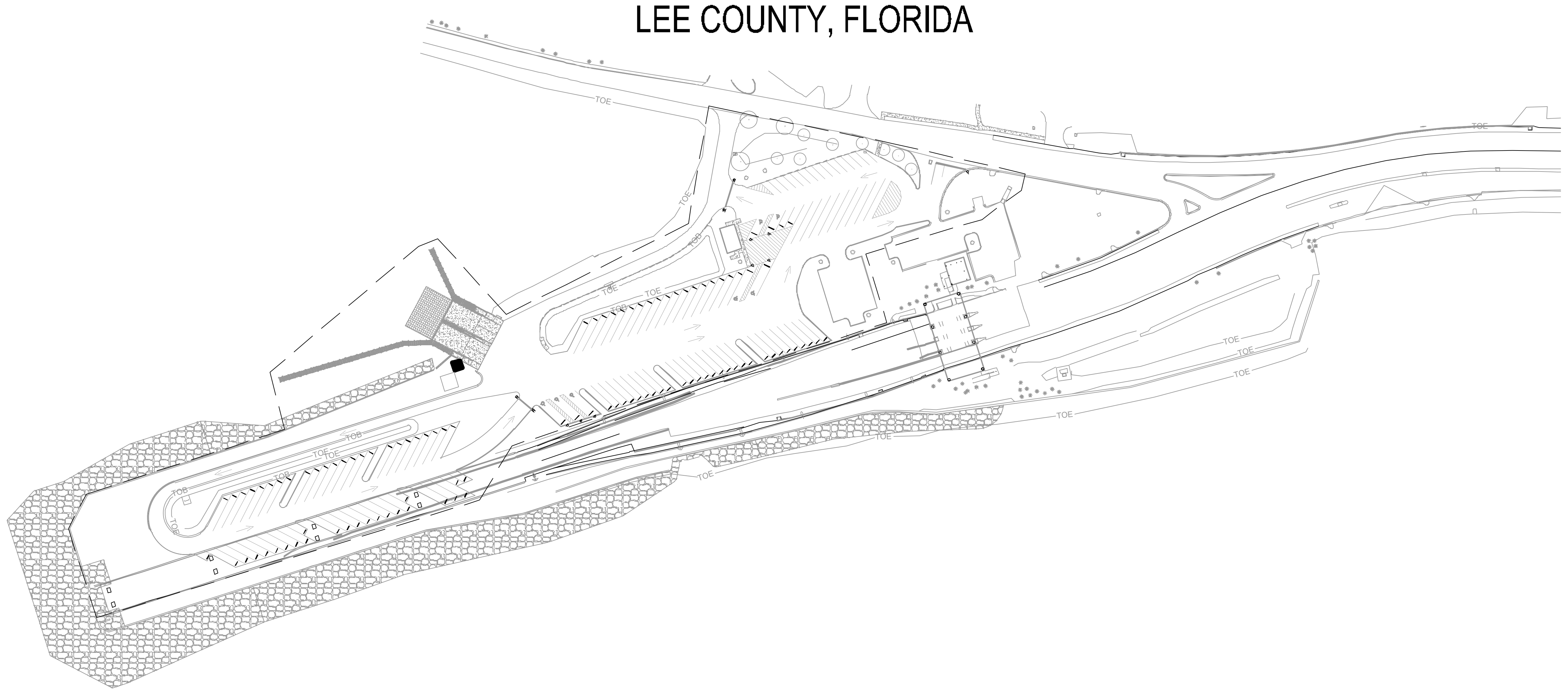
PUNTA RASSA BOAT RAMP IMPROVEMENTS

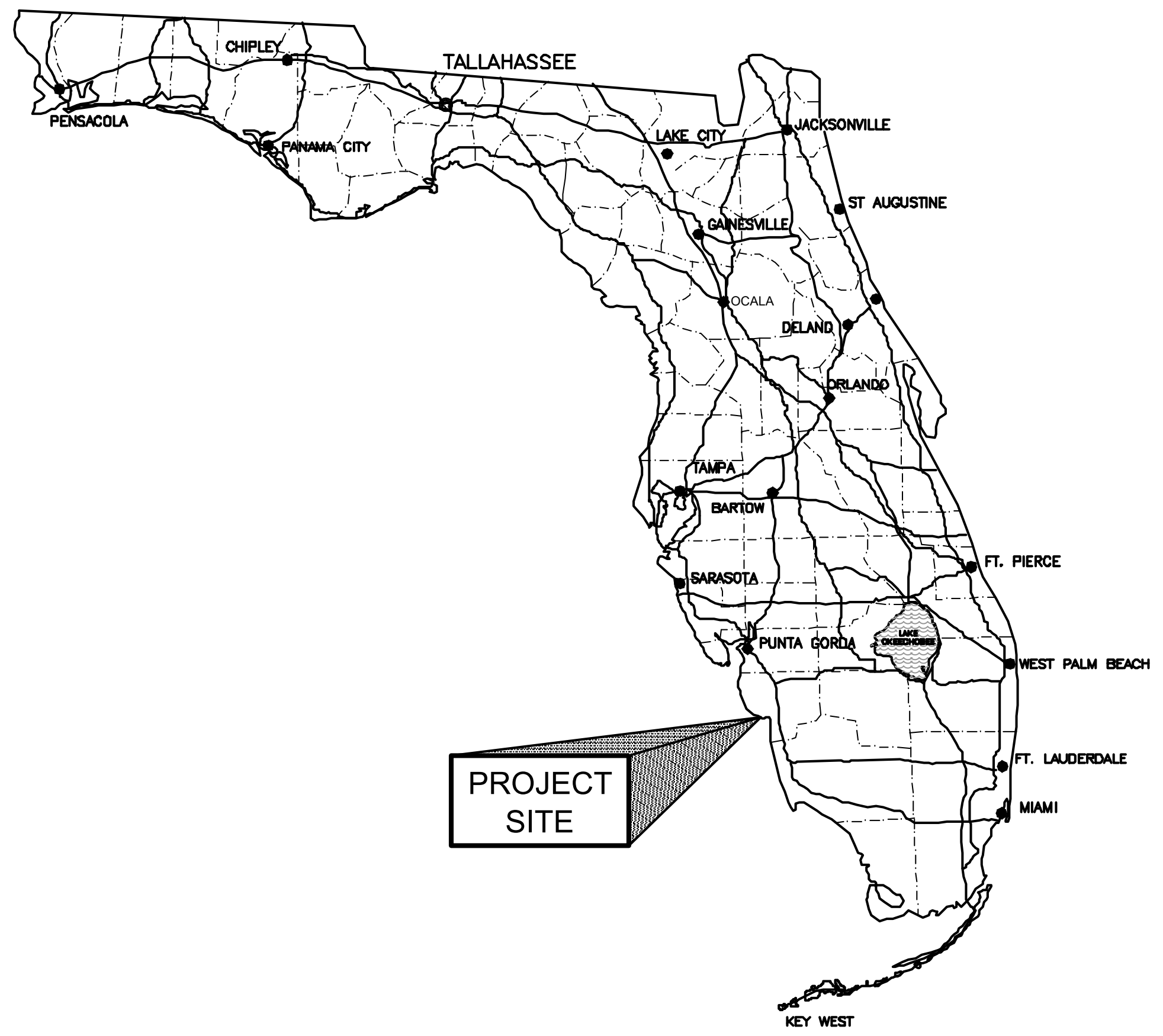
FOR

LEE COUNTY

SECTION 09, TOWNSHIP 46 S., RANGE 23E.

LEE COUNTY, FLORIDA





OWNER / DEVELOPER

LEE COUNTY
PO BOX 398
FORT MYERS, FL 33902
PHONE: (239) 533-2111

STRAP NUMBER

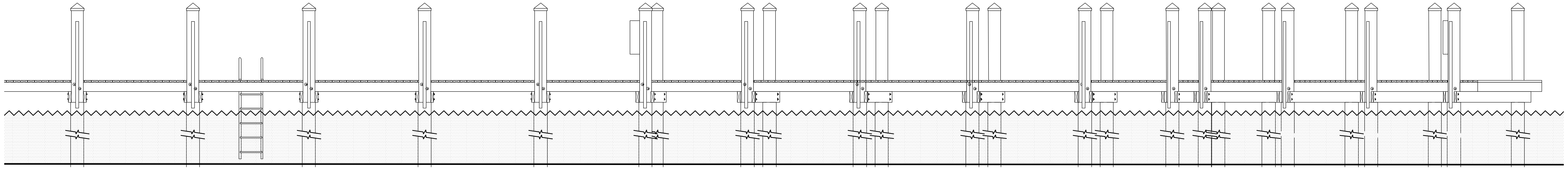
09-46-23-00-00002.0060

ZONING

AG-2 (LCO)

SITE ADDRESS

18700 MCGREGOR BLVD
FORT MYERS, FL 33908



PREPARED BY

THE WEILER ENGINEERING CORPORATION

---AN APEX COMPANY---
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INDEX OF DRAWINGS

GENERAL

G100	COVER SHEET
G102	STRUCTURAL GENERAL NOTES

STRUCTURAL DRAWINGS

S100	BOARDING PIER AND RAMP PLAN
S200	SOUTH DOCK FRAMING AND DETAILS
S300	WIND LOADING

THE WEILER ENGINEERING CORPORATION

These plans are in Compliance with Florida Building Code 2023 for wind parameters indicated.

WIND PARAMETERS
Method of Design: ASCE 7-22
Building Risk Category: II
Design Wind Speed: Ultimate V_{ult}=160 MPH / Nominal V_{asd} = 124 MPH
Wind Importance Factor: 1.0 / Wind Exposure: D
Internal Pressure Coefficient: ±0.00 (Open)
Component & Cladding Wind Pressure: per Calcs
FLOOD PARAMETERS
FEMA FIRM Map Number: 12071C0532G
Base Flood Elevation: VE-11
100-year, 1-hour Design Rainfall: 4.5 in (FBC 2023 Fig. 1611.1)
GEOTECHNICAL PARAMETERS
Data Source: *TIERRA PROJECT NO. 6511-23-232*
Vertical Bearing Capacity: 10" PILE: 5 TONS
Lateral Bearing Pressure: 1 TON PER PILE

JOHNSON ENGINEERING
— An Apex Company —

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WEILER ENGINEERING CORPORATION
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Max Morgan

Digitally signed by Max Morgan
Date: 2024.12.03 13:38:57 -05'00'

Max Morgan Professional Engineer
State of Florida Registration No. 94877

Max Morgan,
Professional Engineer,
State of Florida,
License No. 94877
This item has been
digitally signed and sealed by
Max Morgan, P.E.
on the date indicated here.
12-03-2024
Printed copies of this document are
not considered signed and sealed
and the signature must be verified
on any electronic copies.

Lee County
Southwest Florida

PUNTA RASSA
BOAT RAMP REPLACEMENT

COVER SHEET

REVISIONS

NO.	DESCRIPTION	DATE

DATE: 12/03/2024
PROJECT NO. 20247063-000
FILE NO. 09-46-23 / WEC: 24095.002
SCALE: AS SHOWN

SHEET NUMBER
G100

GENERAL REQUIREMENTS

1. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND DETAILS AND SHALL NOTIFY ENGINEER IMMEDIATELY OF ANY ERRORS, OMISSIONS OR DISCREPANCIES PRIOR TO COMMENCEMENT OF WORK.
2. ALL MATERIALS, EQUIPMENT, CONNECTORS, AND WORK SHALL MEET OR EXCEED THE DESIGN DATA AND COMPLIANCE CODE CITED.
3. ENGINEER IS NOT RESPONSIBLE FOR ANY SUPERVISION DURING CONSTRUCTION.
4. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO COMMENCING WORK AND DETERMINE THE LOCATION OF ALL ADJACENT UNDERGROUND UTILITIES PRIOR TO COMMENCING EXCAVATION AND NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.
5. THE CONTRACTOR MAINTAINS THE RESPONSIBILITY FOR ALL CONSTRUCTION MEANS, METHODS AND TECHNIQUES REQUIRED FOR THE CONNECTIONS OF ALL PILINGS, DECK SYSTEMS AND STRUCTURES. ALL WORK SHALL BE PERFORMED IN A WORKMANLIKE MANNER.
6. THE STRUCTURAL INTEGRITY OF THE STRUCTURES SHOWN ON THESE PLANS IS DEPENDENT UPON COMPLETION ACCORDING TO PLANS AND SPECIFICATIONS. STRUCTURAL MEMBERS ARE NOT SELF SUPPORTING DURING CONSTRUCTION AND REQUIRE TEMPORARY BRACING UNTIL PERMANENTLY APPLIED TO STRUCTURE AS DIRECTED. THE STRUCTURAL ENGINEER ASSUMES NO LIABILITY FOR THE STRUCTURE DURING CONSTRUCTION UNLESS THE CONSTRUCTION METHOD AND BRACING ARE INCLUDED IN THE PLANS AND SPECIFICATIONS, OR ARE SUPERVISED BY THE STRUCTURAL ENGINEER DURING CONSTRUCTION.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAFETY PRECAUTIONS AND THE METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES REQUIRED TO PERFORM THE WORK. THE STRUCTURAL ENGINEER HAS NO OVERALL SUPERVISION / AUTHORITY OR ACTUAL AND/ OR DIRECT RESPONSIBILITY FOR THE SPECIFIC WORKING CONDITIONS AT THE SITE AND/ OR FOR ANY HAZARDS RESULTING FROM THE ACTIONS OF ANY TRADE CONTRACTOR. THE STRUCTURAL ENGINEER HAS NO DUTY TO INSPECT, SUPERVISE, NOTE, CORRECT, OR REPORT ANY HEALTH OR SAFETY DEFICIENCIES OF THE OWNER, CONTRACTORS, OR OTHER ENTITIES OR PERSONS AT THE PROJECT SITE.
8. IN ADDITION TO THE DEMOLITION WORK INDICATED ON THE DRAWINGS, MINOR LOCAL DEMOLITION OF EXISTING ELEMENTS MAY BE REQUIRED TO PERFORM THE STRUCTURAL WORK AS INDICATED ON THE PLANS, SECTIONS, AND DETAILS.
9. DISCHARGE ALL DRAIN LINES, CONDENSATE LINES, DOWN SPOUT, ETC. AT LEAST 1'-0" FROM STRUCTURES
10. ANY CHANGES OR SUBSTITUTIONS SHALL BE APPROVED BY THE ENGINEER.
11. DISSIMILAR METALS SHALL BE ISOLATED TO PREVENT GALVANIC ACTION.
12. THE ENTIRE SCOPE OF WORK SHALL MEET THE 75 FOOT RULE AND SQUARE FOOTAGE REQUIREMENTS OF NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 10 FOR NUMBER, TYPE AND PLACEMENT OF EXTINGUISHERS.
13. FIELD VERIFY ALL EXISTING ABOVE AND BELOW GROUND CONDITIONS PRIOR TO FABRICATION AND CONSTRUCTION.
14. THE STRUCTURAL DESIGN OF DOCKS AND BOARDWALKS IS BASED ON THE FULL INTERACTION OF ALL ITS COMPONENT PARTS, WITH NO PROVISION FOR CONDITION OCCURRING DURING CONSTRUCTION. THEREFORE, CONTRACTOR SHALL PROVIDE ADEQUATE BRACING DURING CONSTRUCTION.
15. STRUCTURAL DRAWINGS INDICATE TYPICAL AND CERTAIN SPECIFIC CONDITIONS ONLY. SHOP DRAWINGS SHALL DETAIL ALL CONDITIONS IN ACCORDANCE WITH SPECIFIED STANDARDS AND SPECIFIC REQUIREMENTS OF THIS PROJECT AS INDICATED ON THE DRAWINGS.
16. CONTRACTOR SHALL APPLY FOR AND OBTAIN ALL NECESSARY PERMITS FROM ALL GOVERNING JURISDICTIONS INCLUDING CHARLOTTE COUNTY, FLORIDA, FOR STRUCTURAL, ELECTRICAL, PLUMBING, AND ALL OTHERS REQUIRED TO COMPLETE THE JOB.

GENERAL STRUCTURAL SPECIFICATIONS

1. GOVERNING BUILDING CODE: 2023 FLORIDA BUILDING CODE 8TH EDITION (FBC)
2. DESIGN LOADS:

STRUCTURAL LOADS (LOADS PER FBC TABLE 1607.1)

LIVE LOAD	100 PSF
DEAD LOAD	20 PSF

STAIR DESIGN LOADS

LIVE LOAD:	60 PSF
CONCENTRATED LIVE LOAD:	300 LB

HANDRAIL AND GUARDRAIL DESIGN LOADS

CONCENTRATED LOAD:	200 LB
UNIFORM LINEAR LOAD:	50 PLF

GRAB BARS DESIGN LOADS (FBC, SECTION 1607.7)

SINGLE CONCENTRATED LOAD AT ANY POINT AND IN ANY DIRECTION APPLIED AT TOP OF GUARDRAIL:	250 LB

WIND LOADS (PER ASCE 7-22)

BUILDING RISK CATEGORY (TABLE 1.5-1)	II
BASIC WIND SPEED (FIG. 26.5-1A)	
Ultimate (V_{ult}) (THREE SECOND GUST)	160 MPH
Nominal (V_{asd})	124 MPH
IMPORTANCE FACTOR (TABLE 1.5-2)	1.00
EXPOSURE CATEGORY (26.7.3)	EXPOSURE D
INTERNAL PRESSURE COEFFICIENT (TABLE 26.13-1)	±0.00 (OPEN)
COMPONENTS & CLADDING WIND PRESSURES	PER PLAN

GEOTECHNICAL DESIGN DATA (PER FBC 1806)

DATA SOURCE: PRESUMPTIVE LOAD-BEARING VALUES OF SOIL (FBC)	
VERTICAL BEARING CAPACITY (TABLE 1806.2)	1,500 PSF
LATERAL BEARING CAPACITY(TABLE 1806.2)	100 PSF/FT

RAIN DESIGN DATA (PER FBC 1611)

DESIGN RAIN EVENT	100-YEAR, 1-HR
DESIGN RAINFALL (FIG. 1611.1)	4.5-IN

FLOOD DESIGN DATA (PER FBC 1612)

FEMA FIRM MAP	12071C0532G
BASE FLOOD ELEVATION	VE-11 COASTAL

3. MATERIALS

CONCRETE (NORMAL WEIGHT - 28 DAY COMPRESSIVE STRENGTH):

SLAB ON GRADE AND FOOTINGS:	3,000 PSI
COLUMNS:	3,000 PSI
REINFORCING STEEL FOR: CONCRETE MASONRY UNITS (CMU) WALLS, FOOTINGS, BEAMS, ETC	ASTM A615, GRADE 60, FY = 60,000 PSI
WELDED WIRE MESH:	ASTM A185
ANCHOR BOLTS:	ASTM A193, GRADE B8M, CLASS-1, TYPE 304 SS
HIGH STRENGTH BOLTS:	ASTM A193, GRADE B8M, CLASS-2, TYPE 304 SS
ANCHORS OR POWER ACTUATED FASTENERS:.	HILTI OR APPROVED EQUAL, TYPE 304 SS
VAPOR BARRIER:	6 MILS POLYETHYLENE
GROUT:	3,000 PSI, NON SHRINK

APPLICABLE CODES

FLORIDA BUILDING CODE, BUILDING (FBC-B)	2023 8th Edition
FLORIDA BUILDING CODE, FUEL GAS (FBC-FG)	2023 Edition
FLORIDA BUILDING CODE, MECHANICAL (FBC-M)	2023 Edition
FLORIDA BUILDING CODE, PLUMBING (FBC-P)	2023 Edition
FLORIDA BUILDING CODE, EXISTING BUILDING (FBC-EB)	2023 Edition
FLORIDA BUILDING CODE, RESIDENTIAL (FBC-R)	2023 Edition
FLORIDA FIRE PREVENTION CODE (FFPC)	2023 8th Edition
NATIONAL ELECTRICAL CODE (NEC)	2020 Edition
FDOT STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONST.	Latest Edition
FDOT DESIGN STANDARDS	Latest Edition
FLORIDA ACCESSIBILITY CODE	2023 Edition

SHOP DRAWINGS

1. SHOP DRAWINGS AND TEST RESULTS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW. NO MODIFICATIONS OR SUBSTITUTION OF DRAWINGS AND SPECIFICATIONS WILL BE ACCEPTED VIA SHOP DRAWINGS REVIEW. ONE COPY OF ALL TEST REPORTS SHALL BE SENT DIRECTLY TO THE ENGINEER OF RECORD, AND ONE COPY TO THE COUNTY. THE FOLLOWING SHOP DRAWINGS AND TEST RESULTS SHALL BE SUBMITTED;
2. CONTRACTOR SHALL REVIEW AND STAMP SHOP DRAWINGS PRIOR TO SUBMISSION TO THE ENGINEER OF RECORD. CONTRACTOR SHALL REVIEW FOR COMPLETENESS AND COMPLIANCE WITH CONTRACT DOCUMENTS.
3. SUBMIT SHOP DRAWINGS TO THE STRUCTURAL ENGINEER AS INDICATED OR SPECIFIED FOR REVIEW PRIOR TO FABRICATION. REVIEW WILL BE FOR GENERAL CONFORMANCE WITH THE DESIGN INTENT CONVEYED IN CONTRACT DOCUMENTS.
4. WHEN ENGINEER IS REQUIRED TO SIGN AND STAMP SHOP DRAWINGS AND CALCULATIONS, ENSURE SEAL INDICATES ENGINEER AS REGISTERED IN THE STATE WHERE PROJECT SITE OCCURS.
5. SHOP DRAWINGS ARE NOT PART OF CONTRACT DOCUMENTS. THEREFORE, ENGINEER'S REVIEW DOES NOT CONSTITUTE ON AUTHORIZATION TO DEVIATE FROM THE TERMS AND CONDITIONS OF THE CONTRACT.
6. SHOP DRAWINGS WILL BE REJECTED FOR INCOMPLETENESS, LACK OF COORDINATION WITH OTHER PORTIONS OF CONTRACT DOCUMENTS, LACK OF CALCULATIONS (IF REQUIRED), OR WHERE MODIFICATIONS OR SUBSTITUTIONS ARE INDICATED WITHOUT PRIOR REVIEW. SUBMIT SHOP DRAWINGS AND CALCULATIONS TO GOVERNING CODE AUTHORITY WHEN SPECIFICALLY INDICATED OR REQUESTED.
7. STRUCTURAL ENGINEER REQUIRES 10 WORKING DAYS AFTER RECEIPT OF SHOP DRAWINGS AND CALCULATIONS FOR PROCESSING.
8. MAINTAIN A COPY OF ALL SHOP DRAWINGS ACCEPTED BY THE STRUCTURAL ENGINEER AT SITE DURING CONSTRUCTION PERIOD.
9. SUBMITTALS SHALL BE SUBMITTED TO ENGINEER OF RECORD FOR ANY PROPOSED ALTERNATIVES TO PRODUCTS SPECIFIED IN PLANS.

EXISTING STRUCTURE

1. DRAWINGS FOR THE EXISTING STRUCTURE ARE AVAILABLE. ALL OF THE EXISTING CONDITIONS WERE NOT VERIFIABLE WITHIN THE SCOPE OF ENGINEERING SERVICES; THEREFORE, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE CONDITIONS RELATING TO THE EXISTING STRUCTURE AND TO NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPANCIES OR CONFLICTS.
2. CONTRACTOR SHALL REPLACE ALL PILES IN LIKE KIND UNLESS PROOF CAN BE PROVIDED THAT ANY TO REMAIN MEET BEARING AND UPLIFT CAPACITY AND ARE TRUE AND PLUMB.
3. CONTRACTOR SHALL CONTACT ENGINEER OF RECORD TO PERFORM AN ON-SITE INSPECTION AS TO VERIFY EXISTING CONCRETE RAMP IS IN GOOD CONDITION AND IN ACCORDANCE WITH ORIGINAL PERMIT DOCUMENTS. ANY DAMAGES SHALL BE REPAIRED OR RAMPS REPLACED AS NEEDED. SURFACE CRACKS SHALL BE REPAIRED PER ENGINEERED DETAILS. CONTACT ENGINEER FOR FURTHER DIRECTION WHERE REQUIRED.

CHEMICAL (ADHESIVE) ANCHORS

SHALL BE AN EQUAL TWO PART EPOXY POLYMER INJECTION SYSTEM, SUCH AS RED-HEAD EPCON, SIMPSON SET EPOXY, OR HILTI HSE2411 EPOXY DOWELING SYSTEM, OR ENGINEER APPROVED SUBSTITUTION, INSTALLED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS. INSTALLERS SHALL BE TRAINED BY THE MANUFACTURER'S REPRESENTATIVE. MINIMUM EMBEDMENT SHALL BE TWELVE (12) TIMES FASTENER DIAMETER UNLESS NOTED OTHERWISE.

CONSTRUCTION OBSERVATION

THE STRUCTURAL ENGINEER OF RECORD (EOR) HAS BEEN RETAINED TO PERFORM CONSTRUCTION OBSERVATION SERVICES FOR THIS PROJECT. PLEASE INFORM EOR OF ANY QUESTIONS OR CONFLICTS. PLEASE ALLOW FOR UP TO 10 DAYS FOR SUBMITTAL REVIEWS BY EOR. CHANGES MADE TO THE STRUCTURE OR TO THESE PLANS WITHOUT THE ENGINEER'S WRITTEN CONSENT SHALL RENDER THE DESIGN AND THE ENGINEERS SEAL ON THESE PLANS NULL AND VOID

ALUMINUM SPECIFICATIONS

1. WHERE OTHERWISE NOT SPECIFIED, ALUMINUM HANDRAIL FOR VERTICAL AND HORIZONTAL MEMBERS SHALL BE SEAMLESS, 1-1/2 INCH (IPS), SCHEDULE 40, 6063-T832 OR 6063-T6 ALUMINUM ALLOY PIPE. ALUMINUM FITTINGS SHALL BE OF WROUGHT MATERIAL OF THE SAME COMPOSITION AS RAILS AND POSTS OR CAST ALUMINUM OF ALUMINUM ALLOY NO. 214. ALUMINUM FITTINGS SHALL HAVE A MINIMUM THICKNESS OF 1/4-INCH. ALL SCREW CONNECTORS AND BOLTS SHALL BE OF STAINLESS STEEL OR 2024-T4 ALUMINUM ALLOY.
2. ALL OTHER ALUMINUM COMPONENTS SHALL BE AS NOTED.

WIND BORNE DEBRIS REGION REQUIREMENTS

1. DESIGN WIND PRESSURES ARE BASED ON STRUCTURE CLASSIFICATION INDICATED IN GENERAL STRUCTURAL SPECIFICATIONS.
2. ALL COMPONENTS AND CLADDING AS REQUIRED SHALL BE DESIGNED BY THE MANUFACTURER IN ACCORDANCE WITH SECTION 1609 OF THE FLORIDA BUILDING CODE FOR DESIGN PRESSURES GENERATED BY AN ULTIMATE DESIGN WIND VELOCITY AS INDICATED IN GENERAL STRUCTURAL SPECIFICATIONS.
3. THE ENGINEER OF RECORD DOES NOT CERTIFY THE STRUCTURAL INTEGRITY OF THESE ITEMS.
4. THE BUILDER SHALL PROVIDE NECESSARY COPIES OF DETAILS, CERTIFICATIONS, ETC... TO THE BUILDING DEPARTMENT TO SHOW COMPLIANCE WITH THIS PARAGRAPH.

WIND LOADING INFO

REFER TO SHEET S300 DETAIL 1 FOR WIND LOADING

LUMBER

1. CODES AND STANDARDS (CURRENT EDITIONS)
   - 1.1. AMERICAN WOOD COUNCIL (AWC)
   - 1.2. AMERICAN WOOD PROTECTION ASSOCIATION (AWPA)
   - 1.3. 2024 NATIONAL DESIGN SPECIFICATION (NDS) FOR WOOD CONSTRUCTION
2. DIMENSIONAL LUMBER SHALL BE SOUTHERN PINE WITH THE MINIMUM NOMINAL DESIGN VALUES PER AWC NDS.
3. WHERE SPECIFIED, ENGINEERED LUMBER PRODUCTS SHALL BE PER MANUFACTURER PROVIDED DESIGN VALUES. CONTRACTOR SHALL PROVIDE SUBMITTAL FOR ALL ENGINEERED LUMBER PRODUCTS.
4. ALL WOOD IN CONTACT WITH CONCRETE, MASONRY, OR SOIL, EXPOSED TO WEATHER, OR AT OTHER LOCATIONS AS SHOWN ON STRUCTURAL DRAWINGS, SHALL BE PROTECTED OR PRESSURE TREATED IN ACCORDANCE WITH AMERICAN WOOD PROTECTION ASSOCIATION (AWPA) REQUIREMENTS. PRESSURE TREATMENT APPROPRIATE FOR LUMBER IN CONTACT WITH SOIL SHALL BE PROVIDED WHERE APPLICABLE
   - 4.1. ALL NEW WOOD PILES MUST UNDERGO DUAL TREATMENT (UNLESS NOTED OTHERWISE):
     - 4.1.1. FIRST TREATMENT WITH CHROMIUM COPPER ARSENATE (CCA) 1.00, FOLLOWED BY
     - 4.1.2. SECOND TREATMENT WITH CREOSOTE SOLUTION (CR-S) 20.00.
   - 4.2. ALL NEW BENTS AND STRINGERS MUST ADHERE TO THE AMERICAN WOOD COUNCIL'S USE CATEGORY UC4B AND BE TREATED WITH 0.60 POUNDS PER CUBIC FOOT (PCF) OF CCA (UNLESS NOTED OTHERWISE).
   - 4.3. ANY GUARDS AND DECKING, EXCLUDING HIGH-DENSITY POLYETHYLENE (HDPE) DECKING, MUST BE TREATED WITH 0.60 PCF ALKALINE COPPER QUATERNARY (ACQ), OR 0.31 PCF COPPER AXOLE (CA), OR 0.23 PCF CA-C, OR MICRONIZED COPPER AZOLE (MCA). ANY GUARDS AND DECKING, WHERE DECKING IS NOT HIGH-DENSITY POLYETHYLENE (HDPE), SHALL BE TREATED WITH 0.60 PCF ACQ OR 0.31 PCF CA OR 0.23 PCF WOLMAN © E (µCA-C) OR MCA

WOOD PRESERVATION TREATMENT

APPLICATION	AWPA USE CATEGORY	TREATMENT (LBS/CU FT.)
IN CONTACT WITH METAL ROOFING	UC2	0.018 PCF PTI OR EQUAL ± (0.019 PCF EL2, 0.14 PCF UCA-C, 0.15 PCF MCA, OR 0.17 PCF SBX)
ABOVE GROUND USE	UC3B	ACQ 0.25
CONCRETE OR GROUND CONTACT, IN-GROUND USE, DECKING, ROOF COMPONENTS	UC4A	0.40 PCF ACQ OR EQUAL ± (0.14 PCF UCA-C , 0.15 PCF MCA, OR 0.15 PCF CA)
STRINGERS & BENTS 2X6-2X10, ROOF POSTS 6X6-10X10	UC4A/B	0.60 PCF ACQ OR 0.31 PCF CA OR 0.23 PCF OF UCA-C OR MCA
SPLIT PILE CAP 3X10, STRINGERS & BENTS 2X8-3X10	UC4B	0.60 PCF CCA
UPLAND PILES IN-GROUND OR FRESHWATER PILES	UC4C	0.80 PCF CCA OR 0.41 CA
SALTWATER EXPOSURE PILES, CROSS BRACING, AND WALERS	UC5C	2.5 CCA

PRIMARY PROJECT WOOD PRESERVATION TREATMENT

5. WALL STUDS SHALL BE CAPPED WITH A DOUBLE PLATE, INSTALLED TO PROVIDE OVERLAPPING AT CORNERS AND INTERSECTIONS WITH BEARING PARTITIONS.
6. ENGINEERED WOOD TRUSS SYSTEMS SHALL BE DESIGNED BY SUPPLIER'S DELEGATED ENGINEER TO CONFIGURATION AND LOAD-CARRYING CAPACITY SHOWN ON DRAWINGS AND SPECIFICATIONS. ALTERNATE TRUSS LAYOUTS ARE ACCEPTABLE ONLY AS A CHANGE ORDER WHICH WILL INCLUDE ENGINEERING CHARGES FOR REDESIGN OF THE STRUCTURE BY THE ENGINEER OF RECORD. SUBMIT SHOP DRAWINGS FOR REVIEW PRIOR TO FABRICATION. SHOP DRAWINGS SHALL SHOW AND SPECIFY ALL CONNECTOR TYPES UTILIZED WITHIN TRUSSES, AS WELL AS CONNECTORS UTILIZED IN ALL OTHER CONNECTIONS AND ATTACHMENTS BETWEEN TRUSSES OR COMPONENTS SUPPLIED AS PART OF THE ENGINEERED TRUSS SYSTEM. A PLACING PLAN SHALL BE INCLUDED, IDENTIFYING ALL TRUSS SYSTEM COMPONENTS, AS WELL AS ALL PERMANENT BRACING REQUIRED FOR TRUSS DESIGN.
7. ENGINEERED SHOP DRAWINGS SHALL BEAR THE SIGNATURE AND IMPRESSED SEAL OF A FLORIDA REGISTERED PROFESSIONAL ENGINEER AS THE SPECIALTY ENGINEER. THE FOLLOWING LOAD DURATION FACTORS SHALL BE USED FOR ALLOWABLE STRESS DESIGN (ASD):
   - 7.1. DEAD LOAD 0.90
   - 7.2. DEAD LOAD + FLOOR LIVE LOAD 1.00
   - 7.3. DEAD LOAD + ROOF LIVE LOAD 1.25
   - 7.4. DEAD LOAD + WIND LOAD 1.60
8. WHERE STRENGTH DESIGN (LRFD) IS UTILIZED ON ENGINEERED SHOP DRAWINGS, THE FOLLOWING TIME EFFECT FACTORS SHALL BE USED:
   - 8.1. $1.4D$ 0.60
   - 8.2. $1.2D + 1.6L + 0.5(L_r, S, R)$ 0.70 (L FROM STORAGE)
   - 8.2. $1.2D + 1.6L + 0.5(L_r, S, R)$ 0.80 (L FROM OCCUPANCY)
   - 8.2. $1.2D + 1.6L + 0.5(L_r, S, R)$ 1.25 (L FROM IMPACT)
   - 8.3. $1.2D + 1.6(L_r, S, R) + (L, 0.5W)$ 0.80
   - 8.4. $1.2D + 1.0W + L + 0.5(L_r, S, R)$ 1.00
   - 8.5. $1.2D + 1.0E + L + 0.2S$ 1.00
   - 8.6. $0.9D + 1.0W$ 1.00
   - 8.7. $0.9D + 1.0E$ 1.00
9. DECK SHEATHING SHALL BE INSTALLED LONG DIMENSION PERPENDICULAR TO FRAMING AND END JOINTS SHALL BE STAGGERED.
10. ROOF AND FLOOR SHEATHING SHALL BE INSTALLED LONG DIMENSION PERPENDICULAR TO FRAMING AND END JOINTS SHALL BE STAGGERED.
11. PLYWOOD FLOOR, WALL, AND ROOF SHEATHING ARE DESIGNED AS DIAPHRAGMS AND SHALL COMPLY WITH APPLICABLE PROVISIONS OF CHAPTER 23 OF THE 2023 FLORIDA BUILDING CODE (FBC-2023). UNLESS SHOWN OTHERWISE SPAN RATED PANELS SHALL BE FASTENED TO NOMINAL 2X SOUTHERN PINE FRAMING SPACED UP TO 24" O/C IN ACCORDANCE WITH THE FOLLOWING:
    - 11.1. PANELS UP TO 5/8" THICK: 10D NAILS AT 4" O/C ALONG SUPPORTED PANEL EDGE, 6" O/C ELSEWHERE, U.N.O.
    - 11.2. PANELS UP TO 3/4" THICK: 12D NAILS AT 4" O/C ALONG SUPPORTED PANEL EDGE, 6" O/C ELSEWHERE, U.N.O.
12. ROOF SHEATHING SHALL BE NAILED WITH RING-SHANK NAILS IN ACCORDANCE WITH THE FLORIDA BUILDING CODE.
13. AT GABLE ENDWALLS, GABLE END TRUSSES, AND ALL COMPONENT AND CLADDING EDGE STRIP #3 LOCATIONS, SPACE NAILS AT 4" O/C AT ALL EDGES AND INTERMEDIATE SUPPORTS.
14. NAILING, JOIST BLOCKING, AND RAFTER BLOCKING SHALL MEET THE MINIMUM REQUIREMENTS OF CHAPTER 23 OF THE FLORIDA BUILDING CODE UNLESS MORE STRINGENT REQUIREMENTS ARE INDICATED ON THE PLANS.
15. ALL CONNECTORS SHALL BE TYPE 304 STAINLESS STEEL (SS). CONNECTOR MODEL NUMBERS SHOWN ARE STRONG-TIE CONNECTORS AS MANUFACTURED BY SIMPSON STRONG-TIE CO, PO BOX 10789, PLEASANTON, CA 94588 OR USP CONNECTORS AS MANUFACTURED BY MITEK, INC, 16023 SWINGLEY RIDGE RD, CHESTERFIELD, MO 63017. SUBSTITUTIONS ARE ACCEPTABLE WITH THE APPROVAL OF THE STRUCTURAL ENGINEER. UNLESS SHOWN OTHERWISE, INSTALL SIZE AND NUMBER OF FASTENERS PER MANUFACTURER INSTALLATION INSTRUCTIONS. ALL CONNECTORS TO PRESSURE TREATED LUMBER SHALL BE TYPE 304 STAINLESS STEEL (SS).
16. ANY NOTE REQUIRING A RING SHANK MAY BE SCREW SHANK FOR AUTOMATIC NAILING

TEST PILE REQUIRED

1. TEST PILES MUST BE COMPLETED WITHIN THE AREA OF THE STRUCTURE'S FOUNDATION.
2. THE TEST PILE MUST MATCH THE INDICATED TYPE AND BE INSTALLED USING SUITABLE METHODS ASSOCIATED WITH THE PILING TYPE.
3. TEST PILES MUST INCORPORATE APPROPRIATE MONITORING DEVICES TO MEASURE PARAMETERS SUCH AS LOAD, DISPLACEMENT, AND SOIL PRESSURES DURING PILE DRIVING OR LOADING TESTS.
4. LOAD TESTS, INCLUDING STATIC LOAD, DYNAMIC LOAD, AND PILE INTEGRITY TESTS, ARE REQUIRED TO EVALUATE PILE CAPACITY AND PERFORMANCE.
5. PREPARE A COMPREHENSIVE REPORT DOCUMENTING TEST PILE INSTALLATION, INSTRUMENTATION SETUP, LOAD TEST PROCEDURES, AND RESULTS. PRESENT FINDINGS TO THE ENGINEER OF RECORD FOR REVIEW AND APPROVAL BEFORE INSTALLING ADDITIONAL PILINGS.

NEW PILE INSTALLATION

1. CONTRACTOR SHALL REPLACE ALL PILES IN LIKE KIND THAT ARE IDENTIFIED TO BE REMOVED, UNLESS PROOF CAN BE PROVIDED THAT ANY TO REMAIN MEET BEARING AND UPLIFT CAPACITY AND ARE TRUE AND PLUMB.
2. WHEN PRE-DRILLING PILES, PERMANENT AND TEST PILES MAY BE PREDRILLED UP TO 20% OF THE EMBEDMENT LENGTH. IF OBSTRUCTIONS OR ROCK IS ENCOUNTERED, THE PREDRILLED HOLE SHALL NOT EXCEED A DIAMETER OF 12" THROUGH THE OBSTRUCTION. CLEAN SAND SHALL BE BACKFILLED WHERE OBSTRUCTIONS MUST BE DRILLED THROUGH. (FDOT 455-5.1.1)
3. PILES SHALL HAVE AN MINIMUM EMBEDMENT OF 15'-0" THEN PILE SHALL BE CUT TO REQUIRED HEIGHT. CONTRACTOR SHALL CONTACT EOA FOR ANY REFUSAL LESS THAN 15'-0".
4. ALL BOLTS, FASTENERS, BRACKETS AND STRAPS SHALL SHALL BE 304 STAINLESS STEEL, UNLESS NOTED OTHERWISE. BOLT END SHALL EXTEND PASS THE STAINLESS STEEL NUT BY A MINIMUM OF THREE (3) THREADS.
5. ALL WOOD PILES SHALL HAVE UV RESISTANT HIGH-DENSITY POLYETHYLENE (HDPE) PILE WRAP (BLACK) 36" WIDE X .060 THICK W/ 6" MIN. OVERLAP. TOP OF WRAP TO BE AT BOTTOM OF LOWEST HORIZONTAL MEMBER. BOTTOM OF WRAP TO BE 2'-0" MINIMUM BELOW MUD LINE. FASTEN WRAP WITH 2" SS (304 MARINE GRADE) RING SHANK ROOFING NAILS @ 2" O.C. SEAM VERT.

DOCK CONSTRUCTION NOTES:

1. PRIOR TO EXCAVATION CONTRACTOR TO FIELD VERIFY LOCATION OF ALL UTILITIES, IRRIGATION AND DRAINS.
2. THE CONTRACTOR SHALL DEMOLISH, REMOVE, AND DISPOSE OF IN AN APPROVED OFF SITE DISPOSAL AREA THE EXISTING TIMBER PILES, DOCKS AND ASSOCIATED DEBRIS WITHIN THE LIMITS OF THE PROJECT THAT HAVE BEEN IDENTIFIED FOR REMOVAL.
3. BEVEL TOP EDGE OF PILES AND P.T. LUMBER TO REMOVE SPLINTERS.
4. RECESS ALL OUTBOARD FACING BOLT HEADS FLUSH WITH PILE.
5. ALL FASTENERS AND HARDWARE SHALL BE 304 STAINLESS STEEL.
6. ALL WOOD PILES SHALL HAVE UV RESISTANT HIGH-DENSITY POLYETHYLENE (HDPE) PILE WRAP (BLACK) 36" WIDE X .060 THICK W/ 6" MIN. OVERLAP. TOP OF WRAP TO BE AT BOTTOM OF LOWEST HORIZONTAL MEMBER. BOTTOM OF WRAP TO BE 2'-0" MINIMUM BELOW MUD LINE. FASTEN WRAP WITH 2" SS (304 MARINE GRADE) RING SHANK ROOFING NAILS @ 2" O.C. SEAM VERT.
7. ALL DOCK PILES EXTENDING ABOVE THE DECK SHALL BE FITTED WITH A BLACK POLYETHYLENE CONE PILE CAP MANUFACTURED BY INTERNATIONAL DOCK PRODUCTS, INC. OR APPROVED EQUIVALENT IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS. EACH PILE SHALL BE MEASURED AND FITTED WITH THE CORRECT SIZE CAP. CAPS SHOULD FIT SNUG, BUT NOT CAUSE DEFORMATION. GAPS BETWEEN THE PILE AND CAP SHALL NOT EXCEED 1/2".
8. THE RUNNING SLOPE OF WALKING SURFACE SHALL NOT BE STEEPER THAN 1:20.
9. THE CROSS SLOPE OF WALKING SURFACE SHALL NOT BE STEEPER THAN 1:48
10. DECKING SHALL BE 2x6 TANDECK, MANUFACTURED BY TANGENT TECHNOLOGIES, LLC. OR APPROVED EQUAL. COLOR TO BE DETERMINED BY COUNTY.
11. STRINGER SPLICES SHALL BE STAGGERED. INBOARD STRINGERS SHALL BE TOENAIL TO CLAMPS WITH 16D SS RING SHANK AND CLIPPED WITH SIMPSON 2.5A SS.
12. ALL BOLTS SHALL EXTEND PASS THE NUT BY A MINIMUM OF THREE (3) THREADS AND A MAX OF 2".
13. THE CUTTING OF BOLTS SHALL BE AVOIDED. SHOULD BOLTS REQUIRE CUTTING THE BOLT SHALL BE CUT USING VIRGIN CERAMIC GRINDING DISK, THEN TREATED WITH PASSIVATION PASTE.
14. LADDERS (5) SHALL BE ALUMINUM 5 STEP LIFTING LADDER MANUFACTURED BY INTERNATIONAL DOCK PRODUCTS, INC. (OR APPROVED EQUIVALENT) INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS, USING SS FASTENERS.
15. NEW 8" DIA. SCH 40 PVC PIPE FENDERS SHALL BE PROVIDED TO CONTRACTOR BY COUNTY. CONTRACTOR TO SUPPLY FASTENERS AND INSTALL.
16. FIRE EXTINGUISHERS SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 303.

PLUMBING NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH OWNER TO TERMINATE PLUMBING AT BOAT RAMP DURING CONSTRUCTION AND RECONNECT NEW PLUMBING PRIOR TO COMPLETION.
2. EXISTING POTABLE WATER SHUT-OFF VALVE FOR SOUTH DOCK (BETWEEN RAMP AND FISH CLEANING STATION) SHALL BE LOCATED ADJACENT TO CONCRETE ACCESS WALKWAY AS DEPICTED ON THESE PLANS.
3. EXISTING POTABLE WATER SHUT-OFF VALVE FOR NORTH DOCK SHALL BE LOCATED AS DEPICTED ON THESE PLANS.
4. EXISTING VALVE COVERS, HOSE BIBS AND BOXES MAY BE RE-USED IF AVAILABLE. HOSE BIBS SHALL BE SPACED AT 50'-0" ON LANDWARD SIDE OF DOCK
5. CONTRACTOR SHALL INSTALL NEW 1-INCH SCHEDULE 40 PVC WATER LINE. CONTRACTOR SHALL INSTALL A MINIMUM OF ONE EXPANSION LOOP FOR NORTH DOCK AND SIX EXPANSION LOOPS FOR SOUTH DOCK. NO RUN SHALL BE LONGER THAN 40 FEET WITHOUT AN EXPANSION LOOP.

STRUCTURAL ABBREVIATIONS

#	NUMBER OR POUND
Ø	ROUND OR DIAMETER
⊏	SQUARE
&	AND
@	AT
db	DIAMETER OF REINFORCEMENT BAR
ACI	AMERICAN CONCRETE INSTITUTE
ADA	AMERICANS WITH DISABILITIES ACT
AFF	ABOVE FINISH FLOOR
AH	AIR HANDLER
ALUM	ALUMINUM
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
AR	ANCHOR ROD
ARCH	ARCHITECTURE
ASD	ALLOWABLE STRESS DESIGN
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS
ASSY	ASSEMBLY
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AWC	AMERICAN WOOD COUNCIL
AWPA	AMERICAN WOOD PROTECTION ASSOCIATION
AWS	AMERICAN WELDING SOCIETY
B/	BOTTOM OF
BETWN	BETWEEN
BOT	BOTTOM
BTM	BOTTOM
BM	BEAM
BLDG	BUILDING
BPL	BASE PLATE
BRG	BEARING
C TO C	CENTER TO CENTER
CANT	CANTILEVER
CJ	CONSTRUCTION JOINT
CL	CENTER LINE
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
C.O.	CLEAN OUT
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACTION
CTR	CENTER
CTRD	CENTERED
CU	CONDENSING UNIT
DBA	DEFORMED BAR ANCHOR
DEFL	DEFLECTION
DET	DETAIL
DIAG	DIAGONAL
DIA	DIAMETER
DIFF	DIFFERENT
DIM	DIMENSION
DO	DITTO
DWG	DRAWING
EA	EACH
EF	EACH FACE
EF	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATOR
ENGR	ENGINEER
EOR	ENGINEER OF RECORD
EQ	EQUAL
EQUIP	EQUIPMENT
EXIST	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
EW	EACH WAY
FB	FLAT BAR
FD	FLOOR DRAIN
FDN	FOUNDATION
FF	FINISH FLOOR
FFE	FINISH FLOOR ELEVATION
FLR	FLOOR
FS	FAR SIDE
FTG	FOOTING
GA	GAGE
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GT	GIRDER TRUSS
HB	HOSE BIB
HDPE	HIGH DENSITY POLY ETHYLENE
HGT	HEIGHT
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HSA	HEADED STUD ANCHOR
HT	HEIGHT
HS	HIGH STRENGTH
IF	INSIDE FACE
INFO	INFORMATION
INT	INTERIOR
IPS	IRON PIPE SIZE
JNT	JOINT
JST	JOIST
LB	POUND
LG	LONG
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LRFD	LOAD AND RESISTANCE FACTOR DESIGN
LSH	LONG SIDE HORIZONTAL
LSV	LONG SIDE VERTICAL
MANUF	MANUFACTURER
MAT'L	MATERIAL
MAX	MAXIMUM
MHWL	MEAN HIGH WATER LINE
MECH	MECHANICAL
MIN	MINIMUM
MISC	MISCELLANEOUS
MM	MILLIMETERS
NAVD	NORTH AMERICAN VERTICAL DATUM
NDS	NATIONAL DESIGN SPECIFICATION
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
NO	NUMBER
NS	NEAR SIDE
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OHWL	ORDINARY HIGH WATER LEVEL
O/O	OUT TO OUT
OPNG	OPENING
OPP	OPPOSITE
PCF	POUNDS PER CUBIC FOOT
PED	PEDESTRIAN
PERP	PERPENDICULAR
PL	PLATE
PNL	PANEL
PREFAB	PREFABRICATED
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	PRESSURE TREATED
QTY	QUANTITY
R	RISER
R OR RA	RADIUS
RD	ROUND
REF	REFERENCE
REINF	REINFORCE(MENT)
REQ	REQUIRE
REQ'D	REQUIRED
RET	RETAINING
REV	REVISION
SCHED	SCHEDULE
SECT	SECTION
SF	SQUARE FOOT
SH/DH	SINGLE/DOUBLE HUNG
SIM	SIMILAR
SOG	SLAB ON GRADE
SPA	SPACE
SPEC	SPECIFICATION
SQ	SQUARE
SS	STAINLESS
STD	STANDARD
STIFF	STIFFENER
STL	STEEL
STR	STRAIGHT
STRUCT	STRUCTURAL
SYM	SYMMETRICAL
T	TREAD
T&B	TOP & BOTTOM
T/	TOP OF
T/U PAN	TILT-UP PANEL
TD	TRAVEL DISTANCE
TE	THICKENED EDGE
THK	THICK
THRD	THREADED
TMS	THE MASONRY SOCIETY
TPI	TRUSS PLATE INSTITUTE
TRANSV	TRANSVERSE
TS	THICKENED SLAB
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VER	VERIFY
VERT	VERTICAL
VTR	VENT THRU ROOF
W/	WITH
WH	WATER HEATER
WIN	WINDOW
W/O	WITHOUT
WP	WORK POINT
WS	WATERSTOP
WWF	WELDED WIRE FABRIC

GENERAL SYMBOLS

⊖	PLAN, SECTION OR DETAIL NO. SHEET NUMBER
N	NORTH ARROW
◇1	KEYED NOTE TO PLAN
⬡1	FOUNDATION TYPE
△1	REVISION NUMBER
$	FOOTING STEP

THE WEILER ENGINEERING CORPORATION

These plans are in Compliance with Florida Building Code 2023 for wind parameters indicated.

WIND PARAMETERS
Method of Design: ASCE 7-22
Building Risk Category: II
Design Wind Speed: Ultimate V_{ult}=160 MPH / Nominal V_{asd} = 124 MPH
Wind Importance Factor: 1.0 / Wind Exposure: D
Internal Pressure Coefficient: ±0.00 (Open)
Component & Cladding Wind Pressure: per Calcs
FLOOD PARAMETERS
FEMA FIRM Map Number: 12071C0532G
Base Flood Elevation: VE-11
100-year, 1-hour Design Rainfall: 4.5 in (FBC 2023 Fig. 1611.1)
GEOTECHNICAL PARAMETERS
Data Source: *TIERRA PROJECT NO. 6511-23-232*
Vertical Bearing Capacity: 10" PILE: 5 TONS
Lateral Bearing Pressure: 1 TON PER PILE

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Max Morgan, P.E.
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12-03-2024
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Lee County
Southwest Florida

PUNTA RASSA
BOAT RAMP REPLACEMENT

STRUCTURAL GENERAL NOTES

REVISIONS

NO.	DESCRIPTION	DATE

DATE: 12/03/2024
PROJECT NO. 20247063-000
FILE NO. 09-46-23 / WEC: 24095.002
SCALE: AS SHOWN

SHEET NUMBER
G102

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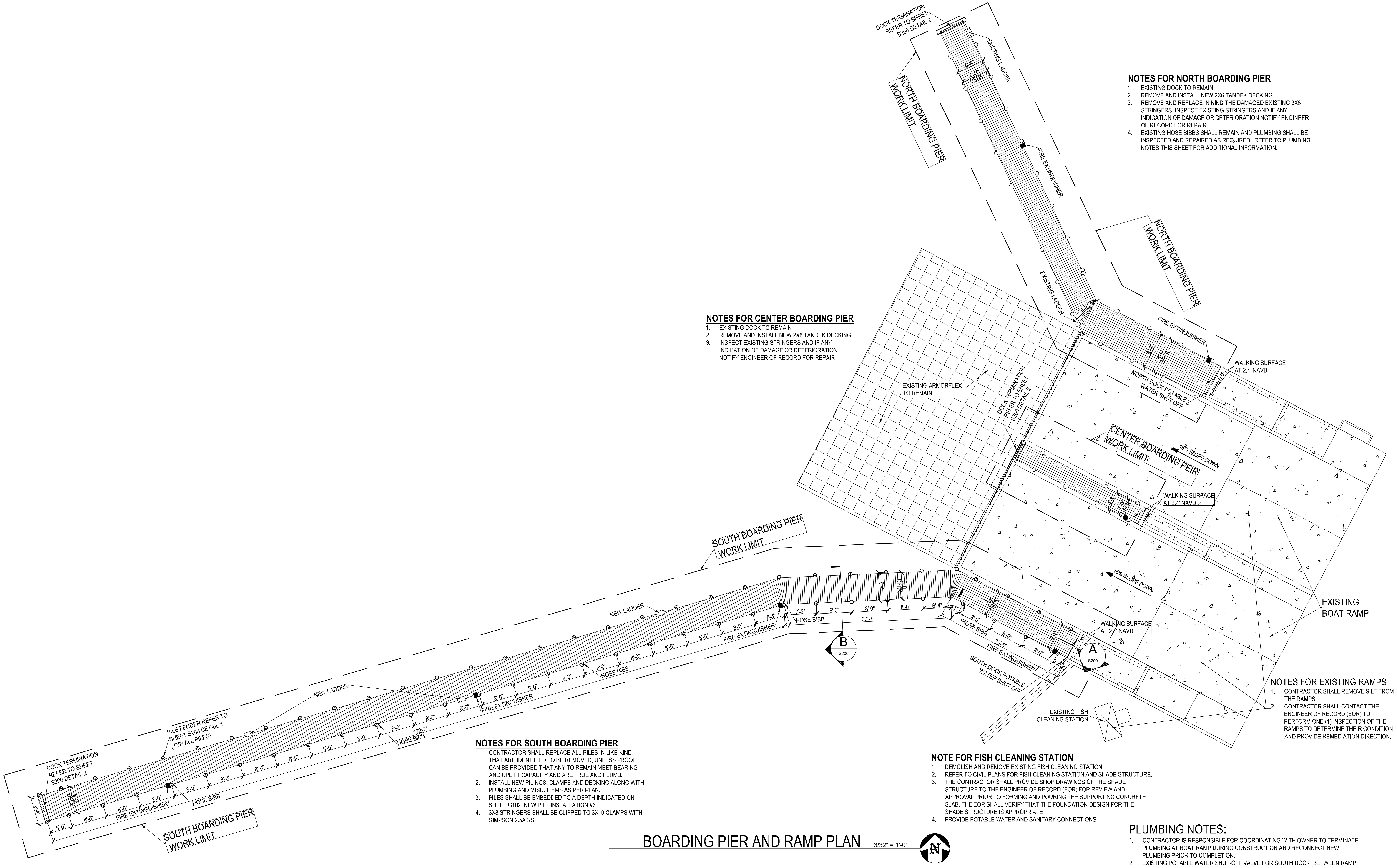


BOARDING PIER AND RAMP PLAN

3/32" = 1'-0"

NOTES FOR NORTH BOARDING PIER

1. EXISTING DOCK TO REMAIN
2. REMOVE AND INSTALL NEW 2X6 TANDEK DECKING
3. REMOVE AND REPLACE IN KIND THE DAMAGED EXISTING 3X8 STRINGERS, INSPECT EXISTING STRINGERS AND IF ANY INDICATION OF DAMAGE OR DETERIORATION NOTIFY ENGINEER OF RECORD FOR REPAIR
4. EXISTING HOSE BIBBS SHALL REMAIN AND PLUMBING SHALL BE INSPECTED AND REPAIRED AS REQUIRED. REFER TO PLUMBING NOTES THIS SHEET FOR ADDITIONAL INFORMATION.

NOTES FOR CENTER BOARDING PIER

1. EXISTING DOCK TO REMAIN
2. REMOVE AND INSTALL NEW 2X6 TANDEK DECKING
3. INSPECT EXISTING STRINGERS AND IF ANY INDICATION OF DAMAGE OR DETERIORATION NOTIFY ENGINEER OF RECORD FOR REPAIR

NOTES FOR SOUTH BOARDING PIER

1. CONTRACTOR SHALL REPLACE ALL PILES IN LIKE KIND THAT ARE IDENTIFIED TO BE REMOVED, UNLESS PROOF CAN BE PROVIDED THAT ANY TO REMAIN MEET BEARING AND UPLIFT CAPACITY AND ARE TRUE AND PLUMB.
2. INSTALL NEW PILINGS, CLAMPS AND DECKING ALONG WITH PLUMBING AND MISC. ITEMS AS PER PLAN.
3. PILES SHALL BE EMBEDDED TO A DEPTH INDICATED ON SHEET G102, NEW PILE INSTALLATION #3.
4. 3X8 STRINGERS SHALL BE CLIPPED TO 3X10 CLAMPS WITH SIMPSON 2.5A SS

NOTE FOR FISH CLEANING STATION

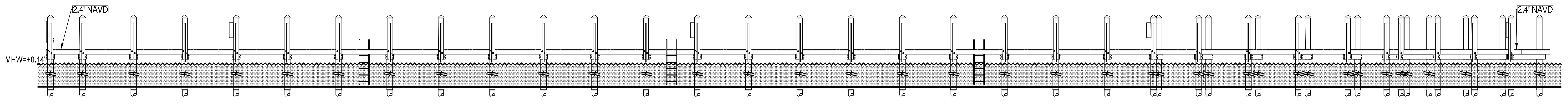
1. DEMOLISH AND REMOVE EXISTING FISH CLEANING STATION.
2. REFER TO CIVIL PLANS FOR FISH CLEANING STATION AND SHADE STRUCTURE.
3. THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS OF THE SHADE STRUCTURE TO THE ENGINEER OF RECORD (EOR) FOR REVIEW AND APPROVAL PRIOR TO FORMING AND POURING THE SUPPORTING CONCRETE SLAB. THE EOR SHALL VERIFY THAT THE FOUNDATION DESIGN FOR THE SHADE STRUCTURE IS APPROPRIATE
4. PROVIDE POTABLE WATER AND SANITARY CONNECTIONS.

NOTES FOR EXISTING RAMPS

1. CONTRACTOR SHALL REMOVE SILT FROM THE RAMPS.
2. CONTRACTOR SHALL CONTACT THE ENGINEER OF RECORD (EOR) TO PERFORM ONE (1) INSPECTION OF THE RAMPS TO DETERMINE THEIR CONDITION AND PROVIDE REMEDIATION DIRECTION.

PLUMBING NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH OWNER TO TERMINATE PLUMBING AT BOAT RAMP DURING CONSTRUCTION AND RECONNECT NEW PLUMBING PRIOR TO COMPLETION.
2. EXISTING POTABLE WATER SHUT-OFF VALVE FOR SOUTH DOCK (BETWEEN RAMP AND FISH CLEANING STATION) SHALL BE LOCATED ADJACENT TO CONCRETE ACCESS WALKWAY AS DEPICTED ON THESE PLANS.
3. EXISTING POTABLE WATER SHUT-OFF VALVE FOR NORTH DOCK SHALL BE LOCATED AS DEPICTED ON THESE PLANS.
4. EXISTING VALVE COVERS, HOSE BIBS AND BOXES MAY BE RE-USED IF AVAILABLE. HOSE BIBS SHALL BE SPACED AT 50'-0" ON LANDWARD SIDE OF DOCK
5. CONTRACTOR SHALL INSTALL NEW 1-INCH SCHEDULE 40 PVC WATER LINE. CONTRACTOR SHALL INSTALL A MINIMUM OF ONE EXPANSION LOOP FOR NORTH DOCK AND SIX EXPANSION LOOPS FOR SOUTH DOCK. NO RUN SHALL BE LONGER THAN 40 FEET WITHOUT AN EXPANSION LOOP.



SOUTH DOCK SOUTH EAST ELEVATION

3/32" = 1'-0"

THE WEILER ENGINEERING CORPORATION

These plans are in Compliance with Florida Building Code 2023 for wind parameters indicated.

WIND PARAMETERS
Method of Design: ASCE 7-22
Building Risk Category: II
Design Wind Speed: Ultimate V_{ult}=160 MPH / Nominal V_{asd} = 124 MPH
Wind Importance Factor: 1.0 / Wind Exposure: D
Internal Pressure Coefficient: ±0.00 (Open)
Component & Cladding Wind Pressure: per Calcs
FLOOD PARAMETERS
FEMA FIRM Map Number: 12071C0532G
Base Flood Elevation: VE-11
100-year, 1-hour Design Rainfall: 4.5 in (FBC 2023 Fig. 1611.1)
GEOTECHNICAL PARAMETERS
Data Source: *TIERRA PROJECT NO. 6511-23-232*
Vertical Bearing Capacity: 10" PILE: 5 TONS
Lateral Bearing Pressure: 1 TON PER PILE

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State of Florida Registration No. 94877

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Lee County
Southwest Florida

PUNTA RASSA
BOAT RAMP REPLACEMENT

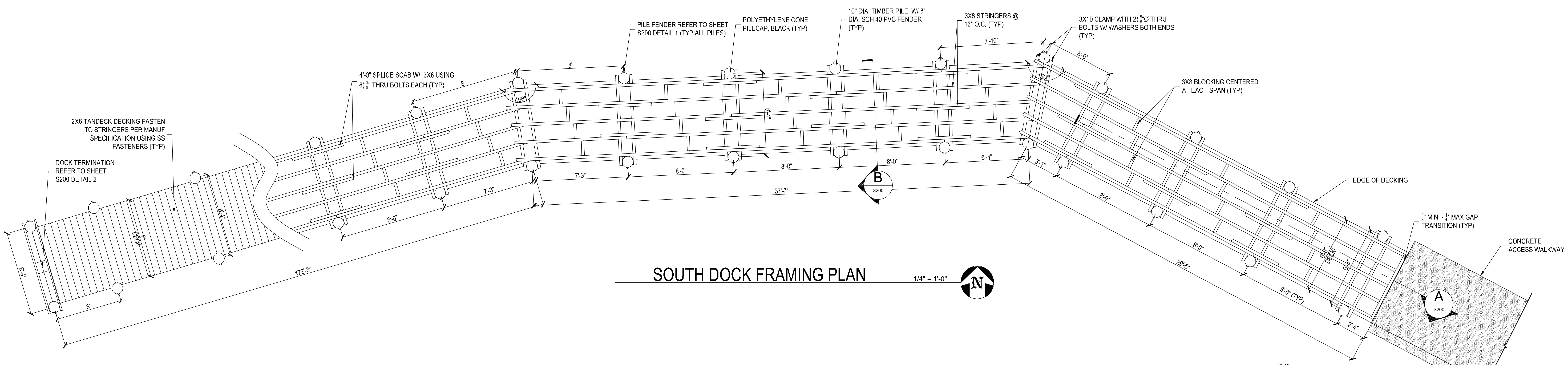
BOARDING PIER AND RAMP PLAN

REVISIONS

NO.	DESCRIPTION	DATE

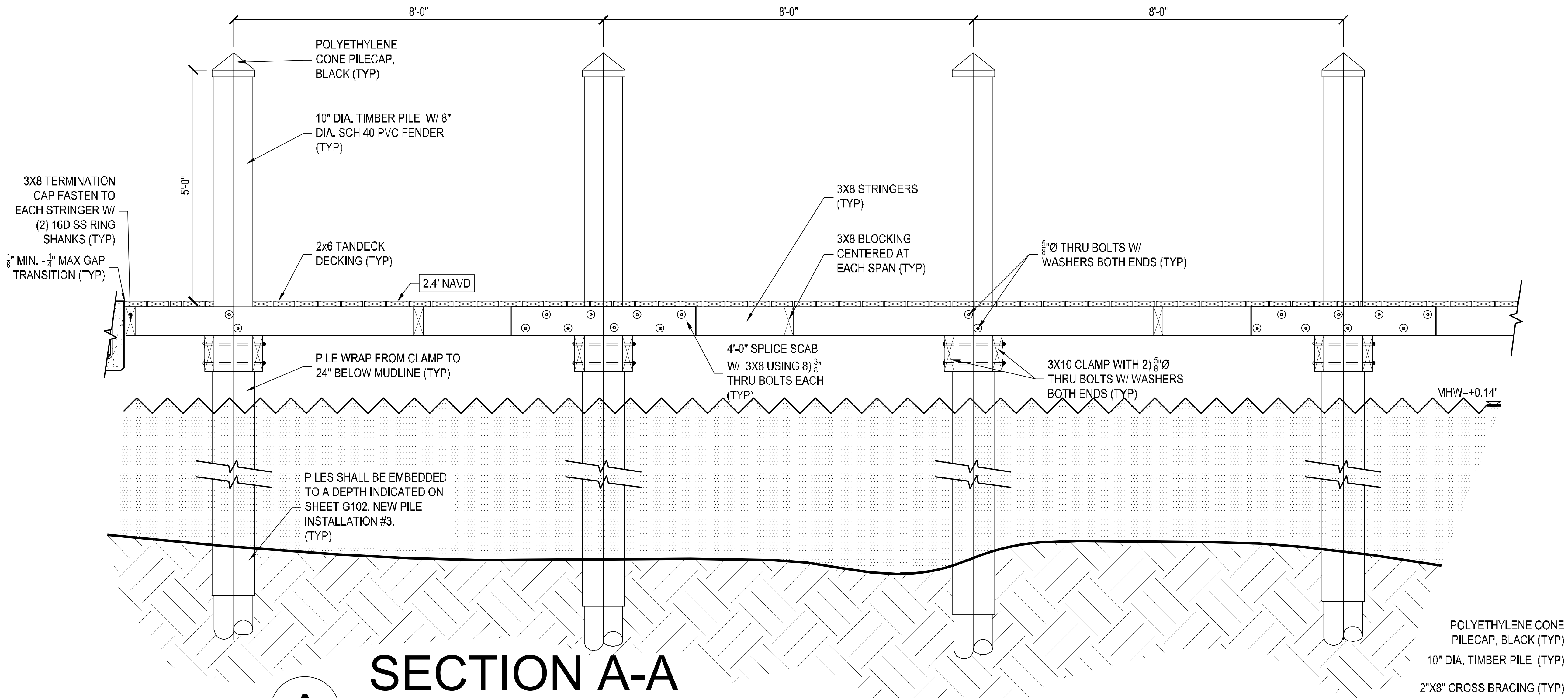
DATE: 12/03/2024
PROJECT NO. 20247063-000
FILE NO. 09-46-23 / WEC: 24095.002
SCALE: AS SHOWN

SHEET NUMBER
S100



SOUTH DOCK FRAMING PLAN

1/4" = 1'-0"



A SECTION A-A

1/2" = 1'-0"

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8. THE RUNNING SLOPE OF WALKING SURFACE SHALL NOT BE STEEPER THAN 1:20.
9. THE CROSS SLOPE OF WALKING SURFACE SHALL NOT BE STEEPER THAN 1:48
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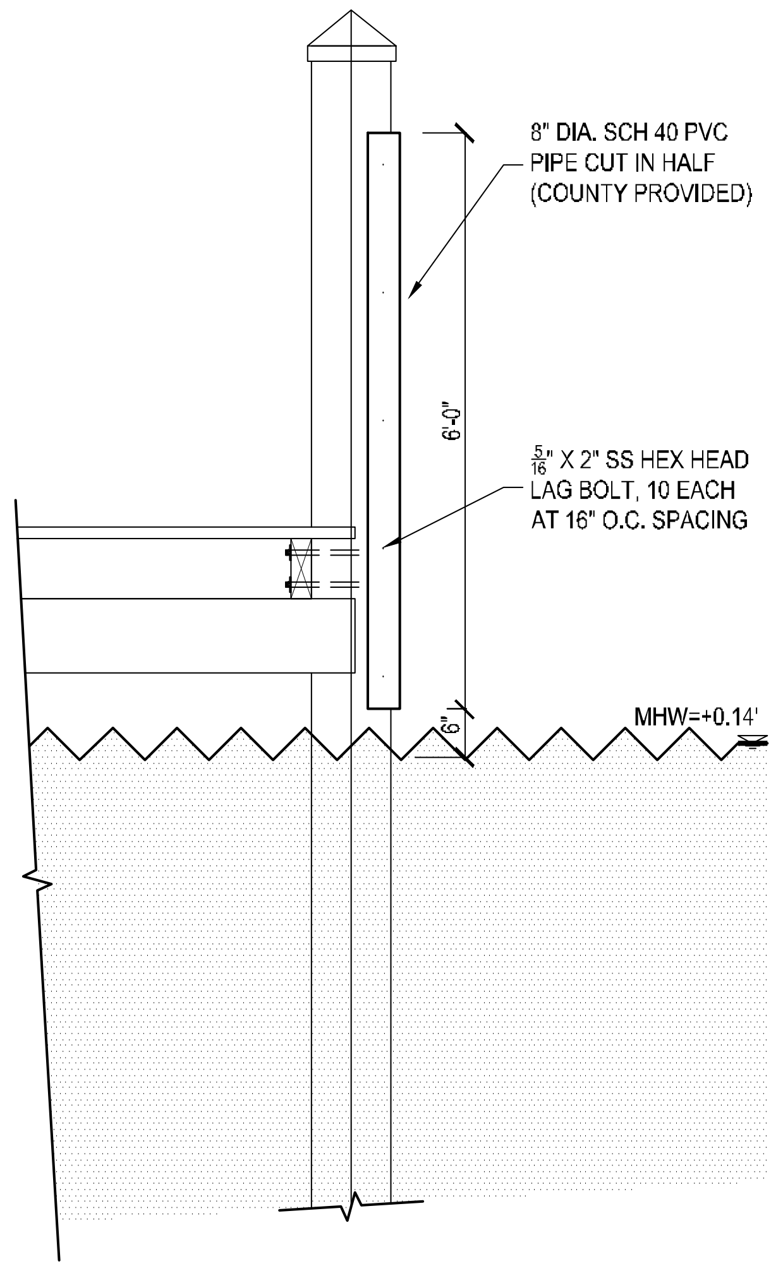
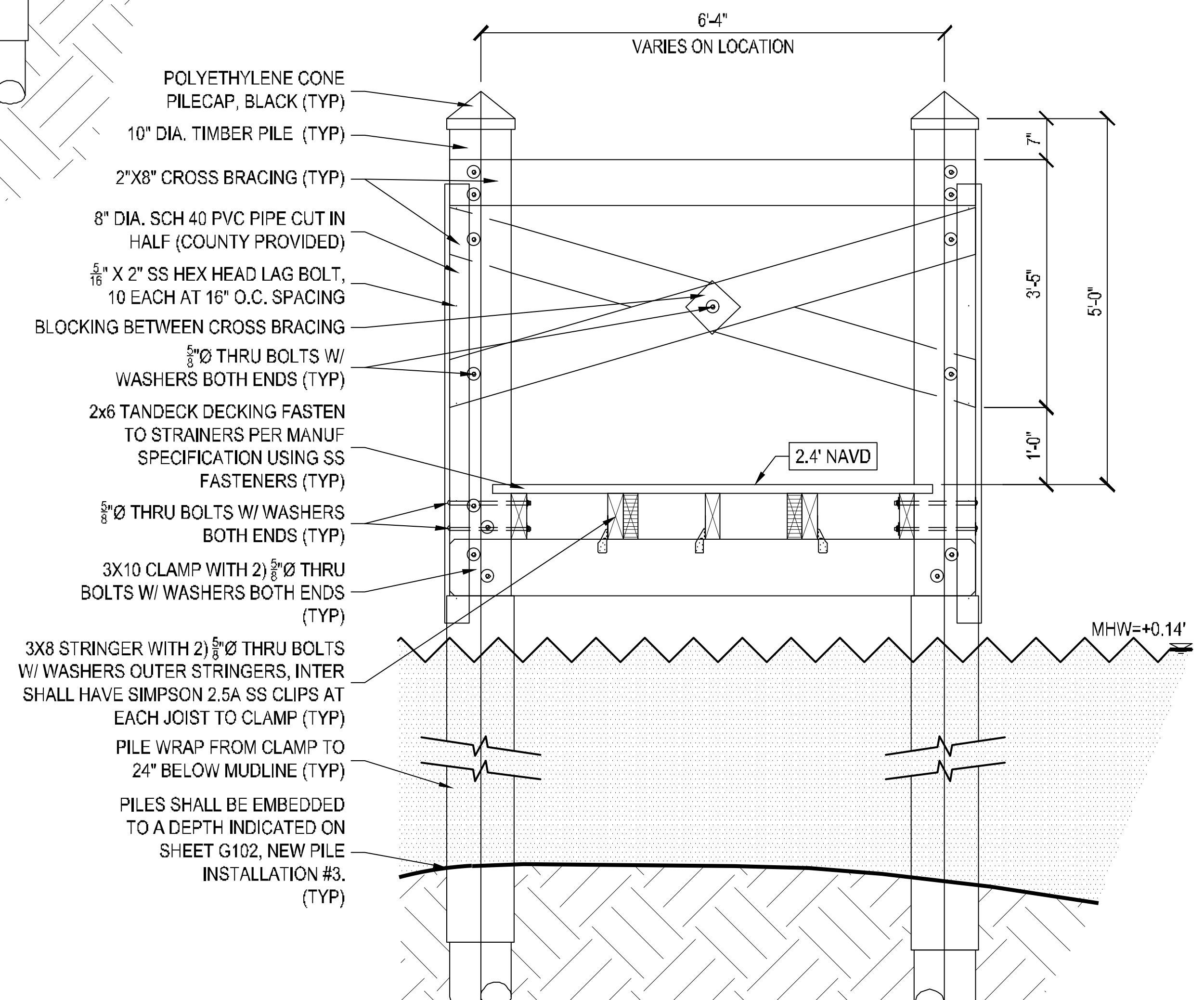
16. FIRE EXTINGUISHERS SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 303.



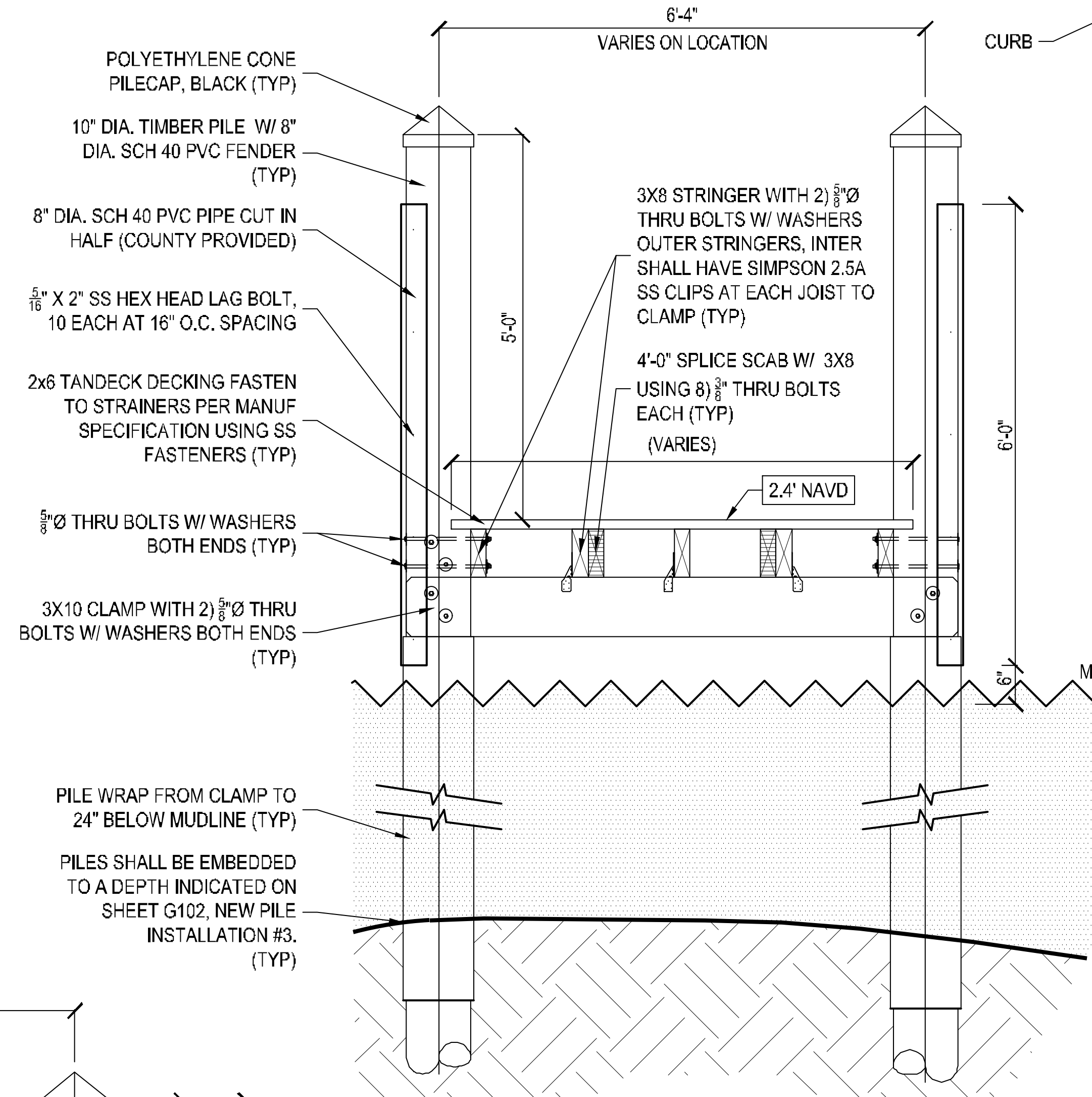
1 FENDER DETAIL

1/2" = 1'-0"



2 TYPICAL SECTION AT THE END OF SOUTH DOCK

1/2" = 1'-0"



B SECTION B-B

1/2" = 1'-0"

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FEMA FIRM Map Number: 12071C0532G
Base Flood Elevation: VE-11
100-year, 1-hour Design Rainfall: 4.5 in (FBC 2023 Fig. 1611.1)
GEOTECHNICAL PARAMETERS
Data Source: *TIERRA PROJECT NO. 6511-23-232*
Vertical Bearing Capacity: 10" PILE: 5 TONS
Lateral Bearing Pressure: 1 TON PER PILE

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Lee County
Southwest Florida

PUNTA RASSA
BOAT RAMP REPLACEMENT

SOUTH DOCK FRAMING AND DETAILS

REVISIONS

NO.	DESCRIPTION	DATE

DATE:	12/03/2024
PROJECT NO.	20247063-000
FILE NO.	09-46-23 / WEC: 24095.002
SCALE:	AS SHOWN

SHEET NUMBER
S200

MecaWindv2500

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```
CalculationsPreparedby:                      CalculationsPreparedFor:
WEC                                          Client:      JohnsonEngineering
201WMarionAve#1306                           Project#:   24095.002
PuntaGorda,FL,33950                          Location:    FortMyers
Date:Dec02,2024                              Description: PuntaRassaBoatRamp
Designer:MM
FileLocation:W:\2024\24095.002JEIPuntaRassa\Calcs\24095.002JEIPuntaRassaLRFD.wnd
```

General:

```
ReferenceAbbreviations:T:Table,F:Figure,E:Equation,§:Section
WindLoadStandard                    =  ASCE7-22    |BasicWindSpeed                    =  159.0mph
ExposureClassification              =  C           |RiskCategory                      =  II
StructureType                       =  Building    |DesignBasisforWindPressures       =  LRFD
MWFRSAnalysisMethod                 =  Ch27        |C&CAnalysisMethod                 =  None
DynamicTypeofStructure              =  Rigid       |ShowAdvancedOptions               =  False

Building:
RoofType                            =  Monoslope   |EnclosureClassification           =  Open
Help   =  HelponRoofType            =  Help        |Pitch=   PitchofRoof              =  0.1:12
Slope=    SlopeofRoof               =  0.48°       |HtEnt=   HeightEntryType          =  Mean
EHt    =  LowestheightofRoof        =  1.975ft     |H      =  MeanRoofHeight          =  2.000ft
RHt    =  RoofHighestHeight         =  2.025ft     |L      =  WidthNormaltoRidge      =  6.000ft
D      =  LengthAlongRidge          =  172.250ft   |Flow   =  WindFlowMethod          =  Clear
IsCol=    IncludeSupportingColumns  =  False       |IsFascia=IncludeFascia            =  False
```

ExposureConstants[T:26.11-1]:

```
  =3-sGust-speedexponent            =  9.800       |Zg=NominalHtofBoundaryLayer       =  2460.000ft
â=Reciprocalof                      =  0.102       |b=3secgustspeedfactor             =  1.000
 m =MeanhourlyWind-SpeedExponent    =  0.156       |bm=MeanhourlyWindspeedExponent    =  0.660
c=TurbulenceIntensityFactor         =  0.200       |  =IntegralLengthScaleExponent    =  0.2000
```

GustFactorCalculationforWind:[WindDir0Deg]

GustFactorCategoryIRigidStructures-SimplifiedMethod

```
G1        =  Simplified:ForRigidStructurescanuse0.85                                =  0.85
```

GustFactorCategoryIIRigidStructures-CompleteAnalysis

```
Zm        =  EquivStrucHeight:Max(0.6•h,Zmin)                                       =  15.000ft
Izm       =  TurbulenceIntensity:c•(33/Zm) 1/6 [E:26.11-7]                          =  0.228
Lzm       =  TurbulenceIntegralLengthScale:  •(Z  m/33)  [E:26.11-9]                =  427.057ft
B         =  BuildingWidthWidthNormaltoWindDirection                                =  172.250ft
Q         =  [1/(1+0.63•[(B+h)/Lzm]0.63)]0.5  [E:26.11-8]                           =  0.858
G2        =  Detailed:0.925•[(1+1.7•gq•Izm•Q)/(1+1.7•gv•Izm)][E:26.11-6]            =  0.850
```

GustFactorUsedinAnalysis

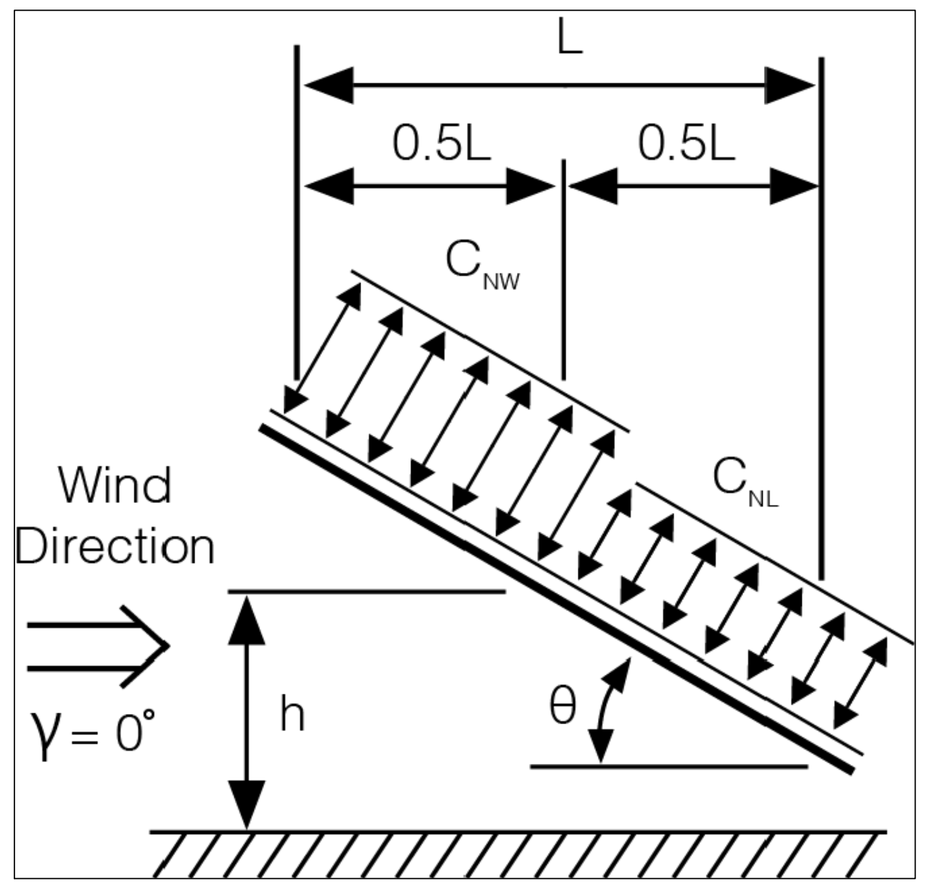
```
G         =  GustFactor:Min(G1,G2)                                                  =  0.850
```

MainWindForceResistingSystem(MWFRS)WindCalculationsperCh27:

```
h=Meanstructureheight               =  2.000ft     |Kh=2.41•(15/Zg) 2/ T:26.10-1      =  0.851
Kzt=NoTopographicFeature            =  1.000       |Kd=DirectionalityFactor T:26.6-1  =  0.85
GCpi=±InternalPressCoef  T:26.13-1  =  ±0.00       |LF=STRENGTHLoadFactor             =  1.00
Ke=GroundElevFactor  T:26.10-1      =  1.000       |qh=.00256•Kh•Kzt•Ke•V2•LFE:26.10-1 =  55.09psf
```

WindonRoof

WindPressuresonOpenBuildingMonoslopeFreeRoofperF:27.3-4-WindDir0Deg:



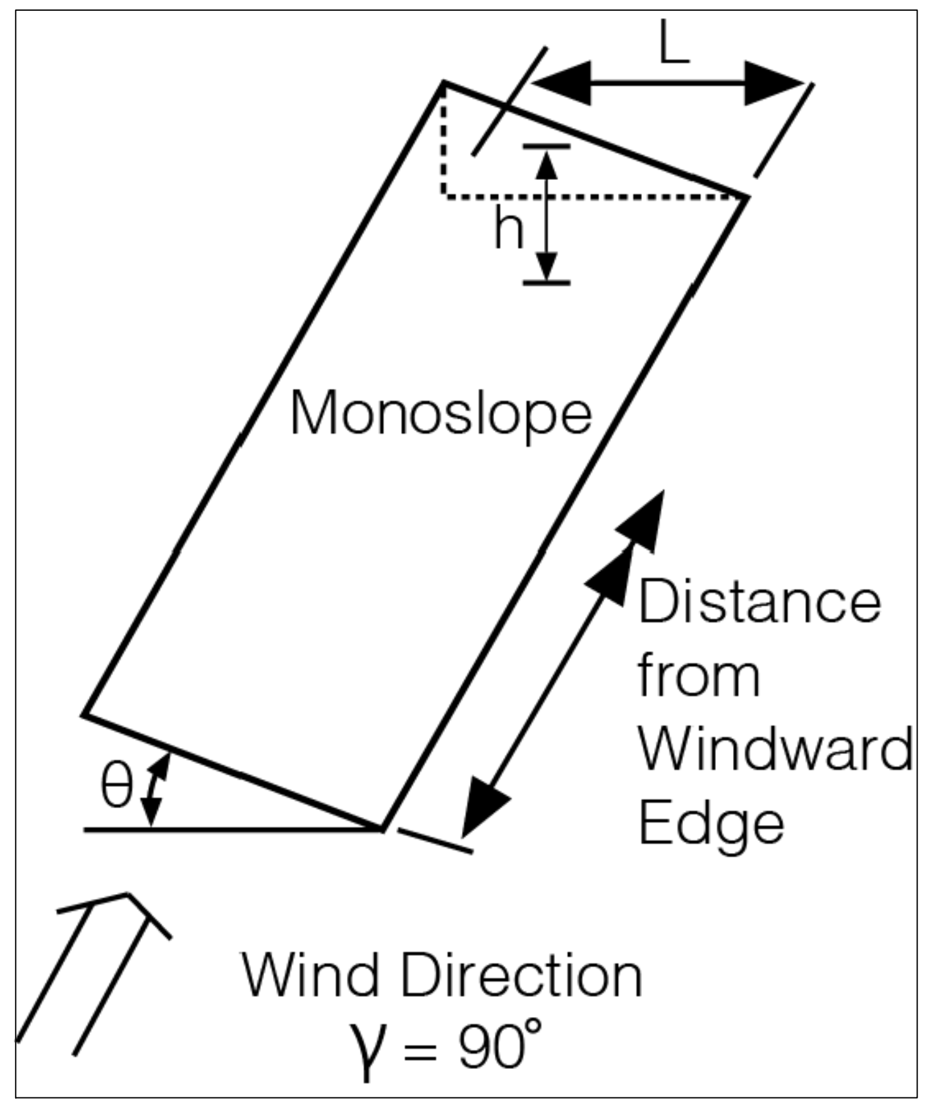
```
qh =  .00256•Kh•Kzt•Ke•V2•LFE:26.10-1 =  55.09psf
```

MWFRSWindPressuresperF:27.3-4onMonoslopeFreeRoof-WindDir0Deg
AllwindpressuresincludeaLoadFactor(LF)of1.0

LoadCase	Cnw	Cnl	Pnw psf	Pnl psf
LoadCaseA	1.200	0.300	47.76	11.94
LoadCaseB	-1.100	-0.100	-43.78	-3.98

Notes:
Pnw =Pressureonwindwardportionofroof: qh•Kd•(G•Cnw)[E:27.3-2]
Pnl =PressureOnLeewardportionOfroof: qh•Kd•(G•Cnl)[E:27.3-2]
AllwindpressuresincludeaLoadFactor(LF)of1.0
•PositivePressuresActTOWARDSurfaceandNegativePressuresActAWAYfromSurface

WindPressuresonOpenBuildingMonoslopeFreeRoofperF:27.3-7-WindDir90Deg:



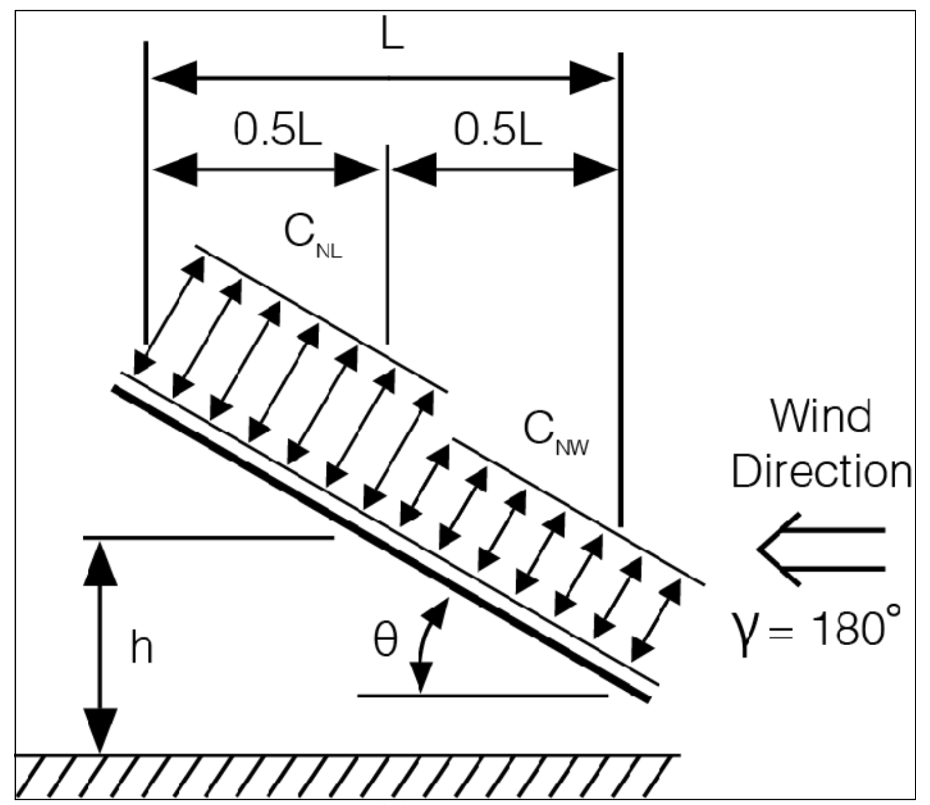
```
qh  =  .00256•Kh•Kzt•Ke•V2•LFE:26.10-1 =  55.09psf
```

MWFRSWindPressuresperF:27.3-7-Wind90Deg
AllwindpressuresincludeaLoadFactor(LF)of1.0

RoofVar	Start Dist ft	End Dist ft	CnA	CnB	Pressure PnA psf	Pressure PnB psf
Roof	0.000	2.000	-0.800	0.800	-31.84	31.84
Roof	2.000	4.000	-0.600	0.500	-23.88	19.90
Roof	4.000	172.250	-0.300	0.300	-11.94	11.94

NotesRoofPressures:
Start =StartDistfromWindwardEdge | *End =EndDistfromWindwardEdge*
CnA =CnforLoadCaseA | *CnB =CnforLoadCaseB*
PnA =qh•Kd•(G•CnA)[E:27.3-2] | *PnB =qh•Kd•(G•CnB)[E:27.3-2]*
•PositivePressuresActTOWARDSurfaceandNegativePressuresActAWAYfromSurface

WindPressuresonOpenBuildingMonoslopeFreeRoofperF:27.3-4-WindDir180Deg:



```
qh =  .00256•Kh•Kzt•Ke•V2•LFE:26.10-1 = 55.09psf
```

MWFRSWindPressuresperF:27.3-4onMonoslopeFreeRoof-WindDir180Deg
AllwindpressuresincludeaLoadFactor(LF)of1.0

LoadCase	Cnw	Cnl	Pnw psf	Pnl psf
LoadCaseA	1.200	0.300	47.76	11.94
LoadCaseB	-1.100	-0.100	-43.78	-3.98

Notes:
Pnw =Pressureonwindwardportionofroof: qh•Kd•(G•Cnw)[E:27.3-2]
Pnl =PressureOnLeewardportionOfroof: qh•Kd•(G•Cnl)[E:27.3-2]
AllwindpressuresincludeaLoadFactor(LF)of1.0
•PositivePressuresActTOWARDSurfaceandNegativePressuresActAWAYfromSurface

① WIND LOADING

THE WEILER ENGINEERING CORPORATION

These plans are in Compliance with Florida Building Code 2023 for wind parameters indicated.

WIND PARAMETERS
Method of Design: ASCE 7-22
Building Risk Category: II
Design Wind Speed: Ultimate V_{ult}=160 MPH / Nominal V_{asd} = 124 MPH
Wind Importance Factor: 1.0 / Wind Exposure: D
Internal Pressure Coefficient: ±0.00 (Open)
Component & Cladding Wind Pressure: per Calcs
FLOOD PARAMETERS
FEMA FIRM Map Number: 12071C0532G
Base Flood Elevation: VE-11
100-year, 1-hour Design Rainfall: 4.5 in (FBC 2023 Fig. 1611.1)
GEOTECHNICAL PARAMETERS
Data Source: *TIERRA PROJECT NO. 6511-23-232*
Vertical Bearing Capacity: 10" PILE: 5 TONS
Lateral Bearing Pressure: 1 TON PER PILE

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This item has been
digitally signed and sealed by
Max Morgan, P.E.
on the date indicated here.
12-03-2024
Printed copies of this document are
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on any electronic copies.

Lee County
Southwest Florida

PUNTA RASSA
BOAT RAMP REPLACEMENT

WIND LOADING

REVISIONS

NO.	DESCRIPTION	DATE

DATE: 12/03/2024
PROJECT NO. 20247063-000
FILE NO. 09-46-23 / WEC: 24095.002
SCALE: AS SHOWN

SHEET NUMBER
S300