

Supplier Document Status Stamp

BSC	A. Records Designator: <input type="checkbox"/> QA: QA <input checked="" type="checkbox"/> QA: NA B. LSN Relevancy: <input type="checkbox"/> LSN Relevant <input checked="" type="checkbox"/> Not LSN Relevant C. Privileged or Copyright Protected: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No D. Procurement Document No. <u> NN-HC4-00239 </u> E. BSC Standard Document No. <u> V0-HX00-NHC4-00239-00053-001-005 </u>																																									
F. SUPPLIER DOCUMENT STATUS																																										
1. <input checked="" type="checkbox"/> WORK MAY PROCEED. 2. <input type="checkbox"/> REVISE AND RESUBMIT. WORK MAY PROCEED SUBJECT TO RESOLUTION OF INDICATED COMMENTS. 3. <input type="checkbox"/> REVISE AND RESUBMIT. WORK MAY NOT PROCEED. 4. <input type="checkbox"/> REVIEW NOT REQUIRED. WORK MAY PROCEED. 5. <input type="checkbox"/> FOR INFORMATION ONLY.																																										
PERMISSION TO PROCEED DOES NOT CONSTITUTE ACCEPTANCE OR APPROVAL OF DESIGN DETAILS, CALCULATIONS, ANALYSES, TEST METHODS, OR MATERIALS DEVELOPED OR SELECTED BY THE SUPPLIER AND DOES NOT RELIEVE SUPPLIER FROM FULL COMPLIANCE WITH CONTRACTUAL OBLIGATIONS.																																										
G. REVIEW COPY	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%; text-align: center;">NVM</td> <td style="width: 10%; text-align: center;">NE</td> <td style="width: 10%;"></td> </tr> <tr> <td style="text-align: center;"><i>ECS</i></td> <td style="text-align: center;"><i>SK</i></td> <td></td> </tr> </table>	NVM	NE																			<i>ECS</i>	<i>SK</i>																			
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H. Area Code <u> N/A </u> System Code <u> N/A </u> Baseline Level <u> N/A </u>																																										
I. DOCUMENT CATEGORY <u> N/A </u> (Attach 3, Attach 4, or SSRS Form as applicable)																																										
J. <u> Eugene C. Allen </u> <i>Eugene C. Allen</i> <u> 5/23/07 </u> RESPONSIBLE ENGINEER/ANALYST (Printed Name and Signature) DATE																																										

Title: Route Sections and Structures – Typical Concepts

Supplier DI#: NRP-R-SYSW-TY-0001-03

Supplier Rev.: 03

Supplier Date: 05/15/07

NVM Nevada Transportation Manager Gene Allen
 NE Nevada Engineering Scott Kelderhouse

Transportation Data Pedigree Form

Complete only applicable items.

Subcontractor: Nevada Rail Partners	Item Number/Title/Revision: T7:Route Sections and Structures- <i>Route Sections and Structures-Typical Concepts of Structural Features, Caliente Rail Corridor-NRP-R-SYSW-TY-0001-03, Rev. 03</i> Exhibit I, item number 11a, RFP Reference Exhibit D-2.7	Submittal Date: May 15, 2007	SRCT No.: 06- 00025	
Section I. Submittal Information (includes above information)				
Submittal Description and Revision Summary for Entire Submittal: This revision entailed changing the revision number from 02 to 03, and removing disclaimer per DOE/BSC direction.				
Special Instructions:				
Section II. Data File Information (Add lines below if needed for additional files. Indicate "Last item" or "End of list" on last line used.)				
Filename	Rev	File Size	Description (File description and revision summary for file)	Application and Version/ Add-in or Extension and Version
T7_Cover_15May07.ppt	03	508 KB	Report cover for Route Sections and Structures-Typical Concepts of Structural Features, Caliente Rail Corridor NRP-R-SYSW-TY-0001-03	Microsoft Powerpoint 2003
T7-CRC_RouteSection & Structures_FINAL_Rev03_15May2007.doc	03	522 KB	Main text document — Route Sections and Structures-Typical Concepts of Structural Features Caliente Rail Corridor NRP-R-SYSW-TY-0001-03	Microsoft Word 2003
T7-CRC_RouteSection&Structures_FINAL_Rev03_15May2007.pdf	03	3,367 KB	Complete document with all imbedded graphics — Route Sections and Structures-Typical Concepts of Structural Features Caliente Rail Corridor NRP-R-SYSW-TY-0001-03	Adobe Acrobat 6.x
T7-CRC_RouteSection&Structures_FINALReadonly_Rev03_15May2007.doc	03	522 KB	Main text document Readonly — Route Sections and Structures-Typical Concepts of Structural Features Caliente Rail Corridor NRP-R-SYSW-TY-0001-03	Microsoft Word 2003
T7-CRC_RouteSection&Structures_FINALredlines_Rev03_15May2007.pdf	03	60 KB	Scanned redline version — Route Sections and Structures-Typical Concepts of Structural Features Caliente Rail Corridor NRP-R-SYSW-TY-0001-03	Adobe Acrobat 6.x
NRP-D-SYSW-TY-0001-03.DGN	03	44 KB	Index Of Drawings	MicroStation V08.05.02.55
NRP-D-SYSW-TY-0002-03.DGN	03	357 KB	Typical Sections Single And Two Tracks On Tangent	MicroStation V08.05.02.55
NRP-D-SYSW-TY-0003-03.DGN	03	147 KB	Typical Sections Single And Two Tracks On Curve	MicroStation V08.05.02.55
NRP-D-SYSW-TY-0004-03.DGN	03	61 KB	Typical Section - Large Cut	MicroStation V08.05.02.55
NRP-D-SYSW-TY-0005-03.DGN	03	63 KB	Typical Section - Large Fill	MicroStation V08.05.02.55
NRP-D-SYSW-TY-0006-03.DGN	03	81 KB	Typical Section – Paved And Gravel Road	MicroStation V08.05.02.55
NRP-D-SYSW-TY-0007-03.DGN	03	59 KB	Standard Minimum Operating Clearances	MicroStation V08.05.02.55
NRP-D-SYSW-TY-0008-03.DGN	03	184 KB	Typical Siding Layout	MicroStation V08.05.02.55
NRP-D-SYSW-TY-0009-03.DGN	03	79 KB	Typical Grade Separation Railroad Over 4 Lane Highway	MicroStation V08.05.02.55

Complete only applicable items.

Subcontractor:	Item Number/Title/Revision:			Submittal Date:	SRCT No.:
Nevada Rail Partners	T7:Route Sections and Structures- <i>Route Sections and Structures-Typical Concepts of Structural Features, Caliente Rail Corridor-NRP-R-SYSW-TY-0001-03, Rev. 03</i> Exhibit I, item number 11a, RFP Reference Exhibit D-2.7			May 15, 2007	
NRP-D-SYSW-TY-0010-03.DGN	03	140 KB	Typical Grade Separation Highway Over Railroad	MicroStation V08.05.02.55	
NRP-D-SYSW-TY-0011-03.DGN	03	81 KB	Typical Railroad Crossing With Quad Gates	MicroStation V08.05.02.55	
NRP-D-SYSW-TY-0012-03.DGN	03	98 KB	Typical Railroad Crossing Without Quad Gates	MicroStation V08.05.02.55	
NRP-D-SYSW-TY-0013-03.DGN	03	427 KB	Typical Installation Of Road Crossing With Precast Concrete Panels	MicroStation V08.05.02.55	
NRP-D-SYSW-TY-0014-03.DGN	03	192 KB	Typical Section For Pipeline Crossing	MicroStation V08.05.02.55	
NRP-D-SYSW-TY-0015-03.DGN	03	221 KB	Typical Precast Slab Bridge Details	MicroStation V08.05.02.55	
NRP-D-SYSW-TY-0016-03.DGN	03	141 KB	Typical Precast Double Cell Bridge Details	MicroStation V08.05.02.55	
NRP-D-SYSW-TY-0017-03.DGN	03	96 KB	Typical Single Drilled Shaft Supported Structure	MicroStation V08.05.02.55	
NRP-D-SYSW-TY-0018-03.DGN	03	85 KB	Typical Precast Concrete Box	MicroStation V08.05.02.55	
NRP-D-SYSW-TY-0019-03.DGN	03	80 KB	Typical Corrugated Metal Pipe	MicroStation V08.05.02.55	
NRP-D-SYSW-TY-0020-03.DGN	03	1,810 KB	Beatty Wash Bridge Plan & Profile	MicroStation V08.05.02.55	
NRP-D-SYSW-TY-0021-03.DGN	03	237 KB	Beatty Wash Bridge Typical Sections	MicroStation V08.05.02.55	
NRP-D-SYSW-TY-0022-03.DGN	03	65 KB	Typical Right Of Way	MicroStation V08.05.02.55	
NRP-D-SYSW-TY-BORD-03.DGN	03	147 KB	Reference Border Sheet	MicroStation V08.05.02.55	

*****Last Item*****

Section III. Metadata

<input type="checkbox"/> GIS Metadata All GIS data is preferred in ArcGIS9.1 UTM, NAD1983, Zone11, Feet.	Projection:
	Datum:
	Zone:
	Units:
<input type="checkbox"/> CAD Metadata CAD drawings are preferred in Bentley MicroStation V8 and/or InRoads and should adhere to established CAD standards.	Level descriptions:
	Scale:
	Units of Measurement:
	Horizontal and Vertical Datum:

Section IV. Data Screening (Completed by BSC personnel)

Suitable for Review? <input checked="" type="checkbox"/> Yes* <input type="checkbox"/> No	Screener Name: Cathy Steffler	Signature: Cathy Steffler	Date: 5/11/07
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*If "Yes", Data Storage Location: network\NRP\Task 7 Route Sections and Structures\06-00025 Route Sections and Structures Caliente Rev 03 05-15-07

Transportation Data Pedigree Form

Complete only applicable items.

Subcontractor: Nevada Rail Partners	Item Number/Title/Revision: T7:Route Sections and Structures- <i>Route Sections and Structures-Typical Concepts of Structural Features, Caliente Rail Corridor-NRP-R-SYSW-TY-0001-03, Rev. 03</i> Exhibit I, item number 11a, RFP Reference Exhibit D-2.7	Submittal Date: May 15, 2007	SRCT No.:
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Comments: (Justification for rejecting submittal is **required**; other comments are optional.)

Section V. STR Disposition of Submittal

Process for Review? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No**	** If "No", date returned:	Comments:
STR Name: <i>Brene Allen</i>	Signature: <i>[Signature]</i> <i>5/14/07</i>	Date: <i>5/15/07</i>

Route Sections and Structures – Typical Concepts of Structural Features Caliente Rail Corridor

Task 7: Route Sections and Structures

REV. 03

Document No. NRP-R-SYSW-TY-0001-03

Prepared by:



Prepared for:



Nevada Rail Line Conceptual Design

Subcontract NN-HC4-00239

May 15, 2007



Route Sections and Structures - Typical Concepts of Structural Features

Caliente Rail Corridor

Introduction

The objective of the work product is to provide the U.S. Department of Energy's (DOE) EIS contractor information that defines specific conceptual design features of the Nevada Rail Line (NRL) sections, structures and track work. These features have been developed for compliance with NRL design criteria and to be generally consistent with industry accepted standards for Class I freight railroads and state highways. To graphically depict the interfaces to the topography of the alignment several areas were addressed. Categories of interface are the excavation and embankment, drainage, utilities, roadways, bridges, track and fencing. The following paragraphs describe these categories and the manner in which this drawing set defines the associated conceptual design features.

Excavation and Embankment

Typical sections show the standard roadbed cross section for single and double track conditions and their interface to the terrain causing excavation and embankment conditions. Major cross sections for excavation and embankment show the ultimate extent of incursion into the existing terrain. All dimensioning is referenced to the track centerline and top of rail.

Drainage

Typical details for precast concrete box and corrugated metal pipe are included as typical applications for drainage structures under the track to interface with small ravines.

Utilities

Typical cross section for pipe crossings under the track shows encasement requirements to protect existing pipelines. Overhead utility crossings are governed by the standard clearance diagram.

Roadways

Typical grade separations for both track-over-roads and roads-over-track are depicted. Also, at-grade crossings show both a signalized quad-gate crossing for paved public roads and a standard unsignalized cross buck condition for unpaved public roads and all private road crossings. The equipment shown for the signalized crossing protection is in accordance with the *Manual on Uniform Traffic Control Devices for Streets and Highways*. Additional details show the standard track crossing panel installation and typical roadway cross sections.

Bridges

Typical railroad bridge details for normal applications (ravine cross sections of 40 feet in height or less) are included showing both elevation and cross section views. Details are shown for bridge types requiring either pile foundations and piers or drilled pier foundations and columns. In addition, the proposed bridge for Beatty Wash depicts a large, special-condition railroad bridge in elevation and cross section.

Track

Track layout conditions are depicted on Class I freight railroad standard minimum operating clearance diagrams. Additionally, multiple track conditions are depicted on the typical siding layout drawing. This particular drawing also shows team track (for support of potential shared use) orientation to the siding for passing trains and the service road available for accessing the freight cars positioned on the track. Additionally, it identifies a maintenance-of-way set-out track. The typical siding layout drawing also shows the relationship of standard three aspect train operation signaling equipment to the track layout configuration.

Fencing

No fencing will be constructed along the Caliente Rail Corridor (CRC) except where required by law or as a result of stakeholder agreements. As design of the CRC progresses, fencing requirements will be reviewed. All fencing is assumed to be at the right-of-way (ROW) lines shown on various drawings in this package.

Drainage Design Hydrological Criteria

The following criteria will be utilized in the preliminary assessment of drainage structure needs for the CRC.

Drainage Structure Locations

The NRL crosses a portion of the State of Nevada that is subject to short duration, intense rainfall events that produce relatively high peak flows with short flow durations. As a result, the flows that cross the corridor will include relatively large volumes of sediment in the flows encountered. The presence of sediment laden flows suggests the need for frequent drainage structures where identifiable flows cross the alignment. Diversion structures may be used to channelize flow to more easily pass through drainage structures if the following occurs:

- Provisions are made to handle sediment movement and deposition
- Provisions are made to address downstream scour potential



Design Headwater

Design headwater is assumed to be based upon typical Class I freight railroad standard design criteria which calls for the headwater height to be less than or equal to the culvert or low bridge chord height during the 50-year event and the 100-year headwater depth below the subgrade elevation.

Seepage Concerns

The design peak flows for the corridor will be the product of thunderstorm events which are short in duration. Therefore, flows impounded by the rail embankment will be of very short duration as well. Seepage concerns are negligible when the flow duration is short since there is not adequate time for the embankment to become saturated. If large headwater to depth ratios are used, headwalls are recommended in these high-head conditions to prevent seepage along the outside edge of the pipe. Some embankments may be armored with riprap to prevent scour and erosion to maintain in the integrity of the embankment during periods of peak flows.

Culvert Capacity

Circular culverts will be utilized where flows rates are relatively small. In order to evaluate the approximate range of flow rates that can be accommodated with circular culverts, the Federal Highway Administration (FHWA) Inlet Control nomographs will be used. It was assumed that the depth of water to height of pipe ratio at the culvert inlet would not exceed 1.3 for the 100-year event.

Based upon this criteria, circular culverts can be used for small flow rates as shown in Table 1.

Table 1 - Circular Culverts

Diameter (inch)	Approx Capacity (cubic feet per second [cfs])
36	45
48	100
60	140

Table 2 provides approximate guidance on the capacity of box culvert type structure.

Table 2 - Box Culverts

Height	Q/Width (cfs)	Flow Rates (cfs) for Widths (Feet) of		
		4	6	8
3	20	80	120	160
4	30	120	180	240
5	40	160	240	320
6	60	240	360	480
8	90	360	540	720

The assumption was made that bridges may be the most desirable alternative when flow rates exceed 1000 cfs or when the vertical alignment provides for limited vertical space. The placement of a bridge typically involves encroachment into the floodplain with the bridge abutments which can have some impact on the water surface elevations upstream of the bridge. Excessive encroachment could also result in increased scour potential at the abutments, piers and the stream bottom through the bridge opening. Encroachments up to 30 percent of the flood plain width are assumed. Initial spot analysis indicated this degree of encroachment results in an approximately one-foot increase in water surface elevation at the upstream side of the proposed bridge when the floodplain is wide and shallow. Typical railroad bridge piers assume the use of exposed deep-driven H-pile foundations. The pier depth needed to withstand pier scour will be determined at the time of final design. The approximate width and depth of flow will be estimated based on the approximate design discharge and a normal depth estimate at the bridge location.

Where very wide and shallow depths of flow occur during the 100-year event, or where the flow is divided into multiple natural channels that cross the alignment, a series of multiple culverts will be proposed with possibly some small bridges where the apparent main flow occurs. This approach would allow the flows to remain wide and shallow and eliminate the need to concentrate flows with dikes and channelization that would have long term maintenance concerns. In locations where there are very high fill conditions, it is assumed that multiple culverts would be more economical than bridges. These applications will be analyzed on a case-by-case basis and culverts will be proposed whenever feasible. Future engineering will refine this approach.

In the cases where the bridge crosses a Federal Emergency Management Agency (FEMA) Zone A as shown on the FEMA Flood Insurance Rate Maps, the bridge would adhere to the impact limitations defined by the floodplain management ordinance for the county or city that has jurisdiction, thereby limiting the impact to no more than a one foot rise in the water surface elevation



Right-of-Way

Construction Right-of-Way

Construction ROW is defined as property to which DOE would obtain access in order to construct the rail line and associated construction support facilities, ballast quarries, water wells, and necessary access roads. The nominal width of the construction ROW would be 1,000 feet, 500 feet on either side of the centerline of the rail alignment. The construction ROW could be wider in some locations to accommodate, if practicable, certain deep cuts and fills and construction of drainage structures, or narrower in some locations to avoid, for example, sensitive environmental resources or private property.

Operations Right-of-Way

Operations ROW is defined as property to which DOE would obtain access for the operation of the Rail Line and associated operations support facilities, possible continued operation of one or more ballast quarries, possible continued use of some water wells, and necessary access roads. The nominal width of the operations ROW would be 400 feet, 200 feet on either side of the centerline of the as-built rail line.

The construction and operations ROWs will include lands having existing ROW grants issued to other entities (e.g., Nevada Department of Transportation, Union Pacific). Agreements to construct and operate the rail line on those lands would be developed with the ROW holders; thus there will not be a dedicated CRC ROW in those areas. Construction activities should have been considered during the development and issuance of the existing ROW grants; therefore, no additional impacts from an increase in the construction footprint or from operational activities within the ROWs are anticipated..

Additional Right-of-Way Considerations

- For trackside facilities and roadways, construction ROW is the same as operations ROW.
- The ROW standard for construction and operation of facilities is 50 feet from the outermost edge of the facility footprint (similar to a 50-foot buffer).
- The proposed access road ROWs can be found in *Construction Plan, Caliente Rail Corridor* (Rev. 02), Table 4.7.
- Quarry ROW assumptions can be found in Chapter 3 of *Construction Plan, Caliente Rail Corridor* (Rev.02).
- Discussion of the other idiosyncrasies pertaining to construction facilities (e.g., construction camps) and inclusion within the ROW can also be found in *Construction Plan, Caliente Rail Corridor* (Rev.02).
- Water wells outside of the ROW can be assumed to have a footprint of 250 feet by 250 feet.
- In areas where the construction and/or operations footprint is restricted by wetlands, private property, or other environmentally sensitive conditions, the ROW boundary may also avoid the environmentally sensitive areas, if practicable.
- In areas with a 1000-foot-wide construction ROW, the operational ROW will be reduced to 400-foot-wide. Exceptions would include wider areas such as certain deep cuts and fills and construction of drainage structures, or narrower areas to avoid, if practicable, sensitive environmental resources or private property.

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SHEET NO.	DESCRIPTION
1	INDEX OF DRAWINGS
2	TYPICAL SECTIONS SINGLE AND TWO TRACKS ON TANGENT
3	TYPICAL SECTIONS - SINGLE AND TWO TRACKS ON CURVE
4	TYPICAL SECTION, LARGE CUT
5	TYPICAL SECTION, LARGE FILL
6	TYPICAL SECTIONS, PAVED AND GRAVEL ROAD
7	STANDARD MINIMUM OPERATING CLEARANCES
8	TYPICAL SIDING LAYOUT
9	TYPICAL GRADE SEPARATION - RAILROAD OVER 4 LANE HIGHWAY
10	TYPICAL GRADE SEPARATION - HIGHWAY OVER RAILROAD
11	TYPICAL RAILROAD CROSSING WITH QUAD GATES
12	TYPICAL RAILROAD CROSSING WITHOUT QUAD GATES
13	TYPICAL INSTALLATION OF ROAD CROSSING W/ PRECAST CONC. PANELS
14	TYPICAL SECTION FOR PIPELINE CROSSING
15	TYPICAL PRECAST SLAB BRIDGE DETAILS
16	TYPICAL PRECAST DOUBLE CELL BRIDGE DETAILS
17	TYPICAL SINGLE DRILLED SHAFT SUPPORTED STRUCTURE
18	TYPICAL PRECAST CONCRETE BOX
19	TYPICAL CORRUGATED METAL PIPE
20	BEATTY WASH BRIDGE, PLAN & PROFILE
21	BEATTY WASH BRIDGE TYPICAL SECTIONS
22	TYPICAL RIGHT OF WAY

THIS DRAWING IS CONCEPTUAL AND NOT INTENDED FOR CONSTRUCTION.

NEVADA RAIL PARTNERS
 NEVADA RAIL LINE CONCEPTUAL DESIGN
 SUBCONTRACT NN-HC4-00239
 TASK 7 - ROUTE SECTIONS AND STRUCTURES



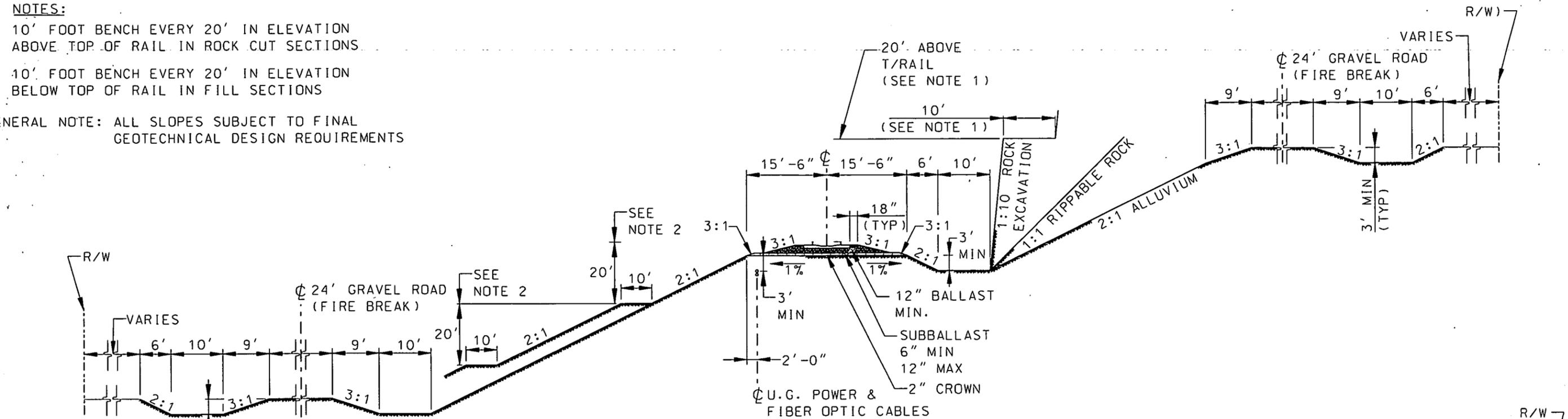
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02	REVISED PER DEIS REVIEW COMMENTS	2/19/07							
01	ISSUED FOR DEIS REFERENCE	4/7/06							

DESIGNED BY RL/OP	APPROVALS	DATE	U.S. DEPARTMENT OF ENERGY Office of National Transportation	
DRAWN BY TN	DESIGNED BY TN		BECHTEL Management and Operation of the Office of SAIC SAIC Civilian Radioactive Waste Management Program	
CHECKED BY JC			INDEX OF DRAWINGS	
QUALITY ENGINEERING REP JC			SCALE NONE	DOCUMENT IDENTIFIER NRP-D-SYSW-TY-0001-03
PROJECT ENGINEER JC			SAFETY CATEGORY	CAD SOFTWARE MICROSTATION V03.05.02.55
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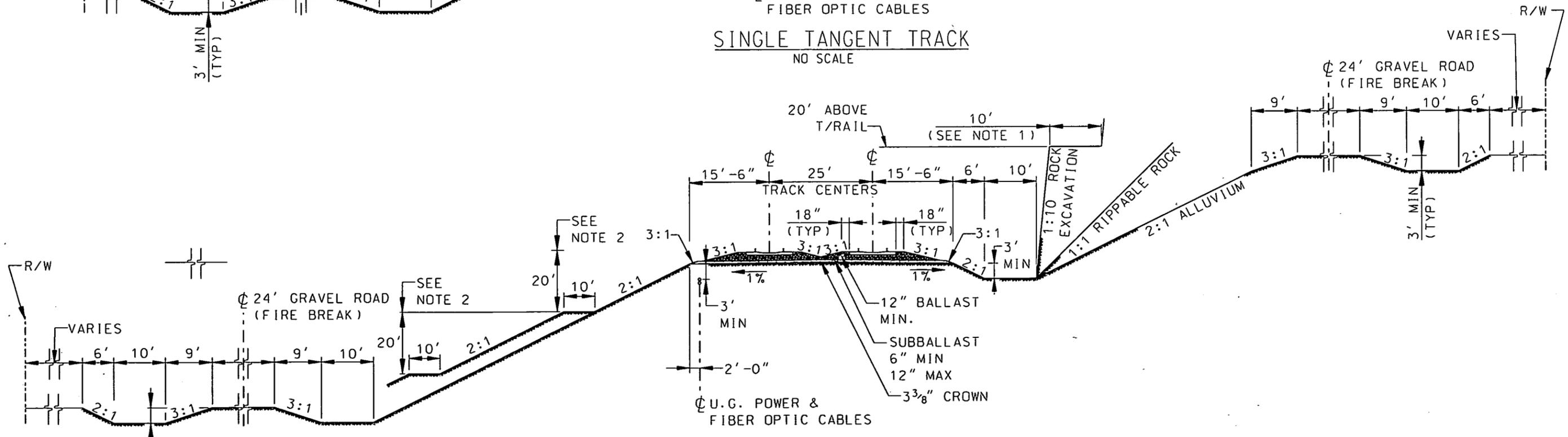
NOTES:

- ① 10' FOOT BENCH EVERY 20' IN ELEVATION ABOVE TOP OF RAIL IN ROCK CUT SECTIONS
- ② 10' FOOT BENCH EVERY 20' IN ELEVATION BELOW TOP OF RAIL IN FILL SECTIONS

GENERAL NOTE: ALL SLOPES SUBJECT TO FINAL GEOTECHNICAL DESIGN REQUIREMENTS



SINGLE TANGENT TRACK
NO SCALE



TWO TANGENT TRACKS
NO SCALE

THIS DRAWING IS CONCEPTUAL AND NOT INTENDED FOR CONSTRUCTION.

NEVADA RAIL PARTNERS
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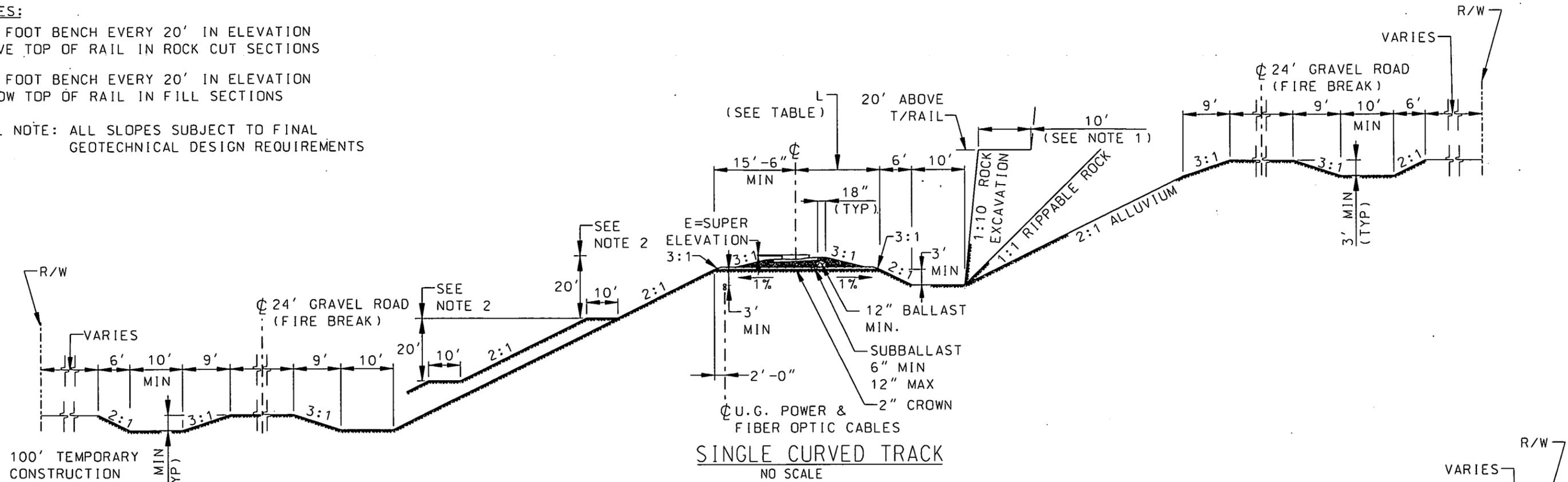
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DR/DP					MICROSTATION V8.05.02.55

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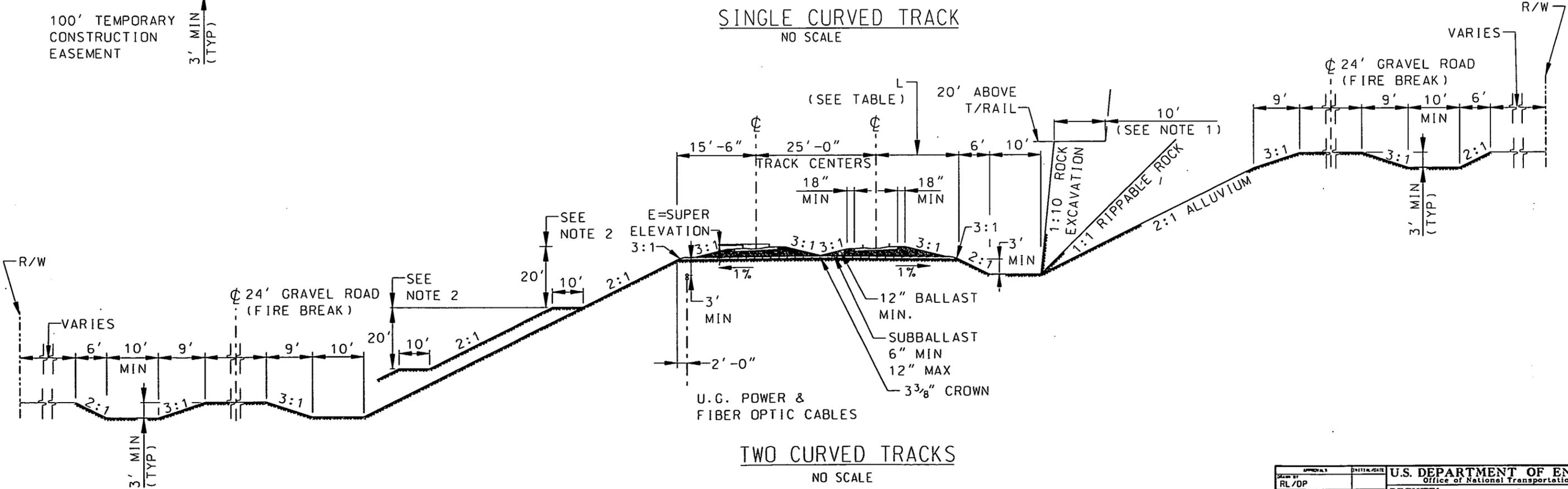
- ① 10' FOOT BENCH EVERY 20' IN ELEVATION ABOVE TOP OF RAIL IN ROCK CUT SECTIONS
- ② 10' FOOT BENCH EVERY 20' IN ELEVATION BELOW TOP OF RAIL IN FILL SECTIONS

GENERAL NOTE: ALL SLOPES SUBJECT TO FINAL GEOTECHNICAL DESIGN REQUIREMENTS



100' TEMPORARY CONSTRUCTION EASEMENT

SINGLE CURVED TRACK
NO SCALE



TWO CURVED TRACKS
NO SCALE

THIS DRAWING IS CONCEPTUAL AND NOT INTENDED FOR CONSTRUCTION.

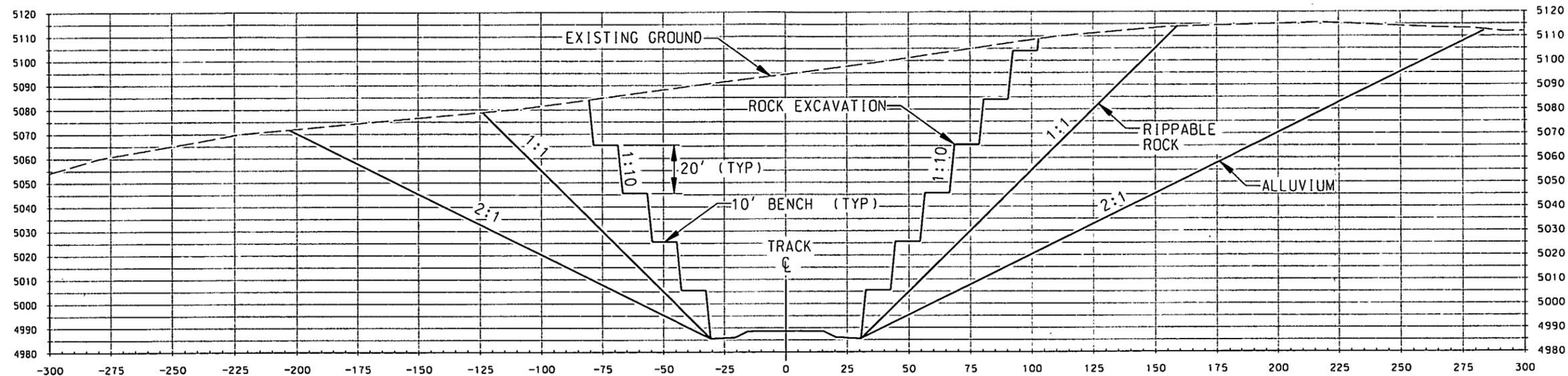
NEVADA RAIL PARTNERS
NEVADA RAIL LINE CONCEPTUAL DESIGN
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01	ISSUED FOR DEIS REFERENCE	4/7/06							
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APPROVALS		DATE		U.S. DEPARTMENT OF ENERGY Office of National Transportation	
DESIGN BY	RL/DP			BECHTEL Management and Operation of the Office of SAIC Civilian Radioactive Waste Management Program	
DESIGNED BY	TN			TYPICAL SECTIONS SINGLE AND TWO TRACKS ON CURVE	
CHECKED BY	JC			SCALE	NONE
REVISION BY	TN			DOCUMENT IDENTIFIER	NRP-D-SYSW-TY-0003-03
DESIGN LEAD ENGINEER	TN			SCALE	AS SHOWN
QUALITY ENGINEERING REP	JC			SOFTWARE	MICROSTATION V8.05.02.55
PROJECT ENGINEER	JC			SHEET	3 OF 22

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TYPICAL SECTION - LARGE CUT

(SEE SHEET 3 OF 21 FOR TYPICAL TRACK AND DITCH DETAILS)

NOTE: ALL SLOPES SUBJECT TO FINAL GEOTECHNICAL DESIGN REQUIREMENTS

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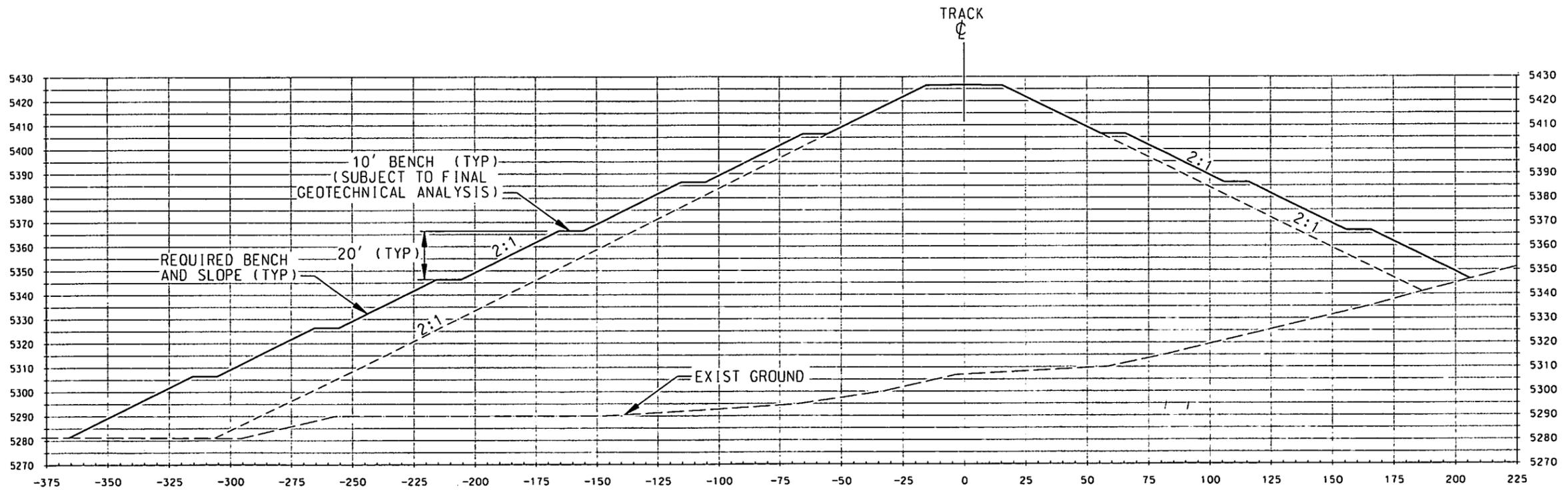
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APPROVALS		DATE	DATE
DESIGN BY	RL/DP		
DESIGNER	TN		
CHECKER	JC		
VERIFICATION	TN		
DESIGN LEAD ENGINEER	TN		
QUALITY ENGINEERING REP	JC		
PROJECT ENGINEER	JC		
U.S. DEPARTMENT OF ENERGY Office of National Transportation BECHTEL Management and Operation of the Office of SAIC <small>SAIC</small> Civilian Radioactive Waste Management Program			
TYPICAL SECTION LARGE CUT			
SCALE	AS SHOWN	DOCUMENT IDENTIFIER	NRP-D-SYSW-TY-0004-03
SHEET	4	OF	22

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TYPICAL SECTION - LARGE FILL
 (SEE SHEET 3 OF 21 FOR TYPICAL TRACK DETAILS)

NOTE: ALL SLOPES SUBJECT TO FINAL GEOTECHNICAL DESIGN REQUIREMENTS

THIS DRAWING IS CONCEPTUAL AND NOT INTENDED FOR CONSTRUCTION.

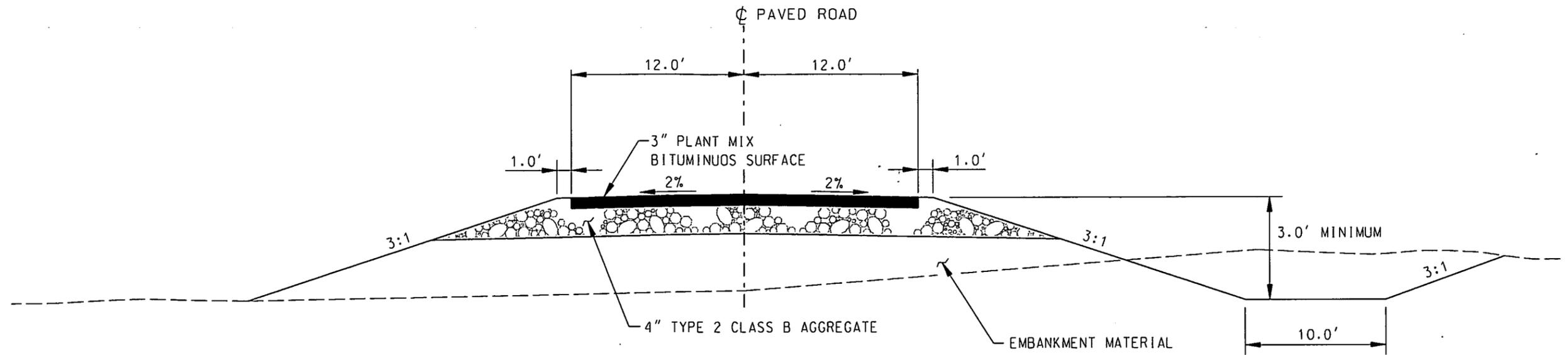
NEVADA RAIL PARTNERS
 NEVADA RAIL LINE CONCEPTUAL DESIGN
 SUBCONTRACT NN-HC4-00239
 TASK 7 - ROUTE SECTIONS AND STRUCTURES



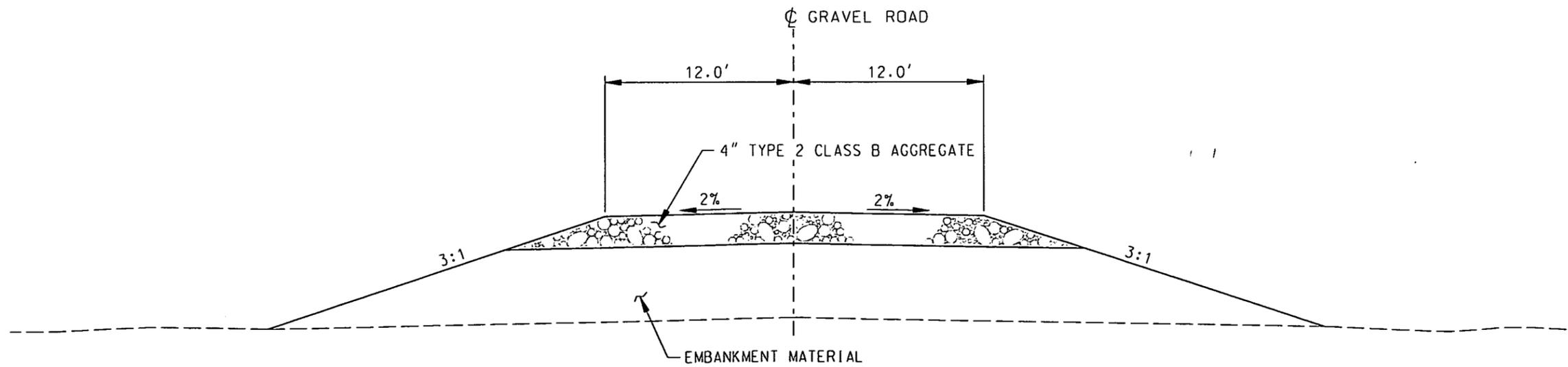
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02	REVISED PER DEIS REVIEW COMMENTS	2/19/07						
01	ISSUED FOR DEIS REFERENCE	4/7/06						

APPROVALS	DATE	U.S. DEPARTMENT OF ENERGY Office of National Transportation
DESIGNER RL/DP		BECHTEL SAIC Management and Operation of the Office of Civilian Radioactive Waste Management Program
CHECKER TN		
VERIFY ENGINEER JC		TYPICAL SECTION LARGE FILL
DESIGN LEAD ENGINEER TN		
QUALITY ENGINEERING REP JC		SCALE NONE
PROJECT ENGINEER JC		DOCUMENT IDENTIFIER NRP-0-SYSW-TY-0005-03
		SAFETY CATEGORY MICROSTATION V03.05.02.55
		SHEET 5 OF 22

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PAVED ROAD SECTION
NOT TO SCALE



GRAVEL ROAD SECTION
NOT TO SCALE

THIS DRAWING IS CONCEPTUAL AND NOT INTENDED FOR CONSTRUCTION.

NEVADA RAIL PARTNERS
NEVADA RAIL LINE CONCEPTUAL DESIGN
SUBCONTRACT NN-HC4-00239
TASK 7 - ROUTE SECTIONS AND STRUCTURES



03	ISSUED FOR DEIS REFERENCE	5/15/07								
02	REVISED PER	2/19/07								
	DEIS REVIEW COMMENTS									
01	ISSUED FOR DEIS REFERENCE	4/7/06								

DESIGNED BY RL/DP	DATE 5/15/07	U.S. DEPARTMENT OF ENERGY Office of National Transportation BECHTEL Management and Operation of the Office of SAIC SAIC <small>SAIC COMPANY</small> Civilian Radioactive Waste Management Program
ORIGINATOR TN	DATE 2/19/07	
CHECKED JC	DATE 4/7/06	
VERIFICATION TN	DATE 5/15/07	
DESIGN LEAD ENGINEER TN		TYPICAL SECTION PAVED AND GRAVEL ROAD
QUALITY ENGINEERING REP JC		
PROJECT ENGINEER JC		SIZE: NONE SCALE: NONE DOCUMENT IDENTIFIER: NRP-D-SYSW-TY-0006-03 CAD SOFTWARE: MICROSTATION V03.05.02.55 SHEET: 6 OF 22

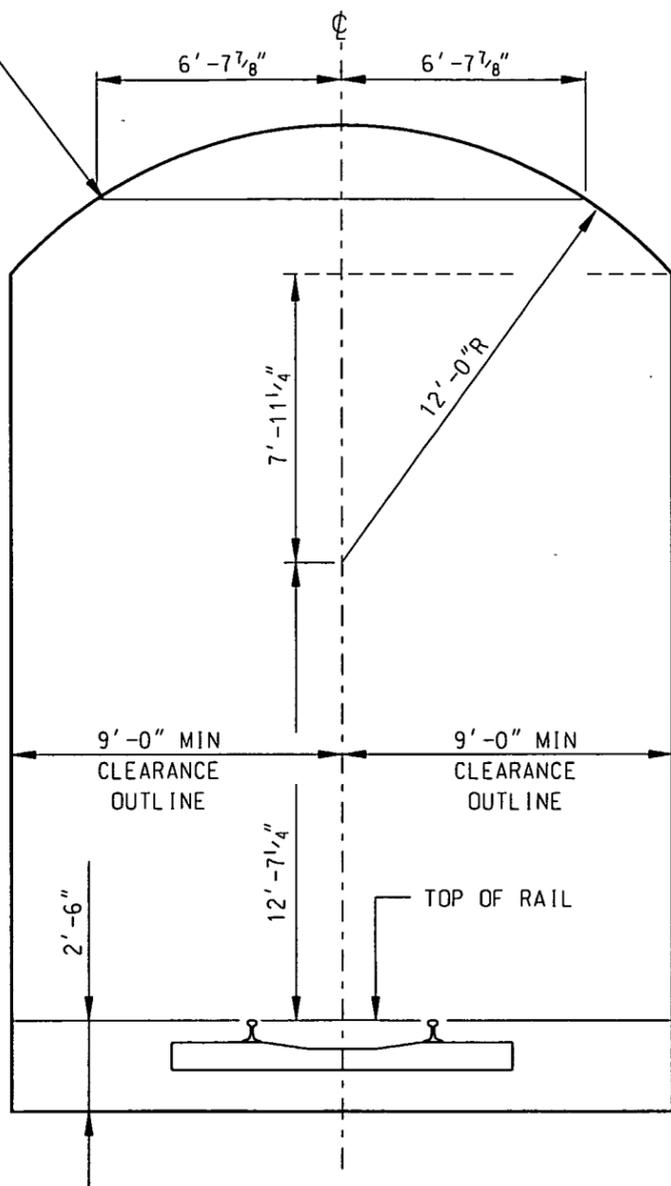
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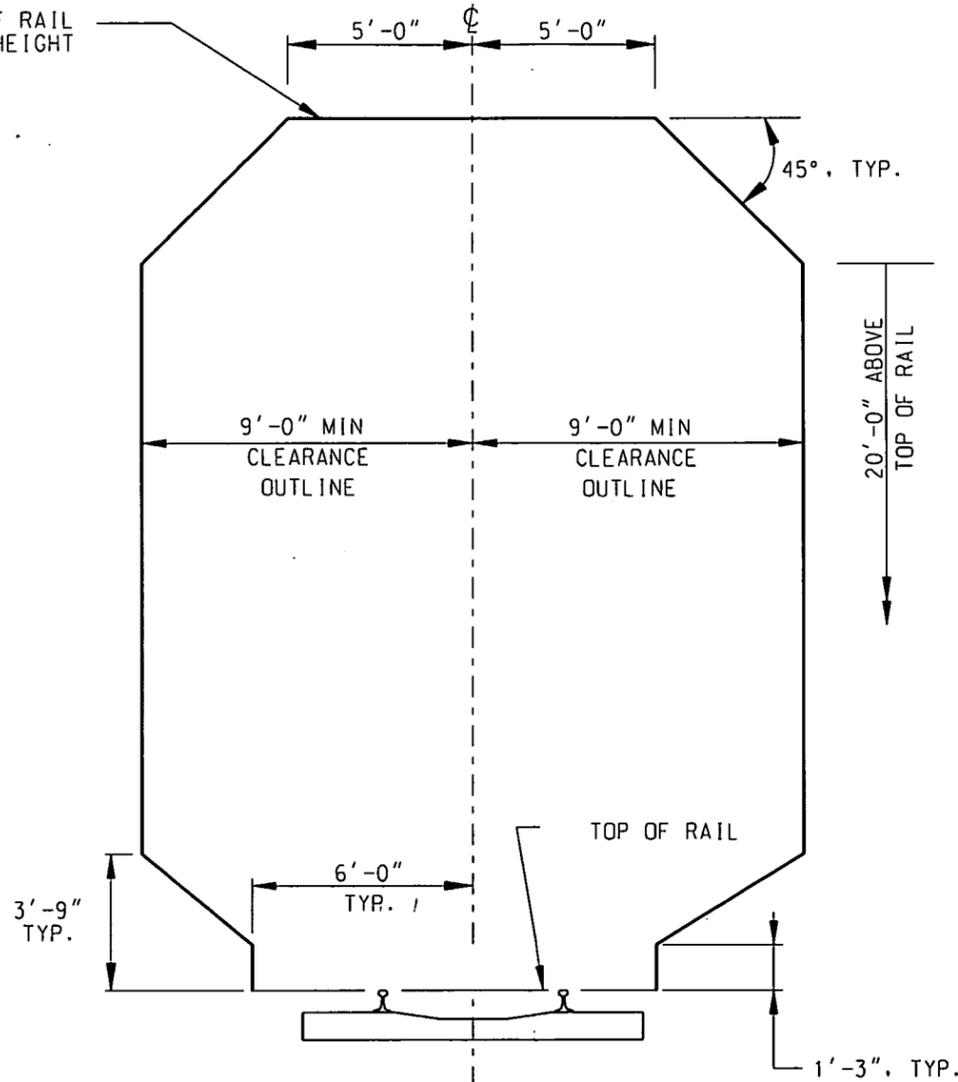
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24'-0" ABOVE TOP OF RAIL
MINIMUM STRUCTURE HEIGHT



RAIL THROUGH TUNNELS
(FOR TANGENT TRACK)

24'-0" ABOVE TOP OF RAIL
MINIMUM STRUCTURE HEIGHT



RAIL THROUGH STRUCTURES
(FOR TANGENT TRACK)

INCREASE CLEARANCE LATERALLY BY 1 1/2" PER DEGREE OF
CURVATURE EXTENDING TO 80' BEYOND THE END OF THE CURVE.

THIS DRAWING IS CONCEPTUAL AND NOT
INTENDED FOR CONSTRUCTION.

NEVADA RAIL PARTNERS
NEVADA RAIL LINE CONCEPTUAL DESIGN
SUBCONTRACT NN-HC4-00239
TASK 7 - ROUTE SECTIONS AND STRUCTURES

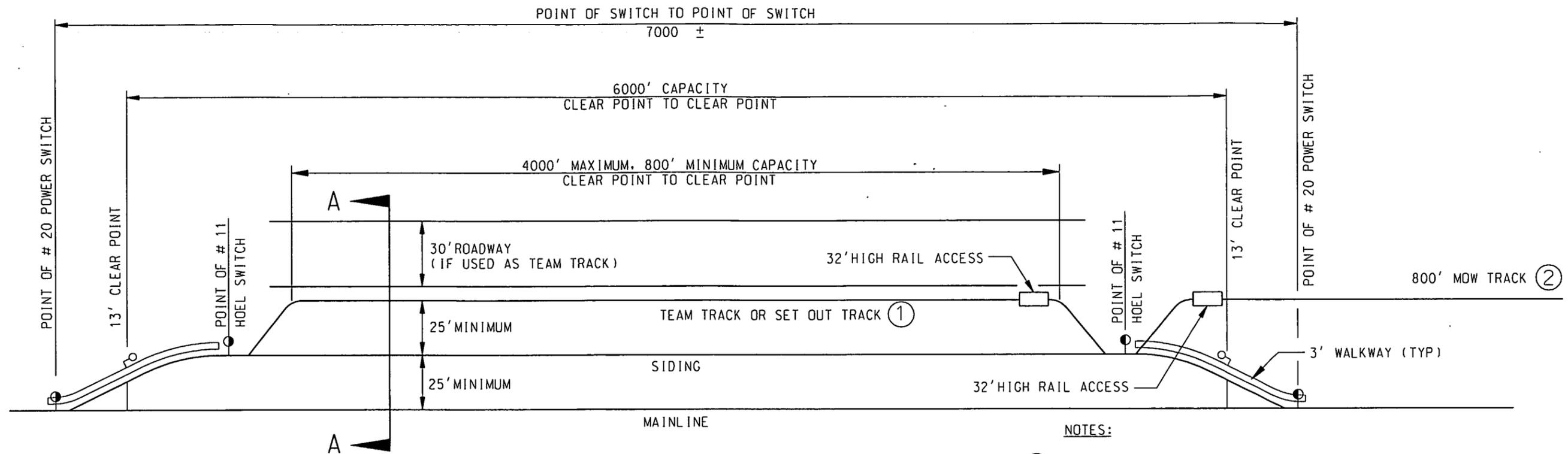


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02	REVISED PER	2/19/07								
	DEIS REVIEW COMMENTS									
01	ISSUED FOR DEIS REFERENCE	4/7/06								

APPROVALS	INITIALS	DATE
RL/DP		
DESIGNER	TN	
CHECKER	JC	
REVISION		
DESIGN LEAD ENGINEER	TN	
QUALITY ENGINEERING REP	JC	
PROJECT ENGINEER	JC	

U.S. DEPARTMENT OF ENERGY Office of National Transportation			
BECHTEL Management and Operation of the Office of SAIC SAIC Civilian Radioactive Waste Management Program			
STANDARD MINIMUM OPERATING CLEARANCES			
SCALE	NONE	DOCUMENT IDENTIFIER	REV
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SAFETY CATEGORY		CAD SOFTWARE	SHEET
		MICROSTATION V03.05.02.55	7 OF 22

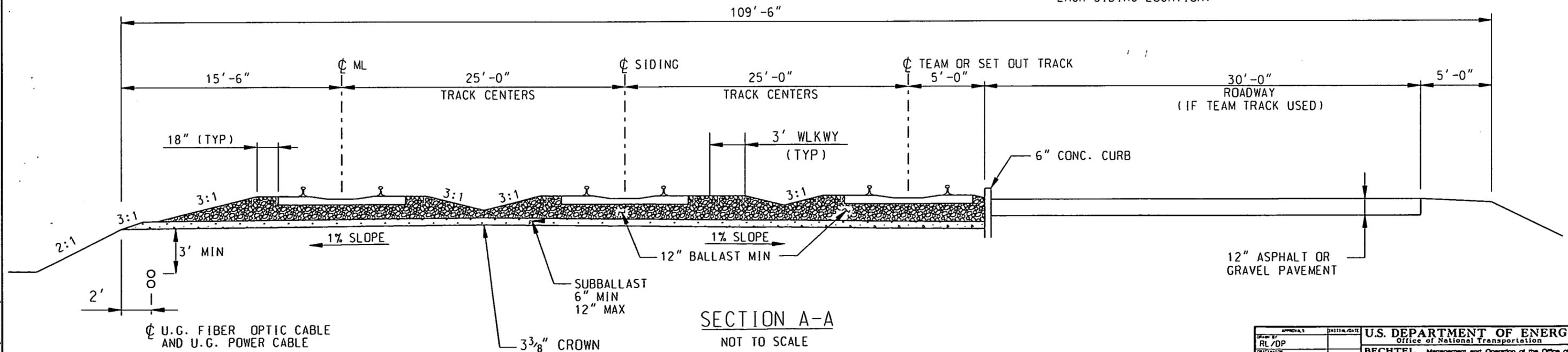
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SIDING PLAN
NOT TO SCALE

NOTES:

- ① TEAM TRACK WITH ROADWAY
- ② MOW SET-OUT TRACK AT LOCATIONS WITHOUT TEAM TRACK. END OF SIDING FOR LOCATION TO BE DETERMINED PER EACH SIDING LOCATION.



SECTION A-A
NOT TO SCALE

THIS DRAWING IS CONCEPTUAL AND NOT INTENDED FOR CONSTRUCTION.

NEVADA RAIL PARTNERS
NEVADA RAIL LINE CONCEPTUAL DESIGN
SUBCONTRACT NN-HC4-00239
TASK 7 - ROUTE SECTIONS AND STRUCTURES

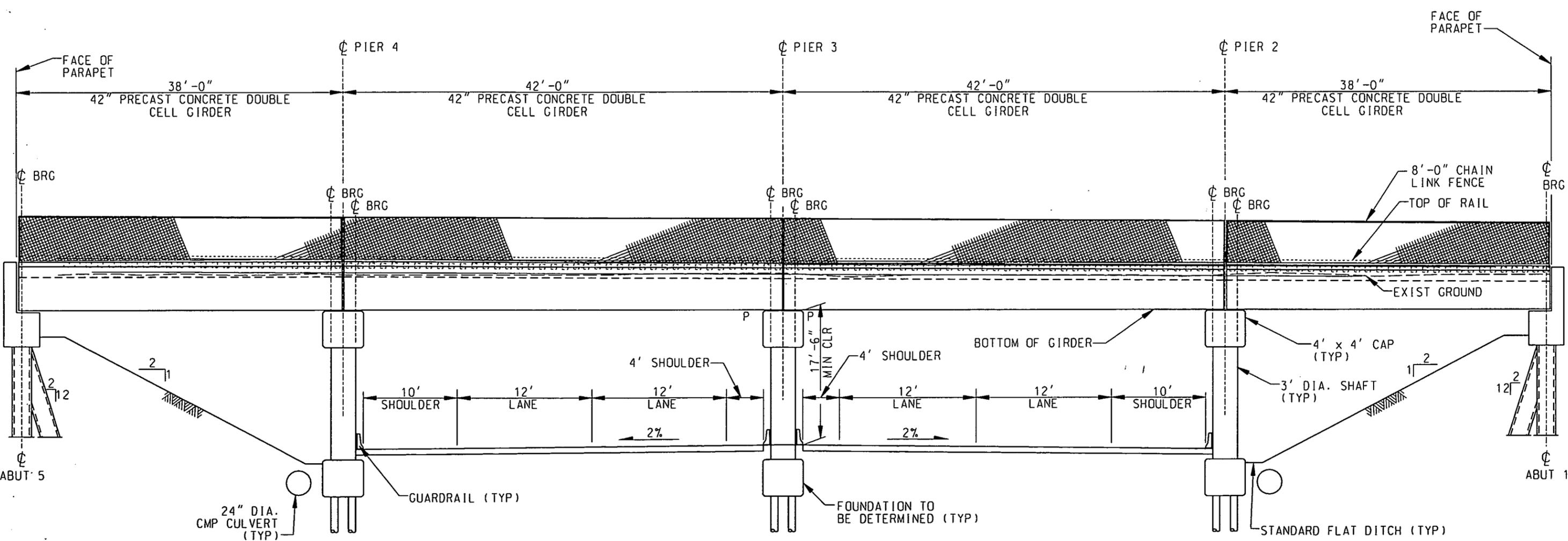


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02	REVISED PER DEIS REVIEW COMMENTS	2/19/07			
01	ISSUED FOR DEIS REFERENCE	4/7/06			

DESIGNED BY RL/DP	DATE 5/15/07	U.S. DEPARTMENT OF ENERGY Office of National Transportation BECHTEL Management and Operation of the Office of SAIC <small>COMPART, LLC</small> Civilian Radioactive Waste Management Program
CHECKED BY TN		
DESIGNED BY JC		TYPICAL SIDING LAYOUT
DESIGN LEAD ENGINEER TN		
QUALITY ENGINEERING REP JC		SCALE NONE
PROJECT ENGINEER JC		DOCUMENT IDENTIFIER NRP-D-SYSW-TY-0008-03
		SHEET 8 OF 22

WEST TO
YUCCA MTN.

EAST TO
CALIENTE



ELEVATION
NOT TO SCALE

THIS DRAWING IS CONCEPTUAL AND NOT
INTENDED FOR CONSTRUCTION.

NEVADA RAIL PARTNERS
NEVADA RAIL LINE CONCEPTUAL DESIGN
SUBCONTRACT NN-HC4-00239
TASK 7 - ROUTE SECTIONS AND STRUCTURES



03	ISSUED FOR DEIS REFERENCE	5/15/07							
02	REVISED PER	2/19/07							
	DEIS REVIEW COMMENTS								
01	ISSUED FOR DEIS REFERENCE	4/7/06							

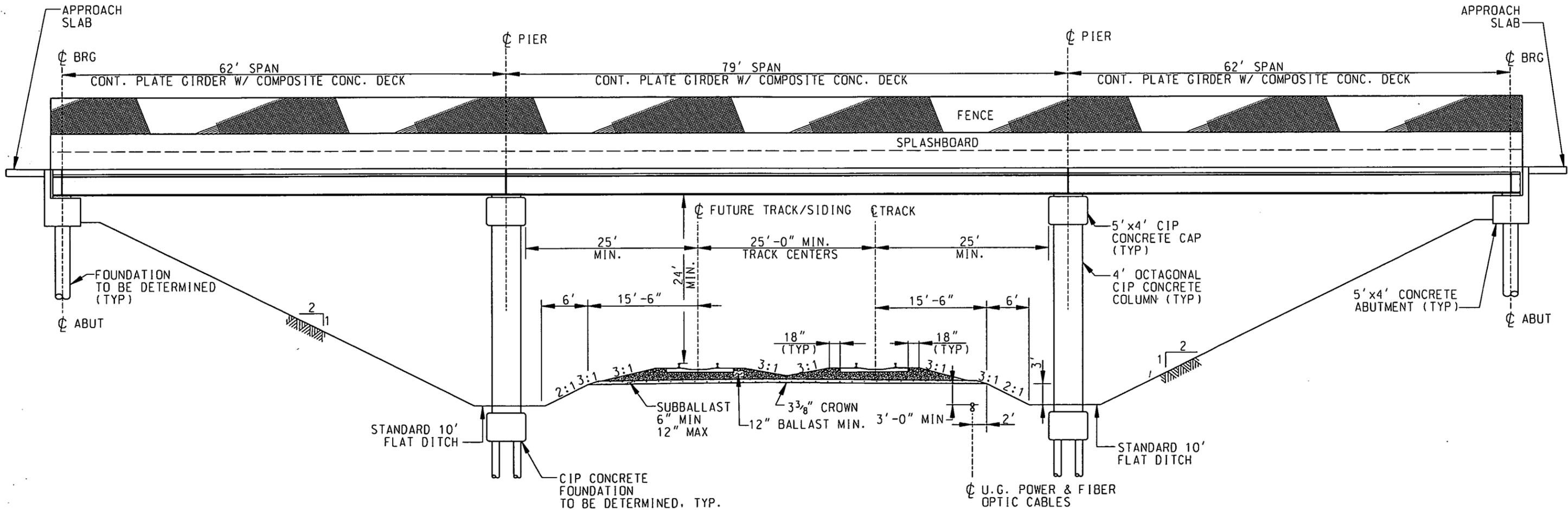
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ORIGINATOR	TN			Civilian Radioactive Waste Management Program	
CHECKER	JC			TYPICAL GRADE SEPARATION RAILROAD OVER 4 LANE HIGHWAY	
REVISION	TN			SIB	SCALE
DESIGN LEAD ENGINEER	TN			NONE	DOCUMENT IDENTIFIER
QUALITY ENGINEERING REP	JC			NRP-D-SYSW-TY-0009-03	REV
PROJECT ENGINEER	JC				03
				SAFETY CATEGORY	CAD SOFTWARE
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					9 OF 22

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ELEVATION
 PERPENDICULAR TO TRACKS
 NOT TO SCALE

THIS DRAWING IS CONCEPTUAL AND NOT INTENDED FOR CONSTRUCTION.

NEVADA RAIL PARTNERS
 NEVADA RAIL LINE CONCEPTUAL DESIGN
 SUBCONTRACT NN-HC4-00239
 TASK 7 - ROUTE SECTIONS AND STRUCTURES



REV	DESCRIPTION	DATE	CHK	APP	BY	DATE
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02	REVISED PER DEIS REVIEW COMMENTS	2/19/07				
01	ISSUED FOR DEIS REFERENCE	4/7/06				

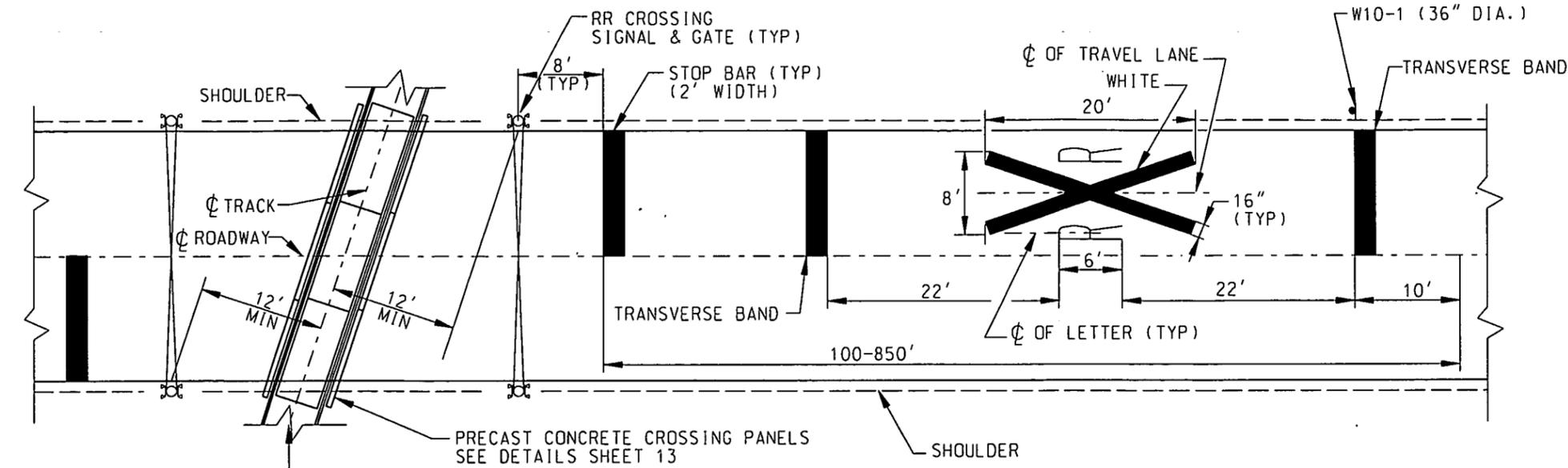
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DESIGNED BY	RL/ZDP		
DESIGNATION	TN		
CHECKED	JC		
REVISION	TN		
DESIGN LEAD ENGINEER	TN		
QUALITY ENGINEER/IN-CHARGE	JC		
PROJECT ENGINEER	JC		

U.S. DEPARTMENT OF ENERGY Office of National Transportation			
BECHTEL Management and Operation of the Office of SAIC SAIC CONSULTANT Civilian Radioactive Waste Management Program			
TYPICAL GRADE SEPARATION HIGHWAY OVER RAILROAD			
SCALE	SCALE	DOCUMENT IDENTIFIER	REV
	NDRS	NRP-D-SYSW-TY-0010-03	03
SAFETY CATEGORY	CAD SOFTWARE	MICROSTATION V08.05.02.55	SHEET 10 OF 22

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5/13/2007

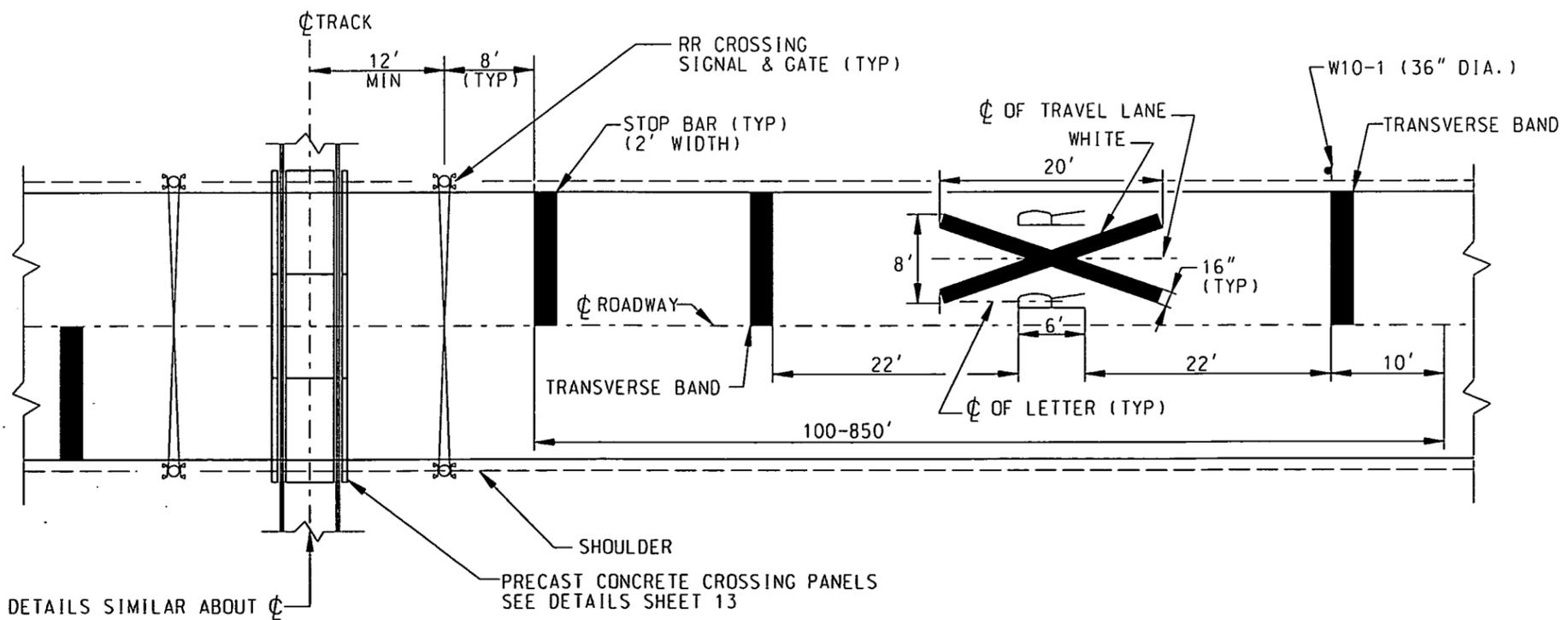
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DETAILS SIMILAR ABOUT ϕ

SKewed RAILROAD CROSSING WITH GATES

NO SCALE



DETAILS SIMILAR ABOUT ϕ

PERPENDICULAR RAILROAD CROSSING WITH GATES

NO SCALE

NOTE;
PAINTED MARKINGS FOR PAVED ROADS ONLY

THIS DRAWING IS CONCEPTUAL AND NOT INTENDED FOR CONSTRUCTION.

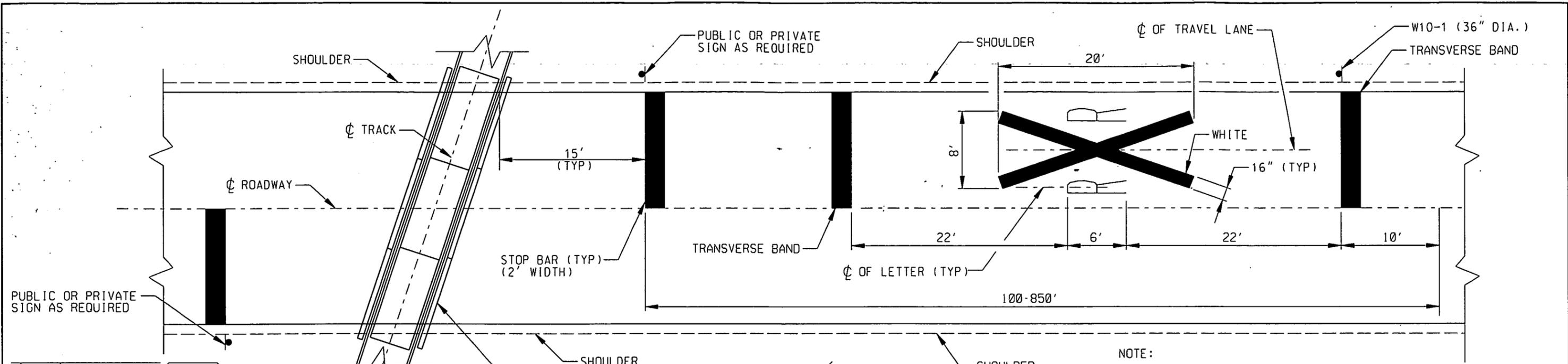
NEVADA RAIL PARTNERS
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 SUBCONTRACT NN-HC4-00239
 TASK 7 - ROUTE SECTIONS AND STRUCTURES



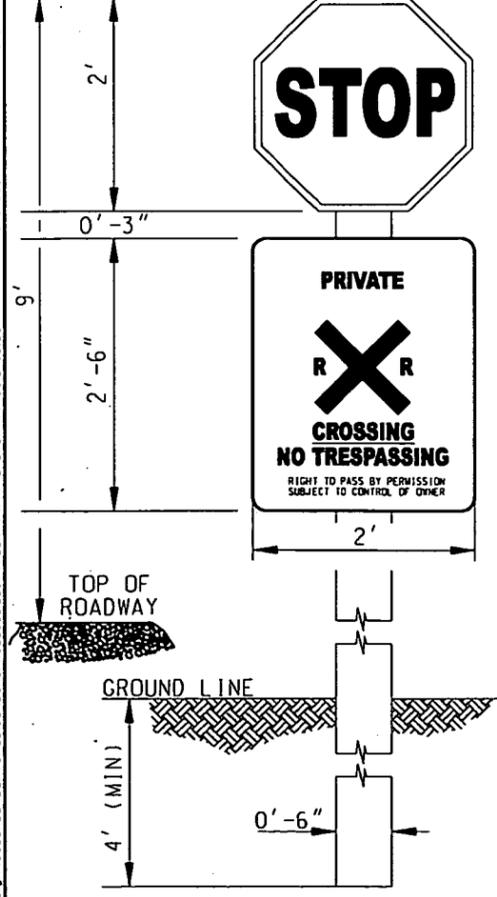
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	DEIS REVIEW COMMENTS								
01	ISSUED FOR DEIS REFERENCE	4/7/06							

APPROVALS		DATE		U.S. DEPARTMENT OF ENERGY Office of National Transportation	
DRWEN BY	RL/DP			BECHTEL Management and Operation of the Office of SAIC <small>CONTRACTOR</small> Civilian Radioactive Waste Management Program	
DESIGNER	TN			TYPICAL RAILROAD CROSSING WITH QUAD GATES	
CHECKER	JC			SCALE	NONE
REVISION	TN			DOCUMENT IDENTIFIER	NRP-D-SYSW-TY-0011-03
DESIGN LEAD ENGINEER	TN			CAD SOFTWARE	MICROSTATION V03.05.02.55
QUALITY ENGINEERING REP	JC			SHEET	11 OF 22
PROJECT ENGINEER	JC				

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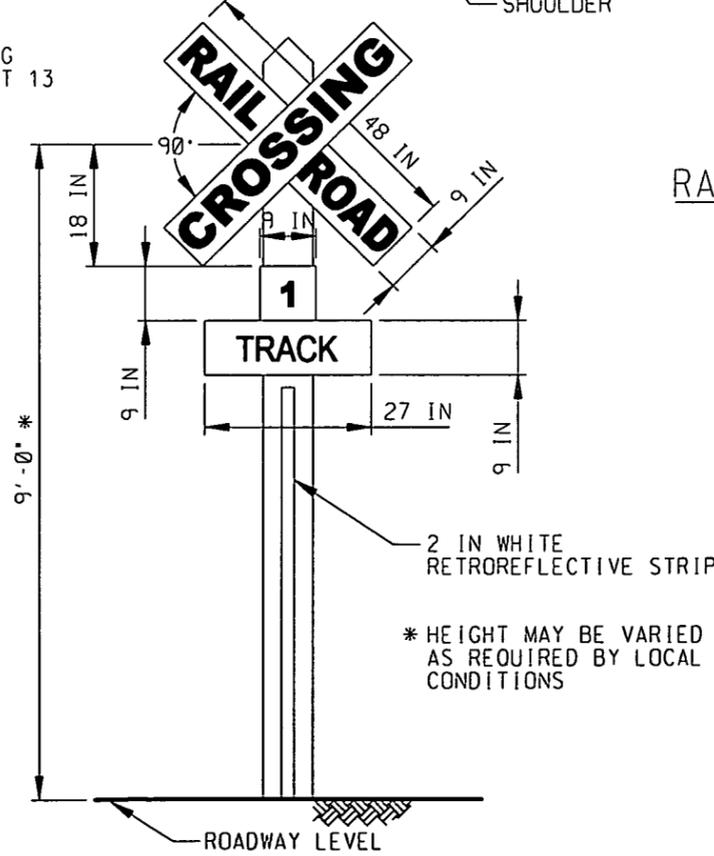


NOTE:
PAINTED MARKINGS FOR PAVED ROADS ONLY



RR PRIVATE AT GRADE CROSSING SIGN DETAIL

THIS DRAWING IS CONCEPTUAL AND NOT INTENDED FOR CONSTRUCTION.



RR PUBLIC AT GRADE CROSSING SIGN DETAIL

RAILROAD CROSSING WITHOUT GATES

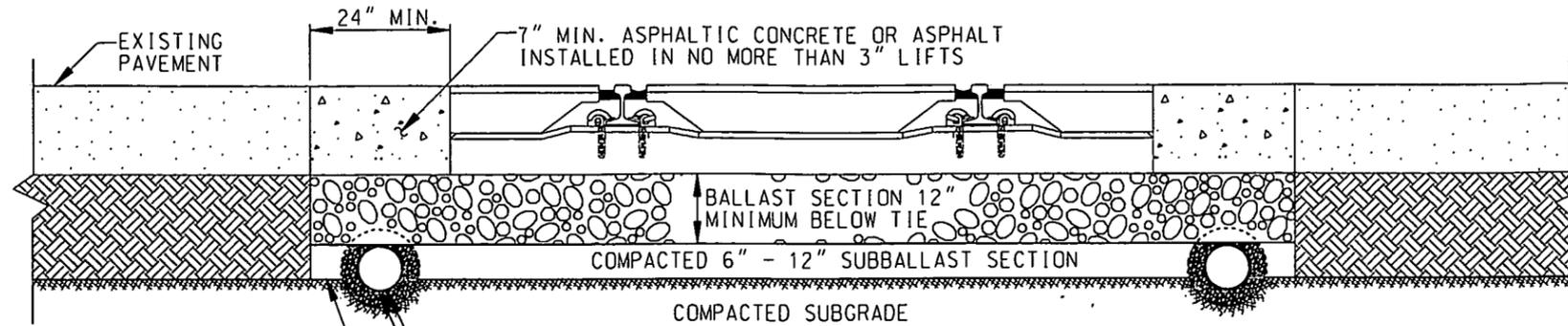
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 NEVADA RAIL LINE CONCEPTUAL DESIGN
 SUBCONTRACT NN-HC4-00239
 TASK 7 - ROUTE SECTIONS AND STRUCTURES



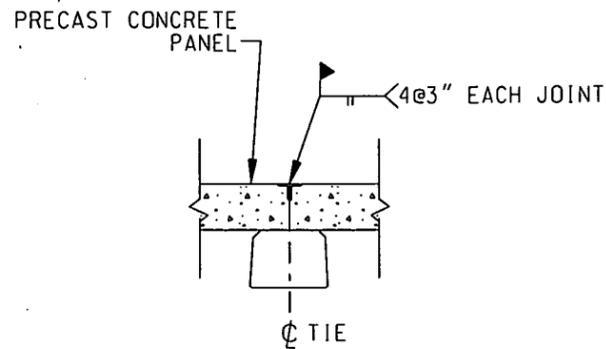
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02	REVISED PER DEIS REVIEW COMMENTS	2/19/07				
01	ISSUED FOR DEIS REFERENCE	4/7/06				

APPROVALS		DATE		U.S. DEPARTMENT OF ENERGY Office of National Transportation	
DRW BY	RL/DP			BECHTEL Management and Operation of the Office of SAIC	
ORIGINATOR	TN			SAIC	
CHECKER	JC			TYPICAL RAILROAD CROSSING WITHOUT QUAD GATES	
REGISTERED	TN			9108	SCALE NONE
DESIGN LEAD ENGINEER	TN			DOCUMENT IDENTIFIER	RNP-D-SYSW-TY-0012-03
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PROJECT ENGINEER	JC			SAFETY CATEGORY	
					SHEET 12 OF 22

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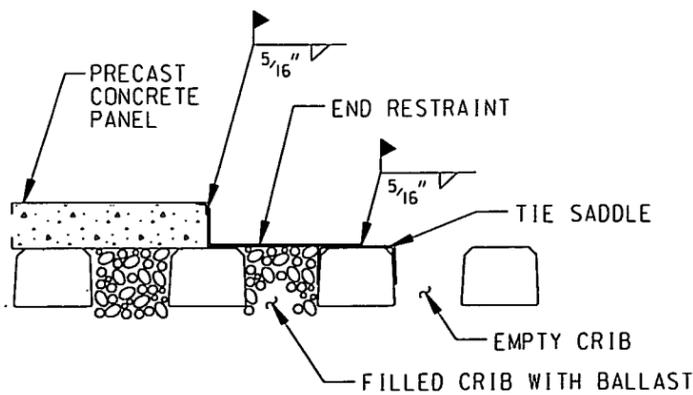


TYPICAL BALLAST AND ASPHALT DETAIL
NO SCALE

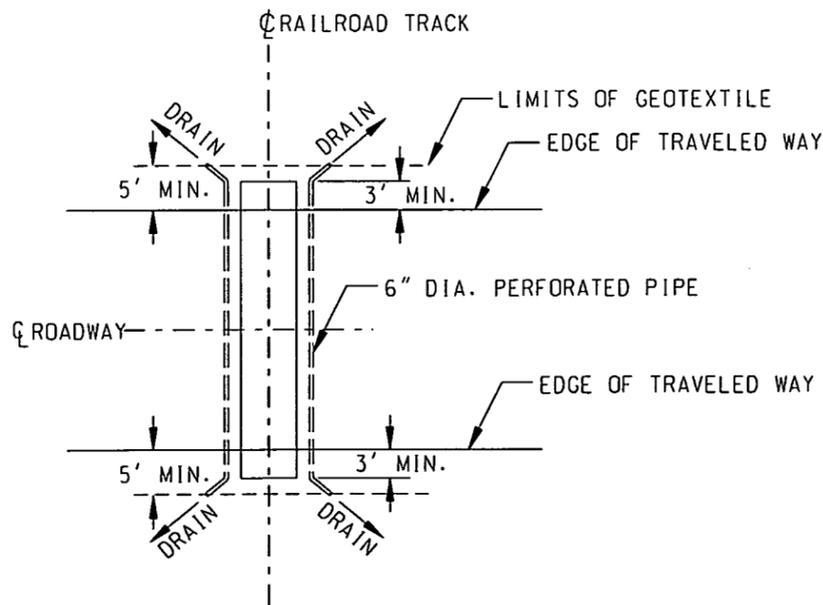


JOINT BETWEEN PANELS
NO SCALE

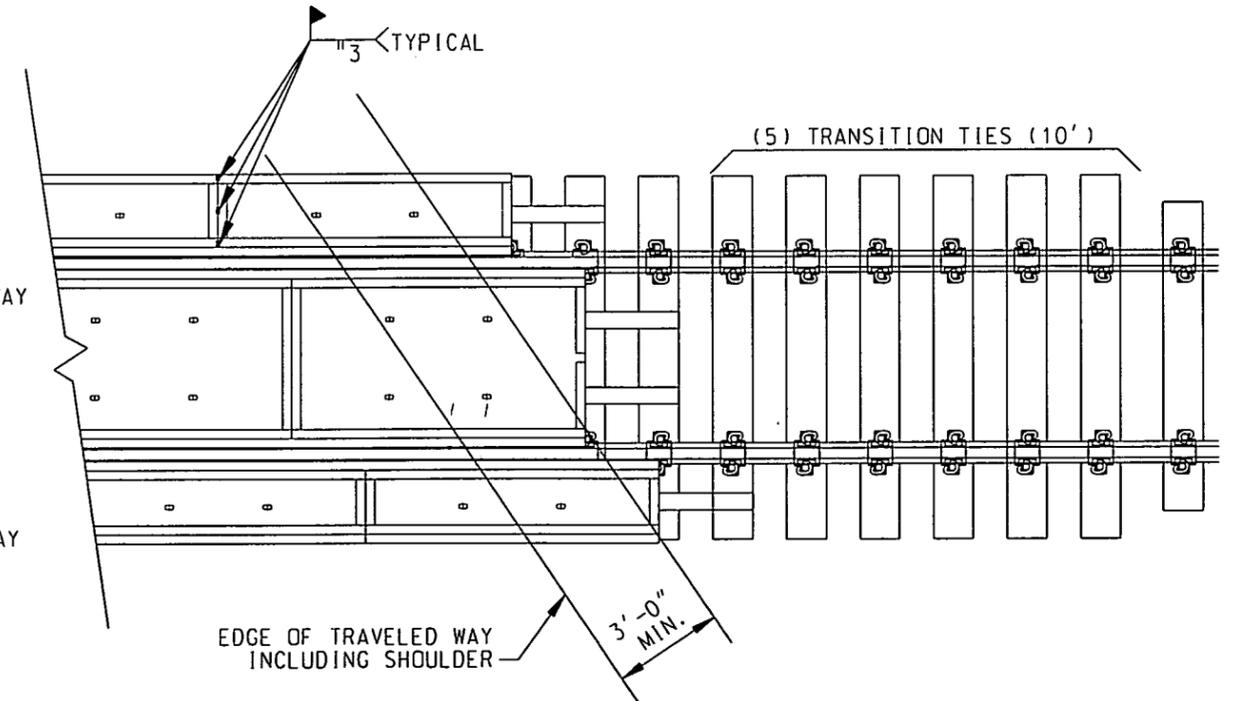
INTERIOR JOINTS BETWEEN PANELS MUST REST ON CENTERLINE OF A CONCRETE TIE AS SHOWN



END RESTRAINT DETAIL
NO SCALE



TYPICAL PIPE LAYOUT
NO SCALE



PLAN VIEW OF PANEL & JOINT WELD LOCATION W/CONCRETE TIES
NO SCALE
(32' MINIMUM LENGTH FOR HI-RAIL VEHICLE ACCESS)

THIS DRAWING IS CONCEPTUAL AND NOT INTENDED FOR CONSTRUCTION.

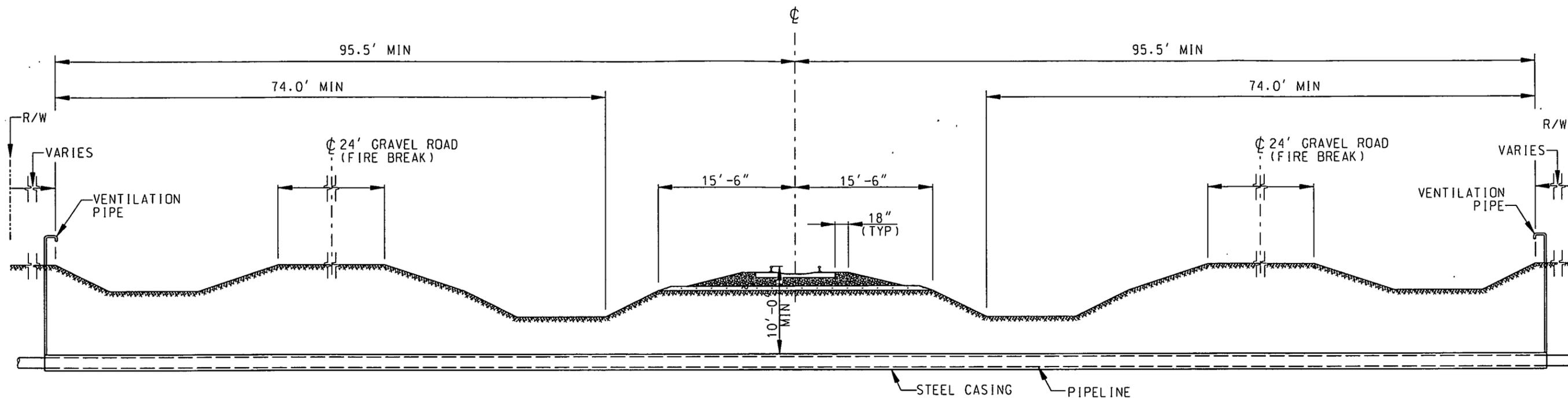
NEVADA RAIL PARTNERS
NEVADA RAIL LINE CONCEPTUAL DESIGN
SUBCONTRACT NN-HC4-00239
TASK 7 - ROUTE SECTIONS AND STRUCTURES



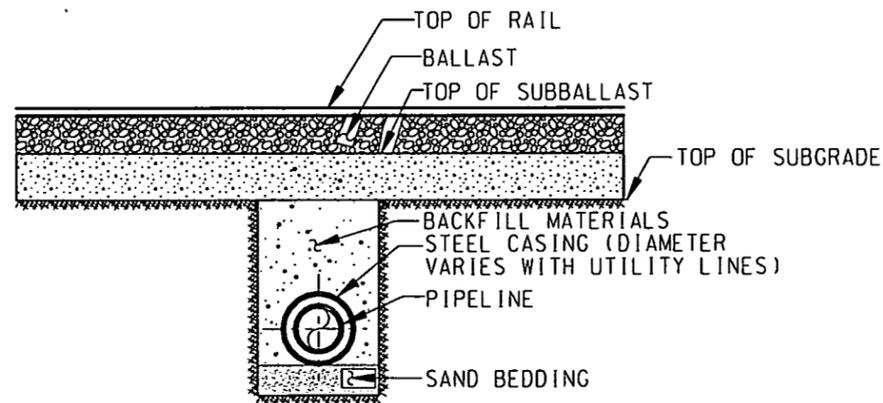
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02	REVISED PER	2/19/07				
	DEIS REVIEW COMMENTS					
01	ISSUED FOR DEIS REFERENCE	4/7/06				

APPROVALS	DATE	U.S. DEPARTMENT OF ENERGY
Drawn by: RL/DP		Office of National Transportation
Originator: TN		BECHTEL Management and Operation of the Office of SAIC Civilian Radioactive Waste Management Program
Checked: JC		
Verified: TN		
Design Lead Engineer: TN		
Quality Engineering Rep: JC		
Project Engineer: JC		
Scale: NONE		PROJECT IDENTIFIER: NRP-D-SYSW-TY-0013-03
Safety Category: MICROSTATION V03.05.02.55		REVISION: 03

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PIPELINE CROSSING (TYPICAL)
NO SCALE



TRENCH SECTION (TYPICAL)
NO SCALE

THIS DRAWING IS CONCEPTUAL AND NOT INTENDED FOR CONSTRUCTION.

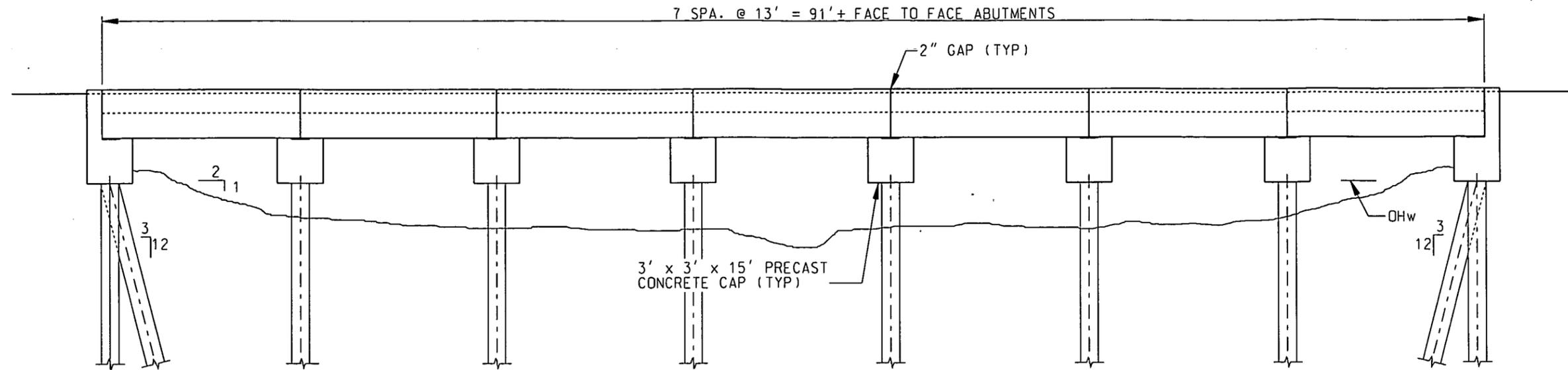
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NEVADA RAIL LINE CONCEPTUAL DESIGN
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TASK 7 - ROUTE SECTIONS AND STRUCTURES



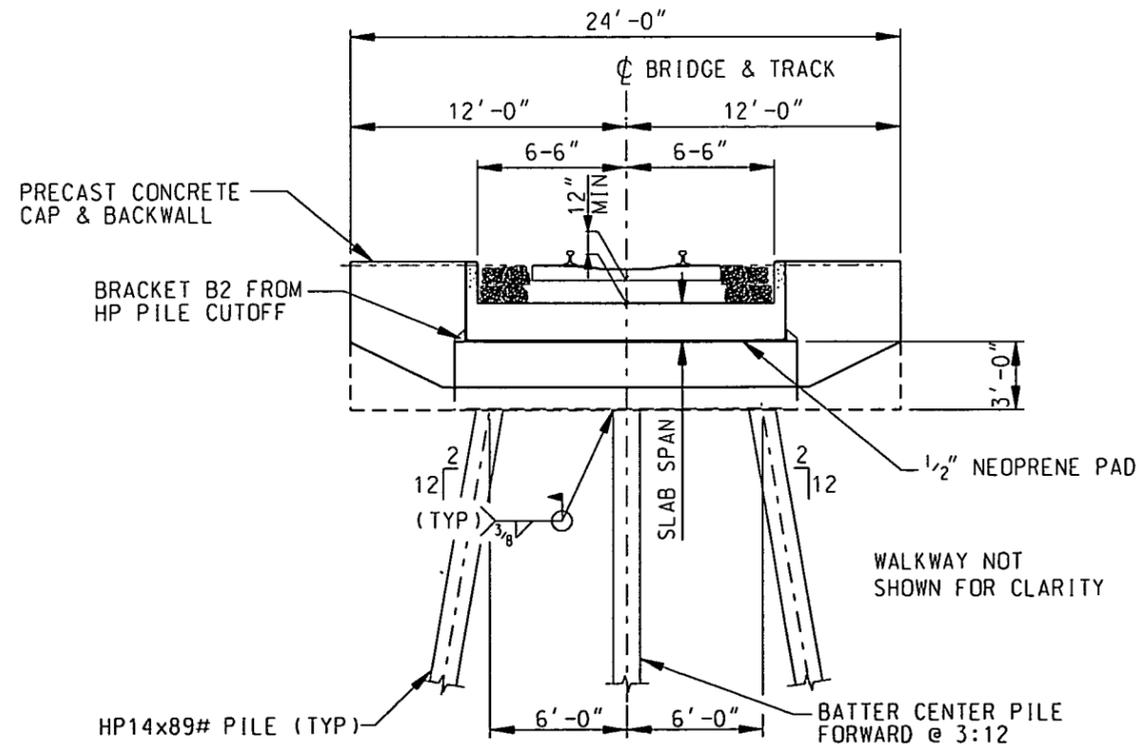
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01	ISSUED FOR DEIS REFERENCE	4/7/06						

APPROVALS	DATE	U.S. DEPARTMENT OF ENERGY
DRN BY RL/DP		Office of National Transportation
ORIGINATOR TN		BECHTEL Management and Operation of the Office of SAIC Civilian Radioactive Waste Management Program
DESIGN JC		
REPRESENTATION TN		
DESIGN LEAD ENGINEER TN		
QUALITY ENGINEERING REP JC		
PROJECT ENGINEER JC		
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SAFETY CATEGORY	CD SOFTWARE MICROSTATION V03.05.02.55	SHEET 14 OF 22

TYPICAL SECTION FOR PIPELINE CROSSING

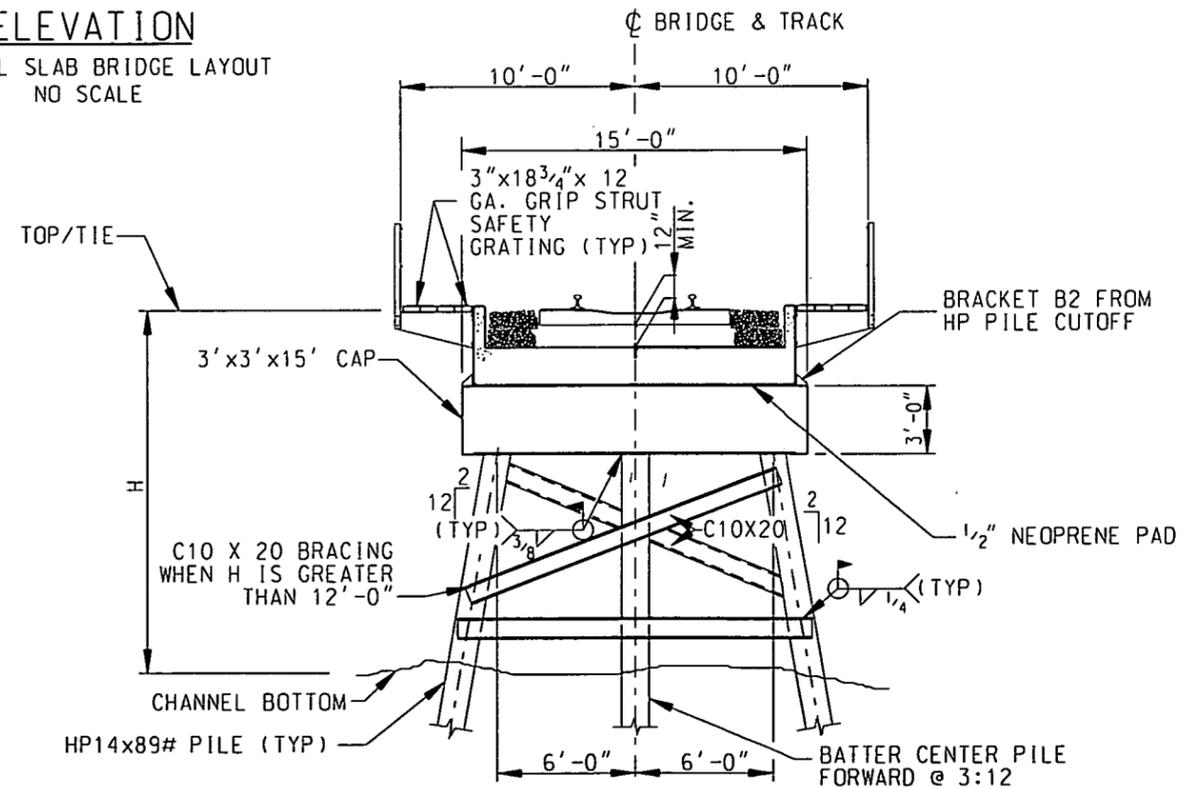


ELEVATION
TYPICAL SLAB BRIDGE LAYOUT
NO SCALE



ABUTMENT
NO SCALE

DEPTH OF SLAB SPAN:
14" SLAB SPAN L = 13' TO 14'
16" SLAB SPAN L = 15' TO 18'
20" SLAB SPAN L = 19' TO 25'



INTERMEDIATE BENT
NO SCALE

FOR H UP TO 12'-0", NO BRACING
FOR H = 12'-1" TO 22'-0", BRACING

THIS DRAWING IS CONCEPTUAL AND NOT INTENDED FOR CONSTRUCTION.

NEVADA RAIL PARTNERS
NEVADA RAIL LINE CONCEPTUAL DESIGN
SUBCONTRACT NN-HC4-00239
TASK 7 - ROUTE SECTIONS AND STRUCTURES

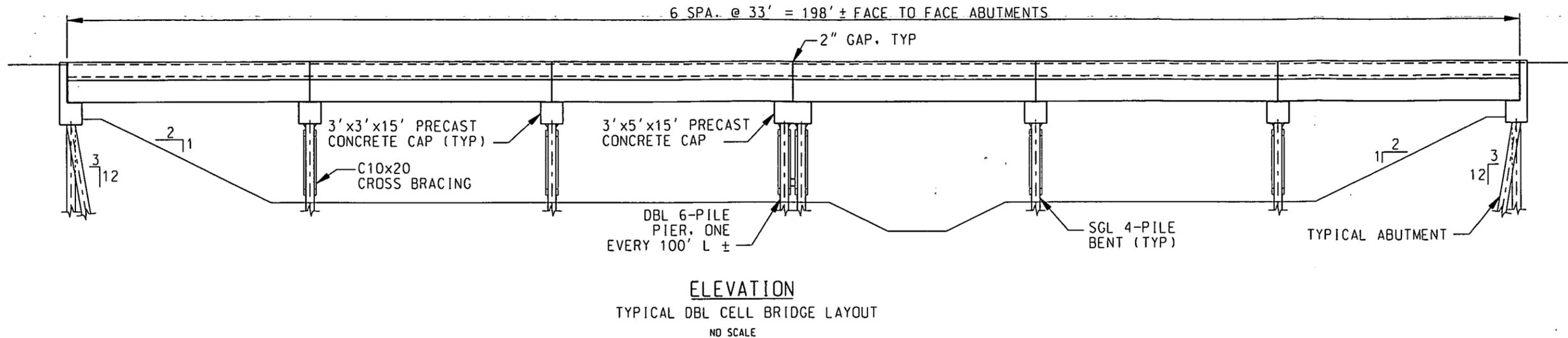


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02	REVISED PER DEIS REVIEW COMMENTS	2/19/07					
01	ISSUED FOR DEIS REFERENCE	4/7/06					

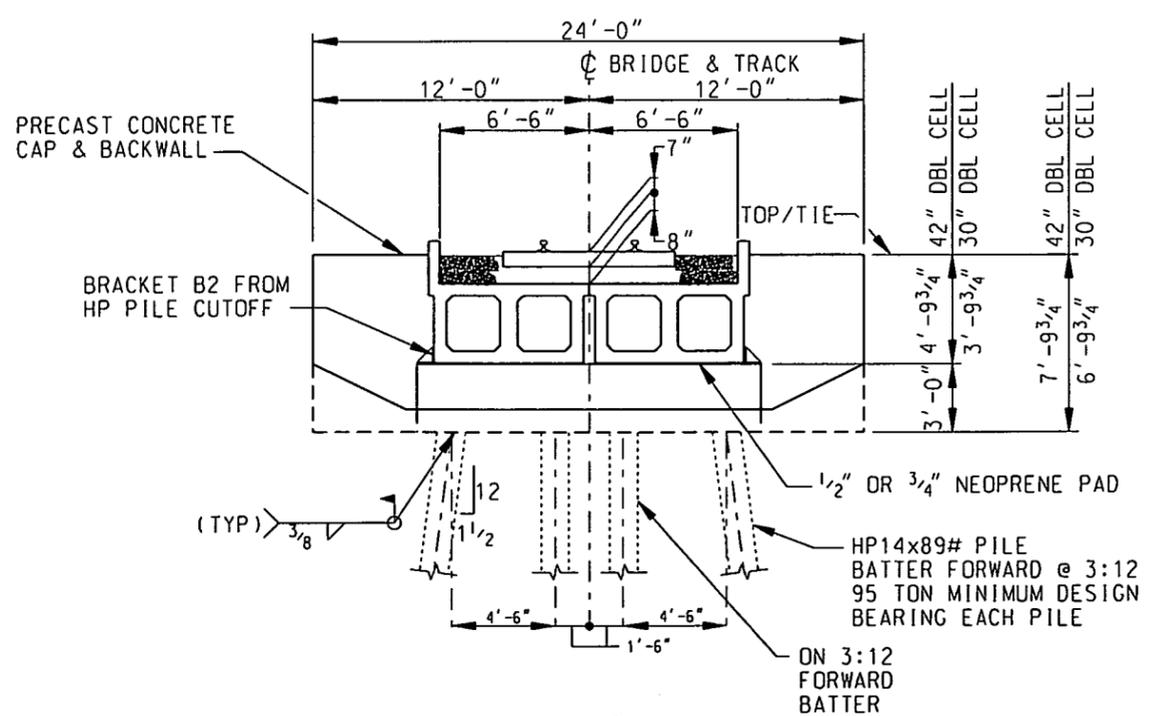
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DRW BY	RL/DP			BECHTEL Management and Operation of the Office of SAIC SAIC Civilian Radioactive Waste Management Program	
DESIGNER	TN			TYPICAL PRECAST SLAB BRIDGE DETAILS	
CHECKER	JC			SCALE	AS SHOWN
DESIGN LEAD ENGINEER	TN			DOCUMENT CONTROL	NRP-D-SYSW-TY-0015-03
QUALITY ENGINEERING REP	JC			REV	03
PROJECT ENGINEER	JC			DATE	15 OF 22

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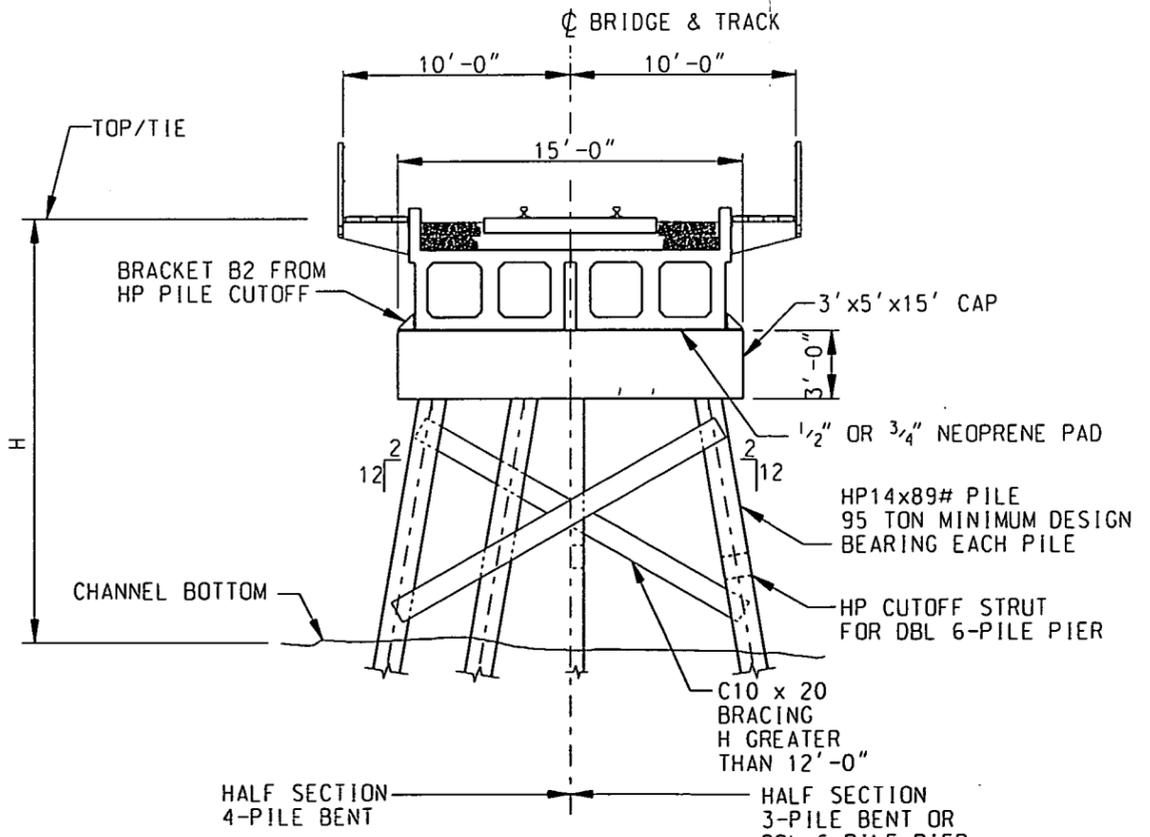


ELEVATION
 TYPICAL DBL CELL BRIDGE LAYOUT
 NO SCALE



ABUTMENT
 NO SCALE

WALKWAYS NOT SHOWN FOR CLARITY
 DEPTH OF DOUBLE CELL SPANS:
 30" DEEP PRECAST CONCRETE DBL CELLS L = 26' TO 35'
 42" DEEP PRECAST CONCRETE DBL CELLS L = 36' TO 45'



INTERMEDIATE BENT
 NO SCALE

FOR H UP TO 12'-0", NO BRACING
 FOR H = 12'-1" TO 22'-0", BRACING

THIS DRAWING IS CONCEPTUAL AND NOT INTENDED FOR CONSTRUCTION.

NEVADA RAIL PARTNERS
 NEVADA RAIL LINE CONCEPTUAL DESIGN
 SUBCONTRACT NN-HC4-00239
 TASK 7 - ROUTE SECTIONS AND STRUCTURES

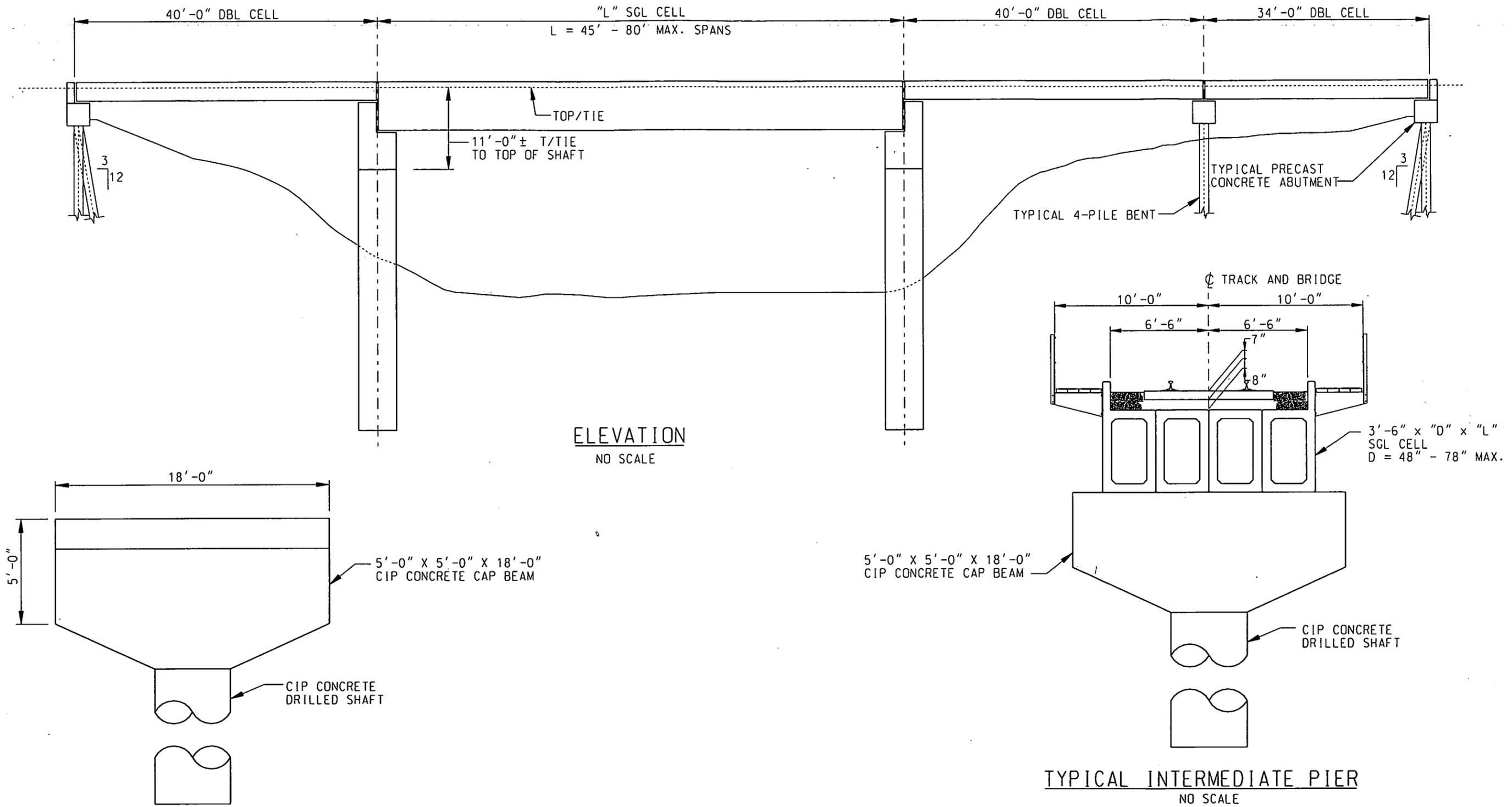


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03	ISSUED FOR DEIS REFERENCE	5/15/07				
02	REVISED PER	2/19/07				
01	ISSUED FOR DEIS REFERENCE	4/7/06				

APPROVALS	DATE	INITIALS
DRN BY RL/DP		
DESIGNER TN		
CHECKER JC		
REVIEWER TN		
DESIGN LEAD ENGINEER TN		
QUALITY ENGINEERING REP JC		
PROJECT ENGINEER JC		

U.S. DEPARTMENT OF ENERGY Office of National Transportation			
BECHTEL Management and Operation of the Office of SAIC Civilian Radioactive Waste Management Program			
TYPICAL PRECAST DOUBLE CELL BRIDGE DETAILS			
SCALE NONE	DOCUMENT IDENTIFIER NRP-D-SYSM-TY-0016-03	REV 03	
SAFETY CATEGORY	GRID SYSTEM MICROSTATION V03.05.02.55	SHEET 16 OF 22	

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TYPICAL PIER
NO SCALE

THIS DRAWING IS CONCEPTUAL AND NOT INTENDED FOR CONSTRUCTION.

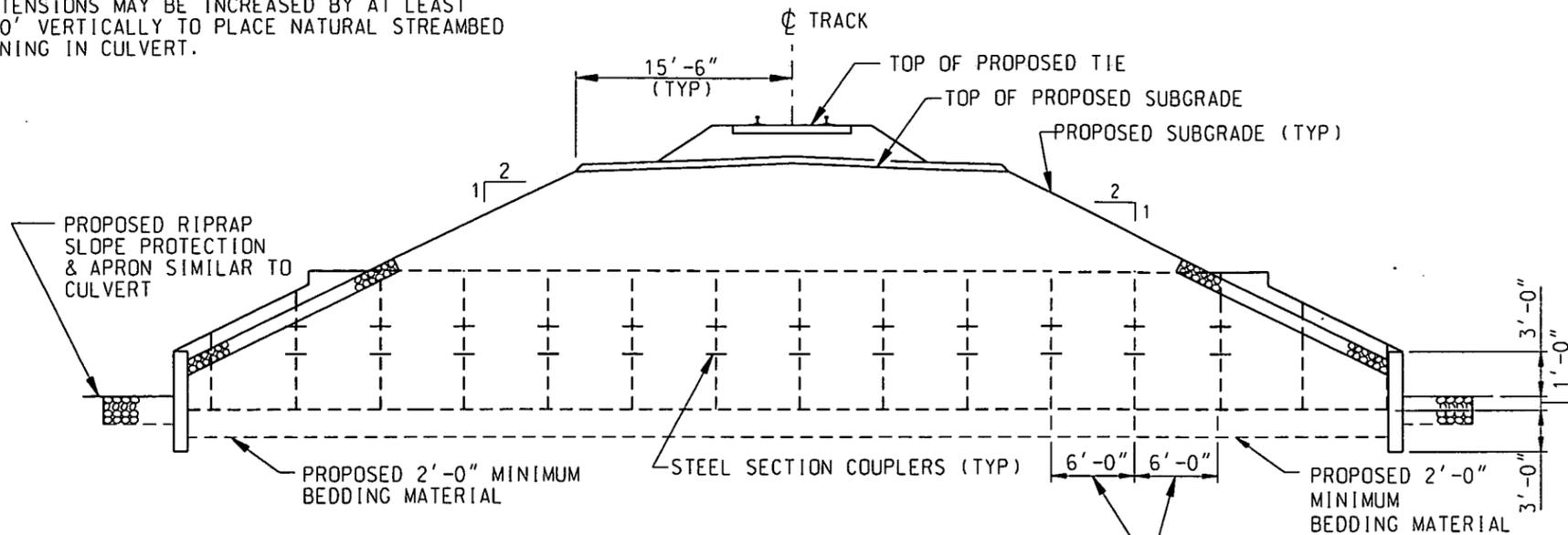
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NEVADA RAIL LINE CONCEPTUAL DESIGN
SUBCONTRACT NN-HC4-00239
TASK 7 - ROUTE SECTIONS AND STRUCTURES



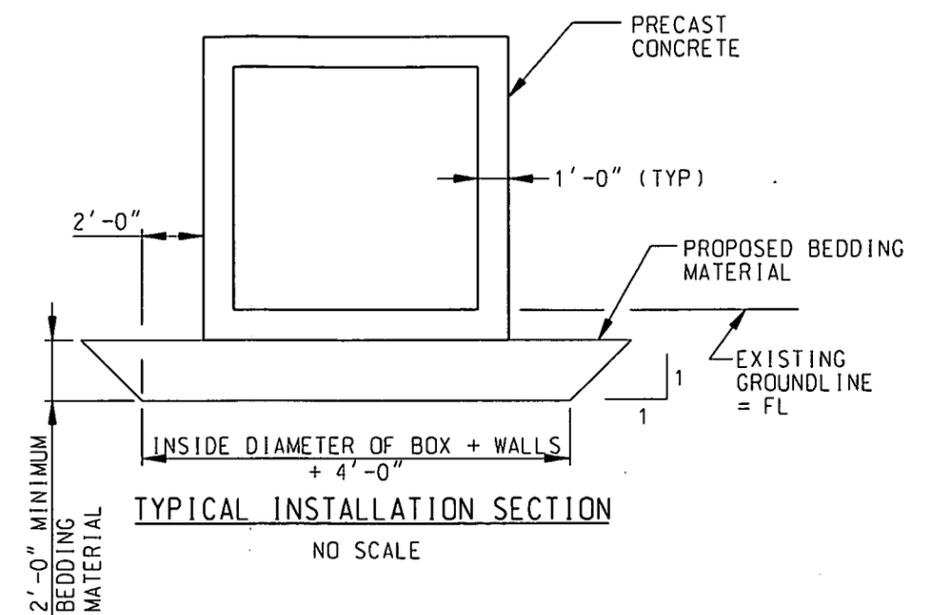
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APPROVALS		DATE	U.S. DEPARTMENT OF ENERGY Office of National Transportation					
DRAWN BY	RL/DP		BECHTEL Management and Operation of the Office of SAIC <small>Civilian Radioactive Waste Management Program</small>					
DESIGNED BY	TN		TYPICAL SINGLE DRILLED SHAFT SUPPORTED STRUCTURE					
CHECKED BY	JC							
VERIFIED BY	TN							
DESIGN LEAD ENGINEER	TN							
QUALITY ENGINEERING HELP	JC		SCALE	NONE	DOCUMENT IDENTIFIER	NRP-D-SYSW-TY-0017-03	REV	03
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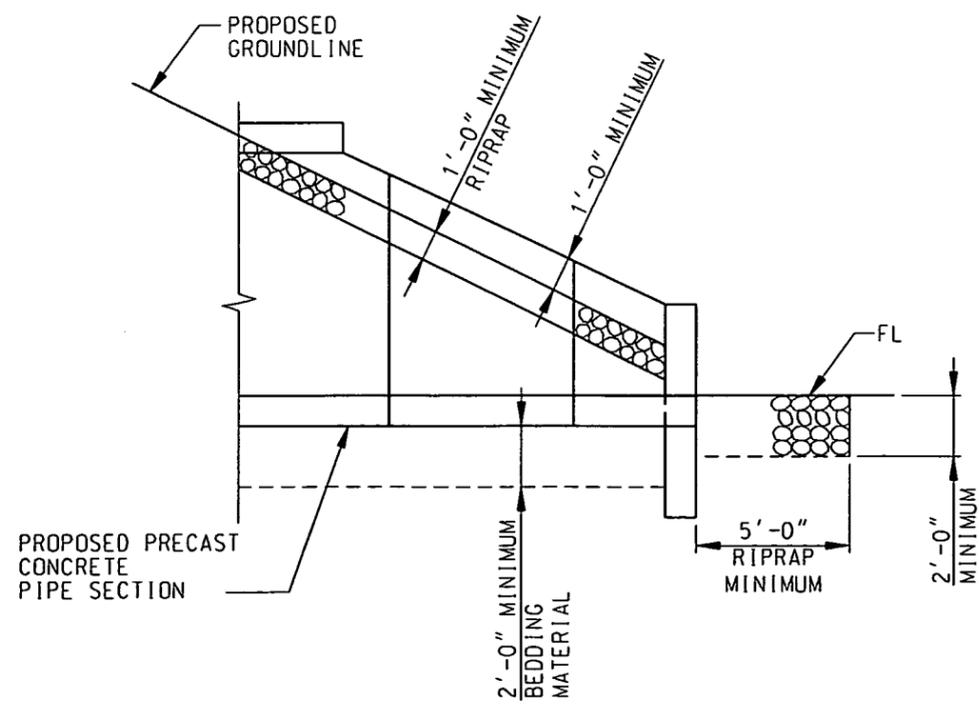
NOTE: SIZE OF STANDARD PRECAST CONCRETE BOX CULVERT EXTENSIONS MAY BE INCREASED BY AT LEAST 1.0' VERTICALLY TO PLACE NATURAL STREAMBED LINING IN CULVERT.



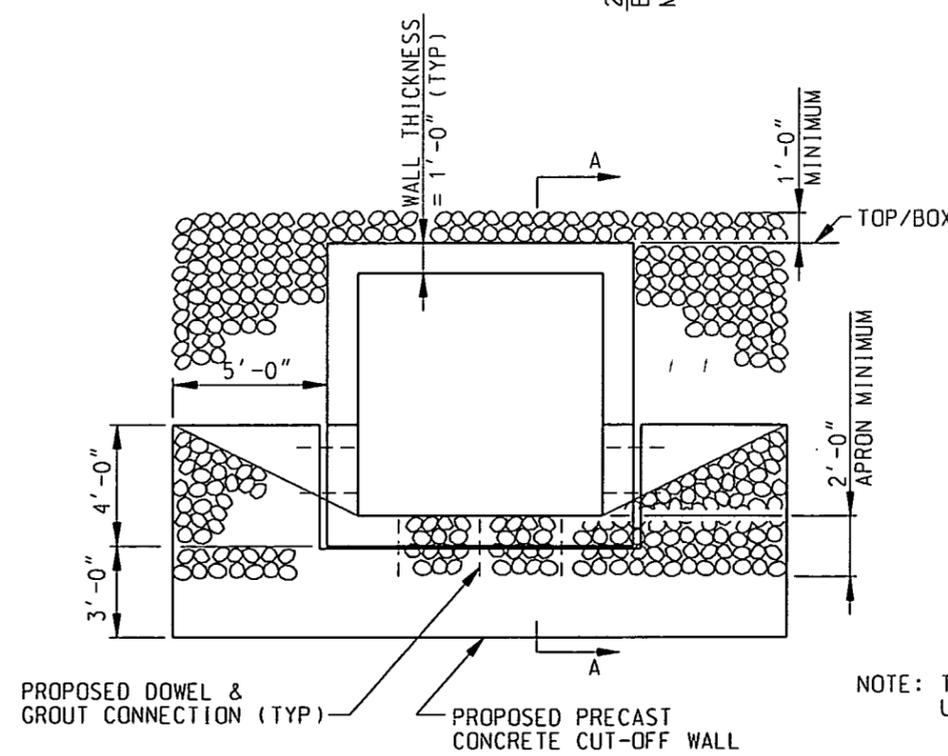
TYPICAL LARGE CULVERT X-SECTION
 PRECAST CONCRETE BOX UP TO 12' x 12' MAXIMUM SIZE
 (SEE SHEETS 2 AND 3 FOR TRACK DETAILS NOT SHOWN)
 NO SCALE



TYPICAL INSTALLATION SECTION
 NO SCALE



SECTION "A-A"
 NO SCALE



END VIEW
 NO SCALE

NOTE: TYPICAL BOX CULVERT CAN BE USED FOR CATTLE CROSSING.

THIS DRAWING IS CONCEPTUAL AND NOT INTENDED FOR CONSTRUCTION.

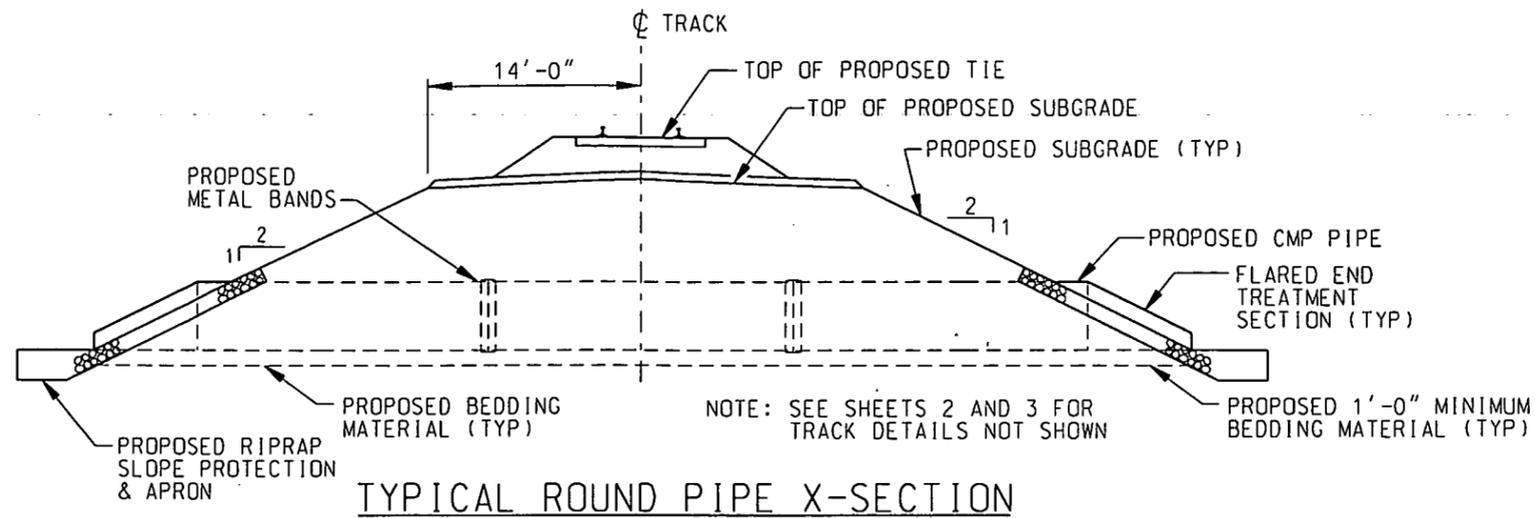
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 NEVADA RAIL LINE CONCEPTUAL DESIGN
 SUBCONTRACT NN-HC4-00239
 TASK 7 - ROUTE SECTIONS AND STRUCTURES



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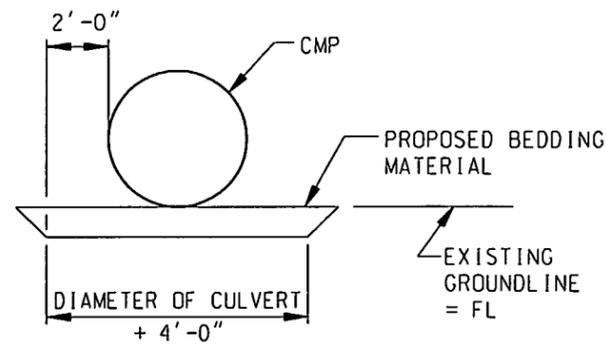
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CHECKER	TN			TYPICAL PRECAST CONCRETE BOX			
VERIFICATION	JC						
DESIGN LEAD ENGINEER	TN						
QUALITY ENGINEERING REP	JC						
PROJECT ENGINEER	JC						
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SAFETY CATEGORY		FILE NO.	WICROSTATION V03.05.02.55	SHEET	18	OF	22

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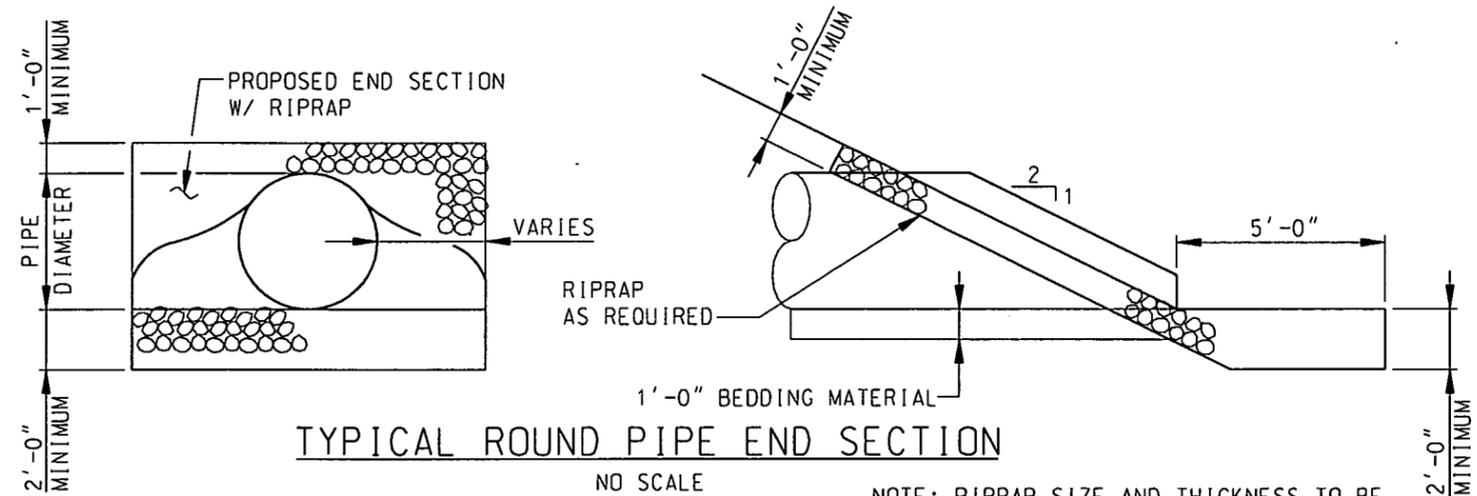
TYPICAL ROUND PIPE X-SECTION

NO SCALE



TYPICAL INSTALLATION SECTION

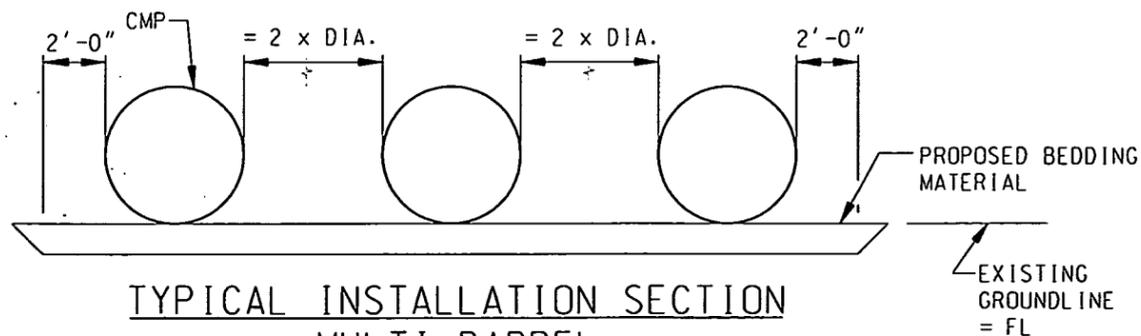
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TYPICAL ROUND PIPE END SECTION

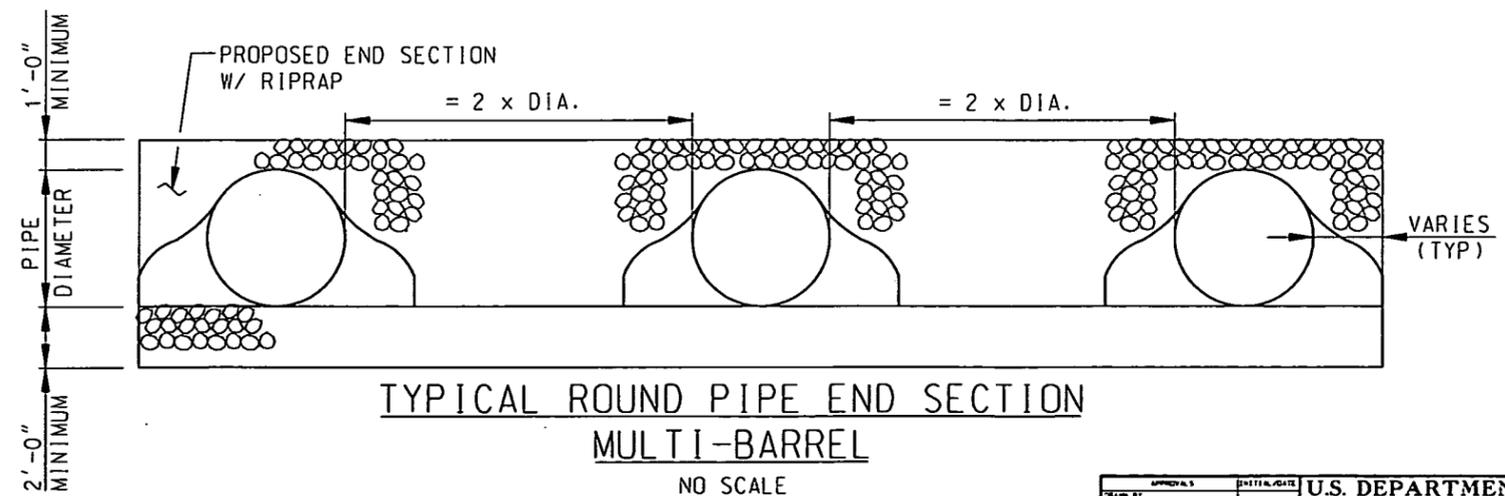
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NOTE: RIPRAP SIZE AND THICKNESS TO BE DETERMINED DURING FINAL DESIGN.



TYPICAL INSTALLATION SECTION MULTI-BARREL

NO SCALE



TYPICAL ROUND PIPE END SECTION MULTI-BARREL

NO SCALE

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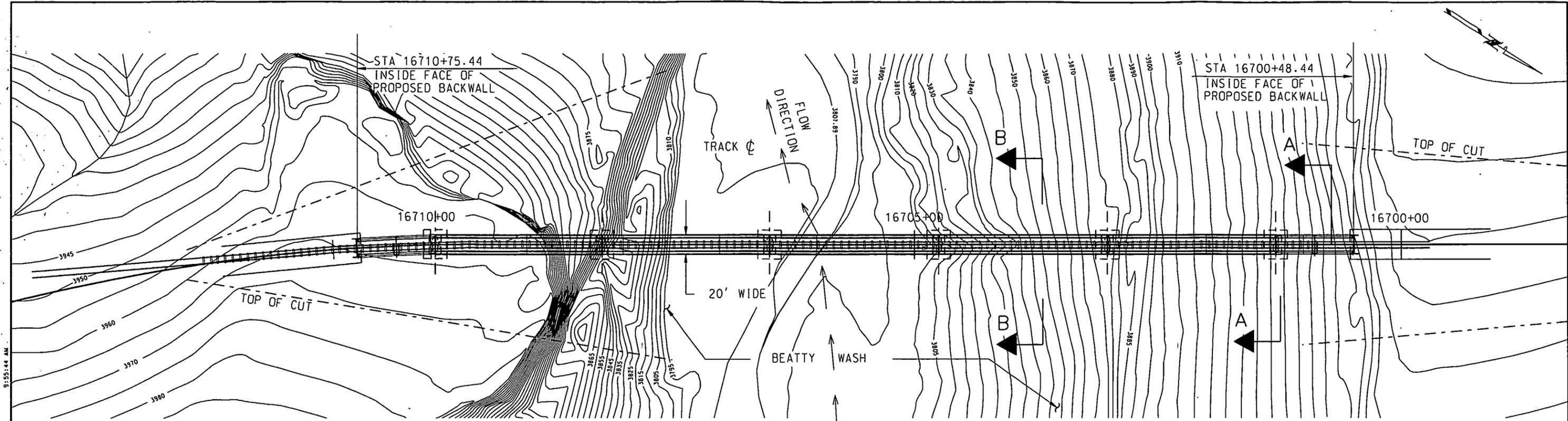
NEVADA RAIL PARTNERS
NEVADA RAIL LINE CONCEPTUAL DESIGN
SUBCONTRACT NN-HC4-00239
TASK 7 - ROUTE SECTIONS AND STRUCTURES



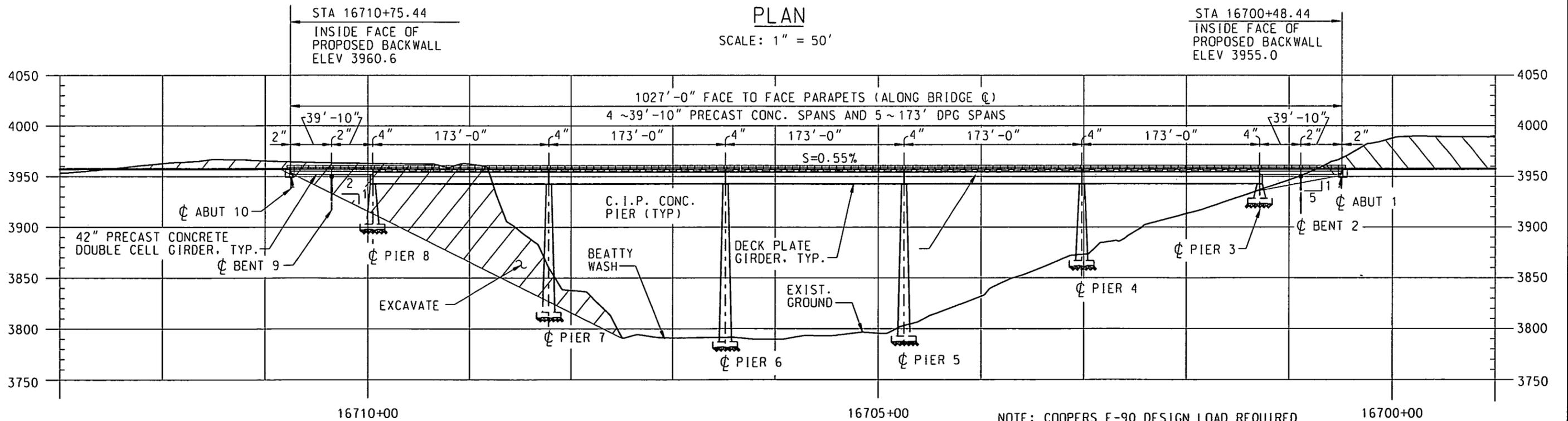
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02	REVISED PER	2/19/07							
01	ISSUED FOR DEIS REFERENCE	4/7/06							

APPROVALS		DATE	U.S. DEPARTMENT OF ENERGY Office of National Transportation	
DRUM BY	RL/DP		BECHTEL Management and Operation of the Office of SAIC	
ORIGINATOR	TN		Civilian Radioactive Waste Management Program	
CHECKED	JC		TYPICAL CORRUGATED METAL PIPE	
REVISION	TN		SIZE	SCALE
DESIGN LEAD ENGINEER	JC		NONE	PROJECT IDENTIFIER
QUALITY ENGINEERING REP	JC			NRP-D-SYSW-TY-0019-03
PROJECT ENGINEER	JC			REV 03
			SAFETY CATEGORY	CAD SOFTWARE
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PLAN
SCALE: 1" = 50'



PROFILE
SCALE: 1" = 50'

NOTE: COOPERS E-90 DESIGN LOAD REQUIRED

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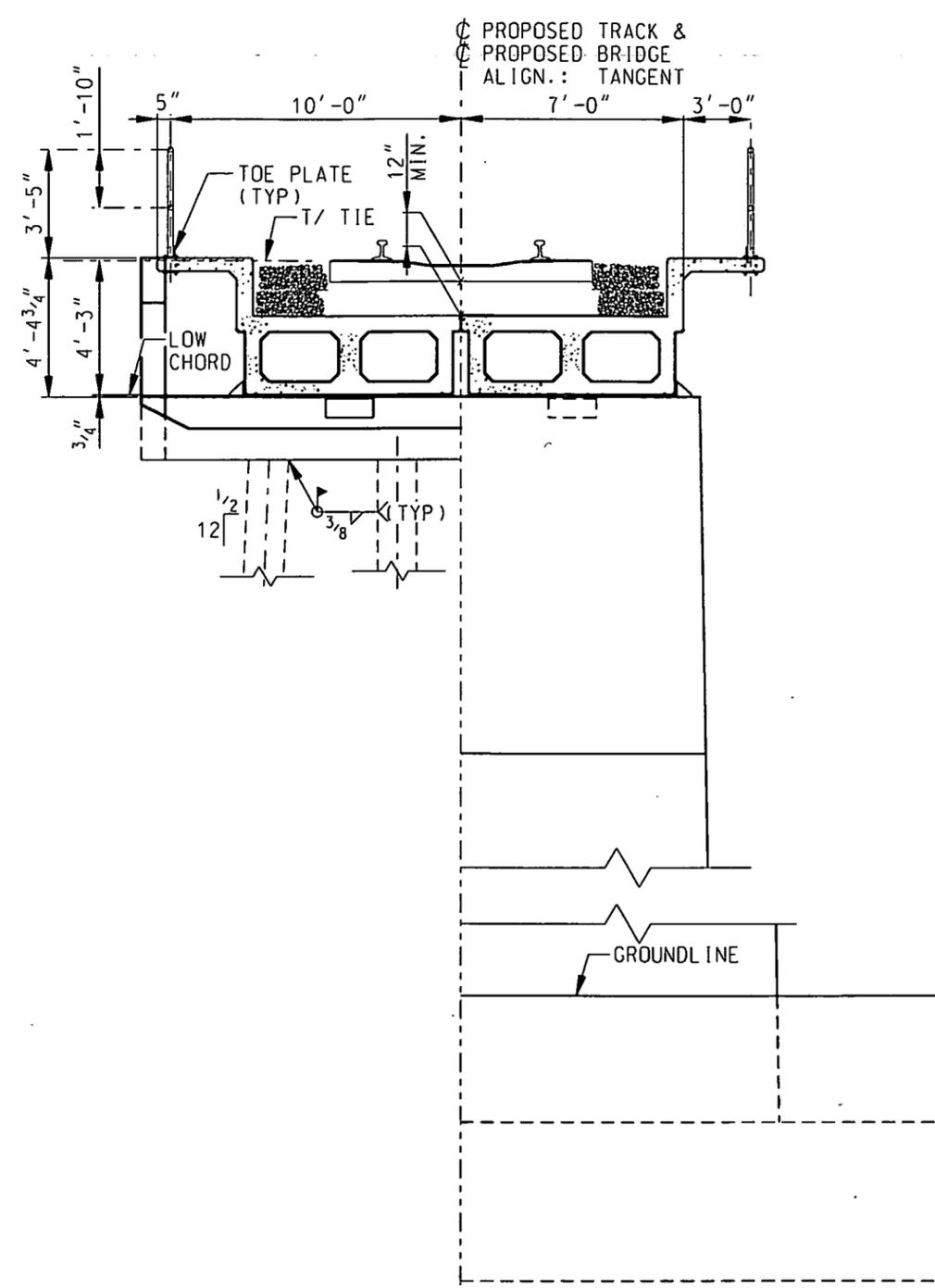
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 SUBCONTRACT NN-HC4-00239
 TASK 7 - ROUTE SECTIONS AND STRUCTURES



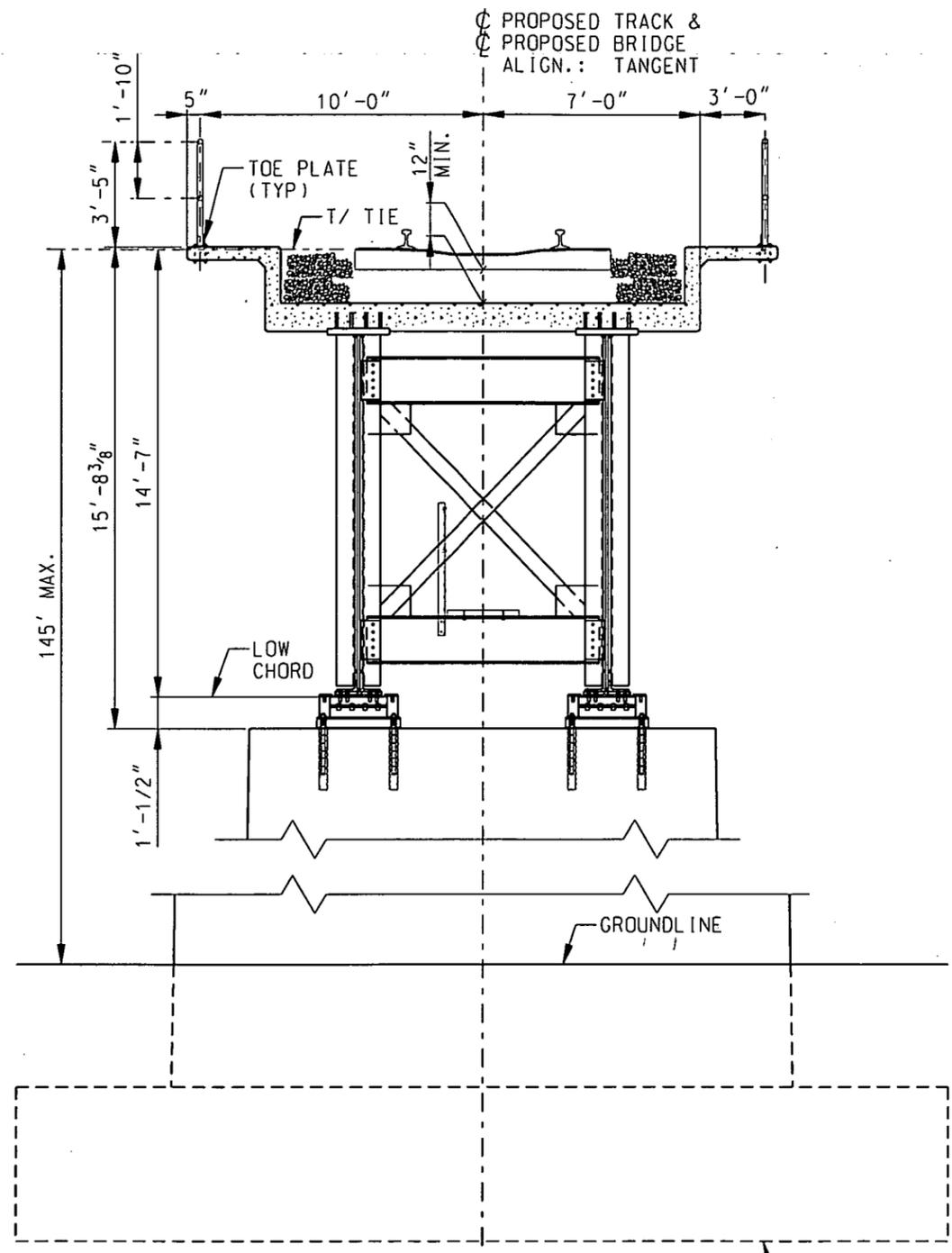
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02	REVISED PER DEIS REVIEW COMMENTS	2/19/07								
01	ISSUED FOR DEIS REFERENCE	4/7/06								

APPROVALS	DATE	U.S. DEPARTMENT OF ENERGY
DESIGN BY: RL/DP		BECHTEL Management and Operation of the Office of SAIC <small>CIVILIAN RADIOACTIVE WASTE MANAGEMENT PROGRAM</small> BEATTY WASH BRIDGE PLAN & PROFILE
DESIGNED BY: TN		
CHECKED BY: JC		
VERIFIED BY: TN		
DESIGN LEAD ENGINEER: TN		
QUALITY ENGINEERING REP: JC		SIZE: NONE SCALE: NONE PROJECT IDENTIFIER: NRP-D-SYSW-TY-0020-03 SHEET: 03 CAD SOFTWARE: MICROSTATION V08.05.02.55 SHEET: 20 OF 22

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SECTION A-A
SCALE: 3/8" = 1'-0"



SECTION B-B
SCALE: 3/8" = 1'-0"
FOUNDATION TO BE DETERMINED

THIS DRAWING IS CONCEPTUAL AND NOT INTENDED FOR CONSTRUCTION.

NEVADA RAIL PARTNERS
 NEVADA RAIL LINE CONCEPTUAL DESIGN
 SUBCONTRACT NN-HC4-00239
 TASK 7 - ROUTE SECTIONS AND STRUCTURES

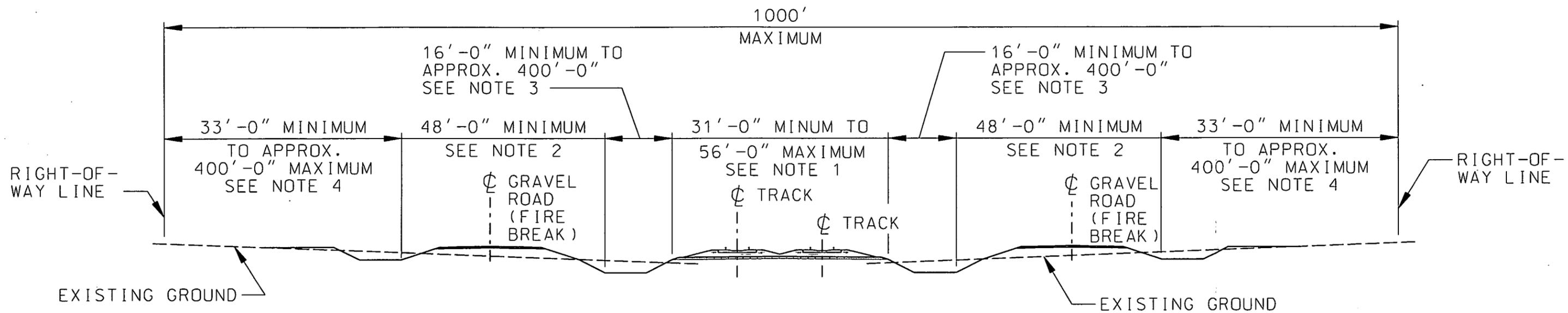


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02	REVISED PER DEIS REVIEW COMMENTS	2/19/07					
01	ISSUED FOR DEIS REFERENCE	4/7/06					

APPROVALS	DATE	U.S. DEPARTMENT OF ENERGY
DRW BY: RL/DP		Office of National Transportation
DESIGNED BY: TN		BECHTEL Management and Operation of the Office of SAIC
CHECKED BY: JC		SAIC Management and Operation of the Office of SAIC
VERIFIED BY: TN		SAIC Management and Operation of the Office of SAIC
DESIGN LEAD ENGINEER: TN		SAIC Management and Operation of the Office of SAIC
QUALITY ENGINEERING REP: JC		SAIC Management and Operation of the Office of SAIC
PROJECT ENGINEER: JC		SAIC Management and Operation of the Office of SAIC

BEATTY WASH BRIDGE		SCALE: NONE	DOCUMENT IDENTIFIER: NRP-D-SYSW-TY-0021-03	REV: 03
		SHEET CATEGORY: MICROSTATION	NO. 03.02.55	SHEET 21 OF 22

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TYPICAL RIGHT OF WAY
 NO SCALE

NOTES:

1. MAXIMUM DIMENSION OF 56'-0" OCCURS AT SIDING LOCATIONS (SEE TYPICAL SECTIONS SINGLE AND DOUBLE TRACKS). ADDITIONAL TEAM TRACKS WOULD CAUSE THIS DIMENSION TO INCREASE. (SEE TYPICAL SIDING LAYOUT).
 2. FOR ROAD DETAILS SEE TYPICAL SECTION PAVED AND GRAVEL ROAD.
 3. DIMENSION DEPENDENT ON CUT OR FILL SECTION HEIGHT AND NATIVE MATERIAL.
 4. DIMENSION IS BALANCE OF RIGHT OF WAY REMAINING DEPENDANT ON NOTE 3 ABOVE.
- GENERAL NOTE: IN AREAS WITH ROW CONFLICTS, WETLANDS, OR OTHER SENSITIVE RESOURCES AND LAND ISSUES, SPECIFIED CHANGES TO THIS DESIGN WILL BE MADE ACCORDINGLY.

THIS DRAWING IS CONCEPTUAL AND NOT INTENDED FOR CONSTRUCTION.

NEVADA RAIL PARTNERS
 NEVADA RAIL LINE CONCEPTUAL DESIGN
 SUBCONTRACT NN-HC4-00239
 TASK 7 - ROUTE SECTIONS AND STRUCTURES



REV	DESCRIPTION	DATE	BY	CHKD	APPD
03	ISSUED FOR DEIS REFERENCE	5/15/07			
02	REVISED PER DEIS REVIEW COMMENTS	2/19/07			
01	ISSUED FOR DEIS REFERENCE	4/7/06			

APPROVALS		DATE/TIME	U.S. DEPARTMENT OF ENERGY Office of National Transportation	
DESIGNED BY	RL/DP		BECHTEL Management and Operation of the Office of SAIC	
CHECKED BY	TN		SAIC Management and Operation of the Office of SAIC	
DESIGNED BY	JC		TYPICAL RIGHT OF WAY	
CHECKED BY	TN		SCALE	NONE
DESIGNED BY	JC		DOCUMENT IDENTIFIER	NRP-D-SYSM-TY-0022-03
CHECKED BY	TN		SHEET	01
DESIGNED BY	JC		SAFETY CATEGORY	MICROSTATION V03.05.02-55
CHECKED BY	TN		SHEET	22 OF 22

OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT
SPECIAL INSTRUCTION SHEET

1. QA: N/A
Page 1 of 1

This is a placeholder page for records that cannot be scanned.

2. Record Date 05/15/07	3. Accession Number ATTN to: ENG.20070606.0024
4. Author Name(s) N/A	5. Authorization Organization Nevada Transportation
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7. Document Number(s) V0-HX00-NHC4-00239-00053-001	8. Version Designator 005
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