

Department of Parks, Recreation and Waterfront
Waterfront Capital Improvements Program Division

March 7, 2024

**CITY OF BERKELEY
BERKELEY MARINA DOCKS D & E REPLACEMENT
SPEC. NO. 24-11633-C**

ADDENDUM NO. 2

Dear Bidder:

The following amendments are hereby made to the subject documents:

1. **Plans:** Sheet G-003, Basis of Design and Special Inspection – 1 of 2
REPLACE with attached revised Sheet G-003
 - Revisions to Basis of Design for Dock Piling and Floating Docks
2. **Plans:** Sheet G-005, Project Limits and Contractor Laydown Area
REPLACE with attached revised Sheet G-003
 - Additional information for possible barge mooring within Contractor's Limit of Equipment Area.
3. **Plans:** Sheet D-100, Demolition, 1 of 2
REPLACE with attached revised Sheet D-100
 - Revisions to show the assumed locations of the missing piles for underwater pile removal.
 - Additional information of 3 existing precast concrete piles to be removed.
4. **Plans:** Sheet D-101, Demolition, 2 of 2
REPLACE with attached revised Sheet D-101
 - New photo of piles to be removed to include concrete precast pile.
5. **Plans:** Sheet C-100, Landside Improvement Plan
REPLACE with attached revised Sheet C-100
6. **Plans:** Sheet C-102, Landscape Details
REPLACE with attached revised Sheet C-102
7. **Plans:** Sheet C-103, Gate Detail, 1 of 2
REPLACE with attached revised Sheet C-103
 - Revisions to gate and trellis details
8. **Specifications:** Document 00 01 10 Table of Contents
REPLACE with attached revised Document 00 0110 Table of Contents

9. **Specifications:** Section 02 82 00 Asbestos Abatement
DELETE Section 02 8200 Asbestos Abatement
10. **Specifications:** Section 05 50 13 Aluminum Pipe Tubing, page 3 of 4
REPLACE with attached revised Section 05 50 13 Aluminum Pipe Tubing, page 3 of 4
11. **Specifications:** Section 05 50 13.10 Aluminum Gangway
REVISE section number on bottom to correct Section 05 50 13.10 (instead of 05 50 13.01)
12. **Specifications:** Section 35 51 13.20 Concrete Floating Dock System, pages 7, 13 and 15 of 18
REPLACE with attached revised Section 35 51 13.20 Concrete Floating Dock System, pages 7, 13 and 15 of 18.

In addition, the following clarifications are hereby made to the subject documents:

Questions and Responses:

1. Per Spec 00 1113 1.02, Phase 1 Demolition is to be completed before October 15, 2024. Additionally, Phase 2 demolition and all remaining work is to be completed within 160 working days. When is Phase 2 work scheduled to begin? Are there environmental restrictions for this working given the in-water pile driving aspect of this project?

Response: Phase 2 work window may commence as soon as permits are in hand. Note that any in water work, shall abide the allowable work window set by the agency.

2. Is the contractor responsible for the Special Inspections listed on Sheet G-004?

Response: Yes.

3. Can a crane barge and material barge be moored within the marina adjacent to the work area throughout the duration of the project?

Response: Sheet G-005 shows the limits for the contractor's equipment area. This area can be used by the contractor for the duration of the project.

4. Per Sheet G-003 General Information, Section 2, General B "Contractor shall use noise reducing pile driving techniques such as vibrating piles into place where feasible". Please confirm that diesel impact hammers are permitted to be used for driving the concrete guide piles.

Response: Diesel hammers have been requested for use on permits. While using impact hammers, noise reducing techniques shall also apply.

5. Per Sheet D-100 Note 2 "Contractor to investigate and report to city locations at double and end tie berths where piles are missing or broken below water. Remove and dispose of pile stubs extending above the mudline." Do these stubs need to be removed entirely or can they be cut at

mudline? Additionally, for the purpose of bidding is there an anticipated quantity of stubs that are broken below water that will require this?

Response: Attached is revised D-100R1 showing the assumed locations of the missing piles. Based on historical information and field assumptions, a total of 26 possible pile stump location has been noted. Encountered pile stumps are to be cut at mudline and disposed.

6. Regarding DOCUMENT 00 7316, SUPPLEMENTARY CONDITIONS – INSURANCE AND INDEMNIFICATION, ARTICLE 1 – INSURANCE, 1.01 C., please remove the specified dollar deductible requirement of no more than \$10,000 for the Course of Construction (Builder's Risk) coverage. All deductibles for this coverage are to Contractor's or Subcontractor's account, and a low deductible requirement will unduly increase the price of the required coverage for this project while providing low value to City. Contractor requests City review financial ability of Contractor to pay or require a bond in place of low requirement?

Response: The deductible amounts listed are per the City's standard Insurance and Indemnification requirements. Please bid accordingly.

7. Regarding DOCUMENT 00 7316, SUPPLEMENTARY CONDITIONS – INSURANCE AND INDEMNIFICATION, ARTICLE 1 – INSURANCE, 1.01 E., please remove the specified dollar deductible or self-insured retention requirement of no more than \$25,000 for Environment Impairment Liability. All deductibles for this coverage are to Contractor's or Subcontractor's account, and specifying a low deductible or SIR will unduly burden small subcontractors and increase the price of required coverage for this project while providing low value to City. Contractor requests City review financial ability of Contractor to pay or require a bond in place of low requirement.

Response: The deductible amounts listed are per the City's Standard Insurance and Indemnification requirements. Please bid accordingly.

8. The plan details call for an anodized finish on the aluminum components while the specifications call for a powder coat finish (05 50 13-2.05-A). if it's anodized, are you going to want colored finish?

Response: Aluminum is to be anodized.

9. Are the expansion joints required in the abutment wall shown on Detail A/C-102 of the drawings?

Response: Yes, expansion joint between abutment and concrete sidewalk are required.

10. Will construction joints be allowed in the abutment wall?

Response: Yes, construction joints will be allowed. Contractor to submit location and details as part of retaining wall shop drawings for approval.

11. Spec section 31 62 13.20 states the tolerances for pile driving, but there appears to be no requirements for a survey after pile driving. Will the City Representative be responsible for confirming piles are within tolerance?

Response: Pile tolerances are on specification 316213.20 3.02 C. Contractor to be responsible that piles are driven within tolerances.

12. Will biological monitoring be required during pile removal and pile driving?

Response: Yes, a biological monitor is required for pile driving and pile removal (anything with impact hammer or vibratory noise, and mechanical pile cutting at the mudline). This would include pile removal using vibratory extraction and if it requires a 'wake up' strike. Biological monitoring to be provided by the City.

Also, a biological monitor is required if any work (regardless of noise/hammer) is proposed between Dec 1 and Feb 28, due to potential for Pacific Herring.

Lastly, a biological monitor needs to do pre-construction surveys for nesting birds (focus on landside) if work will occur between Feb 1 and August 31; if active nests are found there would be ongoing monitoring of the nest during construction.

13. Detail 2/C-103 shows the 3x8 beams at 18" o.c. but detail 3/C-103 (which is a scaled detail) clearly shows a different spacing scenario for those components. If it is to be 18" o.c., what extents does that measurement start/stop so that we can get an accurate take-off of those components?

Response: New Dock D and E are to be similar to Existing Dock B and C, see picture below and revised Sheet C-103 attached.



14. Detail 2/C-103 shows a 3x4 beam that doesn't seem to be indicated on 3/C-103. Is it possible this 3x4 occurs only once, sandwiched between the taller 6x6 posts (as their seems to be a fastener call-out in that location shown on 3/C-103)?

Response: Confirmed, the 3x4 beam only happens once between post. See image of Dock B and C, and modification to Sheet C-103 attached.



15. Drawing S-100: For bidding purposes, please indicate which of the Bid Option 1-4 slips would require additional guide piles.

Response: If bid option 1 is awarded, the float fabricator to determine if additional guide piles are required.

16. Drawing D-100: Note 2 states to investigate and report missing or broken piles and to remove underwater pile stubs extending above the mudline. Bidders have no way to quantify this work at bid time. Please provide a quantity to assume for bidding purposes for underwater pile removal.

Response: Attached is revised Sheet D-100 showing the assumed locations of the missing piles. Based on historical information and field assumptions, a total of 26 possible pile stump location has been noted.

17. Specification Section 00 1113, 1.02 indicates the Phase 1 work is to be completed within 20 working days before October 15, 2024. The Phase 2 work is indicated to be completed within 160 days of when the contract time commences to run. Drawing G-003 says Phase 1 is to be completed in the in-water work window allowed by the regulatory agencies for the year 2024. This is in nominal alignment with the time given in the specifications for Phase 1. However, the drawings

continue on to say that Phase 2 is to be completed in the allowable permit window set by the regulatory agencies. No year is given for Phase 2 work. Are Phase 1 and Phase 2 both to be completed within 180 working days of contract time commencement, within the work windows allowed by the permitting agencies, all within 2024?

Response: The allowable work window for Phase 1 Demolition (in-water components) is between August 1 to October 15, 2024. The 20 working days given for the Phase 1 Demolition work can take place anytime within this window. The allowable work window for the remaining in-water work (which includes installation of the new docks and other in-water components) is to be set by the regulatory agencies, and anticipated to be from June 15 to November 30, 2025. Landside work may start as early as August 1, 2024; work can take place year-round, however, must be completed within allowed work days per contract.

18. The 20 working day limit on Phase 1 demolition does not seem to align with the required completion date of October 15, 2024. Please clarify the intent of these requirements.

Response: The allowable work window for Phase 1 Demolition (in-water components) is between August 1 to October 15, 2024. The 20 working days given for the Phase 1 Demolition work can take place anytime within this window. The intent of this requirement is to provide enough time to allow for the dredging under Docks D&E (to be done under a separate contract) to be completed by November 30, 2024.

19. Specification section 00 5200 notes that Contractor shall achieve Substantial Completion within 150 working days from the Commencement Date. This does not appear to be enough time to realistically complete work on the project.
- Please provide anticipated Notice to Proceed (Commencement Date) for the project.
 - Please consider extending the total contract duration by 60 working days.

Response: The project start will be after all regulatory permits are obtained, which is anticipated to be by August 1, 2024. The contract has been given enough time to be completed for Substantial and Final Completion. Note that Working Days will not be counted when the project is inactive due to work window restrictions set by the regulatory agencies for in-water work.

20. Specification Section 01 1100, 1.18: Section notes that permits are pending for the project. Please provide anticipated in-water work window dates for the project.

Response: In-water work window for 2024 is noted to be August 1, 2024 to November 30, 2024 with restrictions noted on question 3 above. In-water work window for Phase 2 is assumed to be on June 15, 2025 to November 30, 2025.

21. As permits are not provided, please provide anticipated pile driving mitigation requirements (e.g. soft start, protected species monitoring, bubble curtains) for bidding purposes.

Response: Recommended sound-attenuating measures for use during impact hammer pile driving include the use of a soft-start (or 'ramp-up') technique at the start of the day or after > 30 min

breaks, and the use of wood cushion blocks between the hammer and pile as specified in Section 31 6213.20, as well as utilizing biological monitors during pile driving.

22. Please confirm that the prestressing strands and spiral wire in the pile are not-epoxy coated. If they are please send us the specification of the coating. Normally they are not epoxy coated.

Response: Confirmed.

23. In Section 35 51 13.20 Concrete Floating Dock System, subsection 1.02 General Requirements, A. States “Float designer shall follow all industry accepted details or standards not noted on Project Drawings, Specifications, or within any of the referenced standards.” Please clarify specifically any additional standards or specifications this statement refers to?

Response: Project drawings are schematic renderings. Contractor to provide float drawings and details based on fabricators design. Float details on drawings may be modified as needed as means and methods. Additional standards refer to any codes used by the fabricators in addition to the listed standard to support the design. Any additional standard requirements should meet or exceed the minimum requirements per the specified standard in specification 35 51 13.20.

24. In Section 35 51 13.20 Concrete Floating Dock System, Subsection 1.03 Submittals, A3. Is FRP reinforcement acceptable if it meets all the specification criteria and the design engineer’s criteria? The drawings show a particular pattern for epoxy-coated rebar, is the dock design engineer responsible for final design of concrete reinforcement design?

Response: Contractor to provide fabricators design and drawings for review and approval. Details noted on drawings may be modified as needed as means and methods. The dock design engineer is responsible for final design of concrete reinforcement.

25. In Section 35 51 13.20 Concrete Floating Dock System, Subsection 2.01 MATERIALS, A. Cement – ASTM C-150 Type II modified, low alkaline is specified. Current concrete floating dock cement is ASTM-C 94, Type II-V modified, and low alkali. Is this an acceptable alternative?

Response: ASTM C-94, Type II-V is acceptable.

26. In Section 35 51 13.20 Concrete Floating Dock System, Subsection 2.01 MATERIALS, E. FRP rod – It states FRP rod is acceptable. However, industry standard of FRP rod used in concrete floating dock construction deviates from the listed specification. Would the specifications for the FRP rod listed below be acceptable for use in this dock system?

- Transverse Shear 60 kN x 225 Lb. = 13,500 Lb. which is less than 14,600 Lb. in specs.
- Nut pull off strength 70 kN x 335 Lb. = 15,750 Lb. which is less than 18,000 Lb. in specs.

Response: Yes, provided that the design is supported by the dock design engineers’ calculations.

27. In Section 35 51 13.20 Concrete Floating Dock System, Subsection 2.03 FABRICATON OF PRECAST CONCRETE SYSTEM, E4. This states that voids up to ½” diameter, 1/8” depth,

shall be patched with an approved epoxy grout. Typical specification is ¼” depth. Is this acceptable?

Response: The ¼” depth is found to be acceptable.

28. In Section 35 51 13.20 Concrete Floating Dock System, Subsection 2.03 FABRICATON OF PRECAST CONCRETE SYSTEM, F. Curing. Floats cured per PCI or Caltrans. Is it acceptable to use float manufacturer’s recommended method of curing, shipping, and assembling and be responsible for the result?

Response: It is acceptable for the float manufactures to implement their recommended methods of curing, shipping, assembling and be responsible for the result. Fabricator to submit curing procedures for approval if different than PCI or Caltrans standards.

29. In Section 35 51 13.20 Concrete Floating Dock System, Subsection 2.05 DOCK CLEATS, A. Are aluminum cleats acceptable if they meet the dock engineer’s design criteria for the floating dock system?

Response: Aluminum cleats are found to be acceptable given they have load rating as noted Heavy Ship 504H.

30. In Section 35 51 13.20 Concrete Floating Dock System, Subsection 3.01 Installation, B. This system utilizes structural wale, but this section states the wale is non-structural. Please clarify.

Response: The current concept utilizes structural wales. Section 3.01 B has been removed.

31. On Sheet 3 of 52 / G-003, GENERAL INFORMATION, 1A. PROJECT DESCRIPTION, Please clarify the schedule as it relates to in-water work for both the dredging and the dock installation. Please confirm Phase 2 is expected to be completed within work window 2025? Please clarify opening and closing dates of work window.

Response: Please refer to Section 01 1100 Summary of Work, under 1.08 Work Sequence, B1 and additional information below:

- Phase 1 Demolition (in-water) – Shall be completed within a total of 20 Working Days. Start as early as August 1, 2024; to be completed no later than October 15, 2024. *Dredging (which is not part of this scope and will be done under a separate contract) is planned to take place between October 16 and November 30, 2024.*
- Remaining Work – Shall be completed within a total of 160 Working Days. Work windows are as follows:
 - New in-water components installation – Start as early as June 15, 2025; to be completed no later than November 30, 2025.
 - Phase 2 Demolition (landside) and Landside components installation – Start as early as August 1, 2024 (anticipated date when all regulatory permits obtained and

contraction contract executed); work can take place year-round, however, must be completed within allowed work days per contract.

32. On Sheet 3 OF 52/ G-003, BASIS OF DESIGN, 1B. DESIGN CODES AND STANDARDS – Is there a City of Berkeley design standard detail that affects the construction.

Response: City of Berkeley Design Standard details do not affect float design and/or fabrication.

33. On Sheet 3 OF 52/ G-003, BASIS OF DESIGN 9B. CONCRETE – Assume this requirement for normal weight concrete is for landside concrete (not floating docks)?

Response: The float fabricator may propose to use light weight concrete instead of normal weight concrete provided its support by their design.

34. On SHEET 4 OF 52 / G-005, Please verify if “required verification and inspection of concrete construction” table is applicable for floating docks manufactured offsite?

Response: Yes, special inspections apply to dock floats.

35. On SHEET 16 of 52 / S-100, Note 3. States pile locations are preliminary. Final pile layout to be determined by float designer/manufacturer. Please confirm that all pile details and structural calculations are NOT the responsibility of the float designer/manufacturer: Only the placement of the prescribed quantity and size of pile outlined in the drawings and specifications is the responsibility of the float designer/manufacturer.

Response: Concur, final pile layout and total number to be determined by float designer/manufacturer. Pile design is not the responsibility of the float designer and manufacture provider. Total number of piles may not be less than the minimum number listed on the drawings. The maximum individual pile lateral load based on the designer/manufacturer final pile layout cannot exceed the maximum allowable factored lateral load for the pile listed on the drawings.

36. On SHEET 20 OF 52 / S-121 Shows a detail of side-by-side floats. Is a matchcast post-tensioned system allowed at this location?

Response: Match cast post tension system is allowed for side by side floats near the marginal walkway.

37. On SHEET 21 OF 52 / S-122, Knee Detail 2. What are the specified loads, and where are “floating home” locations?

Response: Floating home locations not required. Detail 4, Note 2 on S-122 does not apply.

38. On SHEET 21 OF 52 / S-122, Knee Section without Pile states trimax or rescoc recycled plastic, wood or approved equal. Please clarify that treated lumber is acceptable?

Response: Per City of Berkeley requirements in Section 00 7317, paragraph 1.06, subsection 4a, “Contractor shall comply with terms of Resolution No. 61,724-N.S. (Appendix 00812-E) prohibiting the use of Pentachlorophenol, arsenic and creosote treated wood. No such wood shall be used by the contractor in this or any other City project without the express written consent of the City Council”.

39. On SHEET 22 OF 52 / S-123, DETAIL, END PILE BRACKET – Are rounded ends acceptable?

Response: As noted in Drawing S-123 Note 3 different concept may be submitted for review and approval.

40. On Sheet 26 of 52 / S-14, End Finger plate – what is this?

Response: Detail may or may not be required. Part of contractors means and methods of reinforcing floating docks with the appropriate reinforcing methods for loading criteria.

41. On Sheet 45 of 52 / FP-302, The location of the HDPE fire line is secured underneath the waler. Typical HDPE fire lines are attached to the float side below the waterline. Can this pipeline be submerged underwater?

Response: HDPE fire water lines are to be secured within the floats clear freeboard. Lines are not to be submerged below water.

42. The IFB Drawings reference TYP details throughout for various types of dock construction details, dimensions, and dock design elements; such as minimum float lengths, wale sizes, knee (triangle) frame sizes, float construction details, reinforcement details, etc. These details may or may not be accurate for a specific dock manufacturer. Is it the intention of this solicitation to rigidly adhere to these specific details or is it up to the dock design engineer to determine the specific details, dimensions and methods of construction?

Response: General layout, number of slips, and nominal slip and dock width dimensions are to be per issued for bid drawings. It is up to the dock design engineer to determine the specific details, dimensions and methods of construction.

43. Walkway section B/120 shows a double waler plus rub strip (2x). It appears that the double waler + rub strip (2x) is cover for hanging utilities; is it acceptable to go with a single 4x waler plus rub strip (2x) here or is a double waler is required to hang the utilities from? Is a butt joint acceptable?

Response: Details on float drawings are schematics. Contractor to provide float designer/fabricator calculations and details for review and approval. The utilities are to be securely attached and be located so they are protected from vessel impact.

44. For any sections where utilities are not being supported under the waler(s), please confirm it is acceptable to utilize single 4x walers as opposed to the double 3x walers.

Response: Details on float drawings are schematics. Contractor to provide float designer/fabricator calculations and details for review and approval.

45. The Float schedule table shows wooden rub strips (2x) for all floats; however, the sections make it only appear as though they are required on floats that have utilities strapped to the side. Please confirm if my interpretation is correct that they are only required when utilities are strapped to the side.

Response: Details on float drawings are schematics. Contractor to provide float designer/fabricator calculations and details for review and approval.

46. The project manual includes a specification section 02 8200 ASBESTOS ABATEMENT, which appears to be copied from another project (Mental Health Services Center Renovation Project). Please confirm this section was unintentionally included and there is no asbestos abatement required on this contract. If asbestos abatement is required, please provide a Hazardous Material survey or a defined scope of abatement required for purposes of bidding.

Response: Specification 02 8200 is not part of this project. This section has been deleted.

47. Specification Section 02 22 50, 1.05.B notes that hazardous materials may be present in existing utility piping. Please provide a Hazardous Material survey, or a defined scope of abatement (if required) for purposes of bidding.

Response: Testing of the existing utility piping has not been conducted. If hazardous material is identified within utility piping, the contractor to coordinate with the City to address additional disposal cost via change order.

48. General Conditions Section 11.07 C., entitled Liquidated Damages, states damages resulting from Defective Work, lost revenues or costs of substitute facilities, or damages suffered by others who then seek to recover their damages from City are excluded from the definition of Liquidated Damages. The purpose of assessing liquidated damages is to provide the Owner with a remedy in the event of contractor delays, when it is difficult to prove actual damages. We therefore respectfully request the exclusions be removed from Section 11.07 C. and the Contract Documents modified to state liquidated damages will be assessed in lieu of actual/direct and consequential damages in the event of Contractor Delay.

Response: We cannot make changes to the standard language included in the General Conditions Section 11.07C Liquidated Damages at this time.

49. Please include a waiver of consequential damages: "Notwithstanding anything herein to the contrary, Contractor shall not be responsible or liable for any indirect, consequential or special damages of any type or nature whatsoever and howsoever arising, including, without limitation, delay, loss of profits, loss of income, loss of business opportunity, business interruption, loss of use whether resulting from negligence, breach of contract or otherwise, and regardless of whether such damages may have been foreseeable. In lieu of such damages, Contractor will be charged liquidated damages in the amount of \$2,000.00 per calendar day."

Response: We cannot make changes to the standard language included in the General Conditions Section 11.07C Liquidated Damages at this time.

50. Please confirm that Phase 2 construction is intended to occur during the 2025 in water work season. It appears there will not be time left in the 2024 season after dredging to do the Phase 2 work.

Response: Correct. The construction of the new Docks D&E is intended to happen during the 2025 in-water work season.

51. In Section 3.03 DESIGN CRITERIA, B. states the uniform freeboard under dead load shall not be less than 16" or exceed 18". Typical specification for Floating Dock Freeboard under dead load is 18" +/- 1". A minimum freeboard of 16" does not meet the specification In Section 3.03 DESIGN CRITERIA, A. of a 25psf live load with not less than 12" of resulting freeboard (assuming 1' drop per 5psf of live load). Please confirm 18"+/- 1" will meet the will meet the requirement for initial freeboard?

Response: An 18" +/- will meet the requirement for the initial freeboard.

52. In Section 3.03 DESIGN CRITERIA, C. states the floatation units shall be capable of withstanding anticipated current (C) loads of 2.0 feet per second, impact loads from a 60 ton vessel impacting at 1.0 feet/sec approach velocity (kinetic energy loading of 1/3 stress increase is allowed since the force is transient), a 1.0 foot wave (W) (Operating condition, 1/3 stress increase) and a 2.0 foot wave (W) (Extreme condition, 1/3 increase allowed. Typical specifications for impact load criteria identify an impact angle for measurement. Typically, an impact angle of 15 degrees is noted for vessel impact. Please confirm an impact angle of 15 degrees is acceptable for this project?

Response: An impact angle of 15 degrees is found to be acceptable.

53. Sheet G-003 part 7.D calls out 63' as a minimum guide pile length for the docks. S-100 Note 3 says the minimum number of piles is 40 but that the layout is determined by the float designer.

- a) Please confirm that:
- i. the 63' length is prescriptive
 - ii. that the contractor and float designer are not required to calculate or design the pile capacities and lengths
 - iii. that the contractor and float designer can assume piles of this length in this basin will have the required capacities at the 63' length and a top elevation of +18 MLLW
- b) The minimum number of piles is given, please provide the maximum number of permitted piles if the design is required to have more than 40 piles.

Response:

- a) See below
- i. 63' length of pile is minimum length
 - ii. Contractor and float designer are not required to calculate or design pile capacity and lengths
 - iii. The 63' length pile have the required capacity with a top elevation of +18 MLLW

b) The maximum number of piles to is noted to be 48

54. The Bid Alternates include installation of electrical pedestals and dock boxes at each slip but E-203 Note 7 says provide power and conduit stub ups for future pedestal. The same drawing sheet does not show wiring connection to future pedestals. Please clarify.

Response: For the base bid, future wiring shall be extended from the pull boxes for future pedestal via the empty conduit. For the alternate bid, please add a note "Provide new pedestal and new wire of 4#2, 1#8G in 2" C to each future pedestal".

55. How many 2" power conduits are required on the walkway that connects Dock D to Dock E? Drawing E-202 does not indicate how many 2" power conduits are required for this section.

Response: Typical 4-4" C are provided from pull box to pull box as shown on Detail C, Sheet S-121. 2" homerun conduit from pedestal shall be routed to the nearest pull box via the 4-4" C to the power center accordingly.

56. Drawing E202 - How many 2" conduits are expected to be installed for the power pedestals? For instance - The drawings show 2-2" (power) conduits being installed underneath the walkway at Dock E. However, there are several homeruns shown for power pedestals that indicate 2" conduit for those as well. Are these 2" conduits to be homerun'd back to the Power Centers in addition to the 2-2" conduits already shown running the length of the docks (D) and (E)? We figured maybe these are for the Power Centers, but the 2" power conduit dashed line continue beyond the last power centers on Drawing E-203.

Response: Typical 4-4" C are provided from pull box to pull box as shown on Detail C, Sheet S-121. 2" homerun conduit from pedestal shall be routed to the nearest pull box via the 4-4" C to the power center accordingly.

57. Reference sheet C-102/Section A – notes call out a depth of footing relative to existing grade, but insufficient information is provided to determine wall details. Please provide bottom of footing elevation(s) as well as plan/layout and developed elevation of the wall with steps, changes in design height, etc.

58. Reference sheet C-101/Section A – bottom of excavation/subgrade elevation for the new abutment footing appears to be at approximately elevation 0.0' (MLLW). At this elevation, the excavation will be inundated with water at all times. Plans and specs (31 23 00.20) require 90% and 95% relative compaction of subgrade and aggregate base course, respectively. Specification section 31 23 19 requires excavations be free of water until backfilled to final grade. Significant effort and expense will be required to achieve these specs and details (e.g. temporary cofferdam). Please confirm if this is the intent or clarify/modify the details and requirements for the abutment.

Response: See revised drawing C-102. It is recommended for fill underneath footing to be compacted at low tide. Possibility of replacing rock with a minimum of 4" (-) size with crushed rock carefully placed in order to limit compaction requirements. Replacing bedding material to

be submitted and reviewed by City prior to use. Construction of abutment and abutment wall is contractors means and methods. Specifications noted on 31 23 00.20 shall be followed

59. Reference sheet E-204/Keynotes 1 & 2: Documents note for Contractor to coordinate with PG&E for new transformer and utility meter to be provided by PG&E. Has coordination already begun with PG&E for these items, and what is the anticipated lead time for their delivery?

Response: An online application shall be submitted by the contractor. The coordination with PG&E has not begun and the lead time is estimated to be 6 to 9 months for the service delivery.

60. On the site walk, we observed at least two concrete piles in the marine demolition footprint that are not identified on the plans. Please clarify if these are intended to be removed as part of the demolition scope and if so, identify location and quantity.

Response: Total of 3 precast concrete piles to be removed and disposed of. See attached revised drawings D-100 and D-101 for locations.

61. There's a (N) Emergency Phone with Blue Light called on E-202 with a detail on E-401. I can't find anything in the specs or on the drawings, regarding manufacturer/model. Do you know where I might find that information?

Response: Blue light manufacturer shall be Talkaphone, model BLPT-SOLAR-L-E-A, or approved equal.

In accordance to Addendum No.1, the Bid Opening time and date remains at 2:00 p.m., Tuesday, March 14, 2024. All other provisions of the contract documents shall remain the same. **Bidders shall submit a signed acknowledgment of Addendum No. 2 along with their Bidder's Proposal. Failure to do so may result in bid rejection.**

Sincerely,



Jesus Espinoza
Associate Civil Engineer

BIDDER'S ACKNOWLEDGEMENT:

BERKELEY MARINA DOCKS D & E REPLACEMENT PROJECT, SPEC. NO. 24-11633-C

Name of Company: _____

Address, City, State, Zip: _____

Signature: _____ Title: _____

Print Name: _____ Date: _____

GENERAL INFORMATION

1. PROJECT DESCRIPTION:

A. THE CONTRACTOR SHALL PROVIDE ALL LABOR, SUPERVISION, EQUIPMENT, APPLIANCES AND MATERIALS REQUIRED TO PERFORM ALL OPERATIONS IN CONNECTION WITH AT LEAST, BUT NOT NECESSARILY LIMITED TO, THE SUCCESSFUL COMPLETION OF THE FOLLOWING ITEMS FOR PHASE 1 AND PHASE 2, ALL IN STRICT ACCORDANCE WITH THE CONTRACT DOCUMENTS:

PHASE 1: SHALL INCLUDE THE DEMOLITION OF THE IN-WATER WORK WHICH IS TO TAKE PLACE DURING THE IN-WATER WORK WINDOW ALLOWED BY REGULATORY AGENCIES FOR THE YEAR 2024.

ELECTRICAL, MECHANICAL AND FIRE CONTRACT DRAWINGS DO NOT DEPICT PHASE 1 DEMOLITION, HOWEVER, ALL UTILITIES ASSOCIATED WITH THE IN-WATER ELEMENTS ARE TO BE DEMOLISHED DURING PHASE 1. CAP ALL UTILITIES AT LANDSIDE END OF PIER ABUTMENT. REMAINING UTILITY COMPONENTS DEPICTED ON ELECTRICAL, MECHANICAL AND FIRE CONTRACT DRAWINGS TO BE DEMOLISHED DURING PHASE 2.

a. REMOVAL OF EXISTING FLOATS, PIER, GANGWAYS, PILES, RELATED ACCESSORIES AND OTHER ELEMENTS NEEDED TO PROPERLY INSTALL NEW WORK.

PHASE 2: SHALL INCLUDE THE DEMOLITION OF THE LANDSIDE COMPONENTS. PHASE 2 SHALL ALSO INCLUDE THE INSTALLATION OF THE WATERSIDE AND LANDSIDE COMPONENTS AS INDICATED IN CONTRACT DOCUMENTS, DRAWINGS, TECHNICAL SPECIFICATIONS AND ALLOWABLE PERMIT WINDOWS SET BY THE REGULATORY AGENCIES.

a. INSTALLATION OF NEW FLOATS, PILES, GANGWAY, ABUTMENT, ABUTMENT GATE, UTILITIES AND OTHER PROJECT ELEMENTS INDICATED IN THE DRAWINGS AND SPECIFICATIONS.

b. SITE IMPROVEMENTS INCLUDING RELOCATION OF EXISTING RESTROOM FENCE, UTILITY CONCRETE PADS, REPAIRS TO AC PAVEMENT AS NEEDED FOR UTILITY TRENCHING, REPLACEMENT OF CONCRETE SIDE WALK AS NEEDED FOR ADA CONSTRUCTION, ADA STRIPPING AND SAFETY DOMES, AND RESTORATION OF IRRIGATION SYSTEMS AND OTHER FEATURES IMPACTED BY CONSTRUCTION BACK TO THE PRE-CONSTRUCTION FUNCTIONALITY.

c. THE CONTRACTOR IS RESPONSIBLE FOR THE FINAL DESIGN AND STAMPED DESIGN FOR THE FLOATING DOCKS AND GANGWAY. DRAWINGS AND CALCULATIONS ARE TO BE SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL. THE DESIGN CRITERIA TO BE PER THE ISSUED FOR BID DOCUMENTS. GENERAL LAYOUT AND NOMINAL DIMENSIONS FOR THE FLOATING DOCKS AND GANGWAY ARE TO BE PER THE ISSUED FOR BID DRAWINGS. MINOR DIMENSIONAL ADJUSTMENTS WILL BE GENERALLY ACCEPTABLE PROVIDED THE DESIGN CRITERIA IS MET.

B. SHOULD THE CONTRACTOR OR ANY SUBCONTRACTOR FIND ANY DEFICIENCIES, ERRORS, CONFLICTS OR OMISSIONS IN THESE PLANS AND SPECIFICATIONS OR SHOULD THERE BE DOUBT AS TO THEIR MEANING OR INTENT, THE CONTRACTOR SHALL CEASE WORK AND THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY. THE CITY WILL PROVIDE WRITTEN CLARIFICATION.

C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING SURVEY MONUMENTS AND CONTROL POINTS. ALL MONUMENTS DESTROYED DURING CONSTRUCTION SHALL BE RESURVEYED AND REPLACED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.

D. DIMENSIONS AND EXISTING CONDITIONS DEPICTED ON THE CONTRACT DRAWINGS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF WORK. ANY DISCREPANCIES SHALL BE NOTED BY THE CONTRACTOR AND REVIEWED WITH THE OWNER PRIOR TO ORDERING, CONSTRUCTION, OR FABRICATION OF CONSTRUCTION MATERIALS.

E. ALL SECTIONS, DETAILS, NOTES, DIMENSIONS AND CONDITIONS ARE APPLICABLE AT ANY OTHER LOCATION WHERE CONDITIONS AND DETAILS ARE SIMILAR BUT ARE NOT SPECIFICALLY NOTED AS SUCH OR ARE NOT SHOWN.

2. GENERAL:

A. UNLESS NOTED OTHERWISE, REFER TO DRAWINGS OTHER THAN STRUCTURAL FOR FINISHES, SLOPES, DEPRESSIONS, OPENINGS, CURBS, RAMPS, TRENCHES, EQUIPMENT AND LOCATIONS AND EXTENT OF SUCH CONDITIONS.

B. INSTALLATION OF ALL NEW IN-WATER STRUCTURES SHALL BE IN ACCORDANCE WITH ALL ENVIRONMENTAL PERMIT CONDITIONS. CONTRACTOR SHALL SUBMIT PILE DRIVING PROCEDURES AND PROTECTION PLAN TO THE CITY'S REPRESENTATIVE PRIOR TO BEGINNING IN-WATER WORK. CONTRACTOR SHALL SUBMIT COMPLIANCE PLAN FOR MITIGATION MEASURE(S) ABOVE PRIOR TO PILE DRIVING.

C. CONTRACTOR SHALL USE NOISE-REDUCING PILE DRIVING TECHNIQUES SUCH AS VIBRATING PILES INTO PLACE WHERE FEASIBLE, AND RESTRICTING THE HOURS OF OPERATION.

D. PILE DRIVING OR OTHER EXTREME NOISE GENERATING ACTIVITY (80 DBA AT A DISTANCE OF 100 FEET) SHALL BE LIMITED TO 8:00 AM TO 5:00 PM, MONDAY THROUGH FRIDAY AND AS RESTRICTED TO PERIOD AND TIMES TO BE NOTED IN PERMITS. NO PILE DRIVING OR OTHER EXTREME NOISE GENERATING ACTIVITY IS PERMITTED ON SATURDAYS, SUNDAYS OR HOLIDAYS. REQUESTS FOR PILE DRIVING ON SATURDAYS MAY BE CONSIDERED ON A CASE BY CASE BASIS BY THE CITY OF BERKELEY.

BASIS OF DESIGN

1. DESIGN CODES AND STANDARDS:

A. ALL STRUCTURES SHALL BE DESIGNED IN ACCORDANCE WITH THE FOLLOWING DESIGN CODES AND STANDARDS:

- a. CALIFORNIA BUILDING CODE, 2022
- b. CITY OF BERKELEY STANDARD DETAILS, 2022.
- c. "LAYOUT AND DESIGN GUIDELINES FOR MARINA BERTHING FACILITIES," BY CALIFORNIA DEPARTMENT OF BOATING AND WATERWAYS, STATE OF CALIFORNIA, JULY 2005.
- d. "PLANNING AND DESIGN GUIDELINES FOR SMALL CRAFT HARBORS," AMERICAN SOCIETY OF CIVIL ENGINEERS, 2020.
- e. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) CODE 303: FIRE PROTECTION STANDARDS FOR MARINAS AND BOATYARDS.
- f. AMERICAN SOCIETY OF CIVIL ENGINEERS, "MINIMUM DESIGN".
- g. LOADS FOR BUILDINGS AND OTHER STRUCTURES," ASCE/SEI 7-22, 2022.
- h. AMERICAN WITH DISABILITY ACT "ADA STANDARDS FOR ACCESSIBLE DESIGN" AND "GUIDANCE ON ADA STANDARDS FOR ACCESSIBLE DESIGN", 2010.
- i. AMERICAN INSTITUTE OF STEEL CONSTRUCTION "STEEL CONSTRUCTION MANUAL" AISC 325-17, 15TH EDITION.

2. HYDRODYNAMIC LOADS:

A. TIDES: SEE DRAWING D-102 OR C-101 FOR MLLW ELEVATIONS.

B. CURRENTS: 1.18 KNOTS (2 FT/SEC)

3. GEOTECHNICAL INVESTIGATION:

A. GEOTECHNICAL INVESTIGATION BERKELEY MARINA REHABILITATION, DECEMBER 16, 2004 BY TREADWELL & ROLLO.

4. SOIL AND SEISMIC:

2022 CALIFORNIA BUILDING CODE SEISMIC DESIGN PARAMETERS

A. SEISMIC CATEGORY: D

B. SITE CLASS: E

C. MAP SPECTRAL RESPONSE: $S_s = 1.774$ g, $S_1 = 0.674$ g

D. MAPPED PEAK GROUND ACCELERATION: $PGA = 0.746$ g

E. SITE CLASS E MODIFICATION FACTORS

$F_o = 1.2$

$F_v = 2.0$

$F_{PGA} = 1.1$

F. SITE-MODIFIED SPECTRAL RESPONSE:

$S_{Ms} = 2.129$ g (SITE CLASS E)

$S_{M1} = 1.348$ g (SITE CLASS E)

G. SITE-MODIFIED PEAK GROUND ACCELERATION:

$PGA_M = 0.821$ g (SITE CLASS E)

5. RETAINING WALL:

A. DESIGN EQUIVALENT FLUID PRESSURE = 45 PCF

B. DESIGN LATERAL RESISTANCE = 400 PCF

6. GANGWAY AND TOE PLATES:

A. GANGWAY AND TOE PLATES SHALL BE DESIGNED FOR A VERTICAL LIVE LOAD OF 100 PSF IN ADDITION TO ALL OTHER CODES PRESCRIBED LOADED CONDITIONS.

B. MAXIMUM DEFLECTION FOR GANGWAY SPAN AND TOE PLATES SHALL NOT EXCEED $LSPAN/360$.

7. DOCK GUIDE PILING:

A. AXIAL LOAD = N/A

B. FACTORED LATERAL LOAD AT PILE = 5.6K MAXIMUM AT EL + 13.0 MLLW

C. EFFECTIVE PRESTRESS MINIMUM = 1,055 PSI AFTER LOSSES.

D. PILE LENGTH MINIMUM = 63'.

E. PILE CROSS SECTION = 18" OCTAGONAL.

F. CONCRETE STRENGTH MINIMUM $FC = 6,500$ AT 28 DAYS

8. FLOATING DOCKS:

A. SUPPORT A LIVE LOAD OF TWENTY FIVE (25) POUNDS PER SQUARE FOOT OF DECK AREA WITH A FREEBOARD OF NOT LESS THAN TWELVE (12) INCHES.

B. THE DECK STRUCTURE SHALL HAVE SUFFICIENT FLOATATION TO SUPPORT ALL TRANSMITTED LOADS.

C. THE DECK STRUCTURE SHALL HAVE SUFFICIENT FLOATATION TO SUPPORT THE TRANSMITTED DEAD LOAD AND LIVE LOAD FROM THE GANGWAY.

D. THE GANGWAY LIVE LOAD SHALL BE CALCULATED ON A BASIS OF 100 POUNDS PER SQUARE FOOT LIVE LOAD APPLIED TO THE TOTAL SURFACE AREA OF THE GANGWAY.

E. THE FREEBOARD UNDER THESE IMPOSED LOADS SHALL NOT BE LESS THAN TWELVE (12) INCHES AND SHALL MEET THE TRANSVERSE AND LONGITUDINAL SLOPES SET FORTH BELOW:

a. DEAD LOAD ONLY, AND DEAD LOAD + UNIFORM LIVE LOAD:

1. MAXIMUM CROSS SLOPE 1/4 INCH PER FOOT, NOT TO EXCEED ONE INCH MAXIMUM.

2. MAXIMUM LONGITUDINAL SLOPE 1/8 INCH PER FOOT, NOT TO EXCEED ONE INCH IN 10 FEET.

b. DEAD LOAD + LIVE POINT LOAD:

1. MAXIMUM CROSS SLOPE 1/2 INCH PER FOOT (4%), NOT TO EXCEED TWO INCHES MAXIMUM.

2. MAXIMUM LONGITUDINAL SLOPE 1/4 INCH PER FOOT, NOT TO EXCEED TWO INCHES IN 10 FEET.

F. FREEBOARD UNDER DEAD LOAD ONLY SHALL BE 18" +/-.

G. THE FLOATATION UNITS SHALL BE CAPABLE OF SUPPORTING A MINIMUM 400 POUND LIVE POINT LOAD APPLIED AT ANY POINT ON THE DECK, WITHOUT PROVIDING LESS THAN THE MINIMUM SPECIFIED FREEBOARD OR SLOPES.

H. THE DOCK UNITS SHALL BE CAPABLE OF WITHSTANDING ANTICIPATED CURRENT LOADS OF 2 FPS, IMPACT LOADS FROM A 60 TON VESSEL IMPACTING AT 1FT/SEC APPROACH VELOCITY (A 1/3 STRESS INCREASE IS ALLOWED SINCE THE FORCE IS TRANSIENT), AND A 1.0 FOOT WAVE ENVIRONMENT AND 2.0 FOOT POTENTIAL BOAT WAKE (A 1/3 STRESS INCREASE IS ALLOWED SINCE THE FORCE IS TRANSIENT) WITH AN APPROACH ANGLE 5F 15 DEGREES.

I. DEAD LOADS SHALL CONSIST OF THE FLOATS, FRAMING, DECKING CONNECTIONS, AND ALL PERMANENTLY ATTACHED EQUIPMENT. THE WEIGHT OF LUMBER FOR THESE CALCULATIONS SHALL BE ASSUMED AT NO LESS THAN FORTY POUNDS PER CUBIC FOOT.

J. WIND LOADS FOR FINGER FLOATS SHALL BE A UNIFORMLY DISTRIBUTED LOAD OF FIFTEEN (15) POUNDS PER SQUARE FOOT ACTING ON THE ABOVE WATER PROFILE OF POTENTIAL BERTHED CRAFT. THE BOAT PROFILE AREA SHALL BE DETERMINED BY USING THE LENGTH AND AN AVERAGE PROFILE HEIGHT EQUAL TO FIFTEEN PERCENT (15%) OF THE BOAT LENGTH.

K. REINFORCEMENT SHALL BE EPOXY-COATED PER REINFORCING SECTION. SEE SPECIFICATIONS.

L. WIRE MESH SHALL BE GALVANIZED, SEE SPECIFICATIONS.

M. DIMENSIONS SHOWN ARE TYPICAL FOR ALL FLOATS UNO. WIDTH DIMENSIONS SHOWN ARE NOMINAL. CONTRACTOR MAY VARY WIDTH WITHIN SPECIFIED TOLERANCES TO SUIT MANUFACTURER'S PROPRIETARY FORMWORK.

N. CONTRACTOR SHALL BE RESPONSIBLE TO DETERMINE DEPTH DIMENSION "D" FOR ALL FLOATS AND DIMENSION "W" FOR ONE FLOAT SUPPORTING THE RAMP AND GANGWAY. SUFFICIENT DEPTH "D" SHALL BE PROVIDED TO SUPPORT THE DOCK SYSTEM DEAD LOAD INCLUDING UTILITIES AND ALL DOCK ACCESSORIES AT THE REQUIRED FREEBOARD. SEE SPECIFICATIONS.

O. FOR MINIMUM NUMBER OF RACEWAYS REQUIRED, SEE SPECIFICATIONS. FOR RACEWAY ALLOCATION AND JUNCTION BOX REQUIREMENTS, SEE ELECTRICAL SHEETS.

9. CONCRETE:

A. CONCRETE WORK SHALL CONFORM TO ALL REQUIREMENTS OF SPECIFICATIONS SECTION 03 30 00 CAST-IN-PLACE CONCRETE.

B. ALL CONCRETE SHALL BE NORMAL WEIGHT, WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF: 5,000 PSI

C. CONCRETE REINFORCING COVER SHALL BE AS FOLLOWS:
RETAINING WALL: 3 INCHES
FOOTINGS AND SLABS CAST AGAINST OR EXPOSED TO EARTH: 3 INCHES
CONCRETE EXPOSED TO WEATHER: 2 INCHES

D. ALL CONCRETE DIMENSIONS SHOWN ARE MINIMUM DIMENSIONS. CONTRACTOR SHALL REVIEW FORMING, REINFORCING DETAILS AND ANY EMBEDDED ITEMS AND DETERMINE THE PLACEMENT REQUIREMENTS AND CLEARANCES PRIOR TO FABRICATION OF ANY REINFORCING.

10. REINFORCING STEEL:

A. ALL CONCRETE REINFORCING SHALL BE:
ASTM A 615, GRADE 60
ASTM A 706, GRADE 60
EPOXY COATED PER ASTM A775, UNO

B. NO WELDING OF ANY REINFORCING SHALL BE PERMITTED.

11. LUMBER:

A. ALL LUMBER SHALL BE PRESSURE TREATED (PS) PER PROJECT SPECIFICATIONS - 06 13 33.

B. ALL MEMBERS ARE TO BE DOUGLAS FIR LARCH, S4S, WITH A MINIMUM ALLOWABLE FLEXURAL STRESS RATING OF 1300 PSI.

C. GRADING REQUIREMENTS ARE AS FOLLOWS:
3X DECKING (MIN.): #1, KDAT-19
2X WALES: #1, KDAT-19

D. ALL DECKING SCREWS SHALL BE COUNTERSUNK IN DECKING WALERS AND RUB STRIPS.

E. ALL CONNECTOR BOLTS SHALL BE HOT-DIP GALVANIZED AND CONFORM TO ASTM A307.

F. BOLT SPACING, EDGE AND END DISTANCES IN WOOD MEMBERS SHALL CONFORM WITH CBC REQUIREMENTS.

G. ALL BOLTS AND LAG SCREWS SHALL BE PROVIDED WITH STANDARD CUT STEEL WASHERS UNDER HEADS AND NUTS BEARING ON WOOD.

H. ALL BOLTS OR STEEL HARDWARE EXPOSED TO MOISTURE SHALL BE HOT-DIP GALVANIZED.

I. ALL NAILS AND FASTENERS DRIVEN INTO PRESSURE-TREATED LUMBER SHALL BE HOT-DIP GALVANIZED.

J. DECKING SCREWS SHALL BE 316 STAINLESS STEEL.

K. BRUSH CUT TREATED LUMBER SURFACES WITH COPPER NAPHTHENATE PRIOR TO INSTALLATION.

12. STRUCTURAL STEEL:

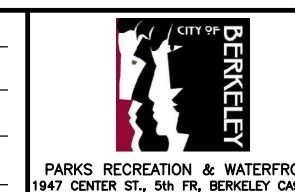
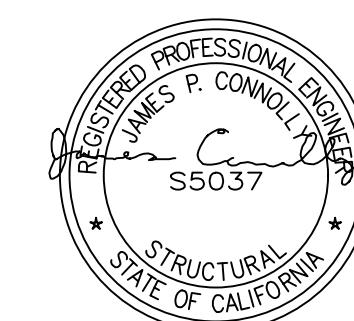
A. HOT-DIP GALVANIZE ALL STEEL ELEMENTS AFTER FABRICATION AND WELDING UNLESS OTHERWISE NOTED.

B. ALL EXPOSED NON-GALVANIZED STEEL SURFACES AND FASTENERS SHALL BE COATED PER SPECIFICATIONS UNLESS OTHERWISE NOTED.

13. ADA REQUIREMENTS:

A. THE MAXIMUM CROSS SLOPE SPECIFIED FOR GANGWAY, TRANSITION PLATES, AND FLOATING DOCKS THAT ARE PART OF THE ADA ACCESSIBLE ROUTES SHALL NOT EXCEED 2%, MEASURED IN THE STATIC POSITION.

ISSUED FOR BID SUBMITTAL



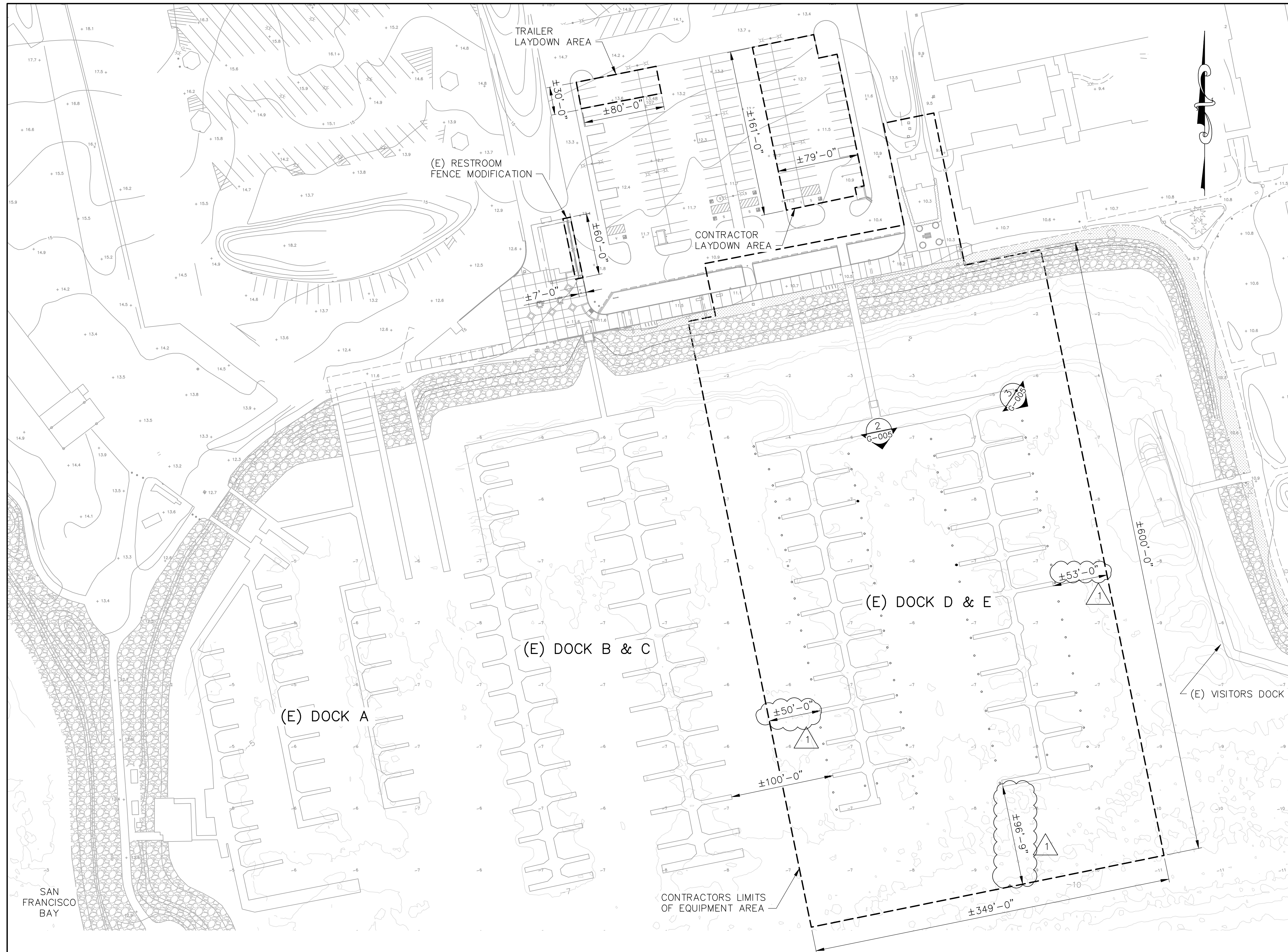
BERKELEY MARINA DOCK REPLACEMENT (D-E)
CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA
BASIS OF DESIGN AND
SPECIAL INSPECTION - 1 of 2

PROJECT MANAGER: _____ DATE _____	DEPICTION OF MONUMENTS: _____ DATE _____	SUBMITTED: _____ DATE _____	DESIGN - <u>JRVS</u>	HORIZ. _____
_____ SURVEY PARTY CHIEF	_____ WATERSHED REVIEW: _____ DATE _____	_____ SUPERVISING CIVIL ENGINEER	DRAWN - <u>NIF</u>	VERT. _____
_____ CITY ENGINEER	_____ CITY ENGINEER	_____ APPROVED: _____ DATE _____	CHECK - <u>SYEE</u>	BOOK _____
0 1 2 3 FOR REDUCED PLANS - ORIGINAL SCALE IS IN INCHES	_____ DATE _____	_____ R.C.E. _____	AS BUILT _____	DATE 6/3/22

02-21-2024	ADENDUM NO. 1	ISSUED FOR BID SUBMITTAL	DATE	MARK	REVISION	DESCRIPTION	APPROVAL
01-15-2024				1	0		JMC JMC

PLOTTED BY: JESSICA RIVAS PLOT DATE: 2/27/2024 4:07:20 PM

- NOTES:**
- COORDINATE LAYDOWN AREA WITH CITY PROJECT MANAGER.
 - CONTRACTOR TO PROTECT IN PLACE ALL ELEMENTS NOT BEING DEMOLISHED.
 - ALL EQUIPMENT TO BE STORED AND ANCHORED WITHIN BOUNDARY LIMITS AND CONTRACTOR LAYDOWN AREA.



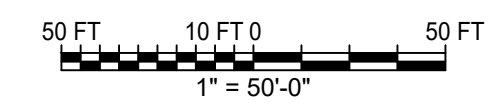
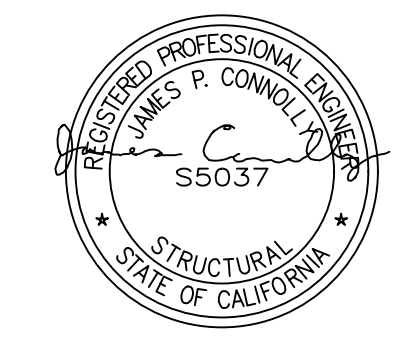
POSSIBLE BARGE MOORING SITE LOCATION BETWEEN DOCK D & E



POSSIBLE BARGE MOORING SITE LOCATION EAST OF DOCK E

SITE PLAN — PROJECT LIMITS AND CONTRACTOR LAYDOWN AREA
SCALE: 1" = 50'-0"

ISSUED FOR BID SUBMITTAL



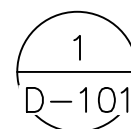
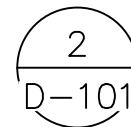
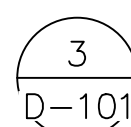
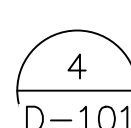
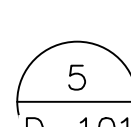
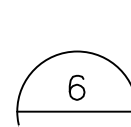
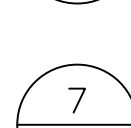
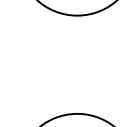
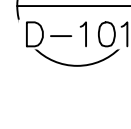
PROJECT MANAGER: _____ DATE _____	DEPICTION OF MONUMENTS: _____ DATE _____	SUBMITTED: _____ DATE _____	DESIGN: <u>JRVS</u>	HORIZ.: <u>AS SHOWN</u>			BERKELEY MARINA DOCK REPLACEMENT (D-E) CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA PROJECT LIMITS AND CONTRACTOR LAYDOWN AREA	PLAN _____
SURVEY PARTY CHIEF: _____ DATE _____	WATERSHED REVIEW: _____ DATE _____	SUPERVISING CIVIL ENGINEER: _____ DATE _____	DRAWN: <u>NIF</u>	VERT.: _____				FILE _____
CITY ENGINEER: _____ DATE _____	APPROVED: _____ DATE _____	AS BUILT: _____ DATE _____	CHECK: <u>SYEE</u>	BOOK: _____				G-005

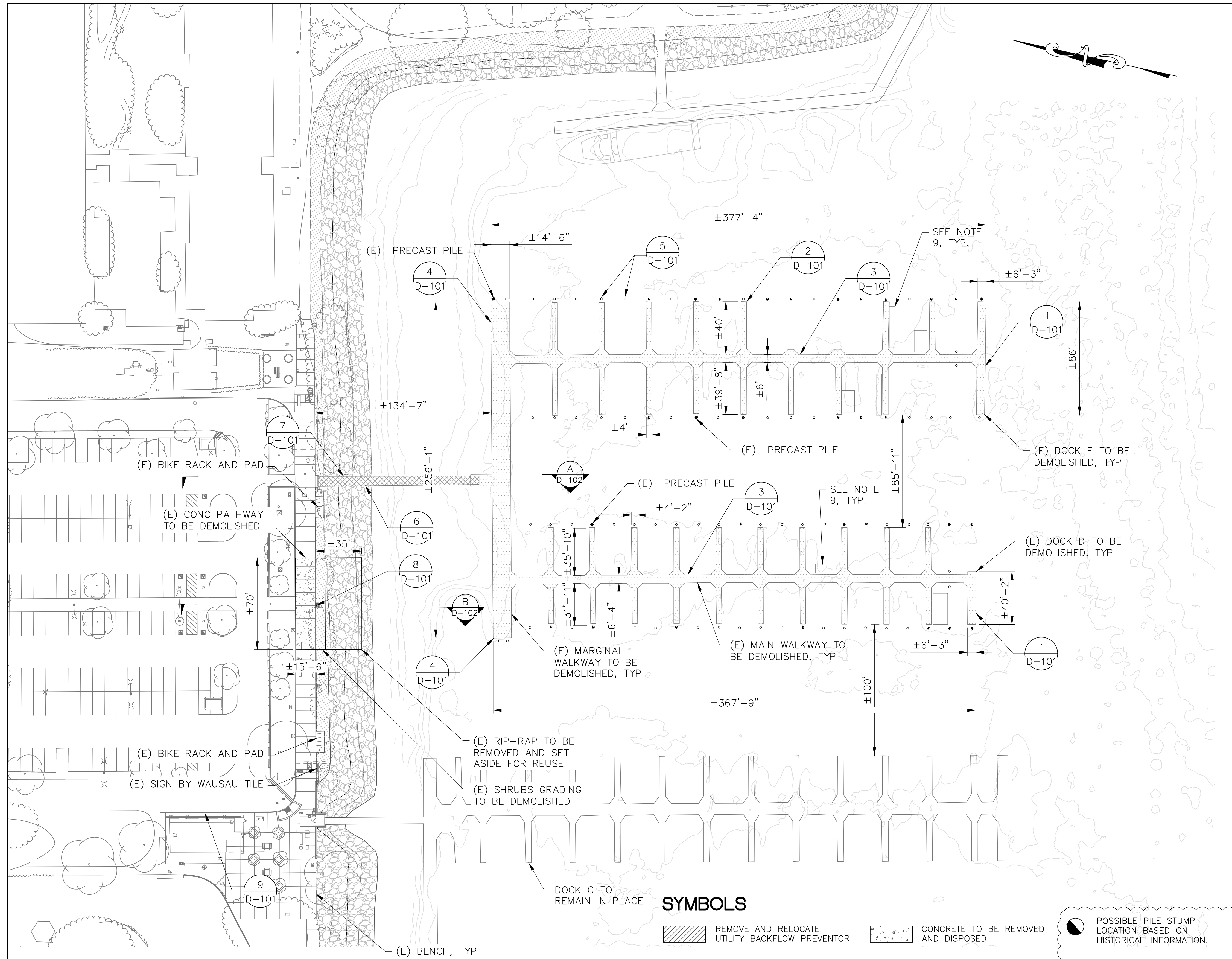
REVISION	MARK	DATE	DESCRIPTION	APPROVAL
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0		01-15-2024	ISSUED FOR BID SUBMITTAL	JMC

NOTES:

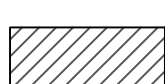
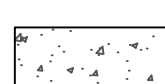

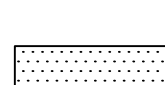
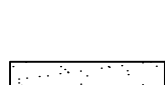
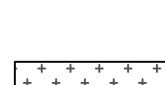



1. CONTRACTOR TO COORDINATE WITH CITY REPRESENTATIVE PRIOR TO DEMOLITION OF UTILITIES AND CONTROLS. REUSE & RELOCATE IRRIGATION CONTROLLERS AS DIRECTED BY THE CITY. MAINTAIN OPERATION OF CONTROLS FOR LANDSCAPING DURING CONSTRUCTION.
2. CONTRACTOR TO INVESTIGATE AND REPORT TO CITY LOCATIONS AT DOUBLE AND END TIE BERTHS WHERE PILES ARE MISSING OR BROKEN BELOW WATER. REMOVE & DISPOSE OF PILE STUBS EXTENDING ABOVE THE MUDLINE.
3. SIDEWALK DEMOLITION SHALL TERMINATE AT EXISTING JOINTS. REPAIR ANY DAMAGE TO IMPROVEMENTS TO REMAIN AT NO ADDITIONAL COST.
4. SAWCUT PAVEMENT AT INTERFACE BETWEEN AREAS TO BE REMOVED & AREAS TO REMAIN.
5. CONTRACTOR TO VERIFY UTILITIES SERVED THROUGH EXISTING PANELS & BOXES. CONTINUE SERVICE TO UTILITIES OUTSIDE THE SCOPE OF THIS PROJECT, LEAVE ASSOCIATED BOXES IN PLACE UNLESS SERVICE IS TO BE RELOCATED. REMOVE & DISPOSE OF BOXES & PANELS THAT NO LONGER SERVE UTILITIES AFTER DEMOLITION OF DOCKS.
6. CONFIRM WATER VALVE LOCATIONS FOR DOCKS AND RELOCATE TO ADJOIN NEW GANGWAY LOCATIONS.
7. EXISTING CONDUITS TO BE ABANDONED IN PLACE SHALL BE FILLED WITH GROUT.
8. ALL PILES WITHIN THE BERTH AREAS NOTED TO BE REMOVED SHALL BE REMOVED IN THEIR ENTIRETY. PILES BROKEN DURING REMOVAL SHALL BE COMPLETELY REMOVED. STUBS ARE NOT ACCEPTABLE.
9. REMOVE ALL FLOATING DEBRIS BETWEEN DOCK D AND E FINGERS.

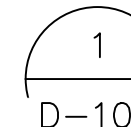
LEGEND

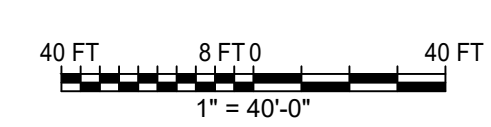
-  REMOVE AND DISPOSE OF (E) END FLOATS PHASE 1 DEMOLITION
-  REMOVE AND DISPOSE (E) TYPICAL FLOATS PHASE 1 DEMOLITION
-  REMOVE AND DISPOSE (E) MAIN FLOATS PHASE 1 DEMOLITION
-  REMOVE AND DISPOSE (E) MARGINAL FLOATS PHASE 1 DEMOLITION
-  REMOVE AND DISPOSE (E) 16"Ø TIMBER PILES AND 3 (E) PRECAST PILES. PHASE 1 DEMOLITION
-  REMOVE AND DISPOSE (E) GANGWAY AND GATE. PHASE 1 DEMOLITION
-  REMOVE AND DISPOSE (E) TIMBER PIER. PHASE 1 DEMOLITION
-  REMOVE AND RELOCATE (E) BACKFLOW PREVENTER. SEE P101 FOR ADDITIONAL INFORMATION. PHASE 2 DEMOLITION
-  REMOVE AND RELOCATE (E) RESTROOM EAST SIDE GATE. SEE C-105 FOR ADDITIONAL INFORMATION. PHASE 2 DEMOLITION



SYMBOLS

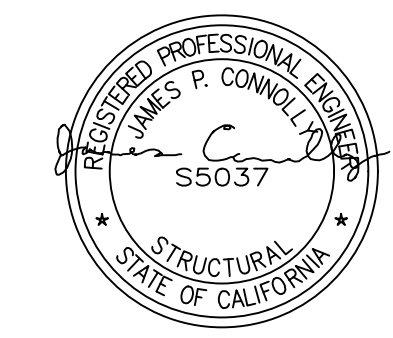
-  REMOVE AND RELOCATE UTILITY BACKFLOW PREVENTOR
-  CONCRETE TO BE REMOVED AND DISPOSED.
-  REMOVE AND DISPOSE (E) GANGWAY AND PIER.
-  WOOD DOCKS TO BE REMOVED AND DISPOSED.
-  AC TO BE PULVERIZED AND BLENDED INTO TOP 8".
-  REMOVE AND STOCKPILE (E) ROCK, WHERE NEEDED, AND CLEAR AND GRUB.
-  POSSIBLE PILE STUMP LOCATION BASED ON HISTORICAL INFORMATION.
-  (E) TIMBER PILES.
-  (E) PRECAST CONCRETE PILES.

DEMOLITION PLAN 
SCALE: 1" = 40'-0"



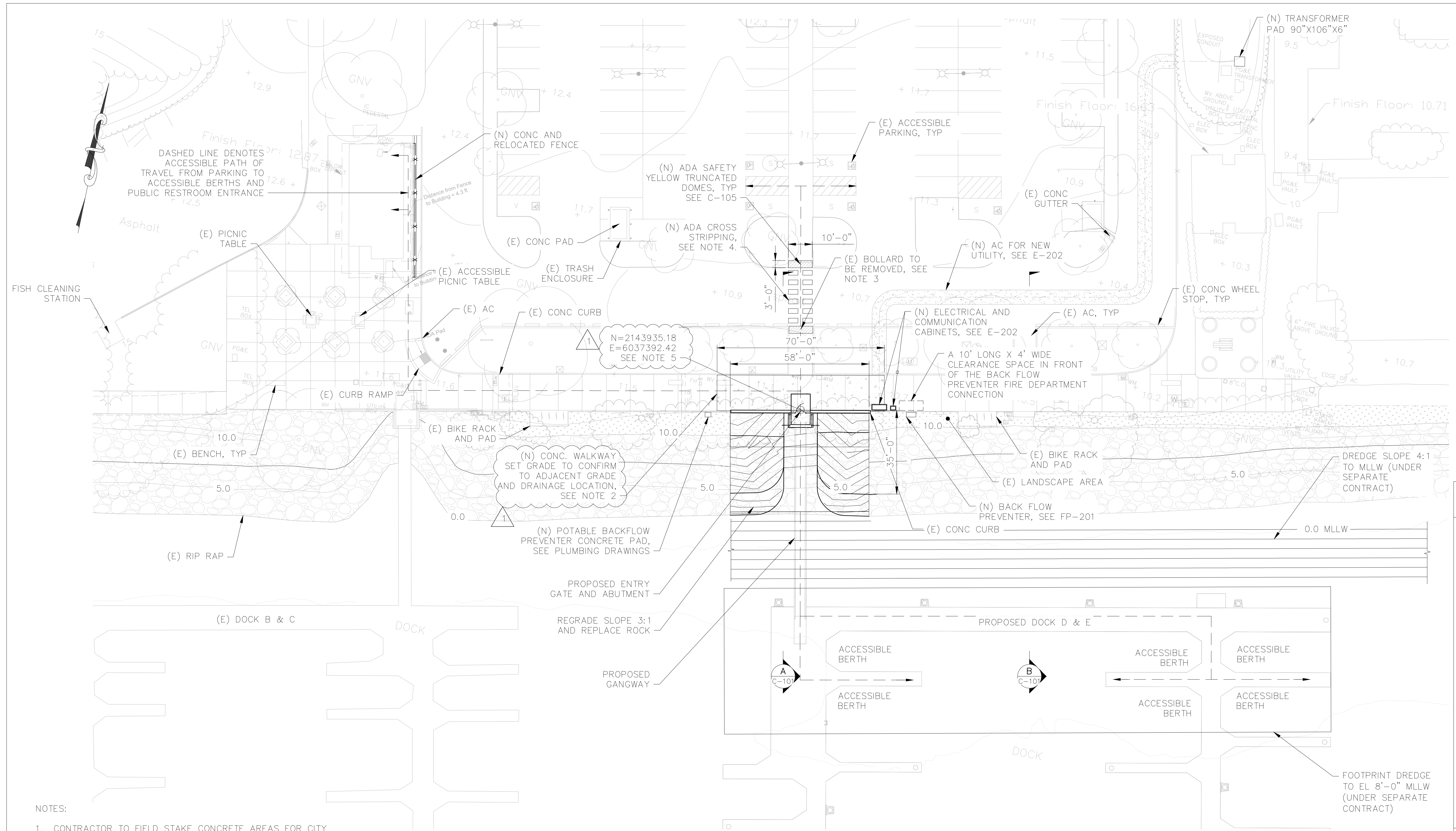
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SURVEY PARTY CHIEF: _____	DATE: _____	WATERSHED REVIEW: _____	DATE: _____
SUBMITTED: _____		DESIGN: <u>JRVS</u>	
SUPERVISING CIVIL ENGINEER: _____		DRAWN: <u>NIF</u>	
APPROVED: _____		CHECK: <u>SYEE</u>	
CITY ENGINEER: _____		AS BUILT: _____	
DATE: _____		DATE: <u>6/3/22</u>	
R.C.E. _____		HORIZ.: <u>AS SHOWN</u>	
EXP. _____		VERT.: _____	
DATE: _____		BOOK: _____	
EXP. _____		DATE: _____	

ISSUED FOR BID SUBMITTAL

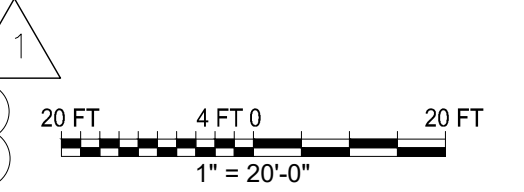
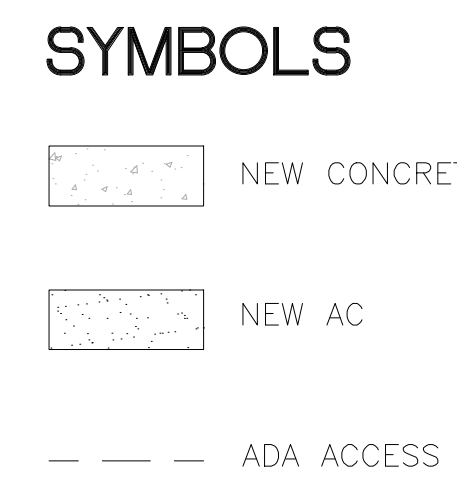


BERKELEY MARINA DOCK REPLACEMENT (D-E)
CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA
DEMOLITION
SHEET 1 OF 2

NO.	DATE	DESCRIPTION	APPROVAL
1	02-21-2024	ISSUED FOR BID SUBMITTAL	JMC
0	01-15-2024		JMC



- NOTES:
- CONTRACTOR TO FIELD STAKE CONCRETE AREAS FOR CITY APPROVAL PRIOR TO PLACING CONCRETE. ADJUST AREAS AS NEEDED TO SATISFY CITY.
 - SLOPE PAVED AREAS BETWEEN 1% AND 2% TO DRAIN TO LANDSCAPE AREAS AS SHOWN. FIELD VERIFY APPROPRIATE SLOPES AND MODIFY AS NEEDED TO ENSURE PROPER DRAINAGE. OBTAIN CITY APPROVAL OF FIELD MODIFICATIONS.
 - EXISTING BOLLARD TO BE REMOVED AND REINSTALLED AFTER INSTALLATION OF NEW TRUNCATED DOMES.
 - STRIPPING SHALL FOLLOW THE CITY STANDARD DETAILS WHERE LINE WIDTH IS 2 FT WIDE AND GAP BETWEEN LINES IS 2FT.
 - CONFIRM WITH CITY PRIOR TO CONSTRUCTION. POINT TO BE AT CL OF EXISTING PATHWAY FROM PARKING LOT.



PROJECT MANAGER:	DATE:	DEPICTION OF MONUMENTS:	DATE:	SUBMITTED:	DATE:	DESIGN:	HORIZ.:	AS SHOWN:
		SURVEY PARTY CHIEF:		SUPERVISING CIVIL ENGINEER:	R.C.E. EXP.:	DRAWN:	VERT.:	
		WATERSHED REVIEW:	DATE:	APPROVED:	DATE:	CHECK:	BOOK:	
				CITY ENGINEER:	EXP.:	AS BUILT:		DATE: 6/3/22

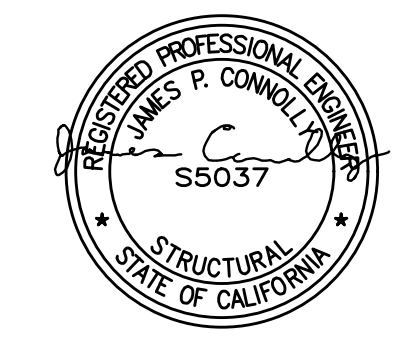
FOR REDUCED PLANS - ORIGINAL SCALE IS IN INCHES

DESIGN:	JRVS	HORIZ.:	AS SHOWN
DRAWN:	NIF	VERT.:	
CHECK:	SYEE	BOOK:	
AS BUILT:		DATE:	6/3/22

DATE:	EXP.:	DATE:	EXP.:
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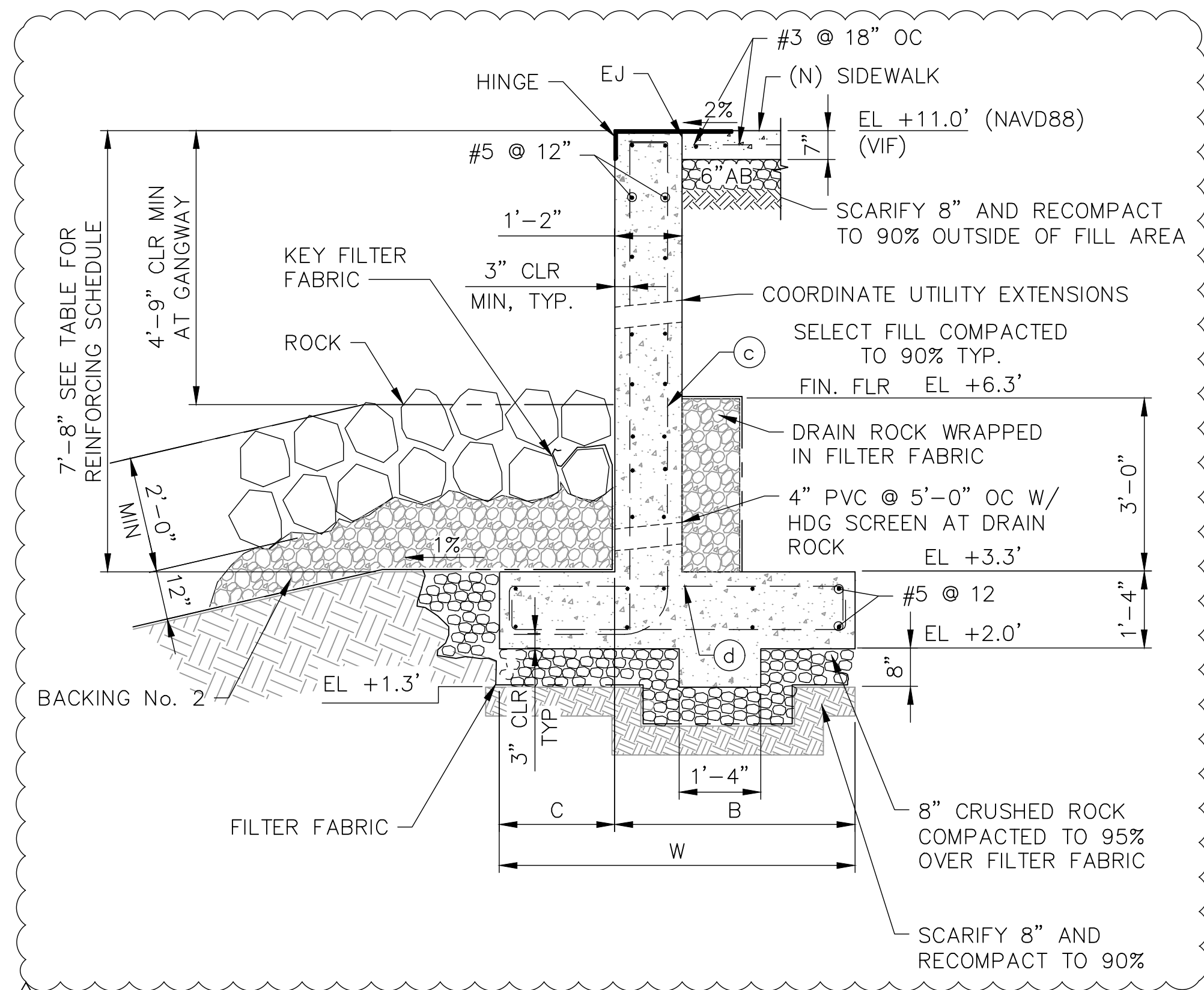


BERKELEY MARINA DOCK REPLACEMENT (D-E)
CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA
LANDSIDE IMPROVEMENT PLAN



ISSUED FOR BID SUBMITTAL

REVISION	MARK	DATE	DESCRIPTION	APPROVAL
1	0	02-21-2024	ISSUED FOR BID SUBMITTAL	JMC
		01-15-2024		JMC



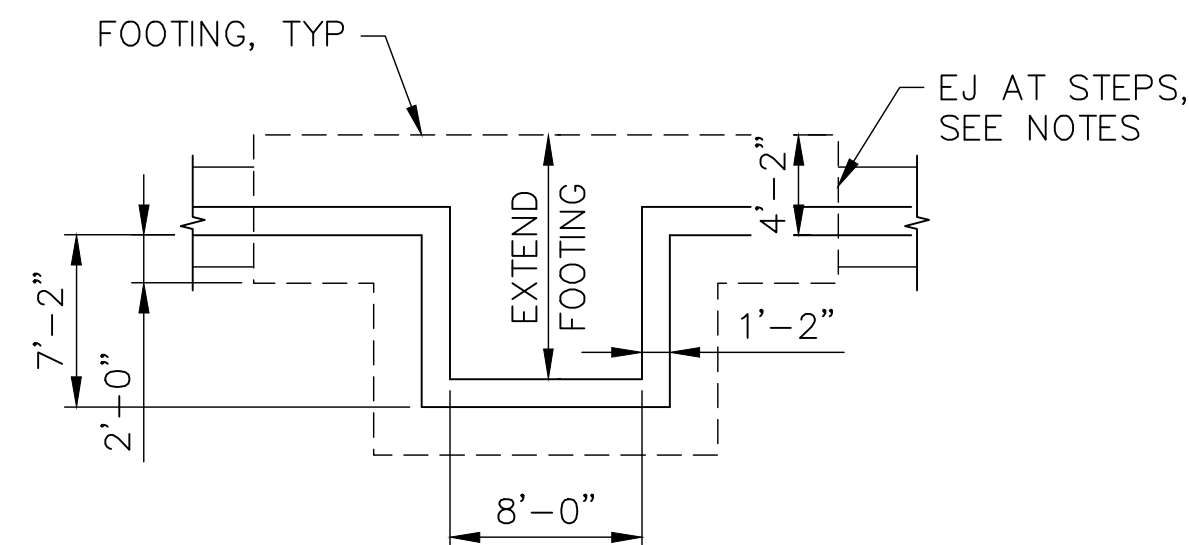
NOTES:

1. WALL HEIGHTS EXCEEDING 12' WILL REQUIRE APPROVED RE-DESIGN.
2. FIELD VERIFY WALL LOCATION TO ENSURE MINIMUM CLEARANCE BETWEEN ROCK AND BOTTOM OF GANGWAY.
3. PLACE FILTER FABRIC & CRUSHED ROCK BEDDING PRIOR ROCK. KEY FILTER FABRIC AT ALL EDGES.
4. TOP OF FOOTING TO BE FOUNDED 12" BELOW THE BOTTOM OF THE EXISTING ROCK.
5. COORDINATE LOCATION OF UTILITY CONDUITS THROUGH WALL & MAINTAIN 3" CONCRETE COVER AROUND CONDUITS.

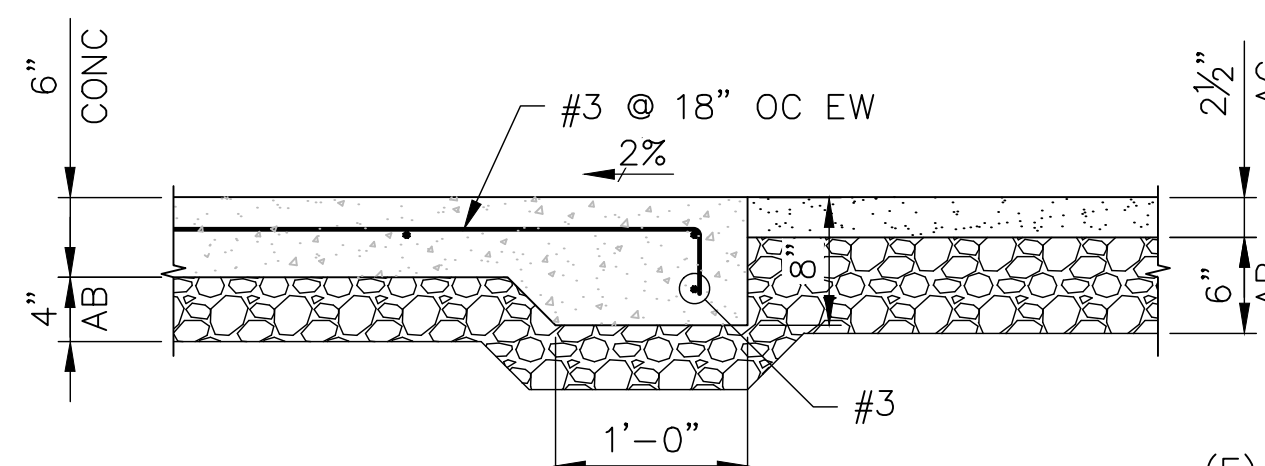
TABLE OF DIMENSIONS				
HEIGHT, H	6'	8'	10'	12'
W	6'-3"	6'-6"	7'-4"	8'-2"
C	2'-0"	2'-0"	2'-4"	2'-7"
B	4'-3"	4'-6"	5'-0"	5'-7"
© BARS	#5@9"	#6@10"	#7@9"	#7@8"
ⓐ BARS	#6@9"	#7@10"	#7@9"	#7@8"

DESIGN H MAY BE EXCEEDED BY 6" BEFORE GOING TO THE NEXT SIZE. SEE CALTRANS RETAINING WALL TYPE 1A FOR ADDITIONAL INFORMATION.

SECTION - ABUTMENT WALL (A)
SCALE: 1/2" = 1'-0"

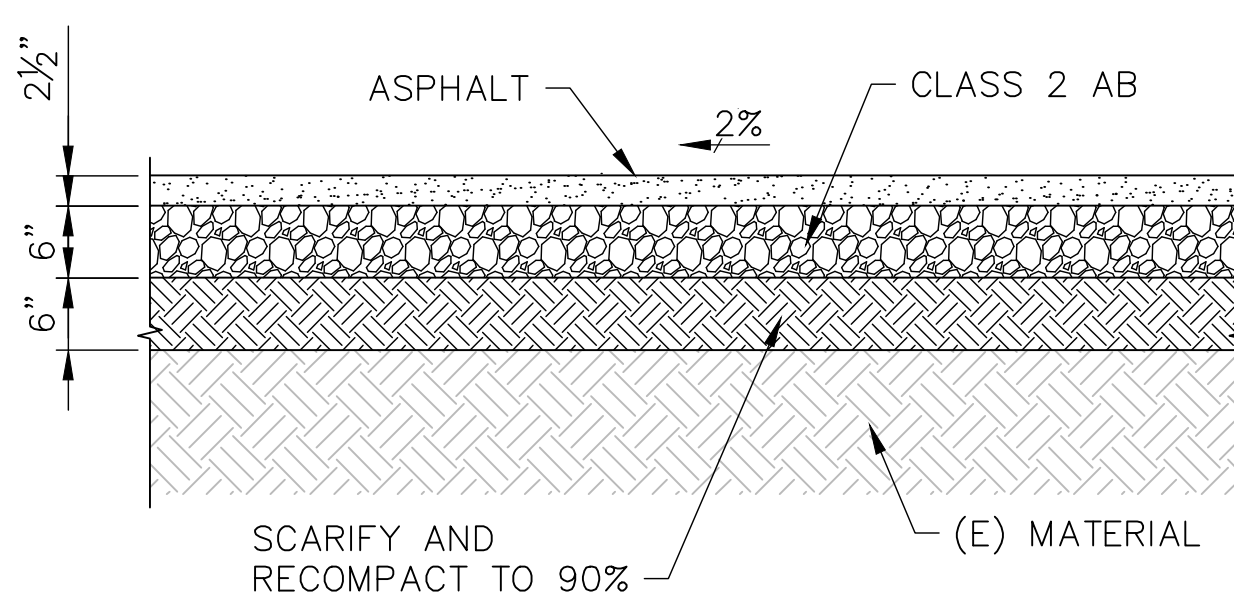


ABUTMENT WALL PLAN (5)
SCALE: 1/8" = 1'-0"



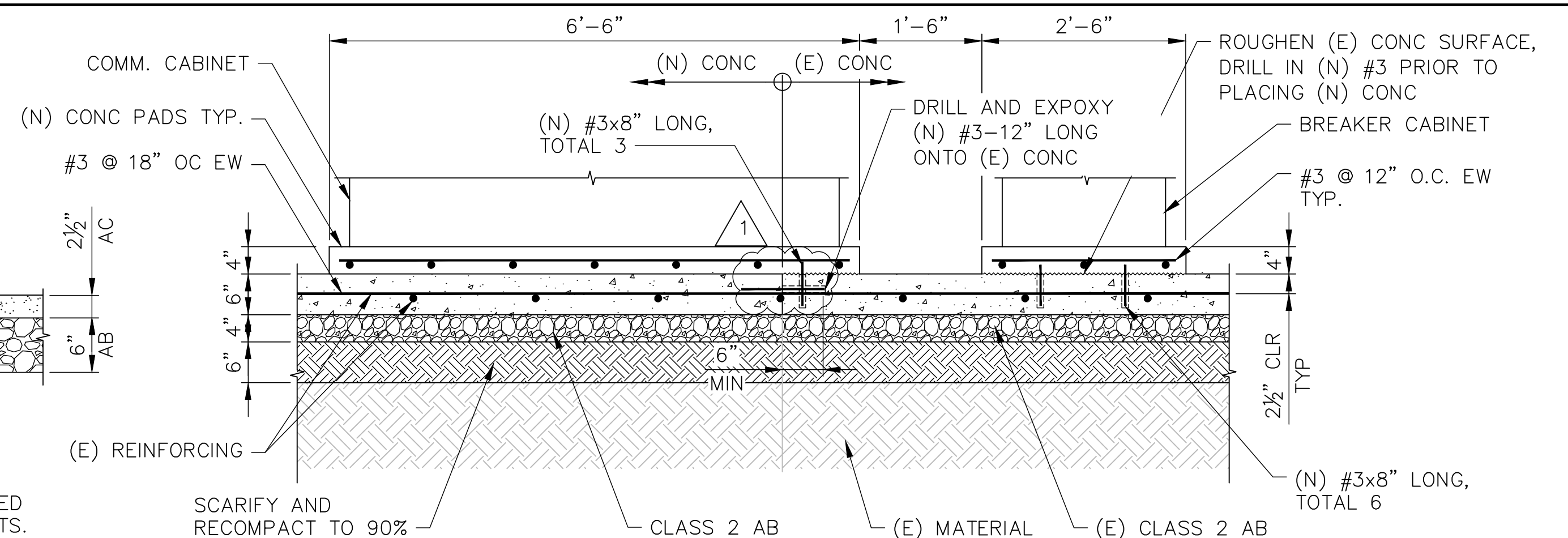
NOTE: SEE DETAILS 2 AND 3 FOR SUBGRADE AND COMPACTION REQUIREMENTS. PLACE THICKENED CONCRETE AROUND ALL EDGES AND AT JOINTS.

CONCRETE EDGE DETAIL (1)
SCALE: 1" = 1'-0"



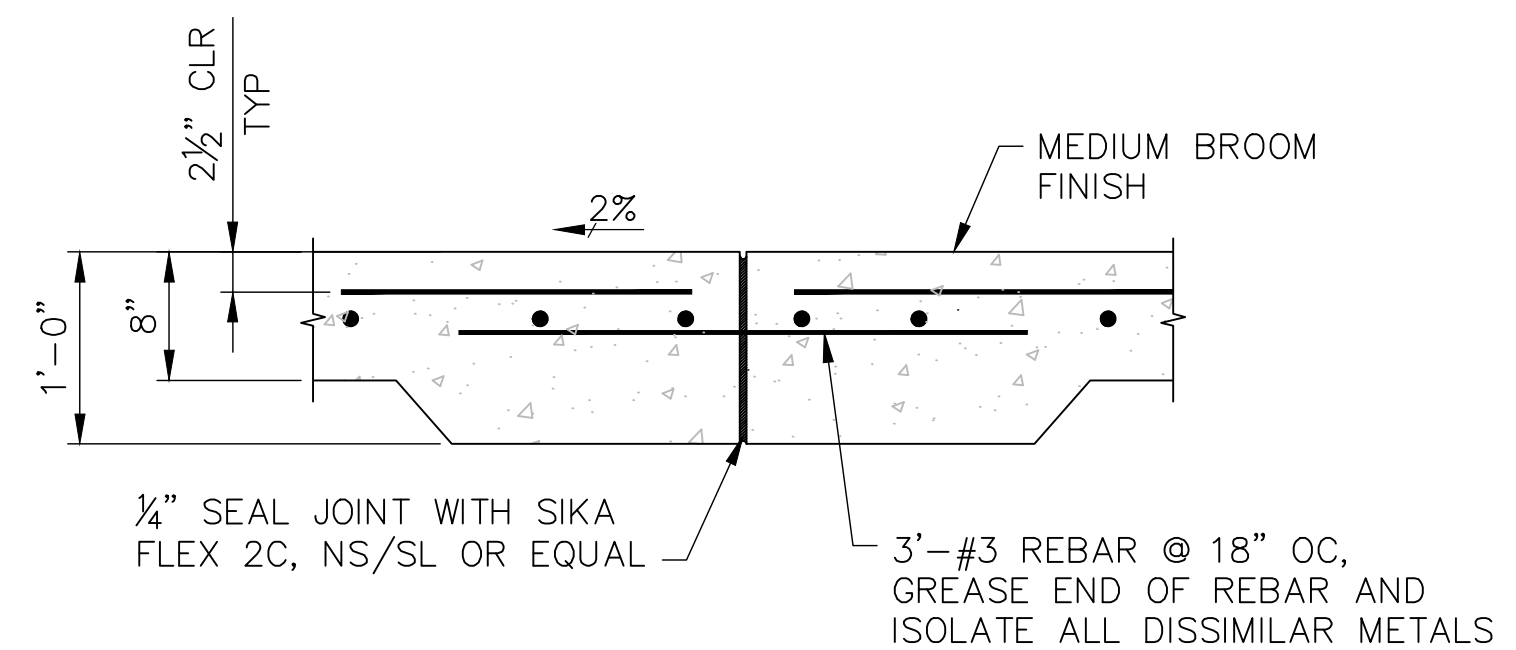
NOTES: AB TO BE COMPACTED TO 95%. * 95% IN VEHICULAR TRAFFIC AREAS

TYPICAL AC PAVEMENT (3)
SCALE: 3/4" = 1'-0"

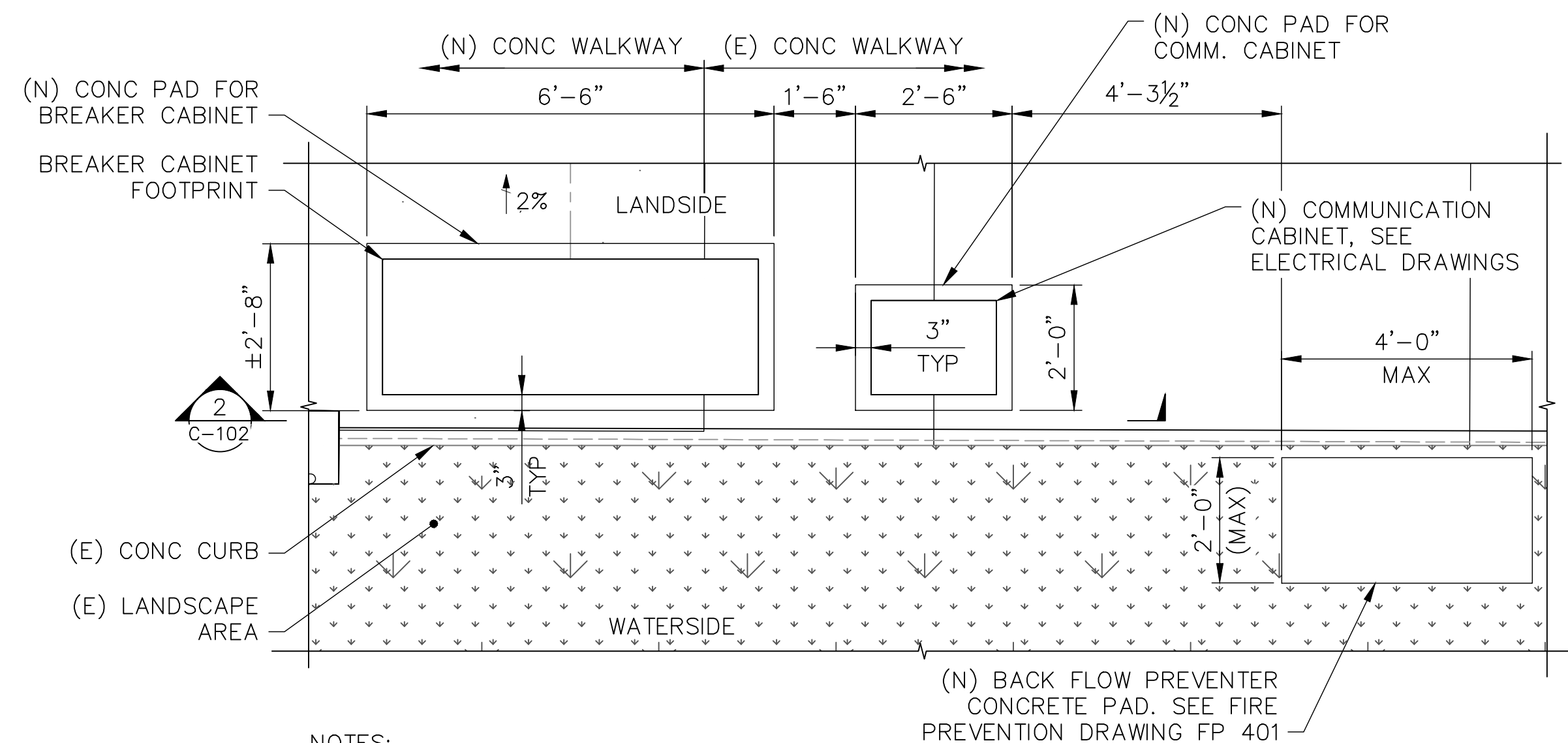


NOTE: REBAR TO BE CENTERED IN CONCRETE. AB TO BE COMPACTED TO 95%. SEE DETAIL 1 FOR EDGE DETAIL.

TYPICAL CONCRETE PAVEMENT (2)
SCALE: 3/4" = 1'-0"

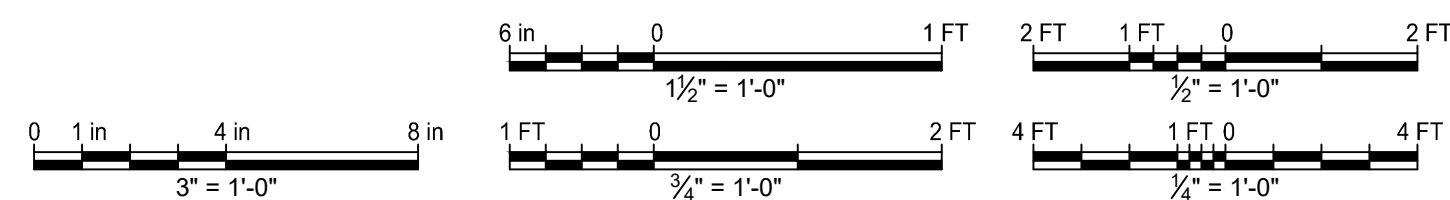


EXPANSION JOINT DETAIL (4)
SCALE: 1" = 1'-0"



NOTES:
1. FOR CONCRETE REINFORCEMENT DETAILS, SEE DETAIL 2.
2. THE 18"SQ CONCRETE PAD IS CENTERED UNDERNEARD THE 5" PIPE. SEE FP- 401 DETAIL 5.

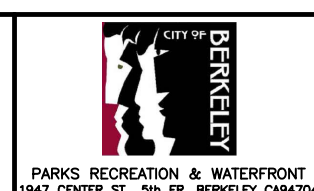
UTILITY SLAB ON GRADE (6)
SCALE: 1/2" = 1'-0"



PROJECT MANAGER:	DATE	DEPICTION OF MONUMENTS:	DATE	SUBMITTED:	DATE	DESIGN:	JRVS	HORIZ.:	AS SHOWN
						DRAWN:	NIF	VERT.:	
						CHECK:	SYEE	BOOK:	
						AS BUILT:		DATE:	8/XX/22

APPROVED:	DATE	R.C.E.:	
		EXP.:	
CITY ENGINEER			

DESIGN:	JRVS	HORIZ.:	AS SHOWN
DRAWN:	NIF	VERT.:	
CHECK:	SYEE	BOOK:	
AS BUILT:		DATE:	8/XX/22



BERKELEY MARINA DOCK REPLACEMENT (D-E)
CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA
LANDSCAPE DETAILS



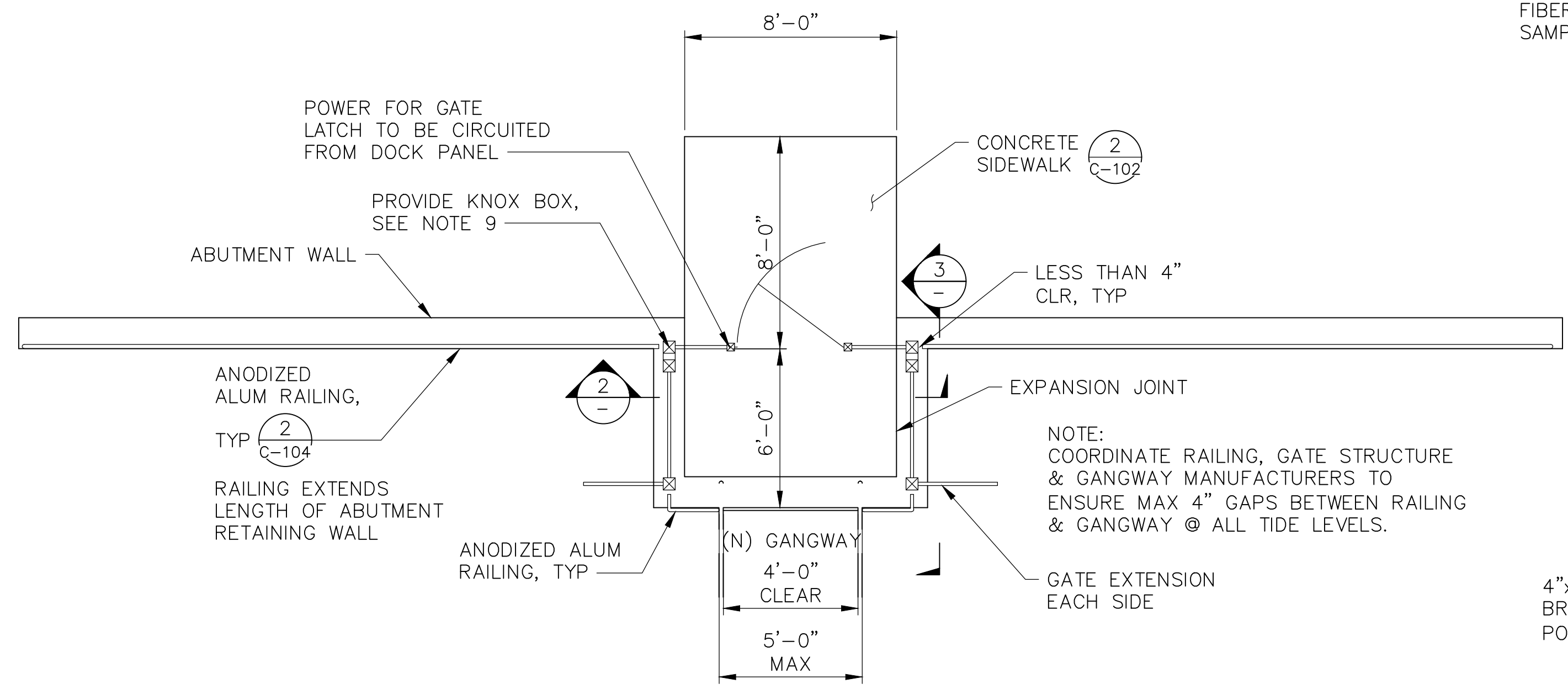
REVISION	MARK	DATE	DESCRIPTION
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		01-15-2024	

PLAN FILE C-102
SHEET 11 OF 52

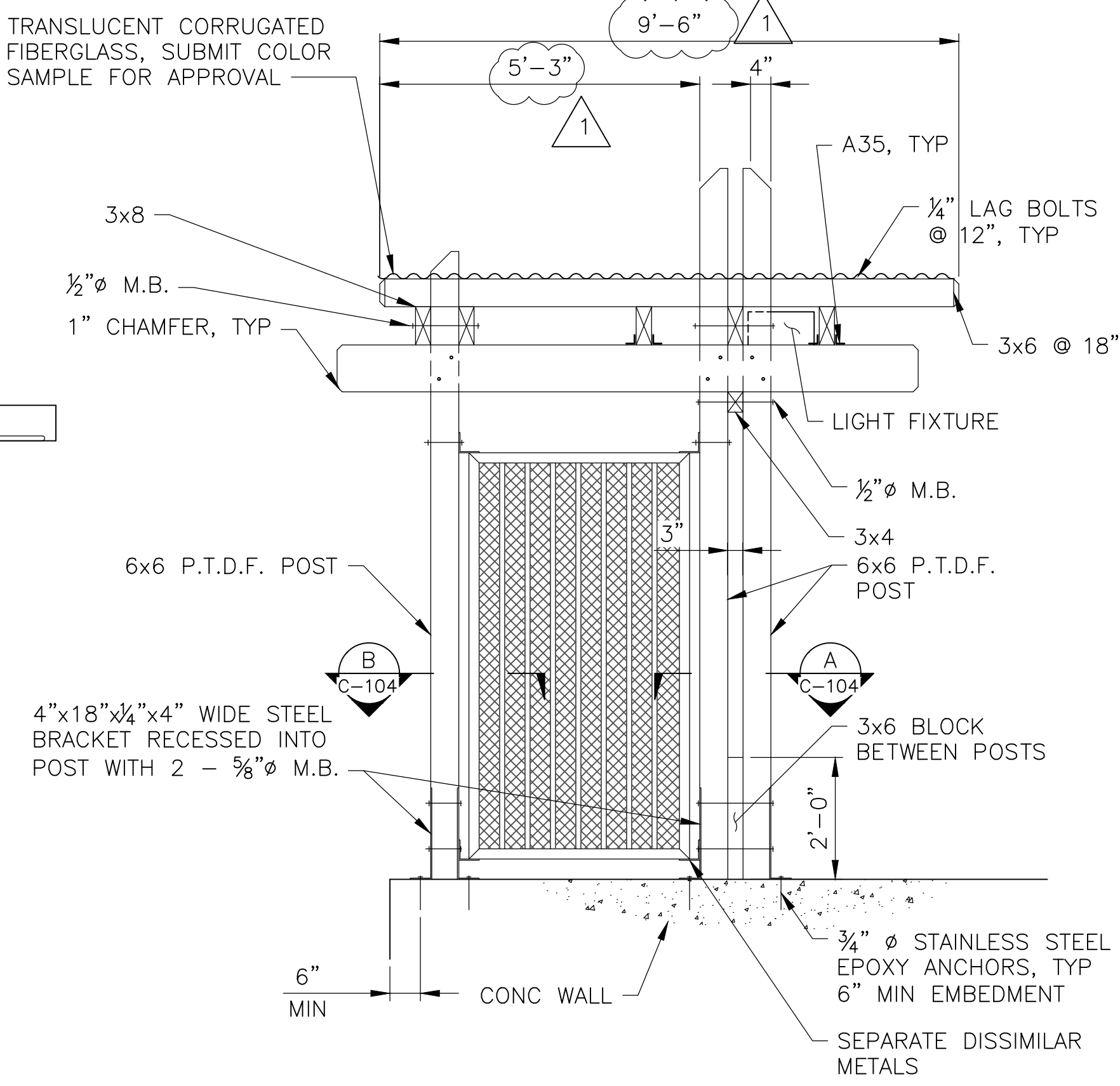
PLOTTED BY: JESSICA RIVAS PLOT DATE: 2/20/2024 11:36:31 PM

GENERAL NOTES:

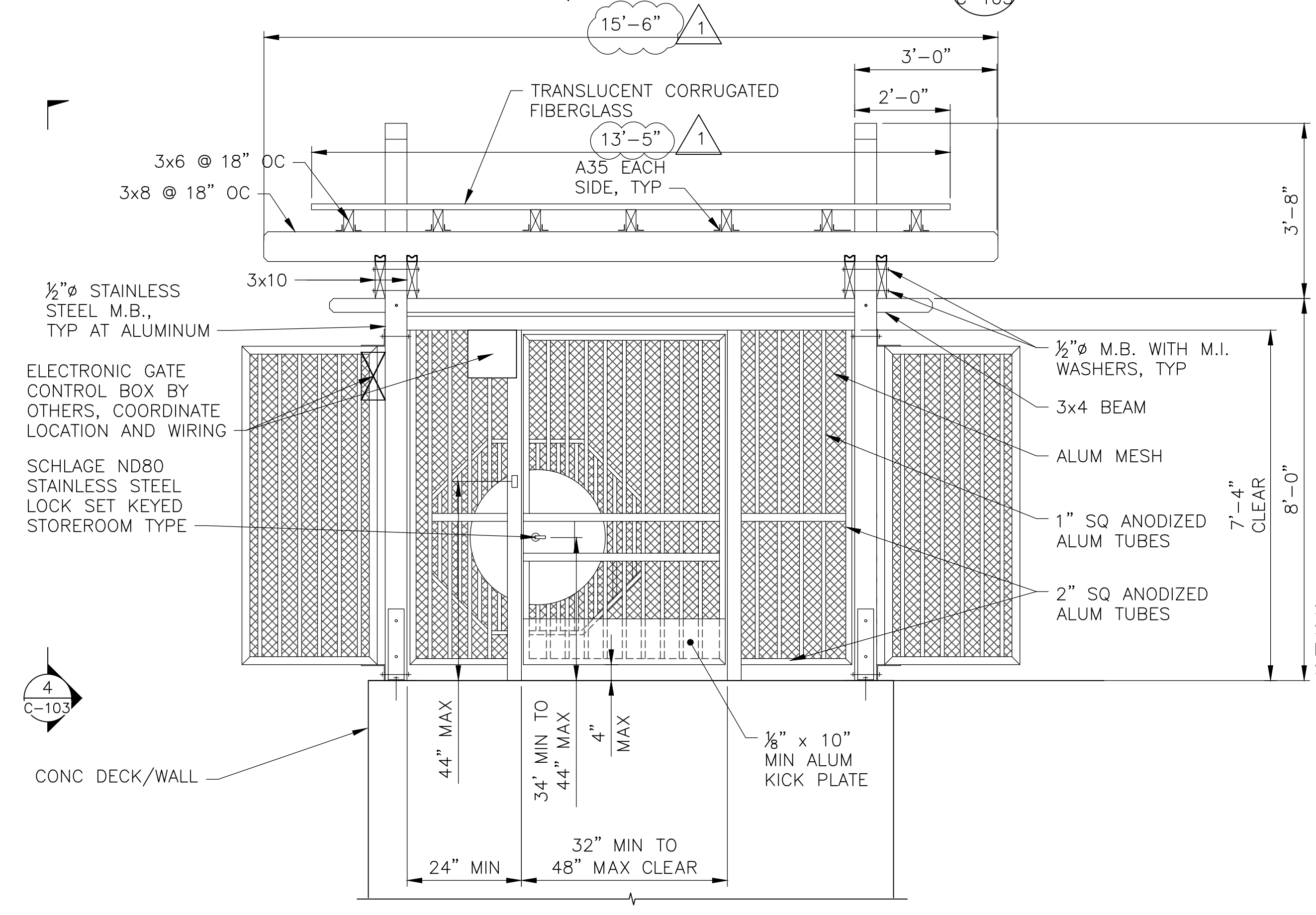
1. ALL STEEL BRACKETS AND FASTENERS TO BE HOT DIPPED GALVANIZED.
2. ALL BOLTS AND LAG SCREWS TO BE COUNTERSUNK & TO RECEIVE LOCK WASHERS.
3. ALL BOLTS, LAG SCREWS AND NAILS TO BE STAINLESS STEEL.
4. USE STAINLESS STEEL AT ALL EPOXY GROUTED ANCHORS AND AT ALUMINUM GATES AND DOORS, SEPARATE DISSIMILAR METALS
5. ELECTRONIC STRIKE AND GATE CONTROLS TO BE FURNISHED AND INSTALLED BY ALX TECHNOLOGY (510.535.2294) OR CITY APPROVED EQUAL. COORDINATE PROPER DESIGN AND LOCATION OF LOCK SET, CONDUITS, WIRING, CONTROLS, AND BOX PRIOR TO CONCRETE AND ENTRY STRUCTURE INSTALLATION.
6. ALL WOOD TO BE PRESSURE TREATED ACCORDING TO CITY STANDARDS.
7. SUBMIT RAILING & GATE LAYOUT & DETAIL FOR APPROVAL.
8. GATE STRUCTURE SIMILAR TO EXISTING GATE AT B-C DOCKS.
9. PROVIDE KNOX BOX WITH KNOCKOUT FIRE ACCESS STATION ON POST TO ALLOW EMERGENCY PERSONNEL IMMEDIATE ACCESS TO DOCK.
10. MINIMUM CLEAR DOOR WIDTH TO BE 48-INCHES. CLEAR OPENINGS OF DOORWAY WITH SWINGING DOOR SHALL BE MEASURED BETWEEN THE FACE OF THE DOOR AND THE STOP WITH THE DOOR OPEN 90 DEGREES. SWING DOORS AND GATE TO COMPLY WITH CBC 11B-404 TABLE 404.2.4.1.
11. DOOR AND GATE HARDWARE TO COMPLY WITH CBC 11B-4074.2.7.
12. GATE CLOSERS SHALL BE ADJUSTED SO THAT FROM AND OPEN POSITION OF 90-DEG., THE REQUIRED TIME TO MOVE THE GATE TO A OPEN POSITION OF 12-DEG. FROM THE LATCH IS 5-SEC MINIMUM. DOOR AND GATE SPRING HINGES SHALL BE ADJUSTED SO THAT FROM THE OPEN POSITION OF 70-DEG., THE GATE SHALL MOVE TO THE CLOSED POSITION IN 1.5 SECONDS MINIMUM.
13. THE FORCE FOR PUSHING/PULLING AN OPEN DOOR/GATE SHALL BE AS FOLLOWS: INTERIOR/EXTERIOR HINGED DOORS = 5 POUNDS



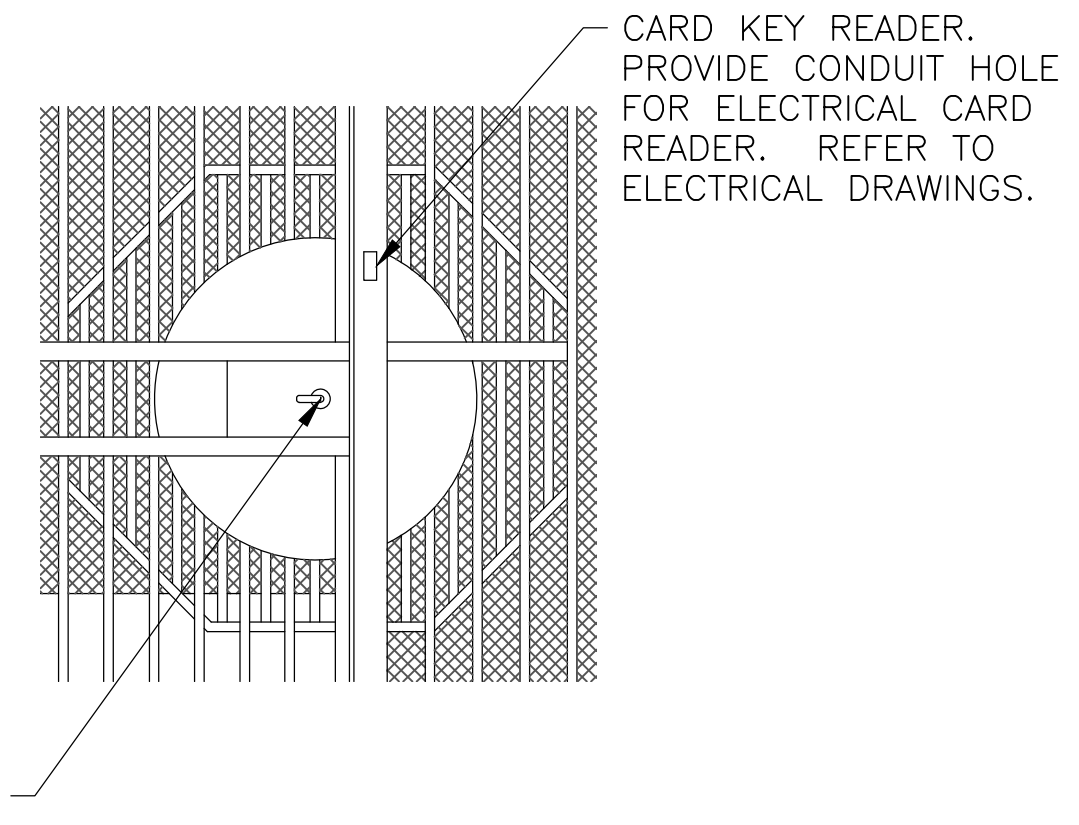
GATE PLAN AT D & E DOCKS
SCALE: 1/4" = 1'-0"



TRELLIS DETAIL
SCALE: 1/2" = 1'-0"



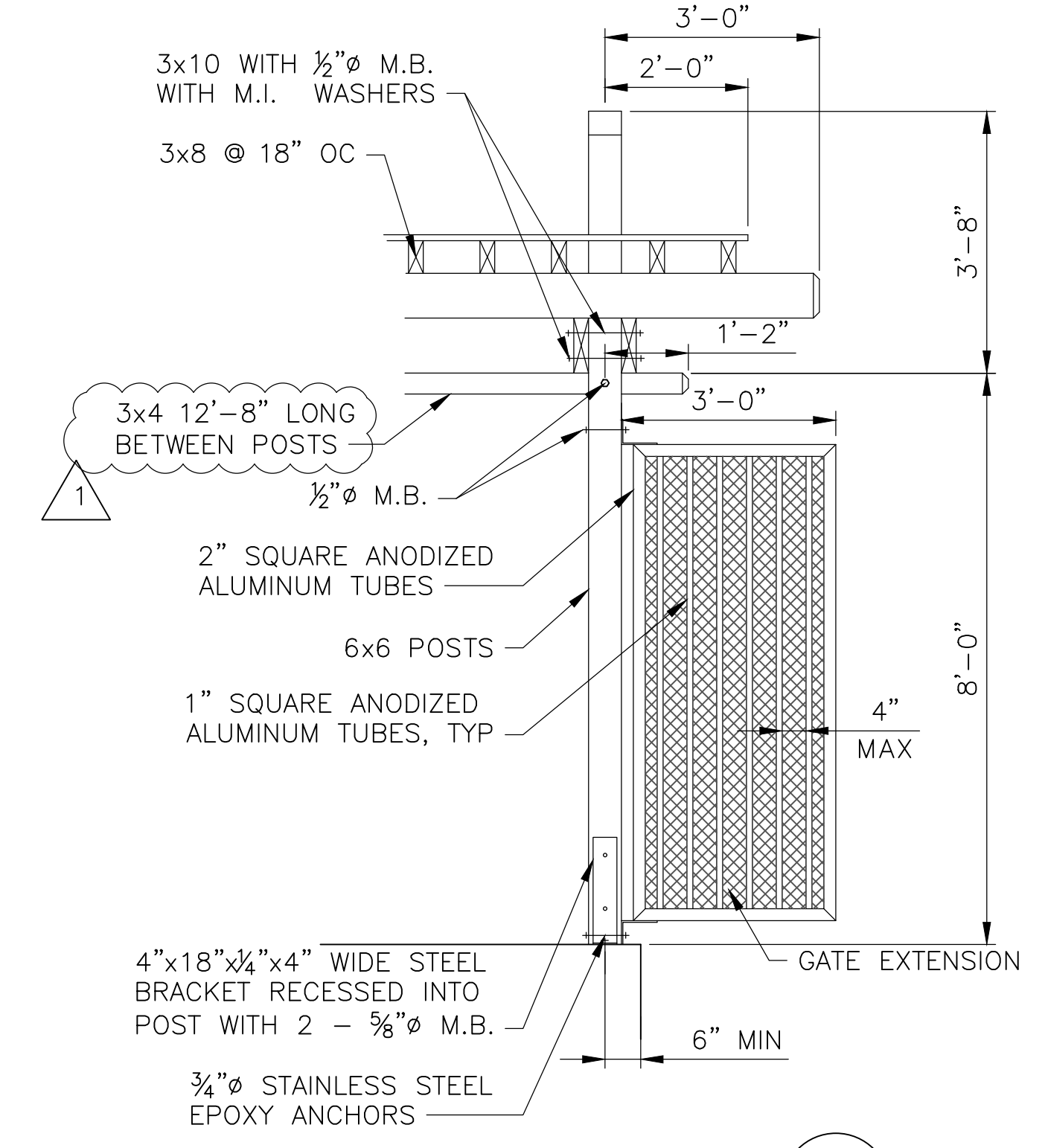
EXIT SIDE
SCALE: 1/2" = 1'-0"



ENTRY SIDE
SCALE: 1" = 1'-0"

- NOTES:**
1. COORDINATE WITH GATE CARD MANUFACTURER TO ALLOW FOR INSTALLATION OF GATE SYSTEM, FURNISHED & INSTALLED BY OTHERS.
 2. ALL WOOD MEMBERS OF TRELLIS TO BE PRESSURE TREATED ROUGH SAWN DOUGLAS FIR.

TRELLIS ELEVATION
SCALE: AS INDICATED



TYPICAL TRELLIS DETAIL
SCALE: 1/2" = 1'-0"

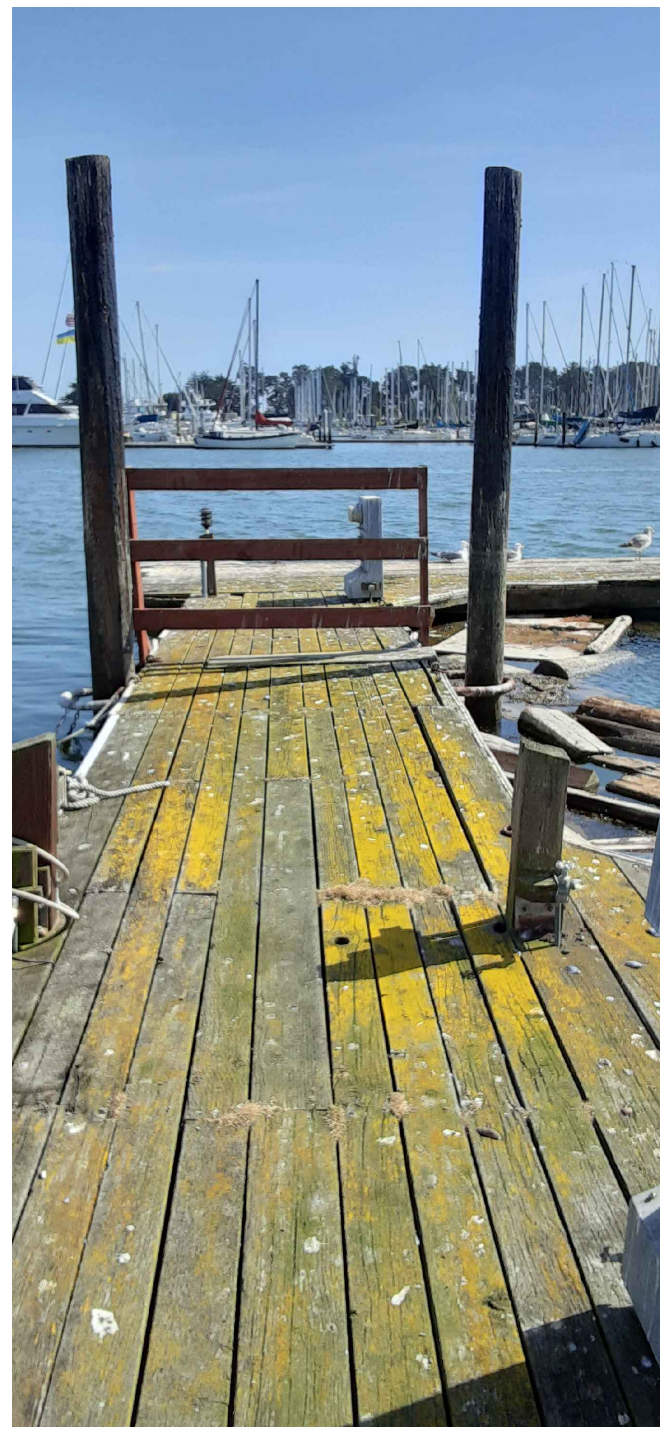
ISSUED FOR BID SUBMITTAL



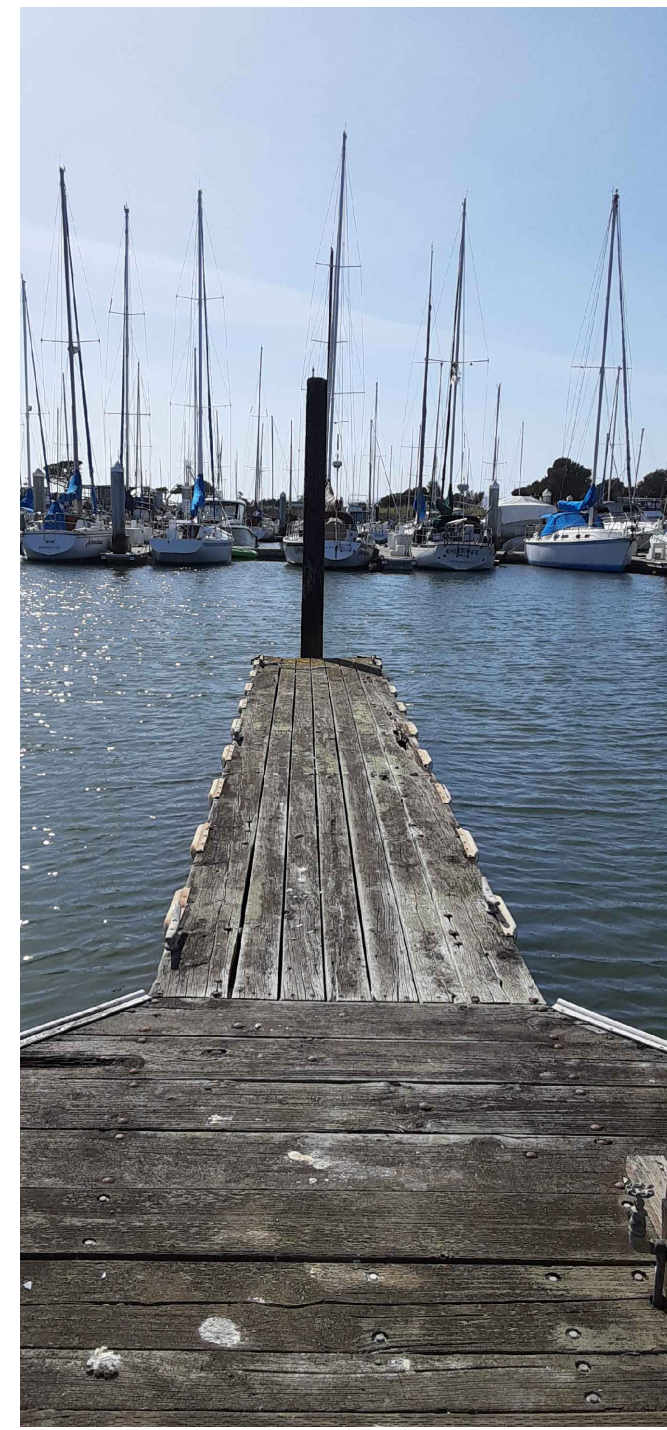
NOTE: FOR GATE EXTENSION, SEE DETAIL 4. RAILING NOT SHOWN FOR CLARITY.

PROJECT MANAGER: _____ DATE _____	DEPICTION OF MONUMENTS: _____ DATE _____	SUBMITTED: _____ DATE _____	DESIGN: <u>JRVS</u> HORIZ. <u>AS SHOWN</u>			BERKELEY MARINA DOCK REPLACEMENT (D-E) CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA GATE DETAILS SHEET 1 OF 2	PLAN _____
SURVEY PARTY CHIEF: _____ DATE _____	WATERSHED REVIEW: _____ DATE _____	SUPERVISING CIVIL ENGINEER: _____ DATE _____	VERT. _____				FILE _____
APPROVED: _____ DATE _____	CITY ENGINEER: _____ DATE _____	CHECK: <u>SYEE</u> AS BUILT _____ DATE <u>8/XX/22</u>	BOOK _____				REVISION _____
			DATE _____				MARK _____

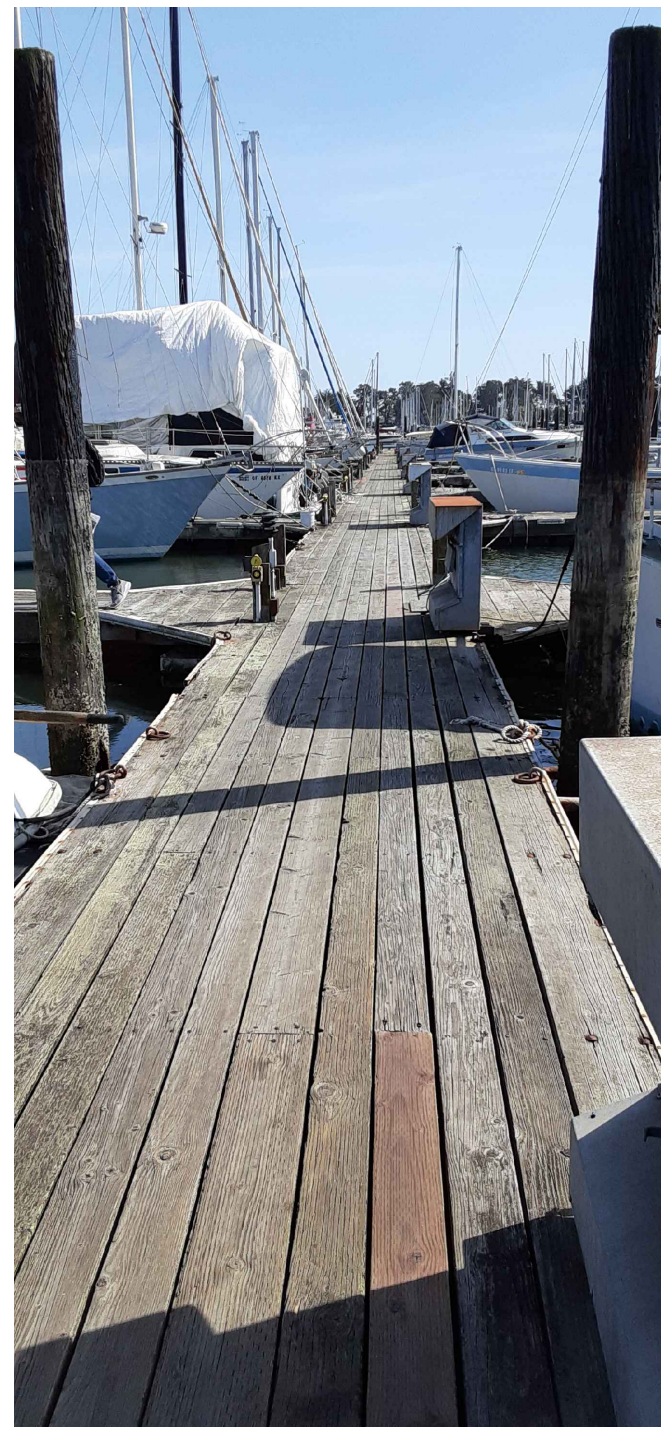
NO.	DATE	DESCRIPTION	APPROVAL
1	02-21-2024	ISSUED FOR BID SUBMITTAL	JMC
0	01-15-2024		JMC



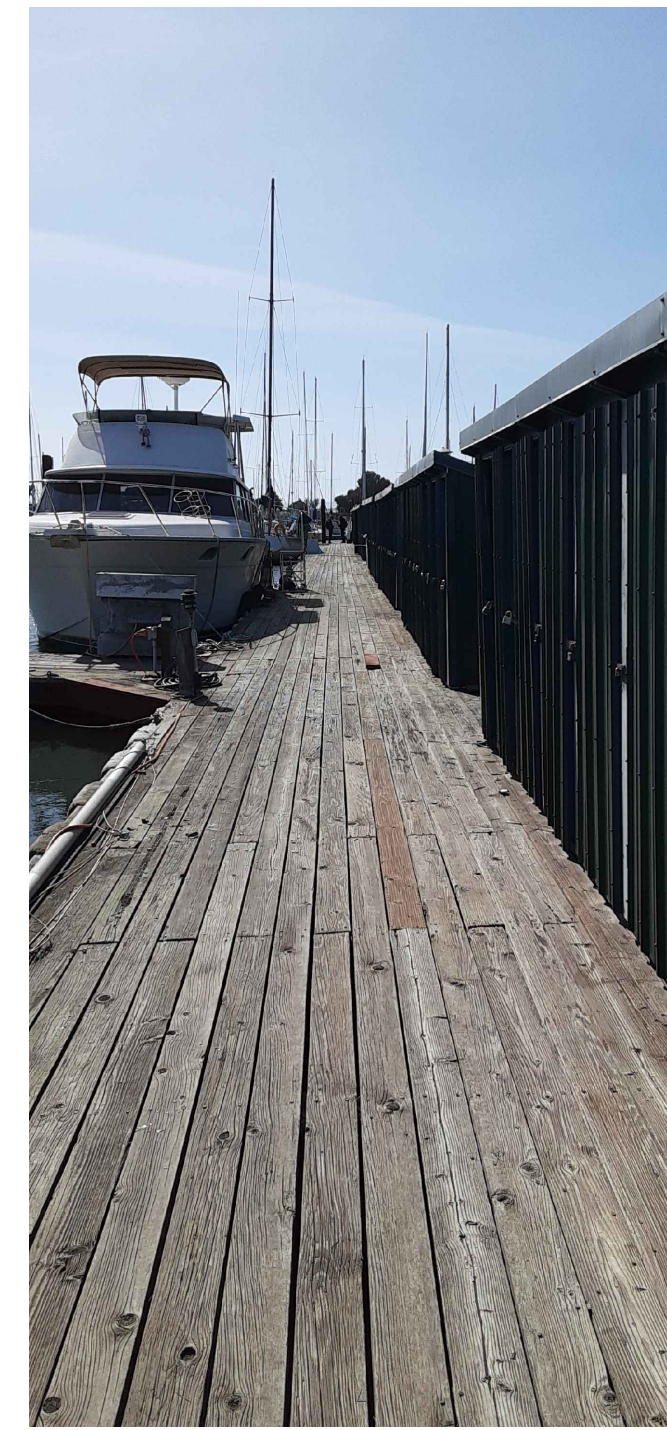
END FLOAT
PHASE 1 DEMOLITION D-100 D-101



TYPICAL FINGER FLOAT
PHASE 1 DEMOLITION D-100 D-101



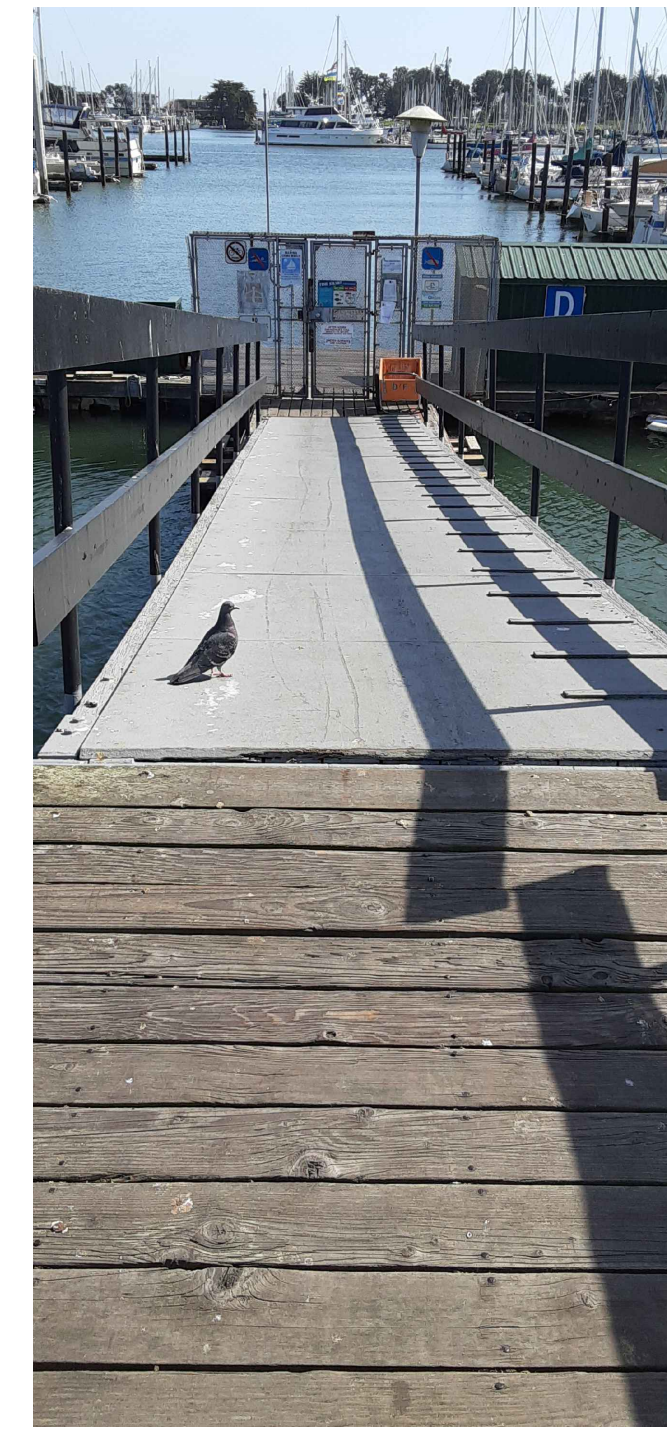
MAIN FLOAT
PHASE 1 DEMOLITION D-100 D-101



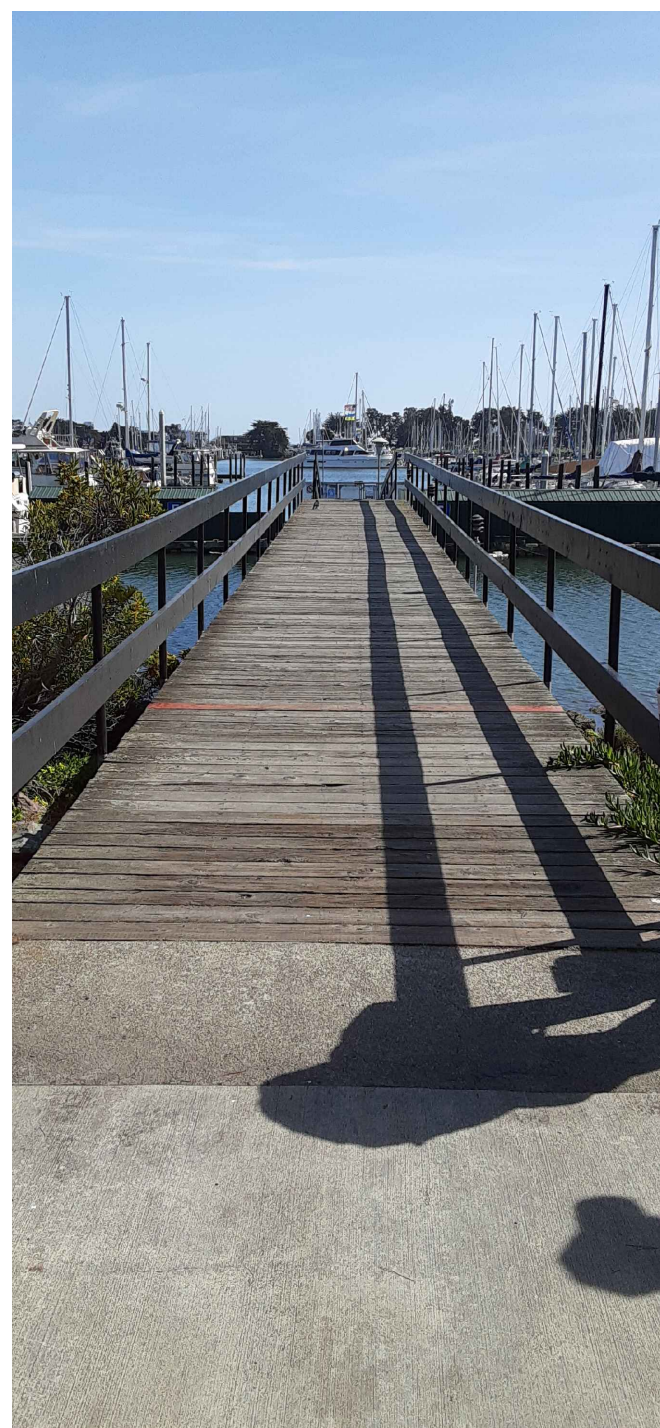
MARGINAL FLOAT
PHASE 1 DEMOLITION D-100 D-101



PILES
PHASE 1 DEMOLITION D-100 D-101



GANGWAY AND GATE
PHASE 1 DEMOLITION D-100 D-101



TIMBER PIER
PHASE 1 DEMOLITION D-100 D-101

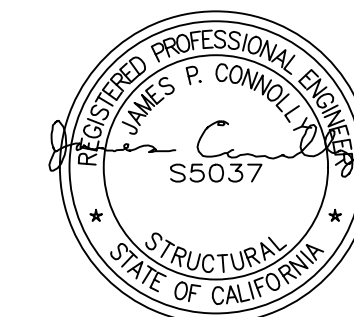


BACKFLOW PREVENTER
PHASE 2 DEMOLITION D-100 D-101



RESTROOM FENCE
PHASE 2 DEMOLITION D-100 D-101

ISSUED FOR BID
SUBMITTAL



PROJECT MANAGER: _____ DATE _____	DEPICTION OF MONUMENTS: _____ DATE _____	SUBMITTED: _____ DATE _____	DESIGN: <u>JRVS</u> HORIZ: <u>NTS</u>
_____	SURVEY PARTY CHIEF: _____ DATE _____	_____	DRAWN: <u>NIF</u> VERT: <u>NTS</u>
_____	WATERSHED REVIEW: _____ DATE _____	SUPERVISING CIVIL ENGINEER: _____	CHECK: <u>SYEE</u> BOOK: _____
0 1 2 3 FOR REDUCED PLANS - ORIGINAL SCALE IS IN INCHES	_____	APPROVED: _____ DATE _____	AS BUILT: _____ DATE: <u>6/3/22</u>
	_____	CITY ENGINEER: _____	



BERKELEY MARINA DOCK REPLACEMENT (D-E)
CITY OF BERKELEY, ALAMEDA COUNTY, CALIFORNIA
DEMOLITION
SHEET 2 OF 2

02-21-2024	01-15-2024	DATE	APPROVAL
ADDENDUM NO. 1	ISSUED FOR BID SUBMITTAL	DESCRIPTION	
1	0	REVISION	
		MARK	
		FILE	D-101
		SHEET	7 OF 52

DOCUMENT 00 0110**TABLE OF CONTENTS**

Division	Section	Title
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INTRODUCTORY INFORMATION

	00 0101	Title Page
	00 0110	Table of Contents
	00 0115	Drawing List

BIDDING REQUIREMENTS

	00 1113	Notice Inviting Bids
	00 2113	Instructions to Bidders
	00 3132	Geotechnical Data and Existing Conditions

BID FORMS AND BID SUBMITTALS

	00 4113	Bid Form
	00 4313	Bond Accompanying Bid
	00 4314	Bidder Registration and Experience Form
	00 4330	Subcontractors List
	00 4513	Statement of Qualifications
	00 4519	Non-Collusion Affidavit
	00 4546	Bidder Certifications

CONTRACT FORMS

	00 5100	Notice of Intent to Award for Construction
	00 5200	Agreement
	00 5500	Notice to Proceed
	00 6113.13	Construction Performance Bond
	00 6113.16	Construction Labor and Material Payment Bond
	00 6290	Escrow Agreement for Security Deposits in Lieu of Retention
	00 6325	Substitution Request Form
	00 6530	Release of Claims
	00 6536	Guaranty
	00 6580	City of Berkeley Contracting Policies

CONDITIONS OF THE CONTRACT

	00 7200	General Conditions
	00 7201	Supplemental General Conditions
	00 7316	Supplementary Conditions – Insurance
	00 7317	Supplementary Conditions – City of Berkeley Contracting Policies
	00 7319	Supplementary Conditions – Health and Safety Requirements; Hazardous Materials
	00 7380	Apprenticeship Program
	00 9113	Addenda

Division	Section	Title
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GENERAL REQUIREMENTS

01 1100	Summary of the Work
01 2000	Measurement and Payment
01 2600	Modification Procedures
01 3119	Project Meetings
01 3230	Progress Schedules and Submittals
01 3300	Submittals
01 4100	Regulatory Requirements
01 4200	References and Definitions
01 4500	Testing and Inspection
01 5200	Temporary Facilities
01 5526	Traffic Control
01 5700	Temporary Controls
01 7329	Cut-Patch
01 7413	Project Cleaning
01 7419	Construction Waste Management
01 7700	Contract Closeout
01 7800	Closeout Submittals

TECHNICAL SPECIFICATIONS

02 2210	Landscape Site Salvage
02 2250	Structural Demolition
03 3000	Cast in Place Concrete
05 5000	Metal Fabrications
05 5013	Aluminum Pipe and Tubes
05 5013.10	Aluminum Gangway
06 1333	Preservative Treated Lumber and Timber
10 1400.10	Exterior Signage
12 9300	Site Furnishings
21 0000	Fire Protection Cabinets
21 0529	Hangers and Supports for Fire-Suppression Piping
21 1100	Facility Fire-Suppression Water Service Piping
21 1119	Fire Department Connections
21 1200	Fire-Suppression Standpipes
21 2300.20	Excavation and Fill
31 6213.20	Precast Prestressed Concrete Piles
32 1216.16	Road Mix Asphalt Concrete Pavement
35 3119.13	Rock Slope Protection – Rip Rap
35 5113.20	Concrete Floating Dock System
21 0000	Fire Protection Cabinets
21 0529	Hangers and Supports for Fire Suppression Piping
21 1100	Facility Fire-Suppression Water-Service Piping
21 1200	Fire-Suppression Standpipes
21 1213	Fire-Suppression Hoses and Nozzles
22 0516	Expansion Fittings for Piping
22 0523.12	Ball Valves for Plumbing and Piping
22 0529	Hangers and Supports for Plumbing Piping
22 1116	Domestic Water Piping
26 0519	Low-Voltage Electrical Power Conductors and Cables
26 0526	Grounding and Bonding for Electrical Systems
26 0529	Hangers and Supports for Electrical Systems

26 0533	Raceways and Boxes for Electrical Systems
26 0543	Underground Ducts and Raceways for Electrical Systems
26 0553	Identification for Electrical Systems
26 2413	Switchboards
26 2416	Panel Boards
26 2600	Power Center Substation
26 2726	Wiring Devices
31 0000	Site Clearing
31 2300.20	Excavation and Fill
31 2319	Dewatering
31 6213.20	Prestressed Concrete Guide Piles
32 1216.16	Road Mix Asphalt Pavement
33 1116	Water Utilities Piping and Appurtenances
33 1300	Pressure Piping Systems Testing
35 3119.13	Rock Slope Protection – Rip Rap
35 5113.20	Concrete Floating Dock System

APPENDICES

A	Community Workforce Agreement
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END OF DOCUMENT

- C. Welded Connections: Cope components at connections to provide close fit, or use fittings designed for this purpose. Weld all around at connections, including at fittings.
 - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 - 2. Obtain fusion without undercut or overlap.
 - 3. Remove flux immediately.
 - 4. At exposed connections, finish exposed surfaces smooth and blended so no roughness shows after finishing and welded surface matches contours of adjoining surfaces.
- D. Welded Connections for Aluminum Pipe: Fabricate railings to interconnect members with concealed internal welds that eliminate surface grinding, using manufacturer's standard system of sleeve and socket fittings.
- E. Nonwelded Connections: Connect members with concealed mechanical fasteners and fittings. Fabricate members and fittings to produce flush, smooth, rigid, hairline joints.
- F. Form changes in direction by inserting prefabricated elbow fittings.
- G. Bend members in jigs to produce uniform curvature without buckling or otherwise deforming exposed surfaces.
- H. Close exposed ends of railing members with prefabricated end fittings.
- I. Provide wall returns at ends of wall-mounted handrails unless otherwise indicated.
- J. Brackets, Flanges, Fittings, and Anchors: Provide wall brackets, flanges, miscellaneous fittings, and anchors to interconnect railing members to other work unless otherwise indicated.
 - 1. At brackets and fittings fastened to plaster or gypsum board partitions, provide crush-resistant fillers to transfer loads through wall finishes.

2.05 ALUMINUM FINISHES

- A. Pipes and tubing to be ionized. ~~Baked Enamel or Powder Coat Finish:—
AAMA 2603 except with a minimum dry film thickness of 1.5 mils. Comply
with coating manufacturer's written instructions for cleaning, conversion coating,
and applying and baking finish.~~
 - 1. ~~Color and Gloss: As selected by City.~~

Furnish a hammer capable of driving piles to indicated tip elevation considering hammer impact velocity; ram weight; stiffness of hammer and pile cushions; cross section, length, and total weight of pile; and character of subsurface material to be encountered.

B. Driving Helmets and Cushion Blocks:

Hammer Cushion or Capblock: Use a steel driving helmet or cap including a pile cushion between top of pile and driving helmet or cap to prevent impact damage to pile. Use a driving helmet or cap and pile cushion combination capable of protecting pile head, minimizing energy absorption and dissipation, and transmitting hammer energy uniformly over top of pile. Use pile cushion of solid wood or of laminated construction using plywood, softwood or hardwood boards with grain parallel to end of pile. Provide pile cushion with thickness of 6 inches minimum and 12 inches maximum. Replace pile cushion for each new pile, or when it becomes highly compressed, charred or burned, or has become spongy or deteriorated in any manner.

3.02 DRIVING PILES

A. Driving Piles:

Drive piles to the indicated elevation. If a pile fails to reach indicated elevation, notify the Engineer and perform corrective measures as directed.

During driving operations, the trowel finished face of each pile shall be turned away from main and marginal walkways for the least visibility to provide the best overall uniform pile appearance. **Sound-attenuating measures for use during impact hammer pile driving include the use of a soft-start (or 'ramp-up') technique at the start of the day or after greater than 30 minute breaks.**

B. Protection of Piles:

Take care to avoid damage to piles during handling, placing pile in leads, and during pile driving operations. Support piles laterally during driving. Maintain axial alignment of pile hammer with that of the pile. Square pile rotational axis to the axis of the main walkway or the finger float.

C. Tolerances in Driving:

The dock system itself may be used as pile location guide during stabbing and driving.

Piles shall be driven to within 2 inches of the required horizontal and vertical location shown on the plans. Pile shall be driven with a variation of not more than 1.0 percent from vertical and not more than 5° rotation of square. Maintain and check axial alignment and rotational alignment of pile at all times. If subsurface conditions cause pile drifting or rotation beyond allowable alignment tolerance, notify the City Representative and perform corrective measures. The City

- f. Perform strength tests:
- Two (2) cylinders of each set twenty-eight (28) days after molding the cylinders.
 - Test one cylinder of each set at time of removal of floats from forms.
 - Test one (1) at time of delivery if delivery is less than 28 days from fabrication.
 - Hold two (2) cylinders as spares.
3. Changes in Proportions: If, after evaluation of strength test results, the compressive strength falls below the specified compressive strength, make adjustments in the proportions and water content and changes in the temperature, moisture and curing procedures as necessary to secure the specified strength. Submit all changes to the City Representative in writing.
4. Strength Test Results:
Evaluate compression test results at twenty-eight (28) days in accordance with ACI 214.
5. Reinforcing: Where certified mill test reports (required above under "Submittals") are not furnished or available, or where positive identification of strands or bars cannot be made, the City Representative may require the Contractor to submit samples to an approved testing laboratory for testing at the Contractor's expense.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Cement: Portland cement shall conform to specification: ASTM C-150 Type II modified, low alkaline; or ASTM C-94, Type II-V modified, low alkali.
- B. Water: Water for mixing and curing, including the moisture and water in the aggregate, shall be fresh, clean potable or recycled.
- C. Aggregate:
1. Standard weight aggregate shall conform to specification ASTM C-33.
 2. Lightweight aggregate shall conform to specification ASTM C-330 for aggregates prepared by expanding products. Lightweight aggregate shall consist of expanded and coated shale or equivalent material of sufficient strength and durability to provide concrete of the required strength and conform to ASTM C-330. Naturally expanded lightweight aggregates are unacceptable.
- D. Reinforcement:

friction to steel of 0.20 per ASTM D-1894, and UV stability for use in direct sunlight. Block and strips shall be secured with Type 316 stainless or galvanized steel fasteners. Fasteners shall be counter bored to allow flush contact without damage to piles or floats.

2.05 DOCK CLEATS

- A. Dock cleats shall be gray cast iron, hot-dipped galvanized, open base heavy duty cleats (model number as noted on drawings) as supplied by Henderson Marine Supply, or approved equal. Bolt heads shall be recessed into cleats; use hot-dipped galvanized bolts. Cleat sizes shall be as follows:

10" – Slips upto 40' in length
12" – Slips 41' to 60' in length

2.06 DOCK BUMPERS

- A. Dock bumpers shall be #302 as supplied by Henderson Marine Supply or approved equal. All outside corners shall be protected with #03-06A corner bumpers or approved equal, attachment to be with large head stainless steel or aluminum nails, 4-inch on center in the vertical surface and 4" on center in the horizontal surface.

2.07 FILLER PANELS

- A. Filler panels for triangles finger connections and pile assemblies shall not be constructed using plywood. The designer shall identify a material applicable for the application with sufficient strength and aesthetic value. Cut openings in filler panels to accommodate pile penetrations shall not be over cut more that one (1) and 1/8 inch in any direction around the pile. Filler panels will be flush with the concrete deck surface and structurally supported in all directions.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Installation shall be as shown on the Project Drawings with bolts and other connections tightened as required after complete installation of each unit of the work in the water and before final inspection.
- B. ~~The dock system uses walers that are not considered structural. The lumber shall have a maximum 1/4-inch gap between adjacent pieces. The length of each waler shall be as long as possible but at no time will walers be secured to the floats with less than two (2) bolts. Minimum bolt size shall be 5/8" diameter. NOT USED~~
- C. Top of walers and trim lumber adjacent to the floats shall all be flush with the finished concrete deck surface.

load of all equipment and adjacent live load.

The floatation calculations for floats with imposed loads such as gangways, power centers, pile assemblies and special applications shall include the imposed loads as part of the floatation calculation.

The freeboard under these imposed loads shall meet the requirements for transverse and longitudinal slopes set forth in the TOLERANCE section 3.04 below.

- B. Uniform freeboard under dead load shall be 18" +/- ~~not be less than sixteen inches (16") or exceed eighteen inches (18")~~.

The floatation units shall be capable of supporting a 400-pound concentrated load at any location while maintaining the deck surface slope requirements, set forth in Section 3.04 B below.

- C. The floatation units shall be capable of withstanding anticipated current (C) loads of 2.0 feet per second, impact loads from a 60 ton vessel impacting at 1.0 feet/sec approach velocity (kinetic energy loading of a 1/3 stress increase is allowed since the force is transient), a 1.0 foot wave (W) (Operating condition, 1/3 stress increase) and a 2.0 foot wave (W) (Extreme condition, 1/3 increase allowed. **Vessel impact shall be noted at an approach of 15 degrees.**

- D. Load Combination shall be as following:

LRFD

1.2C + 1.6W

1.2C + 1.2W + 1.6 Wa (operational)

1.2C + 1.2W + 1.2 Wa (extreme)

ASD

1.0C + 1.0W (Allowable Overstress 1.0)

1.0C + 1.0W + 1.0 Wa (operational) (Allowable Overstress 1.0)

1.0C + 1.0W + 1.0 Wa (extreme) (Allowable Overstress 1.33)

- E. Lateral Load shall be applied at +7.5 MLLW.

- F. Dead loads shall consist of the floats, framing, decking connections, and all permanently attached equipment.

The weight of lumber for dead load calculations shall be assumed at not less than forty (40) pounds per cubic foot or the actual lumber weight, whichever is greater.

- G. Wind (W) loads for the finger floats shall be a uniformly distributed load of fifteen (15) pounds per square foot acting on the above water profile of potential berthed craft.

The profile area shall be determined by using the length and an average profile