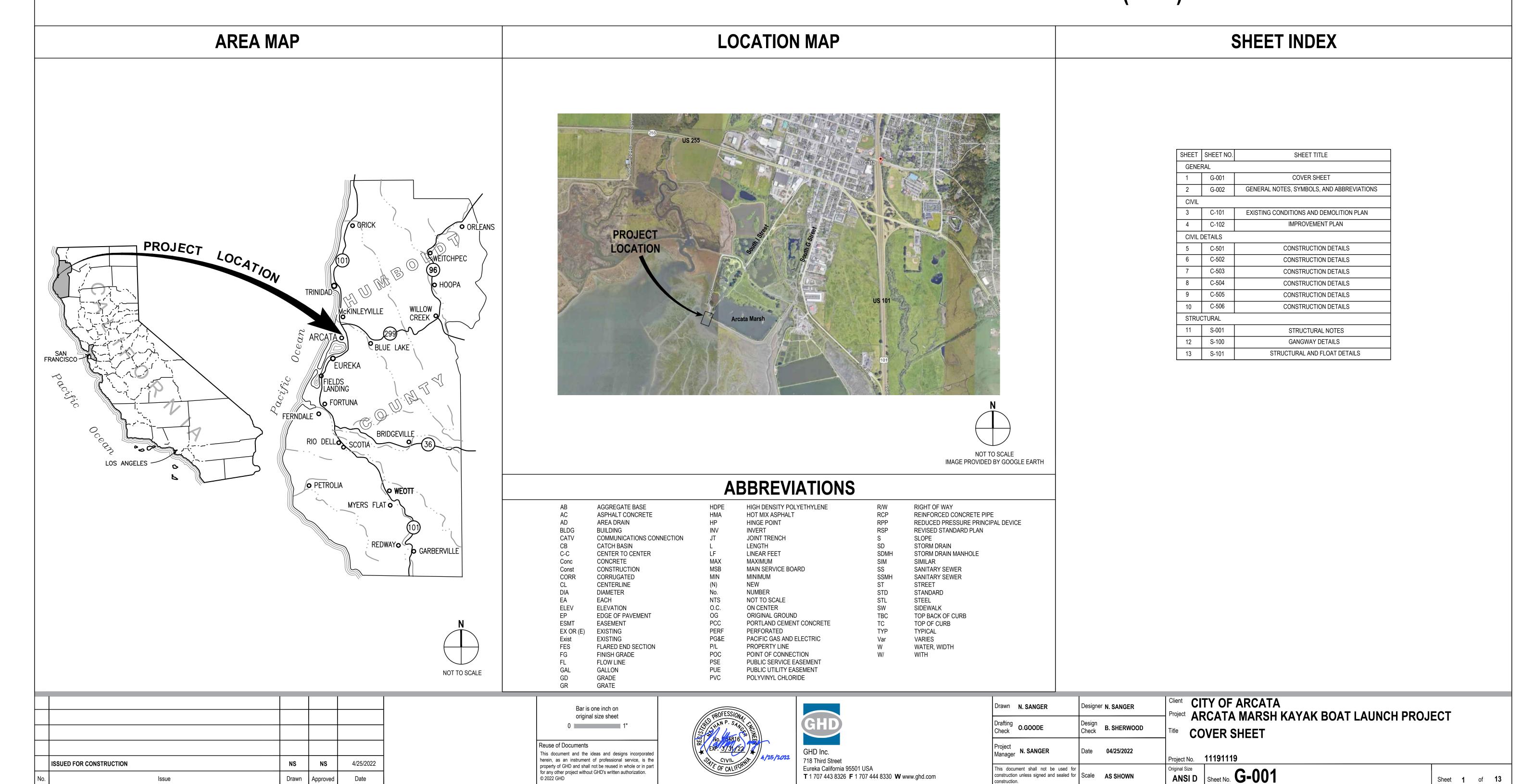
# CITY OF ARCATA

## ARCATA MARSH KAYAK BOAT LAUNCH PROJECT

## **APRIL 2022**

DIVISION OF BOATING AND WATERWAYS GRANT CONTRACT #C4128035 (1064)



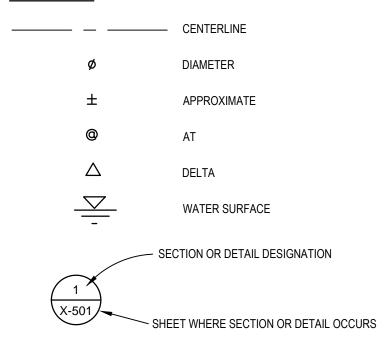
Plot Date: 25 April 2022 - 4:00 PM

Plotted By: Nathan Sanger

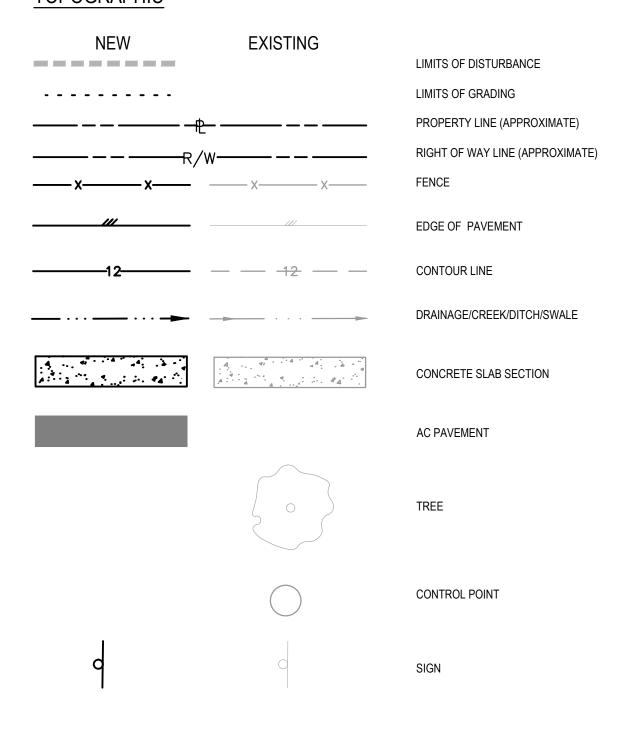
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#### SYMBOLS

#### GENERAL



#### TOPOGRAPHIC



#### PROJECT SCOPE

THE PROJECT IS LOCATED AT THE SOUTH END OF SOUTH I STREET AT THE ARCATA BIRD SANCTUARY IN ARCATA, CALIFORNIA. THE PROPOSED PROJECT INCLUDES THE INSTALLATION OF A VAULT TOILET, PARKING LOT AC, CONCRETE WALKWAY AND ABUTMENT, AND THE CONSTRUCTION OF A BOAT LAUNCH FLOAT LOCATED AT THE SOUTHERLY END OF THE TRAILHEAD/PARKING AREA IN THE SANCTUARY. THE 6' X 30' LAUNCHING FLOAT WILL BE ACCESSIBLE FROM THE PARKING AREA VIA A 4-FOOT WIDE (INSIDE WALKING WIDTH) ACCESSIBLE ROUTE WHICH INCLUDES A 75' LONG ALUMINUM GANGWAY SUPPORTED ONSHORE WITH A CONCRETE ABUTMENT ON THE SHORE END AND A 10' X 16' GANGWAY LANDING FLOAT ON THE WATERSIDE, WITH A 10' LONG ALUMINUM TRANSITION PLATE BRIDGING BETWEEN THE LANDING FLOAT AND LAUNCHING FLOAT. THE OVER-WATER PORTION OF THE DOCK WILL UTILIZE FOUR (4) GUIDE PILES TO LATERALLY STABILIZE THE LAUNCHING FLOATS.

#### **ENGINEER'S NOTES**

- 1. THE DIVISION OF BOATING AND WATERWAYS (DBW) AND ITS AGENTS MAY, AT ANY AND ALL REASONABLE TIMES DURING THE TERM OF THIS CONTRACT, ENTER THE PROJECT AREA FOR PURPOSES OF INSPECTING THE PROJECT AREA.
- 2. THE PROJECT SHALL BE CONSTRUCTED ACCORDING TO THE PLANS AND SPECIFICATIONS PREPARED FOR THE PROJECT, AND QUALITY CONTROL SHALL BE PERFORMED, AND COMPLIANCE SHALL BE VERIFIED, BY QUALIFIED PROFESSIONALS SELECTED BY DBW OR DBW'S REPRESENTATIVE.
- 3. IT IS INTENDED THAT THESE PLANS REQUIRE ALL LABOR AND MATERIAL NECESSARY AND PROPER FOR THE WORK CONTEMPLATED AND THAT THE WORK BE COMPLETED IN ACCORDANCE WITH THEIR TRUE INTENT AND PURPOSE. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY REGARDING ANY DISCREPANCIES OR AMBIGUITIES WHICH MAY EXIST IN THE PLANS OR SPECIFICATIONS. THE ENGINEER'S INTERPRETATION THEREOF SHALL BE CONCLUSIVE.
- 4. WHERE THE PLANS OR SPECIFICATIONS DESCRIBE PORTIONS OF THE WORK IN GENERAL TERMS BUT NOT IN COMPLETE DETAIL, IT IS UNDERSTOOD THAT ONLY THE BEST GENERAL PRACTICE IS TO PREVAIL AND THAT ONLY MATERIALS AND WORKMANSHIP OF THE FIRST QUALITY ARE TO BE USED.
- 5. THE CONTRACTOR SHALL, AT THE SAME TIME OF BIDDING, AND, THROUGHOUT THE PERIOD OF THE CONTRACT, BE LICENSED IN THE STATE OF CALIFORNIA UNDER THE PROVISIONS OF CHAPTER 9, DIVISION 3 OF THE BUSINESS AND PROFESSIONS CODE AND SHALL BE BONDABLE FOR AN AMOUNT EQUAL TO OR GREATER THAN THE AMOUNT BID AND TO DO THE TYPE OF WORK CONTEMPLATED IN THE PLANS AND SPECIFICATIONS. CONTRACTOR SHALL BE SKILLED AND REGULARLY ENGAGED IN THE GENERAL CLASS AND TYPE OF WORK CALLED FOR IN THE PLANS AND SPECIFICATIONS.
- 6. CONTRACTOR SHALL INSPECT THE SITE OF THE WORK PRIOR TO BIDDING TO SATISFY THEMSELVES BY PERSONAL EXAMINATION OR BY SUCH OTHER MEANS AS THEY MAY PREFER, OF THE LOCATION OF THE PROPOSED WORK, AND OF THE ACTUAL CONDITIONS OF AND AT THE SITE OF WORK.

IF, DURING THE COURSE OF THEIR EXAMINATION, A BIDDER FINDS FACTS OR CONDITIONS WHICH APPEAR TO THEM TO BE IN CONFLICT WITH THE LETTER OR SPIRIT OF THE PROJECT PLANS AND SPECIFICATIONS, THEY SHALL CONTACT THE ENGINEER FOR ADDITIONAL INFORMATION AND EXPLANATION BEFORE SUBMITTING THEIR BID.

SUBMISSION OF A BID BY THE CONTRACTOR SHALL CONSTITUTE ACKNOWLEDGMENT THAT, IF AWARDED THE CONTRACT, THEY HAVE RELIED AND ARE RELYING ON THEIR OWN EXAMINATION OF (1) THE SITE OF THE WORK, (2) ACCESS TO THE SITE, AND (3) ALL OTHER DATA AND MATTERS REQUISITE TO THE FULFILLMENT OF THE WORK AND ON THEIR OWN KNOWLEDGE OF EXISTING FACILITIES ON AND IN THE VICINITY OF THE SITE OF THE WORK TO BE CONSTRUCTED UNDER THIS CONTRACT.

THE INFORMATION PROVIDED BY THE OWNER OR THE ENGINEER IS NOT INTENDED TO BE A SUBSTITUTE FOR, OR A SUPPLEMENT TO THE INDEPENDENT VERIFICATION BY THE CONTRACTOR TO THE EXTENT SUCH INDEPENDENT INVESTIGATION OF SITE CONDITIONS IS DEEMED NECESSARY OR DESIRABLE BY THE CONTRACTOR. CONTRACTOR SHALL NOT RELY SOLELY UPON OWNER OR ENGINEER FURNISHED INFORMATION REGARDING SITE CONDITIONS IN PREPARING AND SUBMITTING THEIR

- 7. ALL WORK SHALL CONFORM TO THE CALTRANS STANDARD SPECIFICATIONS, CURRENT EDITION AND THE CITY OF ARCATA ENGINEERING STANDARD DETAILS, CURRENT EDITION. THE CITY OF ARCATA ENGINEERING STANDARD DETAILS PREVAIL IN CASE OF CONFLICT.
- 8. THE CONTRACTOR SHALL PROVIDE ALL LIGHTS, BARRICADES, SIGNS, FLAGMEN OR OTHER DEVICES NECESSARY FOR PUBLIC SAFETY.
- 9. THE CONTRACTOR AGREES THAT:
- A. THEY SHALL BE RESPONSIBLE TO CLEAN THE JOB SITE AT THE END OF EACH PHASE OF WORK. B. THEY SHALL BE RESPONSIBLE TO REMOVE AND DISPOSE OF ALL TRASH, SCRAP AND UNUSED MATERIAL AT THEIR OWN EXPENSE IN A TIMELY MANNER. C. THEY SHALL BE RESPONSIBLE TO MAINTAIN THE SITE IN A NEAT, SAFE AND ORDERLY MANNER AT ALL TIMES.
- D. THEY SHALL BE RESPONSIBLE TO KEEP MATERIALS, EQUIPMENT, AND TRASH OUT OF THE WAY OF OTHER CONTRACTORS SO AS NOT TO DELAY THE JOB. FAILURE TO DO SO WILL RESULT IN A DEDUCTION FOR THE COST OF CLEAN UP FROM THE FINAL PAYMENT.
- E. THEY SHALL BE RESPONSIBLE FOR THEIR OWN SAFETY, TRAFFIC CONTROL, PERMITS, RETESTING AND REINSPECTIONS AT THEIR OWN EXPENSE. F. UNLESS OTHERWISE NOTED ALL EXCESS SOILS AND MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE LAWFULLY DISPOSED OF OFF SITE AT THE CONTRACTOR'S EXPENSE.
- 10. THE CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.
- 11. DUST CONTROL SHALL BE PROVIDED AT ALL TIMES, AT THE CONTRACTOR'S EXPENSE, TO MINIMIZE ANY DUST NUISANCE AND SHALL BE IN ACCORDANCE WITH CALTRANS STANDARD SPECIFICATIONS, CURRENT EDITION AND THE REQUIREMENTS OF THE CITY OF ARCATA. CONTRACTOR SHALL OBTAIN A PERMIT FROM THE CITY OF ARCATA PUBLIC WORKS DEPARTMENT FOR USE OF WATER FROM FIRE HYDRANTS FOR CONSTRUCTION PURPOSES.
- 12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATELY SCHEDULING INSPECTION AND TESTING OF ALL FACILITIES CONSTRUCTED UNDER THIS CONTRACT. ALL TESTING SHALL CONFORM TO THE REGULATORY AGENCY'S STANDARD SPECIFICATIONS. ALL TESTING AND INSPECTION SHALL BE PAID FOR BY THE OWNER; ALL RE-TESTING AND/OR REINSPECTION SHALL BE PAID FOR BY THE CONTRACTOR.
- 13. IF EXISTING IMPROVEMENTS INCLUDING SURVEY MONUMENTATION NEED TO BE DISTURBED AND/OR REMOVED FOR THE PROPER PLACEMENT OF IMPROVEMENTS TO BE CONSTRUCTED BY THESE PLANS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXISTING IMPROVEMENTS FROM DAMAGE. COST OF REPLACING OR REPAIRING EXISTING IMPROVEMENTS SHALL BE INCLUDED IN THE PRICE FOR ITEMS REQUIRING REMOVAL AND/OR REPLACEMENT OF EXISTING IMPROVEMENTS. THERE WILL BE NO EXTRA COST DUE THE CONTRACTOR FOR REPLACING OR REPAIRING EXISTING IMPROVEMENTS.
- 14. WHENEVER EXISTING FACILITIES ARE REMOVED, DAMAGED, BROKEN, OR CUT IN THE INSTALLATION OF THE WORK COVERED BY THESE PLANS OR SPECIFICATIONS, SAID FACILITIES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE, AFTER PROPER BACKFILLING AND/OR CONSTRUCTION, WITH MATERIALS EQUAL TO OR BETTER THAN THE MATERIALS USED IN THE ORIGINAL EXISTING FACILITIES. THE FINISHED PRODUCT SHALL BE SUBJECT TO THE APPROVAL OF THE OWNER, THE ENGINEER, AND
- 15. THE CONTRACTOR SHALL MAINTAIN A NEATLY MARKED SET OF FULL-SIZE AS-BUILT RECORD DRAWINGS SHOWING THE FINAL LOCATION AND LAYOUT OF ALL MECHANICAL; ELECTRICAL AND INSTRUMENTATION EQUIPMENT; PIPING AND CONDUITS; STRUCTURES AND OTHER FACILITIES. THE AS-BUILTS OF THE ELECTRICAL SYSTEM SHALL INCLUDE THE STREET LIGHT LAYOUT PLAN SHOWING LOCATION OF LIGHTS, CONDUCTORS, POINTS OF CONNECTIONS TO SERVICES, PULLBOXES, AND WIRE SIZES. AS-BUILT RECORD DRAWINGS SHALL REFLECT CHANGE ORDERS, ACCOMMODATIONS, AND ADJUSTMENTS TO ALL IMPROVEMENTS CONSTRUCTED. WHERE NECESSARY, SUPPLEMENTAL DRAWINGS SHALL BE PREPARED AND SUBMITTED BY THE CONTRACTOR.

PRIOR TO ACCEPTANCE OF THE PROJECT, THE CONTRACTOR SHALL DELIVER TO THE ENGINEER, ONE SET OF NEATLY MARKED AS-BUILT RECORD DRAWINGS SHOWING THE INFORMATION REQUIRED ABOVE. AS-BUILT RECORD DRAWINGS SHALL BE REVIEWED AND THE COMPLETE AS-BUILT RECORD DRAWING SET SHALL BE CURRENT WITH ALL CHANGES AND DEVIATIONS REDLINED AS A PRECONDITION TO THE FINAL PROGRESS PAYMENT APPROVAL AND/OR FINAL ACCEPTANCE.

- 16. PRIOR TO ANY CORRECTIVE ACTION, BY THE CONTRACTOR, WHICH IS NECESSARY DUE TO ALLEGED DESIGN ERROR, THE CONTRACTOR SHALL NOTIFY GHD FOR REDESIGN. SHOULD ANY CORRECTIVE WORK BE DONE PRIOR TO NOTIFICATION, GHD ASSUMES NO LIABILITIES FOR THE COSTS INCURRED FOR THIS WORK. WHERE IT IS DETERMINED THAT ANY CORRECTIVE ACTION WILL REQUIRE FINANCIAL PARTICIPATION BY GHD, THAT AMOUNT SHALL BE AGREED TO IN WRITING PRIOR TO TAKING CORRECTIVE ACTION. FAILURE TO OBTAIN WRITTEN ACCEPTANCE FROM GHD WILL NEGATE ALL REQUIREMENTS OF OUR FINANCIAL ASSISTANCE.
- 17. GHD HAS EXERCISED REASONABLE AND ACCEPTABLE STANDARD OF CARE IN PREPARATION OF THESE PLANS. HOWEVER, THE DESIGN PROCESS INCLUDES ACTIVITIES THAT OCCUR AFTER PLAN SIGNATURE. THESE ACTIVITIES INCLUDE CALCULATION, PLAN CHECK AND VERIFICATIONS DURING CONSTRUCTION. SHOULD PERSONS, OTHER THAN GHD PERFORM THE CONSTRUCTION STAKING OPERATIONS, THEY SHALL INDEMNIFY GHD FROM ANY DAMAGES RESULTING FROM FAILURE TO PERFORM THOSE TASKS OR ANY EXPENSE OR DAMAGE RESULTING FROM THE OMISSION OR ERROR CONTAINED IN THE PLANS, WHICH WOULD REASONABLY HAVE BEEN DISCOVERED AND CORRECTED BY GHD.
- 18. PRIOR TO COMMENCEMENT OF GRADING OPERATIONS, THE CONTRACTOR SHALL IDENTIFY THE SITE WHERE THE EXCESS EARTHEN MATERIAL SHALL BE DEPOSITED. IF THE DEPOSIT SITE IS WITHIN THE CITY OF ARCATA, THE CONTRACTOR SHALL VERIFY THAT THE EXPORTED MATERIALS ARE SUITABLE FOR THE INTENDED FILL, AND SHALL SHOW PROOF OF ALL APPROVED GRADING PLANS, HAUL ROUTES TO BE USED SHALL BE SPECIFIED.

#### UNDERGROUND UTILITIES

- 1. THE INFORMATION SHOWN ON THE PLANS WITH REGARD TO THE EXISTING UTILITIES AND/OR IMPROVEMENTS WAS DERIVED FROM FIELD INVESTIGATIONS AND/OR RECORD INFORMATION. THE ENGINEER DOES NOT GUARANTEE THESE LOCATIONS TO BE EITHER TRUE OR EXACT. PRIOR TO CONSTRUCTION, IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO VERIFY ALL EXISTING IMPROVEMENTS AND TO EXPOSE ALL EXISTING UNDERGROUND UTILITIES RELATED TO THE PROJECT INCLUDING BUT NOT LIMITED TO, SEWER, STORM DRAIN, WATER, IRRIGATION, GAS, ELECTRICAL, ETC. AND SHALL NOTIFY THE ENGINEER IN WRITING FORTY-EIGHT (48) HOURS IN ADVANCE OF EXPOSING THE UTILITIES, SO THAT THE EXACT LOCATION AND ELEVATION CAN BE VERIFIED AND DOCUMENTED. THE COST ASSOCIATED TO PERFORM THIS WORK SHALL BE INCLUDED IN EITHER THE LUMP SUM CLEARING COST OR IN THE VARIOUS ITEMS OF WORK. IF LOCATION AND/OR ELEVATION DIFFERS FROM THAT SHOWN ON THE DESIGN PLANS, PROVISION TO ACCOMMODATE NEW LOCATION/ELEVATION MUST BE MADE PRIOR TO CONSTRUCTION.
- 2. PRIOR TO COMMENCING ANY WORK, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO HAVE EACH UTILITY COMPANY LOCATE, IN THE FIELD, THEIR MAIN AND SERVICE LINES. THE CONTRACTOR SHALL NOTIFY MEMBERS OF THE UNDERGROUND SERVICE ALERT (U.S.A.) TWO WORKING DAYS IN ADVANCE OF PERFORMING ANY EXCAVATION WORK BY CALLING THE TOLL-FREE NUMBER 811. THE CONTRACTOR SHALL RECORD THE U.S.A. ORDER NUMBER AND FURNISH ORDER NUMBER TO OWNER AND ENGINEER PRIOR TO ANY EXCAVATION. IT WILL BE THE CONTRACTORS SOLE RESPONSIBILITY TO DIRECTLY CONTACT ANY OTHER UTILITY COMPANIES THAT ARE NOT MEMBERS OF UNDERGROUND SERVICE ALERT. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO PROTECT ALL EXISTING UTILITIES SO THAT NO DAMAGE RESULTS TO THEM DURING THE PERFORMANCE OF THIS CONTRACT. ANY REPAIRS NECESSARY TO DAMAGED UTILITIES SHALL BE PAID FOR BY THE CONTRACTOR. THE CONTRACTOR SHALL BE REQUIRED TO COOPERATE WITH OTHER CONTRACTORS AND UTILITY COMPANIES INSTALLING NEW STRUCTURES, UTILITIES AND SERVICE TO THE PROJECT.
- THE CONTRACTOR SHALL PROVIDE ALL SHORING, BRACING, SLOPING OR OTHER PROVISIONS NECESSARY TO PROTECT WORKMEN FOR ALL AREAS TO BE EXCAVATED TO A DEPTH OF 5 FEET OR MORE. EXCAVATIONS OF 5 FEET OR MORE IN DEPTH WILL REQUIRE AN EXCAVATIONS PERMIT FROM THE STATE OF CALIFORNIA DEPARTMENT OF INDUSTRIAL SAFETY. FOR TRENCHES 5 FEET OR MORE IN DEPTH, THE CONTRACTOR SHALL COMPLY WITH THE CALTRANS STANDARDS, CURRENT EDITION, SECTION 6705 OF THE STATE OF CALIFORNIA LABOR CODE, AND ANY LOCAL CODES OR ORDINANCES.
- 4. WE CALL YOUR ATTENTION TO TITLE 8 CALIFORNIA ADMINISTRATION CODE SECTION 1540 (A)(1) OF THE CONSTRUCTION SAFETY ORDERS ISSUED BY THE OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD PURSUANT TO THE CALIFORNIA OCCUPATIONS SAFETY AND HEALTH ACT OF 1973 AS AMENDED WHICH

(1) PRIOR TO OPENING AN EXCAVATION, EFFORT SHALL BE MADE TO DETERMINE WHETHER UNDERGROUND INSTALLATIONS; I.E. SEWER, WATER, FUEL, ELECTRIC LINES, ETC., WILL BE ENCOUNTERED AND IF SO, WHERE SUCH UNDERGROUND INSTALLATIONS ARE LOCATED. WHEN THE EXCAVATION APPROACHES THE APPROXIMATE LOCATION OF SUCH AN INSTALLATION, THE EXACT LOCATION SHALL BE DETERMINED BY CAREFUL PROBING OR HAND DIGGING; AND, WHEN IT IS UNCOVERED, ADEQUATE PROTECTION SHALL BE PROVIDED FOR THE EXISTING INSTALLATION. ALL KNOWN OWNERS OF UNDERGROUND FACILITIES IN THE AREA CONCERNED SHALL BE ADVISED OF PROPOSED WORK AT LEAST 48 HOURS PRIOR TO THE START OF ACTUAL EXCAVATION.

- TRENCHING AND BACKFILL FOR ALL UNDERGROUND CONSTRUCTION SHALL CONFORM TO CITY OF ARCATA CONSTRUCTION STANDARDS.
- 6. ALL ABANDONED UTILITIES SHALL BE AS DIRECTED BY THE CITY OF ARCATA.

#### SURFACE IMPROVEMENTS

ALL EXISTING AND PROPOSED MANHOLE RIMS, DRAIN BOXES, LAMPHOLES, VALVES, VAULTS, PULLBOXES, AND MONUMENT BOXES, ETC. SHALL BE ADJUSTED TO FINISH GRADE AFTER PAVING OPERATIONS, WHETHER IN PAVED OR UNPAVED AREAS. ITEMS IN PROPOSED PAVEMENT AREAS SHALL BE REPLACED AS NECESSARY WITH TRAFFIC RATED MATERIALS, UNLESS OTHERWISE NOTED. COST FOR THIS WORK, AND ANY REQUIRED TESTING AND CERTIFICATIONS SHALL BE INCLUDED IN OTHER VARIOUS ITEMS OF WORK AND NO ADDITIONAL PAYMENT WILL BE ALLOWED THEREFORE.

#### **GRADING & EROSION CONTROL PLAN NOTES**

PRIOR TO INITIATING CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE THE CITY OF ARCATA A WATER POLLUTION CONTROL PLAN. THE WATER POLLUTION CONTROL PLAN WILL DETAIL ALL OF THE STORMWATER BEST MANAGEMENT PRACTICES (BMP'S) THAT SHALL BE IMPLEMENTED TO MINIMIZE THE POTENTIAL FOR CONSTRUCTION RELATED ACTIVITIES TO CONTRIBUTE POLLUTANTS TO WATERS OF THE STATE. THE WATER POLLUTION PLAN SHALL ALSO DETAIL THE CONTRACTORS PLAN FOR MINIMIZING DISTURBANCE AND IMPACTS TO HUMBOLDT BAY WHILE CONSTRUCTING THE BOAT LAUNCH WITHIN THE TIDAL AREAS. THE WATER POLLUTION PLAN SHALL BE SUBJECT TO THE APPROVAL OF THE CITY OF ARCATA, AND SHALL BE IN COMPLIANCE WITH ALL ENVIRONMENTAL PERMIT REQUIREMENTS FOR THE PROJECT.

#### DESIGN CODES, REFERENCES, AND STANDARDS

THE DESIGN REQUIREMENTS OF THE FOLLOWING DESIGN CODES AND STANDARDS WILL BE INCORPORATED INTO THE DESIGN OF THE SOUTH I STREET BOAT LAUNCH FACILITY

- 1. CALIFORNIA DEPARTMENT OF BOATING AND WATERWAYS, LAYOUT, DESIGN AND CONSTRUCTION HANDBOOK FOR SMALL CRAFT BOAT LAUNCHING FACILITIES, MARCH 1991.
- CALIFORNIA DEPARTMENT OF BOATING AND WATERWAYS, LAYOUT AND DESIGN GUIDELINES FOR MARINA BERTHING FACILITIES, JULY 2005. AMERICANS WITH DISABILITIES ACT (ADA) - ADA STANDARDS FOR ACCESSIBLE DESIGN, CHAPTER 10 RECREATIONAL FACILITIES, 2010.
- 4. 2019 CALIFORNIA BUILDING CODE STANDARDS (2019 CBC), CALIFORNIA CODE OF REGULATIONS, TITLE 24.
- 5. 2019 CBC REFERENCES 2018 IBC
- 5. INTERNATIONAL CODE COUNCIL, "2018 INTERNATIONAL BUILDING CODE (IBC)".
- 6. AMERICAN SOCIETY OF CIVIL ENGINEERS, "MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES," ASCE/SEI 7-16, 2016.
- 7. US ARMY CORPS OF ENGINEERS, SHORE PROTECTION MANUAL, 1984.
- 8. US ARMY CORPS OF ENGINEERS, COASTAL ENGINEERING MANUAL, EM 1110-2-1100, 2002.
- 9. MARINAS AND SMALL CRAFT HARBORS, SECOND EDITION, 2000, BRUCE O. TOBIASSON.
- 10. UNIFORM FACILITIES CRITERIA (UFC), DESIGN: MOORINGS UFC-4-159-03, 2005, REV. 2012.
- 11. DESIGN OF MARINE FACILITIES FOR THE BERTHING, MOORING, AND REPAIR OF VESSELS, SECOND EDITION, JOHN W. GAYTHWAITE, 2004.
- 12. WORLD METEOROLOGICAL ORGANIZATION, GUIDELINES FOR CONVERTING BETWEEN VARIOUS WIND AVERAGING PERIODS IN TROPICAL CYCLONE CONDITIONS, OCTOBER 2008.

#### PERMITS

THE REQUIREMENTS OF THE FOLLOWING PERMITS WILL BE FOLLOWED FOR THE PROJECT:

- CALIFORNIA COASTAL DEVELOPMENT PERMIT (CDP# 1-20-0712)
- NORTH COAST REGIONAL WATER QUALITY CONTROL BOARD 401 PERMIT
- 3. NOAA NATIONAL MARINE FISHERIES SERVICE (NMFS) CONCURRENCE
- 4. US ARMY CORP OF ENGINEERS 404 CONSULTATION

	ISSUED FOR CONSTRUCTION	NS	NS	4/25/2022
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Drafting O.GOODE N. SANGER Manager This document shall not be used for construction unless signed and sealed for Scale AS SHOWN **T** 1 707 443 8326 **F** 1 707 444 8330 **W** www.ghd.com

Drawn N. SANGER Designer N. SANGER B. SHERWOOD 04/25/2022

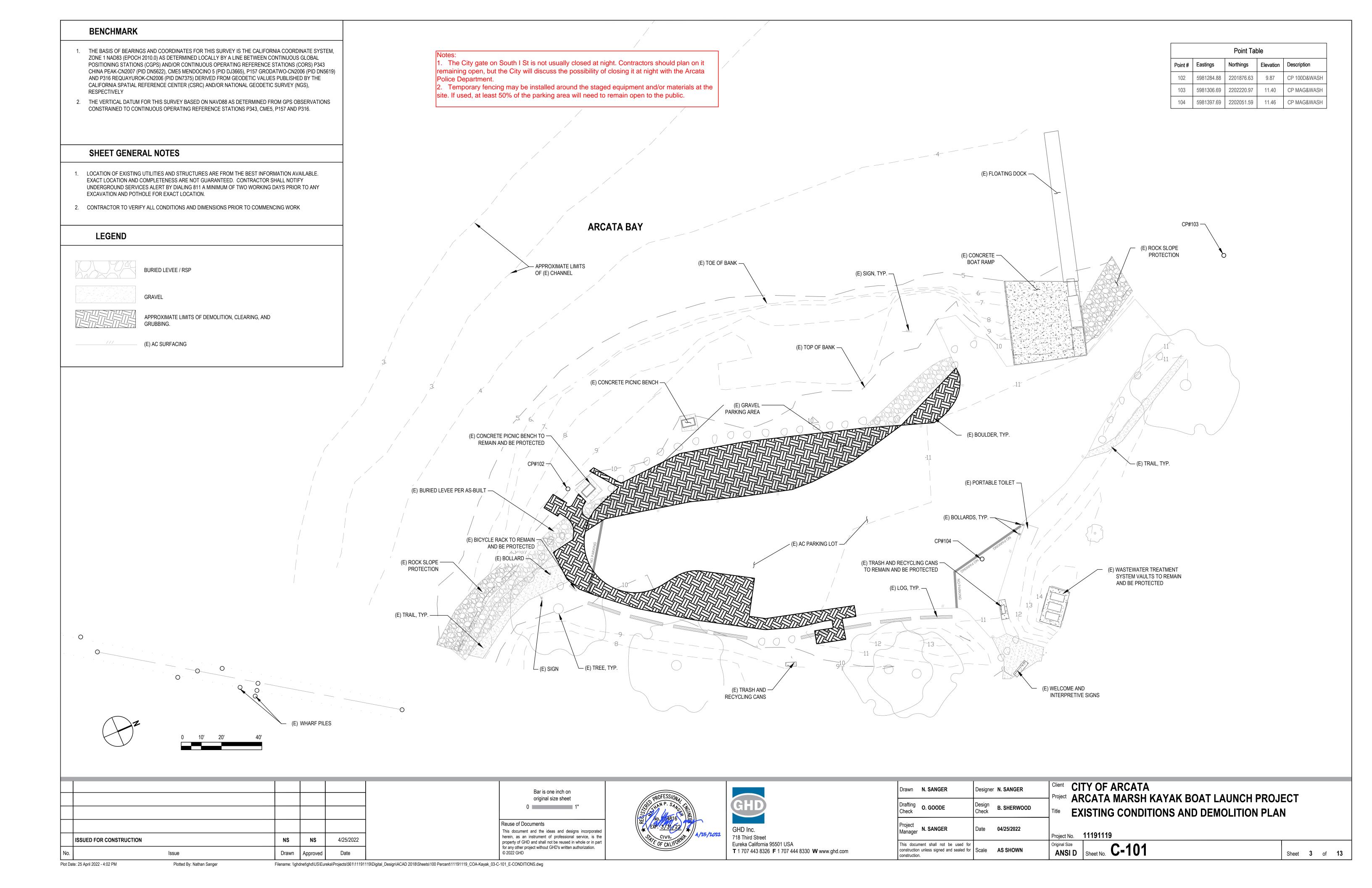
Client CITY OF ARCATA

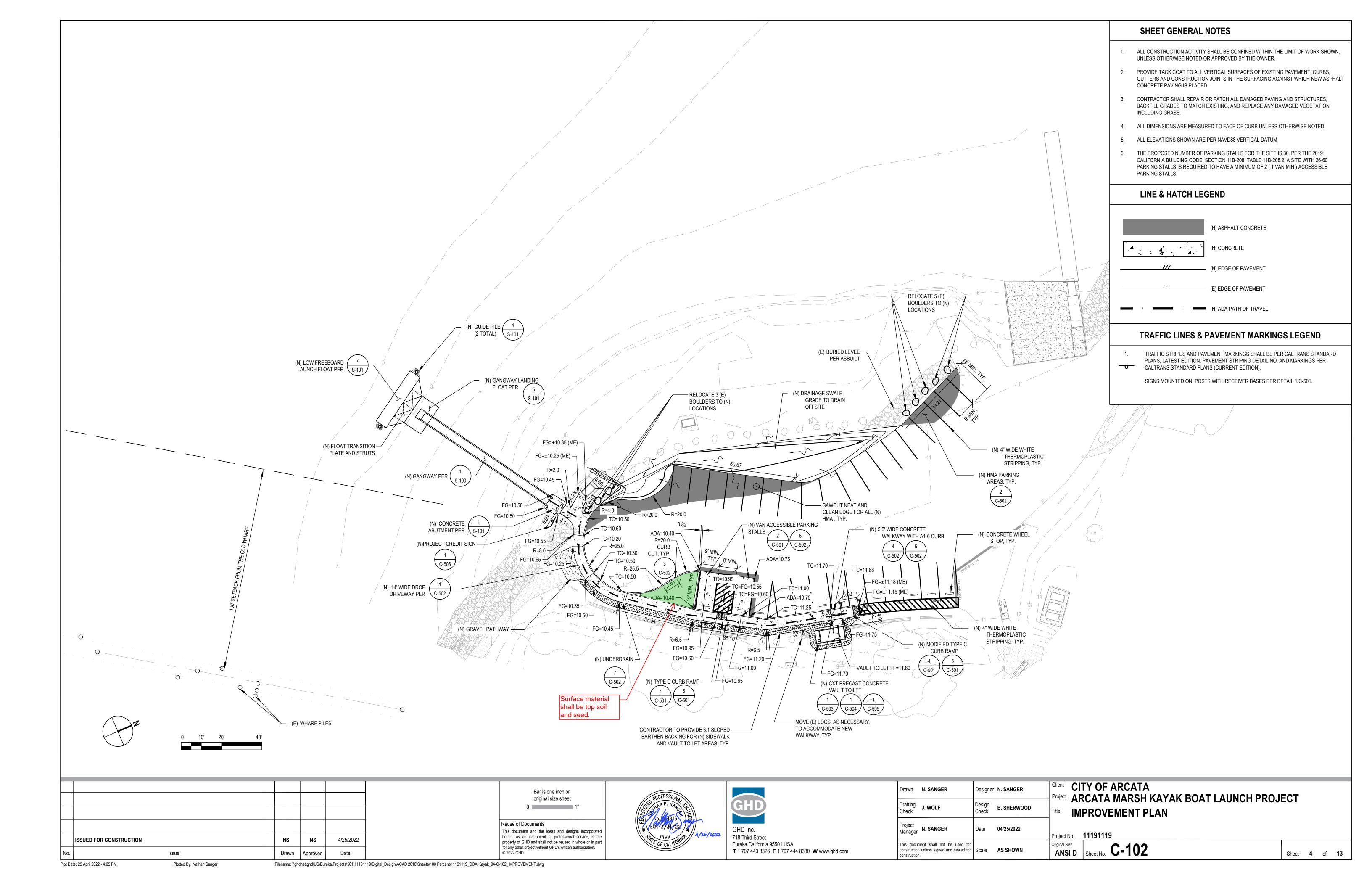
Project ARCATA MARSH KAYAK BOAT LAUNCH PROJECT **GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS** 

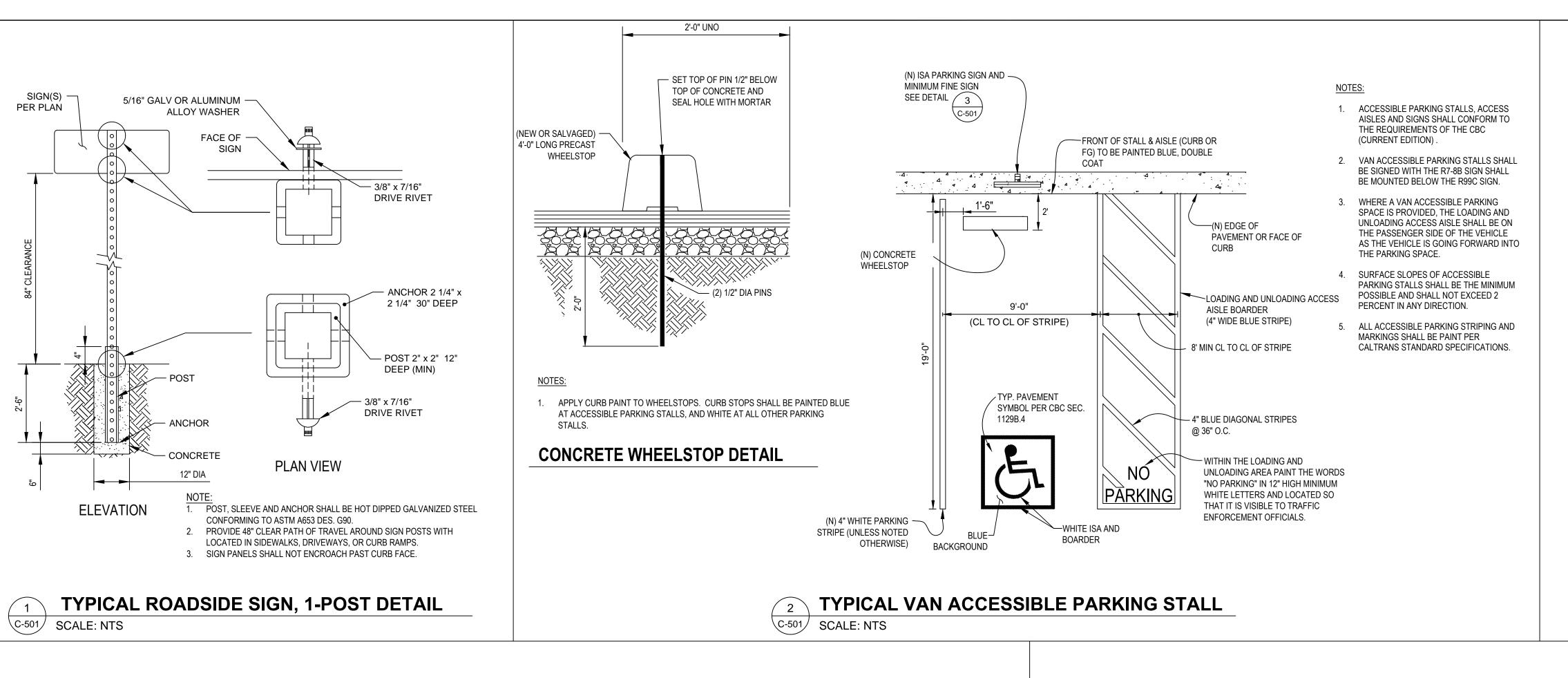
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Sheet No. **G-002** 

Sheet **2** of **13** 







5'-0" MIN

- RETAINING CURB

UNAUTHORIZED VEHICLES PARKED IN DESIGNATED ACCESSIBLE SPACES NOT DISPLAYING DISTINGUISHING PLACARDS OR SPECIAL LICENSE PLATES ISSUED FOR PERSONS WITH DISABILITIES WILL BE TOWED AWAY AT THE OWNER'S EXPENSE

TOWED VEHICLES MAY BE RECLAIMED AT ARCATA POLICE DEPARTMENT ACCESSIBLE

SIGN R7-8b

SIGN R99C (CA)

SIGN R100B (CA)

OR BY TELEPHONING

707-822-2428

- 1. ACCESSIBLE PARKING SIGNS SHALL CONFORM TO THE REQUIREMENTS OF THE CBC (CURRENT EDITION) AND THE DETAILS SHOWN ON THIS DRAWING.
- 2. THE BOTTOM OF THE SIGN OR PLAQUE PANEL SHALL BE A MINIMUM OF 7'-0" ABOVE THE SURROUNDING SURFACE.
- 3. SIGN PANELS SHALL BE REFLECTORIZED, 16 GA MIN GALV STL WITH PORCELAIN ENAMEL FINISH, ANTI-GRAFFITI COATING, AND WHITE LETTERS/SYMBOLS ON A BLUE BACKGROUND. THE BLUE COLOR SHALL BE EQUAL TO COLOR NO. 15090 IN FEDERAL STANDARD 595A.
- 4. INSTALL SIGNS ON POST PER —
- 5. A R100B (CA) SIGN SHALL BE POSTED IN A CONSPICUOUS PLACE AT EACH ENTRANCE TO OFF-STREET PARKING FACILITIES OR IMMEDIATELY ADJACENT TO AND VISIBLE FROM EACH STALL. THE SIGN SHALL INCLUDE THE ADDRESS WHERE THE TOWED VEHICLE MAY BE RECLAIMED AND THE TELEPHONE NUMBER OF THE LOCAL TRAFFIC LAW ENFORCEMENT AGENCY.
- 6. ONE IN EVERY SIX ACCESSIBLE OF-STREET PARKING STALLS, BUT NOT LESS THAN ONE, SHALL BE SERVED BY AN ACCESSIBLE AISLE OF 8'-0" MINIMUM WIDTH AND SHALL BE SIGNED VAN ACESSIBLE. THE R7-8b SIGN SHALL BE MOUNTED BLEOW THE R99B (CA) PLAQUE OR THE R99C (CA) SIGN.

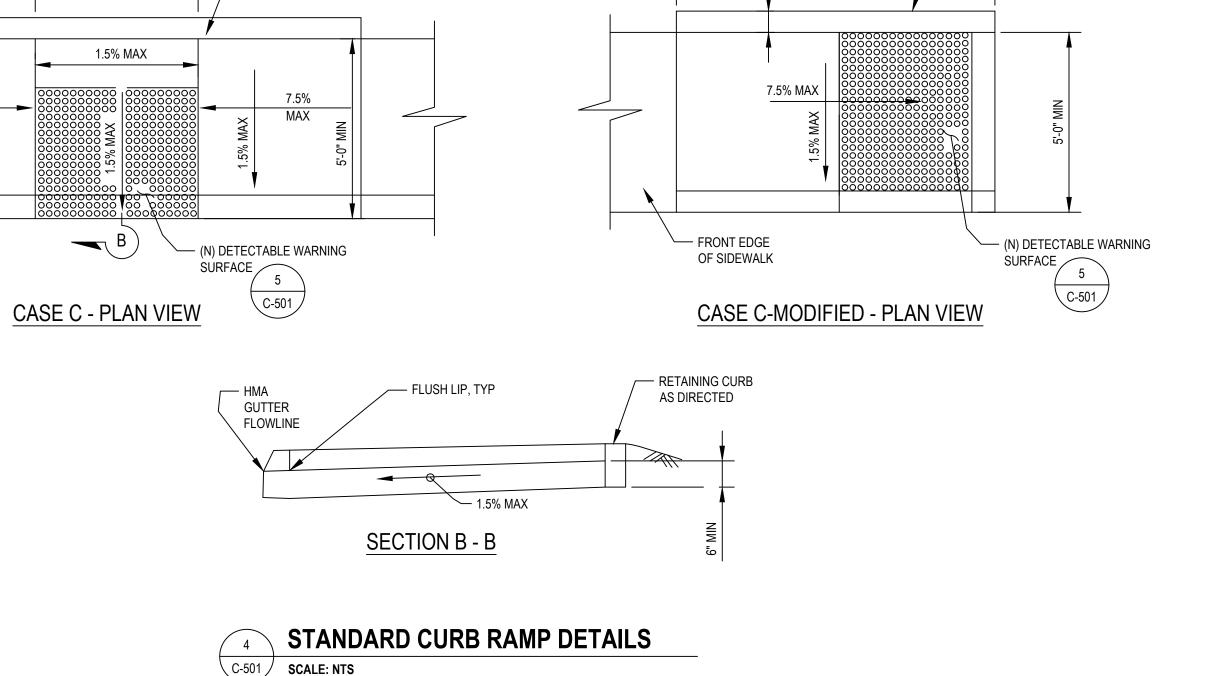


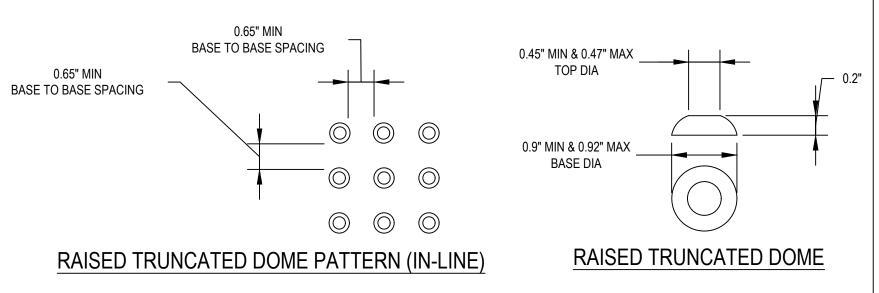
### **ACCESSIBLE PARKING SIGNS**

C-501 SCALE: NTS

### PEDESTRIAN ACCESS NOTES:

- THE CURB RAMP STANDARDS DEPICTED HERE MAY NOT BE APPROPRIATE FOR ALL LOCATIONS. FIELD CONDITIONS AT INDIVIDUAL LOCATIONS MAY REQUIRE SPECIFIC DESIGNS. DESIGNS MUST BE CONSISTENT WITH THE PROVISIONS OF THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION (CALTRANS) STANDARD PLANS (CURRENT EDITION) AND SUBSEQUENT REVISED STANDARD PLANS TO THE MAXIMUM EXTENT FEASIBLE
- 2. CURB RAMP AND PEDESTRIAN REFUGE ISLAND THICKNESS SHALL BE 6" THICK MINIMUM. PEDESTRIAN REFUGE ISLANDS AND CURB RAMPS SHALL BE PLACED OVER 4" OF CLASS 2 AGGREGATE BASE COMPACTED TO 95% RELATIVE COMPACTION, SCARIFY SUBGRADE 6" DEEP. MOISTURE CONDITION AND RECOMPACT TO 95% RELATIVE COMPACTION.
- TRANSITIONS FROM RAMPS AND LANDINGS TO WALKS, GUTTERS, OR STREETS SHALL BE FLUSH
- AND FREE OF ABRUPT CHANGES. 4. MAXIMUM SLOPES OF ADJOINING GUTTERS, THE ROAD SURFACE IMMEDIATELY ADJACENT TO THE CURB RAMP OR ACCESSIBLE ROUTE SHALL NOT EXCEED 5% WITHIN 2'-0" OF THE CURB RAMP.
- A 6" HIGH WARNING CURB IS REQUIRED PER CBC WHENEVER THERE IS AN ABRUPT CHANGE IN GRADE ELEVATION OFF THE EDGE OF A WALKING SURFACE THAT EXCEEDS 4" VERTICAL EXCEPT BETWEEN A SIDEWALK AND AN ADJACENT STREET. LOCATION TO BE AS DIRECTED.
- 6. WHEN AN EXISTING ACCESSIBLE PATH OF TRAVEL IS TO BE BLOCKED OR REMOVED, THE CONTRACTOR SHALL SUBMIT A TEMPORARY ACCESS PLAN FOR CITY APPROVAL. NO WORK SHALL
- COMMENCE UNTIL AN ACCESS PLAN HAS BEEN APPROVED FROM THE CITY. 7. IF THE CONSTRUCTION WORK AREA IS WITHIN AN EXISTING FACILITY (E.G. BUS STOPS, CROSSWALKS,
- ETC.), CONTRACTOR SHALL PROVIDE 48 HOURS ADVANCE NOTICE TO OWNERS OF THE FACILITY INDICATING THE AFFECTED LOCATION AND DURATION OF WORK. NO TWO FACILITIES OR PROGRAMS IN SEQUENCE SHALL BE BLOCKED OR CLOSED FOR PUBLIC USE. PAYMENT FOR PROVIDING A CONTINUOUS PATH OF TRAVEL SHALL BE CONSIDERED AS
- INCLUDED IN VARIOUS ITEMS OF WORK AND NO SEPARATE PAYMENT SHALL BE MADE. PROVISIONS FOR CONTINUOUS PATH OF TRAVEL SHALL INCLUDE INSTALLATION AND MAINTENANCE OF TEMPORARY RAMPS, POTHOLING OF UTILITIES, RESTORATION OF EXISTING STREET IMPROVEMENTS, COORDINATION OF WORK, TRAFFIC CONTROLS AND ALL ASSOCIATED WORK NEEDED TO COMPLETE THIS REQUIREMENT.
- 9. DRILL AND DOWEL #4'S AT 24" O.C. INTO EXISTING CURB, GUTTERS, DRIVEWAYS AND SIDEWALKS.





### NOTES:

- 1. CURB RAMPS SHALL HAVE A DETECTABLE WARNING SURFACE THAT EXTENDS THE FULL WIDTH AND 3'-0" DEPTH OF RAMP. SEE RAMP DETAILS ON THIS SHEET FOR DETECTABLE WARNING
- 2. THE EDGE OF THE DETECTABLE WARNING SHALL BETWEEN 6" AND 8" AWAY FROM THE STREET GUTTER FLOWLINE EXCEPT FOR PARALLEL RAMP CONSTRUCTION, WHERE THE DETECTABLE WARNING SURFACE SHALL BE BETWEEN 0" AND 2" AWAY FROM THE STREET GUTTER FLOWLINE.
- 3. DETECTABLE WARNING SHALL BE A PREFORMED MATERIAL AS APPROVED BY THE ENGINEER. THE DETECTABLE WARNING SHALL BE CAST-IN, NOT SURFACE APPLIED UNLESS NOTED OTHERWISE. THE USE OF CONCRETE STAMPING IS NOT PERMITTED. NEW RAMPS SHALL BE CAST-IN-PLACE AND EXISTING RAMPS SHALL BE SURFACE-APPLIED.
- 4. DETECTABLE WARNING SURFACE SHALL BE FEDERAL YELLOW.

#### DETECTABLE WARNING SURFACE DETAILS

\ C-501 / SCALE: NTS

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5'-0" MIN

1.5% MAX

7.5%

- FRONT EDGE

OF SIDEWALK

- RETAINING CURB

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	Drafting Check	O.GOODE	Design Check	J. WOLF
	Project Manager	N. SANGER	Date	04/25/2022
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ANGER	Designer	N. SANGER	Clien
OODE	Design Check	J. WOLF	Title
ANGER	Date	04/25/2022	Proje
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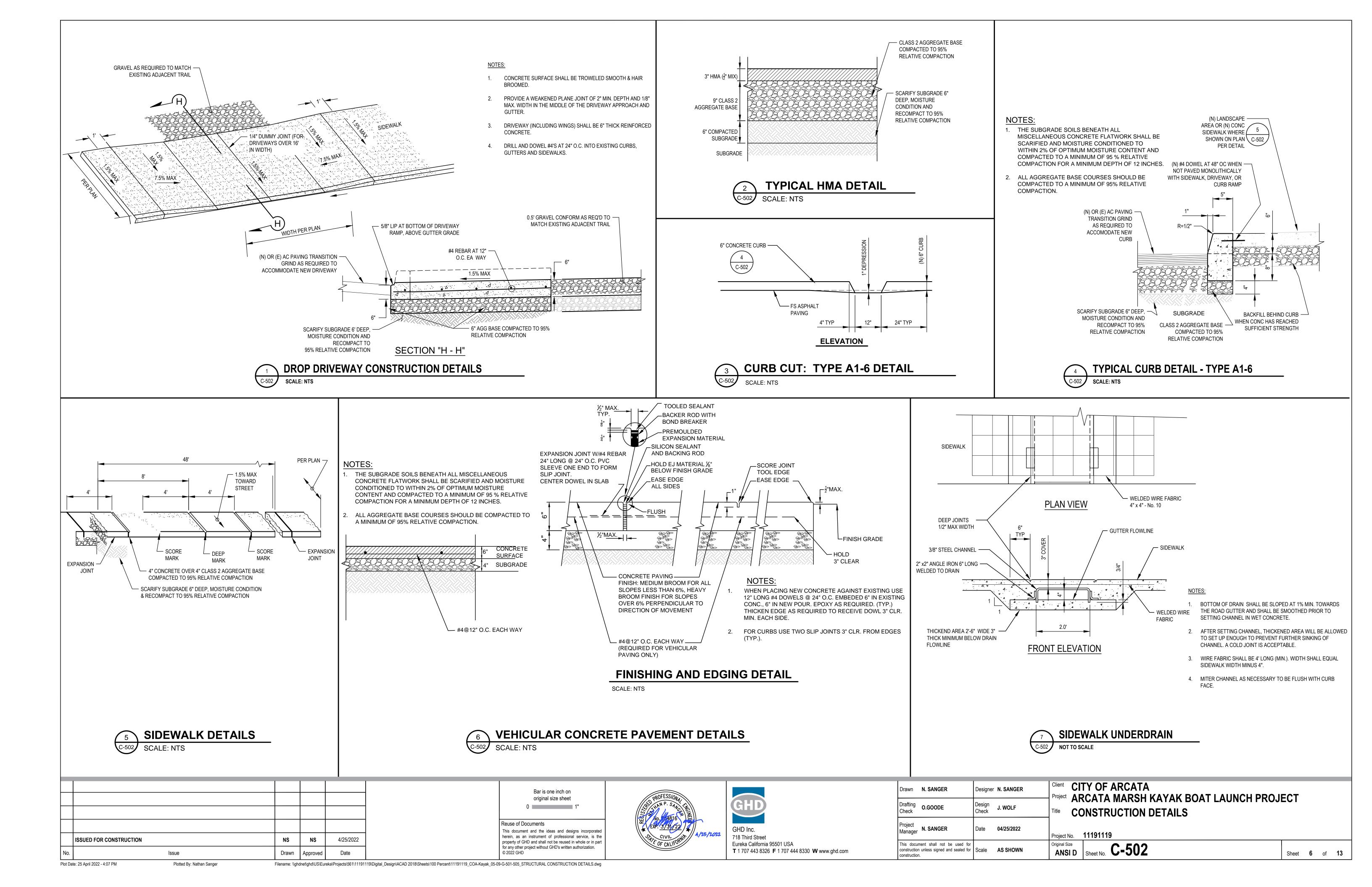
Client	CITY OF ARCATA
Project	ARCATA MARSH KAYAK BOAT LAUNCH PROJECT
-	ANOATA MANOITRATAN DOAT LAUNOITI NOULCT
Title	CONSTRUCTION DETAILS

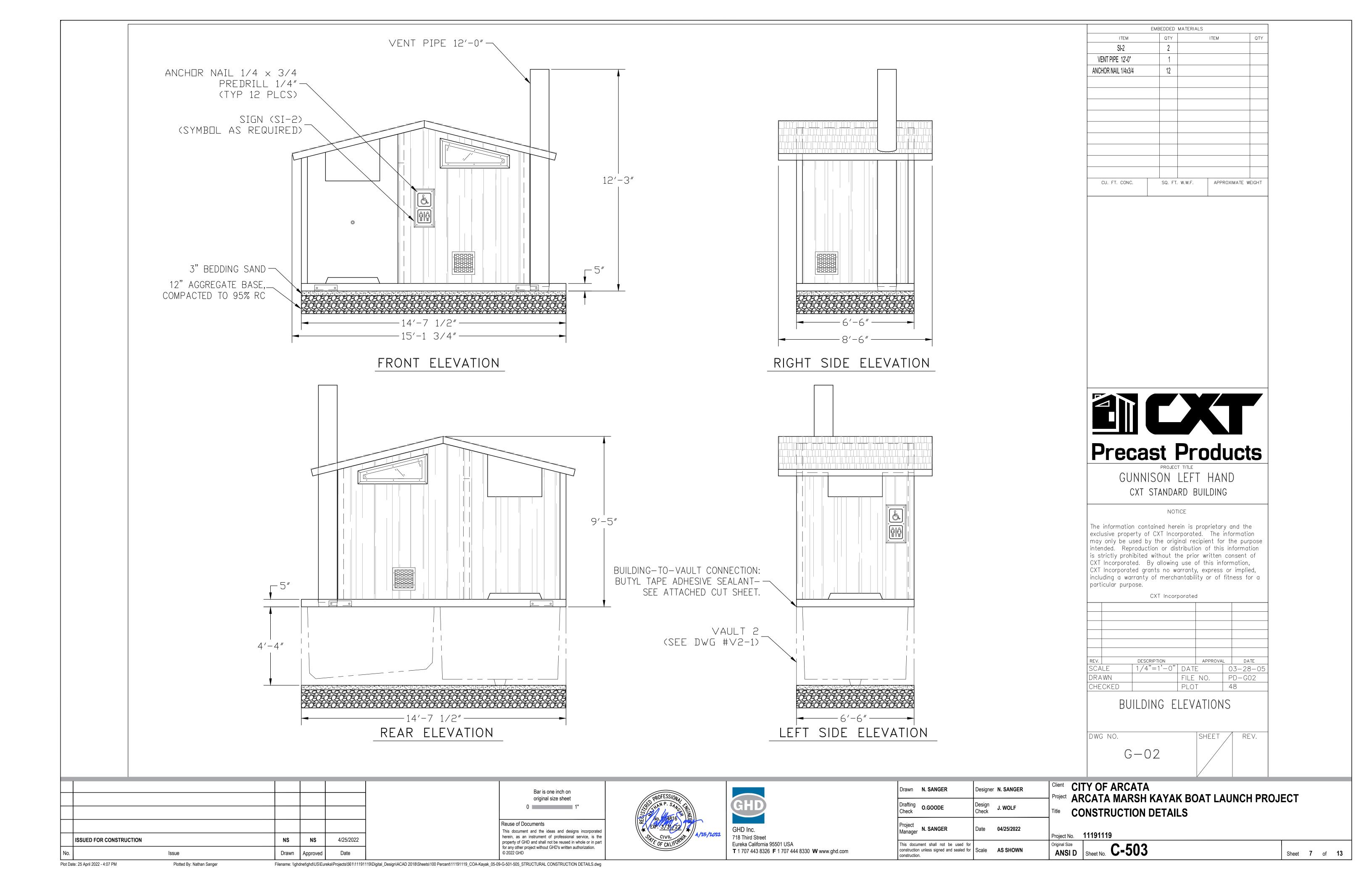
ect No. 11191119

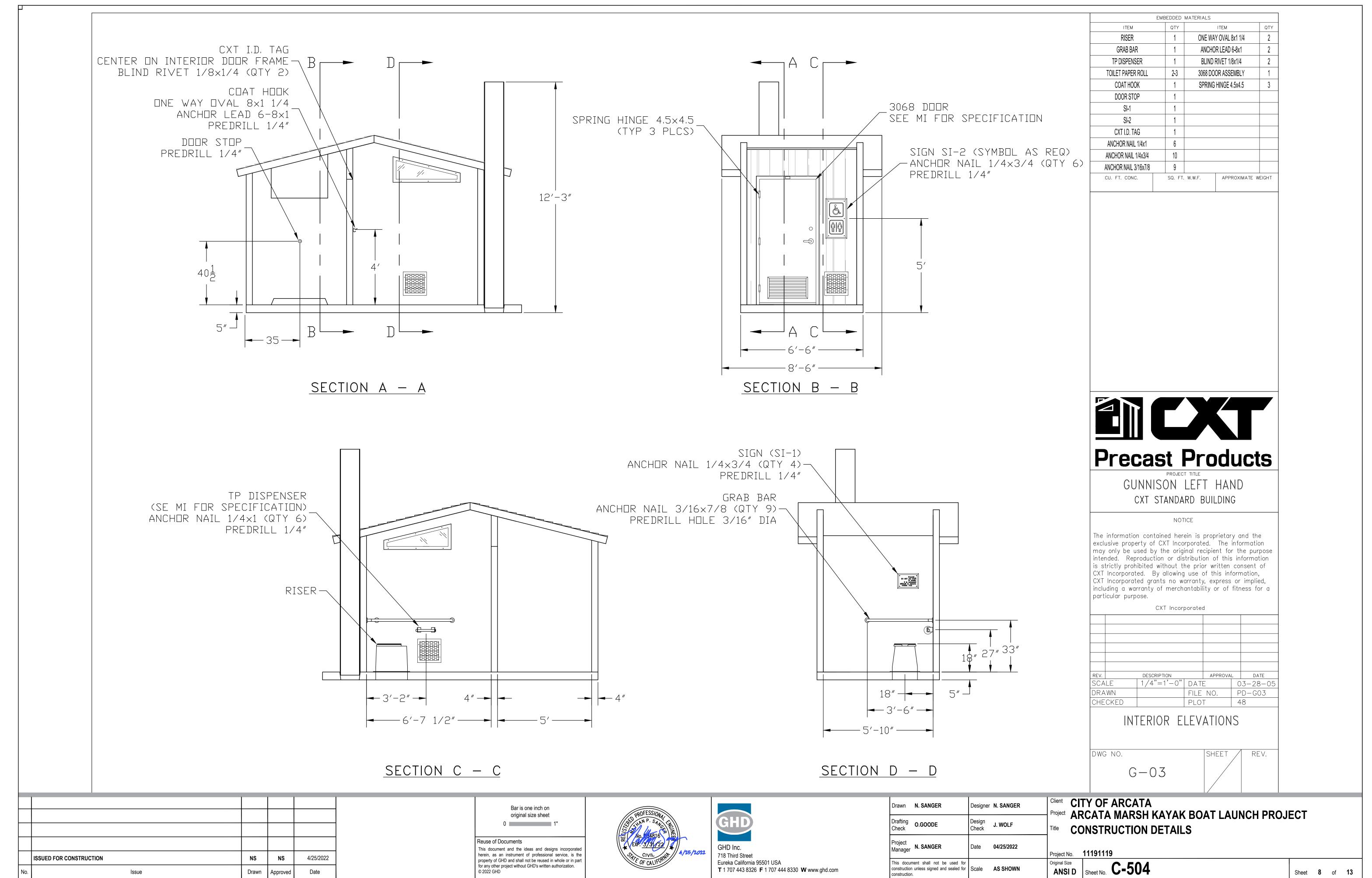
Sheet No. **C-501** 

Sheet **5** of **13** 

Plot Date: 25 April 2022 - 4:07 PM Plotted By: Nathan Sanger Filename: \ghdnet\ghd\US\Eureka\Projects\561\11191119\Digital\_Design\ACAD 2018\Sheets\100 Percent\11191119\_COA-Kayak\_05-09-G-501-505\_STRUCTURAL CONSTRUCTION DETAILS.dwg



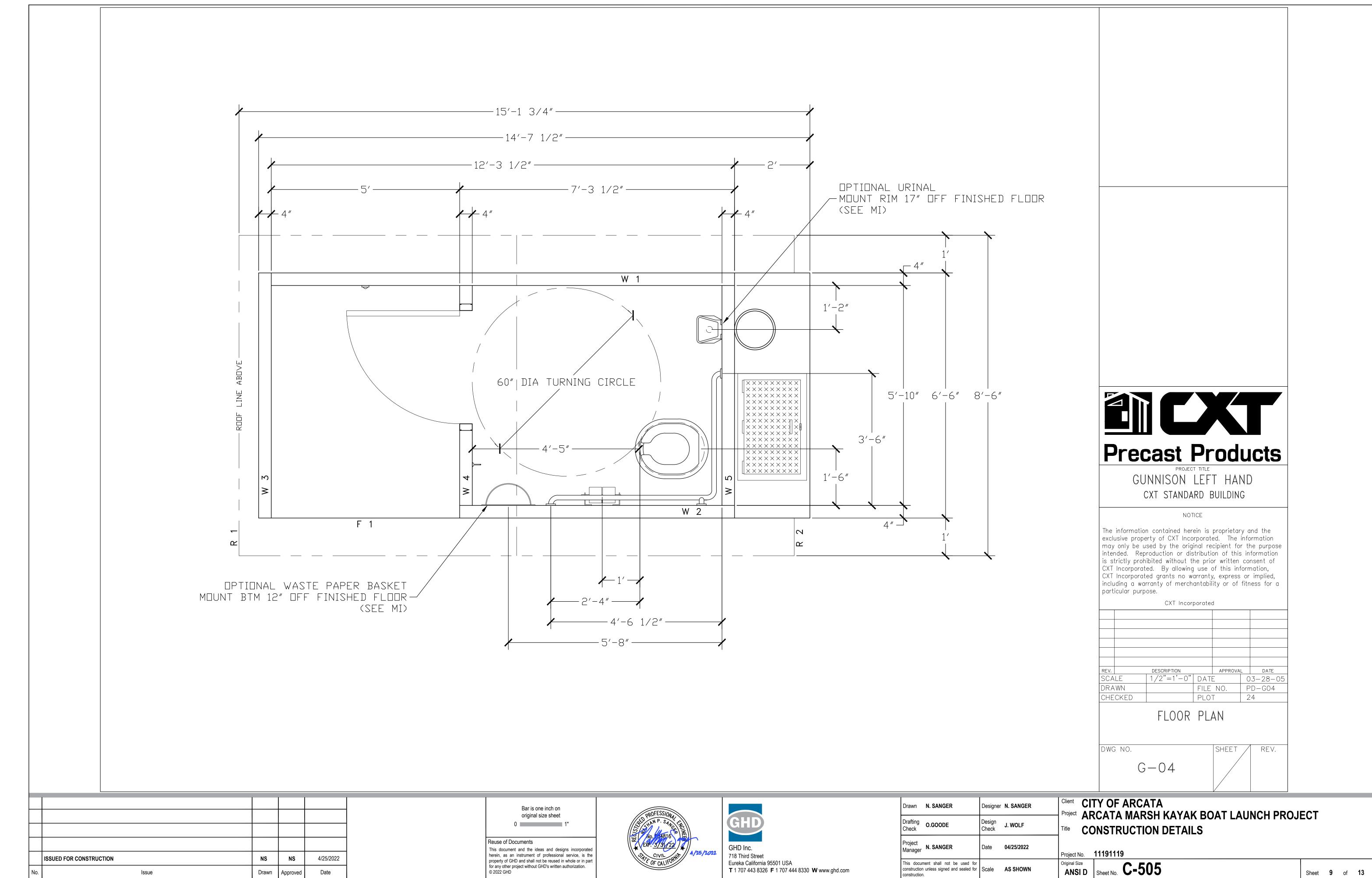




Plot Date: 25 April 2022 - 4:08 PM

Plotted By: Nathan Sanger

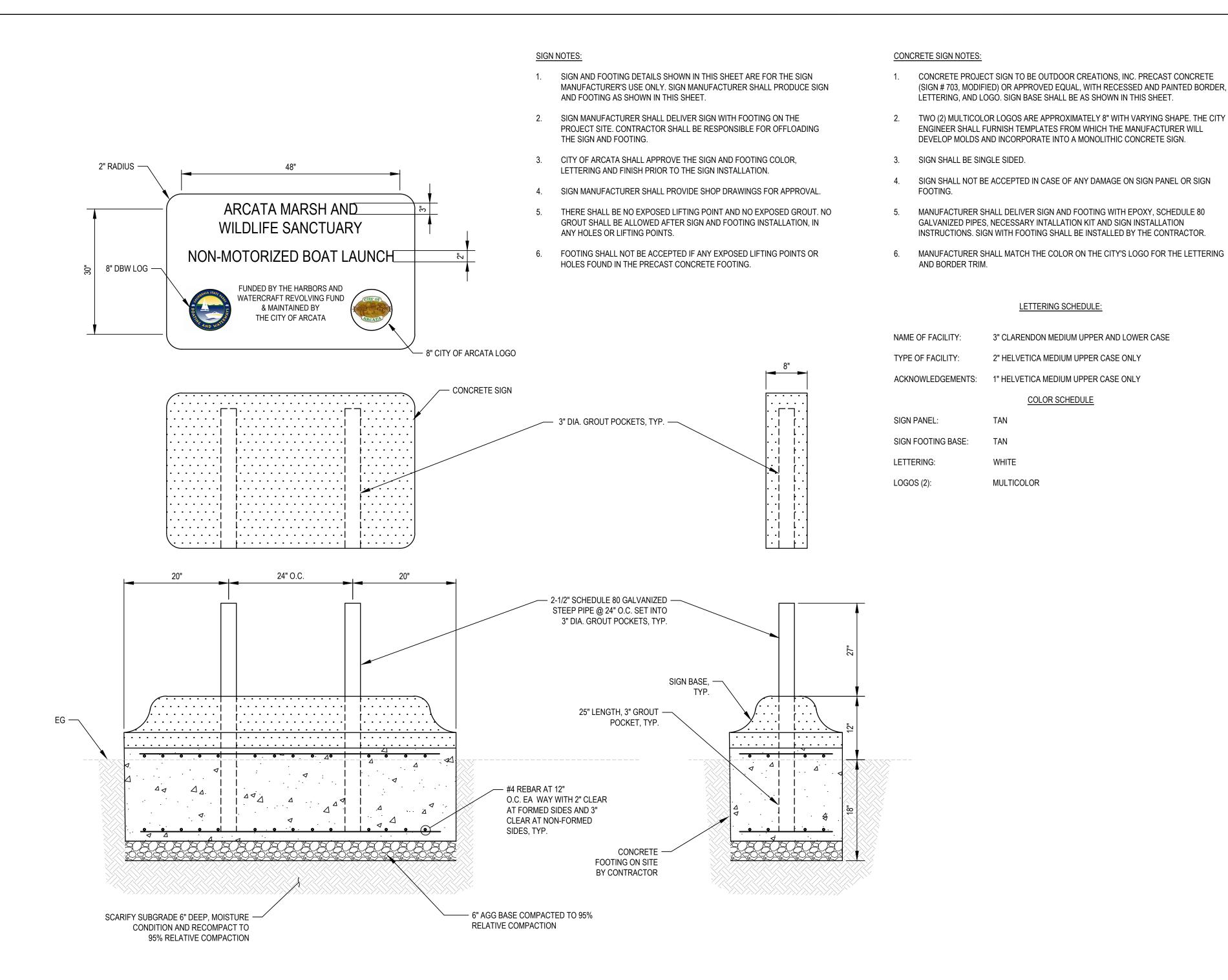
Filename: \ghdnet\ghd\US\Eureka\Projects\561\11191119\Digital\_Design\ACAD 2018\Sheets\100 Percent\11191119\_COA-Kayak\_05-09-G-501-505\_STRUCTURAL CONSTRUCTION DETAILS.dwg



Plot Date: 25 April 2022 - 4:08 PM

Plotted By: Nathan Sanger

Filename: \\ghdnet\ghd\US\Eureka\Projects\561\11191119\Digital\_Design\ACAD 2018\Sheets\100 Percent\11191119\_COA-Kayak\_05-09-G-501-505\_STRUCTURAL CONSTRUCTION DETAILS.dwg



# DEPARTMENT OF BOATING AND WATERWAYS CREDIT SIGN

	ISSUED FOR CONSTRUCTION	NS	NS	4/25/2022
No.	Issue	Drawn	Approved	Date

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Drawn	N. SANGER	Designer	N. SANGER	С
Drafting Check	O.GOODE	Design Check	B. SHERWOOD	Т
Project Manager	N. SANGER	Date	04/25/2022	P
	nent shall not be used for unless signed and sealed for	Scale	AS SHOWN	0

Client	CITY OF ARCATA
Project	ARCATA MARSH KAYAK BOAT LAUNCH PROJECT
Title	CONSTRUCTION DETAILS

Sheet **10** of **13** 

Project No. 11191119

#### **GENERAL**

- CONTRACTOR SHALL COORDINATE ALL STRUCTURAL DOCUMENTS WITH ALL OTHER
  DISCIPLINES AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO THE START
  OF ANY FABRICATION OR CONSTRUCTION.
- 2. UNLESS NOTED OTHERWISE, REFER TO DRAWINGS OTHER THAN STRUCTURAL FOR FINISHES, SLOPES, DEPRESSIONS, OPENINGS, CURBS, STAIRS, RAMPS, TRENCHES, EQUIPMENT AND LOCATIONS AND EXTENT OF SUCH CONDITIONS.
- 3. CONTRACTOR SHALL COORDINATE ALL NEW WORK WITH EXISTING SITE CONDITIONS AND REPORT ANY DISCREPANCIES TO THE CONTRACTING OFFICER PRIOR TO CONSTRUCTION.
- 4. DETAILS OR CONDITIONS NOT FULLY DEVELOPED ON DRAWINGS ARE SIMILAR TO DEVELOPED DETAILS.
- 5. ELEVATIONS SHOWN ARE BASED ON NAVD88 = ELEVATION 0.00

#### LANDING AND LAUNCH FLOATS

- 1. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS AND COMPLETE CALCULATIONS UNDER SUPERVISION OF A LICENSED STRUCTURAL ENGINEER FOR REVIEW TO CONFIRM THAT THE FLOATING DOCK SYSTEM MEETS THE PERFORMANCE SPECIFICATIONS AND DIMENSIONS OF THIS PROJECT.
- 2. DESIGN CRITERIA
  - 2.1 SEE TECHNICAL SPECIFICATIONS FOR DESIGN CRITERIA, CODE AND STANDARDS REFERENCES.

#### ACCESS GANGWAYS

- 1. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS AND COMPLETE CALCULATIONS UNDER SUPERVISION OF A LICENSED STRUCTURAL ENGINEER FOR REVIEW TO CONFIRM THAT THE ACCESS GANGWAYS MEET THE PERFORMANCE SPECIFICATIONS AND DIMENSIONS OF THIS PROJECT
- 2. SEE SHEET S-501 FOR ACCESS GANGWAY DESIGN CRITERIA AND DIMENSIONS.

#### CONCRETE

- 1. CONCRETE MIX DESIGN SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SUBJECT TO REVIEW BY THE ENGINEER. COPIES OF THE LABORATORY MIX DESIGN SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW TWO (2) WEEKS PRIOR TO COMMENCEMENT OF CASTING OPERATIONS.
- 2. ALL CONCRETE SHALL BE NORMAL WEIGHT, WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH AS FOLLOWS:

STRUCTURAL CONCRETE:

5,000 PSI

- 3. CONCRETE SHALL USE EITHER TYPE 2 OR 5 CEMENT, AND MAY CONTAIN UP TO 20% CLASS F FLY ASH.
- 4. CONCRETE SHALL HAVE A MAXIMUM WATER TO CEMENT RATIO OF 0.40
- 5. CONCRETE MIX SHALL INCLUDE A HIGH RANGE WATER REDUCER TO HELP RESIST FUTURE CHLORIDE ION PENETRATION.
- 6. ALL CONCRETE DIMENSIONS SHOWN ARE MINIMUM DIMENSIONS. CONTRACTOR SHALL REVIEW FORMING, REINFORCING DETAILS AND ANY EMBEDDED ITEMS AND DETERMINE PLACEMENT REQUIREMENTS AND CLEARANCES PRIOR TO FABRICATION OF ANY REINFORCING.

#### REINFORCING

- 1. ALL CONCRETE REINFORCING SHALL BE ASTM A615 OR A706, GRADE 60.
- 2. REINFORCING SHALL EXTEND CONTINUOUS FOR THE DIMENSION SHOWN.
- 3. NO WELDING OF ANY REINFORCING SHALL BE PERMITTED FOR A615 MATERIAL.
- 4. LOCATE ALL REINFORCING AS SHOWN ON DRAWINGS AND FASTEN SECURELY.
- 5. ALL REINFORCING TO TERMINATE WITH STANDARD HOOKS AS SHOWN ON PLANS. ALL STIRRUPS AND TIES TO BE CLOSED WITH 135 DEGREE BENDS.

#### STRUCTURAL STEEL

- 1. STRUCTURAL STEEL DESIGN IS BASED ON THE FOLLOWING STRENGTH OF MATERIALS:
  - E. STEEL SHAPES AND PLATES......Fy=50 KSI, UNLESS NOTED OTHERWISE
  - F. BOLTS ......A 307 OR F593 (TYPE 316), UNLESS NOTED OTHERWISE
  - G. ANCHOR RODS ......ASTM F 1554 GR 55, UNLESS NOTED
  - OTHERWISE

    H. STAINLESS STEEL .....Fy=25 KSI, TYPE 316L, UNLESS NOTED
  - H. STAINLESS STEEL OTHERWISE
- 2. MINIMUM SIZE WELDS FOR CONNECTIONS NOT SHOWN SHALL BE 3/16 INCH UNLESS NOTED OTHERWISE.
- 3. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TEMPORARY BRACING / SUPPORTS AS REQUIRED UNTIL ALL MEMBERS HAVE BEEN BOLTED OR WELDED SO MEMBERS ARE NOT OVERSTRESSED.
- 4. ALL WELDS SHALL CONFORM TO AWS D1.1 LATEST EDITION.

- 5. FOR WELDS NOT SHOWN ON DRAWINGS, PROVIDE COMPLETE PENETRATION OR FILLET WELDS WHICH FULLY DEVELOP THE STRENGTH OF THE CONNECTION MEMBER IN ACCORDANCE WITH WELDING CODE AWS D1.1 LATEST EDITION.
- 6. ALL EXPOSED NON-GALVANIZED STEEL SURFACES AND FASTENERS SHALL BE EITHER STAINLESS STEEL OR COATED PER SPECIFICATIONS, UNLESS OTHERWISE NOTED.
- 7. BOLTS THREADS OF ALL BOLTS SHALL BE COATED WITH ANTI-SEIZE COMPOUND
- 8. STRUCTURAL STEEL WELDING:
- PER LATEST AWS D 01.1 BY WELDERS QUALIFIED PER AWS FOR THE TYPE AND POSITION OF THE WELDS. ALL FILLER METAL SHALL MEET CHARPY IMPACT CRITERIA OF 20 FT-LBS AT -20° F AND SHALL HAVE A MAXIMUM CARBON CONTENT OF 0.20%. ELECTRODES SHALL BE PROPERLY CONDITIONED E7018-1 OR E71T8-Ni 1%. SUBMIT WELDER QUALIFICATIONS AND WELDING PROCEDURES FOR APPROVAL.
- THE CONTRACTOR SHALL PROVIDE A CERTIFIED WELDING INSPECTOR TO INSPECT ALL SHOP WELDS. ALL WELDS SHALL BE 100% VISUALLY INSPECTED. IN ADDITION, 10% OF ALL CJP SHOP WELDS SHALL BE TESTED BY UT EXAMINATION, OR OTHER APPROVED METHOD, BY AN INDEPENDENT CERTIFIED WELDING INSPECTOR.
- THE CONTRACTOR SHALL PROVIDE 100% VISUAL INSPECTION OF FIELD WELDS. ANY WELD FAILING INSPECTION SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE, WHICH WILL INCLUDE THE COST FOR RETESTING. THE CONTRACTING OFFICER MAY PROVIDE ADDITIONAL INSPECTION OF SHOP AND FIELD WELDS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REPAIRS REQUIRED AS A RESULT OF ADDITIONAL CONTRACTING OFFICER INSPECTIONS.
- ACCEPTANCE CRITERIA FOR ALL WELD INSPECTIONS SHALL CONFORM TO AWS D1.1 CRITERIA FOR DYNAMICALLY LOADED STRUCTURES.

#### <u>UHMW</u>

ULTRA HIGH MOLECULAR WEIGHT POLYETHYLENE (UHMW) SHALL BE UV STABILIZED VIRGIN MATERIAL. VIRGIN RESIN SHALL BE HOMOPOLYMER OF ETHYLENE WITH INTRINSIC VISCOSITY (IV) BETWEEN 22.0 AND 28.0 DL/G PER ASTM D792. FINISHED FORM SHALL MAINTAIN ULTRAVIOLET STABILITY FOR MINIMUM 25 YEARS AND SHALL BE FREE OF FRESHWATER OF PETROLEUM PRODUCT LEACHABLE MATERIAL. COLOR SHALL BE WHITE. FINISHED FORM SHALL HAVE THE FOLLOWING PROPERTIES:

SPECIFIC GRAVITY (ASTM D792):

ULTIMATE TENSILE STRENGTH, MIN (ASTM D638):

ULTIMATE ELONGATION, MIN (ASTM D638):

IMPACT STRENGTH (ASTM 256):

HARDNESS, MIN:

COEFFICIENT OF FRICTION (ASTM D1894):

WATER ABSORPTION (ASTM D570): THERMAL EXPANSION, MAX: 6,300 PSI
250 PERCENT
TEST METHOD A, IZOD
NON-BREAK FOR ALL FIVE
DETERMINATIONS IN SAMPLE
SHORE D 63
KINETIC, MAXIMUM 0.11
STATIC, MAXIMUM 0.20

9.1x10-5 IN/IN/°F

0.935 - 0.955 GM/CM3

#### FIELD REPAIRS

- 1. GALVANIZED/METALIZED COATING FIELD REPAIR FIELD REPAIR OF FIELD WELDS OR OTHER DAMAGED AREAS SHALL CONFORM TO ASTM A760, USING ZINC-BASE SOLDERS, SUCH AS "GALV-STICK" OR APPROVED EQUAL, FOLLOWED BY A TOP COAT OF ZINC RICH PAINT. REPAIR SHALL FOLLOW PROCEDURES INDICATED IN ASTM A760, ANNEX A1, AND IN CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- 2. FIELD WELDING PREHEAT STEEL TO A MINIMUM 50°F TO DRIVE OFF MOISTURE AND WELD PER AWS D1.1.

#### 3. GROUT PLACEMENT

- -- HIGH-STRENGTH GROUT SHALL BE PLACED PER MANUFACTURER'S
  RECOMMENDATIONS. CONTRACTOR SHALL SUBMIT INTENDED METHODS OF
  PREPARING SUBSTRATE, MIXING, TRANSPORTING, PLACING AND FINISHING GROUT.
- -- PRIOR TO PLACEMENT, GROUTED SURFACES SHALL BE FREED OF DUST AND DIRT USING HIGH-PRESSURE POTABLE WATER. MIX GROUT WITH MANUFACTURER'S
- RECOMMENDED WATER QUANTITY. DO NOT ADD ADDITIONAL WATER.
  -- COLD WEATHER GROUT/ CONCRETE SHALL FOLLOW APPROPRIATE
- COLD WEATHER GROUT/ CONCRETE SHALL FOLLOW APPROPRIATE
  RECOMMENDATIONS OF ACI 306R. WHERE AMBIENT TEMPERATURE IS LESS THAN
  40°F PROVIDE HEATED MATERIAL OR INSIDE SHELTER TO MAINTAIN 40°F MATERIAL
  TEMPERATURE FOR 4 DAYS OR UNTIL GROUT/ CONCRETE OBTAINS fc = 2500 PSI.

### STRUCTURAL STANDARD DETAILS - CONCRETE

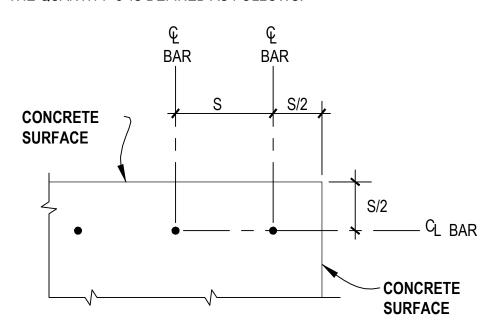
#### NOTES:

LENGTHS SHOWN ARE FOR GRADE 60 UNCOATED BARS.

#### LENGTHS SHOWN ARE IN INCHES.

TOP BARS: HORIZONTAL BARS WITH MORE THAN 12" OF FRESH CONCRETE CAST BELOW THEM.

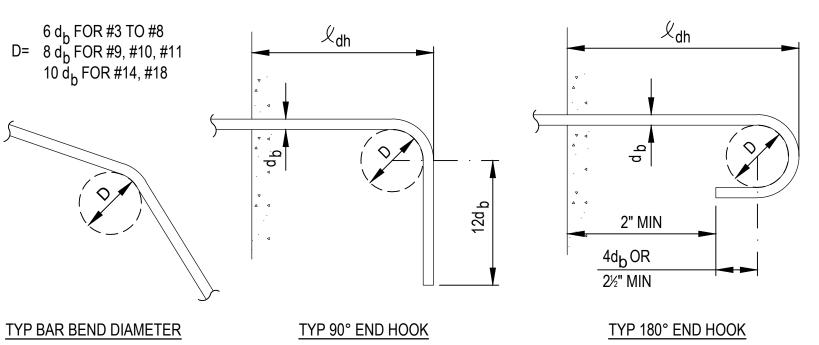
THE QUANTITY 's' IS DEFINED AS FOLLOWS:



				D	EVELOPI	MENT LEI	NGTH ( $\emph{L}$	d )				
BAR		3000 PSI	CONC (f'c	)		4000 PSI	CONC (f'c	:)		5000 PSI	CONC (f'c	)
SIZE	TO	)P	OTH	HER	TO	OP .	OTH	HER	TO	)P	OTH	HER
	s ≥ 6"	s < 6"	s ≥ 6"	s < 6"	s ≥ 6"	s < 6"	s ≥ 6"	s < 6"	<u>s</u> ≥ 6"	s < 6"	s ≥ 6"	s < 6"
#3	13	22	12	17	12	19	12	15	12	17	12	13
#4	18	29	14	22	15	25	12	19	14	23	12	17
#5	22	36	17	28	19	31	15	24	17	28	13	22
#6	26	43	20	33	23	37	18	29	20	34	16	26
#7	38	63	29	48	33	54	25	42	29	49	23	38
#8	43	72	33	55	37	62	29	48	34	56	26	43
#9	49	81	37	62	42	70	33	54	38	63	29	48
#10	56	89	43	69	49	78	38	60	44	69	34	54
#11	68	98	52	76	59	85	45	66	53	76	41	59

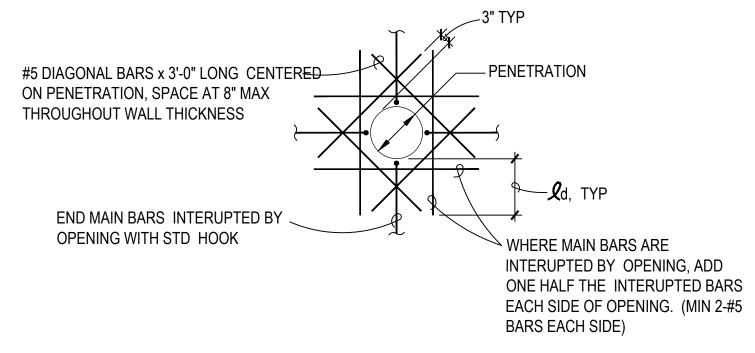
BAR		3000 PSI	CONC (f'c	:)		4000 PSI	CONC (f'c	;)		5000 PSI	CONC (f'c	)
SIZE	TO	OP	OTH	HER	T(	OP	OTI	HER	T(	OP	OTH	HER
	s ≥ 6"	s < 6"	s ≥ 6"	s < 6"	s ≥ 6"	s < 6"	s ≥ 6"	s < 6"	s ≥ 6"	s < 6"	s ≥ 6"	s < 6"
#3	17	28	16	22	16	25	16	19	16	22	16	17
#4	23	38	18	29	20	33	16	25	18	29	16	23
#5	28	47	22	36	25	41	19	31	22	36	17	28
#6	34	56	26	43	29	49	23	38	26	44	20	34
#7	49	82	38	63	43	71	33	55	38	63	30	49
#8	56	93	43	72	49	81	38	62	44	72	34	56
#9	63	105	49	81	55	91	42	70	49	81	38	63
#10	73	116	56	90	63	101	49	78	57	90	44	70
#11	88	128	68	99	76	111	59	85	68	99	53	76

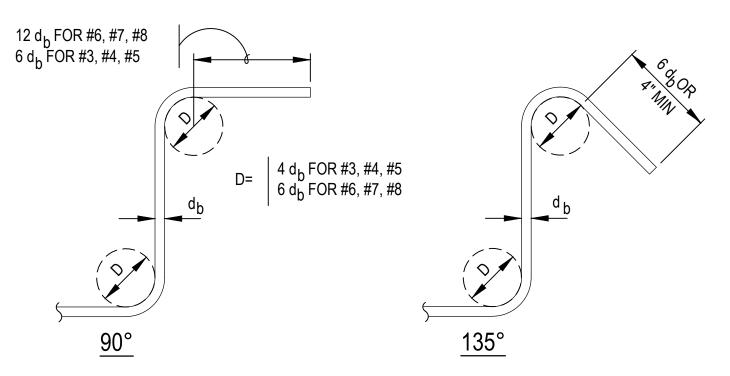




		MBEDMENT LENGTH HOOKS ON REINFOI	\ / · · · · · · · · · · · · · · · · · ·						
BAR		NORMAL WEIGHT CONCRETE, f'c, PSI							
SIZE	3000	4000	5000	6000					
#3	6	6	6	6					
#4	8	7	6	6					
#5	10	9	8	7					
#6	12	10	9	9					
#7	14	12	11	10					
#8	16	14	12	11					
#9	18	15	14	13					
#10	20	17	16	14					
#11	22	19	17	16					
#14	38	33	29	27					
#18	50	43	39	35					

## BAR BENDS AND END HOOKS SCALE: NTS









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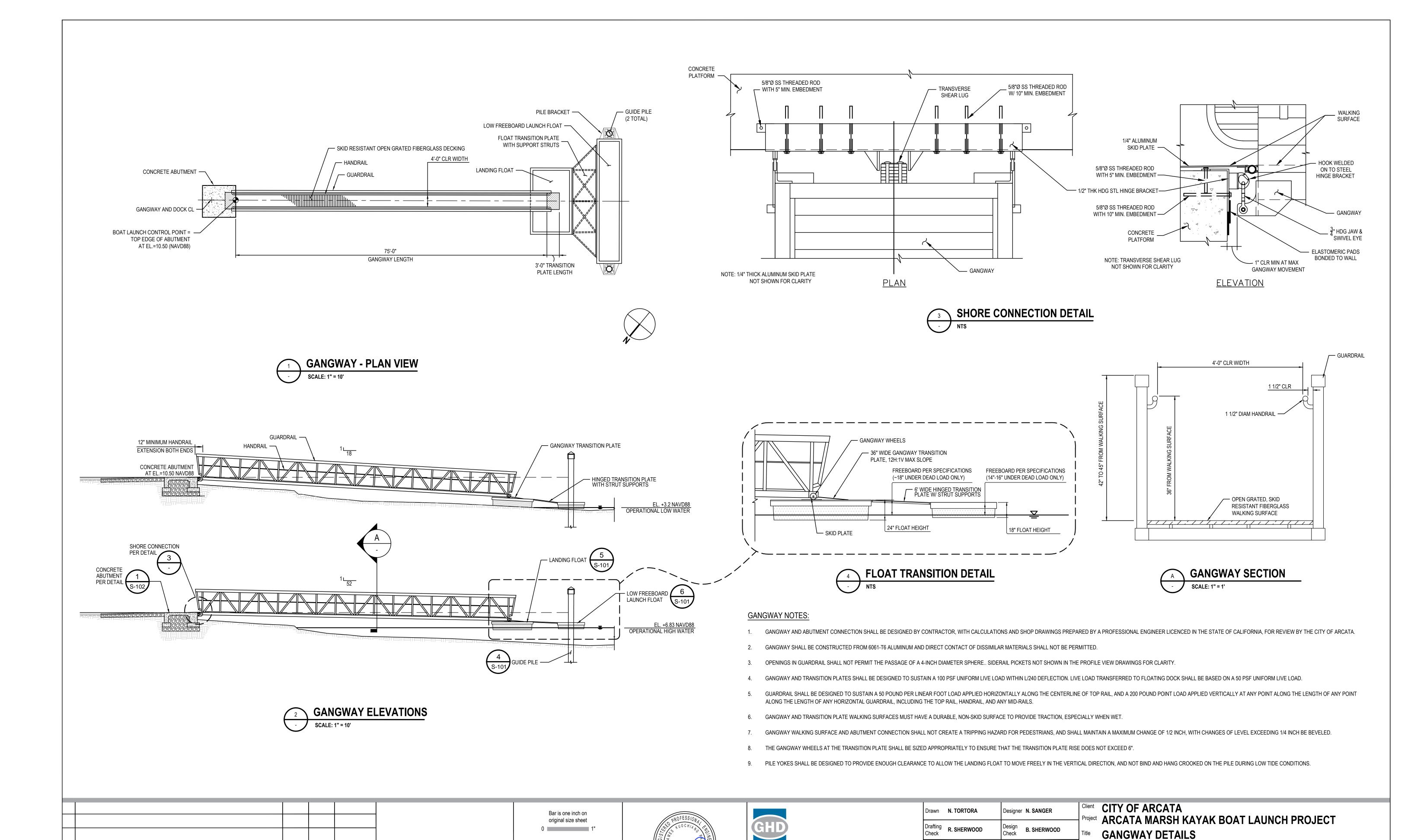


Drawn N. SANGER	Designer B. SHERWOOD	Client Proje
Drafting Check O.GOODE	Design Check J. PAN	Title
Project Manager N. SANGER	Date <b>04/25/2022</b>	Projed
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construction.

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Sheet **11** of **13** 



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Manager N. SANGER

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Project No. 11191119

Sheet No. **S-100** 

Sheet **12** of **13** 

Plot Date: 26 April 2022 - 10:18 AM
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Filename: \\ghdnet\ghd\\US\\Eureka\\Projects\\561\\11191119\\Digital\_Design\\ACAD 2018\\Sheets\\100 \Percent\\11191119\_COA-Kayak\_11-S-100\_GANGWAY.dwg

NS

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Drawn

4/25/2022

ISSUED FOR CONSTRUCTION

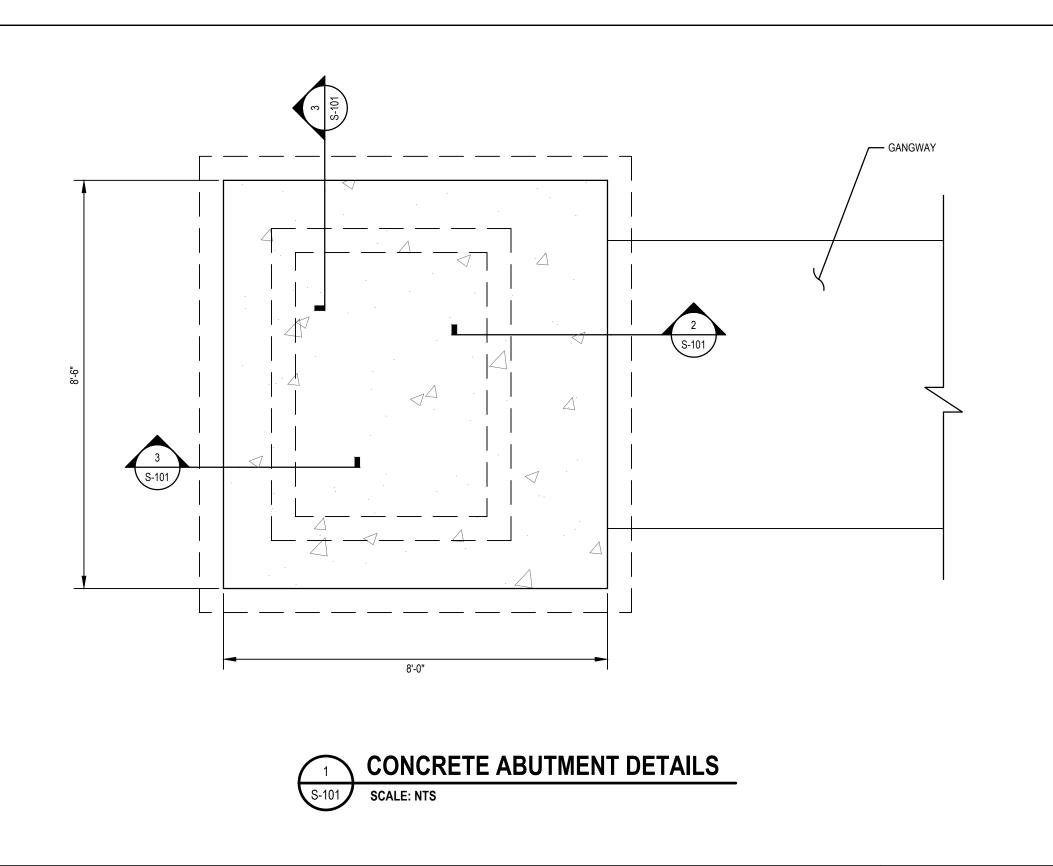
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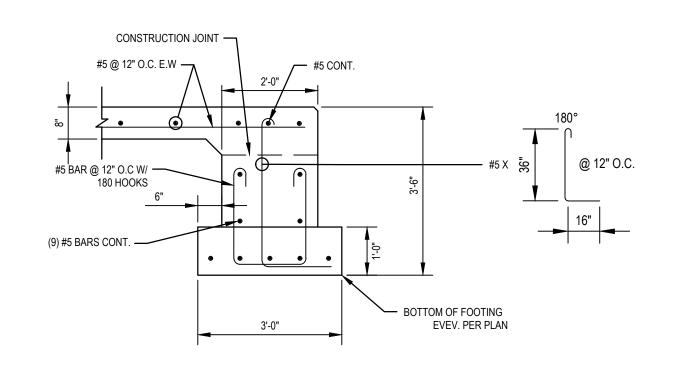
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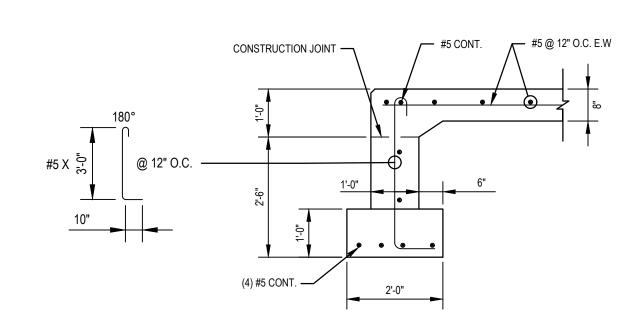
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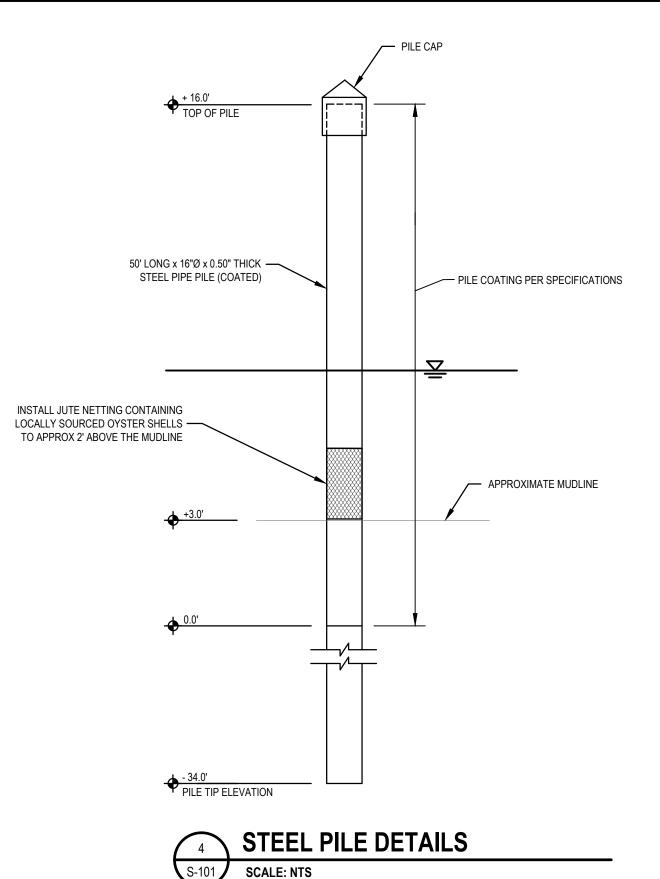






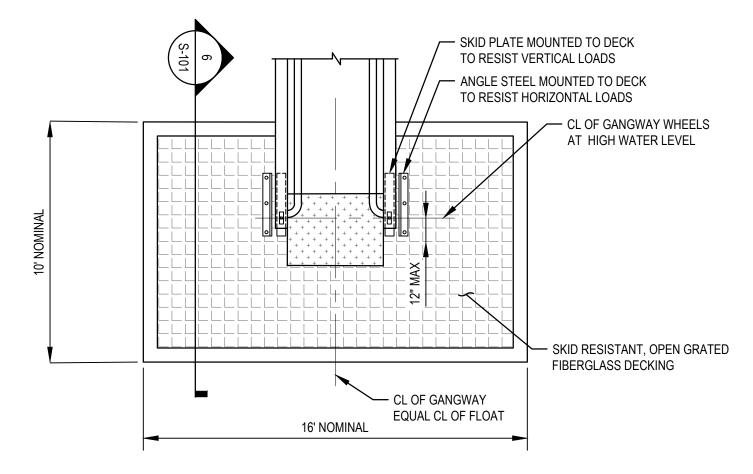


FOOTING SECTION

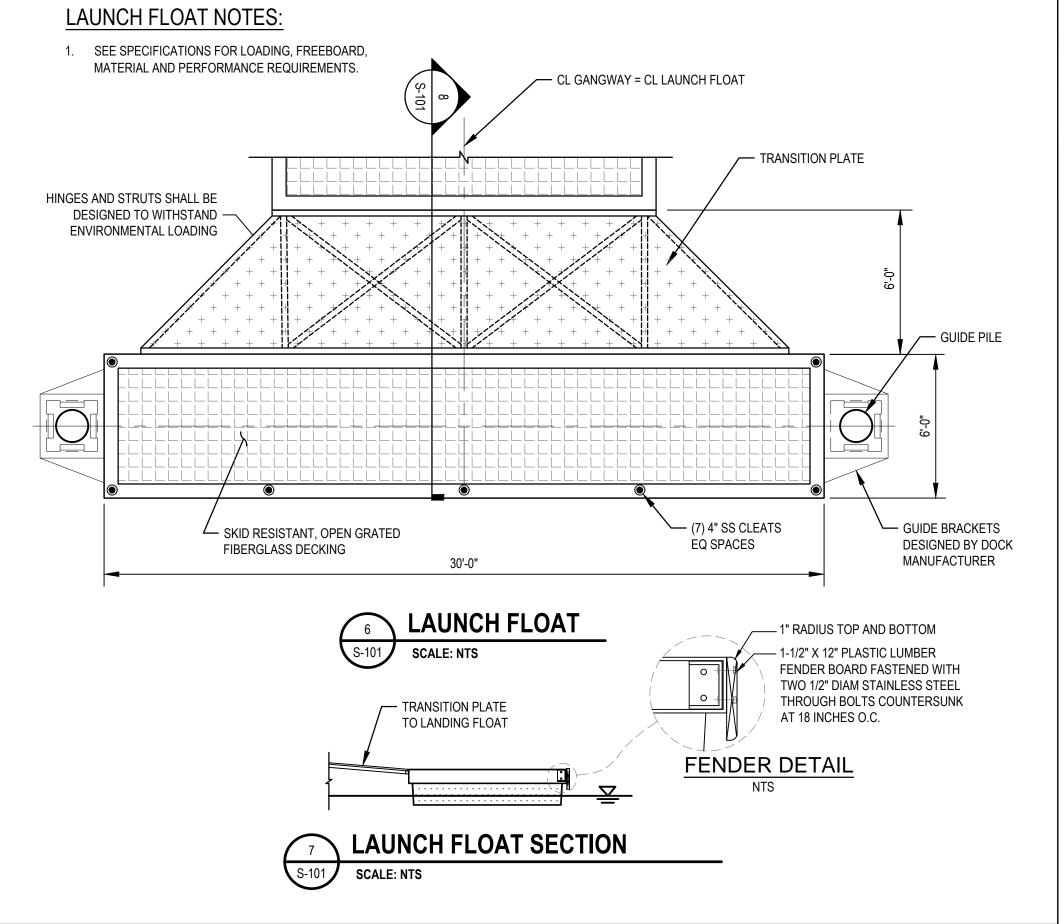


#### LANDING FLOAT NOTES:

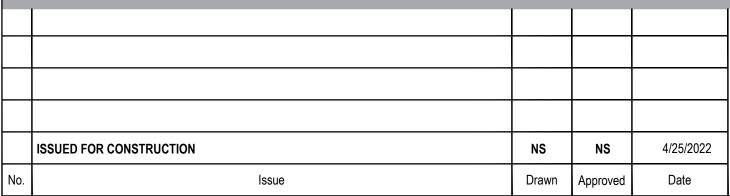
- 1. SEE SPECIFICATIONS FOR LOADING, FREEBOARD, MATERIAL, AND PERFORMANCE REQUIREMENTS.
- 2. LANDING FLOAT SHALL TRANSFER ALL VERTICAL & HORIZONTAL DESIGN FORCES, CAUSED BY GANGWAY & LAUNCH FLOAT, TO RESISTING ELEMENTS.







Sheet **13** of **13** 



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Orafting B.	SHERWOOD	Design Check	C. LEWIS		RCATA MARSH KAYAK BOAT LAUNCH PROJI TRUCTURAL AND FLOAT DETAILS	EGI	
Project Manager <b>N.</b>	SANGER	Date	04/25/2022	Project No.	11191119		
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