



March 8, 2024

TO: Holders List

SUBJECT: RFP NO. 071940 BANANA YARD RAIL SWITCH UPGRADE

ADDENDUM NUMBER # 02

This addendum is issued to add, remove, clarify, and amend the following:

SECTION 34 05 17 – RAILROAD WORK

See Attachment A.

SECTION 34 11 23 – SPECIAL TRACKWORK

See Attachment B

SECTION 31 00 00 – Earthwork

See Attachment C

SECTION 00 52 00 - Agreement Form

See Attachment D

REVISED DRAWINGS FOR BANANA YARD RAIL TURNOUT REPLACEMENT

See Attachment E

Attachment A
SECTION 34 05 17 –
RAILROAD WORK

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. This Section specifies the performance criteria for complete trackwork to be furnished and installed by the Contractor in accordance with the Contract Drawings, and the material requirements for track materials and products. Completed railroad track shall conform in all regards to the AREMA Manual of Railway Engineering and BNSF Guidelines for Industry Track Projects.
- B. Except as modified herein, trackwork shall be handled, assembled, and inspected in accordance with the current edition of the American Railway Engineering and Maintenance-of-Way Association (AREMA) Portfolio of Trackwork Plans, and the AREMA Manual of Railway Engineering.
- C. The extent and location of railroad work is indicated on the drawings. The work includes the requirements for providing railroad trackwork complete with ballast, rail, ties, and all appurtenances necessary for a complete, operable railway system.

1.02 REFERENCED STANDARDS:

- A. American Railway Engineering and Maintenance-of-Way Association - Manual for Railway Engineering (AREMA) 2018.
- B. American Railway Engineering and Maintenance-of-Way Association – Portfolio of Trackwork Plans (AREMA PORTFOLIO) 2018.
- C. Code of Federal Regulations Title 49 – Transportation, Chapter II – Federal Railroad Administration, Department of Transportation, Part 213 – Track Safety Standards.
- D. Code of Federal Regulations Title 49 – Transportation, Chapter II – Federal Railroad Administration, Department of Transportation, Part 214 – Railroad Workplace Safety.
- E. American Wood Preservers Association (AWPA) – M4-98 Standard for the Care of Preservative Treated Wood Products.
- F. FRA-DOT – Federal Railroad Administration, Department of Transportation
- G. BNSF Guidelines for Industry Track Projects

1.03 SUBMITTALS:

- A. Rail Construction Sequencing Plans as described in Section 01 14 00 - Work Restrictions
- B. Certification of Rail
 - 1. Contractor to provide Certifications of compliance from suppliers or manufacturers that Rail delivered to the site is in conformance with AREMA Specifications Chapter 4, Part 1 Design of Rail and Part 2 Manufacture of Rail.
 - 2. The chemical analysis of the rails listed by heat number, and the specified chemical analysis elements.
 - 3. The Brinell hardness of the rails shipped by heat numbers.
- C. Certification of Track Material
 - 1. Certification of Tie Plates

- a. Contractor to provide Certifications of compliance from suppliers or manufacturers that Tie Plates delivered to the site are in conformance with AREMA Specifications Chapter 5, Part 1 Tie Plates and these specifications.
 - b. Contractor to provide shop drawing detailing all tie plates using elastic fasteners.
- 2. Certification of Elastic Fasteners
 - a. Contractor to provide Certifications of compliance from suppliers or manufacturers that Elastic Fasteners delivered to the site are in conformance with AREMA Specifications Chapter 5, Part 9, Design Qualification Specifications for Elastic Fasteners of Timber Cross Ties.
 - b. Contractor to provide shop drawing detailing elastic fasteners and clamping force.
- 3. Certification of Screw Spikes
 - a. Contractor to provide Certifications of compliance from suppliers or manufacturers that Screw Spikes delivered to the site are in conformance with AREMA Specifications Chapter 5, Part 10, Section 10.1 Steel Screw Spikes.
- D. Certification of Other Track Material
 - 1. Contractor to provide Certifications of compliance from suppliers or manufacturers that Track Bolts, Nuts and Washers delivered to the site are in conformance with AREMA Specifications Chapter 4, Part 3 Joining of Rail.
- E. Ballast
 - 1. The Contractor shall provide laboratory certification that the railroad ballast meets the Specifications of this Section.
 - 2. Offsite borrow source characterization in accordance with Section 31 00 00 - Earthwork.
- F. Subballast
 - 1. The Contractor shall provide laboratory certification that the railroad subballast meets the Specifications of this Section.
 - 2. Offsite borrow source characterization in accordance with Section 31 00 00 - Earthwork.
- G. Contractor shall submit a joint layout plan confirming all stock rail joints tying into existing track are in accordance with Section 3.04 A and B.
- H. Flangeway detail. Shop drawing detailing method of providing flange way block out in asphalt placed around the rail. Plan to be approved by the Engineer before paving around rail begins.
- I. Work history of railroad construction and maintenance experience of superintendents and foreman.
- J. Top of rail profile. Vertical control survey of finished top of rail. Submittal to consist of a table comparing proposed top of rail elevations to as constructed top of rail elevations at 50 foot intervals along the centerline of each track alignment. Submittal to be reviewed and approved by Engineer.

1.04 QUALITY ASSURANCE:

- A. Perform track construction under supervision of a qualified superintendent, assistant superintendent, or general foreman experienced in railroad track construction. All track construction shall be performed by foreman and laborers experienced in railroad track construction. Foreman shall have a minimum of two years of experience in railroad track construction or maintenance. Laborers shall have a minimum of one year of experience in railroad track construction or maintenance. Supervisors and laborers not qualified to construction railroad track shall be removed and replaced by qualified personnel when directed by the Engineer.
- B. Load, transport, unload, store, and handle trackwork materials in a manner which will prevent damage to the trackwork materials. Submit to Engineer, methods, procedures, and equipment for loading, unloading, handling, and storing rail adjacent to its final laying location. Items which are included in the AREMA manual of Railway Engineering will be handled as described therein.
- C. The Contractor shall own a copy of the American Railway Engineering and Maintenance-of-Way Association - Manual for Railway Engineering (AREMA) 2019, Chapters 1, 4, 5, and 30.

PART 2 - PRODUCTS

2.01 GENERAL:

- A. Furnish and install all track materials and products to complete the railroad trackwork, as shown on the Drawings. Completed railroad track shall conform in all regards to the AREMA Manual of Railway Engineering.
- B. ~~All materials shall be new and meet Buy America requirements of section 00 73 00 Supplementary Conditions.~~ All materials shall be new and meet Buy America requirements outlined in the Additional Information included in Section 00 11 13.
- C. Trackwork will use a resilient fastening system, Pandrol type E, or approved equal.
- D. See Section 34 11 23 - Special Trackwork for special trackwork materials.

2.02 RAIL:

- A. Rail shall be 115 RE meeting the requirements of AREMA Manual, Chapter 4, Part 2, Specification Section "Specifications for Steel Rails". Rail for turnouts shall be 115 RE head hardened. ~~with the exception of turnout BUB-1.~~
 - 1. ~~As indicated on the drawings, turnout BUB-1 shall be 136 RE head hardened. 136 RE shall meet the requirements of AREMA Manual, Chapter 4, Part 2, Specification Section "Specifications for Steel Rails".~~
- B. Rail shall be supplied in lengths identified by the contractor to meet joint locations within and between turnouts.
 - 1. Rail and joints shall be procured, cut and drilled to allow for rail lengths to not be less than 18 feet.
- C. Bolt holes within the rail are not acceptable, except at the ends of the rail at locations where joint bars are used.
- D. The rail section shall conform to the dimensions shown in AREMA Manual, Chapter 4, Part 1 for 115 RE ~~and 136 RE respectively.~~

2.03 RAILWAY BALLAST AND WALKWAY ROCK:

- A. Railway ballast shall conform to the material requirements and be manufactured in accordance with AREMA Chapter 1, Part 2 Ballast. Ballast shall be manufactured by mechanical crushing from ledge rock, talus, or quarry rock and 100% of the material shall have at least one fractured face and 95% of the material retained on a 3/4-inch screen shall have three (3) fractured faces.
- B. Railway Ballast material shall not contain more than a total of 1% by weight of wood wastes, clay lumps, dust, or other extraneous material. Carbonate rock and slag is prohibited for use as ballast.
- C. The material from which railway ballast is manufactured shall meet the following test requirements:
1. Los Angeles, Wear, 500 Rev. 35% max.
 2. Railway Ballast shall conform to AREMA No. 4 gradation requirements when sampled from stock pile to be loaded for shipment:

Table 34 05 17-A, AREMA No. 4 Gradation

Sieve Size	Passing % by Weight
2 inch	100
1 1/2 inch	90-100
1 inch	20-55
3/4 inch	0-15
1/2 inch	-
3/8 inch	0-5

3. Walkway rock shall be railway ballast conforming to AREMA No. 5 gradation requirements when sampled from stock pile to be loaded for shipment:

Table 34 05 17-B, AREMA No. 5 Gradation

Sieve Size	Passing % by Weight
1 1/2 inch	100
1 inch	90-100
3/4 inch	40-75
1/2 inch	15-35
3/8 inch	0-15
No. 4	0-5

4. Gradation test shall be determined in accordance to ASTM C-136, utilizing square opening sieves conforming to ASTM Specifications E-11.
5. Material qualities shall be as follows:

Table 34 05 17-C, Ballast Material Qualities

Property	Minimum	Maximum	Test Method
Percent Passing No. 200 Sieve	-	1%	ASTM C117
Bulk Specific Gravity - Rock	2.6	-	ASTM C127
Absorption - Rock	-	1.3 %	ASTM C127
Clay Lumps and Friable Particles	-	0.5 %	ASTM C142

Degradation	-	35%	ASTM C535 ASTM C131
Flat and Elongated Particles	-	5%	ASTM D 4791 Test C, Length > 3 times avg thickness

2.04 RAILWAY SUBBALLAST

- A. Railway subballast material and gradation shall meet the requirements of Specification Section 31 00 00 2.01(B) – Crushed Surfacing.

2.05 JOINT BARS AND COMPROMISE JOINTS:

- A. Joint bars shall conform to the AREMA Manual, Chapter 4, Part 3 "Joining of Rail", Section 3.1 and 3.2. Joint Bars shall be 6-hole, 36 inches long, conforming to the AREMA Manual for Railway Engineering, Section 3.2 "Joint Bars and Assemblies."
- B. The bars shall be smoothly rolled, or forged, true to template and shall accurately fit the rails for which they are intended and shall provide a true alignment of the gage and running surfaces of the two rails being connected. A variation of $\pm 1/32$ inch from the specified size of holes, or $\pm 1/16$ inch from the specified location of holes, and of $\pm 1/8$ inch from the specified length of joint bar will be permitted.
- C. Where compromise joints are shown, Contractor shall field verify the type of existing rail to select proper compromise joint bars.
- D. Each compromise joint bar shall also have the rail sections shown at each end along with the word "Gage" or "Out" to indicate on which side of the rail the bar is to be used. (If the compromise joint bars are interchangeable, the words gage and out will be omitted.)

2.06 TIE PLATES:

- A. Tie plates shall conform to AREMA Manual Chapter 5, Part 1, "Specifications for Steel Tie Plates".
1. Either low carbon or high carbon steel tie plates may be furnished.
 2. Tie plates shall accommodate two elastic spring clips and at least four screw spikes to secure the plates to the timber ties. Tie plates to have a minimum length of 15" for 115 RE ~~and 16" for 136 RE~~. Tie plates shall have minimum width of 7-3/4" and minimum thickness of 1/2" under the rail in base section.
 3. Tie plates to have 1" diameter holes to accommodate 15/16" diameter screw spikes.
 4. Tie plate section to be canted 1:40, +/-5, toward the center line of track.
 5. Tie plates shall have smooth flat bases with no ridges or indentations.

2.07 TRACK BOLTS, NUTS, AND SPRING WASHERS:

- A. Track bolts and square nuts shall be new, conforming to the current AREMA Manual, Chapter 4, Part 3, "Specifications for Heated Treated Carbon Steel Track Bolts and Carbon Steel Nuts". Spring washers shall be new conforming to the current AREMA manual Chapter 4, Part 2, "Specification for Spring Washers". For each track bolt, provide a square nut and spring washer of proper size for each bolt.

2.08 ELASTIC RAIL CLIPS:

- A. Furnished elastic rail clips to be used shall be one piece, threadless fasteners of spring steel Pandrol e-2055 Rail or approved equal and meet the following requirements:
 - 1. An easy to install one piece elastic spring steel rail clip without threaded elements which can be easily removed from its housing without any possible damage to or the loss of the lateral support provided by the shoulder.
 - 2. The design and configuration of the clips, their housing and their area in contact with the rail should be such that a nominal rail seat clamping force of 2,500 pounds per clip is provided and frequent rail slippage can be allowed without stressing, bending, twisting or damaging the clips or their housing.

2.09 SCREW SPIKES:

- A. Furnished screw spikes shall be new, conforming to the current AREMA Manual, Chapter 5, Part 10, Section 10.1.
- B. Screw spikes used to fasten the plates to the timber ties shall be high strength with reinforced throat, 3/4" by 1-1/8" rectangular head, 15/16-inch diameter, 6-1/2-inches long per AREMA Plan 1S-12 AREMA Rectangle Head Screw Spike.
- C. The head shall be concentric with and firmly joined to the body of the screw. The material shall be free from injurious defects and shall have a workmanlike finish. Screws shall be provided with plain finish.
- D. Finished screws shall conform to the following minimum requirements:
 - 1. High Strength
 - a. Tensile Strength, psi 120,000 Min
 - b. Yield Strength, psi 80,000 Min
 - c. Elongation, % 18 Min
- E. Except for heat-treated screws, steel mill cert data may be used for tensile strength with approval of the Owner.
- F. A letter or brand indicating the manufacturer shall be located on the top of the washer of each screw.
- G. Two screw spikes to be provided each side of rail for a total of four screw spikes per tie plate.

PART 3 - EXECUTION

3.01 GENERAL:

- A. The track will be constructed using timber ties and bolted rail. Burned or sheared rail will not be accepted. Tie spacing shall be as indicated on the Drawings.
- B. Track construction shall be in conformance with the standards of the American Railway Engineering and Maintenance-of-Way Association and the requirements set forth below.
- C. Track construction shall be performed in conformance with CFR 49 Chapter II, Part 214.

3.02 RAILWAY SUBBALLAST:

- A. Subballast shall only be installed in the trackbed section if excavation is required beyond 12" below the bottom of tie. If this excavation is required, subballast shall be placed below the required 12" of ballast.
- B. Subballast shall be unloaded at required locations in a manner to minimize redistribution and handling.
- C. Care shall be taken when distributing materials from trucks and off-track equipment to prevent forming of ruts that would impair proper drainage of subgrade surface.
- D. Subballast shall be installed over prepared subgrade in conformance with typical cross sections shown in the Drawings.
- E. Place subballast in lifts not more than 6 inches in thickness before compaction. Layers shall extend beyond the edge of the ties as shown on the Contract Drawings before compaction. Compact subballast thoroughly to form a stable section able to support the subsequent layers and loads.
- F. Compaction Control Tests: Compaction control tests shall be performed in the presence of the Engineer. Compaction control tests shall be performed for every 50 feet of track alignment.
- G. Compact each layer to at least ninety five percent (95%) of the maximum dry density determined in accordance with ASTM D-1557 before the next succeeding layer is placed thereon.
 - 1. Vibratory compactors or rollers shall be adequate in design and number to provide compaction and obtain the specified density for each layer while still moist. Apply a mist spray of water as needed to replace moisture lost by evaporation. The completed layer shall have a smooth, tight, uniform surface true to the line, grade and cross section indicated on the Drawings.
 - 2. Variations in the surface of the top of the subballast shall be a maximum of 1/4 inch in 10 feet. Shave off or fill in variations greater than the allowable and recompact that area.
- H. Surface Maintenance: Maintain the surface of each layer of material true to line, grade and cross section by blading, watering and rolling until placing the succeeding course. Place the first course of material on all available subgrade before placing the succeeding course unless otherwise authorized by the Engineer. Should irregularities develop in any surface during or after compaction, remedy by loosening the surface and correcting the defects, then thoroughly recompact the entire area, including the surrounding surface. In the event that additional materials are necessary to make the repairs, they shall be provided at no additional cost to the Port.
- I. Overworked and excessively compacted subballast shall be removed and replaced at Contractor's expense.

3.03 RAILWAY BALLAST:

- A. Ballast sections shall conform to typical cross sections shown in the Drawings.
- B. Ballast shall be unloaded at required locations in a manner to minimize redistribution and handling.
- C. Ballast shall be placed before the ties are laid. Raise both rails uniformly to the designed grade.

- D. Care shall be taken when distributing materials from trucks and off-track equipment to prevent forming of ruts that would impair proper drainage of subgrade surface.
- E. Ballast shall be installed over existing subballast or ballast material in conformance with typical cross sections shown in the Drawings.
- F. Place ballast in lifts not more than 6 inches in thickness before compaction. Layers shall extend beyond the edge of the ties as shown on the Contract Drawings before compaction. Compact ballast thoroughly to form a stable section able to support the subsequent layers and loads.
- G. Compaction of ballast shall be by means of vibratory compaction equipment or specifically manufactured for compaction purposes. Self-propelled, pneumatic-tired roller shall have a gross weight of 10 to 15 tons, and the vibratory compactor shall have a weight of not less than 10 tons and shall be capable of applying a dynamic load of not less than 18,000 pounds at 1300 to 1500 cycles per minute. Proposed compaction equipment shall be approved by the Engineer.
- H. Engineer will approve the compacted ballast prior to installation of track and appurtenant work over ballast. Each lift of ballast within initial layer shall be uniformly spread and compacted with not less than four passes of either a self propelled, pneumatic-tired roller or vibratory compactor.
- I. Track shall be assembled on compacted ballast to permit placement of additional ballast for subsequent raising and tamping and to provide full depth under ties.
- J. Final track raise shall not exceed 2 inches, and ballast shall be compacted with a 16 tool vibrating squeeze-type mechanical tamper making one full tamping insertion per tie for each inch of raise. Ballast in crib areas shall be compacted by a means approved by the Engineer. Track shall be raised, aligned, and tamped to within the specified tolerances.
- K. Ballast shall be thoroughly tamped within a space from 15 inches inside each rail to ends of ties. In tamping ties within above described limits, simultaneous tamping shall be performed under each rail. Tamping is not permitted at center of tie except within limits of turnouts and crossings.
- L. Pneumatic or electric tamping tools, either handheld or machine mounted, shall be used. Hand tamping with shovels or picks is not permitted.
- M. Two tamping tools shall always be used opposite each other on same tie. Tamping tools shall be started from a nearly vertical position and worked downward past bottom of tie, after which tool should be slanted downward to force ballast under tie. Double tamp every joint tie;
- N. Ballast shall be mechanically dressed to provide proper section as shown on Drawings.
- O. Excess ballast shall be removed, or may, at Contractor's option, be placed as directed by the Engineer. Payment will not be made for ballast in excess of dimensions shown on Drawings.
- P. Overworked and excessively tamped ballast shall be removed and replaced at Contractor's expense.

3.04 TRACK CONSTRUCTION:

- A. Trackwork: Lay rails on timber tie track with staggered joints such that joints in opposite rails shall be staggered not less than 19-1/2 inches apart. Use temporary shims to secure proper spacing between the ends of rails. The rail temperature, at the time of laying, shall determine the number and thickness of shims required. Shim thickness shall be in accordance with table 5.2 in AREMA Section 5.1.4.
- B. Rail and joints shall be laid out to allow for rail segments to not be less than 18 feet in length.

- C. Space ties according to type and curvature as indicated on the Drawings. Any deviation from the specified spacing shall be approved by the Engineer prior to installation of spikes, clips, or hold down devices.
- D. Care shall be taken in handling or spacing ties to not damage them with picks or spiking hammers. Ties shall be lifted and supported during storage, transportation, and placed in such a manner as to prevent damage. Ties shall not be dropped to the roadbed. Tie tongs, lining bars, other suitable tools or tie spacing equipment shall be used.
- E. Place ties square to the rail, except as otherwise shown in the Drawings.
- F. Ties shall be placed within 0.5 inches of perpendicular to the opposite rail.
- G. Cribs shall be filled to full height unless otherwise directed by the Engineer.
- H. Tie Plates: Set tie plates in correct position on the ties, true to gage, and with shoulders in full contact with the rail. Place one tie plate under each rail at each tie.
- I. Joint Bars: Secure joint bars in place with the full number of bolts, nuts and lockwashers. Stagger bolts, with heads placed inside and outside alternately, and draw tight before fastening rail to tie.
 - 1. A lubricant shall be applied on the rail within the area of the joint bar at time of installation.
 - 2. Rail joints shall be applied so that bars are not cocked between base and head of rail. Bars are to be properly seated in rail.
 - 3. Rail joints are not to be placed in limits of paving on asphalt crossing.
- J. Screw Spikes: Two screw spikes to be provided each side of rail for a total of four screw spikes per plate.

3.05 TRACK LAYING:

- A. The Contractor shall construct the track to meet the existing alignment and vertical profile. Prior to demolition the contractor shall survey the existing track at 50' intervals and provide horizontal and vertical data to the Engineer.
- B. The Contractor shall perform final surfacing and tamping following all other track construction items affecting the track structure. The ballast to conform to the ballast section shown on the Drawings.
- C. The Contractor shall place the track in good alignment before the final ballast lift is made. The maximum throw for final lining shall not exceed 1 inch. Contractor shall set hubs for the alignment before the final lift is made and final alignment shall conform to the hubs.
- D. Gage of Track:
 - 1. Gage of track is the inside dimension between running rails, measured at right angles to the alignment of the track 5/8" below top of rail. The standard gage of track is 4'-8 1/2".
- E. Track Tolerances:
 - 1. The final gage, cross level, and horizontal and vertical alignment of all track shall be within the tolerance shown below:
 - 2. Gage variation:
 - a. Gage variation shall not exceed 1/8" (+/-) in new track construction.
 - b. New track will be laid to 4'-8 1/2" gage.

3. Cross Level:

- a. Deviation from cross level: No reverse cross level on curves will be allowed. A maximum deviation of minus 1/2 inch cross level on inside rail of curve will be allowed. A maximum of 1/4" cross level deviation will be allowed on tangent track.

4. Horizontal Track Alignment:

- a. Maximum allowable deviation of the middle ordinate from a 62-foot chord,
- b. On curves: 3/8 inch
- c. On tangents: 1/4 inch

F. Vertical Track Profile:

- 1. The maximum permissible variation from profile elevation detailed on profile drawings shall be + 1/2 inch, -0 inch

G. Maximum permissible runoff per 40 feet in any interim raise shall not exceed: 1 inch

H. The maximum permissible variation from a uniform profile on either rail at the mid-ordinate of a 62-foot chord shall not exceed: 1/4 inch

3.06 DRILLING:

- A. Rail ends for bolted joints shall be drilled in accordance with AREMA standards. Any additional holes in rail will be sufficient cause for rejection.
- B. Hole in rail shall be drilled to proper size and not punched, slotted, or cut with a torch, and holes shall be chamfered to remove sharp edges.
- C. A variation of 1/32 inch in size and location of bolt holes shall be allowed.
- D. Holes shall be located with proper size rail drilling template and marked with a center punch prior to drilling. Drilling through joint bars is prohibited.

3.07 RAIL ENDS:

- A. Rail shall be cut with rail saw to a tolerance of 1/32 inch from square. All burrs shall be removed and ends made smooth. Torch cut rails will be rejected.
- B. Battered or mismatched ends shall be built up or ground off.

3.08 SURFACE, LINE AND GRADE

- A. Contractor shall perform all surfacing as specified to bring line and surface into compliance within track geometry tolerances specified in this section.
- B. Contractor shall surface track to zero crosslevel.
- C. Ballast shall be spread and track raised in a series of lifts as indicated in Contract Drawings. No single lift shall be higher than 2 inches except in crossings and turnouts. In raising track, jacks or equipment shall be regulated to avoid bending of angle bars or straining of joints. When jacks are used they shall be simultaneously used and properly spaced at not more than quarter points of rail to avoid breaks or bends in rail when track is raised. Both rails shall be raised simultaneously and to proper crosslevel by raising jacks.

- D. Each tie shall be tamped from 15 inches inside rail to end of tie. Tamping shall not be permitted at middle of tie, except for steel tie track. Both ends of a tie shall be tamped simultaneously and tamping inside and outside rail shall be done at same time. Equipment used for surfacing track shall be subject to approval by the Engineer.
- E. Ties that become loose during track raising shall be unfastened realigned and re-fastened before tamping. During each track raise, track is to be uniformly tamped.
- F. After ballasting is completed and track is surfaced and lined, according to tolerances, ballast shall be trimmed neatly and surplus material shall be spread evenly along ballast shoulder.
- G. Contractor shall perform necessary operations to assure that all ties are at right angles to track.
- H. Contractor shall perform two tamping squeezes per tie up to 1-1/2 inches of raise with one additional insertion and squeeze for each additional 1 inch of raise. Joint ties shall be given one additional squeeze than other ties. The maximum allowable raise per surfacing pass shall be 2 inches.
- I. In locations where squeeze tampers cannot fill and compact ballast, such as at frogs, guard rails, switch points of turnouts and headblocks, etc., mechanically tamp with air tools or other hand-held power tamping tools.
- J. On curves, high rail shall be used as line rail and low rail shall be used as grade rail.
- K. When surfacing turnouts, the straight side of turnout shall be used as the line rail.
- L. After ballast regulating in turnouts, Contractor shall immediately clean excess ballast from switch point area, including switch points, switch rods, connecting rods, and guardrail and frog area.
- M. After ballast is regulated and dressed, Contractor shall ensure that resilient fasteners, track bolts and rail anchors are tight and in proper alignment.
- N. Contractor caused damage to signal equipment, shall be repaired at Contractor's sole expense.

3.09 INSPECTION AND TESTING:

- A. Before final acceptance of trackwork, the Port will provide for a suitable test locomotive to be run over the entire length of new trackage in the presence of the Engineer. There shall be no noticeable settlement or deflection of ties and rail during the test. The Contractor shall re-line, surface, tamp, or otherwise correct any and all deficiencies as directed by the Engineer.
- B. The Contractor shall provide an inspection report of all trackwork at substantial completion recording all defects. Inspection and subsequent report shall conform to Class 5 track requirements of the Code of Federal Regulations Title 49 – Transportation, Chapter II – Federal Railroad Administration, Department of Transportation, Part 213 – Track Safety Standards. All recorded defects shall be addressed in the project the substantial completion procedures, see Section 01 77 00 Closeout Procedures.

3.10 POST-COMPLETION SURVEY, ALIGNMENT AND SURFACE MAINTENANCE:

- A. Between 2 months and 3 months after substantial completion the Port may perform a survey of top of rail throughout the project. The Contractor shall re-line, surface, tamp or otherwise correct any and all deficiencies identified by the survey which exceed the limits for Class 5 track surface, alignment and gage as defined in 49 CFR 213 Subpart C – Track Geometry.

END OF SECTION

Attachment B
SECTION 34 11 23 –
SPECIAL TRACKWORK

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. This Section specifies the material requirements and performance criteria for complete special trackwork assembly and installation including turnouts and crossings.
- B. Except as modified herein, special trackwork shall be handled, assembled, and inspected, in accordance with the current editions of the BNSF Guidelines for Industry Track Projects, the American Railway Engineering and Maintenance-of-Way Association (AREMA) Portfolio of Trackwork Plans, and the AREMA Manual of Railway Engineering
- C. Contractor shall provide all materials required for completion of the Work.

1.02 REFERENCE STANDARDS

- A. Comply with all applicable local, State and Federal codes provisions of most recent edition, including all addenda, of following codes, specifications, standards, and recommended practices, except as otherwise indicated:
 - 1. AREMA MANUAL – American Railway Engineering and Maintenance-of-Way Association, Manual for Railway Engineering
 - 2. AREMA PORTFOLIO – American Railway Engineering and Maintenance-of-Way Association, Portfolio of Trackwork Plans
 - 3. FRA-DOT – Federal Railroad Administration, Department of Transportation
 - 4. BNSF Guidelines for Industry Track Projects

1.03 QUALITY ASSURANCE

- A. Testing and inspection shall conform to the AREMA Manual, AREMA Portfolio and these specifications.

1.04 SUBMITTALS:

- A. Shop Drawings: Submit separate shop drawings for all turnouts, and crossovers detailing trackwork layout and interconnection with other special trackwork, and showing switches, frogs, tie spacing, fasteners, switch stands, point of switch and appurtenant geometric relationships, dimensions and information. All shop drawings shall be approved by the Engineer prior to beginning manufacture or fabrication of special trackwork or production of ties.

PART 2 - PRODUCTS

2.01 TURNOUTS AND CROSSTOVERS

- A. Turnouts, including turnouts comprising crossovers, shall be No. 9 turnouts with rail bound manganese frogs fabricated in accordance with the BNSF/Union Pacific

Common Standards except as modified in the Contract Drawings and in the specifications herein.

- B. Rail, switch points, and frog castings shall be new, fabricated in the United States. ~~With the exception of turnout BUB-1 all~~ All rail shall be 115RE as shown on the Drawings and conform to Section 34 05 17 "Railroad Work". There is a Buy America contract requirement.

~~1. Turnout BUB-1 shall be comprised of 136RE rail and rail components.~~

- C. Turnouts shall have 16'-6" switch points with graduated risers. Turnouts shall be furnished with appurtenant hardware for hand throw switches as indicated in the Contract Drawings and in these specifications and as directed by the Engineer. Switch points shall be Samson undercut type and be manufactured per AREMA Specifications for Special Trackwork and with AREMA Plan No. 221-12 Detail 5100 and modified as required to meet the geometry and accommodate appurtenances shown on Contract Drawings, including drilling for horizontal switch rods with transit style clips. Samson points shall be head hardened and double reinforced with transit style clips. Turnouts shall include curved, straight, closure rails utilizing 115 RE rail with screw spikes and elastic fasteners. Switches shall have manganese tips per AREMA Plan No. 220-08.
- D. Guardrails shall be new, 13'-0" long, conform to AREMA Plan No. 504-03, shall be set according to AREMA Plan No. 502 and fastened with screw spike plates and elastic fasteners.
- E. The special trackwork components shall be designed to be hand thrown capable of providing 300 pounds of force at mid-stroke and 500 pounds of force at the end of the throw.
- F. Frogs shall be one piece, rail-bound manganese, and heavy walled. Contractor shall use resilient fastening system for all frog base plates and gage plates.
- G. Frogs shall conform to AREMA Portfolio of Trackwork Plans, Plan No. 623-03, 16' rail bound manganese steel frog for 115 RE rail with screw spike plates and elastic fasteners. Frogs shall be drilled for three (3) bolts to match the specified rail.
- H. The arm ends of the frogs shall be beveled as per AREMA Portfolio Plan No. 1005-03 "Beveling of Rail Ends for Special Trackwork". Rail bending shall be done with great care to avoid stress build up and injury to the rails. Rail shall be bent cold whenever possible. If heating the rail should be necessary, the surface temperature of the rail shall not exceed 800° F and the surface of the remainder of the rail section shall not exceed 1100° F. Heating shall be done in a manner so as to have a minimal adverse effect on the metal.
- I. All switch ties shall be provided by the Contractor and shall conform to Section 34 11 32 "Timber Ties".
- J. Switch point guards shall be furnished for all switches. Switch point guards shall be boltless adjustable switch point guard Model U69 as manufactured by A&K Railroad Materials, Model FM as manufactured by Western-Cullen-Hayes, or approved equal.

Switch point guards shall be furnished with appropriate switch plates and mounting hardware.

- K. Switch stands shall be Racor Model 22-E trailable, adjustable switch stands with 45-inch tri-handle, "Backsaver" handle, adjustable connecting rod and bolts with lock washers and cotter pins. The bolt hole in the switch stands, connecting rods and switch rods (42-inches) shall all be the same matching diameter with matching size bolts. Mismatch of bolts and bolt holes will be cause for rejection.
- L. Ekoslide Type C point rollers, or approved equal, shall be installed on all turnouts and crossovers. See the contract drawings for Type C roller model and locations.
- M. Turnouts shall be of bolted design. All switch bolts shall be designed for use with cotter pins and shall be installed with lock washers for cotter pins.
- N. Switch rods and clips shall be insulated. Switch rods shall be horizontal and conform to AREMA Plan No. 222-03. Switch rods shall conform to AREMA Specification Section M6. The Contractor shall furnish switch rods with all associated slide and runoff plates.
- O. Switch rods shall conform to the AAR Signal Manual, Part 14.5.3, Signal Specifications, "Recommended Developmental Criteria for Insulating Material".
 - 1. Fiber angles, plates and end posts shall be fabricated of fiberglass mat reinforced polyester, 3/16-inch thick, GPO- I sheet stock, NEMA Class B.
 - 2. Fiber bushings shall be fabricated of NEMA Grade 10 epoxy glass fabric.
 - 3. All cut edges of fiberglass shall be sealed with Sherwin Williams Polane, 2-part coatings or an accepted equal.
 - 4. Prior to assembly, all contact metal surfaces shall be painted with General Electric Insulating Enamel, Red Glyptol No. 1202 or equal.
- P. Gage Plates
 - 1. Plates shall conform to the AREMA "Specifications for Special Trackwork", Section M7, rolled "Mild Steel".
 - 2. Insulation shall conform to the AAR Signal Manual, Part 116, Signal Specifications, "Assembly and Test of Insulated Track Fittings".
 - 3. Insulated gage plates shall be provided for all turnouts.

2.02 RAIL

- 1. ~~With the exception of turnout BUB-1, rail~~ Rail for turnouts shall be new, 115 RE head hardened rail conforming to AREMA Chapter 4. ~~Rail for turnout BUB-1 shall be 136 RE head hardened rail confirming to AREMA Chapter 4.~~
- 2. Rail shall conform to Section 34 05 17, Railroad Work.

B. TIES

1. Wood ties shall conform to Section 34 11 32, Timber Ties.

C. JOINT BARS AND COMPROMISE JOINTS:

1. Joint bars and compromise joints shall conform to Section 34 05 17, Railroad Work.

D. TIE PLATES:

1. Tie plates shall conform Section 34 05 17, Railroad Work.

E. TRACK BOLTS, NUTS, AND SPRING WASHERS:

1. Track bolts, nuts and washers shall conform to Section 34 05 17, Railroad Work.

F. ELASTIC RAIL CLIPS:

1. Elastic rail shall conform to Section 34 05 17, Railroad Work.

G. SCREW SPIKES:

1. Screw spikes shall conform to Section 34 05 17, Railroad Work.

PART 3 - EXECUTION

- A. Install special trackwork in accordance with section 34 05 17, Railroad Work.

END OF SECTION

Attachment C
SECTION 31 00 00 –
Earthwork

PART 1 - GENERAL**1.01 DESCRIPTION OF WORK**

- A. The work includes excavation, filling, subgrade preparation, and compaction.

1.02 QUALITY ASSURANCE

- A. On-site Testing and Inspection: The Port may provide and pay for on-site testing and inspection services. Sampling and testing for compliance with the contract provisions will be in accordance with Section 01 45 00 – Quality Control. The Contractor shall assist in obtaining samples and may obtain copies of test results performed by the Port at no cost. Tests conducted for the sole benefit of the Contractor shall be at the Contractor's expense.
- B. Compaction Control Tests: The Port may provide and pay for laboratory and on-site field compaction control tests in accordance with the applicable provisions of these specifications.
1. The compaction control density shall be the maximum density at optimum moisture content as determined by ASTM D 1557, Standard Methods for Moisture-Density Relationships of Soil and Soil Aggregates, Methods B, C or D as applicable, but shall be no less than 95% of dry density for fill, backfill, crushed surfacing, and ballast.
 2. Field tests to determine in-place compliance with required densities as specified, shall be performed in accordance with ASTM D 1556, D 2167, or D 2922.

1.03 SUBMITTALS

- A. Source characterization, testing, reporting, and certification for all off-site borrow materials.

1.04 SITE CONDITIONS

- A. Verify the location of existing utilities at the site, and use an independent private locate company to assist. Those utilities which are to remain shall be protected from damage and remain operational. Damage to utilities which are to remain shall be repaired by the Contractor at its own expense.

PART 2 - PRODUCTS**2.01 BALLAST**

- A. Track ballast shall meet the requirements of section 34 05 17 Railroad Work.
- B. Crushed Surfacing
1. Crushed Surfacing Base Course and top course shall comply with Section 9-03.9(3) of the Washington State Department of Transportation Standard Specifications for Road, Bridge and Municipal Construction, 2023 edition.

2.02 GEOTEXTILE SEPARATION FABRIC

- A. Geotextile separation fabric shall be a non-woven, needle punched geotextile made of polypropylene filament with a minimum tensile strength of 250 lbs in accordance with ASTM D-4632, minimum puncture strength of 150 lbs as determined per ASTM D-4833, minimum CBR puncture strength of 600 lbs as determined by ASTM D-6241 and water flow rate of 80 gal/min/sf as determined by ASTM D-4491.

2.03 OFF-SITE BORROW SOURCE CHARACTERIZATION

- A. Off-site borrow source characterization shall be performed by the Contractor as specified in Section 2.03 to assure that imported materials are natural, native, virgin materials, free of contaminants, including debris or recycled materials, and meet the requirements of the contract documents.
- B. Each source of off-site borrow material shall be tested once per year for physical properties.
- C. Each source of off-site borrow for sands and gravels shall be tested once per calendar year for metals.
- D. Each source of off-site borrow for soils, including materials to be used for fill and backfill, shall be tested for metals, chemical compounds and hydrocarbons once for every 500 cubic yards of material to be imported.
- E. The Engineer maintains the right to reject any materials that have been determined to be substandard for any reason. In the event of rejection, it shall be the responsibility of the contractor to remove all stockpiles of rejected material from the site.

- 1. General:

Materials shall be of the quality, size, shape, gradation, or equal to that manufactured as specified herein. The Contractor shall submit a characterization of any and all imported material prior to any on-site placement. The characterization will include source identification, analyses of a material source sample, and a source inspection report. The material shall not be imported to the site until approved by the Engineer. Once approved and imported to the site, the Contractor shall perform an on-site inspection of the material to verify that it is the material sampled for characterization and approval.

- 2. Source Identification:

The Contractor shall provide documentation of the origin of imported materials and maps identifying specific location(s) of material source(s). Physical and chemical characterization reports available from the material supplier shall be provided to the Engineer.

- 3. Inspection of Source:

The Contractor shall inspect all material sources. During such inspection, the Contractor shall assure that materials to be delivered to the jobsite are likely to meet the appropriate specifications. The Contractor shall provide the Engineer two weeks notice of such inspections. The Engineer or a designated representative may accompany the Contractor to witness such inspections. This witnessing shall in no way release the Contractor from complying with the specifications and in no way shall be construed as approval of any particular source of material.

- 4. Testing, Reporting, and Certification:

Off-site borrow materials shall be in accordance with the requirements of Section 2.03 unless waived by the Engineer.

- 5. Inspection of Materials at the Jobsite:

The Contractor shall visually inspect import material upon delivery. Materials shall be inspected for presence of foreign, recycled, or reprocessed material. The Engineer may at any and all times perform an independent inspection. Material may be tested according to Section 2.03 at the Engineer's discretion. Material may be rejected due to the presence of deleterious substances or as a result of substandard test results.

2.04 CHARACTERIZATION TESTING, REPORTING, AND CERTIFICATION OF OFF-SITE MATERIAL

- A. The Contractor shall provide characterization and testing as described below for off-site borrow materials. Testing results shall meet the Port of Tacoma Import Material Screening Criteria to be considered acceptable.
- B. The Contractor shall provide test sample(s) of excess materials to be exported. The sample data shall be provided at least 21 days before proposed export of the materials.
- C. The Contractor is responsible for all testing costs associated with characterization of off-site borrow materials. The Port is responsible for testing costs associated with on-site borrow materials and excess materials to be exported.
- D. The Contractor shall provide the following information with each sample submitted:
 1. Material Source
 2. Proposed On-site Use
 3. Sampling dates
 4. Chain of custody
 5. Sampling locations
 6. Contractor's certification that the samples submitted are representative of the materials that shall be used at the site.
- E. Characterization Testing shall include:
 1. Physical Properties:
 - a. Grain Size Distribution (ASTM D 422-63)
 - b. Maximum Dry Density (ASTM D1557)
 2. Metals and Chemicals:
 - a. Import Material Screening Criteria as indicated in Table 31 00 00 - 1 – Import Material Screening Criteria
 - b. Petroleum Hydrocarbons (NWTPH-Gx (Gasoline) and -Dx (Diesel/Oil))

Table 31 00 00 - 1 – Import Material Screening Criteria

Chemical / Metal Name	Gravel/Rock Criteria (mg/kg)	Soil Criteria (mg/kg)
Volatile Organic Compounds (EPA Method 8260)		
Benzene	-	0.004
Ethylbenzene	-	6.0
Toluene	-	7.0
Xylenes	-	9.0

Tetrachloroethylene (PCE)	-	0.05
Semi-Volatile Organic Compounds (EPA Method 8270)		
acenaphthene		97.9
anthracene		2,275
benzo[a]anthracene		0.130
benzo[a]pyrene		0.1
benzo[b]fluoranthene		0.440
benzo[k]fluoranthene		13.7
benzoic acid	-	257
benzyl alcohol	-	8,000
bis(2-ethylhexyl) phthalate	-	13.9
chrysene	-	95.5
benzyl butyl phthalate	-	12.8
cresol;o-	-	2.3
cresol;p-	-	8,000
dibenzo[a,h]anthracene	-	0.1
dibenzofuran	-	80
di-butyl phthalate	-	56.5
dichlorobenzene;1,2-	-	8.4
dichlorobenzene;1,4-	-	0.2
diethyl phthalate	-	72.2
dimethylphenol;2,4-	-	1.3
di-n-octyl phthalate	-	800
fluoranthene	-	631
fluorene	-	101
hexachlorobenzene	-	0.09
hexachlorobutadiene	-	0.6
indeno[1,2,3-cd]pyrene	-	1.2
methyl naphthalene;2-	-	320
naphthalene	-	0.006
nitrosodiphenylamine;N-	-	0.0009
pentachlorophenol	-	0.003
phenol	-	11
pyrene	-	655
trichlorobenzene;1,2,4-	-	0.06
Pesticides / PCBs (EPA Method 8081/8082)		
ddd	-	0.3
dde	-	0.4
ddt	-	2.9
Polychlorinated biphenyls (PCBs)	-	0.5
Metals (EPA Method 6010/6020/7041)		
Arsenic	13.8	13.8

Cadmium	2.0	2.0
Chromium (total)	113	113
Chromium (VI)	-	0
Copper	136	136
Lead	250	250
Mercury	0.14	0.14
Nickel	61	61
Zinc	100	100

PART 3 - EXECUTION

3.01 GENERAL

- A. Filling and grading shall be completed within the tolerances established or within reasonably close conformity with the alignment grade and cross sections indicated on the Drawings or as established within these specifications.

3.02 COMPACTION

- A. Compaction shall be performed with approved compaction equipment suited to the soil and the area being compacted. Moisten or aerate material as necessary to provide the moisture content that will readily facilitate obtaining the specified compaction with the equipment used. Each lift of material placed shall be uniformly compacted to the density indicated for the specific material and use set forth in these Specifications. The percent of density required is in relation to the maximum density obtainable at optimum moisture content (Compaction Control Density) as determined in paragraph 3.03 "Compaction Control Tests."

3.03 COMPACTION CONTROL TESTS

- A. Laboratory and field tests shall be performed in accordance with the applicable provisions of these Specifications.
 1. Compaction control density shall be the maximum density at optimum moisture content as determined by ASTM D 1557, Standard Methods for Moisture Density Relationships of Soil and Soil Aggregates, Methods B, C or D as applicable but shall be no less than 95% of dry density for Select Fill and Backfill and no less than 98% of dry density for Base Course Material.
 2. Field tests to determine in place compliance with required densities as specified, shall be performed in accordance with ASTM D1556, D2167, or D2922.

3.04 PREPARATION FOR CRUSHED SURFACING:

- A. Preparation of Subgrade
 1. Immediately prior to placement of subballast and ballast materials, clean the entire width of the area of all debris and dispose of as directed by the Engineer. All depressions or ruts which contain storm water shall be drained.

2. Shape the entire subgrade to a smooth uniform surface, true to line, grade, and cross section as staked by the Engineer. Compact the subgrade material to 95% of the maximum density as determined by compaction tests ASTM Designation D1557. If soft or spongy material underlying the upper eight inches of the area being prepared precludes satisfactory compaction of the upper eight inches, loosen, aerate, or excavate, replace and compact to the required density or over excavate and place subballast as directed by the Engineer.
3. Remove and dispose of excess material which cannot be disposed of by normal drifting to low spots during blading and shaping operations or by placing in subgrade areas deficient in materials or by wasting, all as directed by the Engineer. Subgrade areas deficient in materials shall be brought to grade by importing suitable materials from other subgrade areas or other sources as directed by the Engineer. Materials added to subgrade areas deficient in materials shall be watered and compacted as necessary to yield a true finished subgrade as described above.
4. Once it is prepared, maintain the subgrade for surfacing in the finished condition until the first course of surfacing has been placed.

B. Finishing Subgrades

1. Before any paving or ballast material is placed, the subgrade and/or subballast shall be brought to the proper line, grade and cross section and shall be so maintained until the paving and ballast is placed.
2. Compact the crushed surfacing for pavement to 95% of maximum density as defined for Compaction Control Density, Article "Compaction Control Tests" these Specifications, to a minimum depth of six inches.

C. Subgrade Protection

1. Take all precautions necessary to protect the subgrade from damage; hauling over the finished subgrade shall be limited to that which is essential for construction purposes.
2. Equipment used for hauling over the prepared subgrade which, in the opinion of the Engineer, is causing undue damage to the prepared subgrade or to the underlying materials, shall be removed from the work at the request of the Engineer.
3. Repair at the Contractor's expense all cuts, ruts and breaks in the surface of the subgrade prior to placing surfacing, treated base, or paving materials.
4. Protect the prepared subgrade from both the Contractor's traffic and public traffic and maintain the subgrade by blading and rolling as frequently as may be necessary to preserve the subgrade in a completely satisfactory condition.

3.05 PLACEMENT OF CRUSHED SURFACING AGGREGATES

- A. Prior to placement Contractor shall blend the various source materials to create a homogenous, well graded, mixture.
- B. Equipment necessary for the satisfactory performance of this construction shall be on the project and approved by the Engineer prior to beginning work. If central-mix-plant methods are used, the central mixing plant shall comply with the applicable portions Section 4-04.3(3) of the WSDOT Standard Specifications, 2023 Edition.
- C. Prepare subgrades as specified above and obtain approval of the Engineer before placing paving or ballast materials.

- D. Mixing: After each layer of material is placed, mix the material by motor graders or other approved equipment until the mixture is uniform throughout. Add water as directed by the Engineer to facilitate mixing and compacting.
- E. Placing and Spreading: Spread each layer of material by means of approved spreading equipment. Such equipment may be bottom-dump hauling equipment with transverse spreading facilities; self-propelled spreading and leveling machines; or spreader boxes equipped with wheels or so constructed as to preclude damage to the subgrade or underlying courses. Spreading in small areas of less than 2,000 square yards or in areas irregular in shape may be accomplished by other means as directed by the Engineer. Material shall be placed in layers not exceeding six inches.
- F. Shaping and Compacting: Immediately following spreading and shaping, compact each layer to at least ninety five percent (95%) of the maximum dry density determined in accordance with ASTM D-1557 before the next succeeding layer is placed thereon. When the thickness of the base course is less than 0.15 feet, density testing may not be required and the Engineer will determine the number of coverage's required for the particular compaction equipment available.
- G. Vibratory compactors or rollers shall be adequate in design and number to provide compaction and obtain the specified density for each layer while still moist. Apply a mist spray of water as needed to replace moisture lost by evaporation. The completed layer shall have a smooth, tight, uniform surface true to the line, grade and cross section indicated on the Drawings.
- H. Variations in the surface of the top course shall be a maximum of 1/4 inch in 10 feet. Shave off or fill in variations greater than the allowable and recompact that area.
- I. Surface Maintenance: Maintain the surface of each layer of material true to line, grade and cross section by blading, watering and rolling until placing the succeeding course. Place the first course of material on all available subgrade before placing the succeeding course unless otherwise authorized by the Engineer. Should irregularities develop in any surface during or after compaction, remedy by loosening the surface and correcting the defects, then thoroughly recompact the entire area, including the surrounding surface. In the event that additional materials are necessary to make the repairs, they shall be provided at no additional cost to the Port.
- J. Route hauling equipment over the roadway in such a manner as to be most effective in the compacting of the material. Hauling over the surfacing in the process of construction will not be permitted when, in the opinion of the Engineer, the effect will be detrimental.

3.06 PLACEMENT OF BALLAST

- A. Ballast shall be placed in accordance with section 34 05 17 Railroad Work.
- B. Prior to placement of ballast, geotextile shall be placed on subgrade in accordance with the manufacturer's recommendations. Overlap all adjacent sheets of fabric by not less than 3 feet.

3.07 EXCAVATION

- A. Excavation of existing ballast and additional subballast or subgrade material shall be disposed of per section 01 74 16 Soil Characterization and Waste Management.
- B. Excavation shall not undermine adjacent tracks. If adjacent tracks are undermined or affected, the Contractor shall notify the Engineer.
 - 1. Undermined tracks shall be restored to their original condition and surface, line, and graded in accordance with 34 05 17 Railroad Work.

END OF SECTION

Attachment D
SECTION 00 52 00 -
Agreement Form

Addendum 02 - Attachment D

DIVISION 00 - Division 00 - Procurement and Contracting Requirements

SECTION 00 52 00 - Agreement Form

THIS AGREEMENT is made and entered into by and between the PORT OF TACOMA, a State of Washington municipal corporation, hereinafter designated as the "Port," and:

The "Contractor" is: _____ (Legal Name)

_____ (Address)

_____ (Address 2)

_____ (Phone No.)

The "Project" is: Banana Yard Rail Switch Upgrade (Title)

101615.01 | 071940 (Project/Contract No.)

2603 SR 509 N. Frontage Road (Project Address)

Project Location Address 2 (Project Address 2)

The "Engineer" is: Thais Howard, PE (Engineer)

Director of Engineering (Title)

thoward@portoftacoma.com (Email)

(253) 888-4718 (Phone No.)

The "Contractor's Representative" is: _____ (Representative)

_____ (Title)

_____ (Email)

_____ (Phone No.)

BACKGROUND AND REPRESENTATIONS:

The Port publicly solicited bids on the Contract Documents. The Contractor submitted a Bid to the Port on the _____ day of _____, 20____ to perform the Work.

The Contractor represents that it has the personnel, experience, qualifications, capabilities, and means to accomplish the Work in strict accordance with the Contract Documents, within the Contract Time and for the Contract Price, and that it and its Subcontractors satisfy the responsibility criteria set forth in the Contract Documents, including any supplemental responsibility criteria.

The Contractor further represents that it has carefully examined, and is fully familiar with, all provisions of the Contract Documents, including any Addenda, that it has fully satisfied itself as to the nature, location, difficulty, character, quality, and quantity of the Work required by the Contract Documents and the conditions and other matters that may be encountered at or near the Project site(s), or that may affect performance of the Work or the cost or difficulty thereof, including all applicable safety and site responsibilities, and that it understands and can satisfy all scheduling and coordination requirements and interim milestones.

AGREEMENT:

The Port and the Contractor agree as follows:

1.0 CONTRACTOR TO FULLY PERFORM THE WORK

The Contractor shall fully execute and complete the entire Work for the Project described in the Contract Documents, except to the extent specifically indicated in the Agreement, the General Conditions of the Contract (as well as any Supplemental, Special, or other conditions included in the Project Manual), the Drawings, the Specifications, and all Addenda issued prior to, and all modifications issued after, execution of the Contract.

2.0 DATE OF COMMENCEMENT

The date of commencement of the Work, which is the date from which the Contract Time is measured, shall be fixed as the date of execution of the Contract.

3.0 CONTRACT TIME AND LIQUIDATED DAMAGES

The Contractor shall achieve all interim milestones as set forth in the Contract Documents and Substantial Completion of the entire Work not later than 482 calendar days from execution of the Contract, subject to adjustments of this Contract Time as provided in the Contract Documents. The Contractor shall achieve Final Completion of the entire Work within 30 calendar days of the date on which Substantial Completion is achieved.

Provisions for liquidated damages as a reasonable estimate of future loss, as of the date of this Agreement, are included in the Contract Documents. The parties agree that the stated liquidated damages are reasonable and not penalties individually nor cumulatively.

The liquidated damages for failure to achieve Substantial Completion by the required date shall be \$250 per calendar day. After the required Final Completion date, the liquidated damages for failure to achieve Final Completion shall be \$100 per calendar day.

Liquidated damages assessed by the Port will be deducted from monies due to the Contractor, or from monies that will become due to the Contractor. The liquidated damages, as specified and calculated herein, shall be levied, cumulatively if applicable, for each and every calendar day that Substantial Completion and/or Final Completion of the Work is delayed beyond the required completion dates, or the completion dates modified by the Port for extensions of the Contract Time.

4.0 CONTRACT PRICE

In accordance with the Contractor's Bid dated _____, the Port shall pay the Contractor in current funds for the Contractor's performance of the Contract, the Contract Price of _____ Dollars (\$_____), subject to additions and deductions as provided in the Contract Documents. State and local sales tax is not included in the Contract Price, but will be due and paid by the Port with each progress payment.

5.0 INSURANCE AND BONDS

The Contractor shall purchase and maintain insurance and provide bonds as set forth in the Contract Documents.

This Agreement is entered into as of the day and year first written above:

CONTRACTOR

PORT OF TACOMA

By: _____

By: _____

Title: _____

Title: _____

Date: _____

Execution _____

Date:

END OF SECTION

Attachment E
REVISED DRAWINGS
FOR BANANA YARD
RAIL TURNOUT
REPLACEMENT

PORT OF TACOMA

BANANA YARD RAIL TURNOUT REPLACEMENT

PROJECT NO. 101615.01
CONTRACT NO. 071940

PORT COMMISSIONERS:

KRISTIN ANG

RICHARD P. MARZANO

DEANNA KELLER

JOHN McCARTHY

PORT STAFF:

ERIC JOHNSON

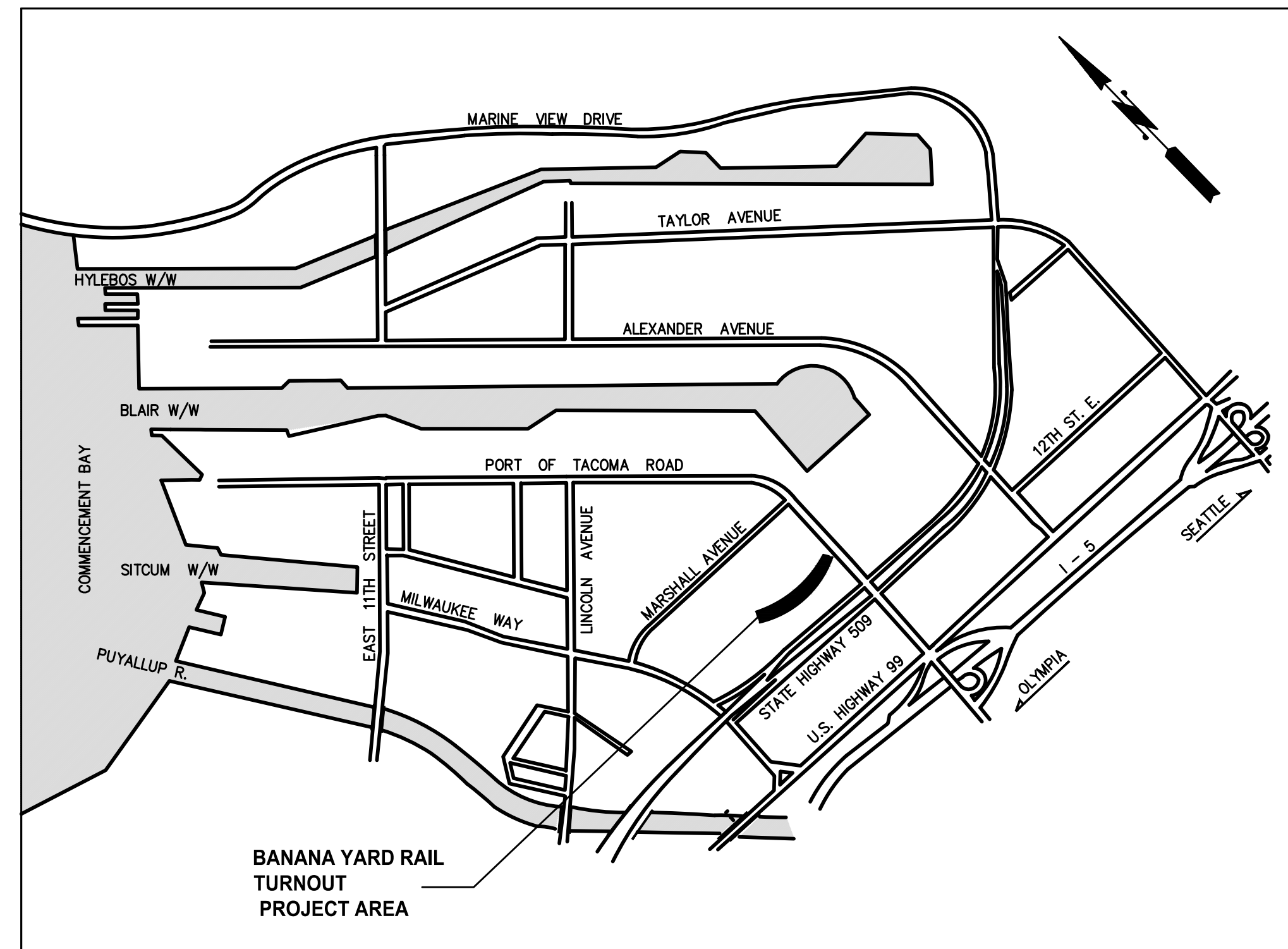
EXECUTIVE DIRECTOR

THAIS HOWARD, PE


Director of Engineering

NORMAN GILBERT, PE

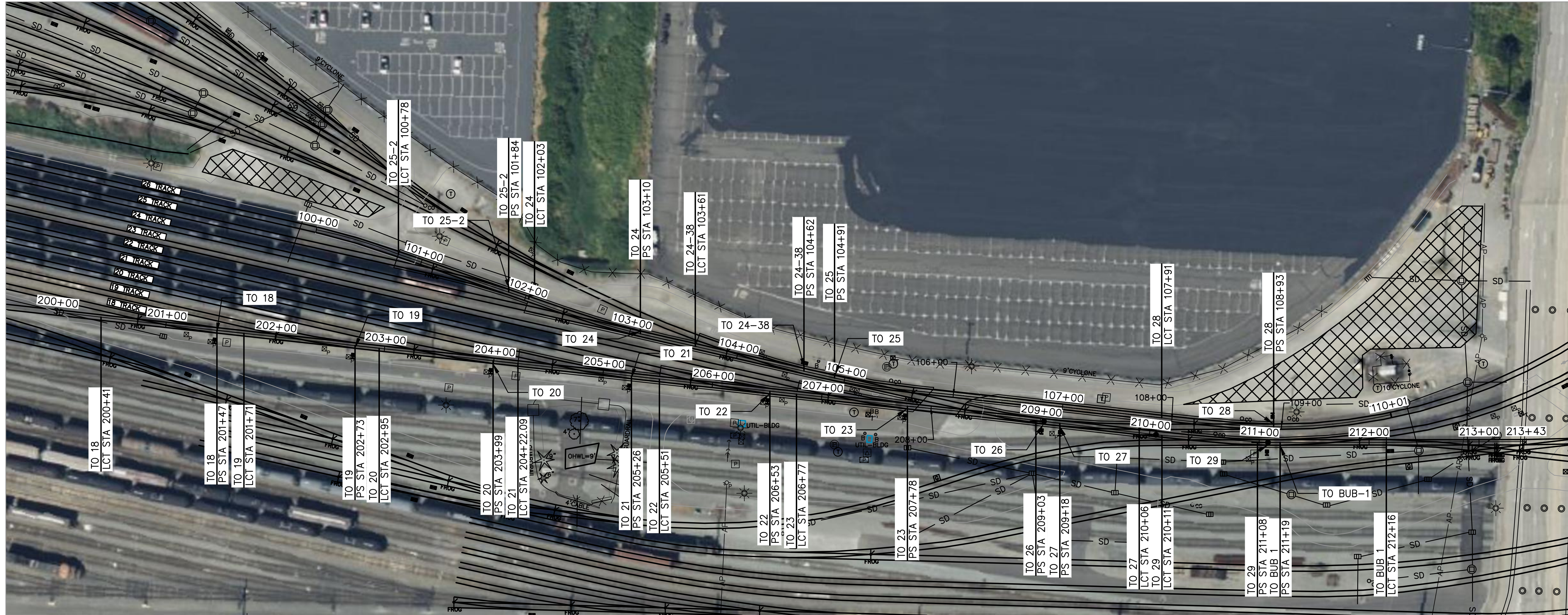
Project Manager



SHEET INDEX	
SHEET NUMBER	SHEET TITLE
1	G1 COVER SHEET
2	G2 SITE PLAN AND EXISTING CONDITIONS
3	C1 SITE PLAN
4	C2 DEMOLITION AND TESC NOTES AND DETAILS
5	C3 SITE DETAILS
6	C4 RAIL AND TRACKBED DETAILS
7	C5 RAIL AND TIE DETAILS
8	C6 NO. 9 TURNOUT DETAILS
9	C7 TURNOUTS 25, 26 CROSSOVER
10	C8 TURNOUTS 27, 28, 29 CROSSOVER
11	C9 PHASING PLAN

<div style="text-align: center;"> BANANA YARD RAIL TURNOUT REPLACEMENT COVER SHEET </div>	6693										
	<div style="font-size: 4em; font-weight: bold; text-align: center;">G1</div> <div style="text-align: center;"> 1 OF 11 </div>	TOWNSHIP:	21N	RANGE:	3E	SECTION:	36				
		DATE-HRZ:	W83-SF	VERT:		PORT OF TACOMA BM#					
		PARCEL:	0321354035	DRAWING SCALE:	AS SHOWN						
		PHASE:	BID SET								
<div style="display: flex; justify-content: space-between;"> <div> <p>APPROVED:</p> <p>TJH 1/29/2024 CHECKED BY DATE</p> <p>SEK 1/29/2024 PROJ. ENGR DATE</p> <p>DIRECTOR ENG. DATE</p> <p>PRINTED BY: thebig Jan 29, 2024</p> <p>PORT ADDRESS ONE SITCOM PLAZA</p> <p>TACOMA WA, 98401-1837</p> </div> <div style="width: 40%; text-align: right;">  </div> </div>											
<div style="display: flex; justify-content: space-between;"> <div> <p>kprff</p> <p>2407 North 31st Street, Suite 100 Tacoma, WA 98401 (253) 386-0150 Fax (253) 386-0162</p> </div> <div> <p>Part of Tacoma</p> <p>P.O. BOX 187 TACOMA, WA 98401 (253)385-5841</p> </div> </div>											
<div style="display: flex; justify-content: space-between;"> <div> <p>MARK:</p> </div> <div> <p>REVISION:</p> </div> <div> <p>BY:</p> </div> <div> <p>DATE:</p> </div> </div>											











THIS DRAWING IS THE PROPERTY OF THE PORT OF TACOMA AND SHALL NOT BE USED ON OTHER WORK, DISCLOSED, COPIED, IN WHOLE OR IN PART, WITHOUT WRITTEN PERMISSION



EXISTING CONDITIONS SITE PLAN

SCALE: 1:50

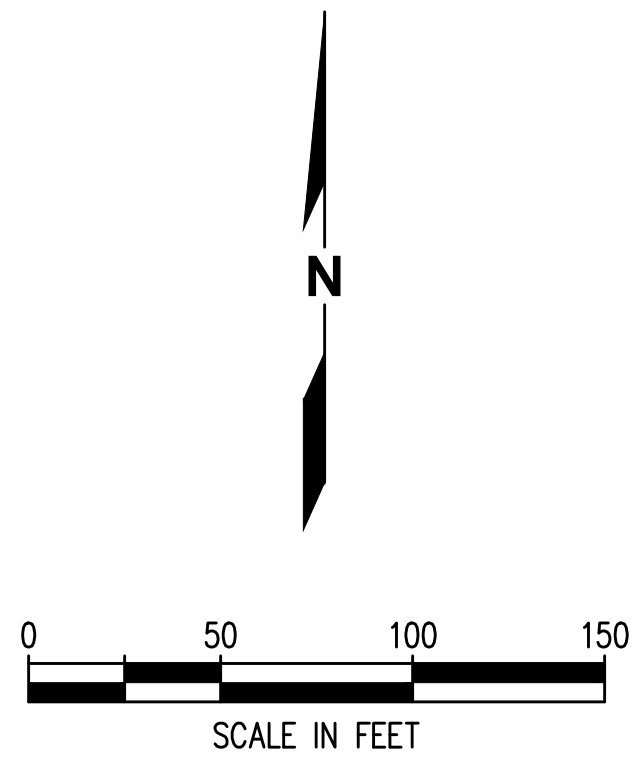
LEGEND

	EXISTING TRACK
	STORM LINE
	OVERHEAD POWER LINE
	CONTRACTOR STAGING AND LAYDOWN AREA
 P	POINT OF SWITCH
 FROG	FROG
	STORM CATCH BASIN
	STORM MANHOLE
	TELECOMMUNICATIONS SYSTEM MANHOLE
	LIGHT POLE

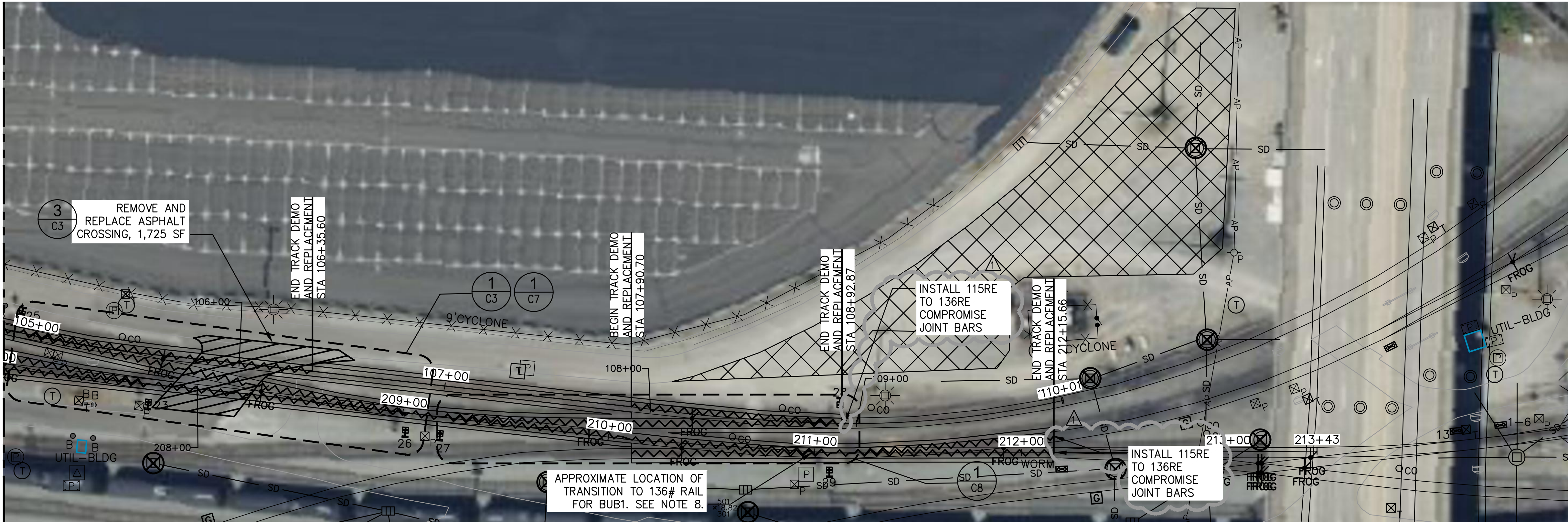
TURNOUT LENGTHS		
TURNOUT NO.	PS TO FROG	PS TO LCT
18	72'-6"	106'-5"
19	72'-5"	101'-9"
20	72'-5"	104'-6"
21	72'-5"	103'-9"
22	72'-6"	101'-1"
23	72'-4"	101'-8"
26	72'-5"	UNKNOWN – UNDER PAVEMENT
27	72'-6"	88'-3"
29	72'-3"	96'-6"
BUB1	72'-3"	96'-10"
28	72'-6"	102'-00"
25	72'-5"	UNKNOWN – UNDER PAVEMENT
24-38	72'-4"	100'-6"
24	72'-7"	106'-00"
25-2	72'-10"	106'-00"

NOTES

1. AERIAL IMAGERY IS FOR CONTEXT ONLY AND DOES NOT EXACTLY RESEMBLE EXISTING ONSITE INFORMATION.
2. SURVEY LINework SHOWN IS FROM 2014. TRACKWORK, SURFACE FEATURES, AND UTILITIES SHOWN MAY DIFFER FROM EXISTING CONDITIONS.



MATCH LINE SEE ABOVE



SITE PLAN

SCALE: 1:30



LEGEND

- EXISTING TRACK
- PROPOSED RAIL DEMOLITION AND REPLACEMENT
- CONTRACTOR STAGING AND LAYDOWN AREA
- ASPHALT DEMOLITION AND REPLACEMENT
- INLET PROTECTION

NOTES

- CONTRACTOR SHALL PERFORM UTILITY LOCATES AND FIELD VERIFY ALL EXISTING BELOW GRADE UTILITIES PRIOR TO BEGINNING DEMOLITION WORK.
- CONTRACTOR SHALL REMOVE AND REPLACE TRACK AND TURNOUTS TO THE EXTENT SHOWN ON THE PLANS.
- CONTRACTOR SHALL FIELD VERIFY ALL LIMITS OF TRACK DEMOLITION AND TURNOUT DIMENSIONS PRIOR TO PROCUREMENT OF TRACK MATERIAL. CONTRACTOR SHALL ORDER TURNOUTS TO THE
- SPECIFIC LENGTH REQUIRED AND INSTALL ADDITIONAL STANDARD TRACK AS NECESSARY FOR THE FULL TRACK REPLACEMENT WITHIN THE LIMITS SHOWN.
- CONTRACTOR SHALL PROCURE, CUT, AND DRILL STOCK RAIL IN LENGTHS TO ALLOW FOR RAIL LENGTHS BETWEEN END OF TURNOUTS STOCK RAIL AND BEGINNING OF THE PROCEEDING TURNOUT RAIL OR EXISTING RAIL TO NOT BE LESS THAN 12 FEET.
- REMOVE EXISTING TRACK AND BALLAST AS
- REQUIRED TO CONSTRUCT NEW TRACKBED, TRACK, AND TURNOUTS. NEW TRACKBED SHALL INCLUDE NEW BALLAST AND WALKWAY ROCK AS SHOWN ON DETAIL 1, SHEET C4.
- IF SOFT AREAS ARE OBSERVED IN THE SUBGRADE BELOW MINIMUM REQUIRED BALLAST REMOVAL, OVER-EXCAVATE SOFT MATERIAL AND REPLACE WITH COMPACTED SUBBALLAST MATERIAL AT THE DIRECTION OF THE ENGINEER.
- REMOVED BALLAST MATERIAL SHALL BE DISPOSED OF AT THE CONTRACTORS EXPENSE.

8. ALL NEW TRACK IS 115RE. CONTRACTOR SHALL INSTALL COMPROMISE JOINT BARS TO TRANSITION FROM 115RE TO 136RE WHERE INDICATED ON THE DRAWINGS.

MATCH LINE SEE BELOW

6693

C1

3 OF 11

CONTRACT/CONS: 071940
M. ID: 101615.01
PHASE: BID SET

TOWNSHIP: 21N
RANGE: 3E
SECTION: 36
DATE-HRZ: W83-SF
PARCEL: 0321354035

SECTION: 36
PORT OF TACOMA BM#
DRAWING SCALE: AS SHOWN

BANANA YARD RAIL TURNOUT REPLACEMENT

APPROVED:

TJH

CHECKED BY

DATE

1/29/2024

SEK

PROJ. ENGR

DATE

1/29/2024

DIRECTOR

PRINTED BY: thebig Mar 04, 2024

PORT ADDRESS: ONE SITCUM PLAZA

TACOMA WA, 98401-1837

1/30/2024

REVISION: ADDENDUM 1

BY: TJH

APPR: TJH

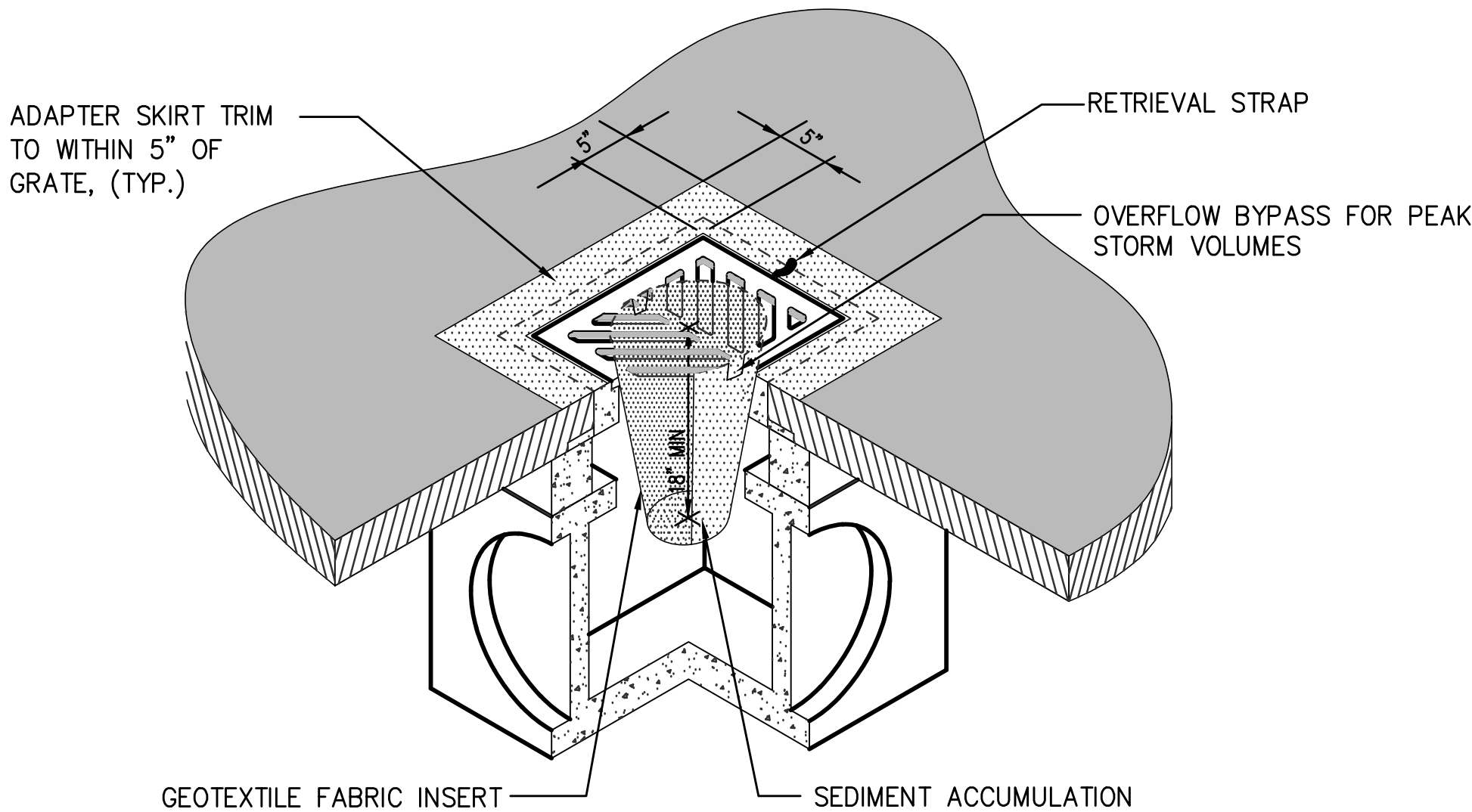
DATE: 3/4/2024

MARK:

2407 North 31st Street, Suite 100
Tacoma, Washington 98407
(253) 396-0150 Fax (253) 396-0162
P.O. BOX 1837 TACOMA, WA 98401 (253) 396-5441

Port of Tacoma

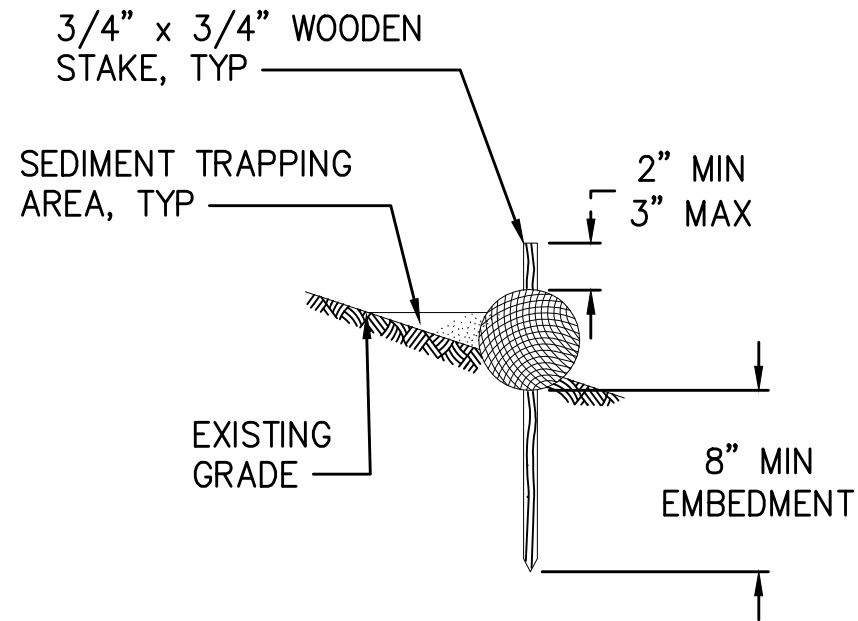
THIS DRAWING IS THE PROPERTY OF THE PORT OF TACOMA AND SHALL NOT BE USED ON OTHER WORK, DISCLOSED, COPIED, IN WHOLE OR IN PART, WITHOUT WRITTEN PERMISSION



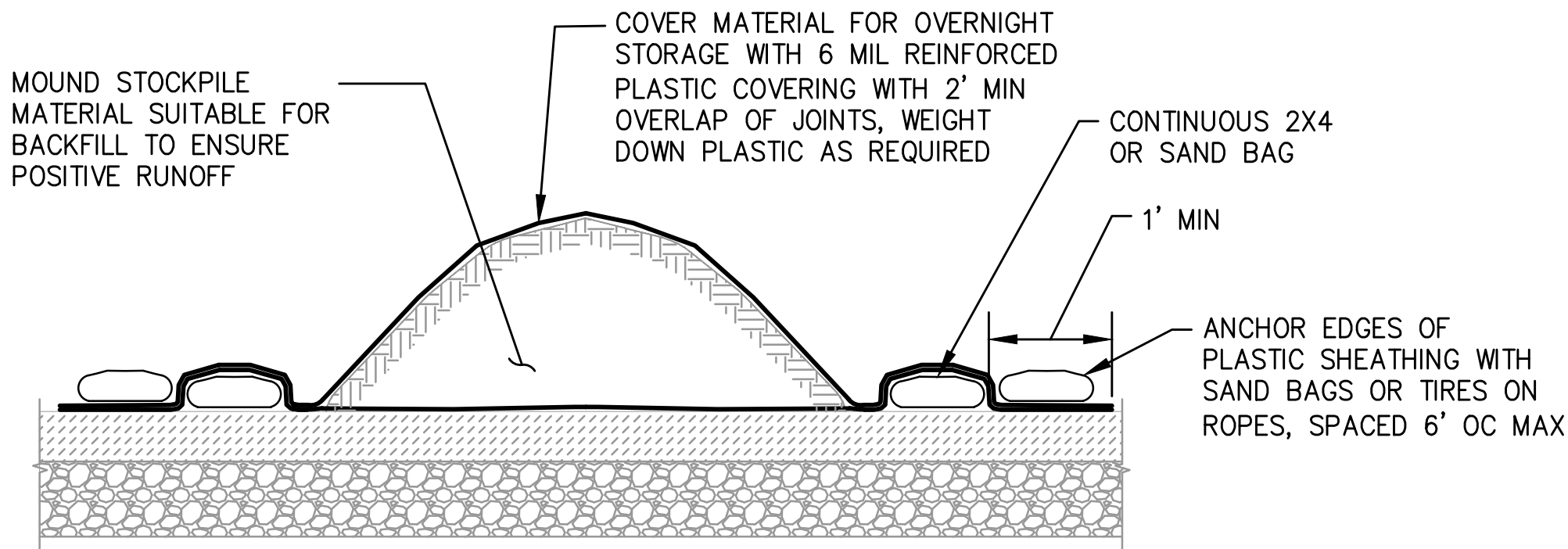
NOTES:

1. INSERT SHALL BE INSTALLED IN ALL LOCATIONS SHOWN ON THE PLANS.
2. FILTERS SHALL BE INSPECTED AFTER EACH STORM EVENT AND CLEANED OR REPLACED WHEN IT IS 1/3 FULL.
3. SEDIMENT REMOVAL SHALL BE ACCOMPLISHED BY REMOVING THE INSERT, EMPTYING INTO APPROPRIATE DISPOSAL LOCATION, AND REINSERTING IT INTO THE CATCH BASIN.
4. PROVIDE INLET PROTECTION ON ALL CATCH BASINS WITHIN 500' DOWNSTREAM OF DISTURBANCE.

1 INLET PROTECTION DETAIL
C1 SCALE: NTS



2 STRAW WATTLE DETAIL
C1 SCALE: NTS



NOTES:

1. RIPS AND TEARS IN THE PLASTIC SHEETING SHALL BE REPAIRED IN A TIMELY MANNER.
2. STOCKPILE MATERIAL SUITABLE FOR BACKFILL SHALL BE STOCKPILED AT NO MORE THAN 1 TO 1 SLOPE AND THE TOE OF THE STOCKPILE SHALL BE NO CLOSER THAN 2' FROM THE EDGE OF EXCAVATION. STOCKPILES HEIGHT SHALL NOT EXCEED 10'.

3 TEMPORARY STOCKPILE DETAIL
C1 SCALE: NTS

EROSION & SEDIMENT CONTROL NOTES:

1. THE IMPLEMENTATION OF THESE EROSION AND SEDIMENT CONTROL (ESC) PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT AND UPGRADING OF THESE ESC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED AND APPROVED.
2. THE ESC FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES, AND IN SUCH A MANNER AS TO ENSURE THAT SEDIMENT AND SEDIMENT LADEN WATER DO NOT ENTER THE DRAINAGE SYSTEM OR ROADWAYS, OR VIOLATE APPLICABLE WATER STANDARDS.
3. THE ESC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE ESC FACILITIES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND TO ENSURE THAT SEDIMENT AND SEDIMENT-LADEN WATER DO NOT LEAVE THE SITE.
4. THE ESC FACILITIES SHALL BE INSPECTED DAILY BY THE CONTRACTOR AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING.
5. THE ESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN THE 48 HOURS FOLLOWING A STORM EVENT.
6. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAVING. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT-LADEN WATER INTO THE DOWNSTREAM SYSTEM.
7. CONTRACTOR SHALL IMPLEMENT BMP'S AS NECESSARY TO ENSURE CONSTRUCTION ROUTE REMAINS FREE OF DIRT AND DEBRIS.
8. CONTRACTOR SHALL PROVIDE A 24-HOUR CONTACT PERSON (FILL-IN INFORMATION BELOW):

NAME: _____
PHONE: _____
EMAIL: _____

DEMOLITION NOTES:

1. CONTRACTOR SHALL DEMOLISH TRACK AS SHOWN ON THE PLANS.
2. CONTRACTOR SHALL REMOVE AND REPLACE BALLAST 12 INCHES BELOW THE BASE OF TIES.
3. DEMOLISHED MATERIALS NOT NOTED FOR REUSE SHALL BE DISPOSED OF AT CONTRACTOR'S EXPENSE.
4. CONTRACTOR SHALL SALVAGE AND PROVIDE EXISTING SWITCH STANDS FOR TURNOUTS 21, 22, 25, 26, 27, AND BUB1 TO PORT.

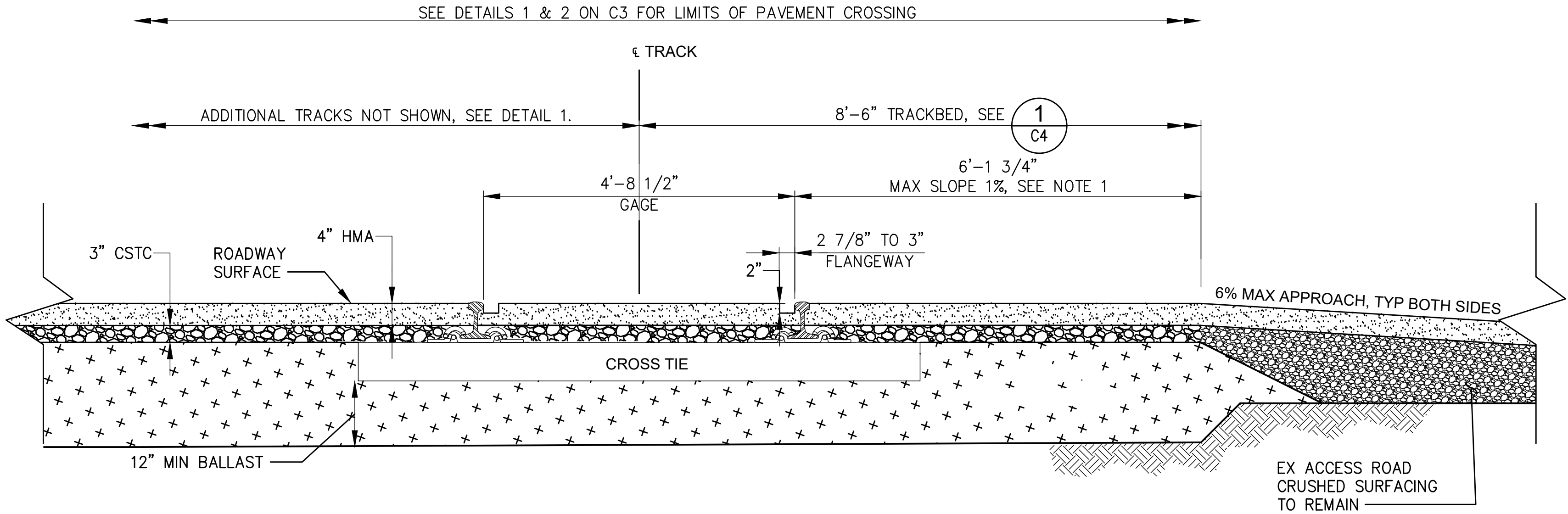
6693 C2 4 OF 11	BANANA YARD RAIL TURNOUT REPLACEMENT				APPROVED: _____				TJH CHECKED BY: _____ DATE: 1/29/2024		Port of Tacoma 2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162 P.O. BOX 1837 TACOMA, WA 98401 (253)396-5941				
	DEMOLITION & TESC NOTES AND DETAILS								kpff 2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162 P.O. BOX 1837 TACOMA, WA 98401 (253)396-5941		BY: _____ DATE: _____				
									MARK: _____ REVISION: _____		APPR: _____ DATE: _____				
								TOWNSHIP: 21N RANGE: 3E SECTION: 36 DATE-HRZ: W83-SF PARCEL: 0321354035 PORT OF TACOMA BM# DRAWING SCALE: AS SHOWN				TACOMA WA, 98401-1837			



1 PAVEMENT CROSSING PLAN
SCALE: NTS



2 PAVEMENT CROSSING PLAN
SCALE: NTS



3 PAVEMENT CROSSING DETAIL
SCALE: NTS

NOTES

- ACCESS ROAD SURFACE SHALL NOT BE MORE THAN 3/4" HIGHER OR LOWER THAN TOP OF THE NEAR RAIL 8'-6" FROM TRACK CENTERLINE.

6693

C3

5 OF 11

CONTRACT/CONS: 071940
M. ID: 101615.01
PHASE: BID SET

BANANA YARD RAIL TURNOUT REPLACEMENT

SITE DETAILS

TOWNSHIP: 21N
RANGE: 3E
SECTION: 36
DATE-HRZ: W83-SF
PARCEL: 0321354035

PORT OF TACOMA BM#
DRAWING SCALE: AS SHOWN

APPROVED:

TJH
CHECKED BY: DATE
SEK
PROJ. ENGR
DATE
DIRECTOR ENG. DATE
PRINTED BY: thebig Jan 29, 2024
PORT ADDRESS: ONE SITCUM PLAZA
TACOMA WA, 98401-1837

kpff

2407 North 31st Street, Suite 100
Tacoma, Washington 98407
(253) 396-0150 Fax (253) 396-0162
P.O. BOX 1837 TACOMA, WA 98401 (253) 396-5441

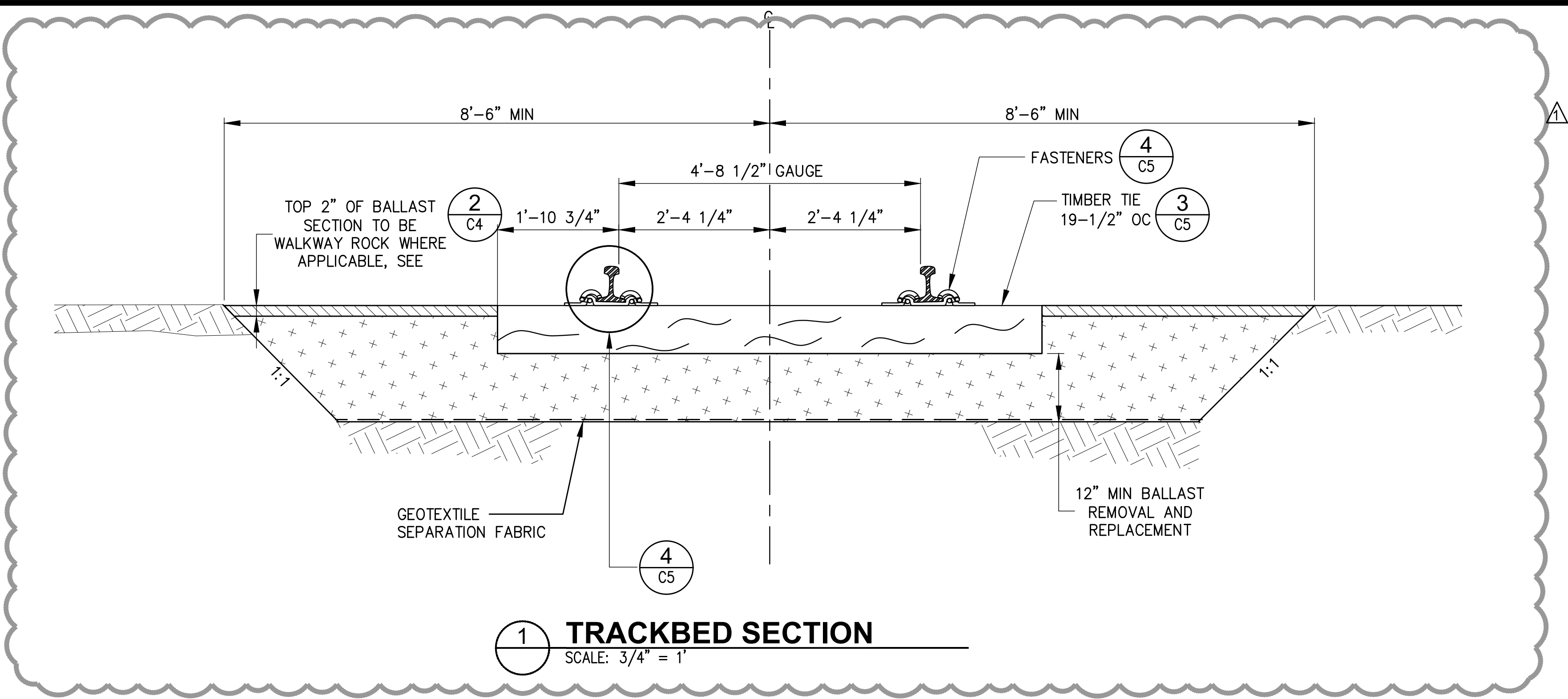
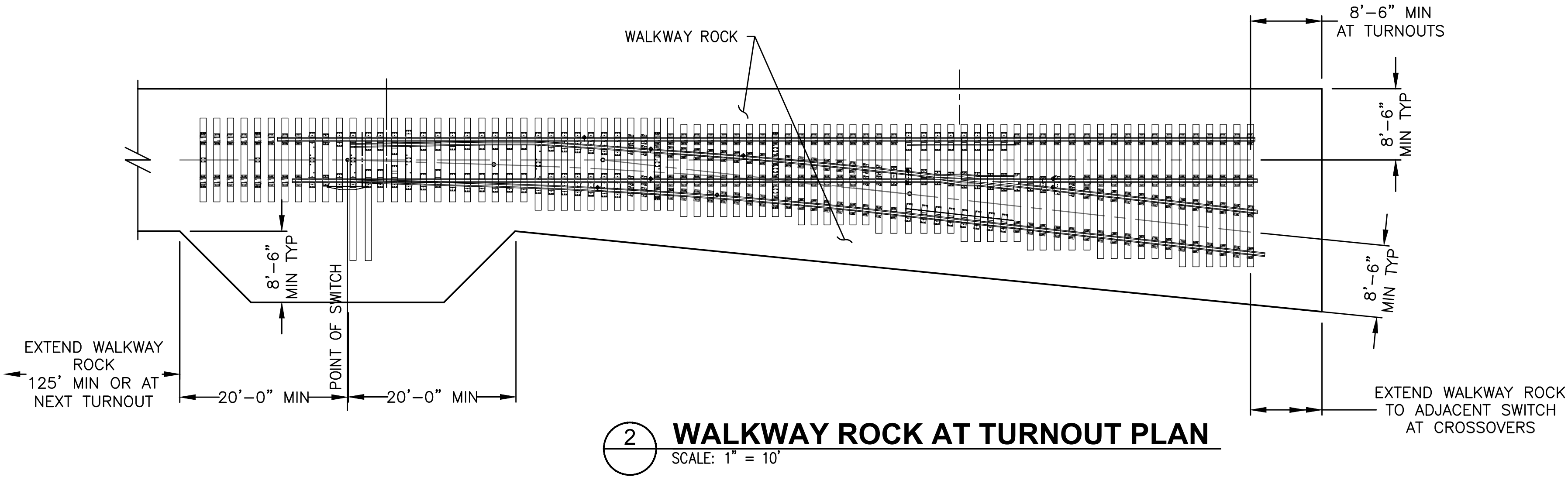
1/29/2024
1/29/2024
1/29/2024
1/29/2024
1/29/2024
1/29/2024
1/29/2024
1/29/2024

DATE
DATE
DATE
DATE
DATE
DATE
DATE
DATE

BY:
REVISION:
MARK:
DATE:
APPR:
BY:
REVISION:
MARK:
DATE:

Port of Tacoma

THIS DRAWING IS THE PROPERTY OF THE PORT OF TACOMA AND SHALL NOT BE USED ON OTHER WORK, DISCLOSED, COPIED, IN WHOLE OR IN PART, WITHOUT WRITTEN PERMISSION



669.3

C4

6 OF 11

CONT/CONS: 071940
M. ID: 101615.01
PHASE: BID SET

BANANA YARD RAIL TURNOUT REPLACEMENT

RAIL AND TRACKBED DETAILS

TOWNSHIP: 21N RANGE: 3E SECTION: 36
DAT-HRZ: W83-SF VERT: PORT OF TACOMA BM#
PARCEL: 0321354035 DRAWING SCALE: AS SHOWN

APPROVED:

TJH 1/29/2024
CHECKED BY: DATE
SEK 1/29/2024
PROJ. ENGR DATE
DIRECTOR ENG. DATE: thebig Mar 04, 2024
PRINTED BY: thebig Mar 04, 2024
PORT ADDRESS: ONE SITCUM PLAZA
TACOMA WA, 98401-1837

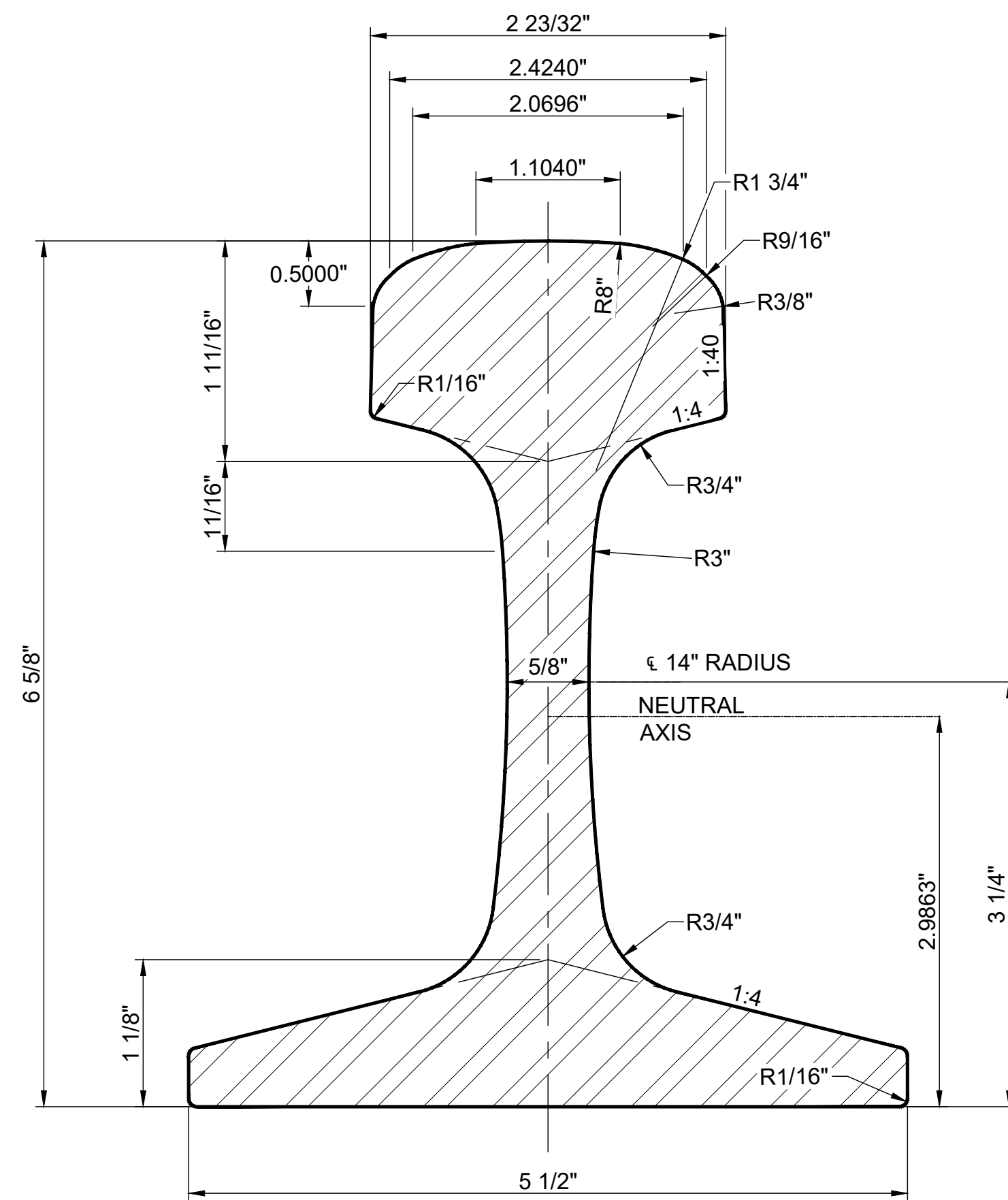
kpff

2407 North 31st Street, Suite 100
Tacoma, Washington 98407
(253) 396-0150 Fax (253) 396-0162
P.O. BOX 1837 TACOMA, WA 98401 (253) 396-5441

1/30/2024

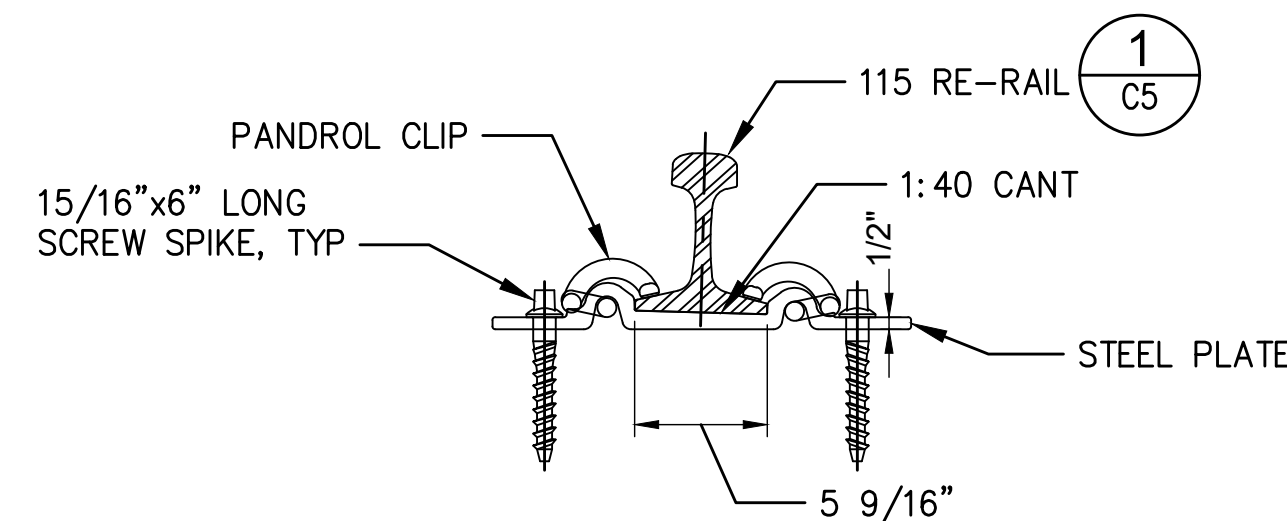
MARK: REVISION: ADDENDUM 1 BY: TJH DATE: 3/4/2024
APPR: TJH

THIS DRAWING IS THE PROPERTY OF THE PORT OF TACOMA AND SHALL NOT BE USED ON OTHER WORK, DISCLOSED, COPIED, IN WHOLE OR IN PART, WITHOUT WRITTEN PERMISSION



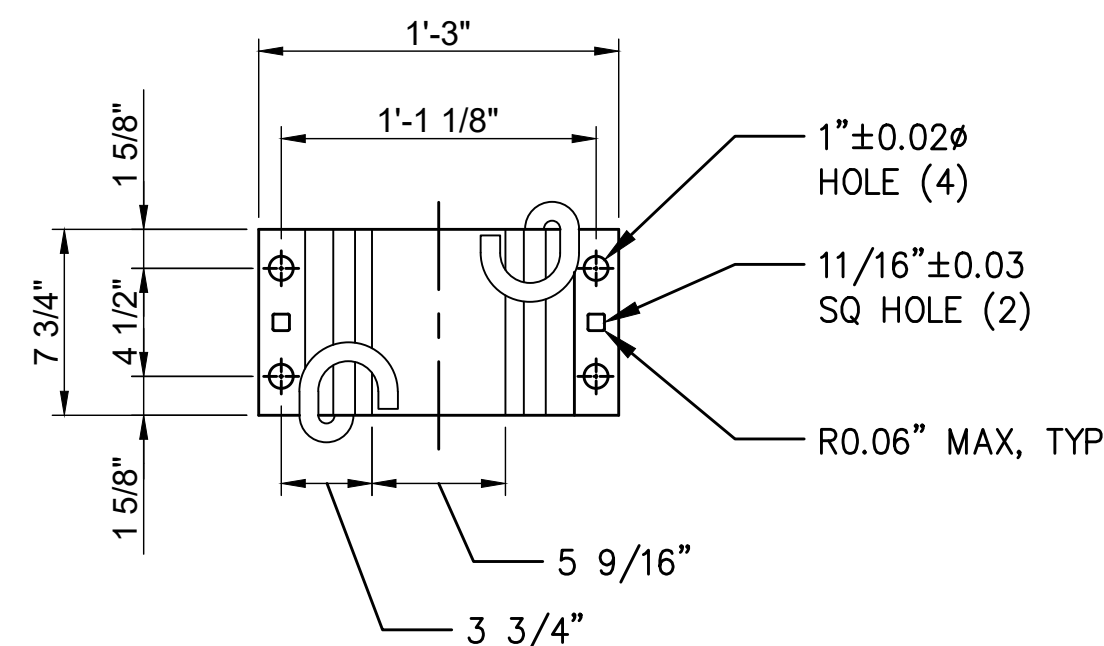
<u>PROPERTIES</u>		
AREA OF HEAD	3.91 SQ. IN.	34.8%
AREA OF WEB	3.05 SQ. IN.	27.1%
AREA OF BASE	4.29 SQ. IN.	38.1%
TOTAL AREA	11.25 SQ. IN.	100.0%
MOMENT OF INERTIA	65.6	
SECTION MODULUS, HEAD	18.0	
SECTION MODULUS, BASE	22.0	
WEIGHT	114.7 LBS PER YARD	

1 RAIL SECTION #115
C5 SCALE: 1" = 1'



PANDROL TYPE e2055 CLIPS ON TIMBER TIES

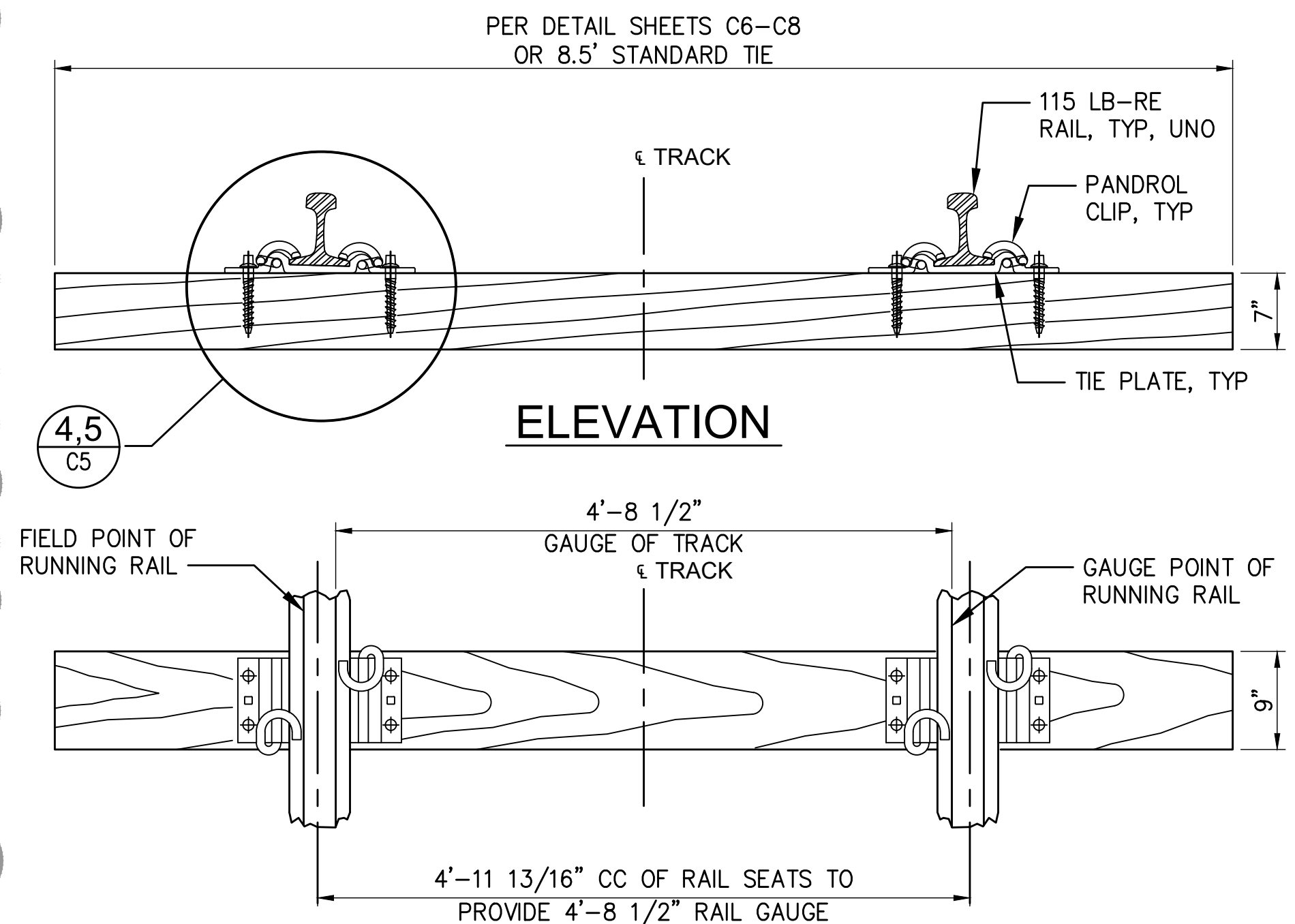
4 TIMBER TIE FASTENERS W/115# RAIL
C4, C5 SCALE: 1 1/2" = 1'



3 3/4
TYPICAL STANDARD PLATE
FOR PANDROL TYPE e2055 CLIP

DETAIL 2 HAS BEEN REMOVED. 136#
RAIL NOT INCLUDED IN PROJECT.

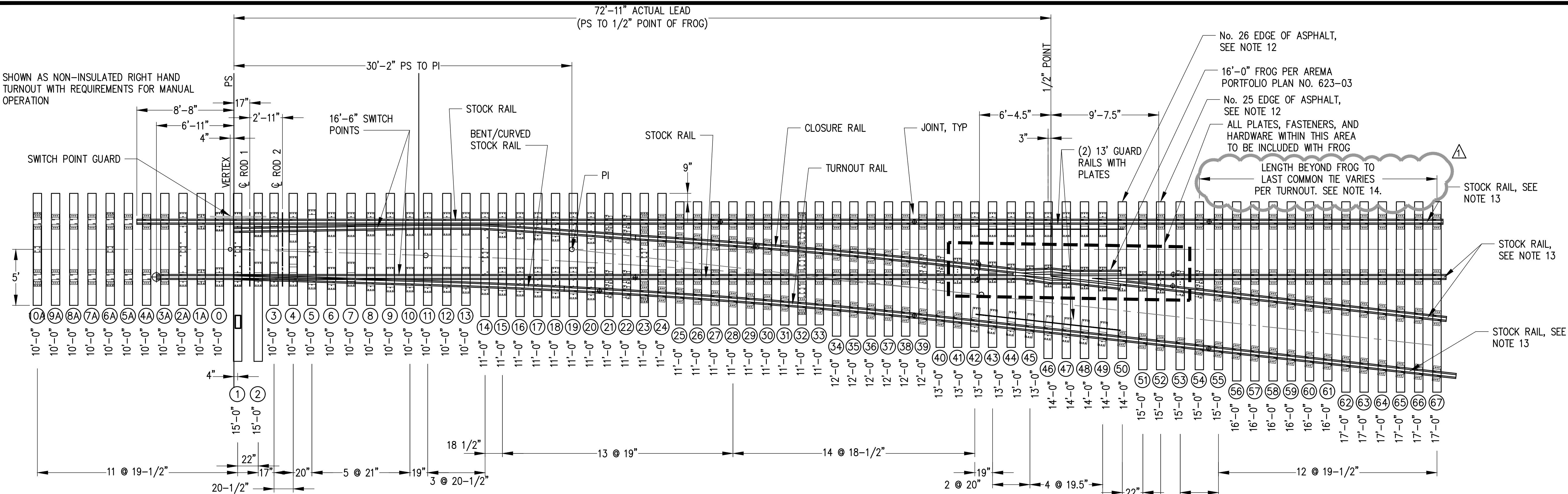
2 RAIL SECTION 136#
C5 SCALE: 1" = 1'



3 **TIMBER TIE**
C4 SCALE: 1" = 1'

DETAIL 5 HAS BEEN REMOVED. 136# RAIL
FASTENERS NOT INCLUDED IN PROJECT.

5 TIMBER TIE FASTENERS W/136# RAIL
C4, C5 SCALE: 1 1/2" = 1'



STANDARD BILL OF MATERIALS			
QTY	DESCRIPTION	LOCATION	BNSF/UP COMMON STANDARDS DWG NUMBER
2	16'-6" STRAIGHT SAMSON SWITCH POINTS		
1	36'-7" STRAIGHT SAMSON STOCK RAIL		
1	36'-5" BENT/CURVED SAMSON STOCK RAIL		
1	SWITCH ROD #1		
1	SWITCH ROD #2		
2	GAGE PLATE AHEAD OF POINT	TIES 6A & 10A	241304
1	ADJUSTABLE BRACE GAGE PLATE	TIE 2A	241301
2	TIE PLATE	TIE 1A	241307
1	ADJUSTABLE BRACE GAGE PLATE	TIE 1	241300
1	ADJUSTABLE BRACE GAGE PLATE	TIE 5	241305
2	PLATE	TIE 0	241306
6	ADJUSTABLE BRACE SLIDE PLATE	TIES 2, 3, & 7	241306
4	SLIDE PLATE	TIES 4 & 6	241306
6	RISER SLIDE PLATE	TIES 8, 9 & 10	241306
18	TURNOUT PLATE	TIES 11, 12, 13, 15, 16, 17, 18, 19, & 20	241307
1	GAGE PLATE	TIE 14	241311
1	GAGE PLATE	TIE 23	241312
1	GAGE PLATE	TIE 32	241313
1	CLOSURE RAIL		341001
1	TURNOUT RAIL		341001
A/R	115 RE RAIL		N/A
A/R	PANDROL TIE PLATES	SEE NOTE 2	

STANDARD BILL OF MATERIALS			
QTY	DESCRIPTION	LOCATION	BNSF/UP COMMON STANDARDS DWG NUMBER
14	MODIFIED PANDROL TIE PLATE	TIES 21, 22, 39, 40, & 54	263001
A/R	PANDROL ECLIP E-2055		
A/R	15/16" DIA. X 6 1/2" LG. SCREW SPIKES		130800
2	FIXED HEEL BLOCKS		
1	NO. 9 16'-0" AREMA RBM FROG PER AREMA PORTFOLIO PLAN NO. 623-03 WITH SCREW SPIKE PLATES AND ELASTIC FASTENERS		N/A
2	GUARD RAILS PER AREMA PORTFOLIO PLAN NO. 504-03 (13') WITH SCREW PLATES AND ELASTIC FASTENERS		N/A
1	SWITCH POINT GUARD. A&K RAILROAD MATERIALS MODEL U69, OR APPROVED EQUAL		N/A
1	SWITCH STAND, RACOR MODEL 22-E TRAILABLE WITH 45" TRI-HANDLE "BACKSAVER" HANDLE		N/A
2	EKOSLIDE TYPE CZ5 POINT ROLLER	TIE 2	2230
2	EKOSLIDE TYPE CX POINT ROLLER	TIE 8	2230
A/R	115RE 36" JOINT BARS		
22	7" X 9" X 10'-0" TIE	TIES 0-10A & 3-13	
20	7" X 9" X 11'-0" TIE	TIES 14-33	
6	7" X 9" X 12'-0" TIE	TIES 34-39	
6	7" X 9" X 13'-0" TIE	TIES 40-45	
5	7" X 9" X 14'-0" TIE	TIES 46-50	
7	7" X 9" X 15'-0" TIE	TIES 1-2 & 51-55	
6	7" X 9" X 16'-0" TIE	TIES 56-61	
6	7" X 9" X 17'-0" TIE	TIES 62-67	

A/R = AS REQUIRED

FROG DATA	
ANGLE	6'-21'-35"
TURNOUT DATA	
RADIUS OF CENTERLINE	614'
T =	24.59'
CENTRAL ANGLE - CLOSURE CURVE	4'-35'-13"
DEGREE OF CURVE	9'-20'-31"
DIMENSIONS ALONG TURNOUT	
VERTEX TO PC	17'-7 9/32"
PC TO PT	614'-0" $\frac{1}{2}$ RADIUS
PT TO FROG POINT	6'-4 1/2"

SWITCH DATA		
TURNOUT POINT	SWITCH LENGTH	16'-6"
	HEEL SPREAD	6 1/4"
	HEEL ANGLE	1'-46'-22"
	SWITCH ANGLE	1'-46'-22"
	THROW AT ROD #1	4 3/4"
	THICKNESS AT POINT	0"
TURNOUT POINT	RADIUS (CLOSURE CURVE)	616.3542'
	VERTEX DISTANCE	4"

NOTES :

- PANDROL TIE PLATES AND RESILIENT FASTENERS SHALL BE USED AT ALL LOCATIONS UNLESS OTHERWISE NOTED.
- SWITCH POINTS SHALL HAVE MANGANESE TIPS (AREA 220).
- SWITCH POINTS SHALL BE HEAD HARDENED AND DOUBLE REINFORCED PER AREMA PLAN NO. 221 DETAIL 5100 WITH TRANSIT STYLE CLIPS.
- TURNOUTS SHALL HAVE HORIZONTAL SWITCH RODS.
- FROG SHALL BE HIGH INTEGRITY, RAIL BOUND MANGANESE STEEL CASTING WITH MITERED HEEL AND EXTENDED HEEL AND WING RAILS.
- THE GUARD RAIL IS TO BE 54-5/8" FROM THE GAUGE SIDE OF THE FROG POINT TO THE STRAIGHT GUARDING FACE OF THE GUARD RAIL.
- NO ALLOWANCE HAS BEEN MADE FOR EXPANSION GAPS IN COMPUTING RAIL LENGTHS SHOWN.
- FRACTIONAL RAIL LENGTH CUTTINGS SHOWN ARE THEORETICAL AND ARE SUBJECT TO MINOR ADJUSTMENT TO MEET ACTUAL CLOSURE REQUIREMENTS IN THE FIELD.
- STOCK RAILS ARE TO BE BENT IN THE MILL OR IN THE SHOP.
- CHORD METHOD IS USED TO CALCULATE TURNOUT CURVE DATA AND OFFSETS.
- THE PROJECT SPECIFIC TURNOUT LAST COMMON TIES ARE ESTIMATES TO THE NEAREST TIE BASED ON FIELD MEASUREMENT FROM THEIR EXISTING SWITCH POINTS.
- CONTRACTOR SHALL SALVAGE AND PROVIDE EXISTING SWITCH STANDS FROM TURNOUTS 21, 22, 25, 26, 27, AND BUB1 TO THE PORT.
- CONTRACTOR SHALL PROCURE, CUT, AND DRILL STOCK RAIL IN LENGTHS TO ALLOW FOR RAIL LENGTHS BETWEEN END OF TURNOUTS STOCK RAIL AND BEGINNING OF THE PROCEEDING TURNOUT RAIL OR EXISTING RAIL TO NOT BE LESS THAN 18 FEET.

- LENGTH FROM FROG TO LAST COMMON TIE VARIES FOR EACH TURNOUT. LENGTHS FOR EACH TURNOUT SHALL BE PER PS TO LCT LENGTH SHOWN ON G2. CONTRACTOR SHALL FIELD VERY PRIOR TO PROCURING TURNOUTS.

1 NO. 9 TURNOUT
SCALE: 1" = 5'

2407 North 31st Street, Suite 100
Tacoma, Washington 98407
(253) 396-0150 Fax (253) 396-0162

1/30/2024

CONTRACT/CONS:	071940	TOWNSHIP:	21N	RANGE:	3E	SECTION:	36
M. ID:	101615.01	DAT-HRZ:	W83-SF	VERT:	PORT OF TACOMA BM#		
PHASE:	BID SET	PARCEL:	0321354035	DRAWING SCALE:	AS SHOWN		

BANANA YARD RAIL TURNOUT REPLACEMENT

NO. 9 TURNOUT DETAIL

C6 8 OF 11

APPROVED:	TJH	1/29/2024	CHECKED BY:	DATE
	SEK	1/29/2024	PROJ. ENGR	DATE
	DIRECTOR	ENG. DATE	PRINTED BY:	thebig Mar 04, 2024
			PORT ADDRESS:	ONE SITCUM PLAZA
				TACOMA WA, 98401-1837

MARK: REVISION: ADDENDUM 1

BY: TJH

DATE: 3/4/2024

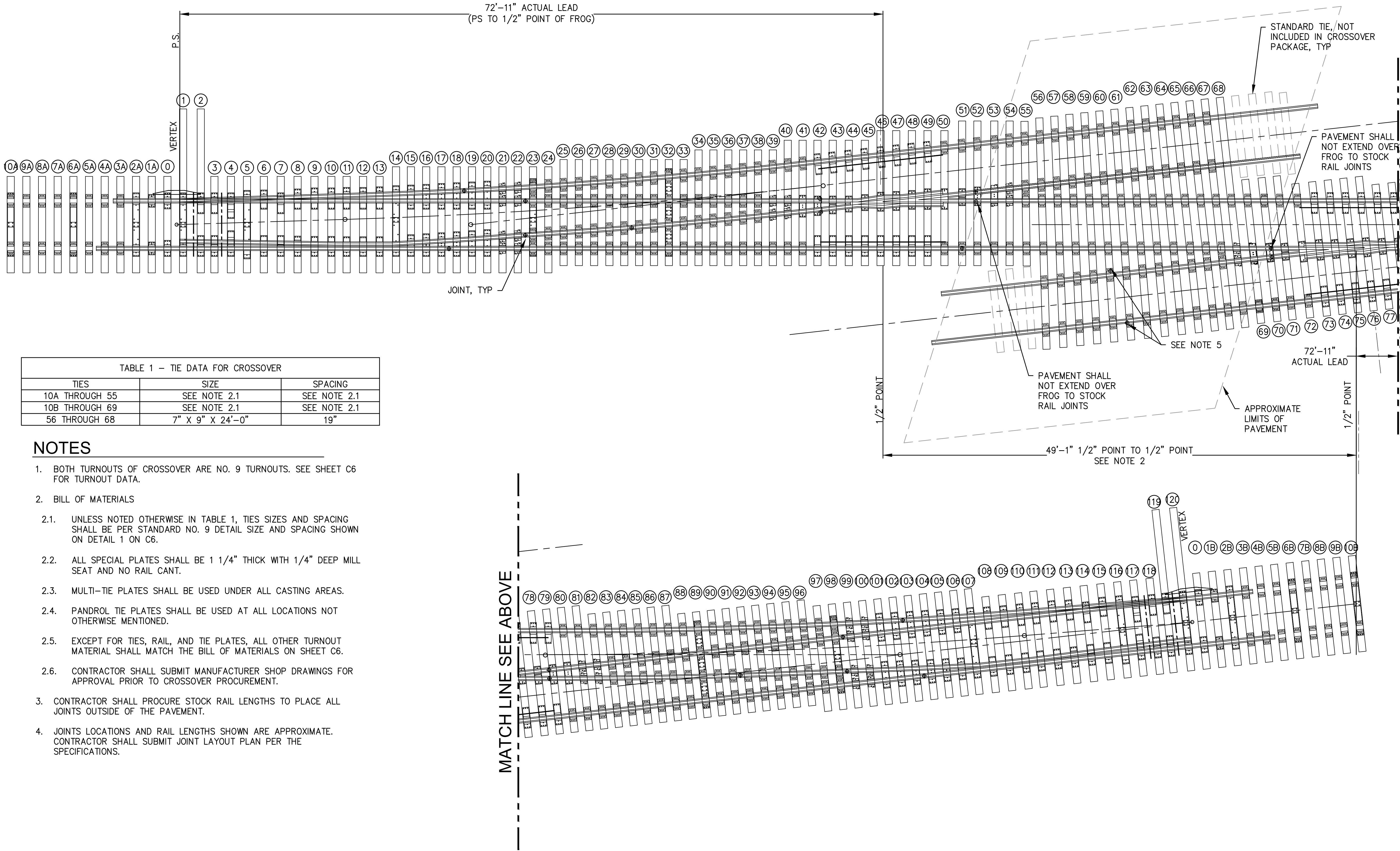


TABLE 1 – TIE DATA FOR CROSSOVER		
TIES	SIZE	SPACING
10A THROUGH 55	SEE NOTE 2.1	SEE NOTE 2.1
10B THROUGH 69	SEE NOTE 2.1	SEE NOTE 2.1
56 THROUGH 68	7" X 9" X 24'-0"	19"

NOTES

- BOTH TURNOUTS OF CROSSOVER ARE NO. 9 TURNOUTS. SEE SHEET C6 FOR TURNOUT DATA.
- BILL OF MATERIALS
 - UNLESS NOTED OTHERWISE IN TABLE 1, TIES SIZES AND SPACING SHALL BE PER STANDARD NO. 9 DETAIL SIZE AND SPACING SHOWN ON DETAIL 1 ON C6.
 - ALL SPECIAL PLATES SHALL BE 1 1/4" THICK WITH 1/4" DEEP MILL SEAT AND NO RAIL CANT.
 - MULTI-TIE PLATES SHALL BE USED UNDER ALL CASTING AREAS.
 - PANDROL TIE PLATES SHALL BE USED AT ALL LOCATIONS NOT OTHERWISE MENTIONED.
 - EXCEPT FOR TIES, RAIL, AND TIE PLATES, ALL OTHER TURNOUT MATERIAL SHALL MATCH THE BILL OF MATERIALS ON SHEET C6.
 - CONTRACTOR SHALL SUBMIT MANUFACTURER SHOP DRAWINGS FOR APPROVAL PRIOR TO CROSSOVER PROCUREMENT.
- CONTRACTOR SHALL PROCURE STOCK RAIL LENGTHS TO PLACE ALL JOINTS OUTSIDE OF THE PAVEMENT.
- JOINTS LOCATIONS AND RAIL LENGTHS SHOWN ARE APPROXIMATE. CONTRACTOR SHALL SUBMIT JOINT LAYOUT PLAN PER THE SPECIFICATIONS.

6693

C7

9 OF 11

CONT/CONS: 071940

M. ID: 101615.01

PHASE: BID SET

TOWNSHIP: 21N

DAT-HRZ: W83-SF

PARCEL: 0321354035

RANGE: 3E

VERT: PORT OF TACOMA BM#

DRAWING SCALE: AS SHOWN

SECTION: 36

PORT OF TACOMA

AS SHOWN

BANANA YARD RAIL TURNOUT REPLACEMENT

TURNOUTS 25, 26 CROSSOVER

APPROVED:

TJH 1/29/2024

CHECKED BY: DATE

SEK 1/29/2024

DIRECTOR ENG. DATE

PRINTED BY: thebig Jan 30, 2024

PORT ADDRESS: ONE SITCUM PLAZA

TACOMA, WA, 98401-1837

Port of Tacoma

2407 North 31st Street, Suite 100
Tacoma, Washington 98407
(253) 396-0150 Fax (253) 396-0162

kpff

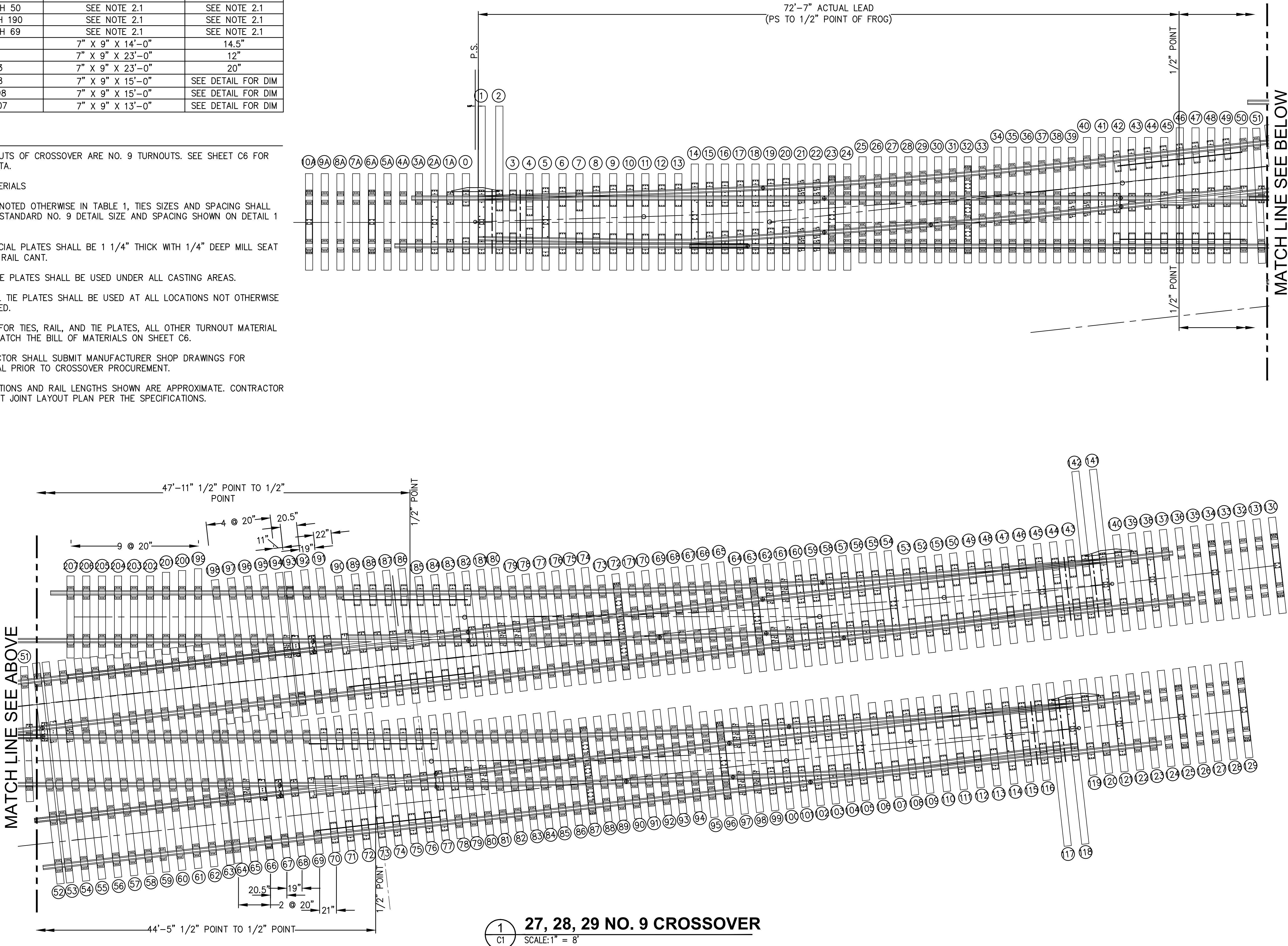
1/30/2024

MARK: REVISION: BY: APPR: DATE:

TABLE 1 – TIE DATA FOR CROSSOVER		
TIES	SIZE	SPACING
10A THROUGH 50	SEE NOTE 2.1	SEE NOTE 2.1
130 THROUGH 190	SEE NOTE 2.1	SEE NOTE 2.1
129 THROUGH 69	SEE NOTE 2.1	SEE NOTE 2.1
50, 51	7" X 9" X 14'-0"	14.5"
52, 53	7" X 9" X 23'-0"	12"
53 – 63	7" X 9" X 23'-0"	20"
64 – 68	7" X 9" X 15'-0"	SEE DETAIL FOR DIM
191 – 198	7" X 9" X 15'-0"	SEE DETAIL FOR DIM
199 – 207	7" X 9" X 13'-0"	SEE DETAIL FOR DIM

NOTES

- BOTH TURNOUTS OF CROSSOVER ARE NO. 9 TURNOUTS. SEE SHEET C6 FOR TURNOUT DATA.
- BILL OF MATERIALS
 - UNLESS NOTED OTHERWISE IN TABLE 1, TIES SIZES AND SPACING SHALL BE PER STANDARD NO. 9 DETAIL SIZE AND SPACING SHOWN ON DETAIL 1 ON C6.
 - ALL SPECIAL PLATES SHALL BE 1 1/4" THICK WITH 1/4" DEEP MILL SEAT AND NO RAIL CANT.
 - MULTI-TIE PLATES SHALL BE USED UNDER ALL CASTING AREAS.
 - PANDROL TIE PLATES SHALL BE USED AT ALL LOCATIONS NOT OTHERWISE MENTIONED.
 - EXCEPT FOR TIES, RAIL, AND TIE PLATES, ALL OTHER TURNOUT MATERIAL SHALL MATCH THE BILL OF MATERIALS ON SHEET C6.
 - CONTRACTOR SHALL SUBMIT MANUFACTURER SHOP DRAWINGS FOR APPROVAL PRIOR TO CROSSOVER PROCUREMENT.
- JOINTS LOCATIONS AND RAIL LENGTHS SHOWN ARE APPROXIMATE. CONTRACTOR SHALL SUBMIT JOINT LAYOUT PLAN PER THE SPECIFICATIONS.



1
C1

27, 28, 29 NO. 9 CROSSOVER

SCALE: 1" = 8'

6693	C8 10 OF 11	BANANA YARD RAIL TURNOUT REPLACEMENT				APPROVED:	TJH	1/29/2024	
		TURNOUTS 27, 28, 29 CROSSOVER				CHECKED BY	DATE		
CONT/CONS:	071940	TOWNSHIP:	21N	RANGE:	3E	SECTION:	36	PROJ. ENGR	DATE
M. ID:	101615.01	DAT-HRZ:	W83-SF	VERT:	PORT OF TACOMA BM#	PRINTED BY: thebig Jan 30, 2024			1/29/2024
PHASE:	BID SET	PARCEL:	0321354035	DRAWING SCALE:	AS SHOWN	DIRECTOR ENG. DATE			1/30/2024
						PORT ADDRESS: ONE SITCUM PLAZA			
						TACOMA, WA, 98401-1837			
						MARK:			REVISION:
						BY:			DATE:
						APPR:			
						P.O. BOX 1837 TACOMA, WA 98401 (253) 396-0162			
						Part of Tacoma			
						2407 North 31st Street, Suite 100 Tacoma, Washington 98407			
						P.O. BOX 1837 TACOMA, WA 98401 (253) 396-0162			

LEGEND

- EXISTING TRACK
- PROPOSED RAIL DEMOLITION AND REPLACEMENT
- CONTRACTOR STAGING AND LAYDOWN AREA
- ASPHALT DEMOLITION AND REPLACEMENT
- INLET PROTECTION

NOTES

- NO EXISTING TURNOUT SHALL BE REMOVED UNTIL ITS REPLACEMENT HAS BEEN FULLY ASSEMBLED AND PREPARED IN A PANELIZED CONDITION AND READY FOR IMMEDIATE PLACEMENT AND INSTALLATION.
- EACH PHASE SHALL COMPLY WITH THE MAXIMUM DAYS OUT OF SERVICE NOTED IN THE TABLE.
- CONTRACTOR SHALL INCORPORATE SATURDAY AND SUNDAY AS TWO OF THE WORKING DAYS FOR PHASES 10 AND 11.
3.1. CONTRACTOR SHALL COORDINATE THESE PHASES WITH TACOMA RAIL AND PRIORITIZE COMPLETION OF SPECIFIC LEGS OF THE CROSSOVERS TO PROVIDE CONDITIONAL ACCESS TO RAIL TRAFFIC DURING THE REMAINING WORKING DAYS AS REQUESTED BY TACOMA RAIL.
- CONTRACTOR MAY MODIFY THE PHASING PLAN AS NECESSARY WITH COORDINATION AND APPROVAL FROM THE PORT AND TACOMA RAIL. PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL HAVE AN AGREED UPON PHASING PLAN IN PLACE WITH THE PORT AND TACOMA RAIL.

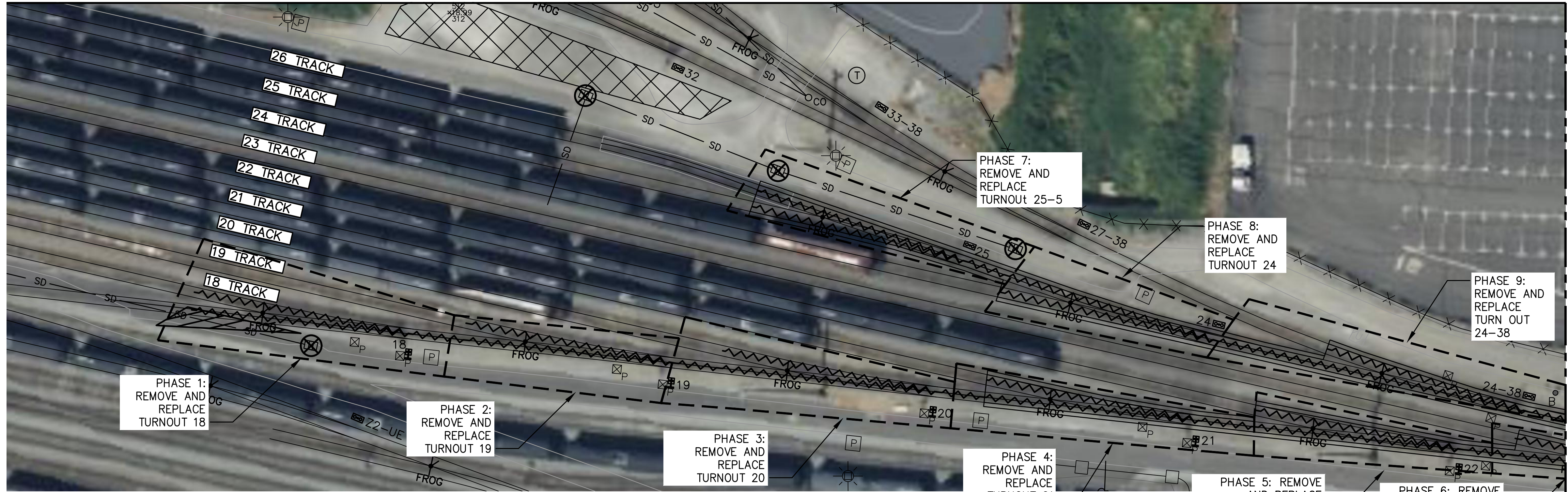
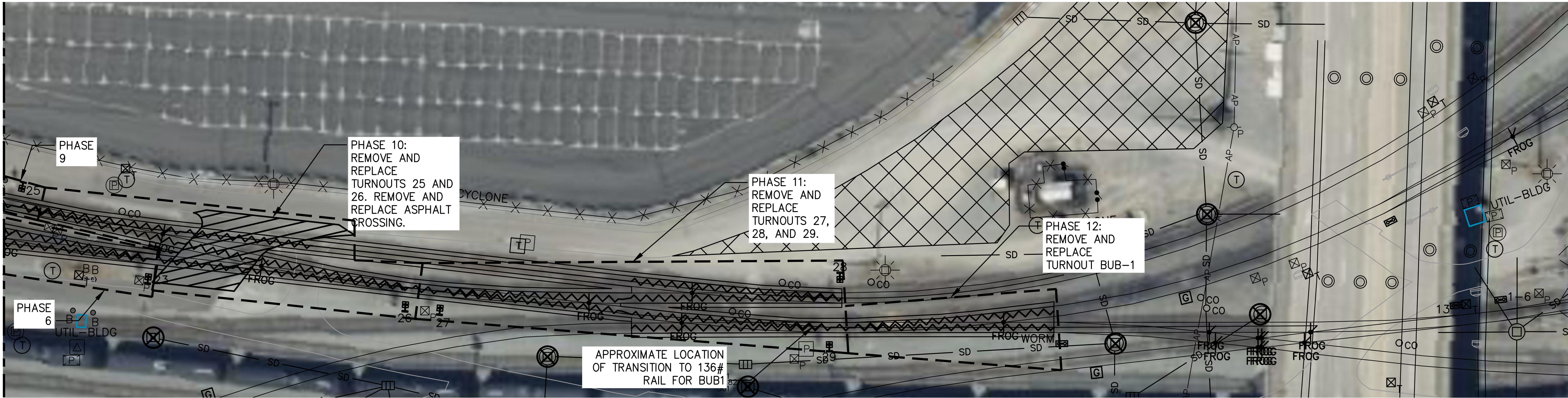
SITE PLAN

SCALE: 1" = 30'

PHASE NUMBER	TURNOUTS OUT OF SERVICE	TRACKS OUT OF SERVICE	MAXIMUM DAYS OUT OF SERVICE
1	18	18	2
2	19	18, 19	2
3	20	18, 19, 20	2
4	21	18, 19, 20, 21	2
5	22	18, 19, 20, 21, 22	2
6	23	18, 19, 20, 21, 22, 23	2
7	25-5	25, 26	2
8	24	24, 25, 26	2
9	24-38	24, 25, 26, 38	2
10	25 & 26	24, 25, 26, 38	4
11	27, 28, 29	18, 19, 20, 21, 22, 23, 24, 25, 26, 38	5
12	BUB-1	18, 19, 20, 21, 22, 23	2



MATCH LINE SEE ABOVE



MATCH LINE SEE BELOW

6693

C9

11 OF 11

CONTRACTOR: 071940
M. ID: 101615.01
PHASE: BID SET

1/29/2024

CHECKED BY

1/29/2024

PROJ. ENGR

1/29/2024

DATE

1/29/2024

DATE

thebig

Jan 29, 2024

PRINTED BY:

PROJ. ENGR

ONE SITCUM PLAZA

TACOMA WA, 98401-1837

PORT ADDRESS:

ONE SITCUM PLAZA

APPROVED:

TJH

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

6693

C9

11 OF 11

CONTRACTOR: 071940
M. ID: 101615.01
PHASE: BID SET

1/29/2024

CHECKED BY

1/29/2024

PROJ. ENGR

1/29/2024

DATE

1/29/2024

DATE

thebig

Jan 29, 2024

PRINTED BY:

PROJ. ENGR

ONE SITCUM PLAZA

TACOMA WA, 98401-1837

PORT ADDRESS:

ONE SITCUM PLAZA

APPROVED:

TJH

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

6693

C9

11 OF 11

CONTRACTOR: 071940
M. ID: 101615.01
PHASE: BID SET

1/29/2024

CHECKED BY

1/29/2024

PROJ. ENGR

1/29/2024

DATE

1/29/2024

DATE

thebig

Jan 29, 2024

PRINTED BY:

PROJ. ENGR

ONE SITCUM PLAZA

TACOMA WA, 98401-1837

PORT ADDRESS:

ONE SITCUM PLAZA

APPROVED:

TJH

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

6693

C9

11 OF 11

CONTRACTOR: 071940
M. ID: 101615.01
PHASE: BID SET

1/29/2024

CHECKED BY

1/29/2024

PROJ. ENGR

1/29/2024

DATE

1/29/2024

DATE

thebig

Jan 29, 2024

PRINTED BY:

PROJ. ENGR

ONE SITCUM PLAZA

TACOMA WA, 98401-1837

PORT ADDRESS:

ONE SITCUM PLAZA

APPROVED:

TJH

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

6693

C9

11 OF 11

CONTRACTOR: 071940
M. ID: 101615.01
PHASE: BID SET

1/29/2024

CHECKED BY

1/29/2024

PROJ. ENGR

1/29/2024

DATE

1/29/2024

DATE

thebig

Jan 29, 2024

PRINTED BY:

PROJ. ENGR

ONE SITCUM PLAZA

TACOMA WA, 98401-1837

PORT ADDRESS:

ONE SITCUM PLAZA

APPROVED:

TJH

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

6693

C9

11 OF 11

CONTRACTOR: 071940
M. ID: 101615.01
PHASE: BID SET

1/29/2024

CHECKED BY

1/29/2024

PROJ. ENGR

1/29/2024

DATE

1/29/2024

DATE

thebig

Jan 29, 2024

PRINTED BY:

PROJ. ENGR

ONE SITCUM PLAZA

TACOMA WA, 98401-1837

PORT ADDRESS:

ONE SITCUM PLAZA

APPROVED:

TJH

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

6693

C9

11 OF 11

CONTRACTOR: 071940
M. ID: 101615.01
PHASE: BID SET

1/29/2024

CHECKED BY

1/29/2024

PROJ. ENGR

1/29/2024

DATE

1/29/2024

DATE

thebig

Jan 29, 2024

PRINTED BY:

PROJ. ENGR

ONE SITCUM PLAZA

TACOMA WA, 98401-1837

PORT ADDRESS:

ONE SITCUM PLAZA

APPROVED:

TJH

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

6693

C9

11 OF 11

CONTRACTOR: 071940
M. ID: 101615.01
PHASE: BID SET

1/29/2024

CHECKED BY

1/29/2024

PROJ. ENGR

1/29/2024

DATE

1/29/2024

DATE

thebig

Jan 29, 2024

PRINTED BY:

PROJ. ENGR

ONE SITCUM PLAZA

TACOMA WA, 98401-1837

PORT ADDRESS:

ONE SITCUM PLAZA

APPROVED:

TJH

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

6693

C9

11 OF 11

CONTRACTOR: 071940
M. ID: 101615.01
PHASE: BID SET

1/29/2024

CHECKED BY

1/29/2024

PROJ. ENGR

1/29/2024

DATE

1/29/2024

DATE

thebig

Jan 29, 2024

PRINTED BY:

PROJ. ENGR

ONE SITCUM PLAZA

TACOMA WA, 98401-1837

PORT ADDRESS:

ONE SITCUM PLAZA

APPROVED:

TJH

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

6693

C9

11 OF 11

CONTRACTOR: 071940
M. ID: 101615.01
PHASE: BID SET

1/29/2024

CHECKED BY

1/29/2024

PROJ. ENGR

1/29/2024

DATE

1/29/2024

DATE

thebig

Jan 29, 2024

PRINTED BY:

PROJ. ENGR

ONE SITCUM PLAZA

TACOMA WA, 98401-1837

PORT ADDRESS:

ONE SITCUM PLAZA

APPROVED:

TJH

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

6693

C9

11 OF 11

CONTRACTOR: 071940
M. ID: 101615.01
PHASE: BID SET

1/29/2024

CHECKED BY

1/29/2024

PROJ. ENGR

1/29/2024

DATE

1/29/2024

DATE

thebig

Jan 29, 2024

PRINTED BY:

PROJ. ENGR

ONE SITCUM PLAZA

TACOMA WA, 98401-1837

PORT ADDRESS:

ONE SITCUM PLAZA

APPROVED:

TJH

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

6693

C9

11 OF 11

CONTRACTOR: 071940
M. ID: 101615.01
PHASE: BID SET

1/29/2024

CHECKED BY

1/29/2024

PROJ. ENGR

1/29/2024

DATE

1/29/2024

DATE

thebig

Jan 29, 2024

PRINTED BY:

PROJ. ENGR

ONE SITCUM PLAZA

TACOMA WA, 98401-1837

PORT ADDRESS:

ONE SITCUM PLAZA

APPROVED:

TJH

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

6693

C9

11 OF 11

CONTRACTOR: 071940
M. ID: 101615.01
PHASE: BID SET

1/29/2024

CHECKED BY

1/29/2024

PROJ. ENGR

1/29/2024

DATE

1/29/2024

DATE

thebig

Jan 29, 2024

PRINTED BY:

PROJ. ENGR

ONE SITCUM PLAZA

TACOMA WA, 98401-1837

PORT ADDRESS:

ONE SITCUM PLAZA

APPROVED:

TJH

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

6693

C9

11 OF 11

CONTRACTOR: 071940
M. ID: 101615.01
PHASE: BID SET

1/29/2024

CHECKED BY

1/29/2024

PROJ. ENGR

1/29/2024

DATE

1/29/2024

DATE

thebig

Jan 29, 2024

PRINTED BY:

PROJ. ENGR

ONE SITCUM PLAZA

TACOMA WA, 98401-1837

PORT ADDRESS:

ONE SITCUM PLAZA

APPROVED:

TJH

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

6693

C9

11 OF 11

CONTRACTOR: 071940
M. ID: 101615.01
PHASE: BID SET

1/29/2024

CHECKED BY

1/29/2024

PROJ. ENGR

1/29/2024

DATE

1/29/2024

DATE

thebig

Jan 29, 2024

PRINTED BY:

PROJ. ENGR

ONE SITCUM PLAZA

TACOMA WA, 98401-1837

PORT ADDRESS:

ONE SITCUM PLAZA

APPROVED:

TJH

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

6693

C9

11 OF 11

CONTRACTOR: 071940
M. ID: 101615.01
PHASE: BID SET

1/29/2024

CHECKED BY

1/29/2024

PROJ. ENGR

1/29/2024

DATE

1/29/2024

DATE

thebig

Jan 29, 2024

PRINTED BY:

PROJ. ENGR

ONE SITCUM PLAZA

TACOMA WA, 98401-1837

PORT ADDRESS:

ONE SITCUM PLAZA

APPROVED:

TJH

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

6693

C9

11 OF 11

CONTRACTOR: 071940
M. ID: 101615.01
PHASE: BID SET

1/29/2024

CHECKED BY

1/29/2024

PROJ. ENGR

1/29/2024

DATE

1/29/2024

DATE

thebig

Jan 29, 2024

PRINTED BY:

PROJ. ENGR

ONE SITCUM PLAZA

TACOMA WA, 98401-1837

PORT ADDRESS:

ONE SITCUM PLAZA

APPROVED:

TJH

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

6693

C9

11 OF 11

CONTRACTOR: 071940
M. ID: 101615.01
PHASE: BID SET

1/29/2024

CHECKED BY

1/29/2024

PROJ. ENGR

1/29/2024

DATE

1/29/2024

DATE

thebig

Jan 29, 2024

PRINTED BY:

PROJ. ENGR

ONE SITCUM PLAZA

TACOMA WA, 98401-1837

PORT ADDRESS:

ONE SITCUM PLAZA

APPROVED:

TJH

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

6693

C9

11 OF 11

CONTRACTOR: 071940
M. ID: 101615.01
PHASE: BID SET

1/29/2024

CHECKED BY

1/29/2024

PROJ. ENGR

1/29/2024

DATE

1/29/2024

DATE

thebig

Jan 29, 2024

PRINTED BY:

PROJ. ENGR

ONE SITCUM PLAZA

TACOMA WA, 98401-1837

PORT ADDRESS:

ONE SITCUM PLAZA

APPROVED:

TJH

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

6693

C9

11 OF 11

CONTRACTOR: 071940
M. ID: 101615.01
PHASE: BID SET

1/29/2024

CHECKED BY

1/29/2024

PROJ. ENGR

1/29/2024

DATE

1/29/2024

DATE

thebig

Jan 29, 2024

PRINTED BY:

PROJ. ENGR

ONE SITCUM PLAZA

TACOMA WA, 98401-1837

PORT ADDRESS:

ONE SITCUM PLAZA

APPROVED:

TJH

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

6693

C9

11 OF 11

CONTRACTOR: 071940
M. ID: 101615.01
PHASE: BID SET

1/29/2024

CHECKED BY

1/29/2024

PROJ. ENGR

1/29/2024

DATE

1/29/2024

DATE

thebig

Jan 29, 2024

PRINTED BY:

PROJ. ENGR

ONE SITCUM PLAZA

TACOMA WA, 98401-1837

PORT ADDRESS:

ONE SITCUM PLAZA

APPROVED:

TJH

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

6693

C9

11 OF 11

CONTRACTOR: 071940
M. ID: 101615.01
PHASE: BID SET

1/29/2024

CHECKED BY

1/29/2024

PROJ. ENGR

1/29/2024

DATE

1/29/2024

DATE

thebig

Jan 29, 2024

PRINTED BY:

PROJ. ENGR

ONE SITCUM PLAZA

TACOMA WA, 98401-1837

PORT ADDRESS:

ONE SITCUM PLAZA

APPROVED:

TJH

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

6693

C9

11 OF 11

CONTRACTOR: 071940
M. ID: 101615.01
PHASE: BID SET

1/29/2024

CHECKED BY

1/29/2024

PROJ. ENGR

1/29/2024

DATE

1/29/2024

DATE

thebig

Jan 29, 2024

PRINTED BY:

PROJ. ENGR

ONE SITCUM PLAZA

TACOMA WA, 98401-1837

PORT ADDRESS:

ONE SITCUM PLAZA

APPROVED:

TJH

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

1/29/2024

DATE

6693

C9

11 OF 11

CONTRACTOR: 071940
M. ID: 101615.01
PHASE: BID SET

1/29/2024

CHECKED BY

1/29/2024