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Make this Section a part of the Standard Specifications:

“SECTION 515 - DECK EXPANSION JOINT

515.01 Description. This work shall consist of furnishing and installing all materials for a deck expansion joint system, in accordance with the contract plans and as specified herein. The Contractor shall provide all the necessary hardware including epoxies and sealants, neoprene seal, and other accessories and all necessary tools for the proper installation of the joint. All work and materials for the installation of the joint are to comply with the written instructions of the joint manufacturer.

515.02 Materials. The structural sealing joint system shall be designed to withstand structural movement and harsh environmental conditions and provide a leak proof seal across the joint. The system shall consist of a preformed neoprene profile, bonded with a lubricant adhesive. The system shall meet the requirements for installation width as shown on the plans. Provide seal profile that satisfies project requirements including movement and water tightness. Install all components utilizing a lubricant adhesive as recommended by the manufacturer. The neoprene seal shall be continuous over the full length of the joint.

The Contractor shall guarantee the transverse joint seal with a twelve (12) month warranty that covers the performance of the system. The Contractor shall submit to the Engineer within ten (10) days after the award, a written statement from the manufacturer certifying that the joint seal method and materials to be employed in this repair work have been successfully used for a minimum of two thousand (2,000) linear feet of the bridge joints and that such repair work has not failed within a period of five (5) years.

(A) Adhesive. Elastomeric seal shall be installed utilizing a lubricant adhesive meeting ASTM D2835. The lubricant-adhesive must contain a minimum of 22% solids, be uniform, contain no lumps, have the correct viscosity, and have a drying time between 8 and 20 minutes. The Contractor shall submit a detailed report of the joint being proposed to use, its performance at prior installations, its advantages and disadvantages and any other requirements deemed necessary by the Engineer. The Engineer is the sole authority for the determination of whether or not a proposed joint meets the requirements of the plans and specification.

515.03 Construction Requirements.

(A) General. The joint shall maintain complete water tightness even at the railings. Recess the seal gland in such a manner that no wheel or tire traffic shall make contact with it. The seal gland shall be continuous over the full length of the joint, including at locations where the width of the seal changes, and shall be done according to the manufacturer’s recommendations and upon approval of the Engineer. The seal gland shall be readily replaceable if damaged. The

41 expansion system shall be installed to provide a smooth riding surface over the
42 joint with minimal noise.

43 Prior to manufacture of the joint, the Contractor shall submit to the
44 Engineer for approval shop drawings showing complete details of the type of
45 joint, materials and equipment which are to be used, and the manufacturer's
46 installation instructions. The drawings shall conform to the details shown on the
47 contract plans. Any variations, suggested by the manufacturer or the Contractor
48 shall be submitted to the Engineer for approval.

49 At the discretion of the Engineer, the manufacturer may be required to
50 furnish a representative sample of material to be supplied in accordance with
51 the project specifications.

52 Where indicated and noted on the contract plans, install structural sealing
53 joint system in a neat and workmanlike manner. All foreign materials and debris
54 which may be detrimental to effectively sealing the joint shall be totally removed
55 from the gap. The joint interfaces shall first be cleaned according to the
56 manufacturer's recommendations before the adhesive is mixed and applied.

57 Structural sealing joint system shall be set to the proper width for ambient
58 temperature at the time of installation and shall be installed in strict accordance
59 with the manufacturer's written instructions along with the advice of their
60 qualified representative.

61 Existing steel surfaces shall comply with the Society of Protective
62 Coatings (SSPC) SP-10 standard of surface cleaning, near white, immediately
63 prior to installing the joint seal. This is a requirement in new or existing
64 construction. All oxidation must be removed and "white steel" revealed. Steel
65 surfaces will be aggressively disc ground to roughen and abrade the surface to
66 achieve the "white steel" condition.

67 Hybrid polymer concrete surfaces shall be clean and free of any dirt,
68 debris, oils, etc. Material shall have cured for a minimum of 3 hours prior to
69 installation of the compression sealant. Prior to the installation, the joint seal
70 shall be uncoiled from shipment packaging and allowed to reach a relaxed
71 condition. The joint seal shall be cut to the correct length of the appropriate gap
72 for installation, without pulling or exerting excess tension.

73 Clean and abrade sides of joint seal per the manufacturer's instructions.
74 The serrated sidewalls, if applicable, should be cleaned with a conditioning
75 agent recommended by the manufacturer. Apply the lubricant adhesive to the
76 inside of the joint gap to a sufficient depth; so that when the joint seal is
77 installed, the adhesive is in contact with the serrated sidewalls of the seal. The
78 adhesive should then be applied to the joint seal so that it covers the entire
79 serrated sidewall of the joint seal. Use a clean rag dampened with concrete

80 cleaner or as recommended by the manufacturer to remove excess adhesive
81 from the joint seal.

82 Repair the damaged galvanized surfaces as specified in the Standard
83 Specifications.

84 **515.04 Measurement.** Deck expansion joints will be measured by the actual linear feet
85 installed in place complete, measured at the top surface of the joint, including the
86 vertical bridge railing surfaces. The diagonal joint repair at the Hanamaulu Viaduct will
87 be measured by the linear foot. The deck repair at the Lihue Abutment, adjacent to the
88 diagonal joint will not be measured.

89 **515.05 Payment.** The accepted quantities of the deck expansion joints will be paid for
90 at the respective contract unit price per linear foot in the proposal, which price and
91 payment shall be full compensation for furnishing and installing all materials, including,
92 but not limited to, neoprene seal glands, epoxies, anchorage devices, all necessary
93 tools and equipment and all labor and incidentals necessary to complete the work.

94 At the Hanamaulu Viaduct, the payment below includes the removal and
95 replacement of the sealant, backer rod, and filler of the diagonal joint at the Lihue
96 Abutment, and as shown in the contract plans.

97 At the Hanamaulu Viaduct, all costs associated with the deck repair adjacent to
98 the diagonal joint at the Lihue Abutment, and as described above shall be incidental to
99 the Deck Expansion Joint pay item below.

100 The Engineer will pay for the following pay item when included in the proposal
101 schedule:

102 Pay Item	Pay Unit
103 Deck Expansion Joint at _____	Linear Foot"

104

105

END OF SECTION 515