

SITE CONSTRUCTION PLANS

I-5 SOUTH EFFINGHAM ELEMENTARY SCHOOL - LANE IMPROVEMENTS

PREPARED FOR:
EFFINGHAM COUNTY
804 S Laurel Street, Springfield, GA 31329
EFFINGHAM COUNTY
912-754-2123



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CIVIL ENGINEERING
WWW.ROBERTSCIVILENGINEERING.COM

301 SEA ISLAND ROAD, SUITE 10
ST. SIMONS ISLAND, GA 31522
912-638-9681

6001 CHATHAM CENTER DRIVE, SUITE 255
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912-298-7006

14600 WHIRLWIND AVENUE, SUITE 119A
JACKSONVILLE, FL 32218
904-741-0099

4000 FABER PLACE DRIVE, SUITE 300
NORTH CHARLESTON, SC 29405
843-323-4224



VICINITY MAP		NTS
EFFINGHAM COUNTY		
I-5 SOUTH EFFINGHAM ELEMENTARY SCHOOL - LANE IMPROVEMENTS		
<u>OWNER</u> EFFINGHAM COUNTY <u>CONTACT</u> ERIC LARSON <u>EMAIL</u> ELarson@EffinghamCounty.org		<u>ENGINEER</u> ROBERTS CIVIL ENGINEERING <u>CONTACT</u> Jessica Vick, P.E. jvick@robertscivilengineering.com 912-977-5244
#	REVISIONS	
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04/06/22: ORIGINAL ISSUE DATE		RCE PROJECT NUMBER: 21508
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GENERAL NOTES:

- CONSTRUCTION METHODS AND MATERIALS SHALL CONFORM TO APPLICABLE FEDERAL, STATE, AND LOCAL LAWS.
- PERMITS NECESSARY FOR CONSTRUCTION SHALL BE OBTAINED BY CONTRACTOR.
- DEVIATIONS FROM PLANS ARE PROHIBITED WITHOUT WRITTEN CONSENT OF THE ENGINEER.
- CONTRACTOR IS TO IMMEDIATELY CONTACT ENGINEER IF ANY UNFORESEEN CONDITIONS OR DISCREPANCIES OCCUR.
- CONTRACTOR SHALL COORDINATE CONSTRUCTION OF UTILITIES ON SITE WITH APPROPRIATE PROVIDER (I.E., POWER, PHONE, CABLE, ETC.).
- ENGINEER IS NOT RESPONSIBLE FOR PHYSICAL CONSTRUCTION OF SITE.
- CONTRACTOR SHALL MAINTAIN A SAFE SITE AND MEET APPROPRIATE REGULATIONS CONCERNING SAFETY.
- SURVEY DATA PROVIDED BY ATLAS SURVEYING.
A. DATE OF SURVEY MARCH 2022
- EXISTING SURVEY INFORMATION TO BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR TO NOTIFY ENGINEER OF DISCREPANCIES IN FIELD OBSERVATIONS VERSUS SURVEY DATA.
- CONTRACTOR TO LOCATE UTILITIES PRIOR TO CONSTRUCTION BY CALLING "CALL BEFORE YOU DIG" HOTLINE: 811.
- HORIZONTAL DATUM BASED ON GEORGIA STATE PLANE COORDINATE SYSTEM, EAST ZONE NAD83. VERTICAL DATUM BASED ON NAVD88.

ADA NOTES:

- CONTRACTOR IS RESPONSIBLE FOR ADHERING TO CURRENT ADA REQUIREMENTS.
- EXTERIOR ACCESSIBLE ROUTE SHALL HAVE A MINIMUM WIDTH OF 3 FEET. IF ACCESSIBLE ROUTE CLEAR WIDTH IS LESS THAN 5 FEET, THEN 5'X5' PASSING SPACES SHALL BE PROVIDED EVERY 200' OR LESS. INTERSECTING SIDEWALKS MEET THIS REQUIREMENT.
- FINISHED SURFACE HEIGHT DIFFERENCE REQUIREMENTS SHALL MEET FOLLOWING:
A. 0 - 1/4" NO REQUIREMENTS.
B. 1/4"- 1/2" BEVEL WITH 1:2 SLOPE.
C. GREATER THAN 1/2" CONFORM TO RAMP REQUIREMENTS.
- RAMPS SHALL MEET FOLLOWING CONSTRAINTS:
A. MAX SLOPE 1:12.
B. MAX RAMP RISE IS 30".
C. MAX RAMP LENGTH IS 30'.
D. MAX CROSS SLOPE IS 2.00%.
- RAMP LANDINGS SHALL MEET FOLLOWING CONSTRAINTS:
A. A MINIMUM 5' LONG LEVEL LANDING AT LEAST AS WIDE AS RAMP SHALL BE PLACED AT TOP AND BOTTOM OF RAMP.
B. LANDING SHALL BE MINIMUM 5'X5' WHERE RAMP CHANGES DIRECTION.
C. LANDINGS SHALL NOT EXCEED A 2.00% SLOPE.
- HANDRAILS SHALL MEET FOLLOWING CONSTRAINTS:
A. IF RAMP RISE IS GREATER THAN 6", THEN HANDRAILS ARE REQUIRED ON BOTH SIDES OF RAMP.
B. MINIMUM OF 12" LONG HANDRAIL EXTENSIONS SHALL BE PROVIDED AT TOP AND BOTTOM OF LANDINGS.

EARTHWORK AND PAVING:

- UPPER 12 INCHES OF SUBGRADE BELOW PAVEMENT AND BUILDINGS SHALL BE SCARIFIED AND RECOMPACTED TO 100% STANDARD PROCTOR MAX DRY WEIGHT DENSITY WITH A MOISTURE CONTENT WITHIN 2% OF OPTIMUM MOISTURE CONTENT.
- CONTRACTOR TO PROVIDE TEST RESULTS OF SUBGRADE AND BASE COURSE COMPACTION TO ENGINEER INCLUDING VOLUME ESTIMATES OF ANY UNSUITABLE SOILS TO BE REMOVED AND REPLACED THAT WERE IDENTIFIED DURING COMPACTION OPERATIONS PER ITEM NO. 1 ABOVE. IF ANY, CONTRACTOR SHALL NOT PROCEED WITH OVER-EXCAVATION AND REPLACEMENT OF UNSUITABLE SOILS WITHOUT WRITTEN AUTHORIZATION FROM ENGINEER OR OWNER.
- FOR APPROVED AREAS OF OVER-EXCAVATION AND REPLACEMENT, CONTRACTOR TO REMOVE IDENTIFIED UNSUITABLE MATERIAL TO A DEPTH OF 3 FEET AND REPLACE WITH STRUCTURAL FILL.
- IN AREAS WHERE STRUCTURAL FILL IS REQUIRED, FILL SHALL BE PLACED IN LIFTS OF 6 INCHES AND BE COMPACTED TO 100% STANDARD PROCTOR MAX DRY WEIGHT DENSITY. STRUCTURAL FILL SHALL CONSIST OF GRANULAR SOIL CONTAINING LESS THAN 10% MATERIAL PASSING THE NO 200 SIEVE.
- EXCAVATION AND FILL SHALL BE COMPLETED PRIOR TO INSTALLATION OF UTILITIES.

GRADING & DRAINAGE NOTES:

- STORM PIPES SHALL BE JOINED PER DOT SPECIFICATIONS.
- PIPING SHALL BE INSTALLED IN NEW CONDITION.
- A RIGHT-OF-WAY WORK PERMIT MAY BE REQUIRED BEFORE ANY WORK CAN BE DONE IN RIGHT-OF-WAY.
- STORM DRAINAGE PIPING SHALL BE CONSTRUCTED PER GA DOT SPECS.
- STORM DRAINAGE PIPING JOINTS SHALL BE WRAPPED IN FILTER FABRIC.
- CONTRACTOR TO REQUEST CONFIRMATION OF LATEST PLAN REVISION DATE FROM ENGINEER IN WRITING PRIOR TO ORDERING MATERIALS.
- IT IS CONTRACTOR'S SOLE RESPONSIBILITY TO REVIEW AND APPROVE SHOP DRAWINGS PRIOR TO ORDERING MATERIALS.

GENERAL WATER NOTES:

- PVC PIPE SHALL BE BLUE IN COLOR. PIPE 4" TO 12" SHALL CONFORM TO REQUIREMENTS OF AWWA C-900, DR 18 PRESSURE CLASS 235 PSI AND SHALL HAVE FOLLOWING MINIMUM WALL THICKNESS:
4" DIA - 0.267"
6" DIA - 0.383"
8" DIA - 0.503"
10" DIA - 0.617"
12" DIA - 0.733"
PIPE LESS THAN 4" IN DIAMETER SHALL CONFORM TO ASTM D-1784 AND D-2241 (SDR 21). PIPE SHALL HAVE A MINIMUM PRESSURE RATING OF 200 PSI. PVC PIPE SHALL BEAR NATIONAL SANITATION FOUNDATION SEAL OF APPROVAL.
- FITTINGS FOR PVC SHALL BE DUCTILE IRON IN ACCORDANCE WITH ANSI A-21.53 (AWWA C-153). FITTINGS SHALL BE CEMENT LINED IN ACCORDANCE WITH ANSI A-21.4 (AWWA C-104). FITTINGS LESS THAN 4" SHALL BE PVC WITH RING TITE RUBBER JOINTS CONFORMING TO ASTM D-3139.
- VALVES SHALL BE INSTALLED IN APPROVED UNDERGROUND VALVE BOXES OF DUCTILE IRON WITH A SUITABLE CRUSHING STRENGTH FOR LOCATION INSTALLED.
- MAINTAIN A 10' HORIZONTAL SEPARATION BETWEEN ANY EXISTING OR PROPOSED WATER MAIN AND SANITARY SEWER, STORM SEWER, OR SEWER MANHOLE.
- WHEN A 10' HORIZONTAL SEPARATION CANNOT BE MAINTAINED, WATER MAIN MAY BE LAID CLOSER TO SEWER PROVIDED THAT WATER MAIN IS LAID IN A SEPARATE TRENCH AT LEAST 18" ABOVE TOP OF SEWER.
- WATER CROSSING A SEWER SHALL BE AT LEAST 18" ABOVE TOP OF SEWER. A FULL LENGTH (SECTION) OF WATER PIPE SHALL BE USED AT THESE CROSSINGS WITH ENDS OF WATER PIPE SECTION AS FAR AWAY FROM SEWER AS POSSIBLE.
- VERIFY SIZE AND LOCATION OF WATER SERVICES PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIALS.
- IF UTILITY CONFLICT IS ENCOUNTERED IN FIELD, SEE UTILITY CONFLICT DETAIL.

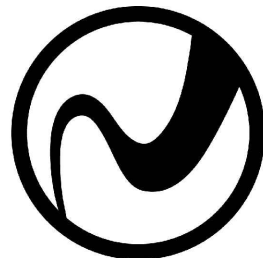
GENERAL SEWER NOTES:

- PVC PIPE SHALL BE POLYVINYL CHLORIDE PLASTIC (PVC) AND SHALL MEET REQUIREMENTS OF ASTM D 3034 SDR 26. DEPTHS LESS THAN 3' SHALL BE DUCTILE IRON PIPE. ASTM D 2321 MUST BE FOLLOWED FOR INSTALLATION OF PVC PIPE. RUBBER RINGS SHALL BE USED FOR CONTRACTION AND EXPANSION AT EACH JOINT. FITTINGS SHALL MEET SAME SPECIFICATION REQUIREMENTS AS PIPE. TESTS ON PVC PIPE SHALL BE DESIGNED TO PASS TESTS AT 73° F. PIPE STANDARD LENGTHS SHALL BE 12.5' (PLUS OR MINUS 1"). PIPE SIZES AND DIMENSIONS SHALL BE AS SHOWN IN THE TABLE BELOW:

NOM SIZE:	OUTSIDE DIA:	MIN WALL THICKNESS:
4"	4.215"	0.162"
6"	6.275"	0.241"
8"	8.400"	0.323"
10"	10.500"	0.404"
12"	12.500"	0.481"
- JOINTS FOR PVC PIPE - SHALL BE INTEGRAL WALL BELL AND SPIGOT WITH A RUBBER RING GASKET. THE JOINTS SHALL CONFORM TO ASTM D 3212 AND GASKETS SHALL CONFORM TO ASTM F 477.
- PRECAST CONCRETE MANHOLES - SHALL BE REINFORCED CONCRETE CONSTRUCTED IN ACCORDANCE WITH ASTM C 478 AND DETAILS SHOWN ON PLANS. JOINTS SHALL BE TONGUE AND GROOVE SEALED WITH FLEXIBLE GASKETS OR MASTIC SEALANT. GASKETS SHALL BE O-RING OR EQUIVALENT TO TYPE A OR B "TYLOX" CONFORMING TO ASTM C 443. MASTIC SHALL BE EQUIVALENT TO "RAM-NEK" WITH PRIMER. CONTACT SURFACES OF MANHOLE JOINT SHALL HAVE PRIMER IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
- FRAMES AND COVERS - SHALL BE EQUIVALENT OF NEENAH FOUNDRY CO. R-1668 TYPE "C" LID
- MANHOLE STEPS - SHALL BE EQUIVALENT TO M.A. INDUSTRIES, TYPE PS-1 OF PS-2 OR IMCO REINFORCED PLASTICS, INC. MODEL FRP. STEPS SHALL BE INSTALLED AT MANHOLE FACTORY AND IN ACCORDANCE WITH RECOMMENDATIONS OF STEP MANUFACTURER.
- PIPE CONNECTIONS - SHALL HAVE FLEXIBLE WATERTIGHT JOINTS AT POINT OF ENTRY OF ANY SEWER MAIN INTO MANHOLE. JOINT SHALL BE WEDGED RUBBER SHAPE EQUIVALENT TO "PRESS WEDGE II," OR A RUBBER SLEEVE EQUIVALENT TO "KOR-N-SEAL" OR "LOCK JOINT."
- #12 GAUGE SINGLE STRAND COPPER TRACING WIRE SHALL BE USED OVER ALL FORCE MAIN, SANITARY SEWER, AND SERVICE LATERAL LINES.
- SEWER EXCAVATIONS SHALL BE TO DESIRED DEPTHS SHOWN ON PLANS WITH ADHERENCE TO OCCUPATIONAL AND SAFETY HEALTH ADMINISTRATION'S (OSHA) REGULATIONS. IN AREAS OF UNSUITABLE SOIL CONDITIONS, TRENCH MAY REQUIRE ADDITIONAL EXCAVATION AND BACKFILL WITH SAND, GRAVEL, OR CONCRETE.
- SEWER PIPES SHALL BE LAID UPGRADE WITH SPIGOTS POINTING DOWNGRADE. ASSEMBLY OF JOINTS SHALL COMPLY WITH MANUFACTURER'S RECOMMENDATIONS. SEAL OPEN ENDS OF PIPES IF INSTALLATION IS INTERRUPTED. MANHOLE CONNECTIONS SHALL BE WATER TIGHT WITH USE OF FLEXIBLE WATER STOPS AND RESILIENT CONNECTORS.
- MANHOLES SHALL HAVE A NON-SHRINK GROUT CHANNEL IN BOTTOM THAT IS SMOOTH, ROUNDED, AND SHAPED TO FACILITATE GRAVITY SEWER FLOW TOWARDS OUTGOING PIPE. CHANNEL WIDTH SHALL MATCH PIPING SIZE. INVERT OF CHANNEL SHALL BE UNIFORMLY SLOPED BETWEEN INCOMING AND OUTGOING PIPES. TOP OF BENCH SHALL MATCH TOP OF LARGEST PIPE. SLOPE TOP OF BENCH 1" PER FOOT TOWARDS CHANNEL
- MANHOLE TOP ELEVATIONS SHALL BE GREATER THAN OR EQUAL TO FIFTY (50) YEAR FLOOD ELEVATION, UNLESS WATERTIGHT COVERS ARE PROVIDED. OUTSIDE OF PAVED AREAS, MANHOLE TOP ELEVATION SHALL BE 1' ABOVE GROUND SURFACE IN DEVELOPED AREAS AND 6" ABOVE GROUND SURFACE IN UNDEVELOPED AREAS UNLESS SHOWN OTHERWISE ON PLANS. MANHOLES IN PAVED AREAS SHALL BE BUILT AS DESIGNATED BY ENGINEER. NO LEAKS IN MANHOLES ARE ACCEPTABLE.

NOT RELEASED
FOR
CONSTRUCTION

REVISIONS



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I-5 GENERAL NOTES

I-5 SOUTH EFFINGHAM ELEMENTARY SCHOOL - LANE IMPROVEMENTS
EFFINGHAM COUNTY

PREPARED FOR:
EFFINGHAM COUNTY

DATE: 04/06/22

PROJECT NUMBER: 21508

DRAWN BY: DUF

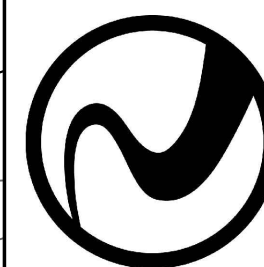
CHECKED BY: JLV

SCALE: 1"=30' (FOR 24"X36" PLOT)

1

SHEET:

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I-5 EXISTING CONDITIONS PLAN

I-5 SOUTH EFFINGHAM ELEMENTARY SCHOOL - LANE IMPROVEMENTS EFFINGHAM COUNTY

PREPARED FOR:
EFFINGHAM COUNTY

DATE: 04/06/22

PROJECT NUMBER: 21508

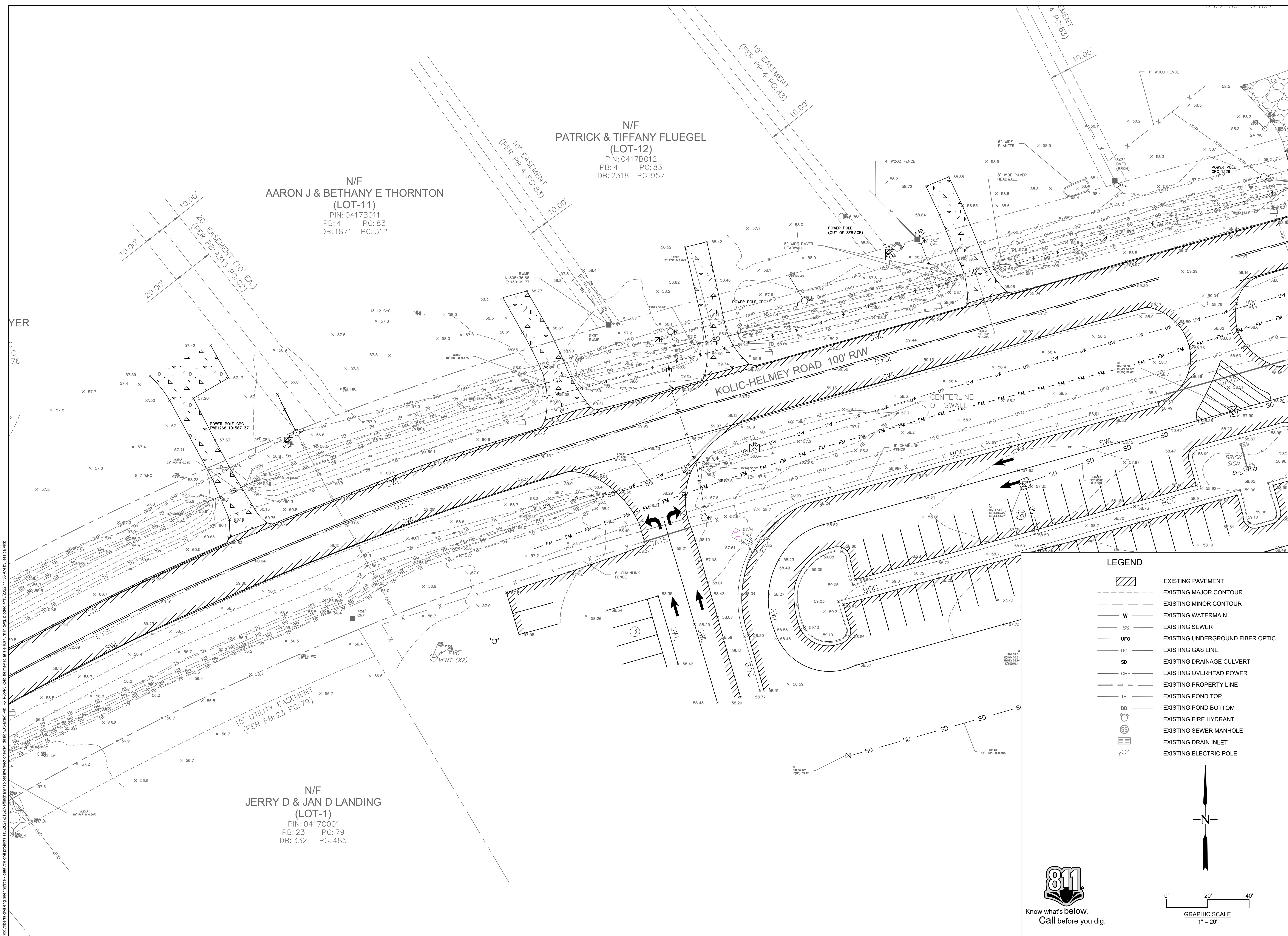
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SCALE: 1":20' (FOR 24"X36" PLOT)

2A

SHEET:



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I-5 SOUTH EFFINGHAM ELEMENTARY SCHOOL - LANE IMPROVEMENTS EFFINGHAM COUNTY

2B

DATE: 04/06/22

PROJECT NUMBER: 21508

DRAWN BY: DUF

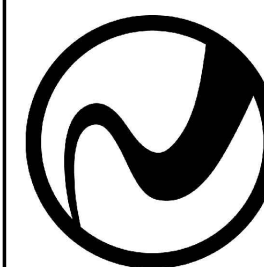
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SCALE: 1"=20' (FOR 24"X36" PLOT)



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**I-5 STAKING PLAN
SHEET 2 OF 2**

K-5 SOUTH EFFINGHAM ELEMENTARY SCHOOL - LANE IMPROVEMENTS EFFINGHAM COUNTY

PREPARED FOR:
EFFINGHAM COUNTY

DATE: 04/06/22

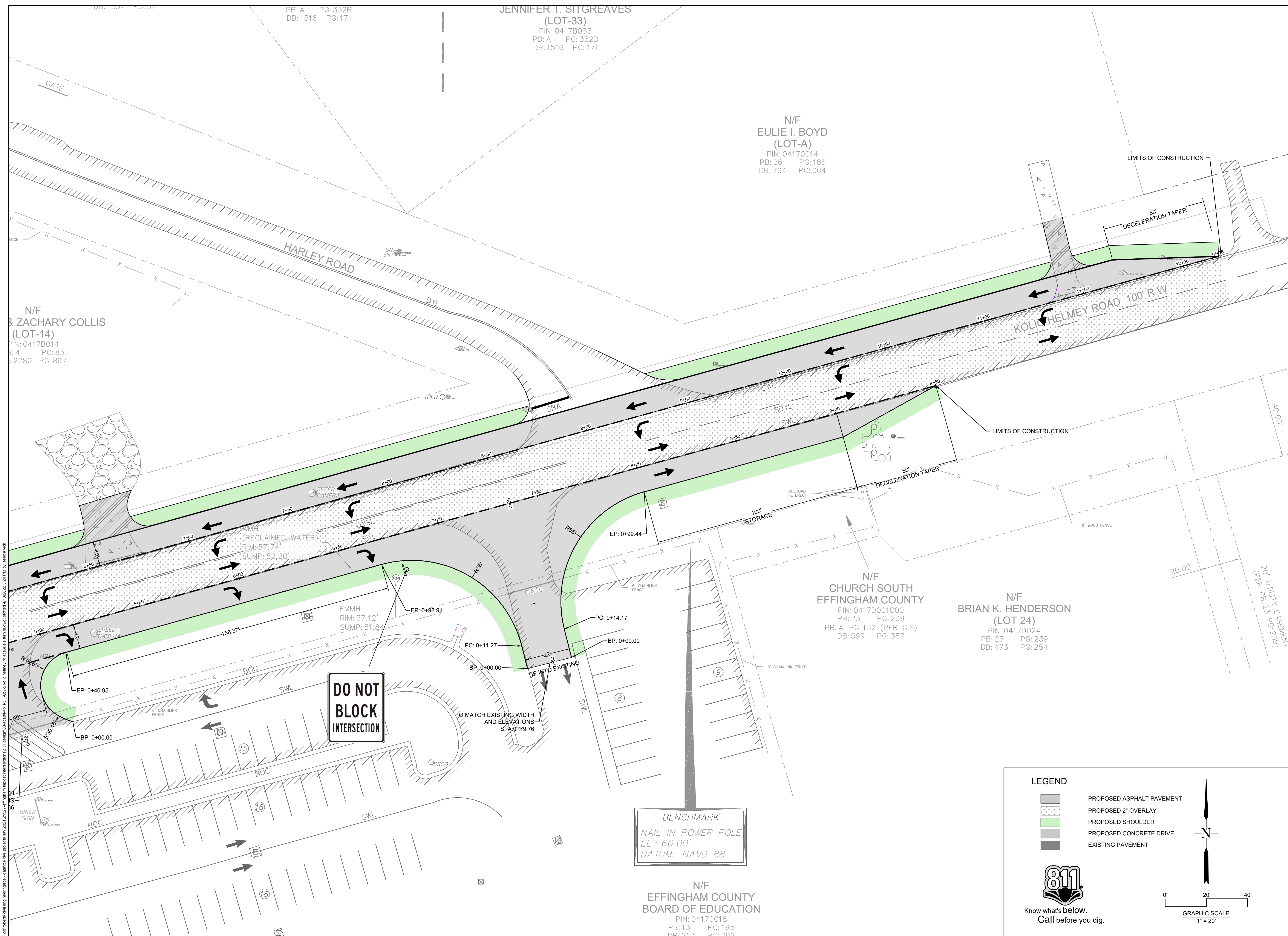
PROJECT NUMBER: 21508

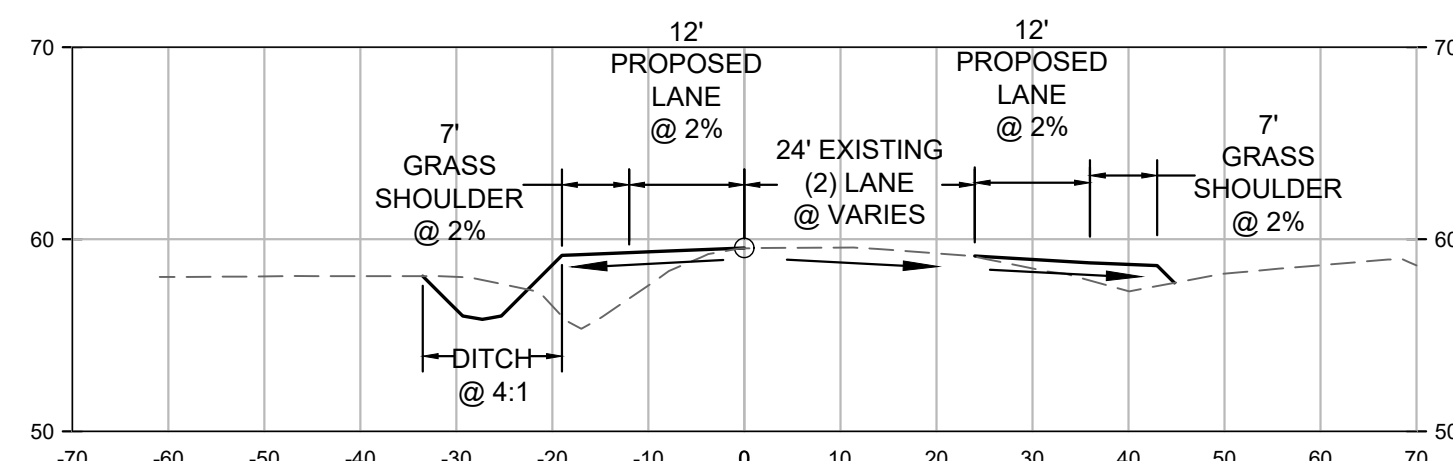
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CHECKED BY: JLV
SCALE: 1"=20' (FOR 24"

4

SHEET:



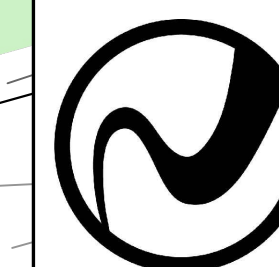


N/F
PATRICK & TIFFANY FLUEGEL
(LOT-12)
PIN: 0417B012
PB: 4 PG: 83
DB: 2318 PG: 957

N/F
AARON J & BETHANY E THORNTON
(LOT-11)
PIN: 0417B011
PB: 4 PG: 83
DB: 1871 PG: 312

N/F
JERRY D & JAN D LANDING
(LOT-1)
PIN: 0417C001
PB: 23 PG: 79
DB: 332 PG: 485

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1-5 GRADING PLAN
SHEET 1 OF 2

I-5 SOUTH EFFINGHAM ELEMENTARY SCHOOL - LANE IMPROVEMENTS EFFINGHAM COUNTY

PREPARED FOR:
EFFINGHAM COUNTY

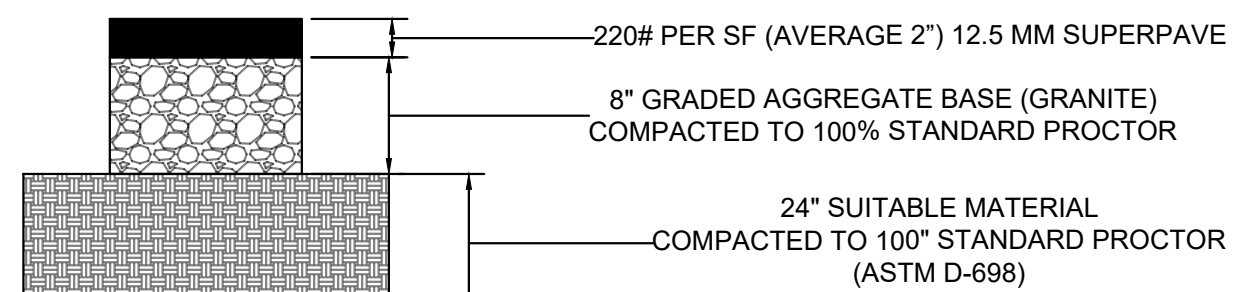
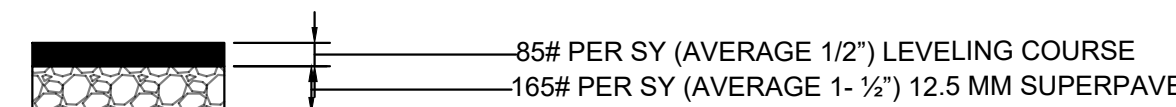
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PROJECT NUMBER: 21537

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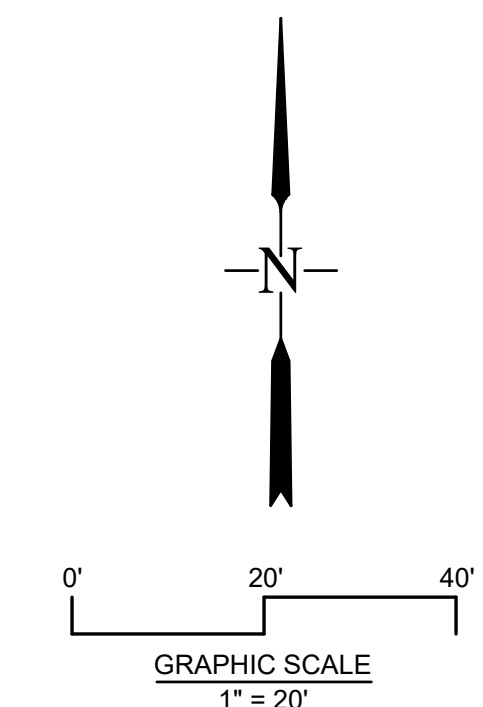
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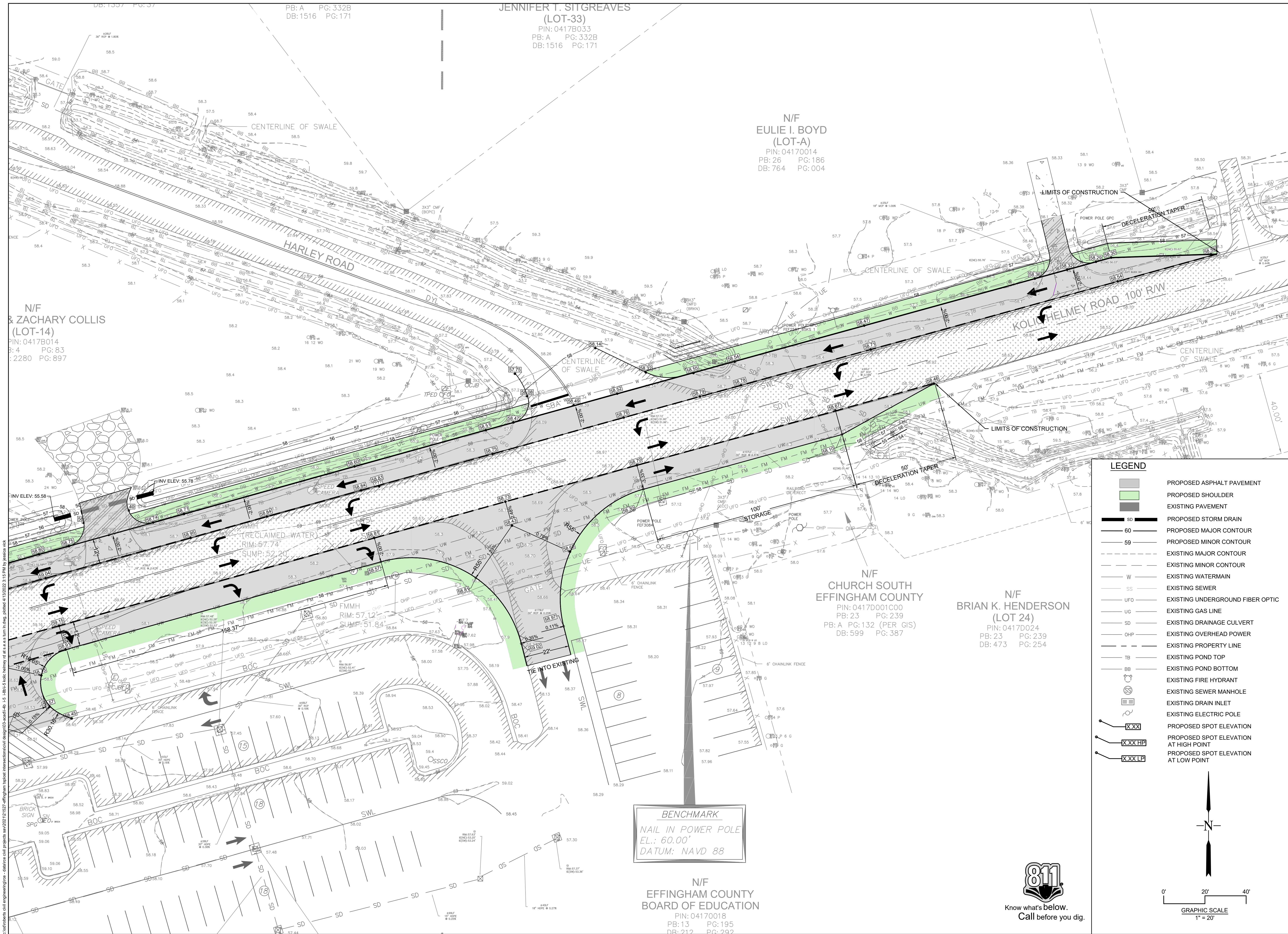
5

SHEET:



Know what's below.
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DB:1337 PG:37

PB: A PG:332B
DB:1516 PG:171

JENNIFER T. SITGREAVES
(LOT-33)
PIN: 0417B033
PB: A PG: 332B
DB:1516 PG:171

N/F
EULIE I. BOYD
(LOT-A)
PIN: 04170014
PB: 26 PG: 186
DB: 764 PG: 004

N/F
& ZACHARY COLLIS
(LOT-14)
PIN: 0417B014
PB: 4 PG: 83
DB: 2280 PG: 897

N/F
CHURCH SOUTH
EFFINGHAM COUNTY
PIN: 0417D001C00
PB: 23 PG: 239
PB: A PG: 132 (PER GIS)
DB: 599 PG: 387

N/F
BRIAN K. HENDERSON
(LOT 24)
PIN: 0417D024
PB: 23 PG: 239
DB: 473 PG: 254

BENCHMARK
NAIL IN POWER POLE
EL.: 60.00'
DATUM: NAVD 88

N/F
EFFINGHAM COUNTY
BOARD OF EDUCATION
PIN: 04170018
PB: 13 PG: 195
DB: 212 PG: 242

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REVISIONS


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I-5 GRADING PLAN
SHEET 2 OF 2

I-5 SOUTH EFFINGHAM ELEMENTARY SCHOOL - LANE IMPROVEMENTS
EFFINGHAM COUNTY
PREPARED FOR:
EFFINGHAM COUNTY

DATE: 04/06/22
PROJECT NUMBER: 21527

DRAWN BY: DJB
CHECKED BY: JLV

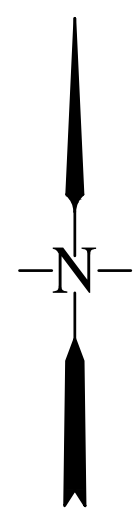
SCALE: 1"=20' (FOR 24"X36" PLOT)

6

SHEET:

LEGEND

- PROPOSED ASPHALT PAVEMENT
- PROPOSED SHOULDER
- EXISTING PAVEMENT
- PROPOSED STORM DRAIN
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING WATERMAIN
- EXISTING SEWER
- EXISTING UNDERGROUND FIBER OPTIC
- EXISTING GAS LINE
- EXISTING DRAINAGE CULVERT
- EXISTING OVERHEAD POWER
- EXISTING PROPERTY LINE
- EXISTING POND TOP
- EXISTING POND BOTTOM
- EXISTING FIRE HYDRANT
- EXISTING SEWER MANHOLE
- EXISTING DRAIN INLET
- EXISTING ELECTRIC POLE
- PROPOSED SPOT ELEVATION
- PROPOSED SPOT ELEVATION AT HIGH POINT
- PROPOSED SPOT ELEVATION AT LOW POINT



0' 20' 40'
GRAPHIC SCALE
1" = 20'



Know what's below.
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