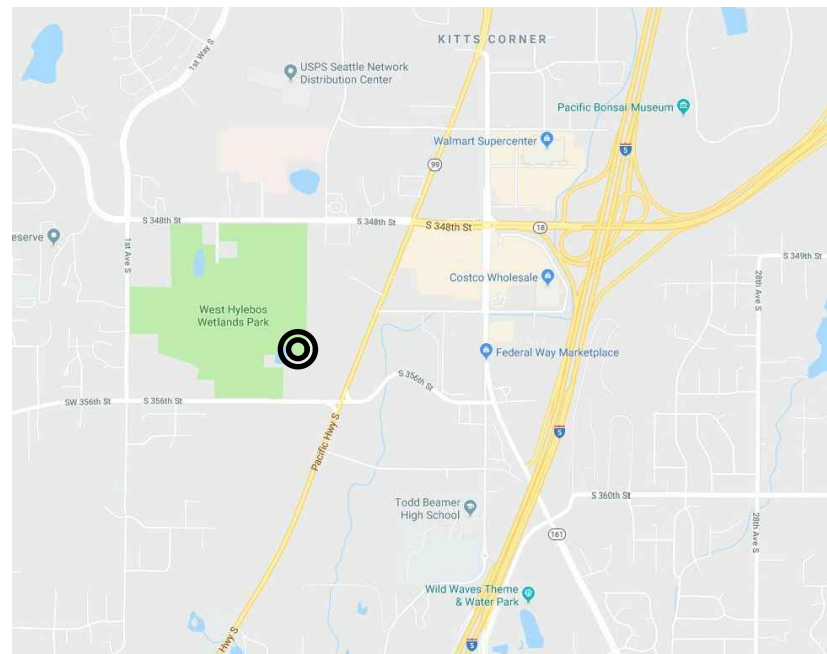


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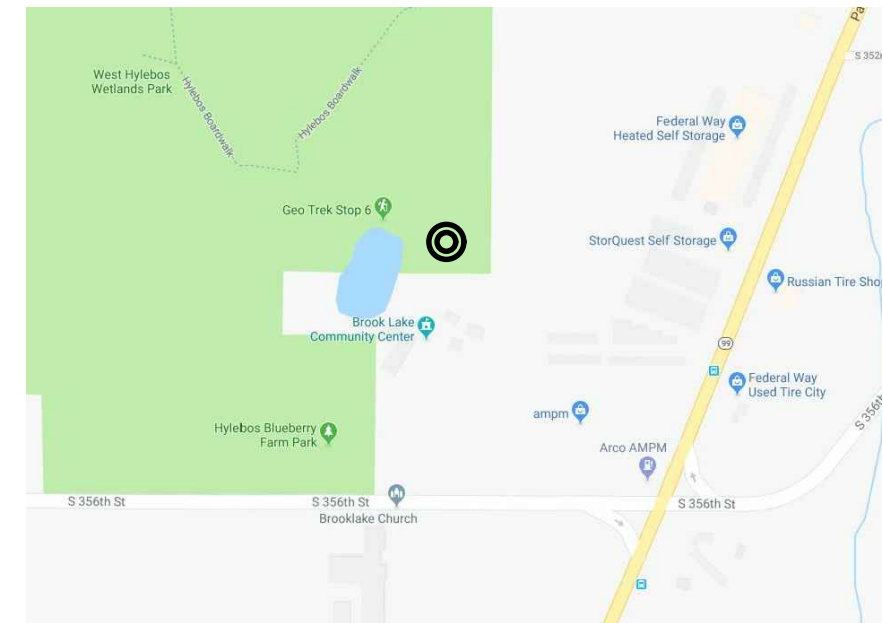
BROOK LAKE CENTER CONNECTOR

RFB NO. 19-004



VICINITY MAP
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DRAWING INDEX		
COUNT	SHT#	DESCRIPTION
DESIGN PLANS		
01	C01	COVER SHEET
02	C02	PLAN AND PROFILE
03	C03	PRE-ASSEMBLED BOARDWALK PLAN
04	C04	NOTES
05	C05	BOARDWALK DETAILS
06	C06	BOARDWALK DETAILS
07	C07	BOARDWALK DETAILS
08	C08	BOARDWALK DETAILS
09	C09	CONSTRUCTION NOTES
10	C10	CONSTRUCTION NOTES
11	C11	CONSTRUCTION NOTES
12	C12	CONSTRUCTION NOTES



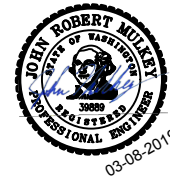
LOCATION MAP
NTS



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33325 8TH AVE. SOUTH
FEDERAL WAY
WASHINGTON 98003
PHONE: (253) 835-7000
FAX: (253) 835-2709
www.CityOfFederalWay.com

PROJECT ENG:
John Mulkey, P.E.
PHONE #:
253-835-2722
EMAIL:
john.mulkey@cityoffederalway.com

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BROOK LAKE
CENTER
CONNECTOR

DESIGN PLANS

COVER SHEET


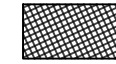


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19-004
C01
SHT. 01 OF 12

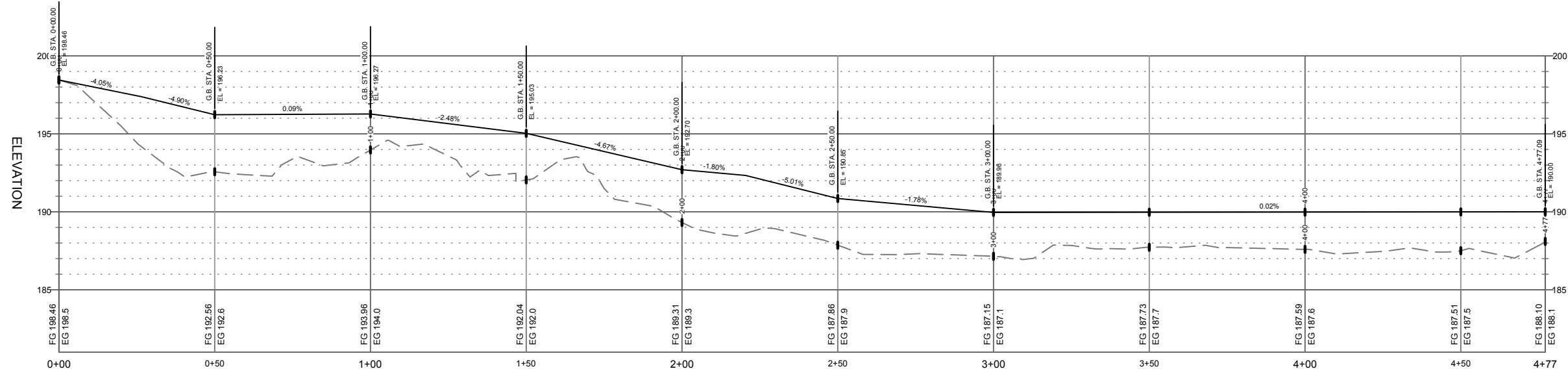
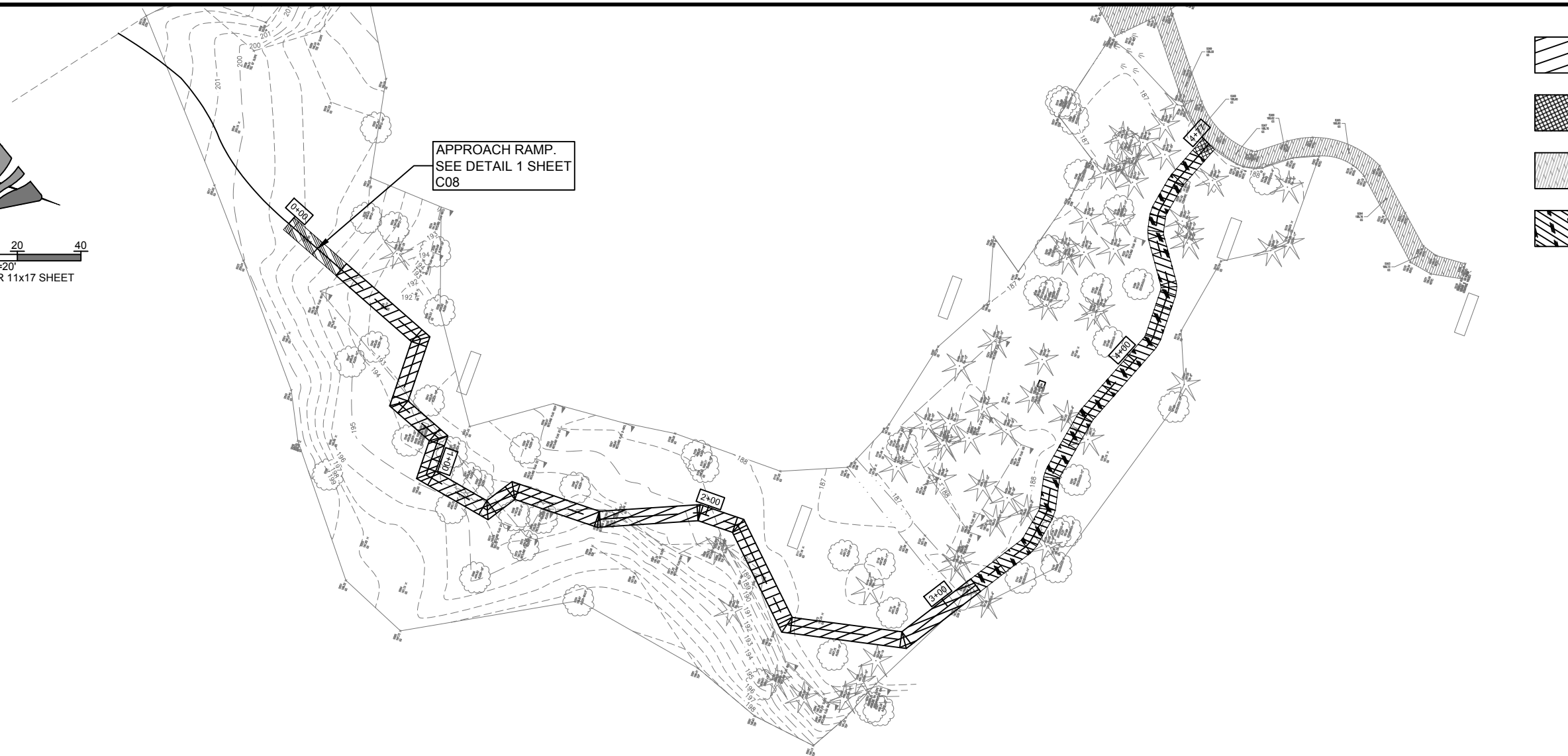
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20 0 20 40
 SCALE: 1"=20'
 NOTE: SCALEx2 FOR 11x17 SHEET

APPROACH RAMP.
 SEE DETAIL 1 SHEET
 C08

-  INDICATES FIELD BUILT, DIAMOND PIER FOUNDATION SUPPORTED BOARDWALK
-  INDICATES FIELD BUILT, TIRE SUPPORTED BOARDWALK
-  EXISTING BOARDWALK
-  PRE-ASSEMBLED BOARDWALK PIECES



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 33325 8TH AVE. SOUTH
 FEDERAL WAY
 WASHINGTON 98003
 PHONE: (253) 835-7000
 FAX: (253) 835-2709
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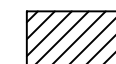


DESIGN PLANS
 PLAN AND PROFILE

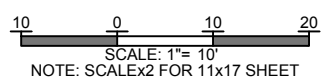
RFB #:
 19-004
C02
 SHT. 02 OF 12

NOTES:

MARK	TYPE
(A)	10-FOOT STRAIGHT
(B)	5-FOOT STRAIGHT
(C)	45-DEGREE WEDGE
(D)	22.5-DEGREE WEDGE
(E)	11.25-DEGREE WEDGE


SEE SHEETS C05 & C06 FOR TYPICAL DETAILS

-  INDICATES FIELD BUILT, DIAMOND PIER FOUNDATION SUPPORTED BOARDWALK
-  INDICATES FIELD BUILT, TIRE SUPPORTED BOARDWALK
-  EXISTING BOARDWALK



Reference system definition - LatLong

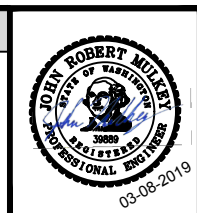
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 FEDERAL WAY
 WASHINGTON 98003
 PHONE: (253) 835-7000
 FAX: (253) 835-2709
 www.CityOfFederalWay.com

PROJECT ENG:
 John Mulkey, P.E.
 PHONE #:
 253-835-2722
 EMAIL:
 john.mulkey@cityoffederalway.com

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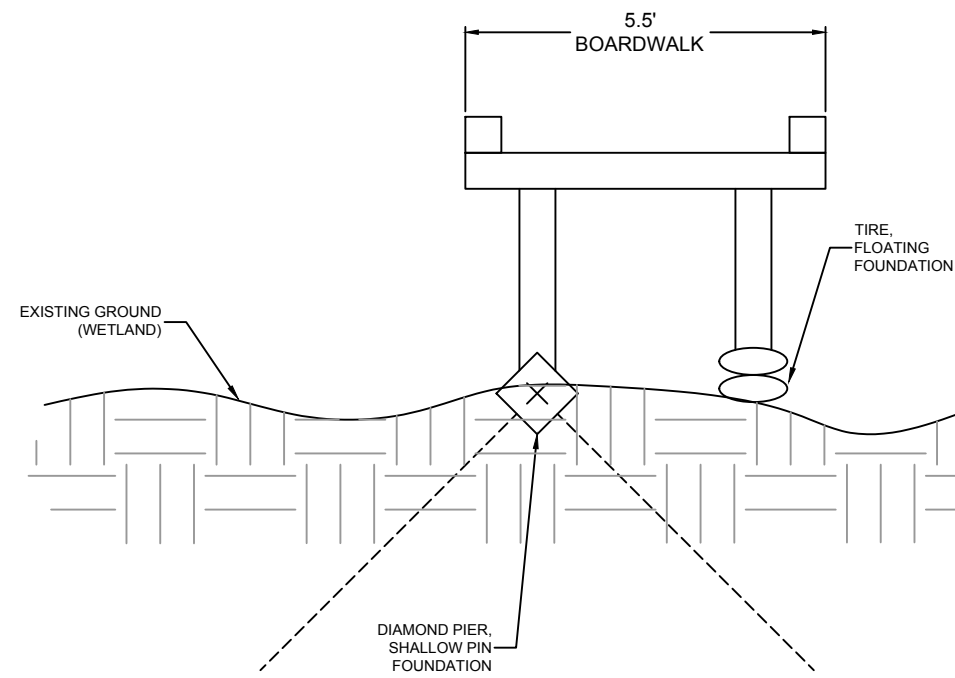
BROOK LAKE CENTER CONNECTOR

DESIGN PLANS
 PRE-ASSEMBLED BOARDWALK PLAN

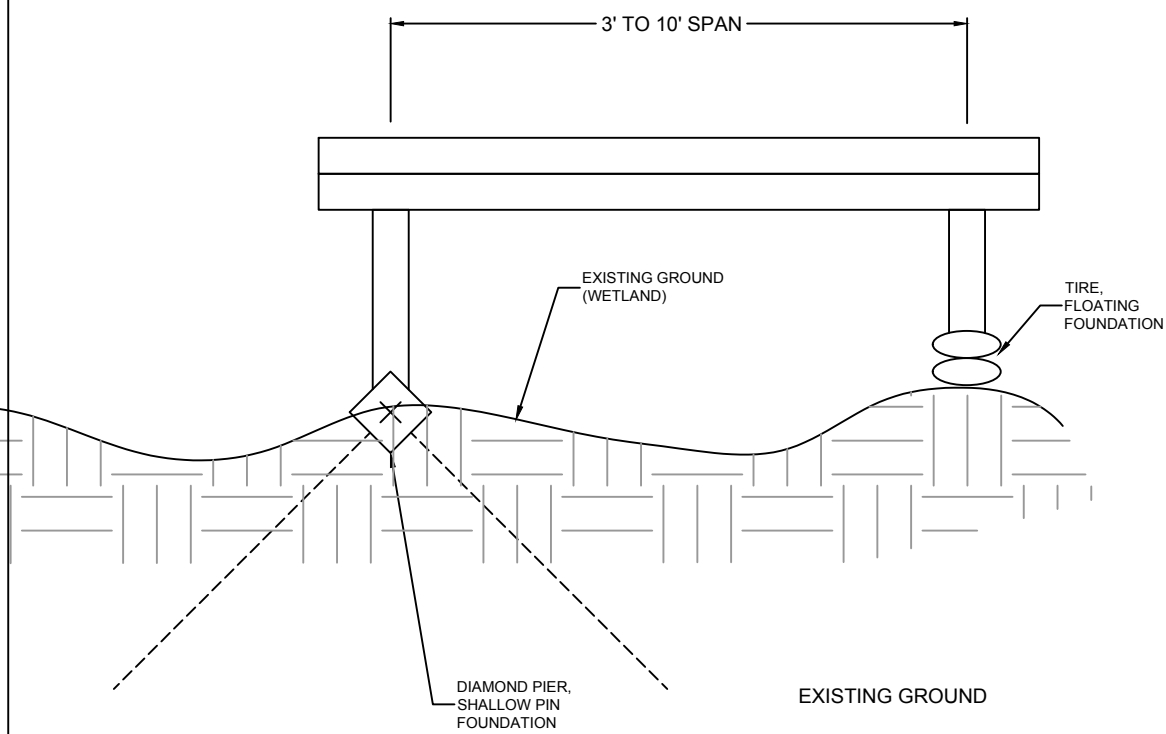
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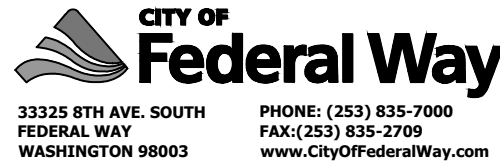
BOARDWALK CROSS SECTION



BOARDWALK PROFILE



NOTE:
SPAN LENGTH TO BE OPTIMIZED DURING FINAL LAYOUT OF FIELD CONSTRUCTED BOARDWALK.



PROJECT ENG:

John Mulkey, P.E.

PHONE #:

253-835-2722

EMAIL:

john.mulkey@cityoffederalway.com

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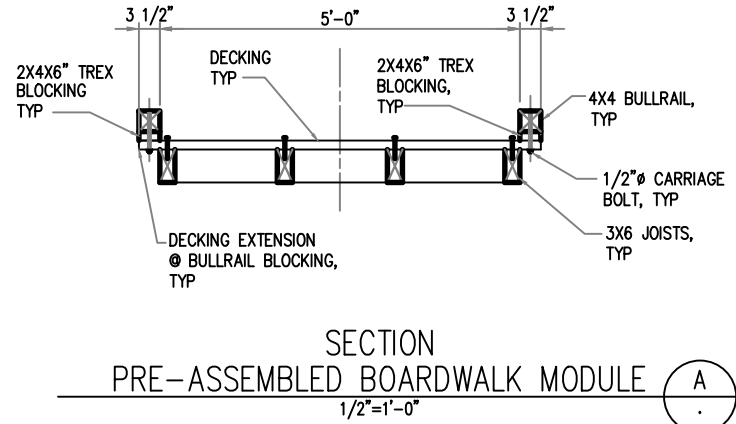
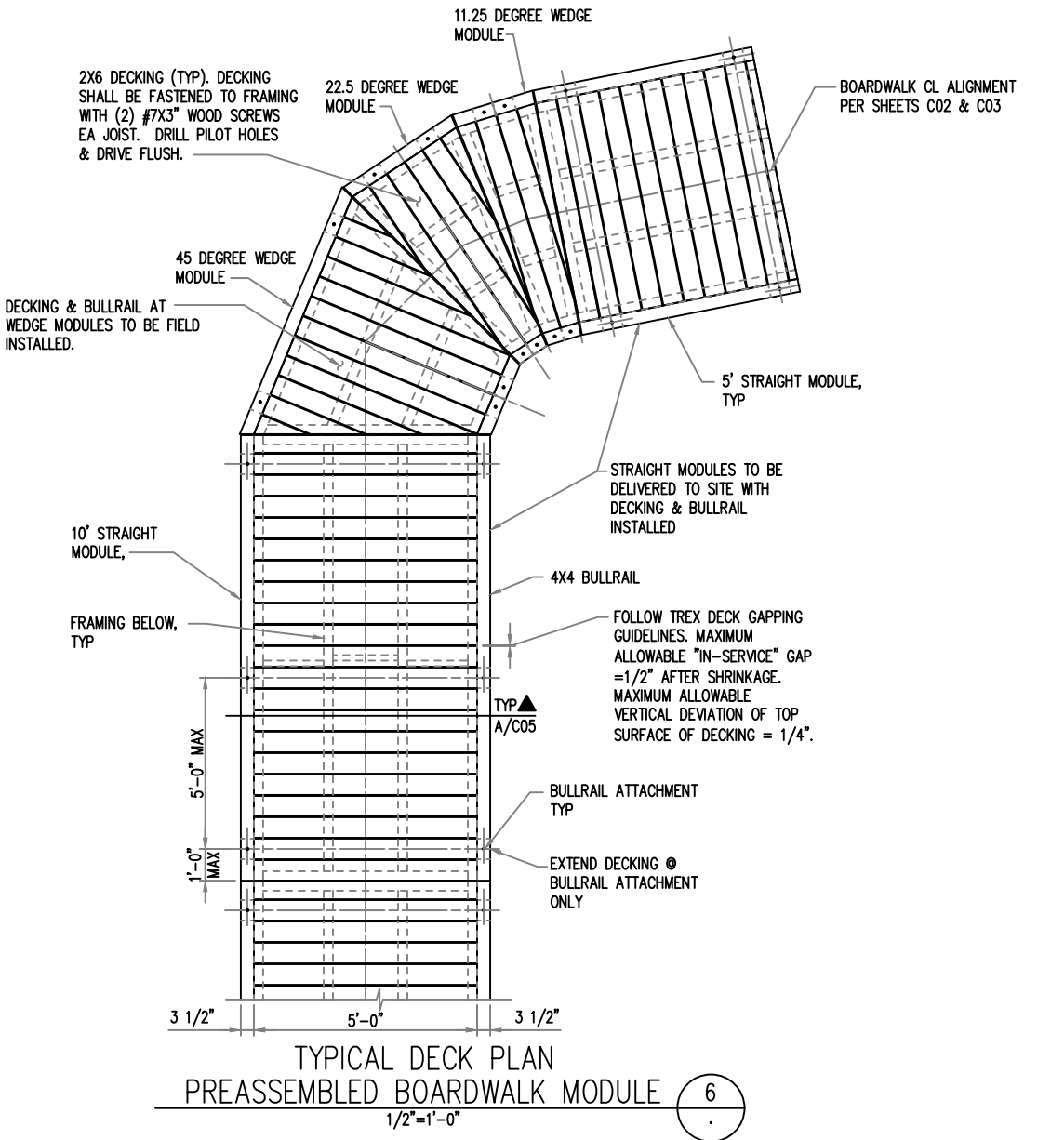
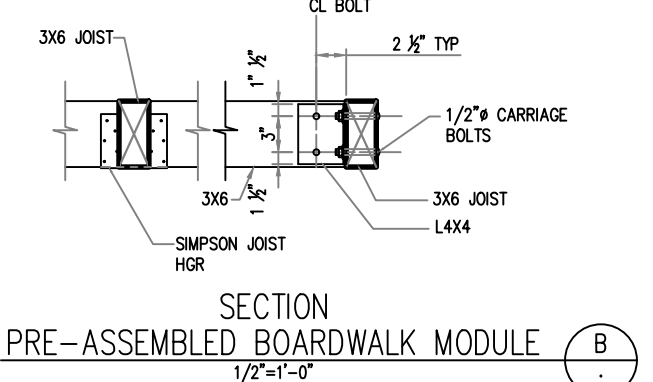
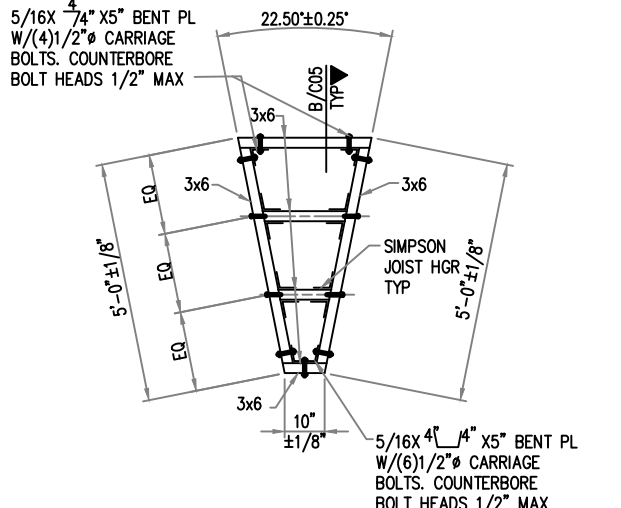
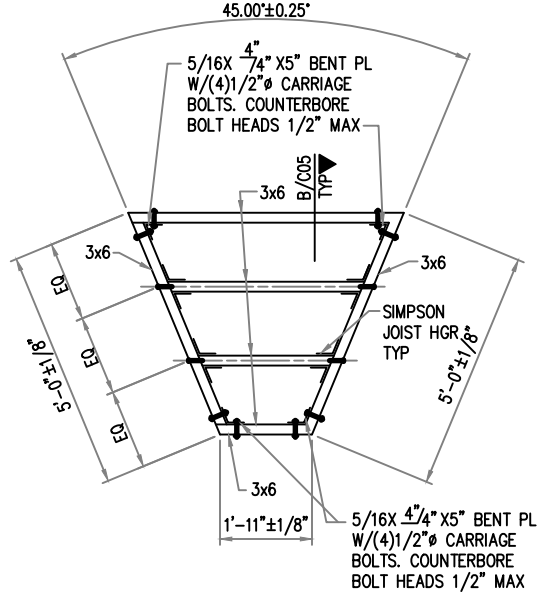
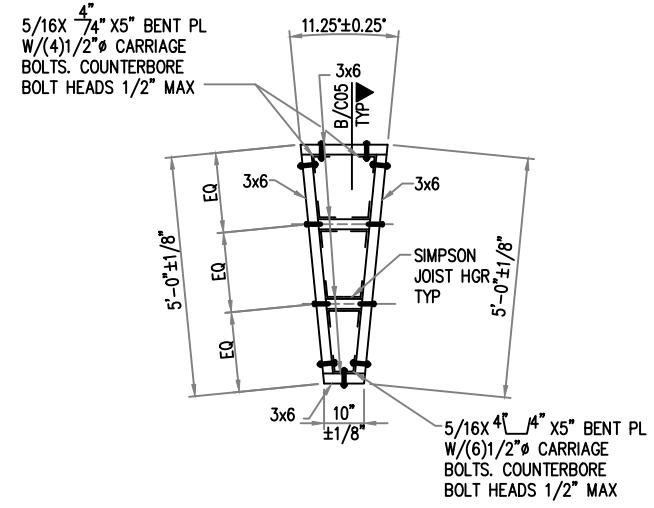
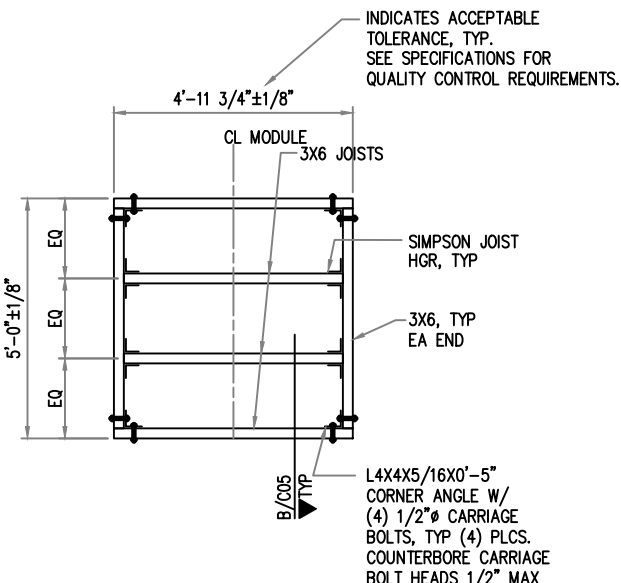
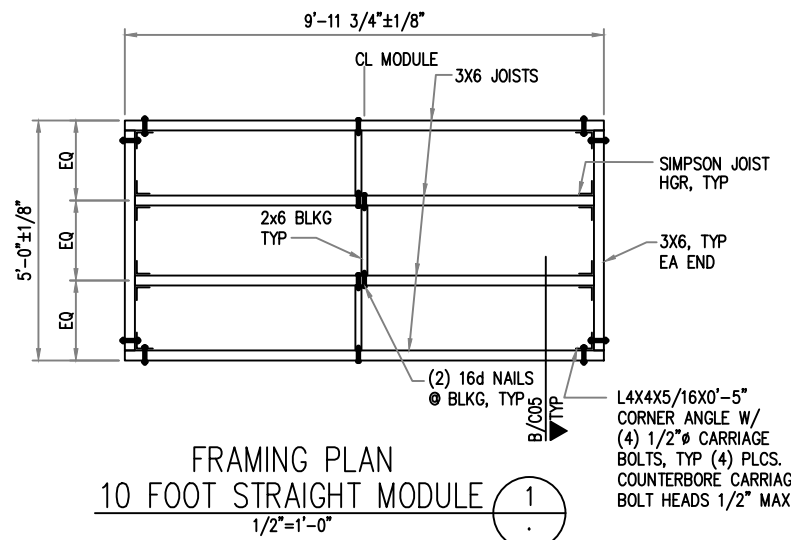
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NOTES

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C04

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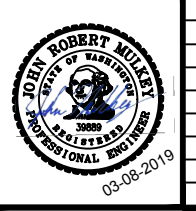


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 Rev/Plot by: Paul Heller
 03-08-2019

CITY OF Federal Way
 33325 8TH AVE. SOUTH
 FEDERAL WAY
 WASHINGTON 98003
 PHONE: (253) 835-7000
 FAX: (253) 835-2709
 www.CityOfFederalWay.com

PROJECT ENG:
 John Mulkey, P.E.
 PHONE #:
 253-835-2722
 EMAIL:
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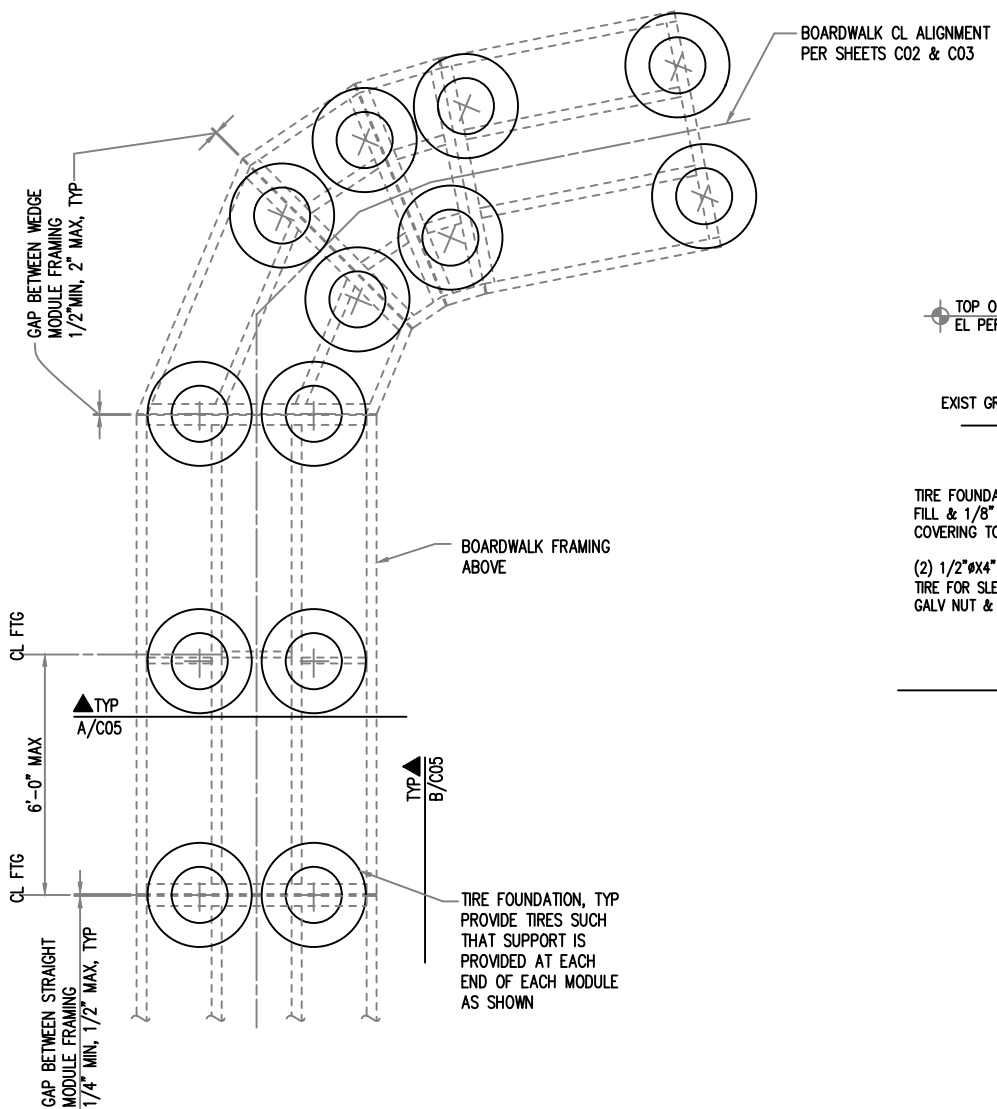
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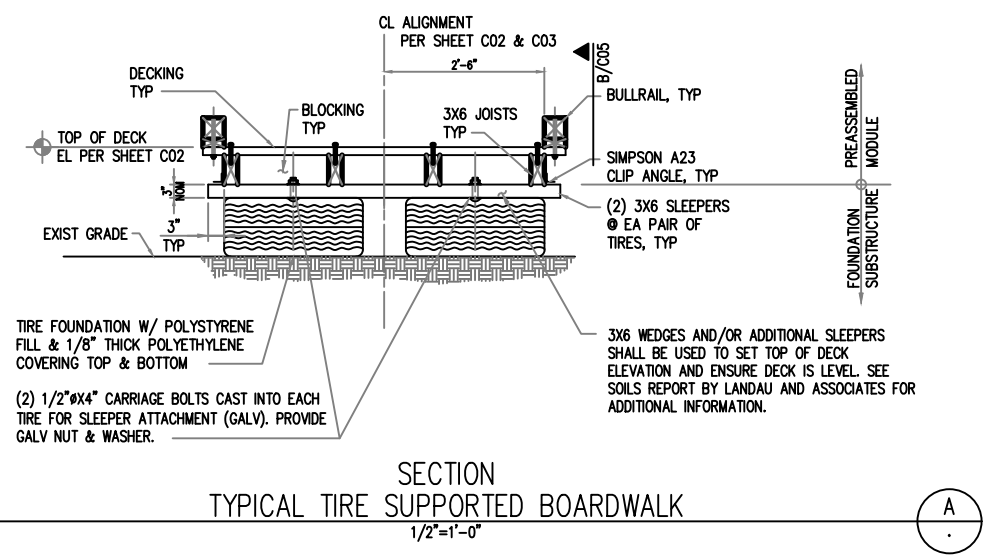
DESIGN PLANS
 BOARDWALK DETAILS

RFB #:
 19-004
C05
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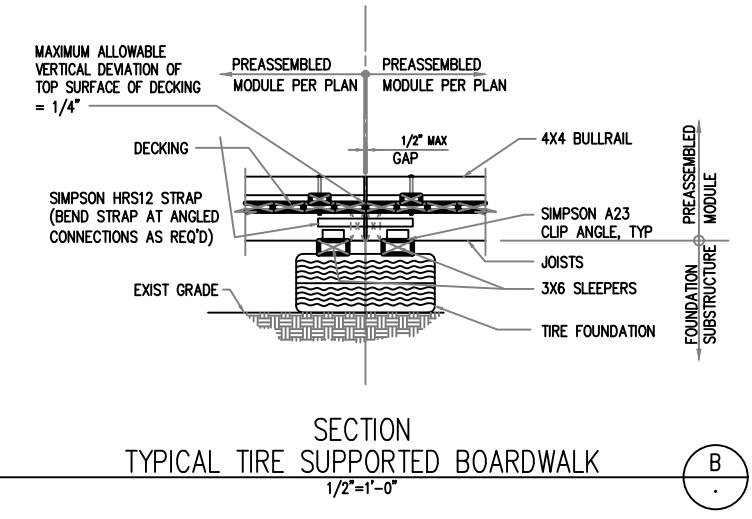
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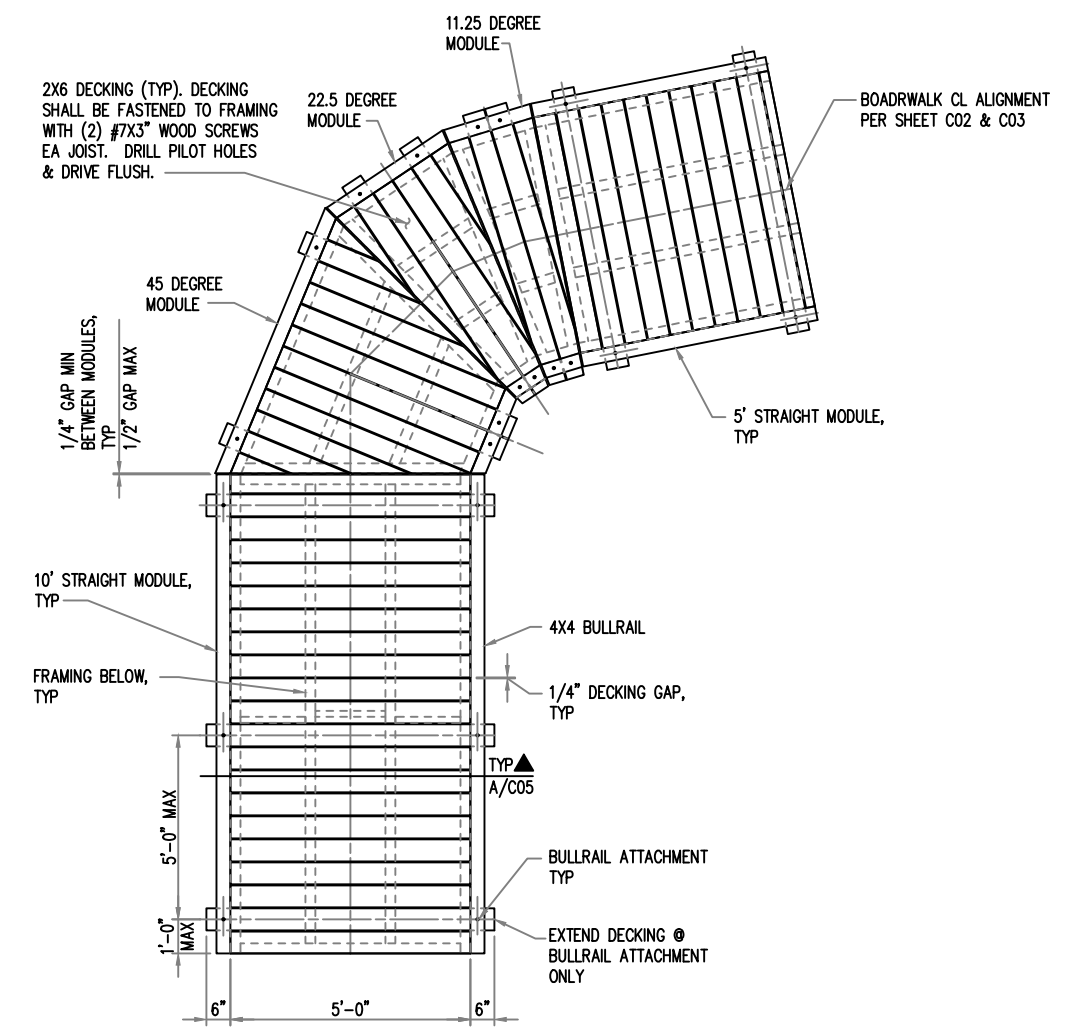
STATION 3+11 TO 4+77
 TYPICAL FOUNDATION PLAN
 PREASSEMBLED BOARDWALK MODULE
 1/2"=1'-0" (1)



SECTION
 TYPICAL TIRE SUPPORTED BOARDWALK
 1/2"=1'-0" (A)



SECTION
 TYPICAL TIRE SUPPORTED BOARDWALK
 1/2"=1'-0" (B)



TYPICAL DECK PLAN
 PREASSEMBLED BOARDWALK MODULE
 1/2"=1'-0" (1)

CITY OF Federal Way
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 FEDERAL WAY
 WASHINGTON 98003
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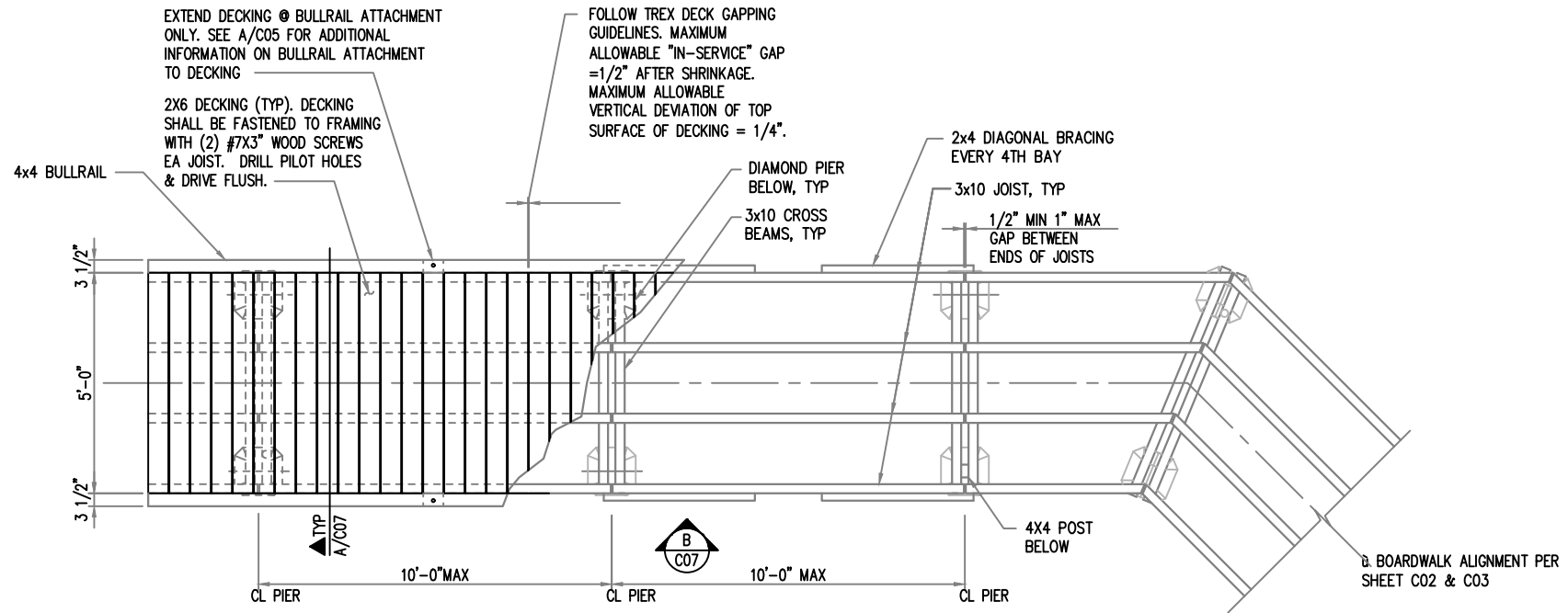
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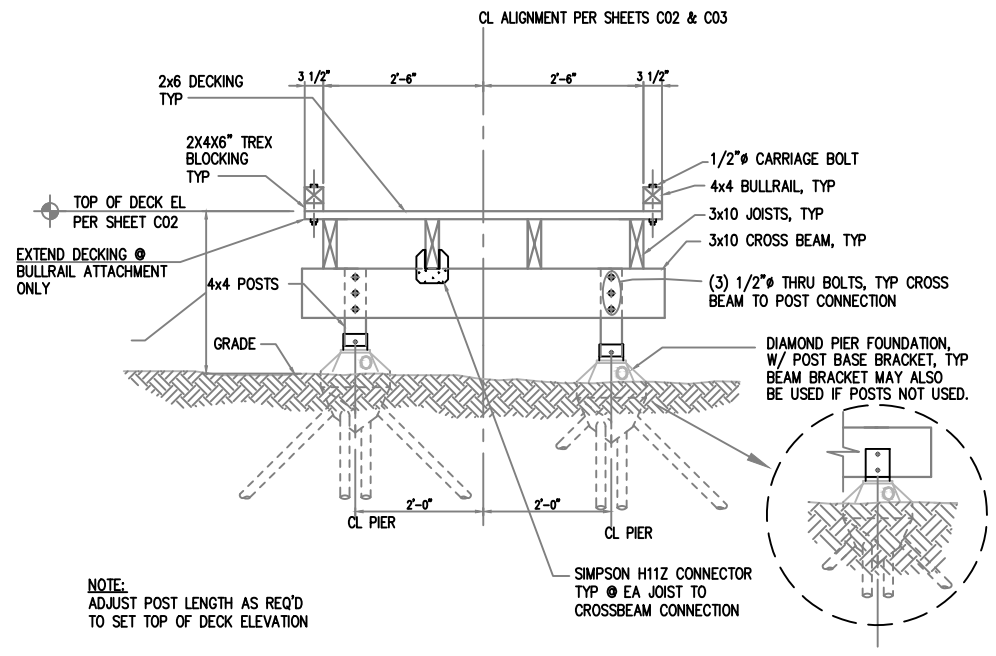
DESIGN PLANS
 BOARDWALK DETAILS

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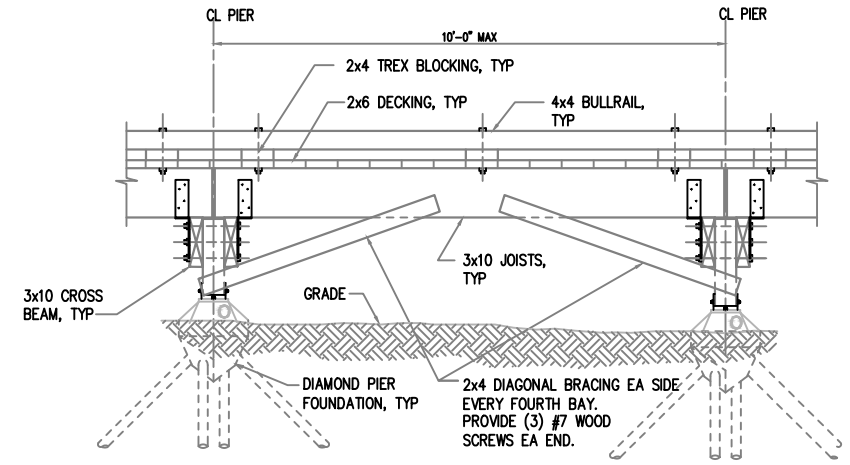
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 Parent Sheet Sht: BROOKLAKE CENTER CONNECTOR



NOTE:
 JOISTS MAY BE CONTINUOUS OVER MULTIPLE SPANS. STATION 0+00 TO 3+11
FRAMING PLAN – TYPICAL FIELD BUILT, DIAMOND PIER SUPPORTED, BOARDWALK 1
 1/2"=1'-0"



NOTE:
 ADJUST POST LENGTH AS REQ'D TO SET TOP OF DECK ELEVATION
SECTION – FIELD BUILT, DIAMOND PIER SUPPORTED, BOARDWALK A
 1/2"=1'-0"



ELEVATION – FIELD BUILT, DIAMOND PIER SUPPORTED, BOARDWALK B
 1/2"=1'-0"

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 FEDERAL WAY
 WASHINGTON 98003
 PHONE: (253) 835-7000
 FAX: (253) 835-2709
 www.CityOfFederalWay.com

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 PHONE #:
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 EMAIL:
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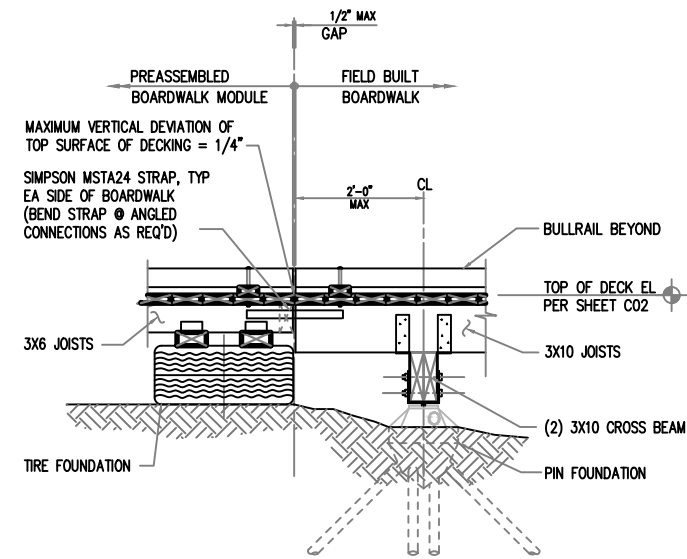
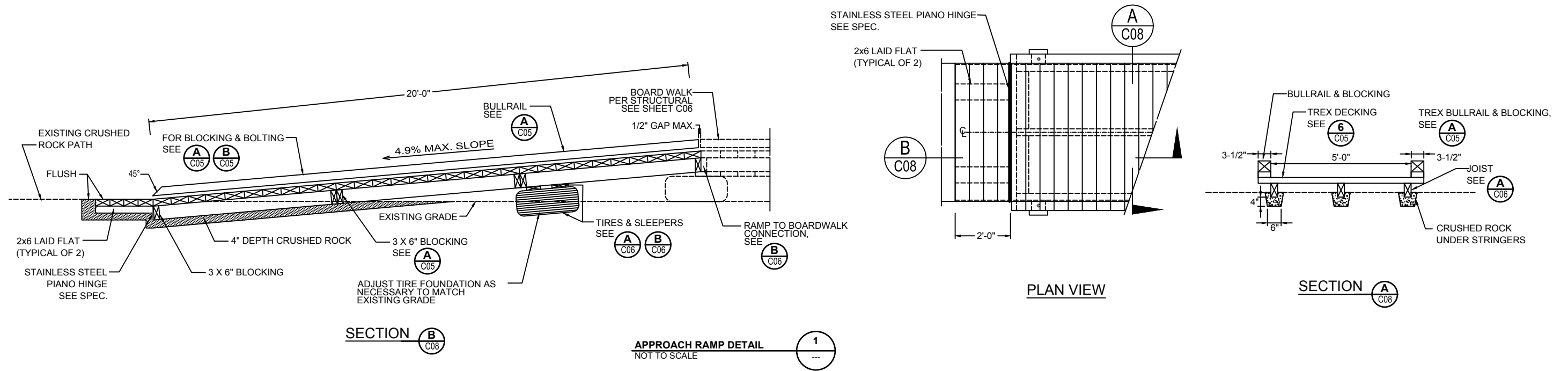
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 FEDERAL WAY
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 PHONE: (253) 835-7000
 FAX: (253) 835-2709
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DESIGN PLANS
 BOARDWALK DETAILS

RFB #:
19-004
C08
 SHT. 08 OF 12

Temporary Erosion and Sedimentation Control Plan Notes

This section includes all site preparation as indicated on the Drawings. Work includes, but is not limited to, the following:

- A. Locate and Document underground utilities and controls
- B. Protect from harm any trees or other objects not designated for removal
- C. Temporary Erosion and Sedimentation Control (TESC) facilities
- D. Temporary facilities
- E. Installation, continuous maintenance, and final removal of each element included in this section

Temporary Erosion and Sedimentation Control:

- A. Straw bales/mulch: wheat straw or similar straw that is free of weed seeds. Do not use hay cut from reed canary grass.
- B. Filter fabric: PVC woven cloth, reinforced chlorosulfonated polyethylene cloth by Mirafi, or approved Black or Orange equal.
- C. Filter fabric used for siltation control fencing shall be secured using stable, durable staking methods approved by the Engineer.
- D. Plastic covering: 6 millimeter clear plastic sheeting.
- E. Sand bags: 0.5 to 1 cubic foot capacity constructed of ultraviolet (UV) stabilized synthetic woven materials of sufficient strength to support the weight of the bag capacity in mineral aggregate.

Temporary Facilities:

- A. Temporary Sanitation Facilities - engage the services of a licensed, commercial provider of portable temporary sanitary facilities. Provide sufficient capacity and maintenance for no less than 125 percent of the anticipated peak workforce.

Temporary Security Fence:

- A. The Contractor shall maintain the security fence in place and not alter or relocate without written permission of the Engineer.

Temporary Erosion and Sedimentation Control:

- A. Keep streets and site drains open for drainage at all times. TESC facilities shall be inspected daily during periods of rain, otherwise inspected weekly.
- B. Any area stripped of vegetation where no further work is anticipated for a period of 15 days shall be immediately stabilized with clear plastic covering mulch (wood chips). During periods when a reasonable expectation of significant rainfall may be present, the Contractor shall cover any stripped slopes 4:1 (h:v) or steeper with plastic sheeting and mulch. Mulch, when used, shall be applied at a thickness of 2 inches minimum.
- C. If sediment is transported on to a road surface, the road shall be cleaned thoroughly at the end of each day. Sediment shall be removed from roads by a method as approved by the Engineer and be transported to a controlled sediment disposal area. Street washing shall be allowed only after sediment has been removed in this manner.
- D. The Contractor shall protect stockpile areas from release of sediment. Stockpiles shall be covered at all times while not in use to keep stored material dry. Materials stockpiled on pavement shall be surrounded by two rows of straw bales with joints staggered.
- E. Siltation Control Fencing:

1. Silt control fencing shall be installed as directed by the Engineer. A linear measurement equal to the perimeter of the Contract site shall be installed as directed by the Engineer. Additional lengths of silt control fencing shall be installed as deemed necessary by the Engineer throughout the Contract.
2. Silt control fencing shall be installed reasonably taught between stakes, with no sagging or bunching of the fabric. Bottom edge of fabric shall be embedded into the subgrade and backfilled with 5/8 inch pea gravel in areas where significant future work is anticipated. In areas at the project limit, where no significant restoration or additional work is anticipated by the Engineer, do not trench bottom edge of fabric into ground, rather fold inward toward the source of potential siltation and cover with 5/8 inch pea gravel.
3. Maintain silt control fencing by removing accumulated materials off site when accumulations exceed 6 inches above original grade or grade behind the fencing.
4. Inspect undisturbed ground down-flow of fencing to verify functionality. Where the fencing has failed, correct it. Where accumulated water has focused erosive forces down-flow of fencing, provide additional silt fence or hay-bale baffles to dissipate erosive energy.

Removal:

All materials and debris associated with the work of this section shall be removed at the appropriate time, as follows:

- A. Removal of sanitary facilities shall not be undertaken until the Engineer has established that the work is Substantially Complete.
- B. Removal of temporary siltation control fencing shall be performed at the direction of the Engineer, but in no case prior to establishment of the Contract as Substantially Complete. The City reserves the right to take ownership and control of temporary siltation control facilities following thorough maintenance by the Contractor and immediately prior to acceptance of the Contract as Physically Complete.

ROUGH CARPENTRY FOR SITE WORK

1.01 Summary of Work:

- A. This section includes the following:
 1. Wood framing
 2. Wood blocking

1.02 Submittals:

- A. Product Data: For each type of process and factory-fabricated product indicated, include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that materials comply with requirements.
- B. Material Certificates: For dimension lumber specified to comply with minimum allowable unit stresses.
- C. Research/Evaluation Reports: For the following:
 1. Treated wood
 2. Power-driven fasteners
 3. Metal framing anchors

PART 2 - PRODUCTS

2.01 Manufacturers:

- A. In other Part 2 articles where subparagraph titles below introduce lists, the following requirements apply for product selection:
 1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the manufacturers specified, subject to approval by the Engineer.

2.02 Wood Products, General:

- A. Lumber: DOC PS 20 and applicable rules of lumber grading agencies certified by the American Lumber Standards Committee Board of Review.
 1. Factory mark each piece of lumber with grade stamp of grading agency.
 2. Provide dressed lumber, S4S, unless otherwise indicated.
 3. Provide dry lumber with 19 percent maximum moisture content at time of dressing for 2-inch nominal (38-mm actual) thickness or less, unless otherwise indicated.

2.03 Wood-Preservative-Treated Materials:

- A. Preservative Treatment by Pressure Process: AWPA C2 (lumber).
- B. Kiln-dry material after treatment to a maximum moisture content of 19 percent for lumber.
- C. Mark each treated item with treatment quality mark of an inspection agency approved by the American Lumber Standards Committee Board of Review.
- D. Application: Treat items indicated on Drawings.

2.04 Dimension Lumber:

- A. General: Of grades indicated according to the American Lumber Standards Committee National Grading Rule provisions of the grading agency indicated.
- B. Framing: Construction or No. 2 grade and the following species:
 1. Douglas fir-larch, Douglas fir-larch (north), NLGA, WCLIB, or WWPA.

2.05 Miscellaneous Materials:

- A. Fasteners:
 1. Provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.
 2. Bolts: Steel bolts complying with ASTM A 307, Grade A with ASTM A 563 hex nuts and, where indicated, flat washers.
- B. Metal Framing Anchors: Made from hot-dip, zinc-coated steel sheet complying with ASTM A 653.
 1. Manufacturers: Simpson Strong-Tie Company, Inc.
 2. Research/Evaluation Reports: Provide products acceptable to authorities having jurisdiction and for which model code research/evaluation reports exist that show compliance of metal framing anchors, for application indicated, with building code in effect for project.
 3. Allowable Design Loads: Meet or exceed those indicated per manufacturer's published values determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.
- C. Hinges: Stainless steel piano hinge 6 foot long "CS26015072" .06 gauge available from Monroe Engineering, 1-800-440-3967, or approved equal.

Installation:

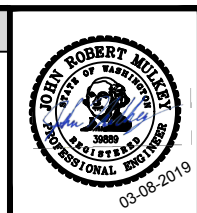
- A. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry to other construction; scribe and cope as needed for accurate fit.
- B. Apply field treatment complying with AWPA M4 to cut surfaces of preservative-treated lumber and plywood.
- C. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
 1. Published requirements of metal framing anchor manufacturer.
- D. Framing Standard: Comply with AFPA's "Manual for Wood Frame Construction," unless otherwise indicated.

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CITY OF Federal Way
 33325 8TH AVE. SOUTH
 FEDERAL WAY
 WASHINGTON 98003
 PHONE: (253) 835-7000
 FAX: (253) 835-2709
 www.CityOfFederalWay.com

PROJECT ENG:
John Mulkey, P.E.
 PHONE #:
253-835-2722
 EMAIL:
john.mulkey@cityoffederalway.com

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BROOK LAKE CENTER CONNECTOR

DESIGN PLANS
CONSTRUCTION NOTES

RFB #:
19-004
C09
 SHT. 09 OF 12

PIN FOUNDATIONS

- 1.01 Summary of Work:
- A. The general conditions, alternates and addenda, applicable Drawings, and Technical Specifications shall apply to all work under this section.
 - B. The Contractor shall furnish all materials, labor, equipment and incidentals as shown, specified, and required to install Pin Foundations.
 - C. Work includes preparing site and soil; furnishing and preparing foundation components; aligning, leveling, plumbing, and installing foundation components; setting and driving foundation pins; and capping pins.

- 1.02 References/Standards:
- A. ASTM A 53 - Pipe, Steel, Black and Hot dipped, Zinc-coated
 - B. ASTM A123 - Zinc (hot-galvanized) coatings on Shaped Steel Products
 - C. ASTM A153 - Zinc coating (hot-dip) on Steel Hardware
 - D. ASTM, ACI, and CRSI standards for precast concrete products
 - E. ASTM A 820, Type 1 - Steel Fiber Re-inforcing.
 - F. MSDS Pasmenco#119 (rev-1) 12/14/1987 - Zinc Material Safety Data Sheets

- 1.03 Submittals:
- A. The Contractor shall verify superstructure layout, spans, and resulting loads for consistency with the manufacturer's evaluated capacities, and report any inconsistencies to the Engineer prior to installation.
 - B. Latest edition of manufacturer's installation instructions.
 - C. Manufacturer's evaluation of foundation system load capacities for this project.
 - D. Letter from manufacturer stating that the intended use of the product falls within design limits and capabilities.

PART 2 - PRODUCTS

- 2.01 Manufacturer:
- A. Pin Foundations, Inc. 8607 58th Ave. NW, Gig Harbor, Washington 98332, (253) 858-8809
- 2.02 System Type:
- A. Diamond Pier - DP-100s - Precast heads to be minimum 3500 psi concrete, six sack mix, 3/8 inch aggregate, with 6 percent total air entrainment. Reinforcing to be 1-1/2 inch corrugated steel fiber strand reinforcing - ASTM A820, Type 1. Cast in place pin cavities - sleeveless.
- 2.03 Pins/Capacity:
- A. Four pins per pier. Capacity relative to length, diameter, and driving angle in site specific soils. All Pins to be galvanized steel, pipe, or tube with butt cut driving ends. DP-100s to use Schedule 40, or schedule 80, 1-1/2 inch nominal pipe or 1.9 OD guage 10, 60 K tube. Pins to be capped with UV resistant vinyl caps, sealed with 50-year adhesive caulk.
- 2.04 CONNECTIONS/POSTS/BEAMS
- A. Diamond Pier connection to be galvanized steel post base attached to pier with single galvanized anchor bolt. Anchor bolt for DP-100s to be 5/8 inch hot dip galvanized, grade 2 carriage bolt.
 - B. Pressure treated posts to have factory treated ends at bracket interface when feasible.

PART 3 - EXECUTION

- 3.01 Delivery/Storage and Handling:
- A. The Contractor shall verify upon delivery that all the proper materials have been received.
 - B. The Contractor shall protect the materials from damage. See Temporary Product Storage of Galvanized Components in Manufacturer's Installation Instructions.
 - C. The Contractor shall review MSDS documents and, when required, maintain a copy on site at all times.
- 3.02 Site Preparation:
- A. Alteration of site soils, vegetation, and tree roots shall be kept to a minimum to avoid tree mortality, erosion, and the need for re-vegetation.
- 3.03 Equipment/Installation:
- A. Foundation system to be installed with hand-carried/hand-held tools only.
 - B. Pins to be full length as specified before driving. No coupled or welded pins are to be used.
 - C. Follow manufacturer's installation instructions for Bracket attachment or Pier Placement and Pin Driving.
 - D. Pins may be cut off in a partially driven position if it they meet substantial resistance in the soil. Refer to specific manufacturer's installation instruction procedures for establishing proper conditions before cutting any pins.
- 3.04 Field Quality Control:
- A. Inspection Agency: The City will engage a qualified independent testing and inspection agency for soil testing and to inspect installation of pin foundations. Regular inspection reports shall be submitted to the Engineer.
 - B. Correct deficiencies in work that test reports and inspections indicate does not comply with the Contract Documents.

TIRE FOUNDATIONS

- 1.01 Summary of Work:
- A. This section includes the following:
Fabrication and installation of tire foundations for pre-assembled boardwalk modules
- 1.02 Submittals:
- A. Product Data: For each type of product indicated.
 - B. Latest edition of manufacturer's installation instructions.
 - C. Manufacturer's evaluation of the foundation system load capacities and vertical deflection.
 - D. Letter from manufacturer stating that the intended use of the product falls within design limits and capabilities.

PART 2 - PRODUCTS

- 2.01 Manufacturer:
- A. Topper Industries, Inc., PO Box 2439, Battle Ground, Washington 98604, (253) 858-8809.
- 2.02 Tire Foundations:
- B. Tire Foundations shall consist of 26-inch to 30-inch diameter tires filled with expanded polystyrene with 1/8-inch thick polyethylene covering top and bottom. Top and bottom of tires shall be sealed. Tires shall be capable of supporting a maximum design load of 1,750 pounds with a maximum vertical deflection of 1/2-inch.
- 2.03 Fasteners:
- C. Bolts: Steel bolts complying with ASTM A307, Grade A.
 - B. Bolts and fasteners shall be provided with hot-dip zinc coating complying with ASTM A153.

Delivery/Storage and Handling:

- A. Contractor shall verify upon receipt of the Notice to Proceed that all materials have been delivered and area available on site.
- B. Contractor shall protect materials from damage.
- C. Contractor shall review MSDS documents and, when required, maintain a copy on site at all times.

Installation:

- A. Contractor shall verify boardwalk alignment with existing field conditions and report any inconsistencies to the Engineer prior to installation.
- B. Tires shall be set level and bear on competent material. Contractor shall notify Engineer in advance if grade alteration is necessary to set tires level and at the correct elevation.

Field Quality Control:

- A. Inspection agency: The City will engage a qualified independent testing and inspection agency to inspect installation of tire foundations. Regular inspection reports shall be submitted to the Engineer.
- B. Correct deficiencies in work that test reports and inspection indicate do not comply with the contract documents.

PRE-ASSEMBLED BOARDWALK MODULES

Delivery to Project Site:

- A. The Contractor shall provide certification that all pre-assembled modules have been constructed within specification prior to shipment to site.
- B. Care shall be taken in delivery and on-site storage of boardwalk modules. Modules damaged beyond repair in route, or in storage, will be rejected. All repairs shall be approved by the Engineer prior to proceeding with installation.

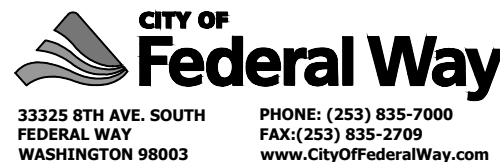
Installation:

- A. Boardwalk modules shall be installed after tire foundations and timber sleepers have been set level and at the required elevation.
- B. As installation progresses, check each module for line, level and plumb.
- C. Apply field treatment complying with AWPA M4 to cut and bored surfaces of preservative-treated lumber.
- D. Securely attach boardwalk modules to tire foundations and to each other by anchoring and fastening as indicated, complying with the published requirements of the metal framing manufacturer.

Field Quality Control:

- A. Inspection Agency: The City will engage a qualified independent testing and inspection agency to inspect installation of pre-assembled boardwalk modules and to prepare regular inspection reports.
- B. The Contractor shall correct deficiencies in work that test reports and inspections indicate do not comply with the contract documents.

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PROJECT ENG:

John Mulkey, P.E.

PHONE #:

253-835-2722

EMAIL:

john.mulkey@cityoffederalway.com

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DESIGN PLANS

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RFB #:

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SHT. 10 OF 12

FIELD-BUILT BOARDWALK

- 3.01 Installation
 - A. Field-built boardwalk shall be installed after pin foundations have been installed and set at the required elevation.
 - B. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry to other construction; scribe and cope as needed for accurate fit.
 - C. As installation progresses, check and adjust each module for line, level, and plumb.
 - D. Apply field treatment complying with AWWPA M4 to cut surfaces of preservative-treated lumber and plywood.
 - E. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
 - 1. Published requirements of metal framing anchor manufacturer.
 - F. Framing Standard: Comply with AFPA's Manual for Wood Frame Construction, unless otherwise indicated.
- 3.02 Field Quality Control:
 - A. Inspection agency: The City will engage a qualified independent testing and inspection agency to inspect installation of field-built boardwalk and to prepare regular inspection reports.
 - B. The Contractor shall correct deficiencies in work that test reports and inspections indicate does not comply with the Contract Documents.

MATERIALS STANDARDS - CARPENTRY PRODUCTS

- 2.02 Wood Products, General:
 - A. Lumber: DOC PS 20 and applicable rules of lumber grading agencies certified by the American Lumber Standards Committee Board of Review.
 - 1. Factory mark each piece of lumber with grade stamp of grading agency.
 - 2. Provide dressed lumber, S4S, unless otherwise indicated.
 - 3. Provide dry lumber with 19 percent maximum moisture content at time of dressing for 2-inch nominal (38-mm actual) thickness or less, unless otherwise indicated.
- 2.03 Wood-Preservative-Treated Materials:
 - A. Preservative Treatment by Pressure Process: AWWPA C2 (lumber).
 - B. Kiln-dry material after treatment to a maximum moisture content of 19 percent for lumber.
 - C. Mark each treated item with treatment quality mark of an inspection agency approved by the American Lumber Standards Committee Board of Review.
 - D. Application: Treat items indicated on Drawings.
- 2.04 Dimension Lumber:
 - A. General: Of grades indicated according to the American Lumber Standards Committee National Grading Rule provisions of the grading agency indicated.
 - B. Framing: Construction or No. 2 grade and the following species:
 - 1. Douglas fir-larch, Douglas fir-larch (north), NLGA, WCLIB, or WWPA.
- 2.05 Miscellaneous Materials:
 - A. Fasteners:
 - 1. Provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.
 - 2. Bolts: Steel bolts complying with ASTM A 307, Grade A with ASTM A 563 hex nuts and, where indicated, flat washers.
 - B. Metal Framing Anchors: Made from hot-dip, zinc-coated steel sheet complying with ASTM A 653.
 - 1. Manufacturers: Simpson Strong-Tie Company, Inc.
 - 2. Research/Evaluation Reports: Provide products acceptable to authorities having jurisdiction and for which model code research/evaluation reports exist that show compliance of metal framing anchors, for application indicated, with building code in effect for project.
 - 3. Allowable Design Loads: Meet or exceed those indicated per manufacturer's published values determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.
 - C. Hinges:
 - 1. Stainless steel piano hinge 6 foot long "CS26015072" .06 gauge available from Monroe Engineering, 1-800-440-3967, or approved equal.

TIRE BASES

PART 2 - PRODUCTS

- 2.01 Manufacturer:
 - A. Topper Industries, Inc., PO Box 2439, Battle Ground, Washington 98604, (253) 858-8809.
- 2.02 Tire Foundations:
 - A. Tire Foundations shall consist of 26-inch to 30-inch diameter tires filled with expanded polystyrene with 1/8-inch thick polyethylene covering top and bottom. Top and bottom of tires shall be sealed. Tires shall be capable of supporting a maximum design load of 1,750 pounds with a maximum vertical deflection of 1/2-inch.
- 2.03 Fasteners:
 - A. Bolts: Steel bolts complying with ASTM A307, Grade A.
 - B. Bolts and fasteners shall be provided with hot-dip zinc coating complying with ASTM A153.

PRE ASSEMBLED BOARDWALK

- 1.03 Submittals:
 - A. Product Data: For each type of process and factory-fabricated product indicated, include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that materials comply with requirements.
 - B. The Contractor shall submit material certificates for dimension lumber specified to comply with minimum allowable unit stresses.
 - C. The Contractor shall submit color samples for Trex® Transcend™ decking for color selection by Engineer.
 - D. Research/Evaluation Reports: Submittals for the following:
 - 1. Treated wood
 - 2. Power-driven fasteners
 - 3. Metal framing anchors
 - E. Shop Drawings: Show fabrication of each pre-assembled boardwalk module.

PART 2 - PRODUCTS

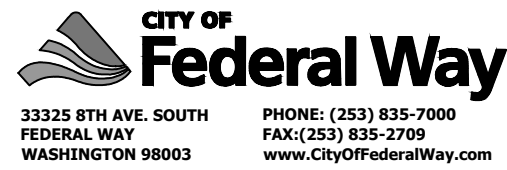
- 2.01 Manufacturers:
 - In other Part 2 articles where subparagraph titles below introduce lists, the following requirements apply for product selection:
 - A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the manufacturers specified, subject to approval by the Engineer.
- 2.02 Wood Products, General:
 - A. Lumber: DOC PS 20 and applicable rules of lumber grading agencies certified by the American Lumber Standards Committee Board of Review.
 - 1. Factory mark each piece of lumber with grade stamp of grading agency.
 - 2. Provide dressed lumber, S4S, unless otherwise indicated.
 - 3. Provide dry lumber with 19 percent maximum moisture content at time of dressing for 2-inch nominal (38-mm actual) thickness or less, unless otherwise indicated.
- 2.03 Wood-Preservative-Treated Materials:
 - A. Preservative Treatment by Pressure Process: AWWPA C2 (lumber).
 - B. Kiln-dry material after treatment to a maximum moisture content of 19 percent for lumber.
 - C. Mark each treated item with treatment quality mark of an inspection agency approved by the American Lumber Standards Committee Board of Review.
 - D. Application: Treat items indicated on Drawings.
- 2.04 Dimension Lumber:
 - A. General: Of grades indicated according to the American Lumber Standards Committee National Grading Rule provisions of the grading agency indicated.
 - B. Framing: Construction of No. 2 grade and the following species:
 - 1. Douglas fir-larch, Douglas fir-larch (north), NLGA, WCLIB, or WWPA.
- 2.05 Decking:
 - A. Trex® Transcend™ decking shall be provided for all decking material. Size shall be as indicated on the Drawings. Color to be selected by the Engineer based on Contractor's color samples submitted..
- 2.06 Miscellaneous Materials:
 - A. Fasteners:
 - 1. Provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.
 - 2. Bolts: Steel bolts complying with ASTM A 307, Grade A with ASTM A 563 hex nuts and, where indicated, flat washers.
 - B. Metal Framing Anchors: Made from hot-dip, zinc-coated steel sheet complying with ASTM A 653.
 - 1. Manufacturers: Simpson Strong-Tie Company, Inc.
 - 2. Research/Evaluation Reports: Provide products acceptable to authorities having jurisdiction and for which model code research/evaluation reports exist that show compliance of metal framing anchors, for application indicated, with building code in effect for project.
 - 3. Allowable Design Loads: Meet or exceed those indicated per manufacturer's published values determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.
- 2.07 Source Quality Control:
 - A. Prior to mass fabrication of pre-assembled boardwalk modules, the Contractor shall demonstrate the ability to fabricate and assemble each module by assembling a mock-up section of boardwalk in the shop. The mock-up shall consist of at least one of each module.

- The modules shall be attached to each other and to tire foundations as required in the Drawings. Personnel scheduled for field assembly of the boardwalk shall participate in assembly of the shop mock-up. Assembly of modules will be observed by the Engineer.
- B. The City will engage an independent inspection agency to inspect materials, workmanship, and fabrication of pre-assembled boardwalk modules and to prepare inspection reports.
- C. The Contractor shall correct deficiencies in work that inspections indicate do not comply with the Contract Documents. Construction tolerances for the pre-assembled module framing are indicated on the Drawings. Modules that do not meet indicated tolerances will be rejected.
- D. Framing Standard: Comply with AFPA's "Manual for Wood Frame Construction," unless otherwise indicated.

PART 3 - EXECUTION

- 3.01 Delivery to Project Site:
 - The Contractor shall provide certification that all pre-assembled modules have been constructed within specification prior to shipment to site.
 - Care shall be taken in delivery and on-site storage of boardwalk modules. Modules damaged beyond repair in route, or in storage, will be rejected. All repairs shall be approved by the Engineer prior to proceeding with installation.
- 3.02 Installation:
 - Boardwalk modules shall be installed after tire foundations and timber sleepers have been set level and at the required elevation.
 - As installation progresses, check each module for line, level and plumb.
 - Apply field treatment complying with AWWPA M4 to cut and bored surfaces of preservative-treated lumber.
 - Securely attach boardwalk modules to tire foundations and to each other by anchoring and fastening as indicated, complying with the published requirements of the metal framing manufacturer.
- 3.03 Field Quality Control:
 - Inspection Agency: The City will engage a qualified independent testing and inspection agency to inspect installation of pre-assembled boardwalk modules and to prepare regular inspection reports.
 - The Contractor shall correct deficiencies in work that test reports and inspections indicate do not comply with the contract documents.

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PROJECT ENG:
John Mulkey, P.E.

PHONE #:
253-835-2722

EMAIL:
john.mulkey@cityoffederalway.com

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SHT. 11 OF 12

FIELD BUILT BOARDWALK

- 1.03 Submittals:
- A. Product Data: For each type of process and factory-fabricated product indicated, include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that materials comply with requirements.
 - B. The Contractor shall submit material certificates for dimension lumber specified to comply with minimum allowable unit stresses.
 - C. The Contractor shall submit color samples for Trex® Accents™ decking for color selection by Engineer.
 - D. Research/Evaluation Reports: Submittals for the following:

Treated wood
Power-driven fasteners
Metal framing anchors

PRODUCTS

- 2.01 Manufacturers:
- A. In other Part 2 articles where subparagraph titles below introduce lists, the following requirements apply for product selection:

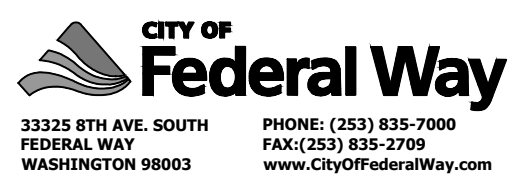
Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the manufacturers specified, subject to approval by the Engineer.
- 2.02 Wood Products, General:
- A. Lumber: DOC PS 20 and applicable rules of lumber grading agencies certified by the American Lumber Standards Committee Board of Review.
 - 1. Factory mark each piece of lumber with grade stamp of grading agency.
 - 2. Provide dressed lumber, S4S, unless otherwise indicated.
 - 3. Provide dry lumber with 19 percent maximum moisture content at time of dressing for 2-inch nominal (38-mm actual) thickness or less, unless otherwise indicated.
- 2.03 Wood-Preservative-Treated Materials:
- A. Preservative Treatment by Pressure Process: AWWA C2 (lumber).
 - B. Kiln-dry material after treatment to a maximum moisture content of 19 percent for lumber.
 - C. Mark each treated item with treatment quality mark of an inspection agency approved by the American Lumber Standards Committee Board of Review.
 - D. Application: Treat items indicated on the Drawings.
- 2.04 Dimension Lumber:
- A. General: Of grades indicated according to the American Lumber Standards Committee National Grading Rule provisions of the grading agency indicated.
 - B. Framing: Construction or No. 2 grade and the following species:
 - 1. Douglas fir-larch, Douglas fir-larch (north), NLGA, WCLIB, or WWPA.
- 2.05 Decking:
- A. Trex® Transcend™ decking shall be provided for all decking material. Size shall be as indicated on the Drawings. Color to be selected by the Engineer based on Contractor's color samples submitted.
- 2.06 Miscellaneous Materials:
- A. Fasteners:
 - 1. Provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.
 - 1. Bolts: Steel bolts complying with ASTM A 307, Grade A with ASTM A 563 hex nuts and, where indicated, flat washers.
 - B. Metal Framing Anchors: Made from hot-dip, zinc-coated steel sheet complying with ASTM A 653.
 - 1. Manufacturers: Simpson Strong-Tie Company, Inc.
 - 2. Research/Evaluation Reports: Provide products acceptable to authorities having jurisdiction and for which model code research/evaluation reports exist that show compliance of metal framing anchors, for application indicated, with building code in effect for the project.
 - 3. Allowable Design Loads: Meet or exceed those indicated per manufacturer's published values determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.

EXECUTION

- 3.01 Installation
- A. Field-built boardwalk shall be installed after pin foundations have been installed and set at the required elevation.
 - B. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry to other construction; scribe and cope as needed for accurate fit.
 - C. As installation progresses, check and adjust each module for line, level, and plumb.
 - D. Apply field treatment complying with AWWA M4 to cut surfaces of preservative-treated lumber and plywood.
 - E. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
Published requirements of metal framing anchor manufacturer.
 - F. Framing Standard: Comply with AFPA's Manual for Wood Frame Construction, unless otherwise indicated.
- 3.02 Field Quality Control:
- A. Inspection agency: The City will engage a qualified independent testing and inspection agency to inspect installation of field-built boardwalk and to prepare regular inspection reports.
 - B. The Contractor shall correct deficiencies in work that test reports and inspections indicate does not comply with the Contract Documents.


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CITY OF Federal Way
33325 8TH AVE. SOUTH
FEDERAL WAY
WASHINGTON 98003
PHONE: (253) 835-7000
FAX: (253) 835-2709
www.CityOfFederalWay.com

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