



Administrative Approval Action

Case File / Name: SUB-0004-2024
DSLCL - Boys and Girls Club - Dream Center

City of Raleigh
Development Services Department
One Exchange Plaza
Raleigh, NC 27602
(919) 996-2492
currentplanning@raleighnc.gov
www.raleighnc.gov

LOCATION: The 5.14 acre site zoned R-4 is located on the east side of Fox Road, specifically at 5616 Fox Road, PIN# 1726-87-6150.

REQUEST: A two lot subdivision with proposed Lot #1 being 2.13 acres and Lot #2 being 2.93 acres. Cross access easements will be recorded on the plat to allow movement between the two lots. Lot #1 has an existing 2-story 29,630 sf recreational building while Lot #2 has an existing 10,125 sf church.

DESIGN ADJUSTMENT(S)/ ALTERNATES, ETC: N/A

FINDINGS: City Administration finds that this request, with the below conditions of approval being met, conforms to the Unified Development Ordinance. This approval is based on a preliminary plan dated May 28, 2024 by Timmons Group.

CONDITIONS OF APPROVAL and NEXT STEPS:

This document must be applied to the second sheet of all future submittals except for final plats. This is a preliminary plan and as such no permits have been issued with this approval. To obtain permits and/or completion of the project, the following steps are required:

SITE PERMITTING REVIEW - For land disturbance of 12,000 square feet or greater, public or private infrastructure, shared stormwater devices, etc. Site Permitting Review may be submitted upon receipt of this signed approval document.

The following items are required prior to approval of Site Permitting Review plans:

Urban Forestry

1. Tree protection fence installed as protection of the recorded Tree Conservation Area must be inspected by Urban Forestry staff prior to the issuance of a grading permit.

LEGAL DOCUMENTS - Email to legaldocumentreview@raleighnc.gov. Legal documents must be approved, executed, and recorded prior to or in conjunction with the recorded plat on which the associated easements are shown. Copies of recorded documents must be returned to the City within one business day of recording to avoid withholding of further permit issuance.

<input checked="" type="checkbox"/>	Cross Access Agreements Required
-------------------------------------	----------------------------------

<input checked="" type="checkbox"/>	Right of Way Deed of Easement Required
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RECORDED MAP(S) - Submit plat to record new property lines, easements, tree conservation areas, etc.). Plats may be submitted for review when the Site Permitting Review plans, if required, have been deemed ready for mylar signature.



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The following items must be approved prior to recording the plat:

Engineering

1. A cross access agreement among the lots identified as proposed Lot 1 and Lot 2 shall be approved by the Development Services Department for recording in the Wake County Registry, and a copy of the recorded cross access easement shall be returned to the Development Services Department within one day of plat recordation. If a recorded copy of the document is not provided within this time, further recordings and building permit issuance will be withheld.
2. A public infrastructure surety shall be provided to City of Raleigh Transportation – Development Engineering Division (UDO 8.1.3) in the amount of 100% of the improvement cost for the NCDOT portion and 125% of the improvement cost for the City of Raleigh infrastructure.
3. A fee-in-lieu for sidewalk shortage along Fox Rd frontage is paid to the City of Raleigh (UDO 8.1.1)
4. A public street right-of-way deed of easement, in addition to a plat showing the location of the easement, shall be submitted to the Planning and Development Services Department for review, and if acceptable, approved for recordation. Approved plats must be recorded at the Wake County Register of Deeds Office on or before the 14th day following approval by the City. The 14-day expiration date shall be clearly indicated on the plat. By the end of the next business day following recordation of the plat, all required legal instruments (including deeds of easement) shall be recorded, and recorded copies of the plat and all legal instruments required by the City in association with development approval shall be provided to the City. (Reference: UDO 8.1.7.A; 10.2.5.F.4.d)

Stormwater

5. The maximum allocated impervious area for all applicable lots in the subdivision should be identified on all maps for recording.
6. The City form document entitled Declaration of Maintenance Covenant and Grant of Protection Easement for Stormwater Control Facilities shall be approved by the City and recorded with the county register of deeds office (UDO 9.2.2.G).
7. All stormwater control measures and means of transporting stormwater runoff to and from any nitrogen and stormwater runoff control measures shall be shown on all plats for recording as private drainage easements (UDO 9.2).

Urban Forestry

8. A public infrastructure surety for 9 street trees along Spring Forest Rd and 9 street trees along Fox Rd shall be provided to City of Raleigh Transportation – Development Engineering Division (UDO 8.1.3) in the amount of 100% of the improvement cost for the NCDOT portion and 125% of the improvement cost for the City of Raleigh infrastructure.



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BUILDING PERMITS - For buildings and structures shown on the approved plans. Commercial building permit plans must include the signed, approved Site Permitting Review plans attached, if applicable. Permit sets may be reviewed prior to the recordation of required plats, but cannot be approved.

The following items must be approved prior to the issuance of building permits:

Stormwater

1. The City form document entitled Declaration of Maintenance Covenant and Grant of Protection Easement for Stormwater Control Facilities shall be approved by the City and recorded with the county register of deeds office (UDO 9.2.2.G).
2. Impervious restrictions for each lot must be recorded on a plat prior to building permit issuance.
3. All stormwater control measures and means of transporting stormwater runoff to and from any nitrogen and stormwater runoff control measures shall be shown on all plats for recording as private drainage easements (UDO 9.2).

Urban Forestry

4. A tree impact permit must be obtained for the approved streetscape tree installation in the right of way. This development proposes 9 street trees along Spring Forest Rd and 9 street trees along Fox Rd.

The following are required prior to issuance of building occupancy permit:

General

1. Final inspection of all tree conservation areas and right of way street trees by Urban Forestry Staff

Stormwater

2. As-built impervious survey is accepted by the Engineering Services Department (UDO 9.2).

EXPIRATION DATES: If significant construction has not taken place on a project after preliminary subdivision approval, that approval may "sunset" and be declared void, requiring re-approval before permits may be issued. To avoid allowing this preliminary approval to "sunset", the following must take place by the following dates:

3-Year Sunset Date: July 10, 2027

Record at least ½ of the land area approved.

5-Year Sunset Date: July 10, 2029

Record entire subdivision.



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I hereby certify this administrative decision.

Signed: _____ *Jeff Caines* _____ Date: 07/10/2024
Development Services Dir/Designee
Staff Coordinator: **Jeff Caines**

PRELIMINARY SUBDIVISION PLAN BOYS AND GIRLS CLUB - DREAM CENTER

5616 FOX ROAD
RALEIGH, NORTH CAROLINA 27616-5308

SUB CASE # 0004-2024



BOYS & GIRLS CLUBS

**CIVIL ENGINEER/
LANDSCAPE ARCHITECT:**

SURVEYOR:

DEVELOPER:

KEYSTONE CORPORATION
4011 WESTCHASE BOULEVARD
RALEIGH, NC 27607
JIM LITTLE
PH: (919) 349-4603
JLITTLE@KSCDEVELOP.COM

TIMMONS GROUP
5410 TRINITY ROAD, SUITE 102
RALEIGH, NC 27607
MIKE DAVIDSON, PLA
PH: (984) 222-1610
MIKE.DAVIDSON@TIMMONS.COM

TIMMONS GROUP
5410 TRINITY ROAD, SUITE 102
RALEIGH, NC 27607
ALICIA TABACHNICK, PLS
PH: 919.532.3267
ALICIA.TABACHNICK@TIMMONS.COM

Preliminary Subdivision Application
Site Review
Planning and Development Customer Service Center • One Exchange Place, Suite 401 Raleigh, NC 27601 (919) 696-2000

INSTRUCTIONS: This form is used when submitting a Preliminary Subdivision (UDO Section 10.2.5). Please check the appropriate review type and include the plan checklist document. Please email all documents and your preliminary subdivision plans to subdiv@raleighnc.gov.

DEVELOPMENT OPTIONS (UDO Chapter 2)

Conventional Subdivision Compact Development Conservation Development
 Cottage Court Flag lot Frequent Transit Development Option

GENERAL INFORMATION

Scoping/Match plan case number(s): SCOPE: 0090-2023
Development name (subject to approval): Boys and Girls Club - Dream Center
Property Address: 5616 Fox Road
Recorded Deed PIN(s): 1726-87-6150

BUILDING TYPE(S): Detached House Attached House Townhouse Apartment
 General Building Mixed Use Building Civic Building Open Lot Tiny House

CURRENT PROPERTY OWNER/APPLICANT/DEVELOPER INFORMATION

Current Property Owner(s) Name: Steve Gray
Company: Body of Christ Church Inc. Title: Owner
Address: 4501 Spring Forest Road, Raleigh 27616
Phone #: (919) 608-1239 Email: sgay1345@gmail.com

Relationship to owner: lease or contract purchase owner's subcontract agent easement holder
Company: Body of Christ Church Inc. Address: 701 North Raleigh Boulevard, Raleigh 27610
Phone #: (919) 796-2447 Email: hmcckean@wakegov.org

NOTE: please attach purchase agreement or contract, lease or easement when submitting this form.

Developer Contact Name: Jim Little
Company: Keystone Corporation Title: Chief Operating Officer
Address: 4011 Westchase Boulevard, Raleigh 27607
Phone #: 919-349-4603 Email: jlittle@kscdevelop.com

Page 2 of 2 subdiv@raleighnc.gov

DEVELOPMENT TYPE + SITE DATA TABLE - ZONING INFORMATION

Gross site acreage: 5.41
Zoning districts (if more than one, provide acreage of each): R-4

Overlay district: N/A In-use City Limits? Yes No Historic District/Landmark: N/A
Conditional Use District (CUD): Board of Adjustment Case # Design Alternative Case #
Case #: 2024-0004 2024-0004

STORMWATER INFORMATION

Impervious Area on Parcel(s): Impervious Area for Compliance (includes right-of-way) including lot 110,215 Proposed total (sq. ft.) 1,102,715
Existing (sq. ft.) 1,102,715 Proposed total (sq. ft.) 1,102,715

NUMBER OF LOTS AND DENSITY

of Detached House Lots: # of Attached House Lots: # of Townhouse Lots:
of Tiny House Lots: # of Open Lots: # of Other Lots (Apartment, General, Mixed Use, CUD):
Total # of Lots: 2 Total # of Dwelling Units: 2
of residential units (if mixed): 2c 2d 4b
Proposed density for each zoning district (UDO 1.6.3.F):

SIGNATURE BLOCK

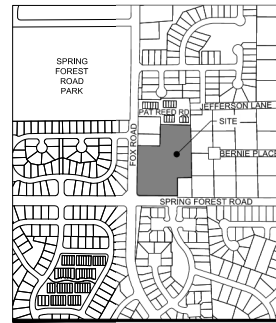
I, the undersigned, hereby acknowledge that, pursuant to state law (N.C.G.S. 160-453(a)), this permit application is filed on behalf of the applicant for a period of no consecutive months or more, or if the applicant fails to respond, that the applicant's review is discontinued and a new application is required to proceed and the development and implementation made in executing the development approval, pursuant to N.C. Gen. Stat. § 160C-453.5.

The undersigned indicates that the property owner(s) is aware of this application and that the proposed project described in this application will be undertaken in full compliance with all laws and regulations, including but not limited to, and in accordance with the provisions and regulations of the City of Raleigh Unified Development Ordinance.

This permit application is filed on behalf of the applicant for a period of no consecutive months or more, or if the applicant fails to respond, that the applicant's review is discontinued and a new application is required to proceed and the development and implementation made in executing the development approval, pursuant to N.C. Gen. Stat. § 160C-453.5.

Signature: *Jeff Caines* Date: 1/19/24
Printed Name: Jeff Caines Title: Civil Engineer

Page 2 of 2 subdiv@raleighnc.gov



VICINITY MAP
1" = 500'

Digitally signed by
jeff.caines@raleighnc.gov
DN:
jeff.caines@raleighnc.gov
Reason: I am approving this document
Date: 2024.07.10
15:03:14-04'00'

Sheet List Table

Sheet Number	Sheet Title
C0.0	COVER SHEET
-	ALTA SURVEY
-	BM 1998 PG 2021
C1.0	EXISTING CONDITIONS AND DEMOLITION PLAN
C2.0	PRELIMINARY SUBDIVISION AND LANDSCAPING PLAN
C2.1	PRELIMINARY SUBDIVISION PLAN
C2.2	DETAILS
C2.3	SP-86-05 SITE DEVELOPMENT SHEET
SHEET 6	SP-86-05 NITROGEN REDUCTION PLAN
SHEET 12	SP-86-05 STORM DRAIN PROFILES
SHEET 13	SP-86-05 STORM DRAIN PROFILES

SITE DATA TABLE

PROJECT:		BOYS AND GIRLS CLUB - DREAM CENTER
PROJECT ADDRESS:		5616 FOX ROAD
PIN #:		1726-87-6150
ZONING:		R-4
EXISTING USE:		PLACE OF WORSHIP
PROPOSED LOT #1 USE:		PLACE OF WORSHIP
PROPOSED LOT #2 USE:		CIVIC CLUB
EXISTING GROSS SITE AREA:		5.14 AC±
PROPOSED ROW DEDICATION:		0.08 AC± (3,397 SF)
PROPOSED NET SITE AREA:		5.06 AC±
PROPOSED NUMBER OF LOTS:		2
PROPOSED LOT 1 AREA:		2.13 AC±
PROPOSED LOT 2 AREA:		2.93 AC±
PRINCIPAL BUILDING SETBACKS:		PRIMARY STREET: 20' SIDE STREET: 20' SIDE LOT LINE: 10' REAR LOT LINE: 30'
PARKING SETBACKS:		PRIMARY STREET: 20' SIDE STREET: 10' SIDE LOT LINE: 10'

GENERAL NOTES:

TREE CONSERVATION:

- TREE CONSERVATION AREA RECORDED AT BM 2006 / PG 2311

SOLID WASTE MANAGEMENT:

- SOLID WASTE FOR THE EXISTING CHURCH AND DREAM CENTER IS BEING PROVIDED BY A PRIVATE HAULER.

BLOCK PERIMETER:

- PLACES OF WORSHIP ARE EXEMPT FROM BLOCK PERIMETER REQUIREMENTS PER UDO 8.3.2.A.1.B.IX.

TRANSPORTATION:

- RIGHT-OF-WAY DEDICATION MAP LOCATED AT BM 1998 / PG 2021.
- FOX ROAD IS AN AVENUE 24-ANE. DIVIDED STREET SECTION. EXISTING RIGHT-OF-WAY WIDTH IS 40 LF MEASURED FROM CENTERLINE. 4.5 LF OF RIGHT-OF-WAY DEDICATION IS REQUIRED.
- SPRING FOREST ROAD IS AN AVENUE 4-ANE. DIVIDED STREET SECTION. EXISTING RIGHT-OF-WAY WIDTH IS 45 LF MEASURED FROM CENTERLINE. 9.5 LF OF RIGHT-OF-WAY DEDICATION IS REQUIRED.
- NO NEW DRIVEWAYS ARE PROPOSED.

URBAN FORESTRY:

- STREET TREES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 2 OF THE CITY TREE MANUAL.



KNOW WHAT'S BELOW.
CALL 811 BEFORE YOU DIG.

PRELIMINARY - NOT RELEASED FOR CONSTRUCTION

PRELIMINARY
NOT FOR
CONSTRUCTION

THIS DRAWING PREPARED AT THE
RALEIGH OFFICE
5410 TRINITY ROAD, SUITE 102
RALEIGH, NC 27607
TEL: 919.532.3267 FAX: 919.532.3124 WWW.TIMMONSGROUP.COM

YOUR VISION ACHIEVED THROUGH OURS.

NO.	DATE	REVISION DESCRIPTION
1	04/02/2024	REVISED PER LTR #24-0001 COMMENTS
2	03/22/2024	ADD TO INCLUDE EXISTING PERIMETER COMMENTS

DESIGNED BY
M.DAVIDSON

CHECKED BY
M.DAVIDSON

SCALE
AS SHOWN

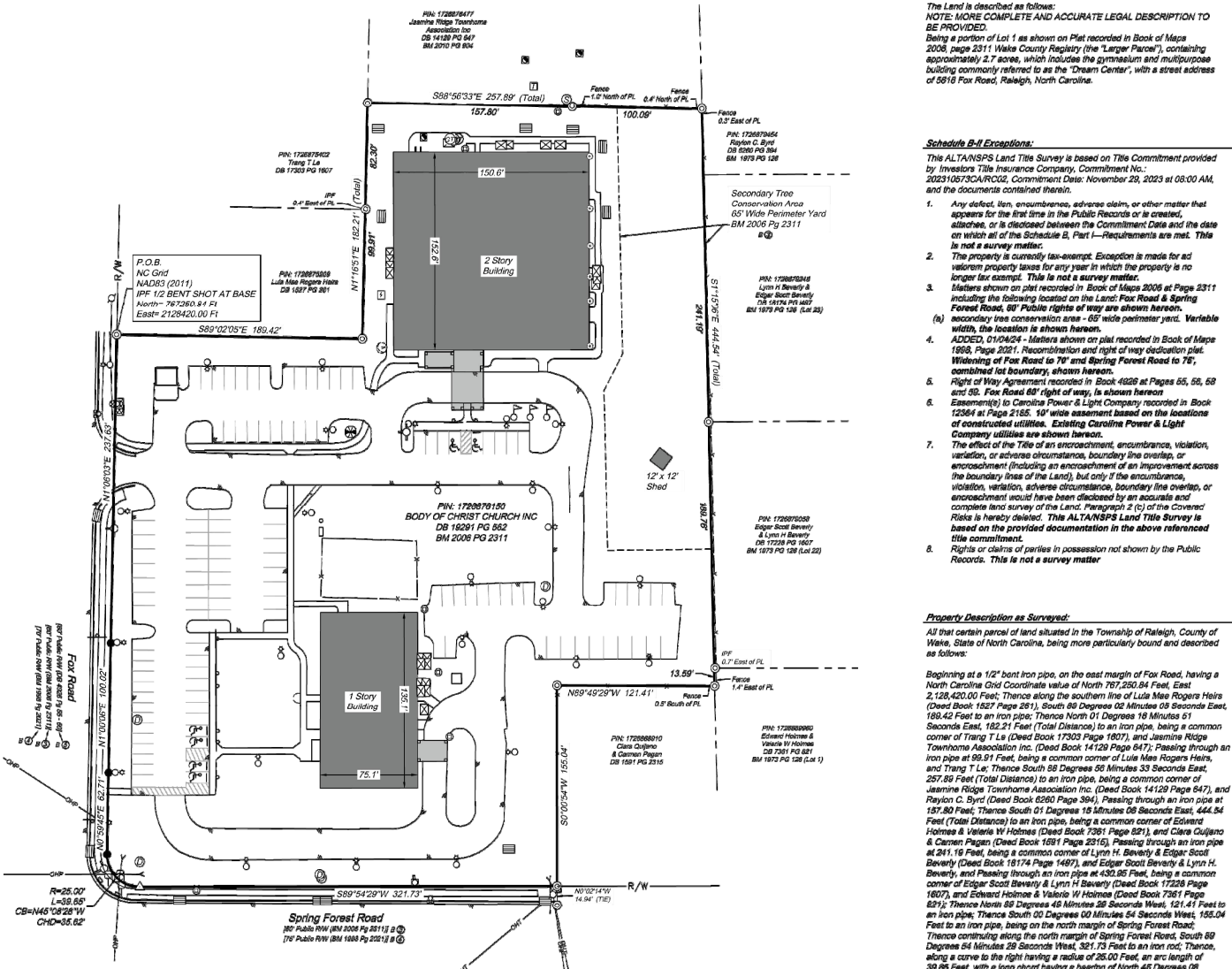
TIMMONS GROUP

BOYS AND GIRLS CLUB - DREAM CENTER
RALEIGH - WAKE COUNTY - NC
NORTH CAROLINA LICENSE NO. C-1652
COVER SHEET

JOB NO.
61765

SHEET NO.
C0.0

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Schedule A Legal Description:
This ALTANSPS Land Title Survey is based on Title Commitment provided by Investors Title Insurance Company, Commitment No.: 202310573CARCG, Commitment Date: November 29, 2023 at 08:00 AM, and the documents contained therein.
NOTE: MORE COMPLETE AND ACCURATE LEGAL DESCRIPTION TO BE PROVIDED.
Being a portion of Lot 1 as shown on Plat recorded in Book of Maps 2008, page 2311 Wake County Registry (the "Larger Parcel"), containing approximately 2.1 acres, which includes the gymnasium and multipurpose building commonly referred to as the "Dream Center", with a street address of 5818 Fox Road, Raleigh, North Carolina.

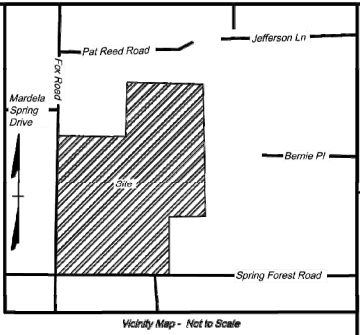
Schedule B-II Exceptions:
This ALTANSPS Land Title Survey is based on Title Commitment provided by Investors Title Insurance Company, Commitment No.: 202310573CARCG, Commitment Date: November 29, 2023 at 08:00 AM, and the documents contained therein.

- Any defect, lien, encumbrance, adverse claim, or other matter that appears for the first time in the Public Records or is created, attached, or is disclosed between the Commitment Date and the date on which all of the Schedule B, Part I—Requirements are met. This is not a survey matter.
- The property is currently tax-exempt. Exception is made for ad valorem property taxes for any year in which the property is no longer tax exempt. This is not a survey matter.
- Matters shown on plat recorded in Book of Maps 2008 at Page 2311 including the following located on the Land: Fox Road & Spring Forest Road, 80' Public Right of Way are shown hereon. (a) secondary tree conservation area - 65' wide perimeter yard. Variable width, the location is shown hereon. (b) ADCEG, 01/04/24 - Matters shown on plat recorded in Book of Maps 1958, Page 2021. Reclamation and right of way dedication plat. Widening of Fox Road to 70' and Spring Forest Road to 76', combined lot boundary, shown hereon.
- ADCEG, 01/04/24 - Matters shown on plat recorded in Book of Maps 1958, Page 2021. Reclamation and right of way are shown hereon. (a) Essement(s) to Carolina Power & Light Company recorded in Book 12264 at Page 2165. 10' wide easement based on the locations of constructed utilities. Existing Carolina Power & Light Company utilities are shown hereon. (b) The effect of the Title of an encroachment, encumbrance, violation, variation, or adverse circumstance, boundary line overlap, or encroachment (including an encroachment of an improvement across the boundary lines of the Land), but only if the encumbrance, violation, variation, adverse circumstance, boundary line overlap, or encroachment would have been disclosed by an accurate and complete land survey of the Land. Paragraph 2 (c) of the Coverage Rites is hereby deleted. This ALTANSPS Land Title Survey is based on the provided documentation in the above referenced title commitment.
- Rights or claims of parties in possession not shown by the Public Records. This is not a survey matter.

Property Description as Surveyed:
All that certain parcel of land situated in the Township of Raleigh, County of Wake, State of North Carolina, being more particularly bound and described as follows:

Beginning at a 1/2" bent iron pipe, on the east margin of Fox Road, having a North Carolina Grid Coordinate value of North 767,250.84 Feet, East 2,128,420.00 Feet; Thence along the southern line of Luis Mae Rogers Heirs (Deed Book 1527 Page 281), South 88 Degrees 02 Minutes 09 Seconds East, 169.42 Feet to an iron pipe; Thence North 01 Degree 18 Minutes 51 Seconds East, 182.21 Feet (Total Distance) to an iron pipe, being a common corner of Trang T Le (Deed Book 1730 Page 1607), and Jasmine Ridge Townhome Association Inc. (Deed Book 14123 Page 847); Passing through an iron pipe at 99.91 Feet, being a common corner of Luis Mae Rogers Heirs, and Trang T Le; Thence South 88 Degree 58 Minutes 33 Seconds East, 297.85 Feet (Total Distance) to an iron pipe, being a common corner of Jasmine Ridge Townhome Association Inc. (Deed Book 14123 Page 847), and Raylon C. Byrd (Deed Book 6280 Page 394); Passing through an iron pipe at 187.80 Feet; Thence South 01 Degree 18 Minutes 08 Seconds East, 444.84 Feet (Total Distance) to an iron pipe, being a common corner of Edwined Holmes & Valerie W Holmes (Deed Book 7381 Page 391), and Clara Gullano & Carmen Pagan (Deed Book 1691 Page 2315); Passing through an iron pipe at 241.19 Feet, being a common corner of Lynn H. Beverly & Edgar Scott Beverly (Deed Book 18174 Page 1497), and Edgar Scott Beverly & Lynn H. Beverly; and passing through an iron pipe at 432.85 Feet, being a common corner of Edgar Scott Beverly & Lynn H. Beverly (Deed Book 17228 Page 1607), and Edward Holmes & Valerie W Holmes (Deed Book 7381 Page 391); Thence North 59 Degree 45 Minutes 28 Seconds West, 121.41 Feet to an iron pipe; Thence South 00 Degree 00 Minutes 54 Seconds West, 155.04 Feet to an iron pipe, being on the north margin of Spring Forest Road; Thence continuing along the north margin of Spring Forest Road, South 88 Degree 54 Minutes 28 Seconds West, 321.73 Feet to an iron rod; Thence, along a curve to the right having a radius of 26.00 Feet, at an arc length of 39.85 Feet, with a long chord having a bearing of North 46 Degree 08 Minutes 28 Seconds West for a distance of 35.92 Feet to an iron rod; Thence, along the east margin of Fox Road, North 00 Degree 53 Minutes 43 Seconds East, 62.71 Feet to an iron rod; Thence, continuing along the east margin of Fox Road, North 01 Degree 08 Minutes 03 Seconds East, 100.02 Feet to an iron rod; Thence North 01 Degree 08 Minutes 03 Seconds East, 237.63 Feet to an iron rod; being the Point of Beginning.

Containing: 223,868 square feet or 5.14 acres of land, more or less.



- Table A Survey Notes:**
- Property corner monuments as shown.
 - Parcel known as 5818 Fox Road, Raleigh, NC 27618 or PIN: 1726876150.
 - This property lies in zone X, area of minimal flood hazard, per firm 372012800K, Panel 1728, effective date of July 19, 2022.
 - Lot area 223,868 square feet or 5.14 acres, more or less.
 - Zoning report/letter has not been provided.
 - Building dimensions shown hereon.
 - Substantial features observed in the process of conducting the fieldwork are shown hereon.
 - Names of adjoining owners shown, based on public record, tax records and/or deeds, as of the original date of this plat.
 - There was no apparent evidence of current earth moving work, building construction or building additions observed at the time of survey fieldwork.
 - There was no evidence of recent street or sidewalk construction or repairs observed at the time of survey fieldwork.

- Survey Notes:**
- Horizontal control is based on NC State Grid, NAD83 (2011) as determined by GPS.
 - Area computation is by the coordinate method.
 - Property shown hereon is subject to all rights-of-way, easements and restrictions of record.
 - Wellness were not investigated nor noted on this site.
 - There was no observed evidence of a cemetery on this property at time of survey fieldwork.
 - Visible water features observed at the time of survey fieldwork, on or within 5 feet of the property shown hereon.
 - This property has direct access to Fox Road.

Surveyor's Certification:
To: Investors Title Insurance Company
BOYS & GIRLS CLUBS OF WAKE COUNTY, INC., a North Carolina non-profit corporation, d/b/a Boys & Girls Clubs
BODY OF CHRIST CHURCH, INC., a North Carolina non-profit corporation
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 Chain Requirements for ALTANSPS Land Title Surveys, jointly established and promulgated by ALTA and NSPS, and includes Items 1, 2, 3, 4, 6, 8, 10, 11, 12, 13, 14, 15, 16 and 17 of Table A thereof. The fieldwork was completed on 12/01/2023.
Date of Plat or Map: 12/14/2023

(SURVEYOR'S SIGNATURE, PRINTED NAME AND SEAL WITH REGISTRATIONALICENSE NUMBER)

PRELIMINARY NOT FOR CONVEYANCE

ALTANSPS Land Title Survey
Prepared for
Boys & Girls Clubs of North Carolina
PIN: 1726876150
5818 Fox Road, North Carolina

Neuse Township	Wake County
Date: 12-01-2023	Scale: 1" = 60'
Sheet 1 of 1	J.No.: 61765
Drawn By: GC	Check By: AMT
Issued: R&C 12/15/2023	
Revised title commitment, Issued 2nd R&C 1/23/2024	

Scale 1" = 60'

0' 30' 60' 120'

Legend

IPF - Iron Pipe Found	Melibox	Deed Line
IRS - Iron Rod Set	Roof Drain	Line Not Surveyed
CP - Computed Point	Clean Out	Essement Line
Traffic Control Box	Flag Pole	Fence
Utility Vault / Air Conditioner Unit	Handicap Parking	Overhead Power Line
Drainage Manhole	Title Exception Number	Overhead Telephone Line
Sanitary Manhole	Traffic Signal Pole	Right of Way Line
Grease Trap Manhole		R/W - Right-of-Way
Satellite Dish		SF - Square Feet
Electric Box		PL - Property Line
Telephone Pedestal		
Sign		
Water Meter		
Water Valve		
Fire Hydrant		
Power Pole		
Light Pole		
Sprinkler Box		
Drainage Structure		
Gas Meter		

Abbreviations Legend

DB - Deed Book
FFE - Finish Floor Elevation
BM - Book of Maps
PG - Page
R/W - Parcel Identification Number
R/W - Right-of-Way
SF - Square Feet
PL - Property Line

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TIMMONS GROUP

Book of maps 1998 Pg 2021

I, RONALD W. MERCER, CERTIFY THAT THIS MAP WAS PREPARED UNDER MY SUPERVISION FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION, AND I HEREBY CERTIFY THAT THE BOUNDARIES NOT SURVEYED ARE CLEARLY INDICATED AS DRAWN FROM SOURCES AS REFERENCED, AND WAS PREPARED IN ACCORDANCE WITH G.S. 47-20 AS AMENDED, THAT THE ERROR OF CLOSURE, BEFORE ADJUSTMENT, AS CALCULATED BY LATITUDES AND DEPARTURES IS 1" IN 148,525. AREA COMPUTATION BY COORDINATES - ADJUSTMENT BY COMPASS METHOD. WITNESS MY ORIGINAL SIGNATURE, REGISTRATION NUMBER AND SEAL OR STAMP THIS 28 DAY OF OCT 19 98

Ronald W. Mercer
 RONALD W. MERCER, R.L.S. # 1476

- I FURTHER CERTIFY THE FOLLOWING CHECKED CATEGORY:
- (A) THAT THE SURVEY CREATES A SUBDIVISION OF LAND WITHIN THE AREA OF A COUNTY OR MUNICIPALITY THAT HAS AN ORDINANCE THAT REGULATES PARCELS OF LAND.
 - (B) THAT THE SURVEY IS LOCATED IN SUCH PORTION OF A COUNTY OR MUNICIPALITY THAT IS UNINCORPORATED AS TO AN ORDINANCE THAT REGULATES PARCELS OF LAND.
 - (C.1) THAT THE SURVEY IS OF AN EXISTING PARCEL OR PARCELS OF LAND, AND DOES NOT CREATE A NEW STREET OR CHANGE AN EXISTING STREET.
 - (C.2) THAT THE SURVEY IS OF AN EXISTING BUILDING OR OTHER STRUCTURE, OF NATURAL FEATURE, SUCH AS A WATERCOURSE, OR
 - (C.3) THAT THE SURVEY IS A CONTROL SURVEY.
 - (D) THAT THE SURVEY IS OF ANOTHER CATEGORY, SUCH AS THE RECOMBINATION OF EXISTING PARCELS, A COURT ORDERED SURVEY, OR OTHER EXCEPTION TO THE DEFINITION OF SUBDIVISION.
 - (E) THAT THE INFORMATION AVAILABLE TO THE SURVEYOR IS SUCH THAT THE SURVEYOR IS UNABLE TO MAKE DETERMINATION TO THE BEST OF HIS PROFESSIONAL ABILITY AS TO PROVISIONS CONTAINED IN (A) THROUGH (D) ABOVE.

THIS CERTIFIES AND WARRANTS THAT THE UNDERSIGNED IS (ARE) THE SOLE OWNER(S) OF THE PROPERTY SHOWN ON THIS MAP OR PLAT AND ANY ACCOMPANYING SHEETS SUBJECT TO THE EXCEPTIONS ON RECORD, HAVING ACQUIRED THE PROPERTY IN FEE SIMPLE BY DEED(S) RECORDED IN THE OFFICE OF THE REGISTER OF DEEDS OF WAKE COUNTY, NORTH CAROLINA, OR OTHERWISE, AS SHOWN BELOW AND AS SUCH, HAS (HAVE) THE RIGHT TO CONVEY THE PROPERTY IN FEE SIMPLE AND THAT THE UNDERSIGNED HAS WARRANTED AND DEFEND THE TITLE AGAINST THE LAWFUL CLAIMS OF ALL PERSONS WHOSE INTERESTS ARE NOT SHOWN HEREON AND THAT BY SUBMISSION OF THIS PLAT OR MAP FOR APPROVAL, I (WE) DO DEDICATE TO THE CITY OF RALEIGH FOR PUBLIC USE ALL STREETS, EASEMENTS, RIGHTS-OF-WAY, PARKS AND GREENWAYS (AS THESE INTERESTS ARE DEFINED IN THE CODE) AND AS THE SAME MAY BE SHOWN HEREON, FOR ALL LAWFUL PURPOSES AND PROVIDED ANY REGULATIONS OR CONDITIONS OF THE CITY OF RALEIGH FOR THE BENEFIT OF THE PUBLIC SAID DEDICATION SHALL BE IRREVOCABLE. I HEREBY APPROVE THIS PLAT OR MAP AND ACCOMPANYING SHEETS AND MAKE TO THE CITY OF RALEIGH BUT AM IRREVOCABLY MADE TO BE SUBSEQUENT OWNERS OF ANY AND ALL PROPERTIES SHOWN THEREON FOR THEIR USE AND BENEFIT SUBJECT TO CONDITIONS OF SUBSECTIONS (D), (C), (D) & (F) OF SECTION 1 AND SECTION 4 OF THE "CITY STORM DRAINAGE POLICY" (RESOLUTION 1970-742 AS THE SAME MAY BE FROM TIME TO TIME AMENDED).

BOOK NO. PAGE NO. SIGNATURE OF PROPERTY OWNER(S)
 OWNER - BODY OF CHRIST CHURCH BY PASTOR KELVIN D. REDMOND DATE 10/28/98

FRANKLIN COUNTY, NORTH CAROLINA
 I, JOHN R. SHEPHERD, A NOTARY PUBLIC OF THE AFORESAID COUNTY AND STATE CERTIFY THAT KELVIN D. REDMOND PERSONALLY APPEARED BEFORE ME THIS DAY AND ACKNOWLEDGED THE EXECUTION OF THE FOREGOING INSTRUMENT.
 WITNESS MY HAND AND OFFICIAL STAMP OR SEAL THIS 28 DAY OF OCT 19 98

John R. Shepherd
 NOTARY PUBLIC
 MY COMMISSION EXPIRES AUGUST 20, 2001

(This plat or map is not a subdivision, but a recombination of previously platted property, by which the stated requirements for recording in the year 1988 are approved. THIS PLAT OR MAP AND ACCOMPANYING SHEETS AND ACCEPTED FOR THE CITY OF RALEIGH THE DEDICATIONS AS SHOWN HEREON, BUT ON THE FURTHER CONDITION THAT THE CITY ASSUMES NO RESPONSIBILITY TO OPEN OR MAINTAIN THE SAME UNLESS IN THE DISCRETION AND OPINION OF THE GOVERNING BODY OF THE CITY OF RALEIGH IT IS IN THE PUBLIC INTEREST TO DO SO.)

George S. Chapman 10/28/98
 Planning Director / Wake County

I, THE UNDERSIGNED PLANNING DIRECTOR OF THE CITY OF RALEIGH, AND REVIEW OFFICER FOR WAKE COUNTY, DO HEREBY CERTIFY THAT THIS MAP OR PLAT MEETS ALL STATUTORY REQUIREMENTS FOR RECORDING AND THAT THE CITY OF RALEIGH AS PROVIDED BY ITS CITY CODE, ON THE 28TH DAY OF OCTOBER 1998, HAS APPROVED THIS PLAT OR MAP AND ACCOMPANYING SHEETS AND ACCEPTED FOR THE CITY OF RALEIGH THE DEDICATIONS AS SHOWN HEREON, BUT ON THE FURTHER CONDITION THAT THE CITY ASSUMES NO RESPONSIBILITY TO OPEN OR MAINTAIN THE SAME UNLESS IN THE DISCRETION AND OPINION OF THE GOVERNING BODY OF THE CITY OF RALEIGH IT IS IN THE PUBLIC INTEREST TO DO SO.

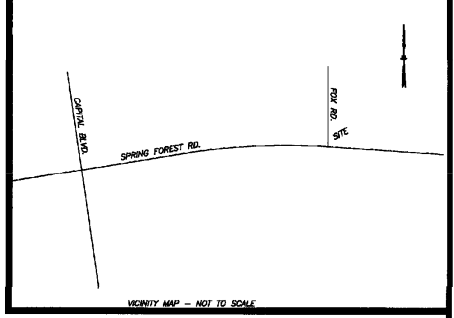
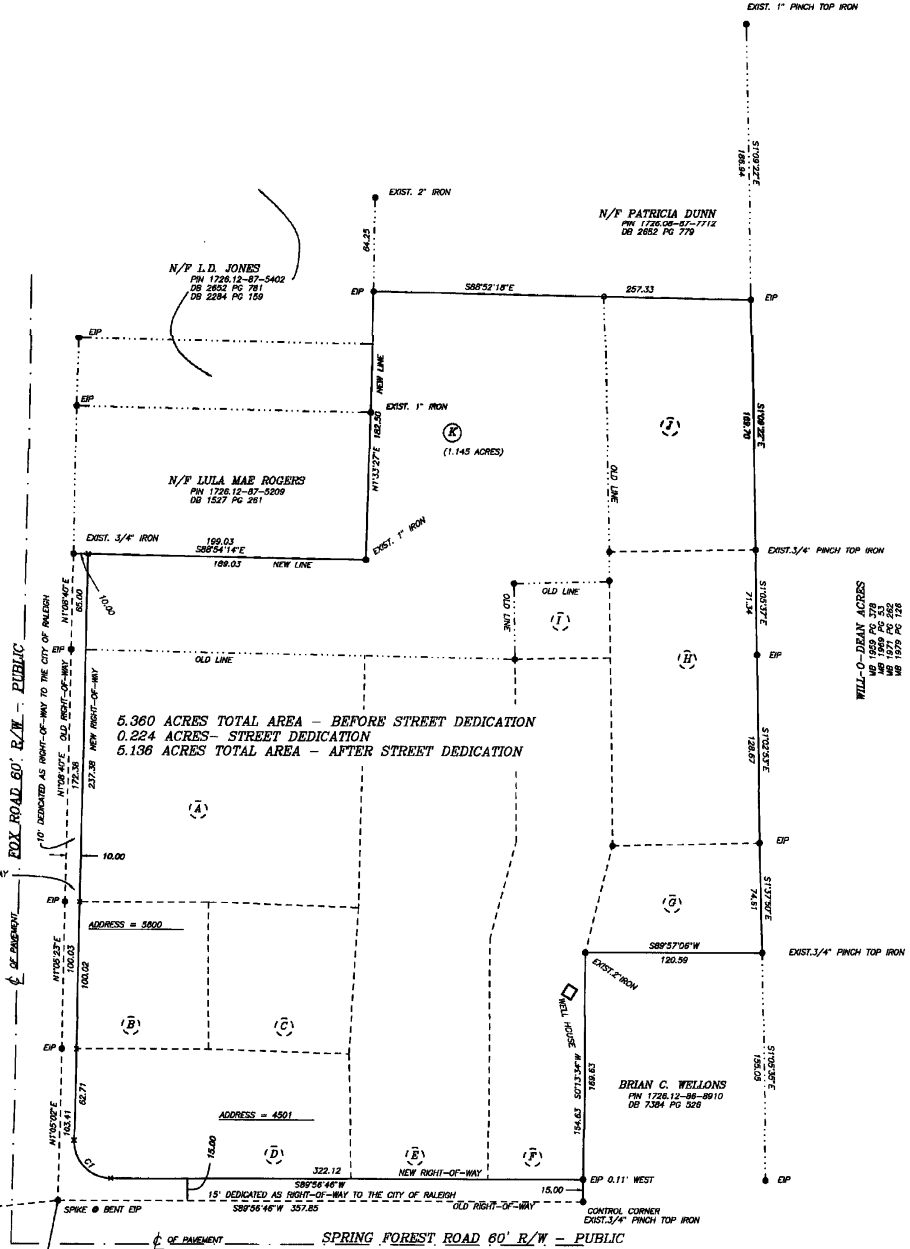
George S. Chapman 10/28/98
 PLANNING DIRECTOR / WAKE COUNTY REVIEW OFFICER

THIS PLAT NOT TO BE RECORDED AFTER 11TH DAY OF NOV 98
 1 COPY TO BE RETAINED FOR THE CITY.
 THIS PLAT IS [] IN [] OUT OF THE CITY LIMITS.

FILED FOR REGISTRATION
 11-3-98
 DATE
 LAURA M. RIDDICK
 REGISTER OF DEEDS
 WAKE COUNTY
 BY *Laura M. Riddick*
 ASST. CLERK
 TIME: 2:25 PM
 MAP BOOK: 1998 PAGE: 2021

CURVES TABLE				
Curve #	Radius	Arc Length	Chord	Bearing
C1	23.00	38.77	38.70	N44°29'06"W + 91°08'11"

CURVES TABLE				
Curve #	Radius	Arc Length	Chord	Bearing
C1	23.00	38.77	38.70	N44°29'06"W + 91°08'11"



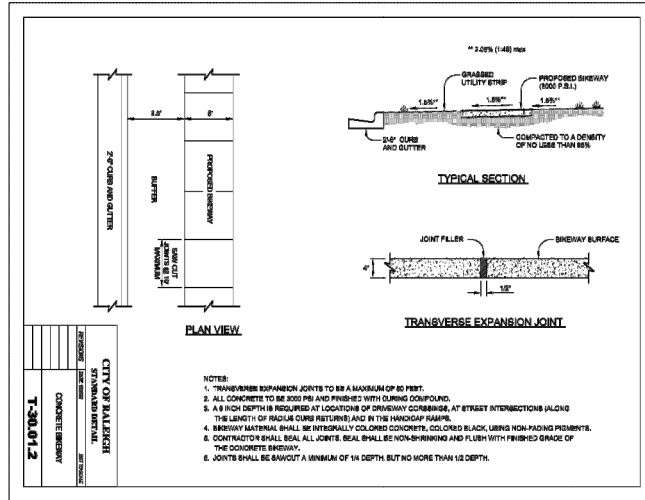
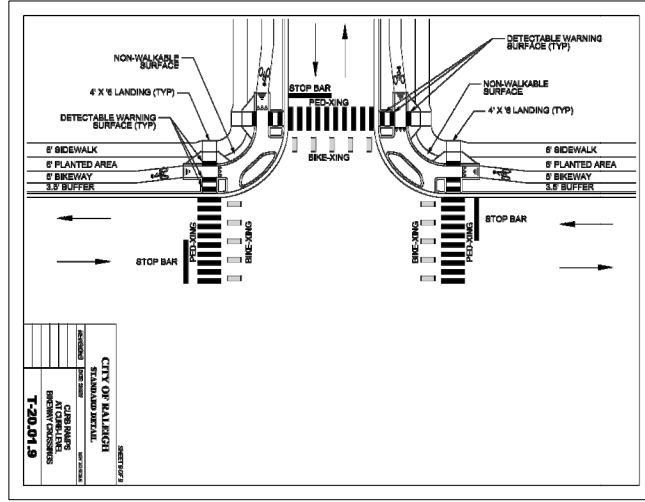
- NOTES AND REFERENCES**
- PARCEL "A"
 PIN 1728-12-89-5009
 DB 4486 PG 076
 UNRECORDED MAP BY WALTER B. BUNN DATED 3/31/89
 ENTITLED "PROPERTY OF OLLE BUNN" LOT 3
 - PARCEL "B"
 PIN 1728-12-89-4956
 DB 3533 PG 815
 DB 8508 PG 506 PORTION OF TRACT 6
 PARCELS 404"
 - PARCEL "C"
 PORTION OF PIN 1728-12-89-5887
 DB 8508 PG 508 TRACT 2
 UNRECORDED MAP BY WALTER B. BUNN DATED 3/31/89
 ENTITLED "PROPERTY OF OLLE BUNN" LOT 1
 - PARCEL "D"
 PORTION OF PIN 1728-12-89-5887
 DB 4408 PG 077
 UNRECORDED MAP BY WALTER B. BUNN DATED 3/31/89
 ENTITLED "PROPERTY OF OLLE BUNN" LOT 2
 - PARCEL "E"
 PORTION OF PIN 1728-12-87-7001
 DB 8508 PG 506
 UNRECORDED MAP BY WALTER B. BUNN DATED 3/31/89
 ENTITLED "PROPERTY OF OLLE BUNN" PORTION OF LOT 3
 - PARCEL "F"
 PIN 1728-12-89-8011
 DB 2632 PG 790
 DB 1874 PG 335
 - PARCEL "G"
 PIN 1728-12-87-8125
 DB 1857 PG 181
 DB 8508 PG 506 TRACT 1
 DB 1874 PG 335
 - PARCEL "H"
 PIN 1728-12-87-7230
 DB 8508 PG 508 TRACT 3
 UNRECORDED MAP BY WALTER B. BUNN DATED 3/31/89
 ENTITLED "PROPERTY OF OLLE BUNN" PORTION OF LOT 3
 - PARCEL "I"
 PIN 1728-12-87-8324
 DB 8508 PG 508 TRACT 4
 UNRECORDED MAP BY WALTER B. BUNN DATED 3/31/89
 ENTITLED "PROPERTY OF OLLE BUNN" PORTION OF LOT 3
 - PARCEL "J"
 PIN 1728-12-87-8279
 DB 4408 PG 076

- SEE ALSO:**
- DB 1137 PG 408
 - DB 1746 PG 330 STATE HIGHWAY COMMISSION
 - DB 2186 PG 276 CS&M CO.
 - DB 4028 PG 85 NCCOT
 - DB 4938 PG 58 NCCOT
 - DB 4936 PG 58 NCCOT
 - DB 1378 PG 516
 - DB 1879 PG 158

- LEGEND:**
- = EXISTING IRON PIPE
 - = SET IRON PIPE
 - = CONVEYED POINT - NOT SET
 - = PK NAIL OR SPIKE - CONTROL CORNER
 - = EXISTING CONCRETE MONUMENT - CONTROL CORNER
 - = SET CONCRETE MONUMENT - CONTROL CORNER
 - = CENTERLINE



RECOMBINATION - STREET DEDICATION SURVEY
 PROPERTY OF
 BODY OF CHRIST CHURCH
 LOCATED IN CITY OF RALEIGH, WAKE COUNTY, NORTH CAROLINA
 ZONED R-4
 PREVIOUSLY RECORDED IN MAP BOOK 1989 PAGE 386
 MAP REVISED TO ADD PARCEL "K" AND DEDICATE STREET RIGHT-OF-WAY



PRELIMINARY - NOT RELEASED FOR CONSTRUCTION

TIMMONS GROUP

BOYS AND GIRLS CLUB - DREAM CENTER
NORTH CAROLINA LICENSE NO. C-1652
RALEIGH - WAKE COUNTY - NC

JOB NO.
61765

SHEET NO.
C.2

DETAILS

YOUR VISION ACHIEVED THROUGH OURS.

DESIGNED BY
M. DAVIDSON
CHECKED BY
M. DAVIDSON
SCALE
AS SHOWN

THE DRAWING PREPARED AT THE
RALEIGH OFFICE
610 S. Tenth Street, Raleigh, NC 27607
TEL 919.896.4761 FAX 919.833.8124 www.timmons.com

PRELIMINARY
NOT FOR
CONSTRUCTION

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BODY OF CHRIST CHURCH
4501 SPRING FOREST ROAD
RALEIGH, NC 27616
(919) 872-7112

CIVIL ENGINEER

DEVELOPMENT ENGINEERS, INC
DAVID SLEVINS, PE
244 W. MILLBROOK ROAD
RALEIGH, NC 27604
PHONE (919) 841-8800

STRUCTURAL ENGINEER

FLUHRER REED, PA
MITCH FLUHRER, PE
1101 MAYNES STREET
SUITE 102
RALEIGH, NC 27604
(919) 851-7149

ARCHITECTURE FIRM

DESIGN DEVELOPMENT
800 SALEM WOODS DRIVE
SUITE 102
RALEIGH, NC 27619
(919) 848-4474

P & M ENGINEER

WEST KEY CONSULTING
DENNIS NIELD
4008 BARRETT DRIVE, SUITE 204
RALEIGH, NC 27604
PHONE (919) 851-8020
FAX (919) 851-8464

ELECTRICAL ENGINEER

ANGUS CLARK P.E.
CONSULTING ENGINEER
301 SHANNON OWENS CIRCLE
SUITE 200
CARY, NC 27511
(919) 854-4504

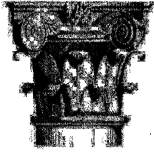
FIRE PROTECTION

PHOENIX FIRE PROTECTION, INC.
RANDALL STROTHER
P.O. BOX 2881
SANFORD, NC 27811
PHONE (919) 774-5042
FAX (919) 774-1452

BODY OF CHRIST FAMILY LIFE CENTER 5616 FOX ROAD RALEIGH, NC 27616

DRAWING INDEX

T1	COVER SHEET	A1.0	FLOOR PLANS	F8-1	FIRE PROTECTION SITE PLAN
1	BUILDING CODE SUMMARY	A2.0	EXTERIOR ELEVATIONS	F8-1	FIRE PROTECTION NOTES AND DETAILS
2	EXISTING CONDITIONS, TREE SURVEY	A3.0	BUILDING SECTIONS	FP-2	SPRINKLER HEAD LAYOUT - 1ST FLOOR
3	SITE LAYOUT	A4.0	WALL SECTIONS	FP-3	SPRINKLER HEAD LAYOUT - 1ST FLOOR
4	SITE DEVELOPMENT	A5.0	WALL SECTIONS	FP-4	SPRINKLER PIPE LAYOUT - 1ST FLOOR
5	LANDSCAPE PLAN	A6.0	ENLARGED PLANS	FP-5	SPRINKLER PIPE LAYOUT - 1ST FLOOR
6	PIPE TO POST DRAINAGE AREA PLAN	A7.0	ENLARGED PLANS	FP-6	SPRINKLER PIPE LAYOUT - 1ST FLOOR
7	HYDROPHIL REDUCTION PLAN	A8.0	DETAILS	FP-7	SPRINKLER PIPE LAYOUT - 2ND FLOOR
8	SITE DETAILS	A9.0	DOOR AND WINDOW FRAME ELEVATIONS	FP-8	SECTION VIEWS
9	TREE CONSERVATION MAP	A10.0	DOOR AND WINDOW SCHEDULES	FP-9	HYDRAULIC NOSE LAYOUT
10	TREE CONSERVATION AREA / GRADING PLAN	A11.0	INTERIOR ELEVATIONS	FP-10	HYDRAULIC NOSE LAYOUT
11	EROSION CONTROL PLAN	A12.0	INTERIOR ELEVATIONS		
12	EROSION CONTROL DETAILS	A13.0	INTERIOR ELEVATIONS		
13	STORM DRAIN PROFILES	A14.0	INTERIOR ELEVATIONS		
80.1	STRUCTURAL SPECIFICATIONS	P1	S.W. & V FLOOR PLAN		
80.2	STRUCTURAL SPECIFICATIONS	P2	S.W. & V FLOOR PLAN		
81.1	FOUNDATION PLAN	P3	WATER FLOOR PLAN		
82.1	FOUNDATION DETAILS	P4	WATER FLOOR PLAN		
83.1	MISCELLANEOUS STRUCTURAL DETAILS	P5	PLUMBING DETAILS		
83.2	MISCELLANEOUS STRUCTURAL DETAILS	P6	R, W, & V RISER		
		P7	WATER RISER		
		M1	HVAC FLOOR PLAN		
		M2	HVAC FLOOR PLAN		
		M3	HVAC DETAILS		
		M4	HVAC DETAILS		
		M5	HVAC DETAILS		
		M6	HVAC DETAILS		
		E1	ELECTRICAL DETAILS		
		E2	FIRST FLOOR LIGHTING FLOOR PLAN		
		E3	SECOND FLOOR LIGHTING FLOOR PLAN		
		E4	FIRST FLOOR POWER FLOOR PLAN		
		E5	SECOND FLOOR POWER FLOOR PLAN		
		E6	ELECTRICAL DETAILS		



**DESIGN
DEVELOPMENT**

800 SALEM WOODS DRIVE, SUITE 102
RALEIGH, NORTH CAROLINA 27615
PH: 919.848.4474
FAX: 919.848.9972
Info: info@designdevelopment.com



**BODY OF
CHRIST
FAMILY LIFE
CENTER**

5616 FOX ROAD
RALEIGH, NC 27616

TYPE: I-B

SF: 30,840 SF

OCCUPANCY: A2 & A3

No.	Description	Date

PROJECT #: 040065

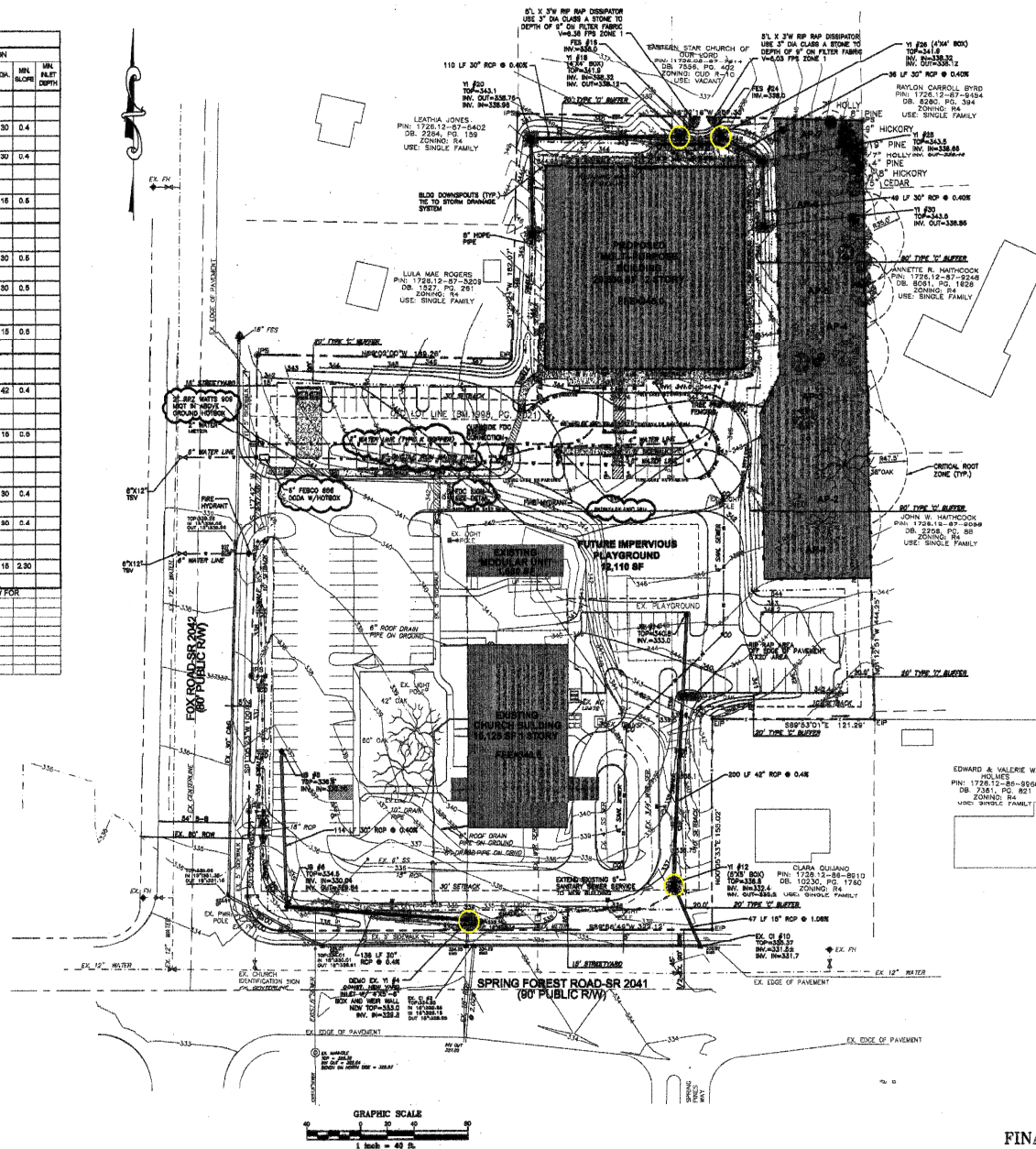
DATE: 10/30/2006
10:23:44 AM

COVER SHEET

T1

STORM SEWER DESIGN												
DRAINAGE AREA AND RUNOFF					PIPE DESIGN							
INLET NO.	AREAS			HEIGHT	ROAD/FINISH	PIPE NO.	FROM INLET	TOTAL TO INLET	DIA.	MPL. INLET DEPTH		
	1.0	0.85	0.35								TO	CA
Y130	0.01	0.01	0.02	0.85	7.22	0.09	0.09	0.09	30	0.4		
Y128	0.18	0.01	0.01	0.2	0.97	7.22	1.30	28-26	1.39	0.4		
Y126	0.01	0.01	0.02	0.85	7.22	0.09	0.09	28-24	1.48	1.58		
A FLOW RESTRICTOR WEIR WALL IS REQUIRED ON THE OUTLET SIDE OF Y128												
FEB 24												
Y122	0.02	0.08	0.08	0.50	7.22	0.29	0.29	22-20	0.50	0.29	0.6	
Y120	0.34	0.01	0.01	0.35	0.98	7.22	2.65	20-18	2.66	2.84	0.5	
Y118	0.1	0.08	0.18	0.88	7.22	0.80	0.80	18-16	0.88	2.84	0.5	
A FLOW RESTRICTOR WEIR WALL IS REQUIRED ON THE OUTLET SIDE OF Y118												
FEB 10												
JIB 14												
Y112	0.28	0.82	0.78	1.54	0.88	7.22	7.38	14-12	0.00	0.00	42	0.4
A FLOW RESTRICTOR WEIR WALL IS REQUIRED ON THE OUTLET SIDE OF Y112												
EX 10												
JIB 8												
JIB 6												
Y14	0.28	1.07	0.77	2.08	0.73	7.22	11.09	4-2	11.09	0.00	80	0.4
A FLOW RESTRICTOR WEIR WALL IS REQUIRED ON THE OUTLET SIDE OF Y14												
EX 2												

FDC - FIRE DEPARTMENT CONNECTION

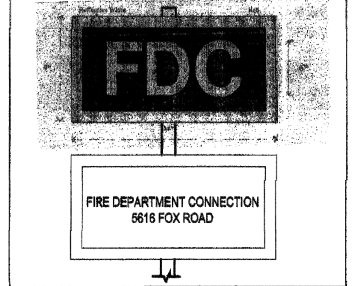


**CITY OF RALEIGH
FIRE PREVENTION BUREAU**

FIRE DEPARTMENT CONNECTIONS

North Carolina Fire Prevention Code, Section 912.2.2

- All sign locations are to be approved by the Fire Official, 8 feet above grade min. (must be above bushes, cars, trucks, dumpsters and containment walls)
- Weather proof construction & paint
- Signs should be rectangular in shape, 9 inches by 15 inches
- Letters FDC shall be 6 inches high
- Letters in words "Fire Department Connection" shall be 2 inches high
- Directional pointing arrows shall be sized to proportionately match letters
- All FDC's shall be grouped together and clearly marked, where more than one connection serves the same property except when approved by the Fire Official
- Every FDC shall have a location acceptable to the Fire Official



FDC SIGN DETAILS

APPROVED CONTRACTORS

The undersigned hereby certifies that the extension of water and sewer lines shown on this plan are in accordance with the standards and specifications of the City of Raleigh, North Carolina, and that the same have been approved by the City Engineer and the City Public Utilities Department in accordance with the provisions of the City Charter and the City Code.

APPROVED

City of Raleigh
Conservation Engineer
Date: 5/27/11 (P)
9/25/11

SP-86-05

UTILITY INSTRUMENT

THIS INSTRUMENT IS A PART OF THE RECORD PLANS FOR THE PROJECT DESCRIBED HEREIN AND IS TO BE KEPT WITH THE RECORD PLANS. IT IS TO BE USED ONLY FOR THE PURPOSES SPECIFIED HEREIN AND IS NOT TO BE REPRODUCED OR COPIED IN ANY MANNER WITHOUT THE WRITTEN CONSENT OF THE ENGINEER OF RECORD.

CONSERVATION ENGINEER: [Signature]

ALL CONSTRUCTION SHALL CONFORM TO CITY OF RALEIGH STANDARDS AND SPECIFICATIONS

SP-86-05
FINAL PLAN - NOT RELEASED FOR CONSTRUCTION

REVISIONS
1. 08-08-08 1ST CONSTRUCTION REVIEW COMMENTS.
2. 09-19-08 TCA METES AND BOUNDS.
2. 11-13-08 EXPRESS REVIEW COMMENTS.

**BODY OF CHRIST CHURCH
PHASE 2**

FOX RD. RALEIGH, NC

SCALE: 1"=40'
ORIGINAL DATE: 08-15-08
LATEST REVISION DATES: 11-13-08
PROJECT NO: 08-082

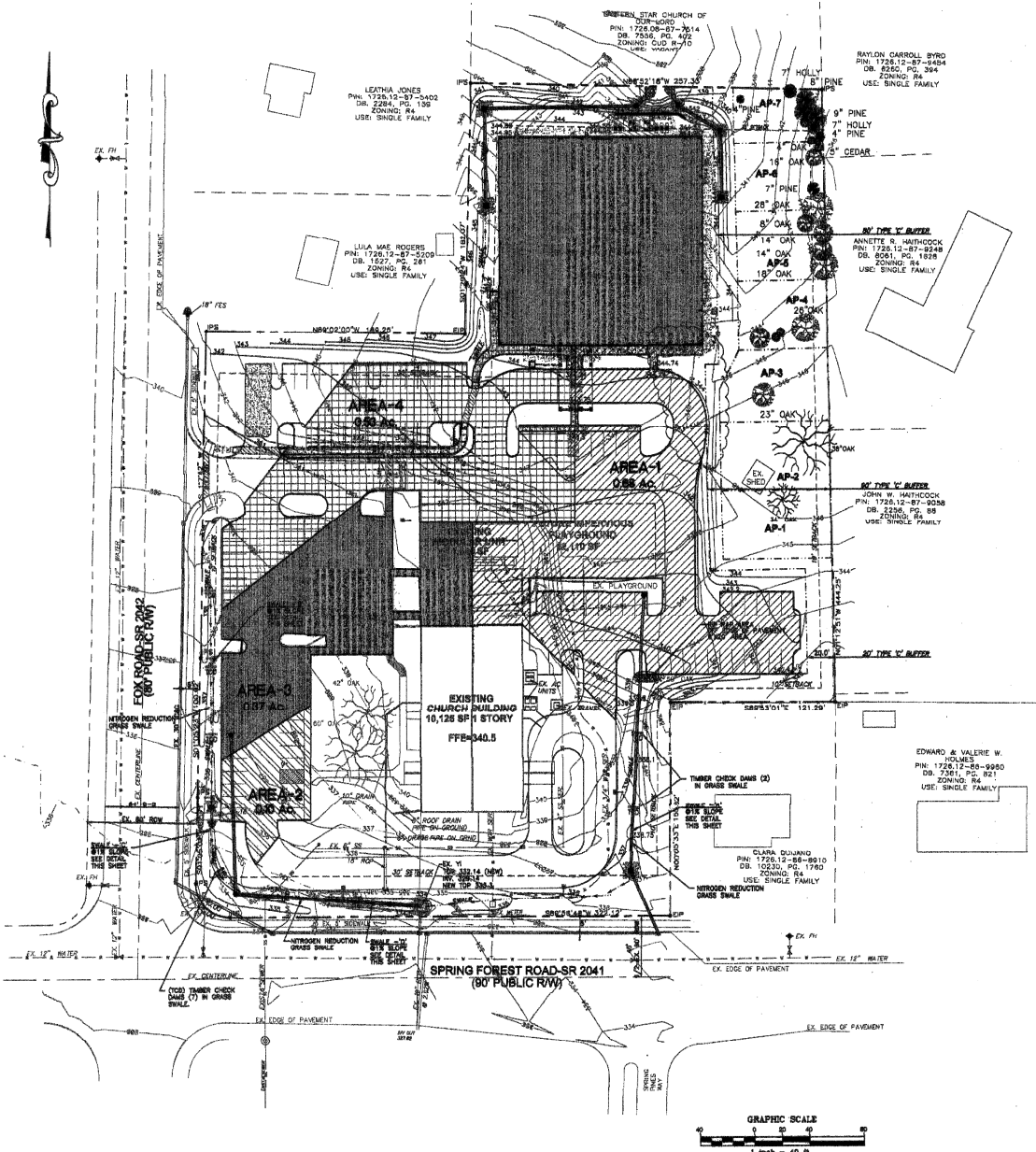
SITE DEVELOPMENT

DEVELOPMENT ENGINEERING, INC.
Professional Engineering Consultants

244 W. Millbrook Road, Raleigh, NC 27609
P. O. Box 17705, Raleigh, NC 27619
Phone: 919-847-8300
Fax: 919-847-2130
E-mail: office@de-inc.com

SHEET NO. **3**

N:\MAPS\PROJECTS\02152 Ready of Check Church Phase 2\02152-05-05 NITROGEN REDUCTION PLAN.dwg, 3/13/2006 8:28:20 AM, Rm, MS5 Symantec 2005



REVISIONS

1.	09-08-06 1ST CONSTRUCTION REVIEW COMMENTS.
2.	09-18-06 TCA METERS AND BOUNDS.
3.	11-13-06 EXPRESS REVIEW COMMENTS.

**BODY OF CHRIST CHURCH
PHASE 2**

FOX RD. RALEIGH, NC

SCALE T-407
ORIGINAL DATE 08-15-06
LATEST REVISION DATE 11-03-06
PROJECT NO. 05-492

NITROGEN REDUCTION PLAN

Nitrogen loading calculation for additions or expansions.

Calculation of nitrogen loading for additions and expansions using the appropriate method. Under the appropriate method, the "load" associated with the new portion of the development (the addition or expansion) is based on the type of the new development.

Example: Addition to 15 acre site with 8 acres of existing impervious surface and 7 acres of managed open space.
 Assume an expansion to include 2 more acres of impervious surface is proposed.
 Assume 2.5 lbs N/acre for impervious areas and 1.3 lbs N/acre for managed open space.
 Assume a constant rate with a maximum 15 lbs/acre loading before bypass and SWP response to remove 30 lbs N.

The calculations determining the anticipated open space and nitrogen loading would be as follows:
 Anticipated open space = 7 acres (Impervious area) / 1.3 (Impervious area loading) = 5.38 acres (Anticipated open space)
 Anticipated open space = 2 acres (New impervious area) / 2.5 (New impervious area loading) = 0.80 acres (New impervious area)
 New nitrogen loading = 5.38 acres (Anticipated open space) * 1.3 lbs N/acre = 7.00 lbs N/acre (New nitrogen loading)
 New nitrogen loading = 2.5 acres (New impervious area) * 2.5 lbs N/acre = 6.25 lbs N/acre (New nitrogen loading)
 New nitrogen loading = 6.25 lbs N/acre (New nitrogen loading) + 7.00 lbs N/acre (New nitrogen loading) = 13.25 lbs N/acre (Total nitrogen loading)
 New nitrogen loading = 13.25 lbs N/acre

Finally, input the nitrogen loading through SWP to determine the final system amount. The SWP calculation is calculated separately.

Following is a spreadsheet that may be used to calculate the anticipated open space and new nitrogen loading for additions and expansions. Input the following information on this sheet.

Area of existing impervious area	1.30 acres
Area of existing managed open space	1.30 acres
Area of proposed new impervious surface	1.30 acres

The following will be calculated by the spreadsheet:

Anticipated open space (acres)	5.38 acres
Area associated with loading from new development (acres)	1.30 acres
Nitrogen loading associated with the new development	13.25 lbs/acre
Total pounds of nitrogen loading of new development	38.33 lbs
Total pounds of nitrogen loading to be removed	38.33 lbs
Target nitrogen loading before bypass	15 lbs/acre
Pounds of nitrogen loading to be removed through SWP	23.33 lbs (minimum)
Cost for bypass	\$2,855.19

38.33 lbs N
= 11.83 lbs N removed thru SWP
= 26.5 lbs N/acre
26.7 lbs N/acre = 6.56 lbs N/acre
7% Bypass amount in lbs N/acre (26.5-4) = 2.56 x 3,1092 acres = \$330/acre
Bypass amount = \$2,855.19

**TIMBER CHECK DAM DETAIL
NTS**

SWALE CHART

SWALE	SWALE FLOW	FLOW DEPTH	SWALE DEPTH	RUN OFF VELOCITY
'A'	7.09 CFS	0.52 FT	0.75 FT	2.77 FT/SEC
'B'	4.08 CFS	0.49 FT	0.50 FT	2.39 FT/SEC
'C'	7.27 CFS	0.66 FT	0.75 FT	2.79 FT/SEC
'D'	9.67 CFS	0.75 FT	1.00 FT	3.01 FT/SEC

NOTE: SWALE STORMWATER FLOW VELOCITIES HAVE BEEN REDUCED WITH THE USE OF TIMBER CHECK DAMS EVERY 50'.

NITROGEN REDUCTION CALCULATIONS

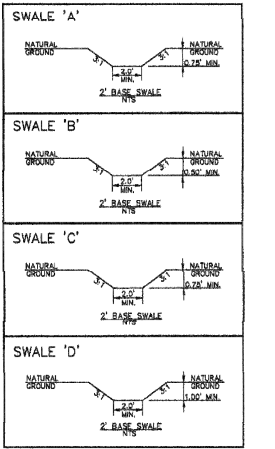
AREA 1
 0.66 Ac. x 21.2 = 14.11 lb
 100 # OF GRASS SWALES = 20% REDUCTION 1 TIME
 14.11 lb
 -20% FIRST 100 FEET
 11.29 lb

AREA 2
 0.10 Ac. x 21.2 = 2.12 lb
 100 # OF GRASS SWALES = 20% REDUCTION 1 TIME
 2.12 lb
 -20% FIRST 100 FEET
 1.69 lb

AREA 3
 0.37 Ac. x 21.2 = 7.84 lb
 200 # OF GRASS SWALES = 20% REDUCTION 2 TIMES
 7.84 lb
 -20% FIRST 100 FEET
 -20% SECOND 100 FEET
 6.27 lb

AREA 4
 0.63 Ac. x 21.2 = 13.33 lb
 300 # OF GRASS SWALES = 20% REDUCTION 3 TIMES
 13.33 lb
 -20% FIRST 100 FEET
 -20% SECOND 100 FEET
 -20% THIRD 100 FEET
 8.74 lb

TOTAL REDUCTION
 11.83 lb.



SP-86-05

TRANSPORTATION SERVICES
 PUBLIC UTILITIES
 GENERATION ENGINEERS

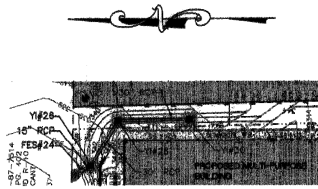
SP-86-05
FINAL PLAN - NOT RELEASED FOR CONSTRUCTION

DEVELOPMENT ENGINEERING, INC.
Professional Engineering Consultants

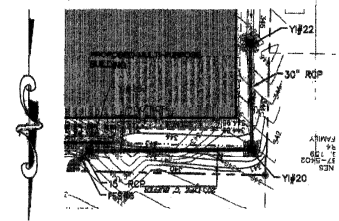
Phone: 919-847-8300
 Fax: 919-847-2130
 E-mail: Office@de-inc.com

244 W. Millbrook Road, Raleigh, NC 27608
 P. O. Box 17705, Raleigh, NC 27619

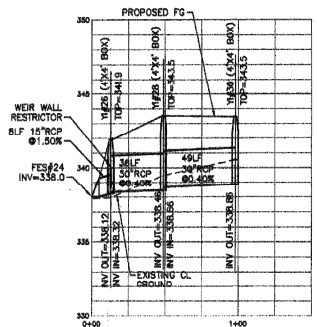
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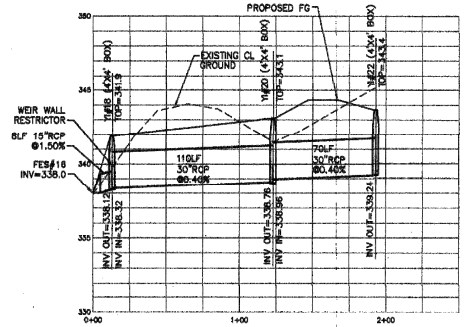
PLAN
SCALE: 1"=40'



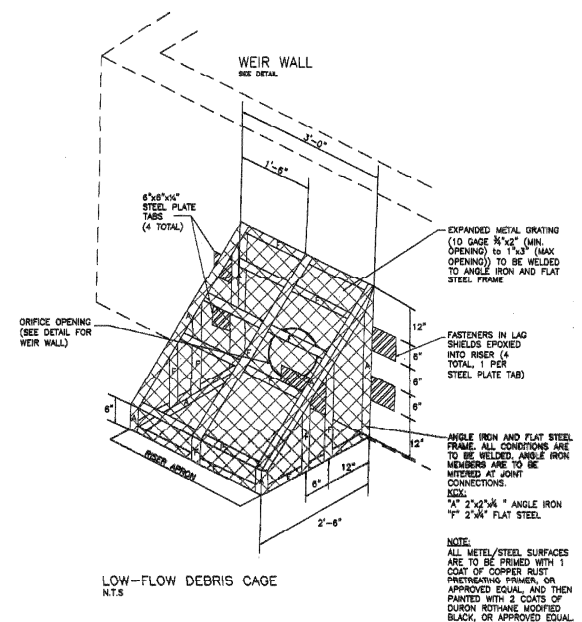
PLAN
SCALE: 1"=40'



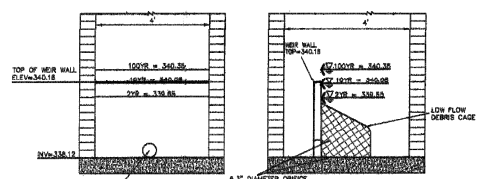
STORM DRAIN PROFILE
Y#30 TO FES#24
SCALE: 1"=40' (H) 1"=4' (V)



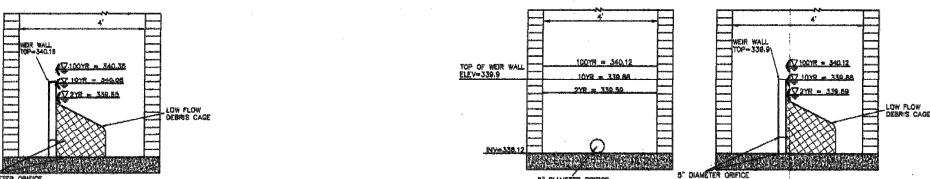
STORM DRAIN PROFILE
Y#22 TO FES#16
SCALE: 1"=40' (H) 1"=4' (V)



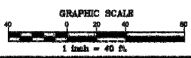
LOW-FLOW DEBRIS CAGE
N.T.S.



WEIR WALL DETAIL
'A' (YI#26)
N.T.S.



WEIR WALL DETAIL
'B' (YI#18)
N.T.S.



REVISIONS	
1.	08-08-06 1ST CONSTRUCTION REVIEW COMMENTS.
2.	09-19-06 TCA METERS AND BOUNDS.
3.	11-13-08 EXPRESS REVIEW COMMENTS.

**BODY OF CHRIST CHURCH
PHASE 2**
FOX RD. RALEIGH, NC

SCALE: 1"=40'
ORIGINAL DATE: 08-15-06
LATEST REVISION DATE: 11-13-08
PROJECT NO.: 06-182

STORM DRAIN PROFILES

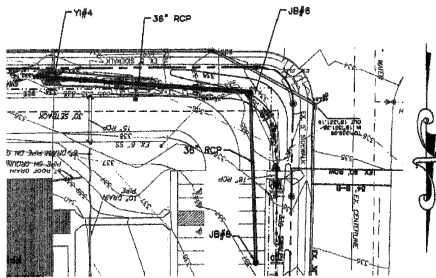
FINAL PLAN - NOT RELEASED FOR CONSTRUCTION

DEVELOPMENT ENGINEERING, INC.
Professional Engineering Consultants
244 W. Millbrook Road, Raleigh, NC 27609
P. O. Box 17705, Raleigh, NC 27619
Phone: 919-847-8300
Fax: 919-847-2130
E-mail: Office@de-inc.com

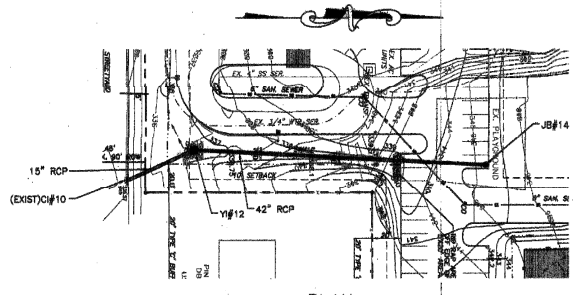
SHEET NO. **12**

SP-86-05
UTILITY INSTALLATIONS AND OTHER PLANS
FOR THE BODY OF CHRIST CHURCH PHASE 2
PROJECT, FOX ROAD, RALEIGH, NC
DESIGNED BY: [Signature]
CHECKED BY: [Signature]
DATE: 11/13/08
TRANSPARATION SHOULD BE MAINTAINED
FOR THE ACCEPTANCE OF THE CITY OF RALEIGH
CONSERVATION ENGINEER: [Signature]

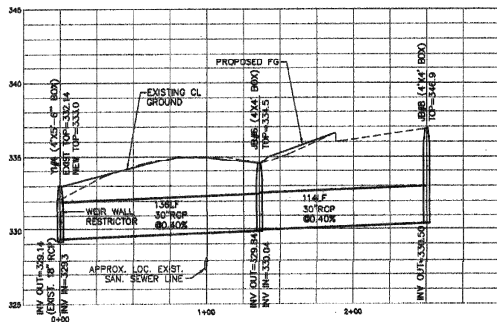
ALL CONSTRUCTION SHALL CONFORM TO CITY OF RALEIGH STANDARDS AND SPECIFICATIONS



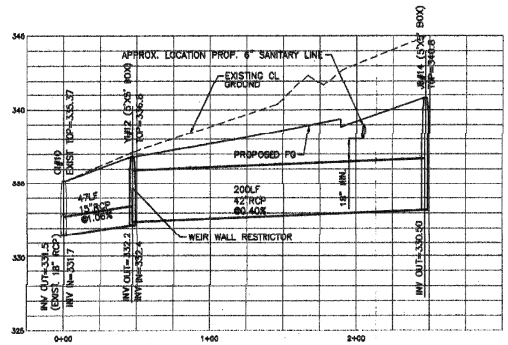
PLAN
SCALE: 1"=40'



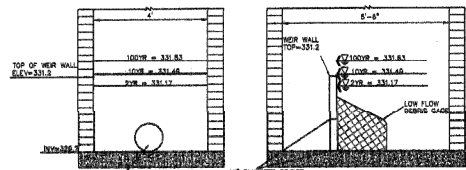
PLAN
SCALE: 1"=40'



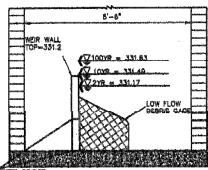
STORM DRAIN PROFILE
(EXIST.) Y1#4 TO Y1#8
SCALE: 1"=40' (H) 1"=4' (V)



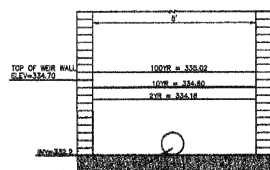
STORM DRAIN PROFILE
(EXIST.) Y1#10 TO Y1#14
SCALE: 1"=40' (H) 1"=4' (V)



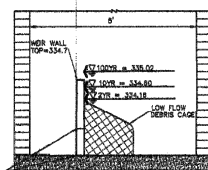
WEIR WALL DETAIL
'A' (Y1#4)
N.T.S.



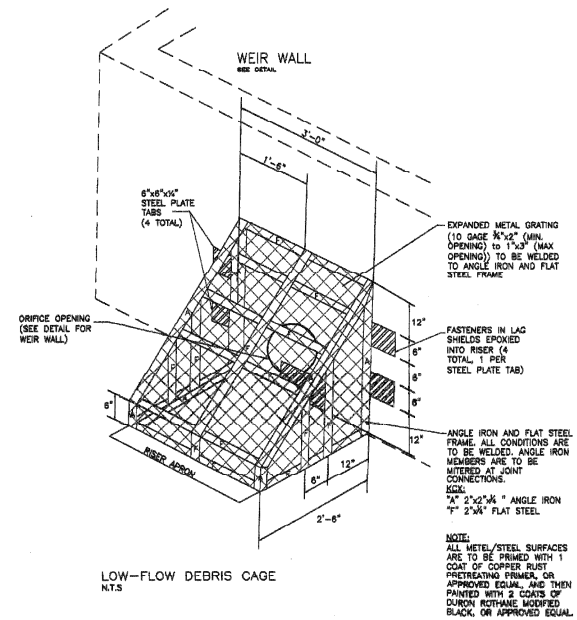
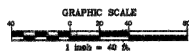
WEIR WALL DETAIL
'B' (Y1#4)
N.T.S.



WEIR WALL DETAIL
'A' (Y1#12)
N.T.S.



WEIR WALL DETAIL
'B' (Y1#12)
N.T.S.



LOW-FLOW DEBRIS CAGE
N.T.S.

SP-86-05
UTILITY INSTALLATIONS AND OTHER PUBLIC UTILITIES SHALL CONFORM TO CITY OF RALEIGH STANDARDS AND SPECIFICATIONS
CONSERVATION ENGINEER

ALL CONSTRUCTION SHALL CONFORM TO CITY OF RALEIGH STANDARDS AND SPECIFICATIONS

FINAL PLAN - NOT RELEASED FOR CONSTRUCTION

- REVISIONS
- 08-08-08 1ST CONSTRUCTION REVIEW COMMENTS
 - 08-18-08 TCA METES AND BOUNDS
 - 11-13-08 EXPRESS REVIEW COMMENTS

**BODY OF CHRIST CHURCH
PHASE 2**

FOX RD.

RALEIGH, NC

SCALE: 1"=40'
ORIGINAL DATE: 08-18-08
LATEST REVISION DATE: 11-13-08
PROJECT NO: 05-192

STORM DRAIN PROFILES

DEVELOPMENT ENGINEERING, INC.
Professional Engineering Consultants
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Phone: 919-847-8300
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E-mail: Office@de-e-inc.com

SHEET NO.
13