONAL CIVIL ENGINEER David Gean Bray P.E.
STATE OF TENNESSEE CERTIFICATE NO. 001129 DATE 12.2.2023

BOARD OF MAYOR AND ALDERMAN CERTIFICATE;

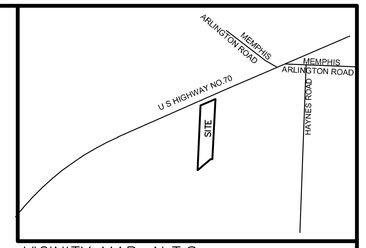
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_____ _____
DATE MAYOR
CITY OF BARTLETT

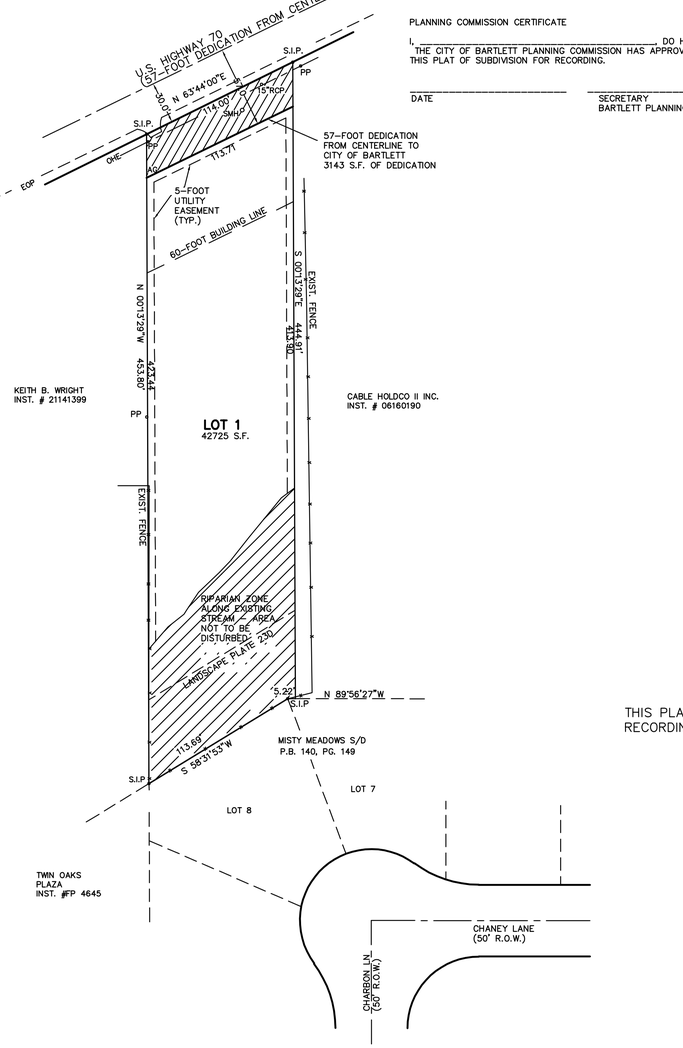
PLANNING COMMISSION CERTIFICATE

I, _____, DO HEREBY CERTIFY THAT THE CITY OF BARTLETT PLANNING COMMISSION HAS APPROVED THIS PLAT OF SUBDIVISION FOR RECORDING.

_____ _____
DATE SECRETARY
BARTLETT PLANNING COMMISSION



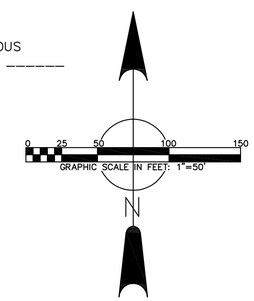
VICINITY MAP, N.T.S.



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5. THE CITY SHALL HAVE INGRESS/ EGRESS RIGHTS TO USE PRIVATE DRIVES AND YARDS FOR THE PURPOSE OF MAINTAINING ALL PUBLIC UTILITIES AND SHALL BEAR NO RESPONSIBILITY FOR THE MAINTENANCE OF SAID DRIVES AND YARDS.
6. ALL NEW UTILITIES SHALL BE UNDERGROUND.

THIS PLAT REPLACES THE PREVIOUS RECORDING AT P.B. _____, PG. _____



OWNER'S CERTIFICATE:

I, _____,OWNER OF THE PROPERTY SHOWN HEREON, HEREBY ADOPT THIS PLAT AS MY PLAN OF SUBDIVISION, AND DEDICATE THE STREETS, RIGHTS-OF-WAYS, EASEMENTS, AND RIGHTS OF ACCESS AS SHOWN AND /OR DESCRIBED TO THE PUBLIC USE FOREVER, AND HEREBY CERTIFY THAT I AM THE OWNER IN FEE SIMPLE, DULY AUTHORIZED TO ACT AND THAT SAID PROPERTY IS UNENCUMBERED BY ANY TAXES WHICH HAVE BECOME DUE AND PAYABLE.

_____ _____
MARWAN AND HANEEN SHAMALI DATE

STATE OF TENNESSEE
COUNTY OF SHELBY

BEFORE ME, THE UNDERSIGNED, A NOTARY PUBLIC, IN AND FOR SAID STATE AND COUNTY AT MEMPHIS, DULY COMMISSIONED AND QUALIFIED, PERSONALLY APPEARED _____ WITH WHOM I AM PERSONALLY ACQUAINTED AND WHO UPON OATH ACKNOWLEDGED THAT HE EXECUTED THE FOREGOING INSTRUMENT FOR THE PURPOSES THEREIN CONTAINED AS HIS OWN FREE ACT AND DEED.

WITNESS MY HAND AND NOTARIAL SEAL, THIS _____DAY OF _____,2023.

MY COMMISSION EXPIRES_____

_____NOTARY PUBLIC

SHEET 1 OF 1
FINAL PLAT

SHAMALI SUBDIVISION

BARTLETT, TENNESSEE

MARWAN AND HANEEN SHAMALI
7899 JILLS CREEK DRIVE
BARLETT, TENNESSEE 38133
OWNER/DEVELOPER

THE BRAY FIRM
2950 STAGE PLAZA NORTH
BARTLETT, TN 38134
901-383-8668
ENGINEER

DATE: NOVEMBER 2023 SCALE: 1"=50' LOTS: 1 1.05 ACRES ZONED: C-H

City of Bartlett, Tennessee
Municipal Planning Commission
Staff Report

Subdivision: Final Plan

Croy Subdivision

DATE:	December 4, 2023
STAFF:	Kim Taylor, Planning Director; Leslie Brock, Planner; John Horne, Engineering Director; Erin Campbell, Assistant Engineering Director; Max Gomez-Pedro, Land Development Engineer; Trey Arthur, Code Enforcement Director; Matt Crenshaw, Public Works Director; Aaron Davidson, Public Works Assistant Director; Howard McNatt, Fire Marshal; Craig Jones, Deputy Fire Marshal
SUBJECT:	Planning Commission Final Plan Application Review
APPLICANT:	Tim McCaskill, The Reaves Firm
DEVELOPER:	William E. Croy
SITE LOCATION:	7410 Shadowlawn Road
SITE ACREAGE:	10.22
ZONING:	"RS-15" Single Family Residential District
LOTS:	2

INTRODUCTION:

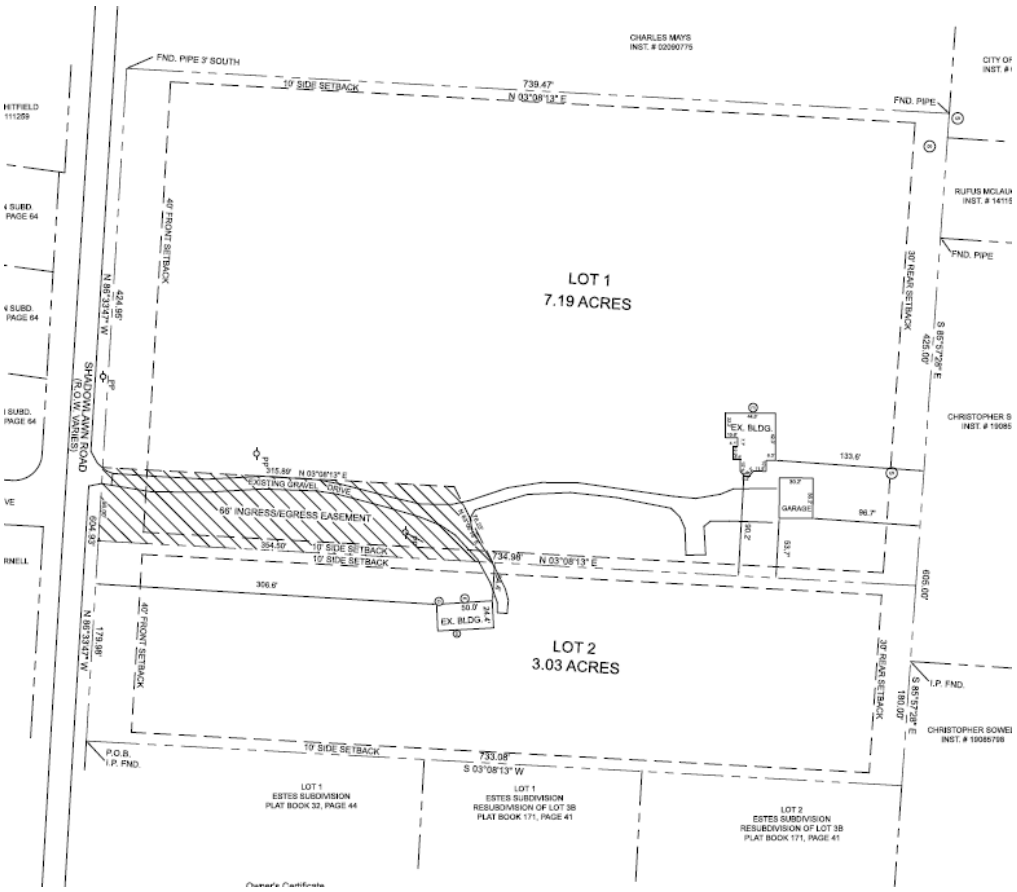
Mr. Tim McCaskill with The Reaves Firm is requesting Planning Commission approval of a Final Plan for the Croy Subdivision. The subject property is located at 7410 Shadowlawn Road. It is within the "RS-15" Single Family Residential Zoning District.

BACKGROUND:

The subject property was created by deed prior to October 20, 1928, Plat Book 1232, Page 93.

DISCUSSION:

The specific request by the applicant is for the approval of a Final Plan to subdivide the 10.22 acre lot into a two lot residential subdivision. Lot 1 will be 7.19 acres, and Lot 2 will be 3.03 acres. Both lots will have an 86 foot shared ingress/egress from Shadowlawn Road. These lots will not be combined to form one lot but shall remain 2 lots with a house on each.



Recommendation: Approval with conditions.

Engineering Conditions:

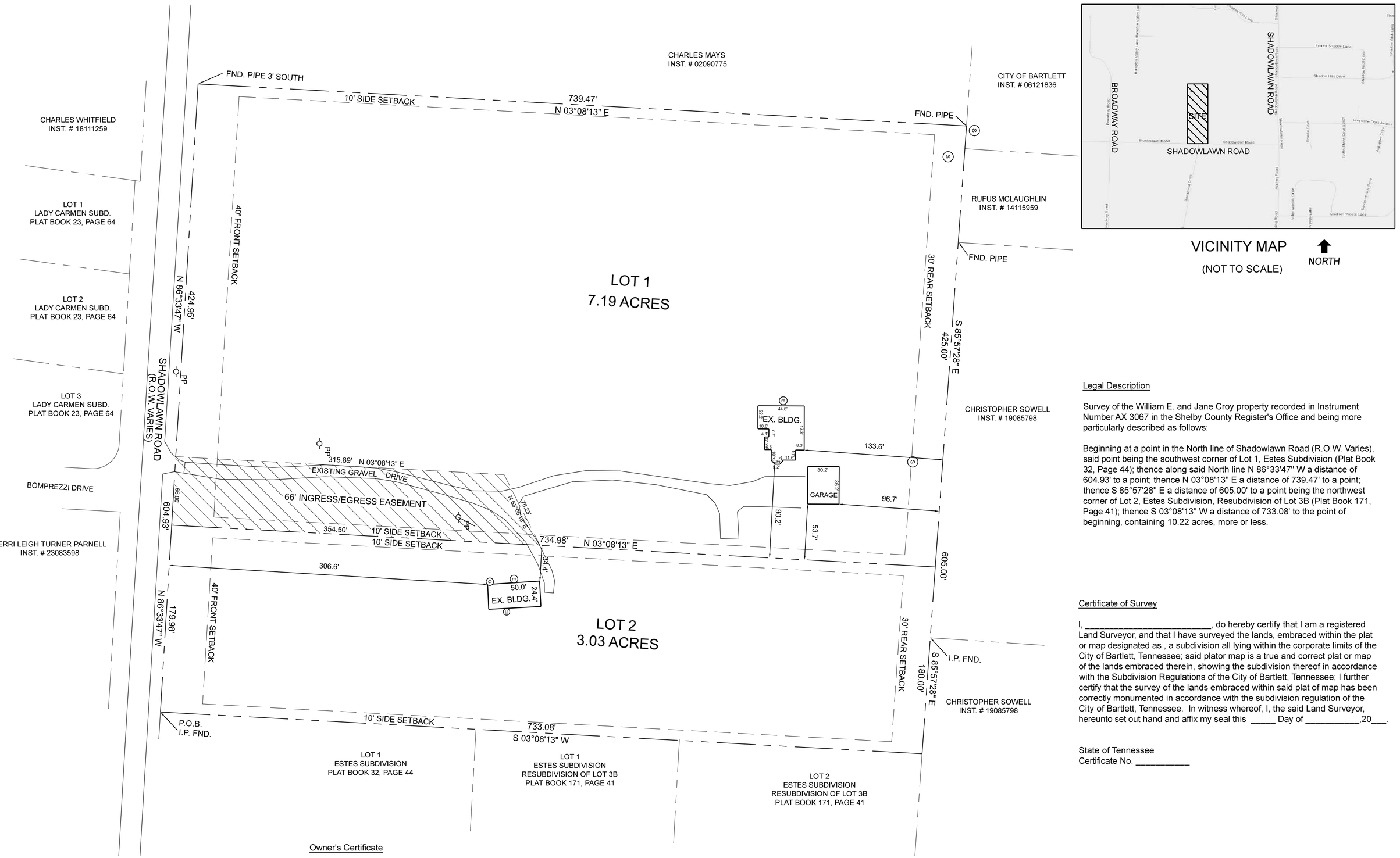
General:

1. A Residential Site Plan contract may be required and will be prepared by Engineering and submitted to the developer/engineer for review to cover the fees to be paid to the City of Bartlett.

2. Applicant/ Engineer shall provide a **digital set of drawing** files showing the sanitary sewer lines, drainage lines, lot lines and all improvements in AutoCAD format to dhubbard@cityofbartlett.org and ecampbell@cityofbartlett.org for use in the preparation of the Water Design Plan. This plan will be coordinated with the site design engineer to resolve any conflicts.
3. A SWPPP and a TDEC permit may be required and shall be submitted to TDEC and also to the City of Bartlett Engineering office.
4. All new utilities shall be underground.
5. Sewer easement on Lot 1 should be shown.
6. Each lot must have a separate sewer tap.
7. Each lot must have a separate water tap and meter.
8. Maintenance for ingress/egress easement shall be recorded on plat.
9. Grading plan for lot 2 shall be submitted with building plans.
10. ROW dedication should be shown clearly and called out as "Dedicated to the City." The dedication required is 25 feet from the centerline of the roadway. The linear dimensions shall be shown on the plan.
11. Blue line stream on the west of the property will require a 90' buffer. The portion of this buffer that is on Lot 1 shall be hatched and called out as non-buildable.

Planning Conditions:

1. The applicant shall be present at the meeting in order to make decisions relative to any changes that may be suggested by the Planning Commission.



VICINITY MAP

(NOT TO SCALE)

NORTH

Legal Description

Survey of the William E. and Jane Croy property recorded in Instrument Number AX 3067 in the Shelby County Register's Office and being more particularly described as follows:

Beginning at a point in the North line of Shadowlawn Road (R.O.W. Varies), said point being the southwest corner of Lot 1, Estes Subdivision (Plat Book 32, Page 44); thence along said North line N 86°33'47" W a distance of 604.93' to a point; thence N 03°08'13" E a distance of 739.47' to a point; thence S 85°57'28" E a distance of 605.00' to a point being the northwest corner of Lot 2, Estes Subdivision, Resubdivision of Lot 3B (Plat Book 171, Page 41); thence S 03°08'13" W a distance of 733.08' to the point of beginning, containing 10.22 acres, more or less.

Certificate of Survey

I, _____, do hereby certify that I am a registered Land Surveyor, and that I have surveyed the lands, embraced within the plat or map designated as , a subdivision all lying within the corporate limits of the City of Bartlett, Tennessee; said plator map is a true and correct plat or map of the lands embraced therein, showing the subdivision thereof in accordance with the Subdivision Regulations of the City of Bartlett, Tennessee; I further certify that the survey of the lands embraced within said plat of map has been correctly monumented in accordance with the subdivision regulation of the City of Bartlett, Tennessee. In witness whereof, I, the said Land Surveyor, hereunto set out hand and affix my seal this _____ Day of _____,20___.

State of Tennessee
Certificate No. _____

Planning Commission Certificate

I, _____, do hereby certify that the City of Bartlett Planning Commission has approved this plat of subdivision for recording.

_____ _____
Date Secretary, Bartlett Planning Commission
(Director of Planning)

Board of Mayor and Aldermen Certificate

I, _____ , do hereby certify that all required improvements have been installed or that a performance bond or other collateral in sufficient amount to assure completion of all required improvements has been posted for the subdivision shown on this plat and are hereby approved by the City of Bartlett, Tennessee.

_____ _____
Date Mayor, City of Bartlett

Owner's Certificate

I, _____ , the undersigned owner of the property shown hereon, hereby adopt this as my plan of subdivision and dedicate the streets as shown to the public use forever, and hereby certify that I am the owner in fee simple, duly authorized so to act, and that said property is unencumbered by any taxes that have become due and payable.

_____
Owner

Notary's Certificate

State of _____
County of _____

Before me, the undersigned, a Notary Public in and for the said State and County at Memphis, duly commissioned and qualified, personally appeared Virginia Burns, with whom I am personally acquainted, and who upon her oath acknowledged herself to be the _____ of , the within named bargainer, and that she executed the foregoing instrument for the purpose therein contained.

In witness whereof, I have hereunto set my hand and affixed my notarial seal at my office this _____ day of _____, 20_____.

Notary Public _____.

My Commission Expires _____.

60 0 60

GRAPHIC SCALE IN FEET

SCALE: 1"=60'

The Reaves Firm
INCORPORATED
Engineering
Planning
Landscape Architecture
Land Surveying
6800 Poplar Avenue, Suite 101 Memphis, TN 38138
901.761.2016 Fax: 901.763.2847
www.ReavesFirm.com

JOB # 23-0217

CROY SUBDIVISION
7410 SHADOWLAWN ROAD

BARTLETT, TENNESSEE

NUMBER OF LOTS: 2	ACREAGE: 10.22 ACRES	PARCEL NO: B0149 00225

OWNER: WILLIAM E. CROY 7410 SHADOWLAWN ROAD BARTLETT, TENNESSEE	ENGINEER: REAVES FIRM, INC. 6800 POPLAR AVE., SUITE 101 MEMPHIS, TN 38138

FEMA MAP PANEL No. 47157C0190G & 47157C0302G		FEMA MAP DATE: 2/13/2013
DATE: NOVEMBER, 2023	SCALE: 1" = 60'	SHEET 1 OF 1

City of Bartlett, Tennessee
Municipal Planning Commission
Staff Report

Site Plan

Dunkin Donuts

DATE:	December 4, 2023
STAFF:	Kim Taylor, Planning Director; Leslie Brock, Planner; John Horne, Engineering Director; Erin Campbell, Assistant Engineering Director; Max Gomez-Pedro, Land Development Engineer; Trey Arthur, Code Enforcement Director; Matt Crenshaw, Public Works Director; Aaron Davidson, Public Works Assistant Director; Howard McNatt, Fire Marshal; Craig Jones, Deputy Fire Marshal
SUBJECT:	Planning Commission Site Plan Application Review
APPLICANT:	John Granberry, Granberry and Associates, LLC
DEVELOPER:	James Laskaris, Bartlett Donuts Holdings, LLC
SITE LOCATION:	North of the Intersection of Highway 70 & Appling Road
SITE ACREAGE:	.66 acres
ZONING:	"C-H" Highway Business District
LOTS:	1

INTRODUCTION:

Mr. John Granberry with Granberry and Associates, LLC is requesting Planning Commission approval of a Site Plan for a new Duncan Donuts. The subject property is located north of the intersection of Highway 70 and Appling Road on Lot 3 of the Corner Shoppes of Highway 70 Subdivision. The property is located within the "C-H" Highway Business Zoning District.

BACKGROUND:

May 5, 2014, the Planning Commission approved the Final Plan for the re-subdivision of Lot 2 of the Corner Shops of Highway 70 commercial subdivision creating Lot 3. Lots 1 & 2 of the subdivision has been developed and currently houses a restaurant and a dollar store.

DISCUSSION:

The specific request by the applicant for the Planning Commission is for the approval of a Site Plan to construct a 1,100 square foot drive-thru restaurant and parking lot on .66 acres. The restaurant will have a 450 square foot covered patio for outdoor seating. Access to the site will be from Highway 70. Other features of the development include a 20-foot streetscape buffer, 20-foot commercial landscape buffer, and a 22-foot shared ingress/egress easement on the south side of the property. The specifics of the site plan are as follows:

Site Data	
Site Area:	0.66 acres/28,540 square feet
Total Required Parking Spaces:	15
Total Proposed Parking Spaces:	15
Handicap Accessible:	1 van accessible
Regular:	14
Proposed Building Area:	1,100 square feet
Greenspace/Open space:	34.75%
Building Height:	<20.00 feet

Recommendation: Approval with conditions.



Engineering Conditions:

General:

1. A Commercial Site Plan contract may be required and will be prepared by Engineering and submitted to the developer/engineer for review to cover the fees to be paid to the City of Bartlett.
2. Applicant/ Engineer shall provide a **digital set of drawing files** showing the sanitary sewer lines, drainage lines, lot lines and all improvements in AutoCAD format to dhubbard@cityofbartlett.org and ecampbell@cityofbartlett.org for use in the preparation of the Water Design Plan. This plan will be coordinated with the site design engineer to resolve any conflicts.
3. A SWPPP and a TDEC permit may be required and shall be submitted to TDEC and also to the City of Bartlett Engineering office.
4. All new utilities shall be underground.
5. Fire protection must be approved by the City of Bartlett Fire Marshall.
6. Correct all markups.

Plan:

7. This site is Lot 3 of the recorded subdivision for Corner Shops of Highway 70 and has a platted ingress/egress easement with driveway location shown. This plan shows the driveway connection in an alternate location, this will require TDOT approval.
8. If alternate driveway location is acceptable, the ingress/egress easement will need to be abandoned and rerecorded in the new location. This will require a new easement document, which all property owners will need to sign.
9. The driveway on HWY 70 will require a TDOT permit, a construction detail shall be added to the plans.

Utility Plan:

10. If any sewer cleanout is located in a paved area, then it shall comply with the detail approved by Bartlett Codes which involves a brass connections and a concrete collar.
11. This project is located in the Fletcher Creek Sewer Basin but has an approved recorded sewer tap.
12. An additional water tap will need to be installed off the main in Highway 70, commercial irrigation required a dedicated tap and meter.
13. Water meters shall be located to just outside of the ROW.
14. Utility work in HWY70 will require a TDOT permit.

Erosion Control Plan:

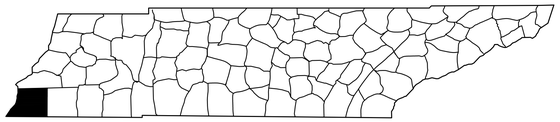
15. During construction, extra care will be needed to ensure that silt is not tracked out onto US HWY 70.

Planning Conditions:

1. Applicant shall include Greenspace/Open Space percentage in the site data table. Applicant is aware Greenspace/Open Space should be 35% or more and is revising the Site and Landscape Plans. They will be removing the parking stall closest to the dumpster to add more landscaping.
2. Irrigation and maintenance is required for all planting on the landscape plan.
3. The commercial property owner will be responsible for landscape maintenance of the entire lot and the fence adjacent to the residential neighbors in perpetuity.
4. Should the proposed site plan be approved by the Planning Commission, the applicant shall seek site approval from the Design Review Commission for landscaping, lighting, signage and exterior elevations, colors, and materials.
5. The owner/applicant shall identify all utilities on site by contacting Tennessee One Call at 811 before commencing any site work.
6. The owner/applicant shall be present at the meeting in order to make decisions relative to any changes that may be suggested by the Planning Commission.

CONSTRUCTION PLANS FOR:

DUNKIN' DONUTS
SITE PLAN
BARTLETT, TENNESSEE



SHELBY COUNTY, TENNESSEE

LOCATION MAP

DEVELOPER:

BARTLETT DONUT HOLDINGS, LLC
1050 CAMBRIDGE SQ. STE A
ALPHARETTA, GA 30009
JAMES LASKARIS

ENGINEER:

GRANBERRY & ASSOCIATES, LLC
1685 YORK AVENUE
MEMPHIS, TN 38104

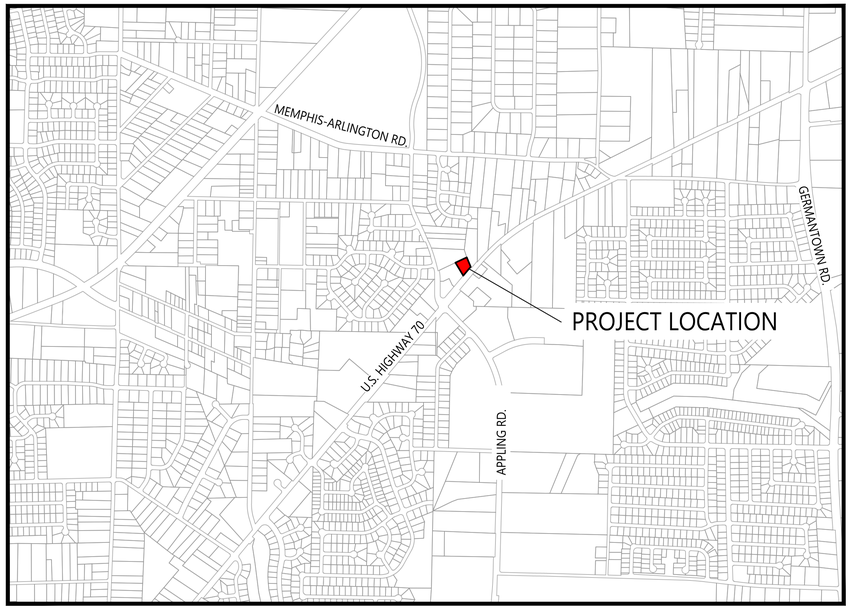
GRANBERRY & ASSOCIATES
CIVIL ENGINEERING FIRM

RENAISSANCE DESIGN STUDIO, LLC
3157 HIGHWAY 64, SUITE 200
EADS, TN 38028

RDS
Engineering | Planning | Surveying

SURVEYOR:

HARRIS & ASSOCIATES LAND SURVEYORS, LLC
554 GREEN TREE COVE, SUITE 102B
COLLIERVILLE, TN 38017



VICINITY MAP
SCALE: 1' = 1000'

Sheet List Index

Sheet Title	Sheet Number
COVER SHEET	0
GENERAL NOTES	1
EXISTING CONDITIONS	2
SITE PLAN	3
GRADING & DRAINAGE	4
SPOT ELEVATIONS	5
EROSION CONTROL PLAN	6
TREE PROTECTION PLAN	7
UTILITY PLAN	8
SITE DETAILS	9
UTILITY DETAILS	10
EPSC DETAILS	11
LANDSCAPE PLAN	12
LANDSCAPE DETAILS	13
IRRIGATION PLAN	14
IRRIGATION DETAILS	15

PRELIMINARY
NOT FOR
CONSTRUCTION

CITY ENGINEER APPROVAL: _____ DATE: _____

GENERAL NOTES:

1. THE CONTRACTOR SHALL VERIFY EXISTING DATA AND REPORT ANY SIGNIFICANT DISCREPANCIES TO THE ENGINEER. THE CONTRACTOR SHALL VERIFY ALL PROPOSED DRAINAGE AND SANITARY SEWER ELEVATIONS PRIOR TO CONSTRUCTION AND REPORT ANY DISCREPANCIES TO THE ENGINEER.

2. ALL DESIGN, CONSTRUCTION AND MATERIAL SHALL BE IN COMPLIANCE WITH THE CITY OF BARTLETT TECHNICAL SPECIFICATIONS.

3. THE CONTRACTOR SHALL NOTIFY THE CITY OF BARTLETT CONSTRUCTION INSPECTION DEPARTMENT AT (901) 385-6499.

4. LOCATION OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE APPROPRIATE UTILITY COMPANY TO DETERMINE THE EXACT LOCATION OF ALL UTILITIES AND/OR UNDERGROUND STRUCTURES. PRIOR TO THE INITIATION OF ANY CONSTRUCTION, CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR DAMAGE TO ANY UTILITIES ENCOUNTERED WITHIN THE CONSTRUCTION PERIMETERS. FOR INFORMATION CONCERNING M.L.G. & W., AT&T, OR TEXAS GAS, PLEASE CALL.1-800-351-1111. FOR SEWER SERVICE LOCATIONS CALL (901) 385-6499.

5. CURB RAMPS AS PER CITY OF BARTLETT STANDARDS.

TYPICAL GRADING & DRAINAGE NOTES:

1. ALL NEWLY CUT AND/OR FILLED AREAS LACKING ADEQUATE VEGETATION SHALL BE SEEDED, FERTILIZED, MULCHED, AND/OR SODDED AS REQUIRED TO EFFECTIVELY PREVENT SOIL EROSION.

2. THE CONTRACTOR SHALL NOT ENTER UPON, WORK UPON NOR CAUSE DAMAGE TO ANY ADJACENT PROPERTIES WITHOUT PRIOR PERMISSION FROM SAID PROPERTY OWNER.

3. LOT GRADING AND DRAINAGE: FINISH GRADE SHALL BE SLOPED AWAY FROM THE FOUNDATION FOR DRAINAGE. THE FINISH GRADE MUST BEGIN AT LEAST 10 INCHES BELOW THE TOP OF THE FOUNDATION WALL OR THE GRADE OF THE CONCRETE SLAB AT THE INTERIOR IN THE CASE OF AN INTEGRAL SLAB AND FOUNDATION. THE MINIMUM GRADE AWAY FROM THE FOUNDATION WALL SHALL BE AT LEAST FIVE PERCENT IN ALL DIRECTIONS AWAY FROM THE FOUNDATION WALL. THE DRIVEWAY SHALL BE SLOPED DOWN AT TWO PERCENT FOR AT LEAST 8 FEET FROM THE STRUCTURE.

4. WHEREVER THE GLEARANCE BETWEEN STORM DRAINS AND SANITARY SEWERS, INCLUDING HOUSE CONNECTIONS, IS LESS THAN 18 INCHES, THE SEWER LINE SHALL BE: DUCTILE IRON PIPE OR ENCASED IN CONCRETE TEN FEET EITHER SIDE OF THE TRENCH.

5. MANHOLES LOCATED ON RESIDENTIAL OR COMMERCIAL PROPERTY (NOT INCLUDING THOSE LOCATED IN DRIVES OR PARKING LOTS) SHALL BE AT LEAST 18" ABOVE GROUND BEFORE HOUSES ARE BUILT AND 6" ABOVE GROUND AFTER.

6. THE CONTRACTOR SHALL CAP ALL EXISTING WELLS BELOW FINISH GRADE AS PER TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION REQUIREMENTS.

TYPICAL SANITARY SEWER NOTES:

1. ALL AREAS IN CUT OR FILL WHERE VEGETATION HAS BEEN REMOVED SHALL BE SEEDED, MULCHED, FERTILIZED, AND/OR SODDED AS REQUIRED TO PREVENT EROSION.

2. CONTRACTOR SHALL ENSURE UNINTERRUPTED SEWER SERVICE ON EXISTING SEWER AND SERVICE CONNECTIONS BY PROVIDING AMPLE TEMPORARY WASTEWATER PUMPING AND/OR BYPASSING.

3. CONTRACTOR SHALL MAINTAIN ACCESS TO ALL PROPERTIES.

4. THE CONTRACTOR SHALL VERIFY EXISTING DATA AND REPORT ANY SIGNIFICANT DISCREPANCIES TO THE ENGINEER.

5. ALL SEWER CONNECTIONS AS PER CITY OF BARTLETT RISER DETAIL. ALL SANITARY SEWERS TO BE CONSTRUCTED AS PER CITY OF BARTLETT STANDARD CONSTRUCTION SPECIFICATIONS.

6. MANHOLES LOCATED ON RESIDENTIAL OR COMMERCIAL PROPERTY (NOT INCLUDING THOSE LOCATED IN DRIVES OR PARKING LOTS) SHALL BE AT LEAST 18" ABOVE GROUND BEFORE HOUSES ARE BUiI T AND 6" ABOVE GROUND AFTER HOUSES ARE BUILT. ALL OFF STREET SANITARY SEWER MANHOLES (SMH) SHALL BE BUILT AT LEAST 1.5' ABOVE TI-IE 100 YEAR FLOOD ELEVATION.

7. NO TREES OR SHRUBS, PERMANENT STRUCTURES OR OTHER UTILITIES (EXCEPT FOR CROSSINGS) WILL BE ALLOWED WITHIN SANITARY SEWER EASEMENTS.

8. ALL SANITARY SEWER, INCLUDING SERVICE CONNECTIONS, WHICH HAVE LESS THAN 1.5' CLEARANCE (OUTSIDE OF PIPES) WITH DRAINAGE OR IN FILLED AREAS SHALL BE CLASS 50 D.1.P. OR CONCRETE ENCASED, 10' BOTH SIDES OF CROSSING. ALL DUCTILE IRON PIPE SHALL BE POLYETHYLENE LINED OR SHALL BE TREATED WITH PROTECTO 401 OR AN APPR0¥ED EQUIVALENT.

9. ALL FILL AND/OR TRENCH BACKFILL SHALL BE COMPACTED TO 95% IN 6 INCH LIFTS WITH MOISTURE CONTENT NOT TO EXCEED 3%, PLUS OR MINUS, OF OPTIMUM MOISTURE (MODIFIED PROCTOR D698). JETTING OR FLOODING OF TRENCHES OR OTHER BACKFILL IS NOT ALLOWED.

SITE BENCHMARK (T.B.M.):

SOUTH FLANGE OF BOLT OF FIRE HYDRANT LOCATED ON THE NORTH SIDE OF U.S. HIGHWAY 70 APPROXIMATELY 60 FEET NORTHEAST OF SITE.

ELEVATION: 305.80'

F.E.M.A. NOTE:

ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENTS AGENCY'S FLOOD INSURANCE RATE MAP (FIRM), THIS PROPERTY LIES IN ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) AS IDENTIFIED IN COMMUNITY PANEL NUMBER 470175 0310 G. MAP REVISED FEBRUARY 6, 2013.

SEWER BASIN: WN-10 DRAINAGE BASIN: YOUNG 12-C

REVISION

ITEM NO.	DESCRIPTION OF CHANGE	APPROVAL DATE

JOHN GRANBERRY REGISTERED ENGINEER 26741 AGRICULTURE COMMERCE STATE OF TENNESSEE

SUBMITTED

BARTLETT DUNKIN' DONUTS

LOT 3 OF CORNER LOTS OF HIGHWAY 70 SUBDIVISION

OWNER: BARTLETT DONUT HOLDINGS, LLC

ENGINEER: GRANBERRY & ASSOCIATES AND RDS

DIVISION OF ENGINEERING

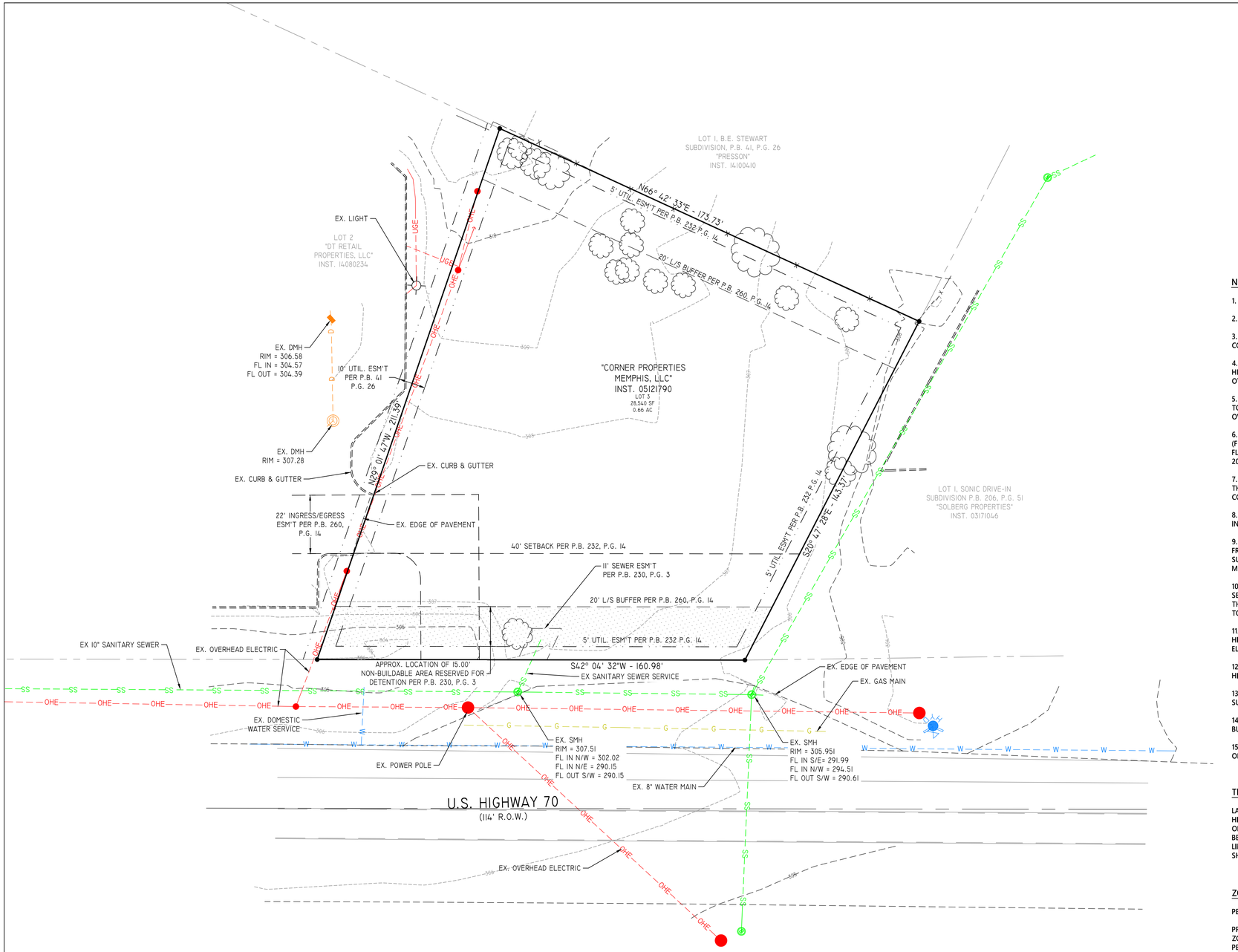
GENERAL NOTES

BARTLETT, TN

SURVEY:	HARRIS & ASSOCIATES	DATE: 05/16/2023	PROJECT NO.: ----
DESIGN BY:	J. GRANBERRY, P.E.	DATE: 11/06/2023	BOOK:
DRAWN BY:	PEYTON JOHNSON	DATE: 11/06/2023	SCALE: N.T.S.

CITY ENGINEER

DATE





VICINITY MAP
SCALE: 1' = 1000'

0 20' 40'
1" = 20'

NOTES

1. BEARINGS SHOWN ARE RELATIVE TO EACH OTHER ONLY.

2. ONLY VISIBLE AND APPARENT UTILITIES SHOWN.

3. BEFORE COMMENCEMENT OF ANY CONSTRUCTION CALL TENNESSEE 1 CALL @ 811 AND THE UTILITY COMPANIES MAINTAINING UTILITY SERVICES ACROSS SUBJECT PROPERTY.

4. EVERY DOCUMENT OF RECORD REVIEWED AND CONSIDERED AS A PART OF THIS SURVEY IS NOTED HEREON. ONLY THE DOCUMENTS NOTED HEREON WERE SUPPLIED TO THE SURVEYOR. THERE MAY EXIST OTHER DOCUMENTS OF RECORD THAT WOULD AFFECT THIS PARCEL.

5. SUBSURFACE AND ENVIRONMENTAL CONDITIONS WERE NOT EXAMINED OR CONSIDERED AS A PART TO THIS SURVEY. NO STATEMENT IS MADE CONCERNING THE EXISTENCE OF UNDERGROUND OR OVERHEAD CONTAINERS OR FACILITIES THAT MAY AFFECT THE USE OR DEVELOPMENT OF THIS TRACT.

6. ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENTS AGENCY'S FLOOD INSURANCE RATE MAP (FIRM), THIS PROPERTY LIES IN ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) AS IDENTIFIED IN COMMUNITY PANEL NUMBER 470175 0310G. MAP REVISED FEBRUARY 6, 2013.

7. IF YOU HAVE RECEIVED THIS DRAWING IN DIGITAL FORMAT PLEASE BE AWARE THAT A HARD COPY OF THE PLAT BEARING AN ORIGINAL SEAL AND SIGNATURE RENDERED IN RED WILL RULE IN THE EVENT OF A CONFLICT BETWEEN THE PRESENTED DATA.

8. THE UNAUTHORIZED DISTRIBUTION OF THIS PLAT OF SURVEY MAY CONSTITUTE A COPYRIGHT INFRINGEMENT.

9. FLOW LINE ELEVATIONS, PIPE SIZES AND COMPOSITION (EXCEPT AS NOTED AS BEING DETERMINED FROM RECORDS) ARE REPORTED AS CAN BE ASCERTAINED FROM INVESTIGATION AT THE GROUND SURFACE WITHOUT ENTRY INTO THE STRUCTURE(S). AS SUCH INDICATED MEASUREMENTS MAY NOT MEET THE PROJECT SURVEY MEASUREMENT REQUIREMENTS.

10. UTILITY LOCATIONS AS SHOWN HAVE BEEN PLOTTED FROM "ONE CALL" OR OTHER UTILITY LOCATION SERVICES AS MARKED AT GRADE, AND/OR VISIBLE EVIDENCE OF UTILITY SERVICES OR FROM RECORDS OF THE UTILITY PROVIDER(S) AS NOTED ON PLAT OF SURVEY. THE CLIENT SHOULD SATISFY THEMSELVES AS TO ALL MATTERS OF UTILITY LOCATION.

11. CITY OF MEMPHIS BENCH MARK #1170: LOCATED AT THE NORTHWEST CORNER OF APPLING ROAD AND HIGHWAY 70.
ELEVATION = 301.42 (NAVD88)

12. SITE BENCH MARK: SOUTH FLANGE BOLT OF FIRE HYDRANT LOCATED ON THE NORTH SIDE OF U.S. HIGHWAY 70 APPROXIMATELY 60 FEET NORTHEAST OF SITE. ELEVATION = 305.80.

13. THERE WERE NO OBSERVED EVIDENCE OF ANY CEMETERIES, GRAVESITES OR BURIAL GROUNDS ON SUBJECT PROPERTY.

14. THERE IS NO OBSERVABLE EVIDENCE OF EARTH MOVING WORK, BUILDING CONSTRUCTION OR BUILDING ADDITIONS.

15. WE ARE UNAWARE OF ANY PROPOSED CHANGES IN STREET RIGHT OF WAY LINES. THERE WAS NO OBSERVED EVIDENCE OF RECENT SIDEWALK CONSTRUCTION OR REPAIRS.

LEGEND

THESE STANDARD SYMBOLS MAY BE FOUND IN THE DRAWING.

- PROPERTY LINES
- ADJOINING PROP. LINES
- BACK OF CURB
- FACE OF CURB
- SIDEWALK
- EDGE OF PAVEMENT
- ROADWAY CENTERLINE
- OHE — EX. OH ELECTRIC LINES
- UGE — EX. UG ELECTRIC LINES
- W — EX. WATER LINES
- SS — EX. SEWER LINES
- D — EX. STORM DRAIN
- G — EX. GAS LINE
- UGC — EX. UG CABLE
- FBO — EX. FIBER OPTIC
- X — EX. FENCE LINES
- EX. SIDEWALK
- EX. EASEMENT
- W — PR. WATER LINE
- SS — PR. SEWER LINE
- PR. STORM DRAIN
- DRAINAGE BASIN
- EASEMENT

EX.	PR.	
		UTILITY POLE
		FIRE HYDRANT
		LIGHT POLE
		TELEPHONE PEDESTAL
		WATER VALVE
		WATER METER
		SEWER MANHOLE
		DRAINAGE MANHOLE
		ELECTRICAL BOX

TITLE DESCRIPTION

LAND IN SHELBY COUNTY, TENNESSEE, BEING LOT NO. 3 ON THE FINAL PLAT OF THE CORNER SHOPPES OF HIGHWAY 70: RESUBDIVISION OF LOT 2, AS OF RECORD IN PLAT BOOK 260, PAGE 14, IN THE REGISTER'S OFFICE FOR SHELBY COUNTY, TENNESSEE.
BEING A PART OF THE PROPERTY CONVEYED TO CORNER PROPERTIES MEMPHIS, LLC, A TENNESSEE LIMITED LIABILITY COMPANY OF RECORD AS INSTRUMENT NO. 05121790, IN THE REGISTER'S OFFICE FOR SHELBY COUNTY, TENNESSEE.

ZONING INFORMATION

PER THE ZONING VERIFICATION LETTER FROM THE CITY OF BARTLETT DATED MAY 3, 2023:

PROPERTY IS ZONED C-H HIGHWAY BUSINESS DISTRICT. RESTAURANT USES ARE PERMITTED IN SAID ZONING DISTRICT.
PER CHART 1, RESTAURANT (DRIVE THROUGH SERVICE) "P" - REQUIRES SITE PLAN APPROVAL BY THE PLANNING COMMISSION.

SITE BENCHMARK (T.B.M.):

SOUTH FLANGE OF BOLT OF FIRE HYDRANT LOCATED ON THE NORTH SIDE OF U.S. HIGHWAY 70 APPROXIMATELY 60 FEET NORTHEAST OF SITE.

ELEVATION: 305.80'

F.E.M.A. NOTE:

ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENTS AGENCY'S FLOOD INSURANCE RATE MAP (FIRM), THIS PROPERTY LIES IN ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) AS IDENTIFIED IN COMMUNITY PANEL NUMBER 470175 0310 G. MAP REVISED FEBRUARY 6, 2013.

SEWER BASIN: WN-10 DRAINAGE BASIN: YOUNG 12-C

REVISION		
ITEM NO.	DESCRIPTION OF CHANGE	APPROVAL DATE

JOHN GRANBERRY — REGISTERED ENGINEER — AGRICULTURE — SURVEYOR — No. 2026 — STATE OF TENNESSEE
SUBJECT TO

BARTLETT DUNKIN' DONUTS
LOT 3 OF CORNER LOTS OF HIGHWAY 70 SUBDIVISION
OWNER: BARTLETT DONUT HOLDINGS, LLC
ENGINEER: GRANBERRY & ASSOCIATES AND RDS

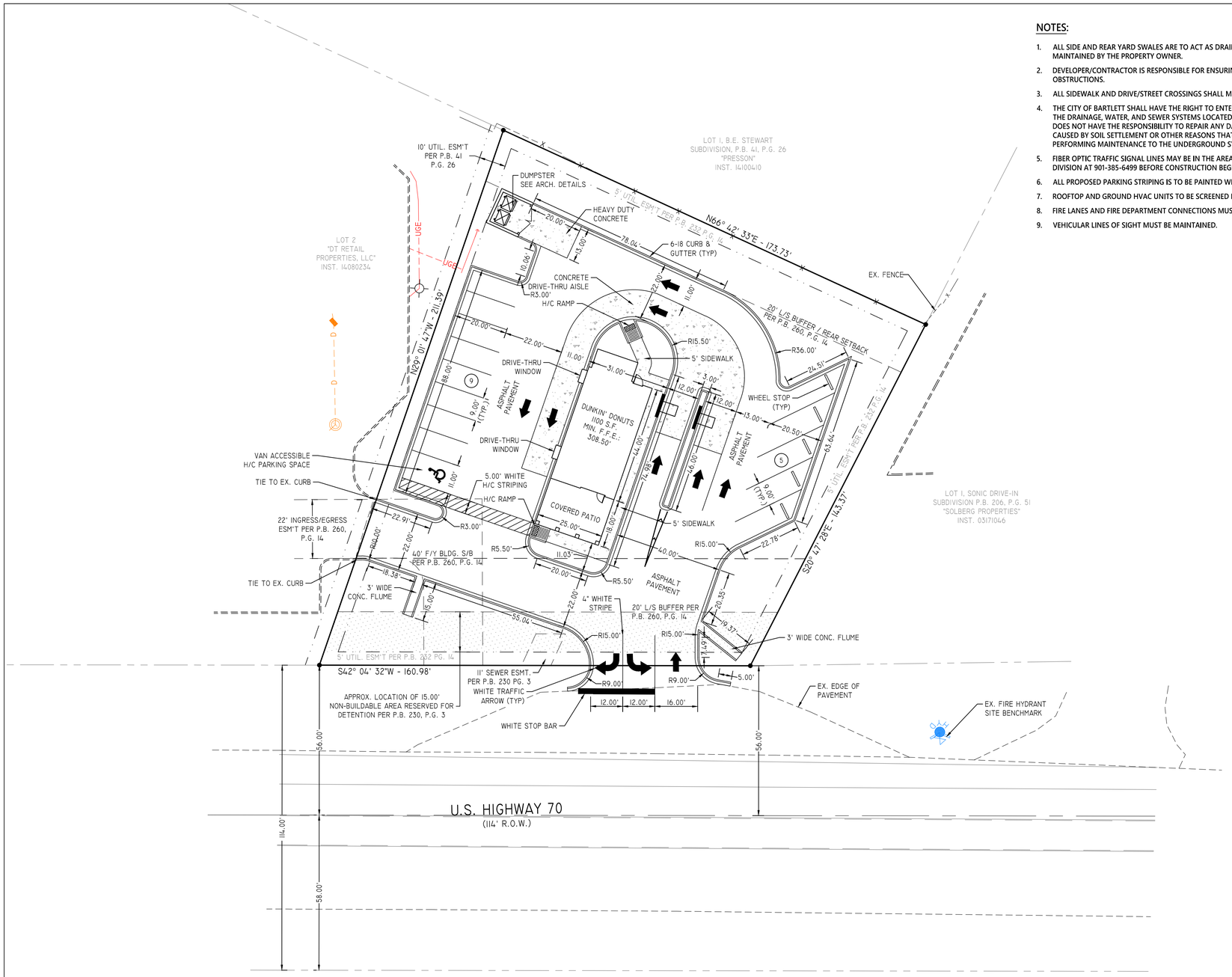
DIVISION OF ENGINEERING

EXISTING CONDITIONS

BARTLETT, TN

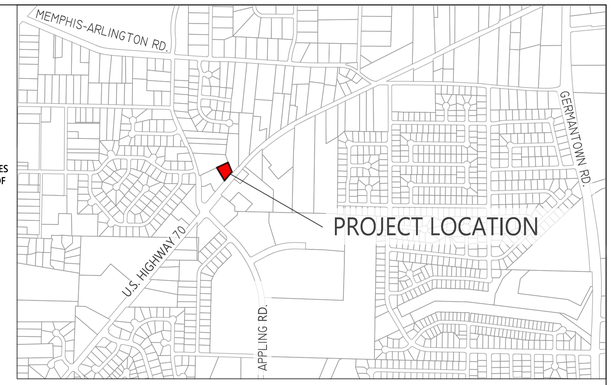
SURVEY:	HARRIS & ASSOCIATES	DATE: 05/16/2023	PROJECT NO.: ----
DESIGN BY:	J. GRANBERRY, P.E.	DATE: 11/06/2023	BOOK:
DRAWN BY:	C. HARDWICK, E.I.	DATE: 11/06/2023	SCALE: 1" = 20'

CITY ENGINEER DATE



NOTES:

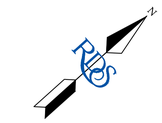
1. ALL SIDE AND REAR YARD SWALES ARE TO ACT AS DRAINAGE WAYS. THEY ARE PRIVATE AND ARE TO BE MAINTAINED BY THE PROPERTY OWNER.
2. DEVELOPER/CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL SIGHT TRIANGLES ARE CLEAR OF OBSTRUCTIONS.
3. ALL SIDEWALK AND DRIVE/STREET CROSSINGS SHALL MEET CURRENT ADA, COUNTY, AND CITY REGULATIONS.
4. THE CITY OF BARTLETT SHALL HAVE THE RIGHT TO ENTER THE PROPERTY FOR THE PURPOSE OF MAINTAINING THE DRAINAGE, WATER, AND SEWER SYSTEMS LOCATED WITHIN PUBLIC EASEMENTS. HOWEVER, THE TOWN DOES NOT HAVE THE RESPONSIBILITY TO REPAIR ANY DAMAGE TO THE YARDS, PARKING LOT, STREETS OR DRIVES CAUSED BY SOIL SETTLEMENT OR OTHER REASONS THAT ARE NOT DIRECTLY CAUSED BY THE TOWN'S ACTION OF PERFORMING MAINTENANCE TO THE UNDERGROUND SYSTEMS.
5. FIBER OPTIC TRAFFIC SIGNAL LINES MAY BE IN THE AREA. PLEASE NOTIFY THE CITY OF BARTLETT ENGINEERING DIVISION AT 901-385-6499 BEFORE CONSTRUCTION BEGINS.
6. ALL PROPOSED PARKING STRIPING IS TO BE PAINTED WHITE.
7. ROOFTOP AND GROUND HVAC UNITS TO BE SCREENED FROM PUBLIC VIEW.
8. FIRE LANES AND FIRE DEPARTMENT CONNECTIONS MUST BE CLEAR.
9. VEHICULAR LINES OF SIGHT MUST BE MAINTAINED.



VICINITY MAP
SCALE: 1' = 1000'

SITE LAYOUT DATA CHART		
PROJECT NAME:	Dunkin' Donuts	
SUBDIVISION:	Corner Shops of Highway 70	
LOT NUMBER:	3	
PROPERTY ADDRESS:	0 Highway 70	
CITY, COUNTY, STATE, ZIP:	Bartlett, TN, Shelby County, TN, 38133	
WARD/BLOCK:	B01/58	
PARCEL ID #:	00912	
EXISTING ZONING:	C-H (Highway Business District)	
ACREAGE OF SITE	0.66 Acres (28540 S.F.)	
MINIMUM AREA REQUIRED	10,000 S.F.	
MINIMUM REQUIRED SETBACK LINES	MINIMUM REQUIRED	PROVIDED
FRONT	40 ft	44.69 ft
REAR	20 ft	57.92 ft
Side	N/A	N/A
OWNERSHIP: Bartlett Donuts Holdings, LLC		
Address:	1050 Cambridge Square Suite A	
City, State, Zip:	Alpharetta, GA 30009	
Contact Name:	James Laskaris	
APPLICANT/DESIGN PROFESSIONAL: Granberry & Associates, LLC		
Address:	1685 York Avenue Memphis, TN 38104	
Phone No.:	662-312-9672	
E-mail Address:	jgranberry@mccartygranberry.com	
Contact Name:	John Granberry	
PROPOSED USES:	Drive-Thru Coffee and Donut Shop	
NONRESIDENTIAL BUILDING AREA:	1,100 S.F. (proposed)	
BUILIDING HEIGHT(S) (all buildings):	MAXIMUM LIMIT	PROVIDED
	28.33'[1]	<20.0'
MAXIMUM LOT COVERAGE:	40%	3.9%
PROPOSED PARKING	MINIMUM REQUIRED	PROVIDED
Total Spaces (13.6 spaces per 1000 S.F. of Building Area)	15	15
ADA Spaces	1	1

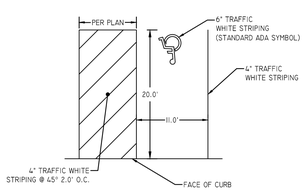
[1] Maximum height is one third of the horizontal distance of the nearest adjacent single-family home



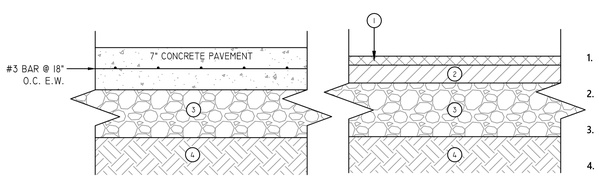
LEGEND
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- PROPERTY LINES
- ADJOINING PROP. LINES
- BACK OF CURB
- FACE OF CURB
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EX.	PR.	
		UTILITY POLE
		FIRE HYDRANT
		LIGHT POLE
		TELEPHONE PEDESTAL
		WATER VALVE
		WATER METER
		SEWER MANHOLE
		DRAINAGE MANHOLE
		ELECTRICAL BOX



TYPICAL ADA VAN ACCESSIBLE PARKING SPACE LAYOUT
N.T.S.



HEAVY DUTY CONCRETE PAVEMENT
N.T.S.

ASPHALT PAVEMENT SECTION
N.T.S.

1. 1.5" BITUMINOUS CONCRETE WEARING LAYER (ASPHALT) GRADING 'E' (TDOT SPECIFICATION 411)
2. 2" B.P.M.P. (HOT MIX) GRADING 'B' (TDOT SPECIFICATION 307-BM-2)
3. 8" COMPACTED GRAVEL BASE (98% STANDARD PROCTOR) OR 8" SOIL CEMENT (SOIL AND MIX DESIGN REQUIRED)
4. COMPACTED SUBGRADE (98% STANDARD PROCTOR IF USING COMPACTED GRAVEL BASE)

revised

SITE BENCHMARK (T.B.M.):

SOUTH FLANGE OF BOLT OF FIRE HYDRANT LOCATED ON THE NORTH SIDE OF U.S. HIGHWAY 70 APPROXIMATELY 60 FEET NORTHEAST OF SITE.

ELEVATION: 305.80'

F.E.M.A. NOTE:

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SEWER BASIN: WN-10 DRAINAGE BASIN: YOUNG 12-C

REVISION		
ITEM NO.	DESCRIPTION OF CHANGE	APPROVAL DATE

JOHN GRANBERRY — REGISTERED ENGINEER — STATE OF TENNESSEE — No. 123988

BARTLETT DUNKIN' DONUTS
LOT 3 OF CORNER LOTS OF HIGHWAY 70 SUBDIVISION
OWNER: BARTLETT DONUT HOLDINGS, LLC
ENGINEER: GRANBERRY & ASSOCIATES AND RDS

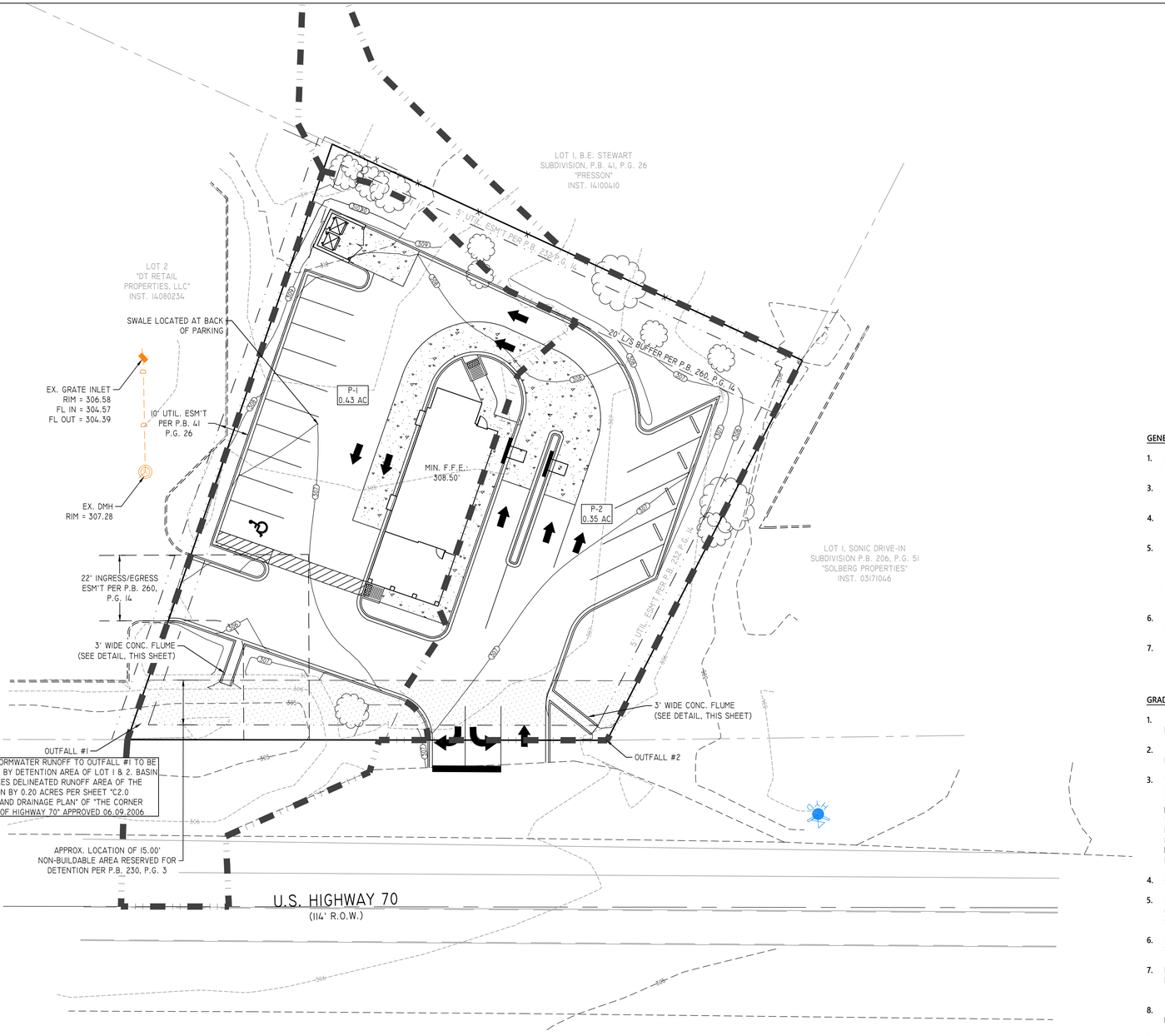
DIVISION OF ENGINEERING

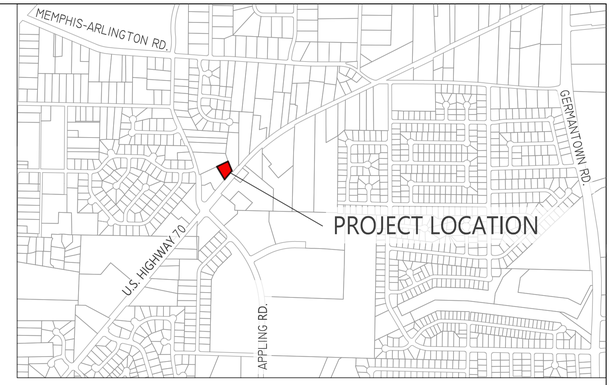
SITE PLAN

BARTLETT, TN

SURVEY:	HARRIS & ASSOCIATES	DATE: 05/16/2023	PROJECT NO.: ----
DESIGN BY:	J. GRANBERRY, P.E.	DATE: 11/06/2023	BOOK:
DRAWN BY:	J. BURNETTE, P.E.	DATE: 11/06/2023	SCALE: 1" = 20'

CITY ENGINEER DATE





VICINITY MAP
SCALE: 1' = 1000'

GENERAL NOTES:

1. ALL INTERIOR CURB SURROUNDING BUILDING AND DRIVE THROUGH ISLAND TO BE 6-18 SPILL CURB. SEE SPOT ELEVATION SHEET FOR CURB DETAIL AND CURB TRANSITION LOCATIONS.
3. DEVELOPER/CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL SIGHT TRIANGLES ARE CLEAR OF OBSTRUCTIONS.
4. ALL SIDEWALK AND DRIVE/STREET CROSSINGS SHALL MEET CURRENT ADA, COUNTY, AND CITY REGULATIONS.
5. THE CITY OF BARTLETT SHALL HAVE THE RIGHT TO ENTER THE PROPERTY FOR THE PURPOSE OF MAINTAINING THE DRAINAGE, WATER, AND SEWER SYSTEMS LOCATED WITHIN PUBLIC EASEMENTS. HOWEVER, THE TOWN DOES NOT HAVE THE RESPONSIBILITY TO REPAIR ANY DAMAGE TO THE YARDS, PARKING LOT, STREETS OR DRIVES CAUSED BY SOIL SETTLEMENT OR OTHER REASONS THAT ARE NOT DIRECTLY CAUSED BY THE CITY'S ACTION OF PERFORMING MAINTENANCE TO THE UNDERGROUND SYSTEMS.
6. ELEVATIONS FOR NEW CURB, SIDEWALK AND PAVEMENT SHALL MATCH EXISTING AT CONNECTION POINTS
7. CONTRACTOR IS RESPONSIBLE FOR ENSURING POSITIVE DRAINAGE ON ALL NEW PAVEMENT/CONCRETE.

GRADING AND DRAINAGE NOTES:

1. A MINIMUM OF 24-HOURS PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE CITY OF BARTLETT CONSTRUCTION INSPECTION OFFICE AT (901) 385-6499.
2. ALL NEWLY CUT OR FILL AREAS, LACKING ADEQUATE VEGETATION, SHALL BE SEEDED, MULCHED, FERTILIZED AND/OR SODDED AS REQUIRED TO EFFECTIVELY CONTROL SOIL EROSION.
3. THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE AND NOT NECESSARILY ALL OF THE SAME. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE UTILITY COMPANIES WHICH MAINTAIN A UTILITY LINE WITHIN THE BOUNDARIES OF THE PROJECT PRIOR TO INITIATION OF ANY CONSTRUCTION ON THE PROJECT OR IN THE STREETS BORDERING THE PROJECT. THE CONTRACTOR SHALL ALSO ASSUME FULL RESPONSIBILITY FOR DAMAGE TO ANY UTILITIES ENCOUNTERED WITHIN CONSTRUCTION PARAMETERS, WETHER SHOWN ON THE CONSTRUCTION PLANS OR NOT, DURING THE WORK ON THE PROJECT. FOR SITE LOCATION OF EXISTING UTILITIES INVOLVING MLG&W, SOUTH CENTRAL BELL, AND/ OR TEXAS GAS COMPANY, CALL 1-800-351-1111. FOR SEWER LOCATIONS CALL (901) 385-5570.
4. CONTRACTOR SHALL MAINTAIN ACCESS TO ALL PROPERTIES..
5. ALL FILL SOILS SHALL BE COMPACTED TO A MINIMUM OF 95% OF STANDARD PROCTOR DENSITY (ASTM D-698) WITHIN 3% OF OPTIMUM MOISTURE CONTENT IN LIFTS NOT TO EXCEED SIX (6) INCHES OF COMPACTED THICKNESS.
6. ALL CONSTRUCTION MATERIALS AND PROCEDURES SHALL MEET OR EXCEED THE REQUIREMENTS OF THE CITY OF BARTLETT STANDARD CONSTRUCTION SPECIFICATIONS.
7. PROPERTY LINES SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION. GRADING, CLEARING AND THE ERECTION OR REMOVAL OF FENCES ALONG PROPERTY LINES SHALL BE FULLY COORDINATED WITH ADJACENT PROPERTY OWNERS.
8. VERIFY SITE CONDITIONS PRIOR TO CONSTRUCTION. NOTIFY THE CITY OF BARTLETT CONSTRUCTION INSPECTION OFFICE ENGINEER OF ANY VARIATIONS PRIOR TO COMMENCEMENT OF WORK.
9. ALL GRADING WORK SHALL BE PERFORMED IN SUCH A MANOR THAT ADJACENT PROPERTIES ARE NOT DAMAGED OR ADVERSELY AFFECTED.
10. LOT DRAINAGE: FINISH GRADE SHALL BE SLOPED AWAY FROM THE FOUNDATION FOR DRAINAGE. THE FINISH GRADE MUST BEGIN AT LEAST 12-INCHES BELOW THE TOP OF THE FOUNDATION WALL OR OR THE GRADE OF THE CONCRETE SLAB AT THE INTERIOR IN THE CASE OF AN INTEGRAL SLAB AND FOUNDATION. THE MINIMUM GRADE AWAY FROM THE FOUNDATION SHALL BE TWO PERCENT (2%) IN ALL DIRECTIONS. THE DRIVEWAY SHALL BE SLOPED DOWN AT 2% FOR AT LEAST 8 FEET FROM THE STRUCTURE.
11. DETENTION FOR LOT 3 IS PROVIDED BY THE REGIONAL DETENTION POND LOCATED ON LOT 1 .
12. PROOF ROLL EXISTING SUBGRADE OF ALL AREAS UNDER PROPOSED BUILDING AND PAVEMENT IN THE PRESENCE OF GEOTECHNICAL ENGINEER. REMOVE/REPAIR ALL SOFT AND YIELDING AREAS AS DIRECTED BY THE GEOTECHNICAL ENGINEER.

N

0 20' 40'
1" = 20'

LEGEND
THESE STANDARD SYMBOLS MAY BE FOUND IN THE DRAWING.

- PROPERTY LINES
- ADJOINING PROP. LINES
- BACK OF CURB
- FACE OF CURB
- SIDEWALK
- EDGE OF PAVEMENT
- ROADWAY CENTERLINE
- OHE — EX. OH ELECTRIC LINES
- UGE — EX. UG ELECTRIC LINES
- W — EX. WATER LINES
- SS — EX. SEWER LINES
- D — EX. STORM DRAIN
- G — EX. GAS LINE
- UGC — EX. UG CABLE
- FBO — EX. FIBER OPTIC
- X — EX. FENCE LINES
- EX. SIDEWALK
- EX. EASEMENT
- W — PR. WATER LINE
- SS — PR. SEWER LINE
- PR. STORM DRAIN
- DRAINAGE BASIN
- EASEMENT

EX	PR	
		UTILITY POLE
		FIRE HYDRANT
		LIGHT POLE
		TELEPHONE PEDESTAL
		WATER VALVE
		WATER METER
		SEWER MANHOLE
		DRAINAGE MANHOLE
		ELECTRICAL BOX

XX — OUTFALL NUMBER
X.XX AC — CONTRIBUTING DRAINAGE AREA

NOTE: WHERE WATER AND STORM DRAIN PIPE GRADES CONFLICT, WATER PIPES SHALL BE ROUTED BENEATH THE STORM DRAIN PIPE TO ALLOW FOR ADEQUATE COVER.

SITE BENCHMARK (T.B.M.):

SOUTH FLANGE OF BOLT OF FIRE HYDRANT LOCATED ON THE NORTH SIDE OF U.S. HIGHWAY 70 APPROXIMATELY 60 FEET NORTHEAST OF SITE.

ELEVATION: 305.80'

F.E.M.A. NOTE:

ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENTS AGENCY'S FLOOD INSURANCE RATE MAP (FIRM), THIS PROPERTY LIES IN ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) AS IDENTIFIED IN COMMUNITY PANEL NUMBER 470175 0310 G. MAP REVISED FEBRUARY 6, 2013.

SEWER BASIN: WN-10 DRAINAGE BASIN: YOUNG 12-C

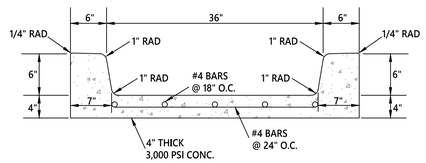
OUTFALL #1 FLOWRATE DATA

CONDITION	DRAINAGE AREA (ACRE)	RUNOFF COEFFICIENT	TIME OF CONCENTRATION , T_c (MIN)	FLOW RATES, Q (CFS) 2-YR	10-YR	25-YR	100-YR
E-1 PREDEVELOPED	0.28	69	6.90	0.60	1.14	1.49	2.06
POST P-1	0.43	92	5.00	2.26	3.27	3.88	4.83

NOTE: POST DEVELOPED FLOWRATE TO OUTFALL #1 TO BE DETAINED BY DETENTION AREA OF LOT #1.

OUTFALL #2 FLOWRATE DATA

CONDITION	DRAINAGE AREA (ACRE)	RUNOFF COEFFICIENT	TIME OF CONCENTRATION , T_c (MIN)	FLOW RATES, Q (CFS) 2-YR	10-YR	25-YR	100-YR
E-2 PREDEVELOPED	0.50	69.00	7.30	1.05	2.01	2.62	3.64
POST P-2	0.35	80.00	6.70	1.22	2.00	2.47	3.23



3' WIDE CONC. FLUME DETAIL
SCALE: N.T.S.

REVISION

ITEM NO.	DESCRIPTION OF CHANGE	APPROVAL DATE

JOHN GRANBERRY REGISTERED ENGINEER AGRICULTURE COMMERCE STATE OF TENNESSEE
SUBMITTED

BARTLETT DUNKIN' DONUTS
LOT 3 OF CORNER LOTS OF HIGHWAY 70 SUBDIVISION
OWNER: BARTLETT DONUT HOLDINGS, LLC
ENGINEER: GRANBERRY & ASSOCIATES AND RDS

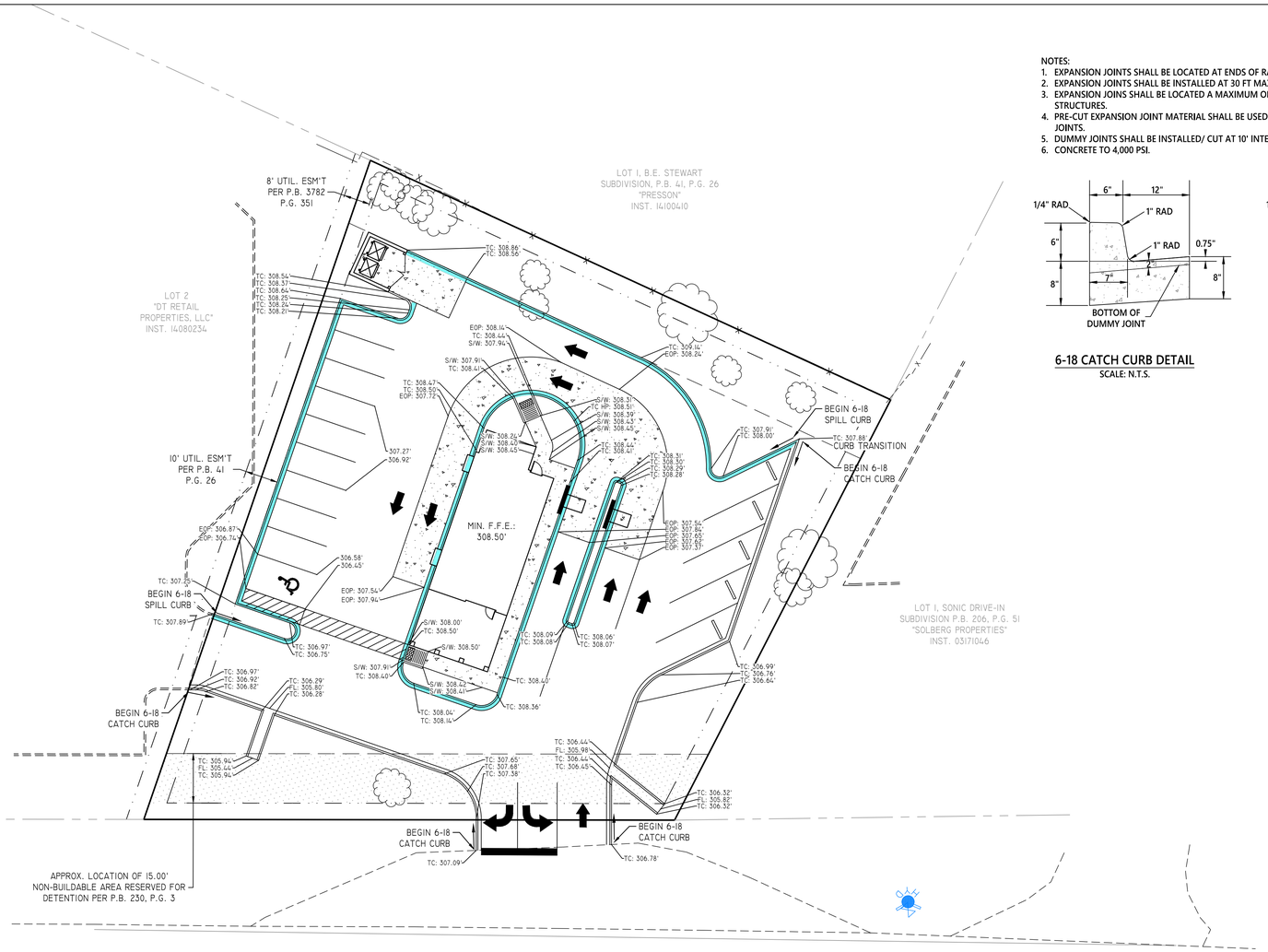
DIVISION OF ENGINEERING

GRADING & DRAINAGE

BARTLETT, TN

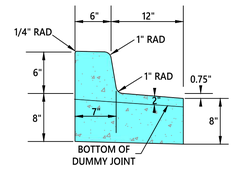
SURVEY:	HARRIS & ASSOCIATES	DATE: 05/16/2023	PROJECT NO.: ----
DESIGN BY:	J. GRANBERRY, P.E.	DATE: 11/06/2023	BOOK:
DRAWN BY:	C. HARDWICK, E.I.	DATE: 11/06/2023	SCALE: 1" = 20'

CITY ENGINEER DATE



NOTES:
1. EXPANSION JOINTS SHALL BE LOCATED AT ENDS OF RADIUS.
2. EXPANSION JOINTS SHALL BE INSTALLED AT 30 FT MAX.
3. EXPANSION JOINS SHALL BE LOCATED A MAXIMUM OF 10 FT FROM INLET STRUCTURES.
4. PRE-CUT EXPANSION JOINT MATERIAL SHALL BE USED IN ALL EXPANSION JOINTS.
5. DUMMY JOINTS SHALL BE INSTALLED/ CUT AT 10' INTERVALS MAX.
6. CONCRETE TO 4,000 PSI.

6-18 CATCH CURB DETAIL
SCALE: N.T.S.



6-18 SPILL CURB DETAIL
SCALE: N.T.S.



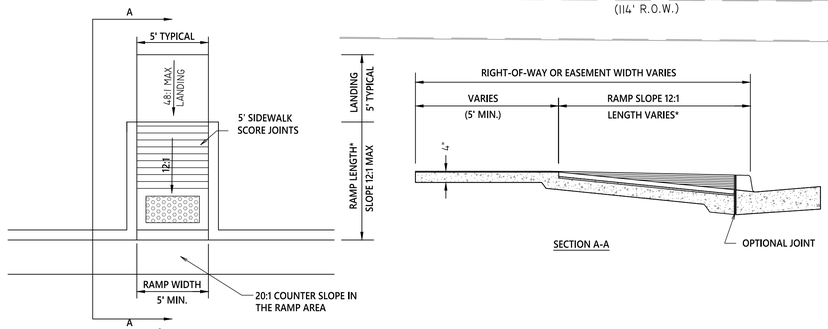
VICINITY MAP
SCALE: 1' = 1000'

GENERAL NOTES:

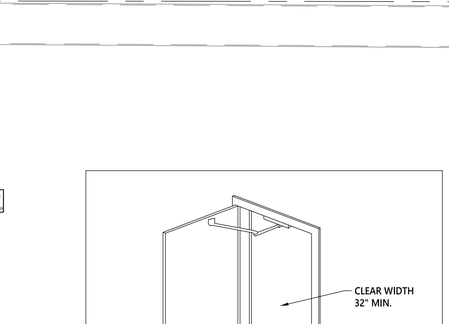
1. ALL INTERIOR CURB SURROUNDING BUILDING AND DRIVE THROUGH ISLAND TO BE 6-18 SPILL CURB. SEE DETAIL, THIS SHEET.
2. ALL SPOT ELEVATIONS ARE TO TOP OF UNLESS NOTED OTHER THAN TC.
3. DEVELOPER/CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL SIGHT TRIANGLES ARE CLEAR OF OBSTRUCTIONS.
4. ALL SIDEWALK AND DRIVE/STREET CROSSINGS SHALL MEET CURRENT ADA, COUNTY, AND CITY REGULATIONS.
5. THE CITY OF BARTLETT SHALL HAVE THE RIGHT TO ENTER THE PROPERTY FOR THE PURPOSE OF MAINTAINING THE DRAINAGE, WATER, AND SEWER SYSTEMS LOCATED WITHIN PUBLIC EASEMENTS. HOWEVER, THE TOWN DOES NOT HAVE THE RESPONSIBILITY TO REPAIR ANY DAMAGE TO THE YARDS, PARKING LOT, STREETS OR DRIVES CAUSED BY SOIL SETTLEMENT OR OTHER REASONS THAT ARE NOT DIRECTLY CAUSED BY THE CITY'S ACTION OF PERFORMING MAINTENANCE TO THE UNDERGROUND SYSTEMS.
6. ELEVATIONS FOR NEW CURB, SIDEWALK AND PAVEMENT SHALL MATCH EXISTING AT CONNECTION POINTS
7. CONTRACTOR IS RESPONSIBLE FOR ENSURING POSITIVE DRAINAGE ON ALL NEW PAVEMENT/CONCRETE.

GRADING AND DRAINAGE NOTES:

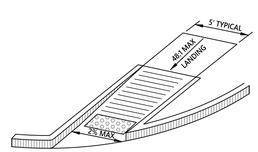
1. A MINIMUM OF 24-HOURS PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE CITY OF BARTLETT CONSTRUCTION INSPECTION OFFICE AT (901) 385-6499.
2. ALL NEWLY CUT OR FILL AREAS, LACKING ADEQUATE VEGETATION, SHALL BE SEEDED, MULCHED, FERTILIZED AND/OR SODDED AS REQUIRED TO EFFECTIVELY CONTROL SOIL EROSION.
3. THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE AND NOT NECESSARILY ALL OF THE SAME. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE UTILITY COMPANIES WHICH MAINTAIN A UTILITY LINE WITHIN THE BOUNDARIES OF THE PROJECT PRIOR TO INITIATION OF ANY CONSTRUCTION ON THE PROJECT OR IN THE STREETS BORDERING THE PROJECT. THE CONTRACTOR SHALL ALSO ASSUME FULL RESPONSIBILITY FOR DAMAGE TO ANY UTILITIES ENCOUNTERED WITHIN CONSTRUCTION PARAMETERS, WETHER SHOWN ON THE CONSTRUCTION PLANS OR NOT, DURING THE WORK ON THE PROJECT. FOR SITE LOCATION OF EXISTING UTILITIES INVOLVING MLG&W, SOUTH CENTRAL BELL, AND/ OR TEXAS GAS COMPANY, CALL 1-800-351-1111. FOR SEWER LOCATIONS CALL (901) 385-5570.
4. CONTRACTOR SHALL MAINTAIN ACCESS TO ALL PROPERTIES..
5. ALL FILL SOILS SHALL BE COMPACTED TO A MINIMUM OF 95% OF STANDARD PROCTOR DENSITY (ASTM D-698) WITHIN 3% OF OPTIMUM MOISTURE CONTENT IN LIFTS NOT TO EXCEED SIX (6) INCHES OF COMPACTED THICKNESS.
6. ALL CONSTRUCTION MATERIALS AND PROCEDURES SHALL MEET OR EXCEED THE REQUIREMENTS OF THE CITY OF BARTLETT STANDARD CONSTRUCTION SPECIFICATIONS.
7. PROPERTY LINES SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION. GRADING, CLEARING AND THE ERECTION OR REMOVAL OF FENCES ALONG PROPERTY LINES SHALL BE FULLY COORDINATED WITH ADJACENT PROPERTY OWNERS.
8. VERIFY SITE CONDITIONS PRIOR TO CONSTRUCTION. NOTIFY THE CITY OF BARTLETT CONSTRUCTION INSPECTION OFFICE ENGINEER OF ANY VARIATIONS PRIOR TO COMMENCEMENT OF WORK.
9. ALL GRADING WORK SHALL BE PERFORMED IN SUCH A MANOR THAT ADJACENT PROPERTIES ARE NOT DAMAGED OR ADVERSELY AFFECTED.
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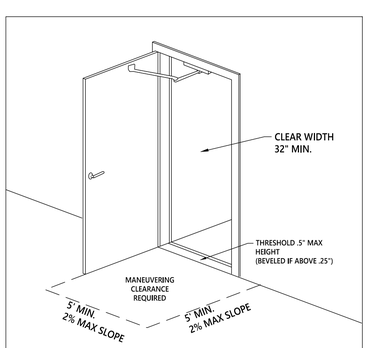


DIRECTIONAL ADA CURB RAMP DETAIL
SCALE: N.T.S.



SECTION A-A





ADA DOOR LANDING DETAIL



LEGEND
THESE STANDARD SYMBOLS MAY BE FOUND IN THE DRAWING.

- PROPERTY LINES
- ADJOINING PROP. LINES
- BACK OF CURB
- FACE OF CURB
- SIDEWALK
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- DRAINAGE BASIN
- EASEMENT

EX.	PR.	
		UTILITY POLE
		FIRE HYDRANT
		LIGHT POLE
		TELEPHONE PEDESTAL
		WATER VALVE
		WATER METER
		SEWER MANHOLE
		DRAINAGE MANHOLE
		ELECTRICAL BOX

XX — OUTFALL NUMBER
X.XX AC — CONTRIBUTING DRAINAGE AREA

NOTE: WHERE WATER AND STORM DRAIN PIPE GRADES CONFLICT, WATER PIPES SHALL BE ROUTED BENEATH THE STORM DRAIN PIPE TO ALLOW FOR ADEQUATE COVER.

SITE BENCHMARK (T.B.M.):

SOUTH FLANGE OF BOLT OF FIRE HYDRANT LOCATED ON THE NORTH SIDE OF U.S. HIGHWAY 70 APPROXIMATELY 60 FEET NORTHEAST OF SITE.

ELEVATION: 305.80'

F.E.M.A. NOTE:

ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENTS AGENCY'S FLOOD INSURANCE RATE MAP (FIRM), THIS PROPERTY LIES IN ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) AS IDENTIFIED IN COMMUNITY PANEL NUMBER 470175 0310 G. MAP REVISED FEBRUARY 6, 2013.

SEWER BASIN: WN-10 DRAINAGE BASIN: YOUNG 12-C

REVISION		
ITEM NO.	DESCRIPTION OF CHANGE	APPROVAL DATE

JOHN GRANBERRY — REGISTERED ENGINEER — AGRICULTURE — COMMERCE — SUBDIVISIONS — STATE OF TENNESSEE — SURVEYED

BARTLETT DUNKIN' DONUTS
LOT 3 OF CORNER LOTS OF HIGHWAY 70 SUBDIVISION
OWNER: BARTLETT DONUT HOLDINGS, LLC
ENGINEER: GRANBERRY & ASSOCIATES AND RDS

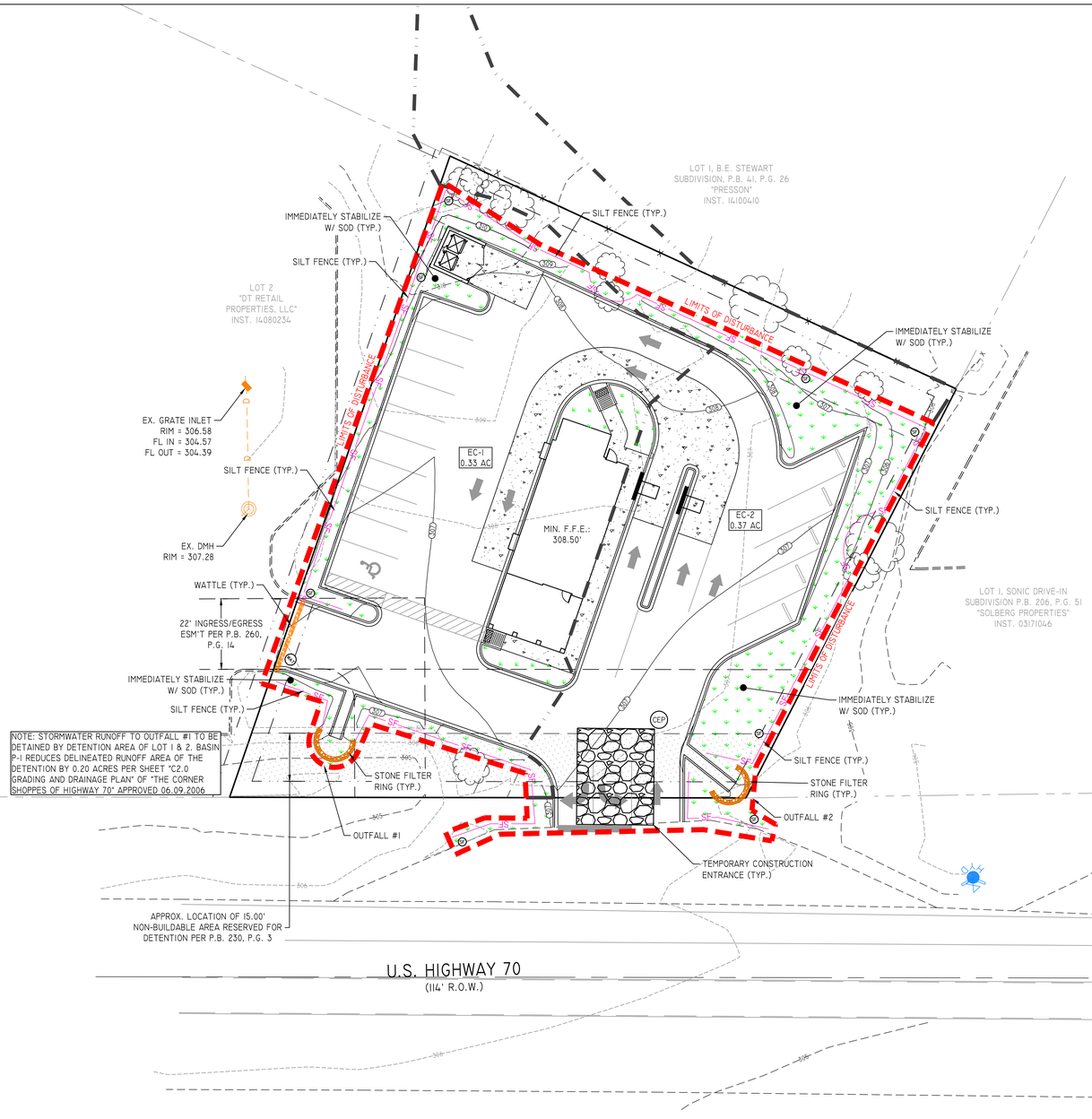
DIVISION OF ENGINEERING

SPOT ELEVATIONS

BARTLETT, TN

SURVEY:	HARRIS & ASSOCIATES	DATE: 05/16/2023	PROJECT NO.: ----
DESIGN BY:	J. GRANBERRY, P.E.	DATE: 11/06/2023	BOOK:
DRAWN BY:	C. HARDWICK, E.I.	DATE: 11/06/2023	SCALE: 1" = 20'

CITY ENGINEER DATE





VICINITY MAP
SCALE: 1' = 1000'

0 20' 40'
1" = 20'

LEGEND
THESE STANDARD SYMBOLS MAY BE FOUND IN THE DRAWING.

- PROPERTY LINES
- ADJOINING PROP. LINES
- DRAINAGE BASIN
- LIMITS OF DISTURBANCE
- EASEMENT
- TREES TO REMAIN
- TREES TO BE REMOVED
- SF — SILT FENCE
- SF/WB — SILT FENCE WITH WIRE BACKING
- IP — INLET PROTECTION
- CD — CHECK DAM
- WATTLES
- ST — SEDIMENT TRAP
- SB — SEDIMENT BASIN
- OP — OUTLET PROTECTION
- CE — CONSTRUCTION EXIT
- PS — PERMANENT SEEDING
- ECM — EROSION CONTROL MAT

EX.	PR.	
		SEWER MANHOLE
		DRAINAGE MANHOLE
		HYDRAULIC FLOW ARROWS (DIRECTION OF WATER FLOW)

XX — OUTFALL NUMBER
X.XX AC — CONTRIBUTING DRAINAGE AREA

EROSION CONTROL NOTES:

1. THE PURPOSE OF THIS EROSION CONTROL PLAN IS TO PREVENT SILTATION AND OTHER POLLUTANTS, DUE TO CONSTRUCTION FROM ENTERING ADJACENT STREAMS AND PROPERTY.
2. CLEARING AND GRUBBING IS TO BE HELD TO MINIMUM WIDTH NECESSARY TO ACCOMMODATE SLOPES. UNNECESSARY CANOPY REMOVAL (TREES, SHRUBS, ETC.) IS PROHIBITED.
3. MAINTAIN ALL GROUND COVER WHENEVER POSSIBLE. ALL AREAS DISTURBED BY CONSTRUCTION THAT ARE NOT TO RECEIVE PAVING SHALL BE SEEDED AND MULCHED AS SOON AS POSSIBLE..
4. ALL DITCHES AND FRESH CUTS IN DRAINAGE WAYS SHALL BE STABILIZED WITH SOD WHERE INDICATED ON THE PLANS.
5. TO REDUCE SEDIMENT IN RUNOFF, EROSION CONTROL MEASURES SHALL BE INSTALLED PROMPTLY DURING ALL PHASES OF CONSTRUCTION.
6. SEDIMENT TRAPS SHALL BE LOCATED AS NEEDED BY THE ENGINEER..
7. SITE EROSION CONTROLS SHALL BE CHECKED AND IF NECESSARY, REPAIRED WEEKLY AND WITHIN 24 HOURS AFTER EACH RAINFALL GREATER THAN 0.5". IN THE EVENT OF CONTINUOUS RAINFALL, EROSION CONTROLS SHALL BE CHECKED DAILY.
8. DURING SEDIMENT REMOVAL, THE CONTRACTOR SHALL TAKE CARE TO ENSURE THAT STRUCTURAL COMPONENTS OF EROSION CONTROL STRUCTURES ARE NOT DAMAGED AND THUS MADE INEFFECTIVE. IS DAMAGES OCCUR, THE CONTRACTOR SHALL REPAIR THE STRUCTURES AT THE CONTRACTOR'S EXPENSE.
9. ALL AREAS TO REMAIN BARE GREATER THAN 15 DAYS MUST BE TEMPORARILY STABILIZED
10. SEDIMENT REMOVED FROM SEDIMENT CONTROLS STRUCTURES IS TO BE PLACED AT A SITE APPROVED BY THE ENGINEER. IT SHALL BE TREATED IN A MANNER SO THAT THE AREA AROUND THE DISPOSAL SITE WILL NOT BE CONTAMINATED OR DAMAGED BY THE SEDIMENT IN RUN-OFF. ALL COST FOR SEDIMENT REMOVAL SHALL BE CONSIDERED INCIDENTAL BY THE CONTRACTOR.
11. UPON COMPLETE REMOVAL OF SEDIMENT TRAPS, SPECIAL DITCHES, ETC., THE AREA WHERE THEY WERE CONSTRUCTED IS TO BE TOP-SOILED, SEEDED AND MULCHED .
12. ALL STOCKPILES TO BE CONTAINED BY SILT FENCE IN ORDER TO PREVENT SEDIMENT RUNOFF FROM ENTERING NEARBY STREAMS.
13. SHOULDERS AND EXCAVATED AREAS SHALL BE PROMPTLY STABILIZED AGAINST EROSION. SILTATION MEASURES SHALL BE IMPLEMENTED PROMPTLY TO REDUCE THE SEDIMENT RUNOFF FROM THE CONSTRUCTION SITE.
14. EQUIPMENT STAGING AND MAINTENANCE AREAS SHALL BE DEVELOPED A SUFFICIENT DISTANCE FROM STREAMS TO ENSURE THAT OIL, GASOLINE, AND OTHER PETROLEUM POLLUTANTS DO NOT ENTER THE WATERWAYS.
15. FAILURE TO MAINTAIN GOOD EROSION CONTROL MEASURES COULD RESULT IN A FINE BEING ISSUED TO THE CONTRACTOR.
16. THE CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL DEVICES IN GENERAL CONFORMANCE TO THE EROSION CONTROL PLAN. THE EROSION CONTROL PLAN IS PROVIDED TO INDICATE MINIMUM EROSION CONTROL MEASURES REQUIRED OF THE CONTRACTOR AND DOES NOT TAKE INTO ACCOUNT THE CONTRACTOR'S SEQUENCE OF CONSTRUCTION. ADDITIONAL EROSION CONTROL MEASURES SHALL BE UNDERTAKEN BY THE CONTRACTOR AS REQUIRED TO MINIMIZE IMPACTS TO ADJACENT PROPERTIES AND THE DRAINAGE SYSTEM DOWNSTREAM OF THE SITE, AT NO ADDITIONAL COST.

CONSTRUCTION SEQUENCE:

1. INSTALL RAIN GUAGE
2. FURNISH AND INSTALL ALL SILT FENCING AND WATTLES AS NEEDED TO CLEAR AND GRUB SITE. CONSTRUCTION EXIT LOCATION MAY BE MODIFIED ACCORDING TO INGRESS/EGRESS OF THE CONTRACTOR AS APPROVED BY ENGINEER. CONTRACTOR SHALL ENSURE NO TRACKING OF SEDIMENT OUTSIDE OF THE LIMITS OF DISTURBANCE ONTO THE ADJACENT PROPERTIES OR PUBLIC RIGHT-OF-WAY.
3. PERFORM DEMOLITION ACTIVITIES AND CLEAR AND GRUB SITE. CUT AND DISPOSE OF ANY DEBRIS PRODUCED DURING THE CLEARING AND GRUBBING ACTIVITY.
4. PERFORM EARTHWORK ACTIVITIES AS NECESSARY. INSTALLATION OF UNDERGROUND UTILITIES AND CATCH BASINS SHALL BE PROTECTED FROM SEDIMENT IN ACCORDANCE WITH THE "INLET PROTECTION DETAIL", THE CONTROL SHALL REMAIN UNTIL THE SITE IS SUFFICIENTLY STABILIZED.
5. BEGIN FINAL GRADING OF PAVED AREAS, SIDEWALKS, AND SITE.
6. PAVE DRIVES AND POUR CONCRETE AND MONITOR CONTROLS AS NECESSARY UNTIL SITE IS STABILIZED.
7. AS THE SITE IMPROVEMENTS ARE BEING COMPLETED, ALL DISTURBED AREAS SHALL BE PERMANENTLY STABILIZED.
8. STORM WATER INSPECTION AND REPORTING WILL BE REQUIRED OF ALL SEDIMENT AND EROSION CONTROL MEASURES IN ACCORDANCE WITH TDEC REGULATIONS.
9. REMOVE ANY TEMPORARY CONTROL MEASURES NOT NEEDED.
10. DUST SHALL BE CONTROLLED DURING CONSTRUCTION BY ADEQUATE USE OF WATER.

SITE BENCHMARK (T.B.M.):

SOUTH FLANGE OF BOLT OF FIRE HYDRANT LOCATED ON THE NORTH SIDE OF U.S. HIGHWAY 70 APPROXIMATELY 60 FEET NORTHEAST OF SITE.

ELEVATION: 305.80'

F.E.M.A. NOTE:

ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENTS AGENCY'S FLOOD INSURANCE RATE MAP (FIRM), THIS PROPERTY LIES IN ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) AS IDENTIFIED IN COMMUNITY PANEL NUMBER 470175 0310 G. MAP REVISED FEBRUARY 6, 2013.

SEWER BASIN: WN-10 DRAINAGE BASIN: YOUNG 12-C

REVISION		
ITEM NO.	DESCRIPTION OF CHANGE	APPROVAL DATE

JOHN GRANBERRY
REGISTERED ENGINEER
AGRICULTURE
SUBJECT TO CHANGE
STATE OF TENNESSEE

BARTLETT DUNKIN' DONUTS
LOT 3 OF CORNER LOTS OF HIGHWAY 70 SUBDIVISION
OWNER: BARTLETT DONUT HOLDINGS, LLC
ENGINEER: GRANBERRY & ASSOCIATES AND RDS

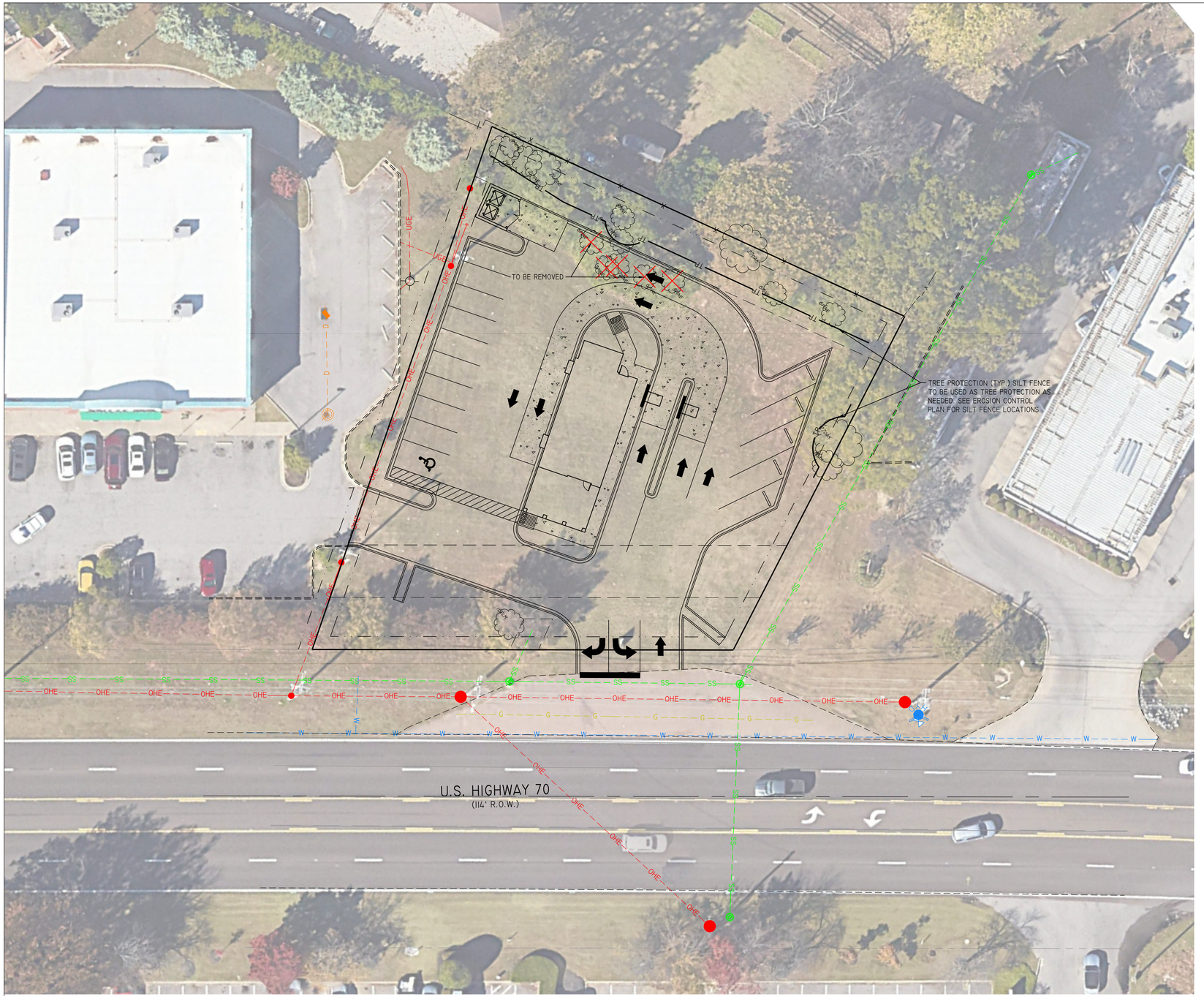
DIVISION OF ENGINEERING

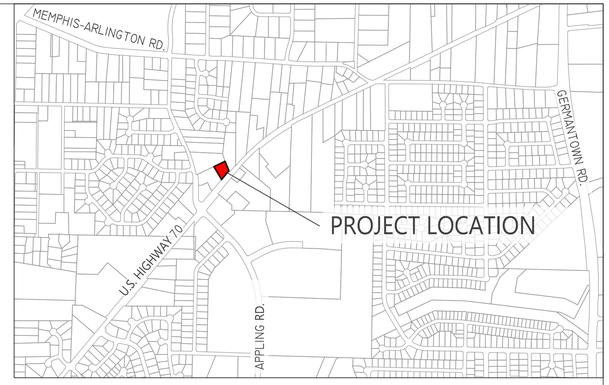
EROSION CONTROL PLAN

BARTLETT, TN

SURVEY:	HARRIS & ASSOCIATES	DATE: 05/16/2023	PROJECT NO.: ----
DESIGN BY:	J. GRANBERRY, P.E.	DATE: 11/06/2023	BOOK:
DRAWN BY:	C. HARDWICK, E.I.	DATE: 11/06/2023	SCALE: 1" = 20'

CITY ENGINEER _____ DATE _____





VICINITY MAP
SCALE: 1' = 1000'

NOTES:

1. TREE PROTECTION FENCING SHALL BE INSTALLED PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITIES.

0 20' 40'
1" = 20'

NET SITE ACERAGE	0.66 AC	TO BE REMOVED	TO REMAIN
DATE OF AEIRAL PHOTO	2022	8" PINE	9" PINE
PRE-DEVELOPED TREE CANOPY COVER	6.65% 0.04 AC	6" PINE	21" PINE
POST DEVELOPED TREE CANOPY COVER	4.89% 0.03 AC	7" PINE	21" PINE
TOTAL NUMBER OF TREES	16	7" PINE	24" PINE
TOTAL TREES REMOVED	5	6" PINE	6" PINE
TOTAL TREES TO REMAIN	11		6" PINE
			6" PINE
			27" OAK
			27" OAK
			18" OAK
			15" ELM

LEGEND
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- BACK OF CURB
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- FBO — EX. FIBER OPTIC
- X — EX. FENCE LINES
- EX. SIDEWALK
- EX. EASEMENT
- W — PR. WATER LINE
- SS — PR. SEWER LINE
- PR. STORM DRAIN
- DRAINAGE BASIN
- EASEMENT

EX.	PR.	
		UTILITY POLE
		FIRE HYDRANT
		LIGHT POLE
		TELEPHONE PEDESTAL
		WATER VALVE
		WATER METER
		SEWER MANHOLE
		DRAINAGE MANHOLE
		ELECTRICAL BOX

SITE BENCHMARK (T.B.M.):

SOUTH FLANGE OF BOLT OF FIRE HYDRANT LOCATED ON THE NORTH SIDE OF U.S. HIGHWAY 70 APPROXIMATELY 60 FEET NORTHEAST OF SITE.

ELEVATION: 305.80'

F.E.M.A. NOTE:

ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENTS AGENCY'S FLOOD INSURANCE RATE MAP (FIRM), THIS PROPERTY LIES IN ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) AS IDENTIFIED IN COMMUNITY PANEL NUMBER 470175 0310 G. MAP REVISED FEBRUARY 6, 2013.

SEWER BASIN: WN-10 DRAINAGE BASIN: YOUNG 12-C

REVISION

ITEM NO.	DESCRIPTION OF CHANGE	APPROVAL DATE

JOHN GRANBERRY — REGISTERED ENGINEER — AGRICOLA ET LIBRI — STATE OF TENNESSEE — SUBMITTED

BARTLETT DUNKIN' DONUTS
LOT 3 OF CORNER LOTS OF HIGHWAY 70 SUBDIVISION
OWNER: BARTLETT DONUT HOLDINGS, LLC
ENGINEER: GRANBERRY & ASSOCIATES AND RDS

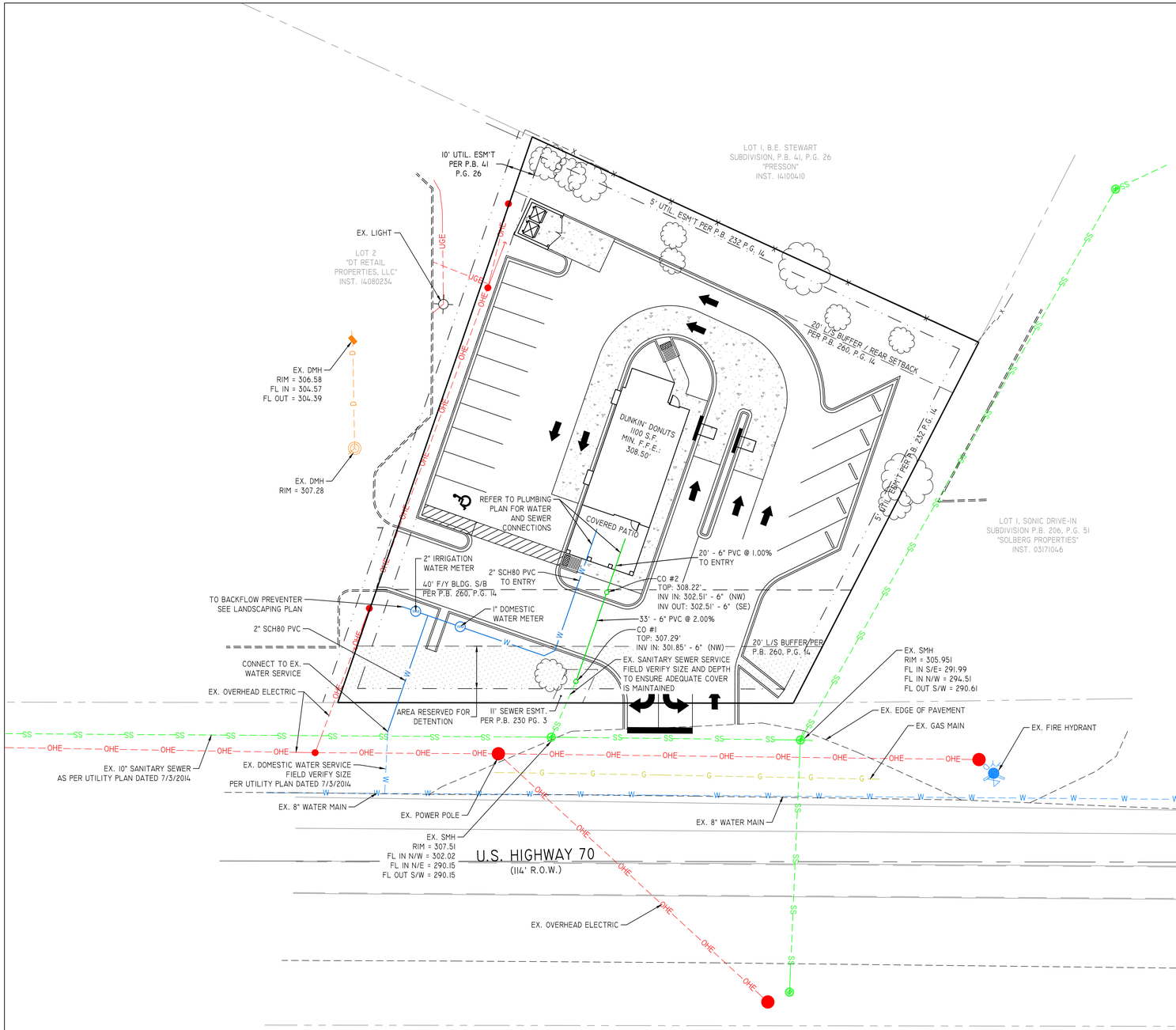
DIVISION OF ENGINEERING

TREE PROTECTION PLAN

BARTLETT, TN

SURVEY:	HARRIS & ASSOCIATES	DATE: 05/16/2023	PROJECT NO.: ----
DESIGN BY:	J. GRANBERRY, P.E.	DATE: 11/06/2023	BOOK:
DRAWN BY:	R. HEIMLICH	DATE: 11/06/2023	SCALE: 1" = 20'

CITY ENGINEER DATE





VICINITY MAP
SCALE: 1' = 1000'

WATER NOTES

1. THE CITY OF BARTLETT SHALL HAVE THE RIGHT TO ENTER THE PROPERTY FOR THE PURPOSE OF MAINTAINING THE DRAINAGE, WATER, AND SEWER SYSTEMS LOCATED WITHIN PUBLIC EASEMENTS. HOWEVER, THE TOWN DOES NOT HAVE THE RESPONSIBILITY TO REPAIR ANY DAMAGE TO THE YARDS, PARKING LOT, STREETS OR DRIVES CAUSED BY SOIL SETTLEMENT OR OTHER REASONS THAT ARE NOT DIRECTLY CAUSED BY THE TOWN'S ACTION OF PERFORMING MAINTENANCE TO THE UNDERGROUND SYSTEMS.
2. ALL WATER PIPE SHALL MEET THE CITY OF BARTLETT SPECIFICATIONS.
3. ALL WATER SERVICE LINES SHALL BE 2" MINIMUM DIAMETER AND SHALL MEET THE CITY OF BARTLETT SPECIFICATIONS .
4. CONSTRUCTION AND MATERIALS FOR THE WATER DISTRIBUTION SYSTEM SHALL CONFORM TO THE SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF HEALTH AND THE CITY OF BARTLETT.
5. WATER MAINS SHALL BE INSTALLED AT LEAST 10 FEET HORIZONTALLY AND 18 INCHES VERTICALLY FROM ANY SEWER MAIN OR MANHOLE (WATER OVER SEWER). WHERE WATER MAINS CROSS OVER SEWER MAINS, THE ABOVE REQUIREMENTS MAY BE WAIVED IF PIPE SEGMENTS ARE CENTERED TO PROVIDE MAXIMUM SPACING OF THE JOINTS OF BOTH WATER AND SEWER MAINS AND A VERTICAL SEPARATION OF AT LEAST 18 INCHES (WATER OVER SEWER) IS MAINTAINED. THE DISTANCES AND SPACING MENTIONED ABOVE ARE CLEAR DISTANCES, AND WHENEVER THE DISTANCE CAN NOT BE MET, THE MAIN MUST BE PLACED IN CASING.
6. THE CONTRACTOR SHALL VERIFY LOCATION AND SIZE OF EXISTING WATER MAINS PRIOR TO COMMENCING BORING OR CONNECTION OPERATIONS. THE CONTRACTOR SHALL PROVIDE NECESSARY ADJUSTMENTS TO BOTH NEW AND EXISTING WATER LINES TO ALLOW CONNECTION AND INSTALLATION.
7. WATER MAINS AND SERVICES MUST HAVE A MINIMUM OF 36" CLEARANCE.
8. SPACING OF FIRE HYDRANTS MY VARY, BUT SHALL IN NO CASE BE SPACED FARTHER THAN 400' APART. SPACING SHALL BE MEASURED LINEARLY ALONG STREET FRONTAGE.
9. WATER LINES SHALL BE PLACED 10' FROM SEWER.
10. TRACER WIRE, IF REQUIRED, SHALL BE 18" ABOVE THE CROWN OF THE WATER LINE. TRACER WIRE SHALL BE PROVIDED AND INSTALLED FOR ALL SERVICE LINES THAT ARE NOT DUCTILE IRON, SPECIFICALLY THE 2" SERVICE LINE FROM THE DUCTILE IRON PIPE TO THE METER. CONTACT PUBLIC WORKS AT 901-385-5570 BEFORE INSTALLATION OF WATER LINES.
11. ALL PROPOSED WATER LINES, POST INDICATOR VALVES (PIV), HYDRANTS, FIRE DEPARTMENT CONNECTIONS (FDC), BACKFLOW PREVENTERS (BFP), & OTHER APPURTENANCES SHOWN ON THIS SHEET ARE PRIVATE UNLESS NOTED OTHERWISE.

SEWER NOTES

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2. ALL PROPOSED SANITARY SEWER SHOWN HEREIN IS PRIVATE UNLESS OTHERWISE NOTED.
3. SANITARY SEWER SHOULD BE LAID AT LEAST 10 FEET HORIZONTALLY AND 18" VERTICALLY FROM ANY EXISTING OR PROPOSED WATER MAIN, WITH THE WATER MAIN LOCATED ABOVE THE SEWER PIPE. SEWERS CROSSING WATER MAINS SHALL BE ARRANGED SO THAT THE SEWER JOINTS WILL BE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE WATER MAIN OR THE SEWER SHOULD BE DUCTILE IRON OR SHALL BE ENCASED IN DUCTILE IRON OR CONCRETE FOR A MINIMUM OF ONE FULL JOINT LENGTH ON EACH SIDE OF THE CROSSING.
4. ALL SANITARY SEWER MAINS AND SERVICES SHALL BE PVC SDR-26. SEWER SERVICES SHALL BE 6" IN DIAMETER, AND SHALL BE INSTALLED ON A MINIMUM 1% SLOPE.
5. CONSTRUCTION AND MATERIALS FOR THE SANITARY SEWER SYSTEM SHALL CONFORM TO THE SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION AND THE CITY OF BARTLETT.
6. BEDDING MATERIAL SHALL BE REQUIRED BENEATH ALL SANITARY SEWER MAINS, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
7. DEFLECTION TESTS SHALL BE PERFORMED ON ALL FLEXIBLE PIPE. THE TEST SHALL BE CONDUCTED AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST THIRTY 30 DAYS. NO PIPE SHALL EXCEED A DEFLECTION OF 5%. IF THE DEFLECTION TEST IS TO BE RUN USING A RIGID BALL OR MANDREL, IT SHALL HAVE A DIAMETER EQUAL TO 95% OF THE INSIDE DIAMETER OF THE PIPE. THE TEST SHALL BE PERFORMED WITHOUT MECHANICAL PULLING DEVICES.

0 20' 40'
1" = 20'

LEGEND

THESE STANDARD SYMBOLS MAY BE FOUND IN THE DRAWING.

- PROPERTY LINES
- ADJOINING PROP. LINES
- BACK OF CURB
- FACE OF CURB
- SIDEWALK
- EDGE OF PAVEMENT
- ROADWAY CENTERLINE
- OHE — EX. OH ELECTRIC LINES
- UGE — EX. UG ELECTRIC LINES
- W — EX. WATER LINES
- SS — EX. SEWER LINES
- D — EX. STORM DRAIN
- G — EX. GAS LINE
- UGC — EX. UG CABLE
- FBO — EX. FIBER OPTIC
- X — EX. FENCE LINES
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EX.	PR.	
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		FIRE HYDRANT
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		TELEPHONE PEDESTAL
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SEWER BASIN: WN-10 DRAINAGE BASIN: YOUNG 12-C

REVISION		
ITEM NO.	DESCRIPTION OF CHANGE	APPROVAL DATE

JOHN GRANBERRY REGISTERED ENGINEER 115 AGRICULTURE SUBJECT TO CHANGES STATE OF TENNESSEE

BARTLETT DUNKIN' DONUTS
LOT 3 OF CORNER LOTS OF HIGHWAY 70 SUBDIVISION
OWNER: BARTLETT DONUT HOLDINGS, LLC
ENGINEER: GRANBERRY & ASSOCIATES AND RDS

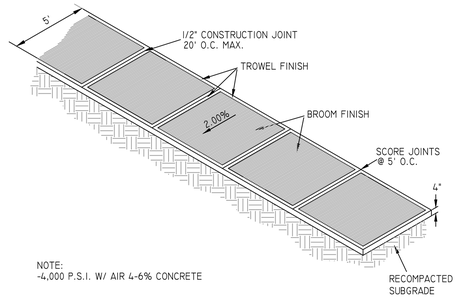
DIVISION OF ENGINEERING

UTILITY PLAN

BARTLETT, TN

SURVEY:	HARRIS & ASSOCIATES	DATE: 05/16/2023	PROJECT NO.: ----
DESIGN BY:	J. GRANBERRY, P.E.	DATE: 11/06/2023	BOOK:
DRAWN BY:	J. BURNETTE, P.E.	DATE: 11/06/2023	SCALE: 1" = 20'

CITY ENGINEER DATE

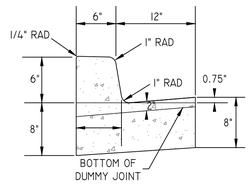


NOTE:
-4,000 P.S.I. W/ AIR 4-6% CONCRETE

B3

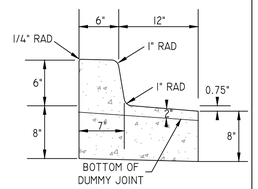
SIDEWALK DETAIL
SCALE: N.T.S.

NOTES:
1. EXPANSION JOINTS SHALL BE LOCATED AT ENDS OF RADIUS.
2. EXPANSION JOINTS SHALL BE INSTALLED AT 30 FT MAX.
3. EXPANSION JOINS SHALL BE LOCATED A MAXIMUM OF 10 FT FROM INLET STRUCTURES.
4. PRE-CUT EXPANSION JOINT MATERIAL SHALL BE USED IN ALL EXPANSION JOINTS.
5. DUMMY JOINTS SHALL BE INSTALLED/ CUT AT 10' INTERVALS MAX.
6. CONCRETE TO 4,000 PSI.

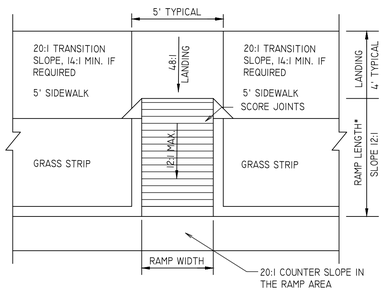


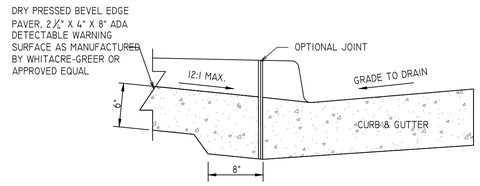
D3

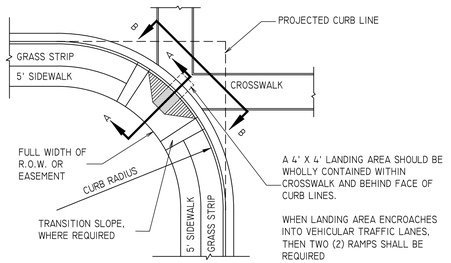
6-18 CATCH CURB DETAIL
SCALE: N.T.S.



6-18 SPILL CURB DETAIL
SCALE: N.T.S.

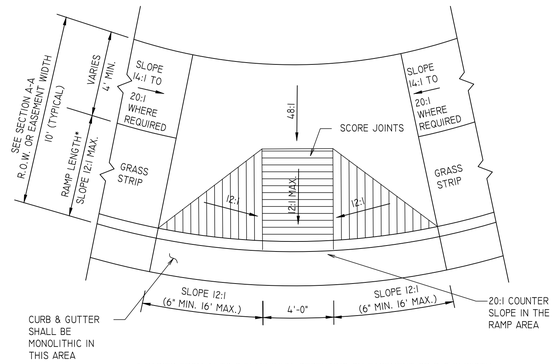




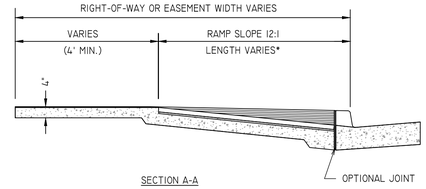


A 4' X 4' LANDING AREA SHOULD BE WHOLLY CONTAINED WITHIN CROSSWALK AND BEHIND FACE OF CURB LINES.

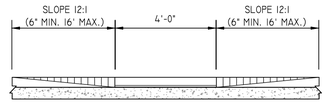
WHEN LANDING AREA ENCROACHES INTO VEHICULAR TRAFFIC LANES, THEN TWO (2) RAMPS SHALL BE REQUIRED



* VARIES FROM 6' TO 2.5' MINIMUM, DEPENDING ON EASEMENT OR R-O-W WIDTH. A RAMP SLOPE PF 14:1 OR FLATTER IS PREFERABLE. THE NORMAL RAMP LANDING IS 4' IN DEPTH AND 4' MINIMUM WIDTH.



SECTION A-A



SECTION B-B

NOTES:
1. CURB RAMPS ARE TO BE LOCATED AS SHOWN ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.
2. SURFACE COLOR OF THE RAMP SHALL CONTRAST WITH THE ADJACENT WALKWAY AND SLOPED AREAS AS DARK RAMP COLOR WITH LIGHT COLOR ON THE SIDE FLARES AND WALKWAYS PER ANSI A117.1-98, SECT. 705.
3. CARE SHALL BE TAKEN TO ASSURE A UNIFORM GRADE ON THE RAMP, FREE OF SAGS AND SHORT GRADE CHANGES.
4. THE LENGTH OF THE SIDE FLARES SHALL BE DETERMINED BY THE 12:1 SLOPE AND THE HEIGHT OF THE CURB WITH A MINIMUM LENGTH OF 6' AND A MAXIMUM LENGTH OF 16'. SIDEWALK BEHIND THE RAMP SHALL HAVE A CROSS SLOPE OF 48:1.
5. DRAINAGE STRUCTURES SHALL NOT BE PLACED IN LINE WITH RAMPS NOR HINDER PEDESTRIAN TRAFFIC AT INTERSECTIONS.
6. THE CURB RAMP SHALL CONFORM WITH THE CITY OF MEMPHIS STANDARD CONSTRUCTION SPECIFICATIONS. ANY VARIATION FROM THIS STANDARD SHALL BE IN WRITING FROM THE ENGINEER OR HIS DESIGNEE. THIS STANDARD CONFORMS TO ADAAG REGULATIONS.
7. THE LANDING AREA AT THE FOOT OF THE RAMP MUST BE WHOLLY CONTAINED BEHIND THE PROJECTED CURB LINES. IF LANDING AREA ENCROACHES INTO VEHICULAR TRAFFIC LANES, THEN TWO RAMPS SHALL BE REQUIRED.
8. THROUGH THE AREA OF THE RAMP, THE COUNTER SLOPE OF THE GUTTER SHALL BE 20:1 AND TRANSITIONED TO MATCH THE NORMAL GUTTER LINE PROFILE ON BOTH SIDES OF THE RAMP.

D5

HANDICAP CURB RAMP
SCALE: N.T.S.

REVISION		
ITEM NO.	DESCRIPTION OF CHANGE	APPROVAL DATE

JOHN GRANBERRY
REGISTERED ENGINEER
AGRICULTURAL
SUBMITTED
STATE OF TENNESSEE

BARTLETT DUNKIN' DONUTS
LOT 3 OF CORNER LOTS OF HIGHWAY 70 SUBDIVISION
OWNER: BARTLETT DONUT HOLDINGS, LLC
ENGINEER: GRANBERRY & ASSOCIATES AND RDS

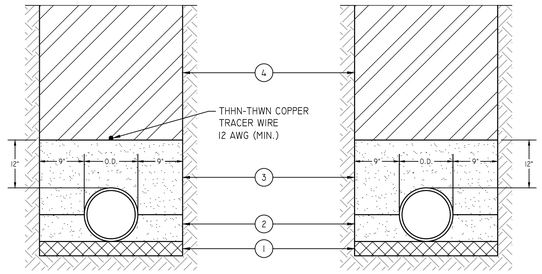
DIVISION OF ENGINEERING

SITE DETAILS

BARTLETT, TN

SURVEY:	HARRIS & ASSOCIATES	DATE: 05/16/2023	PROJECT NO.: ----
DESIGN BY:	J. GRANBERRY, P.E.	DATE: 11/06/2023	BOOK:
DRAWN BY:	R. HEIMLICH	DATE: 11/06/2023	SCALE: N.T.S.

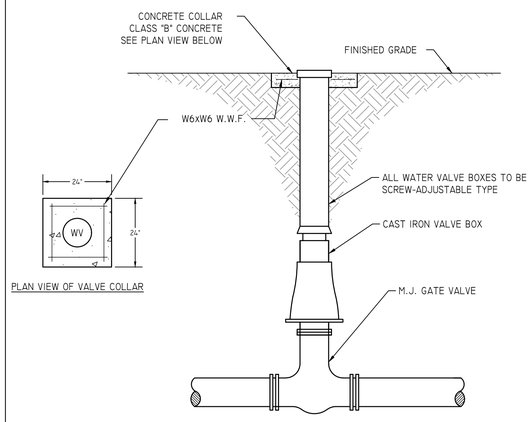
CITY ENGINEER _____ DATE _____



WATER LINE SEWER LINE

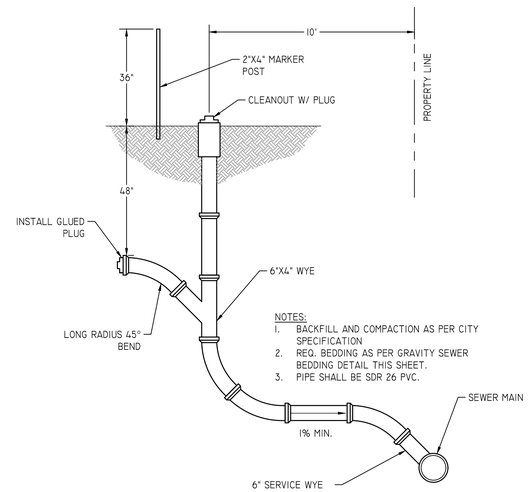
1. BEDDING: 4" CLEAN SAND COMPACTED TO 90% STANDARD PROCTOR.
2. HAUNCHING: CLEAN SAND HAND WORKED AROUND PIPE AND COMPACTED TO SPRINGLINE OF PIPE. COMPACT TO 90% STANDARD PROCTOR.
3. INITIAL BACKFILL: CLEAN SAND PLACED & COMPACTED IN 8" LIFTS TO 12" ABOVE CROWN OF PIPE. COMPACT TO 90% STANDARD PROCTOR.
4. FINAL BACKFILL: SUITABLE NATIVE MATERIAL PLACED & COMPACTED IN 12" LIFTS TO EX. GROUND SURFACE OR ROAD BED IF UNDER PROPOSED ROAD. COMPACT TO 95% STANDARD PROCTOR, ± 3% OPTIMUM MOISTURE CONTENT.

B1 **PVC BEDDING & BACKFILLING**
SCALE: N.T.S.



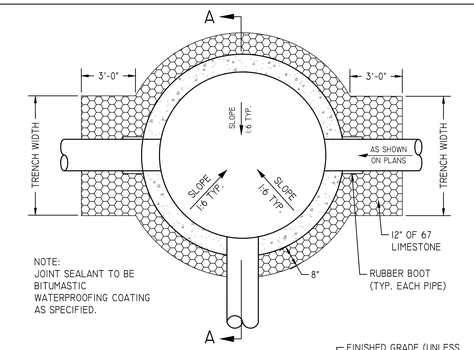
NOTE:
ALL MATERIALS TO BE MANUFACTURED DOMESTICALLY.
ALL FITTINGS SHALL BE MEGA-LUG OR APPROVED EQUAL.

B3 **WATER VALVE COLLAR**
SCALE: N.T.S.

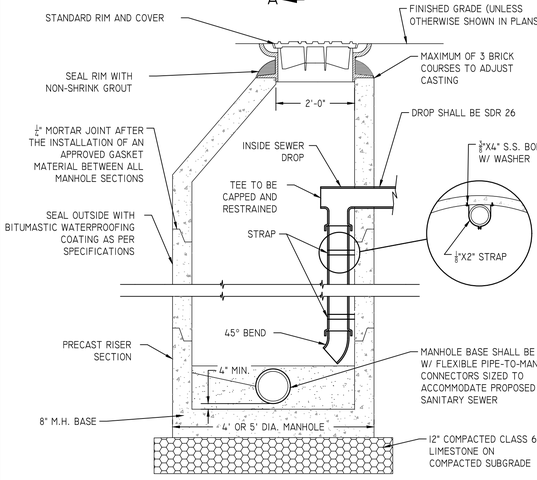


NOTES:
1. BACKFILL AND COMPACTION AS PER CITY SPECIFICATION
2. REQ. BEDDING AS PER GRAVITY SEWER BEDDING DETAIL THIS SHEET.
3. PIPE SHALL BE SDR 26 PVC.

B5 **SEWER SERVICE**
SCALE: N.T.S.



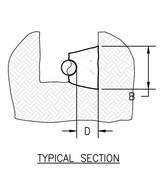
NOTE:
JOINT SEALANT TO BE BITUMASTIC WATERPROOFING COATING AS SPECIFIED.



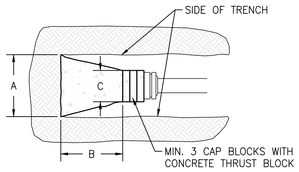
C7 **SANITARY SEWER MANHOLE**
SCALE: N.T.S.

90° BEND								11 1/4° BEND							
SIZE	2"	4"	6"	8"	10"	12"	16"	SIZE	2"	4"	6"	8"	10"	12"	16"
A	16"	16"	26"	33"	40"	50"	70"	A	9"	9"	11"	13"	16"	18"	30"
B	16"	16"	24"	33"	40"	50"	70"	B	9"	9"	11"	13"	16"	18"	30"
C	9"	9"	12"	12"	15"	16"	22"	C	8"	8"	10"	12"	14"	16"	15"
D	8"	8"	12"	16"	20"	25"	24"	D	4"	4"	5"	6"	8"	9"	16"
45° BEND								PLUG							
SIZE	2"	4"	6"	8"	10"	12"	16"	SIZE	2"	4"	6"	8"	10"	12"	16"
A	12"	12"	18"	24"	31"	37"	52"	A	26"	26"	26"	34"	43"	52"	70"
B	12"	12"	18"	24"	31"	37"	52"	B	26"	26"	26"	34"	43"	52"	70"
C	8"	8"	10"	12"	14"	16"	14"	C	12"	12"	12"	12"	12"	12"	30"
D	6"	6"	9"	12"	15"	18"	18"	D	11"	11"	11"	15"	22"	32"	32"
22 1/2° BEND								TEE							
SIZE	2"	4"	6"	8"	10"	12"	16"	SIZE MAIN / BRANCH	2"–6"	8"–12"	8"–10"	12"	12"	12"	16"
A	9"	9"	13"	18"	23"	26"	40"		2"–6"	2"–6"	8"–10"	2"–6"	8"–10"	12"	10"–16"
B	9"	9"	13"	18"	23"	26"	40"	A	26"	26"	43"	26"	43"	52"	70"
C	8"	8"	10"	12"	14"	16"	15"	B	26"	26"	43"	26"	43"	52"	70"
D	4"	4"	6"	9"	11"	13"	16"	C	12"	12"	12"	12"	12"	12"	30"
								D	13"	13"	21"	13"	21"	26"	24"

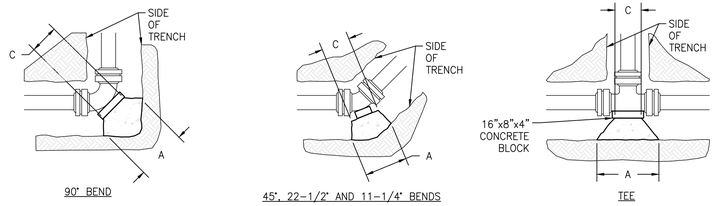
NOTE: THRUST BLOCKS SHALL BE POURED AGAINST UNDISTURBED EARTH.



TYPICAL SECTION

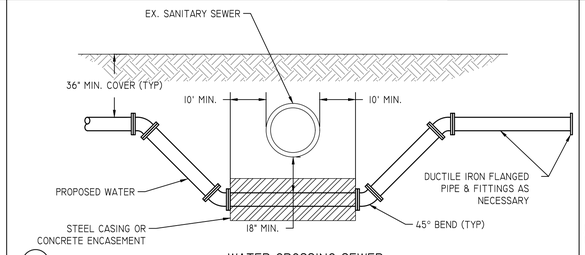


PLUG

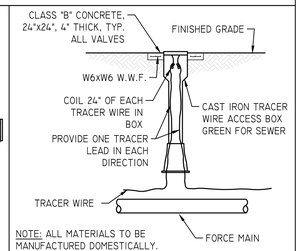


NOTE: ALL FITTINGS SHALL HAVE MEG-A-LUG RESTRAINTS OR APPROVED EQUAL.

E1 **WATER LINE THRUST BLOCK**
SCALE: N.T.S.

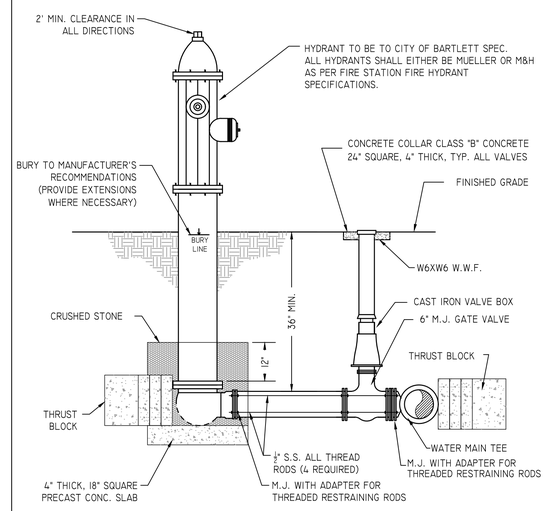


C4 **WATER CROSSING SEWER**
SCALE: N.T.S.



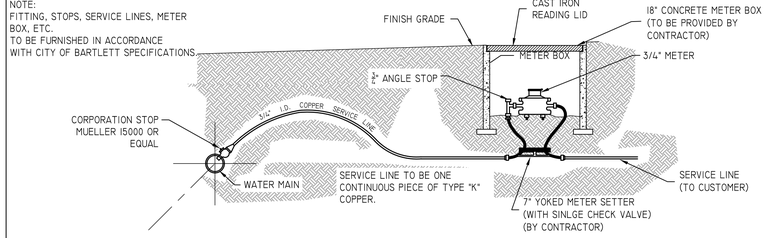
NOTE: ALL MATERIALS TO BE MANUFACTURED DOMESTICALLY.

C6 **TRACER WIRE ACCESS BOX**
SCALE: N.T.S.



E4 **FIRE HYDRANT ASSEMBLY**
SCALE: N.T.S.

NOTE:
FITTING, STOPS, SERVICE LINES, METER BOX, ETC.
TO BE FURNISHED IN ACCORDANCE WITH CITY OF BARTLETT SPECIFICATIONS



D6 **WATER SERVICE & METER INSTALLATION**
SCALE: N.T.S.

REVISION		
ITEM NO.	DESCRIPTION OF CHANGE	APPROVAL DATE

JOHN GRANBERRY REGISTERED ENGINEER 115 AGRICULTURE COMMERCE SUBMITTED STATE OF TENNESSEE

BARTLETT DUNKIN' DONUTS
LOT 3 OF CORNER LOTS OF HIGHWAY 70 SUBDIVISION
OWNER: BARTLETT DONUT HOLDINGS, LLC
ENGINEER: GRANBERRY & ASSOCIATES AND RDS

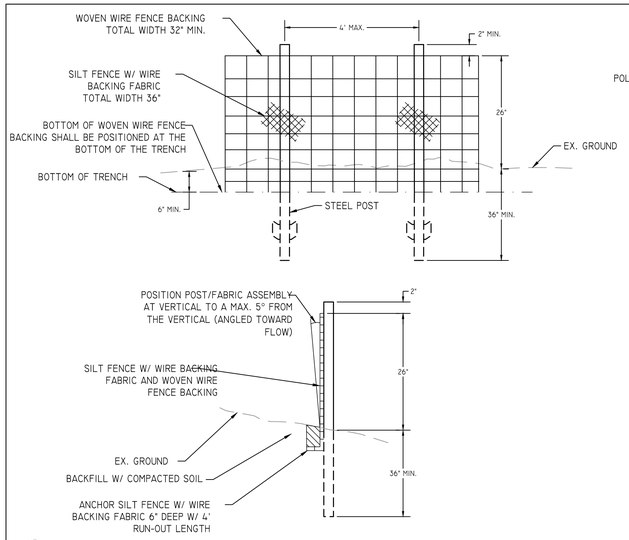
DIVISION OF ENGINEERING

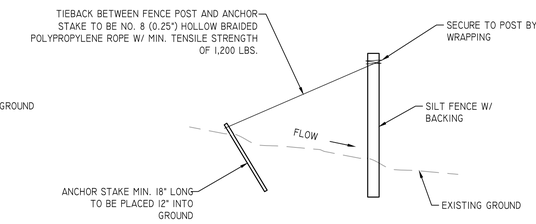
UTILITY DETAILS

BARTLETT, TN

SURVEY:	HARRIS & ASSOCIATES	DATE: 05/16/2023	PROJECT NO.: ----
DESIGN BY:	J. GRANBERRY, P.E.	DATE: 11/06/2023	BOOK:
DRAWN BY:	PEYTON JOHNSON	DATE: 11/06/2023	SCALE: N.T.S.

CITY ENGINEER DATE



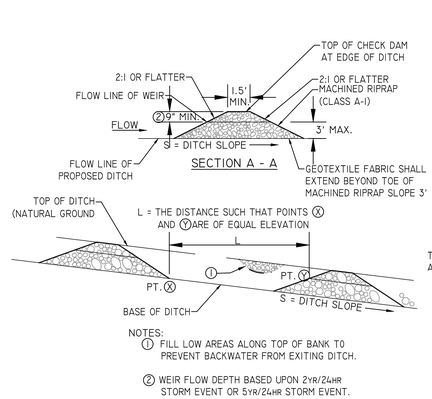


SILT FENCE TIE BACK DETAIL

(WHEN REQUIRED BY ENGINEER OR NOTED ON THE PLANS. COST TO BE INCLUDED IN ITEMS FOR SILT FENCE)

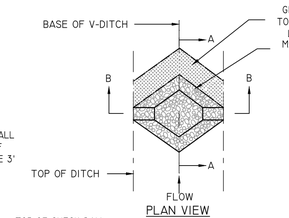
B1 SILT FENCE WITH WIRE BACKING AND METAL POSTS

N.T.S.

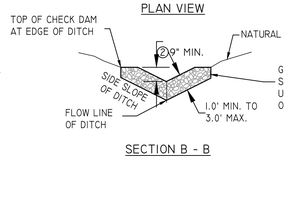


DETAIL FOR SPACING BETWEEN CHECK DAMS

DETAIL FOR V-DITCH

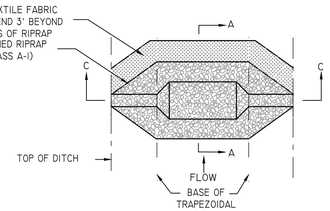


PLAN VIEW

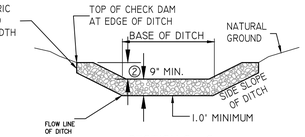


SECTION B - B

DETAIL FOR TRAPEZOIDAL DITCH



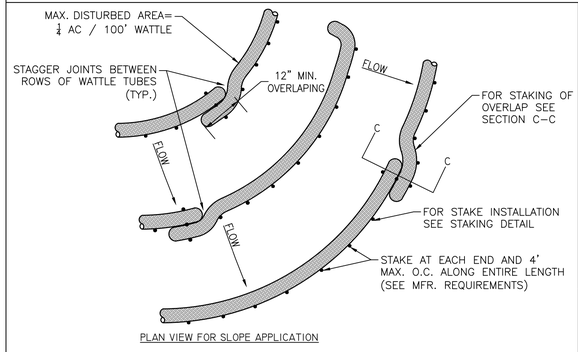
PLAN VIEW



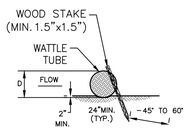
SECTION C - C

B5 CHECK DAM

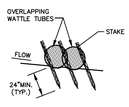
SCALE: N.T.S.



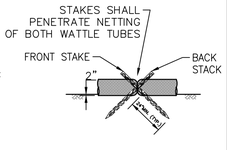
PLAN VIEW FOR SLOPE APPLICATION



STAKING DETAIL



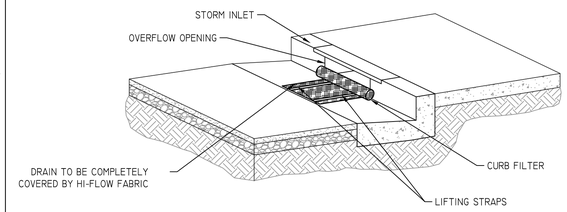
SECTION C-C



JOINT STAKING DETAIL

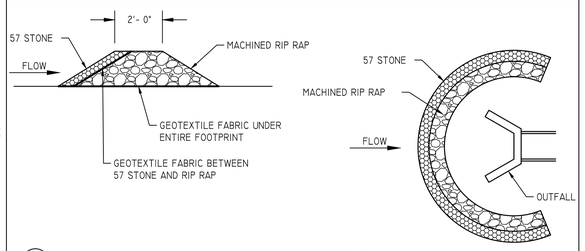
D1 SEDIMENT TUBES/WATTLES

SCALE: N.T.S.



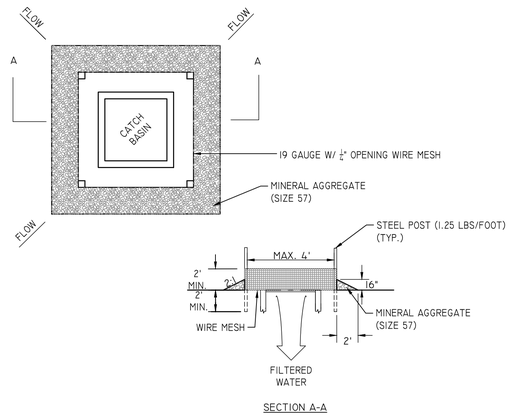
C3 CURB INLET PROTECTION

SCALE: N.T.S.



D3 STONE FILTER RING

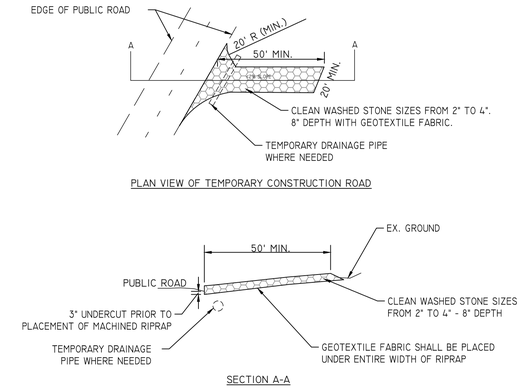
N.T.S.



SECTION A-A

D5 INLET PROTECTION DETAIL

SCALE: N.T.S.



PLAN VIEW OF TEMPORARY CONSTRUCTION ROAD

SECTION A-A

D7 CONSTRUCTION ENTRANCE DETAIL

SCALE: N.T.S.

REVISION		
ITEM NO.	DESCRIPTION OF CHANGE	APPROVAL DATE

JOHN GRANBERRY — REGISTERED ENGINEER — AGRICULTURE — COMMERCE — STATE OF TENNESSEE

SUBMITTED

BARTLETT DUNKIN' DONUTS

LOT 3 OF CORNER LOTS OF HIGHWAY 70 SUBDIVISION

OWNER: BARTLETT DONUT HOLDINGS, LLC

ENGINEER: GRANBERRY & ASSOCIATES AND RDS

DIVISION OF ENGINEERING

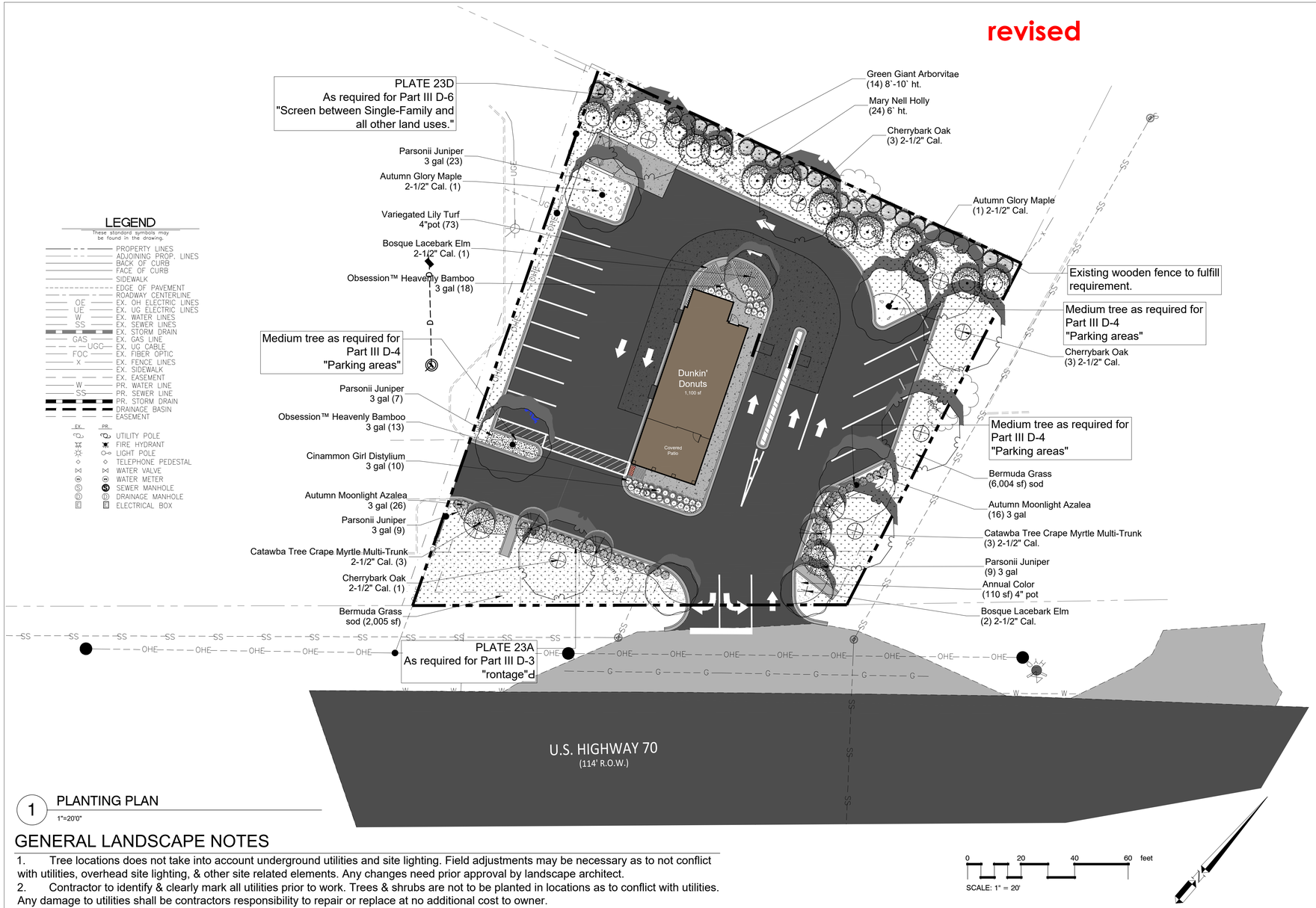
EPSC DETAILS

BARTLETT, TN

SURVEY:	HARRIS & ASSOCIATES	DATE: 05/16/2023	PROJECT NO.: ----
DESIGN BY:	J. GRANBERRY, P.E.	DATE: 11/06/2023	BOOK:
DRAWN BY:	R. HEIMLICH	DATE: 11/06/2023	SCALE: N.T.S.

CITY ENGINEER _____ DATE _____

revised



LEGEND

These standard symbols may be found in the drawing.

- PROPERTY LINES
- ADJOINING PROP. LINES
- BACK OF CURB
- FACE OF CURB
- SIDEWALK
- EDGE OF PAVEMENT
- ROADWAY CENTERLINE
- OE — EX. OH ELECTRIC LINES
- UE — EX. UG ELECTRIC LINES
- W — EX. WATER LINES
- SS — EX. SEWER LINES
- EX. STORM DRAIN
- GAS — EX. GAS LINE
- UGC — EX. UG CABLE
- FOC — EX. FIBER OPTIC
- X — EX. FENCE LINES
- EX. SIDEWALK
- EX. EASEMENT
- W — PR. WATER LINE
- SS — PR. SEWER LINE
- PR. STORM DRAIN
- DRAINAGE BASIN
- EASEMENT

EX	PR	
		UTILITY POLE
		FIRE HYDRANT
		LIGHT POLE
		TELEPHONE PEDESTAL
		WATER VALVE
		WATER METER
		SEWER MANHOLE
		DRAINAGE MANHOLE
		ELECTRICAL BOX

1 PLANTING PLAN

1"=20'0"

GENERAL LANDSCAPE NOTES

1. Tree locations does not take into account underground utilities and site lighting. Field adjustments may be necessary as to not conflict with utilities, overhead site lighting, & other site related elements. Any changes need prior approval by landscape architect.
2. Contractor to identify & clearly mark all utilities prior to work. Trees & shrubs are not to be planted in locations as to conflict with utilities. Any damage to utilities shall be contractors responsibility to repair or replace at no additional cost to owner.
3. All canopies trees in vehicular use areas & along walks shall be limbed up to a height of 8' to allow for clear views & movement underneath.
4. Verify all quantities on site to be certain plants fill area to be landscaped prior to any installation.
5. All work under this contract shall be guaranteed by landscape contractor to be free from defects in material & workmanship for a period of one calendar year or one full growing season, whichever is longer.
6. This one year period will begin from date of final acceptance by owner, except as otherwise agreed in writing by all parties to contract.
7. Theft, violent weather, & drought damage are the responsibility of landscape contractor, until final completion is given.
8. Contractor is responsible for replacing all plant material that dies within one year after planting with plant material of the required size within thirty days of the plant material's death. This period may be extended if weather conditions inhibit installation of new plant materials.
9. Construct mulch rings around base of all individual plantings in lawn areas to a width of 5' in dia. around trees.
10. Mulch all plantings with pine straw mulching material, unless noted on plan as hardwood mulch island area. Install min. 4" deep in shrub & groundcover plantings and 4" deep at trees & pit plantings, & continuous mulch zones. Where the plan specifies hardwood mulch, mulch to 3" depth. Please note that all existing planting bed areas, even when new shrubs or trees are not planted, will receive 4" of fresh pine straw mulch.
11. Spade edge all bedlines adjacent to turf areas. Lines should be true to form as shown and non-wavering.
12. Trees & large shrubs must be adequately supported, when necessary, to insure proper growth; & support removed when trees and shrubs are established.
13. Appropriate measures shall be taken to ensure that any landscaped area shall not be encroached upon by any type of vehicle. All landscaped areas must be protected by an approved encroachment barrier, or bumper stop. A vehicle may overhang a landscaped area, provided that a minimum width of four feet in landscaped area remains.
14. All landscaping soil & fill must be maintained and reasonably free from weeds, refuse, & debris at all times.
15. All landscape islands in parking area are to be excavated & filled with an approved topsoil to a minimum depth of eighteen inches for shrub plantings & three feet for tree plantings. Soil is to be prepared per details upon topsoil installation.
16. Plant shade trees a minimum of 6' away from utility lines---including water and sewer.

SPECIAL LANDSCAPE NOTES

1. Contractor is responsible for removing existing plant material that conflicts with new plants. Some areas calling for new plant material is currently vacant, some areas will require removal. In the removal areas, all existing plant material, including roots, should be removed and backfilled as necessary. The contractor is responsible for including removal in pricing.
2. No plant material should be planted closer than 5' from the foundation of buildings and 4' from the back of curb. The outer edge of the plant should not be expected to grown closer than 4' from any structure.
3. The location of ornamental trees may be relocated if conflicting with security surveillance system. Contractor is responsible for contacting the landscape architect if conflict occurs.
4. If there is a discrepancy between the actual conditions and the drawing, the landscape contractor should contact the landscape architect prior to installation.
5. All planting beds, even those without new plantings, should receive 5" of fresh pinestraw mulch.

CITY OF BARTLETT CODE OF ORDINANCES

Section 23 Trees and Landscape Ordinance
Excerpt from Part III Construction Requirements and Approvals.

1. Frontage planting area

   On all street frontages, a landscaped depth of at least twenty (20) feet from the right-of-way line shall be provided, with or without berms, depending on topography. Plates 23A, 23B, and 23C shall be used as guidelines for planting patterns. The landscaped depth may be increased and the Plates adjusted to accommodate overhead wires in accordance with part III.A.2, "Protection of Overhead and Other tilities."d

2. Parking areas

   a. A maximum of fifteen (15) parking spaces shall be allowed between planting islands along the street frontage.
   b. A mixture of shrubs, deciduous as well as evergreen, shall be provided.
   c. A planting island shall have a minimum area of 400 square feet for a large density tree (20' square or 22.5' diameter), 300 square feet for a medium density tree (17.3' square or 19.5' diameter), and 200 square feet for a small density tree (14.1' square or 16' diameter).
   d. All parking spaces shall be within a maximum distance of seventy- five feet (75') from a tree.

3. Green/open space generally

   a. A minimum of thirty-five percent (35%) of the total land area of the lot, excluding building footprints and pavement, shall be in green/open space.
   b. Green/open space shall be distributed over the lot in proportion to the land areas between the building and the property lines.
   c. Where land will be subdivided in a manner that distribution of green/open space required under 5.a and 5.b above on each lot is impractical, such distribution may be approved through submittal and approval by the Planning Commission of a Master Plan for compliance with these requirements over the entirety of the property to be developed.
   d. Trees shall be planted in green/open space in accordance with part III.E, "Site Plan Review."
   e. One percent (1%) of the green/open space shall be planted in seasonal color.
   f. Irrigation of the green/open space shall be required on the site of construction of a new building. Installation of irrigation shall not be required on the site of change of occupancy or additions to or renovation of an existing building.

   The irrigation system shall be in compliance with the followingA

   - Automatic controlled with timer.
   - Sufficient coverage of all landscaped areas.
   - Shall not spray onto paved areas, including sidewalks, driveways, streets, and parking and loading areas.
   - Equipped with a reduced pressure principle backflow prevention device, which shall be inspected annually by a certified tester.
   - Low-volume water conservation measures encouraged.

   For a site with a landscaped area small enough that it can be maintained without an irrigation system, the irrigation requirement may be waived by the Board of Mayor and Aldermen upon submittal in the landscaping plan of reasonable alternative means of watering the area.

   Drought-tolerant plant materials are encouraged.

4. Screen between Single-Family Residential and All Other Land Uses

   A twenty-foot-deep (20') landscape screen, Plate 23D, shall be provided at the boundary between single-family residential use (or zoning, if the land is vacant) and all other land uses, on the property of the other use.

   a. The landscape screen shall have the following configurationA
      - 6' wood fence at the property line, with 2' square brick or stone columns at not more than 20' on centers, including at the property corners of the adjacent residential lots. Spacing of the brick or stone columns shall be determined in the same manner as in Article VI, Section 19, Fences, part F.6.
      - Face of the columns and face of the fence flush at the residential property line.

        The fence shall be of shadowbox design unless a solid fence, with the smooth side toward the single-family-residential use, is approved by the Design Review Commission.
      - Large evergreen shrubs at 6' on centers.
      - Large-density deciduous shade trees, 2 ½" caliper, at 50' on centers.
      - Between each pair of large-density trees, five (5) evergreen trees at 12' on centers (double rows, offset), 6' - 8' height when planted.

BHD

Landscape Plan
prepared by BHD, LLC,
Mark Levy, PLA

REVISION		
ITEM NO.	DESCRIPTION OF CHANGE	APPROVAL DATE
	Landscape Plan change due layout	11/29/2023

MARK R. LEVY — TENNESSEE — REGISTERED — LANDSCAPE ARCHITECT
11/29/2023

BARTLETT DUNKIN' DONUTS
LOT 3 OF CORNER LOTS OF HIGHWAY 70 SUBDIVISION
OWNER: *BARTLETT DONUT HOLDINGS, LLC*
ENGINEER: *GRANBERRY & ASSOCIATES, LLC*

DIVISION OF ENGINEERING

LANDSCAPE PLAN

BARTLETT, TN

SURVEY: *HARRIS & ASSOCIATES* DATE: *05/16/2023* PROJECT NO.: ----
DESIGN BY: *J. GRANBERRY, P.E.* DATE: *11/06/2023* BOOK:
DRAWN BY: *M. LEVY, PLA* DATE: *11/06/2023* SCALE: *1"=20'*

E:\CIVIL\ 14\2023 SD\DWG\2023 Projects\DUNKIN' DONUTS - BARTLETT\2023DUNKIN_DONUTS_BARTLETT-REVISED.dwg

GENERAL LANDSCAPE NOTES

1. Tree locations does not take into account underground utilities and site lighting. Field adjustments may be necessary as to not conflict with utilities, overhead site lighting, & other site related elements. Any changes need prior approval by landscape architect.
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16. Plant shade trees a minimum of 6' away from utility lines---including water and sewer.

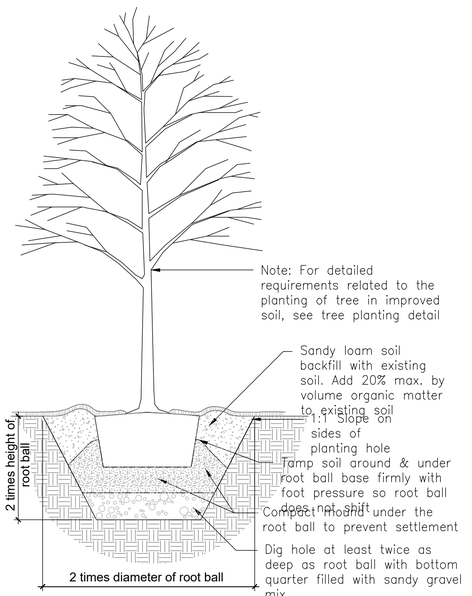
PLANT SCHEDULE

SYMBOL	BOTANICAL / COMMON NAME	CONT	QTY
TREES			
	ACER RUBRUM `AUTUMN GLORY` / AUTUMN GLORY MAPLE	2" CALIPER	4
	ILEX X `MARY NELL` / MARY NELL HOLLY	6` HT.	26
	LAGERSTROEMIA INDICA `CATAWBA` / CATAWBA TREE CRAPE MYRTLE MULTI-TRUNK	2-1/2" CAL.	6
	QUERCUS FALCATA PAGODIFOLIA / CHERRYBARK OAK	2-1/2" CAL.	7
	THUJA OCCIDENTALIS `GREEN GIANT` / GREEN GIANT ARBORVITAE	8`-10` HT.	14
	ULMUS PARVIFOLIA `UPMTF` TM / BOSQUE LACEBARK ELM	2-1/2" CAL.	3

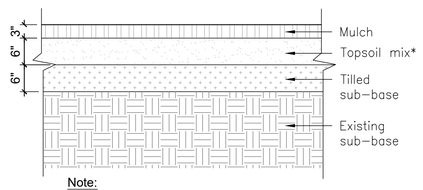
SYMBOL	BOTANICAL / COMMON NAME	SIZE	QTY
SHRUBS			
	AZALEA ENCORE `AUTUMN MOONLIGHT` TM / AUTUMN MOONLIGHT AZALEA	3 GAL	42
	DISTYLIUM X DISTYLIUM `CINAMMON GIRL` / CINAMMON GIRL DISTYLIUM	3 GAL	10
	NANDINA DOMESTICA `SEIKA` / OBSESSION™ HEAVENLY BAMBOO	3 GAL	31

SYMBOL	BOTANICAL / COMMON NAME	CONT	SPACING
GROUND COVERS			
	ANNUAL COLOR / ANNUAL COLOR	4" POT	12" o.c.
	CYNODON DACTYLON `TIF 419` / BERMUDA GRASS	SOD	
	JUNIPERUS CONFERTA `BLUE PACIFIC` / BLUE PACIFIC JUNIPER	1 GAL	30" o.c.
	JUNIPERUS SQUAMATA EXPANSA 'PARSONII' / PARSONII JUNIPER	3 GAL	45" o.c.
	LIRIOPE MUSCARI `VARIEGATA` / VARIEGATED LILY TURF	4"POT	12" o.c.

1 PLANT SCHEDULE
1"20'0"d



1 SOIL IMPROVEMENT DETAIL
3/4" 1'-0"d 32 9343-01



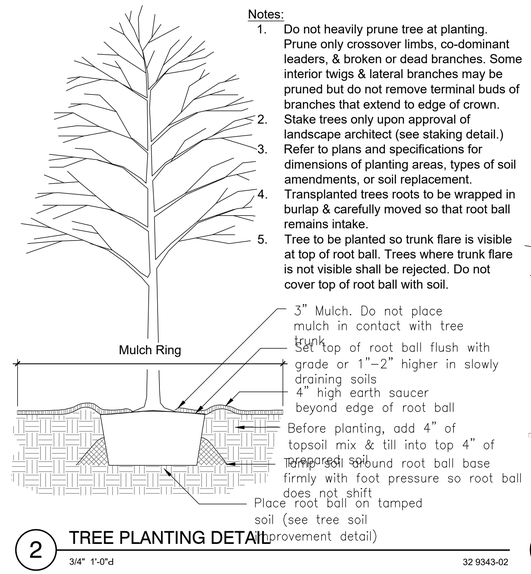
Note:
1. Topsoil mix by volume:
- 2 parts topsoil
- 1 part sand
- 1 part pine bark

2. Soil: native, sandy loam

6 PLANTING BED DETAIL
3/4" 1'-0"d 32 93-01

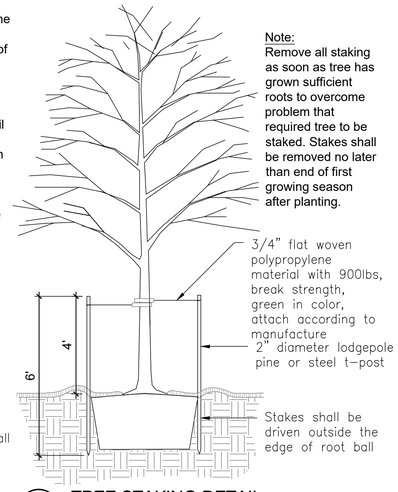
2 PLANTING DETAILS
As shown

Notes:
1. Do not heavily prune tree at planting. Prune only crossover limbs, co-dominant leaders, & broken or dead branches. Some interior twigs & lateral branches may be pruned but do not remove terminal buds of branches that extend to edge of crown.
2. Stake trees only upon approval of landscape architect (see staking detail.)
3. Refer to plans and specifications for dimensions of planting areas, types of soil amendments, or soil replacement.
4. Transplanted trees roots to be wrapped in burlap & carefully moved so that root ball remains intake.
5. Tree to be planted so trunk flare is visible at top of root ball. Trees where trunk flare is not visible shall be rejected. Do not cover top of root ball with soil.

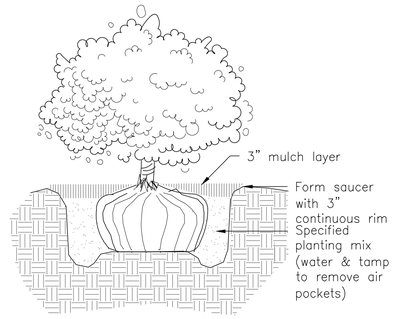


2 TREE PLANTING DETAIL
3/4" 1'-0"d 32 9343-02

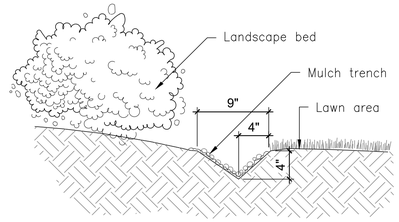
Note:
Remove all staking as soon as tree has grown sufficient roots to overcome problem that required tree to be staked. Stakes shall be removed no later than end of first growing season after planting.



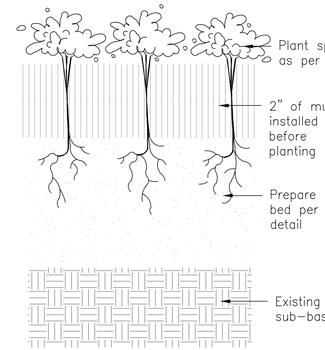
3 TREE STAKING DETAIL
3/4" 1'-0"d 32 9343-03



4 SHRUB PLANTING DETAIL
3/4" 1'-0"d 32 9333-01



7 BED EDGE DETAIL
1" 1'-0"d 32 93-03



5 GROUNDCOVER PLANTING DETAIL
3/4" 1'-0"d 32 93-02

BHD

Landscape Plan prepared by BHD, LLC, Mark Levy, PLA

REVISION		
ITEM NO.	DESCRIPTION OF CHANGE	APPROVAL DATE
	Landscape Details change	11/29/2023

MARK R. LEVY — REGISTERED LANDSCAPE ARCHITECT — 21/JAN/2023

BARTLETT DUNKIN' DONUTS
LOT 3 OF CORNER LOTS OF HIGHWAY 70 SUBDIVISION
OWNER: *BARTLETT DONUT HOLDINGS, LLC*
ENGINEER: *GRANBERRY & ASSOCIATES, LLC*

DIVISION OF ENGINEERING

LANDSCAPE DETAILS

BARTLETT, TN

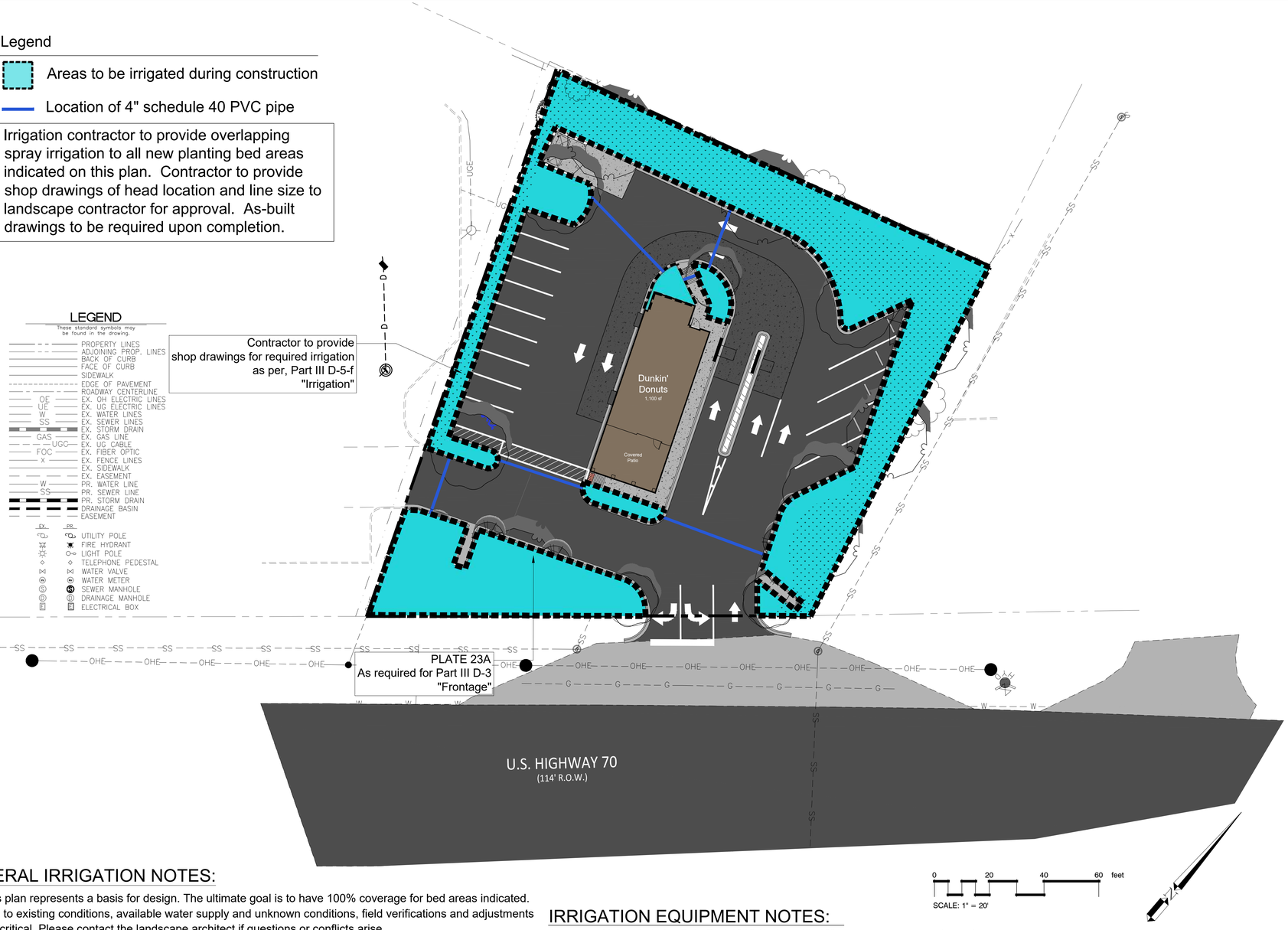
SURVEY: *HARRIS & ASSOCIATES* DATE: *05/16/2023* PROJECT NO.: ----
DESIGN BY: *J. GRANBERRY, P.E.* DATE: *11/06/2023* BOOK:
DRAWN BY: *M. LEVY, PLA* DATE: *11/06/2023* SCALE: *Varies*

Legend

Areas to be irrigated during construction

Location of 4" schedule 40 PVC pipe

Irrigation contractor to provide overlapping spray irrigation to all new planting bed areas indicated on this plan. Contractor to provide shop drawings of head location and line size to landscape contractor for approval. As-built drawings to be required upon completion.



GENERAL IRRIGATION NOTES:

1. This plan represents a basis for design. The ultimate goal is to have 100% coverage for bed areas indicated. Due to existing conditions, available water supply and unknown conditions, field verifications and adjustments are critical. Please contact the landscape architect if questions or conflicts arise.
2. Point of Connection location is schematic for the purposes of this design. Exact location is to be coordinated with owner and landscape architect.
3. Contractor is responsible for all cost of associated with the installation of a fully operational irrigation system with no additional cost to the project.
4. Operating pressure and flow are to be verified by the irrigation contractor. Any discrepancies are to be reported to the landscape architect before proceeding with the work. It is the contractors responsibility to ensure that system operates properly.
5. Irrigation Contractor is responsible for bores, sleeves, or penetrations related to the irrigation.
6. Mainline piping shall be installed at a minimum of 12". Lateral lines shall be installed at a minimum depth of 12". All lines under asphalt shall be installed at a minimum depth of 18".
7. Splices are not allowed in trench. Install wires a minimum of 10" below grade.
8. Provide "as-built" drawings showing all components of the system prior to final payment.
9. ALL EXISTING UTILITIES, WHETHER THEY ARE SHOWN ON THESE DOCUMENTS OR NOT, WHICH NEED TO BE REMOVED, RELOCATED, OR ADJUSTED SHALL BE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR.
10. Contractor is responsible for all fees related to meter installation and permits.
11. All bidders shall visit and review the site and familiarize themselves with the site prior to submitting a bid.
12. Thoroughly flush all lines prior to the operation of the sprinkler heads.

IRRIGATION EQUIPMENT NOTES:

1. All heads to be Rain Bird 1812 Series with 12" pop-ups or approved equal.
2. Swing joints are to be Rainbird 1//2" with street elbows at both ends.
3. All electric valves are to be Rainbird PGA Series or an approved equal.
4. Shut-off valve to be 2" or greater depending on system requirements and to be installed on meter side of control valve.
5. Controller to be Rainbird ESPLXM2 controller or an approved equal and is to be mounted on wall adjacent to power source. Coordinate exact location with Owner/Landscape Architect.
6. Grease filled wire connectors shall be used for the electrical connections at the valves for waterproofing purposes.

IRRIGATION INSTALLATION NOTES:

1. All components to be installed as per manufacturers recommendations.
2. All heads to be installed flush with finished grade.
3. Sprinklers to be adjusted to avoid over-spray onto non-irrigated areas.
4. Sprinklers to be installed 12" from foundations and 2" from hardscape.
5. All piping to be flushed prior to to installation of heads.
6. All valves to be in landscape area out of high traffic areas.
7. All pipes shall be installed at a minimum of 18" in depth
8. All trenching to be outside of tree drip line if possible.
9. No rocks, or other sharp objects to be in trench backfill.
10. Valves and valve box areas should be lined with filter fabric and a minimum of 3" of gravel underneath the valve. In the following order: bottom of trench (area of valve), fabric covering the area including side walls, gravel, valves.
11. All electrical work must meet state and local codes.

CITY OF BARTLETT CODE OF ORDINANCES

Section 23 Trees and Landscape Ordinance
Excerpt from Part III Construction Requirements and Approvals.

1. Frontage planting area

   On all street frontages, a landscaped depth of at least twenty (20) feet from the right-of-way line shall be provided, with or without berms, depending on topography. Plates 23A, 23B, and 23C shall be used as guidelines for planting patterns. The landscaped depth may be increased and the Plates adjusted to accommodate overhead wires in accordance with part III.A.2, "Protection of Overhead and Other Utilities."

2. Parking areas

   a. A maximum of fifteen (15) parking spaces shall be allowed between planting islands along the street frontage.
   b. A mixture of shrubs, deciduous as well as evergreen, shall be provided.
   c. A planting island shall have a minimum area of 400 square feet for a large density tree (20' square or 22.5' diameter), 300 square feet for a medium density tree (17.3' square or 19.5' diameter), and 200 square feet for a small density tree (14.1' square or 16' diameter).
   d. All parking spaces shall be within a maximum distance of seventy- five feet (75') from a tree.

3. Green/open space generally

   a. A minimum of thirty-five percent (35%) of the total land area of the lot, excluding building footprints and pavement, shall be in green/open space.
   b. Green/open space shall be distributed over the lot in proportion to the land areas between the building and the property lines.
   c. Where land will be subdivided in a manner that distribution of green/open space required under 5.a and 5.b above on each lot is impractical, such distribution may be approved through submittal and approval by the Planning Commission of a Master Plan for compliance with these requirements over the entirety of the property to be developed.
   d. Trees shall be planted in green/open space in accordance with part III.E, "Site Plan Review."
   e. One percent (1%) of the green/open space shall be planted in seasonal color.
   f. Irrigation of the green/open space shall be required on the site of construction of a new building. Installation of irrigation shall not be required on the site of change of occupancy or additions to or renovation of an existing building.

   The irrigation system shall be in compliance with the following:

   - Automatic controlled with timer.
   - Sufficient coverage of all landscaped areas.
   - Shall not spray onto paved areas, including sidewalks, driveways, streets, and parking and loading areas.
   - Equipped with a reduced pressure principle backflow prevention device, which shall be inspected annually by a certified tester.
   - Low-volume water conservation measures encouraged.

   For a site with a landscaped area small enough that it can be maintained without an irrigation system, the irrigation requirement may be waived by the Board of Mayor and Aldermen upon submittal in the landscaping plan of reasonable alternative means of watering the area.

   Drought-tolerant plant materials are encouraged.

4. Screen between Single-Family Residential and All Other Land Uses

   A twenty-foot-deep (20') landscape screen, Plate 23D, shall be provided at the boundary between single-family residential use (or zoning, if the land is vacant) and all other land uses, on the property of the other use.

   a. The landscape screen shall have the following configuration:
      - 6' wood fence at the property line, with 2' square brick or stone columns at not more than 20' on centers, including at the property corners of the adjacent residential lots. Spacing of the brick or stone columns shall be determined in the same manner as in Article VI, Section 19, Fences, part F.6.
      - Face of the columns and face of the fence flush at the residential property line.
        The fence shall be of shadowbox design unless a solid fence, with the smooth side toward the single-family-residential use, is approved by the Design Review Commission.
      - Large evergreen shrubs at 6' on centers.
      - Large-density deciduous shade trees, 2 ½" caliper, at 50' on centers.
      - Between each pair of large-density trees, five (5) evergreen trees at 12' on centers (double rows, offset), 6' - 8' height when planted.

BHD

Landscape Plan prepared by BHD, LLC, Mark Levy, PLA

REVISION		
ITEM NO.	DESCRIPTION OF CHANGE	APPROVAL DATE
	Irrigation Plan change due layout	11/29/2023

MARK R. LEVY — TENNESSEE — LANDSCAPE ARCHITECT — 11/29/2023

BARTLETT DUNKIN' DONUTS
LOT 3 OF CORNER LOTS OF HIGHWAY 70 SUBDIVISION
OWNER: *BARTLETT DONUT HOLDINGS, LLC*
ENGINEER: *GRANBERRY & ASSOCIATES, LLC*

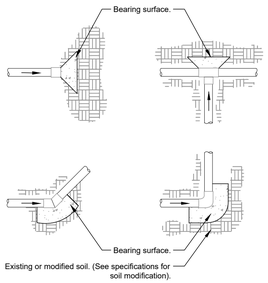
DIVISION OF ENGINEERING

IRRIGATION PLAN

BARTLETT, TN

SURVEY:	*HARRIS & ASSOCIATES*	DATE: *05/16/2023*	PROJECT NO.: ----
DESIGN BY:	*J. GRANBERRY, P.E.*	DATE: *11/06/2023*	BOOK:
DRAWN BY:	*M. LEVY, PLA*	DATE: *11/06/2023*	SCALE: *1"=20'*

C:\BLUE HOUSE ESIGNS\2023 Projects\DUNKIN DONUTS - BARTLETT\DESIGN\DUNKIN_DONUTS_BARTLETT-REVISED.dwg



MINIMUM BEARING SURFACE AREA

PIPE SIZE	TEE AND PLUG	90° BEND	45° BEND
1-1/2"	0.45 FEET ²	0.63 FEET ²	0.34 FEET ²
2"	0.69 FEET ²	0.97 FEET ²	0.53 FEET ²
2-1/2"	1.0 FEET ²	1.41 FEET ²	0.77 FEET ²
3"	1.48 FEET ²	2.10 FEET ²	1.14 FEET ²
4"	2.43 FEET ²	3.45 FEET ²	1.87 FEET ²
6"	5.25 FEET ²	7.41 FEET ²	4.02 FEET ²
8"	9.08 FEET ²	12.83 FEET ²	6.96 FEET ²
10"	14.93 FEET ²	21.07 FEET ²	11.44 FEET ²

Notes:
1- Size thrust blocks shall be specified as show in the table above.

2- Control wires shall not be encased in concrete.

3- All fittings shall be wrapped with polyethylene to prevent concrete from adhering to pipe, fittings or bolts.

4- Joints and bolts shall be accessible for repairs.

5- Thrust blocks shall be a minimum of 6" thick.

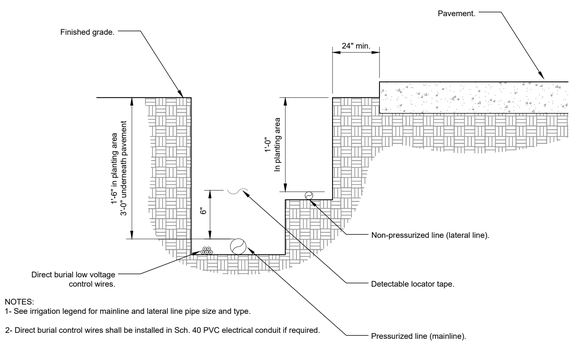
6- One 80 lbs. sack of concrete shall cover .6 ft.³

1 THRUST BLOCK

1 1/2" 1'-0"d

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FX-IR-FX-AUXEQ-07



NOTES:
1- See irrigation legend for mainline and lateral line pipe size and type.

2- Direct burial control wires shall be installed in Sch. 40 PVC electrical conduit if required.

3- 2-wire irrigation wire shall be installed in Sch. 40 PVC electrical conduit.

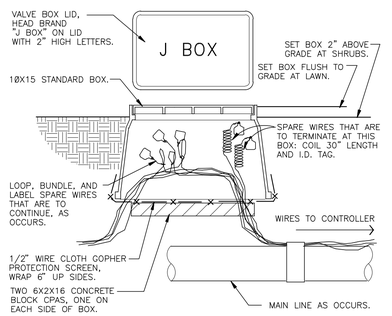
4- Detectable locator tape shall be located six inches (6") above the entire mainline run.

2 IRRIGATION TRENCHING

1 1/2" 1'-0"d

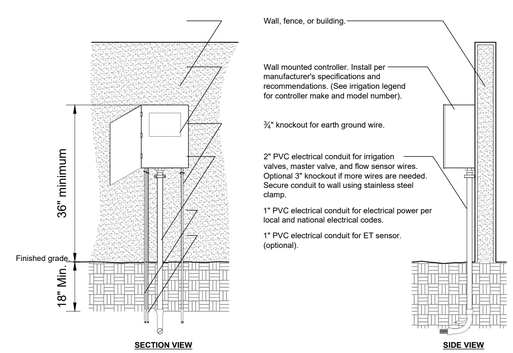
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FX-IR-FX-AUXEQ-08



3 WIRE BUNDLE JUNCTION BOX

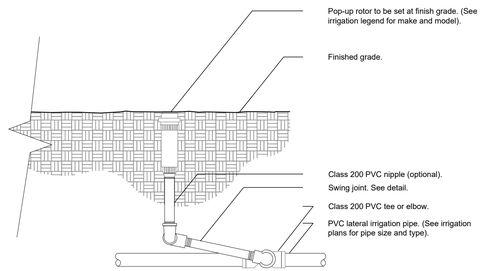
1 1/2" 1'-0"d



4 WALL MOUNTED CONTROLLER

1/2" 1'-0"d

DETAIL-FILE



Notes:
1- All threaded connection points between class 200 pvc fittings shall be installed using teflon tape.

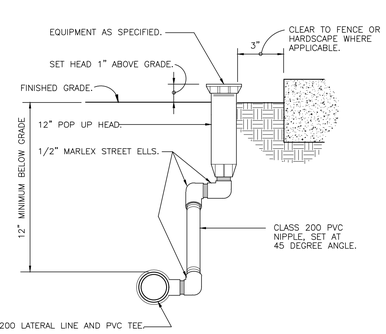
2- Contractor shall compact soil around rotor and riser prior to planting, plugging, seeding, or laying of sod.

5 ROTOR SPRAYHEAD

1 1/2" 1'-0"d

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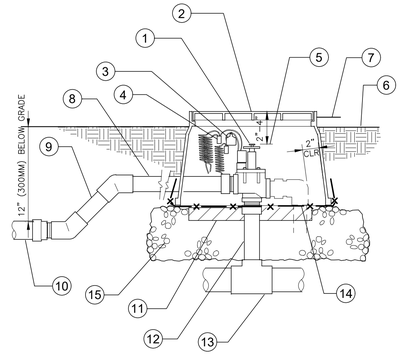
DETAIL-FILE



6 SHRUB SPRAY 12" POPUP W/MARLEX

3" 1'-0"d

DETAIL-FILE



1 REMOTE CONTROL VALVE AS SPECIFIED, ONE PER BOX.

2 18" x 12: x 12" RECTANGULAR VALVE BOX.

3 PLASTIC I.D. TAG AT EACH VALVE.

4 WATER PROOF WIRE CONNECTORS ON 30" LOOPED WIRES.

5 2" (50MM) MINIMUM, 4" (100MM) MAXIMUM BELOW TOP OF BOX.

6 2" (100MM) ABOVE FINISH GRADE AT SHRUBS.

7 3/4" (19MM) ABOVE FINISH GRADE AT LAWN.

8 OUTLET PIPE SAME SIZE AS VALVE, 24" MINIMUM (300MM) TO FIRST FITTING.

9 45 DEGREE DOWN AS REQUIRED TO LATERAL PIPE DEPTH.

10 1" CLASS 200 LATERAL LINE

11 TWO 6X2X16 CONCRETE BLOCK CAPS, ONE EACH SIDE OF THE BOX.

12 CLASS 200 RISER.

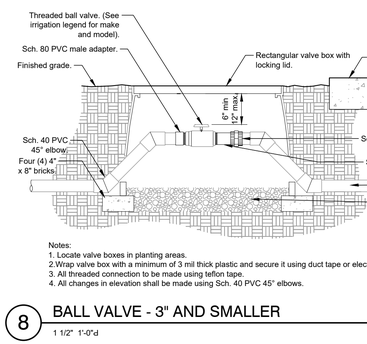
13 1.5" CLASS 200 MAIN LINE REDUCE TO 1" COMING INTO VALVE

14 1/2" WIRE CLOTH GOPHER SCREEN, WRAP UP SIDES.

15 6" (150MM) THICK LAYER OF PEA GRAVEL BASE.

7 REMOTE CONTROL VALVE

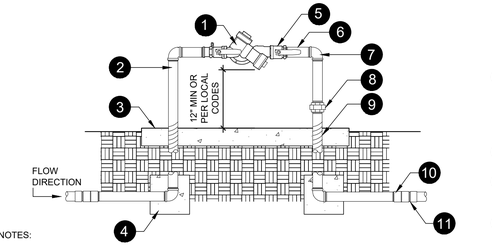
1 1/2" 1'-0"d



Notes:
1. Locate valve boxes in planting areas.
2.Wrap valve box with a minimum of 3 mil thick plastic and secure it using duct tape or electrical tape.
3. All threaded connection to be made using teflon tape.
4. All changes in elevation shall be made using Sch. 40 PVC 45° elbows.

8 BALL VALVE - 3" AND SMALLER

1 1/2" 1'-0"d



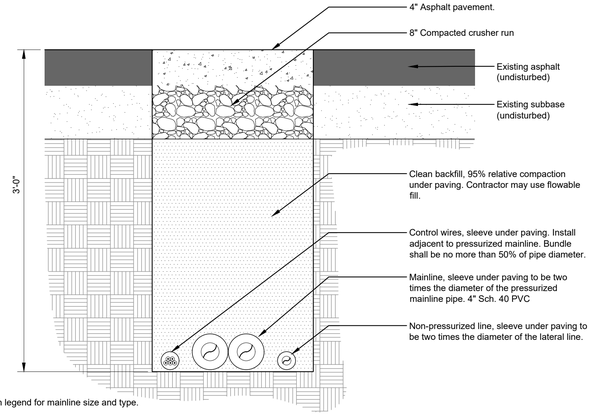
NOTES:
1. ALL ASSEMBLY PARTS (THREADED NIPPLES, FITTINGS, ETC.) SHALL BE GALVANIZED OR BRASS PER LOCAL CODES AND REQUIREMENTS.
2. GALVANIZED NIPPLE SHALL EXTEND 12" PAST THE EDGE OF THE CONCRETE FOOTING.
3. SCH. 80 PVC MALE ADAPTER SHALL BE USED IN CONNECTION FROM GALVANIZE TO THE MAINLINE.
4. BACKFLOW PREVENTION DEVICE SHALL BE LOCATED AS CLOSE AS POSSIBLE TO THE LANDSCAPE METER.
5. BACKFLOW PREVENTION DEVICE SHALL BE LOCATED IN PLANTING AREA UNLESS APPROVED BY OWNER'S REPRESENTATIVE.
6. ALL BACKFLOW PREVENTION DEVICES SHALL HAVE FREEZE BLANKET INCLUDED UPON INSTALLATION.
7. ALL GALVANIZED CONNECTIONS SHALL TO BE MADE USING PIPE THREAD SEALANT. ALL SCH. 80 PVC TO GALVANIZED CONNECTIONS TO BE MADE USING TEFLON TAPE.

1 BACKFLOW PREVENTION DEVICE INSTALL DEVICE PER THE LOCAL WATER STANDARDS AND SPECIFICATIONS
2 GALVANIZED NIPPLE
3 4" THICK CONCRETE PAD, 1" ABOVE FINISHED GRADE.
4 CONCRETE THRUST BLOCKS REQUIRED ON BACKFLOW DEVICES 2-1/2" AND LARGER
5 BRASS BALL VALVE
6 THREADED GALVANIZED NIPPLE
7 GALVANIZED 90° (DEGREE) ELBOW
8 GALVANIZED UNION
9 WRAP 20 MIL TAPE TWICE AROUND GALVANIZED PIPE UNDER FINISHED GRADE AND THROUGH THE CONCRETE
10 GALVANIZED COUPLING
11 CLASS 200 PVC MAIN LINE TO SCH. 80 FOR ALL ABOVE GROUND FITTINGS

10 BACKFLOW PREVENTION DEVICE

3/4" 1'-0"d

DETAIL-FILE



Notes:
1- See irrigation legend for mainline size and type.

2- All sleeves shall be Sch. 40 PVC pipe.

3- All sleeves shall extend 12" beyond the edge of pavement.

4- End of sleeves shall be located with a wooden stake or PVC pipe. Locators shall run continuously from the end of the sleeve to finished grade.

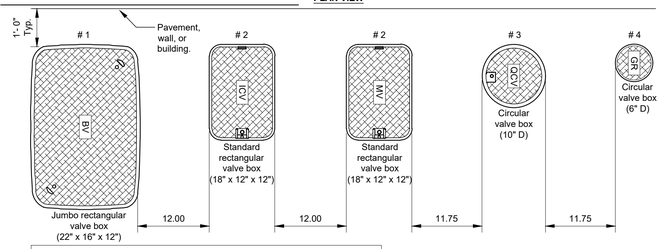
11 PIPE BENEATH PAVEMENT

1 1/2" 1'-0"d

URBAN TREE FOUNDATION © 2014
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idet_pipe at pavement

PLAN VIEW



Water type	Controller	Designation	Box size	Lid Color	Identification Guide
PW	A	MV	# 2	Green	Master valve
PW	A	FS	# 2	Green	Flow sensor
PW	A	HM	# 2	Green	Hydrometer
PW	A	BV	# 2	Green	Ball valve 3" or less
PW	A	GV	# 2	Green	Gate valve
PW	A	ARV	# 2	Green	Air release valve
PW	A	QCV	# 3	Green	Quick coupler valve
PW	A	RCV	# 2	Green	Remote control valve
PW	A	SB	# 3	Green	Splice box
PW	A	FC	# 3	Green	Future connection

Notes:

1- Disregard boxes that are not specified on Irrigation Plans.
2- Valve boxes shall be labeled by hot iron branding or aluminum asphaltic base water proof paint.
3- Locate valve assemblies in planting area.
4- Valve locations shall be approved by the Landscape Architect prior to installation.
5- Valve boxes shall be centered above valve assemblies to facilitate access and maintenance.
6- Valve boxes shall be flush with finished grade.
7- Valve boxes shall be set parallel to each other and perpendicular to the edge of pavement.
8- See other irrigation details for further information.

12 VALVE BOX LAYOUT

1" 1'-0"d

BHD

Landscape Plan prepared by BHD, LLC, Mark Levy, PLA

REVISION		
ITEM NO.	DESCRIPTION OF CHANGE	APPROVAL DATE
	Landscape Details change	11/29/2023

MARK R. LEVY — REGISTERED LANDSCAPE ARCHITECT — 21/06/2023

BARTLETT DUNKIN' DONUTS
LOT 3 OF CORNER LOTS OF HIGHWAY 70 SUBDIVISION
OWNER: *BARTLETT DONUT HOLDINGS, LLC*
ENGINEER: *GRANBERRY & ASSOCIATES, LLC*

DIVISION OF ENGINEERING

IRRIGATION DETAILS

BARTLETT, TN

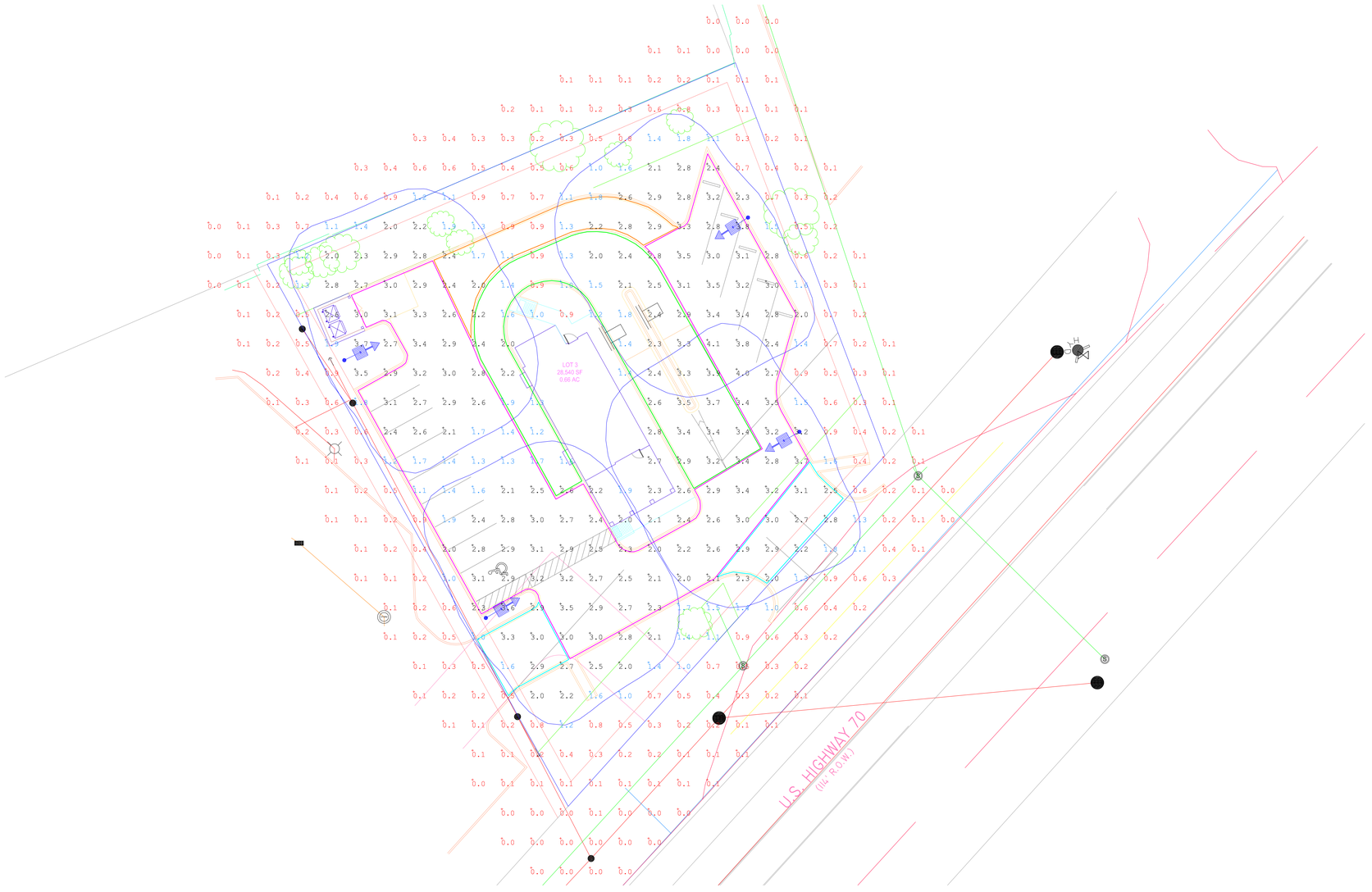
SURVEY: *HARRIS & ASSOCIATES* DATE: *05/16/2023* PROJECT NO.: ----
DESIGN BY: *J. GRANBERRY, P.E.* DATE: *11/06/2023* BOOK:
DRAWN BY: *M. LEVY, PLA* DATE: *11/06/2023* SCALE: *Varies*

1 IRRIGATION DETAILS

As shown

D:\BLE 60x96 3D\SWS\2023 Projects\SWKS 00903\25-BARTLETT\2DSWG\SWKS_00903_BARTLETT_REVISED.dwg

REVISIONS		
Rev #	Date	BY:
1	11/30/23	J.P.



Calculation Summary								
Label	Units	Avg	Max	Min	Avg/Min	Max/Min	PtSpcLr	PtSpcTb
DRIVE	Fc	1.90	2.9	0.9	2.11	3.22	10	10
DRIVE THRU	Fc	2.38	3.9	0.9	2.64	4.33		
ENTRANCE DRIVES	Fc	2.64	3.3	1.6	1.65	2.06		
PARKING	Fc	2.74	4.1	1.1	2.49	3.73		

revised

Luminaire Schedule						
WLS17523 DUNKIN DONUTS BARTLETT, TN PM: HOLLY PLEASE EMAIL US FOR PRICING AT KBRONSTAD@WLSLIGHTING.COM						
Symbol	Qty	Label	Lum. Lumens	LLF	Description	Lum. Watts
	4	A	17000	0.980	WLS-A-L-B-22L-40K7-4M-BLSLF-SLW 25' MOUNTING HEIGHT	132

Based on the information provided, all dimensions and luminaire locations shown represent recommended positions. The engineer and/or architect must determine applicability of the layout to existing or future field conditions.

This lighting pattern represents illumination levels calculated from laboratory data taken under controlled conditions utilizing current industry standard lamp ratings in accordance with Illuminating Engineering Society approved methods. Actual performance of any manufacturer's luminaire may vary due to variation in electrical voltage, tolerance in lamps and other variable field conditions.

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817-731-0020

PM:HOLLY

BY: J.P.

SHEET 1 OF 1

DUNKIN DONUTS
BARTLETT, TN

WLS-17523

DATE - 11/10/23

SCALE: 1"=20'

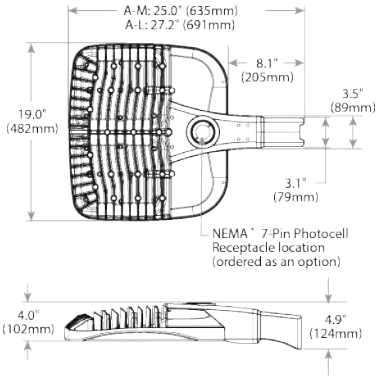
WLS LIGHTING SYSTEMS

Type:

A SERIES LED AREA



DIMENSIONS



Luminaire	Weight
A-M	28.9 lbs. (13.1kg)
A-L	32.4 lbs. (14.7kg)

Made in the U.S.A. of the U.S. and imported parts.
Meets Buy American requirements for ARRA.

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SPECIFICATIONS

CONSTRUCTION & MATERIALS

- Slim, low profile design minimizes wind load requirements
- Luminaire housing is rugged die cast aluminum with an integral, weathertight LED driver compartment and high-performance heat sink
- Convenient interlocking mounting method on direct arm. Mounting adaptor is rugged die cast aluminum and mounts to 3" (76mm) or larger square or round pole, secured by two 5/16-18 UNC bolts spaced on 2" (51mm) centers
- Mounting for the adjustable arm mount adaptor is rugged die cast aluminum and mounts to 2" (51mm) IP, 2.375" (60mm) O.D. tenon.
- Adjustable arm mount can be adjusted 180˚ in 2.5˚ increments.
- Transportation mount is constructed of 316 stainless steel and mounts to surface with (4) 3/8" fasteners by others
- Trunnion mount is constructed of A500 and A1011 steel and is adjustable from 0-180˚ in 15˚ degree increments. Trunnion mount secures to surface with (1) 3/4" bolt or (2) 1/2" or 3/8" bolts
- Luminaires ordered with NM mount include 18" (340mm) 18/5 or 16/5 cord exiting the luminaire; when combined with R option, 18" (340mm) 18/7 or 16/7 cord is provided.
- Designed for uplight and downlight applications
- Exclusive Colorfast DeltaGuard® finish features an E-Coat epoxy primer with an ultra-durable powder topcoat, providing excellent resistance to corrosion, ultraviolet degradation and abrasion. Silver, bronze, black, and white are available. Custom colors are available. Please contact your sales professional for details.

ELECTRICAL SYSTEM

- Input Voltage: 120-277V or 347-480V, 50/60Hz, Class 1 drivers
- Power Factor: > 0.9 at full load
- Total Harmonic Distortion: < 20% at full load
- Integral 10kV surge suppression protection standard; 20kV surge suppression protection optional
- When code dictates fusing, a slow blow fuse or type C/D breaker should be used to address inrush current
- Maximum 10V Source Current: 1.0mA
- Operating Temperature Range: -40˚C - +40˚C (-40˚F - +104˚F)

REGULATORY & VOLUNTARY QUALIFICATIONS

- cULus Listed (UL1598)
- Suitable for wet locations
- Meets NEMA C82.77 standards
- Drivers and LEDs are UL Recognized in accordance with UL8750
- Enclosure rated IP66 per IEC 60529 when ordered without R option
- Consult factory for CE Certified products
- Certified to ANSI C136.31-2018, 3G bridge and overpass vibration standards
- ANSI C136.2 10kV (standard) and 20kV (optional) surge protection, tested in accordance with IEEE/ANSI C62.41.2
- Meets FCC Part 15, Subpart B, Class A limits for conducted and radiated emissions
- Luminaire and finish endurance tested to withstand 5,000 hours of elevated ambient salt fog conditions as defined in ASTM Standard B 117
- Meets Buy American requirements within ARRA
- RoHS compliant. Consult factory for additional details
- Dark Sky Friendly, IDA Approved when ordered with 30K CCT and direct or transportation mounts only. Please refer to https://www.darksky.org/our-work/lighting/lighting-forindustry/ fsa/fsa-products/ for most current information
- ⚠ CA RESIDENTS WARNING: Cancer and Reproductive Harm – www.p65warnings.ca.govcurrent

WARRANTY

- The A series offers a limited 10 year warranty on the luminaire and the Colorfast DeltaGuard™ finish

CREE AUTHORIZED DISTRIBUTOR

Project Name: _____

Date: _____

Location: _____

Notes: _____

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A SERIES LED AREA

ORDERING INFORMATION SELECT APPROPRIATE CHOICE FROM EACH COLUMN TO FORMULATE ORDER CODE.

Refer to example below.

PRODUCT [3]	SERIES	LUMEN PACKAGE	CCT/CRI	OPTIC	VOLTAGE	MOUNT	COLOR OPTIONS	OPTIONS	ACCESSORIES
A-M Medium **A-L** Large	**B**	**Medium** **4L** 4,000 Lumens **6L** 6,000 Lumens **9L** 9,000 Lumens **11L** 11,000 Lumens **16L** 16,000 Lumens **Large** **22L** 22,000 Lumens **30L** 30,000 Lumens	**30K7** 3000K, 70 CRI **40K7** 4000K, 70 CRI **50K9** 5000K, 90 CRI **57K7** 5700K, 70 CRI	**Asymmetric** **2M** Type II Medium [1] **3M** Type III Medium [1] **4M** Type IV Medium [1] **Symmetric** **5M** Type V Medium **5N** Type V Narrow **5Q** Type V Square	**UL** Universal 120-277V **UH** Universal 347-480V - Not available with 4L or 6L lumen package	**DA** Direct Arm **AA** Adjustable Arm **TSP** Transportation Mount (stainless steel; do not specify color) **TM** Trunnion Mount	**BK** Black **BZ** Bronze **SV** Silver **WH** White **CC** Custom Color [2]	**F** Fuse **N** Utility Label and NEMA® 7-Pin Photocell Receptacle **R** NEMA® 7-Pin Photocell Receptacle **RL** Rotate Optic Left **RR** Rotate Optic Right **NO** No Options	**Backlight Shield (Front Facing Optics)** **BLSMF** (Medium) **BLSLF** (Large) **Backlight Shield (Rotated Optics)** **BLSMF** (Medium) **BLSLF** (Large) **Bird Spikes** MED-BRDSPK LG-BRDSPK **Hand-Held Remote** XA-SENSREM - For successful implementation of the programmable multi-level option, a minimum of one hand-held remote is required **Shorting Cap** XA-XSLSHRT
AF-M Medium Flood **AF-L** Large Flood				**N3** Narrow Flood **33** NEMA® 3x3 **44** NEMA® 4x4 **55** NEMA® 5x5 **66** NEMA® 6x6 **75** NEMA® 7x5					
ORDER:									
WLS-A-	**B**								

Example: WLS-A-M-B-11L-40K7-5M-UL-DA-BZ-NO

FOOTNOTES:

1 Available with Backlight Shield when ordered with field-installed accessory (see table above)
2 Contact your sales professional for details
3 Luminaire comes standard with 0-10V dimming

ELECTRICAL DATA

Input Power Designator	Optic	System Watts 120-480V	Utility Label Wattage	Total Current (A)					
				120V	208V	240V	277V	347V	480V
4L**	All	29	30	0.25	0.14	0.12	0.11	N/A	N/A
6L**	Asymmetric	48	50	0.41	0.23	0.20	0.17	N/A	N/A
	Symmetric	39	40	0.33	0.19	0.17	0.14	N/A	N/A
9L	All	60	60	0.51	0.29	0.25	0.22	0.18	0.13
11L	All	72	70	0.62	0.36	0.31	0.27	0.21	0.16
16L	All	104	100	0.89	0.51	0.43	0.39	0.31	0.22
22L	All	132	130	1.12	0.63	0.55	0.47	0.39	0.28
30L	All	202	200	1.72	0.96	0.84	0.72	0.60	0.43

* Electrical data at 25°C (77°F). Actual wattage may differ by +/- 10% when operating between 120-277V or 347-480V +/- 10%
** Available with UL voltage only

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Type II Mid Distribution								
Lumen Package	3000K (70 CRI)		4000K (70 CRI)		5000K (90 CRI)		5700K (70 CRI)	
	Initial Delivered Lumens*	BUG Rating** Per TM-15-11	Initial Delivered Lumens*	BUG Rating** Per TM-15-11	Initial Delivered Lumens*	BUG Rating** Per TM-15-11	Initial Delivered Lumens*	BUG Rating** Per TM-15-11
4L	4,290	B1 U0 G1	4,440	B1 U0 G1	3,810	B1 U0 G1	4,440	B1 U0 G1
6L	6,650	B1 U0 G1	6,900	B2 U0 G2	5,925	B1 U0 G1	6,900	B1 U0 G2
9L	8,875	B2 U0 G2	9,200	B2 U0 G2	7,900	B2 U0 G2	9,200	B2 U0 G2
11L	10,800	B2 U0 G2	11,175	B2 U0 G2	9,600	B2 U0 G2	11,175	B2 U0 G2
16L	15,500	B3 U0 G3	16,100	B3 U0 G3	13,800	B2 U0 G2	16,100	B3 U0 G3
22L	20,700	B3 U0 G3	22,100	B3 U0 G3	18,600	B3 U0 G3	22,100	B3 U0 G3
30L	27,800	B3 U0 G4	31,000	B3 U0 G4	22,300	B3 U0 G3	31,000	B3 U0 G4

* Initial delivered lumens at 25° C (77° F). Actual production yield may vary between - 10 and + 10% of initial delivered lumens
** For more information on the IES BUG (Backlight-Upllight-Glare) Rating visit: https://ies.org/wp-content/uploads/2017/TM-15-11BUGRatingsAddendum.pdf. Valid with no tilt

Type II Mid w/BLS Distribution								
Lumen Package	3000K (70 CRI)		4000K (70 CRI)		5000K (90 CRI)		5700K (70 CRI)	
	Initial Delivered Lumens*	BUG Rating** Per TM-15-11	Initial Delivered Lumens*	BUG Rating** Per TM-15-11	Initial Delivered Lumens*	BUG Rating** Per TM-15-11	Initial Delivered Lumens*	BUG Rating** Per TM-15-11
4L	3,300	B1 U0 G1	3,410	B1 U0 G1	2,930	B1 U0 G1	3,410	B1 U0 G1
6L	5,100	B1 U0 G1	5,300	B1 U0 G1	4,550	B1 U0 G1	5,300	B1 U0 G1
9L	6,825	B1 U0 G2	7,075	B1 U0 G2	6,075	B1 U0 G1	7,075	B1 U0 G2
11L	8,300	B1U0 G2	8,575	B1 U0 G2	7,375	B1 U0 G2	8,575	B1 U0 G2
16L	11,925	B2 U0 G2	12,350	B2 U0 G2	10,600	B2 U0 G2	12,350	B2 U0 G2
22L	15,900	B2 U0 G2	17,000	B2 U0 G3	14,250	B2 U0 G2	17,000	B2 U0 G3
30L	21,400	B2 U0 G3	22,800	B3 U0 G3	17,100	B2 U0 G3	23,800	B3 U0 G3

* Initial delivered lumens at 25° C (77° F). Actual production yield may vary between - 10 and + 10% of initial delivered lumens
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Type III Mid Distribution								
Lumen Package	3000K (70 CRI)		4000K (70 CRI)		5000K (90 CRI)		5700K (70 CRI)	
	Initial Delivered Lumens*	BUG Rating** Per TM-15-11	Initial Delivered Lumens*	BUG Rating** Per TM-15-11	Initial Delivered Lumens*	BUG Rating** Per TM-15-11	Initial Delivered Lumens*	BUG Rating** Per TM-15-11
4L	4,290	B1 U0 G1	4,440	B1 U0 G1	3,810	B1 U0 G1	4,440	B1 U0 G1
6L	6,650	B1 U0 G2	6,900	B1 U0 G2	5,925	B1 U0 G2	6,900	B1 U0 G2
9L	8,875	B2 U0 G2	9,200	B2 U0 G2	7,900	B2 U0 G2	9,200	B2 U0 G2
11L	10,800	B2 U0 G2	11,175	B2 U0 G2	9,600	B2 U0 G2	11,175	B2 U0 G2
16L	15,500	B3 U0 G3	16,100	B3 U0 G3	13,800	B2 U0 G2	16,100	B3 U0 G3
22L	20,700	B3 U0 G3	22,100	B3 U0 G3	18,600	B3 U0 G3	22,100	B3 U0 G3
30L	27,800	B3 U0 G4	31,000	B3 U0 G4	22,300	B3 U0 G3	31,000	B3 U0 G4

* Initial delivered lumens at 25° C (77° F). Actual production yield may vary between - 10 and + 10% of initial delivered lumens
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Type III Mid w/BLS Distribution								
Lumen Package	3000K (70 CRI)		4000K (70 CRI)		5000K (90 CRI)		5700K (70 CRI)	
	Initial Delivered Lumens*	BUG Rating** Per TM-15-11	Initial Delivered Lumens*	BUG Rating** Per TM-15-11	Initial Delivered Lumens*	BUG Rating** Per TM-15-11	Initial Delivered Lumens*	BUG Rating** Per TM-15-11
4L	3,390	B1 U0 G1	3,510	B1 U0 G1	3,010	B1 U0 G1	3,510	B1 U0 G1
6L	5,250	B1 U0 G2	5,450	B1 U0 G2	4,680	B1 U0 G1	5,450	B1 U0 G2
9L	7,000	B1 U0 G2	7,275	B1 U0 G2	6,225	B1 U0 G2	7,275	B1 U0 G2
11L	8,525	B1 U0 G2	8,825	B1 U0 G2	7,575	B1 U0 G2	8,825	B1 U0 G2
16L	12,250	B2 U0 G2	12,700	B2 U0 G2	10,900	B2 U0 G2	12,700	B2 U0 G2
22L	16,300	B2 U0 G3	17,500	B2 U0 G3	14,650	B2 U0 G3	17,500	B2 U0 G3
30L	21,900	B3 U0 G4	24,500	B3 U0 G4	17,600	B2 U0 G3	24,500	B3 U0 G4

* Initial delivered lumens at 25° C (77° F). Actual production yield may vary between - 10 and + 10% of initial delivered lumens
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Type IV Mid Distribution								
Lumen Package	3000K (70 CRI)		4000K (70 CRI)		5000K (90 CRI)		5700K (70 CRI)	
	Initial Delivered Lumens*	BUG Rating** Per TM-15-11	Initial Delivered Lumens*	BUG Rating** Per TM-15-11	Initial Delivered Lumens*	BUG Rating** Per TM-15-11	Initial Delivered Lumens*	BUG Rating** Per TM-15-11
4L	4,290	B1 U0 G1	4,440	B1 U0 G1	3,810	B1 U0 G1	4,440	B1 U0 G1
6L	6,650	B1 U0 G2	6,900	B1 U0 G2	5,925	B1 U0 G2	6,900	B1 U0 G2
9L	8,875	B2 U0 G2	9,200	B2 U0 G2	7,900	B1 U0 G2	9,200	B2 U0 G2
11L	10,800	B2 U0 G2	11,175	B2 U0 G2	9,600	B2 U0 G2	11,175	B2 U0 G3
16L	15,500	B2 U0 G3	16,100	B2 U0 G3	13,800	B2 U0 G2	16,100	B2 U0 G3
22L	20,700	B3 U0 G3	22,100	B3 U0 G4	18,600	B3 U0 G3	22,100	B3 U0 G4
30L	27,800	B3 U0 G4	31,000	B3 U0 G4	22,300	B3 U0 G4	31,000	B3 U0 G4

* Initial delivered lumens at 25° C (77° F). Actual production yield may vary between - 10 and + 10% of initial delivered lumens
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Type IV Mid w/BLS Distribution								
Lumen Package	3000K (70 CRI)		4000K (70 CRI)		5000K (90 CRI)		5700K (70 CRI)	
	Initial Delivered Lumens*	BUG Rating** Per TM-15-11	Initial Delivered Lumens*	BUG Rating** Per TM-15-11	Initial Delivered Lumens*	BUG Rating** Per TM-15-11	Initial Delivered Lumens*	BUG Rating** Per TM-15-11
4L	3,390	B1 U0 G1	3,410	B1 U0 G1	2,930	B1 U0 G1	3,410	B0 U0 G1
6L	5,100	B1 U0 G2	5,300	B1 U0 G2	4,550	B1 U0 G1	5,300	B1 U0 G2
9L	6,825	B1 U0 G2	7,075	B1 U0 G2	6,075	B1 U0 G2	7,075	B1 U0 G2
11L	8,300	B1 U0 G2	8,575	B1 U0 G2	7,375	B1 U0 G2	8,575	B1 U0 G2
16L	11,925	B1 U0 G2	12,350	B1 U0 G2	10,600	B1 U0 G2	12,350	B1 U0 G2
22L	15,900	B2 U0 G3	17,000	B2 U0 G3	14,250	B1 U0 G3	17,000	B2 U0 G3
30L	21,400	B2 U0 G4	23,800	B2 U0 G4	17,100	B2 U0 G3	23,800	B2 U0 G4

* Initial delivered lumens at 25° C (77° F). Actual production yield may vary between - 10 and + 10% of initial delivered lumens
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Type V Mid Distribution								
Lumen Package	3000K (70 CRI)		4000K (70 CRI)		5000K (90 CRI)		5700K (70 CRI)	
	Initial Delivered Lumens*	BUG Rating** Per TM-15-11	Initial Delivered Lumens*	BUG Rating** Per TM-15-11	Initial Delivered Lumens*	BUG Rating** Per TM-15-11	Initial Delivered Lumens*	BUG Rating** Per TM-15-11
4L	4,190	B3 U0 G2	4,370	B3 U0 G2	3,700	B2 U0 G2	4,370	B3 U0 G2
6L	5,900	B3 U0 G3	6,150	B3 U0 G3	5,200	B3 U0 G2	6,150	B3 U0 G3
9L	9,300	B3 U0 G3	9,700	B4 U0 G3	8,225	B3 U0 G3	9,700	B4 U0 G3
11L	10,850	B4 U0 G3	11,325	B4 U0 G3	9,575	B4 U0 G3	11,325	B4 U0 G3
16L	14,650	B4 U0 G4	15,300	B4 U0 G4	12,950	B4 U0 G4	15,300	B4 U0 G4
22L	20,200	B5 U0 G5	21,700	B5 U0 G5	19,800	B5 U0 G5	21,700	B5 U0 G5
30L	26,600	B5 U0 G5	27,800	B5 U0 G5	23,600	B5 U0 G5	27,800	B5 U0 G5

* Initial delivered lumens at 25° C (77° F). Actual production yield may vary between - 10 and + 10% of initial delivered lumens
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Type V Narrow Distribution								
Lumen Package	3000K (70 CRI)		4000K (70 CRI)		5000K (90 CRI)		5700K (70 CRI)	
	Initial Delivered Lumens*	BUG Rating** Per TM-15-11	Initial Delivered Lumens*	BUG Rating** Per TM-15-11	Initial Delivered Lumens*	BUG Rating** Per TM-15-11	Initial Delivered Lumens*	BUG Rating** Per TM-15-11
4L	4,430	B3 U0 G1	4,620	B3 U0 G1	3,910	B3 U0 G1	4,620	B3 U0 G1
6L	6,225	B3 U0 G1	6,500	B3 U0 G2	5,500	B3 U0 G1	6,500	B3 U0 G2
9L	9,825	B4 U0 G2	10,250	B4 U0 G2	8,675	B3 U0 G2	10,250	B4 U0 G2
11L	11,450	B4 U0 G2	11,950	B4 U0 G2	10,125	B4 U0 G2	11,950	B4 U0 G2
16L	15,475	B4 U0 G3	16,125	B4 U0 G3	13,675	B4 U0 G2	16,125	B4 U0 G3
22L	21,300	B5 U0 G3	22,900	B5 U0 G3	20,900	B5 U0 G3	22,900	B5 U0 G3
30L	28,400	B5 U0 G4	29,700	B5 U0 G4	25,200	B5 U0 G3	29,700	B5 U0 G4

* Initial delivered lumens at 25° C (77° F). Actual production yield may vary between - 10 and + 10% of initial delivered lumens
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Type V Square Distribution								
Lumen Package	3000K (70 CRI)		4000K (70 CRI)		5000K (90 CRI)		5700K (70 CRI)	
	Initial Delivered Lumens*	BUG Rating** Per TM-15-11	Initial Delivered Lumens*	BUG Rating** Per TM-15-11	Initial Delivered Lumens*	BUG Rating** Per TM-15-11	Initial Delivered Lumens*	BUG Rating** Per TM-15-11
4L	4,430	B3 U0 G1	4,620	B3 U0 G1	3,910	B2 U0 G1	4,620	B3 U0 G1
6L	6,225	B3 U0 G1	6,500	B3 U0 G1	5,500	B3 U0 G1	6,500	B3 U0 G1
9L	9,825	B3 U0 G2	10,250	B3 U0 G2	8,675	B3 U0 G2	10,250	B3 U0 G2
11L	11,450	B4 U0 G2	11,950	B4 U0 G2	10,125	B3 U0 G2	11,950	B4 U0 G2
16L	15,475	B4 U0 G2	16,125	B4 U0 G2	13,675	B4 U0 G2	16,125	B4 U0 G2
22L	21,300	B4 U0 G2	22,900	B5 U0 G3	20,900	B4 U0 G2	22,900	B5 U0 G3
30L	28,400	B5 U0 G3	29,700	B5 U0 G3	25,200	B5 U0 G3	29,700	B5 U0 G3

* Initial delivered lumens at 25° C (77° F). Actual production yield may vary between - 10 and + 10% of initial delivered lumens
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Narrow Flood Distribution				
Lumen Package	3000K (70 CRI)	4000K (70 CRI)	5000K (90 CRI)	5700K (70 CRI)
	Initial Delivered Lumens*	Initial Delivered Lumens*	Initial Delivered Lumens*	Initial Delivered Lumens*
4L	4,430	4,620	3,910	4,620
6L	6,225	6,500	5,500	6,500
9L	9,825	10,250	8,675	10,250
11L	11,450	11,950	10,125	11,950
16L	15,475	16,125	13,675	16,125
22L	21,300	22,900	20,900	22,900
30L	28,400	29,700	25,200	29,700

* Initial delivered lumens at 25° C (77° F). Actual production yield may vary between - 10 and + 10% of initial delivered lumens

NEMA® 3x3 Distribution				
Lumen Package	3000K (70 CRI)	4000K (70 CRI)	5000K (90 CRI)	5700K (70 CRI)
	Initial Delivered Lumens*	Initial Delivered Lumens*	Initial Delivered Lumens*	Initial Delivered Lumens*
4L	4,430	4,620	3,910	4,620
6L	6,225	6,500	5,500	6,500
9L	9,825	10,250	8,675	10,250
11L	11,450	11,950	10,125	11,950
16L	15,475	16,125	13,675	16,125
22L	21,300	22,900	20,900	22,900
30L	28,400	29,700	25,200	29,700

* Initial delivered lumens at 25° C (77° F). Actual production yield may vary between - 10 and + 10% of initial delivered lumens

NEMA® 4x4 Distribution				
Lumen Package	3000K (70 CRI)	4000K (70 CRI)	5000K (90 CRI)	5700K (70 CRI)
	Initial Delivered Lumens*	Initial Delivered Lumens*	Initial Delivered Lumens*	Initial Delivered Lumens*
4L	4,430	4,620	3,910	4,620
6L	6,225	6,500	5,500	6,500
9L	9,825	10,250	8,675	10,250
11L	11,450	11,950	10,125	11,950
16L	15,475	16,125	13,675	16,125
22L	21,300	22,900	20,900	22,900
30L	28,400	29,700	25,200	29,700

* Initial delivered lumens at 25° C (77° F). Actual production yield may vary between - 10 and + 10% of initial delivered lumens

NEMA® 5x5 Distribution				
Lumen Package	3000K (70 CRI)	4000K (70 CRI)	5000K (90 CRI)	5700K (70 CRI)
	Initial Delivered Lumens*	Initial Delivered Lumens*	Initial Delivered Lumens*	Initial Delivered Lumens*
4L	4,430	4,620	3,910	4,620
6L	6,225	6,500	5,500	6,500
9L	9,825	10,250	8,675	10,250
11L	11,450	11,950	10,125	11,950
16L	15,475	16,125	13,675	16,125
22L	21,300	22,900	20,900	22,900
30L	28,400	29,700	25,200	29,700

* Initial delivered lumens at 25° C (77° F). Actual production yield may vary between - 10 and + 10% of initial delivered lumens

NEMA® 6x6 Distribution				
Lumen Package	3000K (70 CRI)	4000K (70 CRI)	5000K (90 CRI)	5700K (70 CRI)
	Initial Delivered Lumens*	Initial Delivered Lumens*	Initial Delivered Lumens*	Initial Delivered Lumens*
4L	4,430	4,620	3,910	4,620
6L	6,225	6,500	5,500	6,500
9L	9,825	10,250	8,675	10,250
11L	11,450	11,950	10,125	11,950
16L	15,475	16,125	13,675	16,125
22L	21,300	22,900	20,900	22,900
30L	28,400	29,700	25,200	29,700

* Initial delivered lumens at 25° C (77° F). Actual production yield may vary between - 10 and + 10% of initial delivered lumens

NEMA® 7x5 Distribution				
Lumen Package	3000K (70 CRI)	4000K (70 CRI)	5000K (90 CRI)	5700K (70 CRI)
	Initial Delivered Lumens*	Initial Delivered Lumens*	Initial Delivered Lumens*	Initial Delivered Lumens*
4L	4,430	4,620	3,910	4,620
6L	6,225	6,500	5,500	6,500
9L	9,825	10,250	8,675	10,250
11L	11,450	11,950	10,125	11,950
16L	15,475	16,125	13,675	16,125
22L	21,300	22,900	20,900	22,900
30L	28,400	29,700	25,200	29,700

* Initial delivered lumens at 25° C (77° F). Actual production yield may vary between - 10 and + 10% of initial delivered lumens

WLS LIGHTING SYSTEMS

6820 Corporation Pkwy
Fort Worth, TX 76126
800.633.8711

www.wlslighting.com

Project Name: _____

Date: _____

Location: _____

Notes: _____

29 REV. 04/22

Specifications subject to change without notice.

A SERIES LED AREA

Adjustable Arm Mount - WLS-A-ML-B-AA Weight: Medium - 28.4 lbs. (12.9kg); Large - 32.0 lbs. (14.5kg); **Utility Arm Mount (UA/UB)** † Weight: Medium - 29.5 lbs. (13.4kg); Large - 33.1 lbs. (15.0kg)								
Luminaire	Single	2 @ 180°	2 @ 90°	3 @ 90°	3 @ 120°	3 @ 180°	4 @ 180°	2 @ 90°
	Tenon Configuration (0° - 80° Tilt); if used with WLS Lighting tenons, please add tenon EPA with luminaire EPA							
								
	PB-1A*; PT-1; PW-1A3**	PB-2A*' PB-2R2.375; PD-2A4(180); PT-2(180); PW-2A3**	PB-2A*; PD-2A4(90); PT-2(90)	PB-3A*; PD-3A4(90); PT-3(90)	PB-3A*; PT-3(120)	PB-3A*; PB-3R2.375	PB-4A*(180)	PB-4A*(90); PB-4R2.375; PD-4A4(90); PT-4(90)
	0° TILT							
WLS-A-M	0.74	1.48	1.19	1.93	1.63	3.33	4.66	2.38
WLS-A-L	0.80	1.61	1.26	2.06	1.68	3.33	4.66	2.52
	10° TILT							
WLS-A-M	0.75	1.48	1.49	2.29	2.15	4.22	5.84	2.98
WLS-A-L	0.81	1.61	1.62	2.42	2.32	4.40	6.08	3.24
	20° TILT							
WLS-A-M	1.12	1.48	1.86	2.60	2.85	5.31	7.32	3.72
WLS-A-L	1.24	1.61	2.04	2.84	3.13	5.68	7.80	4.08
	30° TILT							
WLS-A-M	1.46	1.48	2.20	2.94	3.56	6.34	8.68	4.40
WLS-A-L	1.64	1.64	2.44	3.24	3.97	6.88	9.40	4.88
	45° TILT							
WLS-A-M	1.96	1.96	2.69	3.43	4.54	7.83	10.68	5.38
WLS-A-L	2.2	2.20	3.00	3.80	5.07	8055	11.64	6.00
	60° TILT							
WLS-A-M	2.33	2.33	3.07	3.81	5.11	8.94	12.16	6.14
WLS-A-L	2.82	2.82	3.62	4.42	5.73	10.41	14.12	7.24
	70° TILT							
WLS-A-M	2.49	2.49	3.23	3.97	5.11	9.43	12.80	6.46
WLS-A-L	2.82	2.82	3.62	4.42	5.73	10.41	14.12	7.24
	80° TILT							
WLS-A-M	2.58	2.58	3.32	4.06	5.11	9.71	13.16	6.64
WLS-A-L	2.93	2.93	3.73	4.53	5.73	10.74	14.56	7.46
	Tenon Configuration (90° Tilt); if used with WLS Lighting tenons, please add tenon EPA with Luminaire EPA							
	PBA-1A*; PT-1; PW-1A3**	PB-2A*; PB-2R2.375; PD-2A4(180); PT-2(180); PW-2A3**	PB-2A*	PB-3A*	PB-3A*; PT-3(120)	PB-3A*; PB-3R2.375	PB-4A*(180)	PB-4A*(90); PB-4R2.375
	90° TILT							
WLS-A-M	2.61	2.61	4.44	6.05	5.11	9.79	13.28	10.39
WLS-A-L	2.95	2.95	4.84	6.52	5.73	10.81	14.61	11.19

† UA & UB mounts may only be tilted to 45°
* Specify pole size: 3 (3"), 4 (4"), 5 (5"), or 6 (6") for single, double or triple luminaire orientation or 4 (4"), 5 (5"), or 6 (6") for quad luminaire orientation
** These EPA values must be multiplied by the following ratio: Fixture Mounting Height/Total Pole Height. Specify pole size: 3 (3"), 4 (4"), 5 (5"), or 6 (6")

WLS LIGHTING SYSTEMS

6820 Corporation Pkwy
Fort Worth, TX 76126
800.633.8711

www.wlslighting.com

Project Name: _____
Date: _____
Location: _____
Notes: _____

29 REV. 04/22
Specifications subject to change without notice.

A SERIES LED AREA

Tenon EPA	
Part Number	**EPA**
PB-1A*	None
PB-2A*	0.82
PB-3A*	1.52
PB-4A*(180)	2.22
PB-4A*(90)	1.11
PB-2R2.375	0.92
PB-3R2.375	1.62
PB-4R2.375	2.32
PD Series Tenons	0.09
PT Series Tenons	0.10
PW-1A3**	0.47
PW-2A3**	0.94
WM-2	0.08
WM-4	0.25
WM-DM	None

* Specify pole size: 3 (3"), 4 (4"), 5 (5"), or 6 (6") for single, double or triple luminaire orientation or 4 (4"), 5 (5"), or 6 (6") for quad luminaire orientation
** These EPA values must be multiplied by the following ratio: Fixture Mounting Height/Total Pole Height. Specify pole size: 3 (3"), 4 (4"), 5 (5"), or 6 (6")

Tenons and Brackets (must specify color)

Square Internal Mount Vertical Tenons (Steel)

- Mounts to 3-6" (76-152mm) square aluminum or steel poles

PB-1A* - Single
PB-2A* - 180° Twin
PB-3A* - 180° Twin
PB-4A*(90) - 90° Quad
PB-4A*(180) - 180° Quad

Square Internal Mount Horizontal Tenons (Aluminum)

- Mounts to 4" (102mm) square aluminum or steel poles

PD-2A4(90) - 90° Twin
PD-2A4(90) - 180° Twin
PD-3A4(90) - 90° Triple
PD-4A4(90) - 90° Quad

Wall Mount Brackets

- Mounts to wall or roof

WM-2 - Horizontal for WLS-A-ML-B-AA mount
WM-4 - L-Shape for WLS-A-ML-B-AA mount
WM-DM - Plate for WLS-A-ML-B-DA mount

Round External Mount Vertical Tenons (Steel)

- Mounts to 2.375" (60mm) O.D. round aluminum or steel poles or tenons

PB-2R2.375 - Twin
PB-3R2.385 - Triple
PB-4R2.375 - Quad

Round External Mount Horizontal Tenons (Aluminum)

- Mounts to 2.375" (60mm) O.D> round aluminum or steel poles or tenons
- Mounts to square pole with PB-1A*

PT-1 - Single (Vertical)
PT-2 - 90° Twin
PT-2(180) 0 180° Twin
PT-3 - 90° Triple
PT-3(120) - 120° Triple
PT-4(90) - 90° Quad

Mid-Pole Bracket

- Mounts to Square Pole

PW-1A3** - Single
PW-2A3** - Double

Ground Mount Post

- For ground-mounted flood luminaires

PGM-1 - for WLS-A-ML-B-AA mount

WLS LIGHTING SYSTEMS
6820 Corporation Pkwy
Fort Worth, TX 76126
800.633.8711
www.wlslighting.com

Project Name: _____
Date: _____
Location: _____
Notes: _____

29 REV. 04/22
Specifications subject to change without notice.

City of Bartlett, Tennessee
Municipal Planning Commission
Staff Report

Site Plan

Club Car Wash

DATE:	December 4, 2023
STAFF:	Kim Taylor, Planning Director; Leslie Brock, Planner; John Horne, Engineering Director; Erin Campbell, Assistant Engineering Director; Max Gomez-Pedro, Land Development Engineer; Trey Arthur, Code Enforcement Director; Matt Crenshaw, Public Works Director; Aaron Davidson, Public Works Assistant Director; Howard McNatt, Fire Marshal; Craig Jones, Deputy Fire Marshal
SUBJECT:	Planning Commission Site Plan Application Review
APPLICANT:	Bruce Lynn, TTL
DEVELOPER:	Justin Barnes, Club Car Wash
SITE LOCATION:	North of the Intersection of Highway 70 & Appling Road
SITE ACREAGE:	1.07 acres
ZONING:	"C-H" Highway Business District
LOTS:	1

INTRODUCTION:

Mr. Bruce Lynn with TTL, Inc. is requesting Planning Commission approval of a revised Site Plan for the Club Car Wash. The subject property is located at 8274 Highway 64 within the "C-H" Highway Business Zoning District.

BACKGROUND:

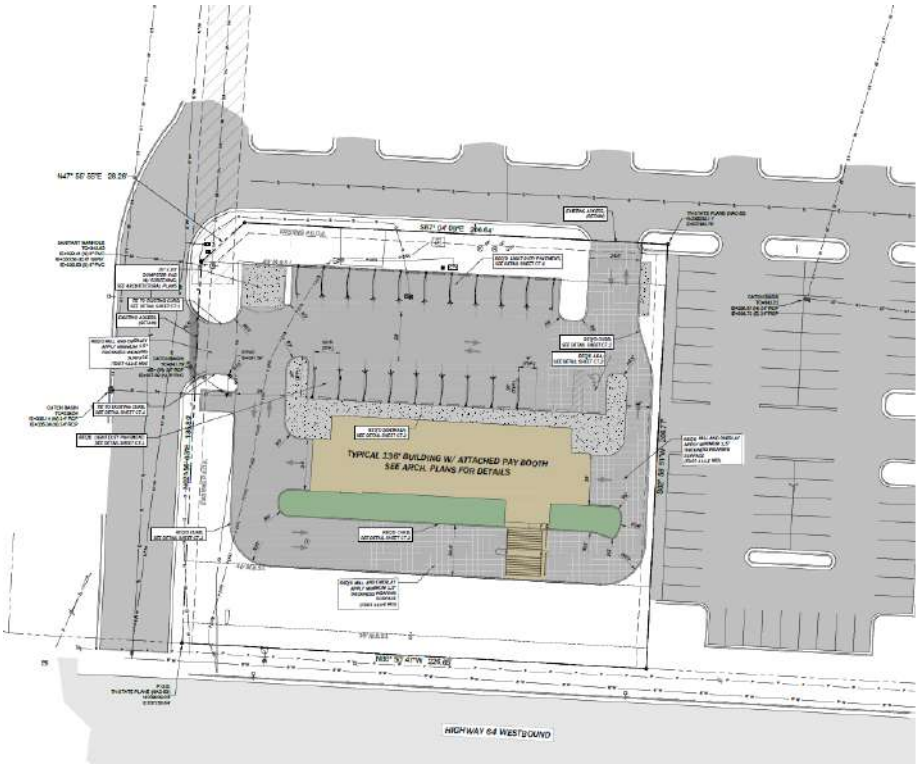
On September 9, 2003, the Planning Commission approved a Site Plan for Abuelo's Restaurant on the subject property.

DISCUSSION:

The specific request by the applicant is for the approval of a revised Site Plan to construct a 5,029 square foot automatic vehicle wash. The site will have 20 self-service automobile vacuum cleaners on the north side of the building. Access to the site will be from shared ingress/egress access with Lowes and curb cuts on Highway 64. Specifics of the site plan are as follows:

Site Data	
Site Area:	1.07 acres/46,565 square feet
Total Parking Spaces Removed:	86
Total Proposed Parking Spaces:	22 (4 regular/18 with vacuum)
Handicap Accessible:	1 van accessible
Regular:	21
Proposed Building Area:	5,028 square feet
Greenspace/Openspace:	39.25%
Building Height:	28 feet 10.5 inches

Recommendation:
Approval with conditions.



Engineering Conditions:

General:

1. A Commercial Site Plan contract may be required and will be prepared by Engineering and submitted to the developer/engineer for review to cover the fees to be paid to the City of Bartlett.
2. Applicant/ Engineer shall provide a **digital set of drawing** files showing the sanitary sewer lines, drainage lines, lot lines and all improvements in AutoCAD format to dhubbard@cityofbartlett.org and ecampbell@cityofbartlett.org for use in the preparation of the Water Design Plan. This plan will be coordinated with the site design engineer to resolve any conflicts.
3. A SWPPP and a TDEC permit may be required and shall be submitted to TDEC and also to the City of Bartlett Engineering office.
4. All new utilities shall be underground.

Site Plan:

5. Demo plan and utility cut-odd shall be submitted with a permit from Code Enforcement prior to site construction.

Utility Plan:

6. If any sewer cleanout is located in a paved area, then it shall comply with the detail approved by Bartlett Codes which involves a brass connections and a concrete collar.

Planning Conditions:

1. Applicant shall ensure that all parking spaces are within a maximum distance of 75 feet from a tree.
2. The applicant must add Streetscape/Landscape Plate 23 A, B, or C template to the Site Plan along Highway 64.
3. Irrigation is required for all planting on the landscape plan.
4. The commercial property owner will be responsible for landscape maintenance of the entire lot in perpetuity.
5. Should the proposed site plan be approved by the Planning Commission, the applicant shall seek site approval from the Design Review Commission for landscaping, lighting, signage and exterior elevations, colors, and materials.
6. The owner/applicant shall identify all utilities on site by contacting Tennessee One Call at 811 before commencing any site work.
7.

7. The owner/applicant shall be present at the meeting in order to make decisions relative to any changes that may be suggested by the Planning Commission.

Bartlett Planning and Economic Development Department 6382 Stage Road, P.O. Box 341148 Bartlett, TN 38184-1148 901-385-6417 FAX 901-385-6419 www.cityofbartlett.org	**Bartlett Planning Commission** **Application for Site Plan Approval**

Project Name Club Car Wash [redacted] 8274 Highway 64

Project Address 8724 Highway 64

Owner/Developer Contact Justin Barnes Phone 573-999-5178

Company Name Club Car Wash Fax

Address 1591 E. Prathersville Road, Columbia, MO 65202

Email Address jbarnes@clubcarwash.com

Architect Contact Holly Bergman Phone 913-498-1550 ext 114

Company Name Finkle + Williams Fax

Address 8787 Renner Blvd Suite 100, Lenexa, KS 66219

Email Address hbergman@finklewilliams.com

Engineer Contact Don Collins Phone 615-934-5721

Company Name TTL, Inc. Fax

Address 624 Grassmere Park, Ste. 14, Nashville, TN 37211

Email Address dcollins@ttlusa.com

Submitted by Bruce Lynn (signature) 11/06/2023

(printed name) (signature) (date)

Email Address bruce.lynn@ttlusa.com **Phone** 615-934-6504 **Fax**

JL Acknowledge (by initials in the blank to the left) that the "**Application Instructions: Planning Commission**" were obtained and read prior to submitting this application.

JL The "**Site Plan Checklist**" has been completed and required all items have been provided. (See reverse page/or attached checklist)

JL Provide 18-folded (± 10"x13") sets of plans with a copy of the signed application attached to each set.

JL Provide an electronic PDF file of the plans. Note that an updated electronic file is required when plans are revised. The electronic file shall be labeled with the project name and accurately dated.

JL **Without Contract:** Include a fee of $400.00 with this application (check payable to the City of Bartlett).

____ **With Contract:** Include a fee of $500.00 with this application (check payable to the City of Bartlett).

The fee is non-refundable. Approval may be granted to the entire development for construction purposes, or approval may be granted by stages. Any unauthorized deviation from the approved Site Plan shall constitute a violation of the Building Permit. If the site is subject to the Subdivision process, all requirements of the Subdivision Ordinance must be met.

I, the property owner(s) hereby authorize the filing of this application.

_____, Justin Barnes 11/3/2023

(print name) **(signature)** **(date)**

Bartlett Planning and
Economic Development Department
6382 Stage Road, P.O. Box 341148
Bartlett, TN 38184-1148
901-385-6417 FAX 901-385-6419
www.cityofbartlett.org

Site Plan Checklist

The site plan package shall include the information below, with dimensions as necessary to show compliance with the Zoning Ordinance and to locate required features:

✓ a. The proposed development's name and location, the name(s) and address(es) of the owner(s), and the name of the designer of the site plan.

✓ b. A site location (vicinity) map.

✓ c. Date, north point and *graphic* scale. Draw to scale on sheets **no larger than 24" x 36"**. Scale shall be no smaller than 1" = 100′ and large enough to show required detail clearly and distinctly. Use an engineer's scale. An architect's scale may be used for building elevations.

✓ d. The locations of existing and platted property lines and any existing streets, buildings, easements, etc.

✓ e. The locations and dimensions of proposed streets, buildings, easements, lot lines and other site plan features.

✓ f. The proposed types of uses and their locations, height of buildings, arrangement, lot coverage, yards and open spaces.

✓ g. A grading and drainage plan that has provisions for detention. Also, provide flood hazard details when applicable.

✓ h. Floor area of proposed buildings or building additions (each floor, in square feet).

✓ i. Proposed off-street parking with parking spaces shown and dimensioned.

✓ j. Landscaping and screening plan, evidence of compliance with required landscaping.

✓ k. Table on the landscape plan showing compliance with the Tree Ordinance.

✓ l. Other information as may be required by the Planning Commission.

N/A m. A tree survey by a certified arborist is required if there are trees larger than 6" in diameter on the site.

✓ n. A tree protection plan that is signed by a surveyor and arborist showing trees to be removed and saved is required.

✓ o. Erosion control plan.

✓ p. Location of sewer and water services and water meter sizes.

✓ q. The applicant must provide one PDF file of the pictorial portion of the site plan (and also one of any separate landscaping plan), for display at the Planning Commission meeting.

Plans shall be sealed, signed and dated by an engineer that is registered in the State of Tennessee.

INCOMPLETE APPLICATIONS WILL NOT BE PROCESSED

Wes Hopper
2588 Kilgore Cove
Memphis, TN. 38133
901-604-3753
Certified Arborist #so1454a
urban4estry@att.net

Bruce Lynn, E.I.
Project Manager
624 Grassmere Park. Ste. 14, Nashville, TN. 37211
Office: 615-331-7770
Cell: 615-934-6504
www.ttlusa.com
bruce.lynn@ttlusa.com

November 3, 2023

Re: Club Car Wash
8724 Highway 64
Bartlett, Shelby County, TN

Mr. Lynn,
This is the report that you requested. This report is intended to assist you in meeting the requirements designated by the City of Bartlett. You had sent me a demolition plan which included the plant material to remain and the plant material to be removed. It was also requested by the City of Bartlett to provide a plan for tree protection.
The report is as follows:

City of Bartlett,TN. Tree Ordinance

Section 23 - Tree and Landscaping Ordinance
Part II. Tree Protection
Part II A. 2a. Grading or filling and drainage design shall be adjusted to avoid disturbance to drainage and roots and to avoid soil compaction in the Tree Protection Zone.
Part II A. 2b. All trees on public property or on private construction sites that are scheduled for protection shall be guarded by a four foot-high (4') (minimum) fence at a distance from the trunk corresponding to the Tree Protection Zone. The area within the fence shall be identified as a Tree Protection Zone, and no building material, dirt, other debris or any equipment or vehicles shall be allowed inside the barrier. This protection shall remain in place through the entire development process, from before initial clearing of the site through completion and final use and occupancy approval of the house or other building construction.

Trees to be Saved

	Species	(DBH)	Condition	WOR	Density
1.	Overcup Oak	14”	Good	Yes	1
2.	Red Maple	6”	Good	Yes	.75
3.	Willow Oak	12”	Good	Yes	1
4.	Crepe Myrtle	8”	Good	Yes	.5
5.	Crepe Myrtle	8”	Good	Yes	.5
6.	Crepe Myrtle	8”	Good	Yes	.5
7.	Crepe Myrtle	8”	Good	Yes	.5
8.	Crepe Myrtle	8”	Good	Yes	.5
9.	Crepe Myrtle	8”	Good	Yes	.5
10.	Crepe Myrtle	8”	Good	Yes	.5
11.	Crepe Myrtle	8”	Good	Yes	.5
12.	Crepe Myrtle	8”	Good	Yes	.5
13.	Willow Oak	12”	Good	Yes	1
14.	Crepe Myrtle	8”	Fair	No	.5
15.	Crepe Myrtle	4”	Poor	No	.5
16.	Crepe Myrtle	4”	Poor	No	.5
17.	Crepe Myrtle	4”	Poor	No	.5
18.	Red Maple	12”	Good	Yes	.75
19.	Pin Oak	16”	Good	Yes	1

Total DBH to be Preserved

164”

Total Density Units to be Preserved

12

Trees to be Removed

	Species	(DBH)	Condition	WOR	Density
1.	Crepe Myrtle	8”	Fair	No	.5
2.	Holly	4”	Good	No	.5
3.	Crepe Myrtle	4”	Poor	No	.5
4.	Holly	4”	Good	No	.5
5.	Crepe Myrtle	6”	Poor	No	.5
6.	Holly	4”	Fair	No	.5
7.	Holly	Not there			
8.	Crepe Myrtle	Not there			
9.	Holly	Not there			

Total DBH to be Removed

30”

Total Density Units to be Removed
30

Mr. Lynn, If the tree species need to be added to your plans I will be glad to assist you. If any additional information is required please let me know.

Sincerely,
Wes Hopper
ISA Certified Arborist #so1454

CCW - 8274 HIGHWAY 64

CLUB CAR WASH
8274 HIGHWAY 64
BARTLETT, SHELBY COUNTY, TN

TTL PROJECT NO. 230800449.16

November 3, 2023

VICINITY MAP



PROPERTY INFORMATION

OWNER/DEVELOPER: CLUB CAR WASH
JUSTIN BARNES
573-999-5178
JBARNES@CLUBCARWASH.COM
1591 E. PRATHERSVILLE ROAD
COLUMBIA, MISSOURI 65202

ENGINEER: TTL, INC.
DON COLLINS, P.E.
615-331-7770
DCOLLINS@TTLUSA.COM
624 Grassmere Park, #14
NASHVILLE, TENNESSEE 37211

TAX MAP PAGE: 104A

PLAT BOOK AND PAGE: 208-025

ZONING:

BUILDING SETBACKS: FRONT: 40 FT

TOTAL ACREAGE = ± 1.069 ACRES (± 46,565 S.F.)

DISTURBED ACREAGE = ± 0.99 ACRES (± 43,197 S.F.)
IMPERVIOUS ACREAGE = ± 0.690 ACRES (± 30,056 S.F.)

LAND USE: CAR WASH STATION

TOTAL EXISTING PARKING: 71 (INCLUDING 3 HANDICAP SPACES)
TOTAL PROPOSED PARKING: 21 SPACES
- 18 VACUUM SPACES
- 3 AUXILIARY PARKING (INCLUDING 1 HANDICAP SPACE)

UTILITY COMPANY CONTACTS

POWER
MEMPHIS LIGHT, GAS & WATER
245 SOUTH MAIN
MEMPHIS, TN 38103
(901) 544-6500 (POWER OUTAGE)

GAS
MEMPHIS LIGHT, GAS & WATER
245 SOUTH MAIN
MEMPHIS, TN 38103
(901) 544-6500 (POWER OUTAGE)

SEWER
CITY OF BARTLETT WATER
ADMINISTRATION DEPARTMENT
6400 STAGE ROAD
BARTLETT, TN 38184
(901) 385-5585

WATER
CITY OF BARTLETT WATER
ADMINISTRATION DEPARTMENT
6400 STAGE ROAD
BARTLETT, TN 38184
(901) 385-5585

DATUM INFORMATION

STATE PLANE COORDINATE SYSTEM:	TENNESSEE
VERTICAL DATUM:	NAVD 88
GEODETIC DATUM:	NAD 83
GEOID MODEL:	GEOID 12A

FEDERAL FLOOD NOTE

THIS PROPERTY IS NOT LOCATED WITHIN THE 100 YEAR FLOODPLAIN AS DESIGNATED ON CURRENT FEDERAL EMERGENCY MANAGEMENT AGENCY MAP NO. 47157C0310G, EFFECTIVE DATE 03/06/2013

INDEX TO SHEETS

PROJECT NOTES AND LEGEND	C1.1
SITE SURVEY & DEMOLITION PLAN	C2.1
SITE LAYOUT PLAN	C3.1
SITE GRADING PLAN	C4.1
SITE DRAINAGE PLAN & PROFILE	C4.2
UTILITY PLAN	C5.1
EROSION CONTROL PLAN	C6.1 - C6.3
STANDARD DETAILS	C7.1 - C7.2
SITE LANDSCAPING PLAN	L1.0 - L1.1

TTL
624 Grassmere Park, Suite #14 | Nashville, TN 37211
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CLUB CAR WASH
8274 HIGHWAY 64
BARTLETT, SHELBY COUNTY, TN

DONALD E. COLLINS
REGISTERED PROFESSIONAL ENGINEER
AGRICULTURE
11-03-2023
COLLINS
NO. 022984
STATE OF TENNESSEE

APPROVED BY:
TTL, INC.

DONALD E. COLLINS, P.E.
TENNESSEE REG. NO. 22984

SET NO. _____

GENERAL PROJECT NOTES

1. SITE SURVEY PROVIDED BY TTL, DATED 8-16-2023.
2. THE LOCATIONS OF THE EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE MANNER ONLY, AS PROVIDED BY UTILITY OWNERS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES "POTHOLING" THEM BEFORE COMMENCING WORK. THE CONTRACTOR SHALL CONTACT THE CITY OF BARTLETT FOR UTILITY LOCATES. IN THE EVENT OF ANY DAMAGE TO IN-PLACE UTILITIES, THEY SHALL BE REPAIRED AND REPLACED TO THE SATISFACTION OF THE ENGINEER AND THE UTILITY OWNER AT THE CONTRACTOR'S EXPENSE.
3. ANY EXISTING PROPERTY CORNERS (I.E.- IRON PIPES,CAPPED PIPES, CAPPED MONUMENTS, ETC). DISPLACED OR DAMAGED DURING CONSTRUCTION SHALL BE RESET. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND SHALL BE A FINAL PUNCH LIST/CLOSEOUT ITEM. PROJECT PROPERTY CORNERS SHALL BE STAKED AND FLAGGED BY THE OWNERS REPRESENTATIVE.
4. ALL EXISTING FENCES SHALL BE REMOVED AND RELOCATED DURING CONSTRUCTION AS NECESSARY. THE FENCING SHALL BE REPLACED IN EQUIVALENT OR BETTER CONDITION AFTER THE WORK REQUIRING THE FENCE REMOVAL IS COMPLETED. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL COMPENSATION SHALL BE GIVEN. ANY DAMAGED FENCING SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. PORTIONS OF THE EXISTING FENCE SHALL BE RETAINED AND PORTIONS REMOVED. SEE CONSTRUCTION PLANS FOR FURTHER INFORMATION.
5. THE CONTRACTOR MUST MAINTAIN ACCESSIBLE DRIVES AND PUBLIC ROADWAYS. ANY ADDITIONAL STONE, GRADING, INSTALLATION, ETC. TO MAKE SIDEWALKS, DRIVES, AND ROADWAYS ACCESSIBLE DURING CONSTRUCTION SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL COMPENSATION SHALL BE GIVEN.
6. THE CONTRACTOR SHALL KEEP THE PROJECT RIGHT-OF-WAYS CLEAN FROM TRASH AND DEBRIS. PLACEMENT/DISCARDING OF TRASH AND REFUSE IN UTILITY TRENCHES AND/OR OTHER EXCAVATIONS ASSOCIATED WITH THE PROJECT SHALL BE PROHIBITED. THE CONTRACTOR SHALL PROVIDE TRASH RECEPTACLES FOR WORKER USE. THE ROADWAYS AND SIDEWALKS SHALL BE SWEPT AND WASHED DOWN TO LIMIT THE TRACKING OF DIRT FROM THE PROJECT ONTO PUBLIC RIGHT-OF-WAYS DAILY. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL COMPENSATION SHALL BE GIVEN.
7. CONFLICTS MAY ARISE BETWEEN EXISTING AND PROPOSED UNDERGROUND FACILITIES. CROSSINGS OF REQUIRED AND EXISTING GRAVITY UTILITIES SHALL BE EXCAVATED AND ELEVATIONS VERIFIED AT THE BEGINNING OF THE PROJECT BEFORE ANY UTILITIES ARE INSTALLED TO MAKE SURE THERE ARE NO CONFLICTS. SOME OF THE EXISTING UTILITY STRUCTURES WERE BURIED AND INACCESSIBLE DURING THE TOPOGRAPHIC SURVEY OF THE PROJECT AREA. WHEN THESE CONFLICTS ARE IDENTIFIED, THE CONTRACTOR SHALL PROMPTLY NOTIFY THE OWNER'S REPRESENTATIVE. ADJUSTMENTS AS SPECIFIED BY THE OWNER'S REPRESENTATIVE SHALL BE MADE IN THE PROPOSED AND/OR EXISTING FACILITIES. IF CONFLICTS OCCUR WHILE INSTALLING GRAVITY UTILITIES AND THE CONTRACTOR DID NOT IDENTIFY ELEVATIONS AT CROSSINGS IN ADVANCE, THEN THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE CORRECTIVE ACTION, INCLUDING BUT NOT LIMITED TO, REMOVING AND INSTALLING THE MAIN AND/OR STRUCTURES. WITH THE NUMEROUS EXISTING UTILITIES ON-SITE, IT IS IMPERATIVE THAT THESE BE VERIFIED BEFORE INSTALLATION OF PROPOSED WORK.
8. AT THE END OF THE PROJECT THE CONTRACTOR SHALL POWER WASH ALL CONCRETE SURFACES (I.E., CURB AND GUTTERS, SIDEWALK, DRIVES. STORM SEWER BOXES, BRICK PAVERS, EXISTING BUILDING BRICK, ETC.), SPECIFICALLY EXISTING CONCRETE ABUTTING REQUIRED CONCRETE SURFACES WITHIN THE PROJECT RIGHT-OF-WAY TO ELIMINATE STAINING FROM EARTHEN MATERIAL, CONSTRUCTION EQUIPMENT, OILS, PAINTS, ETC. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL COMPENSATION SHALL BE GIVEN.
9. THERE SHALL BE NO RAISED ASPHALT "LIP" AT RAMP LOCATIONS. THE EXISTING ROADWAY BUILDUP SHALL BE PLANED/MILLED SUFFICIENTLY TO ALLOW THE FINAL ASPHALT OVERLAY OR WEARING SURFACE TO HAVE FIT FLUSH AGAINST THE EDGE OF GUTTER AT RAMP LOCATIONS AND TO HAVE A ¼" "LIP" AT ALL OTHER LOCATIONS FOR THE ENTIRE PROJECT.
10. EXISTING LANDSCAPED AREAS PARALLEL TO THE PROJECT IMPACTED/DAMAGED DURING CONSTRUCTION SHALL BE RETURNED TO THEIR ORIGINAL CONDITION. THERE SHALL BE NO ADDITIONAL COMPENSATION FOR THIS WORK.
11. ALL ACCESSIBLE RAMPS AND SIDEWALKS SHALL BE ADA COMPLIANT.
12. ALL TEMPORARY STONES FOR ROADWAY, SIDEWALK, DRIVES, ETC. SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT. NO TEMPORARY STONES SHALL BE WASTED ON THE SITE SPECIFICALLY IN THE FINAL SUBGRADE LAYER AND TOPSOIL. EXCESSIVE STONE WILL INHIBIT THE GROWTH OF THE LANDSCAPE. ALL STONE SHALL BE REMOVED FROM AREAS TO RECEIVE TOPSOIL, NO EXCEPTIONS.
13. THE CONTRACTOR SHALL INSTALL TEMPORARY ASPHALT PATCHING WITHIN 24 HOURS AFTER THE COMPLETED INSTALLATION OF UTILITY CROSSINGS ON ROADWAYS OPEN TO TRAFFIC. IF THE ROADWAY IS CLOSED TO LOCAL TRAFFIC THEN ALL ASPHALT CUT LOCATIONS SHALL BE PATCHED BEFORE THE ROADWAY IS REOPENED. THE CONTRACTOR SHALL NOT BE ALLOWED TO INSTALL ALL UTILITIES AND THEN TEMPORARY ASPHALT PATCH ALL AT ONE TIME. TEMPORARY ASPHALT PATCHING MUST OCCUR PERIODICALLY PHASED AS REFERENCED ABOVE.
14. WHEN TEMPORARY ASPHALT PATCHING OCCURS THE MIX SHALL BE HOT MIXED AS SPECIFIED IN THE PLANS. ASPHALT COLD MIXES SHALL NOT BE ACCEPTED. POORLY PATCHED CROSSINGS DISPLAYING NONUNIFORM, UNSMOOTH FINISHES SHALL NOT BE ACCEPTED AND SHALL BE REMOVED AT ONCE. THE REPATCH OF THE AREA SHALL BE PAID FOR AT THE CONTRACTOR'S EXPENSE.
15. PROJECT CONDITIONS FOR THIS PROJECT SHALL VARY IN TERMS OF MATERIAL, EXCAVATION HEIGHTS, WORKING SPACE, ETC. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO NOTE THE CONDITIONS AND PREPARE HIS BID WITH ALL NECESSARY MEASURES IN TERMS OF SHORING, NETTING FOR FALLING DEBRIS, TRENCH BOXES, ETC. TO ALLOW WORK TO TAKE PLACE ON ALL LOCATIONS ON THE PROJECT. HE SHOULD FURTHER NOTE THAT THE PROJECT CONDITIONS WILL CHANGE AS CONSTRUCTION PHASING OCCURS. IT IS AGAIN THE CONTRACTOR'S SOLE RESPONSIBILITY TO PREPARE HIS BID WITH ALL MEASURES NECESSARY TO COMPLETE THE WORK. NO ADDITIONAL PAY SHALL BE CONSIDERED FOR MEASURES RELATED TO MEANS AND METHODS, WORKER'S SAFETY, ETC. AS THIS IS THE CONTRACTOR'S RESPONSIBILITY.
16. THE CONTRACTOR SHALL RETAIN AS MUCH EXISTING PAVEMENTS ASSOCIATED WITH THE PROJECT AS POSSIBLE FOR ALL WEATHER WORKING SURFACE AND FOR EROSION CONTROL DURING CONSTRUCTION. AS THE PROJECT PHASES TO FINAL COMPLETION, THE CONTRACTOR SHALL REMOVE ALL REMAINING PAVEMENTS, ETC. TO COMPLETE THE FINAL IMPROVEMENTS AS SHOWN.
17. THE CONTRACTOR SHALL NOTE EXISTING STORM DRAIN AND STORM DRAIN STRUCTURES TO BE RETAINED AS PART OF THIS PROJECT. THIS EXISTING INFRASTRUCTURE SHALL BE USED TO DRAIN THE PROJECT DURING PHASES OF CONSTRUCTION. PROPER EROSION CONTROL METHODS SHALL BE USED TO PROTECT THIS INFRASTRUCTURE AT ALL TIMES.
18. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THE CITY OF BARTLETT, PRIVATE UTILITY COMPANIES, AND ANY OTHER OWNER OR GOVERNING AGENCY WITH EXISTING INFRASTRUCTURE OR JURISDICTION IN THIS AREA.
19. THE OWNER/CM SHALL PROVIDE A PROJECT SCHEDULE FOR THE ENTIRE PROJECT. THE CONTRACTOR SHALL MAINTAIN THIS CONSTRUCTION SCHEDULE MEETING ALL INTERMEDIATE MILESTONES.

DEMOLITION NOTES

1. THERE ARE NUMEROUS EXISTING UNDERGROUND UTILITIES TO BE REMOVED, ABANDONED IN-PLACE AND PLUGGED, AND/OR ABANDONED IN-PLACE AND SLURRY FILLED. ANY UTILITIES THAT ARE TO BE ABANDONED IN-PLACE SHALL BE PLUGGED AND MADE WATER-TIGHT OR SLURRY FILLED TO REFUSAL BEFORE EARTHWORK OPERATIONS COMMENCE.
2. ALL PLUGS FOR UTILITY ABANDONMENT SHALL BE FORMED IN-PLACE WITH 3,000 PSI CONCRETE. ALL DRAINS, SEWER MAINS, ETC. SHALL BE SLURRY FILLED WITH 100 TO 200 PSI MAX. FLOWABLE FILL GROUT TO REFUSAL. THE GEOTECHNICAL REPRESENTATIVE SHALL REQUIRE THAT WHEN SLURRY FILLING THAT THE GROUT BE PUMPED UNDER PRESSURE FORM THE DOWNSTREAM SIDE UNTIL GROUT IS SEEN RISING IN THE VENT PIPE AT THE VERY UPSTREAM END OF EXISTING UTILITY BEING ABANDONED.
3. ALL EXISTING STORM DRAIN INLETS/SANITARY SEWER MANHOLES WHICH ARE TO BE REMOVED BELOW FINISHED GRADE SHALL, AFTER THEIR REMOVAL, BE BACKFILLED WITH NO. 57 STONE MECHANICALLY COMPACTED IN 8" LIFTS WHERE EARTHEN MATERIAL IS TO BE PLACED OVER THE STRUCTURE LOCATION. THE CONTRACTOR SHALL INSTALL FILTER FABRIC TO PROVIDE SEPARATION BETWEEN THE STONE BACKFILL AND THE SURROUNDING EARTHEN MATERIAL.
4. IN LOCATIONS WHERE EXISTING SANITARY OR STORM DRAIN ARE TO BE REMOVED, THE CONTRACTOR MAY BACKFILL WITH NO. 57 STONE AS NOTED ON THE DEMOLITION SHEETS OR BACKFILL WITH ENGINEERED EARTHEN FILL MATERIAL MEETING THE MATERIAL, COMPACTION, AND MOISTURE REQUIREMENTS SET FORTH BY THE GEOTECHNICAL ENGINEER. THE CONTRACTOR SHALL REVIEW THE GEOTECHNICAL REPORT IN FULL FOR THIS INFORMATION.
5. EXISTING PAVEMENTS SHALL BE RETAINED IN-PLACE FOR AS LONG AS POSSIBLE DURING CONSTRUCTION ACTIVITIES. THE EXISTING PAVEMENTS ACT AS AN EROSION CONTROL MEASURE TO KEEP THE SITE'S SOILS STABILIZED AND MINIMIZE OFFSITE SOIL RUNOFF.
6. AS NOTED IN THE GEOTECHNICAL REPORT, CERTAIN AREAS OF EXISTING SURFACE SOILS MAY CONTAIN POCKETS OF DEBRIS AND NONSTRUCTURAL FILL MATERIAL. TO PREVENT SITE RUNOFF FROM INFILTRATING THESE SOILS, THE EXISTING PAVEMENTS BENEATH THE REQUIRED SEDIMENT CONTROL POND SHALL BE LEFT IN PLACE UNTIL THE PROJECT SITE IS STABILIZED AND THE POND IS NO LONGER REQUIRED. IT MAY BE NECESSARY TO INSTALL BENTONITE CLAY TO SEAL AREAS WHERE SEDIMENTATION PONDING IS ALLOWED DURING CONSTRUCTION TO PREVENT SEEPAGE INTO THE EXISTING SOILS OR INSTALLED FILL AREAS.
7. THE CONTRACTOR SHALL NOTE THAT SOME OF THE EXISTING STORM DRAIN AND SANITARY SEWER MAINS THROUGH THE SITE CONTAIN PASS-THROUGH FLOWS FROM OFFSITE. THE CONTRACTOR SHALL BE FULLY AND COMPLETELY RESPONSIBLE FOR MAINTAINING THESE FLOWS WITHOUT INTERRUPTION AT ALL TIMES DURING CONSTRUCTION. BEFORE ANY EXISTING PIPES ARE REMOVED OR SLURRY-FILLED, THE CONTRACTOR SHALL MAKE ALL NECESSARY PROVISIONS INCLUDING BYPASS PUMPING, ETC. TO ENSURE THAT FLOWS ARE UNIMPEDED.
8. AS PART OF THE BUILDING SLAB REMOVALS SHOWN, CONTRACTOR SHALL ALSO REMOVE ALL FOOTINGS ASSOCIATED WITH EXISTING OR PREVIOUS BUILDING SLABS.
9. CONTRACTOR SHALL COORDINATE WITH CITY OF KNOXVILLE POWER COMPANY FOR THE REMOVAL AND RELOCATION OF ALL EXISTING UTILITY AND LIGHT POLES. NO UTILITY POLES, TRANSFORMERS, ELECTRICAL LINES, LIGHT POLES, ETC. SHALL BE REMOVED WITHOUT APPROVAL BY CITY OF KNOXVILLE POWER COMPANY.
10. CONTRACTOR SHALL SLURRY FILL ALL UTILITY POLE HOLES WHICH REMAIN AFTER POLE REMOVAL BY CITY OF KNOXVILLE POWER COMPANY WITH 100 TO 200 PSI FLOWABLE FILL GROUT.
11. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANIES TO CONFIRM THAT THEIR SERVICES HAVE BEEN TERMINATED AND CAPPED PRIOR TO REQUIRED REMOVAL.
12. THE PROJECT DEMOLITION, CLEARING AND GRUBBING GENERAL AREAS HAVE BEEN REFLECTED ON THE DEMOLITION PLAN. THE AREA IS GENERAL IN NATURE AND IS INTENDED TO GIVE THE CONTRACTOR AN APPROXIMATE AREA OF DEMOLITION. REGARDLESS OF THE AREA SHOWN, THE CONTRACTOR SHALL DEMOLISH, CLEAN AND GRUB ALL AREAS AND EXISTING INFRASTRUCTURE (ABOVE AND BELOW GROUND) NECESSARY TO COMPLETE ALL FINAL IMPROVEMENTS AS SHOWN ON THE CIVIL, ARCHITECTURAL, LANDSCAPE/IRRIGATION, ETC. CONSTRUCTION PLANS.
13. ALL AREAS DISTURBED BY THE CONTRACTOR; INCLUDING BUT NOT LIMITED TO ACTUAL IMPROVED AREAS, LAYDOWN AREAS, AREAS DISTURBED BY MOVING EQUIPMENT SHALL BE IMPROVED PER THE REQUIREMENTS OF THE PLANS, NO EXCEPTIONS. THE HATCHED AREAS ON THE DEMOLITION PLANS REFLECT THE GENERAL PROJECT AREA. THE CONTRACTOR MAY ULTIMATELY DISTURB MORE THAN THIS HATCHED. THERE SHALL BE NO ADDITIONAL PAY FOR IMPROVING DISTURBED AREAS REGARDLESS FOR HOW IT WAS DISTURBED.
14. ANY PERMANENT AND/OR CONSTRUCTION FENCING (EXISTING OR REQUIRED PER THE PLANS) REQUIRED TO BE REMOVED/RESET FOR INSTALLATION OF SITE, UTILITY, BUILDING, ETC. IMPROVEMENTS SHALL BE DONE SO AT NO ADDITIONAL COST TO THE PROJECT AND IS CONSIDERED INCIDENTAL. THE PLANS HAVE BEEN NOTED WITH GENERAL AREAS THIS IS TO OCCUR IN. THE REMOVAL AND/OR REPLACEMENT LIMITS WILL BE DETERMINED IN THE FIELD.

GRADING AND STAGING NOTES

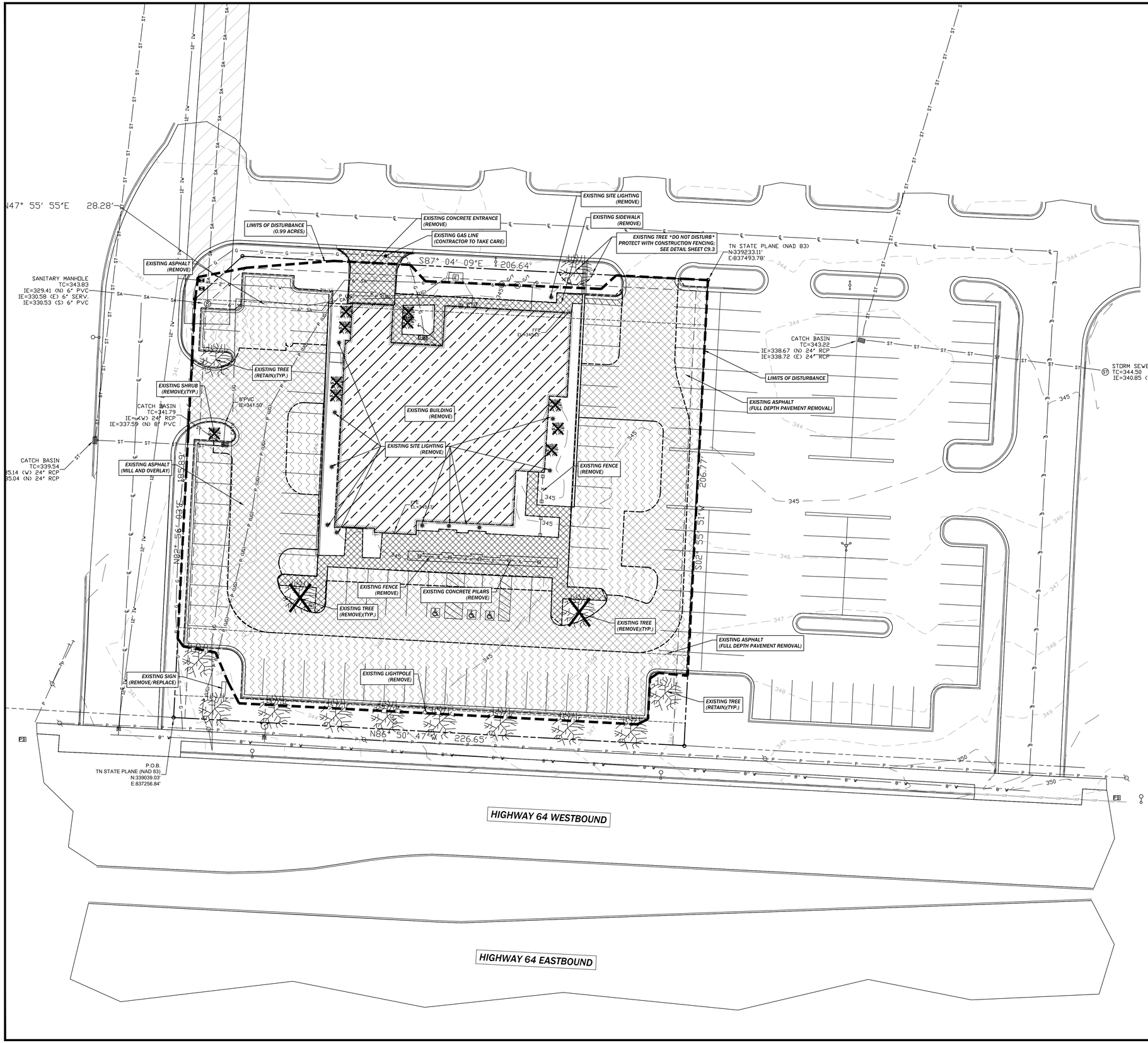
1. ALL DISTURBED AREAS SHALL HAVE A MINIMUM OF 6" TOPSOIL APPLIED, BE GRASSED AND MULCHED, AND/OR SODDED AS SOON AS FINAL GRADING IS COMPLETE. REFER TO EROSION CONTROL NOTES FOR TEMPORARY GRASSING AND MULCHING DURING GRADING OPERATIONS (SEE LANDSCAPE PLANS FOR ADDITIONAL TOPSOIL THICKNESS INFORMATION).
2. ALL ENGINEERED FILL MATERIALS SHALL BE REVIEWED AND APPROVED BY THE GEOTECHNICAL REPRESENTATIVE WELL IN ADVANCE OF FILL OPERATIONS. THE GEOTECHNICAL CONTRACTOR SHALL IDENTIFY ALL BORROW SOURCES FOR PD SAMPLES TO BE TAKEN AND EVALUATED. ALL EMBANKMENT FILL AND BORROW EXCAVATION MATERIALS SHALL BE COMPACTED IN LOOSE 8" LIFTS AS PER THE GEOTECHNICAL REPRESENTATIVES REQUIREMENTS. SEE THE GEOTECHNICAL REPORT (TTL, Inc.) FOR THIS INFORMATION.
3. THE CONTRACTOR SHALL CLEAR AND GRUB AS NECESSARY WHERE GRADING OPERATIONS ARE TO BE PERFORMED AS SHOWN. THE MAJORITY OF THE PROJECT WILL REQUIRE CLEARING AND REMOVAL OF EXISTING SIDEWALK, DRIVES, CURB AND GUTTER, CURBING, TREE STUMP REMOVAL, TOPSOIL, GRADING, ETC. AS SHOWN THROUGHOUT THE PROJECT CONSTRUCTION PLANS AND CONTRACT DOCUMENTS.
4. ALL EXISTING WATER VALVES, UTILITY VAULT TOPS, METER BOXES, ROADWAY SIGNS, INFORMATIONAL SIGNS, ETC. NOTED ON THE DEMOLITION PLAN SHALL BE REMOVED, STOCKPILED IN A SECURE LOCATION, AND/OR RESET AS PER THE CONTRACT DOCUMENTS.
5. BEFORE FINAL GRADING THE CONTRACTOR SHALL MAKE SURE UTILITIES INCLUDING STORM DRAIN, SANITARY, WATER DISTRIBUTION AND FIRE PROTECTION, ELECTRICAL, VIDEO, IRRIGATION, ETC. IMPROVEMENTS HAVE BEEN INSTALLED.
6. THE CONTRACTOR SHALL NOTE CHANGE IN GRADES AND REQUIRED RAMPS WHEN LAYING OUT SCORING AND HANDICAP RAMPS. ALL ADA ACCESSIBLE RAMP GRADES AND SIDEWALK CROSS SLOPE SHALL MEET ADA REQUIREMENTS.
7. GRADING OPERATIONS SHALL INCLUDE TOPSOIL STRIPPING AND REMOVAL THROUGHOUT THE PROJECT SITE, UNCLASSIFIED EXCAVATION, AND BORROW EXCAVATION, ROCK REMOVAL, ETC. TO BRING THE SITE TO FINISHED SUBGRADE (ONLY LEAVING PAVEMENTS AND TOPSOIL TO REACH FINAL FINISHED GRADE) AS SHOWN ON THE CONSTRUCTION PLANS. NO EXTRA PAYMENT WILL BE MADE FOR EXCESS MATERIAL BROUGHT ON-SITE, MATERIAL REQUIRED TO BE MOVED MULTIPLE TIMES BECAUSE OF CONSTRUCTION PHASING, OR EXCESS MATERIAL TO BE REMOVED FROM THE SITE UPON GRADING COMPLETION.
8. THERE SHALL BE NO DEBRIS (ROOTS, ROCKS, ETC.) IN THE TOPSOIL LARGER THAN 1" IN DIAMETER. THERE ALSO SHALL BE NO WASTED TEMPORARY GRAVEL, CONCRETE, OR ANY OTHER BUILDING MATERIALS FOUND IN THE TOPSOIL. ANY FOUND DEBRIS SHALL BE REMOVED IMMEDIATELY.
9. PAYMENT FOR DISPOSAL OF UNSUITABLE MATERIAL "IF ENCOUNTERED" SHALL BE MADE PER THE BID FORM.
10. THERE SHALL BE NO RAISED ASPHALT "LIP" AT RAMP LOCATIONS. THE EXISTING ROADWAY BUILDUP SHALL BE PLANED/MILLED SUFFICIENTLY TO ALLOW THE FINAL ASPHALT OVERLAY OR WEARING SURFACE TO HAVE FIT FLUSH AGAINST THE EDGE OF GUTTER AT RAMP LOCATIONS AND TO HAVE A ¼" "LIP" AT ALL OTHER LOCATIONS FOR THE ENTIRE PROJECT.
11. THE CONTRACTOR SHALL REVIEW THE GEOTECHNICAL REPORT PREPARED BY TTL, Inc. FOR THIS PROJECT IN ITS ENTIRETY.
12. ALL EMBANKMENT FILL AND BORROW EXCAVATION MATERIALS SHALL BE COMPACTED IN LOOSE 8" LIFTS TO 98%, ASTM D 698 MINIMUM AS DIRECTED BY THE GEOTECHNICAL REPRESENTATIVE. THE GEOTECHNICAL REPORT COMPACTION REQUIREMENTS SHALL BE THE REQUIREMENT FOR THE PROJECT.

EROSION CONTROL NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE NPDES PERMIT FOR THIS PROJECT, IF REQUIRED, AND PROVIDING THE QUALIFIED CREDENTIALED PROFESSIONAL (QCP) AND/OR QUALIFIED CREDENTIALED INSPECTOR (QCI) TO PERFORM INSPECTIONS AS REQUIRED BY THE PERMIT. THE COSTS OF INSPECTIONS AND ASSOCIATED DOCUMENTATION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE NECESSARY BEST MANAGEMENT PRACTICES (BMPS) AND PERFORM THE WORK AS REQUIRED BY THE QCP/QCI TO ENSURE PERMIT REQUIREMENTS ARE MET. THE CONTRACTOR SHALL PROVIDE THE OWNER'S REPRESENTATIVE WITH STORM WATER MONITORING REPORTS WITHIN 48 HOURS OF EACH RAIN EVENT WHICH REQUIRES MONITORING. NO PAY REQUEST SHALL BE PROCESSED WITHOUT RECEIPT OF THESE REPORTS FOR THE PAY PERIOD. THE OWNER RETAINS THE RIGHT TO SUPPLEMENT THE CONTRACTOR'S FORCES AT THE CONTRACTOR'S EXPENSE IN THE EVENT THE CONTRACTOR DOES NOT SATISFY THE NPDES INSPECTION COMMENTS. UPON COMPLETION OF THE PROJECT AND STABILIZATION OF THE SITE, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CLOSE THE NPDES PERMIT.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR USING BEST MANAGEMENT PRACTICES (BMPS) FOR EROSION AND SEDIMENT CONTROL THROUGHOUT CONSTRUCTION. AN EROSION CONTROL PLAN IS PROVIDED AS A MINIMUM GUIDE FOR PROVIDING STRUCTURAL BMP'S. PHASING, TEMPORARY GRASSING, AND OTHER METHODS AS PROVIDED IN THE TENNESSEE SEDIMENT AND EROSION CONTROL HANDBOOK, SHALL BE UTILIZED TO MINIMIZE EROSION. NO EXTRA COMPENSATION SHALL BE GIVEN TO THE CONTRACTOR FOR MAINTAINING EROSION CONTROL ITEMS OR ADDITIONAL EROSION CONTROL ITEMS REQUIRED TO COMPLY WITH THE NPDES PERMIT.
3. IN THE EVENT THAT SEDIMENT BASINS ARE REQUIRED, NO ADDITIONAL COMPENSATION SHALL BE GIVEN TO THE CONTRACTOR FOR STOCKPILING MATERIAL TO LATER FILL THE PONDS, ADDITIONAL GRADING TO FILL THE PONDS, TEMPORARY PIPING, RESEEDING AND REMULCHING, RESTORING PERMANENT DRAINAGE STRUCTURES AND GRADES TO THEIR PERMANENT REQUIREMENTS, OR ANY OTHER ITEMS OF WORK THAT ARE REQUIRED BY THE PHASING OF CONSTRUCTION OR THE SWPPP.
4. ANY FINES INCURRED DUE TO FAILURE TO MAINTAIN EROSION CONTROL MEASURES SHALL BE PAID FOR BY THE CONTRACTOR. ANY ADDITIONAL WORK AND MATERIALS REQUIRED TO COMPLY WITH ANY VIOLATIONS SHALL BE AT THE CONTRACTOR'S EXPENSE.
5. ALL TEMPORARY RIPRAP USED FOR EROSION CONTROL PURPOSES SHALL BE INCLUDED IN THE PRICE OF EROSION CONTROL. TEMPORARY RIPRAP BERMS SHALL BE SPREAD OUT IN AREAS WHERE PERMANENT RIPRAP IS REQUIRED AND SHALL BE SPREAD IN A MANNER TO NOT IMPEDE FLOW OF STORM DRAINS AFTER THE SITE IMPROVEMENTS ARE COMPLETE AND THE PROJECT IS STABILIZED. THERE SHALL BE NO ADDITIONAL COMPENSATION FOR TEMPORARY RIPRAP OR SPREADING IT UPON COMPLETION OF THE SITE IMPROVEMENTS. ALL TEMPORARY RIPRAP THAT IS SPREAD FOR USE AS PERMANENT RIPRAP SHALL BE PLACED ON THE STONE BEDDING AND FILTER FABRIC AS SHOWN IN THE DETAILS. COSTS FOR STONE AND FILTER FABRIC PLACED UNDERNEATH ALL TEMPORARY RIPRAP THAT IS SPREAD IN PERMANENT LOCATIONS SHALL BE INCLUDED IN THE LUMP SUM BID PRICE FOR EROSION CONTROL.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING AND KEEPING CLEAN ALL EROSION CONTROL STRUCTURES UNTIL THE NPDES PERMIT IS ACCEPTED AS COMPLETE BY TDEC AND IS TERMINATED BY THE CONTRACTOR.
7. SILT FENCES SHALL HAVE SEDIMENT DEPOSITS REMOVED IF THEY REACH A DEPTH OF FIFTEEN INCHES (15") OR 1/2 THE HEIGHT OF THE FENCE. SEDIMENT REMOVED FROM THE SILT FENCE SHALL BE REMOVED FROM THE SITE.
8. THE PROJECT AREA SHALL REMAIN CLEAN AT ALL TIMES. THE CONTRACTOR SHALL USE WHATEVER MEANS NECESSARY TO KEEP THE PROJECT AREA CLEAN INCLUDING MOTORIZED STREET SWEEPERS, WATER AND VACUUM TRUCKS, HAND SWEEPING AND SHOVELING, ETC. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ADDRESS THIS ISSUE EACH DAY INCLUDING WEEKENDS AND SPECIFICALLY PRE AND POST RAIN EVENTS.
9. THE CONTRACTOR SHALL IDENTIFY WORK AREA ENTRANCE/EXIT LOCATIONS FOR EQUIPMENT AND INSTALL TEMPORARY GRAVEL DRIVES TO REDUCE TRACKING ONTO PUBLIC RIGHT OF WAY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING ALL STREETS CLEAN OF ANY SEDIMENT FROM THE CONSTRUCTION SITE ON A DAILY BASIS NO EXCEPTIONS.
10. ALL DISTURBED AREAS INCLUDING THE EARTHEN STOCKPILES SHALL BE SEEDED AND MULCHED UPON COMPLETION OF GRADING OPERATIONS. TDEC REGULATIONS REQUIRE ALL DISTURBED AREAS NOT UNDERGOING ACTIVE DISTURBANCE OR ACTIVE CONSTRUCTION FOR LONGER THAN FOURTEEN (14) DAYS TO BE MULCHED AND SEEDED TO ESTABLISH TEMPORARY VEGETATIVE COVER.
11. THE CONTRACTOR SHALL INSTALL SEDIMENT CONTROL LOGS, SANDBAGS, AND/OR SILT FENCE TRENCHED THROUGH PAVEMENT AFTER SAW-CUTTING THE ASPHALT TO AVOID RUNOFF INTO OTHER ROADWAYS, DRIVES, AND AREAS PARALLEL AND ADJACENT TO THE PROJECT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ADDRESS THIS ISSUE EACH DAY INCLUDING WEEKENDS AND SPECIFICALLY PRE AND POST RAIN EVENTS.
12. THERE MAY BE LOCATIONS WHERE SILT FENCE MAY BE NEEDED ACROSS EXISTING PAVEMENT THAT IS TO BE RETAINED FOR TEMPORARY ALL WEATHER WORKING SURFACE AND/OR LAYDOWN YARD. IN THESE LOCATIONS THE EXISTING PAVEMENT SHALL BE SAW-CUT ENOUGH TO TRENCH THE SILT FENCE PROPERLY IN THE GROUND. SAND BAGS AND/OR PROPERLY SECURED SEDIMENT CONTROL LOGS COULD SERVE THIS PURPOSE AS WELL.
13. SEDIMENT CONTROL LOGS SHALL HAVE A MINIMUM DIAMETER OF 20".
14. THE CONTRACTOR SHALL INSTALL STONE AND/OR STABILIZE ROADWAY, SIDEWALK, DRIVE, ETC. IN AREAS OF CONSTRUCTION AS NECESSARY. ALL STONES FOR CONSTRUCTION ARE CONSIDERED INCIDENTAL REGARDLESS THE NUMBER OF TIMES FRESH STONE IS REQUIRED FOR EROSION CONTROL PURPOSES.
15. WHEN INSTALLING SILT FENCE THE CONTRACTOR SHALL PROPERLY PLAN THE LOCATION OF THE FENCING. WASTEFUL AND/OR POORLY PLANNED INSTALLATIONS SHALL NOT RECEIVE ADDITIONAL PAY FOR REINSTALLATION AFTER MOVING TO ANOTHER PHASE OF THE WORK.
16. ANY FINES AND LEGAL FEES ASSOCIATED WITH THE CONTRACTOR'S FAILURE TO PROPERLY INSTALL AND MAINTAIN EROSION CONTROL MEASURES SHALL BE PAID FOR BY THE CONTRACTOR INCLUDING ANY ADDITIONAL REQUIREMENTS PLACED ON THE PROJECT BY THE FINING AGENCY. THERE SHALL BE NO CLAIMS CONSIDERED OF LOST CONTRACT TIME, MONEY, ETC. DURING THE STOP WORK PERIOD. THIS IS A SITUATION TOTALLY IN THE CONTROL OF THE CONTRACTOR AND HE WILL MEET HIS RESPONSIBILITIES TO MAINTAIN A STABILIZED CONSTRUCTION SITE.
17. SEE THE EROSION CONTROL PLANS FOR EROSION CONTROL PHASING NOTES.

PAVING, SIGNING AND STRIPING NOTES

1. THE CONTRACTOR SHALL SAW-CUT ALL EXISTING PAVEMENTS TO BE REMOVED WITH A STRAIGHT, CLEAN REMOVAL JOINT TO ENSURE PROPOSED PAVEMENTS JOIN TO EXISTING CLEANLY.
2. ALL COMBINATION CURB AND GUTTER SHALL BE TWO (2) FEET IN WIDTH UNLESS OTHERWISE SHOWN ON THE CONSTRUCTION PLANS. EXISTING CURB AND GUTTER VARIES IN WIDTH AND PROPOSED CURB AND GUTTER SHALL BE TAPERED TO JOIN TO IT OVER A MINIMUM DISTANCE OF FIVE (5) FEET TO ENSURE A SMOOTH TRANSITION.
3. ALL TEMPORARY AND/OR PERMANENT STRIPING, MARKINGS, ETC. SHALL BE OF COLOR AND TYPE SHOWN AND SHALL CONFORM TO THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND TENNESSEE DEPARTMENT OF TRANSPORTATION SPECIFICATIONS.
4. ALL PERMANENT SIGNS AND POSTS SHALL BE OF COLOR AND TYPE SHOWN AND SHALL CONFORM TO THE CITY OF KNOXVILLE REQUIREMENTS.
5. ALL TEMPORARY CONSTRUCTION SIGNS SHALL MEET THE REQUIREMENTS SET FORTH IN THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AND TDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION SECTION 712.
6. ALL TRAFFIC STRIPES SHALL BE 6" WIDE UNLESS OTHERWISE NOTED.
7. TO ACHIEVE A HIGH LEVEL OF FINISH TO THEIR SIDEWALK AND CURB AND GUTTER, THE CONTRACTOR SHALL MAKE SURE HIS MIX IS OPTIMUM AND NOT TOO DRY/WET WHICH MAY LEAD TO PITTING, CRACKING, AND TEXTURE TYPE PROBLEMS WHEN FINISHING THE CONCRETE. POORLY FINISHED CONCRETE SHALL BE REMOVED/REPLACED AT THE CONTRACTOR'S EXPENSE.
8. ALL DIMENSIONS ARE TO THE BACK OF CURB UNLESS OTHERWISE NOTED.
9. THE CONCRETE SIDEWALK SCORING PATTERN SHOWN SHALL BE REFERENCED WHEN POURING THE SIDEWALKS. THE LENGTH OF SCORING PATTERN SHALL MATCH THE WIDTH OF SIDEWALK THE CONTRACTOR SHALL ACHIEVE A HIGH LEVEL OF FINISH TO THEIR SIDEWALKS.
10. THE CONTRACTOR SHALL NOTE THE DIFFERENT PAVEMENT TYPICAL SECTIONS FOR THE PROJECT.
11. THE CONTRACTOR SHALL NOTE THE SCORING PATTERNS SHOWN ON THE SITE LAYOUT FOR THE FINAL CONCRETE IMPROVEMENTS. HE SHOULD NOTE THAT THESE PATTERNS SERVE TWO PURPOSES: (1) AESTHETICS (2) PROVIDE CONTROL CRACKING. IT IS VERY IMPORTANT THAT THE CONTRACTOR STAKE OUT HIS CONTROL JOINTS SPECIFICALLY RELATED TO CONCRETE PAVEMENTS IN RADIUS. WHEN SAW-CUTTING PAVEMENTS ALONG CENTERLINE IN A RADIUS, THE CONTRACTOR SHALL PROVIDE THE SCORING PATTERN SHO



DEMOLITION NOTES:

1. THE CONTRACTOR SHALL NOTE THAT THIS SHEET IS INTENDED TO PROVIDE AN OVERALL VIEW OF PROJECT DEMOLITION. IT DOES NOT NOTE OR CONSTITUTE ALL ITEMS TO BE DEMOLISHED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW THE PLANS AND PROJECT SITE, AND HIGHLIGHT ANY ITEMS HE IS UNSURE OF DURING THE BID PROCESS AND REQUEST CLARIFICATION. NO CLAIMS SHALL BE CONSIDERED AFTER THE PROJECT BIDS RELATED TO THE DEMOLITION AREA.
2. DURING CONSTRUCTION, ANY EXISTING LANDSCAPING, FENCING, ETC. TO BE RETAINED SHALL BE PROTECTED AND IF DAMAGED OR REMOVED SHALL BE REPLACED WITH LIKE MATERIALS AS APPROVED BY THE OWNER'S REPRESENTATIVE. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
3. ALL DEMOLITION, CLEARING, AND GRUBBING SHALL BE REMOVED FROM THE PROJECT SITE. NO BURNING OF PERISHABLE MATERIAL WILL BE PERMITTED.

TREE PROTECTION PLAN:

1. TREES TO BE REMOVED HAVE BEEN MARKED ON THE PLAN WITH AN **X** THROUGH THEM. TREE REMOVAL WILL HAPPEN IN TANDEM WITH THE DEMOLITION PLAN FOR THE BUILDING AND PARTS OF THE PAVEMENT. CONTRACTOR TO NOTIFY ENGINEER IF ANY TREE NOT MARKED OR NOTIFIED ON THE PLAN IS TO BE SAVED OR REMOVED.
2. ALL TREES TO BE SAVED HAVE **NOT** BEEN MARKED. CONTRACTOR TO CONFIRM IN THE FIELD THE ABILITY TO SAVE THE TREES UNMARKED.
4. ALL EXISTING SHRUBS, BUSHES AND TREES AROUND BUILDING USED FOR LANDSCAPING SMALLER THAN 6" IN DIAMETER WILL BE REMOVED.

SURVEYOR

TROY WALLS, R.L.S.
TTL, INC.
624 GRASSMERE PARK, STE. 14
NASHVILLE, TN 37211

ARBORIST

TTL
624 Grassmere Drive, Suite #14 | Nashville, TN 37211
615.331.7770 | www.ttlusa.com

CCW - 8274 HIGHWAY 64

CLUB CAR WASH
8274 HIGHWAY 64
BARTLETT, SHELBY COUNTY, TN

DANIEL ELDER WALLS
REGISTERED LANDSCAPE ARCHITECT
AGRICULTURE
11-02-2023
CAMPBELL
No. 002361
STATE OF TENNESSEE

Sheet Title
SITE SURVEY & DEMOLITION PLAN

No.	Date	Revision Description

Drawn By: BEL
Checked By: DC
Date: 11/03/2023
Proj. No.: 230800449.16
File Name: 23-08.449.16.Sheet C2.01 SurveyDemo.dwg

Sheet No.
C2.1

0 20 40 60
SCALE IN FEET

PAVING LEGEND

- *EXISTING ASPHALT PAVEMENT (MILL AND OVERLAY) (SEE DETAILS)*
- *REQ'D ASPHALT PAVEMENT (LIGHT DUTY) (SEE DETAILS)*
- *REQ'D CONCRETE SIDEWALK (SEE DETAILS)*
- *RENDER BUILDING*

NUMBER OF VACUUM SPOTS: 18
NUMBER OF AUXILIARY PARKING SPOTS: 4
AVAILABLE LENGTH FOR QUEUE: 155 L.F.
LOT ACRES: 1.07 ACRES

PAVING, SIGNING AND STRIPING NOTES

1. CONTRACTOR SHALL CALL TENNESSEE ONECALL (811) A MINIMUM OF 72 HOURS PRIOR TO COMMENCEMENT OF DEMOLITION OR CONSTRUCTION ACTIVITIES.
2. THE CONTRACTOR SHALL SAW-CUT ALL EXISTING PAVEMENTS TO BE REMOVED WITH A STRAIGHT, CLEAN REMOVAL JOINT TO ENSURE PROPOSED PAVEMENTS JOIN TO EXISTING CLEANLY.
3. ALL PERMANENT STRIPING SHALL BE MINIMUM 4" WIDTH, WHITE, AND SHALL CONFORM TO THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND TENNESSEE DEPARTMENT OF TRANSPORTATION SPECIFICATIONS.
4. ALL STRIPING IN TDOT RIGHT OF WAY SHALL BE THERMOPLASTIC.
5. ALL PERMANENT SIGNS AND POSTS SHALL BE OF COLOR AND TYPE SHOWN AND SHALL CONFORM TO THE CITY OF MT. JULIET REQUIREMENTS.
6. REQUIRED BIKE RACK AND DECORATIVE TRASH RECEPTICAL SHALL BE POWDER COATED BLACK PER CITY OF MT. JULIET REQUIREMENTS.
7. TO ACHIEVE A HIGH LEVEL OF FINISH TO THEIR SIDEWALK AND CURB AND GUTTER. THE CONTRACTOR SHALL MAKE SURE HIS MIX IS OPTIMUM AND NOT TOO DRY/WET WHICH MAY LEAD TO PITTING, CRACKING, AND TEXTURE TYPE PROBLEMS WHEN FINISHING THE CONCRETE. POORLY FINISHED CONCRETE SHALL BE REMOVED/REPLACED AT THE CONTRACTOR'S EXPENSE.
8. ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
9. THE CONCRETE SIDEWALK SCORING PATTERN SHOWN SHALL BE REFERENCED WHEN POURING THE SIDEWALKS. CONTRACTOR SHALL FOLLOW CURRENT ACI GUIDELINES FOR THE PLACEMENT AND SPACING OF ALL EXPANSION AND CONTROL JOINTS. THE CONTRACTOR SHALL ACHIEVE A HIGH LEVEL OF FINISH TO SIDEWALKS.
10. THE CONTRACTOR SHALL NOTE THE PAVEMENT TYPICAL SECTION FOR THE PROJECT.
11. CONCRETE CONTROL JOINTS SHALL BE MEASURED FOR DEPTH. THEY MUST BE INSTALLED PROPERLY FOR CONTROL CRACKING OF THE CONCRETE PAVEMENT. IMPROPERLY INSTALLED CONCRETE SHALL BE REMOVED/REPLACED AT THE CONTRACTOR'S EXPENSE.
12. THE FINAL PAVEMENT FINISH IS VERY IMPORTANT FOR THE PROJECT AND THE OWNER. THE CONTRACTOR SHALL MAKE ALL PAVEMENT ARE FINISHED OUT SMOOTHLY AND CLEANLY. IRREGULARITIES, "BIRD BATHS", RANDOM CRACKING, ETC. SHALL BE REMOVED/REPLACED AT THE CONTRACTOR'S EXPENSE.

Site Data Table			
Project Name:	8274 Highway 64		
Project Number:	000230800449.16		
Tax Map and Parcel:	B0158 00684		
Address:	8274 Highway 64		
Existing Zoning:	C-H		
Site Acreage:	1.07	Acres	
Site Square Footage:	46,565	SQ. FT.	
Minimum Setbacks			
Front Yard:	40 feet		
Side Yard:	N/A		
Rear Yard:	20 feet		
Owner:	**Club Car Wash**		
Address:	1591 E. Prathersville Road, Columbia, MO		
Phone Number:	573-999-5178		
Email Address:	jbarnes@clubcarwash.com		
Contact Name:	Justin Barnes		
Applicant/Owner Representative:	**TTL, Inc.**		
Address:	624 Grassmere Drive, Nashville, TN		
Phone Number:	615.934.5721		
Email Address:	dcollins@ttlusa.com		
Contact Name:	Donald Collins		
Proposed Building Information:			
Building Square Footage:			
Existing:	8,037	sq.ft.	
Proposed:	5,029	sq.ft.	
Total Increase:	-3,008	sq.ft.	
Type of Activity Proposed:	Car Wash		
Proposed Building Height:	28' - 10 3/4"		
Floor Area of Building:	5,028 sq. ft.		
Proposed Lot Coverage by All Buildings:	12%		
Lot Width:	226.64'		
Site Information:			
Total Acreage:	1.07	acres	46,565 sq. ft.
Ex. Building Impervious:	0.18	acres	8,037 sq.ft.
Ex. Site Impervious:	0.69	acres	29,987 sq.ft.
Total Existing Impervious:	0.87	acres	38,024 sq.ft.
Proposed Impervious:	0.65	acres	28,322 sq.ft.
Net Impervious:	-0.22	acres	9,702 sq.ft.
Disturbed Area:	0.99	acres	43,197 sq.ft.
Parking Information:			
Total Existing Parking:	86 spaces (including 3 handicap spaces)		
Total Proposed Parking:	4 spaces (including 1 handicap spaces)		
Total Net Parking:	-80 spaces		
Total Vacuum Parking:	18 spaces		

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BARTLETT, SHELBY COUNTY, TN

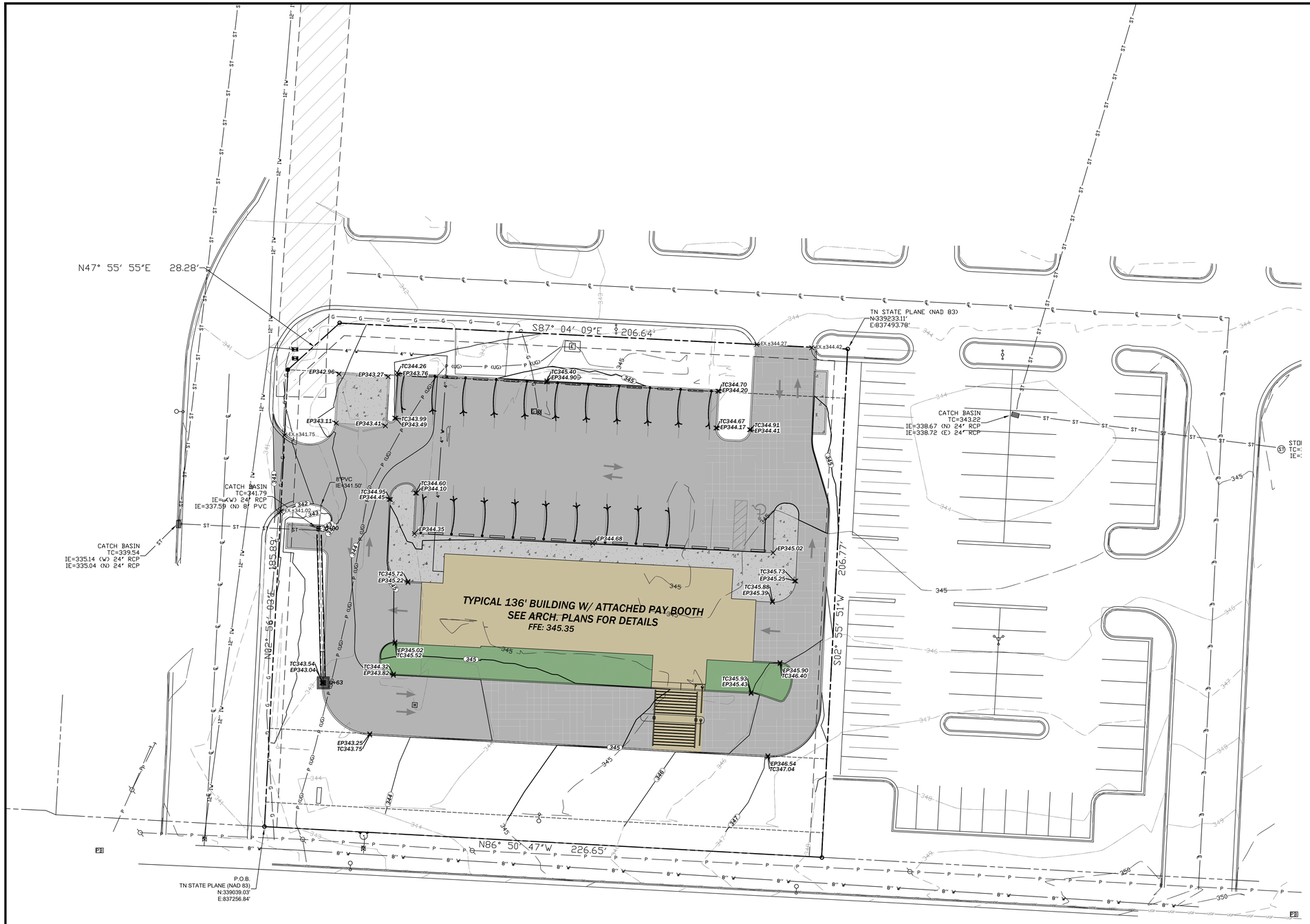
DONALD ELLIOTT COLLINS
REGISTERED LANDSCAPE ARCHITECT
AGRICULTURE
11-02-2023
No. 002995
STATE OF TENNESSEE

Sheet Title
SITE LAYOUT PLAN

No.	Date	Revision Description

Drawn By: BEL
Date: 11/03/2023
Checked By: DC
Proj. No.: 230800449.16
File Name: 23-08.449.16.Sheet C3.01 Layout.dwg

Sheet No.
C3.1



0 20 40 60
SCALE IN FEET

PAVING LEGEND

- EXISTING ASPHALT PAVEMENT (MILL AND OVERLAY) (SEE DETAILS)
- REQ'D ASPHALT PAVEMENT (LIGHT DUTY) (SEE DETAILS)
- REQ'D CONCRETE SIDEWALK (SEE DETAILS)
- RENDER BUILDING

GRADING LEGEND

- 150 — REQ'D CONTOUR 5' INTERVAL
- 149 — REQ'D CONTOUR 1' INTERVAL
- XTW±170.00 XTC170.00 XTG150.00 / XBW±170.00 XFL150.00 XEP150.00 — REQUIRED TOP OF WALL, TOP OF CURB, FINISH GRADE / BOTTOM OF WALL, FLOWLINE & EDGE OF PAVEMENT
- PSD — REQ'D STORM DRAIN

FEDERAL FLOOD NOTE

THIS PROPERTY IS NOT LOCATED WITHIN THE 100 YEAR FLOODPLAIN AS DESIGNATED ON CURRENT FEDERAL EMERGENCY MANAGEMENT AGENCY MAP NO. 47157C0310G, EFFECTIVE DATE 03/06/2013

DRAINAGE NOTES

Total Existing Impervious:	0.87	acres	38,024	sq.ft.
Proposed Impervious:	0.65	acres	28,322	sq.ft.
Net Impervious:	-0.22	acres	9,702	sq.ft.
EXISTING CURVE NUMBER:			*93.5*	
POST DEVELOPMENT CURVE NUMBER:			*89.5*	

BASED ON THE REDUCTION OF THE IMPERVIOUS AREA AND THE CURVE NUMBER, WE ARE PROPOSING NO DETENTION

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8274 HIGHWAY 64
BARTLETT, SHELBY COUNTY, TN

DONALD E. CROCKETT, JR.
TENNESSEE REGISTERED LANDSCAPE ARCHITECT
AGRICULTURE
11-03-2023
No. 002304
STATE OF TENNESSEE

Sheet Title
SITE GRADING PLAN

No.	Date	Revision Description

Drawn By: BEL
Checked By: DC
Date: 11/03/2023
Proj. No.: 230800449.16
File Name: 23-08-449.16.Sheet C4 01 Grading.dwg

Sheet No.
C4.1



0 20 40 60
SCALE IN FEET

PAVING LEGEND

- EXISTING ASPHALT PAVEMENT (MILL AND OVERLAY) (SEE DETAILS)
- REQ'D ASPHALT PAVEMENT (LIGHT DUTY) (SEE DETAILS)
- REQ'D CONCRETE SIDEWALK (SEE DETAILS)
- RENDER BUILDING

GRADING LEGEND

- 150 — REQ'D CONTOUR 5' INTERVAL
- 149 — REQ'D CONTOUR 1' INTERVAL
- $X_{TW\pm170.00}$ $X_{TC170.00}$ $X_{TG150.00}$ / $X_{BW\pm170.00}$ $X_{FL150.00}$ $X_{EP150.00}$ — REQUIRED TOP OF WALL, TOP OF CURB, FINISH GRADE / BOTTOM OF WALL, FLOWLINE & EDGE OF PAVEMENT
- PSD — REQ'D STORM DRAIN

FEDERAL FLOOD NOTE

THIS PROPERTY IS NOT LOCATED WITHIN THE 100 YEAR FLOODPLAIN AS DESIGNATED ON CURRENT FEDERAL EMERGENCY MANAGEMENT AGENCY MAP NO. 47157C0310G, EFFECTIVE DATE 03/06/2013

DRAINAGE NOTES

Total Existing Impervious:	0.87	acres	38,024	sq.ft.
Proposed Impervious:	0.65	acres	28,322	sq.ft.
Net Impervious:	-0.22	acres	9,702	sq.ft.

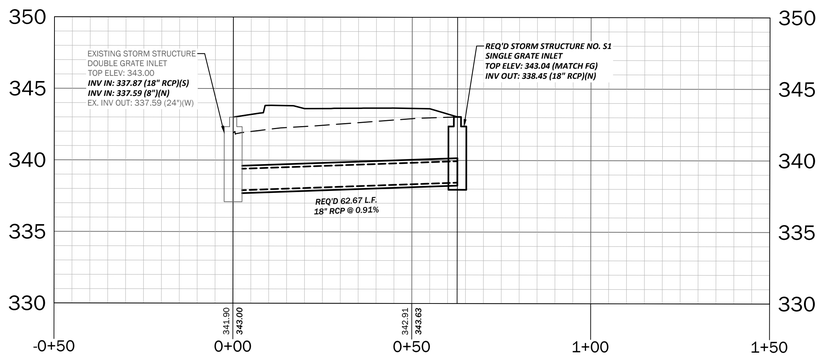
EXISTING CURVE NUMBER: **93.5**

POST DEVELOPMENT CURVE NUMBER: **89.5**

BASED ON THE REDUCTION OF THE IMPERVIOUS AREA AND THE CURVE NUMBER, WE ARE PROPOSING NO DETENTION

STRUCTURE TABLE		
NAME	TYPE	TOP of CASTING
S1	SINGLE GRATE INLET	343.04

DRAINAGE PIPE TABLE							
FROM	INV. EL	TO	INV. EL	SIZE	LENGTH	SLOPE	MATERIAL
EX1	337.87	S1	338.45	18"	62.67'	0.91%	18" RCP



S1-EX PROFILE

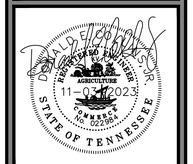
VERTICAL SCALE: 1" = 5'

HORIZONTAL SCALE: 1" = 20'

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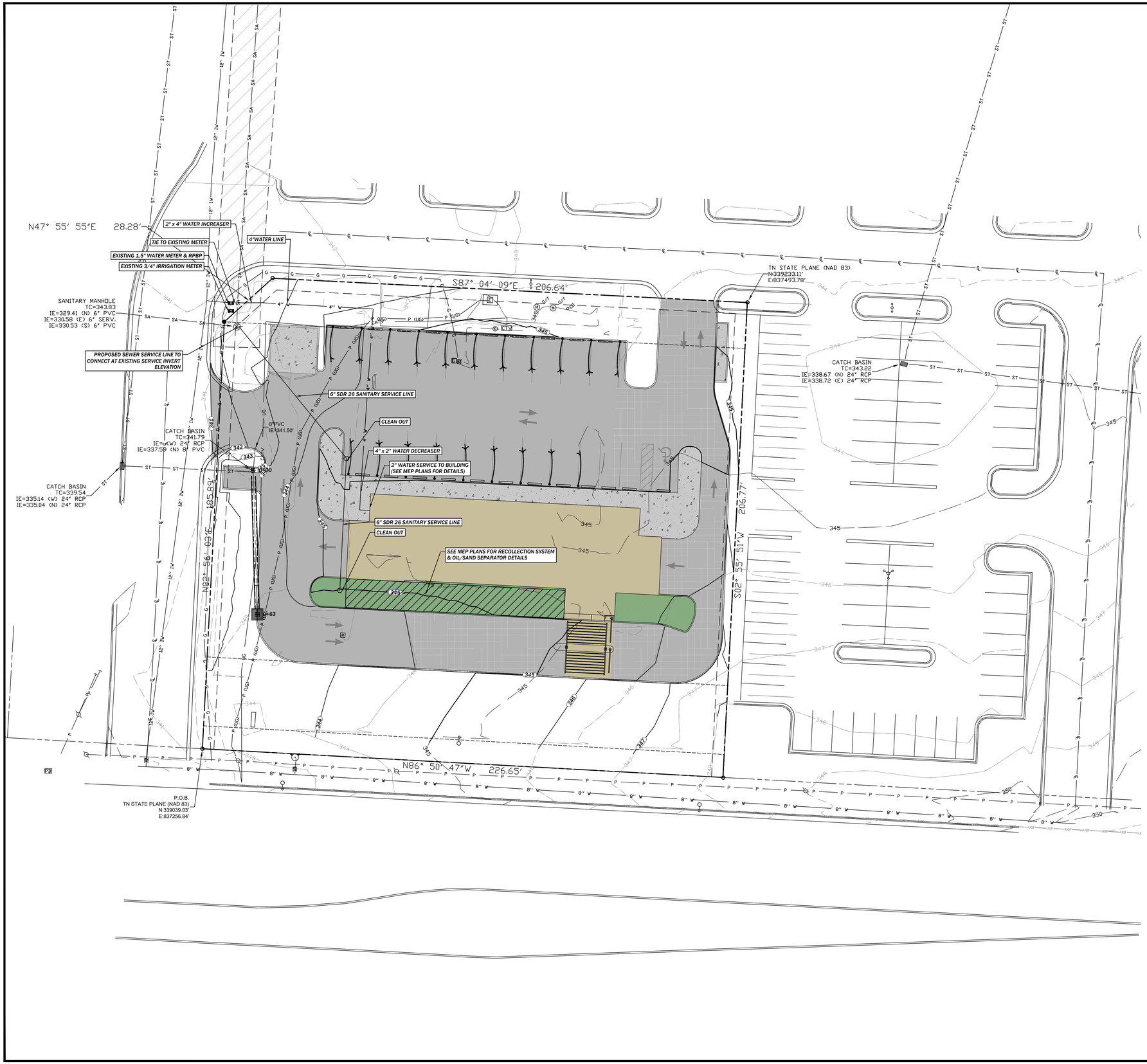


Sheet Title
DRAINAGE PLAN & PROFILE

No.	Date	Revision Description

Drawn By: BEL
Date: 11/03/2023
Checked By: DC
Proj. No.: 230800449.16
File Name: 23.08.449.16.Sheet C4 01 Grading.dwg

Sheet No.
C4.2



0 20 40 60
SCALE IN FEET

WATER LEGEND

PWM	REQ'D WATER MAIN
PFL	REQ'D FIRE LINE
	REQ'D WATER VALVE
	REQ'D FIRE HYDRANT
M	REQ'D WATER METER
DC	REQ'D DETECTOR CHECK & VAULT
IRR	REQ'D IRRIGATION METER
	REQ'D POST MOUNTED SIAMESE CONNECTION

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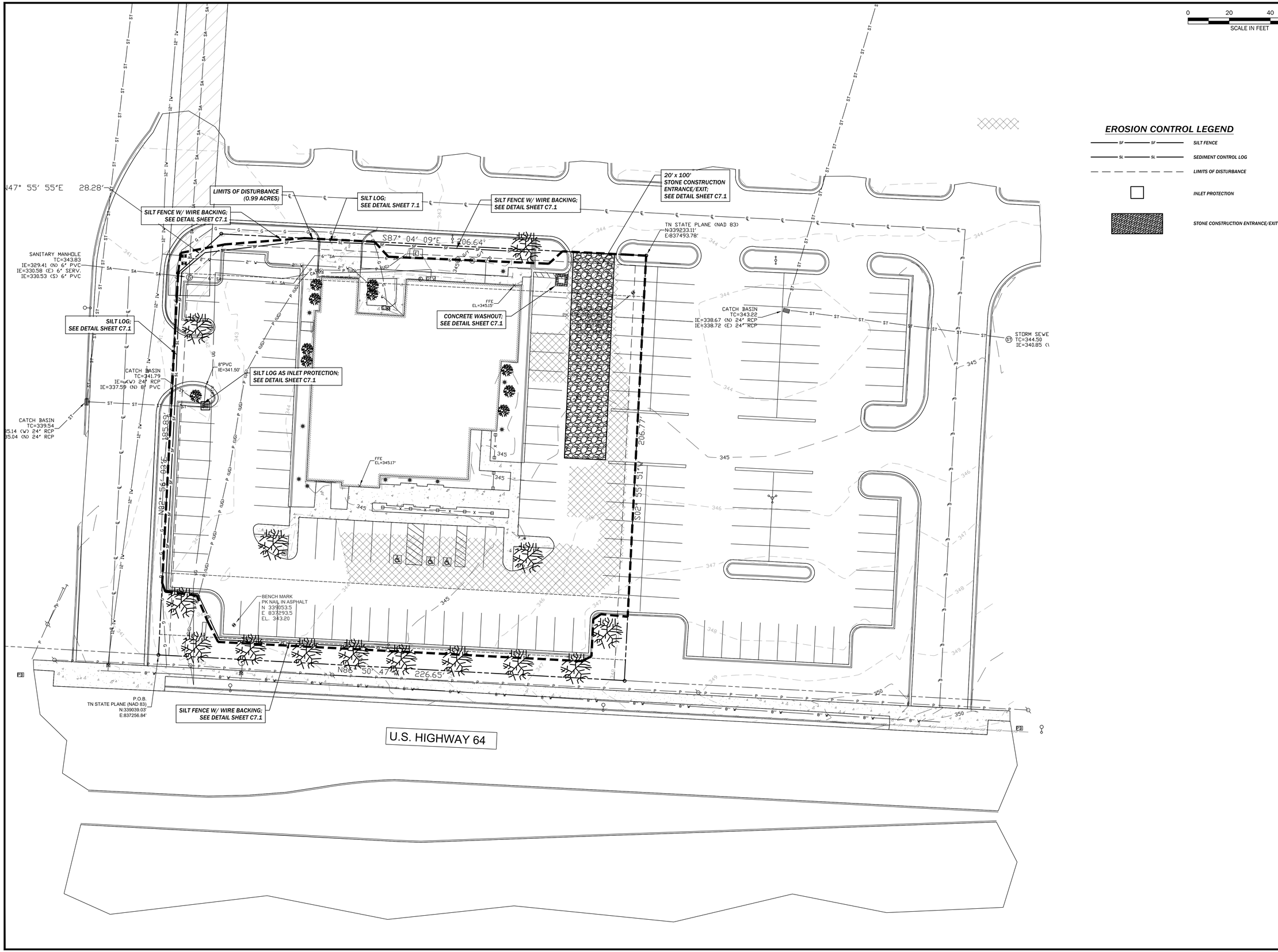
DONALD E. HARRIS
REGISTERED LANDSCAPE ARCHITECT
AGRICULTURE
11-02-2023
No. 002164
STATE OF TENNESSEE

Sheet Title
SITE UTILITY PLAN

No.	Date	Revision Description

Drawn By: BEL
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Date: 11/03/2023
Proj. No.: 230800449.16
File Name: 23-08-449.16.Sheet C7 01 Water.dwg

Sheet No.
C5.1



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CCW - 8274 HIGHWAY 64

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DONALD E. CROOKS, JR.
TENNESSEE REGISTERED LANDSCAPE ARCHITECT
11-03-2023
STATE OF TENNESSEE

Sheet Title
INITIAL EROSION CONTROL PLAN

No.	Date	Revision Description

Drawn By: BEL
Checked By: DC
Date: 11/03/2023
Proj. No.: 230800449.16
File Name: 23-08-449.16.Sheet C9 01 Erosion.dwg

Sheet No.
C6.1

0 20 40 60
SCALE IN FEET

EROSION CONTROL LEGEND

- SF SF — SILT FENCE
- SL SL — SEDIMENT CONTROL LOG
- LIMITS OF DISTURBANCE
- INLET PROTECTION
- STONE CONSTRUCTION ENTRANCE/EXIT
- CONCRETE WASHOUT

LIMITS OF DISTURBANCE (0.99 ACRES)

SILT FENCE W/ WIRE BACKING; SEE DETAIL SHEET C7.1

SILT LOG; SEE DETAIL SHEET C7.1

SILT FENCE W/ WIRE BACKING; SEE DETAIL SHEET C7.1

20' x 100' STONE CONSTRUCTION ENTRANCE/EXIT; SEE DETAIL SHEET C7.1

TN STATE PLANE (NAD 83)
N:339233.11'
E:837493.78'

S87° 04' 09"E 206.64'

SANITARY MANHOLE
TC=343.83
IE=329.41 (N) 6" PVC
IE=330.58 (E) 6" SERV.
IE=330.53 (S) 6" PVC

CONCRETE WASHOUT; SEE DETAIL SHEET C7.1

SILT LOG; SEE DETAIL SHEET C7.1

CATCH BASIN
TC=343.22
IE=338.67 (N) 24" RCP
IE=338.72 (E) 24" RCP

STORM SEWE
TC=344.50
IE=340.85 (

8"PVC
IE=341.50'

SILT LOG AS INLET PROTECTION; SEE DETAIL SHEET C7.1

CATCH BASIN
TC=341.79
IE=(W) 24" RCP
IE=337.59 (N) 8" PVC

CATCH BASIN
TC=339.54
35.14 (W) 24" RCP
35.04 (N) 24" RCP

PROPOSED 136' BUILDING

N02° 56' 02"E 185.93'

S02° 55' 51"W 206.77'

SILT LOG AS INLET PROTECTION; SEE DETAIL SHEET C7.1

N86° 50' 47"W 226.65'

P.O.B.
TN STATE PLANE (NAD 83)
N:339039.03'
E:837256.84'

SILT FENCE W/ WIRE BACKING; SEE DETAIL SHEET C7.1

U.S. HIGHWAY 64

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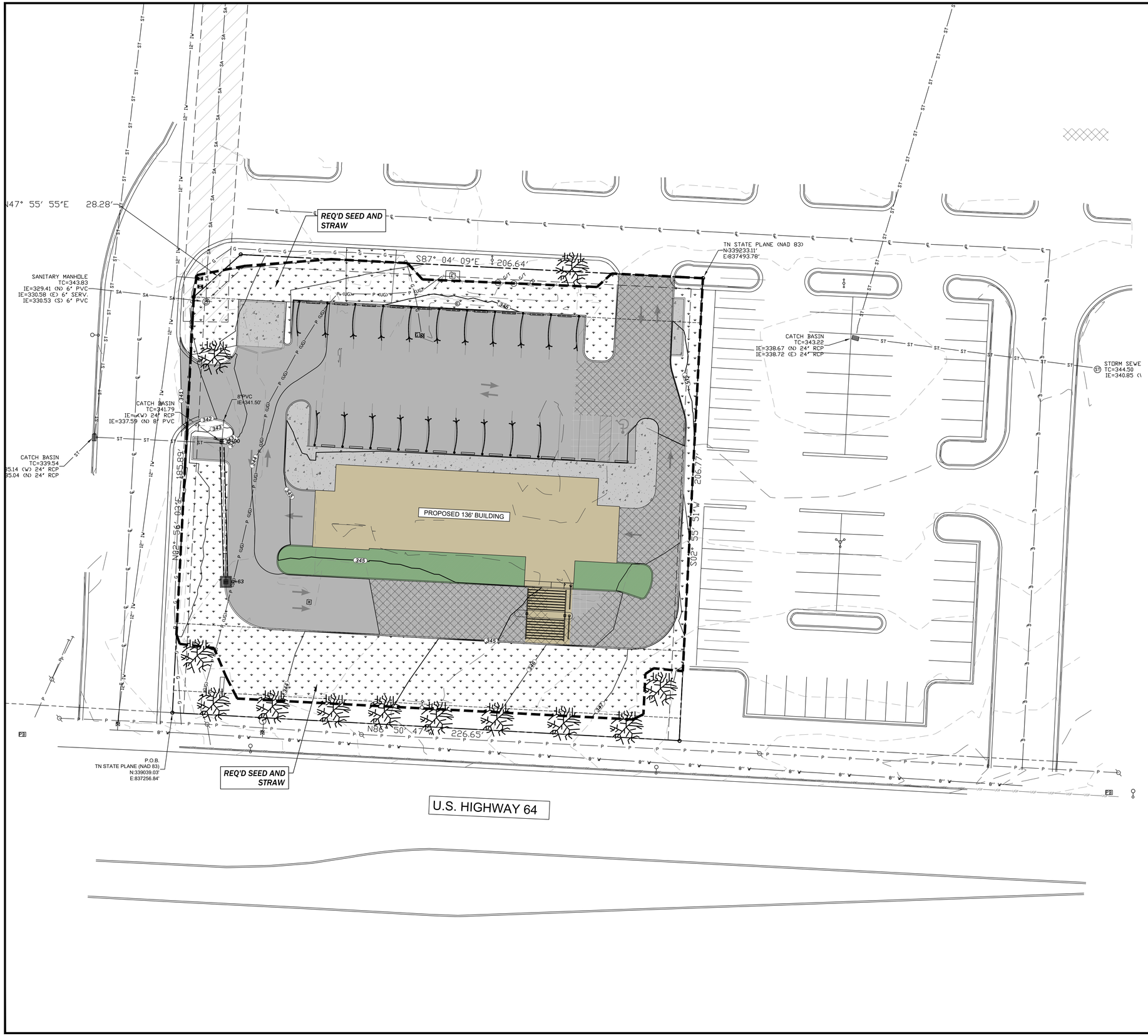
DAVID C. CHILDRESS
REGISTERED LANDSCAPE ARCHITECT
AGRICULTURE
11-03-2023
No. 822964
STATE OF TENNESSEE

Sheet Title
INTERMEDIATE EROSION CONTROL PLAN

No.	Date	Revision Description

Drawn By: BEL
Date: 11/03/2023
Checked By: DC
Proj. No.: 230800449.16
File Name: 23.08.449.16.Sheet C9 01 Erosion.dwg

Sheet No.
C6.2



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CCW - 8274 HIGHWAY 64

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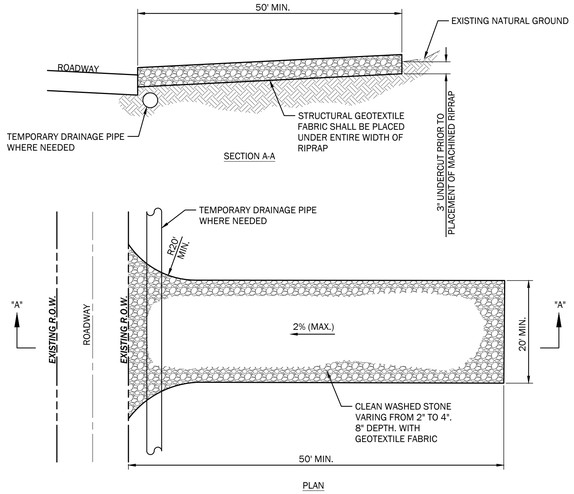
DONALD E. CROWLY JR.
REGISTERED PROFESSIONAL ENGINEER
AGRICULTURE
11-03-2023
LICENSE NO. 122804
STATE OF TENNESSEE

Sheet Title
FINAL EROSION CONTROL PLAN

No.	Date	Revision Description

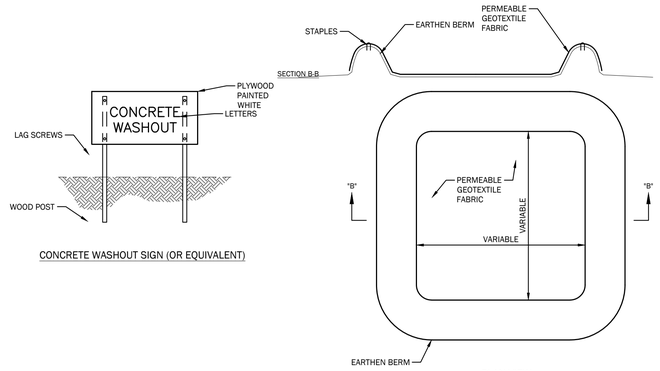
Drawn By: BEL
Checked By: DC
Date: 11/03/2023
Proj. No.: 230800449.16
File Name: 23-08-449.16.Sheet C9 01 Erosion.dwg

Sheet No.
C6.3



NOTES:
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY.

1 ***TEMPORARY CONSTRUCTION ENTRANCE***
NOT TO SCALE

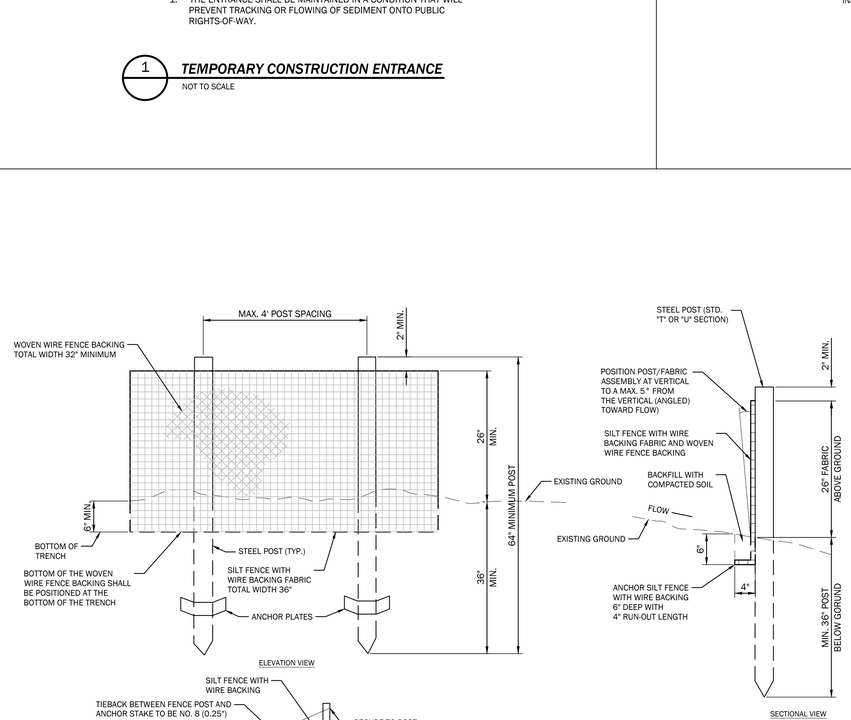


CONCRETE WASHOUT SIGN (OR EQUIVALENT)

PLAN VIEW
TYPE "ABOVE GRADE"
WITH EARTHEN BERMS

NOTES:
1. ACTUAL LAYOUT SHALL BE DETERMINED IN THE FIELD.
2. SIGNAGE IDENTIFYING THE CONCRETE WASHOUT AREA SHALL BE INSTALLED WITHIN 5 FEET OF THE WASHOUT FACILITY.

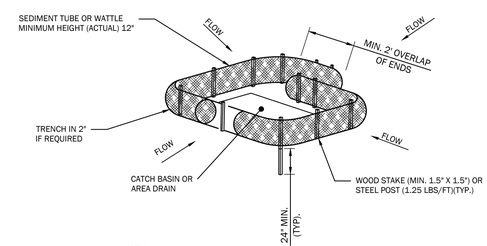
2 ***CONCRETE WASHOUT***
NOT TO SCALE



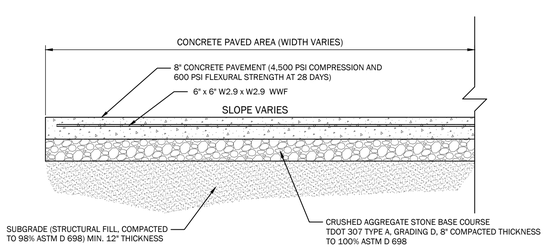
NOTES:
1. SILT FENCE TIEBACK SHALL BE USED WHEN REQUIRED BY THE ENGINEER OR NOTED IN THE PLANS. THE COST SHALL BE INCLUDED IN THE ITEMS FOR SILT FENCE.
2. SILT FENCES ARE TEMPORARY EROSION CONTROL ITEMS, THAT SHALL BE ERECTED OPPOSITE ERODABLE AREAS SUCH AS NEWLY GRADED FILL SLOPES AND ADJACENT TO STREAMS AND CHANNELS.
3. SILT FENCE SHOULD BE PLACED WELL INSIDE RIGHT OF WAY AND ALONG EDGE OF CLEARING LIMITS, THIS WILL ALLOW ROOM FOR A BACK UP FENCE IF FIRST BECOMES FULL. SILT FENCES SHALL BE IN PLACE PRIOR TO ANY CONSTRUCTION OPERATION.
4. WHEREVER POSSIBLE SILT FENCES SHALL BE CONSTRUCTED ACROSS A FLAT AREA IN THE SHAPE OF A HORSESHOE. THIS AIDS IN PONDING OF RUNOFF AND FACILITATES SEDIMENTATION.
5. AFTER THE CONSTRUCTION AREA IS STABILIZED AND EROSION ACTIVITY CURTAILED, SILT FENCES SHALL BE REMOVED.
6. BUILT-IN REINFORCED STRUCTURE, AS RECOMMENDED BY THE MANUFACTURER TO SUPPORT THE FILTER CLOTH.
7. FILTER CLOTH SHALL MEET THE REQUIREMENTS OF SECTION 209 OF THE TDOT STANDARD SPECIFICATIONS.
8. A PRE-ASSEMBLED SILT FENCE MEETING THE REQUIREMENTS OF THIS DRAWING IS ACCEPTABLE IN LIEU OF A FIELD CONSTRUCTED SILT FENCE.

4 ***SILT FENCE WITH WIRE BACKING***
NOT TO SCALE

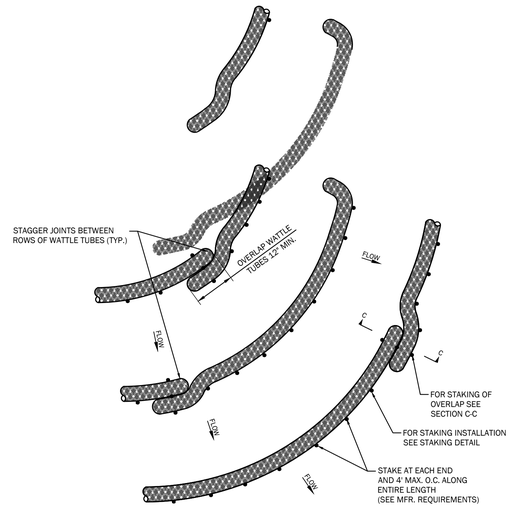
CATCH BASIN PROTECTION
(TYPE D)



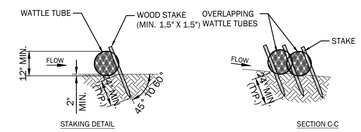
5 ***INLET PROTECTION***
NOT TO SCALE

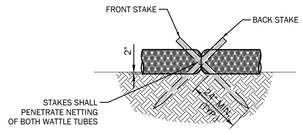


6 ***DUMPSTER PAD DETAIL***
NOT TO SCALE



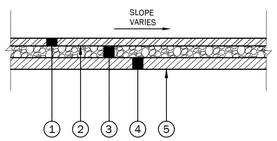
PLAN VIEW FOR SLOPE APPLICATION





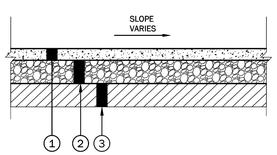
NOTES:
1. MAXIMUM DISTURBED AREA SHALL BE 1/4 ACRES PER 100' OF WATTLE

3 ***TUBES AND WATTLES***
NOT TO SCALE



1. REQ'D: BITUMINOUS CONCRETE WEARING SURFACE LAYER, ½" MAXIMUM AGGREGATE SIZE MIX (TDOT 411-E) (2.5" COMPACTED THICKNESS)
2. REQ'D: PRIME COAT "A"
3. REQ'D: CRUSHED AGGREGATE STONE BASE COURSE (TDOT 307 & 903.5 TYPE A, CLASS A, GRADING C) (6" COMPACTED THICKNESS) (COMPACTED TO 100% ASTM D 1557)
4. REQ'D: SUBGRADE (ROADBED PROCESSED, COMPACTED TO 95% ASTM D 698) (8" MIN THICKNESS) (AS DIRECTED BY THE OWNER'S REPRESENTATIVE)
5. REQ'D: UNCLASSIFIED/BORROW EXCAVATION (COMPACTED TO 98% ASTM D 698)

7 ***TYPICAL ASPHALT PAVEMENT (LIGHT DUTY)***
NOT TO SCALE



1. REQ'D: 8" PORTLAND CEMENT CONCRETE (4,000 PSI)
2. REQ'D MINERAL AGGREGATE BASE (TDOT 303, TYPE "A", GRADING "D") (10" COMPACTED THICKNESS TO 100% ASTM D698)
3. SUBGRADE (STRUCTURAL FILL, COMPACTED TO 98% ASTM D 698) MIN. 12" THICKNESS

8 ***TYPICAL CONCRETE PAVEMENT***
NOT TO SCALE

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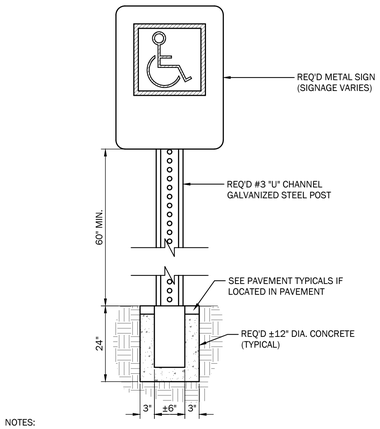
DAVID E. CLARK
REGISTERED ENGINEER
AGRICULTURE
11-03-2023
No. 122964
STATE OF TENNESSEE

Sheet Title
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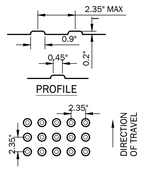
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NOTES:

1. ALL PERMANENT SIGNS SHALL BE STANDARD SIGNS (FLAT PANEL) 0.800 ALUMINUM OR 14 GAUGE STEEL FLAT.

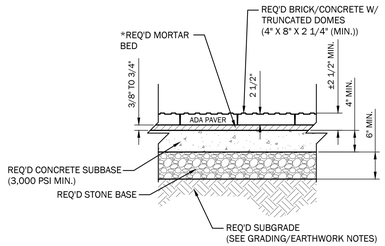
1 ***PERMANENT SIGN POST DETAIL***
NOT TO SCALE



1. DOMES SHALL BE PARALLEL TO THE RAMP SO THAT THE WHEELCHAIR WHEELS CAN TRAVEL BETWEEN THE DOMES.
2. DISTANCE BETWEEN DOMES SHALL BE 1.6" TO 2.35" MAX.

PLAN

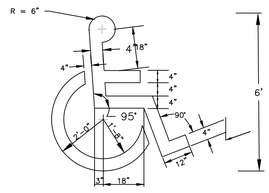
TRUNCATED DOME PATTERNS



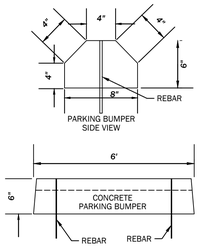
PAVER INSTALLATION TYPICAL

1. CURB RAMP LENGTH DEPENDS ON THE HEIGHT OF CURBING.
2. THE CONTRACTOR MUST MEET TRUNCATED DOME PATTERN DIMENSIONS ON ALL HANDICAP RAMPS AS SHOWN IN THE DETAIL.
3. WHEN INSTALLING THE BRICK PAVERS THE CONTRACTOR SHALL USE THE 3/8" MORTAR/ GROUT BED WITH SAND SWEPT JOINT INSTALLATION METHOD SUITABLE FOR HIGH TRAFFIC AND DRIVE OVERS BY TURNING VEHICLES. SAND COLOR SHALL MATCH PAVERS.
4. CONTRACTOR SHALL ACCOUNT FOR PAVER THICKNESS AND MORTAR/GROUT BED THICKNESS TO ENSURE THAT AFTER INSTALLATION OVER THE CONCRETE SUBBASE THERE IS A FLUSH TRANSITION WITH THE BACK OF THE CONCRETE GUTTER.
5. CONTRACTOR SHALL INSTALL AN ON-SITE SAMPLE HANDICAP RAMP AREA (MIN. 2' X 6') TO VERIFY THE BRICK, MORTAR AND SAND COLOR AND ESTABLISH THE QUALITY STANDARD FOR PAVER INSTALLATION AND CONCRETE INSTALLATION THROUGHOUT THE PROJECT.
6. REQUIRED SIDEWALK STONE BASE LAYER TO BE NO. 8910 OR DENSE GRADE BASE COMPACTED TO 100% STANDARD PROCTOR. PLACE STONE BASE UNDER ALL CONCRETE SIDEWALK AND PAVERS AND CONCRETE SUB BASE.
7. THE USE OF TRUNCATED DOME MATS MUST BE APPROVED BY THE OWNER'S REPRESENTATIVE IN ADVANCE OF ITS USE. INSTALLATION WITHOUT PRIOR APPROVAL SHALL RESULT IN REMOVAL/REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
8. THE CONTRACTOR SHALL SUBMIT AN ACTUAL BRICK PAVER SAMPLE DURING MATERIAL SUBMITTALS.

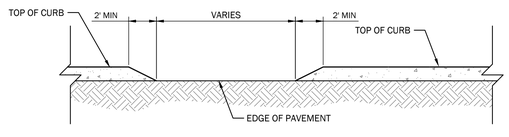
4 ***HANDICAP RAMP DETAILS***
BRICK PAVER W/ TRUNCATED DOME INSTALLATION
NOT TO SCALE



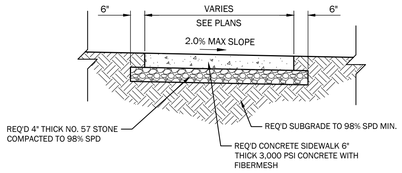
2 ***HANDICAP PARKING SYMBOL***
NOT TO SCALE



3 ***BUMPER BLOCK***
NOT TO SCALE



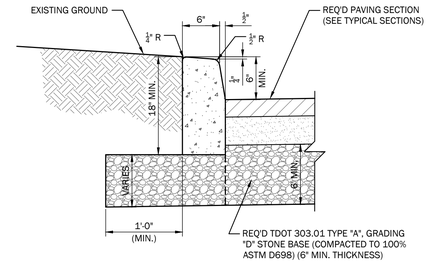
5 ***TAPERING CURB LINE***
NOT TO SCALE



NOTES:

1. EXPANSION JT. REQ'D. @ 25' MAX. INTERVALS BUT NOT LESS THAN 15' WITH EXPANSION JOINT MATERIAL.
2. CONTRACTION JOINTS SHALL BE HAND-TOOLED ONLY IN LOCATIONS AS INDICATED BY THE SCORING PATTERN SHOWN IN THE CONSTRUCTION PLANS. JOINTS SHALL BE INSTALLED AT A DEPTH OF 1/4 THICKNESS OF THE SLAB MIN. NO SAW-CUT OF JOINTS IS ALLOWED.
3. SIDEWALKS SHALL HAVE AN EXPANSION JOINT INSTALLED IN ALL LOCATIONS WHERE NEW IMPROVEMENTS MEET EXISTING INFRASTRUCTURE.
4. SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.
5. ALL STONE SHALL BE MECHANICALLY COMPACTED IN PLACE, NO EXCEPTIONS.
7. EXPANSION JOINT MATERIAL SHALL BE PUSHED DOWN 1/8" FROM TOP OF SIDEWALK.
9. EXPANSION JOINT MATERIAL SHALL BE CONTINUOUS THROUGH THE OVERALL DEPTH OF THE SIDEWALK.

6 ***CONCRETE SIDEWALK***
NOT TO SCALE



NOTES:

1. SEE GRADING/EARTHWORK NOTES AND SPECIFICATIONS FOR SUBGRADE REQUIREMENTS.
2. THE CONTRACTOR SHALL BE PERMITTED TO USE MACHINE PLACEMENT. THE MACHINE SHALL BE SO DESIGNED TO PLACE, SPREAD, CONSOLIDATE, SCREED, AND FINISH THE CONCRETE IN ONE (1) COMPLETE PASS IN SUCH A MANNER THAT A MINIMUM OF HAND FINISHING WILL BE NECESSARY TO PROVIDE A DENSE AND HOMOGENOUS CONCRETE SECTION. THE MACHINE SHALL SHAPE, VIBRATE, AND/OR EXTRUDE THE CONCRETE FOR THE FULL REQUIRED CONCRETE SECTION BEING PLACED.
3. EXPANSION JOINTS REQ'D. @ 50' INTERVALS (IF HAND FORMED), AT ALL RADII POINTS AT CONCRETE ENTRANCES AND CURB RETURNS, AT DROP INLETS, AT END OF WORK DAYS, AND/OR ALL COLD JOINTS. FILLER MATERIAL SHALL CONFORM TO ASTM C920 AND BE FURNISHED IN A SINGLE ONE-HALF INCH (1/2") THICK PIECE FOR FULL DEPTH AND WIDTH OF THE JOINT.
4. CONTRACTION JOINTS MAY BE SAWCUT OR HANDFORMED. JOINTS SHALL BE 1/4 x CONCRETE THICKNESS IN DEPTH BY 1/8" WIDE AND SHALL BE 10' O.C.
5. GUTTER THICKNESS SHALL MATCH ADJACENT PAVEMENT THICKNESS WHEN INSTALLED WITH CONCRETE PAVEMENT (SEE PLANS AND CONCRETE PAVEMENT DETAILS.)
6. VALLEY GUTTER ADJACENT TO CONCRETE PAVEMENT SHALL BE POURED WITH CONCRETE THAT HAS A COMPRESSIVE STRENGTH OF 4500 PSI AT 28 DAYS AND 600 PSI FLEXURAL STRENGTH AT 28 DAYS.
7. CONTRACTOR SHALL ADD 1'Ø DOWELS, 14" LONG, 12" O.C. AT ALL VALLEY GUTTERS AND OTHER FLAT SURFACES ADJACENT TO CONCRETE PAVEMENT UNLESS OTHERWISE DIRECTED BY THE OWNER'S REPRESENTATIVE.
8. SEE GRADING/EARTHWORK NOTES AND SPECIFICATIONS FOR SUBGRADE REQUIREMENTS.
9. WHEN CURB, CURB AND GUTTER AND/OR BAND CURB ARE REQUIRED ADJACENT TO NEW PAVEMENT, THE BASE LAYER THICKNESS SHALL VARY BENEATH THE CURB, CURB AND GUTTER OR, BASED ON THE REQUIRED PAVEMENT BUILDUP. MEASUREMENT ON UNIT PRICE CONTRACTS SHALL STILL BE MEASURED FROM ONE (1) FOOT BEHIND CURB AND THE THICKNESS, VARIATION CONSIDERED INCIDENTAL. THIS LAYER OF STONE SHALL ENSURE A GOOD, ALL WEATHER SUPPORT FOR THE CURB, CURB AND GUTTER, ETC.

7 ***6" DETACHED CONCRETE CURB***
NOT TO SCALE



R5-1

8 ***DO NOT ENTER SIGN***
NOT TO SCALE

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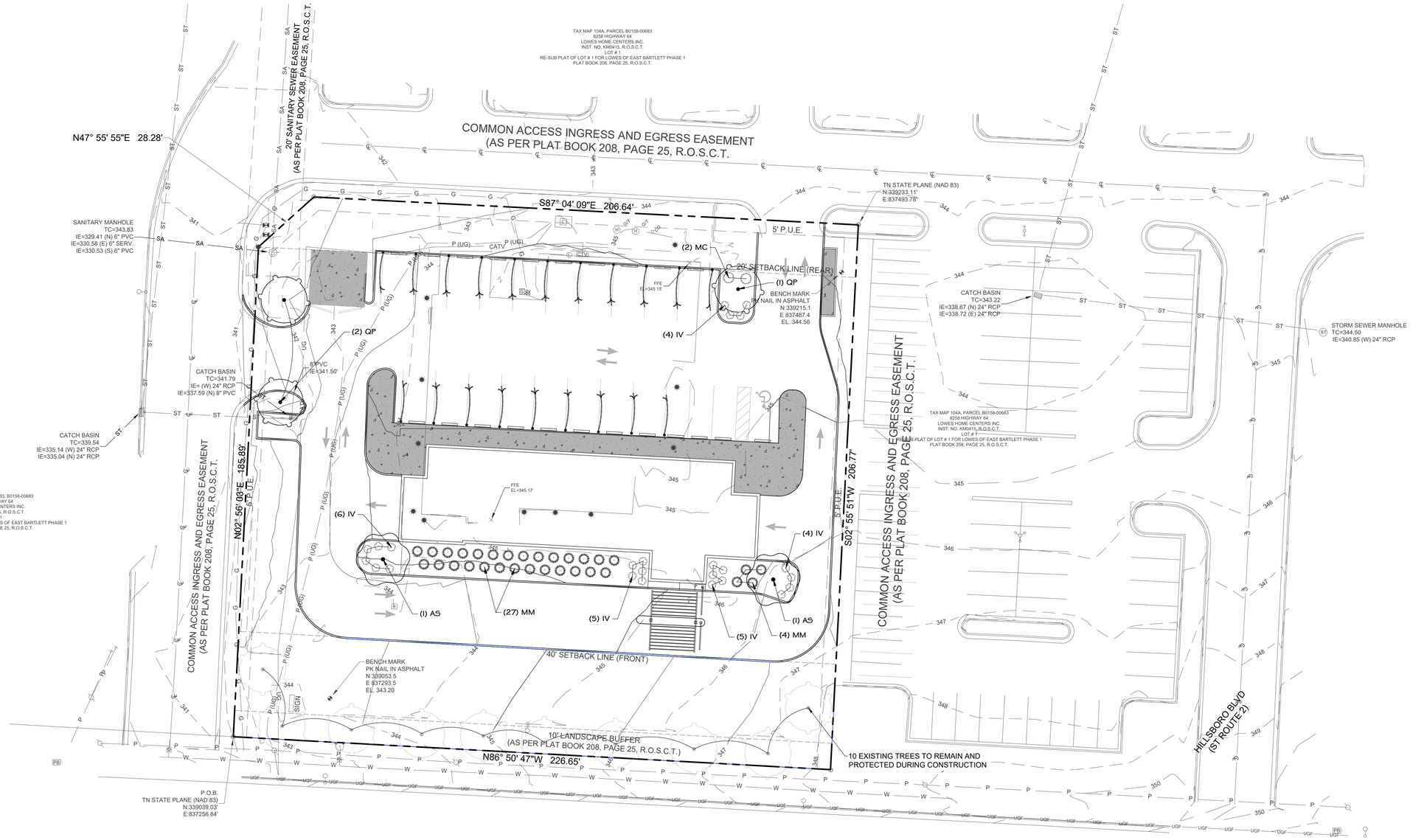
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LANDSCAPE NOTES:

1. PLANTS SHALL MEET THE STANDARDS FOR SIZE, FORM AND QUALITY SET OUT IN THE AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1, LATEST EDITION)
2. ALL LANDSCAPE BEDS TO HAVE 3" HARDWOOD MULCH
3. ALL DISTURBED AREAS NOT DESIGNATED AS PLANTING BED OR SOD TO BE SEEDED, REF SEED NOTES SHEET L1.1

PLANT SCHEDULE LANDSCAPE

TREES	QTY	BOTANICAL / COMMON NAME	SIZE	TYPE	HEIGHT		DETAIL	REMARKS
AS	2	Acer saccharum / Sugar Maple	2" Cal.	Deciduous	10-12` HT			B&B or Container
QP	3	Quercus phellos / Willow Oak	2" Cal.	Deciduous	10-12` HT			B&B or Container
SHRUBS	QTY	BOTANICAL / COMMON NAME	SIZE	CONTAINER	18"		DETAIL	REMARKS
IV	24	Itea virginica / Virginia Sweetspire	3 gal.	Pot	18"			Container, full
MM	31	Miscanthus sinensis 'Morning Light' / Morning Light Eulalia Grass	3 gal.	B&B	18"			Full
MC	2	Myrica cerifera / Wax Myrtle	3 gal.	Pot	18"			Full



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ANY LOCATIONS OF UNDERGROUND UTILITIES AS SHOWN HEREON ARE BASED ON ABOVEGROUND STRUCTURES AND RECORD DRAWINGS PROVIDED THE SURVEYOR AND MAY VARY FROM LOCATIONS SHOWN HEREON. ADDITIONAL BURIED UTILITIES/STRUCTURES MY BE ENCOUNTERED. NO EXCAVATIONS WERE MADE DURING THE PROGRESS OF THIS SURVEY TO LOCATE BURIED UTILITIES/STRUCTURES. FOR INFORMATION REGARDING THESE UTILITIES, CONTACT THE APPROPRIATE AGENCIES.

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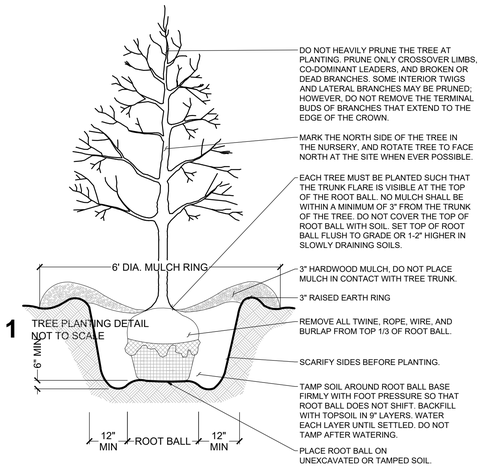
ALLEN WILLIAM ONEAL
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AGRICULTURE
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TENNESSEE NO. 848
LANDSCAPE ARCHITECT
11/05/2023

Sheet Title
LANDSCAPE PLAN

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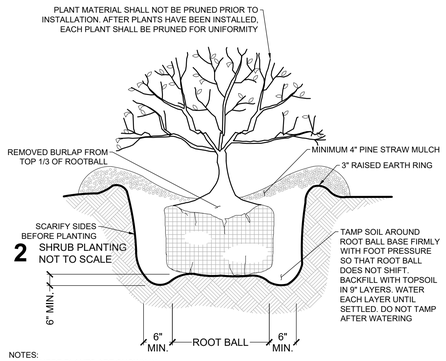
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Date: 09/28/2023 | Proj. No.: 230800449.05
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1 TREE PLANTING DETAIL
NOT TO SCALE

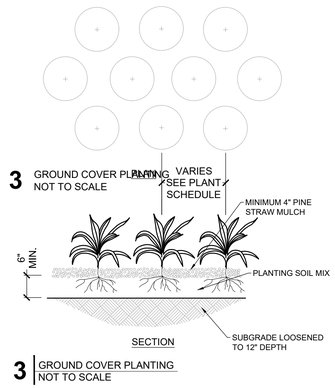
NOTES:
1. DO NOT STAKE TREES UNLESS APPROVED BY THE LANDSCAPE ARCHITECT. IF STAKED, REMOVE AFTER ONE GROWING SEASON.
2. DO NOT WRAP TREE TRUNKS UNLESS APPROVED BY THE LANDSCAPE ARCHITECT. REMOVE WRAP AFTER PLANTING.
3. NON-BIODEGRADABLE BURLAP TO BE REMOVED OR ROLLED UNDER ROOT BALL AFTER PLANT IS PLACED IN HOLE.



2 SHRUB PLANTING
NOT TO SCALE

NOTES:
1. WHERE PLANTS ARE SHOWN IN BEDS, MULCH SHALL COVER ENTIRE BED AS DENOTED ON THE PLANS.
2. CONTAINER GROWN PLANT MATERIAL MAY BE SUBSTITUTED FOR BURLAP MATERIAL

2 SHRUB PLANTING
NOT TO SCALE



3 GROUND COVER PLANTING
NOT TO SCALE

3 GROUND COVER PLANTING
NOT TO SCALE

PLANTING NOTES:

1. ANY SERIES OF TREES TO BE PLACED IN A PARTICULAR ARRANGEMENT WILL BE FIELD CHECKED FOR ACCURACY. ANY PLANTS MISARRANGED WILL BE RELOCATED.
2. SOIL USED IN BACKFILLING PLANTING PITS SHALL BE TOPSOIL AND MIXED WITH 25% PEAT BY VOLUME. EXCEPT FOR ERICACEOUS PLANTS, VERY ACID OR SOUR SOIL (SOIL HAVING A pH LESS THAN 6) SHALL BE MIXED WITH SUFFICIENT LIME TO PRODUCE A SLIGHTLY ACID REACTION (A pH OF 6.0 TO 6.5). 10-10-10 COMMERCIAL FERTILIZER AT THE RATE OF 2 POUNDS PER CUBIC YARD SHALL BE ADDED. BOTH FERTILIZER AND PEAT SHALL BE THOROUGHLY MIXED BY HAND OR ROTARY TILLER.
3. SOIL USED IN BACKFILLING ERICACEOUS PLANTS SHALL BE TOPSOIL MIXED WITH 50% PEAT BY VOLUME. 5-10-5 COMMERCIAL FERTILIZER AT THE RATE OF 5 POUNDS PER CUBIC YARD SHALL BE ADDED. BOTH FERTILIZER AND PEAT SHALL BE THOROUGHLY MIXED BY HAND OR ROTARY TILLER.
4. UPON SECURING PLANT MATERIAL, AND BEFORE INSTALLATION, THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT FOR A PRE-INSTALLATION INSPECTION IN ORDER TO VERIFY ALL PLANT MATERIAL MEETS SPECIFICATIONS. TREES OF SAME SPECIES TO BE MATCHED IN GROWTH CHARACTER AND UNIFORMITY.
5. PRE-EMERGENT HERBICIDE (TREFLAN OR EQUIVALENT) SHALL BE APPLIED TO ALL PLANT BEDS PRIOR TO PLANTING FOR NOXIOUS WEED CONTROL PER MANUFACTURER'S SPECIFICATIONS.
6. CONTRACTOR SHALL SUBMIT A 10 OUNCE SAMPLE OF THE TOPSOIL PROPOSED TO A TESTING LABORATORY FOR ANALYSIS. TEST RESULTS, WITH RECOMMENDATIONS FOR SUITABILITY, SHALL BE SUBMITTED TO THE OWNER'S REPRESENTATIVE FOR APPROVAL.
7. PLANTS SHALL BE ORIENTED FOR BEST APPEARANCE AND VERTICAL. ALL NON- BIODEGRADABLE ROOT CONTAINERS SHALL BE REMOVED.
8. TREE BRANCHES SHALL BE SELECTIVELY TRIMMED BY 25%, MAINTAINING NATURAL SHAPE. ALL DEAD AND BROKEN BRANCHES IN TREES AND SHRUBS SHALL ALSO BE PRUNED. REMOVE TAGS, TWINE OR OTHER NON-BIODEGRADABLE MATERIAL.
9. SCARIFY SUBSOIL IN PLANTING BEDS TO A DEPTH OF 3 INCHES. ALL PLANTING BEDS SHALL RECEIVE A MINIMUM OF 6 INCHES OF TOPSOIL.
10. CONTRACTOR SHALL PROVIDE SMOOTH, NEATLY TRENCHED (3 INCH DEEP) BED EDGES.
11. ALL PLANTING BEDS TO HAVE A MINIMUM 3 INCH DEEP HARDWOOD MULCH
12. DIMENSIONS FOR TRUNK CALIPER, HEIGHTS, AND SPREAD SPECIFIED ON THE MATERIAL SCHEDULE ARE A GENERAL GUIDE FOR THE MINIMUM REQUIRED SIZE OF EACH PLANT. QUALITY & SIZE OF PLANTS, SPREAD OF ROOTS AND SIZE OF BALLS SHALL BE IN ACCORDANCE WITH A.N.S.I. Z80 "AMERICAN STANDARD FOR NURSERY STOCK" (CURRENT EDITION) AS PUBLISHED BY THE AMERICAN ASSOCI- ATION OF NURSERYMEN, INC.
13. THE QUANTITIES INDICATED ON THE MATERIAL SCHEDULE ARE PROVIDED FOR THE BENEFIT OF THE CONTRACTOR, BUT SHOULD NOT BE ASSUMED TO ALWAYS BE CORRECT. IN THE EVENT OF A DISCREPANCY, THE PLANTING PLAN WILL TAKE PRECEDENCE OVER THE MATERIAL SCHEDULE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HIS/HER OWN QUANTITY CALCULATIONS AND THE LIABILITY PERTAINING TO THOSE QUANTITIES AND ANY RELATED CONTRACT DOCUMENTS AND/ OR PRICE QUOTATIONS.
14. CONTRACTOR TO WARRANTY ALL MATERIAL FOR ONE YEAR AFTER DATE OF FINAL ACCEPTANCE.

SEEDING NOTES:

1. ALL DISTURBED AREAS TO BE SEEDED WITH KY-31 FESCUE AT THE RATE OF 5 LBS PER 1,000 S.F. ALL SEED TO BE 98% PURE WITH 85% GERMINATION AND CONFORM TO ALL STATE REQUIREMENTS FOR GRASS SEED. THE FERTILIZER SHALL BE 6-12-12 COMMERCIAL TYPE WITH 50% OF ITS ELEMENTS DERIVED FROM ORGANIC SOURCES.
2. STRAW MULCH SHALL BE PLACED UPON SEEDED AREAS. STRAW SHALL BE OATS OR WHEAT STRAW, FREE FROM WEEDS, FOREIGN MATTER DETRIMENTAL TO PLANT LIFE, AND DRY. HAY OR CHOPPED CORNSTALKS ARE NOT ACCEPTABLE.
3. THE CONTRACTOR SHALL VERIFY THAT THE PREPARED SOIL BASE IS READY TO RECEIVE WORK. THE TOPSOIL SHALL BE CULTIVATED TO A DEPTH OF 4 INCHES WITH A MECHANICAL TILLER AND SUBSEQUENTLY RAKED UNTIL SMOOTH. FOREIGN MATERIALS COLLECTED DURING CULTIVATION AND RAKING OPERATIONS SHALL BE REMOVED FROM PROJECT SITE.
4. FERTILIZER SHALL BE APPLIED PER THE MANUFACTURER'S RECOMMENDATIONS. LIMESTONE MAY BE APPLIED WITH THE FERTILIZER. FERTILIZER SHALL BE APPLIED AFTER SMOOTH RAKING AND PRIOR TO ROLLER COMPACTION AND IT SHALL BE MIXED THOROUGHLY IN THE UPPER 2 INCHES OF TOPSOIL.
5. SEED SHALL BE APPLIED EVENLY IN TWO INTERSECTING DIRECTIONS AND RAKED IN LIGHTLY. THE TOPSOIL SHALL BE LIGHTLY WATERED PRIOR TO APPLYING SEED. DO NOT SEED AREA IN EXCESS OF THAT WHICH CAN BE MULCHED ON THE SAME DAY.
6. ROLL SEEDED AREA WITH ROLLER NOT EXCEEDING 112 POUNDS.
7. IMMEDIATELY FOLLOWING SEEDING AND COMPACTING, APPLY STRAW MULCH AT THE RATE OF ONE AND ONE HALF BALE PER 1,000 SQUARE FEET. IMMEDIATELY AFTER MULCHING, APPLY WATER WITH A FINE SPRAY AND SATURATE THE GROUND TO A DEPTH OF 4 INCHES.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING SEEDED AREAS TO PREVENT GRASS AND SOIL FROM DRYING OUT UNTIL THE INSTALLATION IS INSPECTED AND ACCEPTED BY THE OWNER'S REPRESENTATIVE.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR RESEEDING BARE SPOTS FOR A PERIOD OF ONE YEAR AFTER ACCEPTANCE OF INSTALLATION.

SODDING NOTES:

1. AREAS INDICATED FOR SOD SHALL BE KENTUCKY 31. MINIMUM AGE SHALL BE 18 MONTHS, WITH ROOT DEVELOPMENT THAT WILL SUPPORT ITS OWN WEIGHT WITHOUT TEARING WHEN SUSPENDED VERTICALLY BY HOLDING THE UPPER TWO CORNERS.
2. SUBMIT SOD CERTIFICATION FOR GRASS SPECIES AND LOCATION OF SOD SOURCE. INCLUDE CERTIFICATION THAT SOD IS FREE OF DISEASE, NEMATODES, UNDESIRABLE INSECTS, AND QUARANTINE RESTRICTIONS.
3. SOD SHALL BE DELIVERED ON PALLETS. SOD SHALL BE STORED AT A LOCATION THAT IS PROTECTED FROM DAMAGING WINDS.
4. 6-12-12 COMMERCIAL TYPE FERTILIZER, WITH 50% OF THE ELEMENT DERIVED FROM ORGANIC SOURCES, SHALL BE APPLIED AT RATE RECOMMENDED BY THE MANUFACTURER. APPLY AFTER SMOOTH RAKING OF TOPSOIL AND NO MORE THAN 48 HOURS BEFORE LAYING SOD. MIX THOROUGHLY IN THE UPPER 2 INCHES OF TOPSOIL AND LIGHTLY WATER TO AID BREAKDOWN.
5. AREA TO RECEIVE SOD SHALL BE LIGHTLY MOISTENED IMMEDIATELY PRIOR TO LAYING SOD.
6. LAY SOD TIGHTLY WITH NO OPEN JOINTS VISIBLE AND NOT OVERLAPPING. STAGGER END JOINTS A MINIMUM OF 12 INCHES AND DO NOT STRETCH SOD PIECES.
7. ON SLOPES 6 INCHES PER FOOT AND STEEPER, LAY SOD PERPENDICULAR TO SLOPE AND SECURE EVERY ROW WITH WOODEN PEGS AT A MAXIMUM 2 FEET O.C. DRIVE PEGS FLUSH WITH SOD PORTION OF SOD.
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10. AFTER SOD AND SOIL HAVE DRIED, ROLL SODDED AREAS TO ENSURE A GOOD BOND BETWEEN SOIL AND SOD. ROLLER SHALL NOT EXCEED 150 POUNDS.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING (MOWING, TRIMMING, WATERING) THE SOD UNTIL THE INSTALLATION IS INSPECTED AND ACCEPTED BY THE OWNER'S REPRESENTATIVE.
12. THE CONTRACTOR SHALL REPLACE SOD AREAS THAT SHOW DETERIORATION FOR A PERIOD OF ONE YEAR AFTER ACCEPTANCE OF THE INSTALLATION. DETERIORATED MATERIAL SHALL BE REPLACED WITH SOD OF EQUAL QUALITY ORIGINALLY SPECIFIED.

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BARTLETT, SHELBY COUNTY, TN

ALLEN WILLIAM JONES
REGISTERED
TENNESSEE
LANDSCAPE ARCHITECT
10/05/2023

Sheet Title
LANDSCAPE DETAILS

No.	Date	Revision Description

Drawn By: AWJ
Checked By: DEC
Date: 09/28/2023
Proj. No.: 230800449.05
File Name: x230800449.16 LANDSCAPE.dwg

Sheet No.
L1.1

0 20 40 60
SCALE IN FEET

PAVING LEGEND

- *EXISTING ASPHALT PAVEMENT (MILL AND OVERLAY) (SEE DETAILS)*
- *REQ'D ASPHALT PAVEMENT (LIGHT DUTY) (SEE DETAILS)*
- *REQ'D CONCRETE SIDEWALK (SEE DETAILS)*
- *RENDER BUILDING*

NUMBER OF VACUUM SPOTS: 18
NUMBER OF AUXILIARY PARKING SPOTS: 4
AVAILABLE LENGTH FOR QUEUE: 155 L.F.
LOT ACRES: 1.07 ACRES

PAVING, SIGNING AND STRIPING NOTES

1. CONTRACTOR SHALL CALL TENNESSEE ONECALL (811) A MINIMUM OF 72 HOURS PRIOR TO COMMENCEMENT OF DEMOLITION OR CONSTRUCTION ACTIVITIES.
2. THE CONTRACTOR SHALL SAW-CUT ALL EXISTING PAVEMENTS TO BE REMOVED WITH A STRAIGHT, CLEAN REMOVAL JOINT TO ENSURE PROPOSED PAVEMENTS JOIN TO EXISTING CLEANLY.
3. ALL PERMANENT STRIPING SHALL BE MINIMUM 4" WIDTH, WHITE, AND SHALL CONFORM TO THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND TENNESSEE DEPARTMENT OF TRANSPORTATION SPECIFICATIONS.
4. ALL STRIPING IN TDOT RIGHT OF WAY SHALL BE THERMOPLASTIC.
5. ALL PERMANENT SIGNS AND POSTS SHALL BE OF COLOR AND TYPE SHOWN AND SHALL CONFORM TO THE CITY OF MT. JULIET REQUIREMENTS.
6. REQUIRED BIKE RACK AND DECORATIVE TRASH RECEPTICAL SHALL BE POWDER COATED BLACK PER CITY OF MT. JULIET REQUIREMENTS.
7. TO ACHIEVE A HIGH LEVEL OF FINISH TO THEIR SIDEWALK AND CURB AND GUTTER. THE CONTRACTOR SHALL MAKE SURE HIS MIX IS OPTIMUM AND NOT TOO DRY/WET WHICH MAY LEAD TO PITTING, CRACKING, AND TEXTURE TYPE PROBLEMS WHEN FINISHING THE CONCRETE. POORLY FINISHED CONCRETE SHALL BE REMOVED/REPLACED AT THE CONTRACTOR'S EXPENSE.
8. ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
9. THE CONCRETE SIDEWALK SCORING PATTERN SHOWN SHALL BE REFERENCED WHEN POURING THE SIDEWALKS. CONTRACTOR SHALL FOLLOW CURRENT ACI GUIDELINES FOR THE PLACEMENT AND SPACING OF ALL EXPANSION AND CONTROL JOINTS. THE CONTRACTOR SHALL ACHIEVE A HIGH LEVEL OF FINISH TO SIDEWALKS.
10. THE CONTRACTOR SHALL NOTE THE PAVEMENT TYPICAL SECTION FOR THE PROJECT.
11. CONCRETE CONTROL JOINTS SHALL BE MEASURED FOR DEPTH. THEY MUST BE INSTALLED PROPERLY FOR CONTROL CRACKING OF THE CONCRETE PAVEMENT. IMPROPERLY INSTALLED CONCRETE SHALL BE REMOVED/REPLACED AT THE CONTRACTOR'S EXPENSE.
12. THE FINAL PAVEMENT FINISH IS VERY IMPORTANT FOR THE PROJECT AND THE OWNER. THE CONTRACTOR SHALL MAKE ALL PAVEMENT ARE FINISHED OUT SMOOTHLY AND CLEANLY. IRREGULARITIES, "BIRD BATHS", RANDOM CRACKING, ETC. SHALL BE REMOVED/REPLACED AT THE CONTRACTOR'S EXPENSE.

Site Data Table			
Project Name:	8274 Highway 64		
Project Number:	000230800449.16		
Tax Map and Parcel:	B0158 00684		
Address:	8274 Highway 64		
Existing Zoning:	C-H		
Site Acreage:	1.07	Acres	
Site Square Footage:	46,565	SQ. FT.	
Minimum Setbacks			
Front Yard:	40 feet		
Side Yard:	N/A		
Rear Yard:	20 feet		
Owner:	**Club Car Wash**		
Address:	1591 E. Prathersville Road, Columbia, MO		
Phone Number:	573-999-5178		
Email Address:	jbarnes@clubcarwash.com		
Contact Name:	Justin Barnes		
Applicant/Owner Representative:	**TTL, Inc.**		
Address:	624 Grassmere Drive, Nashville, TN		
Phone Number:	615.934.5721		
Email Address:	dcollins@ttlusa.com		
Contact Name:	Donald Collins		
Proposed Building Information:			
Building Square Footage:			
Existing:	8,037	sq.ft.	
Proposed:	5,029	sq.ft.	
Total Increase:	-3,008	sq.ft.	
Type of Activity Proposed:	Car Wash		
Proposed Building Height:	28' - 10 3/4"		
Floor Area of Building:	5,028 sq. ft.		
Proposed Lot Coverage by All Buildings:	12%		
Lot Width:	226.64'		
Site Information:			
Total Acreage:	1.07	acres	46,565 sq. ft.
Ex. Building Impervious:	0.18	acres	8,037 sq.ft.
Ex. Site Impervious:	0.69	acres	29,987 sq.ft.
Total Existing Impervious:	0.87	acres	38,024 sq.ft.
Proposed Impervious:	0.65	acres	28,322 sq.ft.
Net Impervious:	-0.22	acres	9,702 sq.ft.
Disturbed Area:	0.99	acres	43,197 sq.ft.
Parking Information:			
Total Existing Parking:	86 spaces (including 3 handicap spaces)		
Total Proposed Parking:	4 spaces (including 1 handicap spaces)		
Total Net Parking:	-80 spaces		
Total Vacuum Parking:	18 spaces		

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8274 HIGHWAY 64
BARTLETT, SHELBY COUNTY, TN

DONALD ELLIOTT COLLINS
REGISTERED LANDSCAPE ARCHITECT
AGRICULTURE
11-02-2023
No. 002995
STATE OF TENNESSEE

Sheet Title
SITE LAYOUT PLAN

No.	Date	Revision Description

Drawn By: BEL
Date: 11/03/2023
Checked By: DC
Proj. No.: 230800449.16
File Name: 23-08.449.16.Sheet C3.01 Layout.dwg

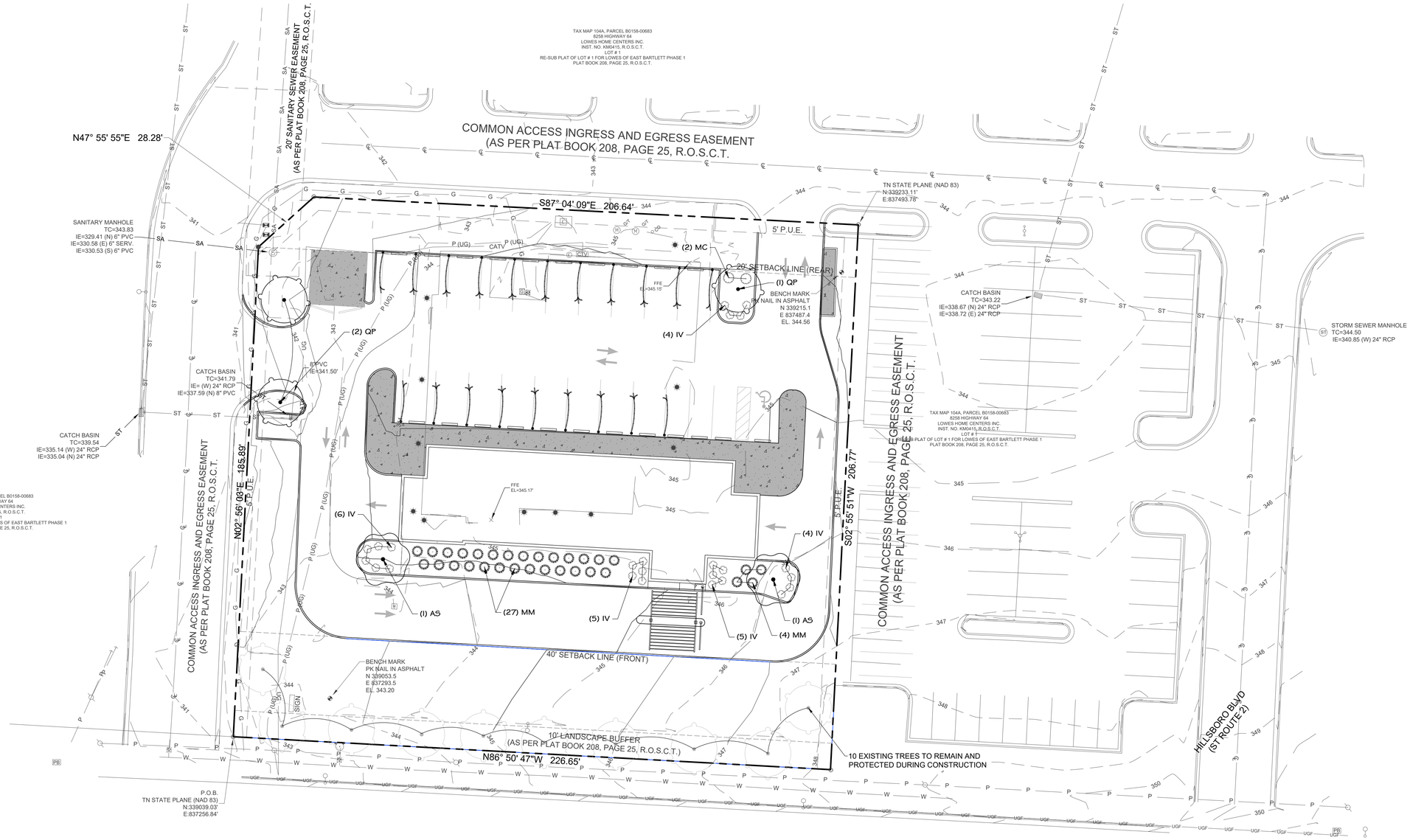
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C3.1

LANDSCAPE NOTES:

1. PLANTS SHALL MEET THE STANDARDS FOR SIZE, FORM AND QUALITY SET OUT IN THE AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1, LATEST EDITION)
2. ALL LANDSCAPE BEDS TO HAVE 3" HARDWOOD MULCH
3. ALL DISTURBED AREAS NOT DESIGNATED AS PLANTING BED OR SOD TO BE SEEDED, REF SEED NOTES SHEET L1.1

PLANT SCHEDULE LANDSCAPE

TREES	QTY	BOTANICAL / COMMON NAME	SIZE	TYPE	HEIGHT		DETAIL	REMARKS
AS	2	Acer saccharum / Sugar Maple	2" Cal.	Deciduous	10-12` HT			B&B or Container
QP	3	Quercus phellos / Willow Oak	2" Cal.	Deciduous	10-12` HT			B&B or Container
SHRUBS	QTY	BOTANICAL / COMMON NAME	SIZE	CONTAINER	18"		DETAIL	REMARKS
IV	24	Itea virginica / Virginia Sweetspire	3 gal.	Pot	18"			Container, full
MM	31	Miscanthus sinensis 'Morning Light' / Morning Light Eulalia Grass	3 gal.	B&B	18"			Full
MC	2	Myrica cerifera / Wax Myrtle	3 gal.	Pot	18"			Full



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ANY LOCATIONS OF UNDERGROUND UTILITIES AS SHOWN HEREON ARE BASED ON ABOVEGROUND STRUCTURES AND RECORD DRAWINGS PROVIDED THE SURVEYOR AND MAY VARY FROM LOCATIONS SHOWN HEREON. ADDITIONAL BURIED UTILITIES/STRUCTURES MY BE ENCOUNTERED. NO EXCAVATIONS WERE MADE DURING THE PROGRESS OF THIS SURVEY TO LOCATE BURIED UTILITIES/STRUCTURES. FOR INFORMATION REGARDING THESE UTILITIES, CONTACT THE APPROPRIATE AGENCIES.

811 Know what's below. Call before you dig.

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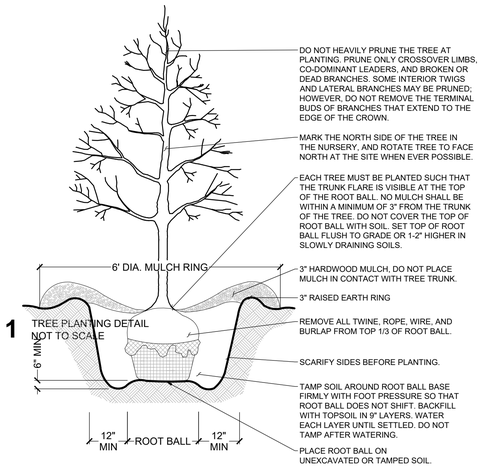
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TENNESSEE NO. 848
LANDSCAPE ARCHITECT
11/05/2023

Sheet Title
LANDSCAPE PLAN

No.	Date	Revision Description

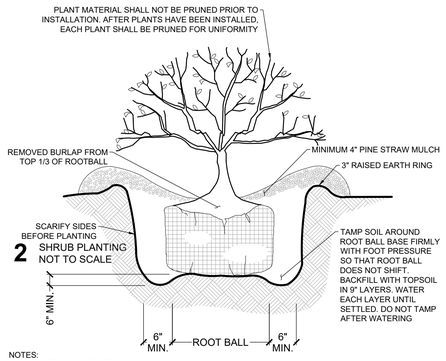
Drawn By: AWJ | Checked By: DEC
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Sheet No.
L1.0



1 TREE PLANTING DETAIL
NOT TO SCALE

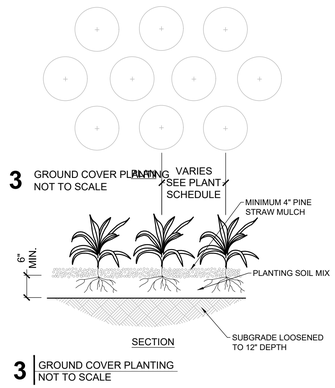
NOTES:
1. DO NOT STAKE TREES UNLESS APPROVED BY THE LANDSCAPE ARCHITECT. IF STAKED, REMOVE AFTER ONE GROWING SEASON.
2. DO NOT WRAP TREE TRUNKS UNLESS APPROVED BY THE LANDSCAPE ARCHITECT. REMOVE WRAP AFTER PLANTING.
3. NON-BIODEGRADABLE BURLAP TO BE REMOVED OR ROLLED UNDER ROOT BALL AFTER PLANT IS PLACED IN HOLE.



2 SHRUB PLANTING
NOT TO SCALE

NOTES:
1. WHERE PLANTS ARE SHOWN IN BEDS, MULCH SHALL COVER ENTIRE BED AS DENOTED ON THE PLANS.
2. CONTAINER GROWN PLANT MATERIAL MAY BE SUBSTITUTED FOR BURLAP MATERIAL

2 SHRUB PLANTING
NOT TO SCALE



3 GROUND COVER PLANTING
NOT TO SCALE

3 GROUND COVER PLANTING
NOT TO SCALE

PLANTING NOTES:

1. ANY SERIES OF TREES TO BE PLACED IN A PARTICULAR ARRANGEMENT WILL BE FIELD CHECKED FOR ACCURACY. ANY PLANTS MISARRANGED WILL BE RELOCATED.
2. SOIL USED IN BACKFILLING PLANTING PITS SHALL BE TOPSOIL AND MIXED WITH 25% PEAT BY VOLUME. EXCEPT FOR ERICACEOUS PLANTS, VERY ACID OR SOUR SOIL (SOIL HAVING A pH LESS THAN 6) SHALL BE MIXED WITH SUFFICIENT LIME TO PRODUCE A SLIGHTLY ACID REACTION (A pH OF 6.0 TO 6.5). 10-10-10 COMMERCIAL FERTILIZER AT THE RATE OF 2 POUNDS PER CUBIC YARD SHALL BE ADDED. BOTH FERTILIZER AND PEAT SHALL BE THOROUGHLY MIXED BY HAND OR ROTARY TILLER.
3. SOIL USED IN BACKFILLING ERICACEOUS PLANTS SHALL BE TOPSOIL MIXED WITH 50% PEAT BY VOLUME. 5-10-5 COMMERCIAL FERTILIZER AT THE RATE OF 5 POUNDS PER CUBIC YARD SHALL BE ADDED. BOTH FERTILIZER AND PEAT SHALL BE THOROUGHLY MIXED BY HAND OR ROTARY TILLER.
4. UPON SECURING PLANT MATERIAL, AND BEFORE INSTALLATION, THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT FOR A PRE-INSTALLATION INSPECTION IN ORDER TO VERIFY ALL PLANT MATERIAL MEETS SPECIFICATIONS. TREES OF SAME SPECIES TO BE MATCHED IN GROWTH CHARACTER AND UNIFORMITY.
5. PRE-EMERGENT HERBICIDE (TREFLAN OR EQUIVALENT) SHALL BE APPLIED TO ALL PLANT BEDS PRIOR TO PLANTING FOR NOXIOUS WEED CONTROL PER MANUFACTURER'S SPECIFICATIONS.
6. CONTRACTOR SHALL SUBMIT A 10 OUNCE SAMPLE OF THE TOPSOIL PROPOSED TO A TESTING LABORATORY FOR ANALYSIS. TEST RESULTS, WITH RECOMMENDATIONS FOR SUITABILITY, SHALL BE SUBMITTED TO THE OWNER'S REPRESENTATIVE FOR APPROVAL.
7. PLANTS SHALL BE ORIENTED FOR BEST APPEARANCE AND VERTICAL. ALL NON- BIODEGRADABLE ROOT CONTAINERS SHALL BE REMOVED.
8. TREE BRANCHES SHALL BE SELECTIVELY TRIMMED BY 25%, MAINTAINING NATURAL SHAPE. ALL DEAD AND BROKEN BRANCHES IN TREES AND SHRUBS SHALL ALSO BE PRUNED. REMOVE TAGS, TWINE OR OTHER NON-BIODEGRADABLE MATERIAL.
9. SCARIFY SUBSOIL IN PLANTING BEDS TO A DEPTH OF 3 INCHES. ALL PLANTING BEDS SHALL RECEIVE A MINIMUM OF 6 INCHES OF TOPSOIL.
10. CONTRACTOR SHALL PROVIDE SMOOTH, NEATLY TRENCHED (3 INCH DEEP) BED EDGES.
11. ALL PLANTING BEDS TO HAVE A MINIMUM 3 INCH DEEP HARDWOOD MULCH
12. DIMENSIONS FOR TRUNK CALIPER, HEIGHTS, AND SPREAD SPECIFIED ON THE MATERIAL SCHEDULE ARE A GENERAL GUIDE FOR THE MINIMUM REQUIRED SIZE OF EACH PLANT. QUALITY & SIZE OF PLANTS, SPREAD OF ROOTS AND SIZE OF BALLS SHALL BE IN ACCORDANCE WITH A.N.S.I. Z80 "AMERICAN STANDARD FOR NURSERY STOCK" (CURRENT EDITION) AS PUBLISHED BY THE AMERICAN ASSOCI- ATION OF NURSERYMEN, INC.
13. THE QUANTITIES INDICATED ON THE MATERIAL SCHEDULE ARE PROVIDED FOR THE BENEFIT OF THE CONTRACTOR, BUT SHOULD NOT BE ASSUMED TO ALWAYS BE CORRECT. IN THE EVENT OF A DISCREPANCY, THE PLANTING PLAN WILL TAKE PRECEDENCE OVER THE MATERIAL SCHEDULE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HIS/HER OWN QUANTITY CALCULATIONS AND THE LIABILITY PERTAINING TO THOSE QUANTITIES AND ANY RELATED CONTRACT DOCUMENTS AND/ OR PRICE QUOTATIONS.
14. CONTRACTOR TO WARRANTY ALL MATERIAL FOR ONE YEAR AFTER DATE OF FINAL ACCEPTANCE.

SEEDING NOTES:

1. ALL DISTURBED AREAS TO BE SEEDED WITH KY-31 FESCUE AT THE RATE OF 5 LBS PER 1,000 S.F. ALL SEED TO BE 98% PURE WITH 85% GERMINATION AND CONFORM TO ALL STATE REQUIREMENTS FOR GRASS SEED. THE FERTILIZER SHALL BE 6-12-12 COMMERCIAL TYPE WITH 50% OF ITS ELEMENTS DERIVED FROM ORGANIC SOURCES.
2. STRAW MULCH SHALL BE PLACED UPON SEEDED AREAS. STRAW SHALL BE OATS OR WHEAT STRAW, FREE FROM WEEDS, FOREIGN MATTER DETRIMENTAL TO PLANT LIFE, AND DRY. HAY OR CHOPPED CORNSTALKS ARE NOT ACCEPTABLE.
3. THE CONTRACTOR SHALL VERIFY THAT THE PREPARED SOIL BASE IS READY TO RECEIVE WORK. THE TOPSOIL SHALL BE CULTIVATED TO A DEPTH OF 4 INCHES WITH A MECHANICAL TILLER AND SUBSEQUENTLY RAKED UNTIL SMOOTH. FOREIGN MATERIALS COLLECTED DURING CULTIVATION AND RAKING OPERATIONS SHALL BE REMOVED FROM PROJECT SITE.
4. FERTILIZER SHALL BE APPLIED PER THE MANUFACTURER'S RECOMMENDATIONS. LIMESTONE MAY BE APPLIED WITH THE FERTILIZER. FERTILIZER SHALL BE APPLIED AFTER SMOOTH RAKING AND PRIOR TO ROLLER COMPACTION AND IT SHALL BE MIXED THOROUGHLY IN THE UPPER 2 INCHES OF TOPSOIL.
5. SEED SHALL BE APPLIED EVENLY IN TWO INTERSECTING DIRECTIONS AND RAKED IN LIGHTLY. THE TOPSOIL SHALL BE LIGHTLY WATERED PRIOR TO APPLYING SEED. DO NOT SEED AREA IN EXCESS OF THAT WHICH CAN BE MULCHED ON THE SAME DAY.
6. ROLL SEEDED AREA WITH ROLLER NOT EXCEEDING 112 POUNDS.
7. IMMEDIATELY FOLLOWING SEEDING AND COMPACTING, APPLY STRAW MULCH AT THE RATE OF ONE AND ONE HALF BALE PER 1,000 SQUARE FEET. IMMEDIATELY AFTER MULCHING, APPLY WATER WITH A FINE SPRAY AND SATURATE THE GROUND TO A DEPTH OF 4 INCHES.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING SEEDED AREAS TO PREVENT GRASS AND SOIL FROM DRYING OUT UNTIL THE INSTALLATION IS INSPECTED AND ACCEPTED BY THE OWNER'S REPRESENTATIVE.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR RESEEDING BARE SPOTS FOR A PERIOD OF ONE YEAR AFTER ACCEPTANCE OF INSTALLATION.

SODDING NOTES:

1. AREAS INDICATED FOR SOD SHALL BE KENTUCKY 31. MINIMUM AGE SHALL BE 18 MONTHS, WITH ROOT DEVELOPMENT THAT WILL SUPPORT ITS OWN WEIGHT WITHOUT TEARING WHEN SUSPENDED VERTICALLY BY HOLDING THE UPPER TWO CORNERS.
2. SUBMIT SOD CERTIFICATION FOR GRASS SPECIES AND LOCATION OF SOD SOURCE. INCLUDE CERTIFICATION THAT SOD IS FREE OF DISEASE, NEMATODES, UNDESIRABLE INSECTS, AND QUARANTINE RESTRICTIONS.
3. SOD SHALL BE DELIVERED ON PALLETS. SOD SHALL BE STORED AT A LOCATION THAT IS PROTECTED FROM DAMAGING WINDS.
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5. AREA TO RECEIVE SOD SHALL BE LIGHTLY MOISTENED IMMEDIATELY PRIOR TO LAYING SOD.
6. LAY SOD TIGHTLY WITH NO OPEN JOINTS VISIBLE AND NOT OVERLAPPING. STAGGER END JOINTS A MINIMUM OF 12 INCHES AND DO NOT STRETCH SOD PIECES.
7. ON SLOPES 6 INCHES PER FOOT AND STEEPER, LAY SOD PERPENDICULAR TO SLOPE AND SECURE EVERY ROW WITH WOODEN PEGS AT A MAXIMUM 2 FEET O.C. DRIVE PEGS FLUSH WITH SOD PORTION OF SOD.
8. PRIOR TO PLACING SOD ON SLOPES OF 8 INCHES PER FOOT AND STEEPER, PLACE JUTE EROSION CONTROL MESH OVER TOPSOIL. SECURELY ANCHOR IN PLACE WITH PEGS SUNK FIRMLY INTO THE GROUND. CONTRACTOR SHALL SUBMIT 12"x12" SAMPLES OF JUTE MESH FOR REVIEW TO LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
9. IMMEDIATELY AFTER INSTALLATION, WATER SODDED AREAS TO A DEPTH OF 4 INCHES.
10. AFTER SOD AND SOIL HAVE DRIED, ROLL SODDED AREAS TO ENSURE A GOOD BOND BETWEEN SOIL AND SOD. ROLLER SHALL NOT EXCEED 150 POUNDS.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING (MOWING, TRIMMING, WATERING) THE SOD UNTIL THE INSTALLATION IS INSPECTED AND ACCEPTED BY THE OWNER'S REPRESENTATIVE.
12. THE CONTRACTOR SHALL REPLACE SOD AREAS THAT SHOW DETERIORATION FOR A PERIOD OF ONE YEAR AFTER ACCEPTANCE OF THE INSTALLATION. DETERIORATED MATERIAL SHALL BE REPLACED WITH SOD OF EQUAL QUALITY ORIGINALLY SPECIFIED.

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ALLEN WILLIAM JONES
REGISTERED
TENNESSEE
LANDSCAPE ARCHITECT
10/05/2023

Sheet Title
LANDSCAPE DETAILS

No.	Date	Revision Description

Drawn By: AWJ
Checked By: DEC
Date: 09/28/2023
Proj. No.: 230800449.05
File Name: x230800449.16 LANDSCAPE.dwg

Sheet No.
L1.1

City of Bartlett, Tennessee
Municipal Planning Commission
Staff Report

Site Plan

Chipotle

DATE:	December 4, 2023
STAFF:	Kim Taylor, Planning Director; Leslie Brock, Planner; John Horne, Engineering Director; Erin Campbell, Assistant Engineering Director; Max Gomez-Pedro, Land Development Engineer; Trey Arthur, Code Enforcement Director; Matt Crenshaw, Public Works Director; Aaron Davidson, Public Works Assistant Director; Howard McNatt, Fire Marshal; Craig Jones, Deputy Fire Marshal
SUBJECT:	Planning Commission Site Plan Application Review
APPLICANT:	Taylor Webb, Rockfield Engineering, LLC
DEVELOPER:	Ray Gill, Stage Centre LP
SITE LOCATION:	Parking Lot of Stage Centre, 6600 Stage Road
SITE ACREAGE:	.49 acres
ZONING:	"SC-1" Planned Unit Commercial Development District
LOTS:	1

INTRODUCTION:

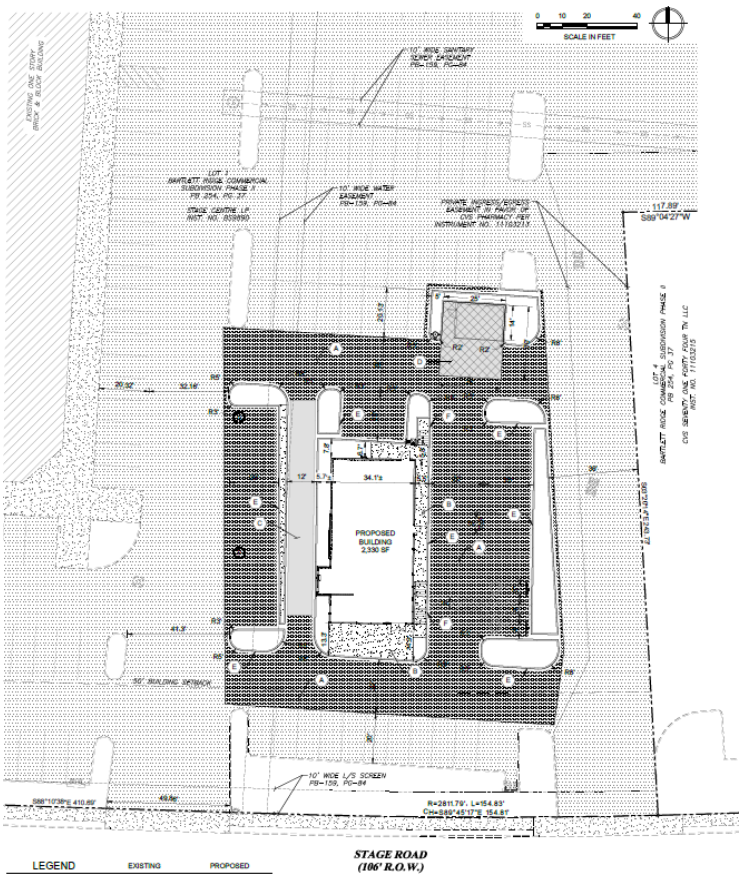
Mr. Taylor Webb with Rockfield Engineering, LLC is requesting Planning Commission approval of a Site Plan for Chipotle Restaurant with a drive-through window. The subject property is located within the Stage Centre parking lot at 6600 Stage Road. The subject property is zoned "SC-1" Planned Unit Commercial Development.

BACKGROUND:

On April 2, 1990, the Planning Commission approved a Site Plan for Stage Centre on subject property.

DISCUSSION:

The specific request by the applicant is for the approval of a revised Site Plan to add a 2,230 square foot Chipotle restaurant with drive-thru. Chipotle will be located within Stage Centre, on a leased portion of the parking. Access to the site will be from shared ingress/egress access from both Stage Road and Kirby Whitten Road.



Site Data	
Site Area:	21,403 square feet
Total Parking Spaces Removed:	48 regular spaces
Total Proposed New Parking Spaces:	22
Total Restaurant Required Parking Spaces	23
Handicap Accessible:	2
Regular:	21
Proposed Building Area:	2,330 square feet
Greenspace/Open space Existing:	8.5%
Greenspace/Open space Proposed:	11.8 %
Building Height:	one story

Recommendation: Approval with conditions.

Engineering Conditions:

General:

1. A Commercial Site Plan contract may be required and will be prepared by Engineering and submitted to the developer/engineer for review to cover the fees to be paid to the City of Bartlett.
2. Applicant/ Engineer shall provide a digital set of drawing files showing the sanitary sewer lines, drainage lines, lot lines and all improvements in Auto-CAD format to dhubbard@cityofbartlett.org and ecamp-bell@cityofbartlett.org for use in the preparation of the Water Design Plan. This plan will be coordinated with the site design engineer to resolve any conflicts.
3. A SWPPP and a TDEC permit may be required and shall be submitted to TDEC and also to the City of Bartlett Engineering office.
4. All new utilities shall be underground.
5. Fire protection must be approved by the City of Bartlett Fire Marshall.
6. The 6" showing needs to be specified as 8" and must be Ductile Iron Pipe.
7. Correct all markups.
8. This site is part of Bartlett Ridge Commercial and built on existing parking lot.

Grading and Drainage Plan:

9. The building footprint is shown over an existing private drainage line. A new line shown to be installed to the north but there are no details on the removal or abandonment of the existing line and structures. It may be necessary to relocate the existing water in order to accommodate the drain pipe relocation.

Utility Plan:

10. A sewer cleanout shall be placed at the edge of the sewer easement to differentiate public from private.
11. The sewer line from the SMH to the cleanout must be SDR26.
12. If any sewer cleanout is located in a paved area, then it shall comply with the detail approved by Bartlett Codes, which involves a brass connections and a concrete collar.
13. Water main extension and fire hydrant are public and must follow City of Bartlett standards.
14. All water and sanitary crossings shall be encased if appropriate clearance cannot be achieved.
15. Water meters should be set just behind the curb.

Planning Comments :

1. The applicant is adding 22 new parking spaces. Of those, 10 parking spaces are intended to be shared with the shopping center. The remainder of the restaurant's required parking are the 11 existing spaces facing Stage Road.
2. The applicant is not removing greenspace due to the development occurring on existing asphalt.

Planning Conditions:

1. The applicant is responsible for an ADA access path from the street right-of-way to the building.
2. Applicant shall provide a landscape plan showing compliance with required landscaping.
3. Applicant shall provide a tree protection plan showing which trees are to be removed and which trees are to be saved.
4. Applicant shall ensure that all parking spaces are within a maximum distance of 75 feet from a tree.
5. Irrigation and maintenance is required for all planting on the landscape plan.
6. Should the proposed site plan be approved by the Planning Commission, the applicant shall seek site approval from the Design Review Commission for landscaping, lighting, signage and exterior elevations, colors, and materials.
7. The owner/applicant shall identify all utilities on site by contacting Tennessee One Call at 811 before commencing any site work.
8. The owner/applicant shall be present at the meeting in order to make decisions relative to any changes that may be suggested by the Planning Commission.

Bartlett Planning and Economic Development Department 6382 Stage Road, P.O. Box 341148 Bartlett, TN 38184-1148 901-385-6417 FAX 901-385-6419 www.cityofbartlett.org	**Bartlett Planning Commission** **Application for Site Plan Approval**

Project Name Chipotle - Stage Centre

Project Address MLGW Address Assignment Submitted (Stage Road, 594' West of the CL of Kirby-Whitten Pkwy)

Owner/Developer Contact Ray Gill Phone 901-758-1100

Company Name Stage Centre LP Fax

Address 8130 Macon Station, Suite 114, Cordova, TN 38018

Email Address ray@gillprop.com

Architect Contact TBD Phone

Company Name Fax

Address

Email Address

Engineer Contact Taylor Webb Phone 901-461-5804

Company Name Rockfield Engineering, LLC Fax

Address 1355 Lynnfield Rd, Suite 245, Memphis, TN 38119

Email Address twebb@rkfld.com

Submitted by Taylor Webb (signature) 11/06/2023
(printed name) **(signature)** **(date)**

Email Address twebb@rkfld.com **Phone** 901-461-5804 **Fax**

GTW Acknowledge (by initials in the blank to the left) that the "**Application Instructions: Planning Commission**" were obtained and read prior to submitting this application.

GTW The "**Site Plan Checklist**" has been completed and required all items have been provided. (See reverse page/or attached checklist)

GTW Provide 18-folded (± 10"x13") sets of plans with a copy of the signed application attached to each set.

GTW Provide an electronic PDF file of the plans. Note that an updated electronic file is required when plans are revised. The electronic file shall be labeled with the project name and accurately dated.

GTW **Without Contract:** Include a fee of $400.00 with this application (check payable to the City of Bartlett).

N/A **With Contract:** Include a fee of $500.00 with this application (check payable to the City of Bartlett).

The fee is non-refundable. Approval may be granted to the entire development for construction purposes, or approval may be granted by stages. Any unauthorized deviation from the approved Site Plan shall constitute a violation of the Building Permit. If the site is subject to the Subdivision process, all requirements of the Subdivision Ordinance must be met.

I, the property owner(s) hereby authorize the filing of this application.

Ray Gill , 11-2-23
(print name) **(signature)** **(date)**

Bartlett Planning and
Economic Development Department
6382 Stage Road, P.O. Box 341148
Bartlett, TN 38184-1148
901-385-6417 FAX 901-385-6419
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Site Plan Checklist

The site plan package shall include the information below, with dimensions as necessary to show compliance with the Zoning Ordinance and to locate required features:

X a. The proposed development's name and location, the name(s) and address(es) of the owner(s), and the name of the designer of the site plan.

X b. A site location (vicinity) map.

X c. Date, north point and *graphic* scale. Draw to scale on sheets **no larger than 24" x 36"**. Scale shall be no smaller than 1" = 100′ and large enough to show required detail clearly and distinctly. Use an engineer's scale. An architect's scale may be used for building elevations.

X d. The locations of existing and platted property lines and any existing streets, buildings, easements, etc.

X e. The locations and dimensions of proposed streets, buildings, easements, lot lines and other site plan features.

X f. The proposed types of uses and their locations, height of buildings, arrangement, lot coverage, yards and open spaces.

X g. A grading and drainage plan that has provisions for detention. Also, provide flood hazard details when applicable.

X h. Floor area of proposed buildings or building additions (each floor, in square feet).

X i. Proposed off-street parking with parking spaces shown and dimensioned.

tbd j. Landscaping and screening plan, evidence of compliance with required landscaping.

n/a k. Table on the landscape plan showing compliance with the Tree Ordinance.

X l. Other information as may be required by the Planning Commission.

n/a m. A tree survey by a certified arborist is required if there are trees larger than 6" in diameter on the site.

n/a n. A tree protection plan that is signed by a surveyor and arborist showing trees to be removed and saved is required.

X o. Erosion control plan.

X p. Location of sewer and water services and water meter sizes.

X q. The applicant must provide one PDF file of the pictorial portion of the site plan (and also one of any separate landscaping plan), for display at the Planning Commission meeting.

Plans shall be sealed, signed and dated by an engineer that is registered in the State of Tennessee.

INCOMPLETE APPLICATIONS WILL NOT BE PROCESSED

CONTRACT DRAWINGS FOR CONSTRUCTION OF NEW BUILDING AND ASSOCIATED SITE IMPROVEMENTS FOR:

CHIPOTLE - BARTLETT STAGE CENTRE

STAGE ROAD
BARTLETT, TN 38134
SITE COORDINATES:
N 35° 12' 18.52" (35.205154°)
W 89° 50' 31.59" (-89.842108°)

PROJECT NUMBER: 23-19030-16

GENERAL NOTES

1. DESIGN DATA PROVIDED IN ELECTRONIC FORMAT IS FOR INFORMATION PURPOSES ONLY AND SHOULD BE USED AT YOUR OWN RISK. AND IS PROVIDED WITHOUT REPRESENTATION AND WARRANTIES. ANY CONFLICT BETWEEN THE INFORMATION REFLECTED ON THE LATEST REVISION OF THE SEALED PLAN SHEETS AND THAT PROVIDED VIA ELECTRONIC FORMAT SHALL BE RESOLVED IN FAVOR OF THE SEALED PLAN SHEETS.
2. UTILITIES: THERE MAY BE ADDITIONAL EXISTING UTILITIES NOT SHOWN ON THESE PLANS. EXISTING UTILITIES ARE SHOWN IN A APPROXIMATE MANNER ONLY AND THE ENGINEER ASSUMES NO RESPONSIBILITY FOR LOCATIONS SHOWN. FIELD VERIFY THE LOCATION OF ALL EXISTING UTILITIES WITHIN THE LIMITS OF CONSTRUCTION. NOTIFY THE OWNER AND ENGINEER IF DISCREPANCIES ARE FOUND THAT WILL AFFECT THE CONSTRUCTION PROJECT. PROTECT ALL EXISTING UTILITIES.
3. TEMPORARY PROVISIONS: SEQUENCE THE WORK AND PROVIDE TEMPORARY MEASURES AS NEEDED TO MAINTAIN ACCESS TO THE SITE THROUGH ALL ENTRANCES AT ALL TIMES DURING CONSTRUCTION. TEMPORARY PROVISIONS MAY INCLUDED, BUT ARE NOT LIMITED TO: BARRICADES, FLASHING LIGHTS, FLAGMAN, TEMPORARY PAVEMENT, AND DIRECTIONAL SIGNAGE.
4. EQUIPMENT STORAGE: DO NOT PARK EQUIPMENT OR STORE MATERIALS IN STATE, COUNTY, OR CITY RIGHT-OF-WAY.
5. NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BETWEEN THE EXISTING CONDITIONS IN THE FIELD AND SURVEY SHOWN ON THE PLANS BEFORE PROCEEDING WITH NEW CONSTRUCTION
6. OBTAIN REQUIRED CONSTRUCTION RELATED PERMITS BEFORE STARTING WORK. RETAIN COPIES OF ALL PERMITS AT THE PROJECT SITE AT ALL TIMES
7. APPROVAL OF THESE PLANS DOES NOT CONSTITUTE APPROVAL OF LAND DISTURBING ACTIVITIES WITHIN WETLAND AREAS. CONTACT THE APPROPRIATE REGULATORY AGENCY FOR APPROVAL OF WETLAND AREA DISTURBANCE.
8. SIGNS (LOCATION, NUMBER, AND SIZE) ARE NOT APPROVED UNDER THE GENERAL DEVELOPMENT PERMIT. A SEPARATE PERMIT IS REQUIRED FOR ONSITE SIGNAGE.
9. NO CERTIFICATE OF OCCUPANCY WILL BE ISSUED UNTIL ALL SITE IMPROVEMENTS HAVE BEEN COMPLETED ON THE SITE.
10. COMPLY WITH ALL APPLICABLE STATE, FEDERAL, AND LOCAL BUILDING AND UTILITY INSTALLATION CODES. ALL MATERIALS AND CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS UNLESS DEPARTMENT OF TRANSPORTATION OR LOCAL MUNICIPAL STANDARDS ARE MORE STRINGENT.
11. ARRANGE HIGH INTENSITY LIGHTING TO CONCEAL THE SOURCE OF LIGHT FROM PUBLIC VIEW AND PREVENT INTERFERENCE WITH TRAFFIC
12. ENSURE CORRECT HORIZONTAL AND VERTICAL ALIGNMENT OF ALL TIES BETWEEN PROPOSED AND EXISTING PAVEMENTS, CURB AND GUTTER, SIDEWALKS, WALLS, AND UTILITIES BEFORE BEGINNING WORK. NOTIFY ENGINEER IF DISCREPANCIES EXIST.

SURVEY NOTES

1. BOUNDARY AND TOPOGRAPHIC SURVEY PREPARED BY OLLAR SURVEYING COMPANY, LLC AND DATED 04/25/2023 AND REVISED ON 05/16/2023, AND 10/31/2023
2. BEARINGS ARE RELATIVE TO TCS 1983 AS DEFINED BY TCA 66-6-101,103. COORDINATES SHOWN HEREON ARE GRID COORDINATES EXPRESSED IN U.S. FOOT.
3. THERE MAY BE UNDERGROUND OR NON-VISIBLE UTILITIES, DRAIN AND/OR SEWER LINES ACROSS THIS PROPERTY THAT ARE NOT SHOWN.
4. BEFORE COMMENCEMENT OF CONSTRUCTION CALL TENNESSEE 1 CALL @ 1-800-351-1111 AND THE UTILITY COMPANIES MAINTAINING UTILITY SERVICES ACROSS SUBJECT PROPERTY.

DEMOLITION NOTES

1. DO ALL DEMOLITION WORK REQUIRED TO REMOVE EXISTING PAVING, CONCRETE SLABS, EXISTING UNDERGROUND PIPING, AND CONDUIT AS SHOWN ON THE DRAWINGS AND OTHER NECESSARY ITEMS TO INSTALL THE PROPOSED WORK.
2. CONTRACTORS SUBMITTING PROPOSALS SHALL DETERMINE THE QUANTITIES OF DEMOLITION WORK REQUIRED BY FIELD INVESTIGATION OF THE SITE
3. MAINTAIN TEMPORARY BARRICADES FOR PROTECTION OF JOB PERSONNEL AND THE PUBLIC. REMOVE BARRICADES WHEN NO LONGER REQUIRED
4. CONDUCT OPERATIONS IN SUCH A MANNER AS TO MINIMIZE INTERFERENCE WITH USE OF PUBLIC WAYS AND ADJACENT USED FACILITIES. DO NOT CLOSE, BLOCK OR OTHERWISE OBSTRUCT USE OF PUBLIC WAYS OR FACILITIES WITHOUT WRITTEN CONSENT OF AUTHORITIES HAVING JURISDICTION. PROVIDE ALTERNATIVE ROUTES TO CLOSED OR OBSTRUCTED FACILITIES AS REQUIRED BY LOCAL REGULATIONS.
5. EXISTING UTILITIES INDICATED TO REMAIN SHALL BE KEPT IN SERVICE AND PROTECTED FROM DAMAGE DURING DEMOLITION OPERATIONS.
6. DO NOT INTERRUPT EXISTING UTILITIES UNLESS AUTHORIZED IN WRITING BY AUTHORITIES HAVING JURISDICTION. IF INTERRUPTION IS ALLOWED, PROVIDE ALTERNATIVE TEMPORARY SERVICES ACCEPTABLE TO GOVERNING AUTHORITIES
7. LOCATE, IDENTIFY, SHUT OFF, CAP AND DISCONNECT UTILITIES AT PROPERTY LINE OR VALVE AS REQUIRED. PROVIDE BY-PASS CONNECTIONS AS REQUIRED TO MAINTAIN SERVICES TO ADJACENT PROPERTIES AND FACILITIES. PROVIDE A MINIMUM OF 72 HOURS ADVANCE NOTICE TO PROPERTY OWNERS IF SHUT-DOWN OF SERVICES IS REQUIRED DURING CHANGE-OVER.
8. REMOVE DEBRIS, RUBBISH, AND OTHER SUBSTANCES FROM SITE. LEGALLY TRANSPORT AND DISPOSE OF SUCH MATERIALS OFF-SITE
9. BURYING OR BURNING OF MATERIALS ON THE PROJECT SITE IS FORBIDDEN.
10. COORDINATE WITH ALL UTILITY COMPANIES A MINIMUM 48 HOURS PRIOR TO DEMOLITION WORK
11. THE USE OF EXPLOSIVES IS STRICTLY PROHIBITED
12. IF HAZARDOUS MATERIALS ARE ENCOUNTERED, COMPLY WITH APPLICABLE REGULATIONS IN HANDLING, REMOVING, AND PROTECTING AGAINST EXPOSURE OR ENVIRONMENTAL POLLUTION.
13. RE-GRADE AREAS WHERE DEMOLITION HAS OCCURRED. PROVIDE SMOOTH TRANSITION BETWEEN EXISTING AND NEW GRADEDING, THERE SHALL NOT BE VOIDS, PITS, OR MOUNDING OF EARTHWORK.

SITE NOTES

1. WHERE PROPOSED PAVEMENT ABUTS EXISTING PAVEMENT, THE EXISTING PAVEMENT SHALL BE CUT IN A NEAT STRAIGHT LINE THROUGH PAVEMENT AND BASE. PROVIDE SMOOTH TRANSITION
2. INSTALL EXPANSION JOINT MATERIAL BETWEEN NEW AND EXISTING CONCRETE AND/OR ASPHALT
3. MAINTAIN AND PROTECT EXISTING PAVEMENT OR GRAVEL SURFACES WHICH ARE TO REMAIN. CONTRACTOR SHALL REPLACE DAMAGED AREAS, MATCHING DEPTH, MATERIAL AND GRADE OF EXISTING SURFACES.
4. DIMENSIONS SHOWN ARE TO THE FOLLOWING:
   - 4.1. FACE OF CURB
   - 4.2. CENTER OF COLUMN
   - 4.3. EDGE OF BUILDING EXTERIOR
   - 4.4. CENTER OF PAINTED STRIPES

PAVING NOTES

1. PAVEMENT SUBGRADES SHALL BE PER THE REQUIREMENTS OF A GEOTECHNICAL INVESTIGATION.
2. CONCRETE PAVING SHALL MEET OR EXCEED THE REQUIREMENTS OF THE APPLICABLE SECTIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION STANDARD CONSTRUCTION SPECIFICATIONS.
3. WHERE PRACTICAL CONCRETE PAVING CONTRACTION JOINTS SHALL BE SAWCUT BOTH WAYS ON A SQUARE GRID. CONSTRUCTION JOINTS SHALL BE PLACED BETWEEN ALL POURS.
4. A CONSTRUCTION JOINT SHALL BE INSTALLED AT A PLANNED JOINT WHEN PAVING OPERATIONS ARE INTERRUPTED FOR MORE THAN 30 MINUTES. IF THE INTERRUPTION OCCURS BETWEEN PLANNED JOINTS, THE FRESH CONCRETE SHALL BE REMOVED BACK TO THE PREVIOUSLY INSTALLED JOINT. UNLESS OTHERWISE APPROVED, NO JOINTS WILL BE ALLOWED BETWEEN THE JOINTS SHOWN ON THE JOINTING PLAN.
5. EDGES OF CONCRETE SLABS SHALL BE COVERED WITH AN APPROVED CURING MATERIAL AT THE SAME TIME AS THE SURFACE IS CURED. AT FORMED LOCATIONS, SLAB SIDES SHALL BE CURED WHEN FORMS ARE REMOVED.
6. CONCRETE SHALL BE PLACED IN ONE COURSE. REINFORCING SHALL BE INSTALLED USING ENGINEER-APPROVED METHODS. THE REINFORCING SHALL RETAIN ITS SPECIFIED POSITION DURING CONCRETE PLACEMENT. REINFORCING VIBRATED DOWN FROM THE TOP AFTER CONCRETE IS PLACED WILL NOT BE ALLOWED.
7. GC TO RESEAL ALL CONTROL JOINTS IN EXISTING CONCRETE PAVEMENT (FILL WITH BACKER ROD WHERE EXISTING OPENING IS TOO WIDE).
8. NEAR THE COMPLETION OF THE PROJECT, THE GC IS TO REPAIR AREAS OF EXISTING AND NEWLY CONSTRUCTED PAVEMENTS DAMAGED BY CONSTRUCTION ACTIVITIES AT NO ADDITIONAL COSTS TO THE OWNER.
9. CONCRETE SIDEWALK SHALL BE FLUSH WITH ADJACENT PANELS. CONCRETE SIDEWALK AND HANDICAP RAMPS SHALL MEET THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT.

GRADING AND DRAINAGE NOTES

1. CONTRACTOR TO VERIFY UTILITY COMPANY LOCATIONS AND VERTICAL DATA SHOWN ON PLANS. CONTACT UTILITY PROVIDERS BEFORE SITE EXCAVATION BEGINS.
2. PROPER DRAINAGE SHALL BE MAINTAINED THROUGHOUT THE PROJECT SITE TO PREVENT THE INCREASE OF THE IN-SITU SOILS MOISTURE CONTENT. FLUCTUATIONS MAY NECESSITATE SOIL IMPROVEMENTS PER THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER.
3. ESTABLISH PERMANENT VEGETATION WITH SEEDING OR SOLID SOD ON DISTURBED AREAS.
4. DESIGN CONTOURS SHOWN ARE FINISHED GRADE.
5. SPOT ELEVATIONS SHOWN ARE FINISHED ASPHALT, GROUND OR CONCRETE ELEVATIONS. SPOT ELEVATIONS ON CURB LINES ARE ON THE BOTTOM OF CURB (GUTTER) UNLESS OTHERWISE NOTED.
6. CLEAR AND GRUB AREAS OF THE SITE WHERE CUT OR FILL IS TO OCCUR. REMOVE ORGANIC MATTER, FOREIGN MATERIAL, PAVEMENT, TOPSOIL, FENCES, TRASH, BRUSH, BURIED OBSTRUCTIONS SUCH AS TREE STUMPS, ROOTS AND INACTIVE DRAINAGE STRUCTURES. DISPOSE OF MATERIAL REMOVED WHICH IS NOT TO BE REPLACED. BURNING OF MATERIAL ON THE SITE WILL NOT BE PERMITTED.
7. MAXIMUM SLOPE IN ANY DIRECTION AT HANDICAP PARKING AREAS IS 2%. IF SLOPES IN THESE AREAS EXCEED 2%, NOTIFY THE DESIGNER IMMEDIATELY. THE MAXIMUM LONGITUDINAL SLOPE AT SIDEWALK IS 5% WITH A 2% MAXIMUM CROSS SLOPE.
8. ADJUST TOPS ON CATCH BASINS AND CURB INLETS TO MEET FINAL GRADE.
9. EARTHWORK OPERATIONS SHALL BE PERFORMED PER THE RECOMMENDATIONS OF THE GEOTECHNICAL INVESTIGATION PREPARED BY PSI, DATED OCTOBER, 2017.
10. SUBGRADES SHALL BE PROOF-ROLLED WITH A LOADED DUMP TRUCK TO DETECT ZONES OF UNSUITABLE AND/OR EXCESSIVELY WET SOILS. IF PUMPING BEGINS, COMPACTION SHALL BE STOPPED IMMEDIATELY AND RESUMED ONLY WHEN THE MATERIAL IS SUFFICIENTLY DRY THAT PUMPING DOES NOT OCCUR.
11. PROVIDE SUBGRADE FOR BUILDING PAD PER THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT PREPARED BY PSI. THE EXPOSED SURFACE IN PAVEMENT OR BUILDING FLOOR AREAS SHALL BE INSPECTED BY THE GEOTECHNICAL ENGINEER AND MAY REQUIRE SOME IMPROVEMENTS IF THE MOISTURE CONTENTS ARE BEYOND ACCEPTABLE LIMITS.
12. FILL MATERIAL SHOULD CONSIST OF MATERIALS APPROVED BY THE GEOTECHNICAL ENGINEER THAT ARE FREE OF ORGANIC MATTER AND DEBRIS.
13. THE CONTRACTOR SHALL REMOVE SOILS WHICH DO NOT MEET OR EXCEED THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS TO WITHIN [5'] HORIZONTALLY OF THE BUILDING PAD PER THE DIRECTION OF THE GEOTECHNICAL ENGINEER.
14. THE CONTRACTOR SHALL ENSURE STOCKPILED SOILS ARE WELL DRAINED AND ARE NOT ALLOWED TO INCREASE MOISTURE CONTENT.
15. UPON COMPLETION OF THE FILLING OPERATION, CARE SHOULD BE TAKEN TO MAINTAIN THE SUBGRADE MOISTURE CONTENT PRIOR TO CONSTRUCTION OF THE FLOOR SLAB. IF THE SUBGRADE SHOULD BECOME DESICCATED, THE AFFECTED MATERIAL SHOULD BE REMOVED OR THESE MATERIALS SHOULD BE SCARIFIED, MOISTENED AND RECOMPACTED PRIOR TO FLOOR SLAB PLACEMENT.
16. IN AREAS OF CONSTRUCTION, TOPSOIL SHALL BE STRIPPED AS REQUIRED BY THE GEOTECHNICAL ENGINEER. THIS TOPSOIL WILL BE USED FOR THE FINISH GRADING WORK. PROVIDE EROSION CONTROL AS NECESSARY TO PREVENT TOPSOIL FROM ERODING AND DAMAGING ADJACENT PROPERTIES.
17. SOFT SOILS SHALL BE USED ON SITE FOR FILL PURPOSES OUTSIDE THE AREAS OF BUILDING AND PAVEMENT CONSTRUCTION. EXCESS SOILS WILL BE DISPOSED OF OFFSITE.
18. PROVIDE NECESSARY AND REQUIRED SHEATHING BRACING, PUMPING & BAILING OPERATIONS TO PROTECT WORKMEN & ADJACENT FACILITIES. IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW APPLICABLE SAFETY CODES & REGULATIONS DURING PHASES OF CONSTRUCTION.
19. DISTURBED AREAS SHALL BE GRADED TO DRAIN AS INDICATED ON THE PLANS DURING AND UPON COMPLETION OF CONSTRUCTION. NO DRAINAGE SHALL BE DAMMED OR TRAPPED UNLESS SPECIFICALLY DIRECTED BY THE PLANS.

EROSION AND SEDIMENTATION CONTROL NOTES:

1. ALL NEWLY CUT AND/OR FILLED AREAS LACKING ADEQUATE VEGETATION SHALL BE SEEDED, FERTILIZED, MULCHED AND/OR SODDED AS REQUIRED TO EFFECTIVELY PREVENT SOIL EROSION.
2. SILT FENCES, HAY BALES, AND OTHER BEST MANAGEMENT PRACTICES SHALL BE USED AS SHOWN AND AS DIRECTED BY THE ENGINEER TO CONTROL SOIL EROSION.
3. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN EROSION CONTROL DURING CONSTRUCTION BY THE PLACEMENT OF SILT FENCES, SEDIMENT INLET TRAPS, HAY BALES, AND OTHER BEST MANAGEMENT PRACTICES WHERE NECESSARY TO PREVENT DOWNSTREAM SILTATION OF DITCHES, PIPES, DRAINAGE STRUCTURES, OR ADJACENT PROPERTIES. THE CONTROLS SHOWN ON THE PLAN ARE THE MINIMUM REQUIRED AND THE CONTRACTOR SHALL PROVIDE ANY ADDITIONAL EROSION CONTROL AS NECESSARY OR AS DIRECTED BY THE ENGINEER.
4. THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING TO THE TDEC STORM WATER CONSTRUCTION GENERAL PERMIT FOR EROSION CONTROL DURING CONSTRUCTION ACTIVITIES.
5. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING EROSION CONTROL DEVICES AND REPORTING MAINTENANCE AS REQUIRED BY THE TDEC STORM WATER CONSTRUCTION GENERAL PERMIT DURING CONSTRUCTION ACTIVITIES.

EROSION AND SEDIMENTATION CONTROL NOTES (CONT):

6. PROVISIONS SHALL BE MADE TO PROTECT DOWNSTREAM WATERCOURSES (I.E., STORM SEWER SYSTEMS, DITCHES, WETLANDS, ETC.) FROM SEDIMENT RUNOFF DEVELOPED FROM THE CONSTRUCTION PROCESS. PROVISIONS INCLUDE, BUT ARE NOT LIMITED TO, STRUCTURAL CONTROLS SUCH AS SILT FENCING, GEOTEXTILE FABRIC PROTECTION OF STORM SEWERS, HAY BALES, DIKES AND SANDBAG BERMS; AND/OR VEGETATION CONTROLS SUCH AS SEEDING OR EXISTING VEGETATIVE BUFFER STRIPS (MINIMUM 30 FEET WIDE).
7. PRIOR TO START OF CONSTRUCTION, CONTRACTOR SHALL INSTALL EROSION AND SEDIMENTATION CONTROLS AT LOCATIONS SHOWN ON PLANS.
8. NO DIRT, MUD, DUST OR SEDIMENT SHALL MOVE INTO ANY STORM DRAIN APPURTENANCES AND PUBLIC STREETS.
9. CONTRACTOR SHALL PERFORM DAILY STREET CLEANING ON ROADS AND STREETS ADJACENT TO THE PROJECT WHICH ARE USED AS ACCESS ROUTES FOR CONSTRUCTION TRAFFIC IF DIRT AND MUD ARE NOT ADEQUATELY REMOVED FROM VEHICLES AT THE CONSTRUCTION EXIT. WASHING OF STREETS IS PROHIBITED.
10. LOCATE FUEL/MATERIAL STORAGE AREAS AWAY FROM STORM WATER CONVEYANCE SYSTEMS. USE A MINIMUM 60 MIL POLYETHYLENE LINER UNDER ABOVE GROUND STORAGE TANKS. USE 2 FOOT HIGH BERMS AROUND FUEL STORAGE AREAS.
11. CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ENVIRONMENTAL LAWS.
12. CONTRACTOR IS RESPONSIBLE FOR DISPOSING OF FUELS, MATERIALS AND CONTAMINATED EXCAVATIONS IN A LEGALLY APPROVED MANNER.
13. CONTRACTOR SHALL INSPECT STRUCTURAL CONTROLS WITHIN 24 HOURS AFTER ANY STORM EVENT (THAT MEETS OR EXCEEDS 0.5 INCHES OF RAINFALL IN A 24 HOUR PERIOD). DURING PROLONGED RAINFALL EVENTS, CONTRACTOR SHALL INSPECT STRUCTURAL CONTROLS ON A DAILY BASIS. AT A MINIMUM, STRUCTURAL CONTROLS SHOULD BE INSPECTED TWICE EVERY CALENDAR WEEK AT LEAST 72 HOURS APART. A QUALIFIED REPRESENTATIVE OF THE CONTRACTOR, AS APPROVED BY THE OWNER, SHALL PROVIDE THESE INSPECTIONS. SHOULD CONTROLS BECOME INEFFECTIVE, NECESSARY REPAIRS SHALL BE PERFORMED TO RETURN THE INTEGRITY OF THE STRUCTURAL CONTROLS. THE OWNER (OR DULY AUTHORIZED REPRESENTATIVE) IS ALSO REQUIRED TO SIGN THE TWICE-WEEKLY INSPECTIONS.
14. CONTRACTOR SHALL MAINTAIN, REPAIR AND/OR REPLACE DAMAGED EROSION AND SEDIMENTATION CONTROL SYSTEMS THROUGHOUT THE DURATION OF THE CONTRACT.
15. CONTRACTOR WILL PROVIDE PROTECTED STORAGE AREAS FOR CHEMICALS, PAINTS, SOLVENTS, FERTILIZERS AND OTHER POTENTIALLY TOXIC MATERIALS.
16. EQUIPMENT STAGING AREA TO BE DESIGNATED BY CONTRACTOR AND APPROVED BY OWNER PRIOR TO CONSTRUCTION.
17. THE CONTRACTOR SHALL PROVIDE EROSION CONTROL NECESSARY FOR UTILITY CONSTRUCTION, EVEN IF THE UTILITIES ARE OUTSIDE THE LIMITS OF GRADING OPERATIONS.
18. SEDIMENT WILL BE REMOVED FROM THE UPSTREAM FACE OF THE SILT FENCE WHEN IT REACHES A MAXIMUM DEPTH OF 50% OF THE FENCE'S CAPACITY. THE FENCE WILL BE REPLACED AS NECESSARY TO MAINTAIN A BARRIER.
19. SEDIMENT MUST BE REMOVED FROM SEDIMENTATION POND REGULARLY, A MINIMUM OF REMOVAL ONCE PER MONTH.
20. THE DEWATERING DEVICE ON THE SEDIMENT BASIN'S TEMPORARY RISER SHALL BE ADJUSTED TO ALLOW FOR A 72-HOUR DRAWDOWN AFTER ANY SIGNIFICANT RAINFALL. CONTRACTOR SHALL PROVIDE CHEMICAL TREATMENT BEFORE DEWATERING TO ASSIST IN COMPLYING WITH THE CONSTRUCTION GENERAL PERMIT.
21. THE CONTRACTOR SHALL SUBMIT PHASED EROSION CONTROL PLANS TO THE ENGINEER FOR REVIEW AS NEEDED TO CONTROL SEDIMENT AND EROSION DURING CONSTRUCTION.
22. CONTRACTOR SHALL MUCK OUT SEDIMENT PONDS THROUGHOUT THE PROJECT WHEN SEDIMENT HAS ACCUMULATED TO THE SEDIMENT CLEAN OUT POINTS SHOWN IN THE PROJECT DETAILS.
23. TEMPORARY SEEDING MAY BE REQUIRED IN ADDITION TO PERMANENT SEEDING TO ASSIST IN COMPLYING WITH THE CONSTRUCTION GENERAL PERMIT.

SEWER NOTES:

1. SANITARY SEWER MATERIALS, TESTING, INSPECTION, AND INSTALLATION SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF MEMPHIS AND STATE OF TENNESSEE SPECIFICATIONS.
2. THE CONTRACTOR SHALL FIELD VERIFY SANITARY SEWER ELEVATIONS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION AND NOTIFY THE ENGINEER OF DISCREPANCIES.
3. CONTRACTOR SHALL ENSURE UNINTERRUPTED SEWER SERVICE TO EXISTING SEWER AND SERVICE CONNECTIONS BY PROVIDING AMPLE TEMPORARY WASTEWATER PUMPING AND/OR BYPASSING.

WATER NOTES:

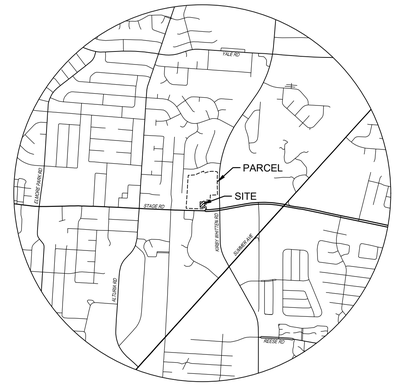
1. MATERIALS AND INSTALLATION, TESTING, DISINFECTING, AND INSPECTIONS SHALL CONFORM TO THE CITY OF BARTLETT TECHNICAL SPECIFICATIONS, AND THE REQUIREMENTS OF THE STATE OF TENNESSEE. WATER LINES, FITTINGS AND CONNECTIONS ARE TO BE TESTED FOR WATER TIGHTNESS BY PRESSURE TESTING.
2. PIPE LINES, FIRE HYDRANTS, VALVES, AND FITTINGS ARE TO BE BLOCKED WITH CONCRETE THRUST BLOCKS IN ACCORDANCE WITH CITY OF BARTLETT STANDARD DETAILS.
3. SLEEVES FOR IRRIGATION SHALL BE INSTALLED PRIOR TO PAVING.
4. PVC PIPE SHALL BEAR THE NSF SEAL OF APPROVAL.
5. THE WATER PLAN SHOWN IS DIAGRAMMATIC ONLY. THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH REQUIREMENTS INCLUDING MATERIALS, INSTALLATION, TESTING, AND INSPECTION.
6. WATER LINES SHALL HAVE A MINIMUM OF 30" COVER FROM FINISHED GRADE.

WATER/SEWER SEPARATION NOTE:

1. WATER MAINS SHALL BE LAID AT LEAST 10' HORIZONTALLY AND 24" VERTICALLY FROM SEWER OR MANHOLE (WATER OVER SEWER).
2. WHERE LOCAL CONDITIONS PREVENT ADEQUATE VERTICAL SEPARATION, THE SANITARY SEWER MUST BE CONSTRUCTED OF DUCTILE IRON, PVC, OR REINFORCED CONCRETE, THE SEWER LINE MUST MEET REQUIREMENTS OF THE CITY OF MEMPHIS STANDARD SPECIFICATIONS, AND MUST BE PRESSURE TESTED
3. JOINTS IN THE SEWER PIPE SHALL BE LOCATED A MINIMUM OF 10' FROM THE INTERSECTED WATER MAIN.
4. WHERE A 24" SEPARATION, WATER OVER SEWER, CANNOT BE MAINTAINED, THE SANITARY SEWER SHALL BE REINFORCED CONCRETE ENCASED FOR A DISTANCE OF TEN FEET EACH WAY FROM THE WATER LINE CROSSING.
5. WHERE A WATER MAIN IS LAID BELOW THE SANITARY SEWER, REGARDLESS OF CLEAR SPACE, THE SANITARY SEWER SHALL BE REINFORCED CONCRETE ENCASED FOR A DISTANCE OF TEN FEET EACH WAY FROM THE WATER LINE CROSSING.

GAS, TELEPHONE AND ELECTRIC NOTES:

1. UTILITY CONSTRUCTION TO CONFORM TO UTILITY PROVIDER'S STANDARDS AND SPECIFICATIONS.
2. GAS, ELECTRIC, & TELEPHONE SERVICE SHOWN IS SCHEMATIC ONLY. GAS SERVICE TO BE PROVIDED BY MLG&W. ELECTRIC SERVICE TO BE PROVIDED BY MLG&W. TELEPHONE SERVICE TO BE PROVIDED BY AT&T. CONTRACTOR SHALL COORDINATE WITH THE LOCAL UTILITY PROVIDERS FOR GAS, ELECTRIC AND TELEPHONE SERVICE.
3. CONTRACTOR SHALL ENSURE THAT SLEEVES FOR SITE LIGHTING ARE INSTALLED PRIOR TO PAVING.
4. IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING POWER FOR IRRIGATION SYSTEMS.
5. PROVIDE PULLWIRE IN ALL EMPTY CONDUITS.



VICINITY MAP
NTS

SHEET LIST TABLE	
SHEET NO.	DESCRIPTION
C000	COVER SHEET AND NOTES
C110	SITE PLAN
C120	GRADING AND DRAINAGE PLAN
C140	SITE UTILITY PLAN

G. CANNON LOLLAR — REGISTERED ENGINEER — AGRICULTURAL — 113828 — STATE OF TENNESSEE — 10/31/2023

NOT FOR CONSTRUCTION

REVISIONS

ITEM NO.	DESCRIPTION OF CHANGE	APPROVAL DATE

T.B.M.: TOP OF CAP SCREW, LOCATED ON FIRE HYDRANT, BETWEEN MUE&LLER. FIRE HYDRANT IS LOCATED ON THE EAST SIDE OF THE PALM BEACH TAN BUILDING AND 347' ± NORTH OF STAGE ROAD AS SHOWN HERE ON. ELEVATION ON (T.B.M.) WAS DERIVED FROM GPS OBSERVATION UTILIZING TDOT REFERENCE STATION #45. ELEVATION: 292.69

FLOOD NOTE: THIS PROPERTY IS LOCATED IN ZONE X, WHICH IS NOT A SPECIAL FLOOD HAZARD AREA PER FLOOD INSURANCE RATE MAP, MAP NO. 47157C034G, COMMUNITY PANEL NO. 470175 0304 G, EFFECTIVE DATE: FEBRUARY 06, 2013.

CITY OF BARTLETT
HWY 70 EXPRESS CONVENIENCE STORE
DEVELOPER: HWY 70 EXPRESS, LLC

Rockfield ENGINEERING 1355 LYNNFIELD, STE. 245 MEMPHIS, TN 38119 901-310-5960

DEPARTMENT OF ENGINEERING

COVER SHEET AND NOTES

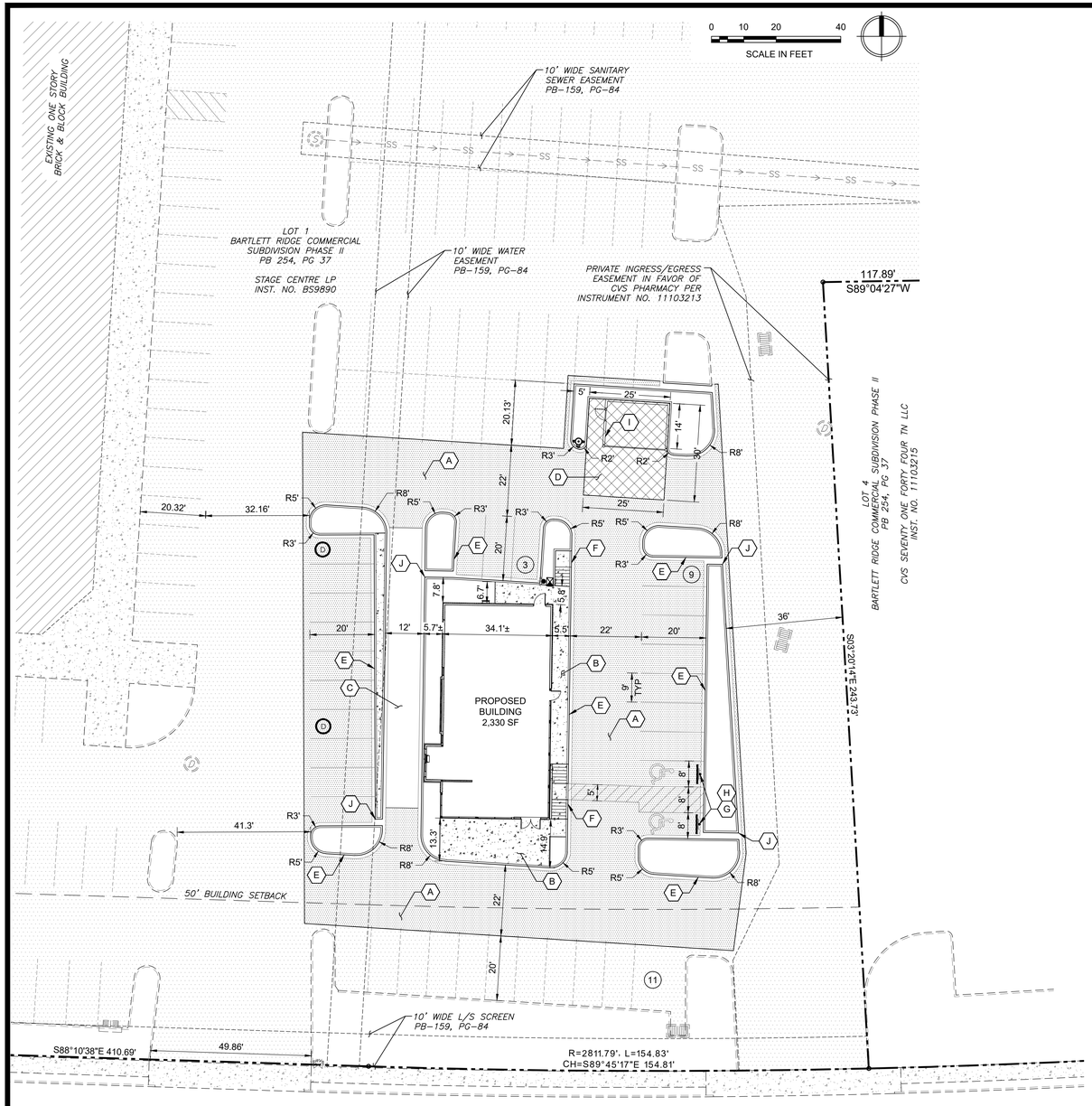
LOCATION: STAGE ROAD, 594' WEST OF CENTER LINE OF KIRBY-WHITTEN PARKWAY. BARTLETT, TN

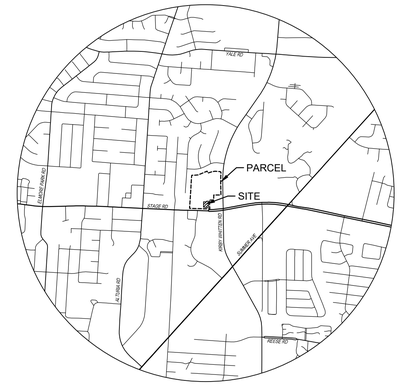
SURVEY: OLLAR, LLC DATE: 10/31/2023 BOOK: PB 254, PG 37
DESIGN BY:ROCKFIELD, LLC DATE: 11/06/2023 SCALE: AS SHOWN
DRAWN BY:ROCKFIELD, LLC DATE: 11/06/2023

REVIEWED

CITY ENGINEER DATE

C000





SITE DATA

PARCEL ID:	B0157H B00001C	
OWNER:	STAGE CENTRE LP 8130 MACON STATION, STE 114 CORDOVA, TN 38018	
LOT NUMBER:	LOT 1, BARTLETT RIDGE COMMERCIAL SD, PHASE II PLAT BOOK 254, PAGE 037	
SITE AREA:	TOTAL: DISTRUBED:	736,258 SF (16.90 AC) 21,403 SF (0.49 AC)
GREENSPACE EXISTING:	TOTAL: DISTRUBED:	16.0% 8.5%
GREENSPACE PROPOSED:	TOTAL: DISTRUBED:	16.1% 11.8%
BUILDING AREA:	EX. RETAIL CENTER: EX. STARBUCKS: PROP. CHIPOTLE:	137,420 SF ± 1,640 SF ± 2,330 SF ±
PROP. BLDG. HT. (ALLOWED):		20FT (60 FT)
ZONING:		SC-1
PARKING REQUIRED:	EX. RETAIL (4/1,000SF) EX. STARBUCKS (10/1,000SF) PROP. CHIPOTLE (10/1,000SF) TOTAL REQUIRED	550 SPACES 17 SPACES 23 SPACES 580 SPACES
PARKING PROVIDED:	EX. RETAIL (602 STD/18 HC) EX. STARBUCKS (18 STD/1 HC) PROP. CHIPOTLE (21 STD/2 HC) TOTAL PROVIDED	620 SPACES 19 SPACES 23 SPACES 662 SPACES

KEYNOTES

A	ASPHALT PAVEMENT
B	SIDEWALK
C	CONCRETE PAVEMENT
D	HEAVY DUTY CONCRETE
E	6-18 CURB AND GUTTER
F	ACCESSIBLE CURB RAMP
G	ACCESSIBLE PARKING SIGN (TYP)
H	WHEEL STOP (TYP)
I	TRASH ENCLOSURE (SEE ARCHITECTURAL DRAWINGS)
J	2FT WIDE CURB OPENING

LEGEND

	EXISTING	PROPOSED
OVERHEAD ELECTRIC	OHE	
DRAINAGE MANHOLE	D	D
CURB INLET		
AREA INLET (2X4)		
FIRE HYDRANT	FH	
POST INDICATOR VALVE		
WATER VALVE	WV	
WATER METER		WM
GAS VALVE	GV	
GAS METER	GM	
ASPHALT PAVEMENT		
CONCRETE PAVEMENT		
CONCRETE SIDEWALK		

NOT FOR CONSTRUCTION

REVISIONS

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CITY OF BARTLETT
CHIPOTLE - STAGE CENTRE
DEVELOPER: STAGE CENTRE, LP

Rockfield ENGINEERING 1355 LYNNFIELD, STE. 245 MEMPHIS, TN 38119 901-310-5960

DEPARTMENT OF ENGINEERING

SITE PLAN

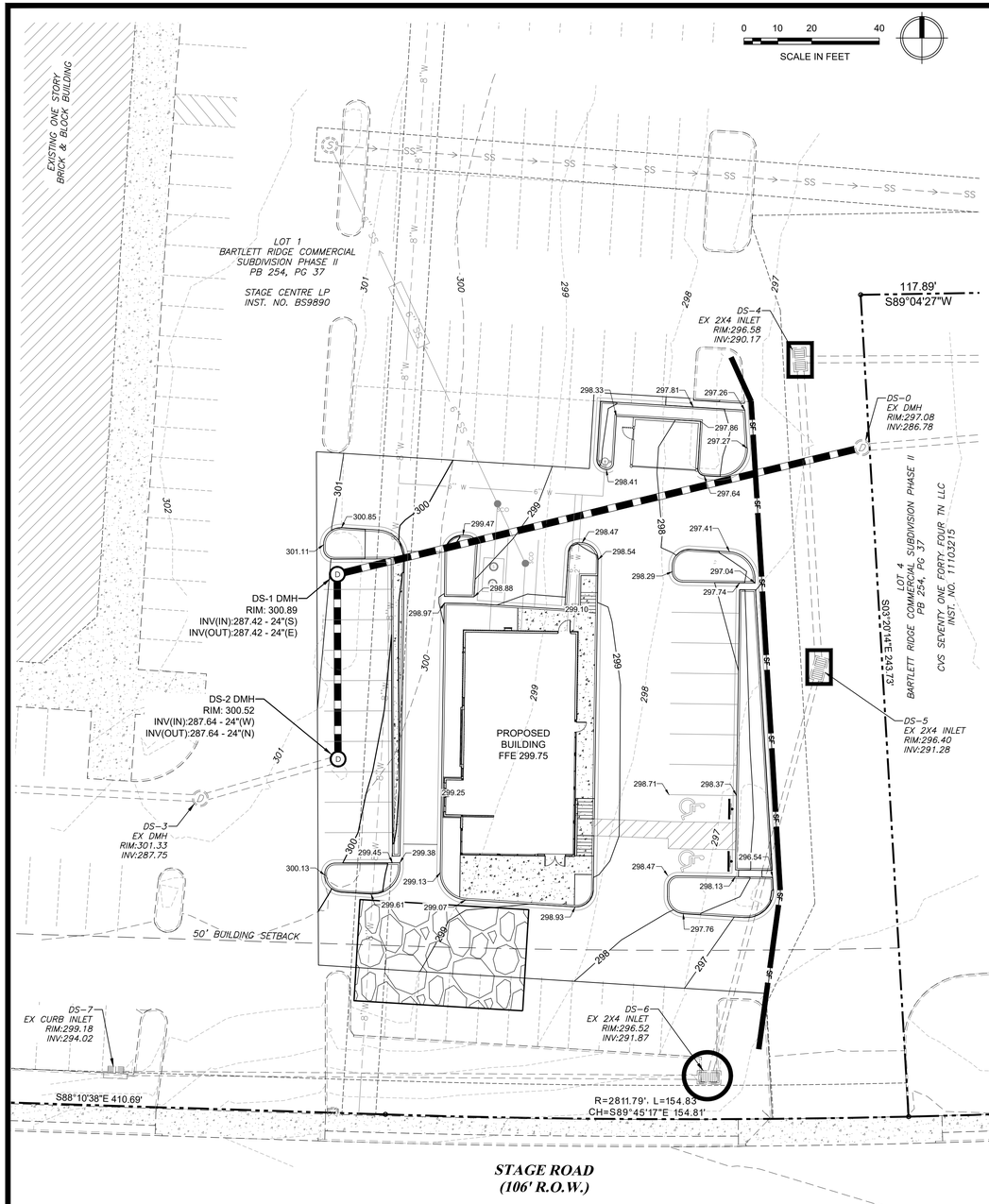
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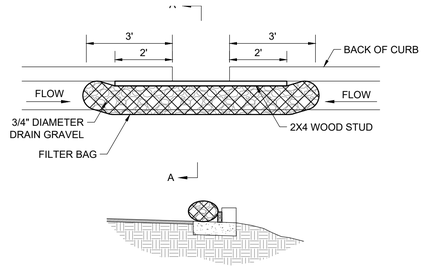
CITY ENGINEER DATE

C110



LEGEND	EXISTING	PROPOSED
MAJOR CONTOUR	310	310
MINOR CONTOUR	308	308
SANITARY SEWER	SS	SS
WATER LINE	W	W
STORM SEWER		
CURB INLET		
AREA INLET		
SANITARY SEWER MANHOLE		
SANITARY SEWER CLEANOUT	SCO	SCO
FIRE HYDRANT		
WATER VALVE		
WATER METER	WM	WM
POST INDICATOR VALVE		

EROSION CONTROL LEGEND	
SF	SILT FENCE
	CONSTRUCTION EGRESS
	AREA INLET PROTECTION
	CURB INLET PROTECTION



SECTION A-A

TO PREVENT DAMAGES TO VEHICLES, SIGNS WARNING DRIVERS ABOUT THE STRUCTURES MAY BE NECESSARY.

USE OF ROCK WITH DIAMETERS SMALLER THAN 1" IN THE BAG MAY RESULT IN CLOGGING OF PORES AND REDUCE THE AMOUNT OF WATER FLOWING INTO CURB OPENING.

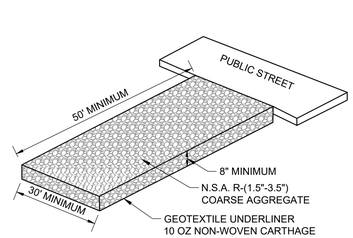
OTHER TYPES OF CURB INLET PROTECTION MAY BE APPROVED BY THE CITY SO LONG AS EQUAL PROTECTION IS PROVIDED.

MAINTENANCE:

ALL CURB OPENING GRAVEL FILTERS SHALL BE INSPECTED AND REPAIRED AFTER EACH RUNOFF EVENT. SEDIMENT DEPOSITS ARE TO BE REMOVED ONCE MATERIAL IS WITHIN 8 CM (3 INCHES) OF THE TOP OF ANY BLOCK. PERIODICALLY, THE GRAVEL SHALL BE RAKED TO INCREASE INFILTRATION AND FILTERING OF RUNOFF WATERS. ACCUMULATED SEDIMENT IS TO BE REMOVED IMMEDIATELY FROM ROADS AND STREETS.

CURB INLET PROTECTION

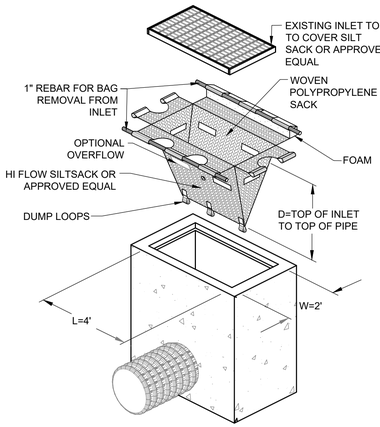
C120 NTS



1. THE AREA OF THE ENTRANCE SHOULD BE CLEARED OF ALL VEGETATION, ROOTS, AND OTHER OBJECTIONABLE MATERIAL. THE GRAVEL SHALL BE PLACED TO THE SPECIFIED DIMENSIONS. ANY DRAINAGE FACILITIES REQUIRED BECAUSE OF WASHING SHOULD BE CONSTRUCTED ACCORDING TO SPECIFICATIONS. IF WASH RACKS ARE USED, THEY SHOULD BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
2. IF CONDITIONS ON THE SITE ARE SUCH THAT THE MAJORITY OF THE MUD IS NOT REMOVED BY THE VEHICLES TRAVELING OVER THE GRAVEL, THEN THE TIRES OF THE VEHICLES MUST BE WASHED BEFORE ENTERING A PUBLIC ROAD. WASH WATER MUST BE CARRIED AWAY FROM THE ENTRANCE TO A SETTLING AREA TO REMOVE SEDIMENT. A WASH RACK MAY ALSO BE USED TO MAKE WASHING MORE CONVENIENT AND EFFECTIVE.
3. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH 2 INCH STONE, AS CONDITIONS DEMAND, AND REPAIR AND/OR CLEANEST OF ANY STRUCTURES USED TO TRAP SEDIMENT. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORMDRAINS MUST BE REMOVED IMMEDIATELY.

CONSTRUCTION EGRESS

C120 NTS

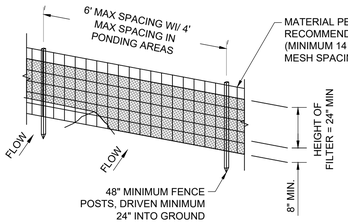


NOTES:

1. SILT SACK OR APPROVED EQUAL TO BE USED INSIDE INLETS AND OTHER OPENINGS INTO DRAINAGE SYSTEMS THROUGHOUT CONSTRUCTION.
2. THERE MUST BE NO GAPS OR TEARS IN THE SILT SACK OR APPROVED EQUAL THAT WOULD ALLOW WATER TO BYPASS TREATMENT.
3. THE SACK SHOULD BE INSPECTED AT LEAST TWICE A WEEK @ LEAST 72 HOURS APART. THE SACK SHOULD BE INSPECTED FOR LEAKS AND EMPTIED DURING THESE INSPECTIONS.

SILT SACK INLET PROTECTION

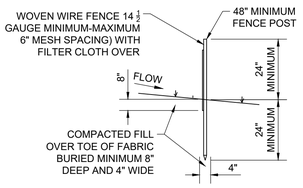
C120 NTS



CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
2. FILTER CLOTH TO BE FASTENED SECURELY TO SILT FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID-SECTION.
3. WHEN TWO SECTIONS OR FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY (6) INCHES AND FOLDED.
4. LOCATE POSTS DOWNSLOPE OF FABRIC FOR FENCE SUPPORT.
5. 5 TIES PER POST. 3 AT TOP 8" FOR STRENGTH
6. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

POSTS: STEEL EITHER "T" OR "U" TYPE
POSTS: LOCATED MAXIMUM 8' OC
FENCE: PER LOCAL REQUIREMENTS OR WOVEN WIRE, 14 GA 6" MAX MESH OPENING
FILTER CLOTH: FILTER X, MIRAFI 100X, STABI-LINKA T140N OR APPROVED EQUAL.
PREFABRICATED UNIT: GEOFAB, ENVIROFENCE, OR APPROVED EQUAL.



SILT FENCE

C120 NTS

TAYLOR, CHRISTOPHER ALAN 119112 REGISTERED PROFESSIONAL ENGINEER STATE OF TENNESSEE
SIGNATURE CONDITION
12/31/2023

REVISIONS

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CITY OF BARTLETT
HWY 70 EXPRESS CONVENIENCE STORE
DEVELOPER: HWY 70 EXPRESS, LLC

Rockfield ENGINEERING
1355 LYNNFIELD, STE. 245
MEMPHIS, TN 38119
901-310-5960

DEPARTMENT OF ENGINEERING

GRADING AND DRAINAGE PLAN

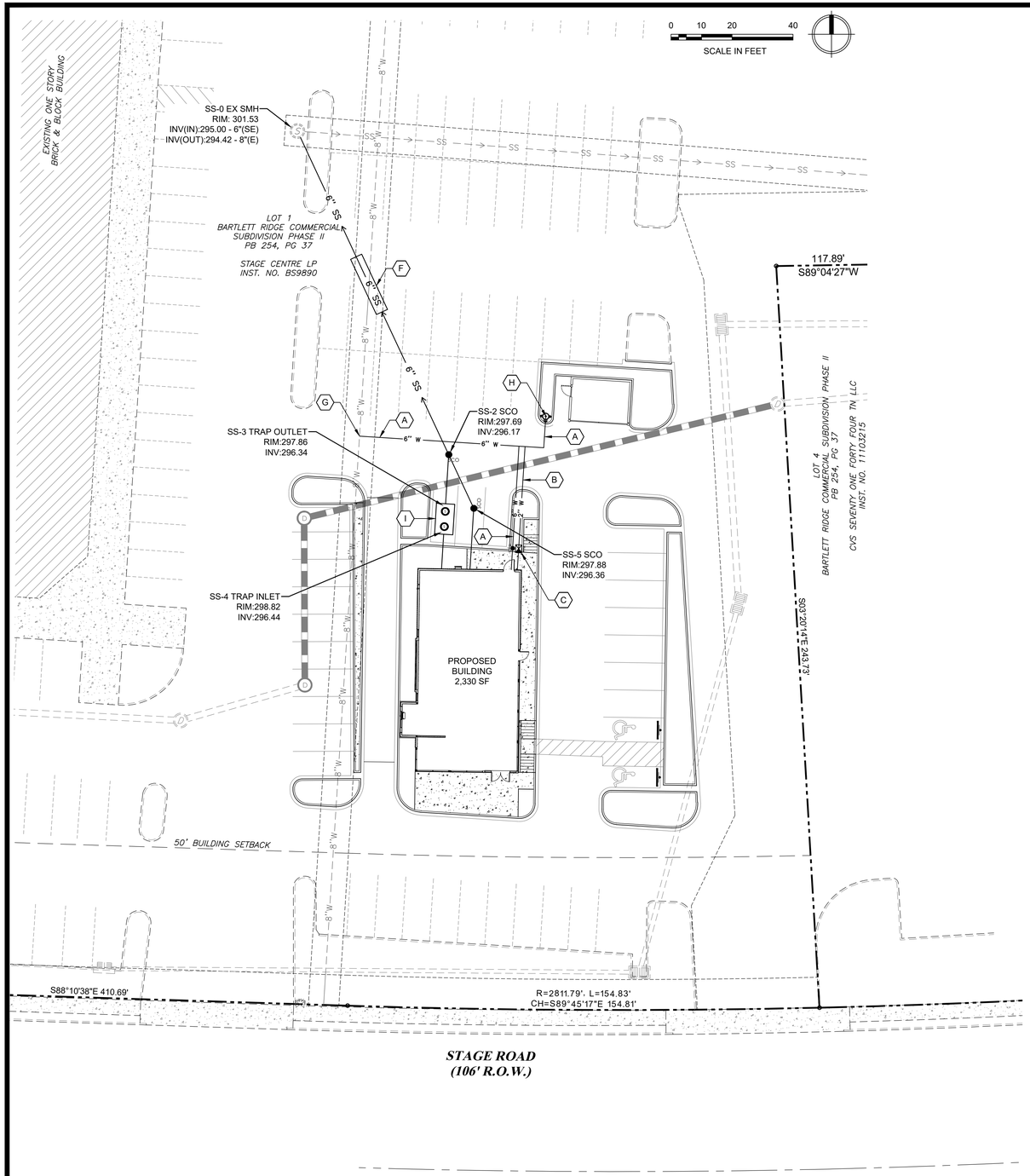
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DRAWN BY:ROCKFIELD, LLC DATE: 11/06/2023

REVIEWED

CITY ENGINEER DATE

C120



KEYNOTES

A	6" W	6" FIRE PROTECTION LINE (AWWA C900, DR18 150 PSI RATING PUSH ON TYPE JOINTS, ASTM D-3139)
B	W	2" DOMESTIC WATER LINE (SCH 40 PVC BELL END WITH GASKET, OR AWWA C901 POLYETHYLENE PIPE)
C	WM	1.5" WATER METERS
D	WV	6" MJ GATEVALVE
E		FIRE HYDRANT ASSEMBLY
F		CONCRETE ENCASE SEWER LINE AT WATER CROSSING
G		TAP OF EXISTING WATER MAIN
H		FIRE HYDRANT
I		GREASE INTERCEPTOR

G. TAYLOR W. REGISTERED ENGINEER AGRICULTURAL COLLEGE 113812 STATE OF TENNESSEE

CONSTRUCTION DRAWINGS

REVISIONS

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HWY 70 EXPRESS CONVENIENCE STORE
DEVELOPER: HWY 70 EXPRESS, LLC

Rockfield ENGINEERING
1355 LYNNFIELD, STE. 245
MEMPHIS, TN 38119
901-310-5960

DEPARTMENT OF ENGINEERING

SITE UTILITY PLAN

LOCATION: STAGE ROAD, 594' WEST OF CENTER LINE OF KIRBY-WHITTEN PARKWAY. BARTLETT, TN

SURVEY:	OLLAR, LLC	DATE: 10/31/2023	BOOK: PB 254, PG 37
DESIGN BY:	ROCKFIELD, LLC	DATE: 11/06/2023	SCALE: AS SHOWN
DRAWN BY:	ROCKFIELD, LLC	DATE: 11/06/2023	

REVIEWED

CITY ENGINEER DATE

C140

Rockfield ENGINEERING

Letter of Transmittal

To: City of Bartlett 6382 Stage Road Bartlett, TN 38184	**Date:**	**11/06/2023**
	Project No.:	**23-19030-16**
	RE:	**Chipotle – Stage Centre**

WE ARE SENDING YOU ☒ Attached ☐ Under Separate Cover _____ the following items

☐ Shop Drawings ☐ Prints ☒ Plans ☐ Samples ☐ Specifications

☐ Letter ☐ Change Order ☐ Pay App/C.O. ☐ _____

COPIES	DATE	NO.	DESCRIPTION
1	11/06/23	2	PC Site Plan Application
18	11/06/23	4	Site Plan Drawings
1	11/06/23	1	$400.00 Recording Fee (Check #2052)
1	11/06/23	1	USB containing PDF of Submittal

THESE ARE TRANSMITTED as checked below:

☒ For Approval ☐ No Exceptions Taken ☐ Resubmit _____ copies for approval

☐ For Your Use ☐ Make Corrections Noted ☐ Submit _____ copies for distribution

☐ As Requested ☐ Amend and Resubmit ☐ Return _____ corrected prints

REMARKS:

Please see the attached Submittal for Site Plan Review.

Thanks,
Taylor

Signed: _____
G. Taylor Webb, PE

Ordinance 23-08, an ordinance to amend the City of Bartlett Zoning Ordinance, by amending Article 1, Section 2, Definitions, to add Smoke Shop and Tobacco Store; and, to amend Article V, Chart 1, Uses Permitted, to add Smoke Shops and Tobacco Stores in certain Zoning Districts with a Special Use Permit.

WHEREAS, the Board of Mayor and Aldermen realizes that smoke shops and tobacco stores within the City of Bartlett, and throughout the United States have grown in popularity and offer a convenience for obtaining tobacco products within the City limits, and

WHEREAS, the effects of such businesses across the United States have contributed to noise, loitering, and, in some cases, a decrease in property values and an increase in crime within the vicinity of said shops, and

WHEREAS, the effects of such businesses across the United States have, in some cases, diminished the protection of children and non-smokers from exposure to smoking and tobacco-related and other substance pollution; and

WHEREAS, regulating smoke shops and tobacco stores protects community health; and

WHEREAS, in an effort to permit the convenience of tobacco product sales in the City of Bartlett and to regulate the placement of such a land use; and

WHEREAS, the purpose of this Article is to regulate the location and operation of retail purveyors of smoke shops and tobacco stores in order to maintain the character, diversity and vitality of the City of Bartlett's business districts and commercial areas and the quality of life for its residents and visitors. This is considered part of a strategy to preserve and enhance the economic health of the City's Business Districts and promote their continued positive development; and

WHEREAS, due to their demand and popularity smoke shops and tobacco stores may be allowed in the City, with the approval of a Special Use Permit, within the "C-G" General Business Zoning District and the "C-H" Highway Business Zoning District.

NOW, THEREFORE, BE IT ORDAINED by the Board of Mayor and Aldermen of the City of Bartlett, Tennessee, that:

Section 1. That Article 1, Section 2, be amended by adding the following definitions:

"Smoke shop and tobacco store" shall mean any premises dedicated to the display, sale, delivery, offering, furnishing, or marketing of tobacco, tobacco products, or tobacco paraphernalia, vapes or vape supplies; and/or any business offering 20% or more floor/shelf area provided, however, that any grocery store, supermarket, convenience store or similar retail use that only sells conventional cigars, cigarettes or tobacco as an ancillary sale shall not be defined as a "smoke shop" or "tobacco store" and shall not be subject to the Special Use Permit requirement.

Section 2. That Article V, Chart 1, of the Bartlett Zoning Ordinance, "Uses Permitted in the Zoning District," be amended as follows:

Chart 1. Uses Permitted in Zoning Districts

(Amended by Ord. #02-04, 4/9/02; Ord. #02-10, 8/13/02; Ord. #02-16, 12/10/02, Ord. #06-12, 9/12/06, Ord. #07-14, 9/11/07, Ord. #10-02, 5/11/10, Ord. #10-04, 6/8/10, Ord. #10-05, 7/27/10, Ord. #12-01, March 2012, Ord. #18-04, 7/10/18, and Ord. #19-04, Oct. 2019 ***Ch 7_12-08-20***)

Legend:

X - Uses Permitted by Right

P - Requires Site Plan approval by the Planning Commission

P* - Requires Outline Plan approval by the Planning Commission and the Board of Mayor and Aldermen

S - Uses recommended for approval with Special Use Permit approval by the Planning Commission and Board of Mayor and Aldermen:

S*Special Use Permit with the addition of a Master Plan of Development concept and Outline Plan of Conditions.

T*Use recommended for approval with Short-Term Rental Permit, Type I, issued by the Bartlett Code Enforcement Office;" and "T** Use recommended for approval with Short-Term Rental Permit, Type 2, issued by the Bartlett Code Enforcement Office upon proof that the dwelling unit was used as a Short-Term Rental Unit and that all taxes, including room, occupancy and sales tax, due on renting the dwelling unit pursuant to Title 67, Chapter 6, Part 5 of the Tennessee Code Annotated were paid for filing periods that cover at least six (6) months within the twelve-month period immediately preceding July 10, 2018.

PERMITTED USES	**ZONING DISTRICTS**																		
	A-O	R-E	RS-18	RS-15	RS-12	RS-10	R-THE	R-D	R-M	O-R-1	O-R-2	0-C	C-L	C-G	C-H	SC-1	I-O	I-P	FW
DWELLINGS																			
Single Family Detached	X	X	X	X	X	X	P	X		P	P								
Single Family Attached							P	P											
Two Family								X											
Town House							P		P										
Multiple Family									P										
Guest unit (Specific criteria for approval in Article VI, Section 28.)	X	X	X	X	X	X													
Planned Unit Residential		S	S	S	S	S	S	S	S										
Planned Residential Development in Bartlett Station	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
Bed and Breakfast	S	S	S	S	S	S	S	S	S										
Short-Term Rental ("STR") Type 1		T*	T*	T*	T*	T*	T*	T*	T*										
Short-Term Rental ("STR") Type 2	T**	T**	T**	T**	T**	T**	T**	T**	T**	T**	T**								
INSTITUTIONS																			
Airport/Heliport	S														S		S	S	
Assisted-Care Living Facility	S	S	S	S	S	S	S	S	S					S	S	S			
Cemetery	S														S				

PERMITTED USES	ZONING DISTRICTS																		
	A-O	R-E	RS-18	RS-15	RS-12	RS-10	R-THE	R-D	R-M	O-R-1	O-R-2	0-C	C-L	C-G	C-H	SC-1	I-O	I-P	FW
Child Care Home, Family (5-7 Children)		S	S	S	S	S	S	S	S					P	P		P	P	
Child Care Home, Group (8-12 Children)		S	S	S	S	S	S	S	S					P	P		P	P	
Children's Home	S	S	S	S	S	S	S	S	S										
Church	S	S	S	S	S	S		S						P	P	P	P	S	
Home for the Aged	S	S	S	S	S	S	S	S	S					S	S	S			
Hospital														P	P				
Lodge, Club, Country Club	S	S	S	S	S	S								P	P				
Museum		S	S	S	S			S		P	P	P		P	P		P	P	
Nursing Home	S	S	S	S	S	S	S	S	S					P	P				
Parks/Recreation	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
Public Building	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
Riding Academy	S																		
School	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
COMMERCIAL																			
Amusements, Commercial Indoor														P	P	P			
Amusements, Commercial Outdoor															S				
Animal Grooming Service												P		P	P	S	P		
Automobile Gas Station													S	S	P	P			
Automobile Oil Change and Lubrication Shop															P				
Automobile Paint or Body Shop															S		S		
Automobile Rental															S				
Automobile Rental Satellite														S	S				
Automobile Repair, General [See also "Repair, Equipment and Large Vehicle"]														S	S		S		
Automobile Upholstery, Interior, and Glass Repair; Van Conversion Service														S	S		S		
Bail Bonding															S				
Bakery, Retail													P	P	P	P	P		
Bank See "Finance"																			
Barber or Beauty Shop												P	P	P	P	P	P		
Boat Rental or Sale															S				
Boat Storage or Repair															S		S		

PERMITTED USES	ZONING DISTRICTS																		
	A-O	R-E	RS-18	RS-15	RS-12	RS-10	R-THE	R-D	R-M	O-R-1	O-R-2	0-C	C-L	C-G	C-H	SC-1	I-O	I-P	FW
Catering Establishment less than 3,800 sq. ft. in floor area														P	P	P	P		
Child Care Center (13+)												P	P	P	P	P	P	P	
Child Drop-In Center														S	S	S			
Coin-Operated Laundry														S	P				
Communications Tower															S		S	S	
Contractor's Business															P		P	P	
Convenience Store													S	S	P	P			
Crematorium																	S		
Department or Discount Store														P	P	P			
Drive-In Theater															P				
Drug Store													P	P	P	P			
Dry Cleaning & Laundry													P	P	P	P			
Finance - Commercial Bank, Credit Union, or Savings Institution												P	P	P	P	P	P		
Finance - Consumer Lending Establishment															S				
Finance - Financial Lending Establishment, Miscellaneous										P	P	P	P	P	P	P			
Finance - Securities, Commodity Contracts, and Other Financial Investments and Related Activities										P	P	P	P	P	P	P			
Flower or Plant Store (indoor)												P	P	P	P	P			
Food Market													P	P	P	P			
Funeral Home														S	S				
Garage for Auto Repair: See "Automobile Repair, General"																			
Greenhouse or Nursery--Commercial	S													S	P				
Hookah Lounge, Bar, Parlor, Cafe															S				
Hotel or Motel														P	P				
Laboratory															P		P	P	
Lumber Yard															S		P		
Manufactured (Mobile) Home Dealer															S				

PERMITTED USES	ZONING DISTRICTS																	
	A-O	R-E	RS-18	RS-15	RS-12	RS-10	R-THE	R-D	R-M	O-R-1	O-R-2	0-C	C-L	C-G	C-H	SC-1	I-O	I-P	FW
Motor Vehicle Sales, New															S				
Motor Vehicle Sales, Used															S				
Music or Dancing Academy														P	P	P			
Offices										P	P	P	P	P	P	P	P	P	
Pawn Shop															S				
Pharmacy												P	P	P	P	P			
Photo-Finishing Pick-up Station													P	P	P	P			
Planned Commercial or Industrial Development														P*	P*	P*	P*	P*	
Plumbing Shop																	P		
Processing and Manufacture Incidental to Retail Establishments														S	P				
Radio or TV Studio															P		P		
Repair, Equipment and Large Vehicles																	S		
Repair, General														P	P				
Restaurant (Sit Down Dining)												S	P	P	P	P			
Restaurant (Drive through Service)													P	P	P	P			
Retail Secondhand Store														S	S				
Retail Shop													P	P	P	P			
Retail Sales Incidental to Office Uses										P	P								
Services, Business										P	P	P	P	P	P	P	P		
Services, Personal										P	P	P	P	P	P	P	P		
Sexually Oriented Business															S				
Sheet Metal Shop																	P		
Smoke Shop or Tobacco Store														S	S				
Storage, Climate Controlled															P	S			
Tattoo or Body-Piercing Establishment															S				
Tavern, Cocktail Lounge, Night Club, Bar														S	S				
Truck or Trailer Rental															S				
Vehicle Wash														S	P		P		
Vehicle Wash, Industrial																	S		
Veterinary Clinic												P		P	P	S	P		
Warehouse																	P	P	

PERMITTED USES	ZONING DISTRICTS																		
	A-O	R-E	RS-18	RS-15	RS-12	RS-10	R-THE	R-D	R-M	O-R-1	O-R-2	0-C	C-L	C-G	C-H	SC-1	I-O	I-P	FW
Warehouse, Mini Storage															S		P		
Warehouse, Display															P		P	P	
Wholesale & Distribution																	P	P	
INDUSTRIAL																			
Manufacture, Storage or Distribution of:																			
Chemical, Cosmetics, Drugs, Paint, & Related Products																		P	
Electrical or Electronic Equipment, Appliances & Instruments																	P	P	
Fabricated Metal Products & Machinery																	P	P	
Food & Beverage Products Except Live Animal Processing																	P	P	
Jewelry, Silverware, Musical Instruments, Toys, Sporting Goods, Art Supplies																	P	P	
Petroleum, Products and Distribution																	P		
Printing & Publishing																	P	P	
Stone, Clay, Glass and Concrete Products																	P		
Textile & Apparel Products																	P	P	
Truck or Motor Freight Facility																	S		
Utility Substation	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
Utility Production or Treatment Station	P														P		P	P	
OTHER USES																			
Agricultural Production: Grain, Fruit, Vegetables, Field Crops and Nursery	X																		
Landfill Operations	S																S		
Livestock, Horse, Dairy, Poultry, Egg Production	X																		
Post Office Facility														P	P	P	P	P	
Commercial Satellite TV Dish													X	X	X	X	X	X	
Telephone Service Center														P	P	P	P	P	
Wireless Communication Facility	S	S	S	S	S	S	S	S	S			S		S	S		S	S	S

Section 3. Severability

Should any provision of this Ordinance be rendered unconstitutional or null and void by a Court of Law, legislative act or otherwise, all other provisions of this Ordinance shall remain in full force and effect.

Section 4. Effective Date: BE IT FURTHER ORDAINED that this ordinance shall take effect upon its passage on the third and final reading, the public welfare requiring it.

FIRST READING: , 2023

SECOND READING: , 2023

THIRD READING: , 2023

_____ _____

Harold Brad King, Register to the Board of Mayor and Aldermen

David Parsons
Mayor

ATTEST: _____

Penny Medlock
City Clerk

Ordinance 23-09, an ordinance to amend the City of Bartlett Zoning Ordinance, by amending Article 1, Section 2, Definitions, to add Hookah Lounge and Other Smoking Lounges; and to amend Article V, Chart 1, Uses Permitted, to add Hookah Lounges and Other Smoking Lounges in the C-H Highway Business Zoning District with a Special Use Permit.

WHEREAS, the Board of Mayor and Aldermen realize that hookah lounges and other smoking lounges throughout the United States have grown in popularity, supporting the use of smoking of tobacco products, cannabis, and other substances, and

WHEREAS, the effects of such businesses across the United States have contributed to noise, loitering, and, in some cases, a decrease in property values and an increase in crime within the vicinity of said lounges, and

WHEREAS, the effects of such businesses across the United States have, in some cases, diminished the protection of children and non-smokers from exposure to smoking and tobacco-related and other substance pollution; and

WHEREAS, regulating public hookah smoking and other public smoking protects community health. Current science shows that hookah smoking carries the same or similar health risks as cigarette smoking and may, in fact, be even more damaging. Hookah smoke contains significant amounts of nicotine, tar, heavy metals, and carcinogens. The smoke may also contain charcoal or cinder elements that release chemicals, such as carbon monoxide and metals, when burned; and

WHEREAS, the purpose of this Article is to regulate the location and operation of retail purveyors of hookah sales and other smoking products in order to maintain the character, diversity and vitality of the City of Bartlett's business districts and commercial areas and the quality of life for its residents and visitors. This is considered part of a strategy to preserve and enhance the economic health of the City's Business Districts and promote their continued positive development; and

WHEREAS, due to their demand and popularity hookah lounges and other smoking lounges, cafés, parlors and bars may be allowed in the City with a Special Use Permit within the "C-H" Highway Business Zoning District,

NOW, THEREFORE, BE IT ORDAINED by the Board of Mayor and Aldermen of the City of Bartlett, Tennessee, that:

Section 1. That Article 1, Section 2, shall be amended to add the following definitions:

Ancillary Use shall mean a use that is supportive of and subordinate to any primary use.

Primary Use shall mean a use that is not an ancillary use.

Hookah lounge, parlor and/or bar and other smoking lounges shall mean any facility or location whose business operation, whether as its primary use or as an ancillary use, is denoted by the smoking of tobacco or other substances through one or more pipes (commonly known as a hookah, water pipe, shisha or narghile) designed with a tube passing through an urn of water that cools the smoke as it is drawn through it, including but not limited to establishments known variously as hookah bars, hookah lounges or hookah cafes and other types of smoking lounges using various smoking products. This definition also includes Electronic/Vapor Substance Inhalation Lounges where customers can smoke or inhale vapor from electronic/vapor substance inhalation products, commonly known as "electronic cigarettes", "e-cigarettes", "e-cigars", "e-cigarellos", "e-pipes", "e-hookahs", electronic nicotine delivery systems", other similar devices, and other smoking products.

Section 2. That Article V, Chart 1, of the Bartlett Zoning Ordinance, "Uses Permitted in the Zoning District," shall be amended as follows:

Chart 1. Uses Permitted in Zoning Districts

(Amended by Ord. #02-04, 4/9/02; Ord. #02-10, 8/13/02; Ord. #02-16, 12/10/02, Ord. #06-12, 9/12/06, Ord. #07-14, 9/11/07, Ord. #10-02, 5/11/10, Ord. #10-04, 6/8/10, Ord. #10-05, 7/27/10, Ord. #12-01, March 2012, Ord. #18-04, 7/10/18, and Ord. #19-04, Oct. 2019 ***Ch 7_12-08-20***)

Legend:

X - Uses Permitted by Right

P - Requires Site Plan approval by the Planning Commission

P* - Requires Outline Plan approval by the Planning Commission and the Board of Mayor and Aldermen

S - Uses recommended for approval with Special Use Permit approval by the Planning Commission and Board of Mayor and Aldermen:

S*Special Use Permit with the addition of a Master Plan of Development concept and Outline Plan of Conditions.

T*Use recommended for approval with Short-Term Rental Permit, Type I, issued by the Bartlett Code Enforcement Office;" and "T** Use recommended for approval with Short-Term Rental Permit, Type 2, issued by the Bartlett Code Enforcement Office upon proof that the dwelling unit was used as a Short-Term Rental Unit and that all taxes, including room, occupancy and sales tax, due on renting the dwelling unit pursuant to Title 67, Chapter 6, Part 5 of the Tennessee Code Annotated were paid for filing periods that cover at least six (6) months within the twelve-month period immediately preceding July 10, 2018.

PERMITTED USES	**ZONING DISTRICTS**																		
	A-O	R-E	RS-18	RS-15	RS-12	RS-10	R-THE	R-D	R-M	O-R-1	O-R-2	0-C	C-L	C-G	C-H	SC-1	I-O	I-P	FW
DWELLINGS																			
Single Family Detached	X	X	X	X	X	X	P	X		P	P								
Single Family Attached							P	P											
Two Family								X											
Town House							P		P										
Multiple Family									P										
Guest unit (Specific criteria for approval in Article VI, Section 28.)	X	X	X	X	X	X													
Planned Unit Residential		S	S	S	S	S	S	S	S										
Planned Residential Development in Bartlett Station	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
Bed and Breakfast	S	S	S	S	S	S	S	S	S										
Short-Term Rental ("STR") Type 1		T*	T*	T*	T*	T*	T*	T*	T*										
Short-Term Rental ("STR") Type 2	T**	T**	T**	T**	T**	T**	T**	T**	T**	T**	T**								
INSTITUTIONS																			
Airport/Heliport	S														S		S	S	
Assisted-Care Living Facility	S	S	S	S	S	S	S	S	S					S	S	S			
Cemetery	S														S				

PERMITTED USES	ZONING DISTRICTS																		
	A-O	R-E	RS-18	RS-15	RS-12	RS-10	R-THE	R-D	R-M	O-R-1	O-R-2	0-C	C-L	C-G	C-H	SC-1	I-O	I-P	FW
Child Care Home, Family (5-7 Children)		S	S	S	S	S	S	S	S					P	P		P	P	
Child Care Home, Group (8-12 Children)		S	S	S	S	S	S	S	S					P	P		P	P	
Children's Home	S	S	S	S	S	S	S	S	S										
Church	S	S	S	S	S	S		S						P	P	P	P	S	
Home for the Aged	S	S	S	S	S	S	S	S	S					S	S	S			
Hospital														P	P				
Lodge, Club, Country Club	S	S	S	S	S	S								P	P				
Museum		S	S	S	S			S		P	P	P		P	P		P	P	
Nursing Home	S	S	S	S	S	S	S	S	S					P	P				
Parks/Recreation	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
Public Building	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
Riding Academy	S																		
School	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
COMMERCIAL																			
Amusements, Commercial Indoor														P	P	P			
Amusements, Commercial Outdoor															S				
Animal Grooming Service												P		P	P	S	P		
Automobile Gas Station													S	S	P	P			
Automobile Oil Change and Lubrication Shop															P				
Automobile Paint or Body Shop															S		S		
Automobile Rental															S				
Automobile Rental Satellite														S	S				
Automobile Repair, General [See also "Repair, Equipment and Large Vehicle"]														S	S		S		
Automobile Upholstery, Interior, and Glass Repair; Van Conversion Service														S	S		S		
Bail Bonding															S				
Bakery, Retail													P	P	P	P	P		
Bank See "Finance"																			
Barber or Beauty Shop												P	P	P	P	P	P		
Boat Rental or Sale															S				
Boat Storage or Repair															S		S		

PERMITTED USES	ZONING DISTRICTS																	
	A-O	R-E	RS-18	RS-15	RS-12	RS-10	R-THE	R-D	R-M	O-R-1	O-R-2	0-C	C-L	C-G	C-H	SC-1	I-O	I-P	FW
Catering Establishment less than 3,800 sq. ft. in floor area														P	P	P	P		
Child Care Center (13+)												P	P	P	P	P	P	P	
Child Drop-In Center														S	S	S			
Coin-Operated Laundry														S	P				
Communications Tower															S		S	S	
Contractor's Business															P		P	P	
Convenience Store													S	S	P	P			
Crematorium																	S		
Department or Discount Store														P	P	P			
Drive-In Theater															P				
Drug Store													P	P	P	P			
Dry Cleaning & Laundry													P	P	P	P			
Finance - Commercial Bank, Credit Union, or Savings Institution												P	P	P	P	P	P		
Finance - Consumer Lending Establishment															S				
Finance - Financial Lending Establishment, Miscellaneous										P	P	P	P	P	P	P			
Finance - Securities, Commodity Contracts, and Other Financial Investments and Related Activities										P	P	P	P	P	P	P			
Flower or Plant Store (indoor)												P	P	P	P	P			
Food Market													P	P	P	P			
Funeral Home														S	S				
Garage for Auto Repair: See "Automobile Repair, General"																			
Greenhouse or Nursery--Commercial	S													S	P				
Hookah Lounge, Bar, Parlor, Café and other Smoking Lounges															S				
Hotel or Motel														P	P				
Laboratory															P		P	P	
Lumber Yard															S		P		
Manufactured (Mobile) Home Dealer															S				

PERMITTED USES	ZONING DISTRICTS																		
	A-O	R-E	RS-18	RS-15	RS-12	RS-10	R-THE	R-D	R-M	O-R-1	O-R-2	0-C	C-L	C-G	C-H	SC-1	I-O	I-P	FW
Motor Vehicle Sales, New															S				
Motor Vehicle Sales, Used															S				
Music or Dancing Academy														P	P	P			
Offices										P	P	P	P	P	P	P	P	P	
Pawn Shop															S				
Pharmacy												P	P	P	P	P			
Photo-Finishing Pick-up Station													P	P	P	P			
Planned Commercial or Industrial Development														P*	P*	P*	P*	P*	
Plumbing Shop																	P		
Processing and Manufacture Incidental to Retail Establishments														S	P				
Radio or TV Studio															P		P		
Repair, Equipment and Large Vehicles																	S		
Repair, General														P	P				
Restaurant (Sit Down Dining)												S	P	P	P	P			
Restaurant (Drive through Service)													P	P	P	P			
Retail Secondhand Store														S	S				
Retail Shop													P	P	P	P			
Retail Sales Incidental to Office Uses										P	P								
Services, Business										P	P	P	P	P	P	P	P		
Services, Personal										P	P	P	P	P	P	P	P		
Sexually Oriented Business															S				
Sheet Metal Shop																	P		
Storage, Climate Controlled															P	S			
Tattoo or Body-Piercing Establishment															S				
Tavern, Cocktail Lounge, Night Club, Bar														S	S				
Truck or Trailer Rental															S				
Vehicle Wash														S	P		P		
Vehicle Wash, Industrial																	S		
Veterinary Clinic												P		P	P	S	P		
Warehouse																	P	P	

PERMITTED USES	ZONING DISTRICTS																		
	A-O	R-E	RS-18	RS-15	RS-12	RS-10	R-THE	R-D	R-M	O-R-1	O-R-2	0-C	C-L	C-G	C-H	SC-1	I-O	I-P	FW
Warehouse, Mini Storage															S		P		
Warehouse, Display															P		P	P	
Wholesale & Distribution																	P	P	
INDUSTRIAL																			
Manufacture, Storage or Distribution of:																			
Chemical, Cosmetics, Drugs, Paint, & Related Products																		P	
Electrical or Electronic Equipment, Appliances & Instruments																	P	P	
Fabricated Metal Products & Machinery																	P	P	
Food & Beverage Products Except Live Animal Processing																	P	P	
Jewelry, Silverware, Musical Instruments, Toys, Sporting Goods, Art Supplies																	P	P	
Petroleum, Products and Distribution																	P		
Printing & Publishing																	P	P	
Stone, Clay, Glass and Concrete Products																	P		
Textile & Apparel Products																	P	P	
Truck or Motor Freight Facility																	S		
Utility Substation	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
Utility Production or Treatment Station	P														P		P	P	
OTHER USES																			
Agricultural Production: Grain, Fruit, Vegetables, Field Crops and Nursery	X																		
Landfill Operations	S																S		
Livestock, Horse, Dairy, Poultry, Egg Production	X																		
Post Office Facility														P	P	P	P	P	
Commercial Satellite TV Dish													X	X	X	X	X	X	
Telephone Service Center														P	P	P	P	P	
Wireless Communication Facility	S	S	S	S	S	S	S	S	S			S		S	S		S	S	S

Section 3. Severability

Should any provision of this Ordinance be rendered unconstitutional or null and void by a Court of Law, legislative act or otherwise, all other provisions of this Ordinance shall remain in full force and effect.

Section 4. **Effective Date:** BE IT FURTHER ORDAINED that this ordinance shall take effect upon its passage on the third and final reading, the public welfare requiring it.

FIRST READING: November 14, 2023

SECOND READING: November 28 , 2023

THIRD READING: December 12, 2023

_____ _____

Harold Brad King, Register to the Board of Mayor and Aldermen

David Parsons
Mayor

ATTEST: _____

Penny Medlock
City Clerk

Ordinance 23-10, an ordinance to amend the City of Bartlett Zoning Ordinance, by amending Article 1, Section 2, Definitions, to add Small Box Retail Stores, Liquidation Stores, and Liquidation Warehouse Sellers; and, to amend Article V, Chart 1, Uses Permitted, to add Small Box Retail Stores, Liquidation Retail Stores, and Liquidation Warehouse Sellers in certain Zoning Districts with a Special Use Permit; and add to Article VI, Supplementary District Regulations, Section 31, Small Box Retail Stores.

WHEREAS, the Board of Mayor and Aldermen realizes that, over the past few years, there has been a growing number of Small Box Retail Stores and Liquidation Stores and potential Liquidation Warehouse locations within the commercially zoned areas throughout the City; and

WHEREAS, the Board of Mayor and Aldermen recognizes that these stores provide both convenience and savings to our citizens; and

WHEREAS, these stores offer mostly inexpensive, highly processed, low-nutritive foods and beverages rather than fresh, nutritious food; and

WHEREAS, the Board of Mayor and Alderman desires to promote the availability of fresh and quality foods in the City of Bartlett; and

WHEREAS, while the number of these stores continues to increase, this results in a decrease in the availability of high-demand, commercially zoned locations suitable for a higher class chain of grocers and retailers that would support our citizens' demands and the City's economic base; and

WHEREAS, a diversity of retail options has the potential to revitalize commercial centers and improve access to a healthy diet to the people of Bartlett; and

WHEREAS, the purpose of this Article is to regulate the location and operation of Small Box Retail Stores, Liquidation Stores, and Liquidation Warehouse Sellers in order to provide more opportunities for product sales, greater diversity of retail options, and the availability of fresh and quality foods in the City of Bartlett; and

WHEREAS, due to their demand and popularity, Small Box Retailers may be allowed in the City, with the approval of a Special Use Permit, within the "C-G" General Business Zoning District, the "C-H" Highway Business Zoning District, and "SC-1" Planned Unit Commercial Development; and

WHEREAS, Liquidation Stores and Liquidation Warehouse Sellers, may be allowed in the City, with the approval of a Special Use Permit, within the "I-0" Wholesale and Warehouse District and "I-P" Planned Industrial Park; and

NOW, THEREFORE, BE IT ORDAINED by the Board of Mayor and Aldermen of the City of Bartlett, Tennessee, that:

Section 1. Article 1, Section 2, Definitions, of the Bartlett Zoning Ordinance is hereby amended to add the following definitions:

Small Box Retail Stores are retail stores that are less than 15,000 square feet in floor area that sell a variety of goods directly to consumers for ten dollars ($10.00) or less. In addition, the majority of goods are sold at prices that are less than MSRP or regular retail prices. Pharmacies and grocery stores are exempt from this definition.

Liquidation Stores are discount retail stores that utilize 3,000 square feet in floor area or less, that sell open-box items, overstock items, outdated items, returned items which can be models used for product samples, and

discontinued products. Liquidation stores are able to sell clothes, electronics, furniture, and toys (among many other things) at way-below-MSRP prices because the items are purchased at bulk discount.

Liquidation Warehouse Sellers are discount retail sellers that require floor area spaces that are greater than 3,000 square feet. These sellers typically sell larger quantities of open-box items, overstock items, outdated items, returned items; models used for product samples, and discontinued products to the public. Liquidation warehouse sellers are able to sell clothes, electronics, furniture, toys, housewares, etc. (among many other things) at way-below-MSRP prices because the items are bought at a discount.

Section 2. That Article V, Chart 1, "Uses Permitted in the Zoning District," of the Bartlett Zoning Ordinance is hereby amended to read as follows:

Chart 1. Uses Permitted in Zoning Districts

(Amended by Ord. #02-04, 4/9/02; Ord. #02-10, 8/13/02; Ord. #02-16, 12/10/02, Ord. #06-12, 9/12/06, Ord. #07-14, 9/11/07, Ord. #10-02, 5/11/10, Ord. #10-04, 6/8/10, Ord. #10-05, 7/27/10, Ord. #12-01, March 2012, Ord. #18-04, 7/10/18, and Ord. #19-04, Oct. 2019 ***Ch 7_12-08-20***)

Legend:

X - Uses Permitted by Right

P - Requires Site Plan approval by the Planning Commission

P* - Requires Outline Plan approval by the Planning Commission and the Board of Mayor and Aldermen

S - Uses recommended for approval with Special Use Permit approval by the Planning Commission and Board of Mayor and Aldermen:

S*Special Use Permit with the addition of a Master Plan of Development concept and Outline Plan of Conditions.

T*Use recommended for approval with Short-Term Rental Permit, Type I, issued by the Bartlett Code Enforcement Office;" and "T** Use recommended for approval with Short-Term Rental Permit, Type 2, issued by the Bartlett Code Enforcement Office upon proof that the dwelling unit was used as a Short-Term Rental Unit and that all taxes, including room, occupancy and sales tax, due on renting the dwelling unit pursuant to Title 67, Chapter 6, Part 5 of the Tennessee Code Annotated were paid for filing periods that cover at least six (6) months within the twelve-month period immediately preceding July 10, 2018.

PERMITTED USES	**ZONING DISTRICTS**																		
	A-O	R-E	RS-18	RS-15	RS-12	RS-10	R-THE	R-D	R-M	O-R-1	O-R-2	0-C	C-L	C-G	C-H	SC-1	I-O	I-P	FW
DWELLINGS																			
Single Family Detached	X	X	X	X	X	X	P	X		P	P								
Single Family Attached							P	P											
Two Family								X											
Town House							P		P										
Multiple Family									P										
Guest unit (Specific criteria for approval in Article VI, Section 28.)	X	X	X	X	X	X													
Planned Unit Residential		S	S	S	S	S	S	S	S										
Planned Residential Development in Bartlett Station	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
Bed and Breakfast	S	S	S	S	S	S	S	S	S										
Short-Term Rental ("STR") Type 1		T*	T*	T*	T*	T*	T*	T*	T*										
Short-Term Rental ("STR") Type 2	T**	T**	T**	T**	T**	T**	T**	T**	T**	T**	T**								
INSTITUTIONS																			
Airport/Heliport	S														S		S	S	
Assisted-Care Living Facility	S	S	S	S	S	S	S	S	S					S	S	S			
Cemetery	S														S				

PERMITTED USES	ZONING DISTRICTS																	
	A-O	R-E	RS-18	RS-15	RS-12	RS-10	R-THE	R-D	R-M	O-R-1	O-R-2	0-C	C-L	C-G	C-H	SC-1	I-O	I-P	FW
Child Care Home, Family (5-7 Children)		S	S	S	S	S	S	S	S					P	P		P	P	
Child Care Home, Group (8-12 Children)		S	S	S	S	S	S	S	S					P	P		P	P	
Children's Home	S	S	S	S	S	S	S	S	S										
Church	S	S	S	S	S	S		S						P	P	P	P	S	
Home for the Aged	S	S	S	S	S	S	S	S	S					S	S	S			
Hospital														P	P				
Lodge, Club, Country Club	S	S	S	S	S	S								P	P				
Museum		S	S	S	S			S		P	P	P		P	P		P	P	
Nursing Home	S	S	S	S	S	S	S	S	S					P	P				
Parks/Recreation	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
Public Building	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
Riding Academy	S																		
School	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
COMMERCIAL																			
Amusements, Commercial Indoor														P	P	P			
Amusements, Commercial Outdoor															S				
Animal Grooming Service												P		P	P	S	P		
Automobile Gas Station													S	S	P	P			
Automobile Oil Change and Lubrication Shop															P				
Automobile Paint or Body Shop															S		S		
Automobile Rental															S				
Automobile Rental Satellite														S	S				
Automobile Repair, General [See also "Repair, Equipment and Large Vehicle"]														S	S		S		
Automobile Upholstery, Interior, and Glass Repair; Van Conversion Service														S	S		S		
Bail Bonding															S				
Bakery, Retail													P	P	P	P	P		
Bank See "Finance"																			
Barber or Beauty Shop												P	P	P	P	P	P		
Boat Rental or Sale															S				
Boat Storage or Repair															S		S		

PERMITTED USES	ZONING DISTRICTS																		
	A-O	R-E	RS-18	RS-15	RS-12	RS-10	R-THE	R-D	R-M	O-R-1	O-R-2	0-C	C-L	C-G	C-H	SC-1	I-O	I-P	FW
Catering Establishment less than 3,800 sq. ft. in floor area														P	P	P	P		
Child Care Center (13+)												P	P	P	P	P	P	P	
Child Drop-In Center														S	S	S			
Coin-Operated Laundry														S	P				
Communications Tower															S		S	S	
Contractor's Business															P		P	P	
Convenience Store													S	S	P	P			
Crematorium																	S		
Department or Discount Store														P	P	P			
Drive-In Theater															P				
Drug Store													P	P	P	P			
Dry Cleaning & Laundry													P	P	P	P			
Finance - Commercial Bank, Credit Union, or Savings Institution												P	P	P	P	P	P		
Finance - Consumer Lending Establishment															S				
Finance - Financial Lending Establishment, Miscellaneous										P	P	P	P	P	P	P			
Finance - Securities, Commodity Contracts, and Other Financial Investments and Related Activities										P	P	P	P	P	P	P			
Flower or Plant Store (indoor)												P	P	P	P	P			
Food Market													P	P	P	P			
Funeral Home														S	S				
Garage for Auto Repair: See "Automobile Repair, General"																			
Greenhouse or Nursery--Commercial	S													S	P				
Hookah Lounge, Bar, Parlor, Cafe															S				
Hotel or Motel														P	P				
Laboratory															P		P	P	
Liquidation Stores and Warehouse Sellers																	S	S	
Lumber Yard															S		P		
Manufactured (Mobile) Home Dealer															S				

PERMITTED USES	ZONING DISTRICTS																	
	A-O	R-E	RS-18	RS-15	RS-12	RS-10	R-THE	R-D	R-M	O-R-1	O-R-2	0-C	C-L	C-G	C-H	SC-1	I-O	I-P	FW
Motor Vehicle Sales, New															S				
Motor Vehicle Sales, Used															S				
Music or Dancing Academy														P	P	P			
Offices										P	P	P	P	P	P	P	P	P	
Pawn Shop															S				
Pharmacy												P	P	P	P	P			
Photo-Finishing Pick-up Station													P	P	P	P			
Planned Commercial or Industrial Development														P*	P*	P*	P*	P*	
Plumbing Shop																	P		
Processing and Manufacture Incidental to Retail Establishments														S	P				
Radio or TV Studio															P		P		
Repair, Equipment and Large Vehicles																	S		
Repair, General														P	P				
Restaurant (Sit Down Dining)												S	P	P	P	P			
Restaurant (Drive through Service)													P	P	P	P			
Retail Secondhand Store														S	S				
Retail Shop													P	P	P	P			
Retail Sales Incidental to Office Uses										P	P								
Services, Business										P	P	P	P	P	P	P	P		
Services, Personal										P	P	P	P	P	P	P	P		
Sexually Oriented Business															S				
Sheet Metal Shop																	P		
Small Box Retailer														S	S	S			
Smoke Shop or Tobacco Store														S	S				
Storage, Climate Controlled															P	S			
Tattoo or Body-Piercing Establishment															S				
Tavern, Cocktail Lounge, Night Club, Bar														S	S				
Truck or Trailer Rental															S				
Vehicle Wash														S	P		P		
Vehicle Wash, Industrial																	S		
Veterinary Clinic												P		P	P	S	P		
Warehouse																	P	P	

PERMITTED USES	ZONING DISTRICTS																		
	A-O	R-E	RS-18	RS-15	RS-12	RS-10	R-THE	R-D	R-M	O-R-1	O-R-2	0-C	C-L	C-G	C-H	SC-1	I-O	I-P	FW
Warehouse, Mini Storage															S		P		
Warehouse, Display															P		P	P	
Wholesale & Distribution																	P	P	
INDUSTRIAL																			
Manufacture, Storage or Distribution of:																			
Chemical, Cosmetics, Drugs, Paint, & Related Products																		P	
Electrical or Electronic Equipment, Appliances & Instruments																	P	P	
Fabricated Metal Products & Machinery																	P	P	
Food & Beverage Products Except Live Animal Processing																	P	P	
Jewelry, Silverware, Musical Instruments, Toys, Sporting Goods, Art Supplies																	P	P	
Petroleum, Products and Distribution																	P		
Printing & Publishing																	P	P	
Stone, Clay, Glass and Concrete Products																	P		
Textile & Apparel Products																	P	P	
Truck or Motor Freight Facility																	S		
Utility Substation	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
Utility Production or Treatment Station	P														P		P	P	
OTHER USES																			
Agricultural Production: Grain, Fruit, Vegetables, Field Crops and Nursery	X																		
Landfill Operations	S																S		
Livestock, Horse, Dairy, Poultry, Egg Production	X																		
Post Office Facility														P	P	P	P	P	
Commercial Satellite TV Dish													X	X	X	X	X	X	
Telephone Service Center														P	P	P	P	P	
Wireless Communication Facility	S	S	S	S	S	S	S	S	S			S		S	S		S	S	S

Section 3: Article VI, Supplementary Regulations, is hereby amended to add a new Section 31, Small Box Retail Stores, which reads as follows:

Subsection A. Definitions:

Small Box Retail Stores are retail stores that are less than 15,000 square feet in floor area that sell a variety of goods directly to consumers for ten dollars ($10.00) or less. In addition, the majority of goods are sold at prices that are less than MSRP or regular retail prices. Pharmacies and grocery stores are exempt from this definition.

Subsection B. General Intent:

To avoid over-concentration, a small box retail store must be separated from another small box retail store at a minimum distance of two (2) miles within the City limits and outside of the City limits when a location is being selected within the City of Bartlett's jurisdiction. The required separation distance must be measured in a straight line from the nearest point on the lot line of the occupied property, or the property that will be occupied by a small box retailer, to the nearest point on the lot line of the other property occupied by a small box store.

Subsection C. Conditions:

1. Small box retailers are required to submit a Special Use Permit application to the Bartlett Planning Commission for review and to obtain Special Use Permit approval from the Bartlett Board of Mayor and Aldermen.

2. A small box retail store must be separated from another small box retail store at a minimum distance of two (2) miles within the City limits and outside of the City limits when a location is being selected within the City of Bartlett's jurisdiction.

3. Small box retail stores are not permitted to have outdoor displays, sales or storage unless the outdoor displays, sales or storage is in-conjunction with a Special Event Permit.

4. Small box retail stores are not permitted to sell secondhand goods.

5. Small box retail stores must be professional, organized and neat in appearance; clean and sanitary both inside and outside of the store at all times. No more than ten percent (10%) of the floor area may have items displayed for sale in bins.

6. Any small box retail store location approved prior to the effective date of this section shall be considered a legal nonconforming use.

Section 4. Severability

Should any provision of this Ordinance be rendered unconstitutional or null and void by a Court of Law, legislative act or otherwise, all other provisions of this Ordinance shall remain in full force and effect.

Section 5. Effective Date: BE IT FURTHER ORDAINED that this ordinance shall take effect upon its passage on the third and final reading, the public welfare requiring it.

FIRST READING: _____, 2024

SECOND READING: _____,2024

THIRD READING: _____, 2024

_____ _____

Harold Brad King, Register to the Board of Mayor and Aldermen

David Parsons, Mayor

_____

Penny Medlock, City Clerk