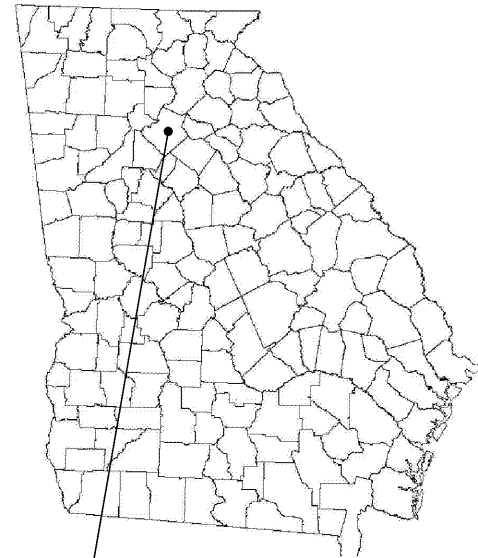


100% CONSTRUCTION DOCUMENTS

HARBINS PARK

2995 LUKE EDWARDS RD.
DACULA, GA 30019



VICINITY MAP

DRAWING INDEX

- C-0: COVER SHEET
- S-1: BOARDWALK #1 PLAN VIEW AND GRADING
- S-2: BOARDWALK #1 PROFILE
- S-3: BOARDWALK #2 & #3 PROFILE AND PLAN VIEW
- S-4: TYPICAL BOARDWALK DETAILS & NOTES
- S-5: TYPICAL BOARDWALK DETAILS
- S-6: BRIDGE #1 & DETAILS
- S-7: BRIDGE #2 & DETAILS
- S-8: BRIDGE #3 & DETAILS

DESIGN CRITERIA

-ANSI / AF&PA NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION, 2012 EDITION
-ASCE 7-10 "MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES" PUBLISHED BY THE AMERICAN SOCIETY OF CIVIL ENGINEERS
-INTERNATIONAL BUILDING CODE, 2012 EDITION WITH 2014, 2015, 2017, & 2018 GEORGIA STATE AMENDMENTS
-AASHTO / AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
-ACI 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, 3011 EDITION.

DESIGN LOADS

BUILDING LOADS PER AASHTO GUIDE SPECIFICATIONS FOR PEDESTRIAN BRIDGES
DECK: LIVE LOAD - 100 PSF PEDESTRIAN LOAD ONLY
3,500 POUND GROSS VEHICLE WEIGHT GATOR SERVICE VEHICLE
WITH 75" WHEEL BASE AND 1,000 POUND LOAD CAPACITY
DEAD LOAD - 7.5 PSF

WIND LOAD CRITERIA

WIND LOAD PER SECTION 6.5.10 ASCE 7-10 "MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES"

BUILDING CATEGORY - I
EXPOSURE CATEGORY - C
BUILDING TYPE - OPEN

VELOCITY PRESSURE EXPOSURE COEFFICIENT (K_e) - 0.8
TOPOGRAPHIC FACTOR (K_{zt}) - 1.0
DIRECTIONALITY FACTOR (K_d) - 0.85
BASIC WIND SPEED (V) - 110 MPH
IMPORTANCE FACTOR (I) - 1.0
VELOCITY PRESSURE (q_s) - 18.17 PSF

SEISMIC DESIGN CRITERIA

S_s = 0.197 S₁ = 0.21
S₁ = 0.092 S_{0.1} = 0.14
RISK CATEGORY II
IMPORTANCE FACTOR I = 1.0
SITE CLASS D
SEISMIC DESIGN CATEGORY C
BASIS: SEISMIC FORCE RESISTING SYSTEMS
PILE FOUNDATION SYSTEM

PILE CAPACITIES

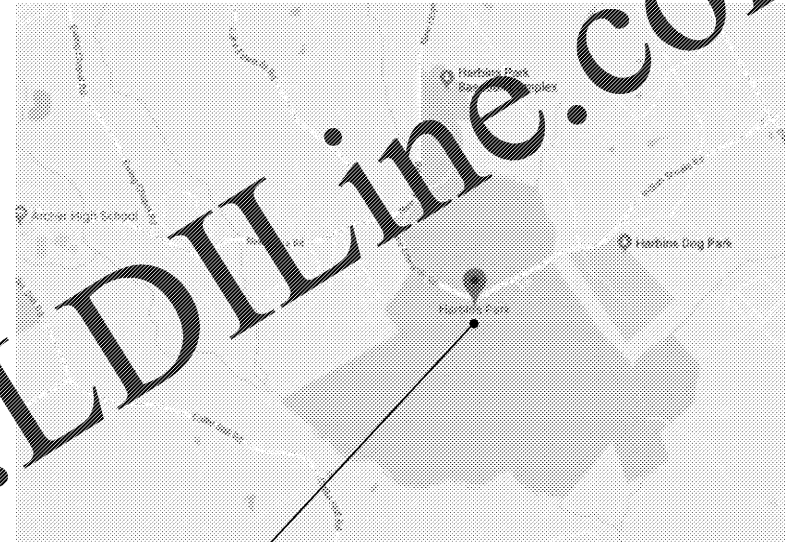
PILES:
8' ABOVE GRADE: 8"
6' & 8' ABOVE GRADE: 9"
6' +
10"
TYPICAL BOARDWALK: 12 Kips PER PILE COMPRESSIVE LOAD
1 Kip PER PILE LATERAL LOAD
BRIDGE: 18 Kips PER PILE COMPRESSIVE LOAD
2 Kips PER PILE LATERAL LOAD

GENERAL NOTES

1. SHALLOW FOUNDATION DESIGN BASED ON 5,000 PSI ALLOWABLE SOIL BEARING PER GEOTECHNICAL INVESTIGATION PROJECT #10103-201 B027 DATED DEC 20, 2018.
2. ALL TIMBER PILES TO BE #2 OR BETTER SOUTHERN YELLOW PINE (SYP) PRESSURE TREATED WITH 18% MC BEFORE TREATMENT. ALL FRAMING LUMBER TO BE #2 OR BETTER SYP PRESSURE TREATED WITH 18% MC BEFORE TREATMENT. ALL DECKBOARDS, HANDRAILS, OVERLAYS/SUPPORTS AND POSTS TO BE #1 SYP PT WITH 18% MC BEFORE TREATMENT.
3. ALL DECK, HANDRAIL FASTENERS, HANDRAIL BOLTS, NUTS, WASHERS, CLIPS, STRAPS, NAILS AND DECK SCREWS TO BE STAINLESS STEEL.
4. GUARDRAIL REQUIRED WHEN BOARDWALK IS GREATER THAN 30" ABOVE ADJACENT GRADE. GRASPABLE HANDRAIL WHEN BOARDWALK SLOPE EXCEEDS 5% OR WHEN 3' OR MORE STEPS.
5. ALL PILING SHALL MEET THE REQUIREMENTS AS SET FORTH BY THE AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) UNDER THE PROVISIONS OF D25 (LATEST EDITION), STANDARD SPECIFICATIONS FOR ROUND TIMBER PILES. TOLERANCE IN DIAMETER OF PILING SHALL BE 1" TAPER IN 10 LINEAR FEET.
6. CONTRACTOR TO PROVIDE ENGINEERED SEALED SHOP DRAWINGS FOR ILLUMINATED BEAM BRIDGES.
7. CONTRACTOR TO PROVIDE ENGINEERED SEALED SHOP DRAWINGS IF ANY DEVIATIONS DESIGN IS PROPOSED. DEVIATIONS WILL BE REVIEWED BY OWNER BUT MAY NOT BE ALLOWED.

PILE DRIVEN SPECIFICATIONS

1. PILE DRIVING LOCATIONS TO BE PRE DRILLED TO 4'-6" BLS TO PROVIDE PILOT HOZE FOR PILE.
2. THE PILE DRIVING SPECIFICATIONS FOR DETRITING REFUSAL ARE AS FOLLOWS: TO ACHIEVE A MINIMUM EMBEDMENT PER TABLE USING A ROCKET EMBEDED EXHAUSTOR (OR EQUIVALENT), DRIVING AT 800 RPMs, WITH ATTACHED C&C "NIP" HAMMER (OR EQUIVALENT) UTILIZING 7,800 LB-FT OF IMPULSE FORCE OPERATING AT A CYCLE RATE OF 2,400 PER MINUTE AND USING A FLOW OF 11-13 GALLONS OF HYDRAULIC FLUID PER MINUTE. IF THE PILING DOES NOT CONTINUE TO MOVE AFTER 1-MINUTE, THEN REFUSAL HAS BEEN MET.
3. BOARDWALK PILES TO ACHIEVE MINIMUM EMBEDMENT OF 10' BELOW LAND SURFACE (BLS)
BRIDGE ABUTMENT PILES TO ACHIEVE MINIMUM EMBEDMENT OF 15' BLS
4. PILES TO BE TESTED PER SECTION 06-1300 HEAVY TIMBER CONSTRUCTION PART 3, 3.03, "TESTING OF DRIVEN PILES"



PROJECT LOCATION
SITE PERMIT NO. CDP 2018-00236

Lumber Specifications				
Dimension	Location	Species	Grade	Treatment
2" x 8"	Guardrail Cap		Composite	
2" x 6"	Decking		Composite	
2" x 6"	Top Rail	SYP	# 1	0.40 ACQ
2" x 6"	Wire Cover	SYP	# 1	0.40 ACQ
2" x 6"	Bottom Rail	SYP	# 1	0.40 ACQ
4" x 6"	Guardrail Post	SYP	# 1	0.40 ACQ
4" x 4"	Guardrail Post Blocking	SYP	# 1	0.40 ACQ
3" x 12"	Stringer	SYP	# 2 & BTR	0.60 ACQ
3" x 12"	Stringer Blocking	SYP	# 2 & BTR	0.60 ACQ
10" x 10"	Pile Cap	SYP	# 2 & BTR	0.60 ACQ
2" x 8"	Cross Bracing	SYP	# 2 & BTR	0.60 ACQ
	Pile	SYP		0.80 CCA
6"	Pile Blocking	SYP		0.80 CCA

SYP (Southern Yellow Pine)

* Modified in the field to 3" Guardrail cap and deck board may also be 2"x6" #1 SYP PT 0.40 ACQ treatment

TIMBER PILE CAP TEST LOCATIONS

STATION	AXIAL COMPRESSION TEST (ASTM D11143)	LATERAL TENSION TEST (ASTM D3589)	LATERAL LOAD TEST (ASTM D3966)	COMMENTS
37+00	X	X	X	TYP. BOARDWALK
40+39	X	X	X	BRIDGE ABUTMENT
70+65	X	X	X	BRIDGE ABUTMENT
107+40	X	X	X	BRIDGE ABUTMENT

CONCRETE WORK

1. WELDED WIRE FABRIC REINFORCING: 6#8 INCH NO. 10 GAUGE. USE WIRE REINFORCING FOR ALL FLOOR SLABS AND ALL WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185.
2. ALL WELDED WIRE FABRIC SHALL BE LAPPED ONE FULL MESH, PANEL PLUS TWO INCHES AT SIDES AND ENDS AND SHALL BE WIRED TOGETHER.
3. METAL ACCESSORIES: INCLUDE ALL SPACERS, CHAIRS, BOLSTER, TIES AND OTHER DEVICES NECESSARY FOR PROPERLY PLACING, SPACING, SUPPORTING AND FASTENING REINFORCEMENT IN PLACE. METAL ACCESSORIES SHALL BE PLASTIC WHERE LEGS WILL BE EXPOSED IN FINISHED CONCRETE SURFACES.
4. ALL REINFORCEMENT STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM-A615, GRADE 60.
5. ALL BAR SPLICES AND DOWELS SHALL LAP 3D BAR DIAMETERS (MINIMUM) UNLESS NOTED OTHERWISE.
6. ALL CONCRETE REINFORCEMENT SHALL BE DETAILED, FABRICATED, LABELED, SUPPORTED, AND SPACED IN FORMS AND SECURED IN PLACE IN ACCORDANCE WITH THE PROCEDURES AND REQUIREMENTS OUTLINED IN THE LATEST EDITION OF ACI 318 AND ACI 315. SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION.
7. READY-MIXED CONCRETE: ALL CONCRETE SHALL BE PLANT MIXED AND DELIVERED TO THE SITE.
8. CONCRETE MIX DESIGN: THE PROPORTIONS OF CEMENT, AGGREGATE AND WATER SHALL BE FOR NORMAL WEIGHT CONCRETE TO ATTAIN REQUIRED PLASTICITY AND COMPRESSIVE STRENGTH. A MINIMUM OF 5" SACKS OF CEMENT USED FOR EACH CUBIC YARD OF 3,000 POUND CONCRETE. ALL BUILDING CONCRETE SHALL BE 3,000 PSI.
9. ALL CONCRETE SHALL BE DESIGNED TO SECURE A STRENGTH OF 3,000 PSI AT 28 DAYS.
10. CONCRETE COMPRESSIVE STRENGTH TEST RESULTS TO BE ON SITE FOR INSPECTOR REVIEW.
11. PROVIDE MINIMUM COVER FOR REINFORCING BARS, UNLESS OTHERWISE INDICATED:

FOOTINGS (TO GROUND):	3"
FOOTINGS (TOP AND SIDE):	3"
SLABS ON GRADE:	2"
SIDEWALKS:	2"

UNIT MASONRY

1. CMU BLOCK: 16"x12"x8" HOLLOW LOAD-BEARING CONCRETE MASONRY UNITS MADE FROM NORMAL WEIGHT AGGREGATES. FILL SOLID BELOW GRADE WITH 3,000 PSI CONCRETE AND REINFORCE PER DETAILS.
2. JOINT REINFORCEMENT: DUR-O-WALL, OR EQUAL, STANDARD TRUSS TYPE FOR SINGLE WYTHE WALL. REINFORCEMENT SHALL BE FULL WIDTH OF WALL.
3. PATTERN: LAY UNIT MASONRY IN RUNNING BOND PATTERN WITH APPROX. 1" JOINTS. TOOLS EXPOSED JOINTS SLIGHTLY CONCAVE AND CUT FLASH JOINTS TO BE COVERED BY OTHER MATERIALS.
4. WALL TIES: ANCHOR MASONRY VENEER TO WOOD FRAME CONSTRUCTION WITH CORRUGATED, GALVANIZED METAL TIES, MIN. 22 GA. 1/4" X 7" NAIL THROUGH SHEATHING TO STUDS AT MAX. 16" O.C. VERTICALLY AND 24" O.C. HORIZ.
5. TYPE S MORTAR: ONE PART PORTLAND CEMENT, ONE PART HYDRATED LIME OR LIME PUTTY AND SIX PARTS SAND, MIXED BY VOLUME.



PARKER
CONSULTING SERVICES, INC.
CIVIL ENGINEERS
1849 E. KILLIAN CENTER CT.
TALLAHASSEE, FL 32305 PHONE: (850) 877-8400
MATTHEW PARKER P.E.# 58724 CAL# 9003

Project Title
LLOYD N. HARRIS TRAIL @ HARBINS PARK
2995 LUKE EDWARDS ROAD
BY: GWINNETT COUNTY DEPT. OF COMMUNITY SERVICES
LAWRENCEVILLE, GEORGIA

REVISIONS	BY

DRAWN BY: LMF
CHECKED BY: MP
DATE: 10/03/19
SCALE: NTS
JOB No. 18-LD-068
SHEET NUMBER

C-0