US Army Corps of Engineers
Honolulu District
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Public Notice of Application for Permit

Regulatory Office
Building 230
Fort Shafter, Hawaii 96858-5440

Public Notice Date: May 5, 2020
Expiration Date: May 20, 2020
Corps File No.: **POH-2018-00162**

Interested parties are hereby notified that an application has been received for a Department of the Army (DA) permit for certain work in waters of the United States as described below and shown on the attached drawings.

APPLICANT: Natalia Palamo, Senior Engineer, American Samoa Government, Department of Port Administration, American Samoa Government, P.O. Box 1539, Pago Pago, American Samoa 96799

AGENT: William Gordon, Tinai, Gordon & Associates, Limited, P.O. Box 9581, Apia, Samoa

WATERWAY: Pago Pago Harbor, Pacific Ocean

LOCATION: Malaloa Wharf, Pago Pago Harbor, Island of Tutuila, American Samoa (Latitude: -14.274540° S; Longitude: -170.693671° W)

PROPOSED ACTIVITY: The applicant proposes to perform three geotechnical investigative borings to assess the existing subgrade soil conditions and confirm the founding depth of firm bearing materials for end-bearing piles in Pago Pago Harbor at the Malaloa Wharf. Based upon the findings of the geotechnical investigations, the applicant would then select one of two design options for constructing an extension of the existing Malaloa Wharf. The proposed work would involve dredging approximately 10,930 cubic yards (cy) of harbor sediments to provide access to the shoreward side of the new wharf structure, installing sheet piles, and discharging about 10,276 cy of dredged material into 0.48 acres of navigable waters of the U.S.

AUTHORITY(S): This permit application will be reviewed under Section 404 of the Clean Water Act ("CWA"; 33 USC § 1344) and Section 10 of the Rivers and Harbors Act of 1899 ("RHA"; 33 USC § 403). The Corps' public interest review will consider the U.S

Environmental Protection Agency's guidelines set forth under Section 404(b)(1) of the Clean Water Act (40 CFR part 230).

EVALUATION FACTORS: The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefits, which reasonably may be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered, including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and, in general, the needs and welfare of the people.

The Corps is soliciting comments from the general public, Federal, Territory and local agencies and officials, and other interested parties in order to consider and evaluate the impacts of this activity. Any comments received will be considered by the Corps to determine whether to issue, modify, condition or deny a permit for the work. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the activity.

ADDITIONAL INFORMATION:

PROJECT DESCRIPTION: The applicant proposes to conduct three geotechnical investigative borings that would assess the existing subgrade soil conditions and confirm the founding depth of firm bearing materials for end-bearing piles in Pago Pago Harbor at the Malaloa Wharf. Following completion and analysis of the geotechnical borings, the ASG-DPA would commence dredging and filling activities to construct an approximate 453-foot-long and 46-foot-wide wharf extension. Based on the geotechnical findings, the work would involve one of two designs: (1) a sheet pile wharf or (2) a pier extension on piles. The former is the applicant's preferred alternative, but is considered to be the worst case scenario in terms of dredging and filling impacts on the aquatic environment. Therefore, this public notice addresses the sheet pile wharf alternatives since it represents the greatest impact to navigable waters of the U.S.

The sheet pile alternative would require the dredging of approximately 10,930 cy of harbor sediments within an approximate 1.12-acre area resulting in 1.12 acres of temporary impacts to navigable waters of the U.S. In addition, the work would entail placing (discharging) 10,276 cy of dredged sediments at the western edge of the

existing wharf for the base of the new wharf extension that would permanently impact 0.48-acre of navigable waters of the U.S. An additional 0.81 acre of navigable waters of the U.S. would be temporarily affected by placing (discharging) dredged material into the inner access channel as it is being dredged (see “Construction Methodology” below for details). Steel sheet pile sections would enclose the new wharf extension on three sides, and would connect to the west end of the existing wharf structure. The sheet piles would be vibrated to a specified depth and supported at the top by tie rods attached to continuous double channel waters. The wharf would be filled with dredged sand and imported granular material and a reinforced concrete slab would be placed on the grade deck (refer to Attachment).

Construction Methodology. Dredging of the inner access channel would be carried out concurrently with the construction of the new wharf extension. Wharf construction would begin from the western edge of the existing wharf with construction of a soil berm that coincides with the centerline of the new wharf deck. The fill material used for the berm would be comprised of a mixture of imported rock to provide better stability, and sand dredged from the inner access channel.

The berm would provide a working platform from which a crane would position itself, set up, and drive the new steel sheet piles along both sides of the berm for the length of the new wharf. As platform construction and sheet pile driving proceeds at the wharf site, a pair of temporary, parallel soil berms would be constructed within the inner access channel. Material excavated from the seabed would be used to construct the temporary berms, with the balance of the material transferred to the wharf extension for use as fill material. Once partial dredging of the inner access channel reaches the westernmost limit, the temporary berms would be removed and the material hauled to the wharf. Surplus dredged material would be transported off site for disposal at the ASG-owned landfill site located in Futiga. Imported granular material specified for the wharf slab sub-base would be sourced from existing, privately-operated quarries on the Island.

Construction Schedule. The applicant estimates the total length of in-water construction work would be approximately three months.

Best Management Practices (BMPs). Turbidity containment devices (silt curtains) would be placed around the area of construction, including the dredging footprint and the areas where fill material would be placed and sheet piles installed for the wharf extension. The silt curtains would be located a minimum of 25 feet from the edge of the dredging or the boundary of the placement of fill material. The curtains would be supplied in 100-foot-long sections with anchor buoys also positioned on 100-foot centers. The silt curtains would extend to the seafloor and be removed upon completion of all in-water work. In addition to silt curtains, the applicant proposes to implement numerous other standard BMPs, as recommended by the National Oceanic and Atmospheric Administration-National Marine Fisheries Service (NMFS), for the protection of federally listed marine species and avoidance and minimization of adverse effects on essential fish habitat. Avoidance and minimization measures that are

considered to be part of the applicant's proposed action are further discussed below under section titled "Mitigation".

Proposed Activity(s) Requiring DA Authorization. The applicant has applied for DA authorization to conduct work in navigable waters of the U.S. and discharge dredged and fill material into waters of the U.S. that would permanently impact a total of 0.48-acre of waters of the U.S. and temporarily affect 1.93 acres of waters of the U.S. Table 1 below summarizes the anticipated impacts to waters of the U.S.

Table 1 – Summary of Impacts to Waters of the U.S.
Option 1 (Applicant's Preferred Alternative) – Sheet Pile Wharf Extension

Activity within USACE Jurisdiction	Impacts to Waters of the U.S.				USACE Authority	
	Permanent Impacts		Temporary Impacts		404	10
	Acres/LF	Cubic Yards	Acres/LF	Cubic Yards		
Geotechnical investigative borings (three borings total)	—	—	—	—		x
Placement of fill material for wharf extension	0.48 ac	10,276 cy			x	x
Placement of fill material for two temporary berms within inner access channel	—	—	0.81 ac	—	x	x
Wharf extension (structure) – installation of sheet piles	952 lf	—	—	—		x
Dredging (access channel) below MHW	—	—	1.12 ac	10,930 cy		x
TOTAL:	**0.48 ac; 952 lf**	**10,276 cy**	**1.93 ac**	**10,930 cy**		

PROJECT PURPOSE AND NEED:

Applicant's Proposed Project Purpose and Need: According to the DA permit application (ENG Form 4345), the purpose of the project is to provide an extension to the existing wharf that will accommodate fishing vessels, such as longliners and purse seiners, that enter into port to unload their catch at the tuna cannery.

Corps' Basic and Overall Project Purpose: The *basic project purpose* is defined by the Corps and is used to determine whether a project is "water dependent" and requires access or proximity to, or siting within, a special aquatic site[1] in order to fulfill its basic purpose. An activity that is not water dependent (that is, does not require siting in a special aquatic site) may still be authorized as long as the U.S. Environmental Protection Agency's Section 404(b)(1) Guidelines ("404(b)(1) Guidelines") presumption against such discharges is successfully rebutted, the discharge meets other criteria of the 404(b)(1) Guidelines, the activity is not contrary to the public interest, and it satisfies

[1] Special aquatic sites include sanctuaries and refuges, wetlands, mud flats, vegetated shallows, coral reefs, and riffle and pool complexes (40 CFR 230.40-45)

all other statutory and regulatory requirements. For the proposed Malaloa Wharf Extension project, the basic project purpose is “navigation for interstate commerce”, a non-water dependent activity that does not require siting in a special aquatic site.

The *overall project purpose* serves as the basis for the Corps' 404(b)(1) alternatives analysis and is determined by further defining the basic project purpose in a manner that more specifically describes the applicant's goals for the project, and which allows a reasonable range of alternatives to be analyzed. The overall project purpose is used to evaluate less environmentally damaging practicable alternatives and applies to all waters of the U.S., not just special aquatic sites. The Section 404(b)(1) Guidelines state that an alternative is practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes. The Corps has generally concurred with applicant’s stated project purpose (above) and as such, has determined the overall project purpose for evaluation of alternatives under the Section 404(b)(1) Guidelines as follows:

> “To improve fishing vessel access and increase operational efficiencies in Pago Pago Harbor by accommodating longliners and purse seiners that enter the harbor to unload daily catches for processing at the tuna cannery”.

BASELINE INFORMATION:

General Site and Project Area Conditions. Pago Pago Harbor is a relatively large and deep inlet along the southeast shore of Tutuila Island forming an extensive naturally protected deep water harbor. There is natural sedimentation caused by highly erosive soils on steep slopes and increased surface runoffs due to extensive urbanization. Nearshore water quality has also been severely degraded by nutrient and chemical discharges by the tuna canneries and other historical industrial and commercial activities adjacent to the harbor.

Biological Resources. There is only one species of seagrass on the Island of Tutuila, *Halophila ovalis*, occurring in very narrow, pot-sized beds in the Pago Pago Harbor. This species is usually observed as very small patches near the shore of sediment-laden habitats. Almost nothing is known of its ecology in American Samoa except that the species is characterized by high turn-over based on observations.

Coral reef and hard bottom structures together comprise approximately 44% of the area within Pago Pago Harbor. Coral reef structures comprise approximately 33% of the area and include aggregate reef (~18%) and aggregated patch reefs (~15%). In addition, a large portion (approximately 37%) of the benthic habitat within the Pago Pago Harbor is covered by mud. Also of note, 15% of the mapped benthic habitat within the harbor is of unknown structure type due to high turbidity.

A benthic survey of the proposed Malaloa Wharf Extension project area was conducted on August 2, 2018 by use of a remotely operated underwater device (ROV) (DMWR 2018). The results of this survey confirmed the presence of expected indicators of a highly stressed environment. Based on the ROV video and still photos captured

from the video, ASG-Department of Marine and Wildlife Resources (DMWR) characterized and quantified the habitat types using Coral Point County with Excel Extensions (CPCe) software. Six substrate/habitat categories were identified with varying percent cover: sand, pavement, rubble (89.2%), dead coral with algae (7.3%), live hard corals (1.4%), coralline algae (0.8%), other live (1.0%), and macroalgae (0.4%). Two species of corals were noted by DMWR biologists, but they are not federally listed, nor have they been petitioned as endangered or threatened. Relatively undisturbed coral reefs in American Samoa have approximately 30% live coral cover. The live hard coral cover found at this location is drastically low (1.4%) compared to the mean, suggesting the water quality in the project area is degraded and subject to anthropogenic disturbances that adversely impact habitat suitability for corals.

DMWR also conducted underwater monitoring of the deeper area adjacent to the proposed wharf extension. DMWR documented their observations with underwater photos and then analyzed the benthos from ten randomly-generated points from 163 photos/frames (total of 1,630 data points). Fifty-two (52) photo-quadrats were analyzed and resulted in classified substrate from 520 randomly-assigned points. Following analysis, six substrate/habitat categories were identified in the action area with varying percent cover. The benthos characteristics of the deeper seaward side of the proposed project include coral (0.06%), macroalgae (20.25%), other live (0.25%), dead coral with algae (0.49%), and sand/pavement/rubble (78.96%). The presence of macroalgae (*Halimeda*) is often an indicator of nutrient input. The cover of the benthos categories indicate a highly stressed environment within areas that surround Malaloa Wharf, including those areas proposed for dredging and filling.

On April 3, 2019, DMWR performed an additional in-water survey (snorkeled) of the project site that specifically targeted the submerged areas proposed for dredging (DMWR 2019). During this survey, the DMWR observed the presence of coral colonies within the dredging footprint and quantified the number of colonies as well as recorded their GPS locations. Table 2 below lists the coral species and abundance within the proposed project action area.

Table 2 – Observed Coral Species and Number of Colonies

Species	**Number of Coral Colonies**
Pocillopora damicornis	410
Porites massive	103
Porites cylindrica	57
Acropora muricata	42
Pavona spp.	28
Porites spp.	6
Porites rus	1
Grand Total:	**647**

Although there is no suitable nesting or haul out habitat features for sea turtles in the action area, one transient hawksbill sea turtle (*Eretmochelys imbricata*) was

previously observed swimming within the proposed project area. Fish species observed within the project area were mostly of site-attached damselfishes, cardinal fishes, some generalist-feeding butterfly fishes, wrasses, surgeon fishes and a bream that is usually found in sandy/muddy areas.

MITIGATION: The applicant's proposed mitigation (i.e., avoidance, minimization, and compensation) may change as a result of comments received in response to this public notice, the applicant's response to those comments, and/or the need for the project to comply with the Section 404(b)(1) Guidelines and the public interest review factors. In consideration of the above, the proposed mitigation sequencing as applied to the proposed project is summarized below.

Avoidance and Minimization. To avoid and minimize impacts to the aquatic environment, the applicant has proposed BMPs that would be included in the contract documents and implemented during the construction of the proposed project. These BMPs are considered to be part of the applicant's proposed action and include, but are not limited to, the following measures:

- Turbidity containment devices (silt curtains) will be placed around the area of construction, including the dredging footprint and the areas where fill material will be placed for the wharf extension.
- The project manager will designate competent observers to survey the areas adjacent to the proposed action for sea turtles and federally listed marine mammals. Surveys for federally listed marine species will be made prior to the start of work each day, and prior to resumption of work following any break of more than one half hour. Periodic additional surveys throughout the work day are strongly recommended. Observers will monitor for the presence of protected species each day of active construction from 30 minutes prior to commencement of work until 30 minutes after shut-down.
- All work will be postponed or halted when sea turtles and/or federally listed marine mammals are within 150 feet of the proposed work area, and will only begin/resume after the animal(s) have voluntarily departed the area. With the exception of pile-driving and heavy lifting, if sea turtles and/or federally listed marine mammals are within 150 feet of the work area after work has already begun, that work may continue if, in the best judgment of the project supervisor, the activity would not affect the animal(s). For example; wholly above-water work or divers performing surveys or minor underwater work would likely be permissible, whereas in-water operation of heavy equipment would not be prudent.
- Any pile driving will be postponed or halted when any federally listed marine mammals are within 300 feet, and any sea turtles are within 150 feet of the proposed work.
- Any pile driving will employ soft-start or ramp-up techniques (slow increase in hammering intensity), at the start of each work day or following any break of more than 30 minutes.

- Construction work will not be conducted after dark unless work has proceeded uninterrupted since at least 1 hour prior to sunset, and no sea turtles or federally listed marine mammals have been observed near the 150- and 300-feet safety ranges.
- Special attention will be given to verify that sea turtles and/or federally listed marine mammals are not present in the area where equipment or materials (i.e. piles, spuds, or anchors) are expected to contact the substrate before that equipment/material may enter the water.
- To the extent practicable, equipment and material will be lowered to the bottom in a controlled manner. This can include the use of cranes, winches, or other equipment that affect positive control over the placement and rate of decent. Visual monitoring will occur and include ongoing inspections for turbidity outside of the confines of the silt curtain(s). In the event that turbidity is observed outside of the silt curtains, work will stop, and the silt curtains will remain in place until the turbidity dissipates. Silt curtains will be inspected after dissipation and prior to returning to project operations;
- In-water tethers, as well as mooring lines for vessels and marker buoys will be kept to the minimum lengths necessary, and will remain deployed only as long as needed to properly accomplish the required task.
- When piloting vessels, vessel operators will alter course to remain at least 300 feet from whales, and at least 150 feet from other marine mammals and sea turtles.
- Reduce vessel speed to 10 knots or less when piloting vessels at or within the ranges described above. Operators shall be particularly vigilant to watch for turtles at or near the surface in areas of known or suspected turtle activity, and if practicable, reduce vessel speed to 5 knots or less.
- If despite efforts to maintain the distances and speeds described above, a marine mammal or turtle approaches the vessel, the engine will be put in neutral until the animal is at least 50 feet away, and then slowly move away to the prescribed distance.
- Marine mammals and sea turtles will not be encircled or trapped between multiple vessels or between vessels and the shore.
- No construction personnel will attempt to feed, touch, ride, or otherwise intentionally interact with any ESA-listed marine species.
- All equipment and material will be free of contaminants of any kind including: excessive silt, sludge, anoxic or decaying organic matter, clay, dirt, oil, floating debris, grease or foam or any other pollutant that would produce an undesirable condition to the shoreline or water quality. The equipment will be brought to the site in clean condition;
- A contingency plan to control toxic materials will be developed and followed to prevent toxic materials from entering or remaining in the marine environment during the project.
- Appropriate materials to contain and clean potential spills will be stored at the work site, and be readily available.
- All project-related materials and equipment to be placed or operated in the water will be free of pollutants.

- The project manager and heavy equipment operators will perform daily pre-work equipment inspections for cleanliness and leaks. All heavy equipment operations will be postponed or halted should a leak be detected, and will not proceed until the leak is repaired and equipment cleaned.
- Fueling of land-based vehicles and equipment will take place at least 50 feet away from the water (and away from drains), preferably over an impervious surface. Fueling of vessels will be done at approved fueling facilities.
- A plan will be developed and followed to prevent debris and other wastes from entering or remaining in the marine environment during project construction. All debris, unsalvageable dock materials, and general wastes will be properly contained and disposed of at an approved upland disposal site. All materials will be free from any objectionable sludge, oil, grease, scum, excessive silt, organic material or other floating material;
- Runoff, turbidity and siltation from project-related work will be minimized and contained through the appropriate use of erosion control practices, effective silt containment devices, and the curtailment of work during adverse weather and tidal/flow conditions. The contractor will be required to install and maintain full-depth turbidity curtains around the project sites during the course of the construction.

Compensation. Compensatory mitigation can be required by the Corps to ensure an activity requiring a Section 404 of the CWA permit complies with the Section 404(b)(1) Guidelines. Compensatory mitigation can also be required for projects requiring authorization under Section 404 of the CWA and/or Section 10 of the RHA to ensure the activity is not contrary to the public interest. The Corps can also require compensatory mitigation to satisfy other legal requirements (see 33 CFR 320.4(r) and 332.1(c)-(d)).

According to the applicant's mitigation statement on the DA permit application (ENG Form 4345), compensatory mitigation is not warranted for the proposed project because a silt boom would be placed around the perimeter of the site, landward and seaward of the activity, for the duration of the construction. However, subsequent to this statement, the applicant consulted with the DMWR and was informed that a recent survey of the proposed dredging and construction footprint revealed a reef bank supporting approximately 647 coral colonies. As a result of this information, the applicant augmented the mitigation statement to include additional mitigation that would involve measures to further avoid, minimize and possibly compensate for adverse impacts on coral colonies.

Working on behalf of ASG-DPA, the DMWR prepared a draft mitigation plan to offset the unavoidable functional losses of the coral colonies. The draft *Malaloa Wharf Extension Project Mitigation Plan* (DMWR 2020) proposes to relocate over 600 coral colonies from the dredging site and develop a pilot coral reef nursery at a receptor site preferably located within the Pago Pago watershed. According to the draft plan, the identification of a suitable mitigation site would adhere to the decision-making tree and guidelines prescribed by Edwards and Gomez (2001). The Permittee-responsible draft

mitigation plan is currently under review by the Corps and will be circulated to federal resource agencies for review and comment as soon as is practicable. Should the Corps determine compensatory mitigation is appropriate and practicable, a final compensatory mitigation plan addressing the required elements at 33 CFR 332 would need to be approved by the Corps before issuance of a final individual permit decision.

WATER QUALITY CERTIFICATION: A final DA permit decision for the proposed work will not be issued until an individual water quality certification (WQC), or waiver thereof, as required under Section 401 of the Clean Water Act has been issued by the American Samoa Government, Environmental Protection Agency (ASG-EPA). Based on information contained in the DA permit application, the applicant submitted a Section 401 WQC application to the ASG-EPA and received an individual certification on October 2, 2018. Since a DA permit decision has not yet been made, the conditions contained within the 401 WQC would be incorporated by reference into the DA permit should the Corps' final permit decision be to issue a DA permit (with or without special conditions).

COASTAL ZONE MANAGEMENT ACT CERTIFICATION: Section 307(c)(3) of the Coastal Zone Management Act of 1972, as amended (16 U.S.C. 1456(c)(3)) requires the lead federal action agency to certify that the described activity affecting land or water uses in the coastal zone complies with the State/Territory's Coastal Zone Management (CZM) Program. A final DA permit decision for the proposed work will not be issued until the applicant obtains a Federal consistency concurrence from the ASG-Department of Commerce (ASG-DOC). The applicant submitted an application to the ASG-DOC for CZM federal consistency review and received concurrence on May 13, 2019. Since a DA permit decision has not yet been made, the conditions contained within the ASG-DOC's CZM consistency concurrence would be incorporated by reference into the DA permit should the Corps' final permit decision be to issue a DA permit (with or without special conditions).

CULTURAL RESOURCES & HISTORIC PROPERTIES: Section 106 of the National Historic Preservation Act (NHPA) of 1966, requires Federal agencies to take into account the effects of their undertakings on historic properties and afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on such undertakings. The Department of the Interior – Office of Insular Affairs (DOI-OIA) is the lead federal agency for the proposed Malaloa Wharf Extension project. As the lead federal agency, DOI-OIA will act on the Corps' behalf to identify whether historic properties, or properties eligible for listing on the National Register of Historic Places, are present within the area of potential effect, and as appropriate, will consult with the American Samoa Historic Preservation Officer (ASHPO). A DA permit decision for the proposed activity will not be issued until the consultation process is completed and the lead federal agency provides documentation to the Corps of its compliance with Section 106 of the NHPA.

In addition, this public notice is being coordinated with the ASHPO and the public. Any comments that the ASHPO or the public may have concerning unknown

archeological or historic properties, including properties of traditional religious or cultural importance, and that may be affected by the proposed undertaking, will be considered in our public interest review determination, EA, and final permit decision.

ENDANGERED SPECIES: Section 7 of the Endangered Species Act (ESA) of 1973, as amended, requires Federal agencies to consult with NMFS and/or U.S. Fish and Wildlife Service (USFWS) on all federal actions that may affect species listed (or proposed for listing) as threatened or endangered or that may destroy or adversely modify their designated critical habitat. The DOI-OIA is the lead federal agency for the proposed Malaloa Wharf Extension project. As the lead federal agency, DOI-OIA will act on the Corps' behalf to identify threatened and endangered species that are known to occur or have the potential to occur within or near the action area and as appropriate, consult with NMFS and/or USFWS. A DA permit decision for the proposed activity will not be issued until the consultation process is completed and the lead federal agency provides documentation to the Corps of its compliance with Section 7 of the ESA.

ESSENTIAL FISH HABITAT: Section 305(b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA), as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), requires Federal agencies to consult with the NOAA Fisheries on all actions, or proposed actions, permitted, funded, or undertaken by the agency, that may adversely affect essential fish habitat (EFH). The DOI-OIA is the lead federal agency for the proposed Malaloa Wharf Extension project. As the lead federal agency, DOI-OIA will act on the Corps' behalf to identify the presence of EFH and determine the potential for adverse effects to EFH. A DA permit decision for the proposed project will not be issued until the EFH consultation process is completed and the lead federal agency provides documentation to the Corps of its compliance with Section 305(b)(2) of the MSA, including agency responses to EFH conservation recommendations should they be provided to DOI-OIA by NMFS.

PUBLIC HEARING: Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for public hearings must state clearly and concisely, the reasons and rationale for holding a public hearing. The District Engineer will then decide whether a hearing should be held.

COMMENT AND REVIEW PERIOD: Comments on this public notice must be made in writing and submitted via conventional mail or electronic mail (e-mail). Comments received during the review period will be made part of the record and will be considered by the Corps in determining whether it would be in the public interest to authorize this proposal.

Comments sent by conventional mail should include your name, return mailing address, phone number, and reference to DA File No. POH-2018-00162 and be sent to:

U.S. Army Corps of Engineers, Honolulu District
Regulatory Office (CEPOH-RO)
Attn: Susan A. M. Gayagas
Building 230
Fort Shafter, Hawaii 96858-5440

Alternatively, comments sent electronically may be emailed to susan.a.meyer@usasce.army.mil. If using email, you must include the DA File No. "POH-2018-00162" in the subject heading of the email along with your name, mailing address and phone number. In order to be accepted, e-mail comments must originate from the author's e-mail account.

All comments, whether transmitted by conventional mail or e-mail, must be received by our office by the close of business (5:00 p.m. Hawaii-Aleutian Standard Time) on May 20, 2020.

This public notice is issued by the Chief, Regulatory Office.

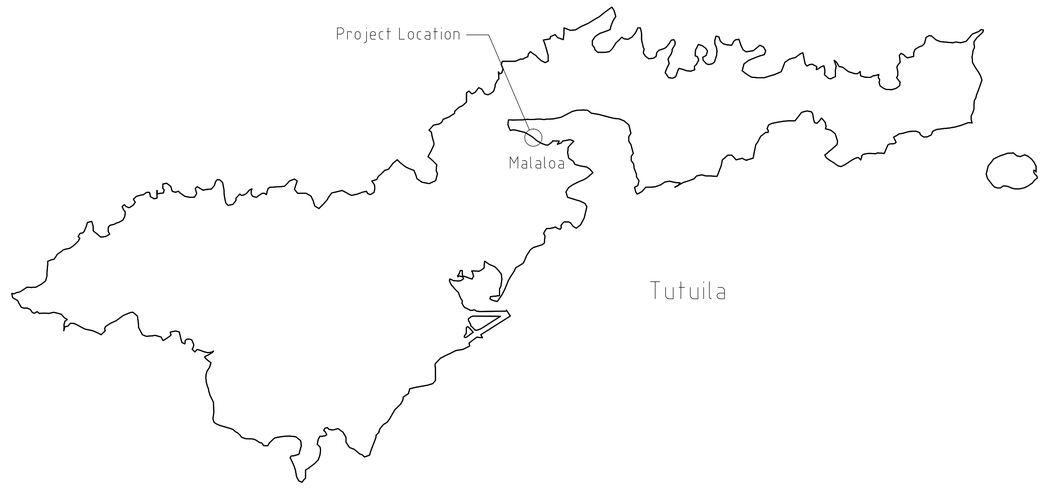
Attachment

Government of AMERICAN SAMOA
Department of Port Administration
Malaloa Wharf Extension Project

MALALOA, AMERICAN SAMOA

DRAWING LIST

Sheet Pile Bulkhead Jetty



Locality Plan

No.	DATE:	DETAIL:	INITS.
C	07.04.18	Bid Issue C	W.C.G.
B	06.20.18	Bid Issue	W.C.G.
A	04.18.18	Preliminary Design	W.C.G.

AMENDMENTS

STATE OF MAINE
WILLIAM C. GORDON
No. 5231
LICENSED PROFESSIONAL ENGINEER

A1 CAD - DO NOT AMEND MANUALLY

TINAI, GORDON & ASSOCIATES LTD.
ACB BUILDING, BEACH ROAD
P.O.BOX 9581 APIA, SAMOA
EMAIL: bill@tinaigordon.ws
TEL: (685) 22-906 EMAIL: tom@tinaigordon.ws FAX: (685) 22-913

PROJECT: Government of American Samoa
Department of Port Administration
Malaloa Wharf Extension Project

DRAWING TITLE: Sheet Pile Bulkhead Jetty
Indext Sheet

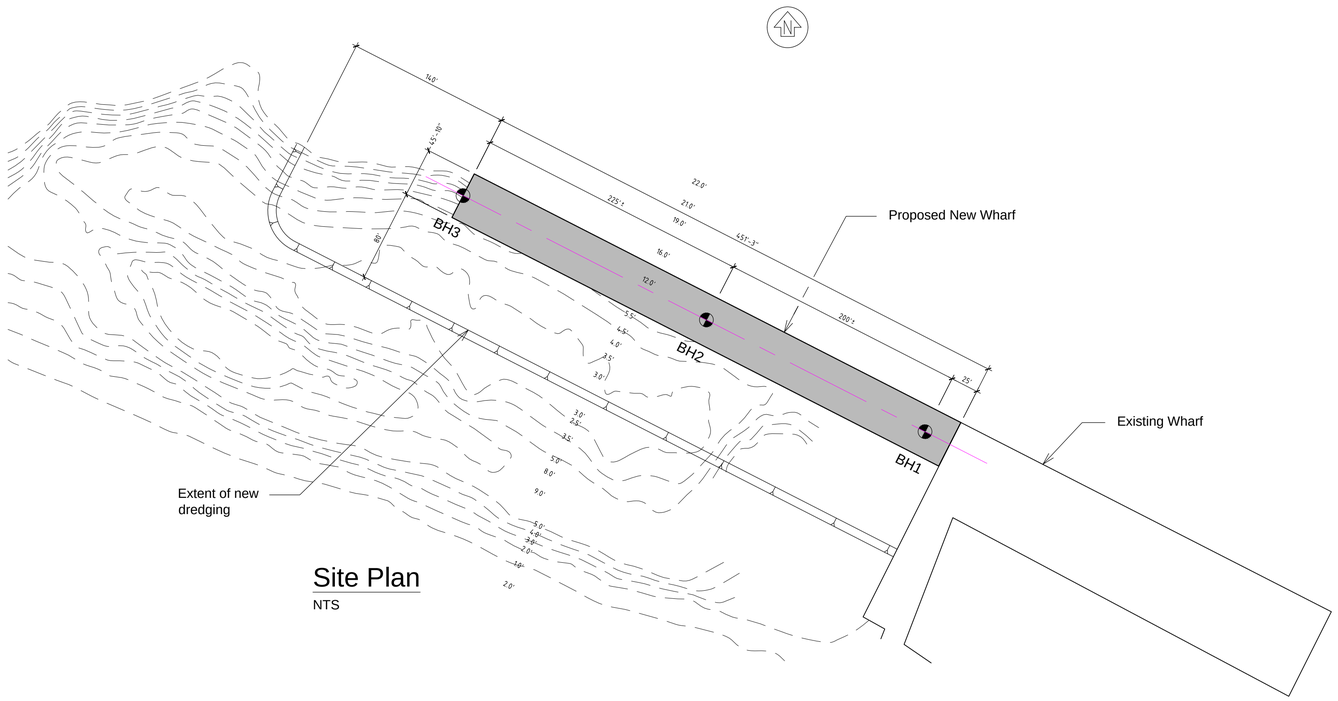
PROJECT NUMBER: 1530-18
DRAWING NUMBER: C01 of

DATE: July 2018
SCALE: As Shown

DESIGNED	W.C.G.	ISSUE	C
DRAWN	W.C.G.	CHECKED	L.M.T.T.
CAD	T.M.	SHEET No.	

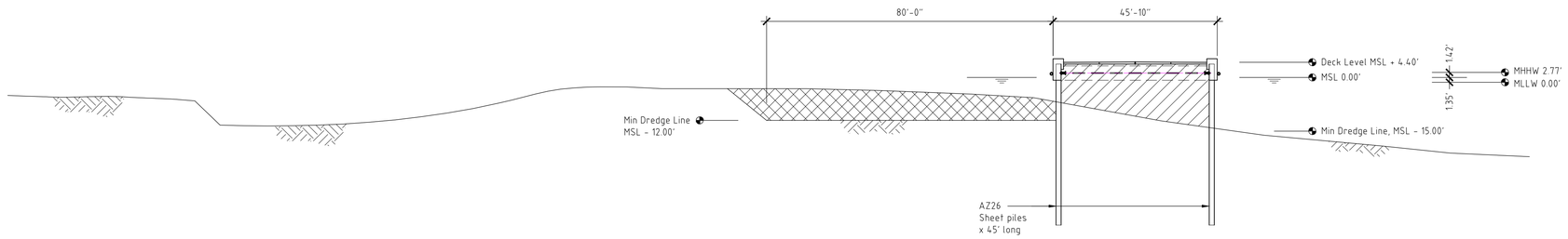
Bid Issue C

Datum Elevations on Mean Lower Low Water 09/22/2017	
Value	Description
2.77'	Mean Higher -High Water
2.64'	Mean High Water
1.35'	Mean Tide Level
1.35'	Mean Sea Level
1.39'	Mean Diurnal Tide Level
0.06'	Mean Low Water
0.00'	Mean Lower-Low Water



Site Plan

NTS



Typical Cross Section

1" = 20' at A1

Note:
BH1 - BH3 indicate proposed locations of Boreholes to be carried out by the Contractor.

No.	DATE:	DETAIL:	INITS:
C	07.04.18	Bid Issue C	W.C.G.
B	06.20.18	Bid Issue	W.C.G.
A	04.18.18	Preliminary Design	W.C.G.

AMENDMENTS

STATE OF MAINE
WILLIAM C. GORDON
No. 5231
LICENSED PROFESSIONAL ENGINEER

A1 CAD - DO NOT AMEND MANUALLY

TINAI, GORDON & ASSOCIATES LTD.
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EMAIL: bill@tinaigordon.ws
TEL: (685) 22-906 EMAIL: tom@tinaigordon.ws FAX: (685) 22-913

PROJECT: Government of American Samoa
Department of Port Administration
Malaloa Wharf Extension Project

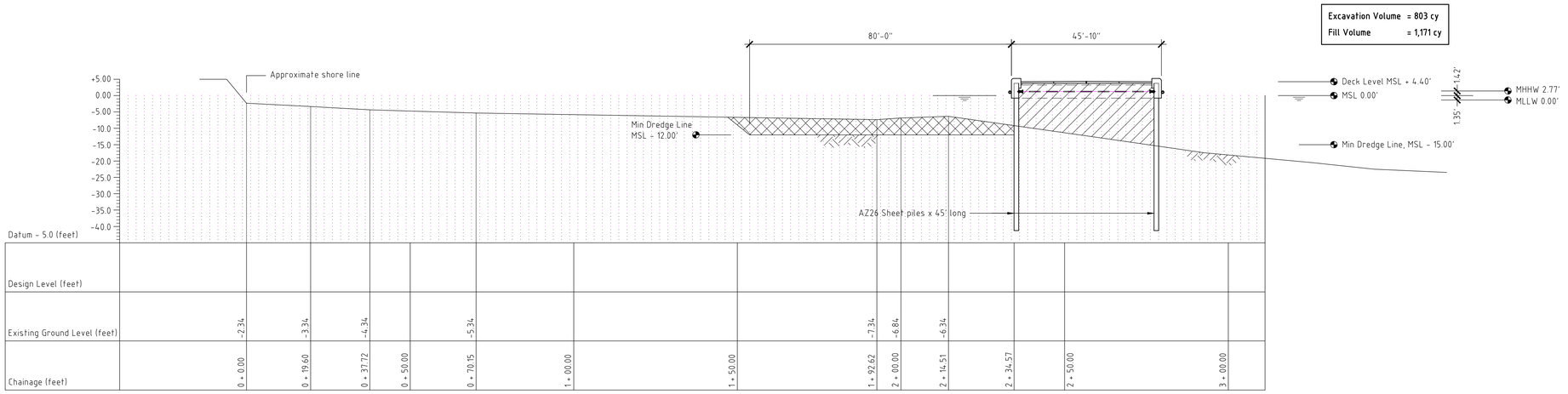
DRAWING TITLE:
Sheet Pile Wharf
Proposed Site Plan and Typical Cross Section

PROJECT NUMBER:	DRAWING NUMBER:	
1530-18	C02	of

DATE:	SCALE:
July 2018	As Shown

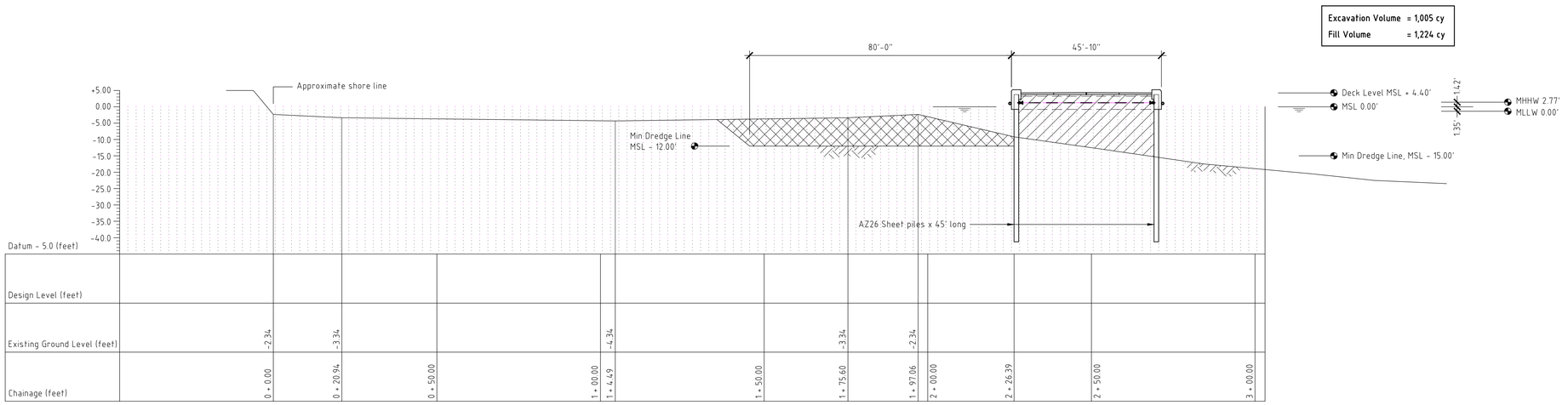
DESIGNED	W.C.G.	ISSUE	C
DRAWN	W.C.G.	CHECKED	L.T.T.
CAD	T.U.	SHEET No.	

Bid Issue C



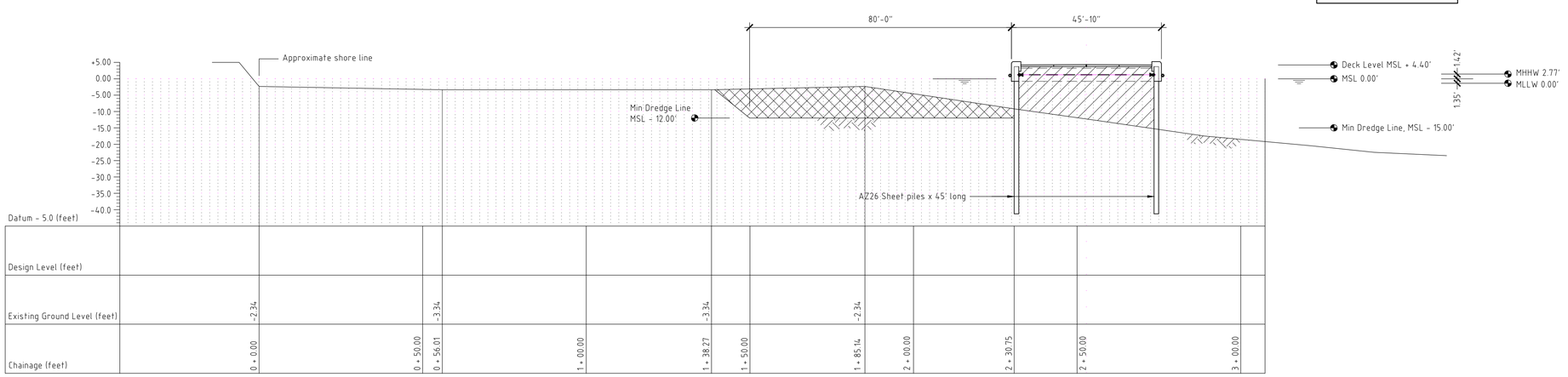
Excavation Volume = 803 cy
Fill Volume = 1,171 cy

Station 1+00
1" = 20'



Excavation Volume = 1,005 cy
Fill Volume = 1,224 cy

Station 0+50
1" = 20'



Excavation Volume = 1,235 cy
Fill Volume = 1,224 cy

Station 0+00
1" = 20'

No.	DATE:	DETAIL:	INITS:
C	07.04.18	Bid Issue C	W.C.G
B	06.20.18	Bid Issue	W.C.G
A	04.18.18	Preliminary Design	W.C.G

AMENDMENTS

STATE OF MAINE — WILLIAM C. GORDON — No. 5231 — LICENSED PROFESSIONAL ENGINEER

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PROJECT: Government of American Samoa
Department of Port Administration
Malaloa Wharf Extension Project

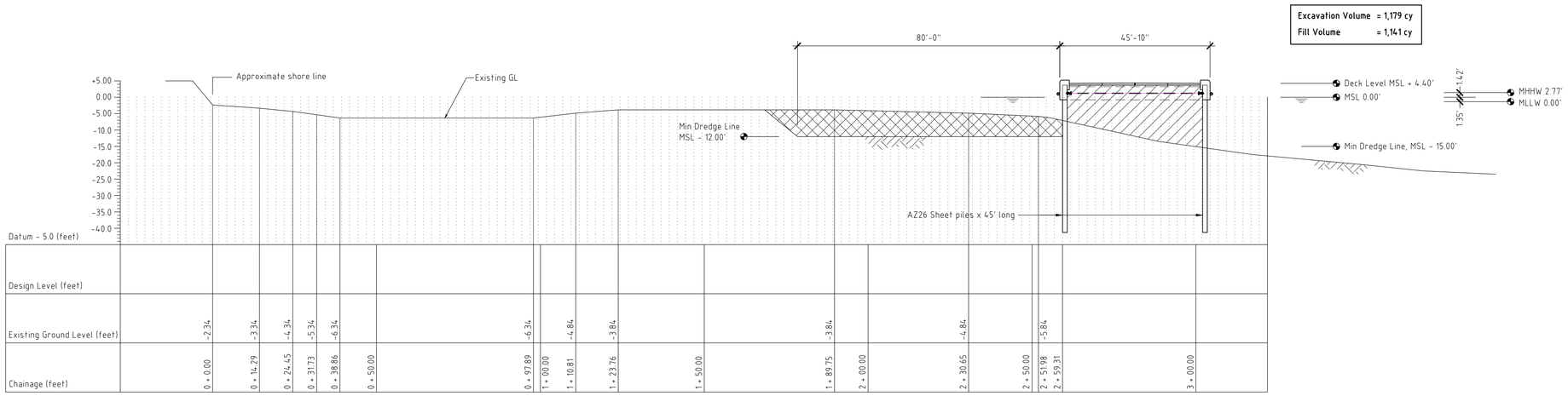
DRAWING TITLE: Sheet Pile Wharf
Cross Sections 1

PROJECT NUMBER: 1530-18
DRAWING NUMBER: C03 of

DATE: July 2018
SCALE: As Shown (A1)

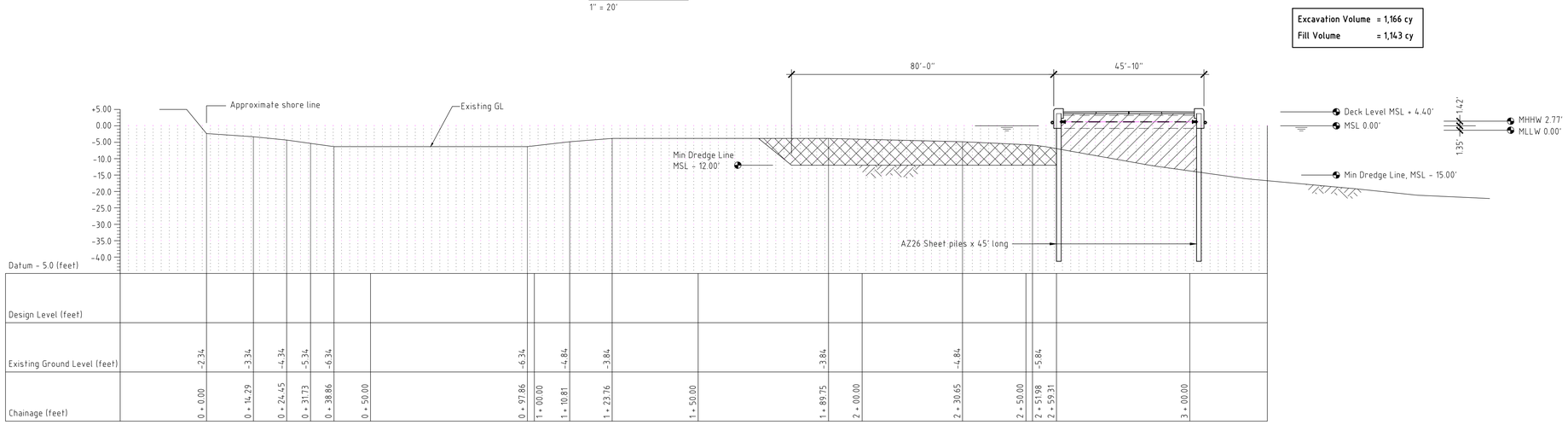
DESIGNED	W.C.G.	ISSUE	C
DRAWN	T.U.	CHECKED	L.T.T.
CAD	T.U.	SHEET No.	

Bid Issue C



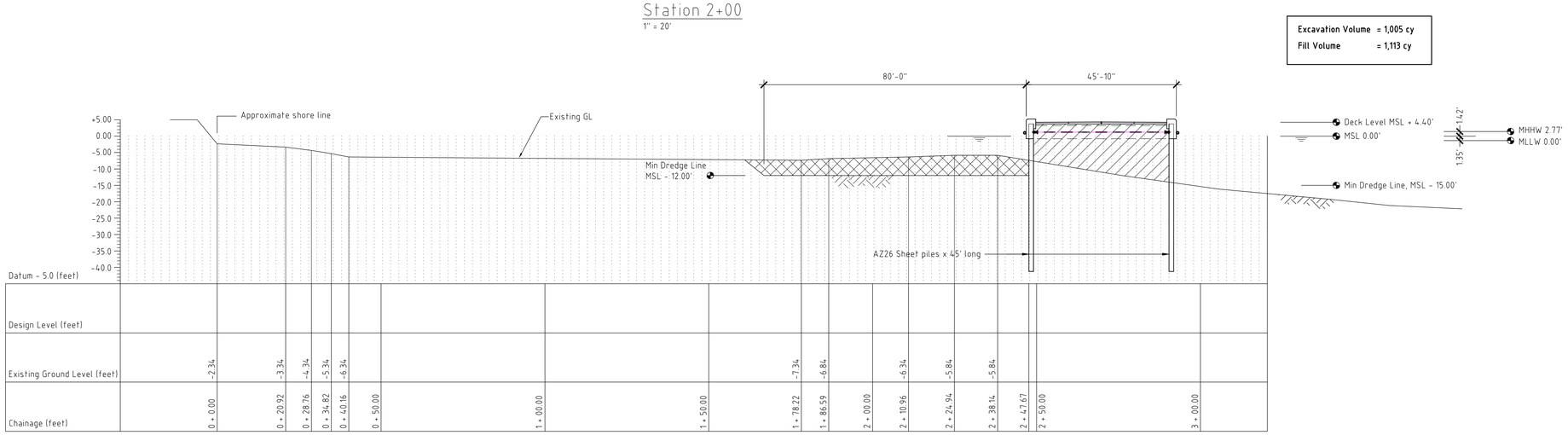
Station 2+50

1" = 20'



Station 2+00

1" = 20'



Station 1+50

1" = 20'

Bid Issue C

No	DATE:	DETAIL:	INITS:
C	07.04.18	Bid Issue C	W.C.G.
B	06.20.18	Bid Issue	W.C.G.
A	04.18.18	Preliminary Design	W.C.G.

AMENDMENTS

STATE OF HAWAII
WILLIAM C. GORDON
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A1 CAD - DO NOT AMEND MANUALLY

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PROJECT: Government of American Samoa
Department of Port Administration
Malaloa Wharf Extension Project

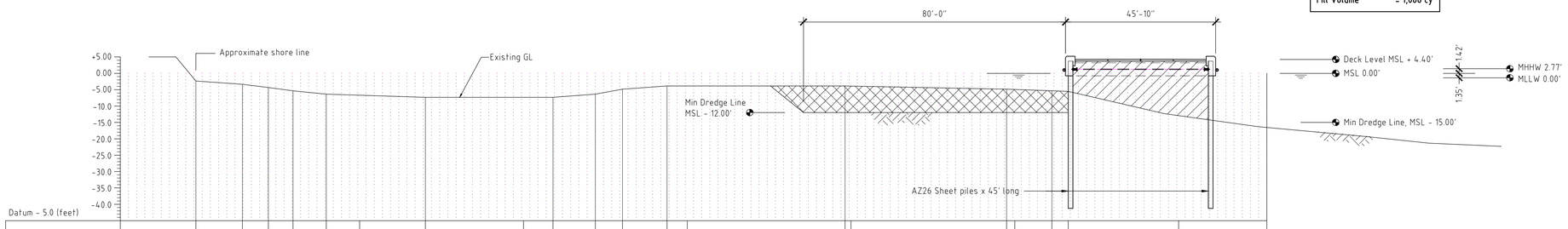
DRAWING TITLE:
Sheet Pile Wharf
Cross Sections 2

PROJECT NUMBER: 1530-18
DRAWING NUMBER: C04 of

DATE: July 2018
SCALE: As Shown (A1)

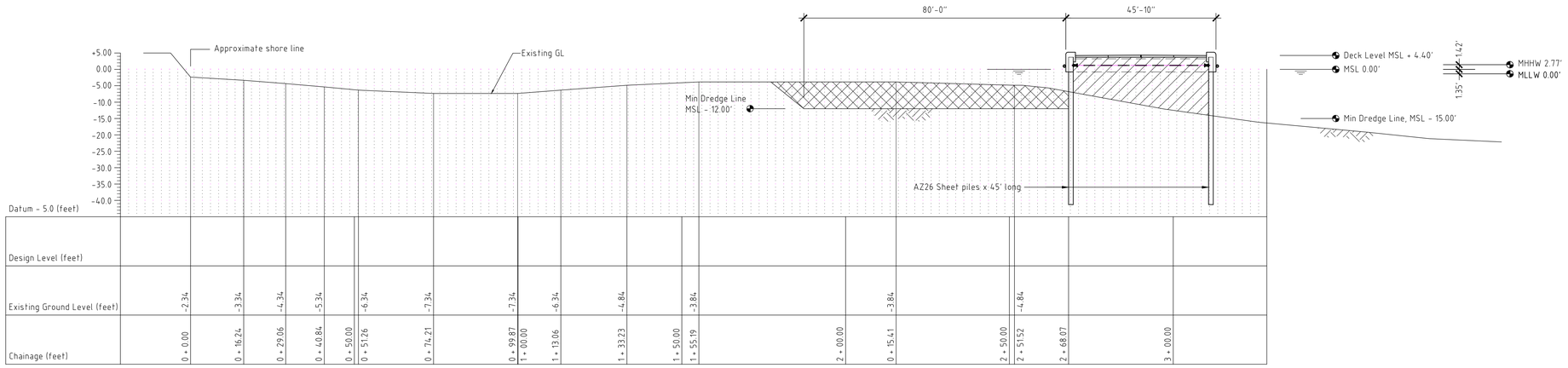
DESIGNED	W.C.G.	ISSUE	C
DRAWN	T.U.	CHECKED	L.T.T.
CAD	T.U.	SHEET No.	

Excavation Volume = 1,124 cy
Fill Volume = 1,066 cy



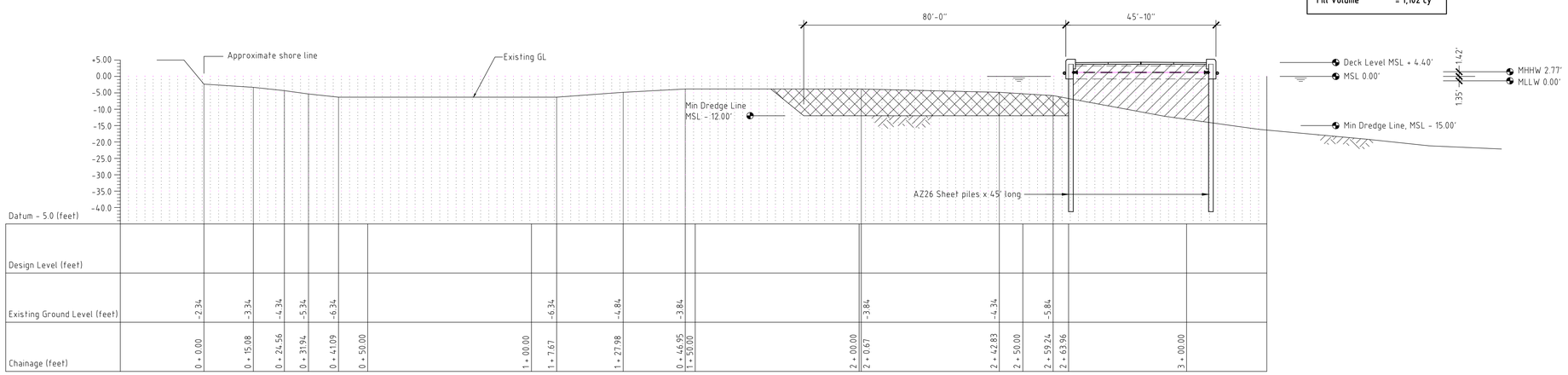
Station 4+00
1" = 20'

Excavation Volume = 1,208 cy
Fill Volume = 1,092 cy



Station 3+50
1" = 20'

Excavation Volume = 1,202 cy
Fill Volume = 1,102 cy



Station 3+00
1" = 20'

Bid Issue C

No.	DATE:	DETAIL:	INITS:
C	07.04.18	Bid Issue C	W.C.G.
B	06.20.18	Bid Issue	W.C.G.
A	04.18.18	Preliminary Design	W.C.G.

AMENDMENTS

STATE OF MAINE
WILLIAM C. GORDON
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REGISTERED PROFESSIONAL ENGINEER

A1 CAD - DO NOT AMEND MANUALLY

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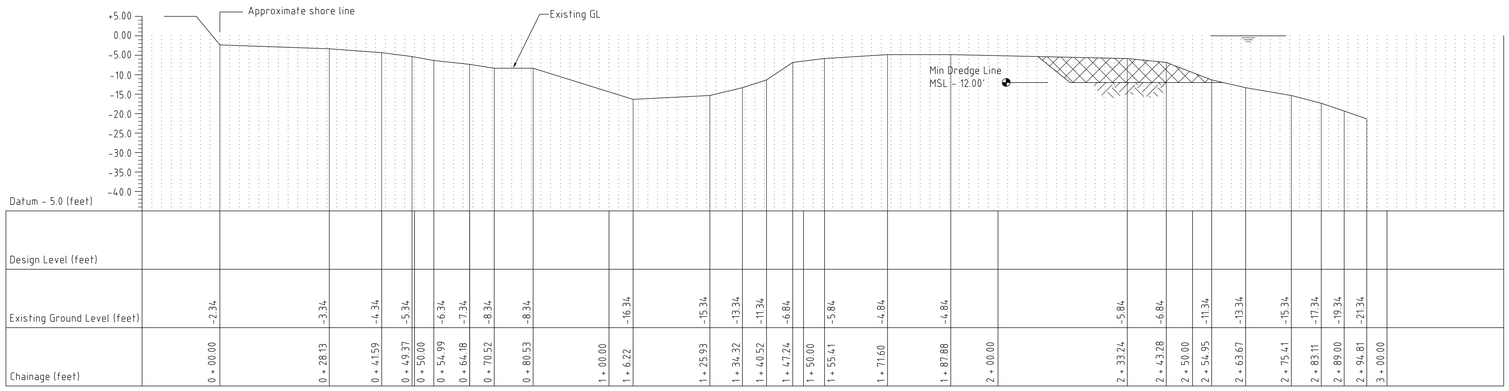
PROJECT: Government of American Samoa
Department of Port Administration
Malaloa Wharf Extension Project

DRAWING TITLE:
Sheet Pile Wharf
Cross Sections 3

PROJECT NUMBER: 1530-18
DRAWING NUMBER: C05 of

DATE: July 2018
SCALE: As Shown (A1)

DESIGNED	W.C.G.	ISSUE	C
DRAWN	T.U.	CHECKED	L.T.T.
CAD	T.U.	SHEET No.	



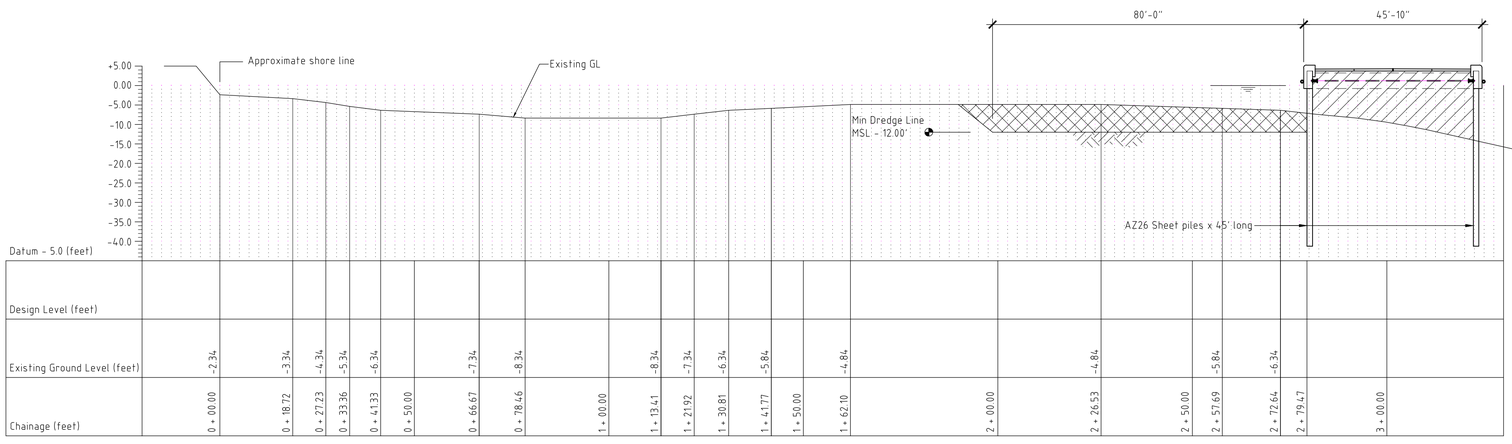
Station 5+90

1" = 20'

Total Project Excavation Volume = 10,930 cy

Total Fill Volume = 10,276 cy

Excavation Volume = 1,003 cy



Station 4+50

1" = 20'

Bid Issue C

No.	DATE:	DETAIL:	INITS:
C	07.04.18	Bid Issue C	W.C.G.
B	06.20.18	Bid Issue	W.C.G.
A	04.18.18	Preliminary Design	W.C.G.

AMENDMENTS

STATE OF MAINE — WILLIAM C. GORDON — No. 5231 — LICENSED PROFESSIONAL ENGINEER

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PROJECT: Government of American Samoa
Department of Port Administration
Malaloa Wharf Extension Project

DRAWING TITLE: Sheet Pile Wharf
Cross Sections 4

PROJECT NUMBER: 1530-18
DRAWING NUMBER: C06 of

DATE: July 2018
SCALE: As Shown (A1)

DESIGNED	W.C.G.	ISSUE	C
DRAWN	T.U.	CHECKED	L.T.T.
CAD	T.U.	SHEET No.	

CONSTRUCTION NOTES

GENERAL:

G 1 These drawings shall be read in conjunction with all Architectural and Structural drawings and Specifications. Any discrepancy shall be referred to the Engineer and be resolved before work proceeds.

G 2 All materials and workmanship shall be in accordance with the 2006 Edition of the International Building Code (IBC)

G 3 All dimensions shown shall be verified by the Contractor on site. The drawings shall not be scaled for dimensions.

G 4 During construction, the Contractor shall maintain safe and stable the structure and adjacent structures. No part shall be overstressed. Temporary bracing shall be provided by the Contractor to keep the works and excavations stable at all times.

G 5 All levels are in feet and inches unless noted otherwise.

LOADS :

L 1 The structural components detailed on these drawings have been designed in accordance with ASCE 7 - 05.

Live Load: 300psf

Roof: N.A.

Wind : 125 mph
Exposure C

Earthquake : MCE = 0.40g for 1 second shaking (Am. Samoa)

Equivalent Lateral Force Formula: $V = C_S \times W$
$I = 1.25$
$R = 8.0$
$S_{DS} = 0.43$
$C_S = 0.067$

SITE PREPARATION :

SP 1 Demolish and remove completely from the site all structures and materials noted on the Plans to be demolished under this Contract.

SP 2 Remove all organic material and topsoil from the area of the slabs to a distance of 3 feet beyond. Excavate to required levels.

SP 3 Cut on cleared subgrade and all structural fill to 3 feet beyond slab edges shall be compacted to 95% compaction in accordance with ASTM D1557. Fill shall be compacted in layers not exceeding 6" loose thickness. Structural backfill shall be free of vegetable matter and shall conform to the following grading requirements:

Sieve Size	Percent Passing by Weight
2"	100
1 1/2"	90 - 100
3/4"	50 - 90
No. 4	25 - 50
No. 200	3 - 9

SP 4 Notify the Engineer if rock is exposed during excavation to obtain his instructions before proceeding further.

FOUNDATIONS :

F 1 Footings have been designed for an allowable bearing pressure of 2500 psf on natural material. Preparations made to ground under foundations and slabs shall be approved by the Engineer before placement of reinforcement or concrete can proceed.

F 2 Footings are to be constructed and backfilled as soon as possible following excavation and inspection to avoid softening or drying out of foundation materials through exposure.

CONCRETE:

C 1 All workmanship and materials shall be in accordance the 2006 Edition of the International Building Code and ACI 117-90.

C 2 Materials

Cement shall conform to ASTM C150, Type II.

Aggregates shall conform to ASTM C33, Concrete Aggregate.
Maximum aggregate size shall be 3/4".

Reinforcing bars shall conform to ASTM A615:
Grade 60 ≥ #4

Weld wire fabric shall conform to ASTM A185.

Water used in mixing concrete shall be potable.
Admixtures to be used in concrete shall be subject of to prior approval by the Engineer.

Cementitious materials and aggregate shall be stored in such manner as to prevent deterioration or intrusion of foreign matter. Any material that has deteriorated or has been contaminated shall not be used for concrete.

C 3 Durability Requirements

Minimum concrete compressive strength at 28 days shall be 5000 psi.
The maximum water - cement ratio by weight shall not exceed 0.41.

The following minimum concrete cover shall be provided for reinforcement unless otherwise noted:

1) Concrete cast directly against earth: 3"

2) Formed concrete exposed to earth or weather:
4 bar and larger 2 1/2"

3) Concrete not exposed to weather or in contact with ground:

Slab and walls:
8 bar and smaller 2 1/2"

Beams and columns:
Transverse reinforcement: 2 1/2"

C 4 Concrete Quality, Mixing and Placing Requirements

The Engineer shall be given at least 24 hours notice for reinforcement inspection.
Concrete shall not be delivered until final approval has been obtained for the reinforcement.

All concrete shall have the workability and consistency to be deposited into forms and worked around reinforcement without segregation or excessive bleeding. All concrete including slabs on ground and footings shall be compacted with mechanical vibrators.

A minimum of of three samples shall be taken from each day's pour for testing.
Testing shall be carried out at 7 days and 28 days. Slump shall not exceed 4".

Internal floors shall receive a steel troweled finish.
External footpaths shall have a broomed finish transverse to direction of pedestrian traffic.

The finish tolerance of concrete floor slabs shall be 1/4" in 10 feet.

Curing of all concrete is to be achieved by keeping surfaces continuously wet for a period of 7 days. Approved sprayed or curing compounds may be used where no floor finishes are proposed. Polythene sheeting may be used if protected from wind and traffic.

C 5 Formwork Construction

Forms shall result in a final structure that conforms to lines and dimensions of the members as required by the design drawings and specifications.

Forms shall be constructed of the following materials:

Hidden surfaces: Rough sawn or better timber
Exposed surfaces: Plywood, dressed T and G timber, or steel

C 6 Details of Reinforcement:

All reinforcement shall be bent cold. Bending deails shall be as in Figure 1.

Splices shall be made only in positions shown on the drawings or as otherwise approved in writing by the Engineer. Minimum lap lengths shall be as follows unless noted otherwise:

Bar Size	Bar Length
# 3	1' - 6"
# 4	2' - 0"
# 5	2' - 6"
# 6	3' - 0"
# 7	3' - 6"
# 8	4' - 0"
Mesh	8"

Welding of reinforcement is not permitted.

MASONRY

M 1 All workmanship and materials shall be in accordance with the 2006 Edition of the International Building Code and ACI 117-90.

M 2 Materials

Masonry units shall have a minimum compressive strength at 28 days of 1500 psi.

Mortar shall have a minimum compressive strength at 28 days of 1500 psi.

Grout used in masonry wall cells and courses shall have a minimum compressive strength at 28 days of 2000 psi. Maximum aggregate size shall be 3/8".

Columns shall be filled with structural concrete having a minimum 28 day compressive strength of 4000 psi.

Reinforcing bars shall conform to ASTM A615, Grade 60.

M 3 Handling, Storage and Preparation.

Masonry materials shall be stored so that at the time of use the materials are clean and structurally suitable for the intended use.

All metal reinforcement shall be free from loose rust and other coatings that would inhibit reinforcing bond.

Mortar or grout mixed at the jobsite shall be mixed for a period of time not less than 3 minutes or more than 10 minutes in a mechanical mixer.

M 4 Placing Masonry Units

Masonry shall be constructed in running bond pattern throughout. Concrete masonry units shall not be wetted prior to or during placement. The initial bed joint thickness shall not be less than 1/4" or more than 1"; subsequent joints shall not be less than 1/4" or more than 1/2" in thickness.

All joints shall be neatly tooled and left slightly concave to the surface of the masonry block.

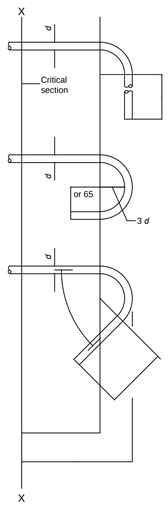
M 5 Grouted Masonry

Reinforcement shall be placed prior to grouting and secured against displacement by wire positioners or other suitable means. Bolts shall be accurately set with templates to prevent dislocation during grouting.

Cleanouts shall be provided in the bottom course of every vertical bar and shall be sealed after inspection and before grouting.

Grouting shall be carried out in lifts not exceeding 4 feet. All cells shall be grouted solid. Grout shall be consolidated by mechanical vibration during placement.

FIGURE 1



STRUCTURAL STEEL

S 1 All workmanship and materials shall be in accordance with the 2006 Edition of the International Building Code.

S 2 Materials

Unless noted otherwise, steel shall conform to one of the following ASTM Specifications :

Structural steel, plate ASTM A36
Structural tube, pipe, ASTM A500 Grade B

General, all purpose bolts, ASTM A36
High strength structural bolts, ASTM A325

S 3 Three (3) copies of shop fabrication drawings shall be submitted to the Engineer for review at least 7 days prior to commencement of fabrication.

S 4 Mill and Shop Inspection

The Contractor shall give advance notice of shop and mill work and also then location to the Engineer so that the Engineer may set up testing and inspection procedure.

S 5 Shop Work and Fabrication

Structural material shall be kept clean and free from injury due to rough handling at all times including during loading, transporting and storage.

S 6 Erection

Materials stored on site shall be placed on skids above the ground. They shall be kept clean and properly drained.

All erection work shall be subject to inspection by the Engineer. The Contractor shall provide the falsework and all tools and machinery necessary for the handling of the work.

S 7 Bolts

Anchor bolts shall be set accurately to the pattern and dimensions called for on the Plans. The protrusion of the threaded ends through the connected material shall be sufficient to fully engage the thread of the nuts.

Where A325 high strength bolts are specified for connections, the work shall comply with Sections 2220-2228 of the 2006 IBC.

For all A325 bolts a hardened washer shall be inbstalled under the nut or bolt head, whichever is the element turned in tightening.

Galvanized A325 bolts shall not be reused once tightened.

S 8 Welding

All welding shall comply with the applicable provisions of the American Welding Society's Structural Welding Code - Steel '.

Welding shall be carried out by welding operators who have had suitable training and practical exprience in welded construction.

Electrical arc welding equipment shall be maintained in good condition to the satisfaction of the Engineer.

Electrodes arc welding equipment shall be maintained in good condition to the satisfaction of the Engineer.

Electrodes used for arc welding shall be AWS A5.1, E7014.
Electrodes for metal inert gas (MIG) welding shall conform to AWS A5.20.

Weld symbols :

LOCATION OF ELEMENTS OF A WELDING SYMBOL

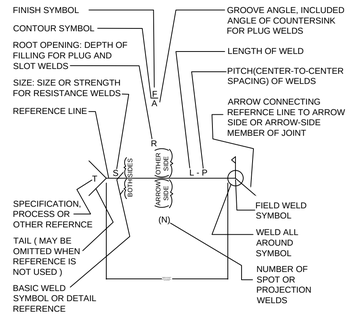


TABLE A - BASIC WELD SYMBOLS AND THEIR LOCATION SIGNIFICANCE

LOCATION SIGNIFICANCE	ARC AND GAS WELD SYMBOLS														
	FILLET	PLUG OR SLOT	ARC-SEAM OR ARC-SPOT	GROOVE							BACK OR BACKING	MELT THRU	SURFACING	FLANGE	
				SQUARE	V	BEVEL	U	J	FLARE V	FLARE BEVEL				EDGE	CORNER
ARROW-SIDE											GROOVE WELD SYMBOL	GROOVE OR FLANGE WELD SYMBOL	NOT USED		
OTHER-SIDE											GROOVE WELD SYMBOL	GROOVE OR FLANGE WELD SYMBOL	NOT USED		
BOTH SIDES		NOT USED	NOT USED								NOT USED	NOT USED	NOT USED	NOT USED	NOT USED
NO ARROW -SIDE OR OTHER-SIDE SIGNIFICANCE	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED		NOT USED	NOT USED

S 9 Paint

Refer to specifications for paint treatment of exposed steelwork.

WOOD

W 1 All workmanship and materials shall be in accordance with the 2006 Edition of the International Building Code.

W 2 Materials

Unless noted otherwise, timber shall be Douglas Fir No. 1 grade or Radiata Pine MSG 10.

All timber shall be CCA treated to 0.25 lbs/ft³ in accordance with relevant AWPA standards.
A certificate of inspection from a recognized timber inspection bureau shall be submitted with each shipment of timber.

Plywood used for structural diaphragms shall be C-D panel grade in accordance with the Standard Grading rules of the WWPA. All plywood shall be treated.

Bolts shall be general all purpose bolts, ASTM A307.

All nails, nail plates, bolts and washers shall be hot dipped galvanized.

W 3 Storage of Materials

Timber store on the work site shall be kept in orderly stacks on supports at least 12 inches above the ground surface. The material shall be protected from the weather by a suitable covering.

W 4 Workmanship

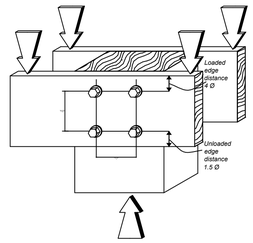
Workmanship shall be first class throughout. All timber shall be accurately cut and framed to a close fit in such manner that the joints shall have even bearing over the entire contact surfaces. Mortises shall be true to size for their full depth and tenons shall fit snugly. No shimming will be permitted in making joints, nor will open joints be accepted. Unless otherwise specified, nails shall be driven with heads set flush with the surface of the wood.

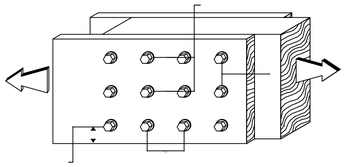
W 5 Bolts and Lag Screws

Holes and bolts shall be bored with a bit the same diameter as the bolt.
Holes for lag screws shall be bored with a bit not larger than the body of the screw at the base of the thread.

Washers, of the size and type specified, shall be used under all bolt heads and nuts.

Bolt spacings, edge and end distances shall be as follows:





Bid Issue C

No.	DATE:	DETAIL:	INITS.
C	07.04.18	Bid Issue C	W.C.G.
B	06.20.18	Bid Issue	W.C.G.
A	04.18.18	Preliminary Design	W.C.G.

AMENDMENTS

STATE OF MAINE · WILLIAM C GORDON · No. 5231 · LICENSED PROFESSIONAL ENGINEER

A1 CAD - DO NOT AMEND MANUALLY

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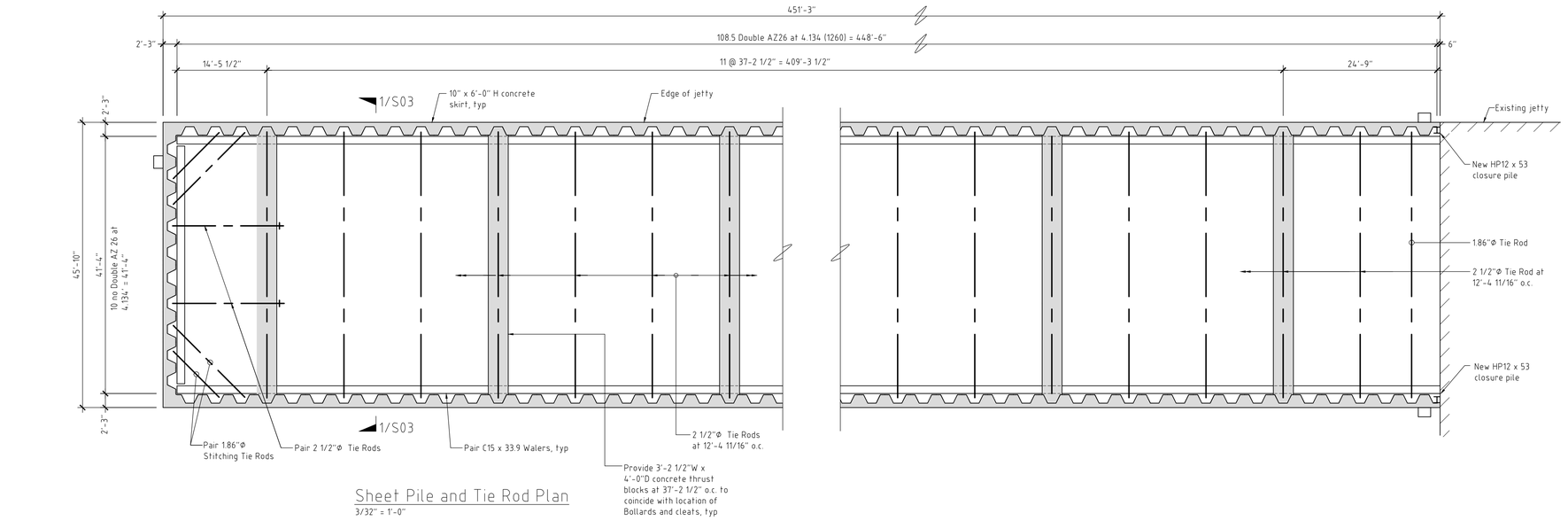
PROJECT: Government of American Samoa
Department of Port Administration
Malaloa Wharf Extension Project

DRAWING TITLE: Sheet Pile Bulkhead Jetty
General Notes

PROJECT NUMBER: 1530-18 DRAWING NUMBER: S01 of

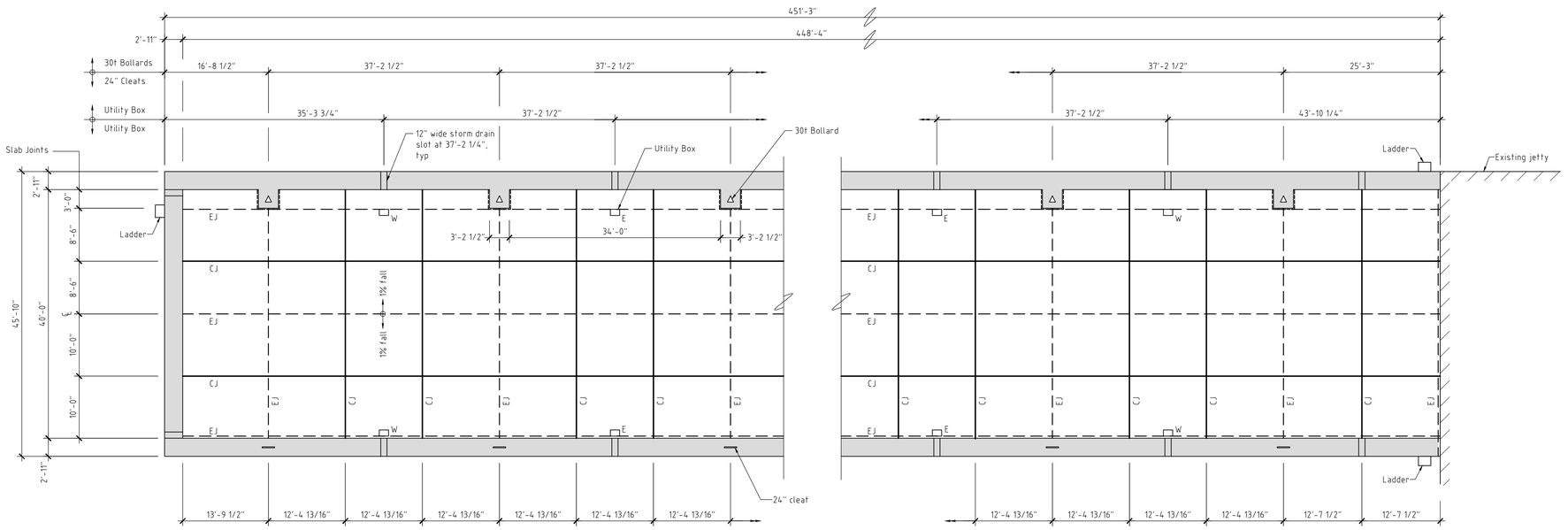
DATE: July 2018 SCALE: As Shown

DESIGNED	W.C.G.	ISSUE	C
DRAWN	W.C.G.	CHECKED	L.M.T.T.
CAD	T.M.	SHEET No.	



Sheet Pile and Tie Rod Plan

3/32" = 1'-0"



Slab Plan

3/32" = 1'-0"

Bid Issue C

No	DATE:	DETAIL:	INITS.
C	07.04.18	Bid Issue C	W.C.G.
B	06.20.18	Bid Issue	W.C.G.
A	04.18.18	Preliminary Design	W.C.G.

AMENDMENTS

STATE OF MAINE — WILLIAM C. GORDON — No. 5231 — LICENSED PROFESSIONAL ENGINEER

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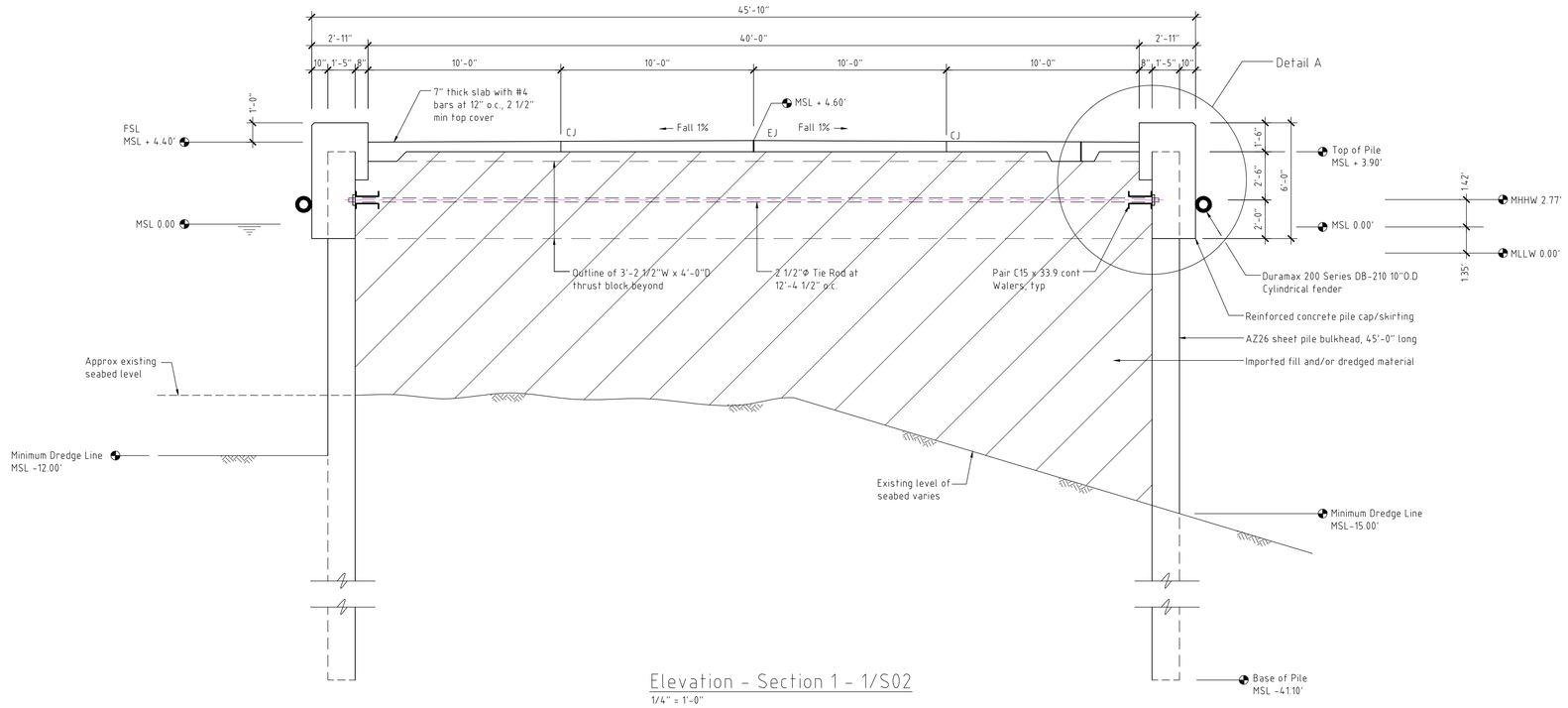
PROJECT: Government of American Samoa
Department of Port Administration
Malaloa Wharf Extension Project

DRAWING TITLE: Sheet Pile Bulkhead Jetty
Sheet Pile & Tie Rod Plan
Slab Plan

PROJECT NUMBER: 1530-18
DRAWING NUMBER: S02 of

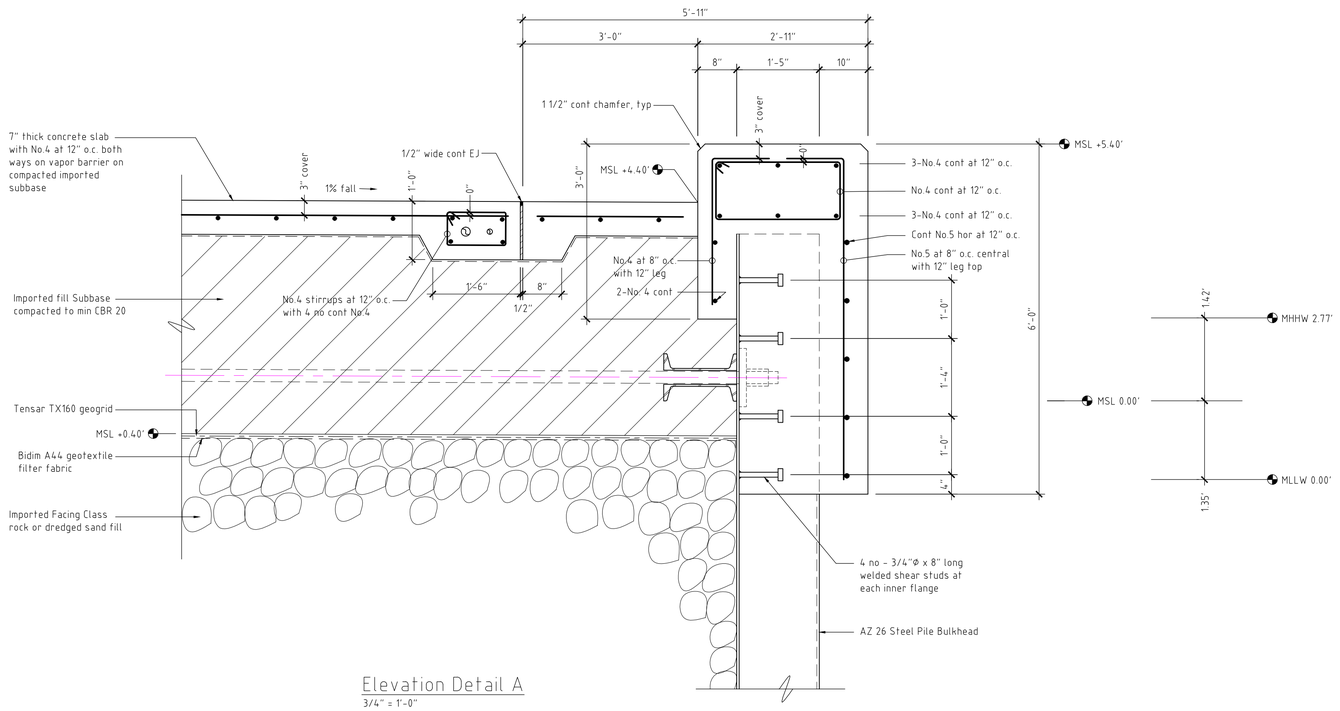
DATE: July 2018
SCALE: As Shown (A1)

DESIGNED	W.C.G.	ISSUE	C
DRAWN	W.C.G.	CHECKED	L.M.T.T.
CAD	T.M.	SHEET No.	



Elevation - Section 1 - 1/S02

1/4" = 1'-0"



Elevation Detail A

3/4" = 1'-0"

Bid Issue C

No.	DATE:	DETAIL:	INITS:
C	07.04.18	Bid Issue C	W.C.G.
B	06.20.18	Bid Issue	W.C.G.
A	04.18.18	Preliminary Design	W.C.G.

AMENDMENTS

STATE OF MAINE · WILLIAM C. GORDON · No. 5231 · LICENSED PROFESSIONAL ENGINEER

A1 CAD - DO NOT AMEND MANUALLY

TINAI, GORDON & ASSOCIATES LTD.
ACB BUILDING, BEACH ROAD
P.O.BOX 9581 APIA, SAMOA
EMAIL: bill@tinaigordon.ws
TEL: (685) 22-906 EMAIL: tom@tinaigordon.ws FAX: (685) 22-913

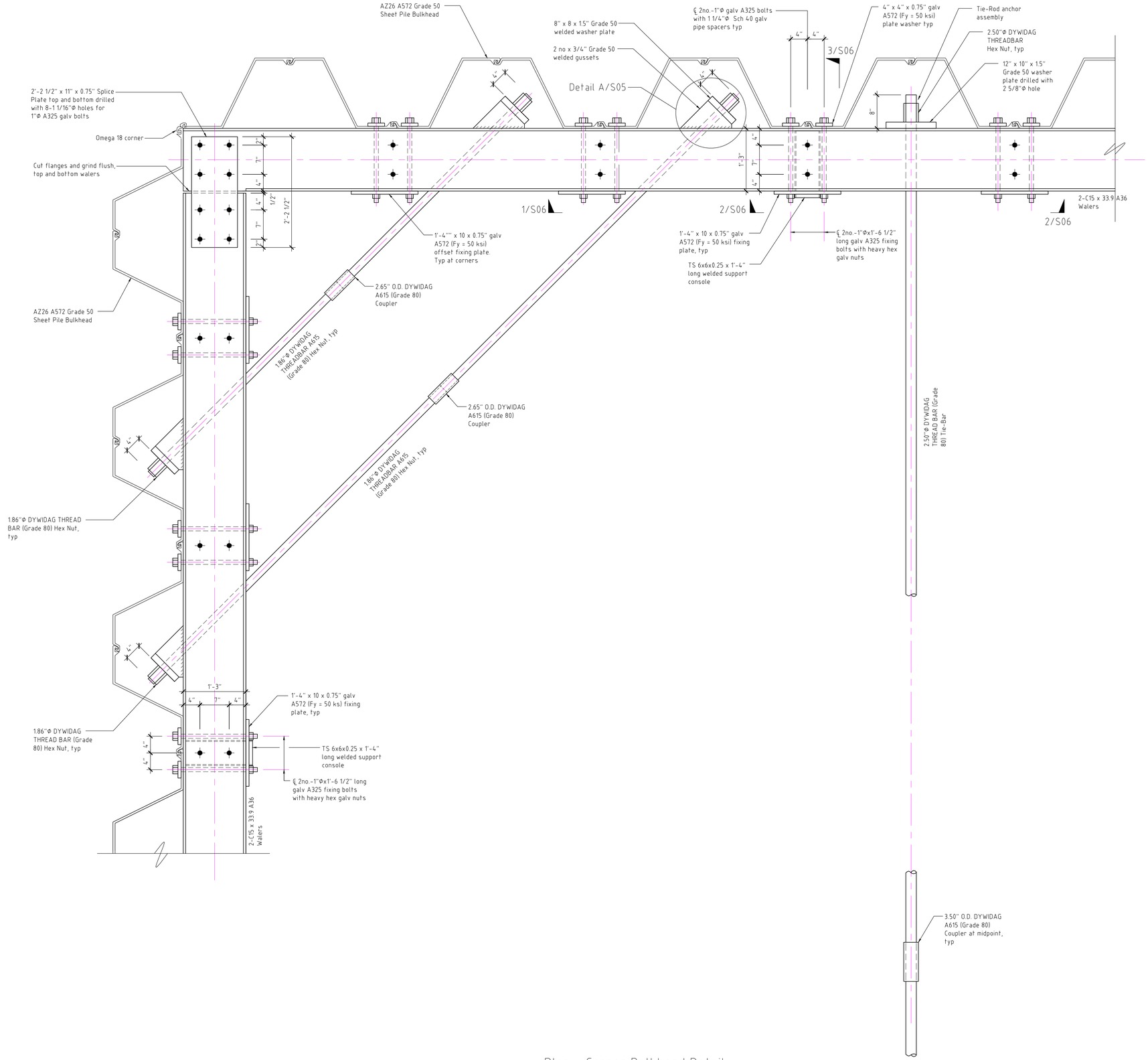
PROJECT: Government of American Samoa
Department of Port Administration
Malaloa Wharf Extension Project

DRAWING TITLE: Sheet Pile Wharf
Elevation Section and Detail

PROJECT NUMBER: 1530-18
DRAWING NUMBER: S03 of

DATE: July 2018
SCALE: As Shown (A1)

DESIGNED	W.C.G.	ISSUE	C
DRAWN	W.C.G.	CHECKED	L.M.T.T.
CAD	T.M.	SHEET No.	



Plan - Corner Bulkhead Detail

1" = 1'-0"

Bid Issue C

No	DATE:	DETAIL:	INITS.
C	07.04.18	Bid Issue C	W.C.G.
B	06.20.18	Bid Issue	W.C.G.
A	04.18.18	For Bid	W.C.G.

AMENDMENTS

STATE OF MAINE
WILLIAM C. GORDON
No. 5231
LICENSED PROFESSIONAL ENGINEER

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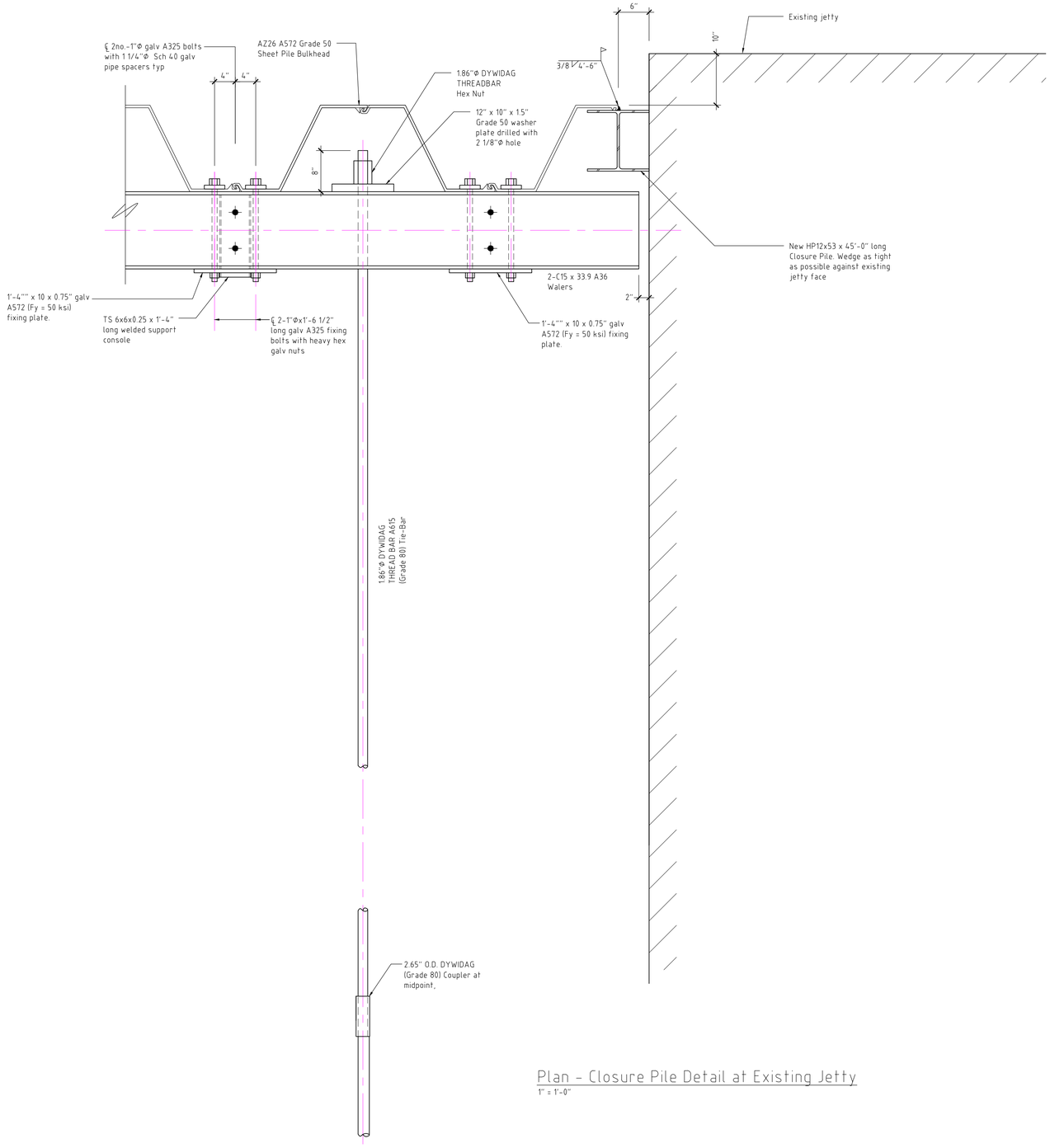
PROJECT: Government of American Samoa
Department of Port Administration
Malaloa Wharf Extension Project

DRAWING TITLE: Sheet Pile Bulkhead Jetty
Plan - Corner Bulkhead Detail

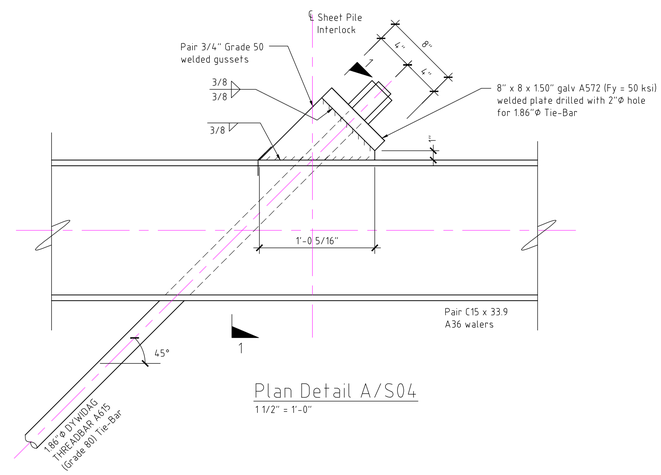
PROJECT NUMBER: 1530-18
DRAWING NUMBER: S04 of
DATE: July 2018
SCALE: As Shown (A1)

DESIGNED	W.C.G.	ISSUE	C
DRAWN	W.C.G.	CHECKED	L.M.T.T.
CAD	T.M.	SHEET No.	



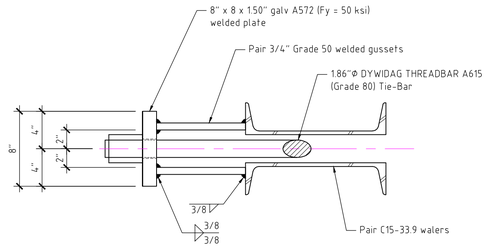
Plan - Closure Pile Detail at Existing Jetty

1" = 1'-0"



Plan Detail A/S04

1 1/2" = 1'-0"



Elevation Section 1 - 1

1 1/2" = 1'-0"

No	DATE:	DETAIL:	INITS:
C	07.04.18	Bid Issue C	W.C.G.
B	06.20.18	Bid Issue	W.C.G.
A	04.18.18	Preliminary	W.C.G.

AMENDMENTS

STATE OF MAINE · WILLIAM C. GORDON · No. 5231 · LICENSED PROFESSIONAL ENGINEER

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TEL: (685) 22-906 FAX: (685) 22-913
EMAIL: tom@tinaigordon.ws

PROJECT: Government of American Samoa
Department of Port Administration
Malaloa Wharf Extension Project

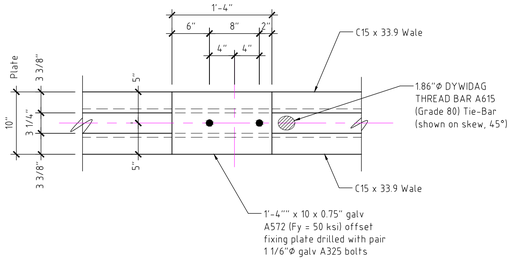
DRAWING TITLE: Sheet Pile Bulkhead Jetty
Closer Pile Detail at Existing Jetty

PROJECT NUMBER: 1530-18
DRAWING NUMBER: S05 of

DATE: July 2018
SCALE: As Shown (A1)

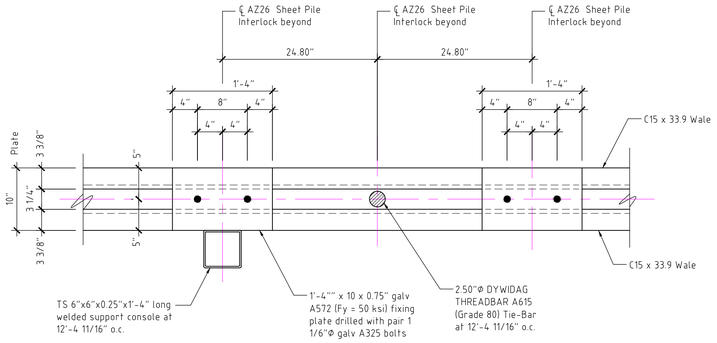
DESIGNED	W.C.G.	ISSUE	C
DRAWN	W.C.G.	CHECKED	L.M.T.T.
CAD	T.M.	SHEET No.	

Bid Issue C



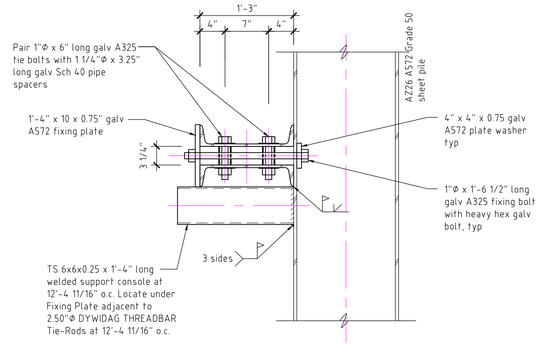
Elevation 1/S04 - Offset Fixing Plate

1" = 1'-0"



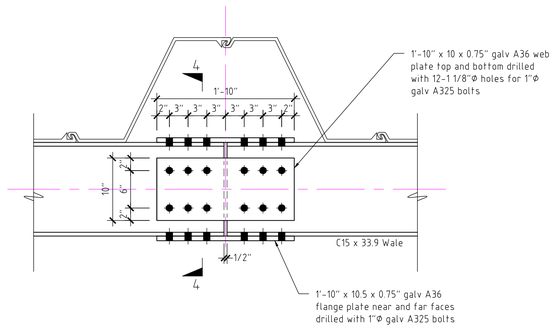
Elevation 2-2/S04 - Fixing Plate

1" = 1'-0"



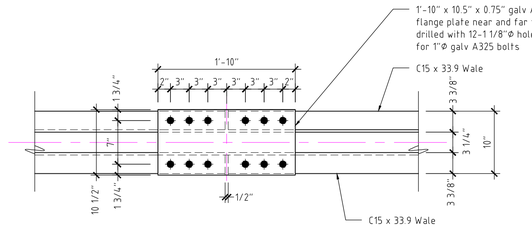
Elevation Section 3/S04

1" = 1'-0"



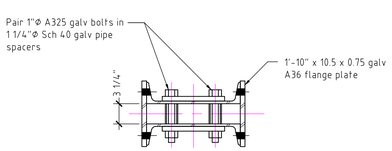
Plan - Wale Splice Plates

1" = 1'-0"



Elevation - Wale Flange Splice Plate

1" = 1'-0"



Elevation Section 4-4

1" = 1'-0"

Bid Issue C

No.	DATE:	DETAIL:	INITS:
C	07.04.18	Bid Issue C	W.C.G.
B	06.20.18	Bid Issue	W.C.G.
A	04.18.18	Preliminary	W.C.G.

AMENDMENTS

STATE OF HAWAII
WILLIAM C. GORDON
No. 5231
LICENSED PROFESSIONAL ENGINEER

A1 CAD - DO NOT AMEND MANUALLY

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EMAIL: tom@tinaigordon.ws
FAX: (685) 22-913

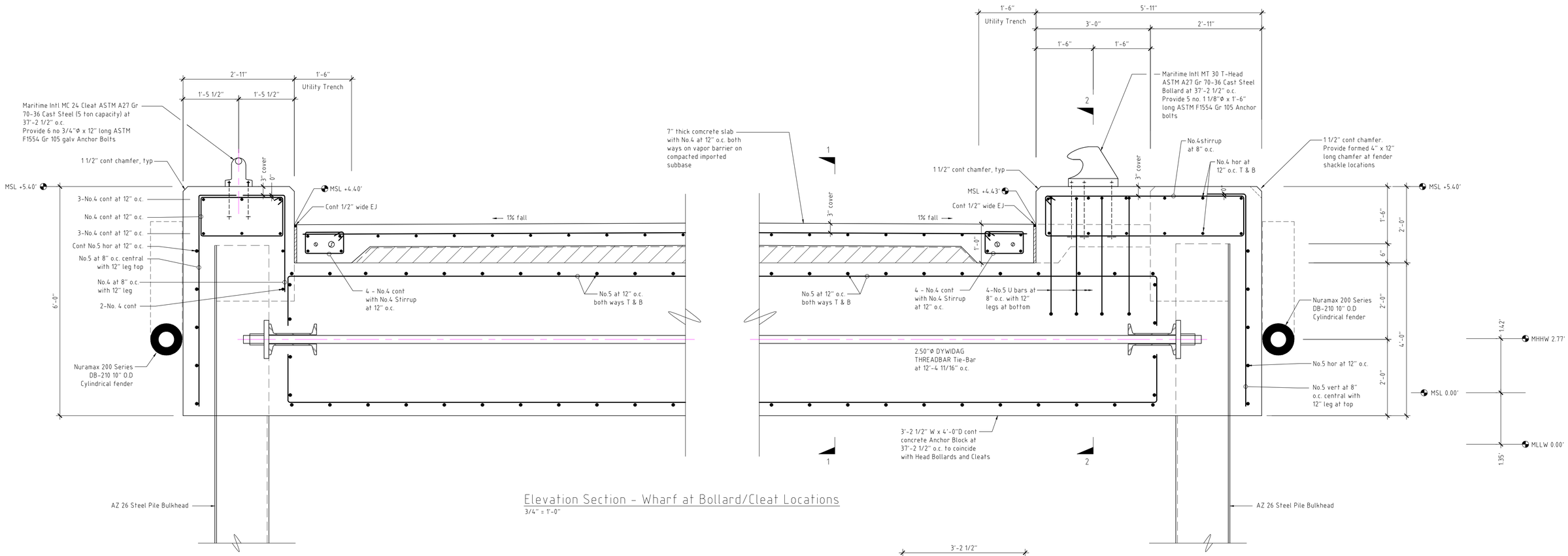
PROJECT: Government of American Samoa
Department of Port Administration
Malaloa Wharf Extension Project

DRAWING TITLE: Sheet Pile Bulkhead Jetty
Sheet Pile Bulkhead Details

PROJECT NUMBER: 1530-18
DRAWING NUMBER: S06 of

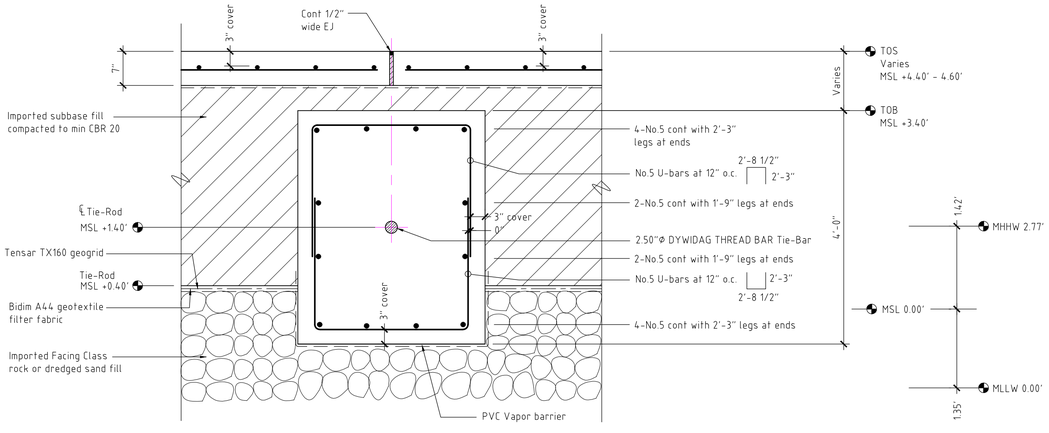
DATE: July 2018
SCALE: As Shown (A1)

DESIGNED	W.C.G.	ISSUE	C
DRAWN	W.C.G.	CHECKED	L.M.T.T.
CAD	T.M.	SHEET No.	



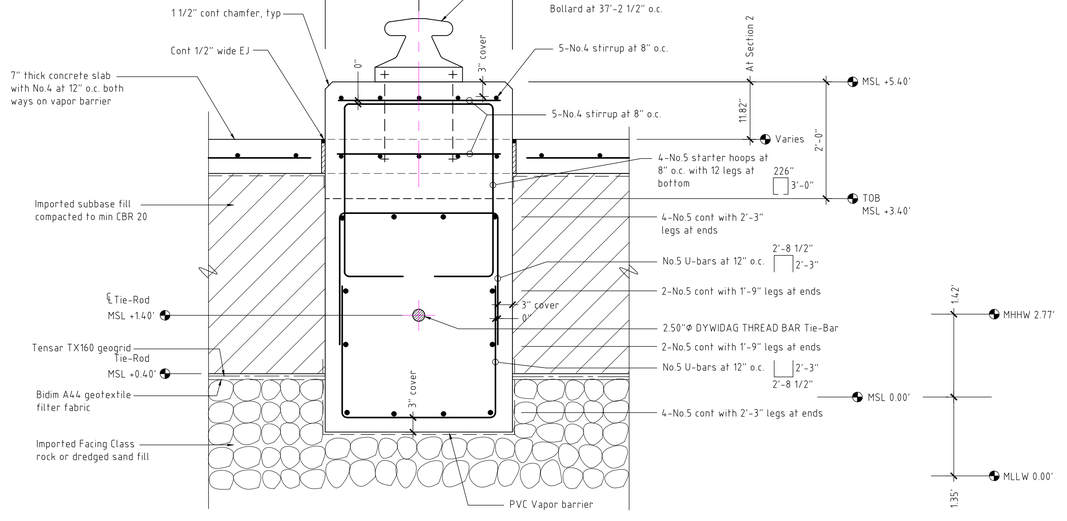
Elevation Section - Wharf at Bollard/Cleat Locations

3/4" = 1'-0"



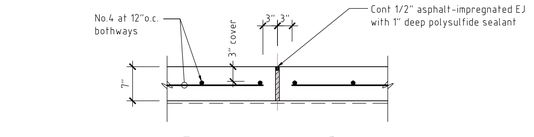
Elevation Section 1

3/4" = 1'-0"



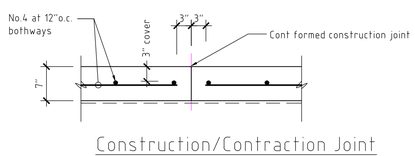
Elevation Section 2

3/4" = 1'-0"



Expansion Joint Detail

3/4" = 1'-0"



Construction/Contraction Joint

3/4" = 1'-0"

Note:
Refer Drawing S08 for Utility Box details and utility lines

Bid Issue C

No.	DATE:	DETAIL:	INITS.
C	07.04.18	Bid Issue C	W.C.G.
B	06.20.18	Bid Issue	W.C.G.
A	04.18.18	Preliminary	W.C.G.

AMENDMENTS

STATE OF HAWAII — WILLIAM C. GORDON — No. 5231 — LICENSED PROFESSIONAL ENGINEER

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TEL: (685) 22-906 FAX: (685) 22-913
EMAIL: tom@tinaigordon.ws

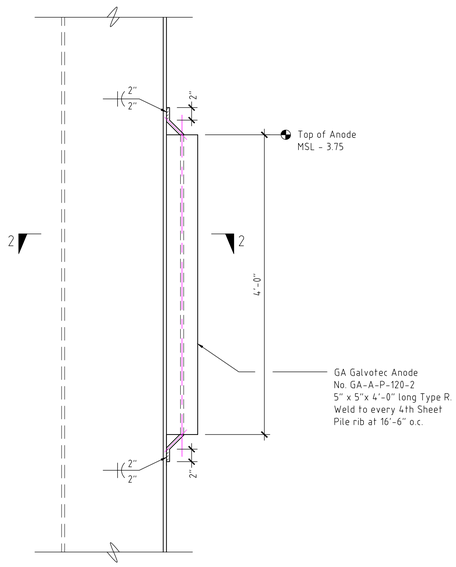
PROJECT: Government of American Samoa
Department of Port Administration
Malaloa Wharf Extension Project

DRAWING TITLE: Sheet Pile Wharf
Wharf Sections at Bollard/Cleat Locations

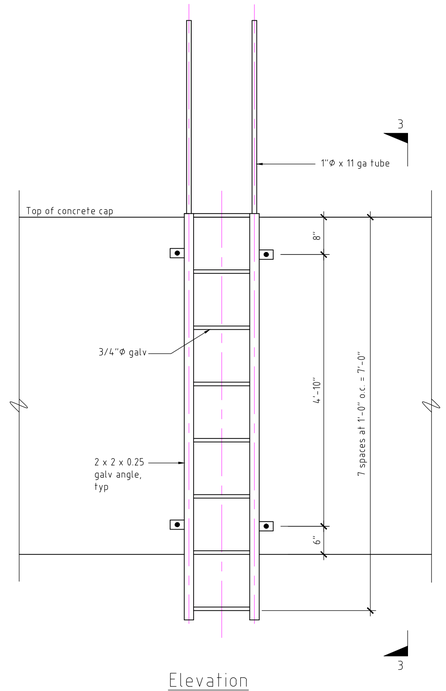
PROJECT NUMBER: 1530-18
DRAWING NUMBER: S07 of

DATE: July 2018
SCALE: As Shown (A1)

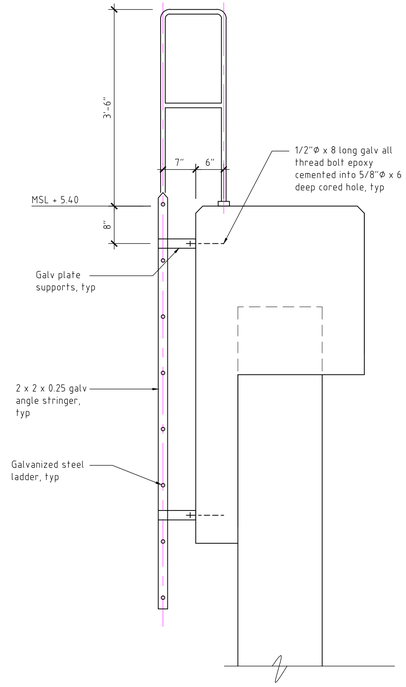
DESIGNED	W.C.G.	ISSUE	C
DRAWN	W.C.G.	CHECKED	L.M.T.T.
CAD	T.M.	SHEET No.	



Elevation - Cathodic Protection Detail
1" = 1'-0"

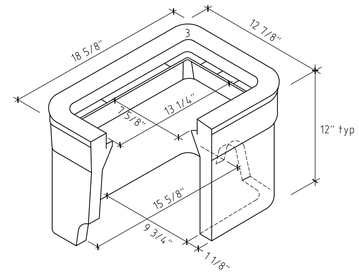


Elevation
3/4" = 1'-0"



Elevation Section 3 - 3
3/4" = 1'-0"

Note:
Provide 3 no. hot dipped galv
Series F8W Walk thru Rail
Ladders by Cotterman Co. or
approved equal

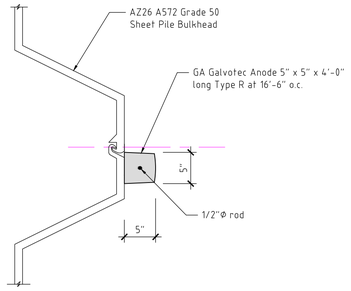


Utility Box No. B03
NTS

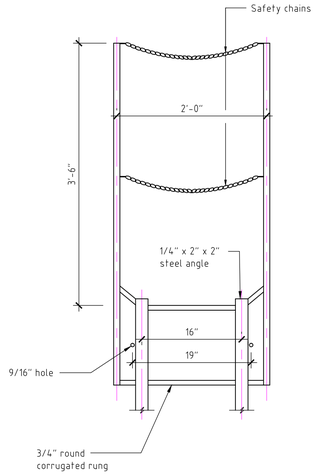
B03C
NTS

Notes:

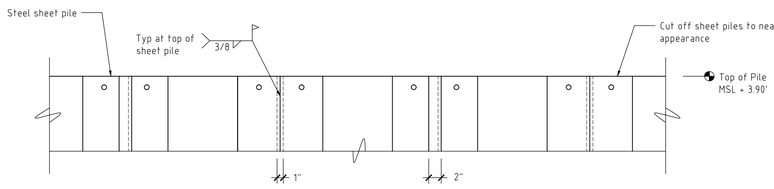
1) Provide 22 no. Utility Boxes No. B03 with Cast Iron hids B03C by Old castle Enclosure Solutions, 11 no. per side.
2) Install 2"Φ Electrical Conduit, typ
3) Intall 1 no. 1"Φ PVC Water Conduit, typ
4) Utility Box functions:
   - W Water service
   - E Electrical service



Plan Section 2 - 2
1" = 1'-0"

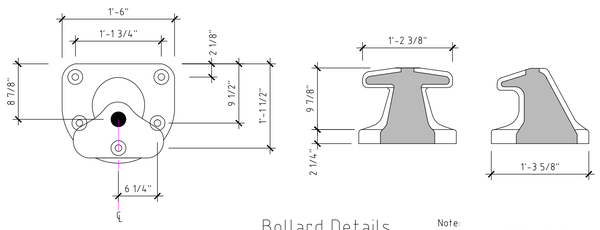


Elevation Ladder at Top
1" = 1'-0"



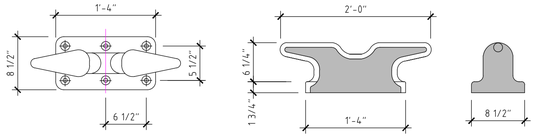
Typical Bulkhead Finishing Detail
1" = 1'-0"

Note:
Top 6" of steel sheet pile shall be welded to adjacent steel sheet pile



Bollard Details
1" = 1'-0"

Note:
Supply and intall 12 no. Maritime Intl MT 30 T-Head ASTM A27 Gr 70-36 Cast Steel Bollard at 37'-2 1/2" o.c. Provide 5 no. 1 1/8"Φ x 1'-6" long ASTM F1554 Gr 105 Anchor bolts



Cleat Detail
1" = 1'-0"

Note:
Supply and intall 12 no. Maritime Intl MC 24 Cleat ASTM A27 Gr 70-36 Cast Steel (5 ton capacity) at 37'-2 1/2" o.c. Provide 6 no 3/4"Φ x 12" long ASTM F1554 Gr 105 galv Anchor Bolts

No	DATE:	DETAIL:	INITS:
B	06.20.18	Bid Issue	W.C.G.
A	04.18.18	Preliminary	W.C.G.

AMENDMENTS

STATE OF MAINE · WILLIAM C. GORDON · No. 5231 · LICENSED PROFESSIONAL ENGINEER

A1 CAD - DO NOT AMEND MANUALLY

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TEL: (685) 22-906 FAX: (685) 22-913
EMAIL: tom@tinaigordon.ws

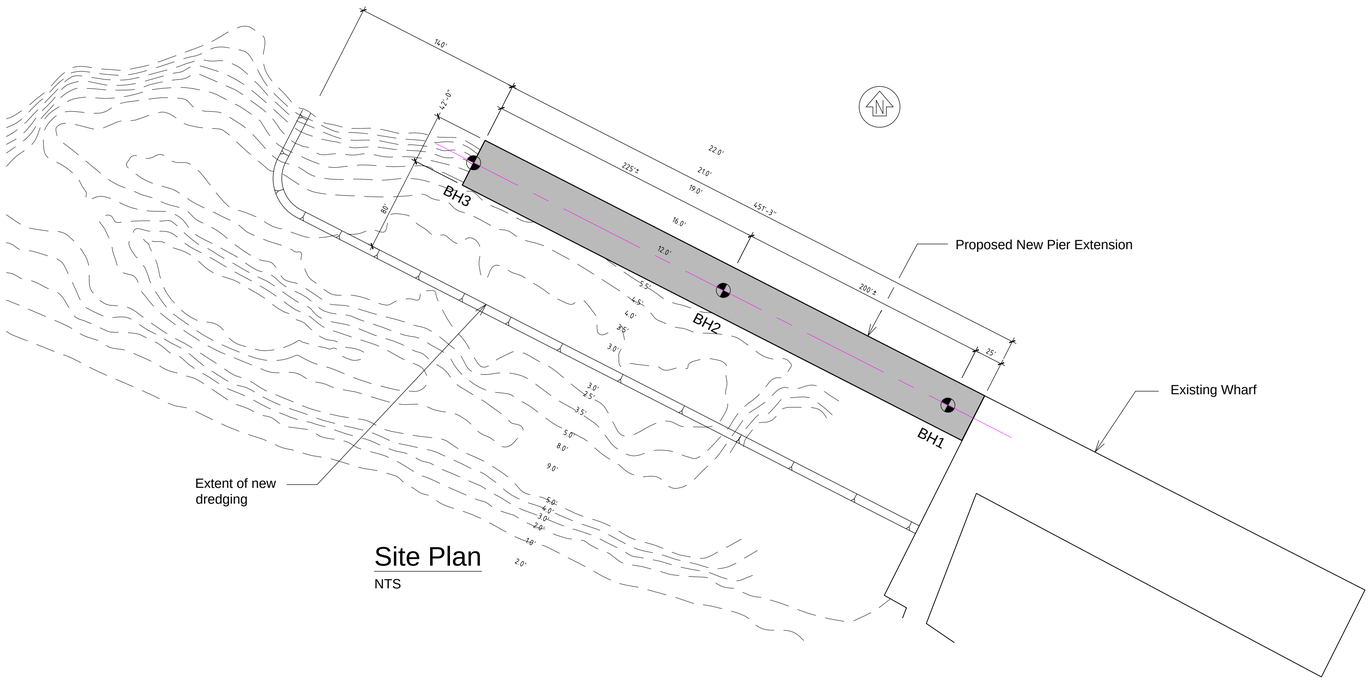
PROJECT: Government of American Samoa
Department of Port Administration
Malaloa Wharf Extension Project

DRAWING TITLE: Sheet Pile Bulkhead Jetty
Miscellaneous Details

PROJECT NUMBER: 1530-18
DRAWING NUMBER: S08 of

DATE: July 2018
SCALE: As Shown (A1)

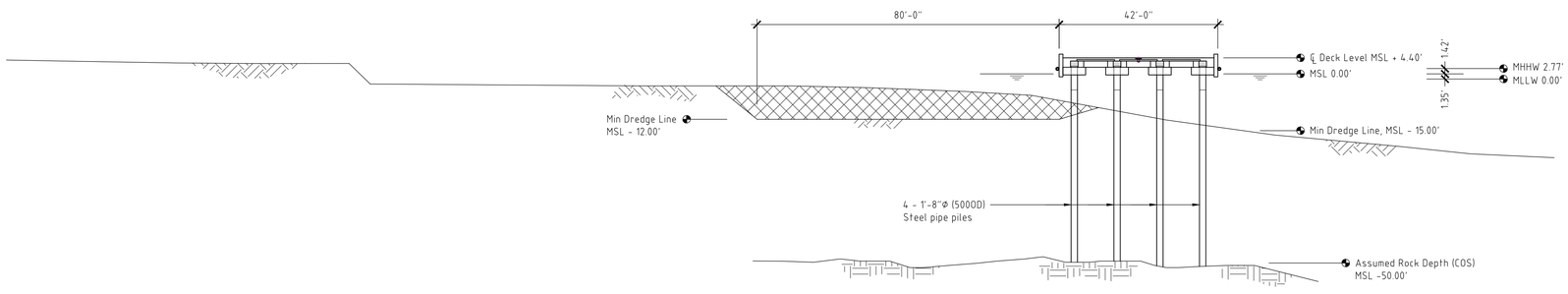
DESIGNED	W.C.G.	ISSUE	C
DRAWN	W.C.G.	CHECKED	L.M.T.T.
CAD	T.M.	SHEET No.	



Site Plan

NTS

Datum Elevations on Mean Lower Low Water 09/22/2017	
Value	Description
2.77'	Mean Higher -High Water
2.64'	Mean High Water
1.35'	Mean Tide Level
1.35'	Mean Sea Level
1.39'	Mean Diurnal Tide Level
0.06'	Mean Low Water
0.00'	Mean Lower-Low Water



Typical Cross Section

1" = 20' at A1

Note:
BH1 - BH3 indicate proposed locations of Boreholes to be carried out by the Contractor.

No.	DATE:	DETAIL:	INITS:
C	07.04.18	Bid Issue C	W.C.G.
B	06.20.18	Bid Issue	W.C.G.
A	04.18.18	Preliminary Design	W.C.G.

AMENDMENTS

STATE OF MARINE WILLIAM C. GORDON No. 5231 REGISTERED PROFESSIONAL ENGINEER

A1 CAD - DO NOT AMEND MANUALLY

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PROJECT: Government of American Samoa
Department of Port Administration
Malaloa Wharf Extension Project

DRAWING TITLE:
Alternate No.1 - Pier Extension on Piles
Proposed Site Plan and Typical Cross Section

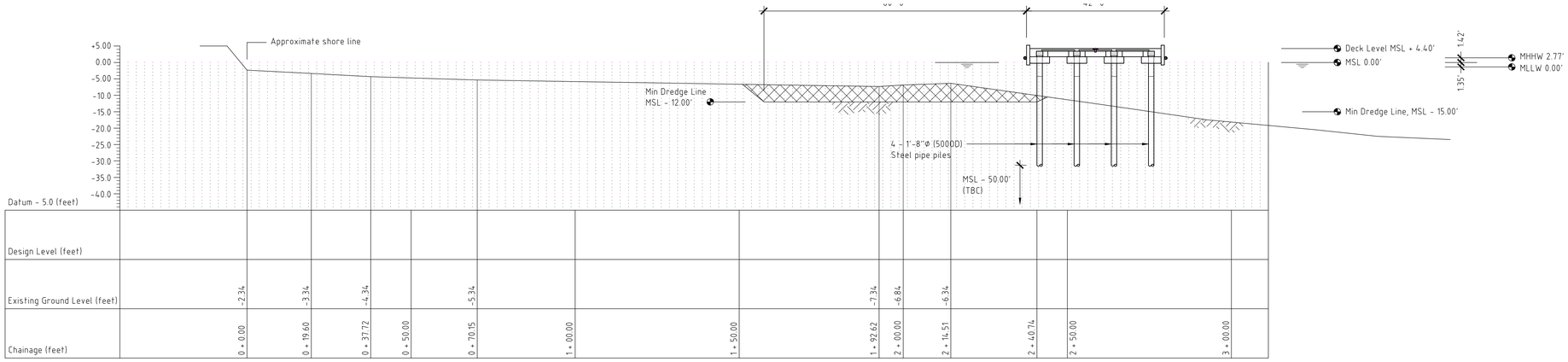
PROJECT NUMBER: 1530-18
DRAWING NUMBER: C02 of

DATE: July 2018
SCALE: As Shown

DESIGNED	W.C.G.	ISSUE	C
DRAWN	W.C.G.	CHECKED	L.T.T.
CAD	T.U.	SHEET No.	

Bid Issue C

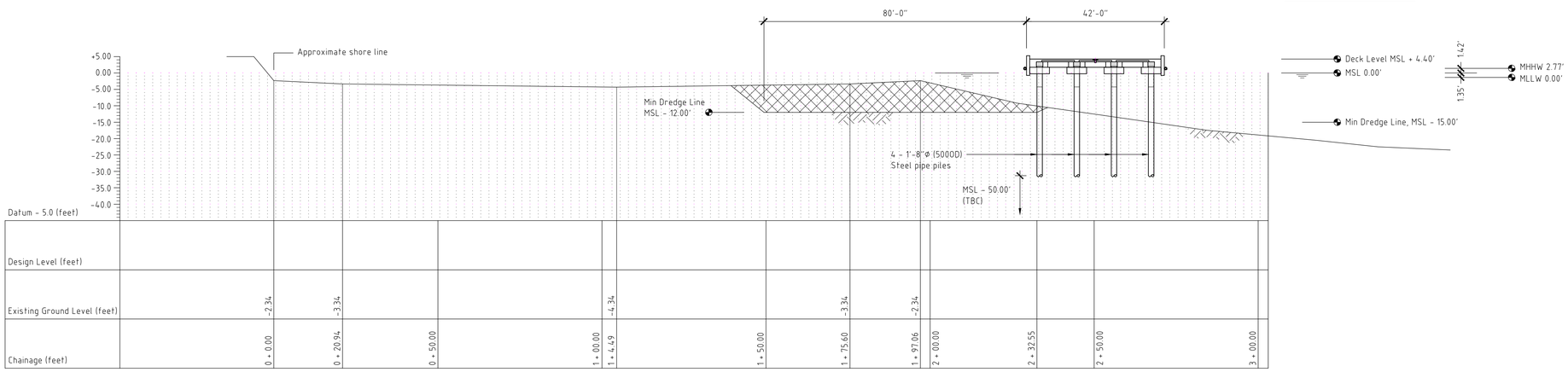
Excavation Volume = 803 cy



Station 1+00

1" = 20'

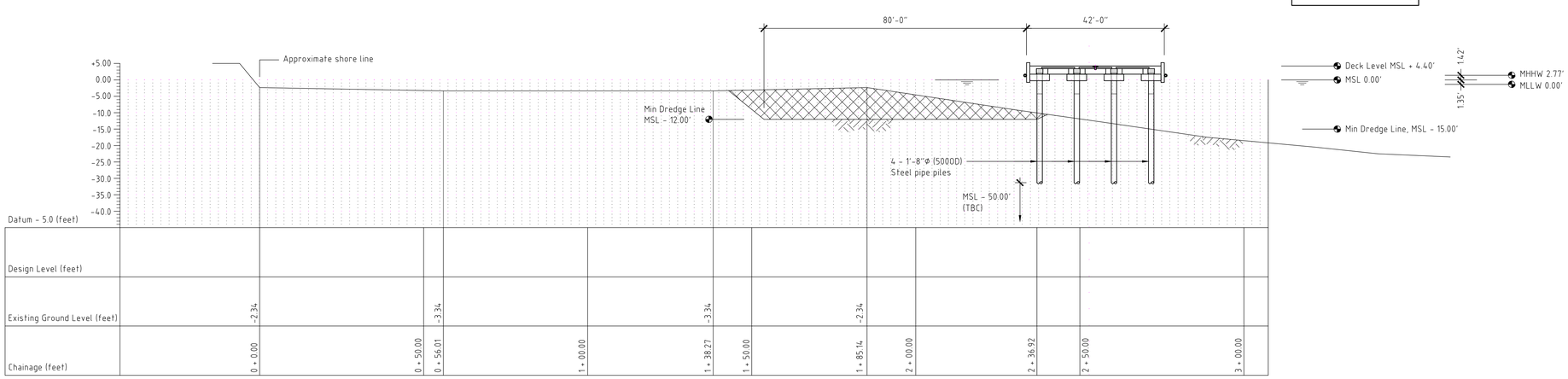
Excavation Volume = 1,005 cy



Station 0+50

1" = 20'

Excavation Volume = 1,235 cy



Station 0+00

1" = 20'

Bid Issue C

No.	DATE:	DETAIL:	INITS:
C	07.04.18	Bid Issue C	W.C.G.
B	06.20.18	Bid Issue	W.C.G.
A	04.18.18	Preliminary Design	W.C.G.

AMENDMENTS

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WILLIAM C. GORDON
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LICENSED PROFESSIONAL ENGINEER

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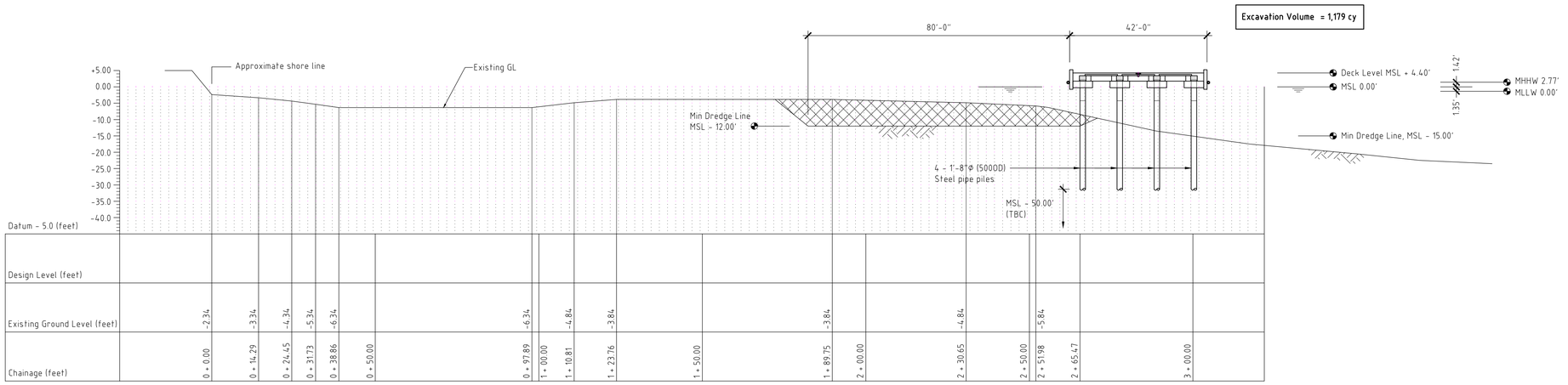
PROJECT: Government of American Samoa
Department of Port Administration
Malaloa Wharf Extension Project

DRAWING TITLE: Alternate No.1 - Pier Extension on Piles
Cross Sections 1

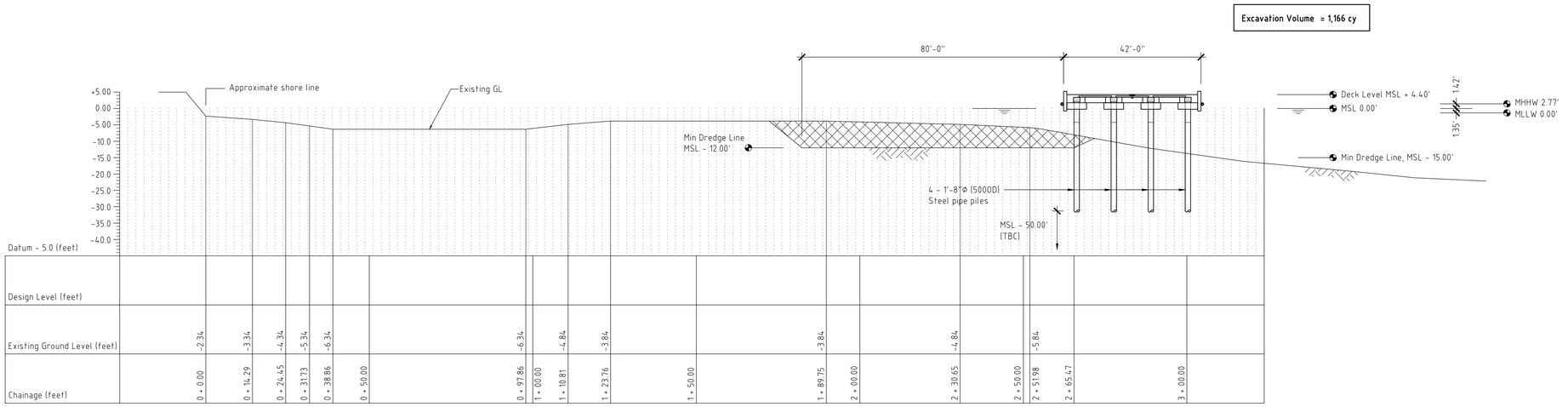
PROJECT NUMBER: 1530-18
DRAWING NUMBER: C03 of

DATE: July 2018
SCALE: As Shown

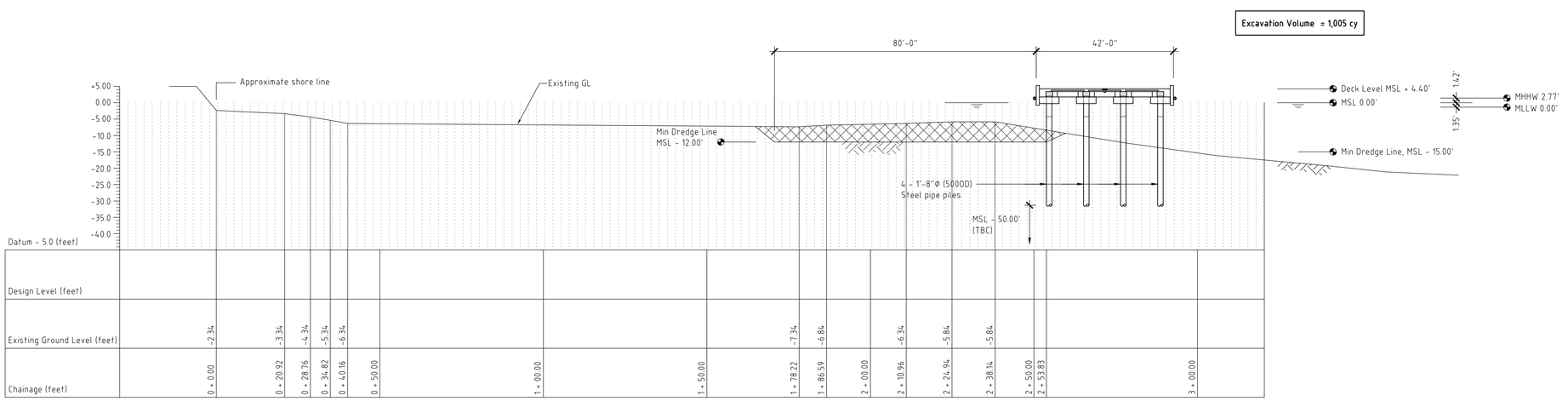
DESIGNED	W.C.G.	ISSUE	C
DRAWN	W.C.G.	CHECKED	L.T.T.
CAD	T.U.	SHEET No.	



Station 2+50
1" = 20'



Station 2+00
1" = 20'



Station 1+50
1" = 20'

Bid Issue C

No.	DATE:	DETAIL:	INITS:
C	07.04.18	Bid Issue C	W.C.G.
B	06.20.18	Bid Issue	W.C.G.
A	04.18.18	Preliminary Design	W.C.G.

AMENDMENTS

STATE OF MAINE
WILLIAM C. GORDON
No. 5231
LICENSED PROFESSIONAL ENGINEER

A1 CAD - DO NOT AMEND MANUALLY

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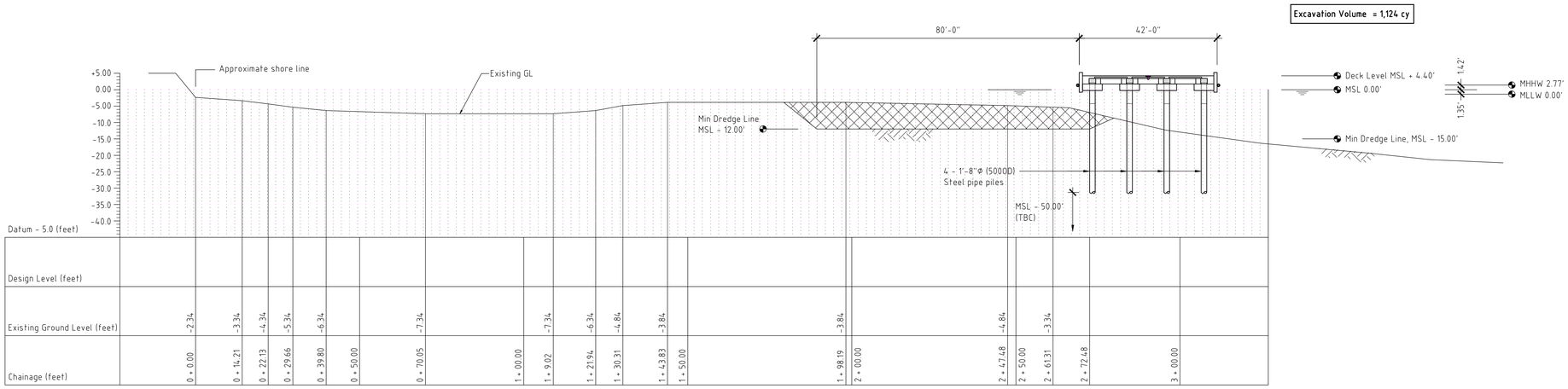
PROJECT: Government of American Samoa
Department of Port Administration
Malaloa Wharf Extension Project

DRAWING TITLE: Alternate No.1 - Pier Extension on Piles
Cross Sections 2

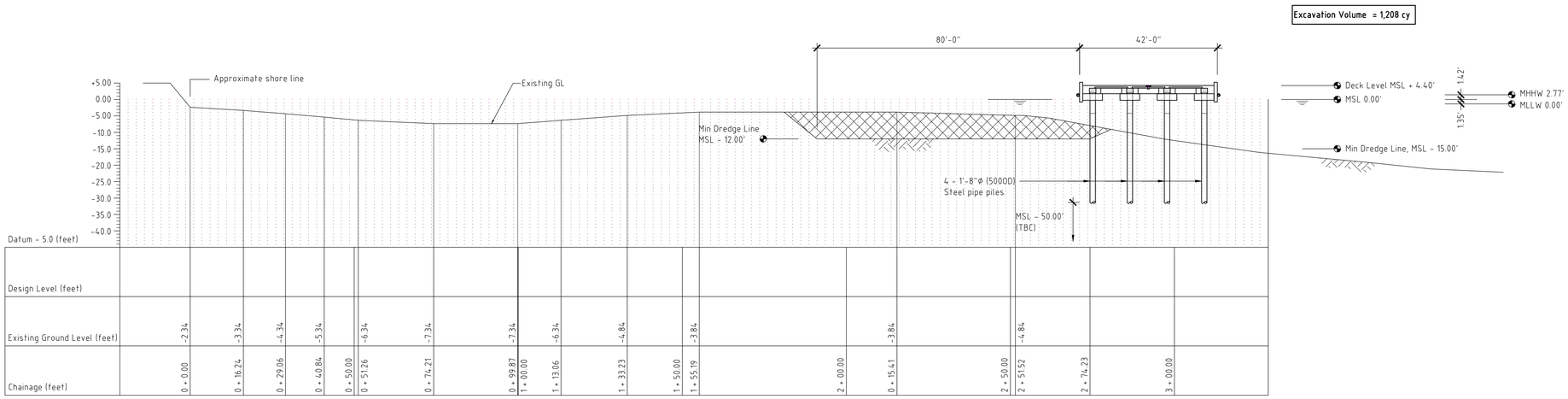
PROJECT NUMBER: 1530-18
DRAWING NUMBER: C04 of

DATE: July 2018
SCALE: As Shown

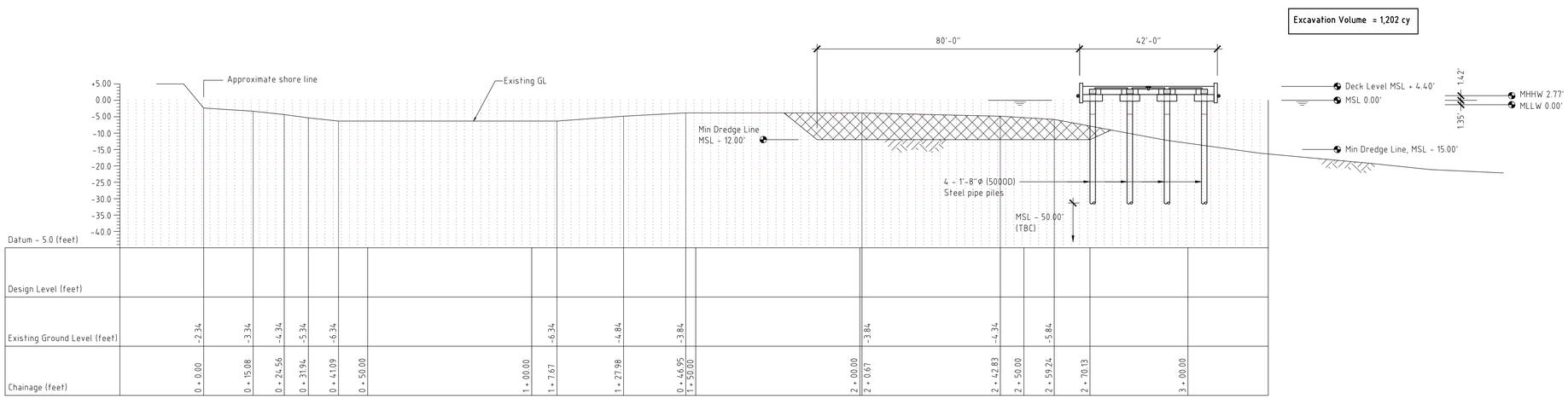
DESIGNED	W.C.G.	ISSUE	C
DRAWN	W.C.G.	CHECKED	L.T.T.
CAD	T.U.	SHEET No.	



Station 4+00
1" = 20'



Station 3+50
1" = 20'



Station 3+00
1" = 20'

Bid Issue C

No.	DATE:	DETAIL:	INITS:
C	07.04.18	Bid Issue C	W.C.G.
B	06.20.18	Bid Issue	W.C.G.
A	04.18.18	Preliminary Design	W.C.G.

AMENDMENTS

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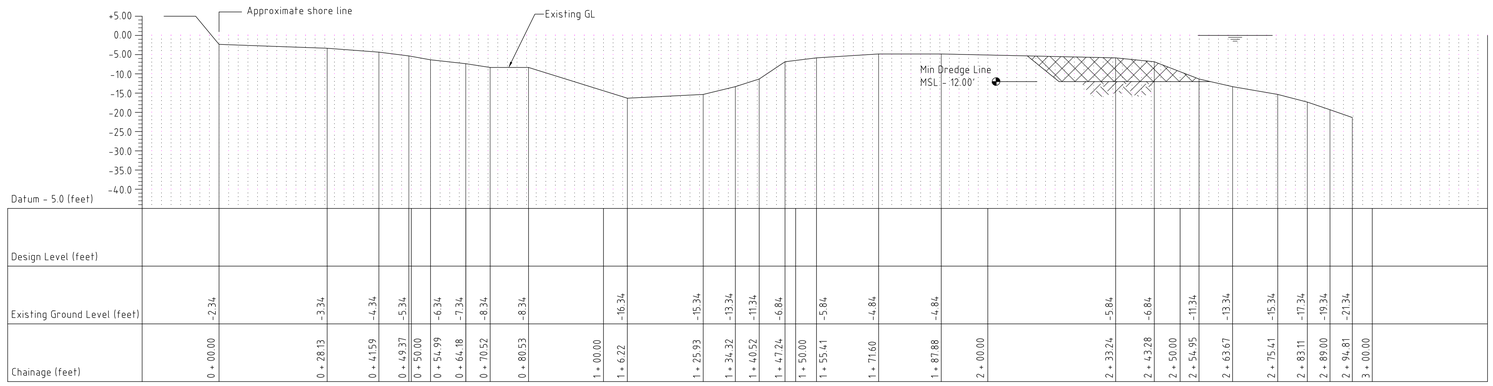
PROJECT: Government of American Samoa
Department of Port Administration
Malaloa Wharf Extension Project

DRAWING TITLE: Alternate No.1 - Pier Extension on Piles
Cross Sections 3

PROJECT NUMBER: 1530-18
DRAWING NUMBER: C05 of

DATE: July 2018
SCALE: As Shown

DESIGNED	W.C.G.	ISSUE	C
DRAWN	W.C.G.	CHECKED	L.T.T.
CAD	T.U.	SHEET No.	

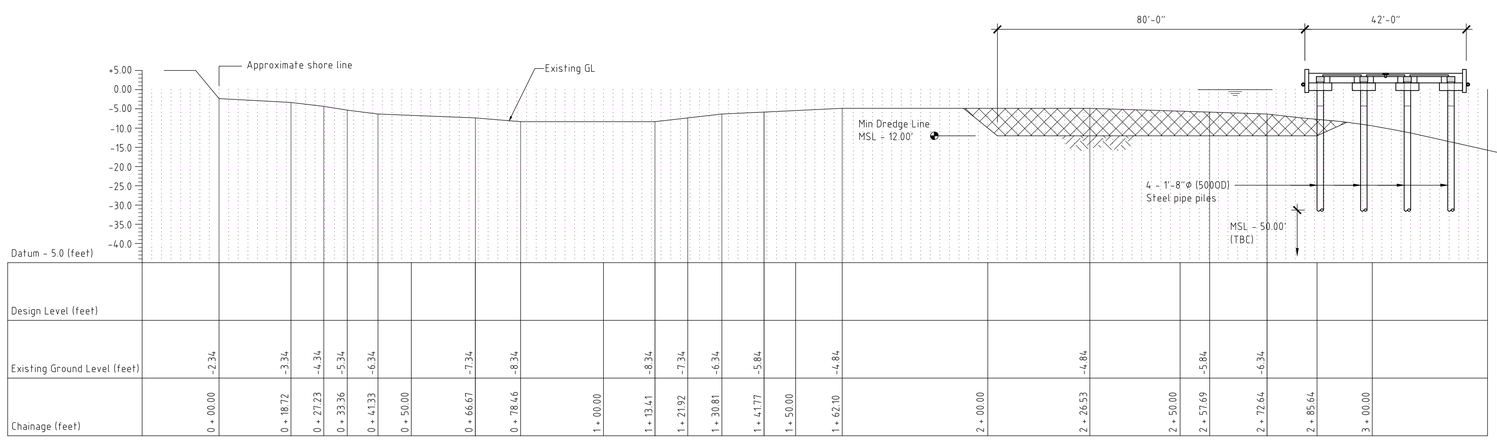


Station 5+90

1" = 20'

Total Project Excavation Volume = 10,930 cy

Excavation Volume = 1,003 cy



Station 4+50

1" = 20'

Bid Issue C

No.	DATE:	DETAIL:	INITS:
C	07.04.18	Bid Issue C	W.C.G.
B	06.20.18	Bid Issue	W.C.G.
A	04.18.18	Preliminary Design	W.C.G.

AMENDMENTS

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PROJECT: Government of American Samoa
Department of Port Administration
Malaloa Wharf Extension Project

DRAWING TITLE: Alternate No.1 - Pier Extension on Piles
Cross Sections 4

PROJECT NUMBER: 1530-18

DRAWING NUMBER: C06 of

DATE: July 2018

SCALE: As Shown

DESIGNED	W.C.G.	ISSUE	C
DRAWN	W.C.G.	CHECKED	L.T.T.
CAD	T.U.	SHEET No.	

CONSTRUCTION NOTES

GENERAL:

G 1 These drawings shall be read in conjunction with all Architectural and Structural drawings and Specifications. Any discrepancy shall be referred to the Engineer and be resolved before work proceeds.

G 2 All materials and workmanship shall be in accordance with the 2006 Edition of the International Building Code (IBC)

G 3 All dimensions shown shall be verified by the Contractor on site. The drawings shall not be scaled for dimensions.

G 4 During construction, the Contractor shall maintain safe and stable the structure and adjacent structures. No part shall be overstressed. Temporary bracing shall be provided by the Contractor to keep the works and excavations stable at all times.

G 5 All levels are in feet and inches unless noted otherwise.

LOADS :

L 1 The structural components detailed on these drawings have been designed in accordance with ASCE 7 - 05.

Live Load: 300psf

Roof: N.A.

Wind : 125 mph
Exposure C

Earthquake : MCE = 0.40g for 1 second shaking (Am. Samoa)

Equivalent Lateral Force Formula: $V = C_S \times W$
$I = 1.25$
$R = 8.0$
$S_{DS} = 0.43$
$C_S = 0.067$

SITE PREPARATION :

SP 1 Demolish and remove completely from the site all structures and materials noted on the Plans to be demolished under this Contract.

SP 2 Remove all organic material and topsoil from the area of the slabs to a distance of 3 feet beyond. Excavate to required levels.

SP 3 Cut on cleared subgrade and all structural fill to 3 feet beyond slab edges shall be compacted to 95% compaction in accordance with ASTM D1557. Fill shall be compacted in layers not exceeding 6" loose thickness. Structural backfill shall be free of vegetable matter and shall conform to the following grading requirements:

Sieve Size	Percent Passing by Weight
2"	100
1 1/2"	90 - 100
3/4"	50 - 90
No. 4	25 - 50
No. 200	3 - 9

SP 4 Notify the Engineer if rock is exposed during excavation to obtain his instructions before proceeding further.

FOUNDATIONS :

F 1 Footings have been designed for an allowable bearing pressure of 2500 psf on natural material. Preparations made to ground under foundations and slabs shall be approved by the Engineer before placement of reinforcement or concrete can proceed.

F 2 Footings are to be constructed and backfilled as soon as possible following excavation and inspection to avoid softening or drying out of foundation materials through exposure.

CONCRETE:

C 1 All workmanship and materials shall be in accordance the 2006 Edition of the International Building Code and ACI 117-90.

C 2 Materials

Cement shall conform to ASTM C150, Type II.

Aggregates shall conform to ASTM C33, Concrete Aggregate.
Maximum aggregate size shall be 3/4".

Reinforcing bars shall conform to ASTM A615:
Grade 60 ≥ #4

Weld wire fabric shall conform to ASTM A185.

Water used in mixing concrete shall be potable.
Admixtures to be used in concrete shall be subject of to prior approval by the Engineer.

Cementitious materials and aggregate shall be stored in such manner as to prevent deterioration or intrusion of foreign matter. Any material that has deteriorated or has been contaminated shall not be used for concrete.

C 3 Durability Requirements

Minimum concrete compressive strength at 28 days shall be 5000 psi.
The maximum water - cement ratio by weight shall not exceed 0.41.

The following minimum concrete cover shall be provided for reinforcement unless otherwise noted:

1) Concrete cast directly against earth: 3"

2) Formed concrete exposed to earth or weather:
4 bar and larger 2 1/2"

3) Concrete not exposed to weather or in contact with ground:

Slab and walls:
8 bar and smaller 2 1/2"

Beams and columns:
Transverse reinforcement: 2 1/2"

C 4 Concrete Quality, Mixing and Placing Requirements

The Engineer shall be given at least 24 hours notice for reinforcement inspection.
Concrete shall not be delivered until final approval has been obtained for the reinforcement.

All concrete shall have the workability and consistency to be deposited into forms and worked around reinforcement without segregation or excessive bleeding. All concrete including slabs on ground and footings shall be compacted with mechanical vibrators.

A minimum of of three samples shall be taken from each day's pour for testing.
Testing shall be carried out at 7 days and 28 days. Slump shall not exceed 4".

Internal floors shall receive a steel troweled finish.
External footpaths shall have a broomed finish transverse to direction of pedestrian traffic.

The finish tolerance of concrete floor slabs shall be 1/4" in 10 feet.

Curing of all concrete is to be achieved by keeping surfaces continuously wet for a period of 7 days. Approved sprayed or curing compounds may be used where no floor finishes are proposed. Polythene sheeting may be used if protected from wind and traffic.

C 5 Formwork Construction

Forms shall result in a final structure that conforms to lines and dimensions of the members as required by the design drawings and specifications.

Forms shall be constructed of the following materials:

Hidden surfaces: Rough sawn or better timber
Exposed surfaces: Plywood, dressed T and G timber, or steel

C 6 Details of Reinforcement:

All reinforcement shall be bent cold. Bending deails shall be as in Figure 1.

Splices shall be made only in positions shown on the drawings or as otherwise approved in writing by the Engineer. Minimum lap lengths shall be as follows unless noted otherwise:

Bar Size	Bar Length
# 3	1' - 6"
# 4	2' - 0"
# 5	2' - 6"
# 6	3' - 0"
# 7	3' - 6"
# 8	4' - 0"
Mesh	8"

Welding of reinforcement is not permitted.

MASONRY

M 1 All workmanship and materials shall be in accordance with the 2006 Edition of the International Building Code and ACI 117-90.

M 2 Materials

Masonry units shall have a minimum compressive strength at 28 days of 1500 psi.

Mortar shall have a minimum compressive strength at 28 days of 1500 psi.

Grout used in masonry wall cells and courses shall have a minimum compressive strength at 28 days of 2000 psi. Maximum aggregate size shall be 3/8".

Columns shall be filled with structural concrete having a minimum 28 day compressive strength of 4000 psi.

Reinforcing bars shall conform to ASTM A615, Grade 60.

M 3 Handling, Storage and Preparation.

Masonry materials shall be stored so that at the time of use the materials are clean and structurally suitable for the intended use.

All metal reinforcement shall be free from loose rust and other coatings that would inhibit reinforcing bond.

Mortar or grout mixed at the jobsite shall be mixed for a period of time not less than 3 minutes or more than 10 minutes in a mechanical mixer.

M 4 Placing Masonry Units

Masonry shall be constructed in running bond pattern throughout. Concrete masonry units shall not be wetted prior to or during placement. The initial bed joint thickness shall not be less than 1/4" or more than 1"; subsequent joints shall not be less than 1/4" or more than 1/2" in thickness.

All joints shall be neatly tooled and left slightly concave to the surface of the masonry block.

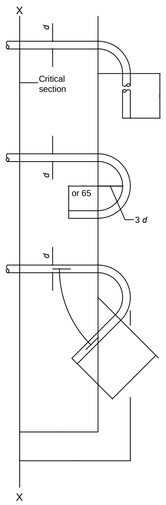
M 5 Grouted Masonry

Reinforcement shall be placed prior to grouting and secured against displacement by wire positioners or other suitable means. Bolts shall be accurately set with templates to prevent dislocation during grouting.

Cleanouts shall be provided in the bottom course of every vertical bar and shall be sealed after inspection and before grouting.

Grouting shall be carried out in lifts not exceeding 4 feet. All cells shall be grouted solid. Grout shall be consolidated by mechanical vibration during placement.

FIGURE 1



STRUCTURAL STEEL

S 1 All workmanship and materials shall be in accordance with the 2006 Edition of the International Building Code.

S 2 Materials

Unless noted otherwise, steel shall conform to one of the following ASTM Specifications :

Structural steel, plate ASTM A36
Structural tube, pipe, ASTM A500 Grade B

General, all purpose bolts, ASTM A36
High strength structural bolts, ASTM A325

S 3 Three (3) copies of shop fabrication drawings shall be submitted to the Engineer for review at least 7 days prior to commencement of fabrication.

S 4 Mill and Shop Inspection

The Contractor shall give advance notice of shop and mill work and also then location to the Engineer so that the Engineer may set up testing and inspection procedure.

S 5 Shop Work and Fabrication

Structural material shall be kept clean and free from injury due to rough handling at all times including during loading, transporting and storage.

S 6 Erection

Materials stored on site shall be placed on skids above the ground. They shall be kept clean and properly drained.

All erection work shall be subject to inspection by the Engineer. The Contractor shall provide the falsework and all tools and machinery necessary for the handling of the work.

S 7 Bolts

Anchor bolts shall be set accurately to the pattern and dimensions called for on the Plans. The protrusion of the threaded ends through the connected material shall be sufficient to fully engage the thread of the nuts.

Where A325 high strength bolts are specified for connections, the work shall comply with Sections 2220-2228 of the 2006 IBC.

For all A325 bolts a hardened washer shall be inbstalled under the nut or bolt head, whichever is the element turned in tightening.

Galvanized A325 bolts shall not be reused once tightened.

S 8 Welding

All welding shall comply with the applicable provisions of the American Welding Society's Structural Welding Code - Steel '.

Welding shall be carried out by welding operators who have had suitable training and practical exprience in welded construction.

Electrical arc welding equipment shall be maintained in good condition to the satisfaction of the Engineer.

Electrodes arc welding equipment shall be maintained in good condition to the satisfaction of the Engineer.

Electrodes used for arc welding shall be AWS A5.1, E7014.
Electrodes for metal inert gas (MIG) welding shall conform to AWS A5.20.

Weld symbols :

LOCATION OF ELEMENTS OF A WELDING SYMBOL

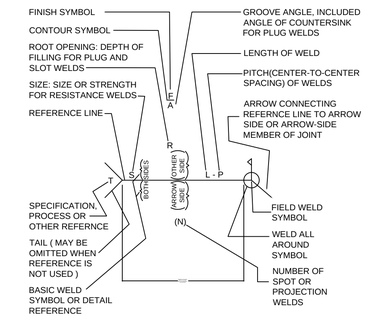


TABLE A - BASIC WELD SYMBOLS AND THEIR LOCATION SIGNIFICANCE

LOCATION SIGNIFICANCE	FILLET	PLUG OR SLOT	ARC-SEAM OR ARC-SPOT	ARC AND GAS WELD SYMBOLS											
				GROOVE							BACK OR BACKING	MELT THRU	SURFACING	FLANGE	
				SQUARE	V	BEVEL	U	J	FLARE V	FLARE BEVEL				EDGE	CORNER
ARROW-SIDE											GROOVE WELD SYMBOL	GROOVE OR FLANGE WELD SYMBOL	NOT USED		
OTHER-SIDE											GROOVE WELD SYMBOL	GROOVE OR FLANGE WELD SYMBOL	NOT USED		
BOTH SIDES		NOT USED	NOT USED								NOT USED	NOT USED	NOT USED	NOT USED	NOT USED
NO ARROW -SIDE OR OTHER-SIDE SIGNIFICANCE	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED		NOT USED	NOT USED

S 9 Paint

Refer to specifications for paint treatment of exposed steelwork.

WOOD

W 1 All workmanship and materials shall be in accordance with the 2006 Edition of the International Building Code.

W 2 Materials

Unless noted otherwise, timber shall be Douglas Fir No. 1 grade or Radiata Pine MSG 10.

All timber shall be CCA treated to 0.25 lbs/ft³ in accordance with relevant AWPA standards.
A certificate of inspection from a recognized timber inspection bureau shall be submitted with each shipment of timber.

Plywood used for structural diaphragms shall be C-D panel grade in accordance with the Standard Grading rules of the WWPA. All plywood shall be treated.

Bolts shall be general all purpose bolts, ASTM A307.

All nails, nail plates, bolts and washers shall be hot dipped galvanized.

W 3 Storage of Materials

Timber store on the work site shall be kept in orderly stacks on supports at least 12 inches above the ground surface. The material shall be protected from the weather by a suitable covering.

W 4 Workmanship

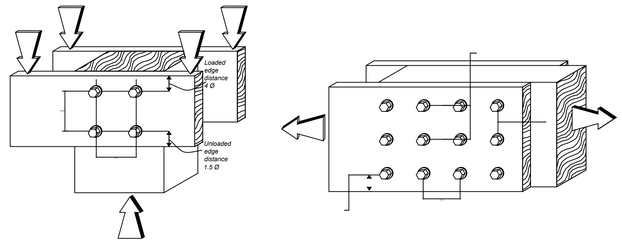
Workmanship shall be first class throughout. All timber shall be accurately cut and framed to a close fit in such manner that the joints shall have even bearing over the entire contact surfaces. Mortises shall be true to size for their full depth and tenons shall fit snugly. No shimming will be permitted in making joints, nor will open joints be accepted. Unless otherwise specified, nails shall be driven with heads set flush with the surface of the wood.

W 5 Bolts and Lag Screws

Holes and bolts shall be bored with a bit the same diameter as the bolt.
Holes for lag screws shall be bored with a bit not larger than the body of the screw at the base of the thread.

Washers, of the size and type specified, shall be used under all bolt heads and nuts.

Bolt spacings, edge and end distances shall be as follows:



Bid Issue C

No.	DATE:	DETAIL:	INITS.
C	07.04.18	Bid Issue C	W.C.G.
B	06.20.18	Bid Issue	W.C.G.
A	04.18.18	Preliminary Design	W.C.G.

AMENDMENTS

STATE OF MAINE · WILLIAM C GORDON · No. 5231 · LICENSED PROFESSIONAL ENGINEER

A1 CAD - DO NOT AMEND MANUALLY

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PROJECT: Government of American Samoa
Department of Port Administration
Malaloa Wharf Extension Project

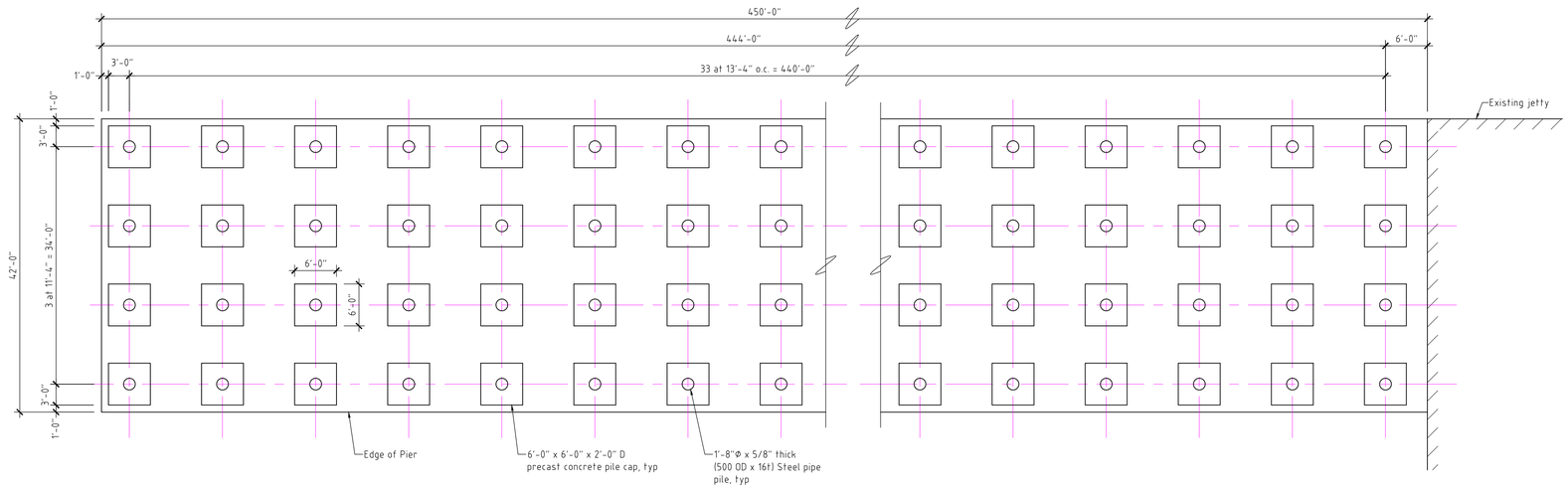
DRAWING TITLE: Alternate No.1 - Pier Extension on Piles
General Notes

PROJECT NUMBER: 1530-18 DRAWING NUMBER: S01 of

DATE: July 2018 SCALE: As Shown

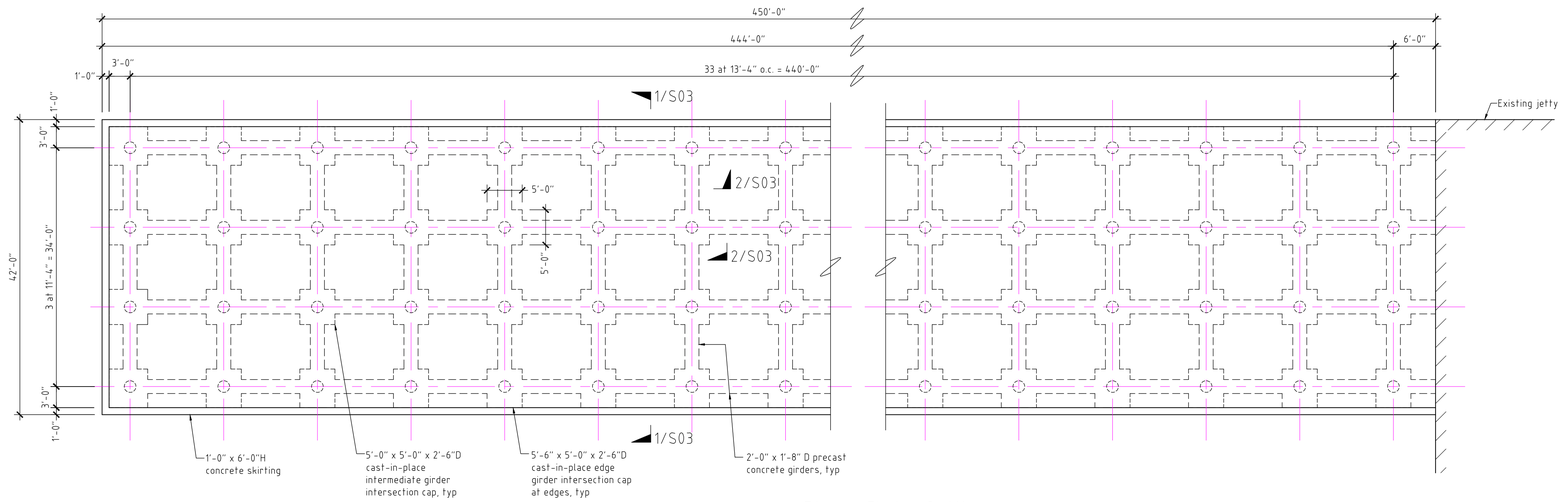
DESIGNED	W.C.G.	ISSUE	C
DRAWN	W.C.G.	CHECKED	L.M.T.T.
CAD	T.M.	SHEET No.	

N



Pile and Pile Cap Plan

3/32" = 1'-0" at A1



Plan - Girder Outline

3/32" = 1'-0" at A1

Bid Issue C

No	DATE:	DETAIL:	INITS.
C	07.04.18	Bid Issue C	W.C.G.
B	06.20.18	Bid Issue	W.C.G.
A	04.18.18	Preliminary Design	W.C.G.

AMENDMENTS

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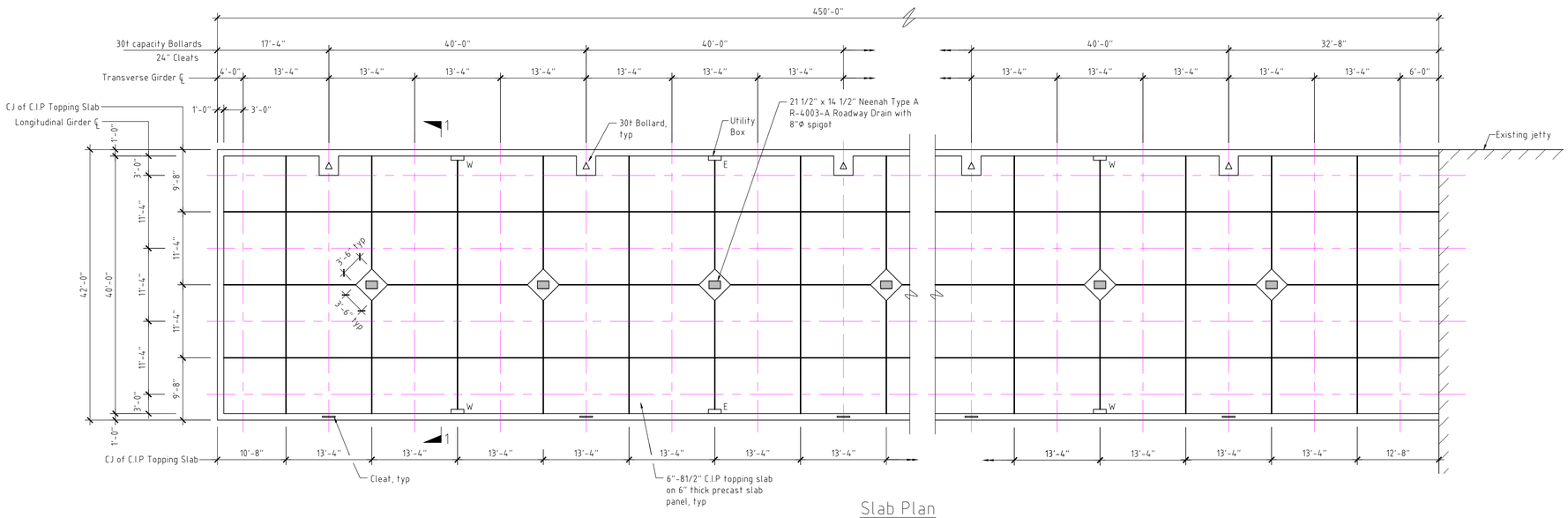
PROJECT: Government of American Samoa
Department of Port Administration
Malaloa Wharf Extension Project

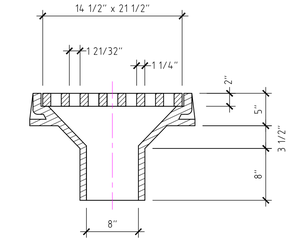
DRAWING TITLE: Alternate No.1 - Pier Extension on Piles
Pile and Pile Cap Plan
Plan Girder Outline

PROJECT NUMBER: 1530-18
DRAWING NUMBER: S02 of
DATE: July 2018
SCALE: As Shown

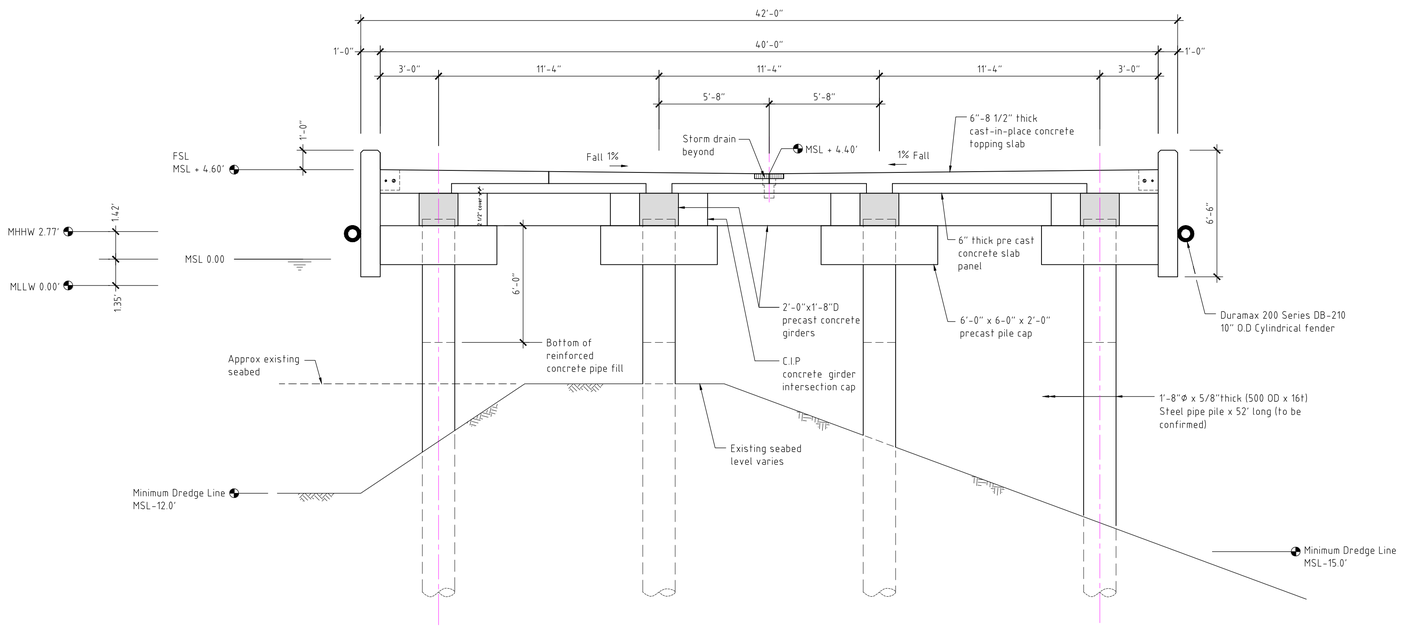
DESIGNED	W.C.G.	ISSUE	C
DRAWN	W.C.G.	CHECKED	L.M.T.T.
CAD	T.M.	SHEET No.	



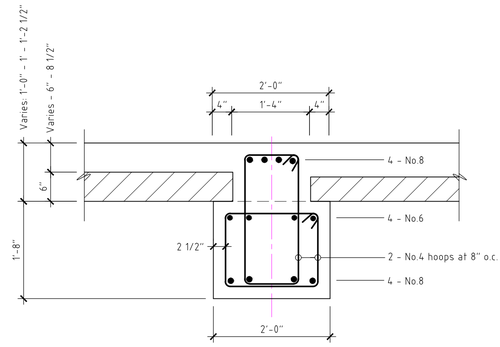
Slab Plan
3/32" = 1'-0" at A1



Elevation Section - Deck Drain Long Spigot - Type A
NTS



Section 1 - 1 /S02
1/4" = 1'-0" at A1



Elevation Section 2/S02
3/4" = 1'-0" at A1

Bid Issue C

N

No.	DATE:	DETAIL:	INITS:
C	07.04.18	Bid Issue C	W.C.G.
B	06.20.18	Bid Issue	W.C.G.
A	04.18.18	Preliminary Design	W.C.G.

AMENDMENTS

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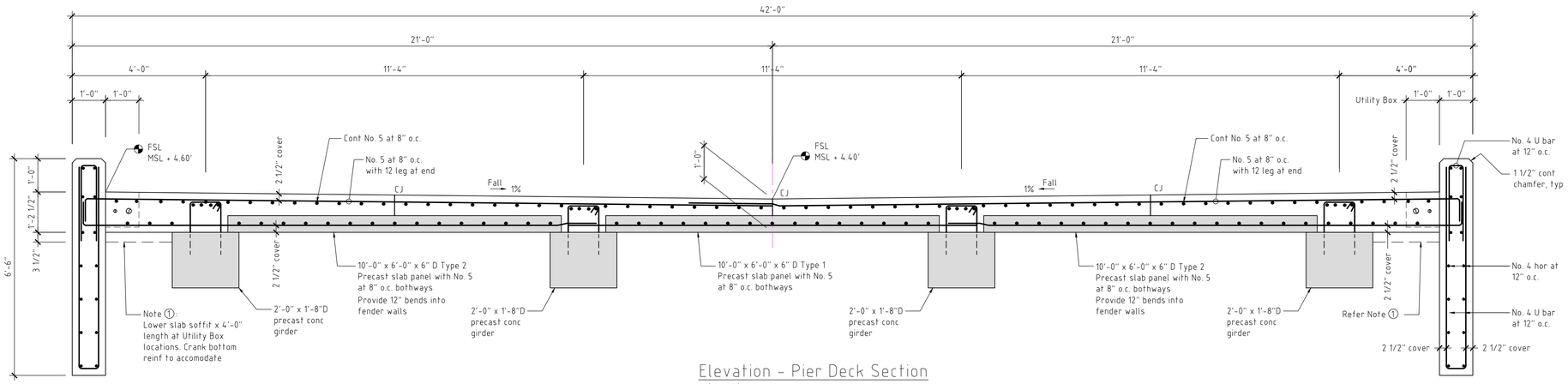
PROJECT: Government of American Samoa
Department of Port Administration
Malaloa Wharf Extension Project

DRAWING TITLE: Alternate No.1 - Pier Extension on Piles
Slab Plan and Sections

PROJECT NUMBER: 1530-18
DRAWING NUMBER: S03 of

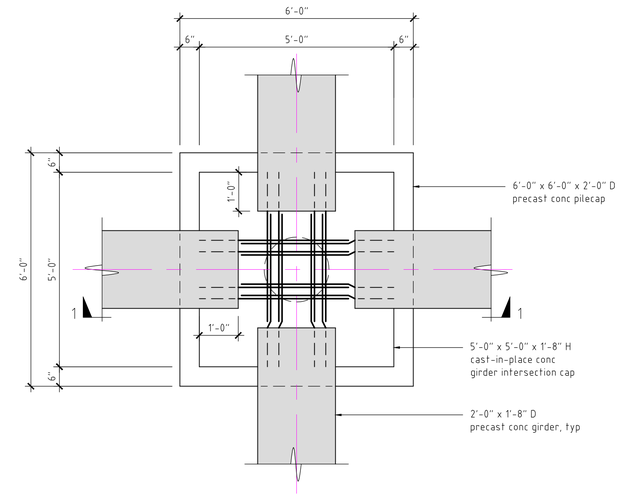
DATE: July 2018
SCALE: As Shown

DESIGNED	W.C.G.	ISSUE	C
DRAWN	W.C.G.	CHECKED	L.M.T.T.
CAD	T.M.	SHEET No.	



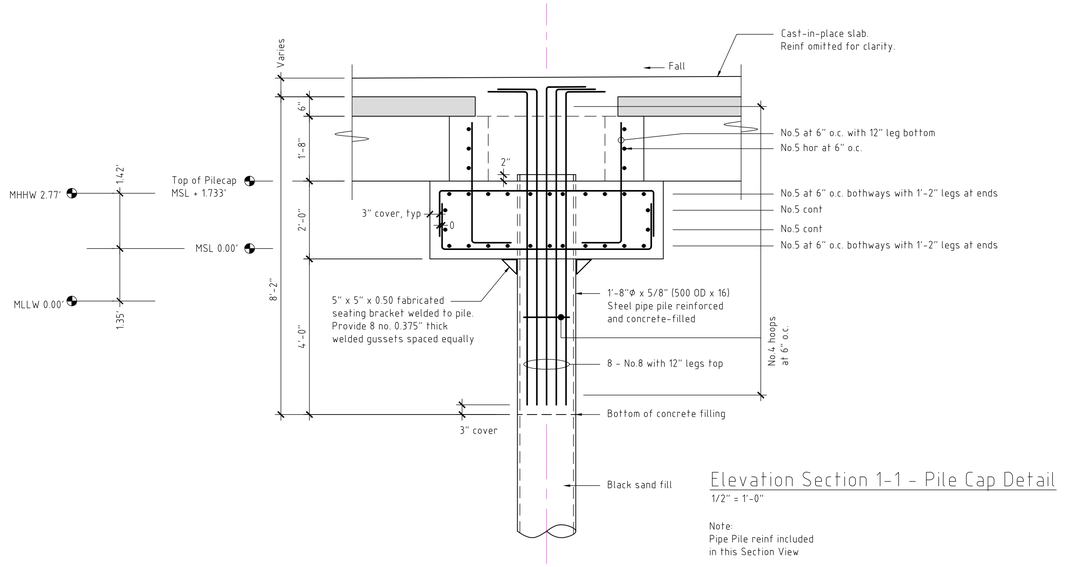
Elevation - Pier Deck Section

1/2" = 1'-0"



Plan - Girder Intersection at Pile Cap

1/2" = 1'-0"



Elevation Section 1-1 - Pile Cap Detail

1/2" = 1'-0"

Note:
Pipe Pile reinf included
in this Section View

No.	DATE:	DETAIL:	INITS.
C	07.04.18	Bid Issue C	W.C.G.
B	06.20.18	Bid Issue	W.C.G.
A	04.18.18	Preliminary Design	W.C.G.

AMENDMENTS

STATE OF MAINE
WILLIAM C. GORDON
No. 5231
LICENSED PROFESSIONAL ENGINEER

A1 CAD - DO NOT AMEND MANUALLY

TINAI, GORDON & ASSOCIATES LTD.
ACB BUILDING, BEACH ROAD
P.O.BOX 9581 APIA, SAMOA
EMAIL: bill@tinaigordon.ws
TEL: (685) 22-906 EMAIL: tom@tinaigordon.ws FAX: (685) 22-913

PROJECT: Government of American Samoa
Department of Port Administration
Malaloa Wharf Extension Project

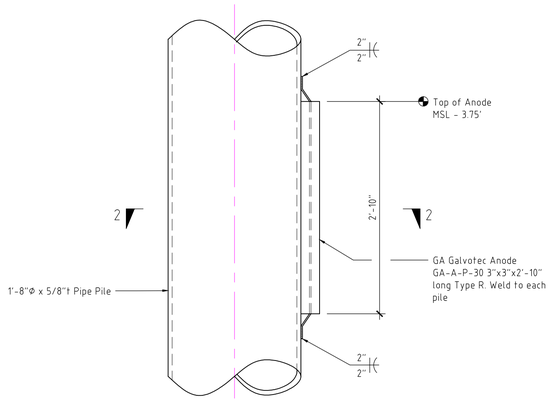
DRAWING TITLE: Alternate No.1 - Pier Extension on Piles
Pier Deck Section
Pile Cap Plan and details

PROJECT NUMBER: 1530-18
DRAWING NUMBER: S04 of

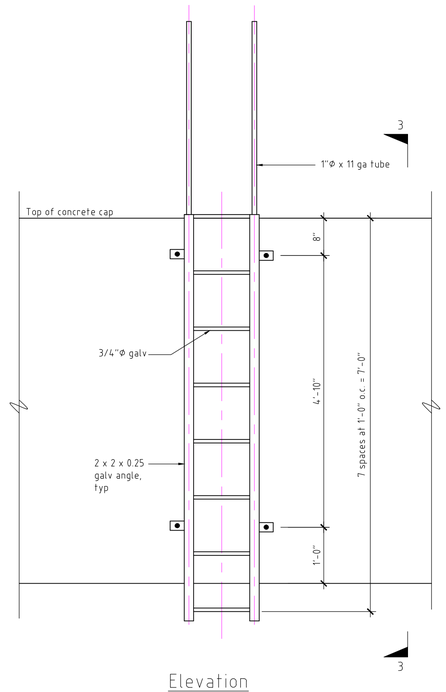
DATE: July 2018
SCALE: As Shown

DESIGNED	W.C.G.	ISSUE	C
DRAWN	W.C.G.	CHECKED	L.M.T.T.
CAD	T.M.	SHEET No.	

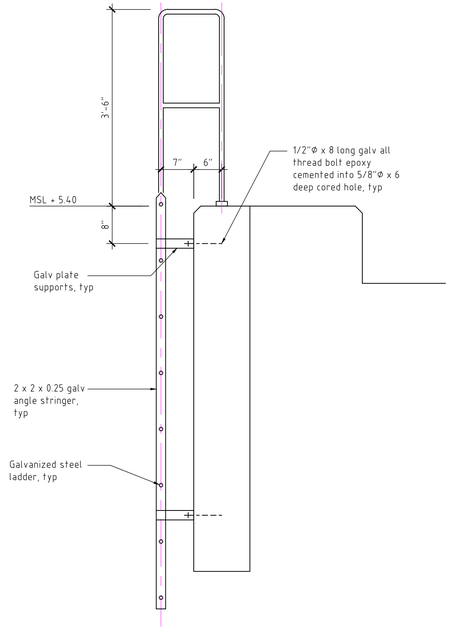
Bid Issue C



Elevation - Cathodic Protection Detail
1" = 1'-0"

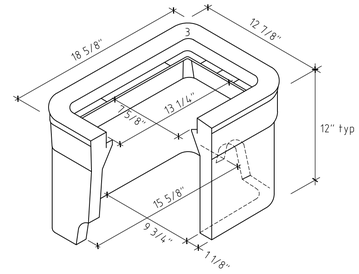


Elevation
3/4" = 1'-0"



Elevation Section 3 - 3
3/4" = 1'-0"

Note:
Provide 3 no. hot dipped galv
Series F8W Walk thru Rail
Ladders by Cotterman Co. or
approved equal

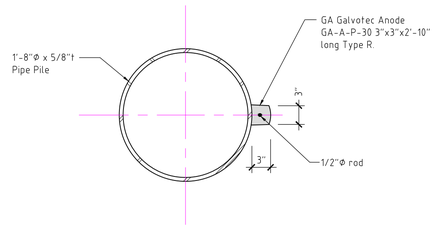


Utility Box No. B03
NTS

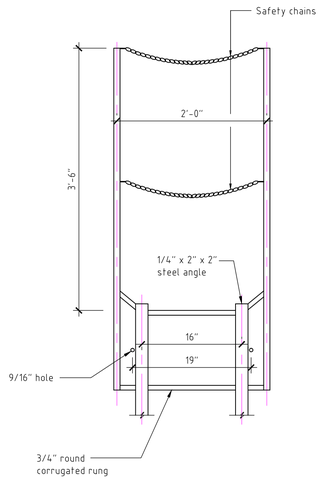
B03C
NTS

Notes:

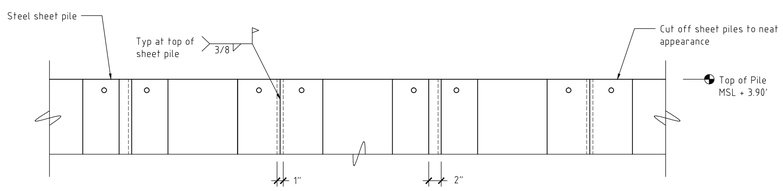
1) Provide 22 no. Utility Boxes No. B03 with Cast Iron hids B03C by Old castle Enclosure Solutions, 11 no. per side.
2) Install 2"Φ Electrical Conduit, typ
3) Intall 1 no. 1"Φ PVC Water Conduit, typ
4) Utility Box functions:
   - W Water service
   - E Electrical service



Plan Section 2-2
1" = 1'-0"

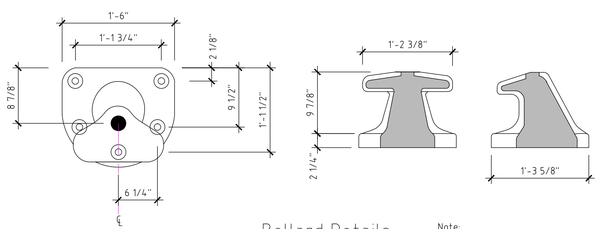


Elevation - Ladder at Top
1" = 1'-0"



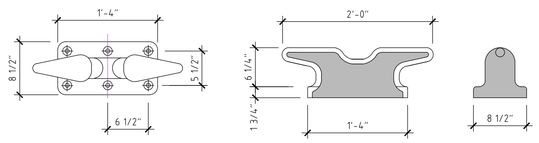
Typical Bulkhead Finishing Detail
1" = 1'-0"

Note:
Top 6" of steel sheet pile shall be
welded to adjacent steel sheet pile



Bollard Details
1" = 1'-0"

Note:
Supply and intall 12 no. Maritime Intl
MT 30 T-Head ASTM A27 Gr 70-36
Cast Steel Bollard at 37'-2 1/2" o.c.
Provide 5 no. 1 1/8"Φ x 1'-6" long
ASTM F1554 Gr 105 Anchor bolts



Cleat Detail
1" = 1'-0"

Note:
Supply and intall 12 no. Maritime Intl
MC 24 Cleat ASTM A27 Gr 70-36 Cast
Steel (5 ton capacity) at 37'-2 1/2" o.c.
Provide 6 no 3/4"Φ x 12" long ASTM
F1554 Gr 105 galv Anchor Bolts

No.	DATE:	DETAIL:	INITS:
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A	04.18.18	Preliminary	W.C.G.

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PROJECT: Government of American Samoa
Department of Port Administration
Malaloa Wharf Extension Project

DRAWING TITLE: Alternate No.1 - Pier Extension on Piles
Miscellaneous Details

PROJECT NUMBER: 1530-18 DRAWING NUMBER: S05 of

DATE: July 2018 SCALE: As Shown (A1)

DESIGNED	W.C.G.	ISSUE	C
DRAWN	W.C.G.	CHECKED	L.M.T.T.
CAD	T.M.	SHEET No.	

Bid Issue C