

Jim HurstRichard ShoemakerDan PlattGrant DownieDomenick WeaverAnna NeumannChairVice ChairCommissionerCommissionerHarbormaster

Noyo Harbor Commission Special Meeting Agenda Wednesday 26t^h 2025 6pm Salmon Trollers Marketing Association Hall

19292 Coast Rd, Fort Bragg, CA

Call to Order

Roll Call

Pledge of Allegiance

Public Comment on Non-Agenda Items

The Noyo Harbor Commission welcomes input from the public. Please limit your comments to five minutes so that everyone may be heard. The Brown Act does not allow action to be taken on non-agenda items.

Consent Calendar

Conduct of Business

1. Discussion and possible action Icehouse Notice Inviting Bids

Staff Reports and Recommendations

Matters from the Commissioners

Attorney Report

Adjournment to the next regular meeting



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NOYO HARBOR DISTRICT AGENDA ITEM SUMMARY

AGENDA ITEM #: 1

MEETING DATE: 3/26/2025

TITLE

Notice Inviting Bids Icehouse

RECOMMENDED ACTION

Approval or recommendations

ANALYSIS

Attached is the notice inviting bids for the construction of the icehouse project.

The following budget with expenses as of February 2025.

		Cumulative	Available
Cost Categories	Approved Budget	Expenditures	Balance
Staff Salaries	23,000.00	16,937.89	6,062.11
Staff Benefits	4,000.00	2,138.47	1,861.53
Staff Travel	5,000.00	4,972.94	27.06
Operating Expenses	10,800.00	815.15	9,984.85
Research		0.00	0.00
Data, Planning,			
Communication Tools		0.00	0.00
Direct Program Costs		0.00	0.00
Participant Services:			
Training Costs and			
Supportive Services		0.00	0.00
Furniture & Equipment		0.00	0.00
Small Purchase		0.00	0.00
Large Purchase	1,855,000.00	1,302,188.20	552,811.80
Equipment Lease		0.00	0.00
Contractual Services	1,210,439.00	248,605.17	961,833.83
Indirect Costs	81,528.00	49,474.90	32,053.10
Other Program Cost	14,105.00	4,398.44	9,706.56
Total Expenditures	3,203,872.00	1,629,531.16	1,574,340.84
		Construction Cost	\$981,000.00
		Remainder	<mark>\$593,340.84</mark>

The construction estimates is as follows:

Estimates on Construction-		
Remaining		
Electrical Engineer	\$50,000.00	
Electrical Equipment	\$22,000.00	
PGE	\$35,000.00	
CM 10%	\$70,000.00	
Construction	\$774,000.00	
Movers	\$20,000.00	
Insurance for	\$10,000.00	
Movers		
total	\$981,000.00	

The construction estimate allows for 15% contingency to cover any unknow costs that might be incurred as the project progresses.

Given a construction budget of \$981,000.00 the Harbor District as an additional \$593,340.84 remaining on the project. These funds would cover the West Centers work or any additional items to insure icehouse success.

ATTACHMENTS

Notice Inviting Bids

Contract Documents

For

Noyo Harbor District Ice House Project

Noyo Harbor District Fort Bragg, Mendocino County, California

(Bidding Requirements, General Conditions, Special Provisions and Construction Agreement)

EDD CERF PROGRAM M94103-7100

Bid Opening Date: April 25, 2025, at 2:00 p.m.

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Introductory Notice to Bidders:

1. Questions Concerning Bid Items:

Questions concerning interpretation of the General Conditions and Contract Documents, and bid items shall be directed to:

Natalie McLaughlin Project Analyst, SHN Consulting (530) 513-3910 nmclaughlin@shn-engr.com

Office hours: Monday through Friday, 8:00 a.m. to 5:00 p.m.

2. **Project Contacts**

Owner:

Noyo Harbor District Anna Neumann, Harbormaster 19101 S. Harbor Drive Fort Bragg, CA 95437 (707) 964-4719 noyohd@yahoo.com Noyo Harbor District

Construction Manager:

SHN Engineers & Geologists Jason Island, Construction Manager 335 S. Main Street Willits, CA 95490 (707) 459-4518 This Page Left Intentionally Blank.

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Notice Inviting Bids

Noyo Harbor District Ice House Project

- 1. Notice is hereby given that sealed Bids will be received by the Noyo Harbor District (District) located at 19101 S. Harbor Drive, Fort Bragg, California 95437, until 2:00 p.m., on Friday, May 2, 2025, for the Ice House Project. Any Bids received after the specified time and date will not be considered.
- 2. Opening of Bids: The Bids will be publicly opened and read at 2:00 p.m., on May 2, 2025, at the above-mentioned office of the District. The District reserves the right to postpone the date and time for opening of Bids at any time prior to the aforesaid date and time.
- 3. Description of Work: The performance of all the work and the furnishing of all the labor, supplies, tools, materials, and equipment to install the North Star Ice Equipment, demolish existing infrastructure, construct foundation, access decking and stairs, electrical, project piping, connections to utilities including water, sewer, and stormwater.
- 4. Project Costs: Engineer's opinion of probable cost to perform this work is \$774,200.
- 5. Site of Work: The work site covered under this contract is within the Noyo Harbor District. The Ice House Project is located at 19101 S. Harbor Drive, Fort Bragg, California 95437.
- 6. Permits: The District will obtain all required permits for the Work. Permit Condition are included in the Project Bid Documents.
- Obtaining Contract Documents and Project Bid Documents: The Contract Documents and Project Bid Documents are entitled Noyo Harbor Ice House Project. An electronic copy of the Contract Documents and Project Bid Documents may be obtained by contacting the Noyo Harbor District by contacting Anna Neumann, Harbormaster, by email harbormaster@noyoharbordistrict.org or by calling (707) 964-4791.
- 8. Bid Security: Each Bid shall be accompanied by a certified or cashier's check or Bid Bond executed by an admitted surety in the amount of 10 percent of the Total Bid Price payable to the Noyo Harbor District as a guarantee that the Bidder, if its Bid is accepted, will promptly execute the Agreement. A Bid shall not be considered unless one of the forms of Bidders security is enclosed with it. Upon acceptance of the Bid, if the Bidder refuses to or fails to promptly execute the Agreement, the Bidders security shall be forfeited to the District.
- 9. Contractor's License Classification: In accordance with the provisions of California Public Contract Code Section 3300, the District has determined that the Contractor shall possess a valid Class A license at the time that the Contract is awarded. Failure to possess the specified license shall render the Bid as non-responsive and shall act as a bar to award of the Contract to any bidder not possessing said license at the time of award.
- 10. Rejection of Proposals: The District reserves the right to reject all or any part of all bids submitted, waive informalities and irregularities, and will not, to the extent allowed by law, be bound to accept the lowest, responsive, responsible bid.

- 11. Bids To Remain Open: The Bidder shall guarantee the total bid price for a period of 90 calendar days from the date of bid opening.
- 12. Pursuant to California Labor Code Section 1771.1, this Project is subject to compliance monitoring and enforcement by the Department of Industrial Relations (DIR). A Contractor may not bid, nor be listed as a subcontractor for any bid proposal submitted for public work without first registering with the DIR and paying the annual fee. Application and renewal are completed online at http://www.dir.ca.gov/Public-Works/PublicWorks.html. No contractor or subcontractor may be awarded a contract for public work on a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5. If you are not registered and are offered the contract for construction will need to register with DIR prior to the District executing the construction contract.
- 13. California Wage Rate Requirements: In accordance with the provisions of California Labor Code Sections 1771, 1773, and 1774 as amended, the Director of the Department of Industrial Relations has determined the general prevailing rate of per diem wages in accordance with the standards set forth in Section 1773 for the locality in which the Work is to be performed. It shall be mandatory upon the Contractor to whom the Work is awarded and upon any subcontractor under the Contractor to pay not less than said specified rates to all workers employed by them in the execution of the Work (Section 1774).
- 14. Project Funding: The Ice House Project is funded by the State of California Economic Development Department through the Community Economic Resilience Fund Program (CERF).
- 15. Pre-Bid Conference: A non-mandatory pre-bid conference is scheduled for Friday, April 18, 2025, at 10 a.m., at the project site, 19101 S. Harbor Drive, in Fort Bragg.
- 16. Project Administration: All communications, including project and bid related questions, relative to this Work shall be directed to Natalie McLaughlin at nmclaughlin@shn-engr.com prior to close of business, Wednesday, April 23, 2025.

Name: Address:	Harbor Master, Project Manager 19101 S. Harbor Drive Fort Bragg, CA 95437 Telephone: (707) 964-4719 Email: <u>noyohd@yahoo.com</u>
District:	Noyo Harbor District
By:	Anna Neumann, Harbor Master
Date:	March 28,2025

End of Notice Inviting Bids

Noyo Harbor Ice House Project

Instructions to Vol. Bidders I

1. Defined Terms

Terms used in these Instructions to Bidders and the Notice Inviting Bids which are defined in the General Conditions have the meanings assigned to them in the General Conditions. The term "Bidder" means one who submits a Bid directly to District, as distinct from a sub-bidder, who submits a price or quote to a Bidder.

2. Local Business License

All Contractors, including subcontractors, not already having a local business license for the work contemplated, will be required to secure the appropriate license before a Contract can be executed.

- 3. Interpretations and Addenda
 - 3.1. All questions about the meaning or intent of the Contract Documents are to be directed to the Engineer. Additions, deletions, or revisions to the Contract Documents considered necessary by the Engineer in response to such questions will be issued by Addenda mailed or delivered to all parties recorded by the Engineer as having received the Contract Documents. Questions received less than 10 days prior to the date of Bid opening may not be answered. Only answers to such questions issued by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.
 - 3.2. Addenda may also be issued to make other additions, deletions, or revisions to the Contract Documents.
 - 3.3. Bidders shall make no special interpretation or inference of intent from differing formats in the Contract Documents.
- 4. Bidder's Examination of Contract Documents and Site
 - 4.1. It is the responsibility of each Bidder before submitting a Bid:
 - a. To examine thoroughly the Contract Documents and other related data identified in the Bidding Documents (including "technical" data referred to below);
 - b. To visit the site to become familiar with local conditions that may affect cost, progress, or performance of the Work;
 - c. To consider federal, state, and local Laws and Regulations that may affect cost, progress, or performance of the Work;
 - d. To study and carefully correlate the Bidder's observations with the Contract Documents; and
 - e. To notify the Engineer of all conflicts, errors, ambiguities, or discrepancies in or between the Contract Documents and such other related data.
 - 4.2. The Contractor is required to have all local, state, and federal licenses, certifications, and permits required to fulfill each aspect of work under this agreement. NHD will not provide any licenses, permits, or certifications. All required licenses, permits, and certifications must be valid and active for the duration of the work required under this Work.

- 4.3. Information and data reflected in the Contract Documents with respect to Underground Utilities at or contiguous to the site are based upon information and data furnished to the Engineer by the owners of such Underground Utilities or others, and the District does not assume responsibility for the accuracy or completeness.
- 4.4. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders on subsurface conditions, Underground Utilities, and other physical conditions, and possible changes in the Contract Documents due to differing conditions appear in Paragraphs 4.2, 4.3, and 4.4 of the General Conditions.
- 4.5. Before submitting a Bid, each Bidder will, at Bidder's own expense, make or obtain any additional examinations, investigations, explorations, tests, and studies and obtain any additional information and data which pertain to the physical conditions (surface, subsurface, and underground utilities) at or contiguous to the site or otherwise that may affect cost, progress, or performance of the Work and that the Bidder deems necessary to determine its Bid for performing the Work in accordance with the time, price, and other terms and conditions of the Contract Documents.
- 4.6. On request a minimum of 2 working days in advance, the Engineer will provide each Bidder access to the site to conduct such examinations, investigations, explorations, tests, and studies as each Bidder deems necessary for submission of a Bid. Location of any excavation or boring shall be subject to prior approval of Engineer and applicable agencies. Bidder shall fill all holes, restore all pavement to match existing structural section, and shall clean up and restore the site to its former condition upon completion of such explorations. Engineer reserves the right to require Bidder to execute an Access Agreement with the District prior to accessing the site.
- 4.7. The lands upon which the Work is to be performed, rights-of-way, and easements for access thereto and other lands designated for use by the Contractor in performing the Work are identified in the Contract Documents. All additional lands and access thereto required for temporary construction facilities or storage of materials and equipment are to be provided by the Contractor. Easements for permanent structures or permanent changes in existing structures are to be obtained and paid for by the District unless otherwise provided in the Contract Documents.
- 4.8. The submission of a Bid will constitute an incontrovertible representation by the Bidder that the Bidder has complied with every requirement of this Paragraph 4 and the following:
 - a. That the Bid is premised upon performing the Work required by the Contract Documents without exception and such means, methods, techniques, sequences, or procedures of construction (if any) as may be required by the Contract Documents;
 - b. That Bidder has given the Engineer written notice of all conflicts, errors, ambiguities, and discrepancies in the Contract Documents and the written resolution thereof by the Engineer is acceptable to the Bidder; and
 - c. That the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance of the Work.

5. Bid Forms

The Bid shall be submitted on the Bid Forms provided by the District. All blanks on the Bid Forms shall be completed in ink. All names must be printed below the signatures. The Bid shall be submitted in a sealed envelope which shall be plainly marked in the upper left hand corner with the name and address of the Bidder and shall bear the words "BID FORM" followed by the title of the Contract Documents for the Work, the name of the District, the address where Bids are to be delivered or mailed to, and the date and hour of opening of Bids.

- 5.1. Bid Supporting Documentation. Bidders shall provide in a separate, sealed envelope at the time of submittal of the Bid, all bid supporting documentation setting forth the underlying assumptions made by the Bidder in submitting its Bid.
- 5.2. The Bid must set forth the name and location of the place of business of each subcontractor who will perform work or labor or render service to the prime contractor in or about the construction of the Work, or a subcontractor licensed by the State of California who, under subcontract to the prime contractor, specially fabricates and installs a portion of the Work. According to detailed description of work, in an amount in excess of one-half of one percent (0.5%) of the prime Contractor's total bid or, in the case of bids or offers for the construction of streets and highways, including bridges, in excess of one-half of one percent (0.5%) of the prime contractor's total bid or Ten Thousand dollars (\$10,000), whichever is greater.

6. Certificates

- 6.1 Bids by corporations must be executed in the corporate name by the president, a vice president, or other corporate officer. Such Bid shall be accompanied by the enclosed Certificate of Authority to sign, attested by the secretary or assistant secretary, and with the corporate seal affixed. The corporate address and state of incorporation must appear below the signature.
- 6.2 Bids by partnerships must be executed in the partnership name and be signed by a managing partner, accompanied by the enclosed Certificate of Authority to sign, and his/her title must appear under the signature and the official address of the partnership must appear below the signature.
- 6.3 Bids by joint venture must be executed in the joint venture name and be signed by a joint venture managing partner, accompanied by the enclosed Certificate of Authority to sign, and his/her title must appear under the signature and the official address of the joint venture must appear below the signature.

7. Disqualification of Bidders

More than one Bid from an individual, firm, partnership, corporation, or association under the same or different names will not be considered. If the District believes that any Bidder is interested in more than one Bid for the Work contemplated, all Bids in which such Bidder is interested will be rejected. If the District believes that collusion exists among the Bidders, all Bids will be rejected. A party who has quoted prices to a bidder is not hereby disqualified from quoting prices to other Bidders, or from submitting a Bid directly for the Work.

8. Quantities of Work

The quantities of work or material stated in unit price items of the Bid are supplied only to give an indication of the general scope of the Work. The Owner does not expressly or by implication agree that the actual amount of work or material will correspond therewith, and reserves the right after award to increase or decrease the quantity of any unit price item of the Work by an amount up to and including 25 percent of any Bid item in its entirety, or to add additional Bid items up to and including an aggregate total amount not to exceed 25 percent of the Bid price.

9. Substitute Or "Or Equal" Items

Whenever materials or equipment are specified or described in the Contract Documents by using the name of a particular manufacturer and the name is followed by the words "or equal", the Bidder may write the name of a substitute manufacturer (which the Bidder considers as an "or equal") in the List of Proposed Substitutions in the Bid Forms. The Engineer will make a determination of approval or rejection of the proposed substitution prior to award of the Contract. No request for substitution of an "or equal" item will be considered by the Engineer after award of the Contract. The procedure for the submittal of substitute or "or equal" products is contained in the Bid Forms. The Bidder shall not be relieved of any obligations of the Contract Documents or be entitled to an adjustment in the Contract Price in the event any proposed substitution is not approved.

10. Competency of Bidders

In selecting the lowest responsive, responsible Bidder, consideration will be given not only to the financial standing but also to the general competency of the Bidder for the performance of the Work covered by the Bid. To this end, each Bid shall be supported by a statement of the Bidder's experience as of recent date including: (a) all projects worked on by the Bidder over the past three (3) years including the contract amount for each project; (b) all complaints made against the Contractor's license in the past ten (10) years; and (c) all claims and lawsuits presented or filed in the last five (5) years, regardless of the form, regarding any public works project.

11. Submission of Bids

The Bid shall be delivered by the time and to the place stipulated in the Notice Inviting Bids. It is the Bidder's sole responsibility to see that its Bid is received in proper time and at the proper place.

12. Bid Security, Bonds, and Insurance

Each Bid shall be accompanied by a certified or cashier's check or approved Bid Bond in the amount stated in the "Invitation to Bid." Said check or bond shall be made payable to the District and shall be given as a guarantee that the Bidder, if awarded the Work, will enter into an Agreement with the District and will furnish the necessary insurance certificates, Payment Bond, and Performance Bond. In case of refusal or failure to enter into said Agreement, the check or Bid Bond, as the case may be, shall be forfeited to the District. If the Bidder elects to furnish a Bid Bond as its Bid security, the Bidder shall use the Bid Bond form bound herein. Bid Bonds shall comply with the requirements applicable to payment and performance bonds in the General Conditions.

12.1 Bidding Capacity. Each Bid shall be accompanied by a list of the projects currently being worked on by Bidder, their size, contract price, scheduled completion date, location, and owner.

13. Discrepancies In Bids

In the event there is more than one Bid item in a Bid Schedule, the Bidder shall furnish a price for all Bid Items in the Schedule, and failure to do so will render the Bid non-responsive and shall cause its rejection. In the event there are unit price Bid items in a Bidding schedule and the amount indicated for a unit price Bid item does not equal the product of the unit price and quantity, the unit price shall govern and the amount will be corrected accordingly, and the Bidder shall be bound by said correction. In the event there is more than one Bid item in a Bid Schedule and the total indicated for the Schedule does not agree with the sum of the prices Bid on the individual items, the prices Bid on the individual items shall govern and the total for the Schedule will be corrected accordingly, and the Bidder shall be bound by said the Bidder shall be bound by said correction.

14. Modifications and Unauthorized Alternative Bids

Unauthorized conditions, limitations, or provisions attached to the Bid shall render it informal and may cause its rejection as being non-responsive. The Bid forms shall be completed without interlineations, alterations, or erasures in the printed text. Alternative Bids will not be considered unless called for. Oral, electronic, or telephonic Bids or modifications will not be considered.

15. Withdrawal of Bid

The Bid may be withdrawn by the Bidder by means of a written request, signed by the Bidder or its properly authorized representative. Such written request must be delivered to the place stipulated in the Notice Inviting Bids for receipt of Bids prior to the scheduled closing time for receipt of Bids.

16. Bid Protest

Any Bid protest must be submitted in writing to the Harbormaster before 5:00 p.m. on the fifth (5th) working day following Bid opening.

- a. The initial protest document must contain a complete statement of the basis for the protest, and all supporting documentation.
- b. The party filing the protest must have actually submitted a Bid for the Work. A subcontractor of a party submitting a Bid for the Work may not submit a Bid protest. A party may not rely on the Bid protest submitted by another Bidder, but must timely pursue its own protest.
- c. The protest must refer to the specific portion of the bid document which forms the basis for the protest.
- d. The protest must include the name, address and telephone number of the person representing the protesting party.
- e. The party filing the protest must concurrently transmit a copy of the initial protest document and any attached documentation to all other parties with a direct financial interest which may be adversely affected by the outcome of the protest. Such parties shall include all other Bidders who appear to have a reasonable prospect of receiving an award depending upon the outcome of the protest.

- f. The District will give the protested Bidder five (5) working days after the receipt of the protest to submit a written response. The responding Bidder shall transmit the response to the protesting Bidder concurrent with delivery to the District.
- g. The procedure and time limits set forth in this paragraph are mandatory and are the Bidder's sole and exclusive remedy in the event of Bid protest. The Bidder's failure to comply with these procedures shall constitute a waiver of any right to pursue the Bid protest further, including filing a Government Code Claim or legal proceedings.
- h. If the District determines that a protest is frivolous, the protesting bidder may be determined to be non-responsible and that bidder may be determined to be ineligible for future contract awards.

17. Award of Contract

Award of the contract, if awarded, will be made to the lowest responsive, responsible Bidder -whose Bid complies with the requirements of the Contract Documents. Unless otherwise specified, any such award will be made within the period stated in the Notice Inviting Bids that the bids are to remain open. Unless otherwise indicated, a single award will be made for all the Bid items in an individual Bid Schedule. In the event the Work is contained in more than one Bid Schedule, the District may award Schedules individually or in combination. In the case of two Bid Schedules that are alternative to each other, only one of such alternative schedules will be awarded. The District may condition the award upon the Bidder's timely submission of all items required by the Contract Documents, including, but not limited to the executed Agreement, performance, labor and materials, and maintenance bonds, and required certificates of insurance and endorsements.

18. Return of Bid Security

Within 14 days after award of the contract, the District will, if requested, return the Bid securities accompanying such Bids that are not being considered in making the award. All other Bid securities will be held until the Agreement has been finally executed. They will then be returned, if requested, to the respective Bidders whose Bids they accompany.

19. Execution of Agreement

The Bidder to whom award is made shall execute a written Agreement with the District on the form of agreement provided, shall secure all insurance, and shall furnish all certificates and bonds required by the Contract Documents within five (5) working days after receipt of Notice of Award from the District. Failure or refusal to enter into an Agreement as herein provided or to conform to any of the stipulated requirements in connection therewith shall be just cause for annulment of the award and forfeiture of the Bid security. If the lowest responsive, responsible Bidder refuses or fails to execute the Agreement, the District may award the Contract to the second lowest responsive, responsible Bidder. If the second lowest responsive, responsible Bidder refuses or fails to execute the Agreement, the District may award the contract to the third lowest responsive, responsible Bidder. On the failure or refusal of such second or third lowest Bidder to execute the Agreement, each such Bidder's Bid securities shall be likewise forfeited to the District.

20. Liquidated Damages

Provisions for liquidated damages, if any, are set forth in the Agreement.

21. Workers' Compensation Requirement

The Bidder should be aware that in accordance with Section 3700 et. seq. of the California Labor Code it will, if awarded the Contract, be required to secure the payment of compensation to its employees and execute the Workers' Compensation Certification in the form contained in these Contract Documents.

22. Non-Collusion Affidavit

Bidders must execute the non-collusion affidavit contained in these contract documents and submit the same with his/her bid.

23. Materials Suppliers List

Bidders and their subcontractors must complete the List of Materials Suppliers and Material Guarantee form provided with the Bid Forms and must submit the completed form with the Bid.

End of Instructions To Bidders

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Proposal

To the Noyo Harbor District:

The undersigned declares that he/she has carefully examined the location of the proposed work, that he/she has examined the contract documents, and read the accompanying instructions to bidders, and hereby proposes to do all the work required to complete the said work in accordance with said contract, and special provisions for the unit or lump sum prices set forth in the attached Bid Schedules.

It is understood and agreed that the undersigned shall complete the work of the contract within the time provided for in the Contract Documents governing said work.

If awarded the contract, the undersigned hereby agrees to sign said contract and to furnish the necessary bonds, insurance certificates, and agreements within five (5) working days after receipt of Notice of Award of said contract from the District.

The undersigned has examined the location of the proposed work and is familiar with the contract documents, and the local conditions at the place where the work is to be done.

The undersigned has checked carefully all the figures on the attached Bid Schedule and understands that the District will not be responsible for any errors or omissions by the party of the undersigned in making up the bid.

Enclosed find	bidder's bond, certified check, or	cashier's check No	of the
		(C	ompany) (Bank) for
		Dollars (\$).
This project re	equires a Class A California State C	Contractor's License.	
Contractor's L	icense No	License	Class
Expiration Dat	te of Contractor's License		
A bid submitte and shall be re number and e California.	ed to a public agency by a contrac ejected by the public agency. The xpiration date stated herein are r	tor who is not licensed undersigned contracto nade under penalty of J	shall be considered nonresponsive r declares that the contractor's license perjury under the laws of the State of
Contractor: Signed by: Address:			
Dated this	day of	, 20	

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Bid Schedule

(DO NOT DETACH)

ltem No.	Base Bid Item Description With Unit Price Written in Words	Approx. Quantity	Unit Price	Total Item Price
1	Mobilization/DemobilizationDollars	1 LS	\$	\$
2	Provide and Install Geogrid-Reinforced Crushed Aggregate Fill Pad, Including Spoils Offhaul 	1,750 SF	\$	\$
3	Provide and Install 24" Concrete Ice House Foundation, Including Reinforcement and Container Anchorage	875 SF	\$	\$
4	Provide and Install 5" Concrete Slab, Including Reinforcement	290 SF	\$	\$
5	Provide and Install AC Paving, Including Aggregate Base and Excluding Trench Repair Areas	538 SF	\$	\$
6	Provide and Install Access Deck, Stairs, and Electrical Equipment Shed (Includes all Wood Construction, Hardware, Finishes and Appurtances)	1 LS	\$	\$
7	Provide and Install Water Service Piping, Including Trenching and Connection to Existing 4" C900 Water Main Dollars	35 LF	\$	\$

ltem No.	Base Bid Item Description With Unit Price Written in Words	Approx. Quantity	Unit Price	Total Item Price
8	Provide and Install Sanitary Sewer Piping, Including Trenching and Connection to Existing Manhole 	75 LF	\$	\$
9	Provide and Install Storm Drain Piping, Including Trenching, Cleanouts, and Outfall Protection 	186 LF	\$	\$
10	Replace Backflow Preventer Piping and Fittings, Including Thrust Blocking and Concrete Slab Dollars	1 LS	\$	\$
11	Provide and Install Metal Barrier Posts Dollars	13 EA	\$	\$
12	Provide and Install Trench and Pedestals for Ice Delivery Pipe, Including Concrete, Rubber Gasket, Cover, Mounting Hardware, and Paving Conform (Road Section)	80 LF	\$	\$
13	Provide and Install Restraints for Ice Delivery Pipe, Including Straps, Bolts, and Rubber Gasket (High Dock Section)	1 LS	\$	\$
14	Provide and Install Wood Protection Rail for Ice Delivery Pipe (High Deck Section)	1 LS	\$	\$
	Dollars			

ltem No.	Base Bid Item Description With Unit Price Written in Words	Approx. Quantity	Unit Price	Total Item Price
15	Provide and Install Security Fencing	115	¢	•
10	Dollars	120	⊅	۶
16	Provide and Install Electrical Service and Distribution (See Supplemental Electrical Material Takeoff)	1 LS	\$	\$
	Dollars			
<mark>17</mark>	Remove and Dispose of Contaminated Soil Associated with Existing Underground Storage Tank	40 CY	\$	\$
	Dollars			
Total Project Base Bid in Words:			Total Base Figures:	Bid in
	Dollars		\$	

TOTAL BID PRICE INCLUDING BASE BID AND ALTERNATIVES:

(In Words)

__ \$____ (In Figures)

Signature of Bidder

Company

Bidder Must Sign This Page End of Base Bid Schedule Section

Non-Collusion Affidavit

To Be Executed By Bidder and Submitted With Bid

The undersigned declares: of ______, the party making the foregoing bid. I am the The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or sham. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid. The bidder has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or to refrain from bidding. The bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder. All statements contained in the bid are true. The bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, to effectuate a collusive or sham bid, and has not paid, and will not pay, any person or entity for such purpose. Any person executing this declaration on behalf of a bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the bidder.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed:

on: _____ [date],

at: _____ [city], _____ [state].

End of Non-Collusion Affidavit Form

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Questionnaire and Financial Assurance Statement Form

The following statements as to experience and financial qualifications of the Bidder are submitted in conjunction with the proposal as part thereof, and the truthfulness and accuracy of the information is guaranteed by the Bidder.

The Bidder has been engaged in the contracting business under the present business for _____ years. Experience in work of a nature similar to that covered in the proposal extends over a period of _____ years.

The Bidder, as a contractor, has never failed to complete a contract awarded to contractor satisfactorily, except as follows:

List all claims and lawsuits presented or filed in the last five (5) years, regardless of the form, regarding any public works project:

The following contracts for work have been completed in the last three (3) years for the persons, firm or authority indicated and to whom reference is made:

Year	Type of Work-Size, Length and Contract Amount	Location and for Whom Performed
The following	complaints have been made against the Bidde	er's contractor's license within the past ten (10)

The following complaints have been made against the Bidder's contractor's license within the past ten (10) years:

Date: _____ Nature of Complaint: _____

Reference is hereby made to the following bank or banks as to the financial responsibility of the bidder:

Name of Bank	Address
	· · · · · · · · · · · · · · · · · · ·
Reference is hereby made to the following surety cor reliability of the bidder:	npanies as to the financial responsibility and general
Name of Surety Company:	

I, the undersigned, declare under penalty of perjury under the laws of the State of California, that the foregoing is true and correct.

Signature of Bidder

Name of Bidder

End of Questionnaire and Financial Statement Form

Bid Bond

We, _____as Principal, and _____as Surety, jointly and severally, bind ourselves, our heirs, representatives, successors and assigns, as set forth herein, to the Noyo Harbor District (herein called " Owner") for the payment of the penal sum of ______Dollars (\$), lawful money of the United States, which is ten (10) percent of the total amount bid by bidder to the Owner. Principal has submitted the accompanying bid for the construction of the project.

If the Principal is awarded the contract and enters into a written contract, in the form prescribed by the Owner, at the price designated by his bid, and files the bonds required by the Agreement with the Owner, and carries all insurance in type and amount which conforms to the contract documents and furnishes required certificates and endorsements thereof, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

Forfeiture of this bond, or any deposit made in lieu thereof, shall not preclude the Owner from seeking all other remedies provided by law to cover losses sustained as a result of the Principal's failure to do any of the foregoing.

Principal and Surety agree that if the Owner is required to engage the services of an attorney in connection with the enforcement of this bond, each shall pay the Owner's reasonable attorney's fees, witness fees and other costs incurred with or without suit.

Executed on ______, ______, ______,

Principal

By: ____

Signature

Title

Any claims under this bond may be addressed to:	
	(Name and address of Surety's agent for service of process in California, if different from above)
	(Telephone number of Surety's agent in California)
(Attach Acknowledgment)	
	Surety
	Ву
	(Attorney- in-Fact)

Notice:

No substitution or revision to this bond form will be accepted. Be sure that all bonds submitted have a certified copy of the bonding agent's power of attorney attached. Also <u>verify</u> that Surety is an "Admitted Surety" (i.e., qualified to do business in California), and <u>attach</u> proof of verification (website printout from the California Department of insurance website [http://www.insurance.ca.gov/docs/index.html] or certificate from County Clerk).

End of Bid Bond

(Do Not Detach)

Performance Bond

KNOW ALL MEN BY THESE PRESENTS: That WHEREAS, the Noyo Harbor District, Fort Bragg, County of Mendocino, State of California, by motion passed ______, 20____, has awarded to

_____, hereinafter designated as the

"Principal," a contract for constructing

Noyo Harbor Ice House Project

AND WHEREAS, said Principal is required under the terms of said contract to furnish a bond for the faithful performance of said contract,

NOW THEREFORE, we,

as Principal, and ____

as Surety, are held and firmly bound unto the Noyo Harbor District, Fort Bragg, County of Mendocino, State of California, hereinafter called the "Owner," to the penal sum of ______ Dollars (\$______) lawful money of the

_____Dollars (\$_____) lawful money of the United States of America, for which sum well and duly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that if the hereby bound Principal, his/her or its heirs, executors, administrators, successors, or assigns shall in all things stand to and abide by and well and truly keep and perform all the undertakings, terms, covenants, conditions, and agreements in the said contract and any alteration thereof, made as therein provided, all within the time and in the manner therein designated and in all respects according to their true intent and meaning, then this obligation shall become null and void; otherwise it shall be and remain in full force and virtue.

FURTHER, THE SAID SURETY, FOR VALUE RECEIVED, HEREBY STIPULATES AND AGREES that no change, extension of time, or alteration or modification of the Contract Documents or of the work to be performed thereunder, shall in any way affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration, or modification of the Contract Documents or of work to be performed thereunder.

(Do Not Detach)

IN WITNESS WHEREOF, five (5) identical counterparts of this instrument, each of which shall for all purposes be deemed an original thereof, have been duly executed by Principal and

Surety herein named, on the _____day of _____, 20____, the name and corporate seal of each corporate party being hereto affixed, and these presents duly signed by its undersigned representative pursuant to authority of its governing body.

Principal

Ву_____

Title

Surety

Ву_____

Address of Surety

Noyo Harbor District Ice House Project

(Do Not Detach)

Payment/Labor and Materials Bond

KNOW ALL MEN BY THERE PRESENTS: That WHEREAS, the Noyo Harbor District, Fort Bragg, County of Mendocino, State of California, by motion passes ______, 20__, has awarded to ______, hereinafter designated as the "PRINCIPAL" a contract constructing:

Noyo Harbor Ice House Project

AND WHEREAS, said Principal is required under the terms of said contract to furnish a bond in connection with said contract, providing that if said Principal, or any of his or its subcontractors, shall fail to pay for any materials, provision, provender, or other supplies or teams used in, upon, or about the performance of the work contracted to be done or for any work or labor done thereon of any kind, the Surety on this bond will pay the same to the extent hereinafter set forth;

WHEREAS, pursuant to California Civil Code Section 7103, 10221, and 10222, the PRINCIPAL is required, before entering upon the performance of the Contract, to file a payment bond with and have such bond approved by the officer or public entity by whom the Contract is awarded; and

WHEREAS, pursuant to California Civil Code Section 7103, such payment bond must be in a sum not less than one hundred percent (100%) of the total amount payable by the terms of the Contract, and must satisfy the other requirements specified in that section; and

WHEREAS, the PRINCIPAL is required in accordance with the Contract to furnish a payment bond in connection with the Contract to secure payment of claims of laborers, mechanics and materialmen employed on work under the Contract in accordance with applicable law;

NOW, THEREFORE, THESE PRESENTS WITNESSETH:

That the PRINCIPAL and the undersigned _______, as surety (designated as "SURETY"), an admitted surety insurer authorized to do business in the State of California are held and firmly bound unto all laborers, material men, and all other persons named in California Civil Code Section 7103, 10221, and 10222 in the sum of ______ Dollars (\$______), lawful money of the United States, being a sum not less than one hundred percent of the total amount payable by the terms of the Contract, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, or assigns, jointly and severally, by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that if the PRINCIPAL or any of the PRINCIPAL's subcontractors, or the heirs, executors, administrators, successors, or assigns of any, all, or either of them, shall fail to pay any persons named in California Civil Code Section 9100 or fail to pay for any labor, materials, provisions, provender, or other supplies used in, upon, for or about the performance of the work contracted to be done, or for any work or labor thereon of any kind, or fail to pay amounts due under the Unemployment Insurance Code with respect to such work or labor, or fail to pay for any amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of the PRINCIPAL or any subcontractors of the PRINCIPAL pursuant to Section 9100 of the Unemployment Insurance Code with respect to such work or labor, that the SURETY will pay for the same in an amount not exceeding the amount herein above set forth, and also, in case suit is brought upon this
bond, will pay a reasonable attorney's fee to be awarded and fixed by the Court; otherwise this obligation shall be void.

It is hereby expressly stipulated and agreed by the said Surety, for value received, that this bond shall inure to the benefit of any and all of the persons named in Section 9100 of the California Civil Code so as to give a right of action to them or their assigns in any suit brought upon this bond.

It is hereby further expressly stipulated and agreed by the said Surety, for value received, that no change, extension of time, alteration or addition to the terms of the Contract or the Specifications or drawings accompanying the same or to any other part of the contract documents, as defined therein, shall in any manner affect the obligations of the SURETY on this bond, and SURETY does hereby waive notice of any such change, extension, alteration, or addition.

IN WITNESS WHEREOF, the above-bound parties have executed this instrument under their several seals this ______ day of ______, 2025, the name and corporate seals of each corporate party being hereto affixed and these presents duly signed by their undersigned representatives, pursuant to authority of their governing bodies.

(Corporate Seal)	PRINCIPAL
	Ву:
(Acknowledgement)	Title:
(Corporate Seal)	SURETY
	By: (Attorney-in-fact)
(Acknowledgement)	Title:

(NOTE TO SURETY COMPANY: A certified copy of unrevoked resolution of authority for the attorney-in-fact must be submitted with and attached to the executed bid bond.)

List of Subcontractors

In accordance with the provisions of Sections 4100-4114, inclusive, of the Public Contract Code of the State of California, each bidder shall list below the name and location of place of business of each subcontractor who will perform a portion of the contract work in an amount in excess of one-half of one percent (0.5%) of the total contract price. In each such instance, the nature and extent of the work to be performed shall be described.

If a prime contractor fails to specify a subcontractor or if a prime contractor specifies more than one (1) subcontractor for the same portion of work to be performed under the contract in excess of one-half of one percent (0.5%) of the prime contractor's total bid, the prime contractor agrees that he or she is fully qualified to perform that portion himself or, herself, and that the prime contractor shall perform that portion himself or herself The subcontracting of work for which no subcontractor was designated in the original bid and which is in excess of one-half of one percent (0.5%) of the total contract price, will be allowed only with the written consent of the District.

Name of Subcontractor	Address of Office, Mill, or Shop	Description of Work to be Performed (Also Show Bid Schedule Item Number)

End of List of Subcontractors

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Bid Proposal Certificate

State of California (if Corporation)

) ss: County of _____)

I Hereby Certify that a meeting of the Board of Directors of the _____

		a Corporation existing
under the laws of the State of	, held on	
20 , the following resolution was duly passed and adopted:		

"Resolved, that	, as President of the corporation, be and is hereby
authorized to execute the Bid Proposal date	ed, 20, for the
·	project, in the Noyo Harbor District, and that
his/her execution thereof, attested by the S	ecretary of the Corporation, and with the Corporate Seal affixed,
shall be the official act and deed of this Corp	poration."

I further certify that said resolution is now in full force and effect.

In Witness Whereof, I have hereunto set my hand and affixed the official seal of the corporation this ______, day of ______, 20_____

Secretary

(SEAL)

Assurances for Compliance with Federal Laws and Regulations

The Contractor is required to comply with the following federal laws and regulations:

- Non-discrimination in Employment in accordance with Executive Order 11246 of September 24, 1965 entitled "Equal Employment Opportunity" as amended by Executive Order 11375 of October 13, 1967
- Debarment in accordance with the Executive Order 12549 and Executive Order 1 U46
- Anti-kickback in accordance with the Copeland "Anti-Kickback" Act (18 U.S.C. 874)
- Contract Work Hours and Safety Standards in accordance with Sections 103 and 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.327-330)

I do solemnly declare and affirm that I am obligated to comply with the above Federal laws and regulations. It is understood that non-compliance with any one of the above Federal laws and regulations will be sufficient reason to cause termination of the contract.

Signature	of	Prime	Contractor
-----------	----	-------	------------

Date

Print Name and Title

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Equal Employment Opportunity Certification

The Bidder	, proposed
Subcontractor participated in a previous contract or subcontract sub as required by Executive Orders 10925, 11114, or 112 Joint Reporting Committee, the Director of the Office Government contracting or administering agency, or t	, hereby certifies that he/she has/ has not ject to the equal opportunity clauses, 46, and that, where required, he/she has filed with the of Federal Contract Compliance, a Federal the former President's Committee on Equal
Employment Opportunity, all reports due under the a	pplicable filing requirements.

Note: The above certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor (41 CFR 60-1.7(b) (1)), and must be submitted by bidders and proposed subcontractors only in connection with contracts and subcontracts, which are subject to the Equal Opportunity clause. Contracts and subcontracts which are exempt from the Equal Opportunity clause are set forth in 41 CFR 60-1.5. (Generally, only contracts or subcontracts of \$10,000 or under are exempt.)

Currently, Standard Form 100 (EEO-1) is the only report required by the Executive Orders or their implementing regulations.

Proposed prime contractors and subcontractors who have participated in a previous contract or subcontract subject to the Executive Orders and have not filed the required reports should note that 41 CFR 60-1. 7(b) (1) prevents the award of contracts and subcontracts unless such contractor submits a report covering the delinquent period or such other period specified by the Federal Highway Administration or by the Director, Office of Federal Contract Compliance, U.S. Department of Labor.

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Noyo Harbor District Ice House Project

Debarment and Suspension Certification

Title 49, Code of Federal Regulations, Part 29

The bidder, under penalty of perjury, certifies that, except as noted below, he/she or any other person associated therewith in the capacity of owner, partner, director, officer, and manager:

- Is not currently under suspension, debarment, voluntary exclusion, or determination of ineligibility by any federal agency;
- Has not been suspended, debarred, voluntarily excluded or determined ineligible by any federal agency within the past 3 years;
- Does not have a proposed debarment pending; and
- Has not been indicted, convicted, or had a civil judgment rendered against it by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past 3 years.

If there are any exceptions to this certification, insert the exceptions in the following space.

Exceptions will not necessarily result in denial of award, but will be considered in determining bidder responsibility. For any exception noted above, indicate below to whom it applies, initiating agency, and dates of action.

Notes: Providing false information may result in criminal prosecution or administrative sanctions. The above certification is part of the Proposal. Signing this Proposal on the signature portion thereof shall also constitute signature of this Certification.

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Nonlobbying Certification For Federal-Aid Contracts

The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

- 1) No federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any federal grant, the making of any federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any federal contract, grant, loan, or cooperative agreement.
- 2) If any funds other than federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

The prospective participant also agrees by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such sub-recipients shall certify and disclose accordingly.

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Disclosure of Lobbying Activities

Complete this form to dis	close lobbying activities pursuant to 31 USC 1352	
1. Type of Federal Action2. Status of Federal	ederal Action: 3. Report Type:	
a. bid/offe	er/application 🗌 a. initial	
\Box h grant \Box h initial a	ward \Box b material change	
d. Ioan	For Material Change Only:	
e. loan guarantee	Year Quarter	
f. loan insurance		
4. Name and Address of Reporting Entity	5. If Reporting Entity in No. 4 is Subawardee, Enter Name and	
	Address of Prime:	
Prime Subawardee		
Tier , if kno	own	
·		
Congressional District, if known	Congressional District, if known	
6. Federal Department/Agency	7. Federal Program Name/Description	
	CEDA Number if Applicable	
8 Federal Action Number if known:	9 Award Amount if known:	
	J. Award Amount, it known.	
10. a. Name and Address of Lobby Entity	b. Individuals Performing Services (including address if different	
(if individual, last name, first name, MI)	from No. 10a)	
	(last name, first name, MI)	
(attach Con	tinuation Sheet(s) if necessary)	
11. Amount of Payment (check all that apply)	13. Type of Payment (check all that apply)	
s Cartual Calanad		
	b. on-time fee	
12. Form of Payment (check all that apply)	c. commission	
a. cash	d. contingent fee	
h i-kind: specify: nature		
value		
14. Brief Description of Services Performed or to be performed and Date(s) of service, including officer(s), employee(s), or member(s) contacted, for Payment Indicated in Item 11:		
(attach Continuation Sheet(s) if necessary)		
	· · · · · ·	
15. Continuation Sheet(s) attached: 🗌 Yes 🗌 No		
16. Information requested through this form is authorized by Title 31 U.S.C. Sect	ion 1352.	
This disclosure of lobbying reliance was placed by the tier above when his t	ransaction Signature:	
was made or entered into. This disclosure is required pursuant to 31 U.S.C.	1352. This Print Name:	
information will be reported to Congress semiannually and will be available	for public Title:	
inspection. Any person who fails to file the required disclosure shall be sub	ject to a	
civil penalty of not less than \$10,000 and not more than \$100,000 for each		
For Federal use Only:	Authorized for Local Reproduction	
	Stanuaru Pormi - LLL	

Noyo Harbor District Ice House Project

Instructions for Completion of SF-LLL, Disclosure of Lobbying Activities

This disclosure form shall be completed by the reporting entity, whether subawardee or prime federal recipient, at the initiation or receipt of covered federal action or a material change to previous filing pursuant to title 31 U.S.C. Section 1352. The filing of a form is required for such payment or agreement to make payment to lobbying entity for influencing or attempting to influence an officer or employee of any agency, a Member of Congress an officer, or employee of Congress or an employee of a Member of Congress in connection with a covered Federal action. Attach a continuation sheet for additional information if the space on the form is inadequate. Complete all items that apply for both the initial filing and material change report. Refer to the implementing guidance published by the Office of Management and Budget for additional information.

- 1. Identify the type of covered federal action for which lobbying activity is and/or has been secured to influence, the outcome of a covered federal action.
- 2. Identify the status of the covered federal action.
- 3. Identify the appropriate classification of this report. If this is a follow-up report caused by a material change to the information previously reported, enter the year and quarter in which the change occurred. Enter the date of the last, previously submitted report by this reporting entity for this covered federal action.
- 4. Enter the full name, address, city, State, and zip code of the reporting entity. Include Congressional District if known. Check the appropriate classification of the reporting entity that designates if it is or expects to be a prime or subaward recipient. Identify the tier of the subawardee, e.g., the first sub-awardee of the prime is the first tier. Sub-awards include but are not limited to subcontracts, sub grants, and contract awards under grants.
- 5. If the organization filing the report in Item 4 checks "Subawardee" then enter the full name, address, city, State and zip code of the prime federal recipient. Include Congressional District, if known.
- Enter the name of the federal agency making the award or loan commitment. Include at least one
 organization level below agency name, if known. For example, Department of Transportation,
 United States Coast Guard.
- 7. Enter the federal program name or description of the covered federal action (item 1). If known, enter the full Catalog of Federal Domestic Assistance (CFDA) number for grants, cooperative agreements, loans, and loan commitments.
- 8. Enter the most appropriate federal identifying number available for the federal action identification in item 1 (e.g., Request for Proposal (RFP) number, Invitation for Bid (IFB) number, grant announcement number, the contract grant., or loan award number, the application/proposal control number assigned by the federal agency). Include prefixes, e.g., "RFP-DE-90-001."
- 9. For a covered federal action where there has been an award or loan commitment by the Federal agency, enter the federal amount of the award/loan commitments for the prime entity identified in item 4 or 5.
- 10. (a) Enter the full name, address, city, State, and zip code of the lobbying entity engaged by the reporting entity identified in item 4 to influence the covered federal action.

(b) Enter the full names of the individual(s) performing services and include full address if different from 10 (a). Enter Last Name, First Name, and Middle Initial (MI).

- 11. Enter the amount of compensation paid or reasonably expected to be paid by the reporting entity (item 4) to the lobbying entity (item 10). Indicate whether the payment has been made (actual) or will be made (planned). Check all boxes that apply. If this is a material change report, enter the cumulative amount of payment made or planned to be made.
- 12. Check the appropriate box (es). Check all boxes that apply. If payment is made through an in-kind contribution, specify the nature and value of the in-kind payment.
- 13. Check the appropriate box (es). Check all boxes that apply. If other, specify nature.
- 14. Provide a specific and detailed description of the services that the lobbyist has performed or will be expected to perform and the date(s) of any services rendered. Include all preparatory and related activity not just time spent in actual contact with federal officials. Identify the federal officer(s) or employee(s) contacted or the officer(s) employee(s) or Member(s) of Congress that were contacted.
- 15. Check whether or not a continuation sheet(s) is attached.
- 16. The certifying official shall sign and date the form; print his/her name title and telephone number.

Public reporting burden for this collection of information is estimated to average 30 minutes per response, including time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0046), Washington, D.C. 20503. SF-LLL-instructions Rev. 06-04-90«ENDIF»

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Construction Agreement

Vol. II

Construction Agreement ICE HOUSE PROJECT

Noyo Harbor District Fort Bragg, California This Page Left Intentionally Blank.

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Agreement

This Agreement is dated as of the 6th day of June in the year 2024, by and between Noyo Harbor District (hereinafter called "District" and ______ called "Contractor").

District and Contractor, in consideration of the mutual covenants hereinafter set forth, agree as follows:

Article 1: Work

Contractor shall complete the Work as specified or indicated in the District's Contract Documents entitled Noyo Harbor District Ice House Project. Quality control shall be performed and compliance with the Contract shall be verified by qualified professionals selected by the District or the District's representative.

To include the performance of all the work and the furnishing of all the labor, supplies, tools, and equipment to install the North Star Ice Equipment, demolish existing infrastructure, construct foundation, decking, electrical, connections to utilities including water, sewer, and stormwater.

Contactor has had an opportunity to thoroughly inspect the subject matter of this agreement. Contractor accepts the Work and is satisfied that it can complete the Work for the contract price. District shall be responsible for obtaining all required permits prior to Work commencing by Contractor.

Contractor is aware that the project is funded by the Employment Development Department of California, funding agency may at any and all reasonable times during the term of this Agreement, enter the Project area for purposes of inspecting the Project area and have the right to review the Contractor's records.

Article 2: Completion of Work

The Work shall be completed to the satisfaction of the District within **60 DAYS** from the commencement date stated in the Notice to Proceed. In no event, however, shall the Work to be performed under this contract be considered to be complete until all construction items called for as stated in *Article 1: Work* has been completed and the contract price paid in full.

Article 3: Liquidated Damages

Α. District and the Contractor recognize that time is of the essence of this Agreement and that the District will suffer financial loss if the Work is not completed within the time specified in Article 2 herein, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. It is hereby understood and agreed that it is and will be difficult and/or impossible to ascertain and determine the actual damage which the District will sustain in the event of and by reason of the Contractor's failure to fully perform the Work or to fully perform all of its contract obligations that have accrued by the time for completion as specified in Article 2 herein and/or as specified for completion of any scheduled operations or works described in the Special Provisions. It is, therefore, agreed in accordance with California Government Code Section 53069.85 that the Contractor will forfeit and pay to the District liquidated damages in the sum of One Thousand Dollars (\$1,000) per day for each and every calendar day that expires after the time for completion specified in Article 2 herein and/or as specified for completion of any scheduled operations or works described in the Special Provisions except as otherwise provided by extension of time pursuant to Article 12 of the General Conditions. It is further understood and agreed in accordance with

California Government Code Section 53069.85 that the liquidated damages sum specified in this provision is not manifestly unreasonable under the circumstances existing at the time this contract was made, and that the District may deduct liquidated damages sums in accordance with this provision from any payments due or that may become due the Contractor.

B. Liquidated damages will continue to accrue at the stated rate until final completion of the Work. Accrued liquidated damages may be deducted by the District from amounts due or that become due to the Contractor for performance of the Work. Liquidated damages may not be waived or reduced by District unless expressly waived or reduced in writing by the Construction Manager.

Article 4: Prevailing Wages

- A. Pursuant to California Labor Code Section 1771, Contractor and any subcontractor shall pay all workers employed in execution of the Work in accordance with the general rate of per diem wages specified for each craft, classification, or type of worker needed to execute the Work.
- B. Contractor is required to pay all applicable penalties and back wages in the event of violation of prevailing wage law, and Contractor and any subcontractor shall fully comply with California Labor Code Section 1775, which is incorporated by this reference as though fully set forth herein.
- C. Contractor and any subcontractor shall maintain and make available for inspection payroll records as required by California Labor Code Section 1776, which is incorporated by this reference as though fully set forth herein. Contractor is responsible for ensuring compliance with this section.
- Contractor and any subcontractor shall fully comply with California Labor Code Section 1777.5, concerning apprentices, which is incorporated by this reference as though fully set forth herein. Contractor is responsible for ensuring compliance with this section.
- E. In accordance with California Labor Code Section 1810, eight (8) hours of labor in performance of the Work shall constitute a legal day's work under this Agreement. Contractor and any subcontractor shall pay workers overtime pay as required by California Labor Code Section 1815. Contractor and any subcontractor shall, as a penalty to the District, forfeit twenty-five dollars (\$25) for each worker employed in the execution of the contract by the respective contractor or subcontractor for each calendar day during which the worker is required or permitted to work more than 8 hours in any one calendar day and 40 hours in any one calendar week in violation so the provisions of Article 3 of Chapter 1 of Part 7, Division 2 of the California Labor Code, which is incorporated by this reference as though fully set forth herein.

Article 5: Contract Price

- A. District shall pay Contractor for completion of the Work the sum of \$_____ based on the bid price of same and in accordance with the Contract Documents.
- B. Notwithstanding any provisions herein, Contractor shall not be paid any compensation until such time as Contractor has on file with the District current information requested on the "Vendor Information" form available from the District.
- C. In no case shall the total contract compensation exceed \$______, without prior written authorization by the Harbormaster. Further, no compensation for a section or work program component attached with a specific budget shall be exceeded without the prior written authorization of the Harbormaster.

Article 6: Bonds

- A. Before entering upon the performance of the Work, the Noyo Harbor District shall cause the Contractor to furnish Performance, and Payment/Labor and Materials Bonds, each in the amount of one hundred percent (100%) of the contract price. These Bonds shall remain in effect at least until one (1) year after the date of Completion, except as otherwise provided by Law or Regulation or by the Contract Documents.
- B. The form of the Performance, Payment/Labor and Materials are provided by the District as part of the Contract Documents. Only such bond forms provided by the District are acceptable, and shall be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Audit Staff, Bureau of Government Financial Operations, U.S. Treasury Department. All Bonds signed by an agent must be accompanied by a certified copy of such agent's authority to act.
- C. If the surety on any Bond furnished by the Contractor is declared a bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Work is located, the Contractor shall within 7 days thereafter substitute another Bond and surety, which must be acceptable to the District.
- D. All Bonds required by the Contract Documents to be purchased and maintained by Contractor shall be obtained from surety companies that are duly licensed or authorized in the State of California to issue Bonds for the limits so required.

Article 7: Payment Procedures

Contractor shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by the Construction Manager as provided in the General Conditions.

Article 8: Retention

A. Pursuant to Section 22300 of the California Public Contract Code, the Contractor may substitute securities for any money withheld by the District to ensure performance under

the Contract. At the request and expense of the Contractor, securities equivalent to the amount withheld shall be deposited with the District or with a state or federally chartered bank in California as to the escrow agent, who shall return such securities to the Contractor upon satisfactory completion of the Contract.

- B. Alternatively, the Contractor may request and the District shall make payment of retentions earned directly to the escrow agent at the expense of the Contractor. At the expense of the Contractor, the Contractor may direct the investment of the payments into securities and the Contractor shall receive the interest earned on the investments upon the same terms provided for in this section for securities deposited by the Contractor. The Contractor shall be responsible for paying all fees for the expenses incurred by the escrow account and all expenses of the District. These expenses and payment terms shall be determined by the District's Finance Director or his/her designee and the escrow agent. Upon satisfactory completion of the Contract, the Contractor shall receive from the escrow agent all securities, interest, and payments received by the escrow agent from the District, pursuant to the terms of this section. The Contractor shall pay to each subcontractor, not later than 20 days of receipt of the payment, the respective amount of interest earned, net of costs attributed to retention withheld from each subcontractor.
- C. Securities eligible for investment under Section 22300 shall be limited to those listed in Section 16430 of the Government Code and to bank or savings and loan certificates of deposit, interest-bearing demand deposit accounts, standby letters of credit, or any other security mutually agreed to by the Contractor and the District.

Article 9: Contract Documents

The Contract Documents which comprise the entire agreement between the District and the Contractor concerning the Work consist of this Agreement and the following attachments to this Agreement:

- Notice Inviting Bids
- Instructions to Bidders
- Bid Forms including the Bid, Bid Schedule(s), Information Required of Bidder, Bid Bond, and all required certificates and affidavits
- Labor and Materials Bond
- Performance Bond
- General Conditions
- Supplementary General Conditions (if any)
- Special Provisions
- Addenda (if any)
- Change Orders which may be delivered or issued after Effective Date of the Agreement and are not attached hereto.

There are no Contract Documents other than those listed in this Article 9. The Contract Documents may only be amended by Change Order as provided in Paragraph 3.5 of the General Conditions.

Article 10: Changes in Work

Owner Directed Change Orders. The Owner may at any time during the progress of the Work direct any amendments to the Work or any of the Contract Documents, including, but not limited to the Technical Specifications, or Project Plans. Such amendments will in no way void the agreement, but will be applied to amend the Contract Price, if such amendments affect the Contract Price, the Project schedule, if such amendments affect the Project schedule, or any other provision of the Contract Documents based on a fair and reasonable valuation of the amendment in accordance with this Article.

Writing Requirement. Change orders and other amendments to the Contract Documents may be made only by writing executed by authorized representatives of the Owner and the Contractor.

Contractor Proposed Change Orders. Unless the Construction Manager otherwise authorizes or the Owner and the Contractor otherwise agree, change order proposals submitted by the Contractor must be submitted to the District and Construction Manager no later than the time of the proposed change.

All Change Orders. All change order proposals must be submitted on completed Change Order forms provided by the Owner. All such change order proposals must itemize all cost impacts of the proposed change order and include a total price for that change order and the amended Contract Price that would become effective upon execution of the change order. All change order proposals must specify any change in the Project schedule, or in any project milestone including, but not limited to, the Time for Completion, under the change order. It is understood that change orders that do not specify a change in any milestone, including, but not limited to, the Time for Completion then in effect.

Change Order Pricing. Change order pricing will be governed by the following:

- Unit prices specified in the Contract Documents will apply to cost impacts involving items for which the Contract Documents specify unit prices.
- Cost impacts involving items for which no unit prices are specified will be calculated by adding the • itemized actual direct cost that would be added or reduced under the change order and an allowance for indirect costs in accordance with this Section. Itemization for direct costs for required labor must include the classifications of labor required, the total hours required for each classification, the hourly rate for each classification and other labor related costs such as liability and workers compensation insurance, social security, retirement and unemployment insurance. All other cost impacts for which no unit prices are specified must be itemized as appropriate, including the cost of tools, vehicles, phones and other equipment, and the cost of all required materials or supplies. Indirect costs added under a change order may not exceed an allowance of fifteen (15) percent of the total of combined Contractor and subcontractor direct costs added under the change order. Such allowance covers Contractor overhead and profit under the change order and includes the cost of insurance in addition to that required pursuant to Section 8.8, bond premiums, superintendent labor, clerical labor, home office expenses, worksite office expenses, and utility costs under the change order. Such costs may not be itemized as direct costs under a change order. Indirect costs deducted under a change order will be calculated in exactly the same way as indirect costs added under a change order, except indirect costs deducted under a change order may not exceed an allowance of seven and a half (7.5) percent of the total of combined Contractor and subcontractor direct costs deducted under the change order.
- Liability Under Unapproved Change Orders. The Contractor shall be solely responsible for any and all losses, costs, or liabilities of any kind incurred by the Contractor, any subcontractor engaged in the

performance of the Work, any party supplying material or equipment for the Work or any third party that are incurred pursuant to Contractor-proposed change orders prior to issuance of an approved change order executed in accordance with this Section 3. The Contractor will have all of the obligations and the Owner will have all of the rights and remedies that are specified in Section 11 concerning any work or resulting losses, costs, or liabilities pursuant to a Contractor proposed change order before issuance of an approved change order executed in accordance with this Section 3.

- Changes Subject to Contract Documents. Any changes in the Work and/or the Contract Documents pursuant to change orders and any other amendments issued in accordance with the Contract Documents, including this Section 4, will in all respects be subject to all provisions of the Contract Documents, except as modified by such change orders or amendments.
- Disputed District Directed Change Orders. If the Contractor disputes an Owner directed change
 order following a reasonable effort by the and the Contractor to resolve the dispute including, at a
 minimum, a meeting between appropriate representatives of the Contractor and the Owner, the
 Contractor must commence performing the Work consistent with the disputed change order within
 five (5) working days of the last meeting between representatives of the Contractor and the Owner
 to resolve the dispute, or within the time specified in the disputed District directed change order,
 whichever is later. In performing Work consistent with a disputed Owner-directed change order
 pursuant to this provision the Contractor will have all of the Contractor's rights concerning claims
 pursuant to the Contract Documents and applicable law.
- Disputed Contractor Proposed Change Orders. If the Owner disputes a Contractor proposed change order, the Owner and the Contractor will use reasonable efforts to resolve the dispute including, at a minimum, holding a meeting between appropriate representatives of the Contractor and the Owner. Regardless of and throughout any such efforts to resolve the dispute the Contractor must continue performing the Work irrespective of and unmodified by the disputed change order. In continuing to perform the Work, the Contractor will retain all of the Contractor's rights under contract or law pertaining to resolution of disputes and protests between contracting parties. Disputes between the Owner and the Contractor's obligation to perform the Work in accordance with the Contract Documents excluding such Contractor-proposed change order or other amendment by the Time for Completion or waive any other Project milestone or other requirement of the Contract Documents.

Article 11: Insurance

Contractor and any subcontractor shall not commence work under this Agreement until Contractor shall have obtained all insurance required under this paragraph and such insurance shall have been approved by the District's Attorney as to form and carrier and the Harbormaster as to sufficiency, nor shall Contractor allow any contractor or subcontractor to commence work on this contract or subcontract until all similar insurance required of the Contractor and/or subcontractor shall have been so obtained and approved. All requirements herein provided shall appear either in the body of the insurance policies or as endorsements and shall specifically bind the insurance carrier.

Contractor shall procure and maintain for the duration of the contract all necessary insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the Contractor, the Contractor's agents, representatives, employees or subcontractors.

A. Minimum Scope of Insurance

- 1. Coverage shall be at least as broad as:
 - a. Insurance Services Office Commercial General Liability coverage
 - b. Insurance Services Office form number covering Automobile Liability, code 1 (any auto)
 - c. Workers' Compensation insurance as required by the State of California and Employer's Liability Insurance
- 2. Certificates naming Noyo Harbor District as additional insured shall be provided by Contractor's insurance provider

B. Minimum Limits of Insurance

Contractor shall maintain limits no less than:

- 1. General Liability: \$2,000,000 per occurrence for bodily injury, personal injury and property damage (If Commercial General Liability Insurance or other form with a general aggregate liability is used, either the general aggregate limit shall apply separately to this project/location or the general aggregate limit shall be twice the required occurrence limit)
- 2. Automobile Liability: \$1,000,000 per accident for bodily injury and property damage
- 3. Employer's Liability: Bodily Injury by Accident, \$1,000,000 each accident; Bodily Injury by Disease, \$1,000,000; policy limit Bodily Injury by Disease, \$1,000,000 each employee

4.	Bodily Injury or Death	\$1,000,000 each person \$1,000,000 each occurrence
5.	Property and Product Damage	\$1,000,000 each occurrence \$1,000,000 aggregate
6.	Fire Insurance	90% of the full insurable value of all insurable components of the Project

C. Deductibles and Self-Insured Retentions

Any deductibles or self-insured retentions must be declared to and approved by the District. At the option of the District, either: the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the District, its officers, officials, employees, and volunteers; the State of California, it's officers, agents, employees and servants are hereby declared to be additional insured under the terms of this policy, as to activities of the Grantee and in respect to the Project, and this policy shall not be canceled without thirty (30) days prior written notice to Grantee; or the Contractor shall procure a bond guaranteeing payment of losses and related investigations, claim administration and defense expenses.

D. Other Insurance Provisions

The required general liability and automobile policies are to contain, or be endorsed to contain the following provisions:

- 1. The District, its officers, officials, employees, agents and volunteers, are to be covered as insured as respects: liability arising out of activities performed by or on behalf of the Contractor; products and completed operations of the Contractor; premises owned, occupied or used by the Contractor; or automobiles owned, leased, hired or borrowed by the Contractor. The coverage shall contain no special limitations on the scope of protection afforded to the District, its officers, officials, employees, agents or volunteers.
- 2. For any claims related to this project, the Contractor's insurance coverage shall be primary insurance as respects the District, its officers, officials, employees, agents, and volunteers. Any insurance or self-insurance maintained by the District, its officers, officials, employees, agents, or volunteers shall be excess of the Contractor's insurance and shall not contribute with it.
- 3. Any failure to comply with reporting or other provisions of the policies including breaches of warranties shall not affect coverage provided to the District, its officers, officials, employees, agents or volunteers.
- 4. The Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought except, with respect to the limits of the insurer's liability.
- 5. Each insurance policy required by this clause shall be endorsed to state that coverage shall not be suspended, voided, canceled by either party, reduced in coverage or in limits except after thirty (30) days' prior written notice by certified mail, return receipt requested, has been given to the District.

E. Acceptability of Insurers

Insurance is to be placed with insurers with a current A.M. Best's rating of no less than A:VII.

F. Verification of Coverage

Contractor shall furnish the District with original endorsements effecting coverage required by this clause. The endorsements are to be signed by a person authorized by that insurer to bind coverage on its behalf. The endorsements are to be on forms provided by the District. All endorsements are to be received and approved by the District before work commences. As an alternative to the District's forms, the Contractor's insurer may provide complete, certified copies of all required insurance policies, including endorsements affecting the coverage required by these specifications.

Article 11: Indemnification

- A. Contractor shall indemnify, defend with counsel acceptable to District, and hold harmless to the full extent permitted by law, the District, their officers, officials, employees, agents, and volunteers from and against any and all liability, loss, damage, claims, expenses, and costs (including, without limitation, attorney fees and costs and fees of litigation) (collectively, "Liability") of every nature arising out of or in connection with Contractor's performance of the Work or its failure to comply with any of its obligations contained in this Agreement, except such Liability caused by the active negligence, sole negligence or willful misconduct of the District. Such indemnification by the Contractor shall include, but not be limited to, liability of claims:
 - 1. Resulting directly or indirectly from the performance of the Work by the Contractor, its subcontractors, suppliers, laborers, employees, or agents and any other person, firm, entity, or corporation furnishing or supplying work services, materials, or supplies in connection with the performance of this Agreement, and/or from any and all claims and losses accruing or resulting to any person, firm, entity, or corporation who may be injured or damaged by Contractor in performance of this agreement;
 - 2. Resulting directly or indirectly from the negligence or carelessness of the Contractor, its subcontractors, suppliers, laborers, employees, or agents in the performance of the Work, or in guarding or maintaining the same, or from any improper materials, implements, or appliances used in its construction, or by or on account of any act or omission of the Contractor, its employees, or agents;
 - 3. Arising directly or indirectly from bodily injury, occupational sickness or disease, or death of the Contractor's, or Supplier's own employees, or agents engaged in the Work resulting in actions brought by or on behalf of such employees against the District and/or the Construction Manager;
 - 4. Arising directly or indirectly from or based on the violation of any Laws or Regulations, whether by the Contractor, its subcontractors, employees, or agents;
 - 5. Arising directly or indirectly from the use or manufacture by the Contractor, its subcontractors, employees, or agents in the performance of this Agreement of any copyrighted or uncopyrighted composition, secret process, patented or unpatented invention, article, or appliance, unless otherwise specified stipulated in this Agreement;

- 6. Arising directly or indirectly from the breach of any warranties, whether express or implied, made to the District or any other parties by the Contractor, its subcontractors, employees, or agents;
- 7. Arising directly or indirectly from the willful misconduct of the Contractor, its subcontractors, employees, or agents;
- 8. Arising directly or indirectly from any breach of the obligations assumed in this Agreement by the Contractor;
- 9. Arising directly or indirectly from, relating to, or resulting from a hazardous condition created by the Contractor, Subcontractors, Suppliers, or any of their employees or agents; and
- 10. Arising directly, or indirectly, or consequentially out of any action, legal or equitable, brought against the District, Construction Manager, their consultants, sub consultants, and the officers, directors, employees and agents of each or any of them, to the extent caused by the Contractor's use of any premises acquired by permits, rights of way, or easements, the Site, or any land or area contiguous thereto or its performance of the Work thereon.
- B. The Contractor shall reimburse the District for all costs and expenses, (including but not limited to fees and charges of engineers, architects, attorneys, and other professionals and court costs of appeal) incurred by said District in enforcing the provisions of this Paragraph.
- C. The indemnification obligation under this Article 11 shall not be limited in any way by any limitation on the amount or type of insurance carried by Contractor or by the amount or type of damages, compensation, or benefits payable by or for the Contractor or any Subcontractor or other person or organization under workers' compensation acts, disability benefit acts, or other employee benefit acts.
- D. Pursuant to California Public Contract Code Section 9201, District shall timely notify Contractor of receipt of any third-party claim relating to this Agreement.

Article 12: Disclaimer and Indemnity Concerning Labor Code Section 6400

By executing this agreement the Contractor understands and agrees that with respect to the Work, and notwithstanding any provision in this contract to the contrary, the Contractor, and/or its privities, including, without limitation, subcontractors, suppliers and others engaged by the Contractor in the performance of the Work shall be "employers" for purposes of California Labor Code Section 6400 and related provisions of law, and that neither District nor its officials, officers, employees, agents, volunteers or consultants shall be "employers" pursuant to California Labor Code Section 6400 with respect to the performance of the Work by the Contractor and/or its privities.

The Contractor shall take all responsibility for the Work, shall bear all losses and damages directly or indirectly resulting to the Contractor, any subcontractors, the District, its officials, officers, employees, agents, volunteers and consultants, on account of the performance or character of the Work, unforeseen difficulties, accidents, or occurrences of other causes predicated on active or passive negligence of the Contractor or of any subcontractor, including, without limitation, all losses, damages or penalties directly or indirectly resulting from exposure to hazards in performance of the Work in violation of the California Labor

Code. The Contractor shall indemnify, defend and hold harmless the District, its officials, officers, employees, agents, volunteers and consultants from and against any or all losses, liability, expense, claim costs (including costs of defense), suits, damages and penalties (including, without limitation, penalties pursuant to the California Labor Code) directly or indirectly resulting from exposure to hazards in performance of the Work in violation of the California Labor Code, except such liability or costs caused by the active negligence, sole negligence or willful misconduct of the District.

Article 13: Independent Contractor

It is understood and agreed that in the performance of this Agreement, Contractor (including its employees and agents) is acting in the capacity of an independent contractor, and not as an agent or employee of the District. Contractor has full control over the means and methods of performing said services and is solely responsible for its acts and omissions, including the acts and omissions of its employees and agents.

Article 14: Subcontractors

Contractor must obtain the District's prior written consent for subcontracting any Work pursuant to this Agreement. Any such subcontractor shall comply, to the extent applicable, with the terms and conditions of this Agreement. Any agreement between Contractor and a subcontractor pursuant to this Agreement shall provide that the subcontractor procure and maintain insurance coverage as required herein and which shall name District as an additional insured.

Article 15: Compliance with Laws/Provisions

1. EQUAL EMPLOYMENT OPPORTUNITY

During the performance of this contract, the contractor agrees as follows:

1.1 The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following:

Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

1.2 The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.

1.3 The contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation,

proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the contractor's legal duty to furnish information.

1.4 The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

1.5 The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

1.6 The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

1.7 In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

1.8 The contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance:

Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

The applicant further agrees that it will be bound by the above equal opportunity clause with respect to its own employment practices when it participates in federally assisted construction work: Provided, that if the applicant so participating is a State or local government, the above equal opportunity clause is not applicable to any agency, instrumentality or subdivision of such government which does not participate in work on or under the contract.

The applicant agrees that it will assist and cooperate actively with the administering agency and the Secretary of Labor in obtaining the compliance of contractors and subcontractors with the equal opportunity clause and the rules, regulations, and relevant orders of the Secretary of Labor, that it will furnish the administering agency and the Secretary of Labor such information as they may require for the supervision of such compliance, and that it will otherwise assist the administering agency in the discharge of the agency's primary responsibility for securing compliance.

The applicant further agrees that it will refrain from entering into any contract or contract modification subject to Executive Order 11246 of September 24, 1965, with a contractor debarred from, or who has not

demonstrated eligibility for, Government contracts and federally assisted construction contracts pursuant to the Executive Order and will carry out such sanctions and penalties for violation of the equal opportunity clause as may be imposed upon contractors and subcontractors by the administering agency or the Secretary of Labor pursuant to Part II, Subpart D of the Executive Order. In addition, the applicant agrees that if it fails or refuses to comply with these undertakings, the administering agency may take any or all of the following actions: Cancel, terminate, or suspend in whole or in part this grant (contract, loan, insurance, guarantee); refrain from extending any further assistance to the applicant under the program with respect to which the failure or refund occurred until satisfactory assurance of future compliance has been received from such applicant; and refer the case to the Department of Justice for appropriate legal proceedings.

2. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

2.1 *Overtime requirements.* No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2.2 *Violation; liability for unpaid wages; liquidated damages.* In the event of any violation of the clause set forth in paragraph (b)(1) of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (b)(1) of this section, in the sum of \$27 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (b)(1) of this section.

2.3 Withholding for unpaid wages and liquidated damages. The Noyo Harbor District shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b)(2) of this section.

2.4 *Subcontracts.* The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (b)(1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs 2.1 through 2.4 of this section.

3. CLEAN AIR ACT

3.1 The contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. § 7401 et seq.

Noyo Harbor District Ice House Project

3.2 The contractor agrees to report each violation to the Noyo Harbor District and understands and agrees that the Noyo Harbor District will, in turn, report each violation as required to assure notification to the GRANT Administrator, and the appropriate Environmental Protection Agency Regional Office.

3.3 The contractor agrees to include these requirements in each subcontract exceeding \$150,000 financed in whole or in part with Federal assistance provided by GRANT.

4. FEDERAL WATER POLLUTION CONTROL ACT

4.1 The contractor agrees to comply with all applicable standards, orders, or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq.

4.2 The contractor agrees to report each violation to the Noyo Harbor District and understands and agrees that the Noyo Harbor District will, in turn, report each violation as required to assure notification to the GRANT Administrator, and the appropriate Environmental Protection Agency Regional Office.

The contractor agrees to include these requirements in each subcontract exceeding \$150,000 financed in whole or in part with Federal assistance provided by GRANT.

5. DEBARMENT AND SUSPENSION

5.1 This contract is a covered transaction for purposes of 2 C.F.R. pt. 180 and 2 C.F.R. pt. 3000. As such, the contractor is required to verify that none of the contractor's principals (defined at 2 C.F.R. § 180.995) or its affiliates (defined at 2 C.F.R. § 180.905) are excluded (defined at 2 C.F.R. § 180.940) or disqualified (defined at 2 C.F.R. § 180.935).

5.2 The contractor must comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, and must include a requirement to comply with these regulations in any lower tier covered transaction it enters into.

5.3 This certification is a material representation of fact relied upon by Noyo Harbor District. If it is later determined that the contractor did not comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, in addition to remedies available to Noyo Harbor District, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment.

5.4 The bidder or proposer agrees to comply with the requirements of 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C while this offer is valid and throughout the period of any contract that may arise from this offer. The bidder or proposer further agrees to include a provision requiring such compliance in its lower tier covered transactions.

6. BYRD ANTI-LOBBYING AMENDMENT, 31 U.S.C. § 1352 (AS AMENDED)

Contractors who apply or bid for an award of \$100,000 or more shall file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, officer or employee of Congress, or an employee of a Member of Congress in connection with obtaining any Federal contract, grant, or any other award covered by 31 U.S.C. § 1352. Each tier shall also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the recipient who in turn will forward the certification(s) to the awarding agency.

If applicable, contractors must sign and submit to the non-federal entity the following certification.

APPENDIX A, 44 C.F.R. PART 18 – CERTIFICATION REGARDING LOBBYING

Certification for Contracts, Grants, Loans, and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

6.1 No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

6.2 If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

6.3 The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

The Contractor, ______, certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. Chap. 38, Administrative Remedies for False Claims and Statements, apply to this certification and disclosure, if any.

Signature of Contractor's Authorized Official

Name and Title of Contractor's Authorized Official

Date

7. PROCUREMENT OF RECOVERED MATERIALS

7.1 In the performance of this contract, the Contractor shall make maximum use of products containing recovered materials that are EPA-designated items unless the product cannot be acquired—
7.1.1 Competitively within a timeframe providing for compliance with the contract performance schedule;

7.1.2 Meeting contract performance requirements; or

7.1.3 At a reasonable price.

7.2 Information about this requirement, along with the list of EPA- designated items, is available at EPA's Comprehensive Procurement Guidelines web site, https://www.epa.gov/smm/comprehensive-procurement-guideline-cpg-program.

7.3 The Contractor also agrees to comply with all other applicable requirements of Section 6002 of the Solid Waste Disposal Act."

8. ACCESS TO RECORDS

The following access to records requirements apply to this contract:

8.1 The Contractor agrees to provide Noyo Harbor District, GRANT Grant representatives, the Comptroller General of the United States, or any of their authorized representatives access to any books, documents, papers, and records of the Contractor which are directly pertinent to this contract for the purposes of making audits, examinations, excerpts, and transcriptions.

8.2 The Contractor agrees to permit any of the foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.

8.3 The Contractor agrees to provide the GRANT Grant Administrators or its authorized representatives access to construction or other work sites pertaining to the work being completed under the contract.

Article 16: Notices

All notices required or permitted by this Agreement, including notice of change of address, shall be in writing and given by personal delivery or sent postage prepaid and addressed to the parties intended to be notified, as set forth herein. Notice shall be deemed given as of the date of delivery in person or as of the date deposited in any post office or post office box regularly maintained by the United States Postal Service, unless otherwise stated herein.

Notice shall be given as follows:

District:

Harbormaster Noyo Harbor District 19101 S. Harbor Drive Fort Bragg, CA 95437 Telephone: (707) 964-4719

Contractor:

Name Contractor Company Street Address City, State, Zip

Article 17: Governing Law/Venue

This Agreement shall be construed and its performance enforced under California law. Venue shall be in the Superior Court of the State of California in the County of Mendocino.

Article 18: Non-Waiver

The District's failure to enforce any provision of this Agreement or the waiver of any provision in a particular instance shall not be construed as a general waiver of any part of such provision. The provision shall remain in full force and effect.

Article 19: Third Party Beneficiaries

The Parties do not intend, by any provision of this Agreement, to create in any third party any benefit or right owed by one party, under the terms and conditions of this Agreement, to the other party.

Article 20: Assignment

No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and specifically but without limitation monies that may become due and monies that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

District and Contractor each binds itself, its partners, successors, assigns and legal representatives to the other party hereto, its partners, successors, assigns and legal representatives in respect of all covenants, agreements and obligations contained in the Contract Documents.

Article 21: Severability

If any term or portion of this Agreement is held to be invalid, illegal, or otherwise enforceable by a court of competent jurisdiction, the remaining provisions of this Agreement shall continue in full force and effect.

Article 22: Attorney's Fees

If any legal action or proceeding arising out of or relating to this Agreement is brought by either party to this Agreement, the prevailing party shall be entitled to receive from the other party, in addition to any other relief that may be granted, the reasonable attorneys' fees, costs, and expenses incurred in the action or proceeding by the prevailing party.

Article 23: Sole and Only Agreement

This Agreement constitutes the sole and only Agreement between the parties. Any agreements or representations not expressly set forth in this instrument are null and void.

Signatures Appear On Next Page

In Witness Whereof, District and Contractor have caused this Agreement to be executed the day and year first above written.

District	Contractor
Ву	(Corporate Seal)
Attest	Attest
Address for giving notices	Address for giving notices
19101 S. Harbor Drive	Street
Fort Bragg, CA 95437	City, State, Zip
	License No.
Approved as to Form:	
	Agent for service of process:
(Signature)	(Title)

End of Agreement

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Agreement Certificate

STATE OF CALIFORNIA (if Corporation)

_____) ss: COUNTY OF ______)

I HEREBY CERTIFY that a meeting of the Board of Directors of the

		a corporation
existing under the laws of the State of	, held on	
, 20, the following resolution was duly pas	ssed and adopted:	

"RESOLVED, that		, as		
President of the Corporation, be and is	hereby auth	norized to execut	te the Agreemer	nt dated
	, 20	, by and betw	een this Corporation	ation and
	_ and that h	nis/her execution	thereof, atteste	ed by the
Secretary of the Corporation, and with deed of this Corporation."	the Corpora	ite Seal affixed, s	hall be the offici	ial act and

I further certify that said resolution is now in full force and effect.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official seal of the corporation this______, day of______, 20_____.

Secretary

(SEAL)

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Project Plans

Vol. III



SAVED: 3/13/2025 9:51 AM JNAULTY, PLOTTED: 3/24/2025 11:35 AM JUSTIS NAU T-1 Millital 2021 2021 2020 2020 202 00000 00000 2020 2020 2020 2020

NOYO HARBOR DISTRICT ICE HOUSE

19101 SOUTH HARBOR DR. FORT BRAGG, CALIFORNIA

PREPARED BY:



INDEX OF SHEETS

SEQ	SHT	TITLE
1	G1.0	COVER
2	G2.0	STANDARD ABBREVIATIONS AND LEGENDS
3	C1.0	DEMOLITION PLAN
4	C2.0	PROJECT OVERVIEW
5	C2.1	SITE AND UTILITY PLAN
6	C3.0	GRADING PLAN
7	C4.0	DETAILS
8	C4.1	DETAILS
9	C4.2	DETAILS
10	C4.3	DETAILS
11	C4.4	DETAILS
12	A1.0	ELEVATIONS
13	S1.0	FOUNDATION PLAN
14	S2.0	DECK FRAMING PLAN
15	S2.1	DECK FRAMING PLAN
16	S3.0	STRUCTURAL DETAILS
17	S3.1	STRUCTURAL DETAILS
18	S3.2	STRUCTURAL DETAILS
19	E1	SYMBOLS LEGEND, ELECT EQUIPMENT AND C&C SCHEDULES, DRWG LIST
20	E2	FIRST FLOOR ELECTRICAL PLAN
21	E3	SECOND FLOOR ELECTRICAL PLAN
22	E4	THIRD FLOOR ELECTRICAL PLAN
23	E5	ELECTRICAL EQUIPMENT AND PULLBOX ELEVATIONS & SECTION
24	E6	POWER AND SIGNAL ONE-LINE DIAGRAM
25	E7	POWER AND SIGNAL ONE-LINE DIAGRAM NOTES



ABBREVIATIONS

GP GP

A		
ABS	_	ACRYLONITRILE-BUTADIENE-STYRENE
ABD AC	_	ABANDON ASPHALTIC CONCRETE
ACP ACI	_	ASBESTOS CEMENT PIPE AMERICAN CONCRETE INSTITUTE
ADJ AGGR	_	ADJUSTABLE AGGREGATE
AISC	_	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
AL ALT	_	ALUMINUM ALTERNATE
AP APPROX		ANGLE POINT APPROXIMATELY
ARCH	_	ARCHITECTURAL
AUX	_	TESTING & MATERIALS
@ 	—	AT
Б вс	_	BEGIN CURVE
BCR BD	_	BEGIN CURB RETURN BOARD
BF BFV	_	BLIND FLANGE BUTTERFLY VALVE
BLDG	_	BUILDING BENCH MARK BEAM
SMP 30	_	BEST MANAGEMENT PRACTICE BLOW OFF
BOT BRG	_	BOTTOM BEARING
BIWN BV	_	BELL VALVE DECINALING OF VERTICAL CURVE
	_	BACK OF WALK
\mathbb{C}		
C CARV	_	CHANNEL (STRUCTURAL SHAPE) COMBINATION AIR AND
CATV	_	VACUUM RELEASE VALVE CABLE TELEVISION
CB CEIL	_	CATCH BASIN CEILING
CFM CFS	_	CUBIC FEET PER MINUTE CUBIC FEET PER SECOND
CHEM CI CIP	_	CAST IRON CAST IRON PIPF
C.I.P. CJ	_	CAST IN PLACE CONSTRUCTION JOINT
CLR ⊊∕CL	_	CLEAR CENTERLINE
	_	CORRUGATED METAL PIPE CONCRETE MASONRY UNIT
213K 20 201	_	CLEANOUT COLUMN
CONC	_	CONCRETE CONTINUOUS OR CONTINUED
COORD CPLG	_	COORDINATE COUPLING
URS CTR	_	COLD ROLLED STEEL CENTER COPPER TURE SIZE
XU XU XU FT	_	CUBIC CUBIC FEET
CV CW	_	CHECK VALVE COLD WATER
	—	CUBIC YARD
ر •	_	DEGREE (ANGLE)
נ) פר	_	PENNY (NAIL SIZE) STORM DRAIN DISTRIBUTION BOX
)BL)F	_	DOUBLE DOUGLAS FIR
l IA	_	DROP INLET OR DUCTILE IRON DIAMETER
DIAG DIM	_	DIAGONAL DIMENSION
JIMJ DIP	_	DUCTILE IRON MECHANICAL JOINT DUCTILE IRON PIPE DETAIL
)⊭⊺ DWG DW	_	DRAWING DRIVEWAY
F	-	
— (E) F	_	EXISTING FASTING OR FAST
ËA EC	_	EACH END CURVE
ECR EF	_	END CURB RETURN EACH FACE
EFL EG	_	EFFLUENT EXISTING GRADE/GROUND
	_	ELEUW ELECTRIC OR ELECTRICAL ELEVATION
ENGR		ENGINEER EDGE OF PAVING
eq Equip	_	EQUAL EQUIPMENT
ER EVC	_	EDGE OF ROAD END OF VERTICAL CURVE
EW EWEF	_	EACH WAY EACH WAY, EACH FACE
EXC EXP FXP IT	_	EXCAVATE EXPOSED OR EXPANSION EXPANSION JOINT
EXST	_	EXISTING EXTERIOR
–		
F FC	_	FLANGE FLEXIBLE COUPLING OR FACE OF CURB
FCA FD	_	FLANGED COUPLING ADAPTER FLOOR DRAIN
FDC FDN	_	FIRE DEPARTMENT CONNECTION FOUNDATION
FF FG	_	FINISH FLOOR FINISHED GRADE
FH FIG FIN	_	FIRE HYDRANT FIGURE FINISH
FIP FL	_	FEMALE IRON PIPE FLOW LINE
FLG FLR	_	FLANGE FLOOR
FLTR FO	_	FILTER FIBER OPTIC
FUC FT FT2	_	FACE OF CONCRETE FOOT OR FEET SOLIARE FEET
FT 3 FTG	_	CUBIC FEET FOOTING
FUT	—	FUTURE

G G G G G G G G G G G G G G G G G G G		GAS GAGE GALVANIZED GRADE BREAK GALVANIZED IRON PIPE GAS METER GALLONS PER DAY GALLONS PER HOUR GALLONS PER MINUTE GRADE OR GROUND GALVANIZED STEEL PIPE GATE VALVE GYPSUM	R RC RCP RD RDCR RWD REF REINF REINF REQD RET RH RM RO		RADII RELA REINI ROAL REDU REFU REINI OR F REQU RETU RIGH ROOM
HB HDG HDPE HDR HDW HMA HOR HP HR HT HWR HWS		HOSE BIBB HOT-DIPPED GALVANIZED HIGH DENSITY POLYETHYLENE HEADER HARDWARE HOT MIX ASPHALT HORIZONTAL HORSEPOWER, HIGH POINT HOUR HEIGHT HOT WATER HOT WATER RETURN HOT WATER SUPPLY	RSP RT R/W RWL S SL SCHED SCSD SDMH SECT		ROCH RIGH RIGH RAIN SEWE SLOF SCHE SCOT SERV STOR STOR SECT
ID IN INFL INSUL INT INV IPS J J JP		INSIDE DIAMETER INCH INFLUENT INSULATE OR INSULATION INTERIOR INVERT IRON PIPE SIZE JOINT JOINT POLE	SF SHT SIM SPEC SQ FT SQ IN SS SSCO SSMH SST STA STD ST		SQUA SHEE SIMIL SPAC SPEC SQUA SQUA SQUA SANIT SANIT STAIN STAIN STAT
K KW L	_	THOUSAND POUNDS KILOWATT ANGLE (DEGREES)	STL STR STRUCT SUSP SW SWPPP SYMM		STEE STRU SUSF SIDE STOR PREV SYMM
L LAT LB LF LG LH LONG LP LPG LRP LR LT LVC		ANGLE (STRUCTURAL SHAPE) LATERAL POUND LINEAR FEET LONG LEFT HAND LONGITUDINAL LOW POINT LIQUIFIED PETROLEUM GAS LEGALLY RESPONSIBLE PARTY LONG RADIUS LEFT LENGTH OF VERTICAL CURVE	TAN T&B T&G TBC TBM TBW TC TCE TCE TEL TELEM		TANG TOP TOP TEMP TOP TOP TEMP TELEI TELEI
MATL MAX MECH MFR MGD MH MIP MISC MJ MNPT		MATERIAL MAXIMUM MECHANICAL MEGA-FLANGE PIPE JOINT MANUFACTURER MILLION GALLONS PER DAY MANHOLE MINIMUM OR MINUTE MALE IRON PIPE MISCELLANEOUS MECHANICAL JOINT MALE NATIONAL PIPE THREAD	TEMP TFC THD TOC TOG TOS TOW TP TRANSV TS TYP		TEMP TOP THRE TOP TOP TOWN TOP TURN PAVE POLE TRAN TUBE TYPIC
MTL MWS N (N) N NC NIC NF		METAL MAXIMUM WATER SURFACE NEW NORTHING OR NORTH NORMALLY CLOSED NOT IN CONTRACT NON-FREEZE			UNIFO UNLE UNDE UTILI
NO NOM NP NTS #		NUMBER OR NORMALLY OPEN NOMINAL NEW PAVEMENT NATIONAL PIPE THREAD NOT TO SCALE NUMBER	VAC VAR VC VCP VERT VG VPI		VACU VARIE VERT VITRII VERT VALLI VERT
OD OG OVFL OV OV OV P		OUTSIDE DIAMETER ORIGINAL GROUND OVERFLOW OUNCE OVERHEAD	W W/O WM WP WS WWF		WATE WITH WITH WATE WORI WATE WELD
PCC PCF PE PERF PEP PG&E PI PL RL		PORILAND CEMENT CONCRETE POUNDS PER CUBIC FOOT PLAIN END PERFORATED POLYETHELENE PIPE PACIFIC GAS & ELECTRIC COMPANY POINT OF INTERSECTION PLATE PROPERTY LINE PLATE	XFMR YD 2 YD 2 YD 3		TRAN YARD SQUA CUBI
PLCS PLYWD PMP POC POT PREFAE PRELIM PRESS PROP PRV PSF PSI PSIG PT PV PVC PV PVC PV PVC PV PVMT QTY		PLACES PLYWOOD PERFORATED METAL PIPE POINT ON CURVE POINT OF TANGENT POWER POLE POWER POLE POINT OF REVERSE CURVE PREFABRICATED PRELIMINARY PRESSURE PROPERTY PRIVATE POUNDS PER SQUARE FOOT POUNDS PER SQUARE INCH POUNDS PER SQUARE INCH, GAUGE POINT OF TANGENCY, POINT, PRESSURE TREATED PUBLIC UTILITY EASEMENT PLUG VALVE POLYVINYL CHLORIDE PLASTIC POINT OF VERTICAL INTERSECTION PAVEMENT QUANTITY	<u>C</u>	JR I	R (R4 - (LE - (LE - (D - (TA
ليع					

			UTILITIES	S LEGEND		TC	POGRAPH
_	RADIUS	PROPOSED	EXISTING			PROPOSED	EXISTING
,	RELATIVE COMPACTION REINFORCED CONCRETE PIPE ROAD	\bowtie	\otimes	GATE VALVE			
CR —	REDUCER REDWOOD REFER OR REFERENCE	K	\otimes^{PV}	PLUG VALVE		NOT USED	\times
NF —	REINFORCED, REINFORCING OR REINFORCE REOLURED		\otimes^{BV}	BALL VALVE		47.55	NOT USED
	RETURN RIGHT HAND ROOM	🛉	\otimes^{BFV}	BUTTERFLY VALVE			42.6
	ROUGH OPENING ROCK SLOPE PROTECTION RIGHT OR RING TIGHT RIGHT OF WAY RAIN WATER LEADER			AUTOMATICALLY OPERATE (P= PNEUMATIC, E= EL S= SOLENOID, H= HYDI D= DIAPHRAGM ACTUATO	ED VALVE LECTRIC, RAULIC, OR)		×
_	SEWER	×	\bowtie	3-WAY VALVE			$\begin{array}{cccccccccccccccccccccccccccccccccccc$
HED —	SLOPE SCHEDULE SCOTIA COMMUNITY			GLOBE VALVE			
ин —	SERVICES DISTRICT STORM DRAIN STORM DRAIN MANHOLE		R	ANGLE VALVE			
т — 	SECTION SQUARE FOOT/FEET SHEET			PRESSURE REGULATING	VALVE		
	SIMILAR SPACE OR SPACES SPECIFICATIONS	≢		PRESSURE RELIEF VALV	E		
FT —	SQUARE SQUARE FOOT SQUARE INCH	\mathbb{N}		CHECK VALVE			
	SANITARY SEWER SANITARY SEWER CLEAN OUT	↑		AIR OR VACUUM RELEAS	SE VALVE	· 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4.	
· —	SANITART SEWER MANHOLE STAINLESS STEEL STATION	A V	AV	AIR AND VACUUM VALVE	Ξ		
	STANDARD STEEL STRUCTURAL	CA	CA	COMBINATION AIR VALVE	:		<u>}</u>
SP —	STRUCTURE SUSPENDED SIDEWALK			FLOW METER		NOT USED	\rightarrow
РРР — 1М —	STORM WATER POLLUTION PREVENTION PLAN SYMMETRICAL	\rightarrow	→, NF	HOSE BIBB (NF= NON-FRFF7F)		NOT USED	
				REDUCER			ALE .
	TANGENT TOP AND BOTTOM TONGUE AND GROOVE		Q	FIRE HYDRANT			
; — 1 — 1 —	TOP BACK CURB TEMPORARY BENCH MARK TOP BACK WALK					-•-	7D ⁻⁰⁻
	TOP OF CURB TEMPORARY CONSTRUCTION EASEME TELEPHONE	INT	\bigcirc			((
EM —	TELEMETRY TEMPERATURE OR TEMPORARY			SEWER CLEAN OUT OR	SEWER LATERAL	× × × ×	
	THREAD TOP OF CONCRETE	——Е-—	E	UNDERGROUND ELECTRIC	CAL	<i>Æ</i>	
	TOP OF GRATE TOWN OF SCOTIA TOP OF WALL	<u></u> E	E	OVERHEAD ELECTRICAL			
_	TURNING POINT, TOP OF PAVEMENT OR TELEPHONE POLE	FO TV	FO	FIBER OPTIC LINE		NOT USED	YYY
NSV —	TRANSVERSE TUBE, STRUCTURAL TYPICAL	J	J	JOINT UTILITIES			عنلاد عنلاد عنلاد
		ТМ	TM	UNDERGROUND TELEMET	RY LINE		
	UNIFORM BUILDING CODE UNLESS OTHERWISE SPECIFIED UNDERGROUND	T	TM			NOT USED	
L —	UTILITY	<u></u>	- <u>OH</u>	OVERHEAD TELEPHONE	LINE		
_	VOLT	FW	FW	FIRE WATER LINE		IP-4	TP−4
× –	VACUUM VARIES VERTICAL CURVE	ST	ST	STEAM LINE	SIZE AND MATERIAL		\mathbb{P}
р — кт — —	VITRIFIED CLAY PIPE VERTICAL VALLEY GUTTER	SS	SS	SANITARY SEWER LINE	MAY BE SHOWN WHEN		\bigcirc
_	VERTICAL POINT OF INTERSECTION	SD	SD	STORM DRAIN LINE	SIZE AND MATERIAL	Ă	\bigtriangleup
_	WATER OR WIDE FLANGE WITH	G	G	GAS LINE	OF NEW PIPING MAY		
•	WITHOUT WATER METER WORK POINT			DIRECTION OF FLOW	OR IN PROFILE.	/	
F —	WATER SURFACE, WATER STOP WELDED WIRE FABRIC			CULVERT		B, 5	NOT USED
ur —	TRANSFORMER		NOT USED	GRID LINES			
。 —	YARD	XXXXXX	NOT USED	ITEM TO BE REMOVED		DEI	IGNATION
2 3	SQUARE YARD CUBIC YARD		<u> </u>	ITEM TO BE ABANDONED IN PLACE)	SECTION (LET OR DETAIL (N DESIGNATION	TER)A
				WATER SERVICE- WM-1 WM-2	I = SINGLE 2= DUAL	INDICATES SE DETAIL TAKEN	CTION OR C-5
		\Box 3	PB	PULL BOX AND DESIGNA	ATION	ON DRAMING	EET
		<i>R4−4</i>		SIGN AND DESIGNATION		OR DETAIL IS	TAKEN:
CUF	RVE DATA	NOTES				ON DRAWING OR DETAIL IS	WHERE SECTION SHOWN:
	R (RADIUS) L (LENGTH)	1. CONTACT TH 2. THIS IS A S	IE ENGINEER FOR S STANDARD SHEET, TH	YMBOLS NOT LISTED. IEREFORE, SOME SYMBOLS OR	ABBREVIATIONS	SHEET NUM	BER WHERE TAKEN
	△ `(DELTA)´ T (TANGENT)	MAY APPEAR 3. SITE AND U	R ON THIS SHEET W TILITY SYMBOLS SHO	HICH DO NOT APPEAR ON THE WIN ON THIS SHEET ARE NOT I	PLANS. INTENDED TO		
		LARGE-SCAL BE REPLACE	LE PLANS ARE PRES	ENTED, THE SYMBOLS SHOWN	HEREON MAY ALE.		

POGRAPHIC LEGEND



P.I. (POINT OF INTERSECTION) TEMPORARY BENCH MARK
FINISH GRADE ELEVATON
ELEVATION OF ORIGINAL GROUND
RADIAL POINT
FLOW LINE AND DIRECTION
TOP OF CUT
TOP OF FILL
TOE OF CUT OR FILL
CONTOUR LINE
CONCRETE (IN PLAN)
CONCRETE (IN SECTION)
PAVEMENT
ROCKS
STUMPS
TREES
ROADS
UTILITY POLE (PP=POWER POLE, TP= TEL POLE, JP=JOINT POLE)
GUY WIRE
FENCE
BOUNDARY LIMITS, W/DESIGNATION
MARSH
WETLAND
SPRING
TEST PIT AND DESIGNATION
EXPLORATION BORE HOLE
PROPERTY CORNER
SURVEY MONUMENT
CONTROL POINT
DRIVEWAY
GRID LINE LABELS
ION



	LEGEND
HATCH	DESCRIPTION
	CLEAR AND GRUB LIMITS
$\frown \frown \frown$	DEMO FENCE
	DEMO AC PAVING
	DEMO ELECTRICAL
	DEMO CONCRETE
	DEMO SHED

CP#

REMOVE (E) THREADED ⁻ STANDPIPES

~~~



# NOTES:

- UTILITIES SHOWN ON PLANS TO BE VERIFIED BY CONTRACTOR BEFORE CONSTRUCTION BEGINS.
  AC TO BE SAWCUT FOR BUILDING FOUNDATION AND UTILITY TRENCHES PER THE SITE & UTILITY PLAN, FOUNDATION PLAN, AND DETAILS.
  EXISTING UTILITIES AND DEMOLITION SCHEDULE TO BE COORDINATED WITH HARBOR MASTER TO MAINTAIN HARBOR OPERATIONS.

SD SD SD SD













## NOTES:

- 1. ALL METAL AND FASTENERS TO BE HDG UNLESS NOTED OTHERWISE 2. 1/4"-11UNC-2A FLAT HEAD METAL CAP SCREWS FASTENED AT 24" OC TO "L" FRAME.
- 3. 1-1/2"x1-1/2"x1/4" "L" FRAME.
- 4. 1"x1"x1/4" ANGLÉ IRON MECHANICALLY FASTENED OR WELDED ALONG CURB FACE
- FOR REINFORCEMENT.
- 5. SEE ELECTRICAL SHEETS FOR ELECTRICAL AND INTERNET CONNECTION(S) 6. RUBBER GASKET TO BE 1/4" MIN 1/2" MAX, NEOPRENE RUBBER STRIP OF MEDIUM HARDNESS. ATTACHED TO THE CONCRETE USING NEOPRENE CONTACT CEMENT.





(ICE DELIVERY PIPE ON HIGH DOCK)



| VERIFY SCALES                                                                    | BAR IS ONE INCH ON<br>ORIGINAL DRAWING | IF NOT ONE INCH ON | SCALES ACCORDINGLY |
|----------------------------------------------------------------------------------|----------------------------------------|--------------------|--------------------|
|                                                                                  | 335 S. MAIN ST.<br>WILLITS, CA. 95490  | 707-459-4518       |                    |
|                                                                                  |                                        |                    | ВΥ                 |
|                                                                                  |                                        |                    | REVISION           |
|                                                                                  |                                        |                    | LE                 |
|                                                                                  |                                        |                    | DAT                |
|                                                                                  | z                                      | <b>_</b>           | NO.                |
| JSGN JGI                                                                         | <sup>DR</sup> CDN/                     |                    |                    |
|                                                                                  | FORT BRAGG, CALIFORNIA                 | DETAILS            |                    |
| SHEET<br><b>C4.0</b><br>SEQ<br>DATE <i>03/2025</i><br>PROJ. NO.<br><i>424053</i> |                                        |                    |                    |





# – See Detail B

Figure 27 Security Cover for Removable Post Lock Material Code 150271

| Description                                                                                                       | Length<br>(inches) | Code   | Doc           |
|-------------------------------------------------------------------------------------------------------------------|--------------------|--------|---------------|
| Colvenized Eived Deet 4" Steel Dine, Standard, Schedule 40                                                        | 80                 | 155107 | -             |
| Galvanized Fixed Post, 4, Steel Pipe, Standard, Schedule 40                                                       | 67 <sup>2</sup>    | 155108 | _             |
| Removable Post, 4", Galvanized Steel Pipe, Standard, Schedule 40 With 5"                                          | 80                 | 155105 | _             |
| Galvanized Steel Pipe Sleeve, 36" Long, Standard, Schedule 40                                                     | 67 <sup>2</sup>    | 155106 | -             |
| Replacement 4" Removable Barrier Post Galvanized Steel Pipe With Cap Less                                         |                    | 150265 | _             |
| Sleeve and Eye Bolt                                                                                               | 80                 | 150266 | _             |
| End Cap, 4", Galvanized Malleable Iron, May Be Screwed                                                            | -                  | 021882 | -             |
| Strip, Visibility Reflective Yellow Adhesive Sheet, 2" X 12", Pacific Utilities #PEM212F,<br>Almetek #DL-RY2X12-A | -                  | 013163 | <u>022168</u> |
| Safety Lock                                                                                                       | -                  | 170116 | -             |
| 1 Deste febricated from 20 feet lengths of achievized steel rine. Code 011701                                     |                    |        |               |

8" CLASS 2 AB -90% RC







Installation of Security Cover:

- Remove Top Cap.
  Slide Collar Down Over the Eyebolts Locked Together.
  Drill Hole for Bolt.
- 4. Insert and Engage Pentahead Bolt.

Rev. #22: 03-25-22











| GATE POST FOOTING SCHEDULE |               |                              |                       |  |
|----------------------------|---------------|------------------------------|-----------------------|--|
| DESCRIPTION                | SIZE<br>(HxL) | GATE POST<br>(STD GALV PIPE) | FOOTING<br>DIMENSIONS |  |
| CHAIN LINK FENCE           | 8'x4'         | 3.5" DIA STD                 | 24" DIA X<br>4' DEEP  |  |

## NOTES:

1. REFER TO FENCE FOOTING DETAIL, SEE DET 2 THIS SHEET. 2. THE PIPE SIZES INDICATED ARE FOR NPS.

DETAIL 1 NTS C2.1 (8' TALL CHAIN LINK FENCE)























Sd ЯË ိုရှိသ MAIN ST. CA. 954 N-ENGR.( 9-4518 335 S. N WILLITS, WWW.SHN 707-459 JGI CDN/ NOYO HARBOR DISTRICT ICE HOUSE FORT BRAGG, CALIFORNIA DETAILS SHEET C4.3 SEQ DATE 03/2025 PROJ. NO.

424053

#### UG-1: Transformers Greenbook

#### Concrete Pad for Three-Phase, Loop-Style, Pad-Mounted Transformers

| Table 1      Bill of Materials for Concrete Transformer Pads |             |                                                                               |        |               |  |  |  |  |
|--------------------------------------------------------------|-------------|-------------------------------------------------------------------------------|--------|---------------|--|--|--|--|
| Item                                                         | Quantity    | Description                                                                   | Code   | Document      |  |  |  |  |
| 1                                                            | 1           | Pad, Concrete, Reinforced (see Page 5)                                        | _      | -             |  |  |  |  |
| 2                                                            | As Required | Wire, #2 AWG, Solid, Soft Drawn, Bare Copper <sup>1</sup>                     | 290074 | _             |  |  |  |  |
| 3                                                            | 2           | Ground Rod, 5/8" x 8', Copperclad                                             | 187013 | 012100        |  |  |  |  |
| 4                                                            | 2           | 2 Clamp, Ground Rod, for Item 3                                               |        | 013109        |  |  |  |  |
| 5                                                            | As Required | Conduit, Type and Size (as required)                                          | _      | <u>062288</u> |  |  |  |  |
| 6                                                            | As Required | Reinforcing Steel, Number 4 <sup>2</sup>                                      | _      | _             |  |  |  |  |
| 7                                                            | As Required | Compacted Backfill                                                            | _      | _             |  |  |  |  |
| 8                                                            | Tool        | Bolt, Eye, 7/8" Diameter x 1-1/2" Long, 1-1/2" Inside Diameter, Shoulder-Type | 190013 | -             |  |  |  |  |

When pad is installed for PG&E by others, the use of solid or stranded wire is acceptable.
 Number 3 rebar at 12-inch maximum separation with 4x4 6-6 wire mesh over the entire surface may be

substituted for the use of Number 4 rebar.

1-1/2" Inside Diameter → 7/8" Diameter (UNC thread) Detail A

Lifting Eye for Pad and Boxes

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Rev. #13: 12-01-19

#### UG-1: Transformers Greenbook

Concrete Pad for Three-Phase, Loop-Style, Pad-Mounted Transformers

#### Pad Arrangements for Style IID, IIE, and IIG Transformers

Notes

- 1. Install primary conduits as shown. Keep single primary conduit installation to the left as indicated to reduce strain on elbow terminators.
- 2. Secondary conduits shall be grouped towards the front of the pad.
- 3. Precast pads do not have cut off walls.
- 4. A 6-foot minimum separation shall be maintained between ground rods.
- 5. The ground wire must be a continuous wire that runs from the outside ground rod, under the pad, to the primary window, then above the pad from the primary window, through the secondary window, to the secondary ground rod as shown below.





Figure 3 Radial Installation of Style IID, IIE, and IIG Pad Arrangement, Poured-in-Place Pad Shown

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Rev. #13: 12-01-19



DETAIL 1 NTS C2.1 (PG&E TRANSFORMER PAD)



Concrete Pad Details for Style IID, IIE, and IIG Transformers





Table 3 Dimensions and Codes for Style IID, IIE, and IIG Transformer Pads <sup>1</sup>

| Transformer |                      |                                        | Pad Dimensions (inches) |    |    |    |    |    |    |    |    |     |    |        |     |    |        |
|-------------|----------------------|----------------------------------------|-------------------------|----|----|----|----|----|----|----|----|-----|----|--------|-----|----|--------|
| Style       | kVA Size             | Approximate<br>Maximum Weight<br>(lbs) | A                       | в  | с  | D  | Е  | F  | G  | н  | к  | L   | W  | Code   |     |    |        |
| חוו         | 75                   | 4,600                                  | 17                      | 16 | 15 | 19 | 13 | 10 | 6  | 17 | 14 | 61  | 80 | 040291 |     |    |        |
| and         | (112.5) <sup>2</sup> | 4,800                                  |                         |    |    |    |    |    |    |    |    |     |    |        |     |    |        |
|             | 150                  | 5,000                                  |                         |    |    |    |    |    |    |    |    |     |    |        |     |    |        |
|             | (225) <sup>2</sup>   | 5,500                                  | ]                       |    |    |    |    |    |    |    |    |     |    |        |     |    |        |
|             | 300                  | 5,800                                  |                         | 16 | 15 | 20 | 17 | 20 | 6  | 19 | 25 | 106 | 90 | 040292 |     |    |        |
|             | (500) <sup>2</sup>   | 6,100                                  | 22                      |    |    |    |    |    |    |    |    |     |    |        |     |    |        |
| IIE         | 750                  | 9,000                                  |                         |    |    |    |    |    |    |    |    |     |    |        |     |    |        |
|             | 1,000                | 11,000                                 |                         |    |    |    |    |    |    |    |    |     |    |        |     |    |        |
|             | 1,500                | 13,000                                 |                         |    |    |    |    |    |    |    |    |     |    |        |     |    |        |
| IIE         | 2,500                | 16,000                                 | 22                      | 10 | 15 | 20 | 17 | 20 | 6  | 10 | 25 | 100 | 00 | 040202 |     |    |        |
| liG         | 2955/3325            | 22,000                                 | 22                      | 22 | 22 | 22 | 10 | 15 | 20 | 17 | 20 | 0   | 19 | 25     | 106 | 90 | 040292 |
| 1 0         |                      | 1 12                                   |                         |    |    |    |    |    |    |    |    |     |    |        |     |    |        |

See <u>Document 066211</u> for approved suppliers.  $^{2}$  () = Indicates a kVA size that is no longer purchased.

Revision Notes

Revision 13 has the following changes:

1. Add Note 10 on Page 1.

045292 Page 8 of 8

#### Concrete Pad for Three-Phase, Loop-Style, Pad-Mounted Transformers

Rev. #13: 12-01-19





|                                                                                                               | VERIFY SCALES<br>BAR IS ONE INCH ON<br>ORIGINAL DRAWING<br>O THIS ADJUST<br>SCALES ACCORDINGLY |
|---------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
|                                                                                                               | 335 S. MAIN ST.<br>WILLITS, CA. 95490<br>WWW.SHN-ENGR.COM<br>707-459-4518                      |
|                                                                                                               | `à                                                                                             |
| PTION<br>GRADE LATEX PAINT<br>GRADE LATEX PAINT                                                               | REVISION                                                                                       |
| ED OTHERWISE<br>(TERIOR GRADE PAINT TO ALL<br>NG AND STAIR TREADS<br>ND LOCKED TOGETHER USING<br>( TWISTLOCK" | DATE                                                                                           |
|                                                                                                               | DSGN JGI<br>DR CDN/JN<br>CHK JGI<br>APVD NO.                                                   |
|                                                                                                               | NOYO HARBOR DISTRICT<br>ICE HOUSE<br>FORT BRAGG, CALIFORNIA<br>ELEVATIONS                      |
|                                                                                                               | SHEET<br><b>A1.0</b><br>SEQ<br>DATE 03/2025                                                    |

PROJ. NO.

424053

| EXTERIOR FINISH SCHEDULE |                                             |  |  |  |  |  |  |  |  |
|--------------------------|---------------------------------------------|--|--|--|--|--|--|--|--|
| FEATURE                  | DESCRIPTION                                 |  |  |  |  |  |  |  |  |
| PT WOOD                  | 1 COAT PRIMER, 2 COAT EXT GRADE LATEX PAINT |  |  |  |  |  |  |  |  |
| RDWD                     | 1 COAT PRIMER, 2 COAT EXT GRADE LATEX PAINT |  |  |  |  |  |  |  |  |

# **NOTES:**

- ALL FASTENERS TO BE HDG UNLESS NOTED
  APPLY PRIMER COAT AND 3 COATS OF EXTERNOSED WOOD, EXCEPT REDWOOD DECKING
  SHIPPING CONTAINERS TO BE SECURED AND "SHIPPING CONTAINER MANUAL TWIST LOCK TO





















-POST, TYP







# Permit Conditions





#### **PERMIT CONDITIONS**

The Noyo Harbor District Ice House Project is located within the California Coastal Zone and is subject to the California Coastal Act. The Noyo Harbor District secured a Coastal Development Permit Waiver from the Coastal Commission to demonstrate compliance with the Coastal Act. This project is subject to the following mitigation or avoidance measures for consistency with the Coastal Development Permit Waiver.

The following are requirements of the project and shall be reflected in any responsive bid:

- 1. Project impact minimization and avoidance measures:
  - a. Project will employ construction-related "best management practices" (BMPs) to protect water quality, public access, and adjacent sensitive habitat areas. All on-site workers and contractors will be trained and required to understand and agree to observe the standards and limitations for work outlined in this detailed project description. BMPs proposed include but are not limited to the following measures:
    - Debris Disposal: All trash and construction debris will be removed from the work area each day that construction occurs to prevent the accumulation of debris that may be discharged into coastal waters. Debris will be disposed of at a legal disposal site or recycled at a recycling facility, and all construction debris will be removed from the project site within 24 hours of project completion.
    - Equipment operators will be trained in the procedures to be taken should an accidental spill occur. Hazardous materials management equipment including oil containment booms and absorbent pads will be available and immediately on hand at the project site. A registered first-response, professional, hazardous materials clean-up/remediation service will be locally available on call. Any accidental spills will be contained rapidly and cleaned up. In the event of a spill, the permittee will notify the appropriate regulatory agencies immediately.
    - Heavy equipment used in project construction will be in good condition, will be inspected for leakage of coolant and petroleum products prior to construction and regularly throughout construction activities, and will be repaired offsite if necessary prior to entering the property. If equipment must be washed, washing will occur offsite and away from the marina and boat launch parking area.

- Drip pans will be used for stationary equipment to capture any drips or leaks.
- No construction materials, debris, soil, silt, sand, trash, concrete or washings thereof, oil or other petroleum products or washings thereof, or other foreign materials will be allowed to enter or be placed where it may be washed by rainfall or runoff into coastal waters.
- Staging and Stockpile management: Staging and storage of construction equipment and materials will occur in inland areas at least 50 feet from coastal waters, drainage courses, and storm drain inlets.
- Fueling and Maintenance: Fueling and maintenance of construction equipment and vehicles will be conducted offsite if feasible. Any fueling and maintenance of equipment required onsite will take place at upland areas at least 100 feet from coastal waters, drainage courses, all other wetlands, and storm drain inlets. The fueling and maintenance area will be designed to fully contain any spills of fuel, oil, or other contaminants. Equipment that cannot be feasibly relocated to a designated fueling and maintenance area may be fueled and maintained in other areas of the site, provided that procedures are implemented to fully contain any potential spills.
- If rainfall is forecasted during the time construction activities are being performed (i.e., the National Weather Service's Northwestern California forecast for the Fort Bragg area predicts a greater than 50 percent chance of precipitation for the timeframe in which the work is to be conducted), all onsite stockpiles of construction debris will be covered and secured before the onset of precipitation.
- b. Project will comply with the following standards for the use of any pressure treated wood for construction. Pressure treated wood will be utilized only for the structural elements and railings of the access platform:
  - Pressure-treated wood used in construction of the project will meet the American Wood Protection Association's (AWPA) wood preservative standards, specifically AWPA Standard U1, the primary specification for pressure-treated wood.

For wood in contact with the ground, the relevant AWPA use category is UC4B (Ground Contact, Heavy Duty). This category is typically applied to wood elements exposed to heavy moisture or saltwater conditions. Given that the project is located 50 feet from the water and will not have direct contact with the harbor or tidal areas, this category is generally used in limited applications where additional protection may be needed due to the potential for high humidity, salt exposure, or wetter conditions, especially for elements near the harbor infrastructure or ice delivery systems. UC4B provides the highest level of protection for environments with heavy exposure to moisture. While the majority of the project will not require UC4B, we have considered using it for specific high-stress components that may be located closer to areas with higher salt exposure or splash zones.

For wood above ground, the relevant AWPA use category is UC3B (Exterior Above Ground, Exposed to Weather). This category is used for wood exposed to weather conditions, including salt spray and moisture, but not submerged in water. Given the project's location at least 50 feet from the water, this category is appropriate for the stairs and access platforms. Even though the structures are away from direct contact with water, the materials must still withstand coastal humidity, occasional salt spray, and exposure to wet weather, which is why UC3B is the most suitable treatment for these components.

- ACZA pressure-treated wood will be treated to the proper preservative retention standard (i.e., amount of preservative) specified by the AWPA for the appropriate AWPA Use Category. The ACZA pressure-treated wood used for the project will not have a preservative retention exceeding the minimum specified for the appropriate Use Category, in order to minimize the amount of preservative present in treated wood on-site that may subsequently leach into the marine environment.
- The ACZA preservative-treated wood will be free of visible surface residues or bleeding of preservatives. No lumber will be used that has a noticeable ammonia odor, indicating that it has not been properly processed or aged.
- The ACZA preservative-treated wood will be stored away from the water during construction, until it is needed for installation. The storage area will have adequate drainage to prevent the wood from being subjected to standing water. If there is a chance of precipitation, the wood will be covered to minimize exposure to precipitation.
- Cutting or drilling of ACZA preservative-treated wood will be performed at a site a minimum of 100 feet away from coastal waters, drainage courses, all other wetlands, and storm drain inlets, to minimize transport of sawdust by wind. The resulting sawdust, drill shavings, and wood scraps will be contained and collected to prevent the discharge of preservative treated wood to the marine environment. If it is necessary that treated wood be cut or drilled in place on the pier, all sawdust, shavings, and wood scraps will be collected and prevented from entering the water below by use of tarps secured below the cutting area.

- Application of a topical preservative to treated wood will be performed at a site a minimum of 100 feet away from coastal waters, drainage courses, all other wetlands, and storm drain inlets, equipped with containment measures for potential drips and spills, to prevent discharge of the preservative to the environment. The topical preservative will not be applied in the rain. Any excess topical preservative will be wiped off, and the preservative must be allowed to fully dry before the wood is used in construction. If a small amount of touch-up preservative application must be performed over water, then tarps or containers must be used to capture any potential spills or drips.
- c. If an area of cultural deposits or human remains is discovered during the course of the project, all construction will cease and will not recommence until a qualified cultural resource specialist, in consultation with local tribes, analyzes the significance of the find and prepares a supplementary archaeological plan for the review and approval of the Coastal Commission Executive Director to determine further permitting requirements.

# Geotechnical Investigation Report

B



Reference: 424053

February 21, 2025

Noyo Harbor District Anna Neuman 19101 South Harbor Drive Fort Bragg, CA 95437

# Subject: Geotechnical Investigation, Noyo Harbor District Icehouse, 19101 South Harbor Drive, Fort Bragg, California

Dear Anna Neuman:

#### Introduction

This letter report presents the results of the geotechnical investigation conducted by SHN for the proposed icehouse to be constructed near the Noyo Harbor Master's office at 19101 S. Harbor Drive in Fort Bragg, California (see Project Location Map, Figure 1). The primary purpose of this investigation was to evaluate the subsurface conditions at the site and to present our findings, conclusions, and recommendations regarding the geologic setting and geotechnical engineering criteria to support the design and construction of the project. Our investigation included a) field exploration and laboratory testing program; b) review of geologic and geologic hazard maps in the immediate vicinity; and c) an engineering analysis to develop geotechnical recommendations including grading and foundation recommendations for the planned icehouse structure.

#### **Project Description**

The project consists of constructing a three-story stacked containerized structure at the site, located along the south side of the Noyo River, west of the marina in Fort Bragg, California (global position system [GPS] Coordinates: 39.422945° N, -123.802154° W). The icehouse is planned to have a footprint of approximately 320 square-feet at the lowest level and will weigh approximately 110,660 pounds (lbs) when loaded with equipment and water/ice. Preliminary design information indicates the structure is anticipated to be supported on a two-foot thick mat slab foundation with an area load of about 350 pounds per square foot (psf) from the structure and an additional 300 psf from the mat slab foundation. A delivery pipe will extend from the icehouse along high dock to supply ice to boats in the marina. Refer to Figure 2 for the location of the proposed icehouse.







Noyo Harbor District Geotechnical Investigation, Noyo Harbor District Icehouse, 19101 S. Harbor Drive, Fort Bragg, CA February 21, 2025 Page 2

An underground storage tank (UST) exists on the property adjacent to the south side of the footprint of the proposed icehouse. The tank is cylindrical shaped, composed of steel or aluminum, and sized approximately 5 feet in diameter and 3.5 feet deep. We understand this tank is no longer in use and that there are no records about the tank installation, use, contents, etc. The tank will be removed prior to or during construction. The recommendations in this report will take into account the existing UST conditions and earthwork preparations after the UST has been removed.

#### **Surface Description**

The proposed icehouse is planned in a developed area of the Noyo Harbor near the Noyo Harbor District Master Office and High Dock. The area is surrounded by gravel and asphalt roads and a parking lot. The land has a very gentle slope toward the east. The area of the icehouse is currently a fenced in storage area. The UST is located within the fenced area.

#### **Field Investigation**

Our subsurface investigation consisted of advancing one geotechnical machine exploratory boring on the site adjacent to the location of the proposed ice plant. The boring was drilled by Taber Exploration Drilling based in Sacramento, California using a truck-mounted drill rig utilizing solid flight augers and mud rotary drilling methods. The geotechnical machine boring was drilled and sampled to a depth of approximately 61.5 feet below ground surface (BGS). The approximate location of the boring is shown on the Site Plan, Figure 2. Upon completion of drilling, the boring was backfilled with cement grout placed by tremie pipe. The exploratory boring is denoted as B-1 and the logs of the boring are attached in Appendix 1.

Relatively undisturbed soil samples were obtained by driving a 2.5-inch internal diameter (ID), 3.0-inch outside diameter (OD), Modified California Sampler (MCS) containing steel liners and a 1.5-inch ID, 2.0-inch OD Standard Penetration Test (SPT) sampler without liners in accordance with ASTM-International (ASTM) D1586 standards. The samplers were advanced using a 140-pound CME autohammer falling 30 inches per blow. The number of blows required to drive the samplers the last 12 inches of an 18-inch drive is provided on the boring logs as penetration resistance (blows per foot [bpf]). The penetration resistance values (bpf) recorded for SPT sampler drives and provided on the boring logs are actual penetration resistance (N-values) that are uncorrected for depth and the energy transfer ratio of the automatic hammers used. The penetration resistance values provided on the boring logs for the MCS sampler drives are field blow counts and should not be construed as SPT N-values. Approximate equivalent SPT N-values for the MCS sampler can be derived by multiplying by a factor of approximately 0.64.

Thin-walled Shelby tubes were advanced locally, in soft fine-grained materials to collect undisturbed samples. The down-pressure is noted on the boring logs.


Visual classifications of the earth materials encountered were made in general accordance with the Manual-Visual Classification Method (ASTM D 2488). The boring logs, presented in Appendix 1, were prepared based on the field logging, examination of samples in the laboratory, and the results of laboratory testing.

## **Laboratory Testing**

Selected soil samples were tested in SHN's certified soils-testing laboratory. Laboratory test results for moisture content generally indicate materials contain around 7 to 17 percent moisture for the fill soils in the upper 10 feet of the borings and have dry densities ranging from approximately 109 to 124 lb/ft<sup>3</sup> (pounds per cubic foot). A sieve analysis was also performed on the fill soils encountered in the top 10 feet of the borehole. Select samples from 10 to 46.5 feet BGS were collected and tested for the percent passing a No. 200 sieve. The elastic silt (MH) encountered from a depth of 10.5 to 33 feet BGS had a liquid limit (LL) of 61 percent and plasticity index (PI) of 22 percent. A consolidation test performed on an undisturbed sample of the highly elastic silt indicates that they are probably normally consolidated and are moderately compressible.

The laboratory data is used to characterize the soil conditions at the site and provide a basis for our foundation design recommendations and earthwork recommendations. Refer to the boring log in Appendix 1 and Appendix 2 for the laboratory test results.

# **Geologic Setting**

The project is located in an area underlain by Holocene-aged estuarine deposits (map unit Qe). The deposits are described as unconsolidated dark gray silt and fine sand along intertidal salt marsh estuaries, generally gradational contact with alluvium. Beneath the estuarine deposits, Caspar Point marine terrace is mapped (map unit Qmts(c)). The marine terrace is described as unconsolidated fine sand that is generally found from modern sea cliffs to an elevation of 100 feet (Kilbourne, 1983).

The project site is located within geologic hazard zones for both tsunamis and flooding due to the proximity of the Pacific Ocean, Noyo River, and the elevation of the site (CGS, 2021; FEMA, 2023). The site is located at approximately 10 feet above sea level within a regulatory floodway per FEMA mapping, and the water level in a flood with a 1 percent chance of occurring is 14.5 feet.

The nearest active fault is the San Andreas fault which is approximately 7 miles west of Noyo Harbor (Jennings and Bryant, 2010). There are no active faults mapped beneath or projecting toward the proposed icehouse, and the project is not located with an earthquake hazard zone according to the State. The project location is in an area that will experience frequent earthquake shaking (Branum et al., 2016).



**Geotechnical Investigation, Noyo Harbor District Icehouse, 19101 S. Harbor Drive, Fort Bragg, CA** February 21, 2025

Page 4

# **Site History**

Historic aerial photos were reviewed for the site to understand development in the area of the proposed icehouse. In 1942, a road to the area of the site was visible. The land appears to mostly be tidal flats and grassland with the one dirt road extending to the river and beneath the old Highway 101 (located inland from where it is today). The highway was moved west to its current location by 1952, and development had started to the west of the subject site, evident by warehouses. Additional structures were constructed along the shoreline by 1957; however, the location of the icehouse appears to consist of undeveloped grassland. Bare soil and expanded grading operations are obvious in the 1963 photo. The grading appears to extend to the area of the proposed icehouse; however, there was no marina or parking lot at this time. Bare soils to the south indicate material was removed from the hillside though it is difficult to differentiate if the area of the icehouse was exposed by scarifying or if fill soils were placed. By 1974, a parking lot, marina, and docks similar to the layout today exist. The marina is located where the tidal flats were, and the parking lot and proposed icehouse are located where grasslands were previously.

## **Subsurface Conditions**

The exploratory boring was advanced in the asphaltic concrete parking lot adjacent to the fenced storage area and proposed icehouse location. We encountered approximately 10 feet of non-engineered fill comprised of well graded sand (SW) and silty sand (SM) of variable density. A thin 0.5-foot layer of very loose native silty sand (SM) was encountered beneath the fill and above the estuarine deposits consisting of soft, elastic silt (MH). The silt consisted of organics and graded to medium stiff at 25 feet BGS. At a depth of 33 feet BGS, we encountered medium dense to loose silty sand (SM) that extended to a depth of 45 feet BGS. Dense to medium dense well-graded sand with gravel (SW) was encountered from 45 to 61.5 feet BGS which was the full depth explored.

## Groundwater

Groundwater was encountered at a depth of approximately 10 feet in our boring. It should be noted that our site visit and subsurface exploration were performed in the wet season and that during and after periods of prolonged rainfall, temporary perched ground water can occur within the upper few feet of the surface. Groundwater levels in northern California are typically seasonally dependent and are expected to rise during the rainy season.



Geotechnical Investigation, Noyo Harbor District Icehouse, 19101 S. Harbor Drive, Fort Bragg, CA

February 21, 2025 Page 5

# **Geologic Hazards**

## Seismic Ground Shaking

The entire North Coast region is a seismically active area where strong seismic shaking presents a significant hazard. Historical seismicity and paleoseismic studies in the area suggest there are six distinct sources of damaging earthquakes in the region (Dengler et al., 1992):

- 1) the Gorda Plate,
- 2) the Mendocino fault,
- 3) the Mendocino Triple Junction,
- 4) the northern end of the San Andreas fault,
- 5) the Maacama fault,
- 6) the Cascadia Subduction Zone, and
- 7) unnamed faults in close proximity to the site

Gorda plate earthquakes account for the majority of historical seismicity. These earthquakes occur primarily offshore along left-lateral faults and are generated by the internal deformation within the plate as it moves toward the subduction zone. Significant historic Gorda Plate earthquakes have ranged in magnitude from M5 to M7.5. The November 8, 1980, earthquake (M7.2) was generated on a left-lateral fault within the Gorda Plate.

The Mendocino fault is the second most frequent source of earthquakes in the region. The fault represents the plate boundary between the Gorda and Pacific plates and typically generates right-lateral strike-slip displacement. Historic Mendocino fault events have ranged in magnitude from M5 to M7.5. The September 1, 1994, M7.2 event west of Petrolia was generated along the Mendocino fault.

The Mendocino triple junction was identified as a separate seismic source only after the August 17, 1991 (M6.0) earthquake. Events associated with the triple junction are shallow onshore earthquakes that appear to range in magnitude from about M5 to M6. Raised Holocene terraces near Cape Mendocino suggest larger events are possible in this region

Northern San Andreas fault events are rare but can be very large. The northern San Andreas fault is a right lateral strike-slip fault that represents the plate boundary between the Pacific and North American plates. The fault is approximately 7 miles west of the project area and extends from the Manchester/Point Arena area through the Point Delgada region terminating at the Mendocino triple junction. The 1906 San Francisco earthquake (M8.3) caused the most significant damage in the north coast region with the possible exception of the 1992 Petrolia earthquake. There are several undifferentiated Quaternary fault splays trending in the north to northwest direction off the coast of Fort Bragg. The nearest fault splay is approximately 3 miles west of the subject site.



The Maacama fault, which is a right-lateral strike-slip fault within the San Andreas Fault system, roughly trends N30W. The fault is located approximately 22 miles east (inland) of the project area and is considered active. The largest earthquake produced on the Maacama fault was a M4.8 earthquake that occurred near Willits in November 1977; the epicenter was determined to be about 9 miles east of the Maacama fault. Paleoseismic studies indicate that two to three large earthquakes have occurred on the Willits portion of the Maacama fault within the last 1,180 years (Prentice et al., 2014). Most recently, starting on August 18, 2020, and on-going as of May 22, 2021, a swarm of earthquakes with magnitudes ranging from 1.1 to 4.2 have occurred in Willits approximately 3 miles east of the Maacama fault.

The Cascadia Subduction Zone represents the most significant potential seismic source in the north coast region. A great subduction event may rupture along 200 km or more of the coast from Cape Mendocino to British Columbia, may be up to M9.5, and could be associated with extensive tsunami inundation in low lying coastal areas. The April 25, 1992, Petrolia earthquake (M7.1) appears to be the only documented historical earthquake involving slip along the subduction zone, but this event was confined to the southernmost portion of the fault. Paleoseismic studies along the subduction zone suggest that great earthquakes are generated along the zone every 300 to 800 years. The last large subduction earthquake occurred in 1700. A great subduction earthquake would generate long duration, very strong ground shaking throughout the Pacific Northwest.

The fault activity map (Jennings et al., 2010) indicates that an unnamed pre-Quaternary map is mapped approximately 0.5 miles south of the property and projects northwest. The fault is a discontinuous fault splay and is not considered active by the State of California under the provisions of the Alquist-Priolo Earthquake Fault Zone Act.

Strong seismic ground shaking should be expected during the lifespan of the proposed building. The effects of ground shaking to the building will be minimized provided it is designed and constructed in conformance with current building codes and engineering standards. Ground acceleration parameters related to seismic design of the proposed structure are provided in Table 1 on the following page.

## **Seismic Design and Ground Motion**

Based on the subsurface conditions encountered at the location of the proposed development, laboratory test results, and our interpretation of soil conditions encountered within the depth of our borings, we classify the site as a Site Class E consisting of a "soft clay soil profile" in accordance with Chapter 20 of American Society of Civil Engineers (ASCE) 7-16. On this basis, the mapped and design spectral response accelerations were determined using the USGS Seismic Design Maps based on ASCE/SEI 7-16 in conjunction with the site class and the site coordinates (39.422942° N, -123.802166°W). Calculated values for ASCE 7-16 are presented in Table 1



**Geotechnical Investigation, Noyo Harbor District Icehouse, 19101 S. Harbor Drive, Fort Bragg, CA** February 21, 2025

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| Table 1. | ASCE <sup>a</sup> 7-16 S | pectral Accel | eration | Parameters |
|----------|--------------------------|---------------|---------|------------|
|          |                          |               | 0.0.0.0 |            |

| Parameter                                                                  | 0.2 Second                                  | 1 Second                                    |  |
|----------------------------------------------------------------------------|---------------------------------------------|---------------------------------------------|--|
| Maximum Considered Earthquake<br>Spectral Acceleration (MCE <sub>R</sub> ) | S <sub>S</sub> = 1.521                      | $S_1 = 0.614$                               |  |
| Site Class                                                                 | E                                           |                                             |  |
| Site Amplification factor                                                  | F <sub>a</sub> = Null – see Section 11.4.8  | $F_v = Null - see Section 11.4.8$           |  |
| Site-modified spectral acceleration                                        | S <sub>MS</sub> = Null – see Section 11.4.8 | $S_{M1} = Null - see Section 11.4.8$        |  |
| Numeric seismic design value                                               | S <sub>DS</sub> = Null – see Section 11.4.8 | S <sub>D1</sub> = Null – see Section 11.4.8 |  |
| Seismic Design Category (SDC)                                              | E                                           |                                             |  |
| MCE <sub>G</sub> peak ground acceleration (PGA)                            | 0.66                                        |                                             |  |
| Site modified peak ground acceleration (PGA <sub>M</sub> )                 | 0.726                                       |                                             |  |
| Site amplification factor at PGA $(F_{PGA})$                               | 1.                                          | 1                                           |  |

a. ASCE: American Society of Civil Engineers

#### Soil Liquefaction Potential and Liquefaction Analysis

Liquefaction is a soil behavior phenomenon in which soil located below the groundwater table temporarily loses strength during and immediately after a seismic event because of strong earthquake ground motions. Recently deposited and geologically young Holocene age sediments consisting of relatively loose, saturated, non-cemented granular soil are most susceptible.

Liquefaction occurs as seismic shear stresses propagate through a saturated soil and distort the soil structure, causing loosely packed groups of particles to contract or collapse. If drainage is impeded and cannot occur quickly, the collapsing soil structure increases the porewater pressure between the soil grains. When porewater pressures increase to a level approaching the weight of the overlying soil, the granular layer temporarily behaves as a viscous liquid rather than a solid. As strength is lost, there is an increased risk of settlement and lateral spreading, particularly along riverbanks and waterfront areas. Liquefaction-induced settlement occurs as the elevated porewater pressures dissipate and the soil consolidates after the earthquake.

The potential for liquefaction to occur at the project site was calculated by comparing the cyclic shear stresses induced within the soil profile during an earthquake to the ability of the soils to resist these stresses. The liquefaction analysis software LiqSVs 1.0 published by GeoLogismiki Geotechnical Software was used for our analysis. The cyclic shear stresses within the soil profile are estimated by computing the seismic response of horizontally layered soil deposits in response to the peak horizontal ground acceleration. The equivalent uniform stress profile is normalized by the vertical effective stress to develop a cyclic stress ratio (CSR) profile. The ability of the soils to resist these stresses, known as



the cyclic resistance ratio (CRR), is based on soil strength characterized by standard penetration test N-values normalized for overburden pressures and corrected for such factors as fines content in accordance with the recommendations of Boulanger and Idriss (2014). The factor of safety against liquefaction is then defined as the ratio of CRR to CSR.

A peak horizontal ground acceleration of 0.58g and earthquake magnitude of 7.63 was used to represent the design earthquake hazard level for our liquefaction analysis based on the 2014 United States Geological Survey's interactive deaggregations web application (version 4.1.1). To evaluate the potential for liquefaction and liquefaction-induced settlements, we have assumed a 10-foot depth-togroundwater elevation for the entire site for the purpose of our analysis. The raw blow counts recorded for the depths where the Modified California Sampler was used were reduced by a factor of 0.6 for the purpose of the analysis.

SHN's analysis using the SPT-based liquefaction analysis indicates that 8 inches of post-liquefaction settlement may occur below the groundwater table following the design earthquake. Based on the variability of the stratigraphy underlying the site and the results of our liquefaction analysis, we estimate the seismically induced differential settlement to be on the order of 3 to 4 inches across the project site.

The effects of liquefaction, including seismically induced settlement and a reduction in bearing capacity due to soil strength loss are discussed below. The liquefaction analysis reports computed for the boring location drilled as part of this investigation are included as Appendix 3. We discuss mitigation strategies and provide recommendations in the sections below.

# **Geotechnical Discussions and Conclusions**

Based on the results of our geotechnical investigation, SHN concludes that the site can be developed as planned for the proposed icehouse structure provided the recommendations presented in this report are followed. The geotechnical constraints for the project include the presence of non-engineered fill of variable density, proximity of the UST to the proposed footprint of the structure and required overbuild, and potential differential settlement from consolidation of the soft elastic silt encountered from 10.5 to 33 feet BGS. Development of criteria for foundation design and support of the concrete mat foundation will require consideration of the geotechnical constraints. The primary geotechnical site consideration in developing foundation design criteria for the proposed structure is the settlement potential (both static and co-seismic) and the liquefaction potential in the soft and loose, saturated sands and silt intervals.

The lateral and horizontal variability of the underlying soils and the limitations of modern software to model the complex conditions during an earthquake make it difficult to predict (with any confidence) the magnitude of static and co-seismic settlement. However, structural settlement is highly dependent upon the bearing soils and the distribution and amount of the applied load. In our opinion, conventional shallow foundations that bear directly on the soft and loose sands and silts can be expected to settle



over time. During a rare, very large earthquake, we conservatively estimate that there is a moderate to high potential for up to 3 to 4 inches of differential settlement (tilting of the buildings) across the project area due to liquefaction.

We believe the best option for minimizing the effects of liquefaction-induced differential settlement is a design using a concrete mat foundation supported on a geogrid-reinforced, crushed aggregate fill pad. This approach requires removal and replacement of the upper, foundation bearing soils and replacing them with interlayered geogrid and crushed aggregate fill to form a stiffened soil "raft." The thickness of the geogrid-reinforced, crushed aggregate fill pad and the geogrid layer intervals is driven by the allowable bearing capacity and an acceptable post-seismic settlement. We recommend designing to limit the total settlement to 1 inch without a foundation bearing failure following a strong earthquake event. The placement of a triaxial geogrid-reinforced engineered fill mat below the proposed structure is intended to minimize the estimated differential settlements caused by any settlement of the underlying liquefaction-susceptible soils that undergo volumetric strain due to post-liquefaction reconsolidation. It will also spread the load of the mat slab foundation over a larger area with less stress to minimize consolidation settlement of the underlying elastic silts. In addition, the high tensile strength of the triaxial geogrid reinforcement is expected to reduce the potentially damaging effects associated with liquefaction-induced ground surface deformation, if they occur.

The site is likely to experience strong seismic ground shaking resulting from earthquakes on active faults in the region during the design life of the proposed buildings. The intensity of ground shaking from earthquakes will depend on several factors, including the distance from the site to the earthquake focus, the magnitude and duration of the earthquake, and the response of the underlying soils. At a minimum, it will be necessary to design and construct the proposed buildings in accordance with the earthquake-resistant provisions of the governing building code.

## Recommendations

## **Site Preparation and Grading**

Site preparation operations should extend at least 10 feet beyond the limits of the proposed icehouse footprint. Site preparation includes demolition/removal of existing surface and subsurface improvements, and removal of debris, organics, organic topsoil, loose soil, and any other unsuitable material. Where the removal of the former UST is required, it will be necessary to backfill the excavation with properly placed engineered fill compacted to at least 90 percent relative compaction<sup>1</sup>. The cleared

<sup>&</sup>lt;sup>1</sup> Relative compaction refers to the in-place dry density of a soil expressed as a percentage of the maximum dry density of the same soil, as determined by the ASTM D1557 compaction test procedure. Optimum moisture is the water content (percentage by dry weight) corresponding to the maximum dry density.



vegetation and debris should be removed from the site. All active or inactive utility lines within the construction areas should be relocated or abandoned. Pipelines to be abandoned in place should be filled with a sand-cement slurry.

Any vegetation and organic topsoil with more than 2 percent organic material by dry weight should be removed. The Geotechnical Engineer should observe and approve the prepared site prior to any excavation, subgrade preparation, and placement of fill or improvements.

We expect that the site soils will be excavatable with conventional grading and trenching equipment. If grading commences in the winter or spring, or after a period of excessive rainfall, it is likely that the surficial soils will become saturated due to the presence of fine-grained material. Wet or saturated soil may cause difficulties in access with grading and trenching equipment and difficulties in loading, spreading, and compaction of fill material. Moisture conditioning and/or aerating of the site soils may be required. The time required for drying can be reduced by disking, ripping, or otherwise aerating the soil.

## **Geogrid-Reinforced Crushed Aggregate Fill Pad**

Specific details for the construction of the geogrid-reinforced crushed aggregate fill pad have been developed through consultation with Tensar Inc. and use of their design software. The recommendations provided below are specific to a two-foot-thick mat foundation using an allowable bearing capacity of 650 psf, and an acceptable level of total post-seismic settlement of 1 inch. The design assumes that high quality crushed rock or recycled aggregate with maximum particle size of 3.5 inches and not more than 15 percent passing No. 200 sieve is used in the construction of the pad.

Following site preparation, the area of the icehouse and at least 10 feet beyond the footprint of the proposed icehouse in every direction, should be over-excavated to a minimum depth of 36 inches below the bottom of the mat slab foundation. The exposed subgrade should be level, scarified to a minimum depth of 6 inches, moisture conditioned, and compacted to at least 90 percent relative compaction. We recommend that a layer of triaxial geogrid (Tensar InterAx<sup>™</sup> NX750 or equivalent) be placed on the exposed subgrade.

The initial layer of geogrid should be overlapped a minimum of 36 inches in all directions. The geogrid should be "shingled" such that the exposed geogrid is opposite the direction of fill placement.

With the basal layer of geogrid in place, place and compact 12 inches of crushed aggregate base fill in 8-inch-thick loose layers to a minimum of 90 percent relative compaction. Following compaction of the initial 12-inch-thick crushed aggregate base layer, place another layer of triaxial geogrid (Tensar InterAx<sup>™</sup> NX750 or equivalent) 90 degrees to the basal layer (that is, if the basal layer is laid in the north-south direction, this layer should be laid in the east-west direction). With this second layer in place at a depth of 24 inches below the bottom of the mat slab foundation over the area of the icehouse and at least 10 feet beyond the footprint of the proposed icehouse in every direction, place and compact 12



inches of crushed aggregate base fill in 8-inch-thick loose layers to a minimum of 90 percent relative compaction.

Following compaction of the second 12-inch-thick aggregate base layer, place another layer of triaxial geogrid (Tensar InterAx<sup>™</sup> NX750 or equivalent) in the same direction of the initial basal layer. With this third layer of geogrid in place, place and compact 12 inches of crushed aggregate base fill in maximum 8-inch-thick loose layers to a minimum of 90 percent relative compaction. The upper 24 inches of properly compacted engineered fill (90 percent relative compaction) surrounding the structure's mat slab foundation and 10 feet beyond its footprint, can be placed using onsite material that meets select fill requirements presented below to subgrade elevation. The proposed mat slab foundation will bear directly on the upper 12 inches of properly compacted crushed aggregate fill.

The contractor shall be responsible for the stability of all temporary excavations and should comply with the applicable Occupational Safety and Health Administration (OSHA) regulations (California Construction Safety Orders, Title 8). The Contractor should periodically monitor all open cuts for evidence of incipient stability failures.

## **Select Engineered Fills**

The 24 inches of select engineered fill placed on top of the geogrid-reinforced, crushed aggregate pad and other areas to raise the site grades outside the building areas, if necessary, should meet the following requirements. Select engineered fill should have less than 2 percent by dry weight of vegetation and deleterious material and should meet the gradation requirements presented in Table 2 on the following page.

All engineered fill soils should meet the gradations presented above. Fine-grained soil with a liquid limit greater than 35 and a plasticity index greater than 12 should not be used as select engineered fill. If clayey soils do not meet the plasticity requirements, mixing of the clayey soils with sandier soils may be required. Crushing and/or removal of rock particles greater than 3 inches in size will be required. Select engineered fill should have a low corrosion potential, which is defined as a minimum resistivity of 2,000 ohms per centimeter (ohms-cm) and maximum sulfate and chloride concentrations of 250 parts per million (ppm). In addition, we do not recommend using river-run material as select engineered fill; crushed, angular material should have at least 50 percent of the material (as determined by the material's dry weight) containing a minimum of two fractured faces.



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| Sieve Designation             | Percent Passing by Dry<br>Weight |  |  |
|-------------------------------|----------------------------------|--|--|
| 3-inch (50 mm) <sup>i</sup>   | 100                              |  |  |
| 21⁄2-inch (37.5 mm)           | 85 minimum                       |  |  |
| ¾-inch (19 mm)                | 70 minimum                       |  |  |
| No. 4 (4.75 mm)               | 60 minimum                       |  |  |
| No. 200 (75 μm) <sup>ii</sup> | 5 minimum, 15 maximum            |  |  |

#### Table 2. Fill Gradation Criteria

Engineered fill should be placed in loose lifts not exceeding 8 inches in thickness and compacted to a minimum of 90 percent relative compaction. The Geotechnical Engineer should approve all fill prior to placement. A qualified field technician should be present to observe fill placement and perform field density tests in accordance with ASTM-International (ASTM) D 6938 at random locations throughout each lift to verify that the specified compaction is being achieved.

The samples of any proposed import fill materials should be submitted to SHN for approval at least 3 business days prior to use at the site.

#### **Surface Drainage Control**

Surface drainage should be planned to prevent ponding and enable water to drain away from foundations and slabs-on-grade and towards suitable collection or discharge facilities. A positive surface drainage of at least 4 percent is recommended within 10 feet of all building foundations in unpaved areas. In paved areas, a positive surface drainage of at least 2 percent is recommended to allow for rapid removal of surface water. Roof drainage systems should be planned to direct rainwater away from building foundations.

The use of water-intensive landscaping around the perimeter of the structure should be avoided to reduce the amount of water introduced to the subgrade. Irrigation of landscaping around structures should be limited to drip or bubbler-type systems. Trees with large roots should also be avoided since they can dry out the soil beneath foundations and cause settlement. The purpose of these recommendations is to avoid large differential moisture changes adjacent to foundations which have been known to cause large differential movement over short horizontal distances in expansive soils resulting in cracking of slabs and architectural damage.

## **Utility Trench Backfill**

Unless concrete bedding is required around utilities, bedding should consist of sand having a sand equivalent (SE) of at least 30. The bedding should extend from 6 inches below to 1 foot above the conduit or pipe. Sand bedding should not be jetted or ponded into place and should be mechanically compacted to a minimum of 90 percent relative compaction.



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In areas to support improvements (such as adjacent-to-structure foundations), backfill placed above the bedding in utility trenches (including culvert and sprinkler lines) should be properly placed and adequately compacted to minimize settlement and provide a stable subgrade. If possible, the trench backfill should be compacted following rough grading but prior to final grading and compaction. Onsite inorganic soils meeting the requirements for engineered fill may be used as trench backfill. Backfill consisting of onsite soils should be placed in layers not exceeding 8 inches in loose thickness, moisture-conditioned, and compacted to at least 90 percent relative compaction as described for engineered fill. Trench backfill need only be compacted to 85 percent relative compaction in landscape areas or in areas more than 5 feet beyond the limits of building foundations.

Where utility trenches cross underneath buildings, we recommend that a plug be placed within the trench backfill to minimize the normally granular backfill from acting as a conduit for water to enter beneath the building. The plug should be constructed using sand-cement slurry (minimum 28-day compressive strength of 500 pounds per square inch [psi]) or relatively impermeable native soil for pipe bedding or backfill. We recommend that the plug extend a distance of at least 3 feet in each direction from the point where the utility enters the building perimeter.

Tensar geogrids are routinely excavated through in order to place underground utilities. Since the geogrid works through interlock and not typically as a tensile element, excavation through the geogrid does not usually compromise its benefit. However, the geogrid will require patching following the manufacturer's recommendations during trench backfill. Typically, the geogrid patch should cover the damaged area and extend a minimum of 12 inches beyond it in all directions if only the upper geogrid layer is excavated through. If the lower geogrid layer is excavated through, an additional geogrid patch should be installed along the sides and bottom of the trench and extend a minimum of 12 inches on either side of the trench with the upper geogrid patch. Our field engineer should be onsite to check repair of the stabilized areas during trench backfill operations.

#### **Foundations**

A mat foundation bearing on the upper 12 inches of properly compacted crushed aggregate fill may be designed using an allowable bearing capacity of 650 psf for dead plus long-term live loads. This allowable bearing capacity may be increased by one-third for total load conditions, including wind and seismic.

The mat foundation should be reinforced with grids of reinforcing steel bars. The project structural engineer should determine actual mat reinforcing based on anticipated loading and the design criteria presented in this report.



## Subgrade Modulus for Mat Foundation Design

For mat foundation design, we recommend using the following equation to estimate the subgrade modulus:

 $K_s$  (pounds per cubic inch - pci) =  $k_1/B^*(1+B/L/2)/1.5$ 

Where:  $k_1$  = coefficient of subgrade reaction for 1-foot square plate = 350 pci

- B = width of foundation bearing area beneath column or bearing wall in feet
- L = length of foundation bearing area beneath column or bearing wall in feet

The equation is empirical and the  $k_1$  units are pci (provided the values of B and L used are in feet). The values of B and L and the corresponding  $K_s$  value should be consistent with the calculated deflected shape of the mat.

#### Lateral Resistance

Base friction resistance may be calculated using a friction coefficient of 0.45 (ultimate value for concrete on crushed aggregate fill material). Passive resistance may be calculated using an equivalent fluid unit weight of 300 pounds per cubic foot (pcf). This value is reduced by a factor of 1.5 from the ultimate value to limit movement required to mobilize ultimate passive pressure. Both the ultimate base friction and allowable passive pressure may be combined in calculating total lateral resistance. The passive resistance contributed by fill material within 1 foot of the ground surface should be neglected unless these materials are protected and confined by a slab-on-grade or pavement.

The mat foundation should be cast neat against the engineered fill to develop the design passive resistance. Alternatively, any gap between the foundation and the adjacent ground should be completely backfilled using lean concrete.

## Settlement

Maximum total settlement due to static loads at the center of a mat slab foundation designed and constructed in accordance with the recommendations presented in this report is estimated to be less than approximately 1 inch. Total differential settlement is estimated to be less than <sup>1</sup>/<sub>2</sub> inch. The majority of the total settlement is expected to occur during construction.

## **Concrete Slabs-on-Grade**

Exterior flatwork should be underlain by a minimum of 4 inches of Class 2 Aggregate Base rock, compacted to a minimum of 90 percent relative compaction.



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It is important that the subgrade be moist and free of desiccation cracks at the time the slab is cast. Recommendations for slab reinforcement, strength, thickness, control, and construction joints, etc., should be provided by others. Although cracks in concrete slabs are common and should be expected, the following measures may help to reduce the cracking of slabs.

- Slabs should be cast using concrete with a maximum slump of 4 inches or less.
- Add a water-reducing agent or plasticizer to the concrete to increase slump while maintaining a low water-cement ratio to reduce concrete shrinkage. (Concrete having a high water-cement ratio is a major cause of concrete cracking.)

Control joints should be provided at appropriate intervals to control the location of shrinkage cracks.

# **Additional Services**

We recommend that SHN be retained during the construction phase to verify the implementation of our recommendations related to earthwork and to perform the following tasks:

- 1. Monitor site clearing, including removal of any unsuitable material if it is determined that this is required.
- 2. Monitor over excavation and subgrade preparation.
- 3. Observe geogrid placement, including patching of utility excavations that extend through geogrid
- 4. Verify engineered fill soils meet specifications.
- 5. Observe and test placement of engineered fill and backfill.
- 6. Observe foundation excavations prior to rebar and concrete placement.

This construction phase monitoring is important, because it provides the stakeholders and SHN the opportunity to verify anticipated site conditions and recommend appropriate changes in design or construction procedures if site conditions encountered during construction vary from those described in this report. It also allows SHN to recommend appropriate changes in design or construction procedures if construction methods adversely affect the competence of onsite soils to support the structural improvements.

SHN cannot assume responsibility or liability for the adequacy of our geotechnical recommendations unless SHN is retained to observe the soil-related portions of the construction. Furthermore, if another geotechnical consultant is retained for follow-up services to this report, SHN will at that time cease to be the Geotechnical Engineer-of-Record.



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# Closure

The opinions presented in this report are valid as of the present date for the property evaluated. Changes in the condition of a property can occur with the passage of time, whether due to natural processes or the works of humans, on this or adjacent properties. In addition, changes in applicable standards of practice can occur, whether from legislation or the broadening of knowledge. Accordingly, the opinions presented in this report may be invalidated, wholly or partially, by changes outside of our control. Therefore, this report is subject to review and should not be relied upon after a period of three years. In addition, this report should not be used and is not applicable for any property other than that evaluated.

If there is a substantial lapse of time between the submission of our report and the start of work at the site, or if conditions have changed due to natural causes or construction operations at or adjacent to the site, we should review our report to determine the applicability of the conclusions and recommendations considering the changed conditions and time lapse. This report is applicable only to the site studied.

The information and discussion presented in this report are professional opinions derived in accordance with current standards of professional practice. No warranty is expressed or implied.

We trust this provides the information you require at this time. If you have any questions or additional information is required, please call us at 707-459-4518. Thank you for the opportunity to be of service to you on this project.



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Sincerely,

#### SHN

Christina M. Tipp 2737 OF CALIFORNIA

Christina M. Tipp, CEG 2737 Senior Engineering Geologist

CMT:JHD:amg

- Appendices: 1. Boring Logs
  - 2. Laboratory Test Results
  - 3. Liquefaction Analysis Report



02/21/2025

John H. Dailey, GE 256 Senior Geotechnical Engineer



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# **Boring Logs**

1

|                                                                                                                                                                                                                                                           | -<br>IN               | 7                                 |                                                          |          |                                                     | BORING NUMBER B-1<br>PAGE 1 OF 3                                                                                                                                                                                                                                                                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------------------|----------------------------------------------------------|----------|-----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CLIENT Novo Harbor District         PROJECT NUMBER 424053         DATE STARTED 1/7/25         COMPLETED 1/7/25         DRILLING CONTRACTOR         DRILLING METHOD Solid Flight Augers/ Mud Rotary         LOGGED BY C. Tipp         CHECKED BY J. Dailey |                       |                                   |                                                          | PLETE    | <b>:D</b> <u>1/7</u><br>ary<br><b>BY</b> <u>J</u> . | PROJECT NAME Noyo Icehouse         PROJECT LOCATION 19101 South Harbor Drive, Fort Bragg, California         7/25       GROUND ELEVATION HOLE SIZE 4"         GROUNDWATER DEPTH         Y AT TIME OF DRILLING 10.00 ft         Dailey       Y AT END OF DRILLING                                           |
| NOTE                                                                                                                                                                                                                                                      | s                     |                                   |                                                          |          |                                                     |                                                                                                                                                                                                                                                                                                            |
| o DEPTH<br>(ft)                                                                                                                                                                                                                                           | SAMPLE TYPE<br>NUMBER | BLOW<br>COUNTS<br>(N VALUE)       | TESTS                                                    | U.S.C.S. | GRAPHIC<br>LOG                                      | MATERIAL DESCRIPTION                                                                                                                                                                                                                                                                                       |
| <br><br><br>                                                                                                                                                                                                                                              | MCS                   | 13-13-15<br>(28)<br>7-9-9<br>(18) | MC = 7%<br>DD = 124 pcf<br>MC = 16%<br>DD = 109 pcf      | sw       |                                                     | (SW) WELL GRADED SAND with GRAVEL, medium dense, brown, moist, fine to coarse sand, approx. 60% fine to coarse rounded to angular gravel between 1/4" to 3", (FILL). Grades to dark greenish gray, angular serpentinite fragments. Yellowish brown mottling, decrease gravel content to approximately 40%. |
|                                                                                                                                                                                                                                                           | MCS                   | 4-5-7<br>(12)                     | MC = 17%<br>DD = 112 pcf                                 | SM       |                                                     | <ul> <li>(SM) SILTY SAND, loose, brown to greenish brown, moist, fine to coarse sand, approx. 25% fine to coarse angular to rounded gravel, yellowish-brown mottling, (FILL).</li> </ul>                                                                                                                   |
|                                                                                                                                                                                                                                                           | SPT                   | 1-1-2<br>(3)                      | Fines = 21%                                              | SM       |                                                     | 10.5<br>(SM) SILTY SAND, very loose, dark gray, wet, fine to medium sand (79%),<br>(NATIVE).<br>(MH) ELASTIC SILT, soft, dark gray, moist, high plasticity (Estuarine Deposits).<br>Abundant organics/roots.                                                                                               |
| 15                                                                                                                                                                                                                                                        | ST                    |                                   | MC = 46%<br>DD = 66 pcf<br>LL = 61<br>PL = 39<br>PI = 22 | МН       |                                                     | Pushed shelby tube at 200 PSI from 13' - 15.5' (30" recovery).                                                                                                                                                                                                                                             |
| <br><br>20                                                                                                                                                                                                                                                | SPT                   | 2-2-2<br>(4)                      |                                                          |          |                                                     | Slight organic odor, trace fine sand.                                                                                                                                                                                                                                                                      |
|                                                                                                                                                                                                                                                           |                       |                                   |                                                          |          |                                                     | (Continued Next Bage)                                                                                                                                                                                                                                                                                      |

Continued Next Page)







# METHOD OF SOIL CLASSIFICATION

| MAJOR DIVISIONS                                                          |                                               | SYMBOLS | TYPICAL NAMES                                                                                                         |       |
|--------------------------------------------------------------------------|-----------------------------------------------|---------|-----------------------------------------------------------------------------------------------------------------------|-------|
|                                                                          |                                               | GW      | WELL GRADED GRAVELS OR GRAVEL-SAND MIXTURES,<br>LITTLE OR NO FINES                                                    |       |
| S I                                                                      | GRAVELS<br>(MORE THAN 1/2 OF                  | GP      | POORLY GRADED GRAVELS OR GRAVEL-SAND MIXTURES,<br>LITTLE OR NO FINES                                                  |       |
| F SOIL                                                                   | > NO.4 SIEVE SIZE)                            | GM      | SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES                                                                              |       |
| INED                                                                     |                                               | GC      | CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES                                                                             |       |
| CRA<br>THAN 1<br>200 SI                                                  |                                               | SW      | WELL GRADED SANDS OR GRAVELLY SANDS, LITTLE OR NO FINES                                                               | н     |
| RSE<br>AORE 1                                                            | SANDS<br>(MORE THAN 1/2 OF<br>COARSE ERACTION | SP      | POORLY GRADED SANDS OR GRAVELLY SANDS,<br>LITTLE OR NO FINES                                                          | CHAR  |
| <pre>COARSE FRACTION &lt; NO.4 SIEVE SIZE)</pre>                         | < NO.4 SIEVE SIZE)                            | SM      | SILTY SANDS, SAND-SILT MIXTURES                                                                                       | NO    |
|                                                                          |                                               | SC      | CLAYEY SANDS, SAND-CLAY MIXTURES                                                                                      | CATI  |
| S                                                                        |                                               | ML      | INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR<br>CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY | SSIFI |
| F SOIL                                                                   | SILTS & CLAYS                                 | CL      | INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS                     | CLA   |
| /2 Ol                                                                    | LESS THAN 50                                  | OL      | ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY                                                               |       |
| FINE GRAIN<br>(MORE THAN 1<br>(NO. 200 SI<br>(MORE THAN 1<br>CNO. 200 SI | SILTS & CLAYS                                 | мн      | INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SANDY<br>OR SILTY SOILS, ELASTIC SILTS                                |       |
|                                                                          | LIQUID LIMIT                                  | СН      | INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS                                                                         |       |
|                                                                          | Cherter That 00                               | ОН      | ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTY CLAYS, ORGANIC SILTS                                        |       |
| HIGHLY                                                                   | ORGANIC SOILS                                 | PT      | PEAT AND OTHER HIGHLY ORGANIC SOILS                                                                                   |       |

| CLASSIFICATION                   | U.S. STANDARD<br>SIEVE SIZE                                                  | F       |
|----------------------------------|------------------------------------------------------------------------------|---------|
| BOULDERS                         | ABOVE 12"                                                                    | IAR'    |
| COBBLES                          | 12" TO 3"                                                                    | <u></u> |
| GRAVEL<br>COARSE<br>FINE         | 3" TO NO. 4<br>3" TO 3/4"<br>3/4" TO NO. 4                                   | N SIZE  |
| SAND<br>COARSE<br>MEDIUM<br>FINE | NO. 4 TO NO. 200<br>NO. 4 TO NO. 10<br>NO. 10 TO NO. 40<br>NO. 40 TO NO. 200 | GRAII   |
| SILT & CLAY                      | BELOW NO. 200                                                                |         |



|                | NCY OF             | DENSITY OF     |              | MOISTURE             |
|----------------|--------------------|----------------|--------------|----------------------|
|                |                    | CUARSE GRA     | NINED SUILS  | CLASSIFICATIONS      |
| CLASSIFICATION | COHESION (PSF)     | CLASSIFICATION | STANDARD     | DRY                  |
|                |                    |                | PENETRATION  | DAMP                 |
|                |                    |                | (BLOW COUNT) | MOIST                |
| VERY SOFT      | 0-250              | VERY LOOSE     | 0-4          | WET                  |
| SOFT           | 250-500            | LOOSE          | 4-10         |                      |
| MEDIUM STIFF   | 500-1000           | MEDIUM         | 10-30        | BASED ON UNIFIED     |
| STIFF          | 1000-2000          | DENSE          | 30-50        | SOILS CLASSIFICATION |
| HARD           | 2000-4000<br>4000+ | VERY DENSE     | 50+          | SYSTEM               |

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# Laboratory Test Results

## One-Dimensional Consolidation by ASTM D2435 - Method A

Summary Report



|                                          |       |       |                      |        | Before Test | After Test |
|------------------------------------------|-------|-------|----------------------|--------|-------------|------------|
| Current Vertical Effective Stress: 0 psf |       |       | Water Content, %     | 46.45  | 46.45       |            |
| Preconsolidation Stress: 0 psf           |       |       | Dry Unit Weight, pcf | 66.452 | 88.603      |            |
| Compression Ratio: 0                     |       |       | Saturation, %        | 82.64  | 141.96      |            |
| Diameter: 2.5 in Height: 1 in            |       |       | Void Ratio           | 1.49   | 0.87        |            |
| LL: 0                                    | PL: 0 | PI: 0 | GS: 2.65             |        |             |            |

|  | Project: Noyo Ice House                    | Location: Noyo Harbor | Project No.: 424053 |  |  |
|--|--------------------------------------------|-----------------------|---------------------|--|--|
|  | Boring No.: B-1                            | Tested By: JMA        | Checked By: KEW     |  |  |
|  | Sample No.: 5                              | Test Date: 1/29/25    | Depth: 13-15.5'     |  |  |
|  | Test No.: 25-027                           | Sample Type:          | Elevation:          |  |  |
|  | Description: Soft Brown CLAY with Organics |                       |                     |  |  |
|  | Remarks:                                   |                       |                     |  |  |
|  | Displacement at End of Primary             |                       |                     |  |  |

Log of Time Coefficients



|  | Project: Noyo Ice House                    | Location: Noyo Harbor | Project No.: 424053 |  |  |
|--|--------------------------------------------|-----------------------|---------------------|--|--|
|  | Boring No.: B-1                            | Tested By: JMA        | Checked By: KEW     |  |  |
|  | Sample No.: 5                              | Test Date: 1/29/25    | Depth: 13-15.5'     |  |  |
|  | Test No.: 25-027                           | Sample Type:          | Elevation:          |  |  |
|  | Description: Soft Brown CLAY with Organics |                       |                     |  |  |
|  | Remarks:                                   |                       |                     |  |  |
|  |                                            |                       |                     |  |  |



 Boring No.: B-1
 Tested By: JMA
 Checked By: KEW

 Sample No.: 5
 Test Date: 1/29/25
 Depth: 13-15.5'

 Test No.: 25-027
 Sample Type:
 Elevation:

 Description: Soft Brown CLAY with Organics
 Remarks:

One-Dimensional Consolidation by ASTM D2435 - Method A

Time Curve 1 of 9 Constant Load Step Stress: 250 psf



|  | Project: Noyo Ice House                    | Location: Noyo Harbor | Project No.: 424053 |  |  |
|--|--------------------------------------------|-----------------------|---------------------|--|--|
|  | Boring No.: B-1                            | Tested By: JMA        | Checked By: KEW     |  |  |
|  | Sample No.: 5                              | Test Date: 1/29/25    | Depth: 13-15.5'     |  |  |
|  | Test No.: 25-027                           | Sample Type:          | Elevation:          |  |  |
|  | Description: Soft Brown CLAY with Organics |                       |                     |  |  |
|  | Remarks:                                   |                       |                     |  |  |
|  |                                            |                       |                     |  |  |

One-Dimensional Consolidation by ASTM D2435 - Method A

Time Curve 2 of 9 Constant Load Step Stress: 500 psf



|  | Project: Noyo Ice House                    | Location: Noyo Harbor | Project No.: 424053 |  |  |
|--|--------------------------------------------|-----------------------|---------------------|--|--|
|  | Boring No.: B-1                            | Tested By: JMA        | Checked By: KEW     |  |  |
|  | Sample No.: 5                              | Test Date: 1/29/25    | Depth: 13-15.5'     |  |  |
|  | Test No.: 25-027                           | Sample Type:          | Elevation:          |  |  |
|  | Description: Soft Brown CLAY with Organics |                       |                     |  |  |
|  | Remarks:                                   |                       |                     |  |  |
|  |                                            |                       |                     |  |  |

One-Dimensional Consolidation by ASTM D2435 - Method A

Time Curve 3 of 9 Constant Load Step Stress: 1e+03 psf



|  | Project: Noyo Ice House                    | Location: Noyo Harbor | Project No.: 424053 |  |  |
|--|--------------------------------------------|-----------------------|---------------------|--|--|
|  | Boring No.: B-1                            | Tested By: JMA        | Checked By: KEW     |  |  |
|  | Sample No.: 5                              | Test Date: 1/29/25    | Depth: 13-15.5'     |  |  |
|  | Test No.: 25-027                           | Sample Type:          | Elevation:          |  |  |
|  | Description: Soft Brown CLAY with Organics |                       |                     |  |  |
|  | Remarks:                                   | Remarks:              |                     |  |  |
|  |                                            |                       |                     |  |  |

One-Dimensional Consolidation by ASTM D2435 - Method A

Time Curve 4 of 9 Constant Load Step Stress: 2e+03 psf



| En | Project: Noyo Ice House                    | Location: Noyo Harbor | Project No.: 424053 |  |  |
|----|--------------------------------------------|-----------------------|---------------------|--|--|
|    | Boring No.: B-1                            | Tested By: JMA        | Checked By: KEW     |  |  |
|    | Sample No.: 5                              | Test Date: 1/29/25    | Depth: 13-15.5'     |  |  |
|    | Test No.: 25-027                           | Sample Type:          | Elevation:          |  |  |
|    | Description: Soft Brown CLAY with Organics |                       |                     |  |  |
|    | Remarks:                                   |                       |                     |  |  |
|    |                                            |                       |                     |  |  |

One-Dimensional Consolidation by ASTM D2435 - Method A

Time Curve 5 of 9 Constant Load Step Stress: 4e+03 psf



|  | Project: Noyo Ice House                    | Location: Noyo Harbor | Project No.: 424053 |  |  |
|--|--------------------------------------------|-----------------------|---------------------|--|--|
|  | Boring No.: B-1                            | Tested By: JMA        | Checked By: KEW     |  |  |
|  | Sample No.: 5                              | Test Date: 1/29/25    | Depth: 13-15.5'     |  |  |
|  | Test No.: 25-027                           | Sample Type:          | Elevation:          |  |  |
|  | Description: Soft Brown CLAY with Organics |                       |                     |  |  |
|  | Remarks:                                   |                       |                     |  |  |
|  |                                            |                       |                     |  |  |

One-Dimensional Consolidation by ASTM D2435 - Method A

Time Curve 6 of 9 Constant Load Step Stress: 8e+03 psf



|  | Project: Noyo Ice House                    | Location: Noyo Harbor | Project No.: 424053 |  |  |
|--|--------------------------------------------|-----------------------|---------------------|--|--|
|  | Boring No.: B-1                            | Tested By: JMA        | Checked By: KEW     |  |  |
|  | Sample No.: 5                              | Test Date: 1/29/25    | Depth: 13-15.5'     |  |  |
|  | Test No.: 25-027                           | Sample Type:          | Elevation:          |  |  |
|  | Description: Soft Brown CLAY with Organics |                       |                     |  |  |
|  | Remarks:                                   |                       |                     |  |  |
|  |                                            |                       |                     |  |  |

One-Dimensional Consolidation by ASTM D2435 - Method A

Time Curve 7 of 9 Constant Load Step Stress: 4e+03 psf



|  | Project: Noyo Ice House                    | Location: Noyo Harbor | Project No.: 424053 |  |  |
|--|--------------------------------------------|-----------------------|---------------------|--|--|
|  | Boring No.: B-1                            | Tested By: JMA        | Checked By: KEW     |  |  |
|  | Sample No.: 5                              | Test Date: 1/29/25    | Depth: 13-15.5'     |  |  |
|  | Test No.: 25-027                           | Sample Type:          | Elevation:          |  |  |
|  | Description: Soft Brown CLAY with Organics |                       |                     |  |  |
|  | Remarks:                                   | Remarks:              |                     |  |  |
|  |                                            |                       |                     |  |  |

One-Dimensional Consolidation by ASTM D2435 - Method A

Time Curve 8 of 9 Constant Load Step Stress: 2e+03 psf



 Project: Noyo Ice House
 Location: Noyo Harbor
 Project No.: 424053

 Boring No.: B-1
 Tested By: JMA
 Checked By: KEW

 Sample No.: 5
 Test Date: 1/29/25
 Depth: 13-15.5'

 Test No.: 25-027
 Sample Type:
 Elevation:

 Description: Soft Brown CLAY with Organics
 Remarks:
 Elevation:

#### One-Dimensional Consolidation by ASTM D2435 - Method A

Time Curve 9 of 9 Constant Load Step Stress: 500 psf



|  | Project: Noyo Ice House                    | Location: Noyo Harbor | Project No.: 424053 |  |  |
|--|--------------------------------------------|-----------------------|---------------------|--|--|
|  | Boring No.: B-1                            | Tested By: JMA        | Checked By: KEW     |  |  |
|  | Sample No.: 5                              | Test Date: 1/29/25    | Depth: 13-15.5'     |  |  |
|  | Test No.: 25-027                           | Sample Type:          | Elevation:          |  |  |
|  | Description: Soft Brown CLAY with Organics |                       |                     |  |  |
|  | Remarks:                                   |                       |                     |  |  |
|  |                                            |                       |                     |  |  |



#### **DENSITY BY DRIVE- CYLINDER METHOD (ASTM D2937)**

| Project Name:    | Noyo Ice House | Project Number: | 424053    |
|------------------|----------------|-----------------|-----------|
| Performed By:    | JMA            | Date:           | 1/31/2025 |
| Checked By:      | KEW            | Date:           | 2/11/2025 |
| Project Manager: | Scott Perkins  |                 |           |

| Lab Sample Number                 | 25-023 | 25-024 | 25-025 |      |
|-----------------------------------|--------|--------|--------|------|
| Boring Label                      | B-1    | B-1    | B-1    |      |
| Sample Depth (ft)                 | 2.5-3  | 4.5-5  | 8-8.5  |      |
| Diameter of Cylinder, in          | 2.42   | 2.42   | 2.42   |      |
| Total Length of Cylinder, in.     | 6.00   | 6.00   | 6.00   |      |
| Length of Empty Cylinder A, in.   | 0.62   | 0.00   | 0.00   |      |
| Length of Empty Cylinder B, in.   | 2.01   | 0.00   | 0.00   |      |
| Length of Cylinder Filled, in     | 3.37   | 6.00   | 6.00   |      |
| Volume of Sample, in <sup>3</sup> | 15.50  | 27.60  | 27.60  | <br> |
| Volume of Sample, cc.             | 254.01 | 452.24 | 452.24 |      |

| Pan #                           | A3    | A5     | A11    |  |
|---------------------------------|-------|--------|--------|--|
| Weight of Wet Soil and Pan      | 628.3 | 1006.3 | 1035.0 |  |
| Weight of Dry Soil and Pan      | 591.1 | 877.5  | 900.1  |  |
| Weight of Water                 | 37.2  | 128.8  | 134.9  |  |
| Weight of Pan                   | 85.3  | 86.8   | 86.0   |  |
| Weight of Dry Soil              | 505.8 | 790.7  | 814.1  |  |
| Percent Moisture                | 7.4   | 16.3   | 16.6   |  |
| Dry Density, g/cc               | 1.99  | 1.75   | 1.80   |  |
| Dry Density, lb/ft <sup>3</sup> | 124.3 | 109.1  | 112.4  |  |



#### PERCENT PASSING # 200 SIEVE (ASTM - D1140)

| Project Name:    | Noyo Ice House | Project Number: | 424053    |
|------------------|----------------|-----------------|-----------|
| Performed By:    | JMA            | Date:           | 1/31/2025 |
| Checked By:      | KEW            | Date:           | 2/11/2025 |
| Project Manager: | Scott Perkins  |                 |           |

| Lab Sample Number                   | 25-026  | 25-028  | 25-029  | 25-030  |  |
|-------------------------------------|---------|---------|---------|---------|--|
| Boring Label                        | B-1     | B-1     | B-1     | B-1     |  |
| Sample Depth (ft)                   | 10-10.5 | 35-36.5 | 40-41.5 | 45-46.5 |  |
| Pan Number                          | ss6     | ss15    | ss3     | ss9     |  |
| Dry Weight of Soil & Pan            | 333.0   | 324.6   | 415.6   | 463.3   |  |
| Pan Weight                          | 196.1   | 194.3   | 197.6   | 196.6   |  |
| Weight of Dry Soil                  | 136.9   | 130.3   | 218.0   | 266.7   |  |
| Soil Weight Retained on<br>#200&Pan | 304.6   | 262.3   | 382.1   | 434.5   |  |
| Soil Weight Passing #200            | 28.4    | 62.3    | 33.5    | 28.8    |  |
| Percent Passing #200                | 20.7    | 47.8    | 15.4    | 10.8    |  |

| Lab Sample Number                   |  |  |  |
|-------------------------------------|--|--|--|
| Boring Label                        |  |  |  |
| Sample Depth                        |  |  |  |
| Pan Number                          |  |  |  |
| Dry Weight of Soil & Pan            |  |  |  |
| Pan Weight                          |  |  |  |
| Weight of Dry Soil                  |  |  |  |
| Soil Weight Retained on<br>#200&Pan |  |  |  |
| Soil Weight Passing #200            |  |  |  |
| Percent Passing #200                |  |  |  |


#### LIQUID LIMIT, PLASTIC LIMIT, and PLASTICITY INDEX (ASTM D4318)

| Noyo Ice House | PROJECT NUMBER:                                 | 424053                                                                         | LAB SAMPLE ID:                                                                                         | 25-027                                                                                                                            |
|----------------|-------------------------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| B-1 13-15.5'   | PERFORMED BY:                                   | JMA                                                                            | DATE:                                                                                                  | 2/4/2025                                                                                                                          |
| Scott Perkins  | CHECKED BY:                                     | KEW                                                                            | DATE:                                                                                                  | 2/11/2025                                                                                                                         |
|                | Noyo Ice House<br>B-1 13-15.5'<br>Scott Perkins | Noyo Ice HousePROJECT NUMBER:B-1 13-15.5'PERFORMED BY:Scott PerkinsCHECKED BY: | Noyo Ice House PROJECT NUMBER: 424053   B-1 13-15.5' PERFORMED BY: JMA   Scott Perkins CHECKED BY: KEW | Noyo Ice House PROJECT NUMBER: 424053 LAB SAMPLE ID:   B-1 13-15.5' PERFORMED BY: JMA DATE:   Scott Perkins CHECKED BY: KEW DATE: |

| LINE<br>NO. |                            | TRIAL NO 1 | TRIAL NO 2 | TRIAL NO. 1 | TRIAL NO 2 | TRIAL NO 3 |
|-------------|----------------------------|------------|------------|-------------|------------|------------|
| A           | PAN #                      | 17         | 18         | 7           | 8          | 9          |
| В           | PAN WT. (g)                | 20.23      | 20.12      | 28.75       | 28.92      | 28.48      |
| С           | WT. WET SOIL & PAN (g)     | 26.42      | 26.36      | 35.55       | 36.15      | 37.16      |
| D           | WT. DRY SOIL & PAN (g)     | 24.73      | 24.58      | 33.01       | 33.40      | 33.80      |
| Е           | WT. WATER (C-D)            | 1.69       | 1.78       | 2.540       | 2.75       | 3.36       |
| F           | WT. DRY SOIL (D-B)         | 4.50       | 4.46       | 4.26        | 4.48       | 5.32       |
| G           | BLOW COUNT                 |            |            | 28          | 23         | 16         |
| Н           | MOISTURE CONTENT (E/F*100) | 37.6       | 39.9       | 59.6        | 61.4       | 63.2       |

| LIQUID LIMIT | PLASTIC INDEX | PLASTIC LIMIT |
|--------------|---------------|---------------|
| 61           | 22            | 39            |







### SIEVE ANALYSIS WORKSHEET ASTM C136

| PROJECT NAME:          |             |              | LAB         | SAMPLE NO: | 25-023A       |             |             |
|------------------------|-------------|--------------|-------------|------------|---------------|-------------|-------------|
| PROJECT NUMBER:        | 424053      |              | PER         | FORMED BY: | JMA           | DATE:       | 2/3/2024    |
| PROJECT SAMPLE I.D.:   | B-1 2       | 2.5-3'       | C           | HECKED BY: | KEW           | DATE:       | 2/11/2025   |
|                        |             |              |             |            |               |             |             |
| TOTAL SAMPLE WEIG      | HT BEFORE \ | NASH:        | 823.8       | SAMPLE W   | VEIGHT AFT    | ER WASH:    | 623.4       |
| PERCENT WASHED:        |             | 24.3         |             |            |               |             |             |
| PERCENT LOST=          | 0.06        | MUST BE 0.30 | % OR LESS T | O COMPLY W | / ASTM C136 A | ND AASHTO T | 27          |
|                        | WEIGHT RI   | ETAINED      |             |            |               |             | % PASSED    |
| SIEVE #                | SCREEN      | TOTAL        |             |            | % PASSED      |             | REQUIREMENT |
| <b>3"</b> (75mm)       |             | 0            | 1           |            | 100           | ]           |             |
| <b>2 1/2</b> (63mm)    |             | 0            | 1           |            | 100           | 1           |             |
| <b>2"</b> (50mm)       |             | 0            | 1           |            | 100           | 1           |             |
| <b>1 1/2"</b> (37.5mm) | 0           | 0            |             |            | 100           |             |             |
| <b>1"</b> (25mm)       | 49          | 49           |             |            | 94            |             |             |
| <b>3/4"</b> (19mm)     | 71          | 119          |             |            | 86            |             |             |
| <b>1/2"</b> (12.5mm)   | 27          | 146          |             |            | 82            |             |             |
| <b>3/8"</b> (9.5mm)    | 24          | 170          |             |            | 79            |             |             |
| <b>#4</b> (4.75mm)     | 59          | 229.7        |             |            | 72            | 1           |             |
| Pan                    | 394         | 623.8        | 1           |            |               |             |             |

#### FINE FRACTION GRADING WEIGHT

|                     | -         |         | _     |
|---------------------|-----------|---------|-------|
|                     | WEIGHT RE | ETAINED |       |
|                     | REDUCED   |         |       |
|                     | PORTION   | SCREEN  | TOTAL |
| <b>#8</b> (2.36mm)  |           |         |       |
| <b>#10</b> (2mm)    |           |         |       |
| <b>#16</b> (1.18mm) |           |         |       |
| <b>#30</b> (600um)  |           |         |       |
| <b>#40</b> (425um)  |           |         |       |
| <b>#50</b> (300um)  |           |         |       |
| <b>#60</b> (250um)  |           |         |       |
| <b>#100</b> (150um) |           |         |       |
| <b>#200</b> (75um)  |           |         |       |
| PAN                 |           |         |       |

#### %PASSED

#### % PASSED REQUIREMENT

# Liquefaction Analysis Report

G.W.T. (in-situ):

Earthquake magnitude M<sub>w</sub>:

Peak ground acceleration: Eq. external load:

G.W.T. (EQ):



#### SPT BASED LIQUEFACTION ANALYSIS REPORT

10.00 ft 10.00 ft

0.00 tsf

7.63 0.58 g

#### Project title : 424053-Noyo Ice House

#### SPT Name: B-1

#### Location : Noyo Harbo, Fort Bragg, Mendocino County

#### :: Input parameters and analysis properties ::

| Analysis method:         |
|--------------------------|
| Fines correction method: |
| Sampling method:         |
| Borehole diameter:       |
| Rod length:              |
| Hammer energy ratio:     |

5

10

15

20

25

(#) 30<sup>-</sup> 35<sup>-</sup> 35<sup>-</sup>

40

45

50

55

60

0

10 20 30 40 50 SPT Count (blow s/ft)

**Raw SPT Data** 

| <b>D</b> 1 0 <b>T</b> 1 1 |      |
|---------------------------|------|
| Boulanger & Idriss, 2     | 2014 |
| Boulanger & Idriss, 2     | 2014 |
| Sampler wo liners         |      |
| 65mm to 115mm             |      |
| 3.30 ft                   |      |
| 1.25                      |      |









| F.S | 5. color scheme                             |
|-----|---------------------------------------------|
|     | Almost certain it will liquefy              |
|     | Very likely to liquefy                      |
|     | Liquefaction and no liq. are equally likely |
|     | Unlike to liquefy                           |
|     | Almost certain it will not liquefy          |
|     |                                             |
| LP  | I color scheme                              |
|     | Very high risk                              |
|     | High risk                                   |
|     | Low risk                                    |
|     |                                             |

#### :: Overall Liquefaction Assessment Analysis Plots ::



#### :: Field input data ::

| Test<br>Depth<br>(ft) | SPT Field<br>Value<br>(blows) | Fines<br>Content<br>(%) | Unit<br>Weight<br>(pcf) | Infl.<br>Thickness<br>(ft) | Can<br>Liquefy |  |  |  |  |  |  |
|-----------------------|-------------------------------|-------------------------|-------------------------|----------------------------|----------------|--|--|--|--|--|--|
| 5.00                  | 12                            | 10.00                   | 126.00                  | 2.00                       | Yes            |  |  |  |  |  |  |
| 7.00                  | 8                             | 10.00                   | 130.00                  | 3.00                       | Yes            |  |  |  |  |  |  |
| 10.00                 | 3                             | 21.00                   | 96.00                   | 6.00                       | Yes            |  |  |  |  |  |  |
| 16.00                 | 4                             | 100.00                  | 95.00                   | 4.00                       | Yes            |  |  |  |  |  |  |
| 20.00                 | 4                             | 100.00                  | 95.00                   | 5.00                       | Yes            |  |  |  |  |  |  |
| 25.00                 | 5                             | 100.00                  | 95.00                   | 7.50                       | Yes            |  |  |  |  |  |  |
| 32.50                 | 12                            | 48.00                   | 125.00                  | 2.50                       | Yes            |  |  |  |  |  |  |
| 40.00                 | 15                            | 15.00                   | 125.00                  | 5.00                       | No             |  |  |  |  |  |  |
| 45.00                 | 31                            | 11.00                   | 130.00                  | 5.00                       | No             |  |  |  |  |  |  |
| 50.00                 | 15                            | 5.00                    | 130.00                  | 5.00                       | No             |  |  |  |  |  |  |
| 55.00                 | 24                            | 5.00                    | 130.00                  | 5.00                       | No             |  |  |  |  |  |  |
| 60.00                 | 29                            | 5.00                    | 130.00                  | 5.00                       | No             |  |  |  |  |  |  |

#### Abbreviations

Depth:Depth at which test was performed (ft)SPT Field Value:Number of blows per footFines Content:Fines content at test depth (%)Unit Weight:Unit weight at test depth (pcf)Infl. Thickness:Thickness of the soil layer to be considered in settlements analysis (ft)Can Liquefy:User defined switch for excluding/including test depth from the analysis procedure

#### :: Cyclic Resistance Ratio (CRR) calculation data ::

| Depth<br>(ft) | SPT<br>Field<br>Value | Unit<br>Weight<br>(pcf) | σ <sub>v</sub><br>(tsf) | u₀<br>(tsf) | σ' <sub>vo</sub><br>(tsf) | m    | Cℕ   | C <sub>E</sub> | Св   | C <sub>R</sub> | Cs   | (N1)60 | FC<br>(%) | Δ(N <sub>1</sub> ) <sub>60</sub> | (N1)60cs | <b>CRR</b> 7.5 |
|---------------|-----------------------|-------------------------|-------------------------|-------------|---------------------------|------|------|----------------|------|----------------|------|--------|-----------|----------------------------------|----------|----------------|
| 5.00          | 12                    | 126.00                  | 0.32                    | 0.00        | 0.32                      | 0.41 | 1.64 | 1.25           | 1.00 | 0.75           | 1.20 | 23     | 10.00     | 1.15                             | 25       | 4.000          |
| 7.00          | 8                     | 130.00                  | 0.45                    | 0.00        | 0.45                      | 0.47 | 1.51 | 1.25           | 1.00 | 0.80           | 1.20 | 15     | 10.00     | 1.15                             | 17       | 4.000          |
| 10.00         | 3                     | 96.00                   | 0.59                    | 0.00        | 0.59                      | 0.52 | 1.36 | 1.25           | 1.00 | 0.85           | 1.20 | 6      | 21.00     | 4.63                             | 11       | 0.125          |
| 16.00         | 4                     | 95.00                   | 0.87                    | 0.19        | 0.69                      | 0.51 | 1.24 | 1.25           | 1.00 | 0.85           | 1.20 | 7      | 100.00    | 5.49                             | 13       | 0.140          |
| 20.00         | 4                     | 95.00                   | 1.06                    | 0.31        | 0.75                      | 0.50 | 1.19 | 1.25           | 1.00 | 0.95           | 1.20 | 7      | 100.00    | 5.49                             | 13       | 0.140          |
| 25.00         | 5                     | 95.00                   | 1.30                    | 0.47        | 0.83                      | 0.49 | 1.13 | 1.25           | 1.00 | 0.95           | 1.20 | 9      | 100.00    | 5.49                             | 15       | 0.156          |
| 32.50         | 12                    | 125.00                  | 1.77                    | 0.70        | 1.07                      | 0.46 | 1.00 | 1.25           | 1.00 | 1.00           | 1.20 | 18     | 48.00     | 5.61                             | 24       | 0.268          |
| 40.00         | 15                    | 125.00                  | 2.24                    | 0.94        | 1.30                      | 0.41 | 0.92 | 1.25           | 1.00 | 1.00           | 1.20 | 21     | 15.00     | 3.26                             | 25       | 4.000          |
| 45.00         | 31                    | 130.00                  | 2.56                    | 1.09        | 1.47                      | 0.27 | 0.91 | 1.25           | 1.00 | 1.00           | 1.20 | 43     | 11.00     | 1.61                             | 45       | 4.000          |
| 50.00         | 15                    | 130.00                  | 2.89                    | 1.25        | 1.64                      | 0.45 | 0.82 | 1.25           | 1.00 | 1.00           | 1.20 | 19     | 5.00      | 0.00                             | 20       | 4.000          |
| 55.00         | 24                    | 130.00                  | 3.21                    | 1.40        | 1.81                      | 0.37 | 0.82 | 1.25           | 1.00 | 1.00           | 1.20 | 30     | 5.00      | 0.00                             | 31       | 4.000          |
| 60.00         | 29                    | 130.00                  | 3.54                    | 1.56        | 1.98                      | 0.33 | 0.82 | 1.25           | 1.00 | 1.00           | 1.20 | 36     | 5.00      | 0.00                             | 37       | 4.000          |

#### Abbreviations

- $\sigma_v$ : Total stress during SPT test (tsf)
- u<sub>o</sub>: Water pore pressure during SPT test (tsf)
- $\sigma'_{vo}$ : Effective overburden pressure during SPT test (tsf)
- m: Stress exponent normalization factor
- $C_N$ : Overburden corretion factor
- $C_R$ : Rod length correction factor
- C<sub>s</sub>: Liner correction factor
- $N_{1(60)}$ : Corrected N<sub>SPT</sub> to a 60% energy ratio
- $\Delta(N_1)_{60}$  Equivalent clean sand adjustment
- $N_{1(60)cs}$ : Corected  $N_{1(60)}$  value for fines content
- CRR<sub>7.5</sub>: Cyclic resistance ratio for M=7.5

#### :: Cyclic Stress Ratio calculation (CSR fully adjusted and normalized) ::

| Depth<br>(ft) | Unit<br>Weight<br>(pcf) | σ <sub>v,eq</sub><br>(tsf) | u <sub>o,eq</sub><br>(tsf) | σ' <sub>vo,eq</sub><br>(tsf) | r <sub>d</sub> | CSR   | MSF <sub>max</sub> | (N1)60cs | MSF  | CSR <sub>eq,M=7.5</sub> | <b>K</b> sigma | CSR*  | FS    |   |
|---------------|-------------------------|----------------------------|----------------------------|------------------------------|----------------|-------|--------------------|----------|------|-------------------------|----------------|-------|-------|---|
|               | (per)                   |                            |                            |                              |                |       |                    |          |      |                         |                |       |       |   |
| 5.00          | 126.00                  | 0.32                       | 0.00                       | 0.32                         | 1.00           | 0.375 | 1.72               | 25       | 0.97 | 0.387                   | 1.10           | 0.352 | 2.000 | • |
| 7.00          | 130.00                  | 0.45                       | 0.00                       | 0.45                         | 0.99           | 0.374 | 1.38               | 17       | 0.98 | 0.380                   | 1.10           | 0.345 | 2.000 | • |
| 10.00         | 96.00                   | 0.59                       | 0.00                       | 0.59                         | 0.98           | 0.371 | 1.21               | 11       | 0.99 | 0.374                   | 1.06           | 0.354 | 0.353 | • |
| 16.00         | 95.00                   | 0.87                       | 0.19                       | 0.69                         | 0.97           | 0.463 | 1.26               | 13       | 0.99 | 0.469                   | 1.04           | 0.449 | 0.312 | • |
| 20.00         | 95.00                   | 1.06                       | 0.31                       | 0.75                         | 0.95           | 0.508 | 1.26               | 13       | 0.99 | 0.514                   | 1.04           | 0.496 | 0.282 | • |
| 25.00         | 95.00                   | 1.30                       | 0.47                       | 0.83                         | 0.94           | 0.550 | 1.32               | 15       | 0.99 | 0.558                   | 1.03           | 0.544 | 0.287 | • |
| 32.50         | 125.00                  | 1.77                       | 0.70                       | 1.07                         | 0.91           | 0.566 | 1.67               | 24       | 0.97 | 0.583                   | 1.00           | 0.584 | 0.459 | • |
| 40.00         | 125.00                  | 2.24                       | 0.94                       | 1.30                         | 0.88           | 0.567 | 1.72               | 25       | 0.97 | 0.585                   | 0.97           | 0.605 | 2.000 | • |
| 45.00         | 130.00                  | 2.56                       | 1.09                       | 1.47                         | 0.85           | 0.561 | 2.20               | 45       | 0.95 | 0.591                   | 0.90           | 0.655 | 2.000 | • |
| 50.00         | 130.00                  | 2.89                       | 1.25                       | 1.64                         | 0.83           | 0.553 | 1.49               | 20       | 0.98 | 0.565                   | 0.94           | 0.600 | 2.000 | • |
| 55.00         | 130.00                  | 3.21                       | 1.40                       | 1.81                         | 0.81           | 0.543 | 2.06               | 31       | 0.96 | 0.569                   | 0.89           | 0.642 | 2.000 | • |
| 60.00         | 130.00                  | 3.54                       | 1.56                       | 1.98                         | 0.79           | 0.533 | 2.20               | 37       | 0.95 | 0.562                   | 0.82           | 0.689 | 2.000 | • |

#### Abbreviations

| σ <sub>v,eq</sub> :       | Total overburden pressure at test point, during earthquake (tsf) |
|---------------------------|------------------------------------------------------------------|
| U <sub>o,eq</sub> :       | Water pressure at test point, during earthquake (tsf)            |
| σ' <sub>vo,eq</sub> :     | Effective overburden pressure, during earthquake (tsf)           |
| r <sub>d</sub> :          | Nonlinear shear mass factor                                      |
| CSR :                     | Cyclic Stress Ratio                                              |
| MSF:                      | Magnitude Scaling Factor                                         |
| CSR <sub>eq,M=7.5</sub> : | CSR adjusted for M=7.5                                           |
| K <sub>sigma</sub> :      | Effective overburden stress factor                               |
| CSR*:                     | CSR fully adjusted                                               |
| FS:                       | Calculated factor of safety against soil liquefaction            |
|                           |                                                                  |

| :: Liquef     | faction p | otential | accordin | ig to Iwasaki     | ::   |  |
|---------------|-----------|----------|----------|-------------------|------|--|
| Depth<br>(ft) | FS        | F        | wz       | Thickness<br>(ft) | IL   |  |
| 5.00          | 2.000     | 0.00     | 9.24     | 2.00              | 0.00 |  |
| 7.00          | 2.000     | 0.00     | 8.93     | 2.00              | 0.00 |  |
| 10.00         | 0.353     | 0.65     | 8.48     | 3.00              | 5.01 |  |
| 16.00         | 0.312     | 0.69     | 7.56     | 6.00              | 9.51 |  |
| 20.00         | 0.282     | 0.72     | 6.95     | 4.00              | 6.09 |  |
| 25.00         | 0.287     | 0.71     | 6.19     | 5.00              | 6.72 |  |
| 32.50         | 0.459     | 0.54     | 5.05     | 7.50              | 6.24 |  |
| 40.00         | 2.000     | 0.00     | 3.90     | 7.50              | 0.00 |  |
| 45.00         | 2.000     | 0.00     | 3.14     | 5.00              | 0.00 |  |
| 50.00         | 2.000     | 0.00     | 2.38     | 5.00              | 0.00 |  |
| 55.00         | 2.000     | 0.00     | 1.62     | 5.00              | 0.00 |  |
| 60.00         | 2.000     | 0.00     | 0.86     | 5.00              | 0.00 |  |

#### Overall potential $I_L$ : 33.57

 $\mathrm{I_L}$  = 0.00 - No liquefaction

 $I_{\rm L}$  between 0.00 and 5 - Liquefaction not probable  $I_{\rm L}$  between 5 and 15 - Liquefaction probable

 $I_L > 15$  - Liquefaction certain

### PG & E Plans

C

| TOTAL LENGTHS: FEEDER 85' 1PH DIST. 3PH DIST. 85'             | 3                 | CABI             | _E & P        | JLLING DAT           | A FOR ENC         | LOSURE          | #5 BO            | X                     |
|---------------------------------------------------------------|-------------------|------------------|---------------|----------------------|-------------------|-----------------|------------------|-----------------------|
| FROM NO. of CABLE ESTIMATED ACTUAL GALLONS FRT END RUN LENGTI | TOTAL LEN         | GTHS: F          | EEDER         | <mark>85'</mark> 1P  | H DIST.           | 31              | PH DIST.         | 85'                   |
| ENGEGGGRE GRBEES THE TENSION TENSION EGDE TACKS W/TALES       | FROM<br>ENCLOSURE | NO. of<br>CABLES | CABLE<br>TYPE | ESTIMATED<br>TENSION | ACTUAL<br>TENSION | GALLONS<br>LUBE | FRT END<br>PACKS | RUN LENGTH<br>W/TAILS |
| T623712 3 1/0 154 .5 1 85'                                    | T623712           | 3                | 1/0           | 154                  |                   | .5              | 1                | 85'                   |

-PRE CONSTRUCTION REQUIRED PRIOR TO BEGINNING WORK -COORDINATION REQUIRED TO TRANSFER PRIMARY INTO NEW TRANSFORMER







## North Star Plans

D







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|   |                                    | CONNECTION SIZE | MINIMUM GPM | MINIMUM P |
|---|------------------------------------|-----------------|-------------|-----------|
| 1 | ICE MAKER WATER SUPPLY             | у."             | 5 GPM       | 20 PSIC   |
| 2 | ICE MAKER DRAIN                    | 1-1/4"          | N/A         | N/A       |
| 3 | EVAPORATIVE CONDENSER WATER SUPPLY | 1"              | 4 GPM       | 15 PSIG   |
| 4 | EVAPORATIVE CONDENSER DRAIN        | 2"              | N/A         | N/A       |
|   |                                    |                 |             |           |

Access stars and platform (as reod by others) provide access to end doors and side doors of both upper containers and cooling unit end of Rake container -

\$



INSULATED FREEZER WALL