

Support Material Agenda Item No. 18

Board of Directors Meeting

**March 3, 2021
10:00 AM**

MEETING ACCESSIBLE VIA ZOOM AT: <https://gosbcta.zoom.us/j/95402329863>

Teleconference

Dial: 1-669-900-6833
Meeting ID: 954 023 9863

Consent Calendar

Project Delivery

18. North First Avenue Bridge over BNSF Railroad Construction and Maintenance Agreement with BNSF and the City of Barstow

That the Board, acting as the San Bernardino County Transportation Authority (SBCTA):

Approve Construction and Maintenance Agreement No. 19-1002236 with BNSF Railway Company and the City of Barstow (City) after staff has reviewed and concurred with any final comments from the City, received City Council approval, and upon final approval as to form by SBCTA General Counsel, for the North First Avenue Bridge over BNSF Railroad Project. The Construction Maintenance Agreement is for the estimated aggregate amount of \$11,628,717, with SBCTA expenditures totaling \$2,481,490, and City expenditures totaling \$9,147,227.

The complete Construction and Maintenance Agreement is being provided as a separate attachment..

Contract Summary Sheet

General Contract Information

Contract No: 19-1002236 Amendment No.: 0
 Contract Class: Payable Department: Project Delivery
 Vendor No.: 00285 Vendor Name: BNSF Railway Company
 Description: CMA for the North First Avenue Bridge Over BNSF Tracks

Dollar Amount						
Original Contract	\$	2,481,490.00	Original Contingency	\$	-	
Prior Amendments	\$	-	Prior Amendments	\$	-	
Current Amendment	\$	-	Current Amendment	\$	-	
Total/Revised Contract Value	\$	2,481,490.00	Total Contingency Value	\$	-	
					Total Dollar Authority (Contract Value and Contingency)	\$ 2,481,490.00

Contract Authorization

Board of Directors Date: 3/3/2021 Board Item # 7459

Contract Management (Internal Purposes Only)

Other Contracts _____ Sole Source? N/A No Budget Adjustment _____
 Federal/Local _____ Construction and Maintenance Agreement _____

Accounts Payable

Estimated Start Date: <u>3/3/2021</u>		Expiration Date: <u>12/31/2039</u>		Revised Expiration Date: _____						
No	Yes	No								
			Total Contract Funding:		Total Contingency:					
			\$	2,481,490.00	\$ -					
GL	2080	40	0860	0811	53701	42106801	650	HBP	2,196,863.10	-
GL	4330	40	0860	0811	53701	41100000	650	MSI ND MLHP	284,626.90	-
GL									-	-
GL									-	-
GL									-	-
GL									-	-
GL									-	-
GL									-	-
GL									-	-

Andrea Nieto Paula Beauchamp
 Project Manager (Print Name) Task Manager (Print Name)

Additional Notes:

NORTH FIRST AVENUE BRIDGE OVER BNSF RAILROAD
CONSTRUCTION and MAINTENANCE AGREEMENT

BNSF File No. BF10014029
N. 1st Avenue Overpass
U.S. D.O.T. No. 026058H
LS 7600
MP.058

Cajon Subdivision
SBCTA Agreement No. 19-1002236.

This Agreement ("**Agreement**"), is executed to be effective as of _____ ("**Effective Date**"), by and between BNSF RAILWAY COMPANY, a Delaware corporation ("**BNSF**"), and the **CITY OF BARSTOW**, a political subdivision of the State of California ("**CITY**"), and **SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY** hereinafter referred to as ("**SBCTA**"), a public entity of the State of California, ("**Parties**").

RECITALS:

WHEREAS, BNSF owns and operates a line of railroad in and through the City of Barstow, State of California; ("**BNSF Right-of-Way**") and

WHEREAS, the North First (N. 1st) Avenue project involves removing the existing N. 1st Avenue Overpass and construction of a new Overpass over BNSF Right-of-Way along a new alignment; and

WHEREAS, SBCTA and CITY have entered into Cooperative Agreement No. 19-1002226 permitting SBCTA to lead the construction phase of the Project on behalf of the CITY and to hire a contractor to perform the work ("**Contractor**"); and

WHEREAS, BNSF will remove, relocate, and rebuild existing tracks and railroad facilities ("**Railroad Work**") to accommodate the demolition, removal, and new construction of the Project; and

WHEREAS, this Agreement shall provide for the invoicing by BNSF of the costs of the Railroad Work to be reimbursed by the CITY and SBCTA; and

WHEREAS, CITY is the successor to CALIFORNIA DEPARTMENT OF TRANSPORTATION, a political subdivision of the State of California ("**STATE**"), and COUNTY OF SAN BERNARDINO, a political subdivision of the State of California

("COUNTY"), as to the existing license agreement dated November 16, 1928 between BNSF, STATE and COUNTY for the existing N. 1st Avenue Overpass and connecting roadway system ("1928 Agreement"); and

WHEREAS, upon completion of the new N. 1st Avenue Overpass by SBCTA, CITY will thereafter own the new N. 1st Avenue Overpass and maintain all highway improvements made by SBCTA under this Agreement; and

WHEREAS, pursuant to this Agreement, CITY will acquire a permanent easement ("EASEMENT"), as required for the new N. 1st Avenue Overpass; and

WHEREAS, pursuant to this Agreement, CITY will secure all releases from STATE, COUNTY, or others as necessary to relinquish all permanent easement(s) and/or other rights as may exist for the existing N. 1st Avenue Overpass to BNSF, including but not limited to the 1928 Agreement; and

NOW, THEREFORE, in consideration of the mutual covenants and obligations of the Parties contained herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

ARTICLE I SCOPE OF WORK

1. The foregoing recitals are agreed to, accepted, and incorporated herein by reference.
2. The term "**Project**" as used herein includes any and all work related to the construction of the proposed N. 1st Avenue Overpass over the BNSF track (hereinafter referred to as the "**Structure**") and demolition of the existing N. 1st Avenue Overpass, more particularly described on Exhibit A Project Plans and Utility Relocation Plans, attached hereto and incorporated herein by this reference including, but not limited to, any and all changes to telephone, telegraph, signal and electrical lines and appurtenances, temporary and permanent track work, fencing, grading, alterations to or new construction of drainage facilities, demolition of existing structures, preliminary and construction engineering, and contract preparation.

ARTICLE II BNSF OBLIGATIONS

In consideration of the covenants of Parties set forth herein and the faithful performance thereof, BNSF agrees as follows:

1. Upon receipt of payment by CITY to BNSF of an administrative fee in the sum of Two Thousand Five Hundred and No/100 Dollars (\$2,500), together with the Temporary

Construction License Fee in the sum of One Hundred Eleven Thousand Four Hundred Eighty and No/100 Dollars (\$111,480), such payment to be made no later than within thirty (30) days of SBCTA issuing the SBCTA Notice to Proceed pursuant to Article III, Section 5 of this Agreement, BNSF hereby grants jointly to SBCTA and CITY, their successors and assigns, upon and subject to the terms and conditions set forth in this Agreement, a temporary non-exclusive license (hereinafter called, "Temporary Construction License") to demolish the existing bridge and construct the Structure across or upon the portion of BNSF's right-of-way described further in Exhibit B, Property, excepting and reserving BNSF's rights, and the rights of any others who have obtained, or may obtain, permission or authority from BNSF, to do the following:

- (a) Operate, maintain, renew and/or relocate any and all existing railroad track or tracks, wires, pipelines and other facilities of like character upon, over or under the surface of said right-of-way;
- (b) Construct, operate, maintain, renew and/or relocate upon said right-of-way, without limitation, such facilities as the BNSF may from time to time deem appropriate, provided such facilities do not materially interfere with the CITY'S and/or SBCTA's construction and use of the Structure;
- (c) Use or operate the right-of-way as BNSF may from time to time deem appropriate, provided such use or operations does not materially interfere with the CITY'S and/or SBCTA's construction and use of the Structure.

2. The term of the Temporary Construction License begins on the date that SBCTA issues the SBCTA Notice to Proceed and ends on the earlier of (i) substantial completion of the Structure, or (ii) 36 months following the Effective Date. The Temporary Construction License and related rights given by BNSF to SBCTA and CITY in this provision are without warranty of title of any kind, express or implied, and no covenant of warranty of title will be implied from the use of any word or words herein contained. The Temporary Construction License is for construction of the Project only and shall not be used by SBCTA or CITY for any other purpose. SBCTA and CITY acknowledge and agree that they shall not have the right, under the Temporary Construction License, to use said License for any purpose other than for construction of the Project. In the event any PARTY is evicted by anyone owning, or claiming title to or any interest in said right-of-way, BNSF shall not be liable for any damages, losses or expenses of any nature whatsoever resulting from the eviction. The granting of similar rights to others, subsequent to the date of this Agreement, will not impair or interfere with the rights granted to SBCTA and CITY herein.

3. Upon receipt of payment by CITY to BNSF of the additional sum of Two Hundred and Four Thousand Six Hundred Ninety Eight and No/100 Dollars (\$204,698), such payment to be made no later than within thirty (30) days of CITY issuing the CITY Notice to Proceed pursuant to Article IV, Section 4 of this Agreement, and provided further that SBCTA and CITY are in compliance with the terms and conditions of this Agreement, BNSF will grant to CITY, its successors and assigns, an easement to enter upon and use that portion of BNSF's right-of-way as is necessary to use and maintain the Structure, substantially in the form of Exhibit B-1, Easement Agreement, attached to this Agreement.

CITY hereby agrees to release all rights (but not any continuing obligations) it may have under the 1928 Agreement or as otherwise exist for the existing N. 1st Avenue Overpass and associated roadways over BNSF property upon completion of the Project and shall provide written assignments evidencing the transfer of rights under the 1928 Agreement from STATE and COUNTY to CITY and CITY's subsequent release, or releases executed directly by STATE, COUNTY, and CITY. CITY shall provide the Releases to BNSF no later than six (6) months following the Effective Date, to be held in escrow by BNSF pending completion of the Project. Any failure by CITY to provide such Releases shall not release it from the obligation to provide the Releases as provided in this Agreement.

4. BNSF will furnish all labor, materials, tools, and equipment as necessary to perform the Railroad Work to accommodate the Project pursuant to the plans approved by BNSF. The estimated cost of the Railroad Work is as shown in Exhibit D-1 and Exhibit D-3 attached hereto and made a part hereof. In the event that the CITY Notice to Proceed has not been issued within six (6) months following the Effective Date, BNSF may, in its sole and absolute discretion, revise the cost estimates set forth in said Exhibit D-1. In the event that the SBCTA Notice to Proceed has not been received and construction of SBCTA's Work on the Project has not commenced within six (6) months following the Effective Date, BNSF may, in its sole and absolute discretion, revise the cost estimates set forth in said Exhibit D-3. In either such event, the revised cost estimates will become a part of this Agreement as though originally set forth herein. Any item of work incidental to the items listed on Exhibits D-1 or D-3 not specifically mentioned therein may be included as a part of this Agreement upon written approval of SBCTA and/or CITY, which approval(s) will not be unreasonably withheld.

5. BNSF shall commence that portion of the Railroad Work described in Exhibit D-1 following receipt of the CITY Notice to Proceed. BNSF and CITY shall execute the Cost to Cure Agreement attached hereto as Exhibit D-2, In addition to the Railroad Work described in Exhibit D-1, BNSF shall provide flagging, engineering, inspection, project

coordination, and other Railroad Work as generally described in Exhibit D-3 in coordination with SBCTA's Work (defined below).

6. BNSF will perform all Railroad Work set forth in Article II, Section 4 and 5 above on an actual cost basis, when BNSF, in its sole discretion, determines it is required by its labor agreements to perform such work with its own employees working under applicable collective bargaining agreements.

7. SBCTA shall reimburse BNSF for work of an emergency nature caused by SBCTA or SBCTA's Contractor in connection with the Project which BNSF deems is reasonably necessary for the immediate restoration of railroad operations, or for the protection of persons or of BNSF property. Although such emergency work may be performed by BNSF without prior approval of SBCTA, BNSF shall notify SBCTA that such work is being performed at its earliest opportunity.

8. BNSF may charge SBCTA for insurance expenses, including self-insurance expenses, when such expenses cover the cost of Employer's Liability (including, without limitation, liability under the Federal Employer's Liability Act) in connection with the construction of the Project. Such charges will be considered part of the actual cost of the Project, regardless of the nature or amount of ultimate liability for injury, loss or death to BNSF's employees, if any.

9. BNSF shall send progressive invoices detailing the costs of the Railroad Work performed by BNSF under Exhibit D-1 to the CITY, and shall send progressive invoices detailing the costs of the Railroad Work performed by BNSF under Exhibit D-3 to SBCTA. The CITY and SBCTA, respectively, shall reimburse BNSF for completed force-account work within thirty (30) days of the date of the invoice for such work. Upon completion of each respective phase of the Project, BNSF will send CITY and SBCTA a separate detailed invoice of final costs, segregated as to labor and materials for each item in the recapitulation shown on Exhibits D-1 and D-3 respectively. Pursuant to this Section, SBCTA and the CITY shall pay the final invoices within ninety (90) days of the date of the final invoice. BNSF shall assess a finance charge of .033% per day (12% per annum) on any unpaid sums or other charges due under this Agreement which are past its credit terms of 90 days. The finance charge shall continue to accrue daily until the date payment is received by BNSF, not the date payment is made or the date postmarked on the payment. Finance charges will be assessed on delinquent sums and other charges as of the end of the month and will be reduced by amounts in dispute and any unposted payments received by the month's end. Finance charges shall be noted on invoices required to be sent to SBCTA or the CITY under this Section.

ARTICLE III SBCTA OBLIGATIONS

In consideration of the covenants of Parties set forth herein and the faithful performance thereof, SBCTA agrees as follows:

1. No work shall commence by SBCTA or its Contractor(s) ("Contractor") until the plans and specifications for the Project have been fully accepted by BNSF as provided pursuant to Article IV, Section 5. SBCTA shall provide for and maintain minimum vertical and horizontal clearances, as required in Exhibit C, Contractor Requirements and as approved by BNSF, as part of the plans and specifications for the Project. SBCTA shall not deviate from the Final Clearances in Exhibit C agreed to prior to this Agreement without the prior written approval of BNSF.

2. SBCTA shall make any and all arrangements, in compliance with BNSF's Utility Accommodation Policy (<http://www.bnsf.com/communities/faqs/pdf/utility.pdf>), for the installation or relocation of wire lines, pipe lines and other facilities owned by private persons, companies, corporations, political subdivisions or public utilities other than BNSF which may be necessary for the construction of the Project.

3. SBCTA shall construct the Project as shown in Exhibit A and do all work ("SBCTA's Work") provided for in the plans and specifications for the Project, except for the Railroad Work that will be performed by BNSF hereunder. SBCTA shall furnish all labor, materials, tools and equipment necessary for the performance of its work. The principal elements of SBCTA Work are as follows:

- (a) Demolition of the existing overpass and construction of the new Structure per submitted plans that are accepted by BNSF;
- (b) All necessary grading and paving, including backfill of excavations and restoration of disturbed vegetation on BNSF's right-of-way;
- (c) Provide suitable drainage for the Structure, both temporary and permanent;
- (d) Temporary Installation of K-Rail (Jersey) barriers and chain link fencing along the tracks and the traveled roadways;
- (e) Provide appropriate pedestrian control during construction;
- (f) Installation and maintenance of an 8-ft. high fence and/or concrete combination (throw fence) on the outside barrier of the Structure;

- (g) Job site cleanup including removal of all construction materials, concrete debris, surplus soil, refuse, contaminated soils, asphalt debris, litter and other waste materials to the satisfaction of BNSF; and,
- (h) Require contractors to obtain permits from BNSF for any temporary at-grade construction crossings as needed for the Project at such contractor's expense.

4. SBCTA's Work shall be performed by SBCTA or SBCTA's Contractor(s) in a manner that will not endanger or interfere with the safe and timely operations of BNSF and its facilities.

5. SBCTA shall require its Contractor(s) to notify BNSF's Roadmaster at least thirty (30) calendar days prior to requesting a BNSF flagman in accordance with the requirements of Exhibit C attached hereto. Additionally, SBCTA shall require its Contractor(s) to notify BNSF's Manager of Public Projects thirty (30) calendar days prior to commencing work on BNSF property or near BNSF tracks and shall provide the Manager of Public Projects a written notice to proceed ("SBCTA Notice to Proceed") prior to commencing any work. BNSF shall not begin the Railroad Work described in Exhibit D-3 (including, without limitation, procurement of supplies, equipment or materials) until the SBCTA Notice to Proceed has been received from SBCTA.

6. SBCTA or its Contractor(s) shall submit digital copies of any plans (including a set of calculations in **English Units**) for proposed shoring, falsework or cribbing to be used over, under, or adjacent to BNSF's tracks to BNSF's inspector coordinator, BNSF Project Engineer and Manager of Public Projects for review and acceptance. The shoring, falsework or cribbing used by Contractor shall comply with the UPRR – BNSF Joint Guidelines for Railroad Grade Separation Projects and all applicable requirements promulgated by state and federal agencies, departments, commissions and other legislative bodies. Contractor shall submit for review and acceptance a professionally engineered demolition plan with applicable calculations to BNSF's Manager of Public Projects. The existing N. 1st Avenue Overpass shall not be removed until BNSF has accepted Contractor's demolition plan in writing.

7. SBCTA shall include the following provisions in any contract with its Contractor(s) performing work on the Project:

- (a) The Contractor is placed on notice that fiber optic, communication and other cable lines, systems, and utilities (collectively, the "Lines") owned by various utility companies may be buried on BNSF's property or right-of-way. The locations of these Lines have been included on the plans based on information provided by the companies. The Contractor shall be responsible

for contacting BNSF's Engineering Representative, Signal Representative, Telecommunication Representative and each of the utility companies and notifying them of any work that may damage these Lines or other facilities or that may interfere with their service. The Contractor shall also mark all Lines shown on the plans in the field in order to verify their locations. The Contractor shall use all reasonable methods when working in the BNSF right-of-way or on BNSF property to determine if any other Lines exist.

- (b) The Contractor shall be responsible for the rearrangement of any facilities or Lines determined to interfere with the construction. The Contractor shall cooperate fully with any utility company(ies) in performing such rearrangements.
- (c) Failure to mark or identify these Lines in the field shall be sufficient cause for BNSF's engineering representative to stop construction at no cost to BNSF until these items are completed.
- (d) In addition to the liability terms contained elsewhere in this Agreement, the Contractor hereby indemnifies, defends and holds harmless BNSF for, from and against all cost, liability, and expense whatsoever (including, without limitation, attorney's fees and court costs and expenses) arising out of or in any way contributed to by any act or omission of Provider, its subcontractors, agents and/or employees that cause or in any way or degree contribute to (1) any damage to or destruction of any Lines by Provider, and/or its subcontractors, agents and/or employees, on BNSF's property or within BNSF's right-of-way, (2) any injury to or death of any person employed by or on behalf of any utility company, and/or its contractor, agents and/or employees, on BNSF's property or within BNSF's right-of-way, and/or (3) any claim or cause of action for alleged loss of profits or revenue by, or loss of service by a customer or user of such utility company(ies). **THE LIABILITY ASSUMED BY THE CONTRACTOR WILL NOT BE AFFECTED BY THE FACT, IF IT IS A FACT, THAT THE DAMAGE, DESTRUCTION, INJURY, DEATH, CAUSE OF ACTION OR CLAIM WAS OCCASIONED BY OR CONTRIBUTED TO BY THE NEGLIGENCE OF BNSF, ITS AGENTS, SERVANTS, EMPLOYEES OR OTHERWISE, EXCEPT TO THE EXTENT THAT SUCH CLAIMS ARE PROXIMATELY CAUSED BY THE WILLFUL MISCONDUCT OR SOLE NEGLIGENCE OF BNSF.**

8. SBCTA shall require compliance with the obligations set forth in this Agreement, including Exhibit C and Exhibit C-1, and incorporate in each prime contract for construction of the Project, or the specifications therefor: (i) the provisions set forth in

Articles III, IV, and V; and (ii) the UPRR – BNSF Joint Guidelines for Railroad Grade Separation Projects.

9. Except as otherwise provided below in this Section, all construction work performed hereunder by SBCTA for the Project shall be pursuant to a contract or contracts to be let by SBCTA, and all such contracts must include the following:

- (a) All work performed under such contract or contracts within the limits of BNSF's right-of-way must be performed in a good and workmanlike manner in accordance with plans and specifications approved by BNSF;
- (b) Changes or modifications during construction that affect safety or BNSF operations must be subject to BNSF's approval;
- (c) No work will be commenced within BNSF's right-of-way until each of the prime contractors employed in connection with said work must have (i) executed and delivered to BNSF an agreement in the form of Exhibit C-1, and (ii) delivered to and secured BNSF's approval of the required insurance; and
- (d) To facilitate scheduling for the Project, SBCTA shall have its Contractor give BNSF's representative 8 weeks' advance notice of the proposed times and dates for work windows. BNSF and the SBCTA Contractor shall establish mutually agreeable work windows for the Project. BNSF has the right at any time to revise or change the work windows to accommodate train operations or service obligations. BNSF will not be responsible for any additional costs and expenses resulting from such change in work windows and shall be accounted for in the Contractor's expenses for the Project.
- (e) The plans and specifications for the Project shall be in compliance with the UPRR-BNSF Joint Guidelines for Railroad Grade Separation Projects (<http://www.bnsf.com/in-the-community/pdf/uprr-bnsf-joint-guidelines-railroad-grade-separation-projects.pdf>), which is incorporated herein by reference.

10. SBCTA shall advise the appropriate BNSF Manager of Public Projects, in writing, of the completion date of the Project within thirty (30) days after such completion date. Additionally, SBCTA shall notify BNSF's Manager of Public Projects, in writing, of the date on which SBCTA and/or its Contractor will meet with BNSF for the purpose of making final inspection of the Project based on the Project Plans in Exhibit A.

11. TO THE FULLEST EXTENT PERMITTED BY LAW, SBCTA HEREBY RELEASES, INDEMNIFIES, DEFENDS AND HOLDS HARMLESS BNSF, ITS AFFILIATED COMPANIES, PARTNERS, SUCCESSORS, ASSIGNS, LEGAL REPRESENTATIVES, OFFICERS, DIRECTORS, SHAREHOLDERS, EMPLOYEES AND AGENTS FOR, FROM AND AGAINST ANY AND ALL CLAIMS, LIABILITIES, FINES, PENALTIES, COSTS, DAMAGES, LOSSES, LIENS, CAUSES OF ACTION, SUITS, DEMANDS, JUDGMENTS AND EXPENSES (INCLUDING, WITHOUT LIMITATION, COURT COSTS AND ATTORNEYS' FEES) OF ANY NATURE, KIND OR DESCRIPTION OF ANY PERSON (INCLUDING, WITHOUT LIMITATION, THE EMPLOYEES OF THE PARTIES HERETO) OR ENTITY DIRECTLY OR INDIRECTLY ARISING OUT OF, RESULTING FROM OR RELATED TO (IN WHOLE OR IN PART) (I) THE USE, OCCUPANCY OR PRESENCE OF SBCTA, ITS CONTRACTORS, SUBCONTRACTORS, EMPLOYEES OR AGENTS IN, ON, OR ABOUT THE CONSTRUCTION SITE, (II) THE PERFORMANCE, OR FAILURE TO PERFORM BY THE SBCTA, ITS CONTRACTORS, SUBCONTRACTORS, EMPLOYEES, OR AGENTS, ITS WORK OR ANY OBLIGATION UNDER THIS AGREEMENT, (III) THE SOLE OR CONTRIBUTING ACTS OR OMISSIONS OF SBCTA, ITS CONTRACTORS, SUBCONTRACTORS, EMPLOYEES, OR AGENTS IN, ON, OR ABOUT THE CONSTRUCTION SITE, (IV) SBCTA'S BREACH OF THE TEMPORARY CONSTRUCTION LICENSE OR EASEMENT GRANTED TO SBCTA PURSUANT TO ARTICLE II OF THIS AGREEMENT, (V) ANY RIGHTS OR INTERESTS GRANTED TO SBCTA PURSUANT TO THE TEMPORARY CONSTRUCTION LICENSE OR EASEMENT DISCUSSED IN ARTICLE II OF THIS AGREEMENT, (VI) SBCTA'S OCCUPATION AND USE OF BNSF'S PROPERTY OR RIGHT-OF-WAY, OR (VII) AN ACT OR OMISSION OF SBCTA OR ITS OFFICERS, AGENTS, INVITEES, EMPLOYEES OR CONTRACTORS OR ANYONE DIRECTLY OR INDIRECTLY EMPLOYED BY ANY OF THEM, OR ANYONE THEY CONTROL OR EXERCISE CONTROL OVER. THE LIABILITY ASSUMED BY SBCTA WILL NOT BE AFFECTED BY THE FACT, IF IT IS A FACT, THAT THE DAMAGE, DESTRUCTION, INJURY OR DEATH WAS OCCASIONED BY OR CONTRIBUTED TO BY THE NEGLIGENCE OF BNSF, ITS AGENTS, SERVANTS, EMPLOYEES OR OTHERWISE, EXCEPT TO THE EXTENT THAT SUCH CLAIMS ARE PROXIMATELY CAUSED BY THE WILLFUL MISCONDUCT OR SOLE NEGLIGENCE OF BNSF.

ARTICLE IV CITY OBLIGATIONS

In consideration of the covenants of the Parties herein contained and the faithful performance thereof, CITY agrees:

1. To permit SBCTA to act as the responsible lead agency for the construction phase of the Project. CITY shall be the lead agency for the environmental clearance, right-of-way acquisition, utility relocation and design of the Project; and maintenance of the Structure.
2. CITY shall acquire all rights-of-way necessary for the Project, including the Easement described in Article II, Section 3.
3. CITY shall make any and all arrangements, in compliance with BNSF's Utility Accommodation Manual (<http://www.bnsf.com/communities/faqs/pdf/utility.pdf>), for the installation or relocation of wire lines, pipe lines and other facilities owned by private persons, companies, corporations, political subdivisions or public utilities other than BNSF which may be necessary for the construction of the Project.
4. After CITY has received its funding for the Railroad Work described in Exhibit D-1, CITY shall give BNSF's Manager of Public Projects written notice to proceed ("CITY Notice to Proceed") with the Railroad Work. BNSF shall not begin the Railroad Work (including, without limitation, procurement of supplies, equipment or materials) until the Notice to Proceed has been received from CITY.
5. CITY shall furnish to BNSF plans and specifications for the Project. Digital sets of said plans (reduced size 11" x 17"), together with calculations, and specifications in English Units, must be submitted to BNSF for review and acceptance prior to commencement of any construction. BNSF shall give CITY and SBCTA final written acceptance of the plans and specifications following review of the same in BNSF's sole discretion. Upon BNSF's final written acceptance of the plans and specifications, said plans and specifications will become part of this Agreement and are hereby incorporated herein. Any acceptance of the plans and specifications by BNSF shall in no way obligate BNSF in any manner with respect to the finished product design and/or construction. Any acceptance by BNSF shall mean only that the plans and specifications meet the subjective standards of BNSF, and such acceptance by BNSF shall not be deemed to mean that the plans and specifications or construction is structurally sound and appropriate or that such plans and specifications meet applicable regulations, laws, statutes or local ordinances and/or building codes. Prior to execution of this Agreement, CITY shall have provided to BNSF the exact minimum vertical and horizontal clearances for the Project, and such Final Clearances must have been previously approved by BNSF and attached hereto and incorporated herein as Exhibit C.
6. CITY shall make application to the California Public Utility Commission ("Commission") for an order authorizing construction of the Project and furnish the

Commission with plans of the proposed construction, accepted by BNSF and CITY, together with a copy of this Agreement.

7. CITY shall obtain all other required permits and approvals for the demolition and construction of this Project, provided that, nothing in this Agreement shall constitute or be construed as conferring BNSF's consent or participation in any state or local permit process or otherwise require BNSF to obtain such permits for work performed on BNSF right of way.

8. CITY must maintain the DOT No. and CPUC No. signage in legible condition in the conspicuous locations on the Structure where applied during construction.

9. TO THE FULLEST EXTENT PERMITTED BY LAW, IN ACCORDANCE WITH CALIFORNIA GOVERNMENT CODE SECTION 14662.5, CITY HEREBY RELEASES, INDEMNIFIES, DEFENDS AND HOLDS HARMLESS BNSF, ITS AFFILIATED COMPANIES, PARTNERS, SUCCESSORS, ASSIGNS, LEGAL REPRESENTATIVES, OFFICERS, DIRECTORS, SHAREHOLDERS, EMPLOYEES AND AGENTS FOR, FROM AND AGAINST ANY AND ALL CLAIMS, LIABILITIES, FINES, PENALTIES, COSTS, DAMAGES, LOSSES, LIENS, CAUSES OF ACTION, SUITS, DEMANDS, JUDGMENTS AND EXPENSES (INCLUDING, WITHOUT LIMITATION, COURT COSTS AND ATTORNEYS' FEES) OF ANY NATURE, KIND OR DESCRIPTION OF ANY PERSON (INCLUDING, WITHOUT LIMITATION, THE EMPLOYEES OF THE PARTIES HERETO) OR ENTITY DIRECTLY OR INDIRECTLY ARISING OUT OF, RESULTING FROM OR RELATED TO (IN WHOLE OR IN PART) (I) THE USE, OCCUPANCY OR PRESENCE OF CITY, ITS CONTRACTORS, SUBCONTRACTORS, EMPLOYEES OR AGENTS IN, ON, OR ABOUT THE CONSTRUCTION SITE, (II) THE PERFORMANCE, OR FAILURE TO PERFORM BY THE CITY, ITS CONTRACTORS, SUBCONTRACTORS, EMPLOYEES, OR AGENTS, ITS WORK OR ANY OBLIGATION UNDER THIS AGREEMENT, (III) THE SOLE OR CONTRIBUTING ACTS OR OMISSIONS OF CITY, ITS CONTRACTORS, SUBCONTRACTORS, EMPLOYEES, OR AGENTS IN, ON, OR ABOUT THE CONSTRUCTION SITE, (IV) CITY'S BREACH OF THE TEMPORARY CONSTRUCTION LICENSE OR EASEMENT GRANTED PURSUANT TO ARTICLE II OF THIS AGREEMENT, (V) ANY RIGHTS OR INTERESTS GRANTED TO CITY PURSUANT TO THE TEMPORARY CONSTRUCTION LICENSE OR EASEMENT DISCUSSED IN ARTICLE II OF THIS AGREEMENT, (VI) CITY'S OCCUPATION AND USE OF BNSF'S PROPERTY OR RIGHT-OF-WAY, INCLUDING, WITHOUT LIMITATION, SUBSEQUENT MAINTENANCE OF THE STRUCTURE BY CITY, OR (VII) AN ACT OR OMISSION OF CITY OR ITS OFFICERS, AGENTS, INVITEES, EMPLOYEES OR CONTRACTORS OR ANYONE DIRECTLY OR INDIRECTLY EMPLOYED BY ANY OF THEM, OR ANYONE THEY CONTROL OR EXERCISE

CONTROL OVER. THE LIABILITY ASSUMED BY CITY WILL NOT BE AFFECTED BY THE FACT, IF IT IS A FACT, THAT THE DAMAGE, DESTRUCTION, INJURY OR DEATH WAS OCCASIONED BY OR CONTRIBUTED TO BY THE NEGLIGENCE OF BNSF, ITS AGENTS, SERVANTS, EMPLOYEES OR OTHERWISE, EXCEPT TO THE EXTENT THAT SUCH CLAIMS ARE PROXIMATELY CAUSED BY THE WILLFUL MISCONDUCT OR SOLE NEGLIGENCE OF BNSF.

ARTICLE V JOINT OBLIGATIONS

The Parties hereto mutually agree to the following:

1. All work contemplated in this Agreement must be performed in a good and workmanlike manner. Each party obligated hereunder to perform the same shall promptly commence and thereafter diligently prosecute its work to conclusion in its logical order and sequence. Furthermore, any changes or modifications to the Scope of Work during construction which affect BNSF will be subject to BNSF's written acceptance prior to the commencement of any work resulting from such changes or modifications.
2. Temporary controls during construction must be in compliance with Section 8A-08, "Temporary Traffic Control Zones" of the Manual of Uniform Traffic Control Devices ("MUTCD"), U.S. Department of Transportation.
3. The work hereunder shall be done in accordance with the BNSF Requirements for construction of Grade Separation Projects set forth in the UPRR-BNSF Joint Guidelines for Railroad Grade Separation Projects and the detailed plans and specifications accepted by BNSF.
4. SBCTA shall require its Contractor(s) to reasonably adhere to the Project's construction schedule for all Project work. The parties hereto mutually agree that BNSF's failure to complete the Railroad Work in accordance with the construction schedule due to inclement weather or unforeseen railroad emergencies will not constitute a breach of this Agreement by BNSF and will not subject BNSF to any liability. Regardless of the requirements of the construction schedule, BNSF reserves the right to reallocate the labor forces assigned to complete the Railroad Work in the event of an emergency to provide for the immediate restoration of railroad operations of either (BNSF or its related railroads) or to protect persons or property on or near any BNSF-owned property. BNSF will not be liable for any additional costs or expenses resulting from any such reallocation of its labor forces. The parties mutually agree that any reallocation of labor forces by BNSF pursuant to this provision and any direct or

indirect consequences or costs resulting from any such reallocation will not constitute a breach of this Agreement by BNSF.

5. BNSF will have the right, but not the obligation, to stop construction work on the Project if any of the following events take place: (i) SBCTA (or its Contractor(s)) performs the Project work in a manner contrary to the plans and specifications approved by BNSF; (ii) SBCTA (or its Contractor(s)), in BNSF's opinion, prosecutes the Project work in a manner that is hazardous to BNSF property, facilities or the safe and expeditious movement of railroad traffic; (iii) the insurance described in the attached Exhibit C-1 is canceled during the course of the Project; or (iv) SBCTA and/or CITY fails to pay BNSF for the Temporary Construction License or for the Easement. The work stoppage will continue until all necessary actions are taken by SBCTA or its Contractor to rectify the situation to the satisfaction of BNSF's Division Engineer or until proof of additional insurance has been delivered to and accepted by BNSF. In the event of a breach of (i) this Agreement, (ii) the Temporary Construction License, or (iii) the Easement, BNSF may immediately terminate the Temporary Construction License or the Easement and refund the monies paid for said Easement(s). Any such work stoppage under this provision will not give rise to any liability on the part of BNSF. BNSF's right to stop the work is in addition to any other rights BNSF may have. In the event that BNSF desires to stop construction work on the Project, BNSF agrees to immediately notify the following individual in writing:

Paula Beauchamp
SBCTA Director of Project Delivery
1170 W 3rd Street, 2ndFloor
San Bernardino, CA 92410
Phone: (909) 884-8276
pbeauchamp@gosbcta.com

6. SBCTA shall supervise and inspect the operations of all SBCTA Contractors to ensure compliance with the plans and specifications approved by BNSF, the terms of this Agreement and all safety requirements of BNSF. If BNSF determines that proper supervision and inspection are not being performed by SBCTA personnel at any time during construction of the Project, BNSF has the right, but not the obligation, to stop construction (including work adjacent to BNSF right-of-way to the extent BNSF believes it may adversely affect BNSF's property interests or business operations). Construction of the Project will not proceed until SBCTA corrects the situation to BNSF's reasonable satisfaction. If BNSF feels the situation is not being corrected in an expeditious manner, BNSF will immediately notify SBCTA Director of Project Delivery as noted above for appropriate corrective action.

7. Pursuant to this section and Article II, Section 9 herein, CITY and SBCTA shall respectively reimburse BNSF in full for the actual costs of all Railroad Work performed by BNSF under this Agreement (including taxes, such as applicable sales and use taxes, business and occupation taxes, and similar taxes).

8. In any action brought under this Agreement, the prevailing Party shall be entitled to recover its actual costs and attorneys fees pursuant to California Civil Code Section 1717, as well as other litigation costs, including expert witness fees. The prevailing Party shall also be entitled to recover all actual attorney's fees and litigation costs incurred in connection with the enforcement of a judgment arising from such action or proceeding.

9. All expenses detailed in invoices sent to SBCTA pursuant to Article II, Section 9 herein will comply with the terms and provisions of the Title 23 U.S. Code, Title 23 Code of Federal Regulations, and the Federal-Aid Policy Guide, U.S. Department of Transportation, as amended from time to time, which manual is hereby incorporated into and made a part of this Agreement by reference. The parties mutually agree that BNSF's preliminary engineering, design, and contract preparation costs described in Article II, Sections 4-5 herein are part of the costs of the Project even though such work may have preceded the date of this Agreement.

10. The parties mutually agree that neither construction activities for the Project, nor future maintenance of the Structure once completed, will be permitted within BNSF's right-of-way during the fourth quarter of each calendar year. Emergency work will be permitted only upon prior notification to BNSF's Network Operations Center (telephone number: 800 832-5452). The parties hereto mutually understand and agree that trains cannot be subjected to delay during this time period.

11. Subject to the restrictions imposed by Article V, Section 10 above, the construction of the Project will not commence until SBCTA gives BNSF's Manager of Public Projects thirty (30) days prior written notice of such commencement. The commencement notice will reference D.O.T. Crossing No. 026058H and must state the time that construction activities will begin.

12. In addition to the terms and conditions set forth elsewhere in this Agreement, the Parties agree to the following terms upon completion of construction of the Project:

- (a) CITY will own and maintain, at its sole cost and expense, the Structure, the highway approaches, and appurtenances thereto, lighting, drainage and any access roadways to BNSF gates installed pursuant to this Agreement. BNSF may, at its option, perform maintenance of the Structure in order to avoid conflicts with train operations, provided that, BNSF shall use reasonable

efforts to coordinate any necessary inspections or maintenance of the Structure with CITY to avoid the need for BNSF to perform maintenance itself. BNSF will reasonably notify CITY prior to performing any such maintenance on the Structure. In the event such maintenance involves emergency repairs, BNSF will notify Agency as soon as practicable and at its earliest opportunity. CITY must fully reimburse BNSF for the costs of maintenance performed by BNSF.

- (b) CITY must, at City's sole cost and expense, keep the Structure painted and free from graffiti.
- (c) CITY agrees to cooperate with BNSF to provide and maintain any necessary roadway traffic controls, along with a permit, at no cost to BNSF, whenever requested by BNSF to allow BNSF to inspect the Structure or to make emergency repairs thereto.
- (d) It is expressly understood by the Parties that the right to install any utilities is restricted to the installation, upgrade, replacement, and maintenance of City-owned utilities on, above or within the Structure, so long as such utilities are used exclusively for highway purposes. These utilities do not require a separate permit or license agreement from BNSF provided that they do not interfere with railroad facilities or operations. Under no circumstances will utilities be allowed to hang from the Structure. CITY shall not grant, permit or allow any other utility facilities or equipment to be placed on or about the Structure or Easement except as expressly approved by BNSF. All utility crossings within the limits of BNSF's Right-of-Way except as permitted as provided in this Section shall be required to be permitted by separate agreement between BNSF and the owner in BNSF's sole discretion.
- (e) CITY shall keep the Structure and surrounding areas clean and strive to keep it free from birds, pigeons, scavengers, vermin, creatures and other animals.
- (f) If CITY, and Party, or any other party on behalf of CITY, performs (i) alterations or modifications to the Structure, or (ii) any maintenance or other work on the Structure with heavy tools, equipment or machinery at ground surface level horizontally within 25'-0" of the centerline of the nearest track, or (iii) any maintenance or other work outside the limits of the deck of the Structure vertically above the top of the rail, then CITY or its contractors and/or agents must procure and maintain the following insurance coverage, which may be changed from time to time:

Railroad Protective Liability insurance naming only **BNSF** as the Insured with coverage of at least \$5,000,000 per occurrence and \$10,000,000 in the aggregate. The policy shall be issued on a standard ISO form CG 00 35 12 04 and include the following:

- Endorsed to include the Pollution Exclusion Amendment;
- Endorsed to include the Limited Seepage and Pollution Endorsement;
- Endorsed to remove any exclusion for punitive damages
- Endorsed to include Evacuation Expense Coverage Endorsement.

No other endorsements restricting coverage may be added.

- The original policy must be provided to **BNSF** prior to performing any work or services under this Agreement
- Definition of “Physical Damage to Property” shall be endorsed to read: “means direct and accidental loss of or damage to all physical property owned by any named insured and all property in any named insured’ care, custody, and control arising out of the acts or omissions of the contractor named on the Declarations.

As used in this paragraph, “**BNSF**” means “Burlington Northern Santa Fe, LLC”, “BNSF RAILWAY COMPANY” and the subsidiaries, successors, assigns and affiliates of each.

In lieu of providing a Railroad Protective Liability Policy, SBCTA may participate in BNSF’s Blanket Railroad Protective Liability Insurance Policy if available to SBCTA or its contractors. The limits of coverage are the same as above.

13. Upon completion of the Project, CITY shall provide one set of as built plans (prepared in **English Units**) to BNSF, as well as a digital copy containing as built CAD drawings of the Structure and identifying the software used for the CAD drawings. The "as built plans" must comply with the BNSF Requirements for construction of Grade Separation Projects set forth in UPRR-BNSF Joint Guidelines for Railroad Grade Separation Projects. and depict all information in BNSF engineering stationing and mile post pluses. The "as built plans" must also include plan and profile, structural bridge drawings and specifications, and drainage plans. All improvements and facilities must be shown.

14. Subject to the restrictions imposed by Article V, Section 10 above, CITY must notify and obtain prior authorization from BNSF's Manager Public Projects to perform (i) inspections that require access to BNSF rights-of-way, (ii) alterations or modifications to the Structure, or (iii) any maintenance or other work on, over or under the Structure before entering BNSF's Rail Corridor or for work located a minimum distance of 25'-0" measured horizontally from the centerline of the nearest track or a greater distance specified by BNSF's Manager Public Projects and must comply with the obligations set forth in Exhibit C, Exhibit C-1 and the UPRR – BNSF Joint Guidelines for Railroad Grade Separation Projects, as the same may be revised from time to time. In the event any of the work to be done on behalf of CITY upon BNSF's Rail Corridor is to be done by a contractor or other agent, including any other Party to this Agreement, CITY will be responsible for its contractor(s) and/or agent(s) compliance with such obligations.

15. In the event that BNSF shall deem it necessary or desirable in the future, in the performance of its duty as a common carrier, to raise or lower the grade or change the alignment of its tracks or to lay additional track or tracks or to build other facilities in connection with the operation of its railroad, BNSF shall, at its sole cost and expense, have full right to make such changes or additions, provided such changes or additions do not change, alter, or affect the Structure herein proposed to be constructed and provided further, however, that should it become necessary or desirable in the future to change, alter, widen or reconstruct the Structure to accommodate railroad projects, the cost of such work, including any cost incidental to alteration of railroad or highway facilities made necessary by the alteration of the Structure shall be the sole responsibility of CITY.

16 CITY may, at City's sole expense, alter or reconstruct the highway components of the Structure if necessary or desirable, due to traffic conditions or pedestrian or other recreational traffic, provided, however, that any such alteration or reconstruction must receive BNSF's prior written approval as evidenced by either a supplement to this Agreement, or execution of a new agreement that provides for the termination of this Agreement. Furthermore, any alteration or reconstruction of the highway components of the Structure will be covered by a Commission Order.

17. Any books, papers, records and accounts of the parties hereto relating to the work hereunder or the costs or expenses for labor and material connected with the construction will at all reasonable times be open to inspection and audit by the agents and authorized representatives of the parties hereto, as well as by the State of California and the Federal Highway Administration, for a period of one (1) year from the date of the final BNSF invoice under this Agreement.

18. In the event construction of the Project does not commence within five (5) years of the Effective Date, this Agreement shall become null and void.

19. Neither termination nor expiration of this Agreement will release either party from any liability or obligation under this Agreement, whether of indemnity or otherwise, resulting from any acts, omissions or events happening prior to the date of termination or expiration.

20. To the maximum extent possible, each provision of this Agreement will be interpreted in such a manner as to be effective and valid under applicable law. If any provision of this Agreement is prohibited by, or held to be invalid under, applicable law, such provision will be ineffective solely to the extent of such prohibition or invalidity and the remainder of the provision will be enforceable.

21. This Agreement (including exhibits and other documents, manuals, etc. incorporated herein) is the full and complete agreement between the Parties with respect to the subject matter herein and supersedes any and all other prior agreements between the parties hereto.

22. Any notice provided for herein or concerning this Agreement must be in writing and will be deemed sufficiently given when sent by certified mail, return receipt requested, to the parties at the following addresses:

BNSF: Manager of Public Projects
Kate Kalinosky
740 E Carnegie Drive
San Bernardino, CA 92408
kate.kalinosky@bnsf.com

SBCTA: SBCTA Director of Project Delivery
Paula Beauchamp
1170 W 3rd Street, 2nd Floor
San Bernardino, CA 92410
Phone: (909) 884-8276
pbeauchamp@gosbcta.com

CITY: City of Barstow City Manager (Interim)
Dr. James Hart
220 E Mountain View Street, Suite A
Barstow, CA 92311
Phone: (760) 255-5101.
jhart@barstowca.org

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed and attested by its duly qualified and authorized officials as of the day and year first above written.

BNSF RAILWAY COMPANY

By: _____

Printed Name: _____

Title: _____

WITNESS:

**SAN BERNARDINO COUNTY
TRANSPORTATION AUTHORITY**

By: _____

Frank J. Navarro , President
Board of Directors

Date: _____

APPROVED AS TO FORM

By: _____

Juanda Lowder Daniel
SBCTA Assistant General Counsel

Date: _____

CITY OF BARSTOW

By: _____

Paul Anthony Courtney
Mayor

Date: _____

APPROVED AS TO FORM AND
PROCEDURE:

By: _____

Matthew T. Summers
CITY Attorney

Date: _____

CONCURRENCE:

By: _____

Jeffery Hill
Procurement Manager

Date: _____

DRAFT

Summary of Exhibits

EXHIBIT	TITLE
A	Project Plans and Utility Relocation Plans
A-1	Project Plans
A-2	Utility Relocation Plans
B	Property
B-1	Easement Agreement
C	Contractor Requirements
C-1	Agreement Between BNSF Railway Company and the Contractor
D	Estimates
D-1	BNSF Work Before Bridge Construction Description and Estimate
D-2	Cost to Cure between the City and BNSF
D-3	BNSF Estimate During Road Bridge Construction, Flagging and Inspector Coordinator

Exhibit A

PROJECT PLANS AND UTILITY RELOCATION PLANS

DRAFT

Exhibit A-1

PROJECT PLANS

DRAFT

CITY OF BARSTOW
 PROJECT PLANS FOR CONSTRUCTION
**NORTH 1ST AVENUE BRIDGE
 OVER THE BNSF RAILROAD**
 IN THE CITY OF BARSTOW BETWEEN W. MAIN ST. AND CROOKS AVE.
 (BRIDGE NO. 54C-0088)
 FEDERAL AID PROJECT NO. BRLS-5298(030)

INDEX OF PLANS

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BENCHMARK AND BASIS OF COORDINATES

BASIS OF COORDINATES: (NAD 83)

"THE BASIS OF COORDINATES FOR THIS SURVEY IS THE NORTH AMERICAN DATUM OF 1983 (NAD 83) CALIFORNIA STATE PLANE COORDINATE SYSTEM OF 1983 (CCS83) ZONE 5 (EPOCH 1991.35) BASED LOCALLY UPON THE FOLLOWING CONTROL POINTS PER THE NATIONAL GEODETIC SURVEY DATA SHEETS."

STATION	NORTHING	EASTING
FLASH RESET (PID EV1101)	2,123,681.42	6,856,769.82
B HILL (PID EV0922)	2,151,686.78	6,851,394.48

VERTICAL CONTROL: (NAVD 88)

"ELEVATIONS SHOWN HEREON ARE IN TERMS OF THE NORTH AMERICAN VERTICAL DATUM OF 1988 BASED LOCALLY UPON THE FOLLOWING BENCHMARK PER THE NATIONAL GEODETIC SURVEY DATA SHEETS."

BENCHMARK	ELEVATION	DESCRIPTION
B 687 (PID EV0044)	2,125.85'	BENCHMARK DISC STAMPED "B 687 1943" SET IN TOP OF CONCRETE MONUMENT AT THE NORTHEAST CORNER OF IRWIN RD. AND HWY 58 EAST, 38' EAST OF THE C/L OF IRWIN RD. AND 46' NORTH OF THE C/L OF HWY 58.

CONTRACTOR'S RESPONSIBILITIES

- 1) NOTIFY SOUTHERN CALIFORNIA EDISON AT LEAST 10 WORKING DAYS PRIOR TO EXCAVATING WITHIN 10' OF SOUTHERN CALIFORNIA EDISON UNDERGROUND HIGH VOLTAGE TRANSMISSION POWER LINES (I.E. 69 KV AND HIGHER).
- 2) CONTRACTOR WILL PERFORM EXPLORATORY EXCAVATIONS TO LOCATE EXISTING UNDERGROUND FACILITIES SUFFICIENTLY AHEAD OF CONSTRUCTION TO ALLOW FOR PLAN REVISIONS IF NECESSARY.
- 3) CONTRACTOR SHALL EMPLOY EROSION CONTROL MEASURES AS STATED IN THE "EROSION CONTROL NOTES" ON THE "GENERAL NOTES" SHEET.

CODES AND REGULATIONS

- AMERICANS WITH DISABILITIES ACT TITLE II REGULATIONS 28 CFR PART 35
- 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN
- 2015 CALTRANS STANDARD SPECIFICATIONS
- 2015 CALTRANS STANDARD PLANS

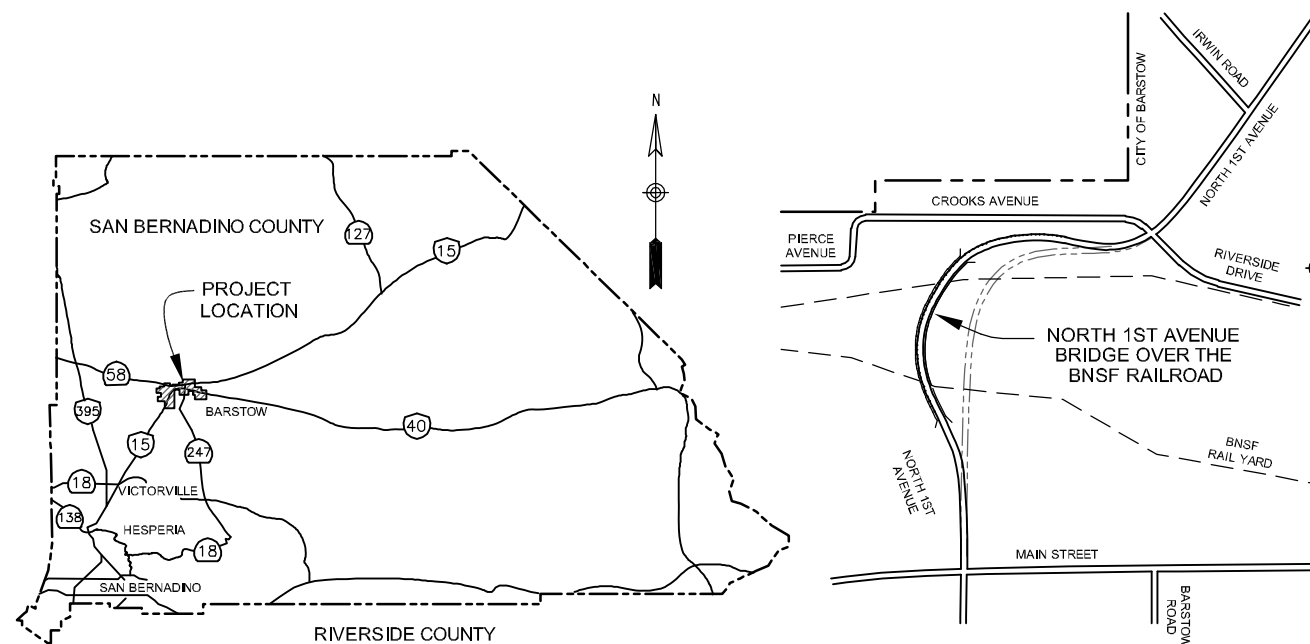
ABBREVIATIONS

ABBREVIATIONS ARE PER 2015 CALTRANS STANDARD PLANS A3A, A3B, AND A3C UNLESS NOTED OTHERWISE.

DECLARATION OF RESPONSIBLE CHARGE

I HEREBY DECLARE THAT I AM THE ENGINEER OF WORK FOR THIS PROJECT THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THE PROJECT AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONS CODE AND THAT THE DESIGN IS CONSISTENT WITH CURRENT STANDARDS. I UNDERSTAND THAT THE CHECK OF PROJECT DRAWINGS AND SPECIFICATIONS BY THE CITY OF BARSTOW IS CONFINED TO A REVIEW ONLY AND DOES NOT RELIEVE ME, AS ENGINEER OF WORK, OF MY RESPONSIBILITIES FOR PROJECT DESIGN.

R.C.E. _____ DATE _____



VICINITY MAP

NOT TO SCALE

LOCATION MAP

NOT TO SCALE



THE CONTRACTOR IS REQUIRED BY GOVERNMENT CODE 4216 "CALIFORNIA ONE CALL LAW" TO CALL DIG ALERT AT LEAST TWO (2) WORKING DAYS BEFORE DIGGING. CONTRACTOR IS REQUIRED BY SAME CODE TO HAND-EXPOSE TO THE POINT OF NO CONFLICT 24" ON EITHER SIDE OF THE UNDERGROUND FACILITY SO YOU CAN DETERMINE ITS EXACT LOCATION BEFORE USING POWER EQUIPMENT.

No.	REVISION	DATE	BY

PREPARED BY: _____ DATE: _____ R.C.E. NO. _____
 REGISTRATION EXPIRES: _____

KLEINFELDER
 550 WEST "C" STREET, SUITE 1200 (619) 831-4600
 SAN DIEGO, CALIFORNIA 92101

CITY OF BARSTOW
 220 E. MOUNTAIN VIEW ST SUITE A PHONE: (760) 256-3531
 BARSTOW, CA 92311 FAX: (760) 256-1750

THIS PLAN SPECIFICATION DRAWING DOCUMENT OTHER IS ON FILE WITH THE CITY OF BARSTOW. IT IS MADE AVAILABLE PURSUANT TO SECTION 6250 et. seq., CALIFORNIA GOVERNMENT CODE UPON PAYMENT OF THE APPROPRIATE FEE. THE CITY OF BARSTOW MAKES NO REPRESENTATION CONCERNING THE ACCURACY OF THESE ITEMS AND RECOMMENDS THAT THEY BE EXAMINED IN THE FIELD PRIOR TO MAKING ENGINEERING DECISIONS.

CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY: _____
 BRAD S. MERRELL CONSULTING CITY ENGINEER
 DATE _____

PROJECT No. 5298-030

CITY OF BARSTOW
 NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
 TITLE SHEET

APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER
 DESIGNED: _____ R.C.E. NO. 49423 SHEET 1 OF 140
 DRAWN: TB DATE: 02/20/19 PLAN NO. 1594
 SCALE: AS-NOTED AS BUILT:

100% INTERIM PLANS FEB 20, 2019 NOT FOR CONSTRUCTION

EROSION CONTROL NOTES

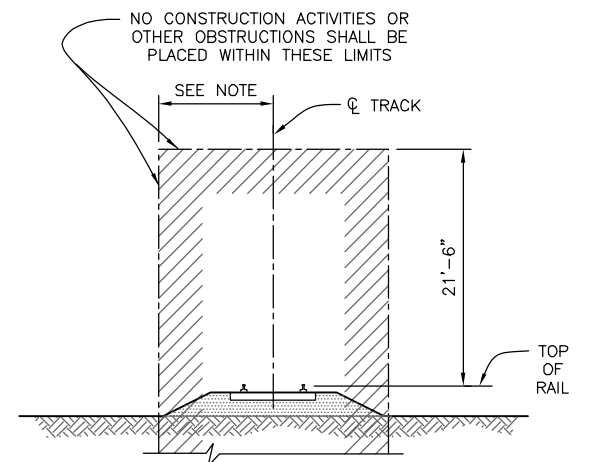
1. THIS EROSION CONTROL PLAN AND THE SWPPP (STORM WATER POLLUTION PREVENTION PLAN) PREPARED FOR THIS PROJECT ARE BASED ON THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT FOR WASTE DISCHARGE REQUIREMENTS FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION AND LAND DISTURBANCE ACTIVITIES, ORDER NO. CAS000002, STATE WATER RESOURCES CONTROL BOARD CALIFORNIA CONSTRUCTION GENERAL PERMIT ORDER NO. 2009-0009-DWQ, AS AMENDED BY ORDER 2010-0014-DWQ AND 2012-0006-DWQ AND ADOPTED BY THE STATE WATER RESOURCES CONTROL BOARD ON JULY 17, 2012. INFORMATION FOUND AT: http://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/constpermits/wqo_2009_0009_complete.pdf.
2. ALL SWPPP REQUIREMENTS, SPECIFICATIONS, AND BMP'S SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE CALIFORNIA STORMWATER BMP HANDBOOK FOR CONSTRUCTION GUIDELINES AND AMENDMENTS THEREOF. BEST MANAGEMENT PRACTICES ARE FOUND AT: WWW.CASQA.ORG, IN ADDITION TO CITY OF BARSTOW STANDARDS AND REGULATIONS AS LONG AS THOSE STANDARDS CONFORM WITH THE REQUIRED ELEMENTS OF THE STATE WATER RESOURCES CONTROL BOARD (SWRCB).
3. PEDESTRIAN AND TRAFFIC SAFETY SHALL BE IN ACCORDANCE WITH STATE STANDARDS AND REGULATIONS AND SHALL BE ESTABLISHED PRIOR TO THE START OF CONSTRUCTION. IT IS THE LEGAL RESPONSIBLE PERSON AND DEVELOPER'S RESPONSIBILITY TO ADDRESS ANY BMP ISSUES THAT MAY JEOPARDIZE THE SAFETY OF SUCH AND BRING TO THE ATTENTION OF THE SIGNING ENGINEER AND CITY ENGINEER PRIOR TO INSTALLATION.
4. THIS PLAN AND SWPPP SHALL BE POSTED IN CONTRACTORS TRAILOR/OFFICE OR WHERE ALL CONTRACTORS AND SUBCONTRACTORS MAY HAVE EASY ACCESS AND BECOME FAMILIAR WITH ITS CONTENTS PRIOR TO BEGINNING WORK.
5. THE DEVELOPER IS RESPONSIBLE FOR FOLLOWING THE CITY'S MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4) PERMIT AND MAINTAINED STORM DRAINS AND CHANNELS THAT MAY BE AFFECTED BY THE PROJECT. THE USE OF STRAW FIBER ROLLS OR SANDBAGS SHALL BE CAREFULLY MONITORED FOR DAMAGES AND DISPOSED OF IN SUCH A MANNER TO PREVENT BMP MATERIALS, DEBRIS OR SAND FROM ENTERING THE DRAINAGE SYSTEM. STORM DRAIN PROTECTION SHALL ENSURE SEDIMENTS STAY OUTSIDE MS4 DRAIN INLETS, BUT ALLOW STORM AND NON-STORM WATER FLOWS IN. STORM DRAIN INLETS AND CONVEYANCES SHALL BE INSPECTED PRIOR TO RAIN EVENT AND ENSURE THE STORM DRAIN IS NOT OBSTRUCTED WITH DEBRIS, SEDIMENTS, OR BMP MATERIALS, THUS FLOODING OR CAUSING UNDUE DAMAGES.
6. A STAND BY CREW, AND ALL NECESSARY EQUIPMENT, SHALL BE AVAILABLE AT ALL TIMES DURING THE RAINY SEASONS. WHENEVER THE LIKELIHOOD OF RAIN IS IMMINENT, NECESSARY MATERIALS SHALL BE AVAILABLE ON SITE AND STOCKPILED AT CONVENIENT LOCATIONS TO FACILITATE THE RAPID CONSTRUCTION OF EMERGENCY CONTROLS.
7. ALL AREAS SHALL BE MAINTAINED IN SUCH A STATE THAT FIRE DEPARTMENT ACCESS IS AVAILABLE AT ALL TIMES, INCLUDING ACCESS TO NEIGHBORING PROPERTY.
8. SITE INSPECTIONS AND APPROPRIATE MAINTENANCE OF ALL EROSION CONTROL MEASURES/DEVICES SHALL BE CONDUCTED AND DOCUMENTED AT ALL TIMES DURING CONSTRUCTION (ESPECIALLY PRIOR TO, DURING, AND AFTER RAIN EVENTS). BMP INSPECTIONS SHALL BE MADE AVAILABLE AND SUBMITTED TO THE CITY SWPPP MONITOR UPON REQUEST.
9. THE DEVELOPER/LRP SHALL BE RESPONSIBLE FOR THE PLACEMENT AND MAINTENANCE OF ALL EROSION CONTROL MEASURES/DEVICES AS SPECIFIED BY THE APPROVED PLAN UNTIL SUCH TIME THAT THE PROJECT IS ACCEPTED AS "COMPLETE" BY THE CITY OF BARSTOW ENGINEERING DEPARTMENT OR UNTIL RELEASED FROM THE CONDITIONS OF APPROVAL OF THEIR GENERAL PERMIT(S).
10. EROSION CONTROL MEASURES/DEVICES MAY BE RELOCATED, DELETED OR ADDITIONAL MEASURES/DEVICES MAY BE REQUIRED DEPENDING ON THE ACTUAL CONDITIONS ENCOUNTERED DURING CONSTRUCTION. ADDITIONAL EROSION CONTROL MEASURES/DEVICES MAY BE REQUIRED AT THE DISCRETION OF THE CITY ENGINEER, CITY SWPPP MONITOR, OR RWQCB INSPECTOR. THIS INCLUDES, BUT NOT LIMITED TO, ADDITIONAL STREET/PEDESTRIAN PATH SWEEPING, ADDITIONAL SEDIMENT CONTROLS OR UPGRADES, AND OTHER GOOD HOUSEKEEPING MEASURES NECESSARY.
11. IN THE EVENT OF A FAILURE, THE DEVELOPER AND/OR HIS REPRESENTATIVE SHALL BE RESPONSIBLE FOR CLEANUP AND ALL ASSOCIATED COSTS OR DAMAGE. IN THE EVENT THAT DAMAGE OCCURS WITHIN THE CITY RIGHT-OF-WAY, OR PRIVATE PROPERTY, AND THE CITY OF BARSTOW IS REQUIRED TO PERFORM CLEANUP, THE OWNER SHALL BE RESPONSIBLE FOR CITY REIMBURSEMENT OF ALL ASSOCIATED COSTS OR DAMAGE(S).
12. IN THE EVENT OF FAILURE AND/OR LACK OF PERFORMANCE BY THE OWNER, DEVELOPER AND/OR CONTRACTOR TO CORRECT EROSION CONTROL RELATED PROBLEMS THE CITY ENGINEERING DEPARTMENT MAY REVOKE ALL ACTIVE PERMITS AND RECOMMEND THAT CITY CODE ENFORCEMENT PROVIDE A WRITTEN NOTICE OR STOP WORK ORDER.
13. DUST/WIND CONTROL MEASURES SHALL BE USED THROUGHOUT THE DURATION AND IN ALL AREAS OF DISTURBANCE, INCLUDING UNPAVED PATHS OF TRAVEL AND STAGING AREAS. INSTALL 6-FOOT-HIGH SCREENING FABRIC FENCING ALONG PERIMETERS OF PUBLIC RIGHT OF WAY/PEDESTRIAN PATHS.
14. UPON IMPLEMENTATION AND INSTALLATION OF ANY BMPS, THE CONTRACTOR AND SUBCONTRACTORS SHALL ADDRESS ANY CONCERNS OR QUESTIONS REGARDING THIS PLAN AND THE SWPPP PROVIDED FOR THIS PROJECT WITH THE LEGAL RESPONSIBLE PERSON (LRP) AND THE SIGNING CIVIL ENGINEER, THIS INCLUDES, BUT IS NOT LIMITED TO, LOCATION OF BMPS, INSTALLATION REQUIREMENTS, EQUIPMENT NEEDS, AND MATERIALS TO BE USED. ANY CHANGES TO THOSE SPECIFIED SHALL BE BROUGHT TO THE ATTENTION OF THE QSD AND CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY.
15. THE DEVELOPER SHALL PROVIDE THE CITY OF BARSTOW WITH THE WASTE DISCHARGE IDENTIFICATION NUMBER (WDID #) OR WITH VERIFICATION THAT AN EXEMPTION HAS BEEN GRANTED BY RWQCB. WDID NO.:

CITY GENERAL NOTES

1. THE WORK, MATERIAL AND EQUIPMENT OF THIS PROJECT SHALL CONFORM TO STANDARD SPECIFICATIONS DATED 2015 OF THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION (CALTRANS) AND THE SPECIAL PROVISIONS FOR THIS PROJECT.
2. THE CITY SHALL BE NOTIFIED 24 HOURS IN ADVANCE OF CONSTRUCTION. TELEPHONE NO. (760) 255-5156, (760) 255-5157, OR (760) 256-3531.
3. THE CONTRACTOR SHALL NOTIFY ALL RESIDENCES AND BUSINESSES ABUTTING CONSTRUCTION AREAS AT LEAST 48 HOURS IN ADVANCE OF CONSTRUCTION AND SHALL PROVIDE ACCESS TO RESIDENTS OR BUSINESS CUSTOMERS AS STIPULATED IN SECTION 7-1.03 OF THE STANDARD SPECIFICATIONS.
4. PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL OBTAIN A CITY ENCROACHMENT PERMIT WHICH WILL BE ISSUED AT NO COST.
5. PRIOR TO EXCAVATION, THE CONTRACTOR SHALL CALL UNDERGROUND SERVICE ALERT (USA) TOLL FREE NO. 811. A USA AUTHORIZATION NUMBER IS REQUIRED BEFORE THE CITY ENCROACHMENT PERMIT WILL BE ISSUED. CAUTION: RAILROAD UTILITIES ARE NOT IDENTIFIABLE BY USA AND MUST BE MARKED OUT BY BNSF.
6. THE CONTRACTOR SHALL INSTALL ALL NECESSARY TRAFFIC CONTROL PRIOR TO BEGINNING ANY WORK IN THE PUBLIC RIGHT-OF-WAY. THE CONTRACTOR SHALL SUBMIT TRAFFIC CONTROL PLAN TO THE CITY ENGINEER OFFICE FOR APPROVAL PRIOR TO ANY WORK BEING DONE. ROAD CLOSURES ARE ONLY APPROVED BY CITY COUNCIL AND THIS PROCESS TAKES WEEKS TO COORDINATE.
7. WHEN WORK IS PERFORMED ON SATURDAYS, SUNDAY, A HOLIDAY, OR ANY DAY CITY HALL IS CLOSED, INSPECTIONS SHALL BE REQUESTED 24-HOURS PRIOR TO THE PRECEDING REGULAR WORKING DAY AND OBTAIN PRIOR APPROVAL BY THE CITY ENGINEER. ALL COSTS OF PROVIDING WEEKEND OR HOLIDAY INSPECTIONS SHALL BE BORN BY THE CONTRACTOR.
8. MANHOLE FRAMES, VALVES BOXES, SIGNS, ETC. WITHIN THE WORK AREA SHALL BE THE CONTRACTORS RESPONSIBILITY TO RELOCATE OR ADJUST TO GRADE AS DIRECTED BY CITY ENGINEER.
9. ALL SURVEY MONUMENTS AND MARKERS SHALL BE THE CONTRACTORS RESPONSIBILITY TO PROTECT IN PLACE UNTIL SURVEYOR HAS TIED OUT LOCATIONS FOR REPLACEMENT PURSUANT TO BUSINESS AND PROFESSIONS CODE SECTION 8700 TO 8805 (LAND SURVEYOR'S ACT).
10. EXISTING UTILITIES SHALL BE MAINTAINED IN PLACE AND IN OPERATION DURING CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT 48-HOURS IN ADVANCE OF EXCAVATION AT 1-800-422-4133 FOR EXACT UTILITY LOCATIONS.
11. ALL EXCAVATIONS SHALL BE BACKFILLED OR COVERED W/ TRAFFIC RELATED TRENCH PLATES AT THE END OF EACH WORKING DAY AND ROADS OPEN TO VEHICULAR TRAFFIC.
12. CONTRACTOR SHALL BE SUPPLIED WITH ONE (1) SET OF CONTRACT DRAWINGS TO BE USED FOR AS-BUILT DRAWINGS. THE CONTRACTOR SHALL UPDATE THE AS-BUILT DRAWINGS DAILY. THE CONTRACTOR SHALL MAKE THE AS-BUILT DRAWINGS AVAILABLE TO THE OWNER, ENGINEER, OR INSPECTOR UPON REQUEST. THE AS-BUILT DRAWINGS SHALL INCLUDE THE STATIONS OF ALL MANHOLES, INLETS, OUTLETS, AND LATERAL STUBS. AT THE COMPLETION OF THE PROJECT THE CONTRACTOR SHALL PROVIDE TO THE DESIGN ENGINEER THE AS-BUILT PLANS SO HE/SHE CAN SUBMIT THE AS-BUILT PLANS TO THE CITY OF BARSTOW.
13. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT ALL EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION, WHETHER SHOWN ON THIS PLAN OR NOT.
14. ALL WORK SHALL BE CONSTRUCTED ACCORDING TO THE VERTICAL AND HORIZONTAL MEASUREMENTS OF THESE PLANS AND EXISTING DESIGN STANDARDS. ADEQUATE STAKES SHALL BE SET UNDER THE DIRECTION OF A LICENSED SURVEYOR/ENGINEER FOR THE CONSTRUCTOR. ALL CONSTRUCTION SURVEYING SHALL BE PERFORMED IN ACCORDANCE TO THE SURVEYING PROCEDURES OF THE SURVEYOR/ENGINEER OF RECORD. IF THIRD PARTY SUBCONTRACTORS PERFORM THE CONSTRUCTION LAYOUT AND SURVEYING THIS PROJECT WITHOUT THE COORDINATION OF THE SURVEYOR/ENGINEER OF RECORD, THEY HAVE ASSUMED THE POSITION OF SURVEYOR/ENGINEER OF RECORD. THE FINAL CHECK OF THIS DESIGN IS TO BE THE CONSTRUCTION STAKING AS THE DESIGN MEETS THE EXISTING CONTROL AND ELEVATIONS. ALL EXISTING STREET CROSS SECTIONS SHALL BE VERIFIED FOR MINIMUM CROSS FALL AT TIME OF STAKING. ANY DISCREPANCIES TO THE STANDARD DESIGN CRITERIA SHALL BE BROUGHT TO THE SURVEYOR/ENGINEER OF RECORD ATTENTION PRIOR TO PROCEEDING WITH CONSTRUCTION. IF CONSTRUCTION CONTINUES WITHOUT VERIFICATION THE CONSTRUCTOR ASSUMES THE RESPONSIBILITY OF THE CORRECTNESS OF THE INTENDED DESIGN.
15. A CERTIFICATE OF COMPACTIONS SIGNED BY THE CITY ENGINEER SHALL BE SUBMITTED FOR ALL TRENCH BACKFILLS.
16. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY FIELD CHANGES MADE WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE ENGINEER AND/OR THE CITY OF BARSTOW.
17. AT LEAST ONE LANE SHOULD BE OPEN TO TRAFFIC AT ALL TIMES DURING CONSTRUCTION.
18. WHEN A DISCREPANCY OR CONFLICT EXISTS BETWEEN PLAN, SPECIFICATION, CODE OR STANDARD, THE MORE STRINGENT REQUIREMENT SHALL PREVAIL UNLESS FURTHER DIRECTION IS PROVIDED BY THE OWNER.
19. ALL TRENCHING WITHIN THE STREET RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY OF BARSTOW'S STANDARD TRENCHING SPECIFICATIONS, DRAWINGS S-12-10.
20. ALL TRAFFIC CONTROL SHALL BE PERFORMED BY CERTIFIED CREWS, CERTIFIED BY THE AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION (ATSSAA), SPECIFICALLY FOR WORK SITE TRAFFIC SUPERVISORS. CONTRACTOR SHALL PROVIDE CERTIFICATION OF STAFF WITH PROJECT SUBMITTALS.

BNSF RAILROAD NOTES

1. CONTRACTOR MUST FOLLOW ALL SAFETY AND FLAGGING REQUIREMENTS ADDRESSED IN EXHIBIT C OF THE CONSTRUCTION AND MAINTENANCE AGREEMENT.
2. THE CONTRACTOR IS REQUIRED TO CONTACT BSNF'S ROADMASTER AT LEAST THIRTY (30) CALENDAR DAYS PRIOR TO REQUESTING A BSNF FLAGMAN IN ACCORDANCE WITH THE REQUIREMENTS OF EXHIBIT C OF THE CONSTRUCTION AND MAINTENANCE AGREEMENT. ADDITIONALLY, THE CONTRACTOR IS REQUIRED TO NOTIFY BNSF'S MANAGER OF PUBLIC PROJECTS THIRTY (30) CALENDAR DAYS PRIOR TO COMMENCING WORK ON BNSF PROPERTY OR NEAR BNSF TRACKS.
3. THE CONTRACTOR SHALL SUBMIT TO THE BNSF FOR APPROVAL, FOUR (4) COPIES OF ANY PLANS (INCLUDING TWO SETS OF CALCULATIONS IN ENGLISH UNITS) FOR PROPOSED SHORING, FALSEWORK, OR CRIBBING TO BE USED OVER, UNDER, OR ADJACENT TO BNSF'S TRACKS TO BNSF'S MANAGER OF PUBLIC PROJECTS FOR APPROVAL. THE SHORING, FALSEWORK, OR CRIBBING USED BY AGENCY'S CONTRACTOR SHALL COMPLY WITH THE BNSF REQUIREMENTS FOR GRADE SEPARATION PROJECTS SET FORTH ON EXHIBIT F OF THE CONSTRUCTION AND MAINTENANCE AGREEMENT AND ALL APPLICABLE REQUIREMENTS PROMULGATED BY STATE AND FEDERAL AGENCIES, DEPARTMENTS, COMMISSIONS AND OTHER LEGISLATIVE BODIES.
4. THE CONTRACTOR SHALL SUBMIT TO BNSF FOR APPROVAL, TWO (2) COPIES OF A PROFESSIONALLY ENGINEERED DEMOLITION PLAN, AS SET FORTH IN EXHIBIT G OF THE CONSTRUCTION AND MAINTENANCE AGREEMENT, WITH APPLICABLE CALCULATIONS TO BNSF'S MANAGER OF PUBLIC PROJECTS. THE EXISTING 1ST AVENUE OVERPASS WILL NOT BE REMOVED UNTIL BNSF APPROVES OF THE DEMOLITION PLAN IN WRITING.
5. THE CONTRACTOR SHALL SUBMIT TO BNSF FOR APPROVAL, AN APPLICATION FOR TEMPORARY PRIVATE CROSSING. ALLOW 10 WEEKS FOR PROCESSING.



NOTE: 15'-0" FOR MAIN TRACK AND 8'-6" FOR YARD TRACK.

MINIMUM CONSTRUCTION CLEARANCE ENVELOPE

(NORMAL TO RAILROAD)



THE CONTRACTOR IS REQUIRED BY GOVERNMENT CODE 4216 "CALIFORNIA ONE CALL LAW" TO CALL DIG ALERT AT LEAST TWO (2) WORKING DAYS BEFORE DIGGING. CONTRACTOR IS REQUIRED BY SAME CODE TO HAND-EXPOSE TO THE POINT OF NO CONFLICT 24" ON EITHER SIDE OF THE UNDERGROUND FACILITY SO YOU CAN DETERMINE ITS EXACT LOCATION BEFORE USING POWER EQUIPMENT.

No.	REVISION	DATE	BY

KLEINFELDER
220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311
PHONE: (760) 256-3531 FAX: (760) 256-1750

550 WEST "C" STREET, SUITE 1200 SAN DIEGO, CALIFORNIA 92101 (619) 831-4600

DATE: _____
PREPARED BY: _____ R.C.E. NO. _____
REGISTRATION EXPIRES: _____

CITY OF BARSTOW
220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311
PHONE: (760) 256-3531 FAX: (760) 256-1750

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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:

BRAD S. MERRELL DATE _____
CONSULTING CITY ENGINEER

PROJECT No. 5298-030

CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
GENERAL NOTES

APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER

DESIGNED: R.C.E. NO. 49423 SHEET 2 OF 140

DRAWN: TB DATE: 02/20/19 PLAN NO. 1594

SCALE: AS-NOTED AS BUILT:

100% INTERIM PLANS FEB 20, 2019 NOT FOR CONSTRUCTION

NOTES:

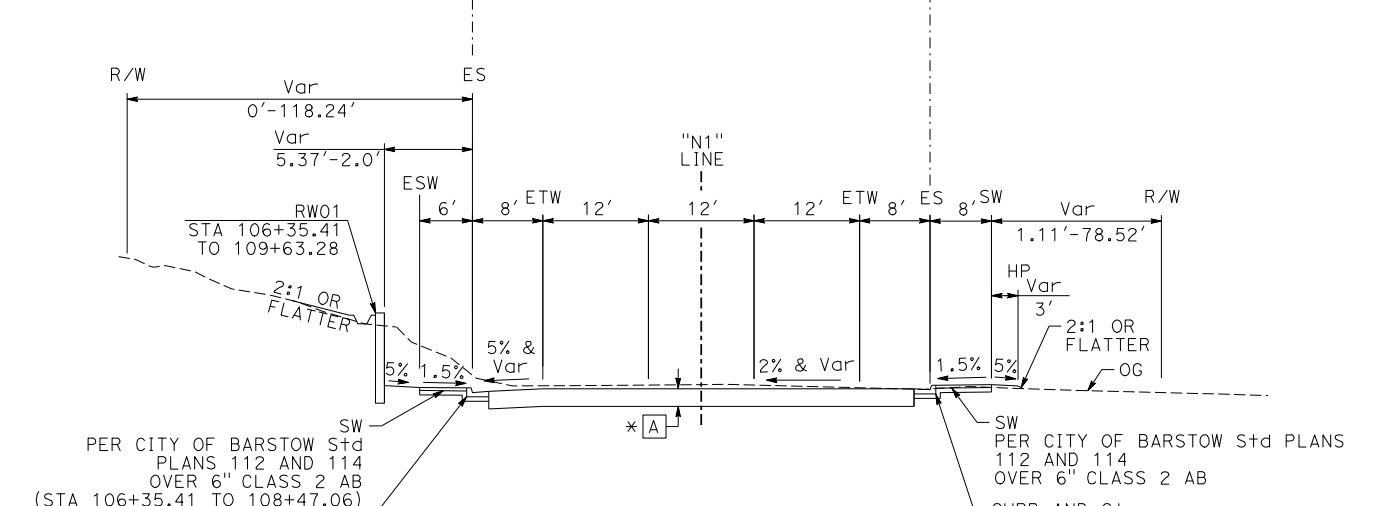
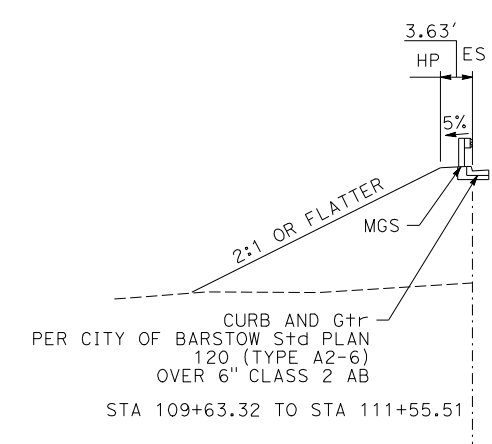
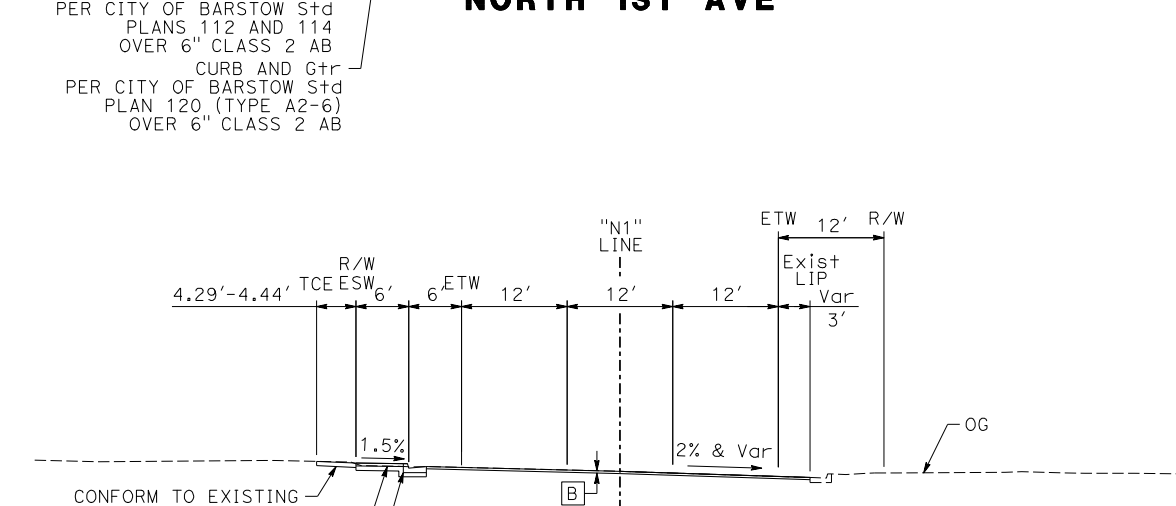
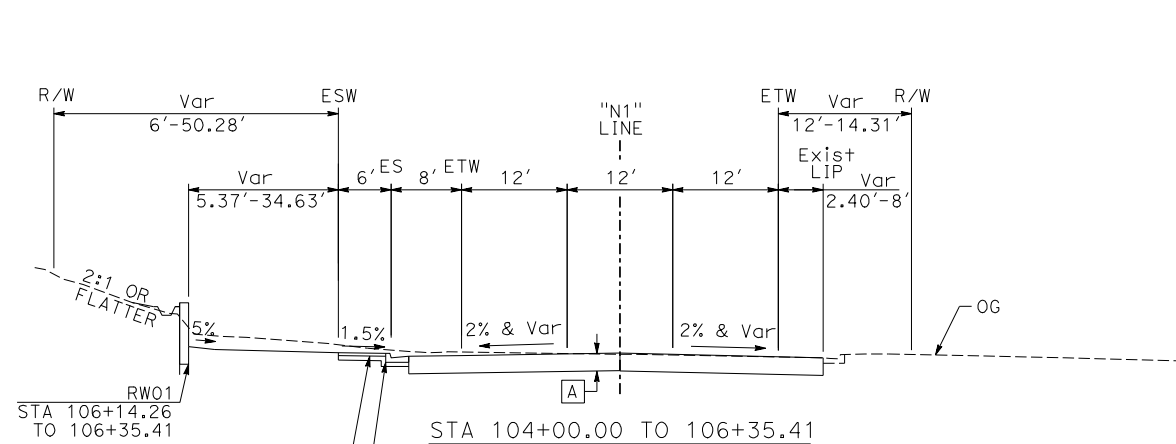
- DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
- SUPERELEVATIONS ARE SHOWN ON THE SUPERELEVATION DIAGRAMS.
- EXACT LOCATIONS AND TYPES OF DIKES, CURBS, GUARD RAILING, CONCRETE BARRIER, AND FENCES ARE SHOWN ON THE LAYOUTS AND THE SUMMARY OF QUANTITIES SHEETS.

DESIGN DESIGNATION

ADT (2019) 11,577
 ADT (2040) 17,535
 T 8%
 V 40 mph
 TI 10.5
 PAVEMENT CLIMATE REGION: DESERT REGION

TYPICAL PAVEMENT SECTIONS

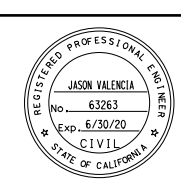
- A 0.17' RHMA-G
 0.41' HMA (TYPE A)
 0.67' CLASS II AB
- B 0.17' COLD PLANE
 0.17' RHMA-G
- C 0.17' RHMA-G
 0.21' HMA (TYPE A)
 0.42 CLASS II AB
- D 0.50' PCC



* FROM STA 111+55.51 TO STA 111+75.51 APPROACH SLAB

NO SCALE
 PROJECT No. 5298-030

No.	REVISION	DATE	BY



Kimley»Horn
 401 B STREET, SUITE 600 SAN DIEGO, CA 92101
 PHONE: (619) 234-9411

CITY OF BARSTOW
 220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311
 PHONE: (760) 256-3531 FAX: (760) 256-1750

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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:

BRAD S. MERRELL
 CONSULTING CITY ENGINEER

DATE

CITY OF BARSTOW
 NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
 TYPICAL CROSS SECTIONS

APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER

DESIGNED: JV R.C.E. NO. 49423 SHEET 3 OF 3

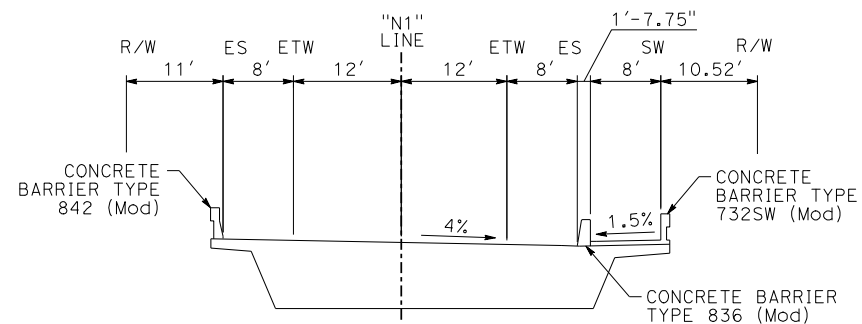
DRAWN: CD DATE: 01/21/2019 PLAN NO. X-1

SCALE: AS-SHOWN AS BUILT

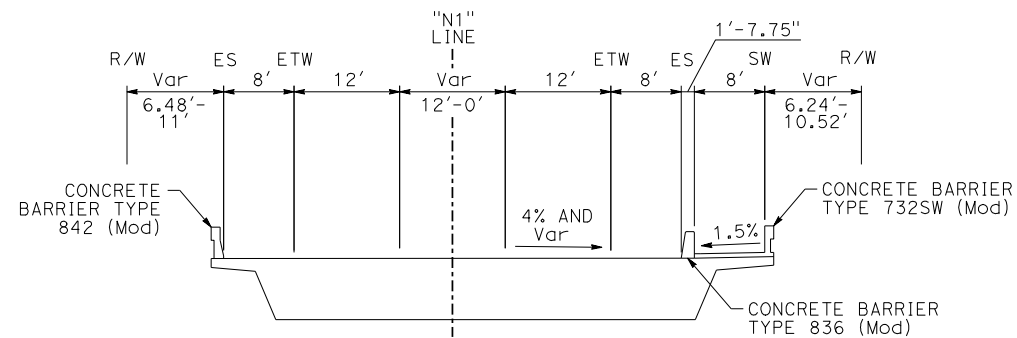
100% INTERIM PLANS FEB 20, 2019 NOT FOR CONSTRUCTION
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NOTES:

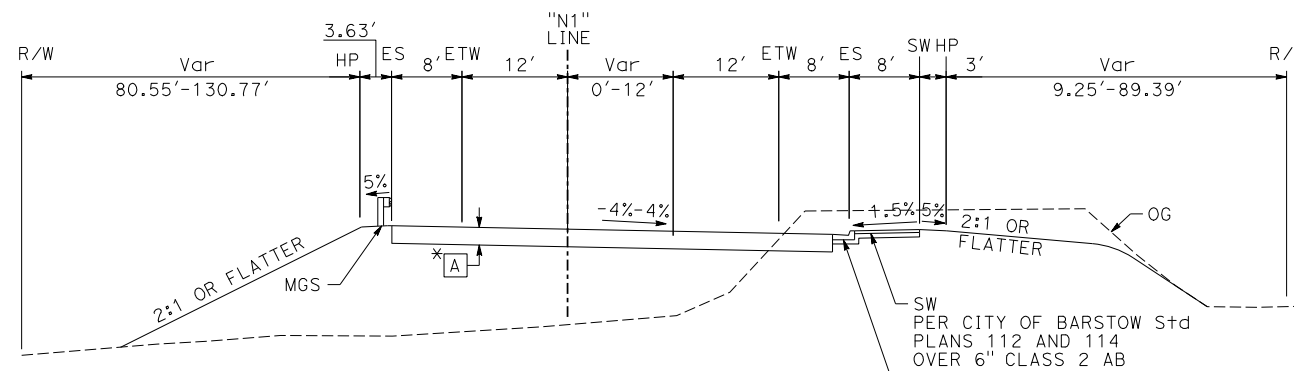
1. DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
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3. EXACT LOCATIONS AND TYPES OF DIKES, CURBS, GUARD RAILING, CONCRETE BARRIER, AND FENCES ARE SHOWN ON THE LAYOUTS AND THE SUMMARY OF QUANTITIES SHEETS.



STA 114+00.32 TO 123+54.30
NORTH 1ST AVE
BRIDGE SECTION

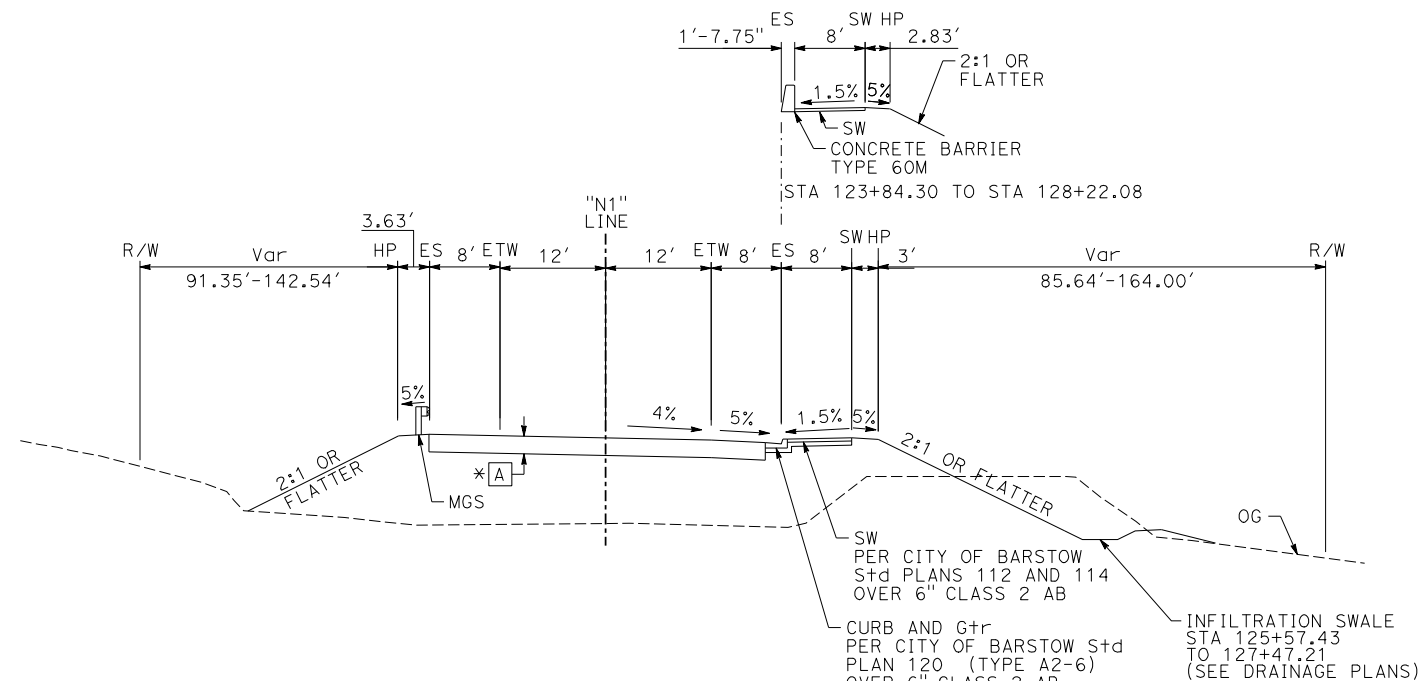


STA 111+75.51 TO 114+00.32
NORTH 1ST AVE
BRIDGE SECTION



STA 128+22.08 TO 135+24.75
NORTH 1ST AVE

* FROM STA 132+61.73 TO STA 135+24.75 PARTIAL OVERLAY



STA 123+54.30 TO 128+22.08
NORTH 1ST AVE

* FROM STA 123+54.30 TO STA 123+84.30 APPROACH SLAB

NO SCALE

PROJECT No. 5298-030

No.	REVISION	DATE	BY



Kimley»Horn

401 B STREET, SUITE 600
SAN DIEGO, CA 92101
PHONE: (619) 234-9411



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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:

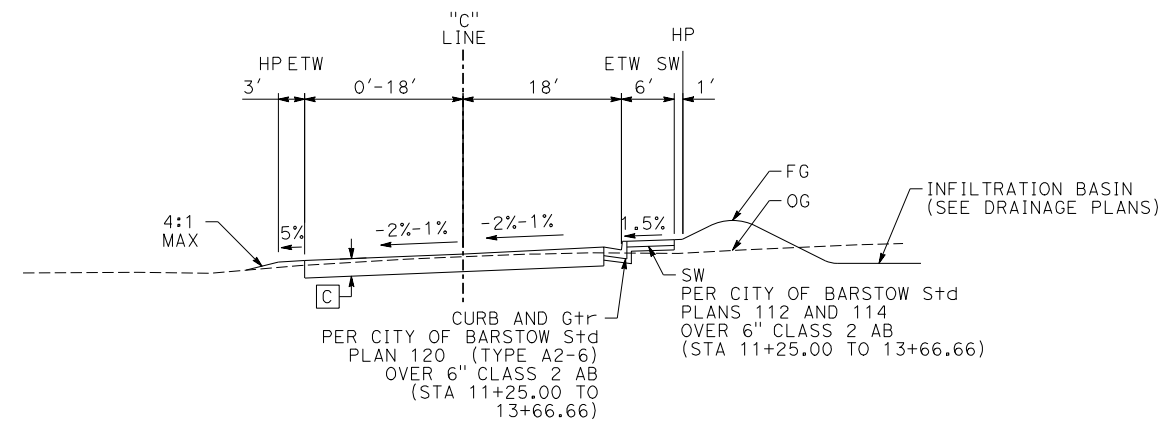
BRAD S. MERRELL
CONSULTING CITY ENGINEER

CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
TYPICAL CROSS SECTIONS

APPROVED BY: BRAD S. MERRELL
DESIGNED: JV
DRAWN: CD
SCALE: AS-SHOWN
DATE: 01/21/2019
R.C.E. NO. 49423
SHEET 4 OF
PLAN NO. X-2

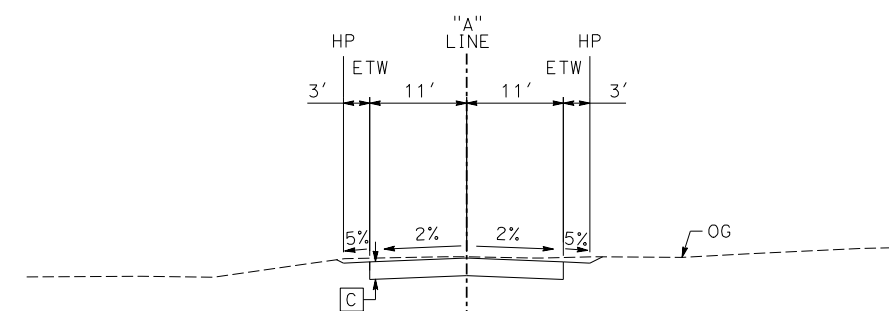
NOTES:

1. DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
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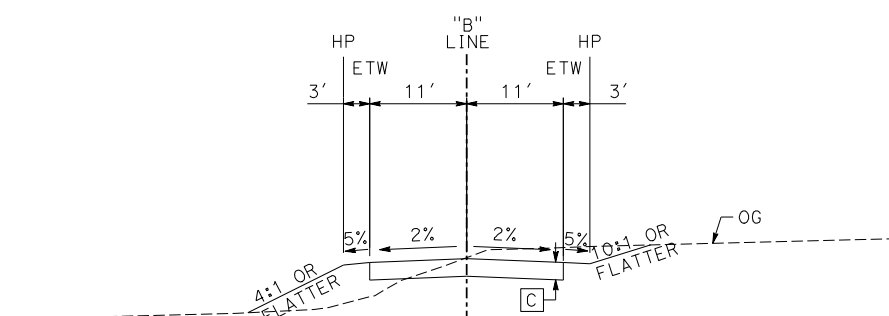
STA 10+26.56 TO 13+66.66

"C" LINE
WEST COTTAGE STREET



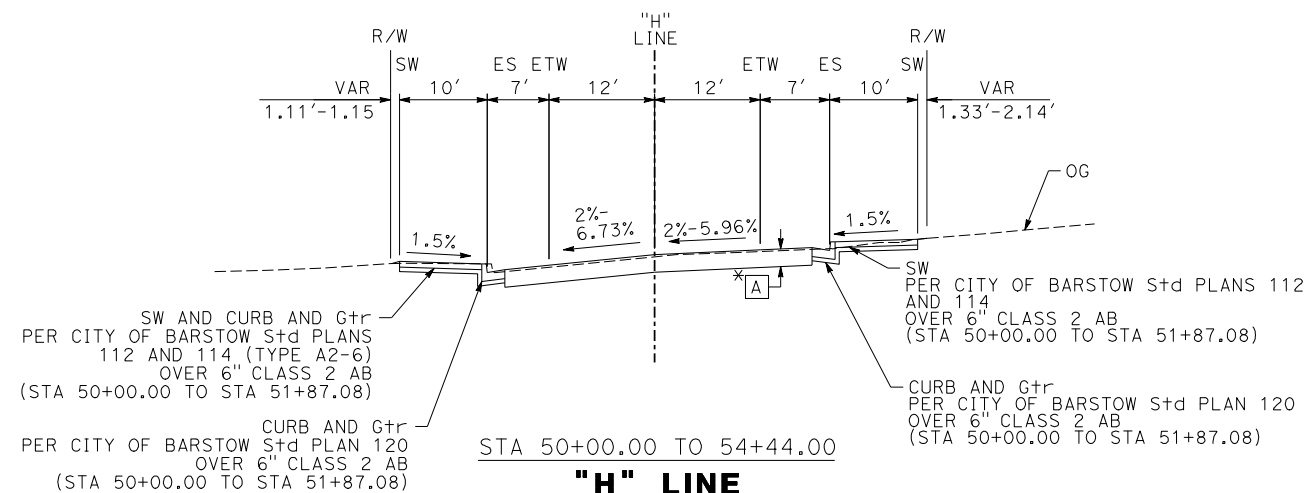
STA 9+79.70 TO 15+52.43

"A" LINE



STA 10+00.00 TO 15+25.73

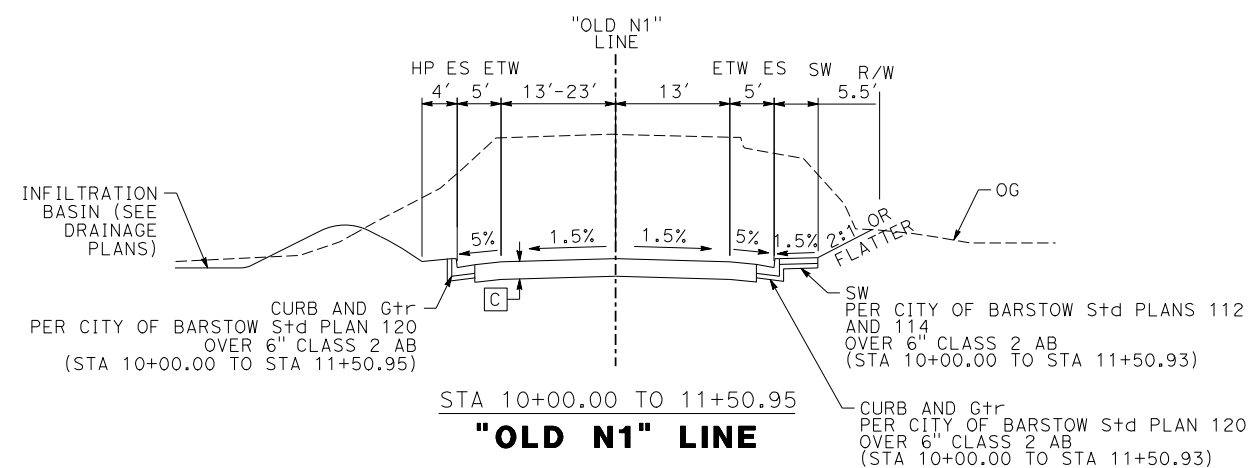
"B" LINE



STA 50+00.00 TO 54+44.00

"H" LINE
HUTCHINSON STREET

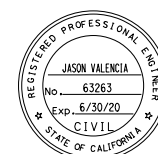
* FROM STA 53+26.91 TO STA 54+44.00 PARTIAL OVERLAY



STA 10+00.00 TO 11+50.95

"OLD N1" LINE

No.	REVISION	DATE	BY



401 B STREET, SUITE 600
SAN DIEGO, CA 92101
PHONE: (619) 234-9411



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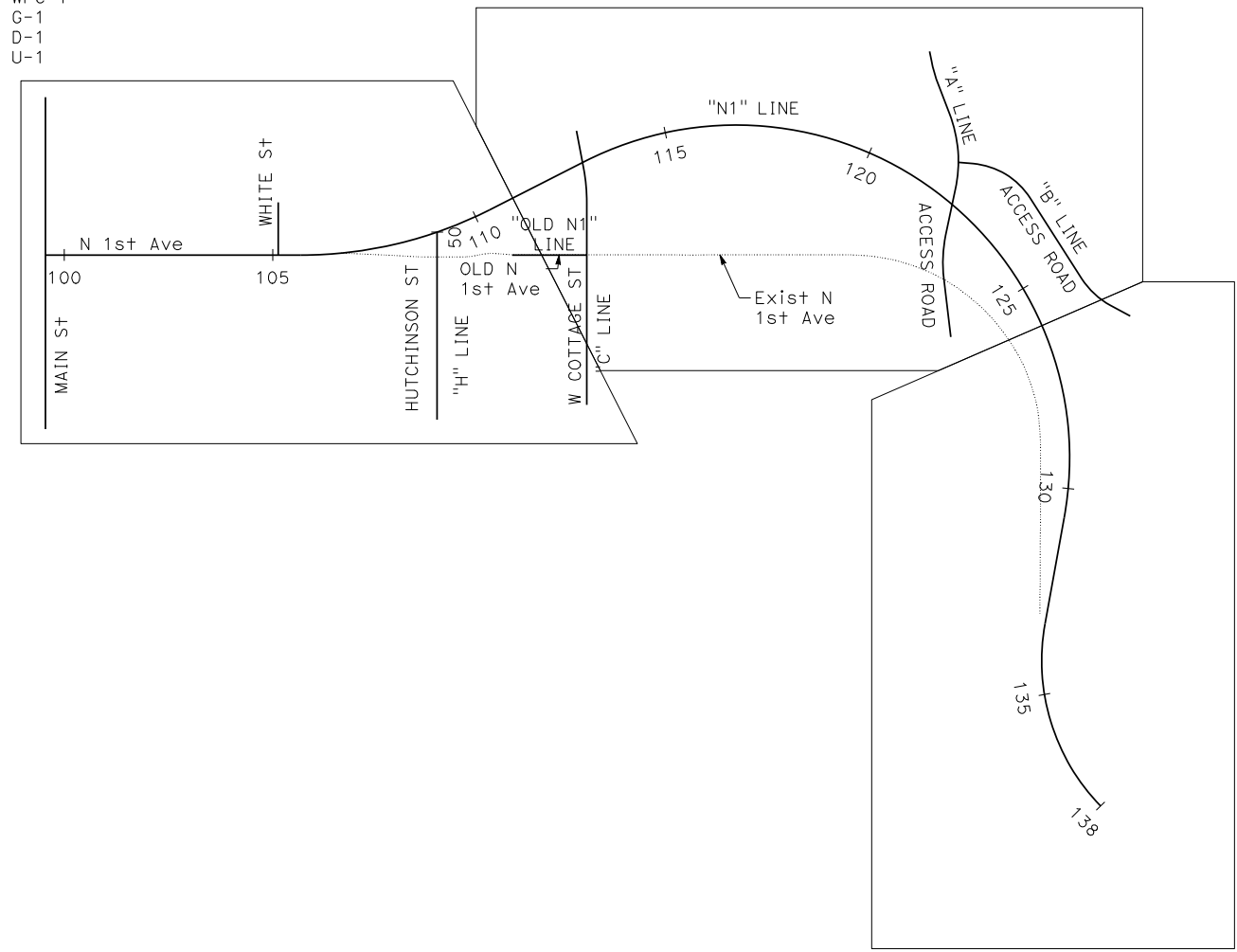
CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
BRAD S. MERRELL
CONSULTING CITY ENGINEER

NO SCALE			
PROJECT No. 5298-030			
CITY OF BARSTOW NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD TYPICAL CROSS SECTIONS			
APPROVED BY: BRAD S. MERRELL	TITLE: CONSULTING CITY ENGINEER	SHEET 5 OF	
DESIGNED: JV	R.C.E. NO. 49423	PLAN NO. X-3	
DRAWN: CD	DATE: 01/21/2019	SCALE: AS-SHOWN	
SCALE: AS-SHOWN	AS BUILT:	DATE	

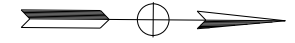
100% INTERIM PLANS FEB 20, 2019 NOT FOR CONSTRUCTION

SHEETS
L-1
WPC-1
G-1
D-1
U-1

SHEETS
L-2
WPC-2
G-2
D-2
U-2



SHEETS
L-3
WPC-3
G-3
D-3
U-3



NO SCALE

PROJECT No. 5298-030

No.	REVISION	DATE	BY



Kimley»Horn

401 B STREET, SUITE 600
SAN DIEGO, CA 92101
PHONE: (619) 234-9411

CITY OF BARSTOW
220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311
PHONE: (760) 256-3531
FAX: (760) 256-1750








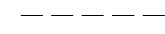
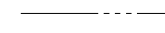
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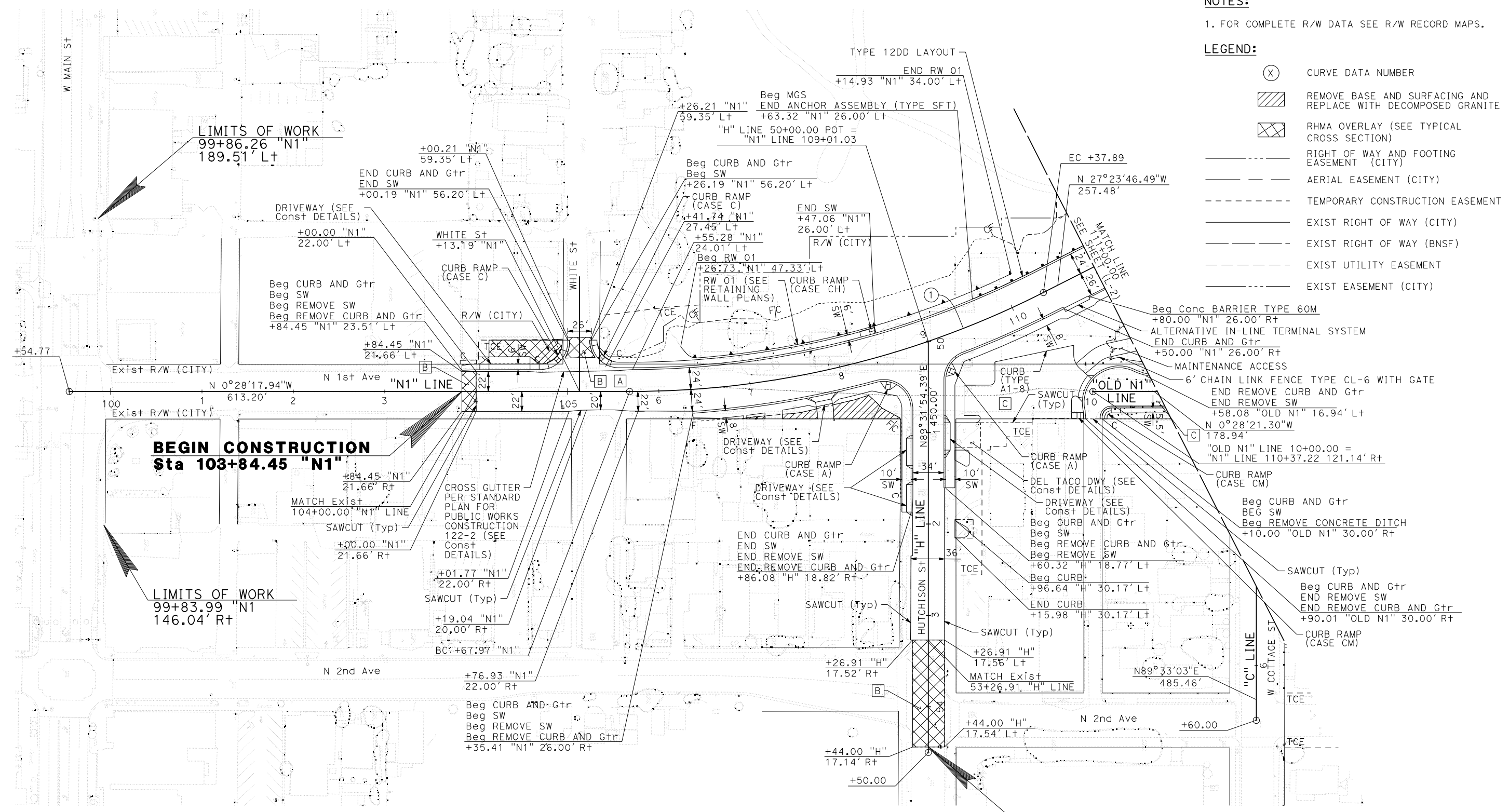
CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:

BRAD S. MERRELL
CONSULTING CITY ENGINEER

CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
KEY MAP

APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER
DESIGNED: JV R.C.E. NO. 49423 SHEET 6 OF
DRAWN: CD DATE: 01/21/2019 PLAN NO.
SCALE: AS-SHOWN AS BUILT: K-1

- NOTES:**
- FOR COMPLETE R/W DATA SEE R/W RECORD MAPS.
- LEGEND:**
- (X) CURVE DATA NUMBER
 -  REMOVE BASE AND SURFACING AND REPLACE WITH DECOMPOSED GRANITE
 -  RHMA OVERLAY (SEE TYPICAL CROSS SECTION)
 -  RIGHT OF WAY AND FOOTING EASEMENT (CITY)
 -  AERIAL EASEMENT (CITY)
 -  TEMPORARY CONSTRUCTION EASEMENT
 -  EXIST RIGHT OF WAY (CITY)
 -  EXIST RIGHT OF WAY (BNSF)
 -  EXIST UTILITY EASEMENT
 -  EXIST EASEMENT (CITY)



CURVE DATA				
No.	R	Δ	T	L
①	1000.00	26°55'29"	239.38	469.92



No.	REVISION	DATE	BY



Kimley»Horn

401 B STREET, SUITE 600
SAN DIEGO, CA 92101

PHONE: (619) 234-9411

CITY OF BARSTOW

220 E. MOUNTAIN VIEW ST SUITE A
BARSTOW, CA 92311

PHONE: (760) 256-3531
FAX: (760) 256-1750

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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:

BRAD S. MERRELL
CONSULTING CITY ENGINEER

DATE

CITY OF BARSTOW

NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD LAYOUT

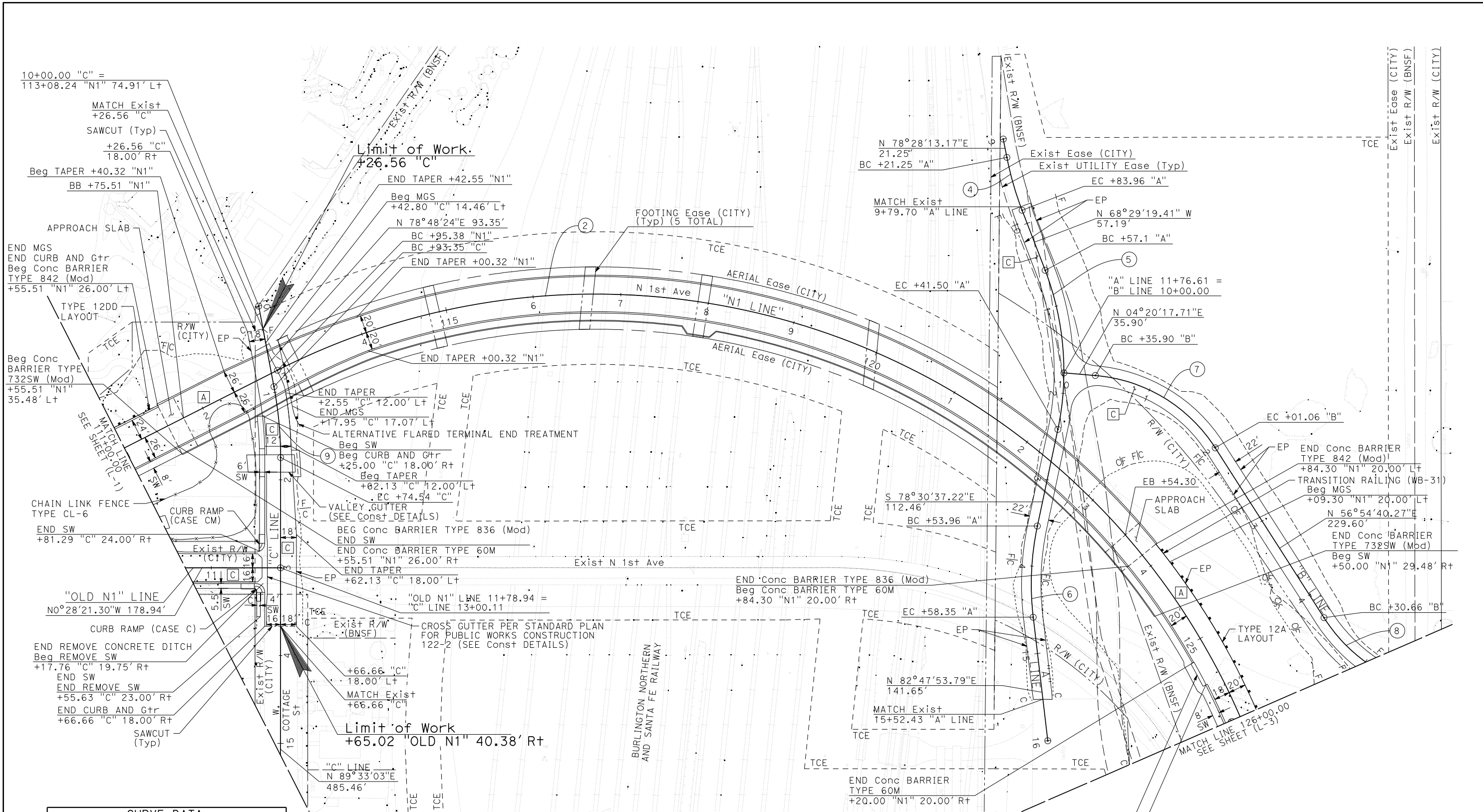
APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER

DESIGNED: JV R.C.E. NO. 49423 SHEET 7 OF

DRAWN: CD DATE: 01/21/2019 PLAN NO.

SCALE: AS-SHOWN AS BUILT: L-1

14-FEB-2019 K:\SMD_TRANSPORT\95279201\Net_Overhead_PSE\Design\Sheets\Loc_Layout\1000.dgn

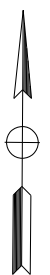
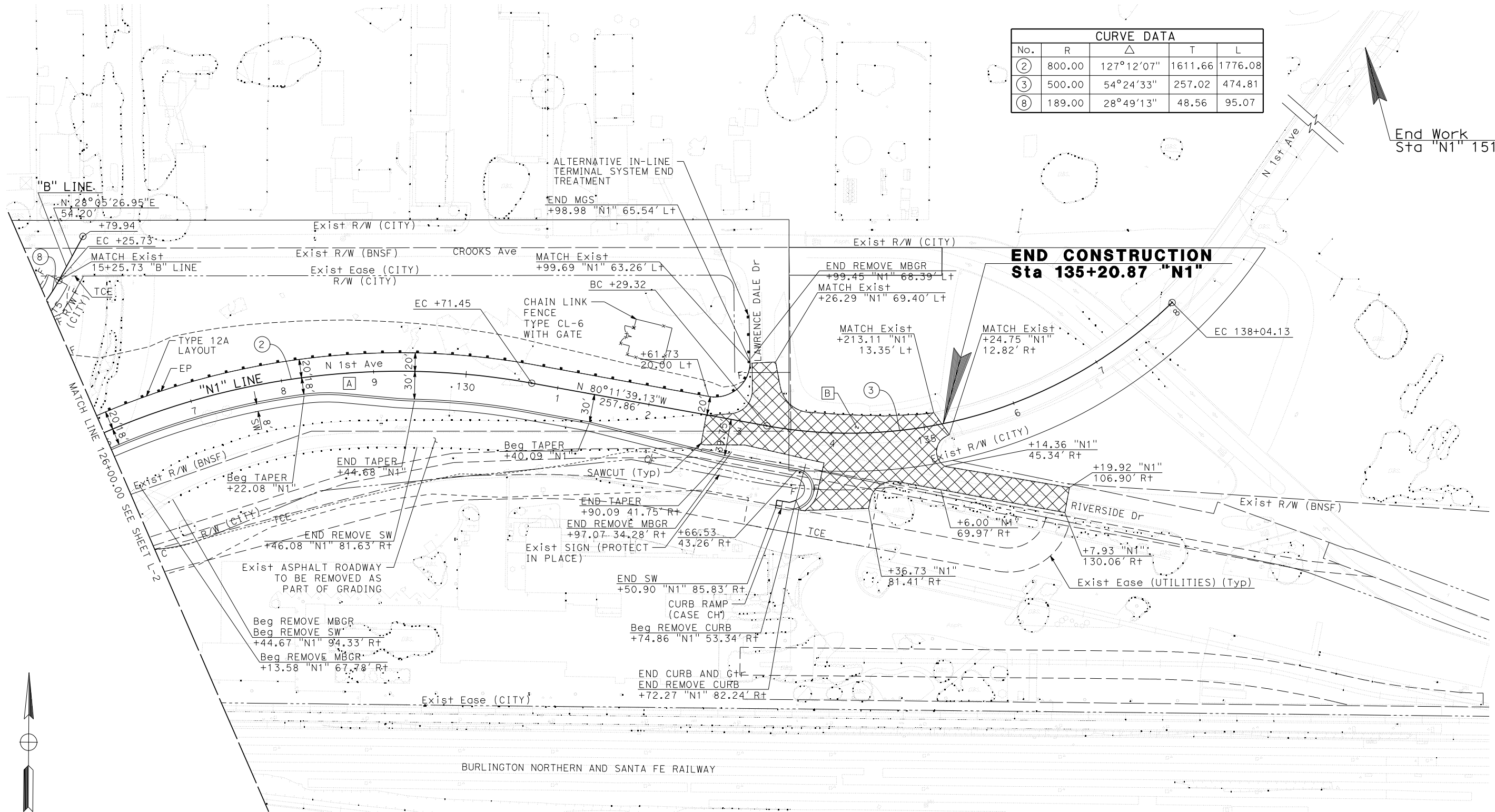


CURVE DATA				
No.	R	Δ	T	L
②	800.00	127°12'07"	1611.66	1776.08
④	360.00	09°58'54"	31.44	62.72
⑤	320.00	33°00'03"	94.79	184.31
⑥	320.00	18°41'29"	52.66	104.39
⑦	180.00	52°34'23"	88.91	165.16
⑧	189.00	28°49'13"	48.56	95.07
⑨	433.00	10°44'38"	40.72	81.20

SCALE: 1"=40'
PROJECT No. 5298-030

		<p>CITY OF BARSTOW</p> <p>220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311</p> <p>PHONE: (760) 256-3531 FAX: (760) 256-1750</p>	<p>CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:</p> <p>BRAD S. MERRELL CONSULTING CITY ENGINEER</p>	<p>CITY OF BARSTOW</p> <p>NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD LAYOUT</p> <p>APPROVED BY: BRAD S. MERRELL DESIGNED: JV DRAWN: CD SCALE: AS-SHOWN</p>	<p>TITLE: CONSULTING CITY ENGINEER</p> <p>R.C.E. NO. 49423 DATE: 01/21/2019 AS BUILT:</p> <p>SHEET 8 OF PLAN No. L-2</p>										
<table border="1"> <thead> <tr> <th>No.</th> <th>REVISION</th> <th>DATE BY</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	No.	REVISION	DATE BY										<p>401 B STREET, SUITE 600 SAN DIEGO, CA 92101</p> <p>PHONE: (619) 234-9411</p>	<p><small>THIS PLAN IS A SPECIFICATION DRAWING DOCUMENT. OTHERS IN FILE WITH THE CITY OF BARSTOW. IT IS MADE AVAILABLE PURSUANT TO SECTION 6250 et. seq., CALIFORNIA GOVERNMENT CODE UPON PAYMENTS OF THE APPROPRIATE FEE. THE CITY OF BARSTOW MAKES NO REPRESENTATION CONCERNING THE ACCURACY OF THESE ITEMS AND RECOMMENDS THAT THEY BE EXAMINED IN THE FIELD PRIOR TO MAKING ENGINEERING DECISIONS.</small></p>	<p>14-FEB-2019</p> <p>K:\SML TRANS\955279201\Net Overhead_PSE\Design\Sheets\Loc\LocPlan\ec02.dgn</p>
No.	REVISION	DATE BY													

CURVE DATA				
No.	R	Δ	T	L
②	800.00	127°12'07"	1611.66	1776.08
③	500.00	54°24'33"	257.02	474.81
⑧	189.00	28°49'13"	48.56	95.07



End Work
Sta "N1" 151+00

END CONSTRUCTION
Sta 135+20.87 "N1"

SCALE: 1"=40'
PROJECT No. 5298-030

No.	REVISION	DATE	BY



Kimley»Horn
401 B STREET, SUITE 600 SAN DIEGO, CA 92101
PHONE: (619) 234-9411

CITY OF BARSTOW
220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311
PHONE: (760) 256-3531 FAX: (760) 256-1750

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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:

BRAD S. MERRELL
CONSULTING CITY ENGINEER

DATE

CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD LAYOUT

APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER

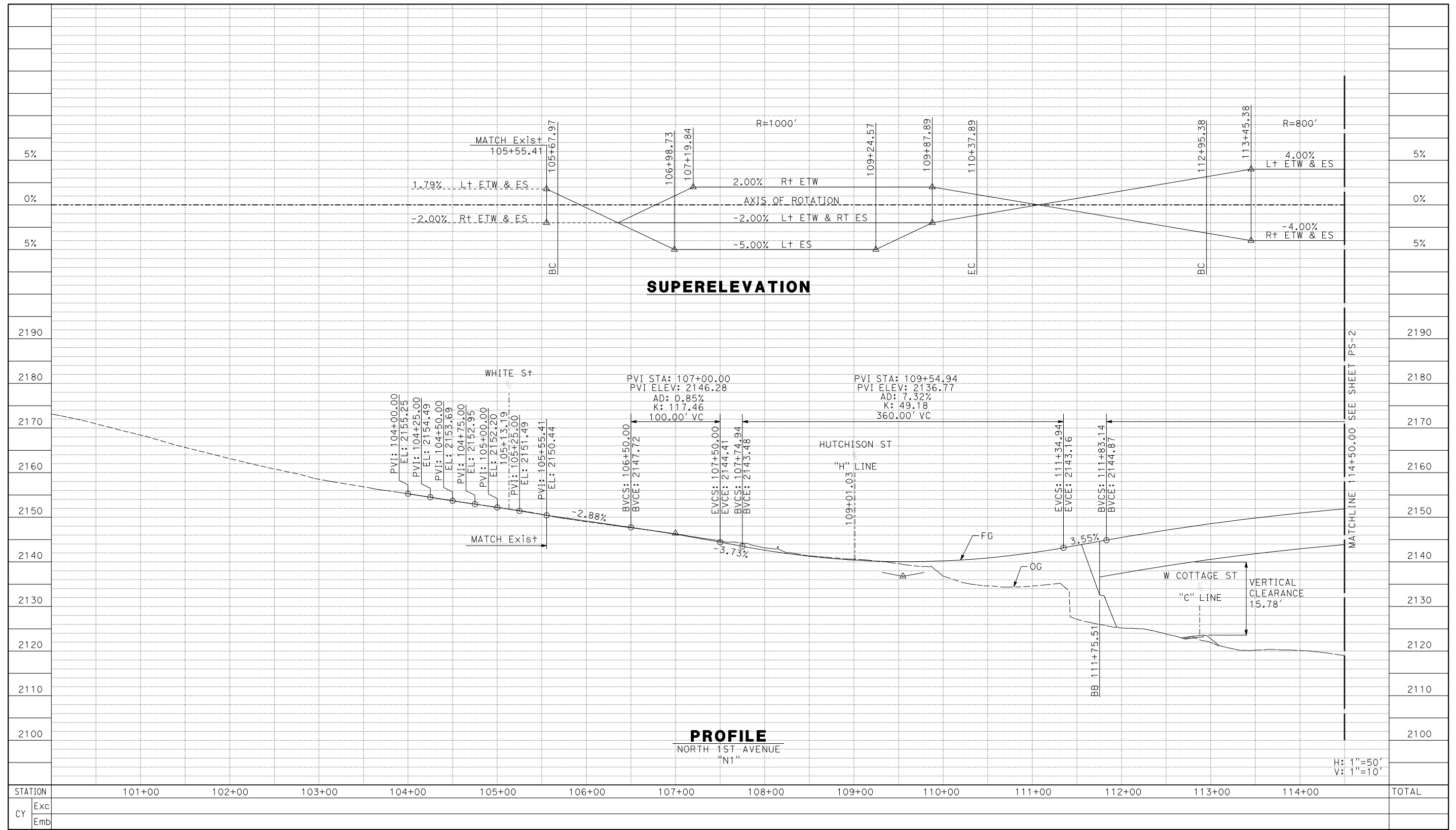
DESIGNED: JV R.C.E. NO. 49423 SHEET 9 OF 9

DRAWN: CD DATE: 01/21/2019 PLAN NO. L-3

SCALE: AS-SHOWN AS BUILT:

14-FEB-2019 K:\SMD_TRANS\955279201\Net_Overhead_PSE\Design\Sheets\Loc_LayOut\ed03.dgn 1658 Cor\dlm\De\the\feen

100% INTERIM PLANS FEB 20, 2019 NOT FOR CONSTRUCTION



STATION	101+00	102+00	103+00	104+00	105+00	106+00	107+00	108+00	109+00	110+00	111+00	112+00	113+00	114+00	TOTAL
CY	Exc														
	Emb														

No.	REVISION	DATE	BY

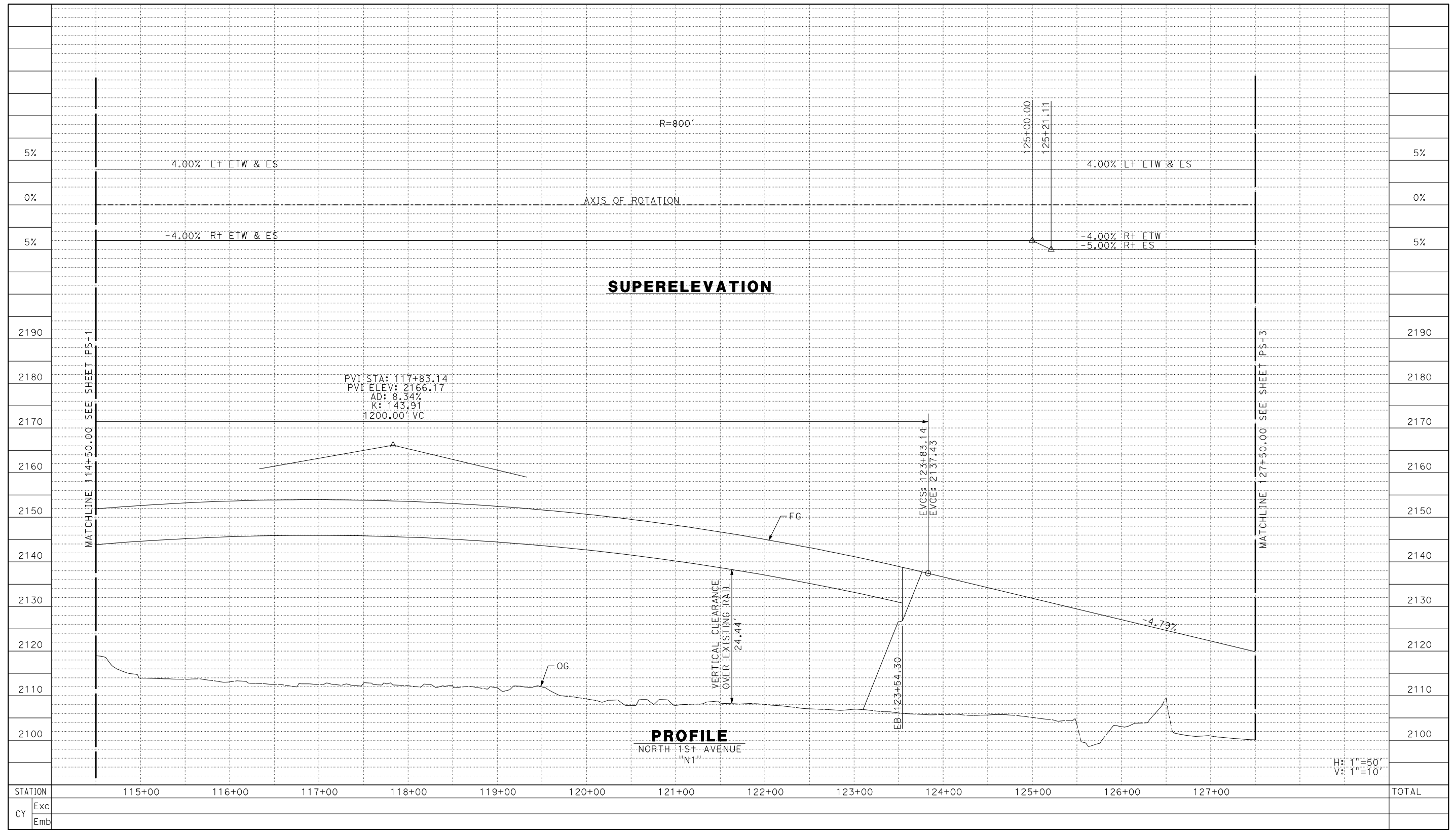


Kimley»Horn
 401 B STREET, SUITE 600
 SAN DIEGO, CA 92101
 PHONE: (619) 234-9411

CITY OF BARSTOW
 220 E. MOUNTAIN VIEW ST SUITE A
 BARSTOW, CA 92311
 PHONE: (760) 256-3531
 FAX: (760) 256-1750

CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
 BRAD S. MERRELL
 CONSULTING CITY ENGINEER

PROJECT No. 5298-030
CITY OF BARSTOW
 NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
 PROFILE & SUPERELEVATION DIAGRAM
 APPROVED BY: BRAD S. MERRELL
 TITLE: CONSULTING CITY ENGINEER
 DESIGNED: JV
 R.C.E. NO. 49423
 SHEET 10 OF
 DRAWN: CD
 DATE: 01/21/2019
 PLAN NO.
 SCALE: AS-SHOWN
 AS BUILT: PS-1



STATION	115+00	116+00	117+00	118+00	119+00	120+00	121+00	122+00	123+00	124+00	125+00	126+00	127+00	TOTAL
Exc														
Emb														

No.	REVISION	DATE	BY



Kimley»Horn
 401 B STREET, SUITE 600 SAN DIEGO, CA 92101
 PHONE: (619) 234-9411

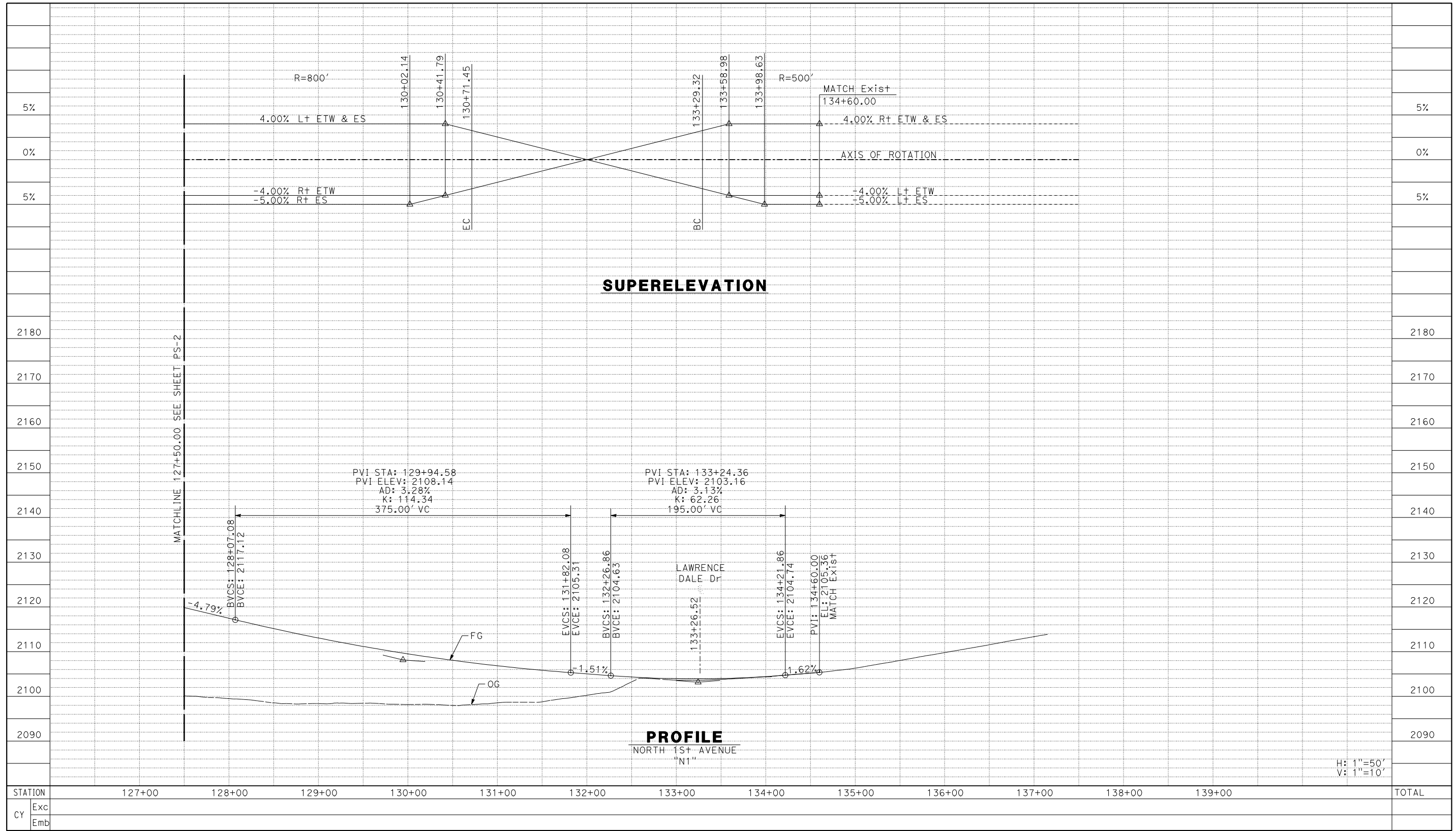
CITY OF BARSTOW
 220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311
 PHONE: (760) 256-3531 FAX: (760) 256-1750

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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
 BRAD S. MERRELL
 CONSULTING CITY ENGINEER

PROJECT No. 5298-030
CITY OF BARSTOW
 NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
 PROFILE & SUPERELEVATION DIAGRAM

APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER
 DESIGNED: JV R.C.E. NO. 49423 SHEET 11 OF
 DRAWN: CD DATE: 01/21/2019 PLAN NO.
 SCALE: AS-SHOWN AS BUILT: PS-2



STATION	127+00	128+00	129+00	130+00	131+00	132+00	133+00	134+00	135+00	136+00	137+00	138+00	139+00	TOTAL
Exc														
Emb														

H: 1"=50'
V: 1"=10'

No.	REVISION	DATE	BY



Kimley»Horn
401 B STREET, SUITE 600
SAN DIEGO, CA 92101
PHONE: (619) 234-9411

CITY OF BARSTOW
220 E. MOUNTAIN VIEW ST SUITE A
BARSTOW, CA 92311
PHONE: (760) 256-3531
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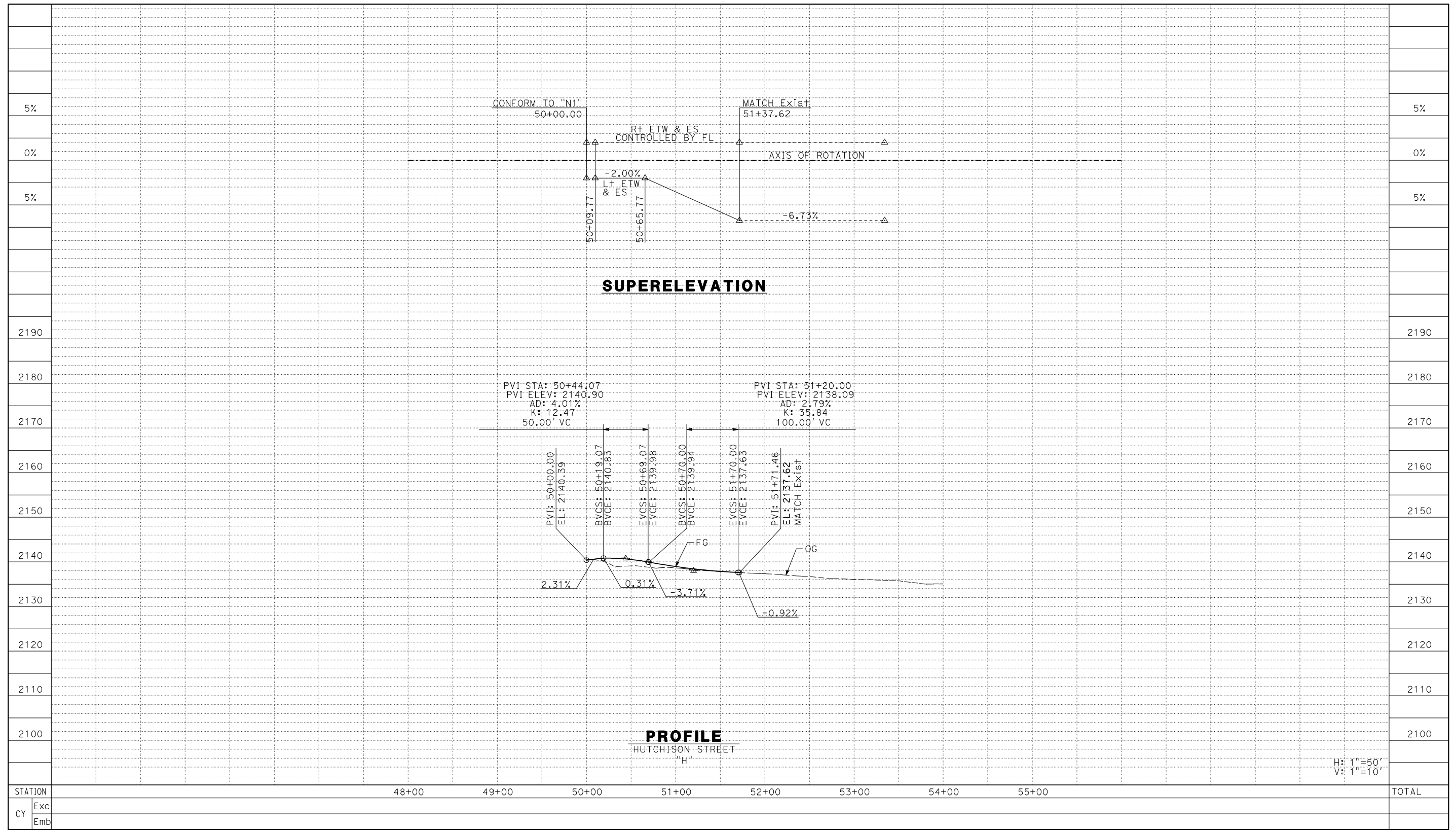
CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
BRAD S. MERRELL
CONSULTING CITY ENGINEER

PROJECT No. 5298-030
CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
PROFILE & SUPERELEVATION DIAGRAM

APPROVED BY: BRAD S. MERRELL
DESIGNED: JV
DRAWN: CD
SCALE: AS-SHOWN

TITLE: CONSULTING CITY ENGINEER
R.C.E. NO. 49423
DATE: 01/21/2019
AS BUILT:

SHEET 12 OF
PLAN NO. PS-3



No.	REVISION	DATE	BY



Kimley»Horn

401 B STREET, SUITE 600
SAN DIEGO, CA 92101
PHONE: (619) 234-9411

CITY OF BARSTOW

220 E. MOUNTAIN VIEW ST SUITE A
BARSTOW, CA 92311
PHONE: (760) 256-3531
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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:

BRAD S. MERRELL
CONSULTING CITY ENGINEER

DATE

PROJECT No. 5298-030

CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
PROFILE & SUPERELEVATION DIAGRAM

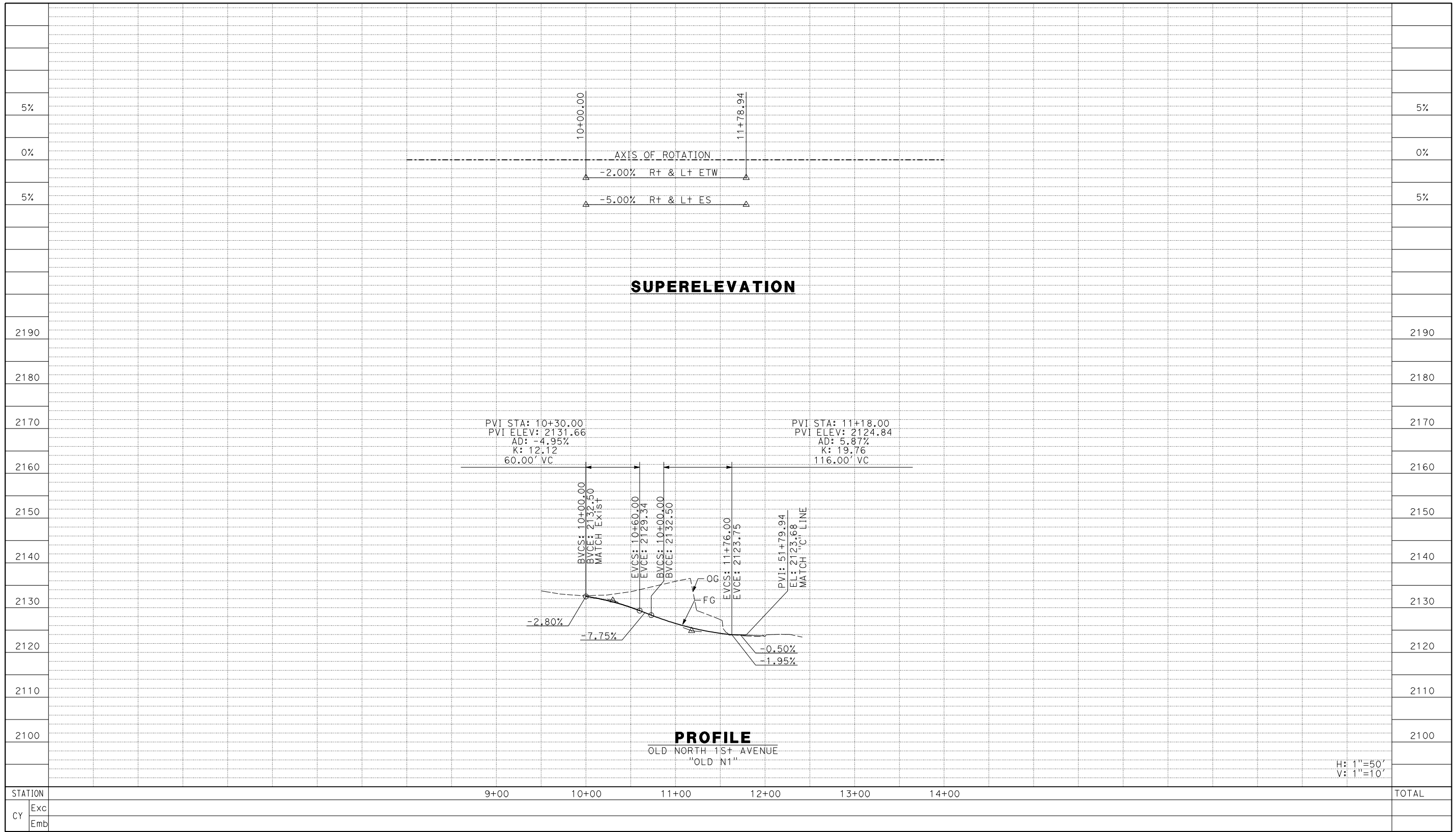
APPROVED BY: BRAD S. MERRELL
TITLE: CONSULTING CITY ENGINEER

DESIGNED: JV
R.C.E. NO. 49423
SHEET 13 OF

DRAWN: CD
DATE: 01/21/2019
PLAN NO.

SCALE: AS-SHOWN
AS BUILT:

PS-4



STATION		9+00	10+00	11+00	12+00	13+00	14+00	TOTAL
Exc								
Emb								

H: 1"=50'
V: 1"=10'

No.	REVISION	DATE	BY



Kimley»Horn

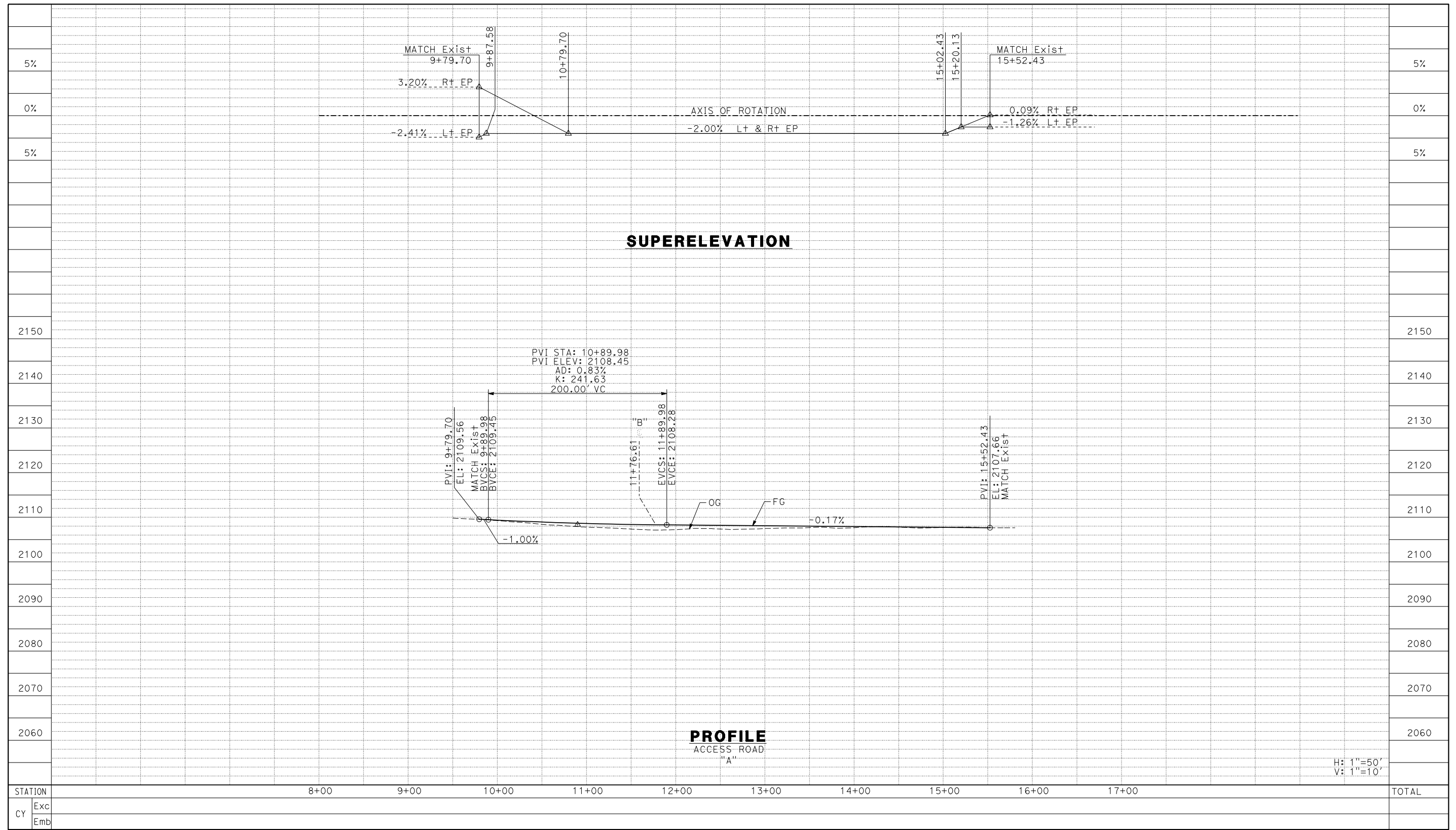
401 B STREET, SUITE 600
SAN DIEGO, CA 92101
PHONE: (619) 234-9411

CITY OF BARSTOW
220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311
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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
BRAD S. MERRELL
CONSULTING CITY ENGINEER
DATE

PROJECT No. 5298-030
CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
PROFILE & SUPERELEVATION DIAGRAM
APPROVED BY: **BRAD S. MERRELL** TITLE: CONSULTING CITY ENGINEER
DESIGNED: JV R.C.E. NO. 49423 SHEET **14** OF
DRAWN: CD DATE: 01/21/2019 PLAN NO.
SCALE: AS-SHOWN AS BUILT: PS-5



No.	REVISION	DATE	BY



Kimley»Horn
401 B STREET, SUITE 600
SAN DIEGO, CA 92101
PHONE: (619) 234-9411

CITY OF BARSTOW
220 E. MOUNTAIN VIEW ST SUITE A
BARSTOW, CA 92311
PHONE: (760) 256-3531
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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
BRAD S. MERRELL
CONSULTING CITY ENGINEER

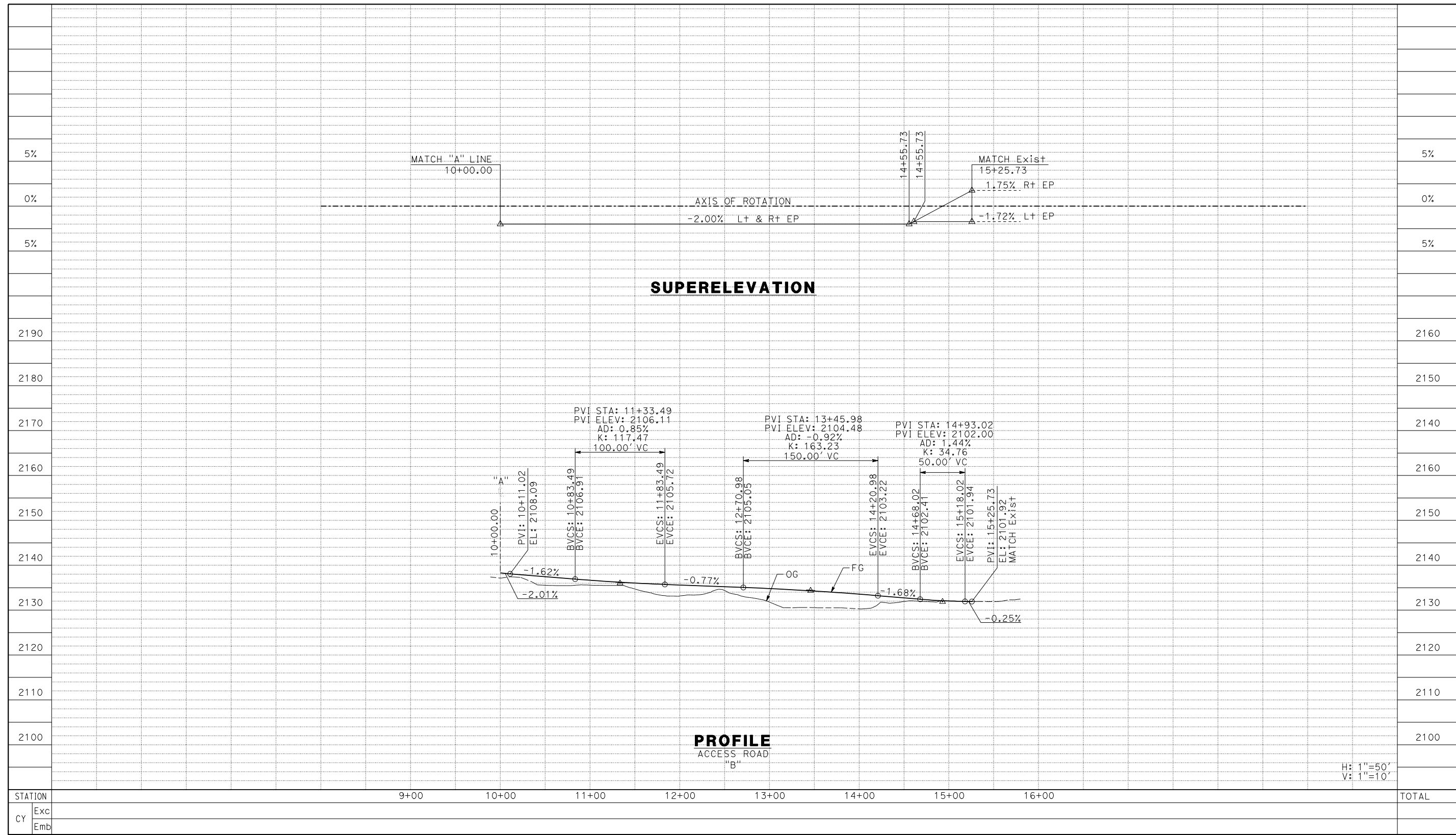
PROJECT No. 5298-030
CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
PROFILE & SUPERELEVATION DIAGRAM

APPROVED BY: BRAD S. MERRELL
TITLE: CONSULTING CITY ENGINEER

DESIGNED: JV
R.C.E. NO. 49423
SHEET 15 OF

DRAWN: CD
DATE: 01/21/2019
PLAN NO.

SCALE: AS-SHOWN
AS BUILT: PS-6



STATION		9+00	10+00	11+00	12+00	13+00	14+00	15+00	16+00	TOTAL
Exc										
Emb										

No.	REVISION	DATE	BY



Kimley»Horn

401 B STREET, SUITE 600
SAN DIEGO, CA 92101

PHONE: (619) 234-9411

CITY OF BARSTOW

220 E. MOUNTAIN VIEW ST SUITE A
BARSTOW, CA 92311

PHONE: (760) 256-3531
FAX: (760) 256-1750

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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:

BRAD S. MERRELL
CONSULTING CITY ENGINEER

DATE

PROJECT No. 5298-030

CITY OF BARSTOW

NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
PROFILE & SUPERELEVATION DIAGRAM

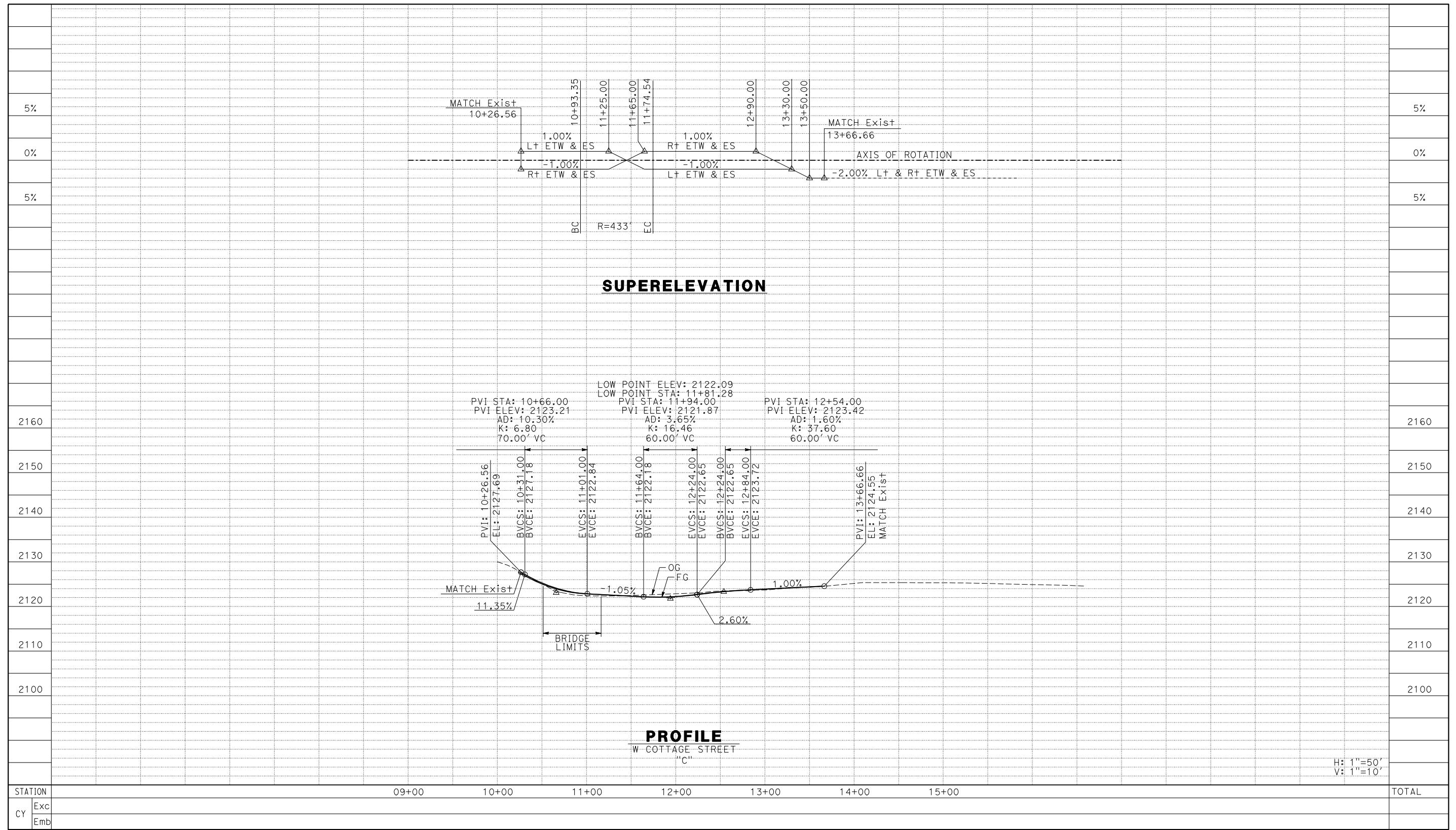
APPROVED BY: BRAD S. MERRELL
TITLE: CONSULTING CITY ENGINEER

DESIGNED: JV
R.C.E. NO. 49423
SHEET 16 OF

DRAWN: CD
DATE: 01/21/2019
PLAN NO.

SCALE: AS-SHOWN
AS BUILT:

PS-7



STATION		09+00	10+00	11+00	12+00	13+00	14+00	15+00	TOTAL
Exc									
Emb									

H: 1"=50'
V: 1"=10'

No.	REVISION	DATE	BY



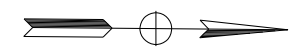
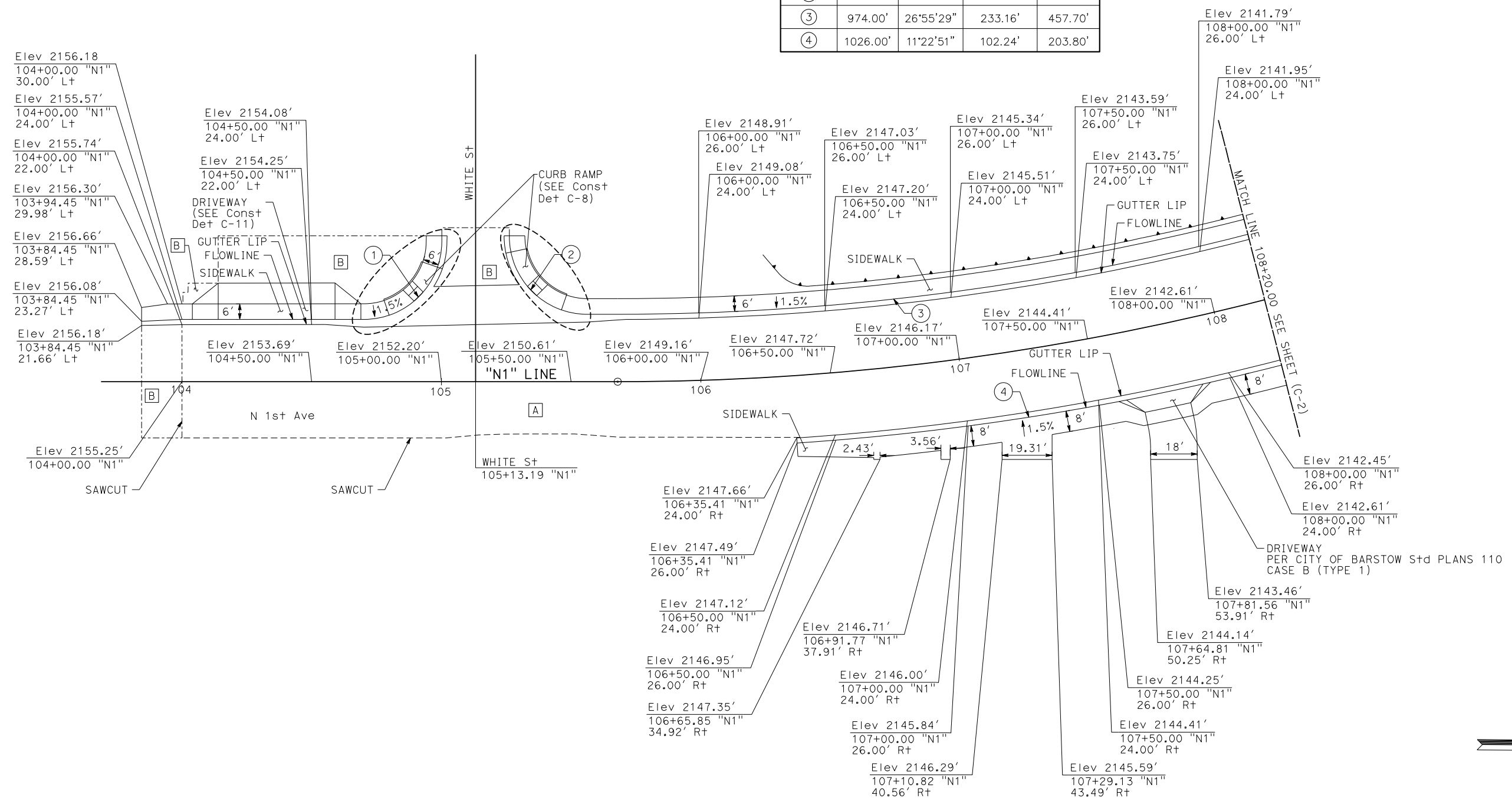
Kimley»Horn
401 B STREET, SUITE 600
SAN DIEGO, CA 92101
PHONE: (619) 234-9411

CITY OF BARSTOW
220 E. MOUNTAIN VIEW ST SUITE A
BARSTOW, CA 92311
PHONE: (760) 256-3531
FAX: (760) 256-1750

CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
BRAD S. MERRELL
CONSULTING CITY ENGINEER

PROJECT No. 5298-030
CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
PROFILE & SUPERELEVATION DIAGRAM
APPROVED BY: BRAD S. MERRELL
TITLE: CONSULTING CITY ENGINEER
DESIGNED: JV
R.C.E. NO. 49423
SHEET 17 OF
DRAWN: CD
DATE: 01/21/2019
PLAN NO. PS-8
SCALE: AS-SHOWN
AS BUILT:

CURVE DATA				
No.	R	Δ	T	L
①	30.00'	89°35'44"	29.79'	46.91'
②	30.00'	90°23'08"	30.20'	47.33'
③	974.00'	26°55'29"	233.16'	457.70'
④	1026.00'	11°22'51"	102.24'	203.80'



SCALE: 1"=20'
PROJECT No. 5298-030

No.	REVISION	DATE	BY



Kimley»Horn
401 B STREET, SUITE 600 SAN DIEGO, CA 92101 PHONE: (619) 234-9411

CITY OF BARSTOW
220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311 PHONE: (760) 256-3531 FAX: (760) 256-1750

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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:

BRAD S. MERRELL
CONSULTING CITY ENGINEER

DATE

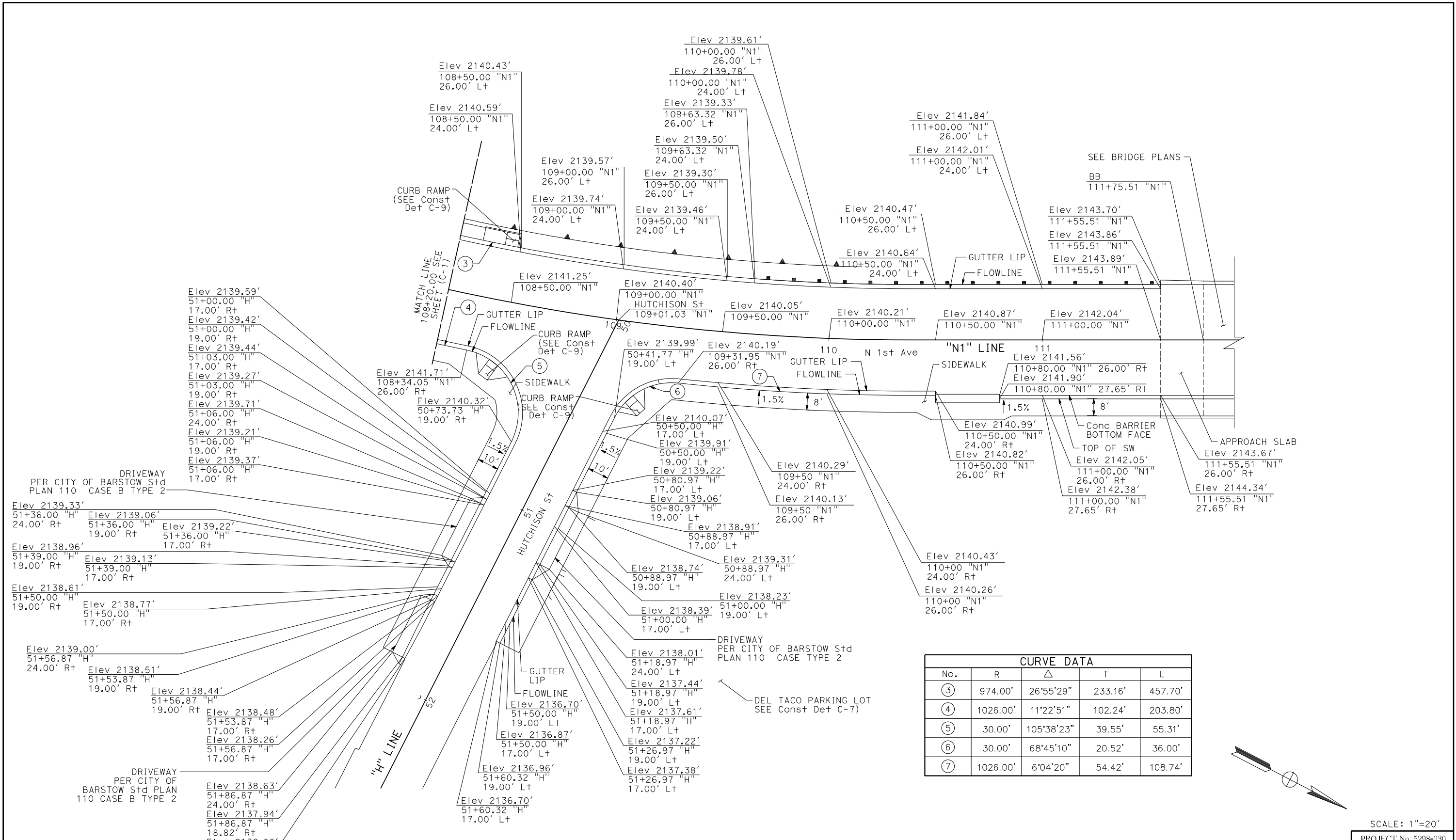
CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD CONSTRUCTION DETAILS

APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER

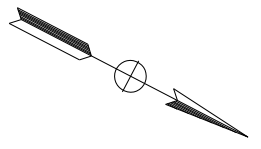
DESIGNED: JV R.C.E. NO. 49423 SHEET 18 OF

DRAWN: CD DATE: 01/21/2019 PLAN NO.

SCALE: AS-SHOWN AS BUILT: C-1



CURVE DATA				
No.	R	Δ	T	L
③	974.00'	26°55'29"	233.16'	457.70'
④	1026.00'	11°22'51"	102.24'	203.80'
⑤	30.00'	105°38'23"	39.55'	55.31'
⑥	30.00'	68°45'10"	20.52'	36.00'
⑦	1026.00'	6°04'20"	54.42'	108.74'



SCALE: 1"=20'
PROJECT No. 5298-030

DRIVEWAY
PER CITY OF BARSTOW Std
PLAN 110 CASE B TYPE 2

DRIVEWAY
PER CITY OF
BARSTOW Std PLAN
110 CASE B TYPE 2

DRIVEWAY
PER CITY OF BARSTOW Std
PLAN 110 CASE TYPE 2

DEL TACO PARKING LOT
SEE Const Det C-7)

No.	REVISION	DATE	BY



Kimley»Horn
401 B STREET, SUITE 600 SAN DIEGO, CA 92101 PHONE: (619) 234-9411

CITY OF BARSTOW
220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311 PHONE: (760) 256-3531 FAX: (760) 256-1750

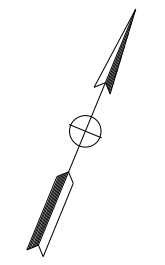
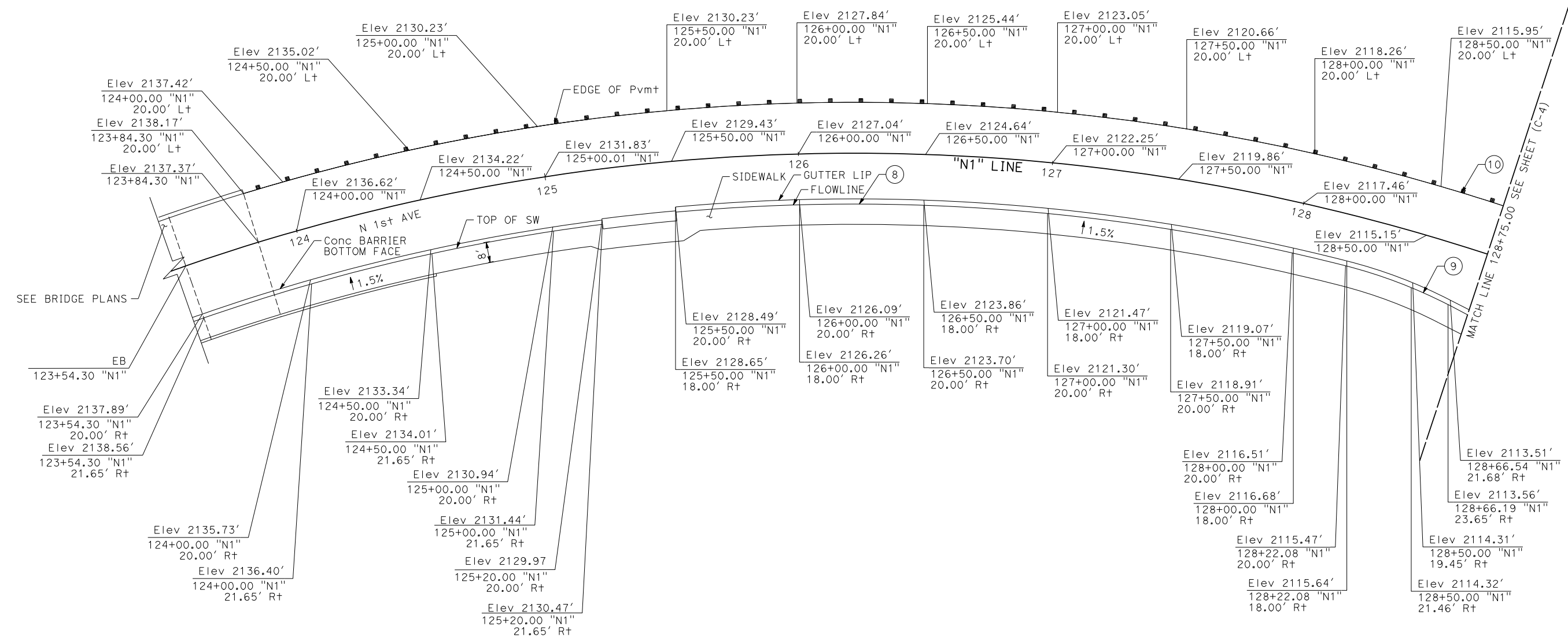
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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
BRAD S. MERRELL
CONSULTING CITY ENGINEER

CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
CONSTRUCTION DETAILS

APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER
DESIGNED: JV R.C.E. NO. 49423 SHEET 19 OF
DRAWN: CD DATE: 01/21/2019 PLAN NO.
SCALE: AS-SHOWN AS BUILT: C-2

CURVE DATA				
No.	R	Δ	T	L
⑧	780.00'	19°29'10"	133.93'	265.28'
⑨	192.00'	12°52'35"	21.67'	43.15'
⑩	820.00'	37°20'46"	277.13'	534.49'



SCALE: 1"=20'
PROJECT No. 5298-030

No.	REVISION	DATE	BY



Kimley»Horn
401 B STREET, SUITE 600 SAN DIEGO, CA 92101 PHONE: (619) 234-9411

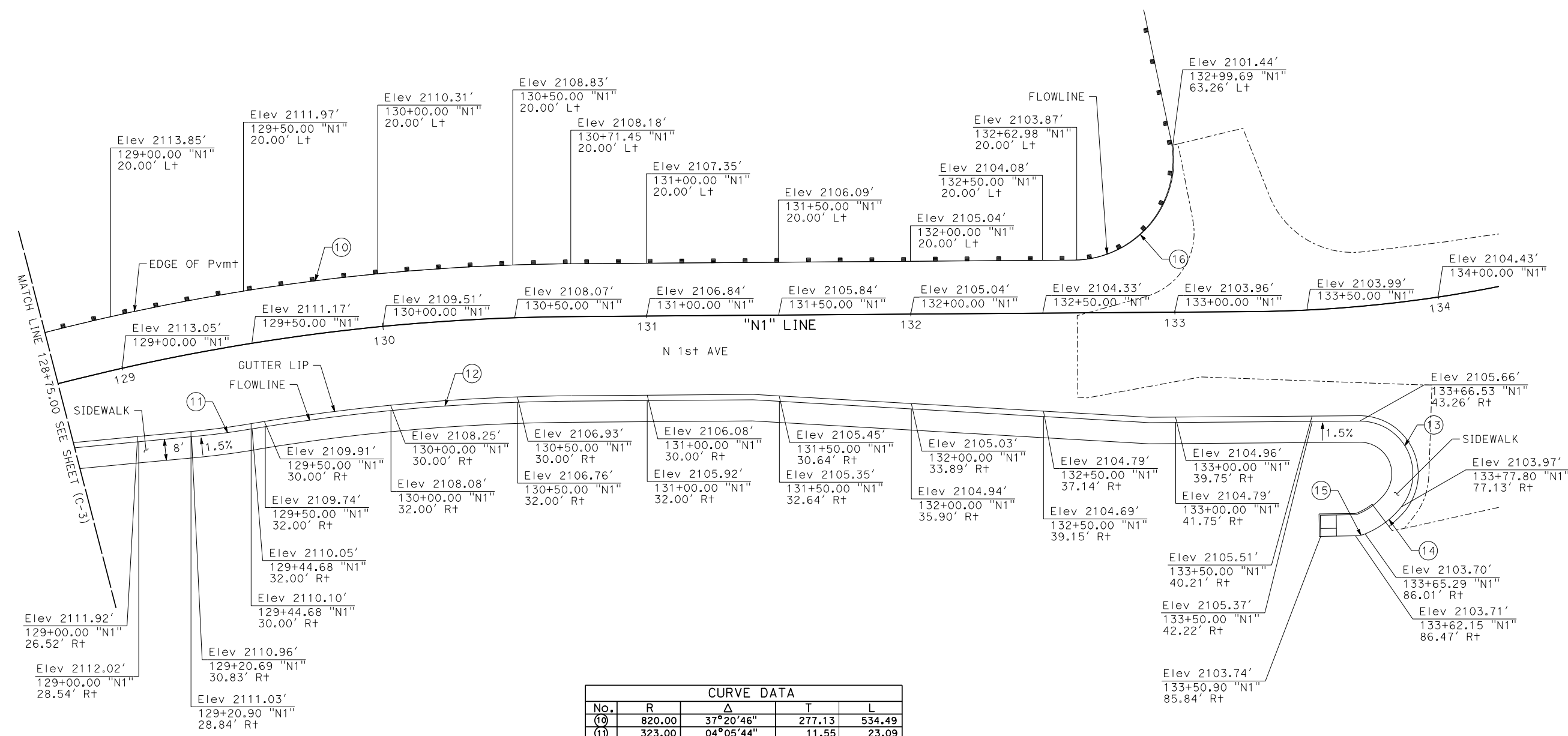
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220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311 PHONE: (760) 256-3531 FAX: (760) 256-1750

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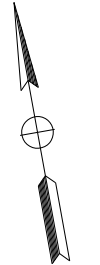
CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
BRAD S. MERRELL
CONSULTING CITY ENGINEER

CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
CONSTRUCTION CONDITIONS

APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER
DESIGNED: R.C.E. NO. 49423 SHEET 20 OF X
DRAWN: DATE: 01/21/2019 PLAN NO. C-3
SCALE: AS-SHOWN AS BUILT:



CURVE DATA				
No.	R	Δ	T	L
(10)	820.00	37°20'46"	277.13	534.49
(11)	323.00	04°05'44"	11.55	23.09
(12)	768.00	09°04'46"	60.98	121.70
(13)	20.00	129°09'41"	42.08	45.09
(14)	34.00	29°07'54"	8.83	17.29
(15)	10.00	21°21'15"	1.89	3.73
(16)	38.00	97°57'31"	43.68	64.97



SCALE: 1"=20'

PROJECT No. 5298-030

No.	REVISION	DATE	BY



Kimley»Horn

401 B STREET, SUITE 600 SAN DIEGO, CA 92101 PHONE: (619) 234-9411

CITY OF BARSTOW

220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311 PHONE: (760) 256-3531 FAX: (760) 256-1750

THIS PLAN SPECIFICATION DRAWING DOCUMENT OTHER IS ON FILE WITH THE CITY OF BARSTOW. IT IS MADE AVAILABLE PURSUANT TO SECTION 6250 et. seq., CALIFORNIA GOVERNMENT CODE UPON PAYMENTS OF THE APPROPRIATE FEE. THE CITY OF BARSTOW MAKES NO REPRESENTATION CONCERNING THE ACCURACY OF THESE ITEMS AND RECOMMENDS THAT THEY BE EXAMINED IN THE FIELD PRIOR TO MAKING ENGINEERING DECISIONS.

CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:

BRAD S. MERRELL DATE CONSULTING CITY ENGINEER

CITY OF BARSTOW

NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD CONSTRUCTION DETAILS

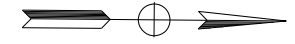
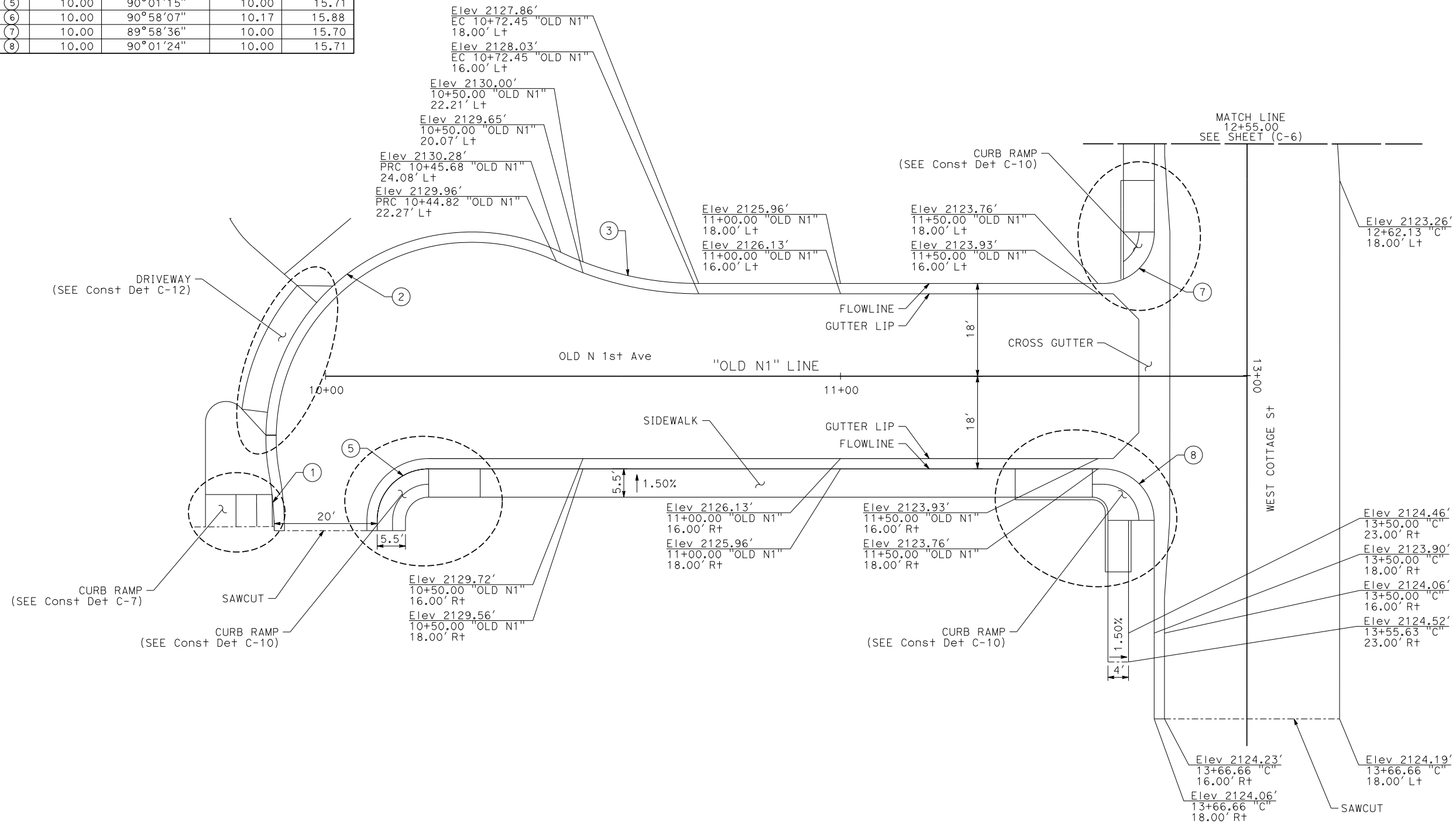
APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER

DESIGNED: JV R.C.E. NO. 49423 SHEET 21 OF PLAN NO. C-4

DRAWN: CD DATE: 01/21/2019

SCALE: AS-SHOWN AS BUILT:

CURVE DATA				
No.	R	Δ	T	L
①	64.00	10°09'23"	5.69	11.34
②	40.00	125°45'36"	78.10	87.80
③	62.00	25°34'59"	14.08	27.68
④	10.00	90°41'33"	10.12	15.83
⑤	10.00	90°01'15"	10.00	15.71
⑥	10.00	90°58'07"	10.17	15.88
⑦	10.00	89°58'36"	10.00	15.70
⑧	10.00	90°01'24"	10.00	15.71



SCALE: 1"=10'
PROJECT No. 5298-030

No.	REVISION	DATE	BY



Kimley»Horn
401 B STREET, SUITE 600
SAN DIEGO, CA 92101
PHONE: (619) 234-9411

CITY OF BARSTOW
220 E. MOUNTAIN VIEW ST SUITE A
BARSTOW, CA 92311
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FAX: (760) 256-1750

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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:

BRAD S. MERRELL
CONSULTING CITY ENGINEER

DATE

CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
CONSTRUCTION DETAILS

APPROVED BY: BRAD S. MERRELL
TITLE: CONSULTING CITY ENGINEER

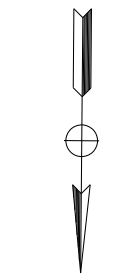
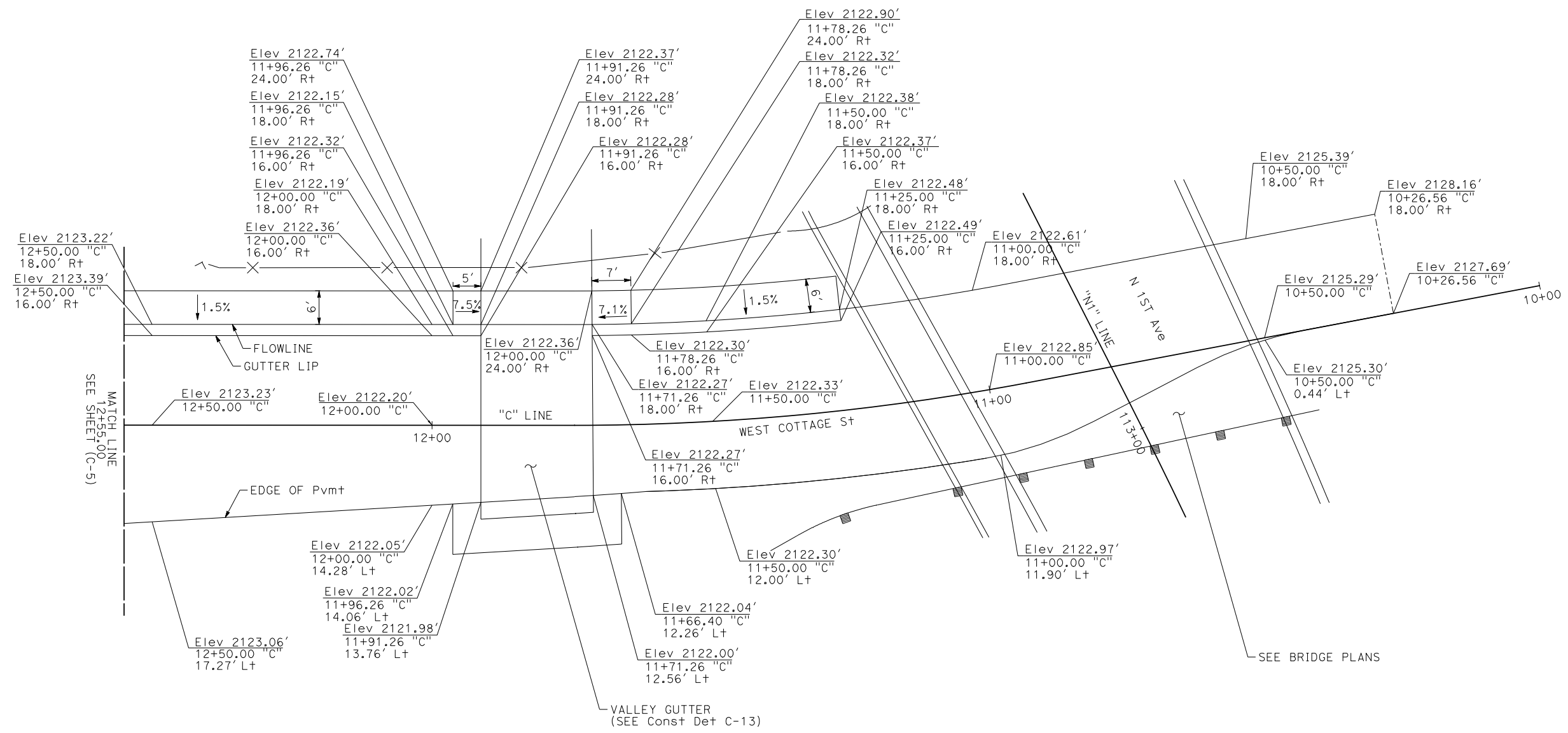
DESIGNED: JV
R.C.E. NO. 49423
SHEET 22 OF

DRAWN: CD
DATE: 01/21/2019
PLAN NO. C-5

SCALE: AS-SHOWN
AS BUILT:

100% INTERIM PLANS FEB 20, 2019 NOT FOR CONSTRUCTION

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14-FEB-2019 16:58
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SCALE: 1"=10'
PROJECT No. 5298-030

No.	REVISION	DATE	BY



Kimley»Horn
401 B STREET, SUITE 600 SAN DIEGO, CA 92101 PHONE: (619) 234-9411

CITY OF BARSTOW
220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311 PHONE: (760) 256-3531 FAX: (760) 256-1750

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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:

BRAD S. MERRELL
CONSULTING CITY ENGINEER

DATE

CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD CONSTRUCTION DETAILS

APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER

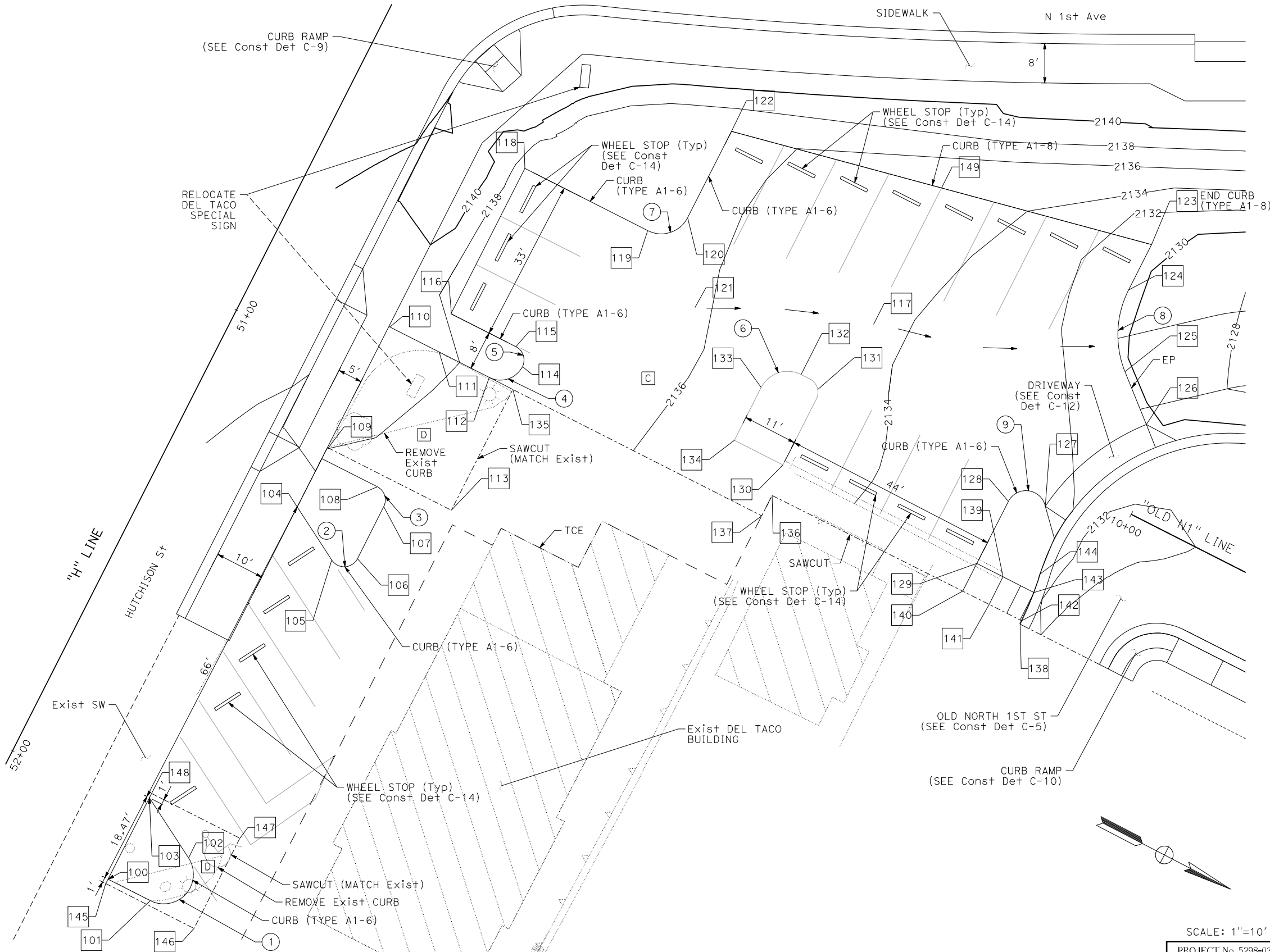
DESIGNED: JV R.C.E. NO. 49423 SHEET 23 OF 23

DRAWN: CD DATE: 01/21/2019 PLAN NO. C-6

SCALE: AS-SHOWN AS BUILT:

CURVE DATA				
No.	R	Δ	T	L
(1)	6.00	153°00'39"	25.00	16.02
(2)	3.00	119°59'56"	5.20	6.28
(3)	3.00	89°59'48"	3.00	4.71
(4)	5.00	89°58'30"	5.00	7.85
(5)	3.00	90°01'18"	3.00	4.71
(6)	6.00	90°00'03"	6.00	9.42
(7)	6.00	90°00'10"	6.00	9.43
(8)	20.00	48°53'53"	9.09	17.07
(9)	4.00	140°50'14"	4.00	9.83

No.	NORTHING	EASTING	BOTTOM OF CURB ELEVATION
100	2151843.31	6853507.49	2136.57
101	2151852.90	6853507.41	2136.77
102	2151855.81	6853496.19	2136.49
103	2151843.16	6853489.02	2136.72
104	2151842.62	6853423.03	2137.87
105	2151853.76	6853429.34	2136.99
106	2151858.24	6853426.70	2136.93
107	2151858.14	6853414.90	2137.17
108	2151855.12	6853411.93	2137.29
109	2151842.69	6853409.49	2138.01
110	2151842.51	6853382.05	2139.25
111	2151853.66	6853381.96	2138.36
112	2151865.04	6853381.86	2137.48
113	2151870.60	6853409.27	2136.96
114	2151869.99	6853375.68	2137.07
115	2151866.97	6853373.85	2137.21
116	2151852.22	6853373.82	2137.96
117	2151929.12	6853336.57	2134.35
118	2151851.98	6853340.97	2137.98
119	2151879.84	6853340.74	2136.58
120	2151885.79	6853334.69	2136.30
121	2151895.48	6853350.17	2136.12
122	2151885.63	6853315.10	2136.50
123	2151971.61	6853296.36	2132.59
124	2151971.70	6853306.66	2132.48
125	2151978.67	6853321.68	2132.19
126	2151987.42	6853329.19	2131.41
127	2151976.88	6853353.25	2132.01
128	2151969.80	6853355.85	2132.40
129	2151969.92	6853369.91	2132.73
130	2151925.92	6853370.28	2134.77
131	2151925.80	6853352.28	2134.75
132	2151920.77	6853352.32	2134.95
133	2151914.82	6853358.37	2135.30
134	2151914.92	6853370.37	2135.28
135	2151870.41	6853381.84	2137.06
136	2151926.81	6853376.74	2134.92
137	2151926.85	6853381.37	2135.05
138	2151983.33	6853376.80	2132.05
139	2151975.87	6853369.86	2132.61
140	2151969.97	6853376.19	2132.71
141	2151975.93	6853376.11	2132.59
142	2151983.32	6853376.02	2132.04
143	2151982.87	6853369.81	2132.09
144	2151982.27	6853365.88	2131.76
145	2151843.32	6853508.49	MATCH Exist
146	2151863.32	6853508.33	MATCH Exist
147	2151863.15	6853487.86	MATCH Exist
148	2151843.15	6853488.02	MATCH Exist
149	2151928.62	6853305.73	2134.71



- NOTES:
- SEE SIGNING AND STRIPING PLANS FOR ACTUAL SIGNING AND STRIPING.
 - SEE X-1 FOR PAVEMENT SECTION (C & D).

No.	REVISION	DATE	BY



Kimley»Horn
 401 B STREET, SUITE 600 SAN DIEGO, CA 92101
 PHONE: (619) 234-9411

CITY OF BARSTOW
 220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311
 PHONE: (760) 256-3531 FAX: (760) 256-1750

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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:

BRAD S. MERRELL
 CONSULTING CITY ENGINEER

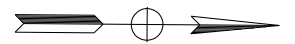
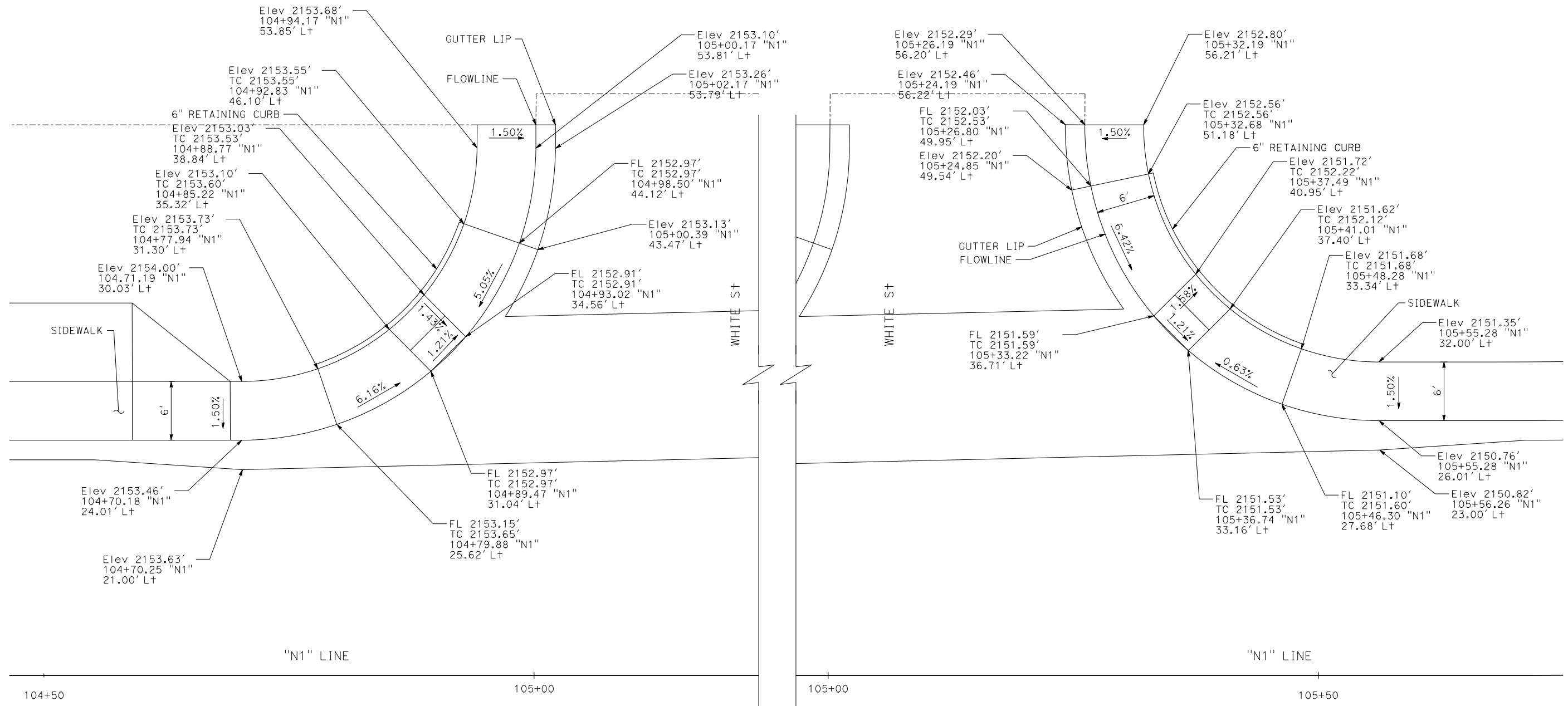
DATE: 01/21/2019

CITY OF BARSTOW
 NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
 CONSTRUCTION DETAILS

APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER
 DESIGNED: JV R.C.E. NO. 49423 SHEET 24 OF
 DRAWN: CD DATE: 01/21/2019 PLAN NO. C-7
 SCALE: AS-SHOWN AS BUILT:

SCALE: 1"=10'
 PROJECT No. 5298-030

100% INTERIM PLANS FEB 20, 2019 NOT FOR CONSTRUCTION
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SCALE: 1"=5'

PROJECT No. 5298-030

No.	REVISION	DATE	BY



Kimley»Horn
 401 B STREET, SUITE 600 SAN DIEGO, CA 92101
 PHONE: (619) 234-9411

CITY OF BARSTOW
 220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311
 PHONE: (760) 256-3531 FAX: (760) 256-1750

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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:

BRAD S. MERRELL
 CONSULTING CITY ENGINEER

DATE

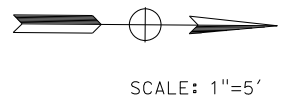
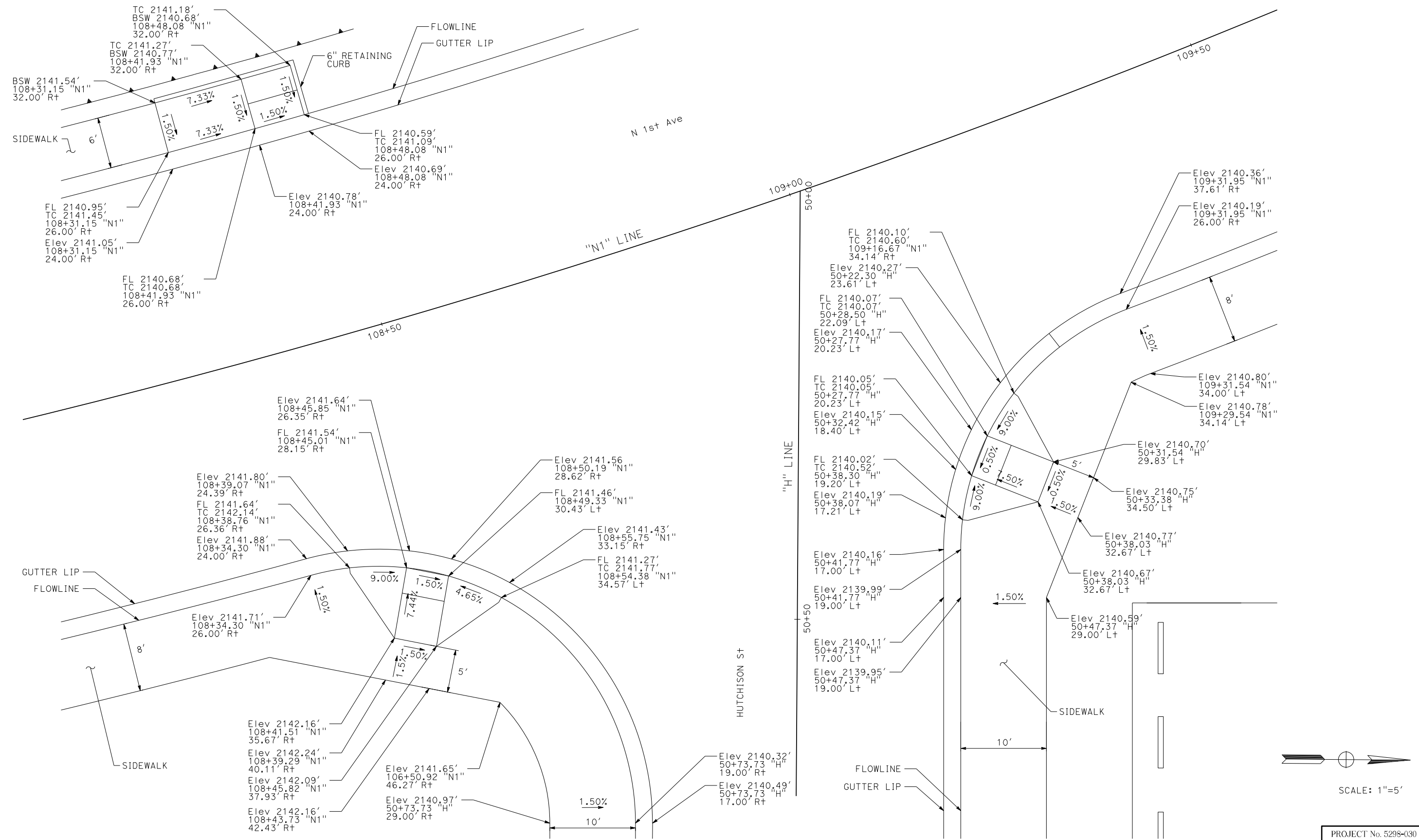
CITY OF BARSTOW
 NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
 CONSTRUCTION DETAILS

APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER

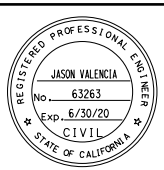
DESIGNED: JV R.C.E. NO. 49423 SHEET 25 OF

DRAWN: CD DATE: 01/21/2019 PLAN NO.

SCALE: AS-SHOWN AS BUILT: C-B



No.	REVISION	DATE	BY



Kimley»Horn
 401 B STREET, SUITE 600 SAN DIEGO, CA 92101
 PHONE: (619) 234-9411

CITY OF BARSTOW
 220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311
 PHONE: (760) 256-3531 FAX: (760) 256-1750

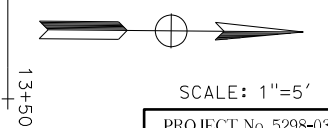
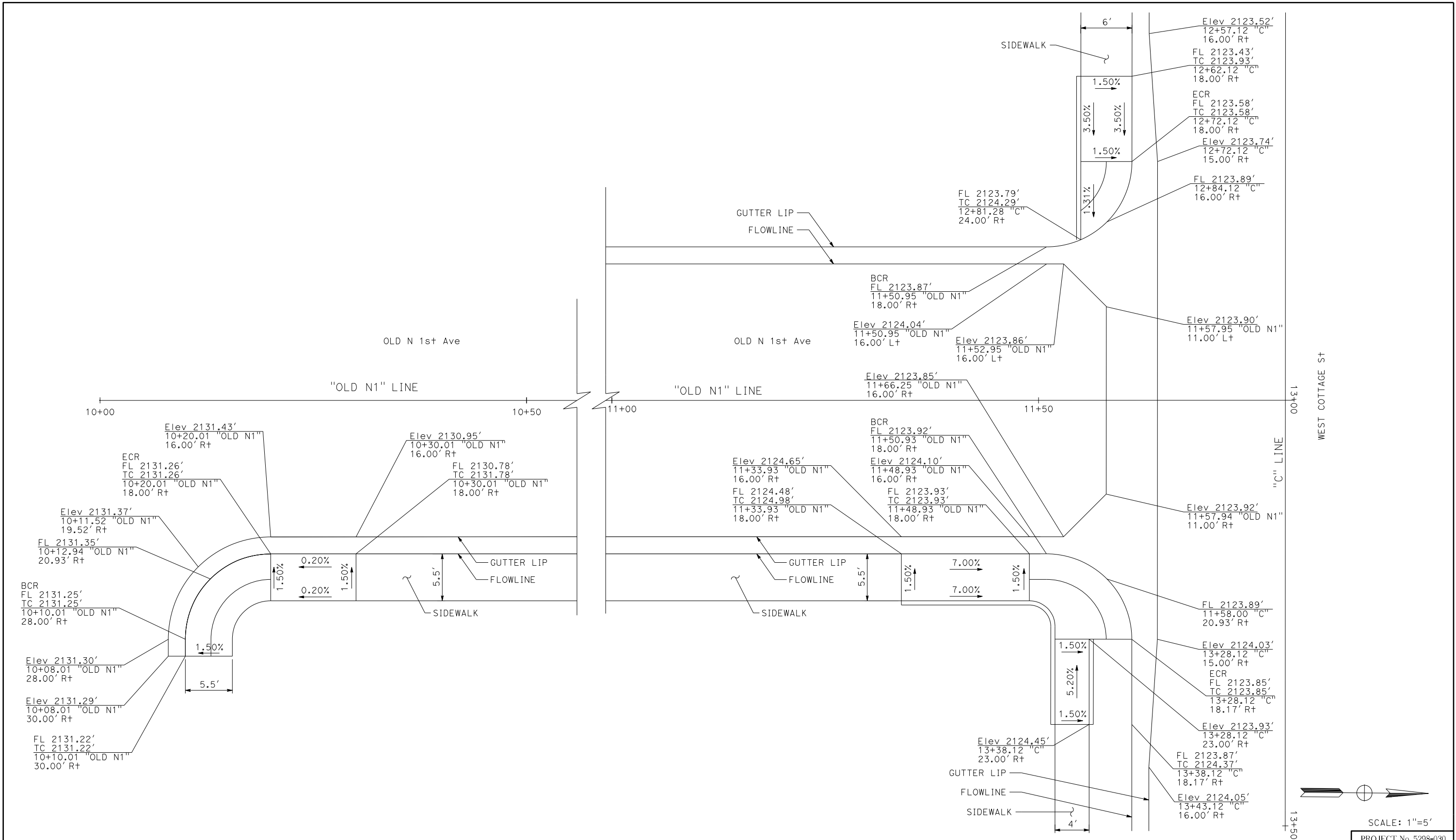
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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
 BRAD S. MERRELL
 CONSULTING CITY ENGINEER

CITY OF BARSTOW
 NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
 CONSTRUCTION DETAILS

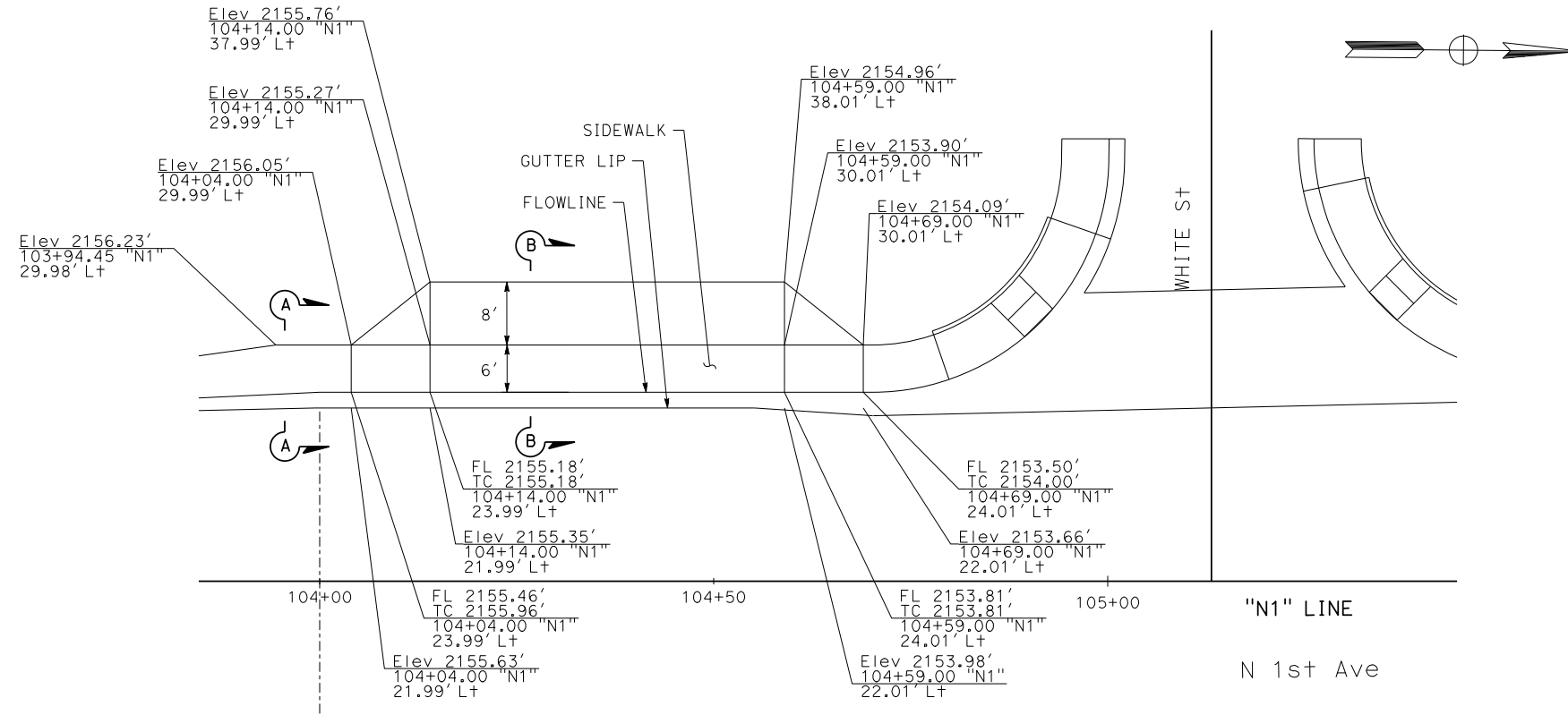
APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER
 DESIGNED: JV R.C.E. NO. 49423 SHEET 26 OF
 DRAWN: CD DATE: 01/21/2019 PLAN NO.
 SCALE: AS-SHOWN AS BUILT: C-9

PROJECT No. 5298-030

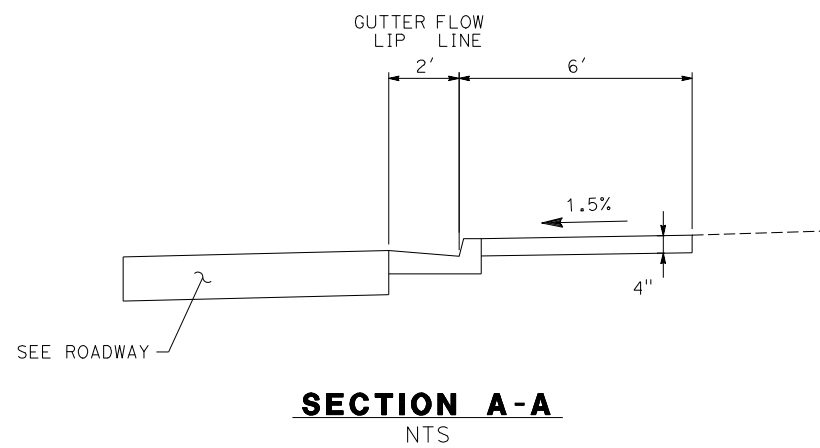


		<p>401 B STREET, SUITE 600 SAN DIEGO, CA 92101 PHONE: (619) 234-9411</p>	<p>220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311 PHONE: (760) 256-3531 FAX: (760) 256-1750</p>	<p>CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:</p> <p>BRAD S. MERRELL CONSULTING CITY ENGINEER</p>	<p>CITY OF BARSTOW</p> <p>NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD CONSTRUCTION DETAILS</p> <p>APPROVED BY: BRAD S. MERRELL DESIGNED: JV DRAWN: CD SCALE: AS SHOWN</p> <p>TITLE: CONSULTING CITY ENGINEER R.C.E. NO. 49423 DATE: 01/21/2019 SHEET 27 OF PLAN NO. C-10</p>																								
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No.	REVISION	DATE	BY																										

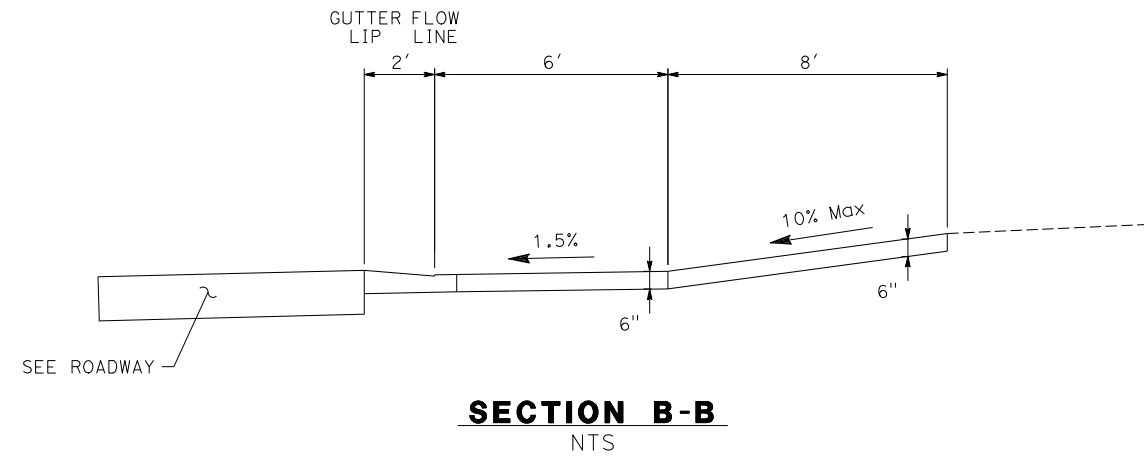
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DRIVEWAY DETAIL



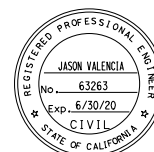
SECTION A-A
NTS



SECTION B-B
NTS

SCALE: 1"=10'
PROJECT No. 5298-030

No.	REVISION	DATE	BY



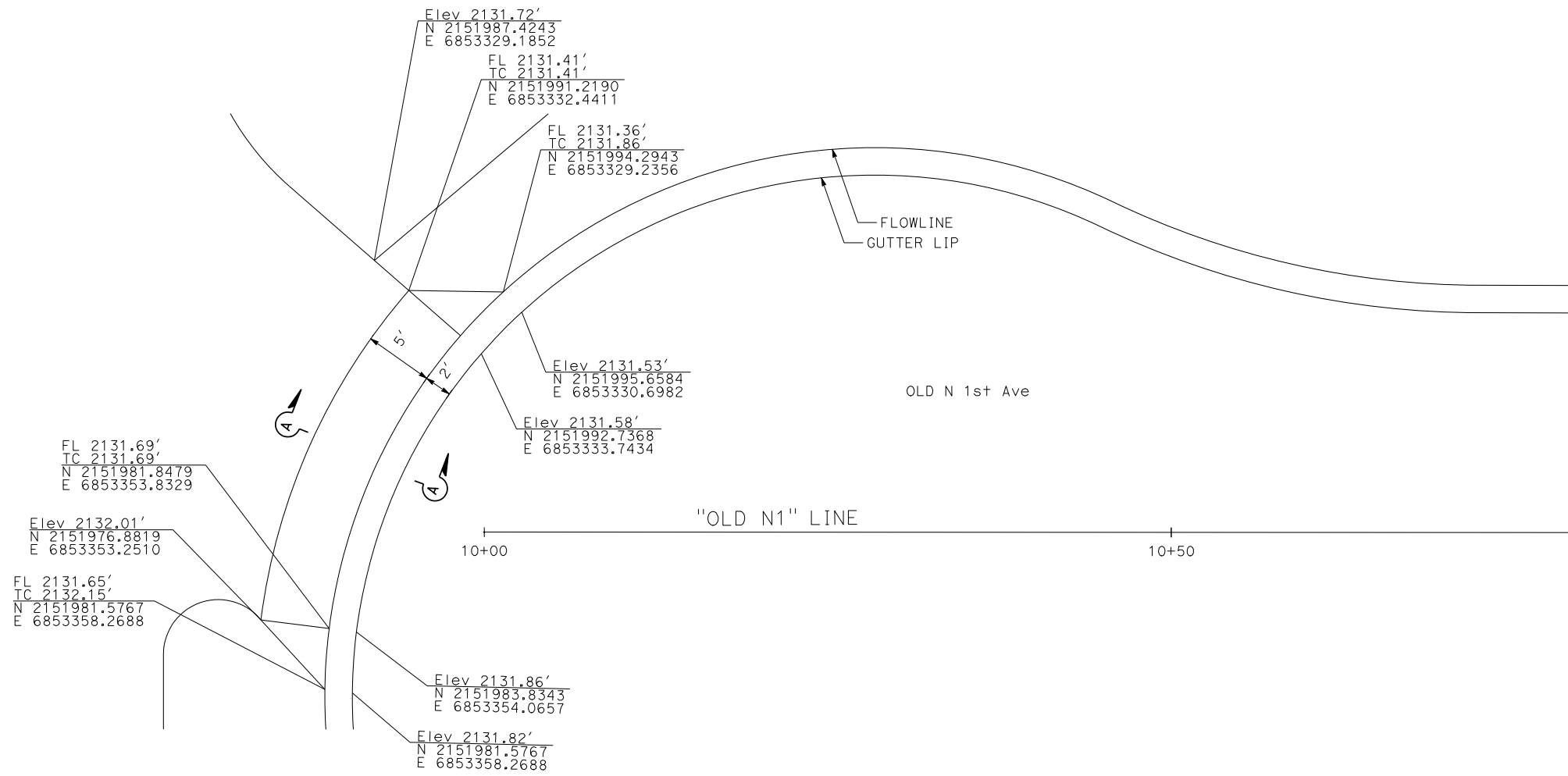
Kimley»Horn
401 B STREET, SUITE 600 SAN DIEGO, CA 92101
PHONE: (619) 234-9411

CITY OF BARSTOW
220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311
PHONE: (760) 256-3531 FAX: (760) 256-1750
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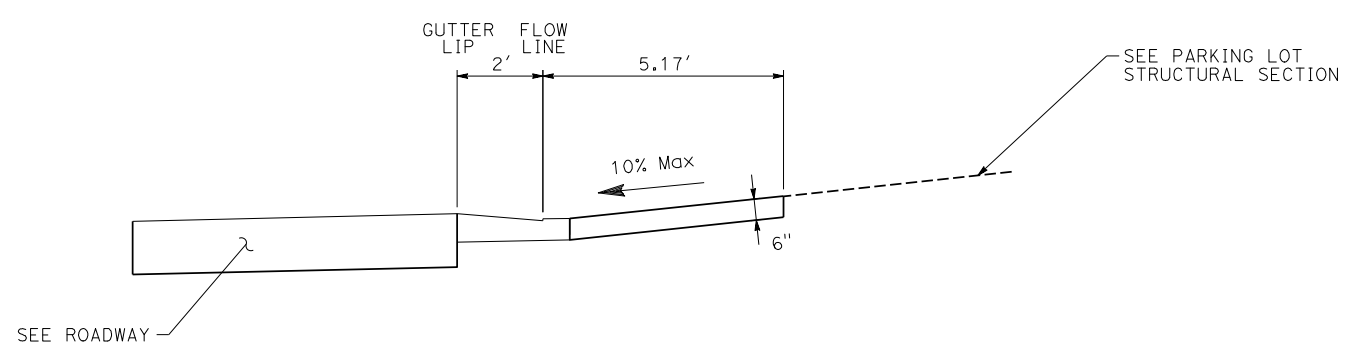
CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
BRAD S. MERRELL
CONSULTING CITY ENGINEER
DATE

CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
CONSTRUCTION DETAILS
APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER
DESIGNED: JV R.C.E. NO. 49423 SHEET 28 OF
DRAWN: CD DATE: 01/21/2019 PLAN NO.
SCALE: AS-SHOWN AS BUILT: C-11

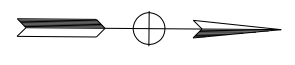
100% INTERIM PLANS FEB 20, 2019 NOT FOR CONSTRUCTION



DRIVEWAY DETAIL



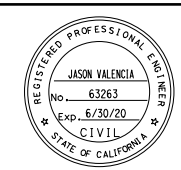
SECTION A-A
NTS



SCALE: 1"=5'

PROJECT No. 5298-030

No.	REVISION	DATE	BY



Kimley»Horn

401 B STREET, SUITE 600
SAN DIEGO, CA 92101
PHONE: (619) 234-9411

CITY OF BARSTOW
220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311
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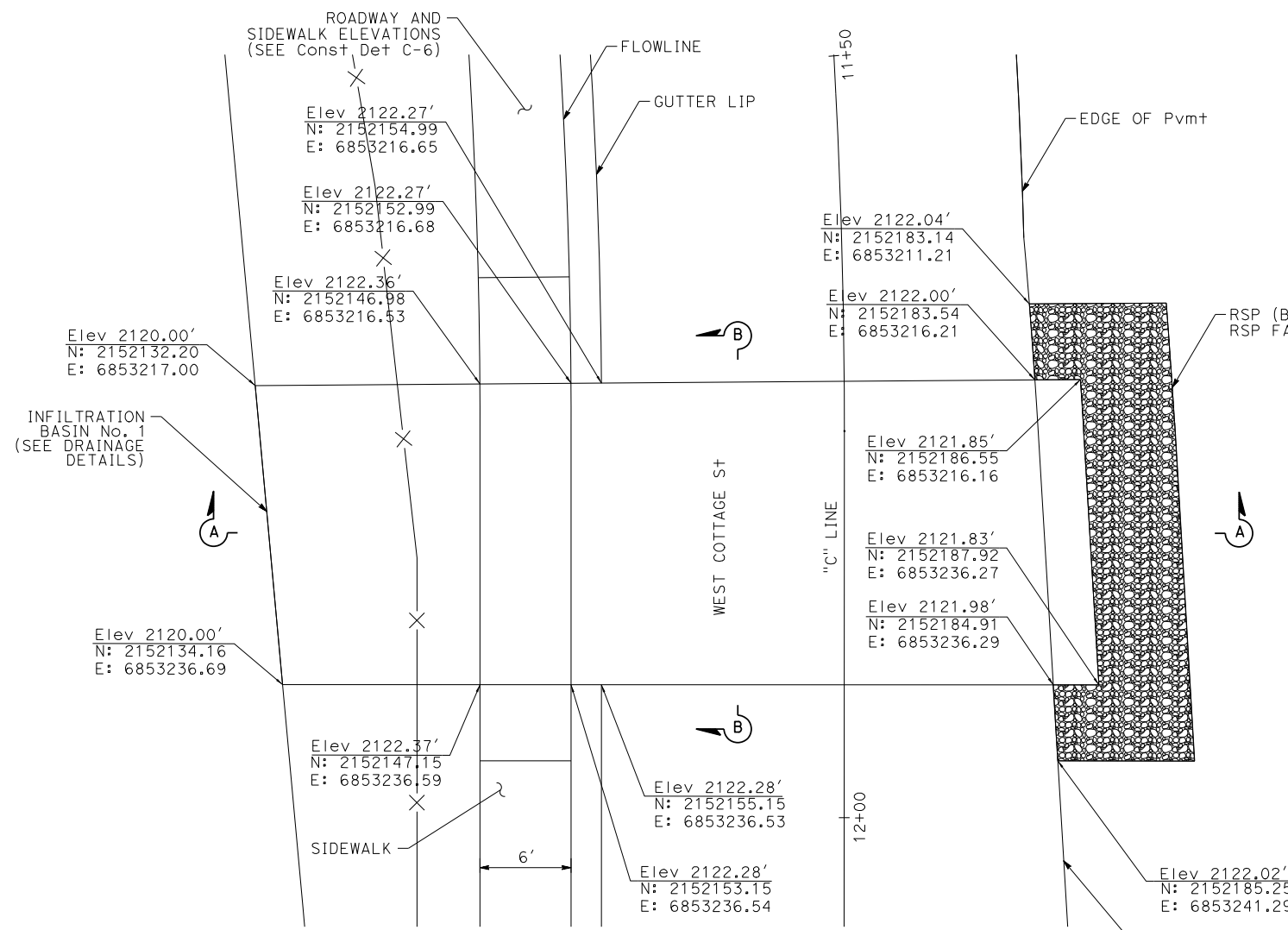
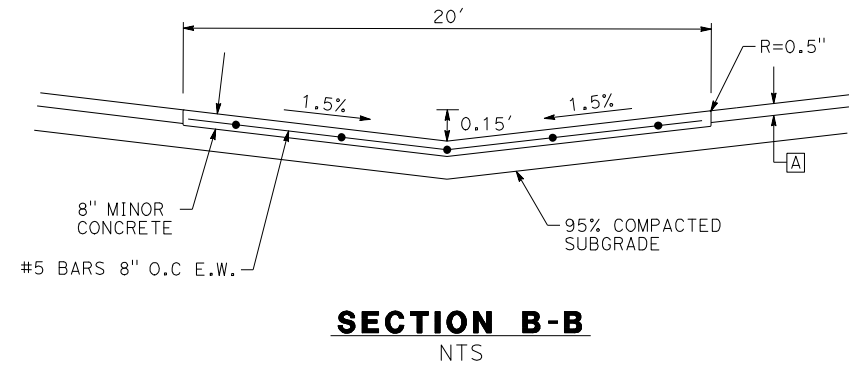
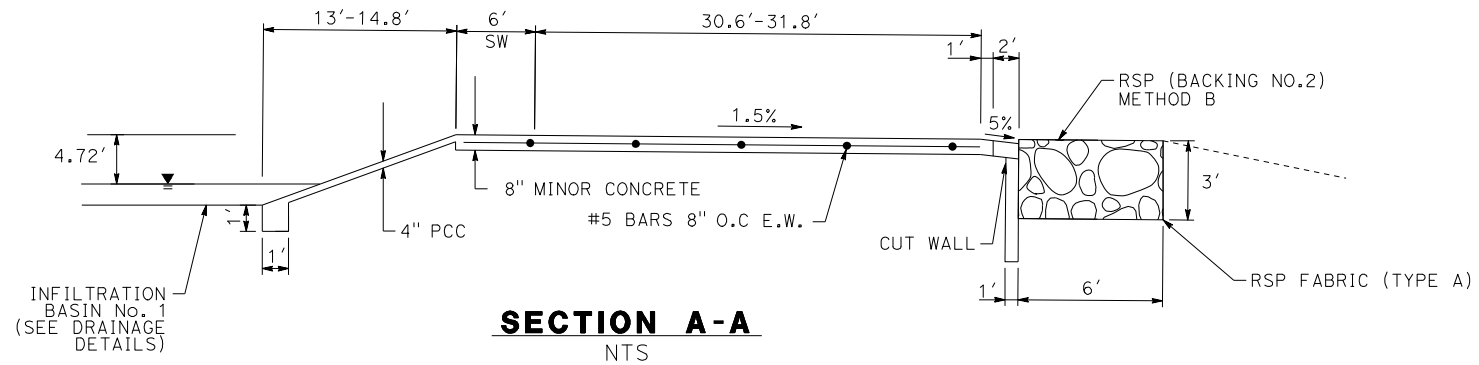
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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
BRAD S. MERRELL
CONSULTING CITY ENGINEER

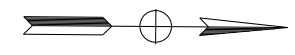
CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
CONSTRUCTION DETAILS

APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER

DESIGNED: JV R.C.E. NO. 49423 SHEET **29** OF
DRAWN: CD DATE: 01/21/2019 PLAN NO.
SCALE: AS-SHOWN AS BUILT: C-12



VALLEY GUTTER
1"=5'



SCALE: 1"=5'

No.	REVISION	DATE	BY



Kimley»Horn
401 B STREET, SUITE 600
SAN DIEGO, CA 92101
PHONE: (619) 234-9411

CITY OF BARSTOW
220 E. MOUNTAIN VIEW ST SUITE A
BARSTOW, CA 92311
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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:

BRAD S. MERRELL
CONSULTING CITY ENGINEER

DATE

PROJECT No. 5298-030

CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
CONSTRUCTION DETAILS

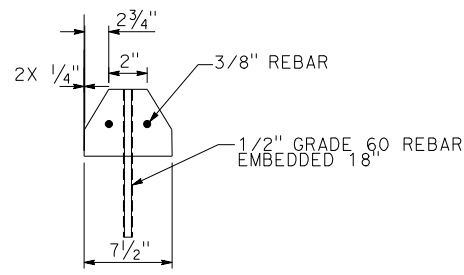
APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER

DESIGNED: JV R.C.E. NO. 49423 SHEET 30 OF 30

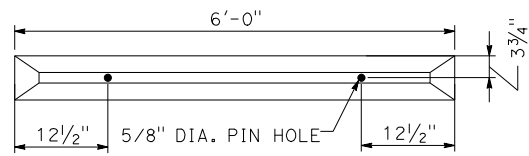
DRAWN: LH DATE: 01/21/2019 PLAN NO. C-13

SCALE: AS-SHOWN AS BUILT

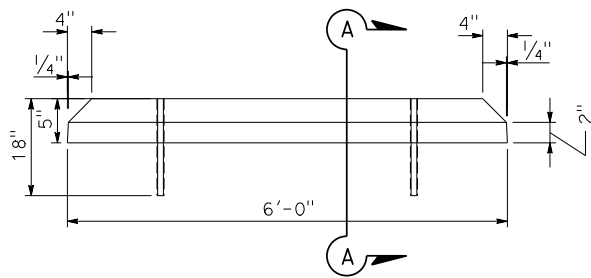
100% INTERIM PLANS FEB 20, 2019 NOT FOR CONSTRUCTION



SECTION A-A



PLAN



(A) WHEEL STOP
Var N.T.S.

PROJECT No. 5298-030

No.	REVISION	DATE	BY



Kimley»Horn

401 B STREET, SUITE 600
SAN DIEGO, CA 92101
PHONE: (619) 234-9411



CITY OF BARSTOW
220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311
PHONE: (760) 256-3531
FAX: (760) 256-1750

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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:

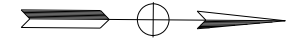
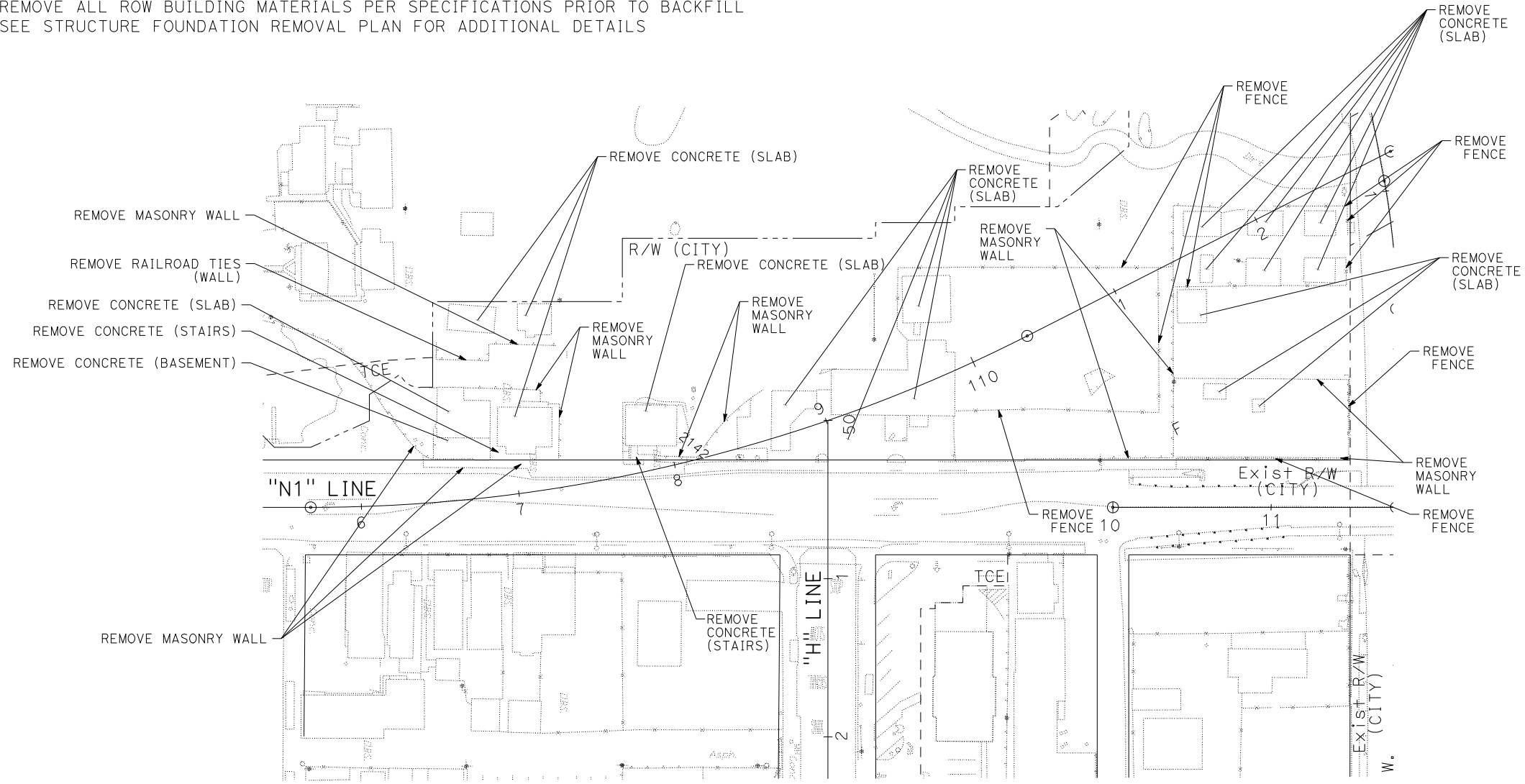
BRAD S. MERRELL
CONSULTING CITY ENGINEER
DATE

CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
CONSTRUCTION DETAILS

APPROVED BY: BRAD S. MERRELL	TITLE: CONSULTING CITY ENGINEER
DESIGNED: CD	R.C.E. NO. 49423
DRAWN: CD	DATE: 01/21/2019
SCALE: AS-SHOWN	AS BUILT:
SHEET 31 OF	PLAN NO. C-14

NOTES:

1. REMOVE ALL ROW BUILDING MATERIALS PER SPECIFICATIONS PRIOR TO BACKFILL
2. SEE STRUCTURE FOUNDATION REMOVAL PLAN FOR ADDITIONAL DETAILS



SCALE: 1"=40'

PROJECT No. 5298-030

No.	REVISION	DATE	BY



Kimley»Horn

401 B STREET, SUITE 600
SAN DIEGO, CA 92101
PHONE: (619) 234-9411

CITY OF BARSTOW
220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311
PHONE: (760) 256-3531
FAX: (760) 256-1750

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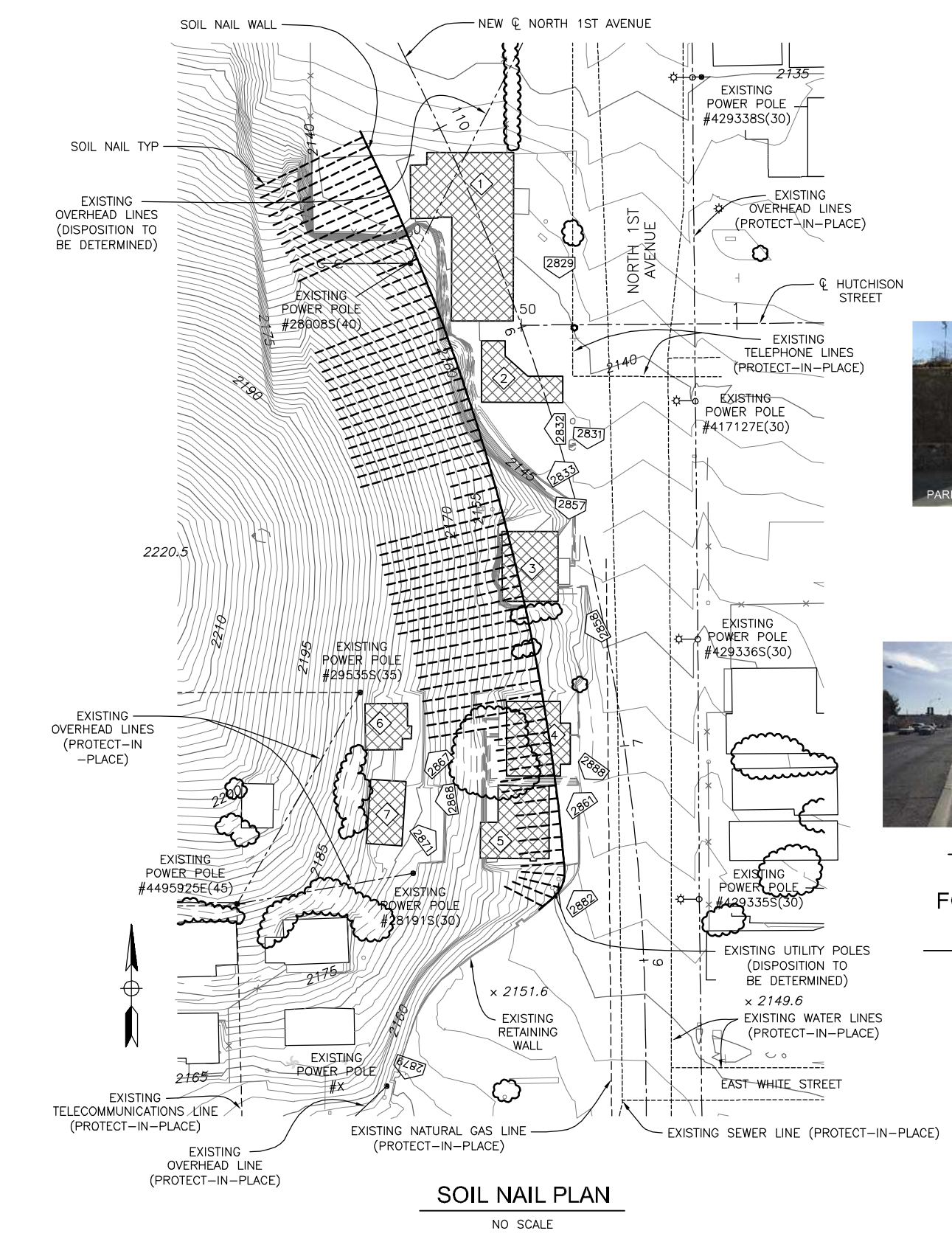
CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:

BRAD S. MERRELL
CONSULTING CITY ENGINEER

CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
RIGHT OF WAY DEMO

APPROVED BY: BRAD S. MERRELL	TITLE: CONSULTING CITY ENGINEER
DESIGNED: JV	R.C.E. NO. 49423
DRAWN: CD	DATE: 01/21/2019
SCALE: AS-SHOWN	AS BUILT:

SHEET 32 OF 32
PLAN NO. C-15



FOUNDATION DATA TABLE			
LOCATION	AREA (SQ. FT.)	OWNER	
1	2776	CONTRERA'S TOWING	
2	690	CONTRERA'S TOWING	
3	838	RESIDENCE	
4	948	RESIDENCE	
5	938	RESIDENCE	
6	419	RESIDENCE	
7	489	RESIDENCE	



PHOTO 2832 PHOTO 2833 PHOTO 2829
FOUNDATIONS 1 AND 2 (CONTRERA'S TOWING)
 NO SCALE

LEGEND:

- - - - - INDICATES LOCATION OF SOIL NAIL
- INDICATES FOUNDATION IDENTIFYING NUMBER FOR TABLE ABOVE
- INDICATES FOUNDATION UNAFFECTED DURING SOIL NAIL INSTALLATION
- INDICATES LOCATION AND DIRECTION AND IDENTIFYING NUMBER OF PHOTO SHOWN ON SUBSEQUENT SHEETS

NOTES:

1. X
- X
2. X
- X



PHOTO 2831
FOUNDATION 3 (RESIDENCE)
 NO SCALE

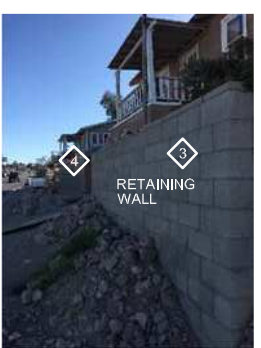


PHOTO 2857



PHOTO 2882



PHOTO 2888



PHOTO 2861

FOUNDATIONS 4 AND 5 (RESIDENCES)
 NO SCALE



PHOTO 2868



PHOTO 2867



PHOTO 2871

FOUNDATIONS 6 AND 7 (RESIDENCES)
 NO SCALE



THE CONTRACTOR IS REQUIRED BY GOVERNMENT CODE 4216 "CALIFORNIA ONE CALL LAW" TO CALL DIG ALERT AT LEAST TWO (2) WORKING DAYS BEFORE DIGGING. CONTRACTOR IS REQUIRED BY SAME CODE TO HAND-EXPOSE TO THE POINT OF NO CONFLICT 24" ON EITHER SIDE OF THE UNDERGROUND FACILITY SO YOU CAN DETERMINE ITS EXACT LOCATION BEFORE USING POWER EQUIPMENT.

No.	REVISION	DATE	BY

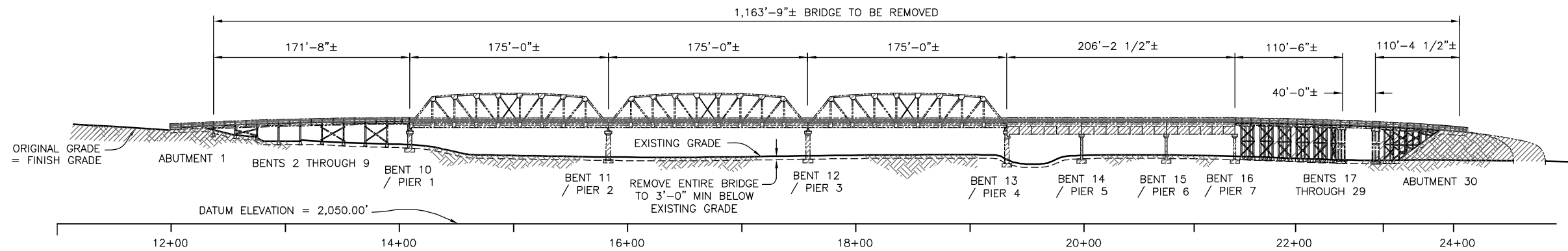
KLEINFELDER
 550 WEST "C" STREET, SUITE 1200 (619) 831-4600
 SAN DIEGO, CALIFORNIA 92101

CITY OF BARSTOW
 220 E. MOUNTAIN VIEW ST SUITE A PHONE: (760) 256-3531
 BARSTOW, CA 92311 FAX: (760) 256-1750

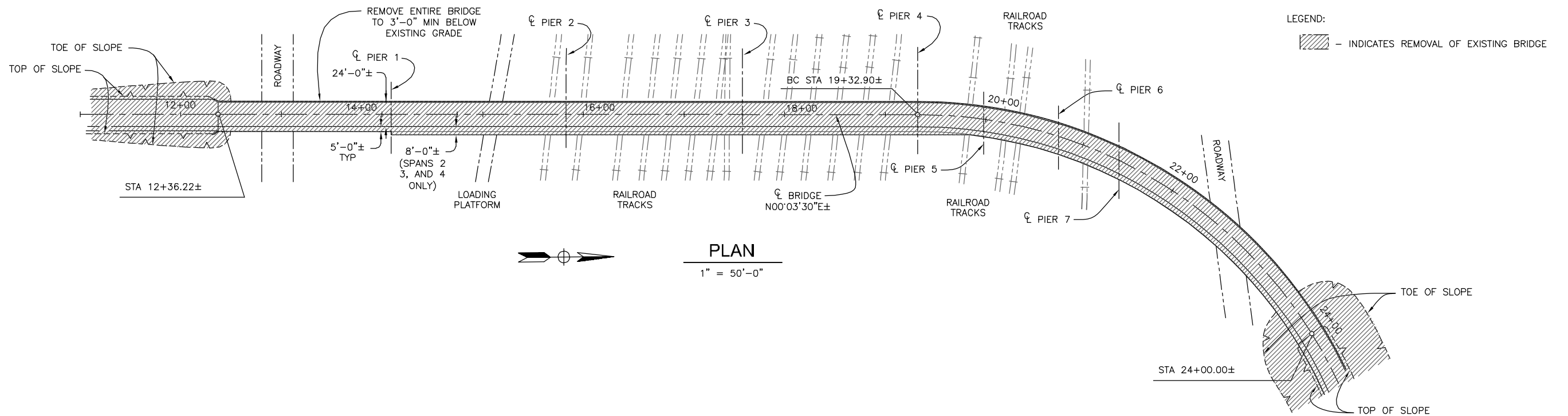
CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
 BRAD S. MERRELL
 CONSULTING CITY ENGINEER

PROJECT No. 5298-030
CITY OF BARSTOW
 NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
 STRUCTURE FOUNDATION REMOVAL PLAN

APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER
 DESIGNED: R.C.E. NO. 49423 SHEET 33 OF 146
 DRAWN: TB DATE: 02/20/19 PLAN NO. 1594
 SCALE: AS-NOTED AS BUILT:



ELEVATION
1" = 50'-0"



PLAN
1" = 50'-0"



Know what's below.
Call before you dig.

THE CONTRACTOR IS REQUIRED BY GOVERNMENT CODE 4216 "CALIFORNIA ONE CALL LAW" TO CALL DIG ALERT AT LEAST TWO (2) WORKING DAYS BEFORE DIGGING. CONTRACTOR IS REQUIRED BY SAME CODE TO HAND-EXPOSE TO THE POINT OF NO CONFLICT 24" ON EITHER SIDE OF THE UNDERGROUND FACILITY SO YOU CAN DETERMINE ITS EXACT LOCATION BEFORE USING POWER EQUIPMENT.

No.	REVISION	DATE	BY

KLEINFELDER
811 experts. Right Solutions.

550 WEST "C" STREET, SUITE 1200 (619) 831-4600
SAN DIEGO, CALIFORNIA 92101

DATE: _____

CITY OF BARSTOW

220 E. MOUNTAIN VIEW ST SUITE A PHONE: (760) 256-3531
BARSTOW, CA 92311 FAX: (760) 256-1750

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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:

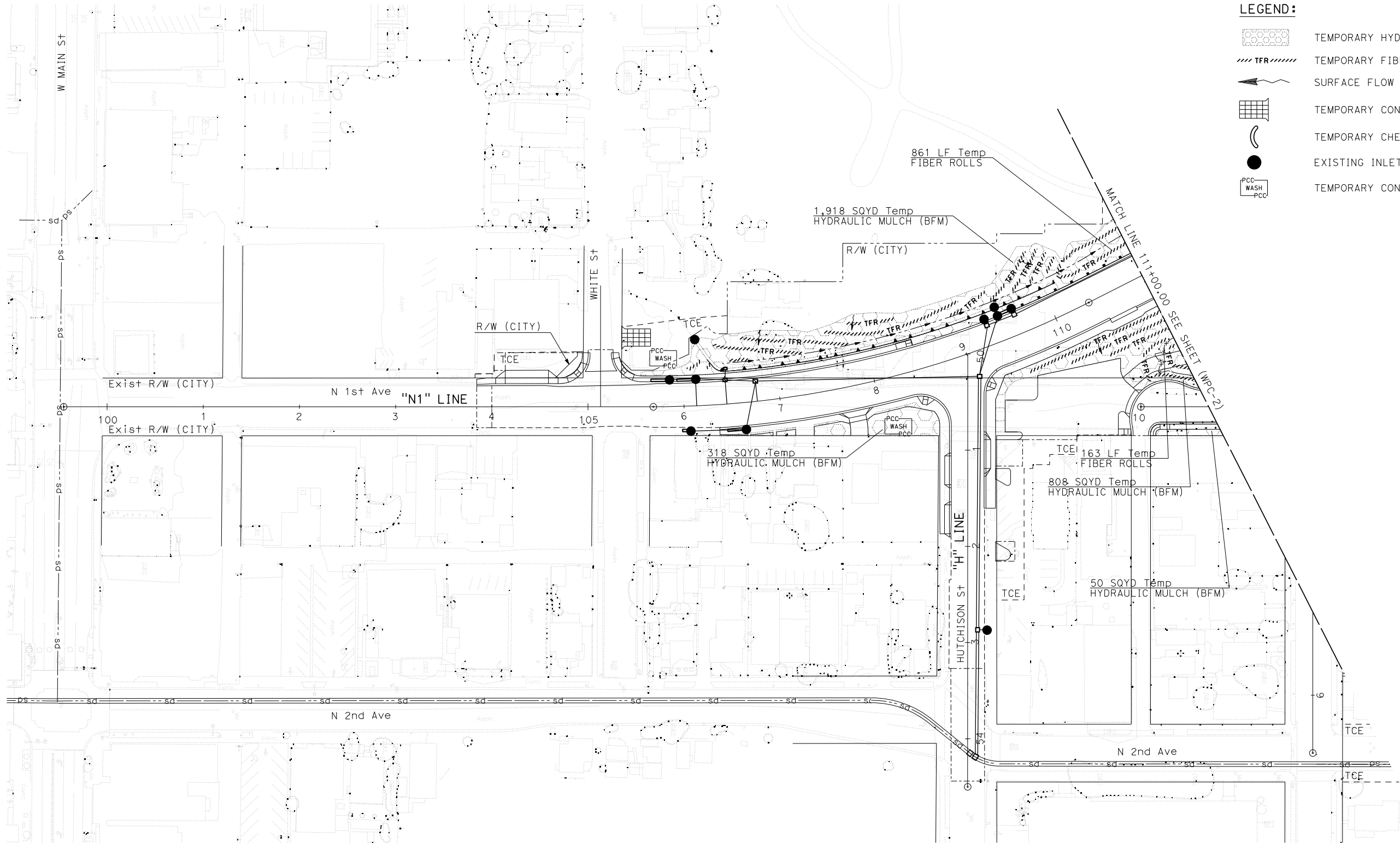
BRAD S. MERRELL DATE _____
CONSULTING CITY ENGINEER

PROJECT No. 5298-030

CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
BRIDGE DEMOLITION PLAN

APPROVED BY: BRAD S. MERRELL	TITLE: CONSULTING CITY ENGINEER
DESIGNED: _____	R.C.E. NO. 49423
DRAWN: TB	DATE: _____
SCALE: AS-NOTED	AS BUILT: _____

SHEET **34** OF 135
PLAN NO. 1594



- LEGEND:**
- TEMPORARY HYDRAULIC MULCH
 - TEMPORARY FIBER ROLL
 - SURFACE FLOW DIRECTION
 - TEMPORARY CONSTRUCTION ENTRANCE
 - TEMPORARY CHECK DAMS
 - EXISTING INLET PROTECTION
 - TEMPORARY CONCRETE WASHOUT FACILITY



PROJECT No. 5298-030

No.	REVISION	DATE	BY



Kimley»Horn

401 B STREET, SUITE 600
SAN DIEGO, CA 92101

PHONE: (619) 234-9411

CITY OF BARSTOW

220 E. MOUNTAIN VIEW ST SUITE A
BARSTOW, CA 92311

PHONE: (760) 256-3531
FAX: (760) 256-1750

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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:

BRAD S. MERRELL
CONSULTING CITY ENGINEER

DATE

CITY OF BARSTOW

NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
WATER POLLUTION CONTROL PLAN

APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER

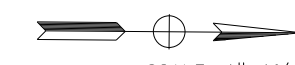
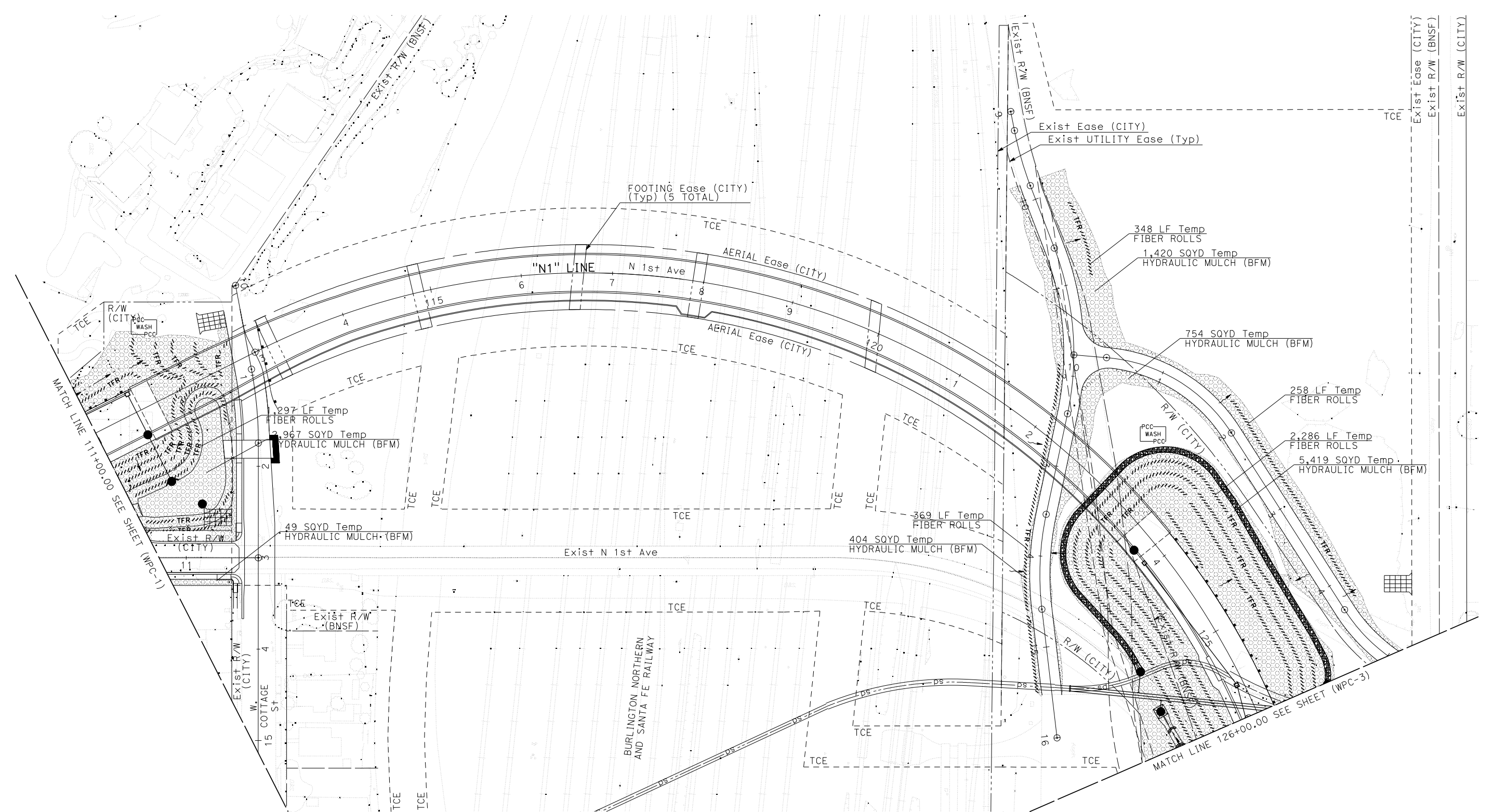
DESIGNED: JV R.C.E. NO. 49423 SHEET 35 OF 35

DRAWN: PS DATE: 01/21/2019 PLAN NO. WPC-1

SCALE: AS-SHOWN AS BUILT:

14-FEB-2019 K:\SML TRANS\955279201\Net_Overhead_PSE\Design\Sheets\Job-Temporary Water Pollution Control Plan\9500.dgn 1659 Corolline.DelleFave

100% INTERIM PLANS FEB 20, 2019 NOT FOR CONSTRUCTION



PROJECT No. 5298-030

No.	REVISION	DATE	BY



Kimley»Horn
 401 B STREET, SUITE 600 SAN DIEGO, CA 92101
 PHONE: (619) 234-9411

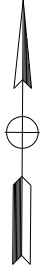
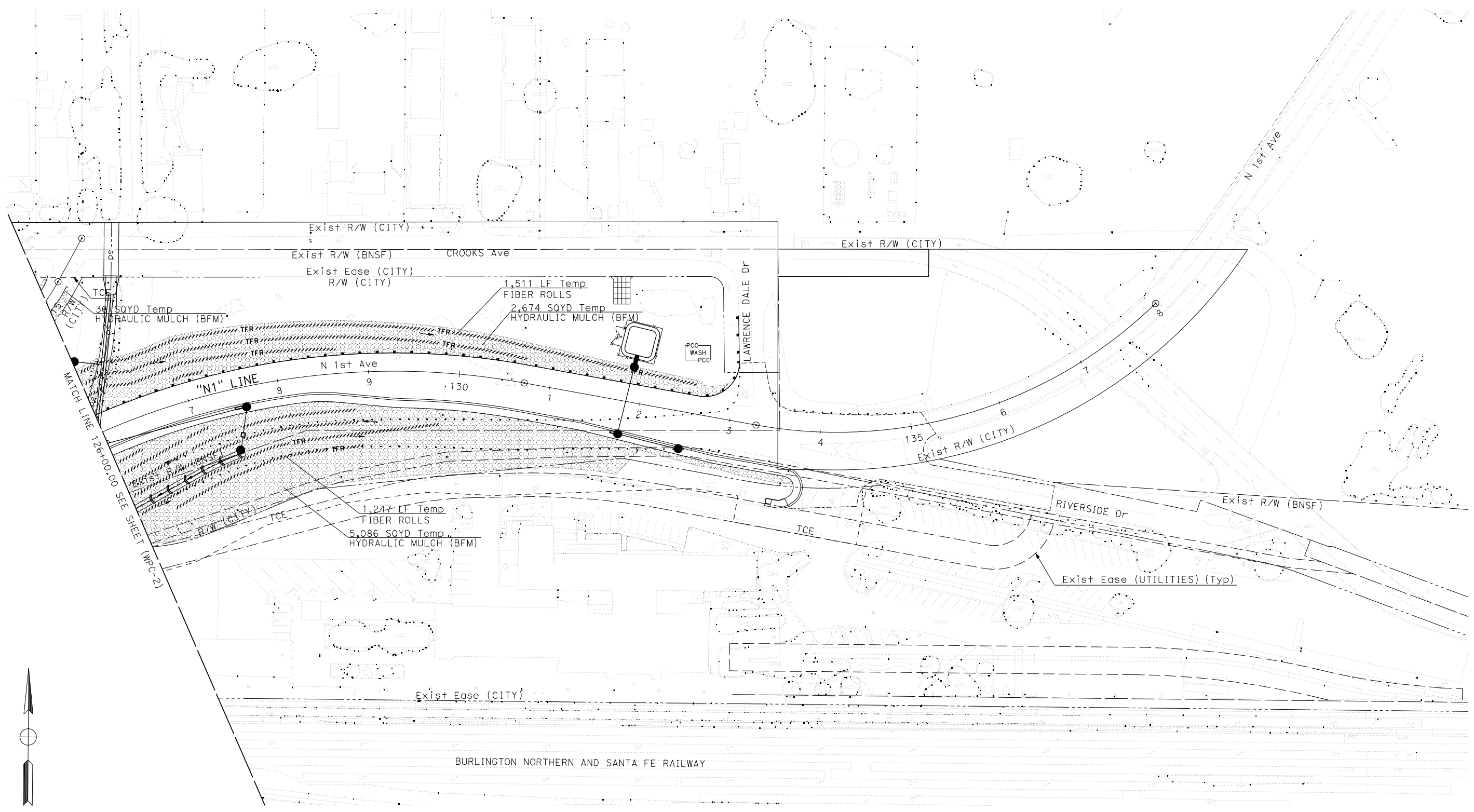
CITY OF BARSTOW
 220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311
 PHONE: (760) 256-3531 FAX: (760) 256-1750

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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
 BRAD S. MERRELL
 CONSULTING CITY ENGINEER

CITY OF BARSTOW
 NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
 WATER POLLUTION CONTROL PLAN

APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER
 DESIGNED: JV R.C.E. NO. 49423 SHEET 36 OF
 DRAWN: PS DATE: 01/21/2019 PLAN NO.
 SCALE: AS-SHOWN AS BUILT: WPC-2



SCALE: 1"=40'

PROJECT No. 5298-030

No.	REVISION	DATE	BY



Kimley»Horn
 401 B STREET, SUITE 600
 SAN DIEGO, CA 92101
 PHONE: (619) 234-9411

CITY OF BARSTOW
 220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311
 PHONE: (760) 256-3531
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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:

BRAD S. MERRELL
 CONSULTING CITY ENGINEER

DATE

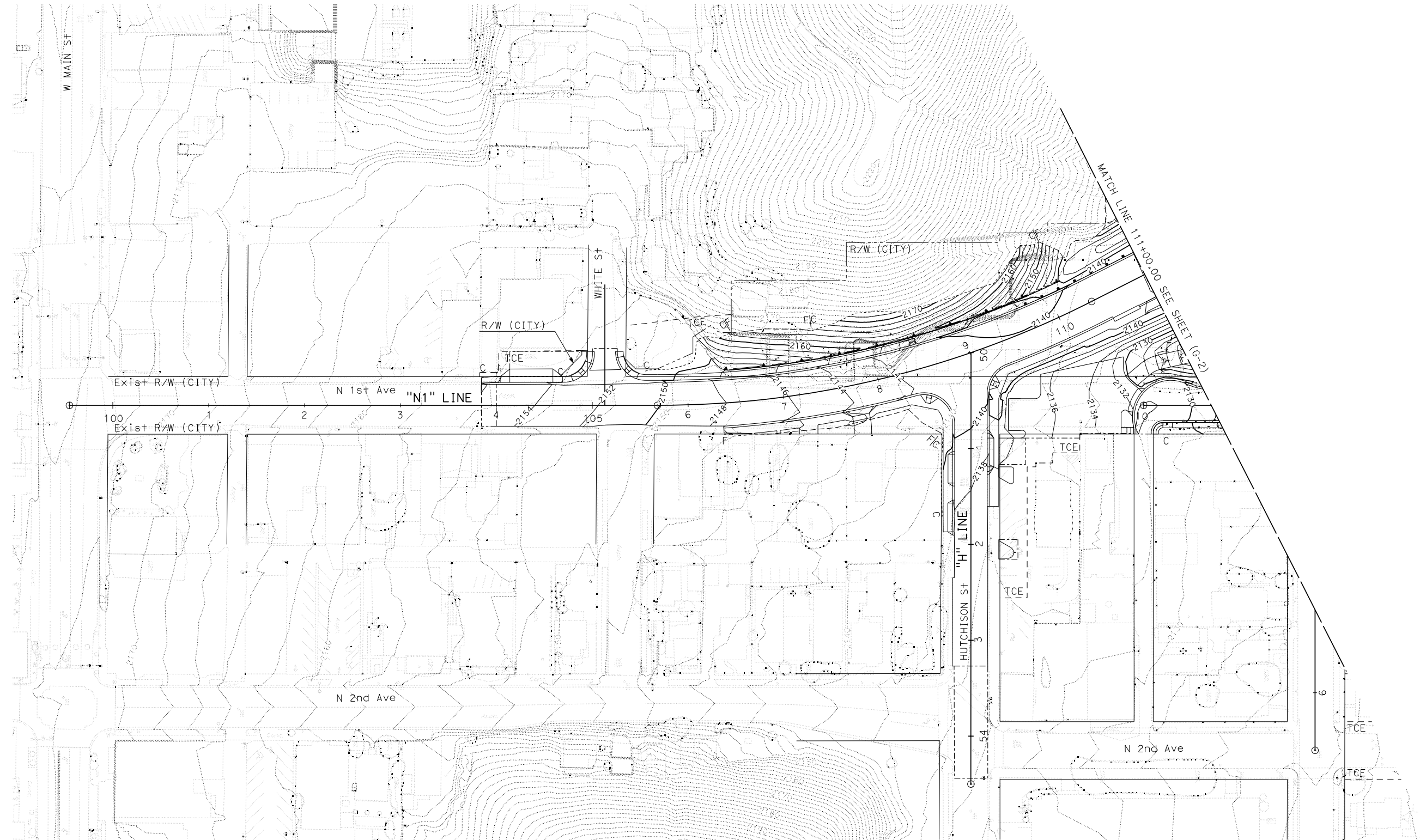
CITY OF BARSTOW
 NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
 WATER POLLUTION CONTROL PLAN

APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER

DESIGNED: JV R.C.E. NO. 49423 SHEET 37 OF

DRAWN: PS DATE: 01/21/2019 PLAN NO.

SCALE: AS-SHOWN AS BUILT: WPC-3



SCALE: 1"=40'
PROJECT No. 5298-030

THIS PLAN ACCURATE FOR CONTOUR GRADING WORK ONLY

No.	REVISION	DATE	BY



Kimley»Horn
401 B STREET, SUITE 600
SAN DIEGO, CA 92101
PHONE: (619) 234-9411

CITY OF BARSTOW
220 E. MOUNTAIN VIEW ST SUITE A
BARSTOW, CA 92311
PHONE: (760) 256-3531
FAX: (760) 256-1750

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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
BRAD S. MERRELL
CONSULTING CITY ENGINEER

CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
CONTOUR GRADING

APPROVED BY: BRAD S. MERRELL
DESIGNED: JV
DRAWN: CD
SCALE: AS-SHOWN

TITLE: CONSULTING CITY ENGINEER
R.C.E. NO. 49423
DATE: 01/21/2019
AS BUILT:

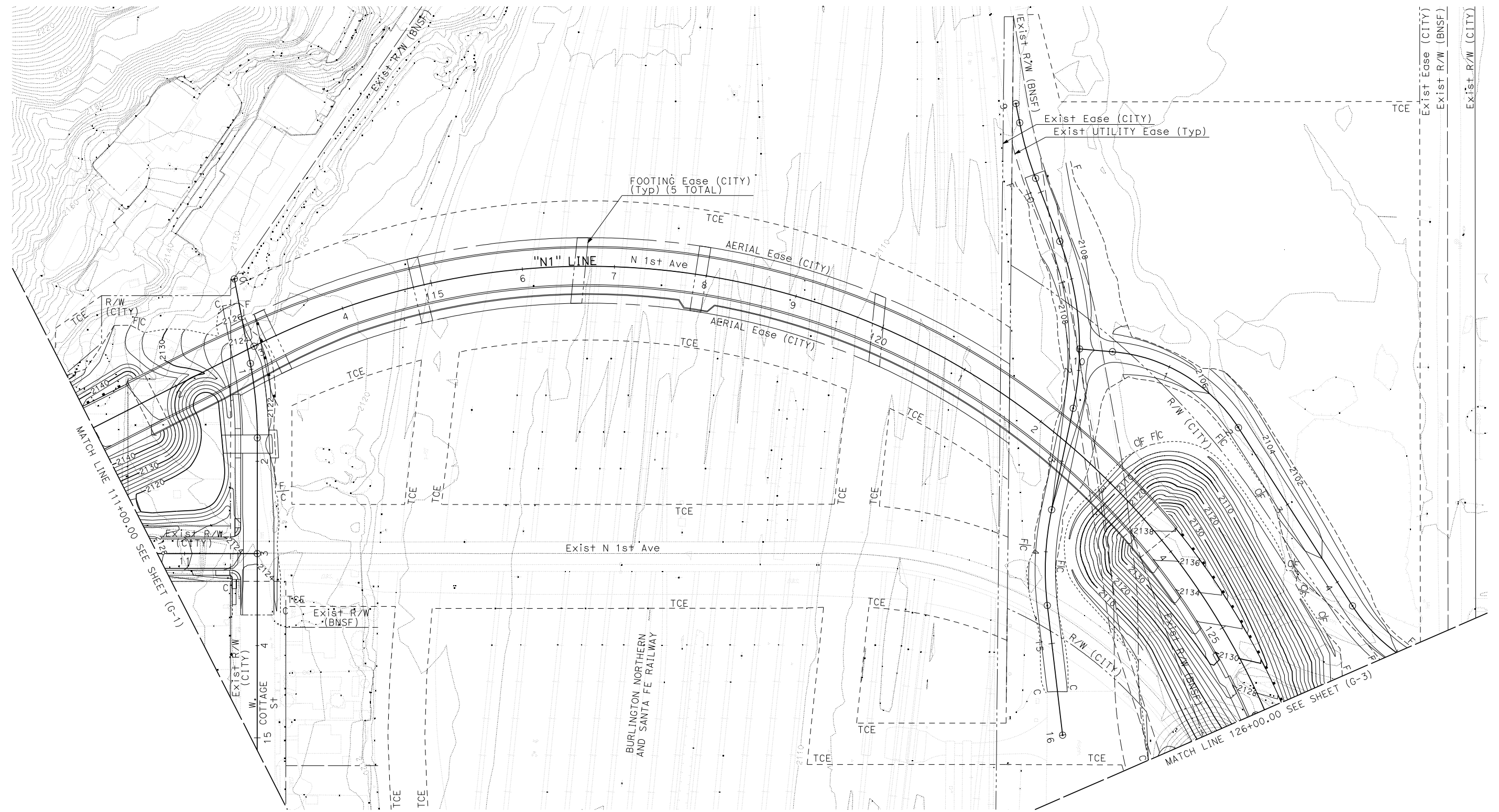
SHEET 38 OF
PLAN NO. G-1

14-FEB-2019 K:\SMD_TRAN\985279201\Net_Overhead_PSE\Design\Sheets\No.Conour_Grading\hd00.dgn 1659 Cor\line\De\the\feen

100% INTERIM PLANS

FEB 20, 2019

NOT FOR CONSTRUCTION



SCALE: 1"=40'

PROJECT No. 5298-030

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No.	REVISION	DATE	BY



Kimley»Horn

401 B STREET, SUITE 600
SAN DIEGO, CA 92101
PHONE: (619) 234-9411

CITY OF BARSTOW
220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311
PHONE: (760) 256-3531
FAX: (760) 256-1750

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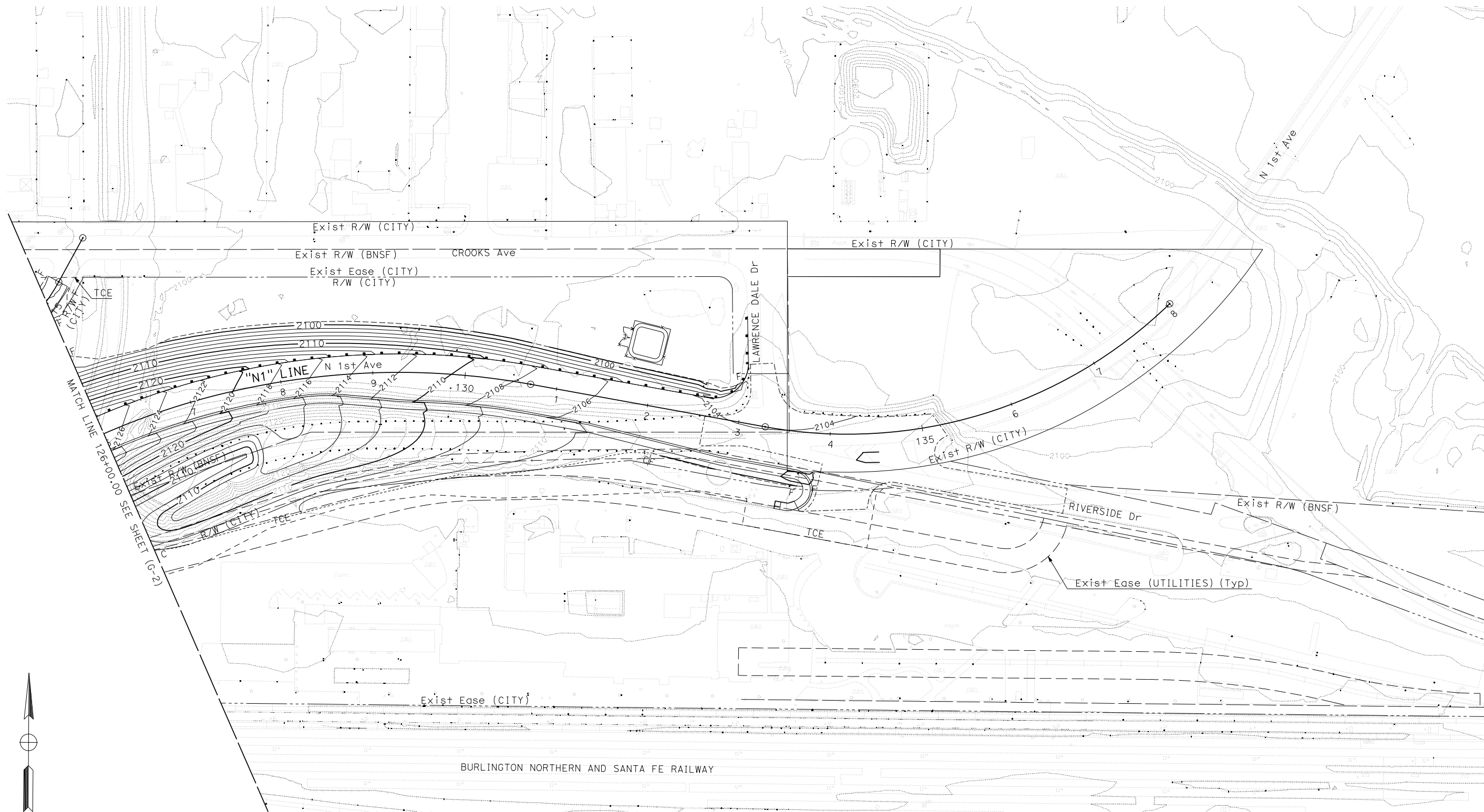
CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:

BRAD S. MERRELL
CONSULTING CITY ENGINEER

CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
CONTOUR GRADING

APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER
DESIGNED: JV R.C.E. NO. 49423 SHEET 39 OF
DRAWN: CD DATE: 01/21/2019 PLAN NO.
SCALE: AS-SHOWN AS BUILT: G-2

100% INTERIM PLANS FEB 20, 2019 NOT FOR CONSTRUCTION
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 14-FEB-2019 16:59 Corrine.Dethlefsen



THIS PLAN ACCURATE FOR CONTOUR GRADING WORK ONLY

SCALE: 1"=40'

PROJECT No. 5298-030

No.	REVISION	DATE	BY



Kimley»Horn

401 B STREET, SUITE 600 SAN DIEGO, CA 92101 PHONE: (619) 234-9411

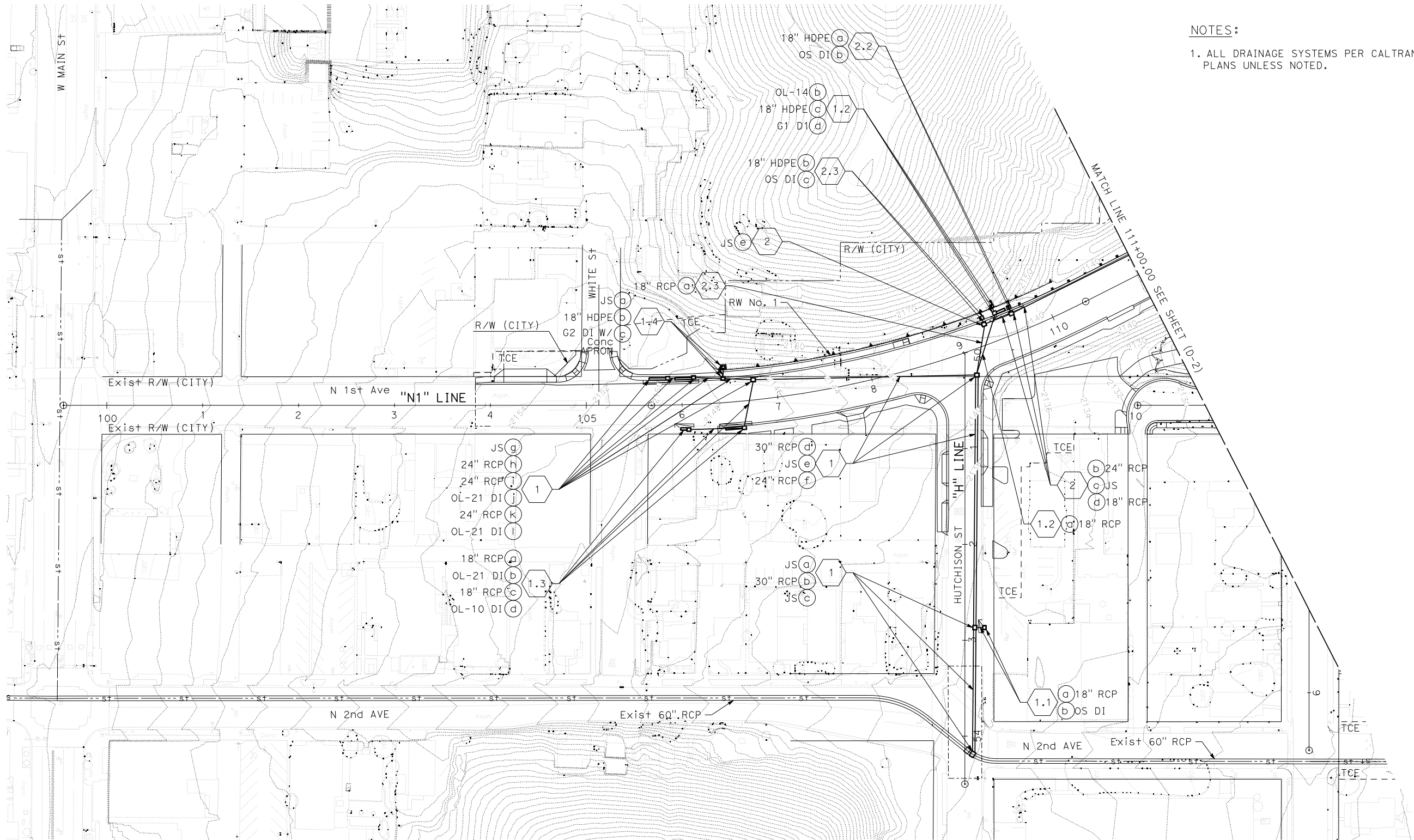
CITY OF BARSTOW
 220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311
 PHONE: (760) 256-3531 FAX: (760) 256-1750

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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
 BRAD S. MERRELL
 CONSULTING CITY ENGINEER

CITY OF BARSTOW
 NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
 CONTOUR GRADING

APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER
 DESIGNED: JV R.C.E. NO. 49423 SHEET 40 OF
 DRAWN: CD DATE: 01/21/2019 PLAN NO.
 SCALE: AS-SHOWN AS BUILT: G-3



NOTES:
 1. ALL DRAINAGE SYSTEMS PER CALTRANS STANDARD PLANS UNLESS NOTED.



SCALE: 1"=40'

PROJECT No. 5298-030

THIS PLAN ACCURATE FOR DRAINAGE WORK ONLY

No.	REVISION	DATE	BY



Kimley»Horn

401 B STREET, SUITE 600
 SAN DIEGO, CA 92101
 PHONE: (619) 234-9411

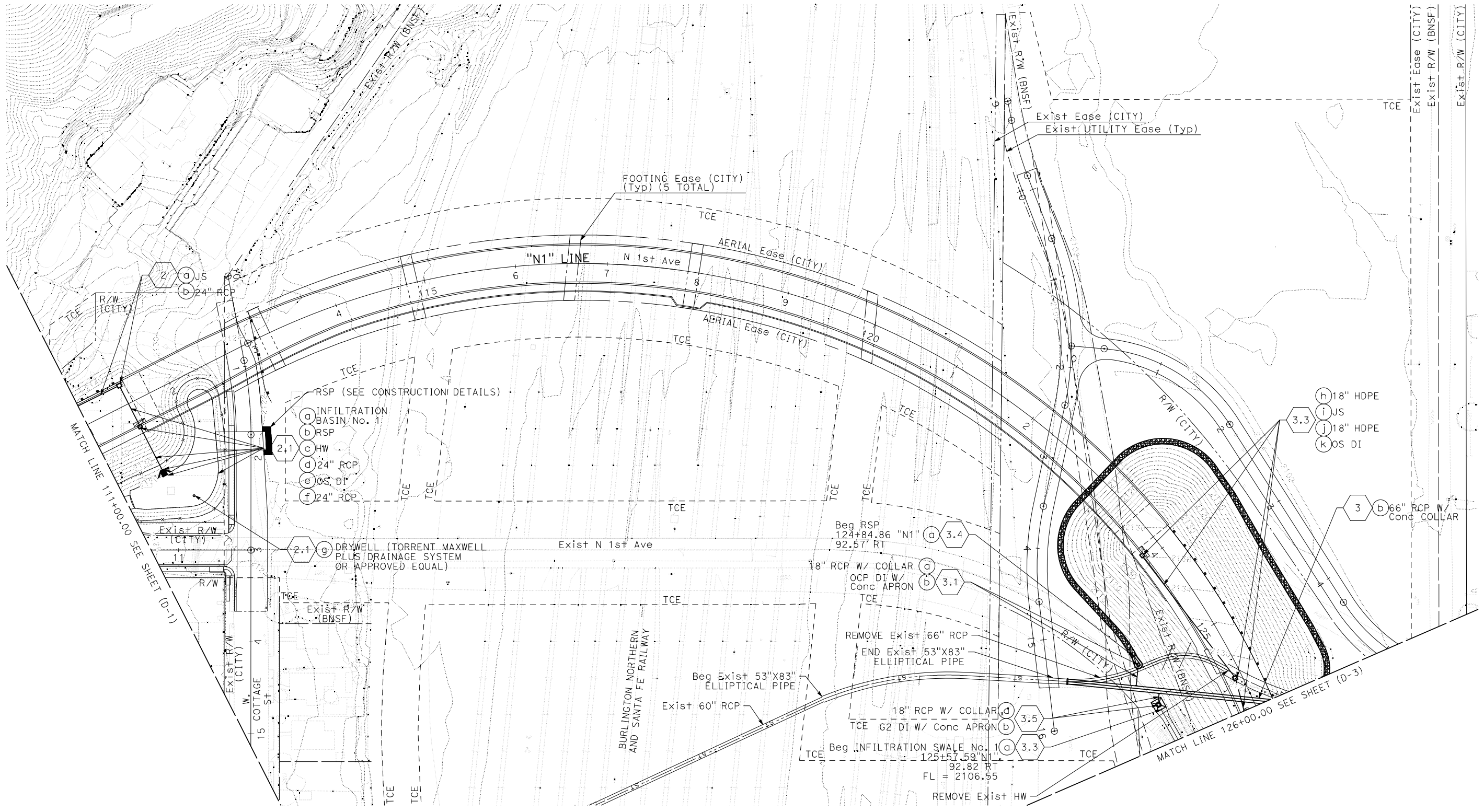
CITY OF BARSTOW
 220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311
 PHONE: (760) 256-3531
 FAX: (760) 256-1750

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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
 BRAD S. MERRELL
 CONSULTING CITY ENGINEER

CITY OF BARSTOW			
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD DRAINAGE PLAN			
APPROVED BY: BRAD S. MERRELL	TITLE: CONSULTING CITY ENGINEER		
DESIGNED: SM	R.C.E. NO. 49423	SHEET 41 OF	
DRAWN: AL	DATE: 01/21/2019	PLAN NO. D-1	
SCALE: AS-SHOWN	AS BUILT:		

100% INTERIM PLANS FEB 20, 2019 NOT FOR CONSTRUCTION
 0947
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 15-FEB-2019



THIS PLAN ACCURATE FOR DRAINAGE WORK ONLY



PROJECT No. 5298-030

No.	REVISION	DATE	BY



Kimley»Horn

401 B STREET, SUITE 600
SAN DIEGO, CA 92101
PHONE: (619) 234-9411



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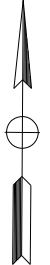
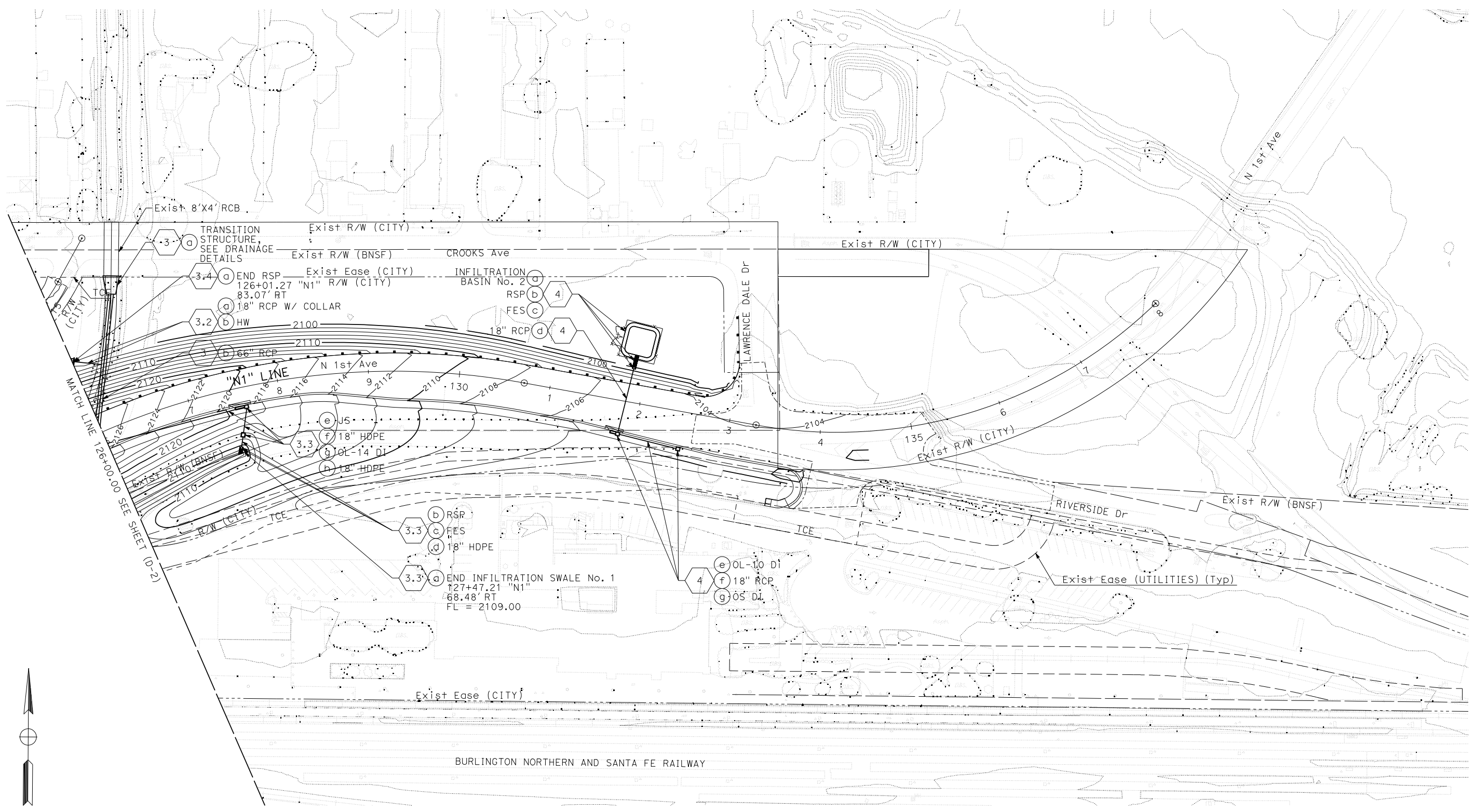
CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:

BRAD S. MERRELL
CONSULTING CITY ENGINEER

CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
DRAINAGE PLAN

APPROVED BY: BRAD S. MERRELL	TITLE: CONSULTING CITY ENGINEER
DESIGNED: SM	R.C.E. NO. 49423
DRAWN: AL	DATE: 01/21/2019
SCALE: AS-SHOWN	AS BUILT:
SHEET 42 OF 42	
PLAN NO. D-2	

100% INTERIM PLANS FEB 20, 2019 NOT FOR CONSTRUCTION



THIS PLAN ACCURATE FOR DRAINAGE WORK ONLY

SCALE: 1"=40'

PROJECT No. 5298-030

No.	REVISION	DATE	BY



Kimley»Horn

401 B STREET, SUITE 600 SAN DIEGO, CA 92101 PHONE: (619) 234-9411

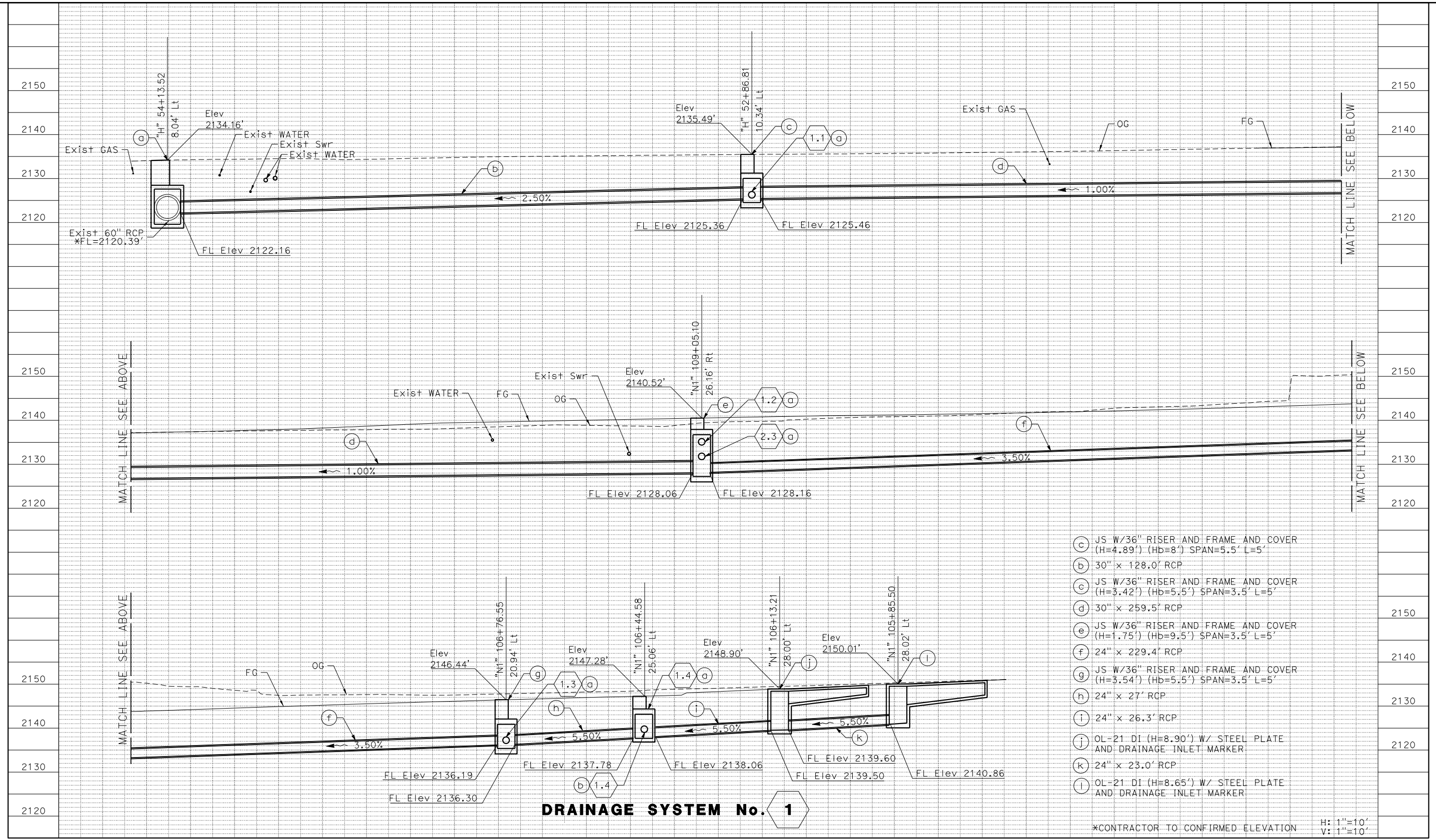
CITY OF BARSTOW
 220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311
 PHONE: (760) 256-3531 FAX: (760) 256-1750

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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
 BRAD S. MERRELL
 CONSULTING CITY ENGINEER

CITY OF BARSTOW
 NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD DRAINAGE PLAN

APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER
 DESIGNED: SM R.C.E. NO. 49423 SHEET 43 OF
 DRAWN: AL DATE: 01/21/2019 PLAN NO.
 SCALE: AS-SHOWN AS BUILT: D-3



- (a) JS W/36" RISER AND FRAME AND COVER (H=4.89') (Hb=8') SPAN=5.5' L=5'
- (b) 30" x 128.0' RCP
- (c) JS W/36" RISER AND FRAME AND COVER (H=3.42') (Hb=5.5') SPAN=3.5' L=5'
- (d) 30" x 259.5' RCP
- (e) JS W/36" RISER AND FRAME AND COVER (H=1.75') (Hb=9.5') SPAN=3.5' L=5'
- (f) 24" x 229.4' RCP
- (g) JS W/36" RISER AND FRAME AND COVER (H=3.54') (Hb=5.5') SPAN=3.5' L=5'
- (h) 24" x 27' RCP
- (i) 24" x 26.3' RCP
- (j) OL-21 DI (H=8.90') W/ STEEL PLATE AND DRAINAGE INLET MARKER
- (k) 24" x 23.0' RCP
- (l) OL-21 DI (H=8.65') W/ STEEL PLATE AND DRAINAGE INLET MARKER

*CONTRACTOR TO CONFIRMED ELEVATION
 H: 1"=10'
 V: 1"=10'

THIS PLAN ACCURATE FOR DRAINAGE WORK ONLY

No.	REVISION	DATE	BY



Kimley»Horn
 401 B STREET, SUITE 600
 SAN DIEGO, CA 92101
 PHONE: (619) 234-9411

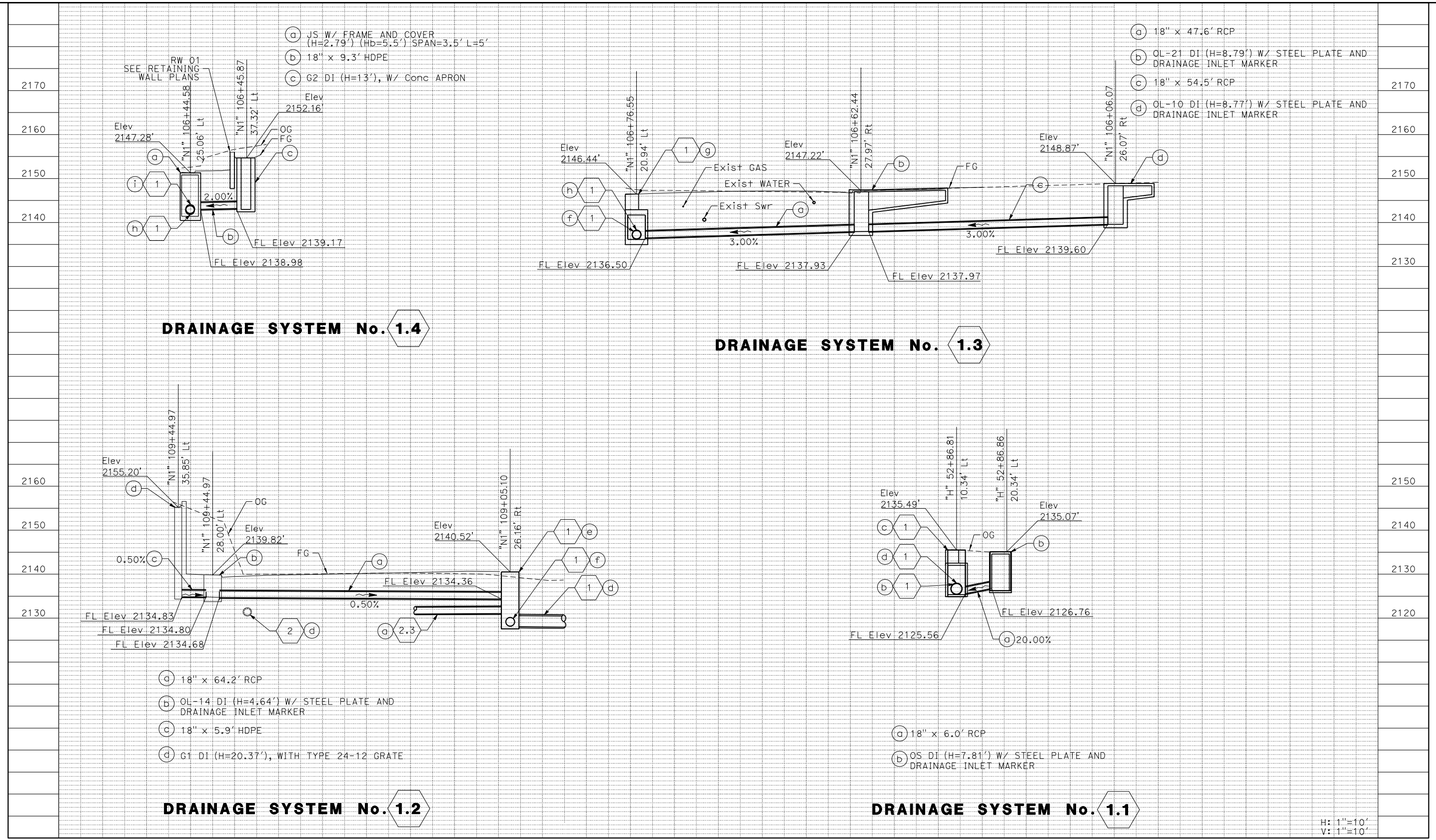
CITY OF BARSTOW
 220 E. MOUNTAIN VIEW ST SUITE A
 BARSTOW, CA 92311
 PHONE: (760) 256-3531
 FAX: (760) 256-1750

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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
 BRAD S. MERRELL
 CONSULTING CITY ENGINEER

PROJECT No. 5298-030
CITY OF BARSTOW
 NORTH 1ST AVENUE OVER THE BNSF RAILROAD
 DRAINAGE PROFILE

APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER
 DESIGNED: SM R.C.E. NO. 49423 SHEET 44 OF
 DRAWN: AL DATE: 01/21/2019 PLAN NO.
 SCALE: AS-SHOWN AS BUILT: DP-1



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No.	REVISION	DATE	BY



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 401 B STREET, SUITE 600 SAN DIEGO, CA 92101
 PHONE: (619) 234-9411

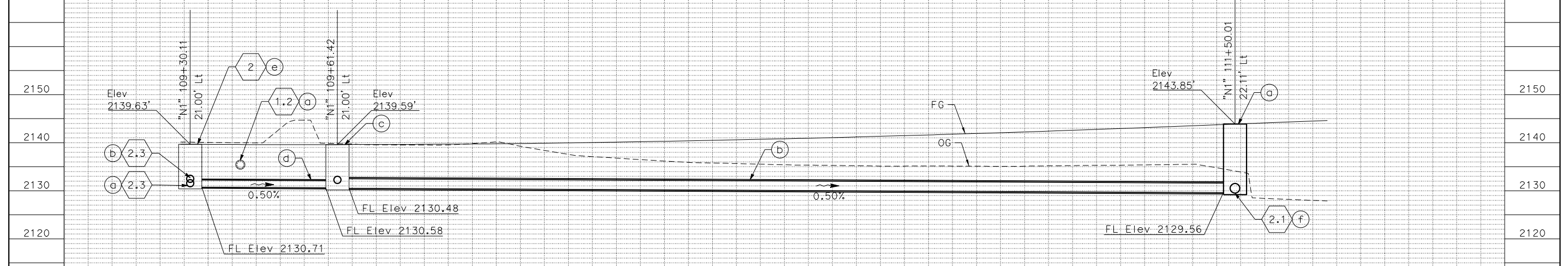
CITY OF BARSTOW
 220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311
 PHONE: (760) 256-3531 FAX: (760) 256-1750

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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
 BRAD S. MERRELL
 CONSULTING CITY ENGINEER

PROJECT No. 5298-030
CITY OF BARSTOW
 NORTH 1ST AVENUE OVER THE BNSF RAILROAD DRAINAGE PROFILE

APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER
 DESIGNED: SM R.C.E. NO. 49423 SHEET 45 OF
 DRAWN: AL DATE: 01/21/2019 PLAN NO.
 SCALE: AS-SHOWN AS BUILT: DP-2



- (a) JS W/ 36" RISER AND FRAME COVER (H=7.64') (Hb=5.5') SPAN=3.5' L=5'
- (b) 24" X 184.5' RCP
- (c) JS W/ 36" RISER AND FRAME COVER (H=2.4') (Hb=5.5') SPAN=3.5' L=5'
- (d) 18" X 25.8' RCP
- (e) JS W/ 36" RISER AND FRAME COVER (H=2.21') (Hb=5.5') SPAN=3.5' L=5'

DRAINAGE SYSTEM No. 2

H: 1"=10'
V: 1"=10'

THIS PLAN ACCURATE FOR DRAINAGE WORK ONLY

No.	REVISION	DATE	BY



Kimley»Horn
 401 B STREET, SUITE 600 SAN DIEGO, CA 92101
 PHONE: (619) 234-9411

CITY OF BARSTOW
 220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311
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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:

BRAD S. MERRELL
 CONSULTING CITY ENGINEER

DATE

PROJECT No. 5298-030

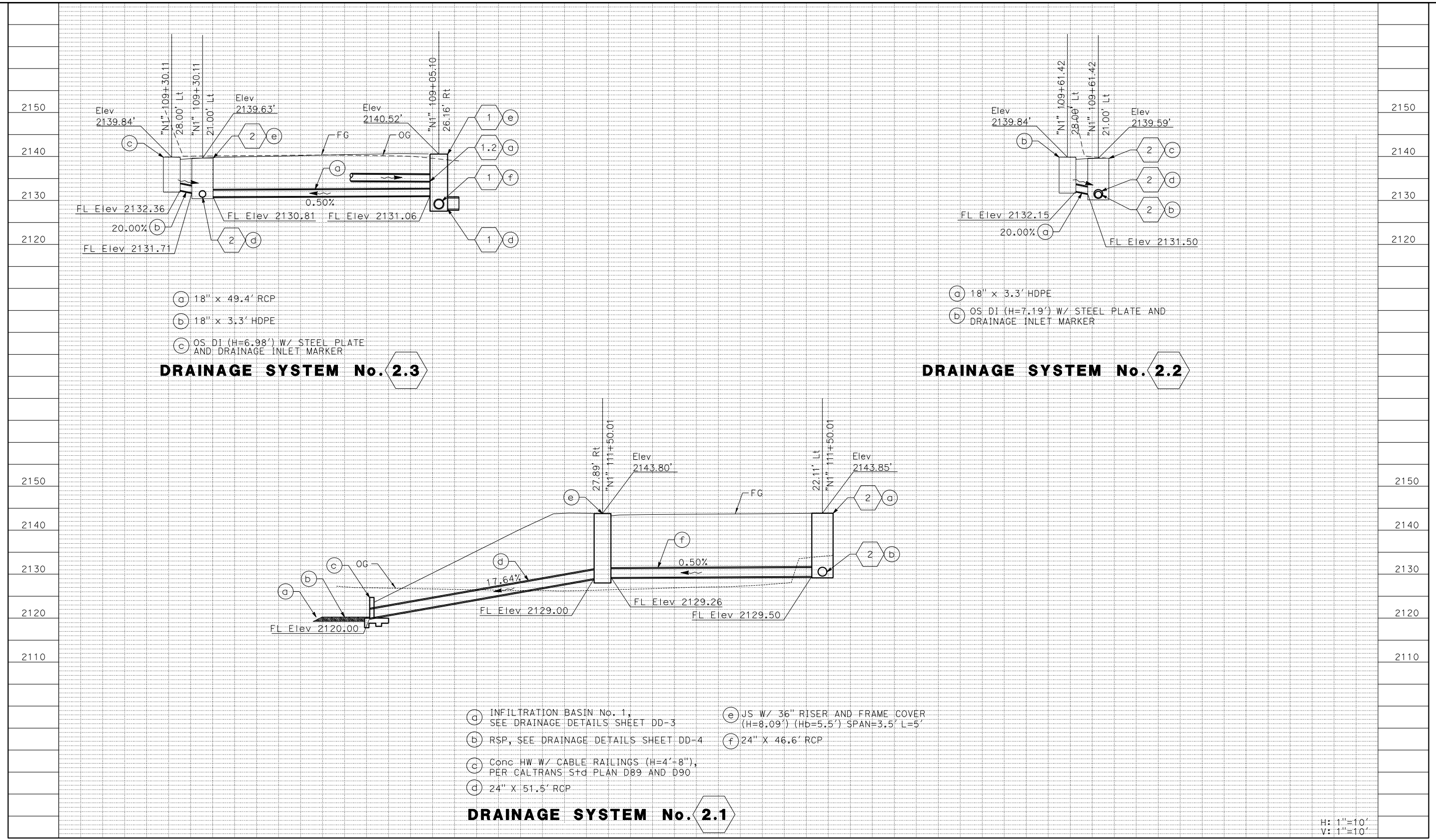
CITY OF BARSTOW
 NORTH 1ST AVENUE OVER THE BNSF RAILROAD DRAINAGE PROFILE

APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER

DESIGNED: SM R.C.E. NO. 49423 SHEET 46 OF

DRAWN: AL DATE: 01/21/2019 PLAN NO.

SCALE: AS-SHOWN AS BUILT: DP-3



- DRAINAGE SYSTEM No. 2.3**
- (a) 18" x 49.4' RCP
 - (b) 18" x 3.3' HDPE
 - (c) OS DI (H=6.98') W/ STEEL PLATE AND DRAINAGE INLET MARKER

- DRAINAGE SYSTEM No. 2.2**
- (a) 18" x 3.3' HDPE
 - (b) OS DI (H=7.19') W/ STEEL PLATE AND DRAINAGE INLET MARKER

- DRAINAGE SYSTEM No. 2.1**
- (a) INFILTRATION BASIN No. 1, SEE DRAINAGE DETAILS SHEET DD-3
 - (b) RSP, SEE DRAINAGE DETAILS SHEET DD-4
 - (c) Conc HW W/ CABLE RAILINGS (H=4'-8"), PER CALTRANS Std PLAN D89 AND D90
 - (d) 24" X 51.5' RCP
 - (e) JS W/ 36" RISER AND FRAME COVER (H=8.09') (Hb=5.5') SPAN=3.5' L=5'
 - (f) 24" X 46.6' RCP

H: 1"=10'
V: 1"=10'

THIS PLAN ACCURATE FOR DRAINAGE WORK ONLY

No.	REVISION	DATE	BY



Kimley»Horn

401 B STREET, SUITE 600 PHOENIX, ARIZONA 85012
SAN DIEGO, CALIFORNIA 92101 PHONE: (619) 234-9411

CITY OF BARSTOW

220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311 PHONE: (760) 256-3531 FAX: (760) 256-1750

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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:

BRAD S. MERRELL DATE _____
CONSULTING CITY ENGINEER

PROJECT No. 5298-030

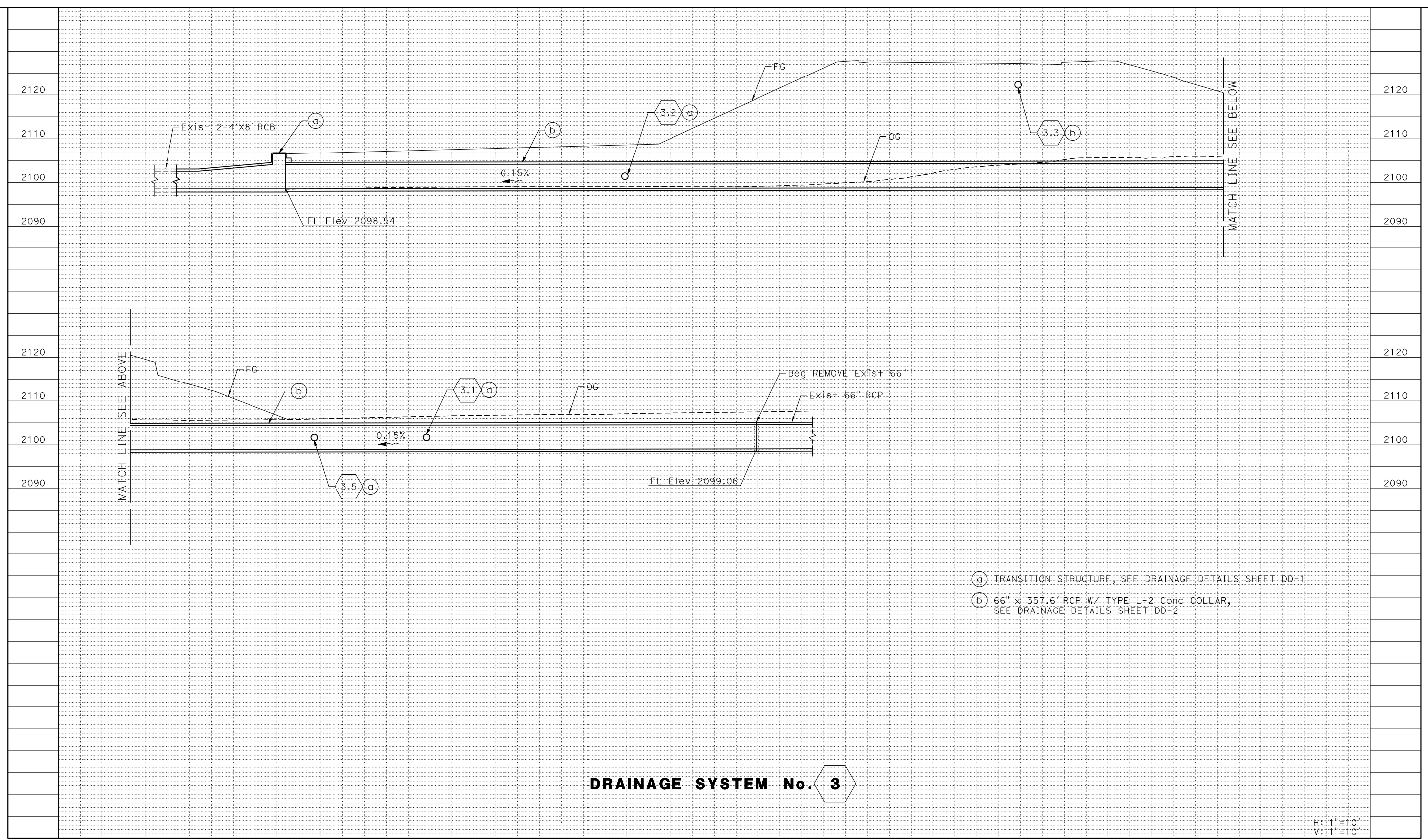
CITY OF BARSTOW
NORTH 1ST AVENUE OVER THE BNSF RAILROAD DRAINAGE PROFILE

APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER

DESIGNED: SM R.C.E. NO. 49423 SHEET 47 OF _____

DRAWN: AL DATE: 01/21/2019 PLAN NO. _____

SCALE: AS-SHOWN AS BUILT: _____ DP-4



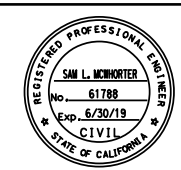
- (a) TRANSITION STRUCTURE, SEE DRAINAGE DETAILS SHEET DD-1
- (b) 66" x 357.6' RCP W/ TYPE L-2 Conc COLLAR, SEE DRAINAGE DETAILS SHEET DD-2

DRAINAGE SYSTEM No. 3

H: 1"=10'
V: 1"=10'

THIS PLAN ACCURATE FOR DRAINAGE WORK ONLY

No.	REVISION	DATE BY



Kimley»Horn
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 PHONE: (619) 234-9411

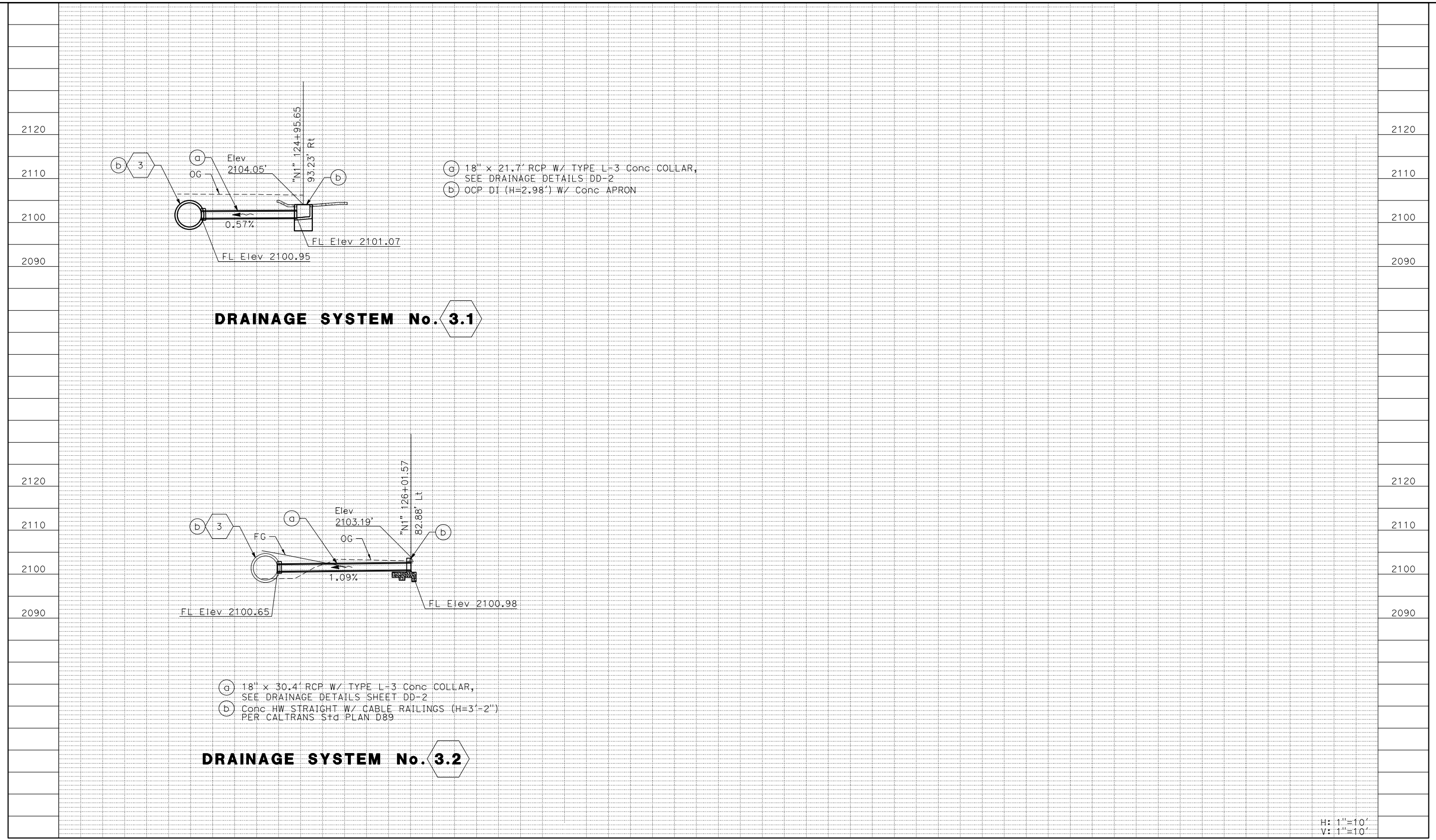
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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
 BRAD S. MERRELL
 CONSULTING CITY ENGINEER

PROJECT No. 5298-030
CITY OF BARSTOW
 NORTH 1ST AVENUE OVER THE BNSF RAILROAD DRAINAGE PROFILE

APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER
 DESIGNED: SM R.C.E. NO. 49423 SHEET 48 OF
 DRAWN: AL DATE: 01/21/2019 PLAN NO.
 SCALE: AS-SHOWN AS BUILT: DP-5



H: 1"=10'
V: 1"=10'

THIS PLAN ACCURATE FOR DRAINAGE WORK ONLY

No.	REVISION	DATE	BY



Kimley»Horn

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SAN DIEGO, CA 92101

PHONE: (619) 234-9411

CITY OF BARSTOW

220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311

PHONE: (760) 256-3531
FAX: (760) 256-1750

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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:

BRAD S. MERRELL
CONSULTING CITY ENGINEER

DATE

PROJECT No. 5298-030

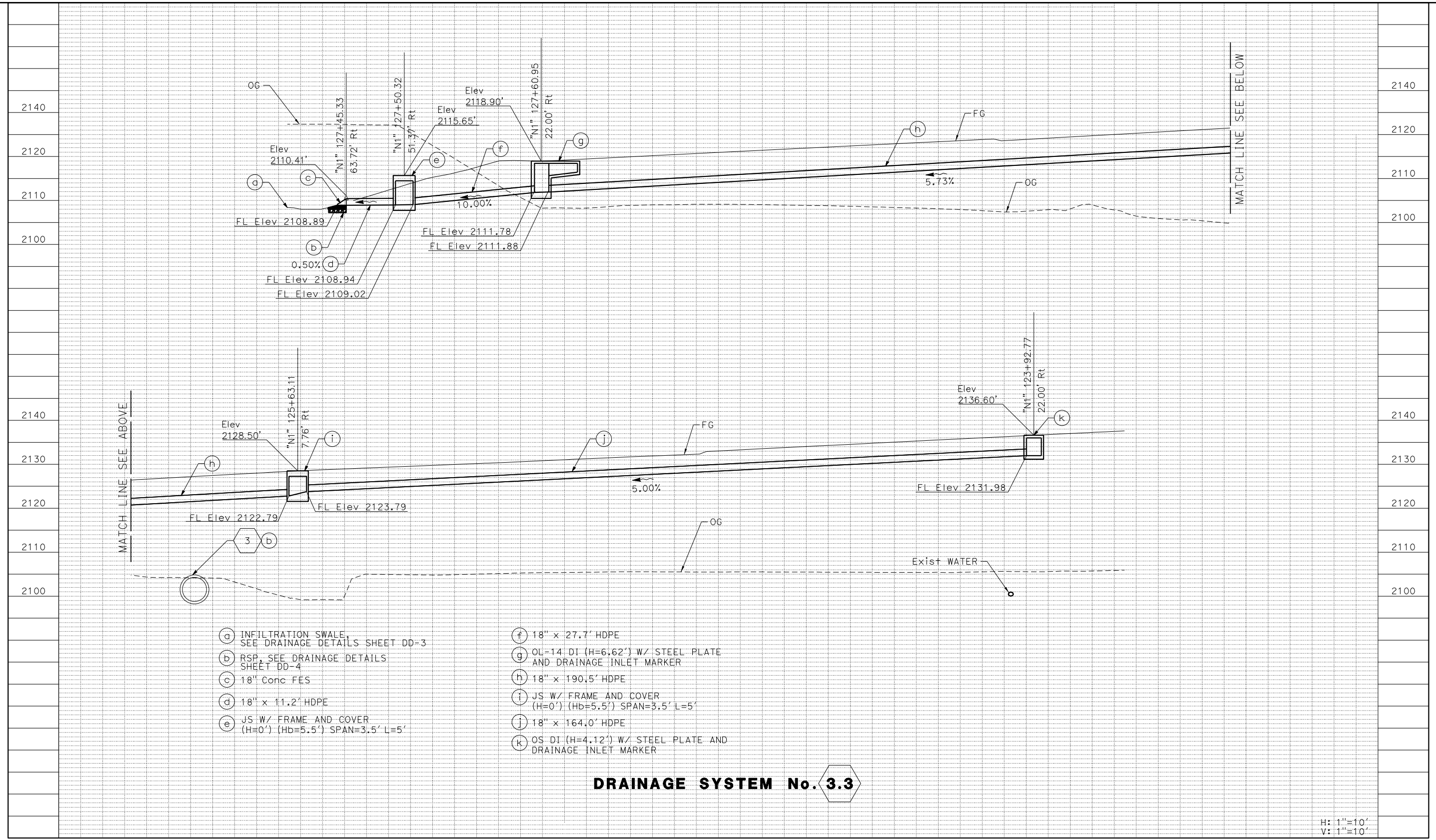
CITY OF BARSTOW
NORTH 1ST AVENUE OVER THE BNSF RAILROAD
DRAINAGE PROFILE

APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER

DESIGNED: SM R.C.E. NO. 49423 SHEET 49 OF

DRAWN: AL DATE: 01/21/2019 PLAN NO.

SCALE: AS-SHOWN AS BUILT: DP-6



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No.	REVISION	DATE	BY



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CITY OF BARSTOW

220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311 PHONE: (760) 256-3531 FAX: (760) 256-1750

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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:

BRAD S. MERRELL CONSULTING CITY ENGINEER DATE

PROJECT No. 5298-030

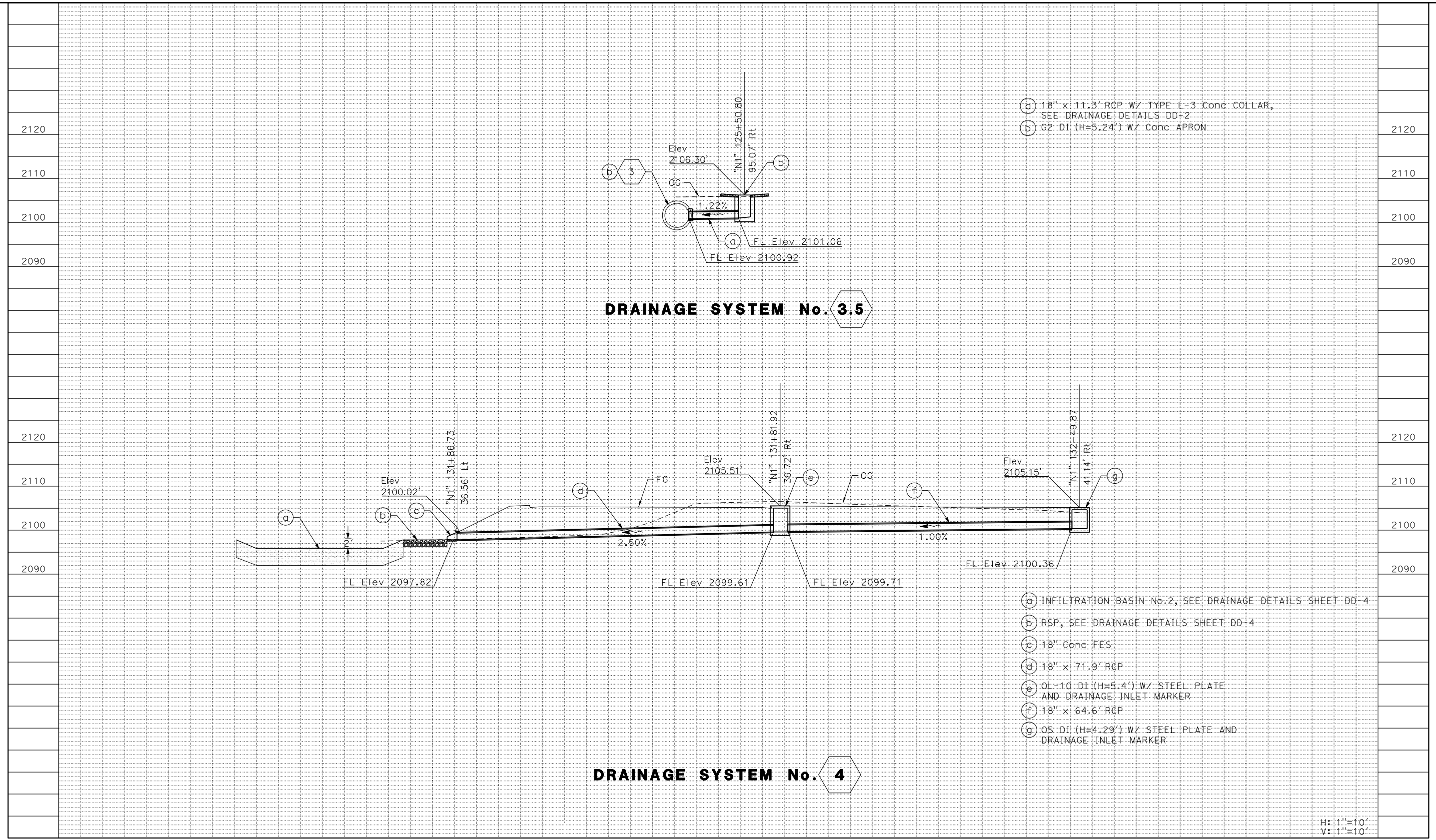
CITY OF BARSTOW
NORTH 1ST AVENUE OVER THE BNSF RAILROAD DRAINAGE PROFILE

APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER

DESIGNED: SM R.C.E. NO. 49423 SHEET 50 OF

DRAWN: AL DATE: 01/21/2019 PLAN NO. DP-7

SCALE: AS-SHOWN AS BUILT:



- (a) 18" x 11.3' RCP W/ TYPE L-3 Conc. COLLAR, SEE DRAINAGE DETAILS DD-2
- (b) G2 DI (H=5.24') W/ Conc. APRON

- (a) INFILTRATION BASIN No.2, SEE DRAINAGE DETAILS SHEET DD-4
- (b) RSP, SEE DRAINAGE DETAILS SHEET DD-4
- (c) 18" Conc. FES
- (d) 18" x 71.9' RCP
- (e) OL-10 DI (H=5.4') W/ STEEL PLATE AND DRAINAGE INLET MARKER
- (f) 18" x 64.6' RCP
- (g) OS DI (H=4.29') W/ STEEL PLATE AND DRAINAGE INLET MARKER

H: 1"=10'
V: 1"=10'

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No.	REVISION	DATE	BY



Kimley»Horn

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CITY OF BARSTOW

220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311
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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:

BRAD S. MERRELL
CONSULTING CITY ENGINEER

DATE

PROJECT No. 5298-030

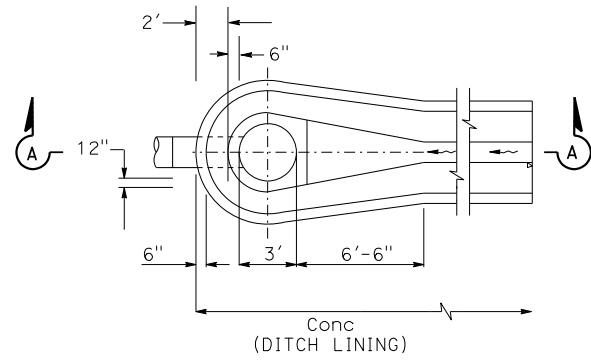
CITY OF BARSTOW
NORTH 1ST AVENUE OVER THE BNSF RAILROAD
DRAINAGE PROFILE

APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER

DESIGNED: SM R.C.E. NO. 49423 SHEET 51 OF 51

DRAWN: AL DATE: 01/21/2019 PLAN NO. DP-8

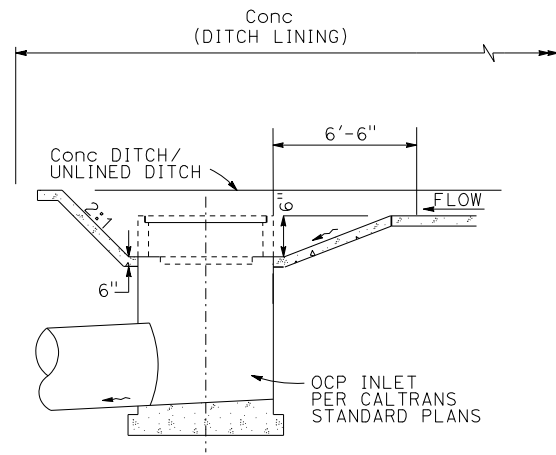
SCALE: AS-SHOWN AS BUILT



PLAN

NOTE:

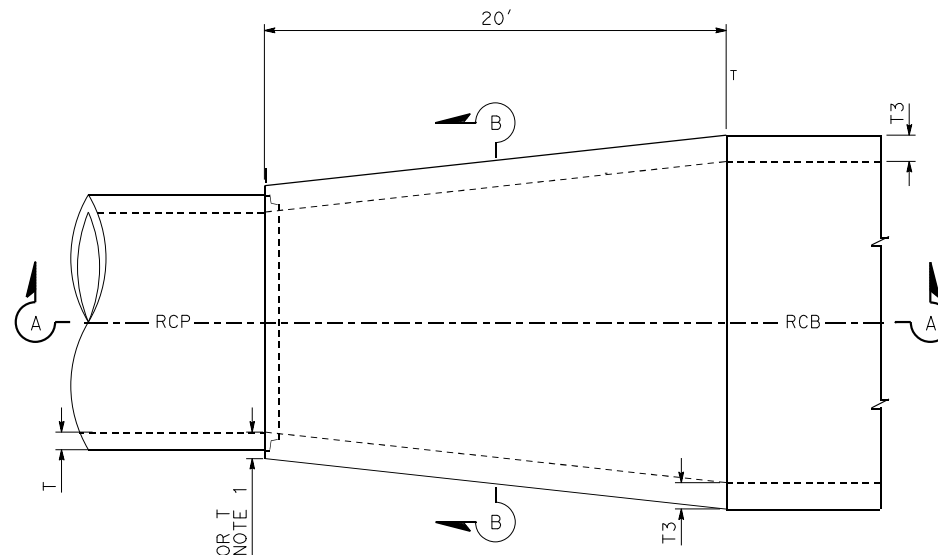
1. APRON CONCRETE TO BE 6" MINOR CONCRETE



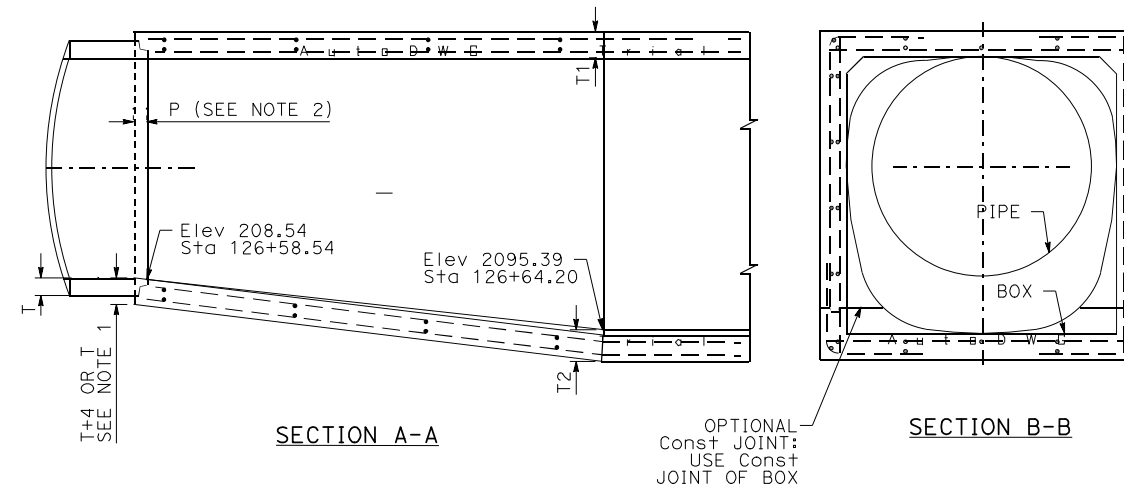
SECTION A-A

CONCRETE APRON AT OCP INLET TRANSITION

3.1 b



PLAN



SECTION A-A

SECTION B-B

TRANSITION STRUCTURE

3 a

NOTES:

1. THE CONCRETE THICKNESS SHALL BE THAT OF THE BOX SECTION
2. AT PIPE JUNCTURE, EMBEDMENT 'P' SHALL BE 5 INCHES FOR PIPE SIZES OF 96 INCHES OR LESS, AND 8 INCHES FOR SIZES OVER 96 INCHES

THIS PLAN ACCURATE FOR DRAINAGE WORK ONLY

No.	REVISION	DATE	BY



Kimley»Horn

401 B STREET, SUITE 600
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CITY OF BARSTOW
220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311
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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
BRAD S. MERRELL
CONSULTING CITY ENGINEER

CITY OF BARSTOW			
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD DRAINAGE DETAILS			
APPROVED BY:	R.C.E. NO.	DATE:	TITLE:
BRAD S. MERRELL	49423	01/21/2019	CONSULTING CITY ENGINEER
DESIGNED: SM	DATE:	SHEET 52 OF	
DRAWN: AL	DATE:	PLAN NO.	
SCALE: AS-SHOWN	AS BUILT:	DD-1	

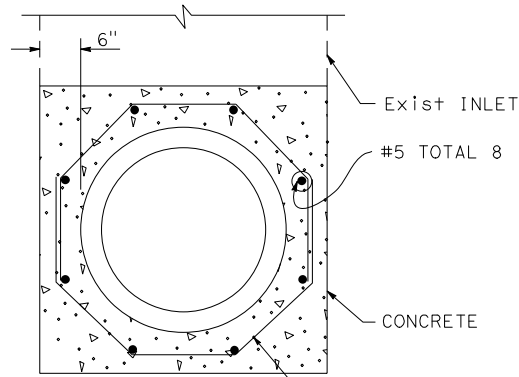
NO SCALE
PROJECT No. 5298-030

14-FEB-2019
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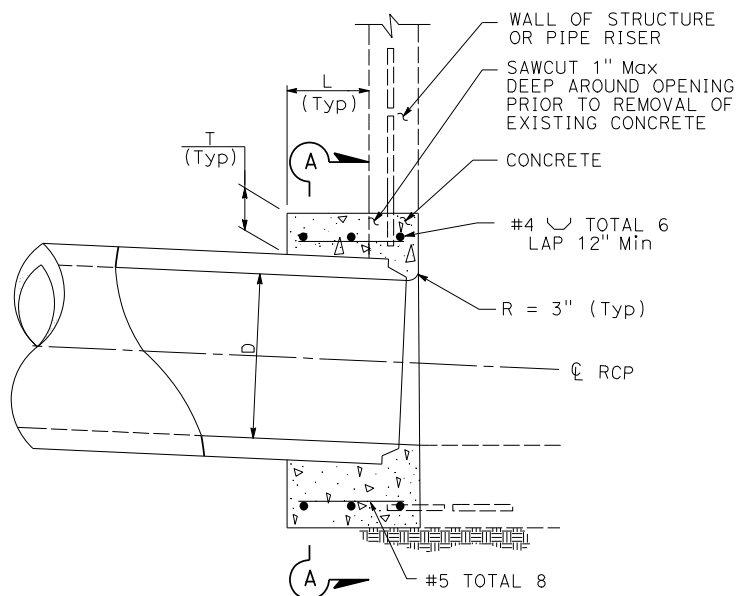
NOTES FOR TYPE L-3 COLLAR:

1. CHIP OUT EXISTING CONCRETE AND CUT EXISTING BARS TO ALLOW 2" CLEAR TO OUTSIDE OF PIPE.
2. MAINTAIN 2" Min CLEAR SPACING BETWEEN ALL REINFORCING BARS AND SURFACE OF CONCRETE.
3. TIE NEW BARS TO EXPOSE EXISTING REINFORCING.
4. USE MINOR CONCRETE (MINOR STRUCTURE) FOR COLLAR.

DIMENSION TABLE		
D	L	T
18"	12"	5"
24"	12"	6"
30"	18"	7"



SECTION A-A



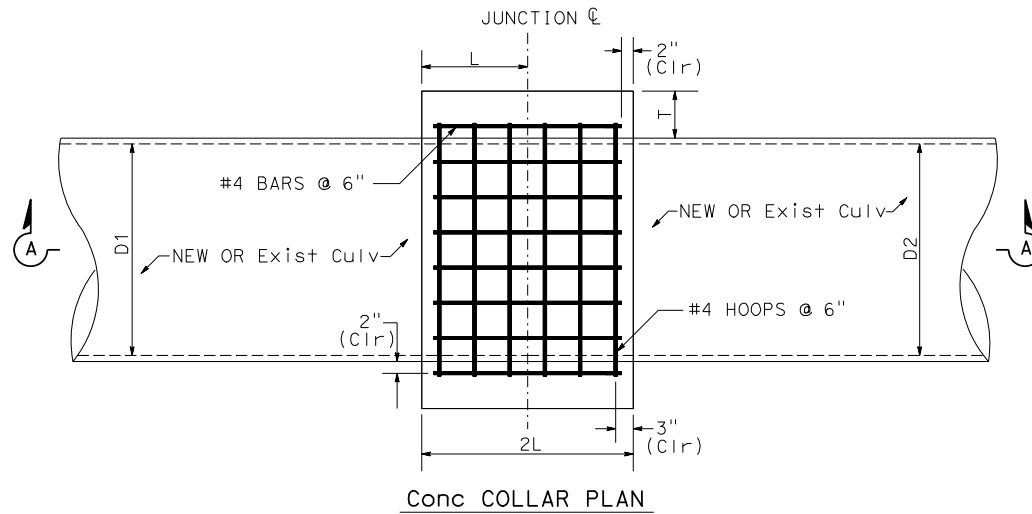
CONCRETE COLLAR (TYPE L-3)

3.1 a 3.2 a 3.5 a

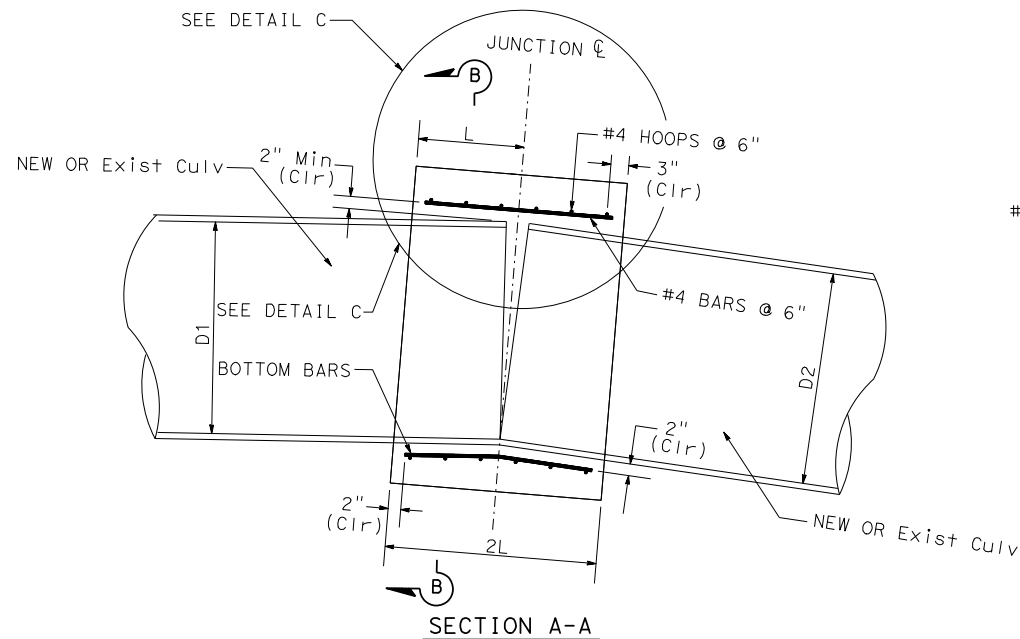
THIS PLAN APPROVED FOR DRAINAGE WORK ONLY

NOTES FOR TYPE L-2 COLLAR:

1. WHERE PIPES OF DIFFERENT DIAMETERS ARE JOINED WITH A Conc COLLAR, L & T SHALL CORRESPOND WITH THE LARGER OF THE TWO PIPE DIAMETERS.
2. JOIN PIPES AT INVERTS.
3. USE MINOR CONCRETE (MINOR STRUCTURE) FOR COLLAR.



Conc COLLAR PLAN

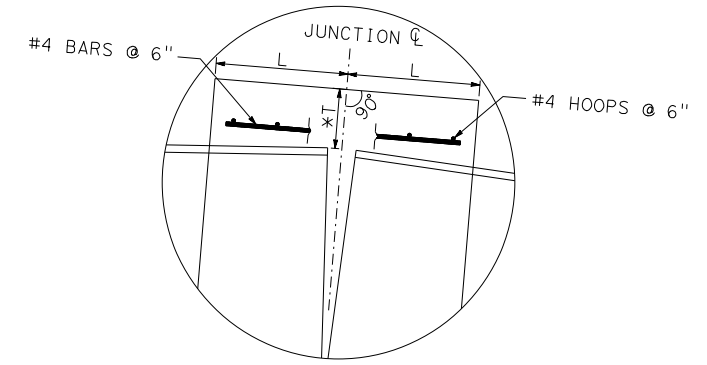


SECTION A-A

NOTE: BEND BOTTOM BARS AS NECESSARY TO MAINTAIN 2" CLEARANCE

CONCRETE COLLAR (TYPE L-2)

3 b

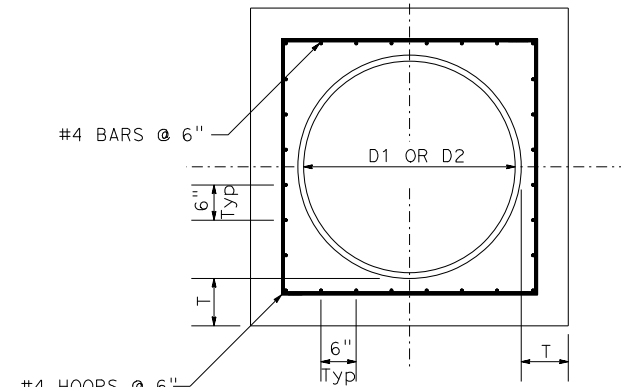


DETAIL C

*MEASURED ALONG JUNCTION C

TABLE D

D	L (Min)	T (Min)
5'-6"	2'-0"	1'-0"



SECTION B-B

NO SCALE

PROJECT No. 5298-030

No.	REVISION	DATE	BY



Kimley»Horn

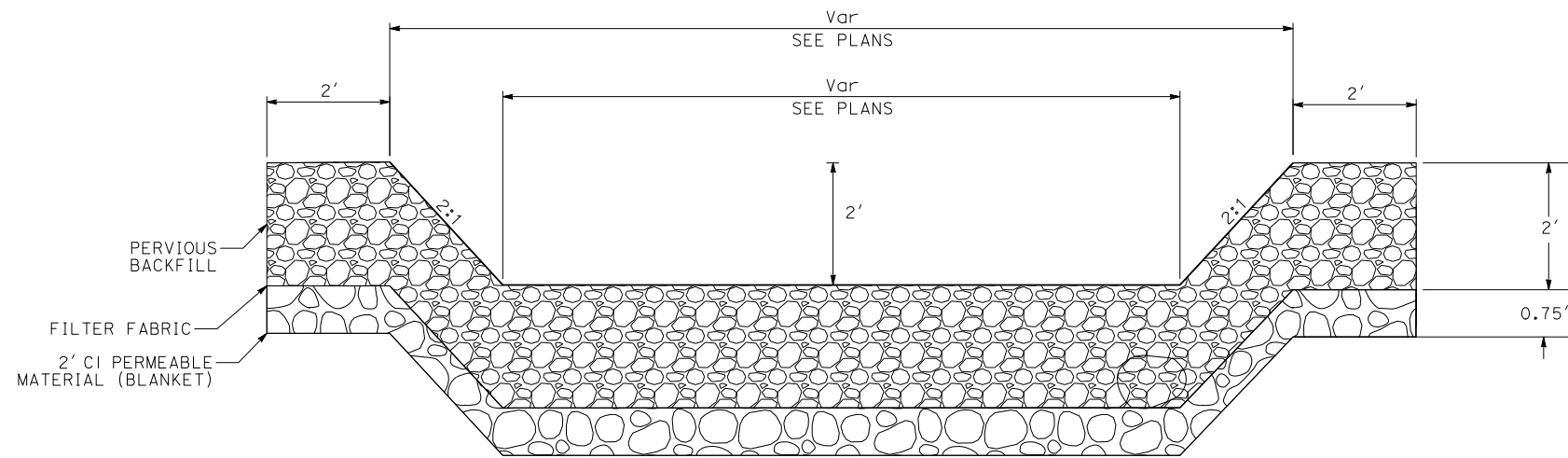
401 B STREET, SUITE 600 SAN DIEGO, CA 92101 PHONE: (619) 234-9411

CITY OF BARSTOW
220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311 PHONE: (760) 256-3531 FAX: (760) 256-1750

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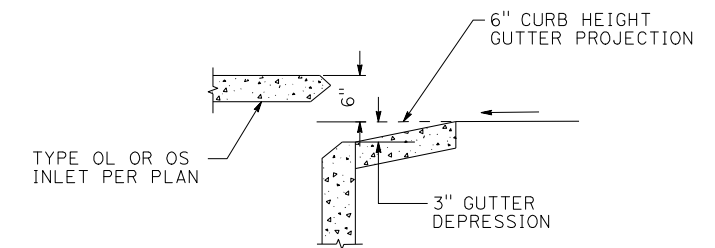
CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
BRAD S. MERRELL
CONSULTING CITY ENGINEER

CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD DRAINAGE DETAILS
APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER
DESIGNED: SM R.C.E. NO. 49423 SHEET 53 OF
DRAWN: AL DATE: 01/21/2019 PLAN NO.
SCALE: AS-SHOWN AS BUILT: DD-2



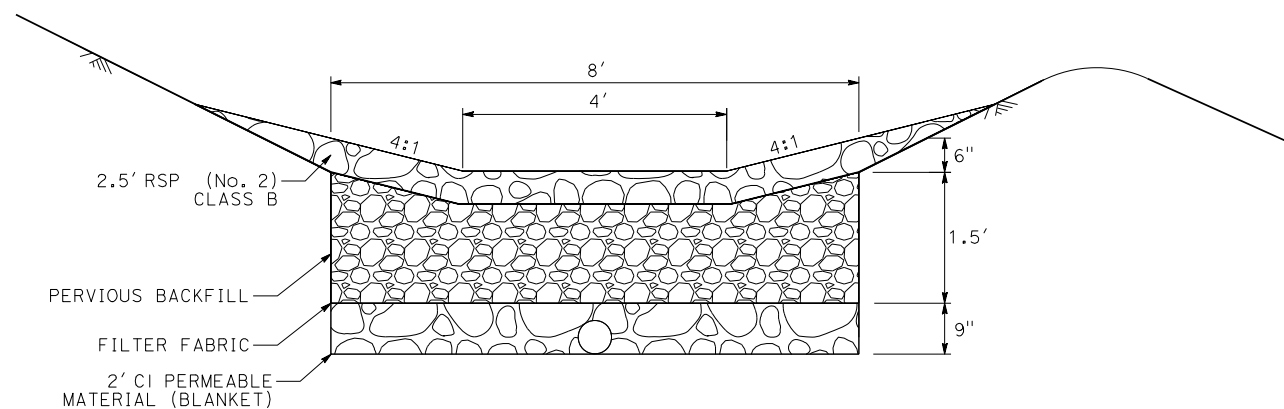
INFILTRATION BASIN

2.1 a 4 a



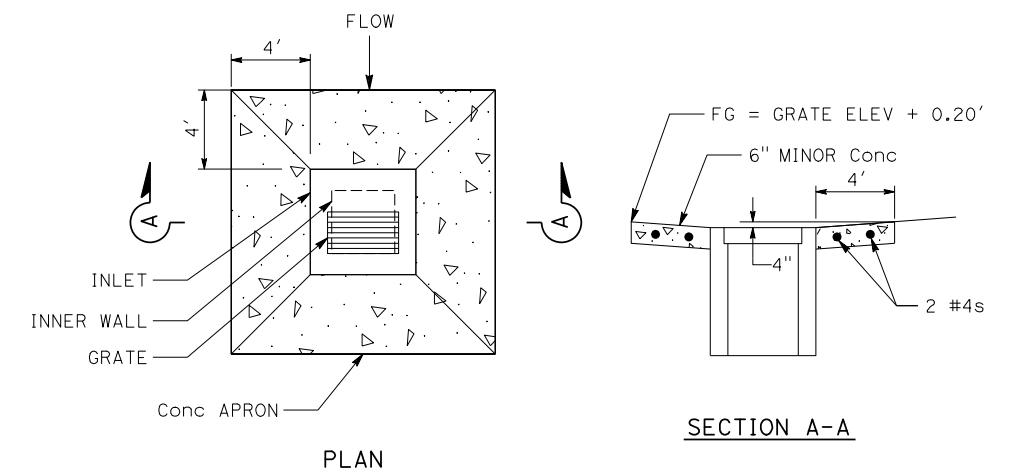
OL AND OS GUTTER DEPRESSION

1 h j 1.1 b 1.2 b 1.3 b d 2.1 e
2.2 b 2.3 c 3.3 g k 4 e g



INFILTRATION SWALE

3.3 a



CONCRETE APRON

3.5 b

THIS PLAN ACCURATE FOR DRAINAGE WORK ONLY

No.	REVISION	DATE	BY



Kimley»Horn

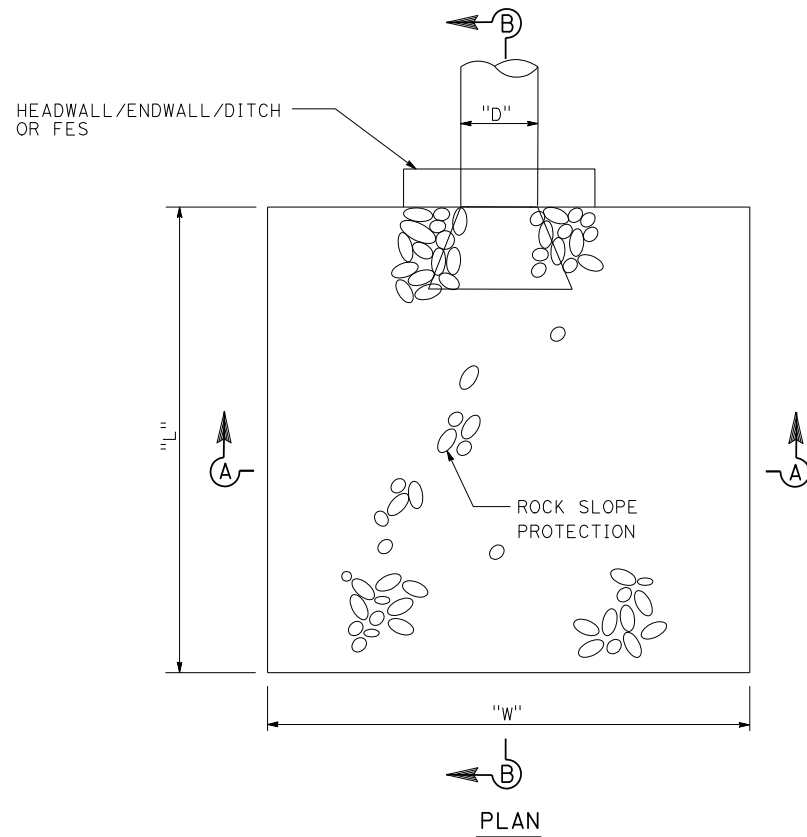
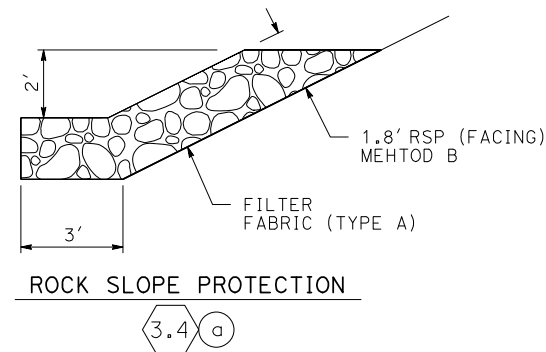
401 B STREET, SUITE 600
SAN DIEGO, CA 92101
PHONE: (619) 234-9411

CITY OF BARSTOW
220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311
PHONE: (760) 256-3531
FAX: (760) 256-1750

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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
BRAD S. MERRELL
CONSULTING CITY ENGINEER

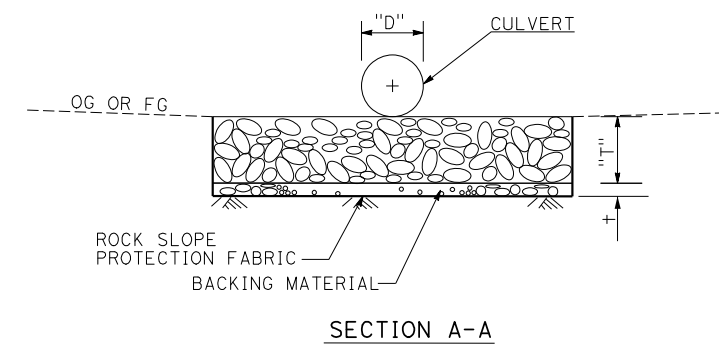
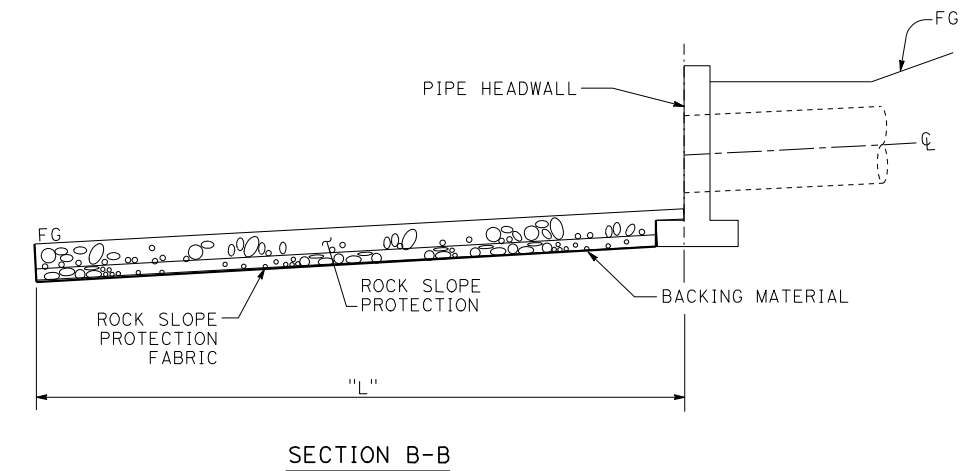
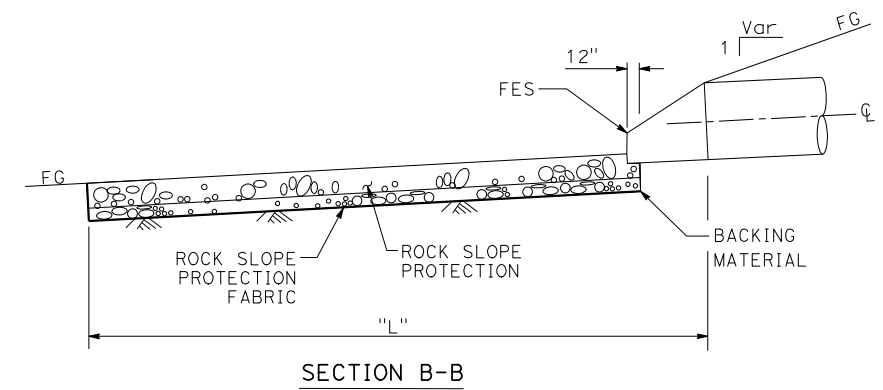
NO SCALE
PROJECT No. 5298-030
CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD DRAINAGE DETAILS
APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER
DESIGNED: SM R.C.E. NO. 49423 SHEET 54 OF
DRAWN: AL DATE: 01/21/2019 PLAN NO.
SCALE: AS-SHOWN AS BUILT: DD-3



ROCK SLOPE PROTECTION

2.1 b 4 b 3.3 b

ROCK SLOPE PROTECTION							
DRAINAGE SYSTEM UNIT No.	STATION/OFFSET	D	L	†	T	W	NOTES
2.1b	112+07.52 "N1" 35.51' L†	24"	6.5'	1.8'	1.25'	5.5'	RSP (BACKING NO.1 METHOD B) OVER RSP (BACKING NO.2 METHOD B) OVER RSP FABRIC (TYPE A)
3.3b	127+45.33 "N1" 63.72' R†	18"	9.5'	0'	2.5'	4'	RSP (BACKING NO.2 METHOD B) OVER RSP FABRIC (TYPE A)
4b	131+86.74 "N1" 36.56' L†	18"	15.5'	0'	2.5'	4'	RSP (BACKING NO.2 METHOD B) OVER RSP FABRIC (TYPE A)



THIS PLAN ACCURATE FOR DRAINAGE WORK ONLY

No.	REVISION	DATE	BY



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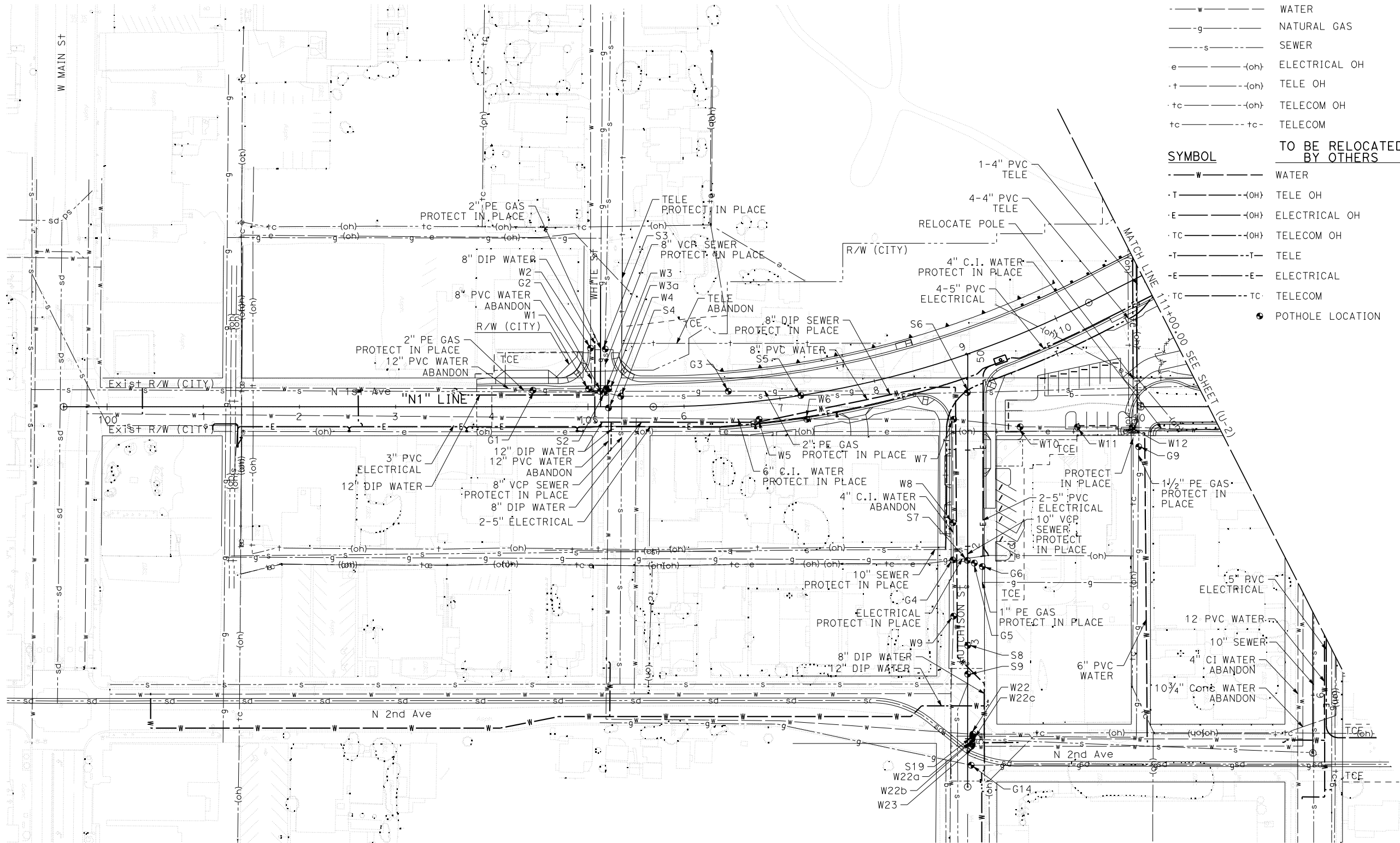
401 B STREET, SUITE 600
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PHONE: (619) 234-9411

CITY OF BARSTOW
220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311
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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
BRAD S. MERRELL
CONSULTING CITY ENGINEER
DATE

SCALE: 1"=10'
PROJECT No. 5298-030
CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD DRAINAGE DETAILS
APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER
DESIGNED: SM R.C.E. NO. 49423 SHEET 55 OF
DRAWN: AL DATE: 01/21/2019 PLAN NO.
SCALE: AS-SHOWN AS BUILT: DD-4



LEGEND:

SYMBOL	EXISTING UTILITY	OWNER
—w—	WATER	GOLDEN STATE WATER
—g—	NATURAL GAS	SOUTHWEST GAS
—s—	SEWER	CITY OF BARSTOW
e—(oh)	ELECTRICAL OH	SOUTHERN CALIFORNIA EDISON
t—(oh)	TELE OH	VERIZON
tc—(oh)	TELECOM OH	TIME WARNER CABLE
tc—tc-	TELECOM	TIME WARNER CABLE

SYMBOL	TO BE RELOCATED BY OTHERS	OWNER
—w—	WATER	GOLDEN STATE WATER
—T—(oh)	TELE OH	FRONTIER COMMUNICATIONS
—E—(oh)	ELECTRICAL OH	SOUTHERN CALIFORNIA EDISON
—TC—(oh)	TELECOM OH	CHARTER SPECTRUM
—T—	TELE	FRONTIER COMMUNICATIONS
—E—	ELECTRICAL	SOUTHERN CALIFORNIA EDISON
—TC—	TELECOM	CHARTER SPECTRUM

● POTHOLE LOCATION

FOR UTILITY REFERENCE ONLY



PROJECT No. 5298-030

No.	REVISION	DATE	BY



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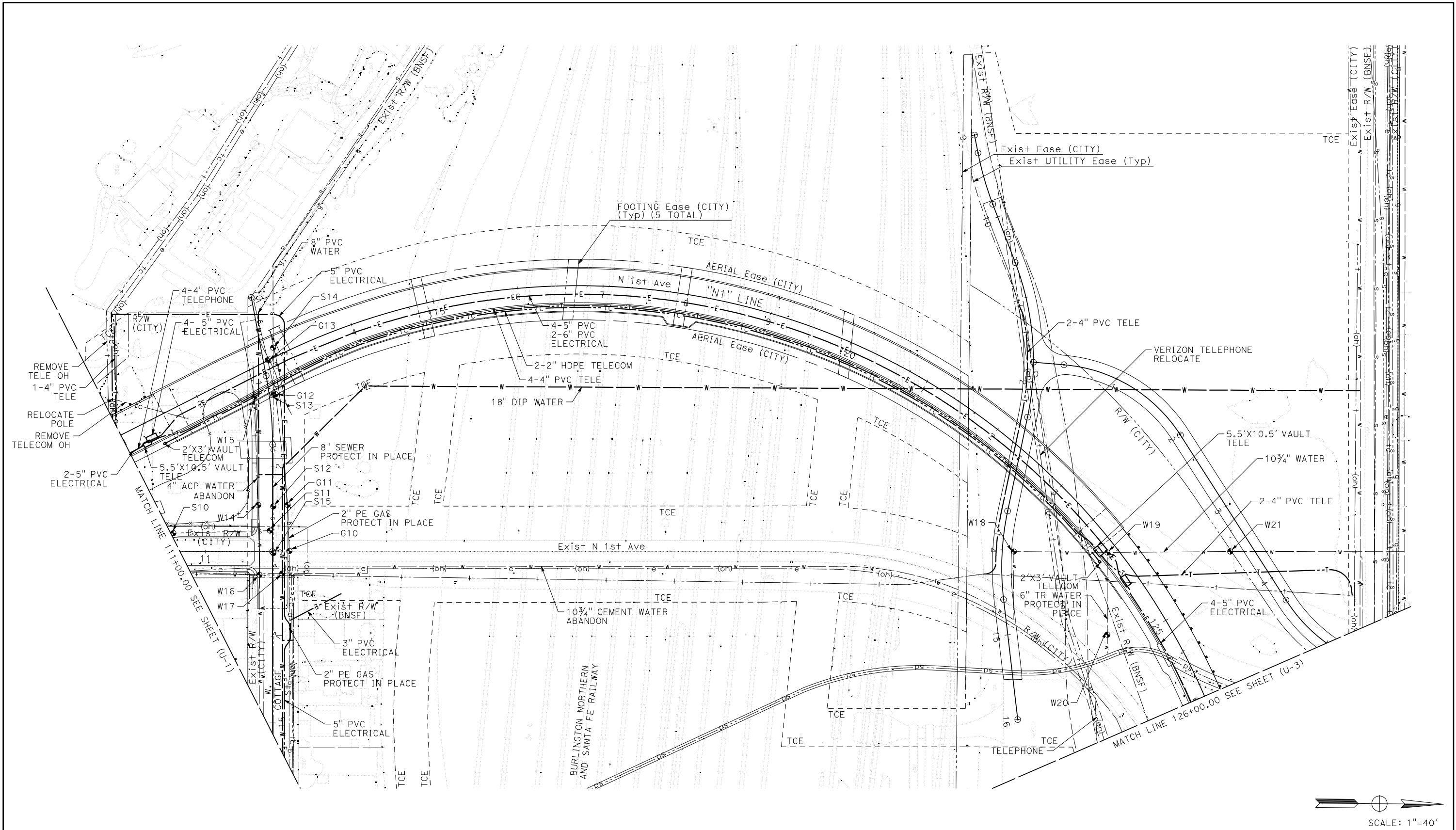
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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
 BRAD S. MERRELL
 CONSULTING CITY ENGINEER

CITY OF BARSTOW
 NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD UTILITY PLAN

APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER
 DESIGNED: JV R.C.E. NO. 49423 SHEET 56 OF
 DRAWN: CD DATE: 01/21/2019 PLAN NO.
 SCALE: AS-SHOWN AS BUILT: U-1



FOR UTILITY REFERENCE ONLY



PROJECT No. 5298-030

No.	REVISION	DATE	BY



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CITY OF BARSTOW
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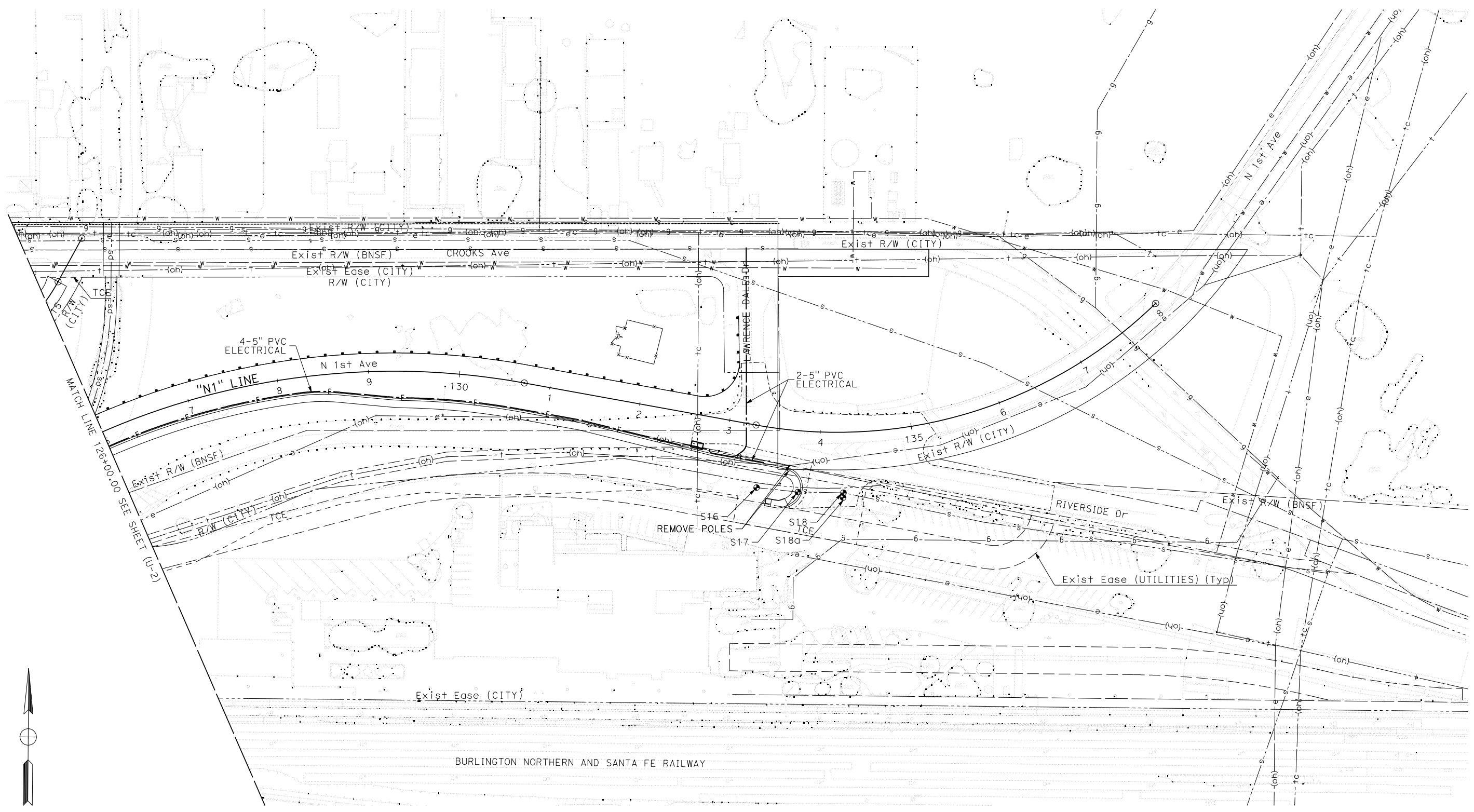
CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:

BRAD S. MERRELL
CONSULTING CITY ENGINEER

CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD UTILITY PLAN

APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER
DESIGNED: JV R.C.E. NO. 49423 SHEET 57 OF
DRAWN: CD DATE: 01/21/2019 PLAN NO. U-2
SCALE: AS-SHOWN AS BUILT:

100% INTERIM PLANS FEB 20, 2019 NOT FOR CONSTRUCTION



FOR UTILITY REFERENCE ONLY

SCALE: 1"=40'
PROJECT No. 5298-030

No.	REVISION	DATE	BY



Kimley»Horn
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CITY OF BARSTOW
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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:

BRAD S. MERRELL
CONSULTING CITY ENGINEER

DATE

CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD UTILITY PLAN

APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER

DESIGNED: JV R.C.E. NO. 49423 SHEET 58 OF

DRAWN: CD DATE: 01/21/2019 PLAN NO.

SCALE: AS-SHOWN AS BUILT: U-3

POSITIVE LOCATION INFORMATION

POTHOLE No. Ⓢ	UTILITY	NORTHING	EASTING	GROUND ELEVATION	TOP OF PIPE* ELEVATION	DEPTH
G1	GAS	2151360.79	6853334.72	2154.43	2150.93	3.50
G2	GAS	2151430.64	6853335.37	2152.18	2147.98	4.20
G3	GAS	2151564.01	6853334.06	2147.97	2144.21	3.76
G4	GAS	2151798.87	6853507.50	2137.72	2134.56	3.16
G5	GAS	2151821.28	6853510.63	2136.67	2133.67	3.00
G6	GAS	2151829.67	6853514.17	2135.89	2132.99	2.90
G9	GAS	2151991.18	6853388.26	2131.76	2130.10	1.66
G10	GAS	2152191.70	6853344.42	2123.91	2121.03	2.88
G11	GAS	2152189.33	6853290.26	2123.39	2119.39	4.00
G12	GAS	2152174.14	6853160.80	2122.16	2118.66	3.50
G13	GAS	2152164.48	6853121.10	2122.74	2119.16	3.58
G14	GAS	2151819.64	6853720.73	2134.55	2131.21	3.34
S2	SEWER	2151435.00	6853336.23	2152.04	2146.12	5.92
S3	SEWER	2151435.56	6853291.35	2153.00	2147.00	6.00
S4	SEWER	2151452.16	6853340.23	2151.44	2145.26	6.18
S5	SEWER	2151639.42	6853337.92	2145.62	DRYHOLE (6.0)	
S6	SEWER	2151812.43	6853333.52	2139.13	2133.33	5.80
S7	SEWER	2151813.99	6853507.92	2137.17	2131.19	5.98
S8	SEWER	2151815.06	6853596.30	2136.07	2129.51	6.56
S9	SEWER	2151815.26	6853626.03	2135.75	2128.95	6.80
S10	SEWER	2152055.56	6853324.51	2131.37	2123.37	8.00
S11	SEWER	2152168.78	6853320.67	2123.65	2118.75	4.90
S12	SEWER	2152172.38	6853292.33	2123.44	2118.50	4.94
S13	SEWER	2152171.29	6853161.91	2122.27	2119.09	3.18
S14	SEWER	2152170.76	6853106.25	2122.52	2119.20	3.32
S15	SEWER	2152173.06	6853346.91	2123.73	2118.61	5.12
S16	SEWER	2153210.60	6854222.08	2103.57	2096.07	7.50
S17	SEWER	2153206.16	6854267.36	2104.86	2095.52	9.34
S18	SEWER	2153205.70	6854317.21	2103.80	NO INFO	
S18a	SEWER	2153200.45	6854316.83	2103.63	DRYHOLE (9.50)	
S19	SEWER	2151820.59	6853693.60	2134.80	DRYHOLE (5.10)	
W1	WATER	2151418.71	6853332.77	2152.64	2149.28	3.36
W2	WATER	2151420.32	6853290.52	2153.36	2150.36	3.00
W3	WATER	2151437.03	6853332.36	2152.02	DRYHOLE (2.60)	
W3a	WATER	2151439.55	6853332.67	2151.95	2149.09	2.86
W4	WATER	2151439.55	6853352.40	2151.56	2148.22	3.34
W5	WATER	2151596.19	6853362.94	2146.60	2144.40	2.20
W6	WATER	2151645.78	6853362.53	2145.16	2142.67	2.49
W7	WATER	2151798.58	6853361.28	2139.51	2136.95	2.56
W8	WATER	2151798.79	6853468.82	2138.07	2135.87	2.20
W9	WATER	2151800.12	6853565.93	2137.01	2133.51	3.50
W10	WATER	2151867.72	6853368.63	2136.56	2134.00	2.56
W11	WATER	2151927.15	6853368.31	2134.16	2131.22	2.94
W12	WATER	2151984.23	6853368.08	2132.00	2129.14	2.86
W14	WATER	2152154.78	6853290.81	2123.76	2121.04	2.72
W15	WATER	2152149.11	6853163.99	2122.55	2119.39	3.16
W16	WATER	2152156.94	6853372.63	2124.18	2121.82	2.36
W17	WATER	2152183.69	6853370.78	2124.28	2120.48	3.80
W18	WATER	2153040.81	6853338.04	2108.00	2105.2	2.80
W19	WATER	2153150.44	6853338.18	2105.69	2100.99	4.70
W20	WATER	2153151.31	6853434.51	2105.77	2102.89	2.88
W21	WATER	2153294.51	6853335.85	2102.12	2098.90	3.22
W22	WATER	2151821.18	6853688.44	2134.85	2130.15	4.70
W22a	WATER	2151820.66	6853697.55	2134.76	DRYHOLE	
W22b	WATER	2151820.61	6853699.28	2134.76	DRYHOLE (8.20)	
W22c	WATER	2151820.98	6853690.55	2134.84	2130.36	4.48
W23	WATER	2151819.82	6853701.06	2134.78	2130.90	3.88

*DEPTH FROM EXISTING GROUND ELEVATION PRIOR TO DEMOLITION

No.	REVISION	DATE	BY



Kimley»Horn
 401 B STREET, SUITE 600 SAN DIEGO, CA 92101
 PHONE: (619) 234-9411

CITY OF BARSTOW
 220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311
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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
 BRAD S. MERRELL
 CONSULTING CITY ENGINEER

DATE

PROJECT No. 5298-030

CITY OF BARSTOW
 NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD UTILITY POTHOLE DATA

APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER

DESIGNED: JV R.C.E. NO. 49423 SHEET **59** OF



DRAWN: CD DATE: 01/21/2019 PLAN NO.

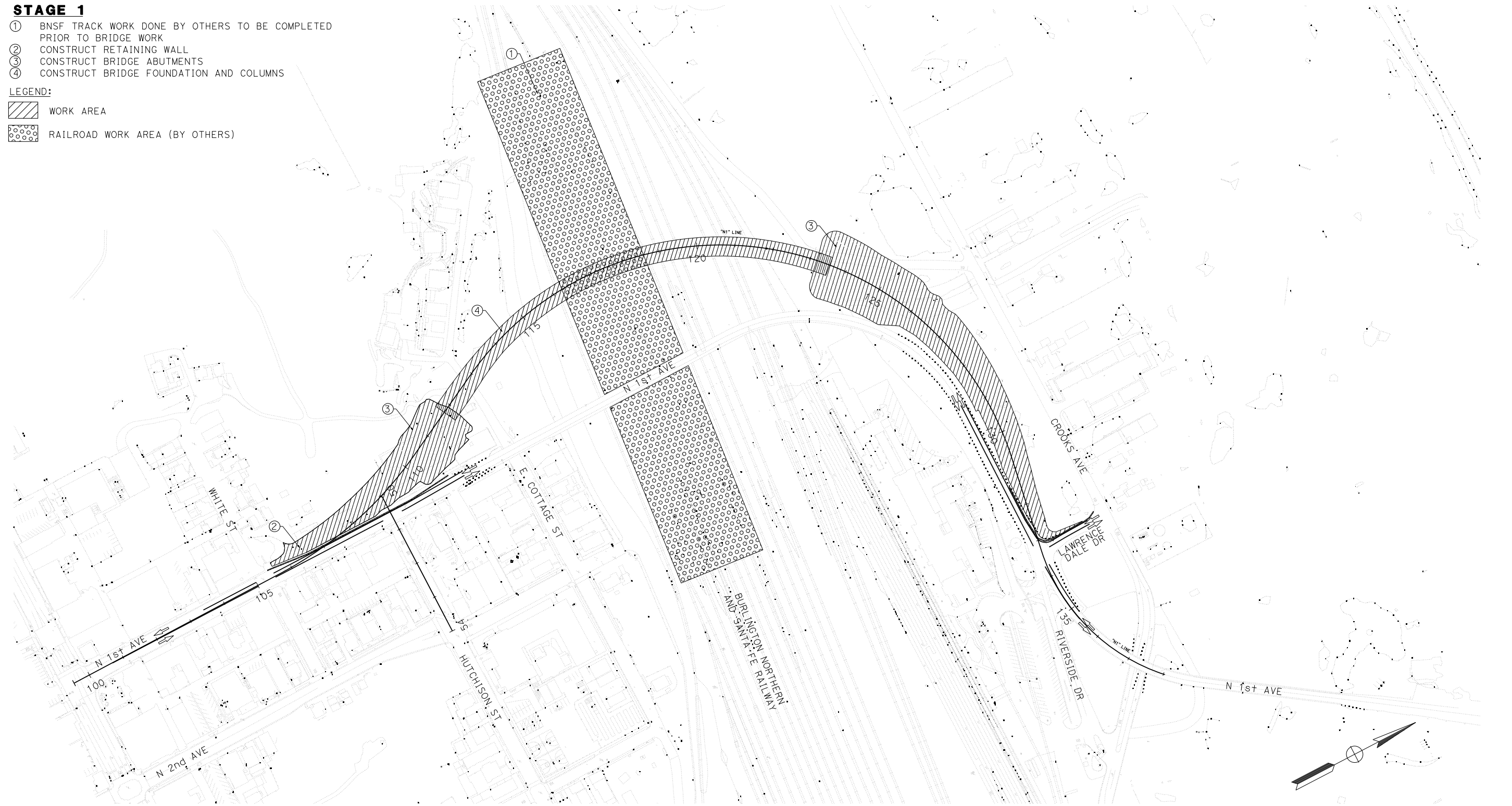
SCALE: AS-SHOWN AS BUILT: U-4

STAGE 1

- ① BNSF TRACK WORK DONE BY OTHERS TO BE COMPLETED PRIOR TO BRIDGE WORK
- ② CONSTRUCT RETAINING WALL
- ③ CONSTRUCT BRIDGE ABUTMENTS
- ④ CONSTRUCT BRIDGE FOUNDATION AND COLUMNS

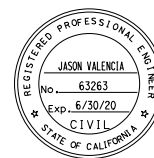
LEGEND:

-  WORK AREA
-  RAILROAD WORK AREA (BY OTHERS)



SCALE: 1"=120'
PROJECT No. 5298-030

No.	REVISION	DATE	BY



Kimley»Horn
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BRAD S. MERRELL
CONSULTING CITY ENGINEER

DATE

CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
STAGE CONSTRUCTION PLAN

APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER

DESIGNED: JV R.C.E. NO. 49423 SHEET 60 OF

DRAWN: CO DATE: 01/21/2019 PLAN NO.

SCALE: AS-SHOWN AS-BUILD: CONSTRUCTION PLAN SC-1

14-FEB-2019 K:\SML TRANS\955279201\Net Overhead_PSE\Design\Sheets\ma.5\Stage Construction\ma.001.Stage 1\ludgn 17600 Cor:dlm:De:the:feen

100% INTERIM PLANS



FEB 20, 2019

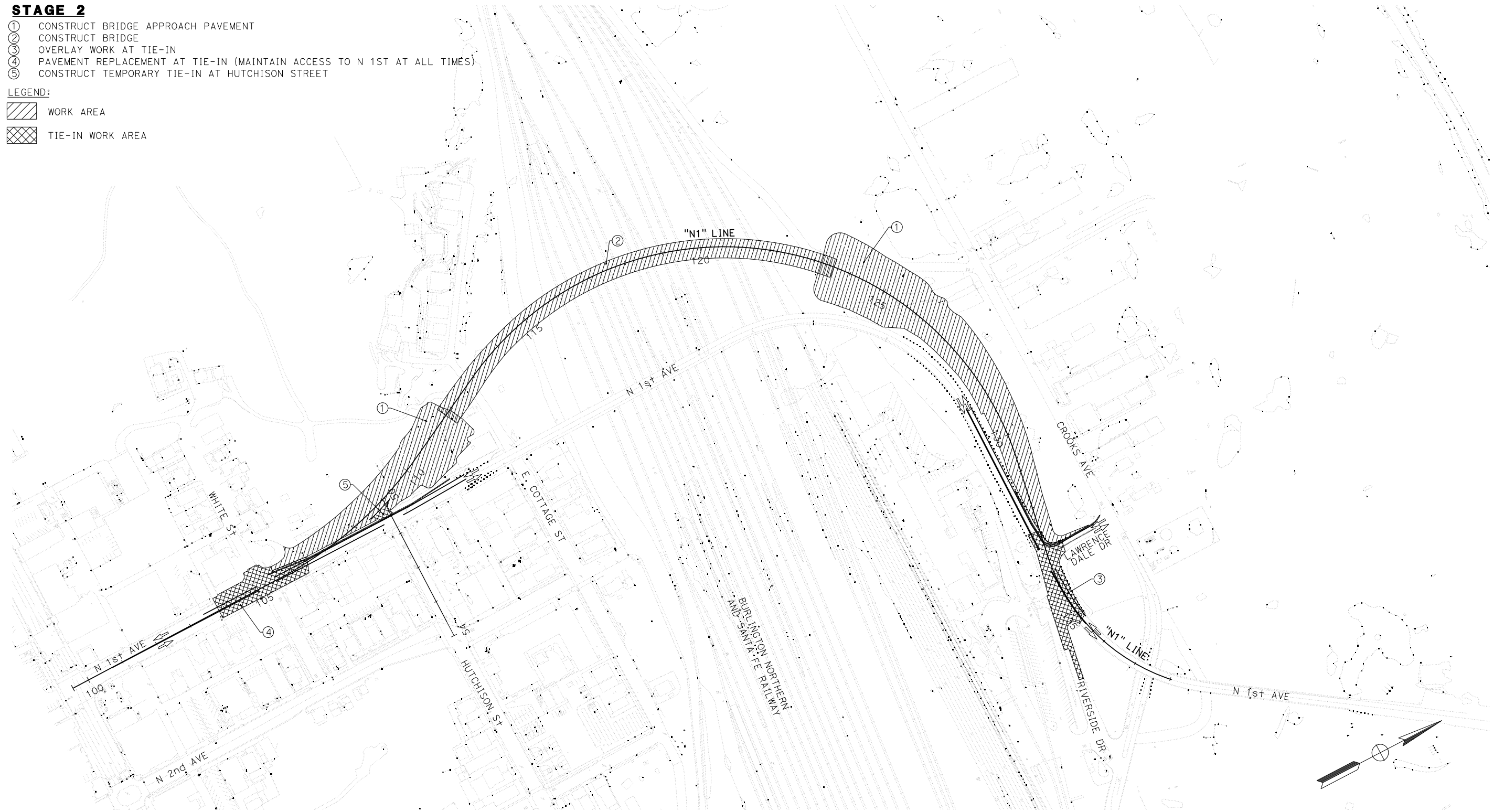
NOT FOR CONSTRUCTION

STAGE 2

- ① CONSTRUCT BRIDGE APPROACH PAVEMENT
- ② CONSTRUCT BRIDGE
- ③ OVERLAY WORK AT TIE-IN
- ④ PAVEMENT REPLACEMENT AT TIE-IN (MAINTAIN ACCESS TO N 1ST AT ALL TIMES)
- ⑤ CONSTRUCT TEMPORARY TIE-IN AT HUTCHISON STREET

LEGEND:

-  WORK AREA
-  TIE-IN WORK AREA



SCALE: 1"=120'
PROJECT No. 5298-030

No.	REVISION	DATE	BY



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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:

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CONSULTING CITY ENGINEER

CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
STAGE CONSTRUCTION PLAN

APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER
DESIGNED: JV R.C.E. NO. 49423 SHEET 61 OF
DRAWN: CD DATE: 01/21/2019 PLAN NO.
SCALE: AS-SHOWN AS BUILT: SC-2

100% INTERIM PLANS FEB 20, 2019 NOT FOR CONSTRUCTION

STAGE 3A

- ① DIVERT TRAFFIC TO NEW N 1ST AVE
- ② MAINTAIN ACCESS TO DEL TACO VIA HUTCHISON STREET INTERSECTION
- ③ CONSTRUCT PORTION OF COTTAGE LANE AND MAINTAIN ACCESS
- ④ CONSTRUCT TEMPORARY DRIVEWAY TO DEL TACO
- ⑤ MODIFY DEL TACO PARKING LOT
- ⑥ INITIATE BRIDGE DEMOLITION

LEGEND:

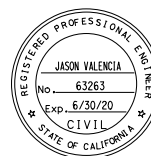
 WORK AREA



SCALE: 1"=120'

PROJECT No. 5298-030

No.	REVISION	DATE	BY



Kimley»Horn

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SAN DIEGO, CA 92101
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CONSULTING CITY ENGINEER

CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
STAGE CONSTRUCTION PLAN

APPROVED BY: BRAD S. MERRELL	TITLE: CONSULTING CITY ENGINEER
DESIGNED: JV	R.C.E. NO. 49423
DRAWN: CD	DATE: 01/21/2019
SCALE: AS-SHOWN	AS BUILT:

SHEET **62** OF

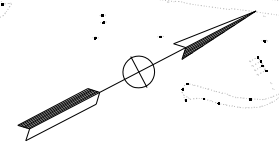
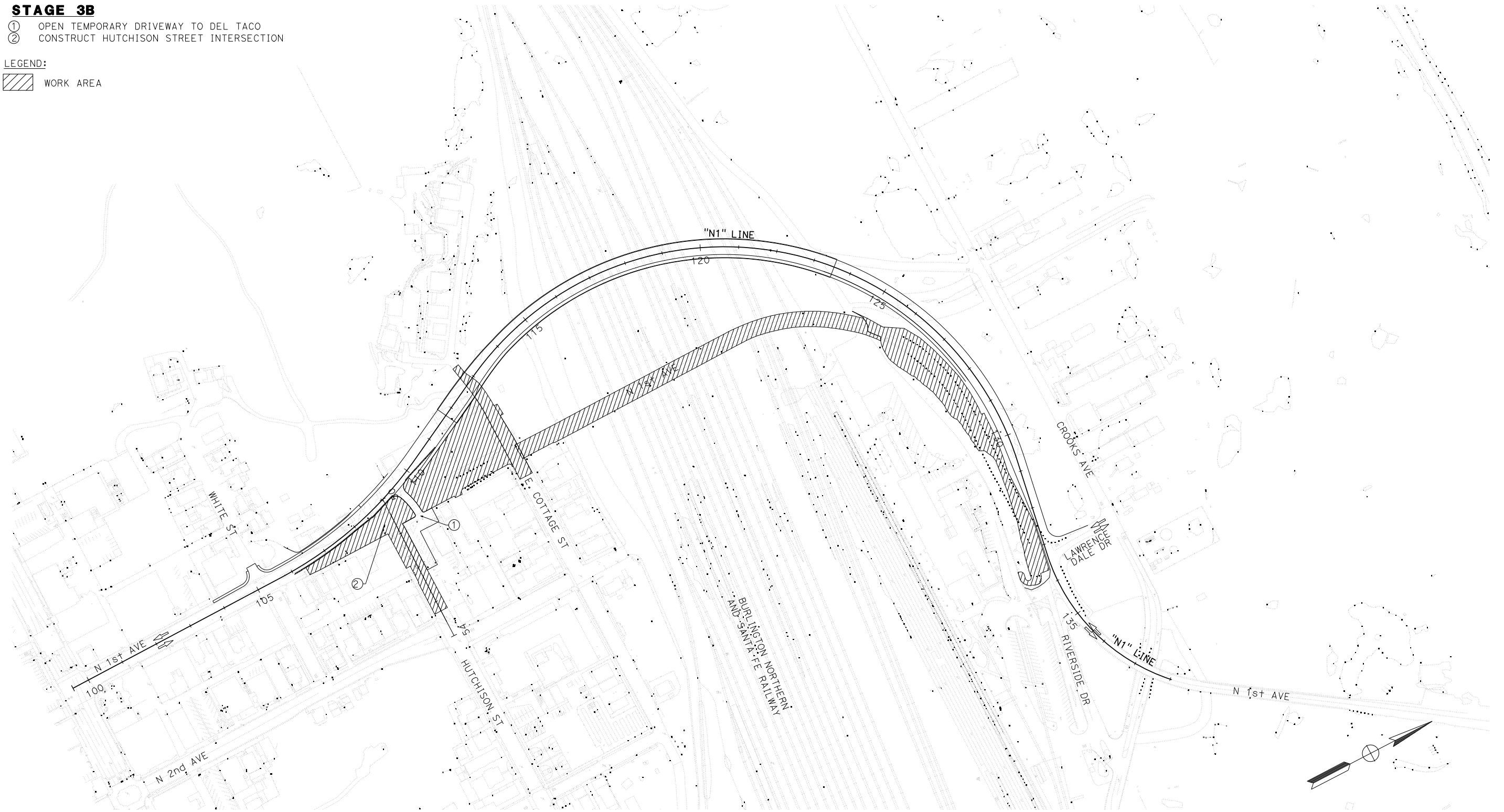
PLAN NO. SC-3

STAGE 3B

- ① OPEN TEMPORARY DRIVEWAY TO DEL TACO
- ② CONSTRUCT HUTCHISON STREET INTERSECTION

LEGEND:

 WORK AREA



SCALE: 1"=120'
PROJECT No. 5298-030

No.	REVISION	DATE	BY



Kimley»Horn
401 B STREET, SUITE 600
SAN DIEGO, CA 92101
PHONE: (619) 234-9411

CITY OF BARSTOW
220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311
PHONE: (760) 256-3531
FAX: (760) 256-1750

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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:

BRAD S. MERRELL
CONSULTING CITY ENGINEER

DATE

CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
STAGE CONSTRUCTION PLAN

APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER

DESIGNED: JV R.C.E. NO. 49423 SHEET **63** OF

DRAWN: CD DATE: 01/21/2019 PLAN NO.

SCALE: AS-SHOWN AS BUILT: SC-3

14-FEB-2019 K:\SML TRANS\95527921\Net Overhead_PSE\Design\Sheets\ma.5\Stage Construction\ma.003.Stage_3b_Fuldgn 17600 Cor\dlm\De\the\feen

100% INTERIM PLANS



FEB 20, 2019

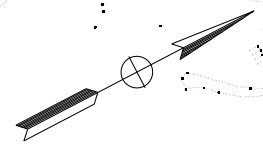
NOT FOR CONSTRUCTION

STAGE 4

- ① OPEN HUTCHISON STREET INTERSECTION TO TRAFFIC
- ② REMOVE TEMPORARY DRIVEWAY AT DEL TACO
- ③ CONSTRUCT PORTION OF HUTCHISON STREET/OVERLAY HUTCHINSON-2ND STREET INTERSECTION
- ④ FINALIZE BRIDGE DEMOLITION

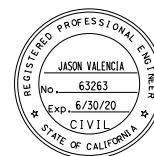
LEGEND:

-  WORK AREA
-  OVERLAY ONLY



SCALE: 1"=120'
PROJECT No. 5298-030

No.	REVISION	DATE	BY



Kimley»Horn

401 B STREET, SUITE 600
SAN DIEGO, CA 92101
PHONE: (619) 234-9411

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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:

BRAD S. MERRELL
CONSULTING CITY ENGINEER

CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
STAGE CONSTRUCTION PLAN

APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER
DESIGNED: JV R.C.E. NO. 49423 SHEET OF
DRAWN: CD DATE: 01/21/2019 PLAN NO.
SCALE: AS-SHOWN AS BUILT: SC-4

100% INTERIM PLANS FEB 20, 2019 NOT FOR CONSTRUCTION

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NOTES:

1. REMOVE TEMPORARY STRIPING AND PAVEMENT MARKING AFTER EACH STAGE OTHERWISE NOTED ON THE PLAN.

CONSTRUCTION NOTES (FOR THIS SHEET ONLY)

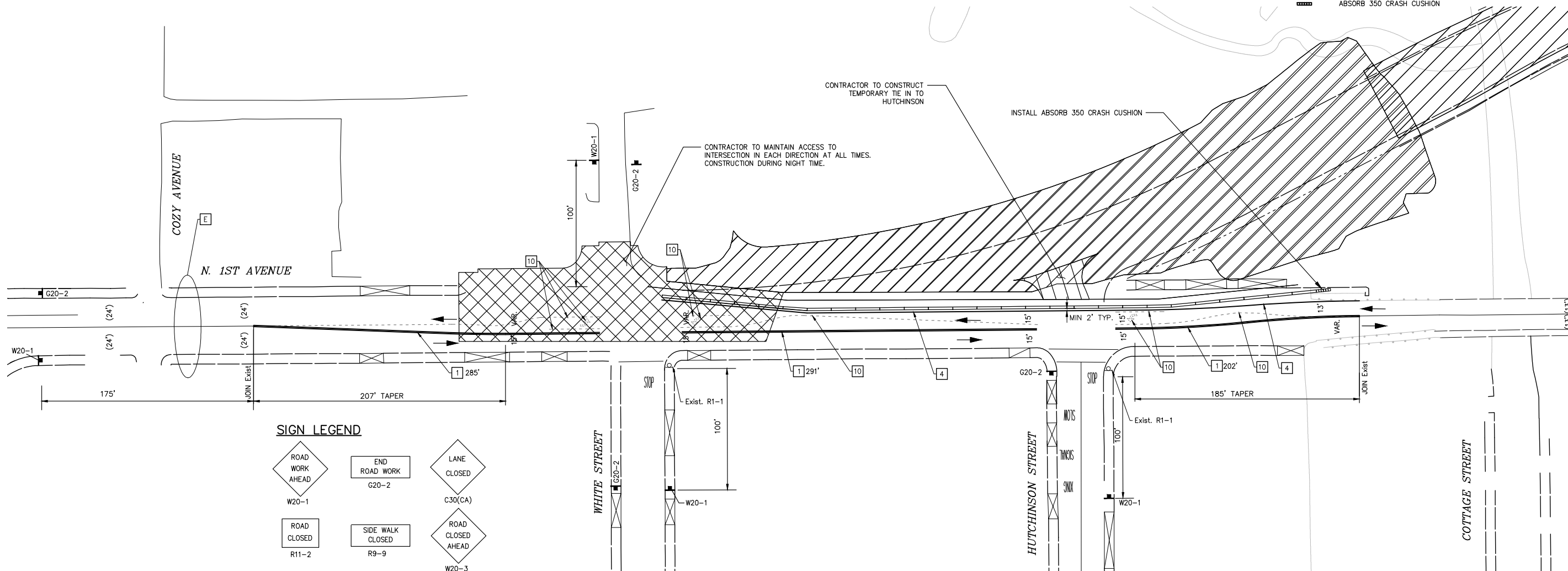
1. INSTALL 6" DOUBLE YELLOW LINE. CALTRANS DETAIL 22, CALTRANS Std. PLAN A20A.
4. INSTALL 6" RIGHT EDGE LINE. CALTRANS DETAIL 27B, CALTRANS Std. PLAN A20B. MINIMUM 2' FROM K-RAIL
10. REMOVE EXISTING STRIPING OR PAVEMENT MARKING PER WET SANDBLASTING METHOD AS REQUIRED. SEAL PAVEMENT FOLLOWING REMOVAL.

GENERAL NOTES:

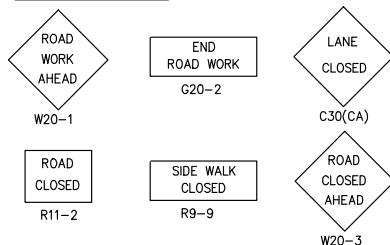
1. THESE TRAFFIC CONTROL PLANS ADDRESS MAJOR ITEMS OF WORK. THE CONTRACTOR SHALL BE RESPONSIBLE TO PREPARE ALL OTHER TRAFFIC CONTROL NECESSARY TO COMPLETE THE PROJECT.
2. ALL TRAFFIC CONTROL WORK FOR CONSTRUCTION SHALL CONFORM TO THE LATEST EDITION OF: THE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (CA MUTCD), WORK AREA TRAFFIC CONTROL HANDBOOK (WATCH MANUAL), ALL O.S.H.A. REQUIREMENTS, ALL ADDENDUMS THERETO, AND THE CITY OF BARSTOW PUBLIC WORKS DEPARTMENT STANDARDS PLANS, LATEST EDITION.
3. ALL SIGNING AND STRIPING SHALL CONFORM TO THE LATEST CALTRANS STANDARD PLANS AND SPECIFICATIONS AND THE CITY OF BARSTOW'S LATEST SIGNING AND STRIPING GENERAL NOTES.
4. WORK IS NOT PERMITTED ON SUNDAYS OR HOLIDAYS UNLESS APPROVED BY THE CITY.
5. THE CONTRACTOR SHALL MAINTAIN ALL TRAFFIC CONTROL DEVICES USED FOR TRAFFIC CONTROL OR DETOURS DURING THE APPROVED CONSTRUCTION PHASE.
6. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ADJACENT PROPERTIES.
7. ALL SIGNS SHALL BE RETROREFLECTIVE AND STANDARD SIZE.
8. THE CONTRACTOR SHALL HAVE ALL SIGNS, DELINEATORS, BARRICADES, ETC., PROPERLY INSTALLED PRIOR TO COMMENCING CONSTRUCTION.
9. ALL TUBULAR DELINEATORS SHALL BE 36" HEIGHT AND CONES SHALL BE 28" MINIMUM HEIGHT AND SHALL INCLUDE 6" AND 4" HIGH INTENSITY REFLECTORIZERS SLEEVES.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PLACEMENT OF ANY ADDITIONAL TRAFFIC CONTROL DEVICES REQUIRED BY THE CITY TO ASSURE SAFETY TO THE PUBLIC AT ALL TIMES DURING CONSTRUCTION.
11. ARROW BOARDS SHALL BE USED ON ANY LANE CLOSURES ON STREETS.
12. WHERE STEEL PLATES ARE USED, "STEEL PLATES AHEAD" SIGNS SHALL BE PROVIDED AT ALL TIMES.
13. ALL EXISTING CONFLICTING STRIPING SHALL BE REMOVED PRIOR TO THE BEGINNING OF EACH STAGE. BLACK-OUT PAINT IS NOT ALLOWED.
14. APPROXIMATE LOCATIONS WHERE THERE ARE SIGNIFICANT GRADE DIFFERENTIAL LOCATIONS BETWEEN EXISTING AND PROPOSED FACILITIES IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY HIS OWN NEED FOR MEASURES TO ENSURE THE SAFETY OF THE PUBLIC AND HIS WORKERS.
15. PROVIDE FLASHING BEACONS FOR SIGN W20-1 PER CALTRANS STD PLAN T10.

LEGEND:

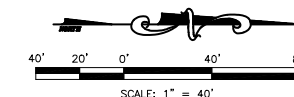
- = EXISTING STRIPING & MARKINGS TO BE REMOVED.
- = EXISTING STRIPING & MARKINGS TO REMAIN.
- = PROPOSED STRIPING & MARKINGS.
- WORK AREA
- NIGHT WORK
- DIRECTION OF TRAVEL
- K-RAIL
- TEMPORARY SIGN
- TYPE III BARRICADE WITH SIGN
- EXISTING DIMENSION
- PROPOSED TEMPORARY DIMENSION
- EXISTING SIGN
- PROPOSED SIGN AND SIGN POST
- EXISTING SIGNING AND STRIPING
- SIGNALIZED INTERSECTION
- ABSORB 350 CRASH CUSHION



SIGN LEGEND



STAGES 1 & 2



THE CONTRACTOR IS REQUIRED BY GOVERNMENT CODE 4216 "CALIFORNIA ONE CALL LAW" TO CALL DIG ALERT AT LEAST TWO (2) WORKING DAYS BEFORE DIGGING. CONTRACTOR IS REQUIRED BY SAME CODE TO HAND-EXPOSE TO THE POINT OF NO CONFLICT 24" ON EITHER SIDE OF THE UNDERGROUND FACILITY SO YOU CAN DETERMINE ITS EXACT LOCATION BEFORE USING POWER EQUIPMENT.

No.	REVISION	DATE	BY



PREPARED BY:
ADVANTEC Consulting Engineers
 Traffic + ITS + Communications + Systems + Electrical
 21700 Copley Dr. Tel: (909) 860-6222
 Suite 350 Fax: (909) 860-67221
 Diamond Bar, CA 91765 www.advantec-usa.com

CITY OF BARSTOW
 220 E. MOUNTAIN VIEW ST SUITE A
 BARSTOW, CA 92311
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CITY OF BARSTOW:
 BRAD S. MERRELL
 CONSULTING CITY ENGINEER

PROJECT No. 5298-030
 CITY OF BARSTOW
 NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
 TRAFFIC CONTROL STAGE 1 & 2
 APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER
 DESIGNED: MJE R.C.E. NO. SHEET 65 OF 140
 DRAWN: LR DATE: 09/05/2018 PLAN NO.
 SCALE: AS-SHOWN AS BUILT: PLAN NO. 1594

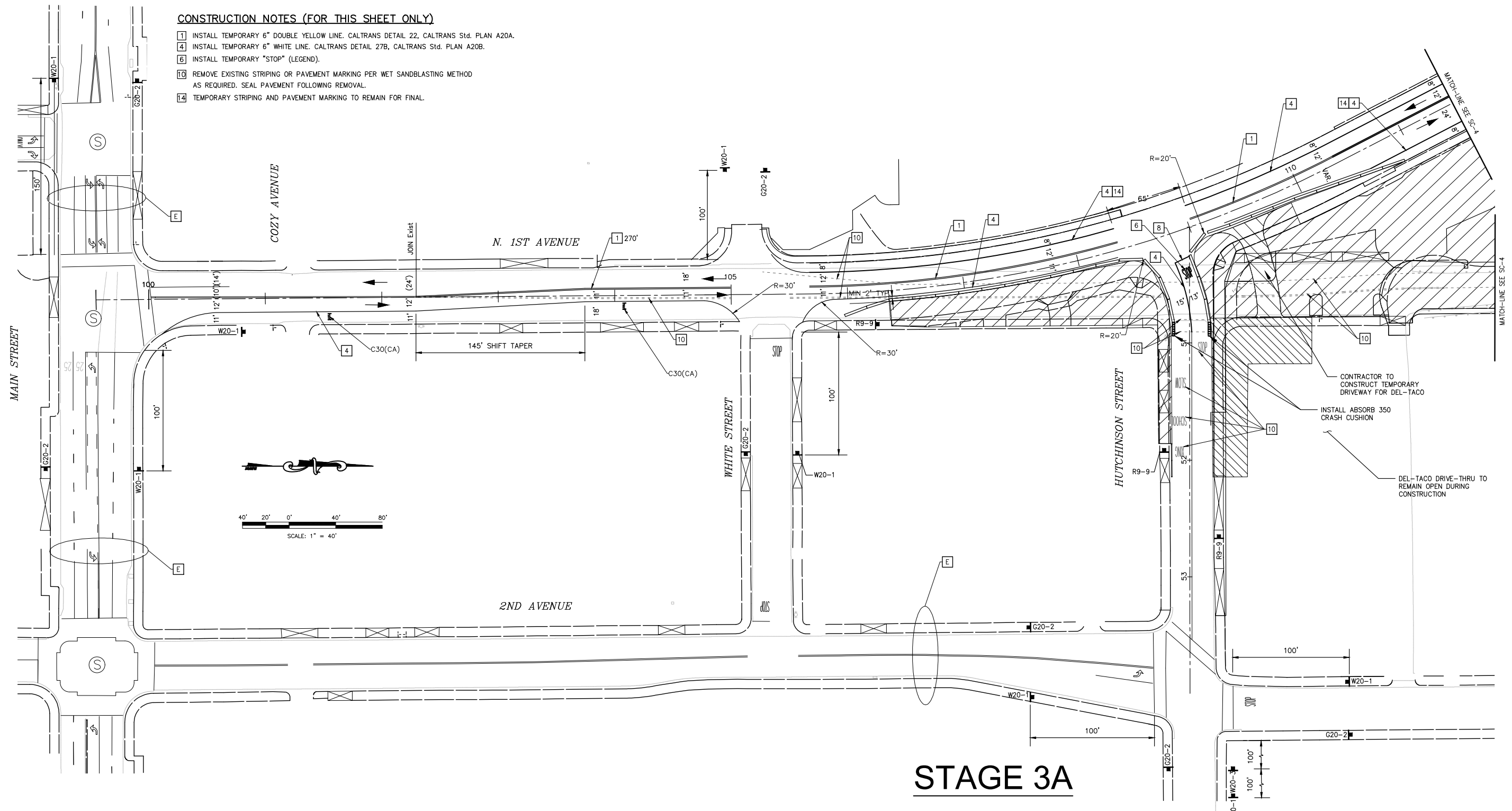
100% INTERIM PLANS FEB 20, 2019 NOT FOR CONSTRUCTION

NOTES:

- PLEASE SEE SHEET SC-1 FOR GENERAL NOTES, LEGEND, AND SIGN LEGEND.
- REMOVE TEMPORARY STRIPING AND PAVEMENT MARKING AFTER EACH STAGE OTHERWISE NOTED ON THE PLAN.

CONSTRUCTION NOTES (FOR THIS SHEET ONLY)

- 1 INSTALL TEMPORARY 6" DOUBLE YELLOW LINE. CALTRANS DETAIL 22, CALTRANS Std. PLAN A20A.
- 4 INSTALL TEMPORARY 6" WHITE LINE. CALTRANS DETAIL 27B, CALTRANS Std. PLAN A20B.
- 6 INSTALL TEMPORARY "STOP" (LEGEND).
- 10 REMOVE EXISTING STRIPING OR PAVEMENT MARKING PER WET SANDBLASTING METHOD AS REQUIRED. SEAL PAVEMENT FOLLOWING REMOVAL.
- 14 TEMPORARY STRIPING AND PAVEMENT MARKING TO REMAIN FOR FINAL.



STAGE 3A

PROJECT No. 5298-030



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No.	REVISION	DATE	BY



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 Diamond Bar, CA 91765 www.advantec-usa.com
 09-05-18

CITY OF BARSTOW
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CITY OF BARSTOW:
 BRAD S. MERRELL
 CONSULTING CITY ENGINEER
 DATE

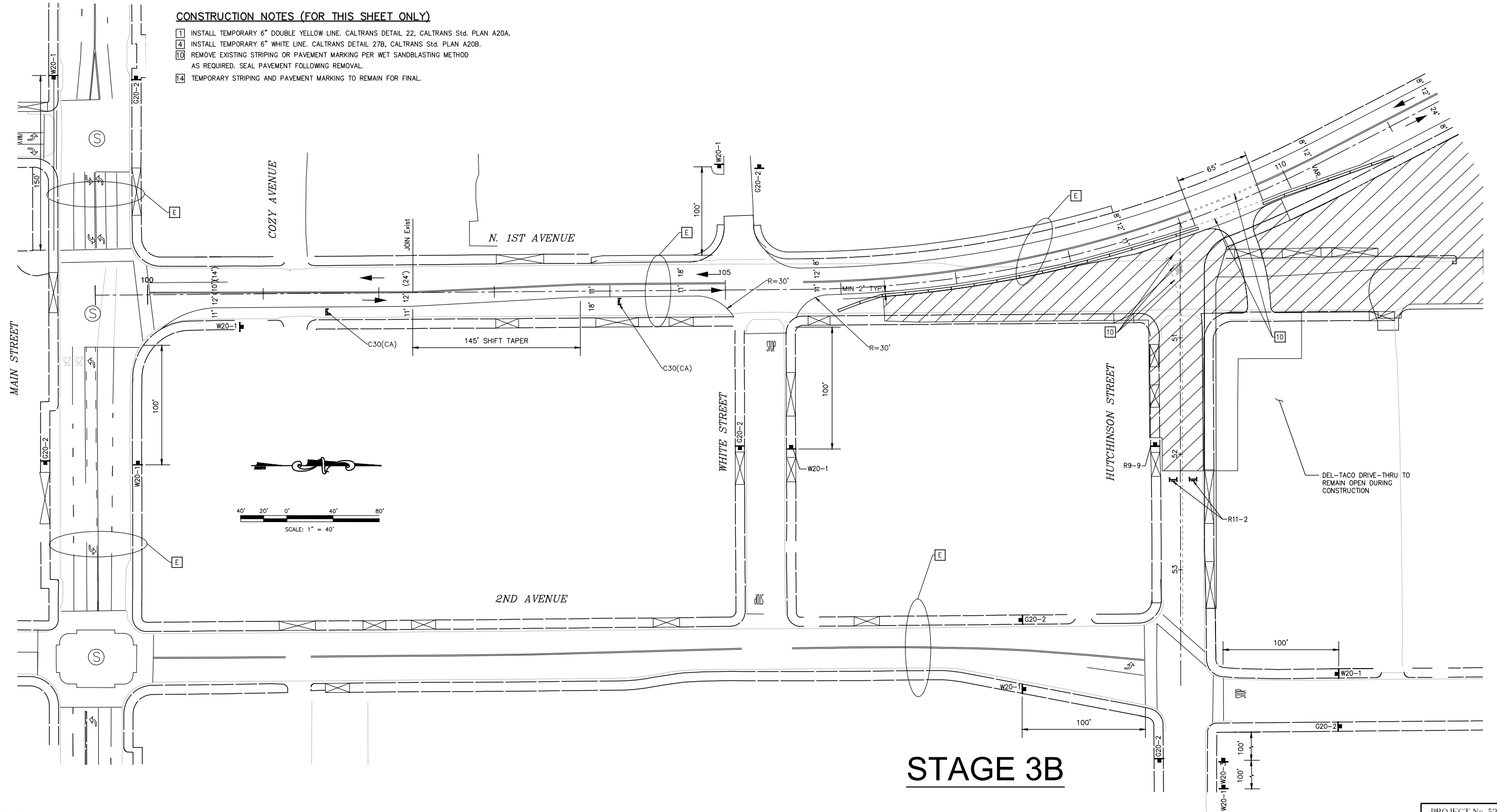
CITY OF BARSTOW
 NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
 TRAFFIC CONTROL STAGE 3A
 APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER
 DESIGNED: MJE R.C.E. NO. SHEET 66 OF 140
 DRAWN: LR DATE: 09/05/2018 PLAN NO.
 SCALE: AS-SHOWN AS BUILT: PLAN NO. 1594

NOTES:

- PLEASE SEE SHEET SC-1 FOR GENERAL NOTES, LEGEND, AND SIGN LEGEND.
- REMOVE TEMPORARY STRIPING AND PAVEMENT MARKING AFTER EACH STAGE OTHERWISE NOTED ON THE PLAN.

CONSTRUCTION NOTES (FOR THIS SHEET ONLY)

- [1] INSTALL TEMPORARY 6" DOUBLE YELLOW LINE. CALTRANS DETAIL 22, CALTRANS Std. PLAN A20A.
- [4] INSTALL TEMPORARY 6" WHITE LINE. CALTRANS DETAIL 27B, CALTRANS Std. PLAN A20B.
- [10] REMOVE EXISTING STRIPING OR PAVEMENT MARKING PER WET SANDBLASTING METHOD AS REQUIRED. SEAL PAVEMENT FOLLOWING REMOVAL.
- [14] TEMPORARY STRIPING AND PAVEMENT MARKING TO REMAIN FOR FINAL.



PROJECT No. 5298-030



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09-05-18



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CITY OF BARSTOW:
 BRAD S. MERRELL
 CONSULTING CITY ENGINEER

CITY OF BARSTOW
 NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
 TRAFFIC CONTROL STAGE 3B

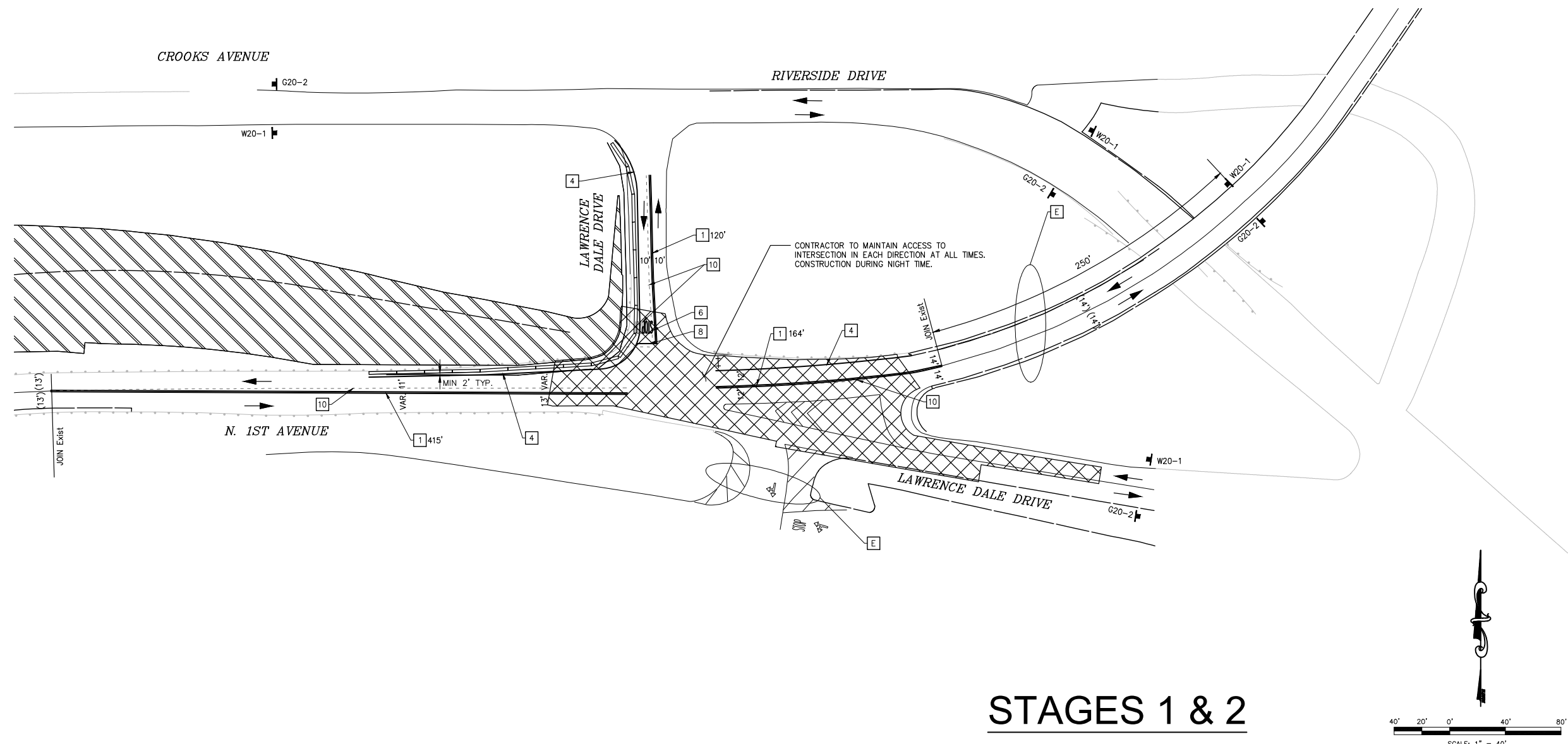
APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER
 DESIGNED: MJE R.C.E. NO. SHEET 67 OF 140
 DRAWN: LR DATE: 09/05/2018 PLAN NO.
 SCALE: AS-SHOWN AS BUILT: PLAN NO. 1594

NOTES:

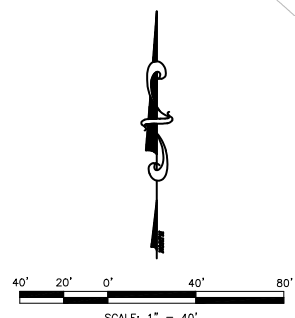
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- REMOVE TEMPORARY STRIPING AND PAVEMENT MARKING AFTER EACH STAGE OTHERWISE NOTED ON THE PLAN.

CONSTRUCTION NOTES (FOR THIS SHEET ONLY)

- 1 INSTALL 6" DOUBLE YELLOW LINE. CALTRANS DETAIL 22, CALTRANS Std. PLAN A20A.
- 4 INSTALL 6" RIGHT EDGE LINE. CALTRANS DETAIL 27B, CALTRANS Std. PLAN A20B. MINIMUM 2' FROM K-RAIL
- 6 INSTALL "STOP" (LEGEND).
- 8 INSTALL 12" WHITE LIMIT LINE. CALTRANS Std. PLAN A24E
- 10 REMOVE EXISTING STRIPING OR PAVEMENT MARKING PER WET SANDBLASTING METHOD AS REQUIRED. SEAL PAVEMENT FOLLOWING REMOVAL.



STAGES 1 & 2



PROJECT No. 5298-030



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No.	REVISION	DATE	BY



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 Tel: (909) 860-6222 Fax: (909) 860-6721
 www.advantec-usa.com

CITY OF BARSTOW
 220 E. MOUNTAIN VIEW ST SUITE A
 BARSTOW, CA 92311

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CITY OF BARSTOW:
 BRAD S. MERRELL
 CONSULTING CITY ENGINEER

CITY OF BARSTOW NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD TRAFFIC CONTROL STAGE 1 & 2		
APPROVED BY: BRAD S. MERRELL	TITLE: CONSULTING CITY ENGINEER	
DESIGNED: MJE	R.C.E. NO.	SHEET 68 OF 140
DRAWN: LR	DATE: 09/05/2018	PLAN NO.
SCALE: AS-SHOWN	AS BUILT:	1594

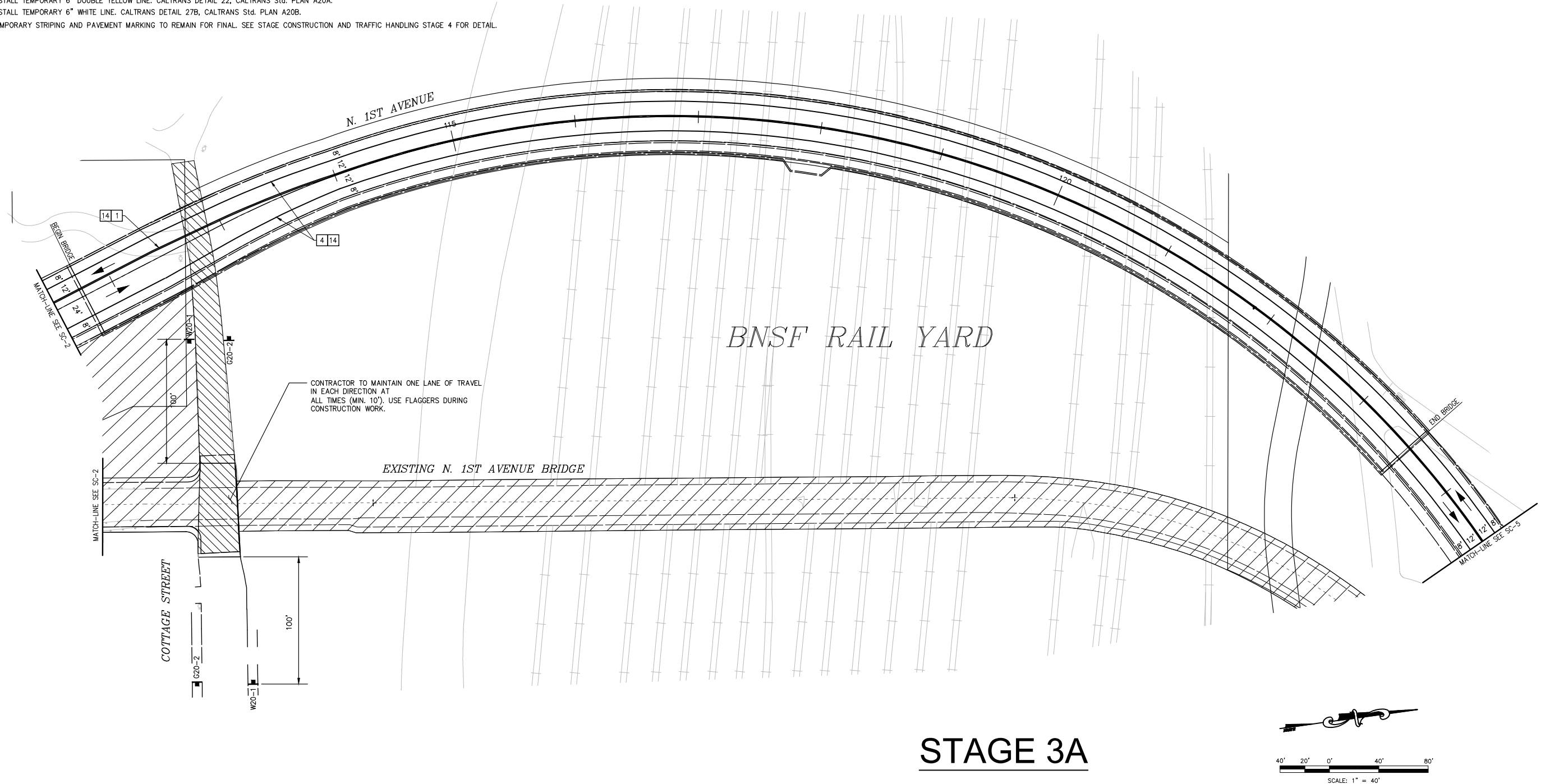
100% INTERIM PLANS FEB 20, 2019 NOT FOR CONSTRUCTION

NOTES:

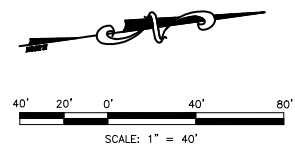
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- REMOVE TEMPORARY STRIPING AND PAVEMENT MARKING AFTER EACH STAGE OTHERWISE NOTED ON THE PLAN.

CONSTRUCTION NOTES (FOR THIS SHEET ONLY)

- INSTALL TEMPORARY 6" DOUBLE YELLOW LINE. CALTRANS DETAIL 22, CALTRANS Std. PLAN A20A.
- INSTALL TEMPORARY 6" WHITE LINE. CALTRANS DETAIL 27B, CALTRANS Std. PLAN A20B.
- TEMPORARY STRIPING AND PAVEMENT MARKING TO REMAIN FOR FINAL. SEE STAGE CONSTRUCTION AND TRAFFIC HANDLING STAGE 4 FOR DETAIL.



STAGE 3A



PROJECT No. 5298-030



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CITY OF BARSTOW:
 BRAD S. MERRELL
 CONSULTING CITY ENGINEER
 DATE

CITY OF BARSTOW
 NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
 TRAFFIC CONTROL STAGE 3A
 APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER
 DESIGNED: MJE R.C.E. NO. SHEET 69 OF 140
 DRAWN: LR DATE: 09/05/2018 PLAN NO.
 SCALE: AS-SHOWN AS BUILT: . PLAN NO. 1594

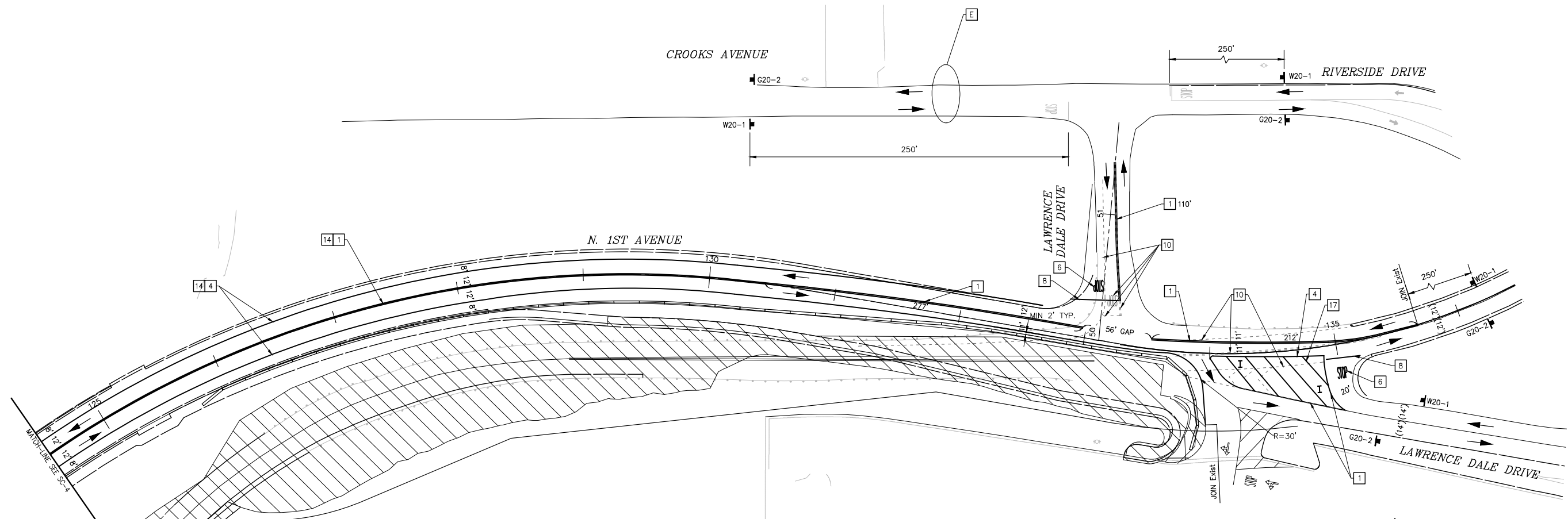
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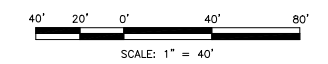
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CONSTRUCTION NOTES (FOR THIS SHEET ONLY)

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- 6 INSTALL TEMPORARY "STOP" (LEGEND).
- 8 INSTALL 12" WHITE LIMIT LINE. CALTRANS Std. PLAN A24E.
- 10 REMOVE EXISTING STRIPING OR PAVEMENT MARKING PER WET SANDBLASTING METHOD AS REQUIRED. SEAL PAVEMENT FOLLOWING REMOVAL.
- 14 TEMPORARY STRIPING AND PAVEMENT MARKING TO REMAIN FOR FINAL.
- 17 INSTALL 12" WHITE DIAGONAL LINE AT 45° AND 15' SPACING.



STAGE 3A



PROJECT No. 5298-030



THE CONTRACTOR IS REQUIRED BY GOVERNMENT CODE 4216 "CALIFORNIA ONE CALL LAW" TO CALL DIG ALERT AT LEAST TWO (2) WORKING DAYS BEFORE DIGGING. CONTRACTOR IS REQUIRED BY SAME CODE TO HAND-EXPOSE TO THE POINT OF NO CONFLICT 24" ON EITHER SIDE OF THE UNDERGROUND FACILITY SO YOU CAN DETERMINE ITS EXACT LOCATION BEFORE USING POWER EQUIPMENT.

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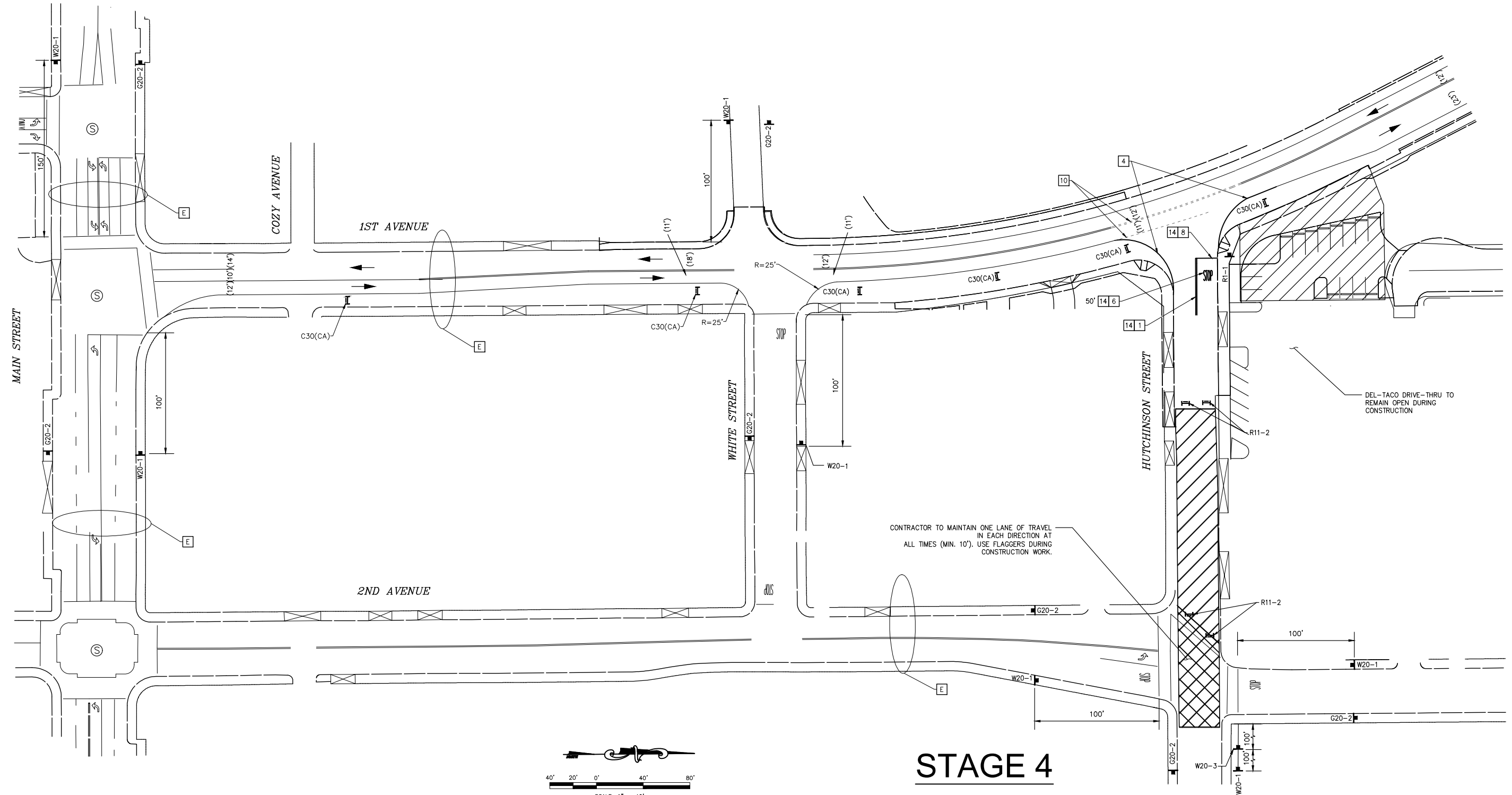
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 BRAD S. MERRELL
 CONSULTING CITY ENGINEER
 DATE

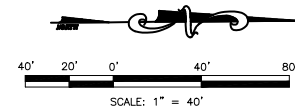
CITY OF BARSTOW
 NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
 TRAFFIC CONTROL STAGE 3A
 APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER
 DESIGNED: MJE R.C.E. NO. SHEET 70 OF 140
 DRAWN: LR DATE: 09/05/2018 PLAN NO.
 SCALE: AS-SHOWN AS BUILT: PLAN NO. 1594

CONSTRUCTION NOTES (THIS SHEET)

- 1 INSTALL 6" DOUBLE YELLOW LINE. CALTRANS DETAIL 22, CALTRANS Std. PLAN A20A.
- 4 INSTALL 6" WHITE LINE. CALTRANS DETAIL 27B, CALTRANS Std. PLAN A20B.
- 6 INSTALL "STOP" (LEGEND).
- 8 INSTALL 12" WHITE LIMIT LINE. CALTRANS Std. A24E.
- 10 REMOVE EXISTING STRIPING OR PAVEMENT MARKING PER WET SANDBLASTING METHOD AS REQUIRED. SEAL PAVEMENT FOLLOWING REMOVAL.
- 14 TEMPORARY STRIPING AND PAVEMENT MARKING TO REMAIN FOR FINAL.



STAGE 4



THE CONTRACTOR IS REQUIRED BY GOVERNMENT CODE 4216 "CALIFORNIA ONE CALL LAW" TO CALL DIG ALERT AT LEAST TWO (2) WORKING DAYS BEFORE DIGGING. CONTRACTOR IS REQUIRED BY SAME CODE TO HAND-EXPOSE TO THE POINT OF NO CONFLICT 24" ON EITHER SIDE OF THE UNDERGROUND FACILITY SO YOU CAN DETERMINE ITS EXACT LOCATION BEFORE USING POWER EQUIPMENT.

No.	REVISION	DATE	BY



PREPARED BY:
ADVANTEC Consulting Engineers
 Traffic + ITS + Communications Systems Electrical
 21700 Copley Dr. Tel: (909) 860-6222
 Suite 350 Fax: (909) 860-67221
 Diamond Bar, CA 91765 www.advantec-usa.com
 09-05-18

CITY OF BARSTOW
 220 E. MOUNTAIN VIEW ST SUITE A
 BARSTOW, CA 92311

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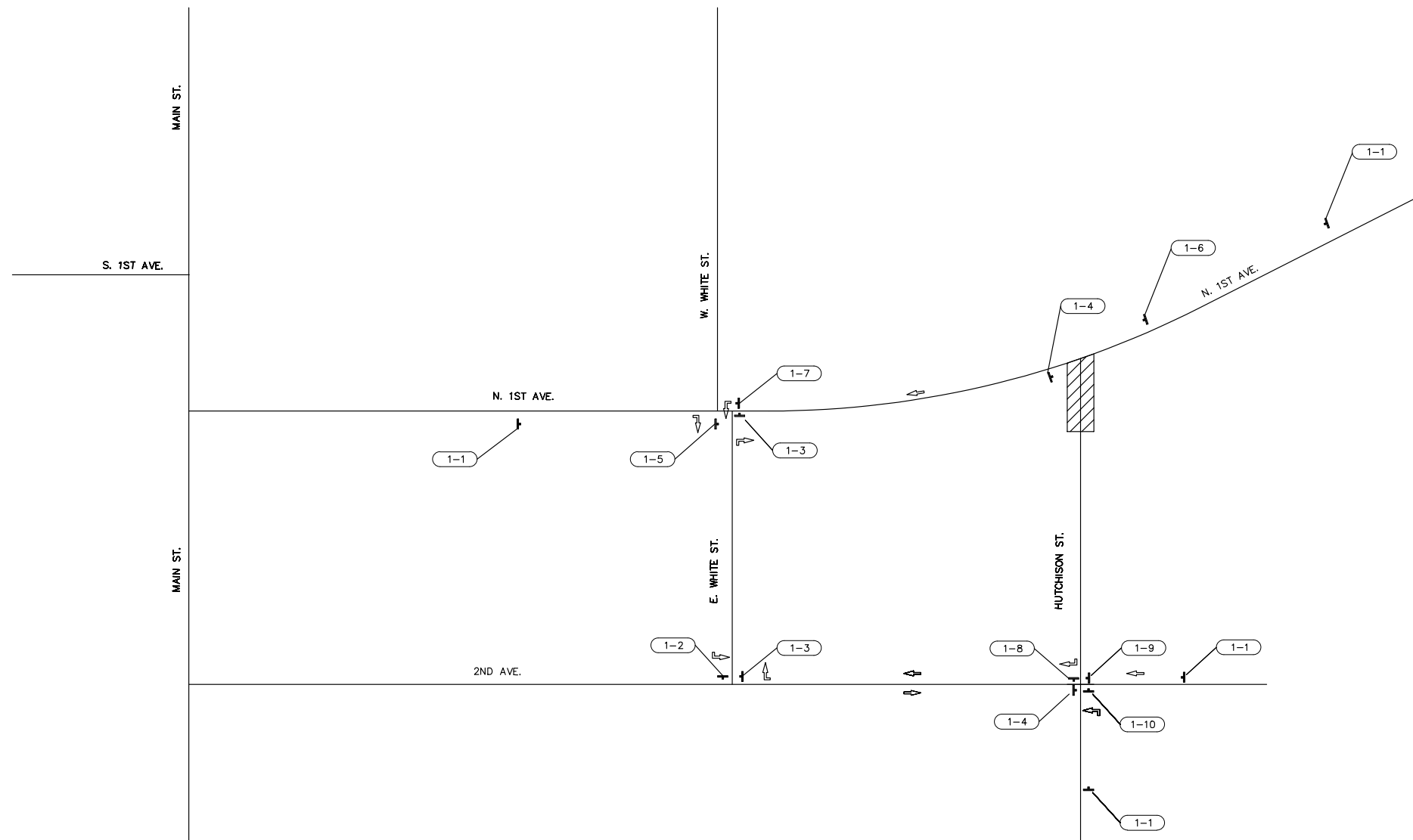
CITY OF BARSTOW:
 BRAD S. MERRELL
 CONSULTING CITY ENGINEER
 DATE

PROJECT No. 5298-030
 CITY OF BARSTOW
 NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
 TRAFFIC CONTROL STAGE 4
 APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER
 DESIGNED: MJE R.C.E. NO. SHEET 71 OF 140
 DRAWN: LR DATE: 09/05/2018 PLAN NO.
 SCALE: AS-SHOWN AS BUILT: 1594

100% INTERIM PLANS FEB 20, 2019 NOT FOR CONSTRUCTION

DETOUR SIGNS

SIGN No.	SIGN CODE		PANEL SIZE	SIGN MESSAGE	NUMBER OF SIGNS
	FEDERAL	CALIFORNIA			
X-X					
1-1	W20-2		48" x 48"	DETOUR AHEAD	4
1-2	M4-10(Lt)		48" x 18"	DETOUR LEFT ARROW	1
1-3	M4-10(Rt)		48" x 18"	DETOUR RIGHT ARROW	2
1-4	M4-8a		24" x 18"	END DETOUR	2
1-5		SC9(CA)		HUTCHINSON ST. DETOUR RIGHT ARROW	1
1-6		SC9(CA)		HUTCHINSON ST. DETOUR THROUGH ARROW	1
1-7		SC9(CA)		HUTCHINSON ST. DETOUR LEFT ARROW	1
1-8		SC9(CA)		N. 1ST AVE. DETOUR RIGHT ARROW	1
1-9		SC9(CA)		N. 1ST AVE. DETOUR THROUGH ARROW	1
1-10		SC9(CA)		N. 1ST AVE. DETOUR LEFT ARROW	1



LEGEND:

- CONSTRUCTION AREA SIGN, 1 POST
- CONSTRUCTION AREA SIGN, 2 POST
- CONSTRUCTION AREA
- CONSTRUCTION AREA SIGN
- DIRECTIONAL ARROW

STAGE 3



PROJECT No. 5298-030



THE CONTRACTOR IS REQUIRED BY GOVERNMENT CODE 4216 "CALIFORNIA ONE CALL LAW" TO CALL DIG ALERT AT LEAST TWO (2) WORKING DAYS BEFORE DIGGING. CONTRACTOR IS REQUIRED BY SAME CODE TO HAND-EXPOSE TO THE POINT OF NO CONFLICT 24" ON EITHER SIDE OF THE UNDERGROUND FACILITY SO YOU CAN DETERMINE ITS EXACT LOCATION BEFORE USING POWER EQUIPMENT.

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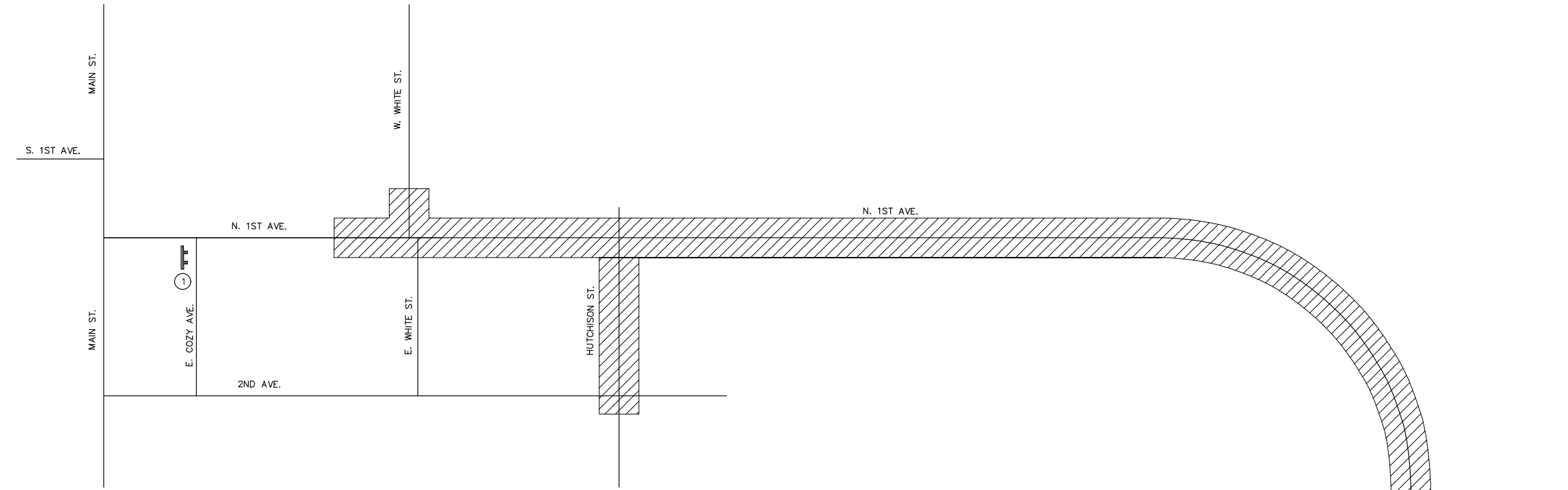
09-05-18



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CITY OF BARSTOW:
 BRAD S. MERRELL
 CONSULTING CITY ENGINEER

CITY OF BARSTOW NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD DETOUR STAGE 3		TITLE: CONSULTING CITY ENGINEER	
APPROVED BY: BRAD S. MERRELL	TITLE: CONSULTING CITY ENGINEER	DESIGNED: MJE	R.C.E. NO.
DRAWN: WC	DATE: 09/05/2018	SCALE: AS-SHOWN	AS BUILT:
SHEET 72 OF 140		PLAN NO. 1594	

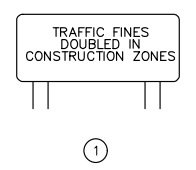


CONSTRUCTION AREA SIGNS:

SIGN No.	SIGN CODE	SIGN MESSAGE	PANEL SIZE (INCHES)	POST SIZE (INCHES)	No. OF POSTS	No. OF SIGNS
(1)	C40(CA)	TRFFIC FINES DOUBLED IN CONSTRUCTION ZONES	144 X 60	6 X 8	4	2
TOTAL					4	2

* = PROVIDE FLASHING BEACONS PER CANLTRANS STD PLAN T10.

SIGNS DETAILS:



LEGEND:

- CONSTRUCTION AREA SIGN, 2 POST
- CONSTRUCTION AREA
- CONSTRUCTION AREA SIGN



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CITY OF BARSTOW
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CITY OF BARSTOW:
 BRAD S. MERRELL
 CONSULTING CITY ENGINEER
 DATE

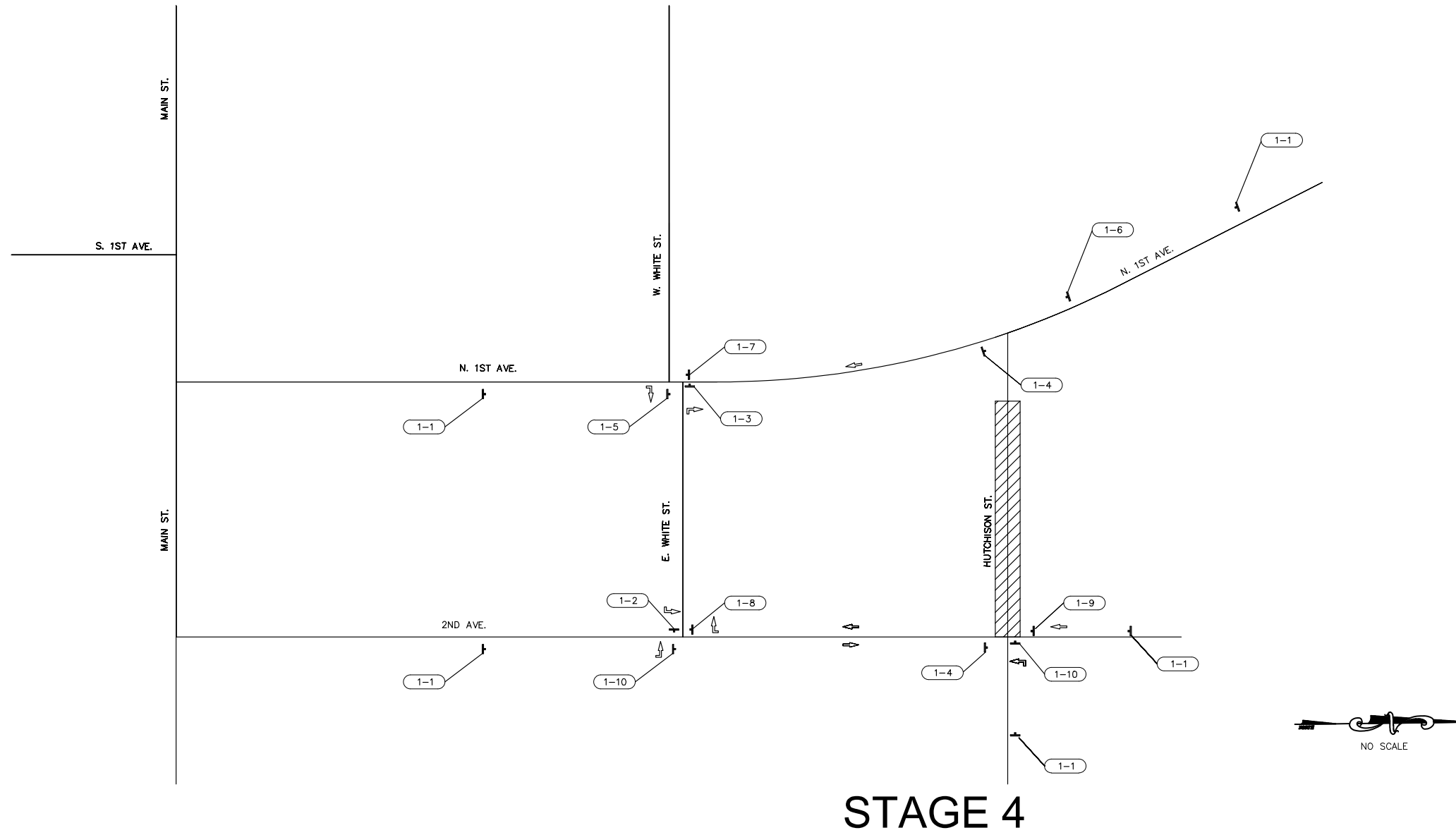
PROJECT No. 5298-030
 CITY OF BARSTOW
 NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
 CONSTRUCTION AREA SIGNS
 APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER
 DESIGNED: MJE R.C.E. NO. SHEET 73 OF 140
 DRAWN: WC DATE: 09/05/2018 PLAN NO.
 SCALE: AS-SHOWN AS BUILT: . PLAN NO. 1594

LEGEND:

-  CONSTRUCTION AREA SIGN, 1 POST
-  CONSTRUCTION AREA SIGN, 2 POST
-  CONSTRUCTION AREA
-  CONSTRUCTION AREA SIGN
-  DIRECTIONAL ARROW

DETOUR SIGNS

SIGN No.	SIGN CODE		PANEL SIZE	SIGN MESSAGE	NUMBER OF SIGNS
	FEDERAL	CALIFORNIA			
1-1	W20-2		48" x 48"	DETOUR AHEAD	4
1-2	M4-10(Lt)		48" x 18"	DETOUR LEFT ARROW	1
1-3	M4-10(Rt)		48" x 18"	DETOUR RIGHT ARROW	1
1-4	M4-8a		24" x 18"	END DETOUR	2
1-5		SC9(CA)		HUTCHINSON ST. DETOUR RIGHT ARROW	1
1-6		SC9(CA)		HUTCHINSON ST. DETOUR THROUGH ARROW	1
1-7		SC9(CA)		HUTCHINSON ST. DETOUR LEFT ARROW	1
1-8		SC9(CA)		N. 1ST AVE. DETOUR RIGHT ARROW	1
1-9		SC9(CA)		N. 1ST AVE. DETOUR THROUGH ARROW	1
1-10		SC9(CA)		N. 1ST AVE. DETOUR LEFT ARROW	2



STAGE 4

PROJECT No. 5298-030



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09-05-18

CITY OF BARSTOW
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 BARSTOW, CA 92311

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CITY OF BARSTOW:
 BRAD S. MERRELL
 CONSULTING CITY ENGINEER

CITY OF BARSTOW
 NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
 DETOUR STAGE 4

APPROVED BY: BRAD S. MERRELL	TITLE: CONSULTING CITY ENGINEER
DESIGNED: MJE	R.C.E. NO.
DRAWN: WC	DATE: 09/05/2018
SCALE: AS-SHOWN	AS BUILT:

SHEET 74 OF 140
 PLAN NO. 1594

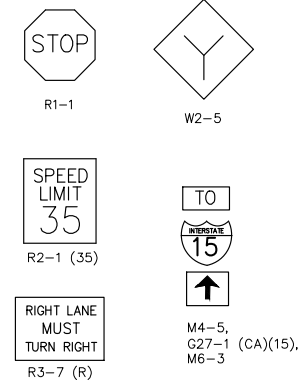
SIGNING AND STRIPING GENERAL NOTES:

1. TRAFFIC STRIPING, TRAFFIC SIGNING, PAVEMENT LEGENDS, MARKINGS AND RAISED PAVEMENT MARKERS SHALL CONFORM TO THE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CA MUTCD) LATEST EDITION, THE CALIFORNIA DEPARTMENT OF TRANSPORTATION (CALTRANS) STANDARD PLANS AND SPECIFICATIONS LATEST EDITION AND ALL ADDENDUMS THERETO, AND THE CITY OF BARSTOW PUBLIC WORKS DEPARTMENT STANDARDS PLANS, LATEST EDITION.
2. REFLECTORIZE ALL STRIPES AND LEGENDS, STRIPING, PAVEMENT MARKINGS AND LEGENDS SHALL CONFORM TO THE LATEST CALTRANS STANDARD PLANS A20A-D AND A24A-E.
3. TRAFFIC STRIPES AND MARKINGS SHALL BE APPLIED IN TWO COATS. A MINIMUM OF SEVEN DAYS SHALL BE PROVIDED BETWEEN FIRST AND SECOND COATS.
4. ALL CONFLICTING LINES, EXISTING CURB PAINT, AND MARKINGS SHALL BE REMOVED BY WET SANDBLASTING OR OTHER APPROVED METHOD PRIOR TO INSTALLATION OF NEW STRIPING. ALL CONFLICTING RAISED PAVEMENT MARKERS SHALL BE REMOVED. PAVEMENT THAT IS DAMAGED DUE TO REMOVAL OF MARKERS SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER.
5. FIRST STRIPING COAT SHALL BE APPLIED WITHIN 24 HOURS OF SURFACE COURSE. IN NO CASE SHALL A NEWLY PAVED STREET OPEN TO THE PUBLIC BE LEFT UNSTRIPED OVER A WEEKEND OR HOLIDAY.
6. STRIPING SHALL BE CAT TRACKED AND APPROVED BY THE ENGINEER PRIOR TO FINAL INSTALLATION.
7. A SLURRY SEAL PATCH WILL BE REQUIRED IF SLURRY SEAL IS DAMAGED BY STRIPING OR R.P.M. REMOVAL.
8. THE CONTRACTOR SHALL INSTALL BLUE RAISED PAVEMENT MARKERS ADJACENT TO ALL FIRE HYDRANTS PER CA MUTCD FIG. 3B-102 (CA).

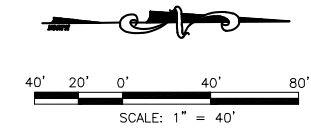
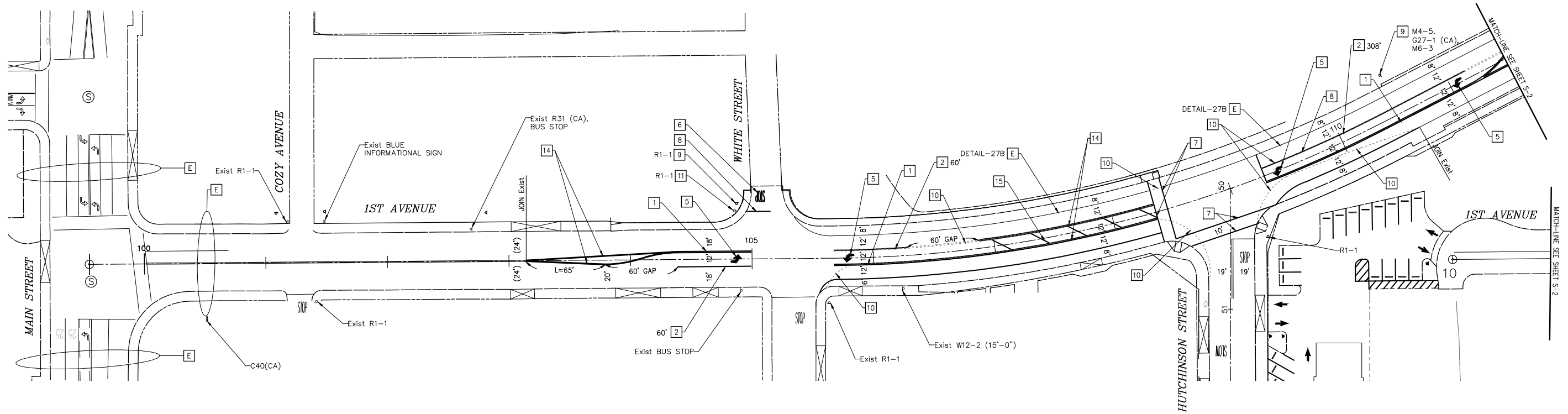
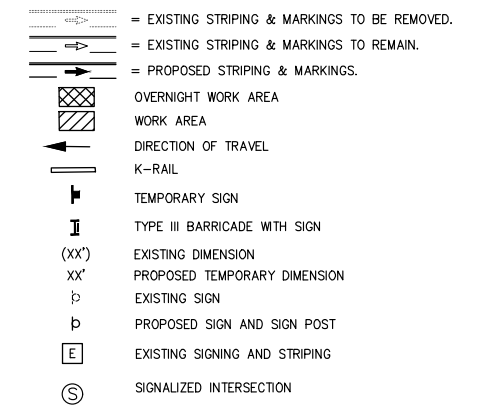
CONSTRUCTION NOTES

1. INSTALL 6" DOUBLE YELLOW LINE. CALTRANS DETAIL 22, CALTRANS Std. PLAN A20A.
2. INSTALL 8" WHITE LINE. CALTRANS DETAIL 38, CALTRANS Std. PLAN A20D.
3. INSTALL 6" DOUBLE YELLOW LINE. CALTRANS DETAIL 29, CALTRANS Std. PLAN A20B.
4. INSTALL 6" WHITE LINE. CALTRANS DETAIL 27B, CALTRANS Std. PLAN A20B.
5. INSTALL TYPE IV (RT) OR (LT) ARROW (LEGEND).
6. INSTALL "STOP" (LEGEND).
7. INSTALL 12" WHITE CROSS-WALK.
8. INSTALL 12" WHITE LIMIT LINE. CALTRANS Std. PLAN A24E.
9. INSTALL SIGN(S) ON NEW POST.
10. REMOVE EXISTING STRIPING OR PAVEMENT MARKING PER WET SANDBLASTING METHOD AS REQUIRED. SEAL PAVEMENT FOLLOWING REMOVAL.
11. REMOVE EXISTING SIGN(S) AND POST COMPLETE.
12. INSTALL 8" WHITE LINE. CALTRANS DETAIL 36, CALTRANS Std. PLAN A20C.
13. INSTALL 8" CHEVRONS WHITE LINE AT 35' SPACING.
14. INSTALL 6" DOUBLE YELLOW LINE. CALTRANS DETAIL 28, CALTRANS Std. PLAN A20B.
15. INSTALL 12" WHITE DIAGONAL LINE AT 45° AND 32' SPACING.
16. INSTALL 8" CHEVRONS WHITE LINE AT 25' SPACING.
17. INSTALL 12" WHITE DIAGONAL LINE AT 45° AND 15' SPACING.

SIGN LEGEND



LEGEND:

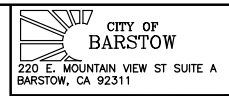


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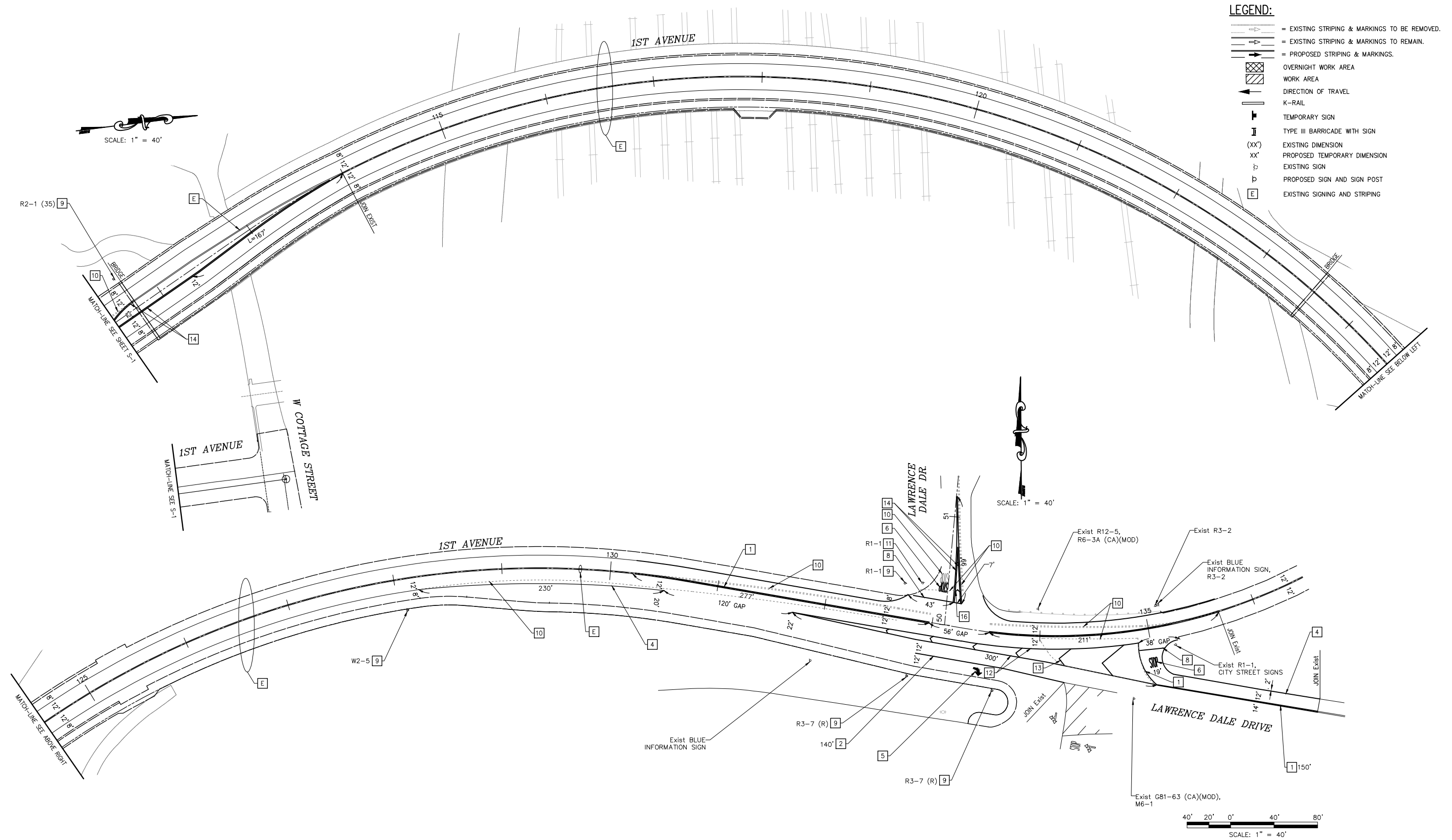
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CITY OF BARSTOW:
 BRAD S. MERRELL
 CONSULTING CITY ENGINEER
 DATE

PROJECT No. 5290-030
CITY OF BARSTOW
 NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
 SIGNING AND STRIPING
 APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER
 DESIGNED: MJE R.C.E. NO. SHEET 75 OF 140
 DRAWN: WC DATE: 09/05/2018 PLAN No.
 SCALE: AS-SHOWN AS BUILT: 1594

100% INTERIM PLANS FEB 20, 2019 NOT FOR CONSTRUCTION

- LEGEND:**
- = EXISTING STRIPING & MARKINGS TO BE REMOVED.
 - = EXISTING STRIPING & MARKINGS TO REMAIN.
 - = PROPOSED STRIPING & MARKINGS.
 - OVERNIGHT WORK AREA
 - WORK AREA
 - DIRECTION OF TRAVEL
 - K-RAIL
 - TEMPORARY SIGN
 - TYPE III BARRICADE WITH SIGN
 - EXISTING DIMENSION
 - PROPOSED TEMPORARY DIMENSION
 - EXISTING SIGN
 - PROPOSED SIGN AND SIGN POST
 - EXISTING SIGNING AND STRIPING



SCALE: 1" = 40'

SCALE: 1" = 40'

SCALE: 1" = 40'



THE CONTRACTOR IS REQUIRED BY GOVERNMENT CODE 4216 "CALIFORNIA ONE CALL LAW" TO CALL DIG ALERT AT LEAST TWO (2) WORKING DAYS BEFORE DIGGING. CONTRACTOR IS REQUIRED BY SAME CODE TO HAND-EXPOSE TO THE POINT OF NO CONFLICT 24" ON EITHER SIDE OF THE UNDERGROUND FACILITY SO YOU CAN DETERMINE ITS EXACT LOCATION BEFORE USING POWER EQUIPMENT.

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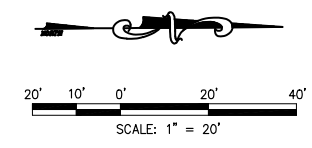
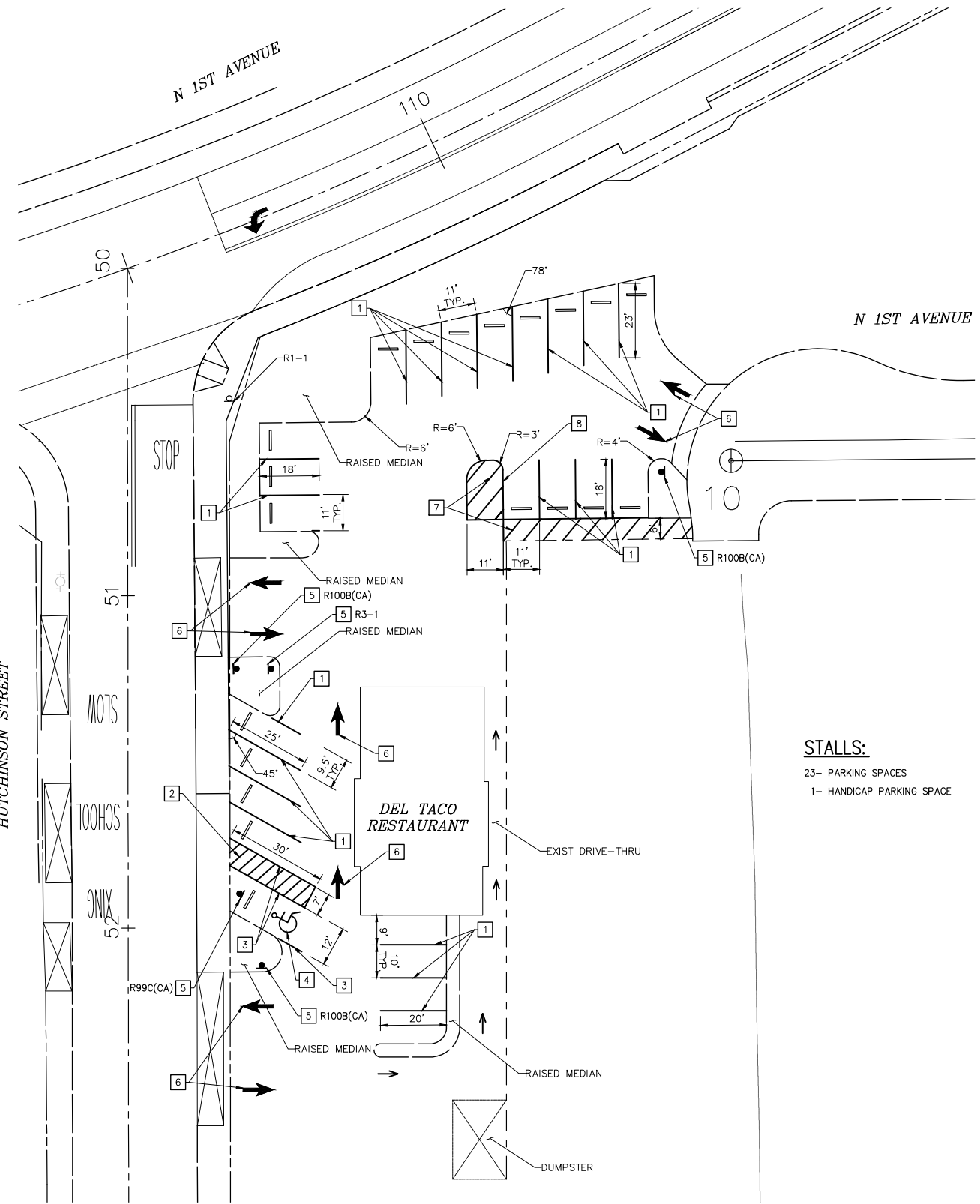
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CITY OF BARSTOW
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CITY OF BARSTOW:
 BRAD S. MERRELL
 CONSULTING CITY ENGINEER
 DATE

CITY OF BARSTOW
 NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
 SIGNING AND STRIPING
 APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER
 DESIGNED: MJE R.C.E. NO. SHEET 76 OF 140
 DRAWN: WC DATE: 09/05/2018 PLAN NO.
 SCALE: AS-SHOWN AS BUILT: PLAN NO. 1594

PROJECT No. 5290-030



SIGN LEGEND:

		UNAUTHORIZED VEHICLES PARKED IN DESIGNATED ACCESSIBLE SPACES NOT DISPLAYING DISTINGUISHING PLACARDS OR SPECIAL LICENSE PLATES ISSUED FOR PERSONS WITH DISABILITIES WILL BE TOWED AWAY AT THE OWNER'S EXPENSE TOWED VEHICLES MAY BE RECLAIMED AT OR BY TELEPHONING (XXX)XXX-XXXX R100B(CA)
R3-1	R99C(CA)	

STALLS:
 23- PARKING SPACES
 1- HANDICAP PARKING SPACE

LEGEND:

- EXISTING STRIPING & MARKINGS.
- PROPOSED STRIPING & MARKINGS.
- PROPOSED PARKING BUMPER (6'x6")
- PROPOSED SIGN AND SIGN POST
- DIRECTION OF TRAVEL

CONSTRUCTION NOTES:

- 1 INSTALL 4" WHITE LINE PER CALTRANS STD. A90A.
- 2 INSTALL 4" BLUE DIAGONAL LINE AT 3' SPACING PER CALTRANS STD. A90A.
- 3 INSTALL 4" BLUE BORDER LINE PER CALTRANS STD. A90A.
- 4 INSTALL BLUE PAVEMENT MARKING AS SHOWN.
- 5 INSTALL SIGN(S) AS SHOWN.
- 6 INSTALL WHITE TYPE I ARROW PER CALTRANS STD. A24A.
- 7 INSTALL 4" WHITE DIAGONAL LINE AT 6' SPACING AS SHOWN.
- 8 INSTALL 4" WHITE LINE AS SHOWN.
- 9 EXISTING STRIPING.

PROJECT No. 5290-030



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CITY OF BARSTOW:
 BRAD S. MERRELL
 CONSULTING CITY ENGINEER
 DATE

CITY OF BARSTOW
 NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
 DEL-TACO PARKING LOT STRIPING
 APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER
 DESIGNED: MJE R.C.E. NO. SHEET 77 OF 140
 DRAWN: WC DATE: 09/05/2018 PLAN NO.
 SCALE: AS-SHOWN AS BUILT: 1594

GENERAL NOTES:

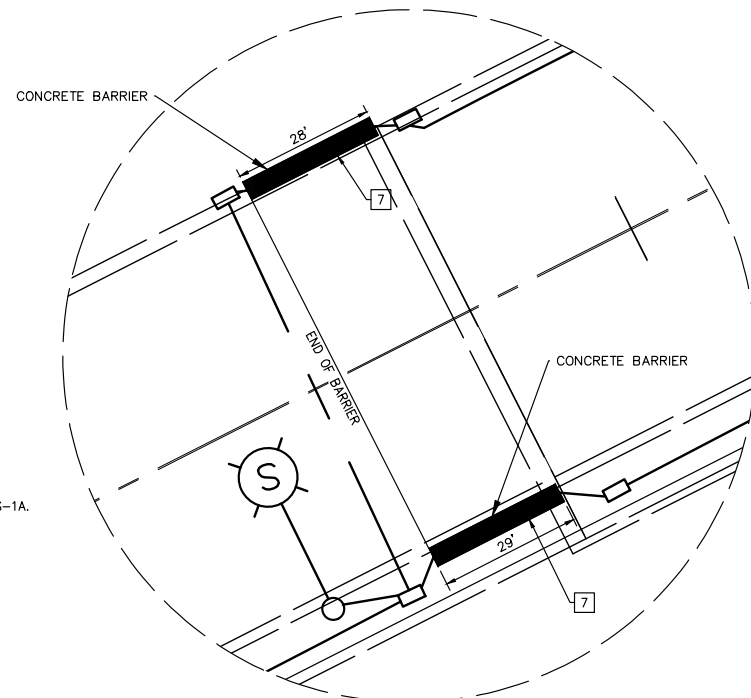
1. THE CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT AT (811) 227-2608 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION. THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR ANY AND ALL DAMAGES TO EXISTING UTILITIES.
2. SCE SERVICE PLANNER, (TBD), WORK ORDER NUMBER, (TBD).
3. 10 AMP FUSED SPLICE CONNECTORS SHALL BE USED FOR LUMINAIRE CONNECTIONS. SPLICE CONNECTORS SHALL BE LOCATED IN ADJACENT PULL BOX.
4. NEW CONDUITS SHALL BE A MINIMUM 2" PVC SCHEDULE 80 UNLESS NOTED OTHERWISE. ALL NEW LIGHTING PULL BOXES SHALL BE NO. 5 MINIMUM WITH 45 DEGREE SWEEPS AT THE FAR ENDS OF THE PULL BOX.
5. THE CONTRACTOR SHALL GROUT ALL NEW PULL BOXES.
6. THE ENGINEER SHALL APPROVE THE EXACT LOCATION OF ALL PULL BOXES, CONDUITS, AND POLES IN THE FIELD PRIOR TO INSTALLATION.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL EXISTING STREET LIGHTS OPERATIONAL.
8. NEW PULL BOXES SHALL BE LOCATED MINIMUM 1 FOOT OUTSIDE ANY BCR/ECR.

CONSTRUCTION NOTES (THIS SHEET):

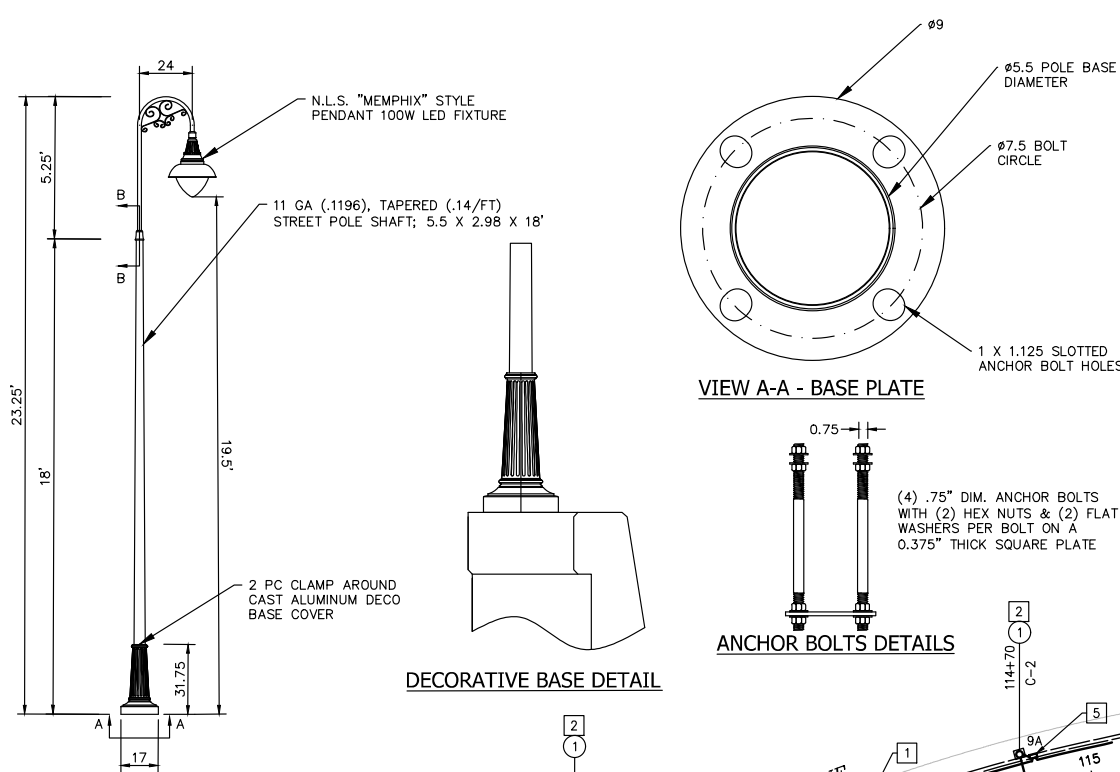
- 1 FURNISH AND INSTALL 2" CONDUIT WITH 3#6 WIRE IN BARRIER. PER CALTRANS STD. PLAN ES-9A DETAIL "D".
- 2 FURNISH AND INSTALL DECORATIVE LIGHT FIXTURE TYPE SEE SPECIAL PROVISION FOR DETAIL.
- 3 FURNISH AND INSTALL 2" CONDUIT WITH CONDUCTORS AS SHOWN ON THE PLAN.
- 4 FURNISH AND INSTALL 120 V/240 V TYPE III-BF LIGHTING SERVICE CABINET WITH THE FOLLOWING CIRCUIT BREAKERS PER CALTRANS STANDARD PLANS RSP ES-2E:
100 A, 240 V, 2P MAIN CB
30 A, 240 V, 2P LIGHTING CIRCUIT "A" CB
30 A, 240 V, 2P LIGHTING CIRCUIT "B" CB
30 A, 240 V, 2P LIGHTING CIRCUIT "C" CB
15 A, 120 V, 1P LIGHTING CONTROL CB
- 5 FURNISH AND INSTALL #9A PULL BOX FOR STRUCTURE STREET LIGHT PER CALTRANS STANDARD PLAN RSP ES-9D DETAIL D.
- 6 FURNISH AND INSTALL #5 PULL BOX FOR STREET LIGHT PER CALTRANS STANDARD PLAN RSP ES-8A.
- 7 FURNISH AND INSTALL 2" CONDUIT WITH 3#6 WIRE IN BARRIER. PER CALTRANS STD. PLAN ES-9A DETAIL "I".
- 8 FURNISH AND INSTALL 2" CONDUIT WITH 3#6 WIRE. SEE BRIDGE STRUCTURE PLAN FOR MORE DETAILS.
- 9 FURNISH AND INSTALL 3" PVC CONDUIT WITH 1/3" POLY PULL ROPE PER SCE REQUIREMENTS. COORDINATE SERVICE WITH SCE PLANNING DEPARTMENT AT 760-252-6416.
- RS REMOVE AND SALVAGE EQUIPMENT. CALTRANS STANDARD PLAN ES-1A.

LEGEND

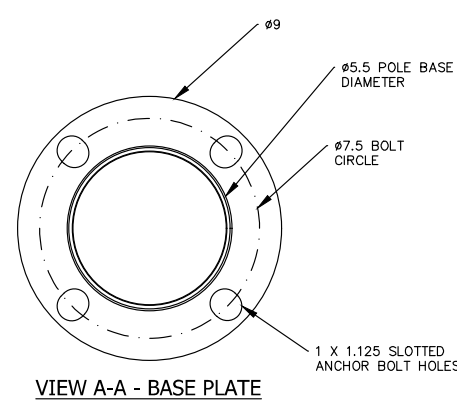
- EXISTING CURB
- - - PROPOSED CONDUIT
- ⊙ PROPOSED DECORATIVE FIXTURE
- ⊙ EXISTING STREET LIGHT
- ⊖ REMOVED STREET LIGHT
- PROPOSED PULL BOX
- ▣ PROPOSED STREET LIGHT SERVICE CABINET
- ▬ PROPOSED CONCRETE BARRIER



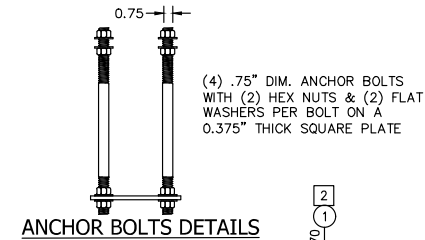
DECORATIVE LIGHTING DETAIL



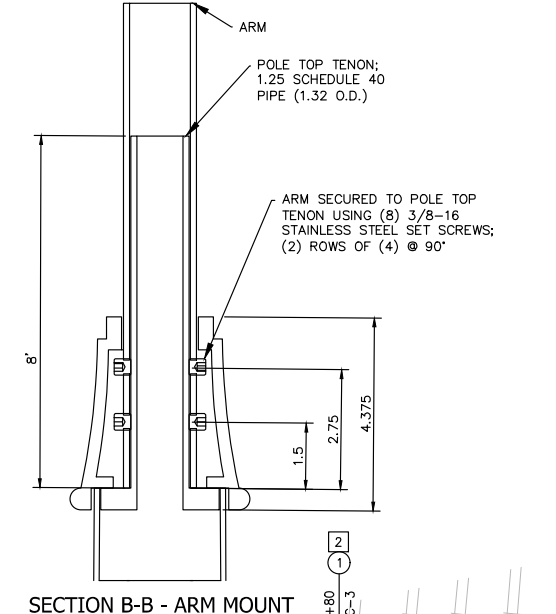
DECORATIVE BASE DETAIL



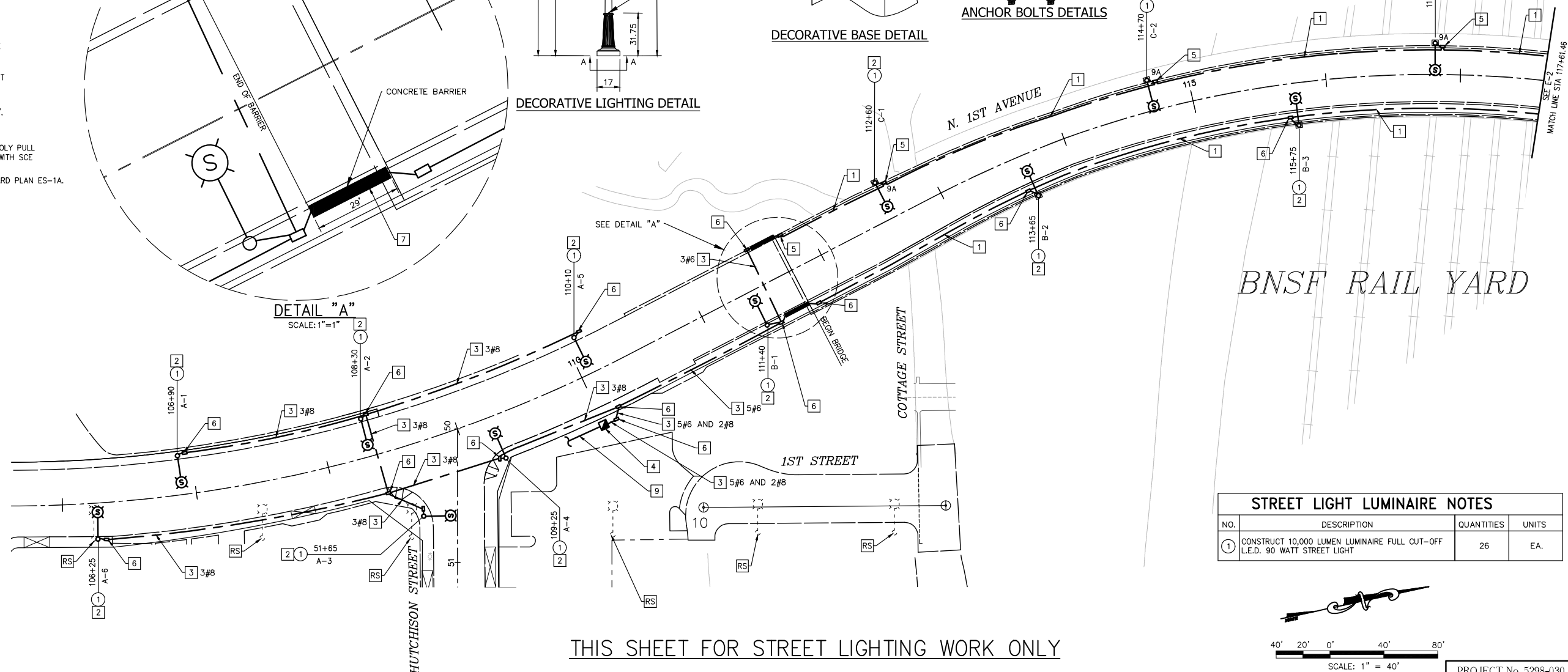
VIEW A-A - BASE PLATE



ANCHOR BOLTS DETAILS

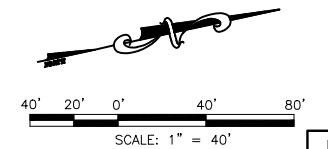


SECTION B-B - ARM MOUNT



THIS SHEET FOR STREET LIGHTING WORK ONLY

STREET LIGHT LUMINAIRE NOTES			
NO.	DESCRIPTION	QUANTITIES	UNITS
1	CONSTRUCT 10,000 LUMEN LUMINAIRE FULL CUT-OFF L.E.D. 90 WATT STREET LIGHT	26	EA.



THE CONTRACTOR IS REQUIRED BY GOVERNMENT CODE 4216 "CALIFORNIA ONE CALL LAW" TO CALL DIG ALERT AT LEAST TWO (2) WORKING DAYS BEFORE DIGGING. CONTRACTOR IS REQUIRED BY SAME CODE TO HAND-EXPOSE TO THE POINT OF NO CONFLICT 24" ON EITHER SIDE OF THE UNDERGROUND FACILITY SO YOU CAN DETERMINE ITS EXACT LOCATION BEFORE USING POWER EQUIPMENT.

No.	REVISION	DATE	BY



PREPARED BY:
ADVANTEC Consulting Engineers
Traffic + ITS + Communications Systems Electrical
21700 Copley Dr. Tel: (909) 860-6222
Suite 350 Fax: (909) 860-67221
Diamond Bar, CA 91765 www.advantec-usa.com

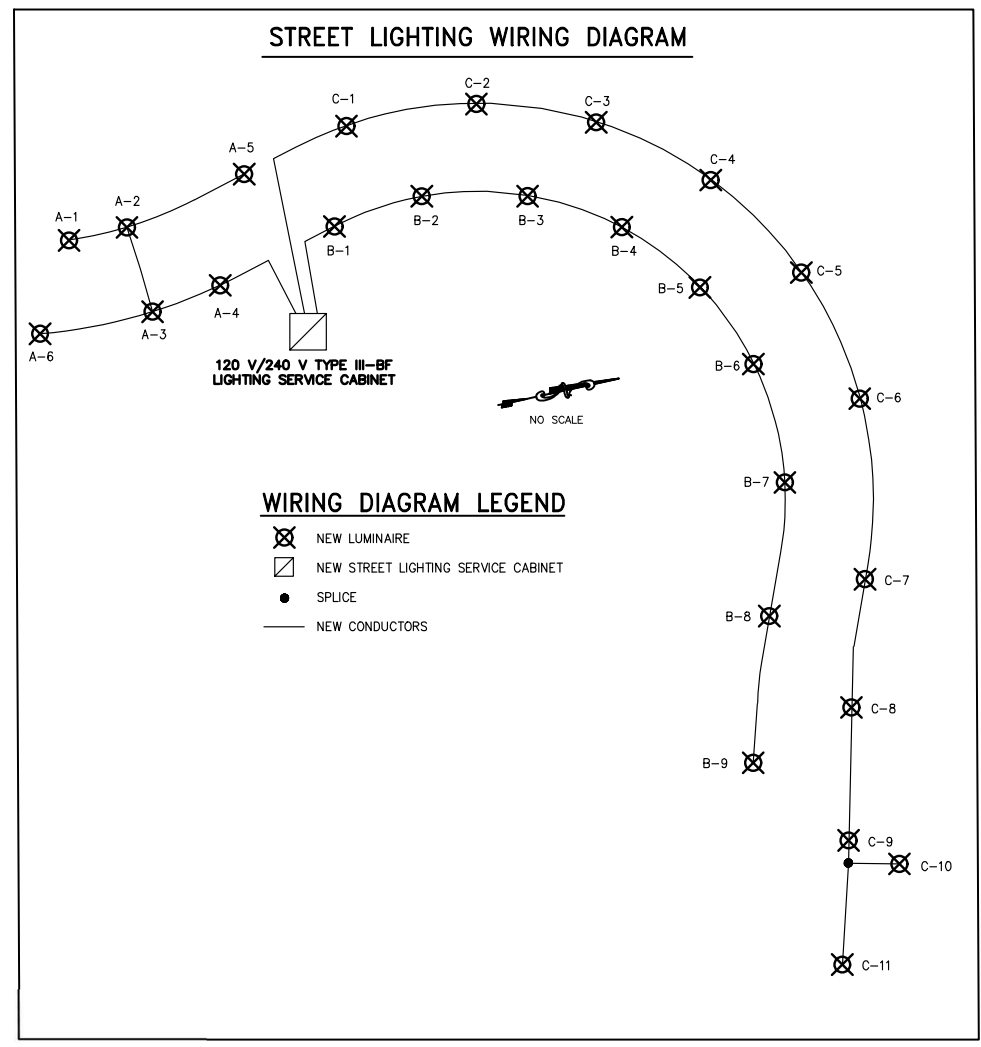
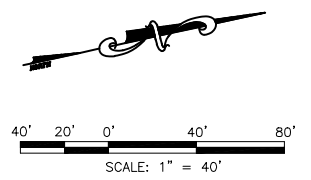
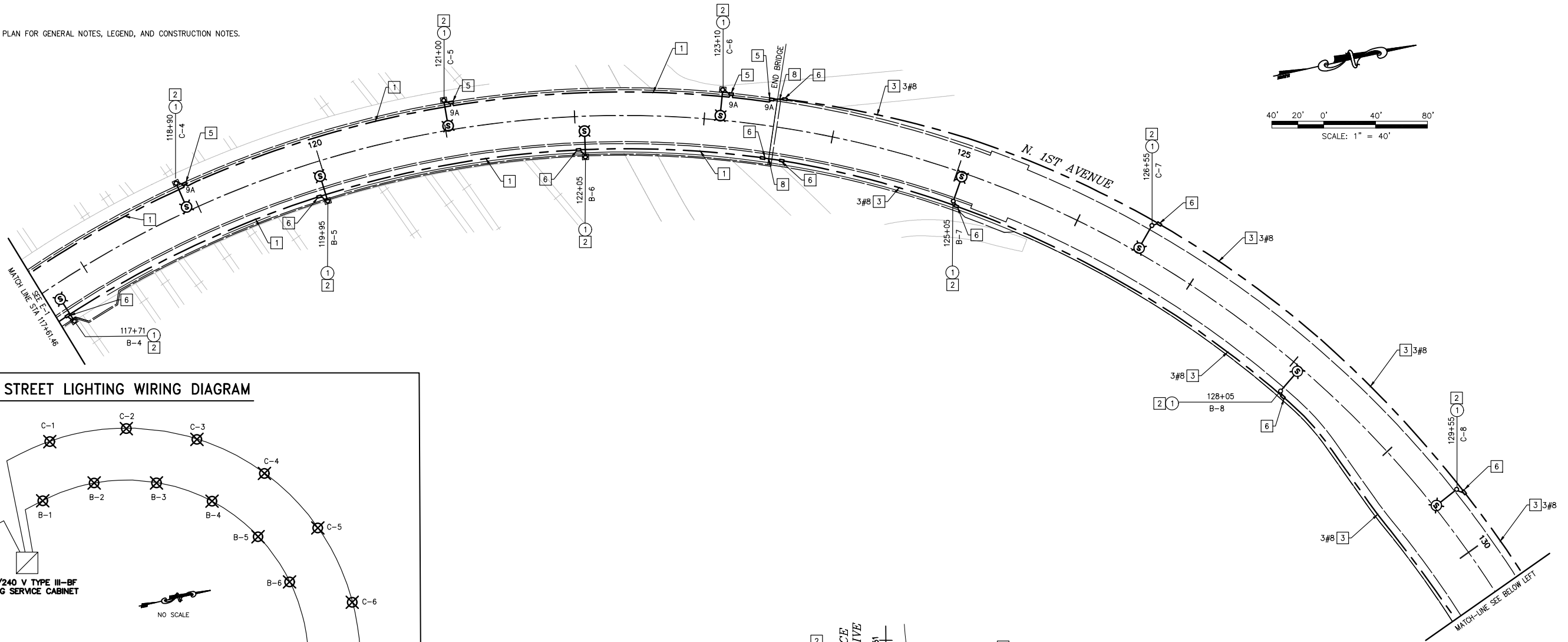
CITY OF BARSTOW
220 E. MOUNTAIN VIEW ST SUITE A
BARSTOW, CA 92311
THIS PLAN IS SPECIFICATION DRAWING DOCUMENT OTHER IS ON FILE WITH THE CITY OF BARSTOW. IT IS MADE AVAILABLE PURSUANT TO SECTION 6250 ET. SEQ., CALIFORNIA GOVERNMENT CODE UPON PAYMENTS OF THE APPROPRIATE FEE. THE CITY OF BARSTOW MAKES NO REPRESENTATION CONCERNING THE ACCURACY OF THESE ITEMS AND RECOMMENDS THAT THEY BE EXAMINED IN THE FIELD PRIOR TO MAKING ENGINEERING DECISIONS.

CITY OF BARSTOW
BRAD S. MERRELL
CONSULTING CITY ENGINEER

CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD LIGHTING
APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER
DESIGNED: MJE R.C.E. NO. SHEET 78 OF 140
DRAWN: WC DATE: 09/05/2018 PLAN NO.
SCALE: AS-SHOWN AS BUILT: . PLAN NO. 1594

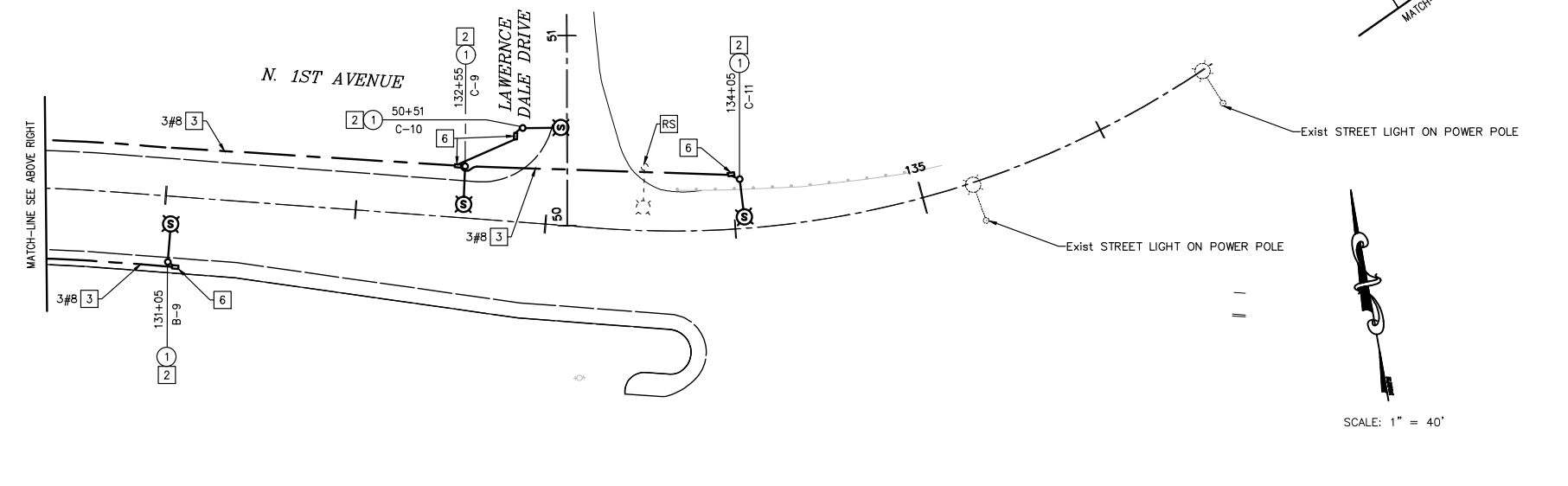
100% INTERIM PLANS FEB 20, 2019 NOT FOR CONSTRUCTION

NOTE:
SEE SHEET E-1 OF THE LIGHTING PLAN FOR GENERAL NOTES, LEGEND, AND CONSTRUCTION NOTES.



STREET LIGHTING WIRING DIAGRAM

WIRING DIAGRAM LEGEND



SCALE: 1" = 40'

THIS SHEET FOR STREET LIGHTING WORK ONLY

PROJECT No. 5298-030



THE CONTRACTOR IS REQUIRED BY GOVERNMENT CODE 4216 "CALIFORNIA ONE CALL LAW" TO CALL DIG ALERT AT LEAST TWO (2) WORKING DAYS BEFORE DIGGING. CONTRACTOR IS REQUIRED BY SAME CODE TO HAND-EXPOSE TO THE POINT OF NO CONFLICT 24" ON EITHER SIDE OF THE UNDERGROUND FACILITY SO YOU CAN DETERMINE ITS EXACT LOCATION BEFORE USING POWER EQUIPMENT.

No.	REVISION	DATE	BY



PREPARED BY:
ADVANTEC Consulting Engineers
Traffic+ITS+Communications Systems Electrical
21700 Copley Dr. Suite 350 Diamond Bar, CA 91765
Tel: (909) 860-6222 Fax: (909) 860-67221
www.advantec-usa.com

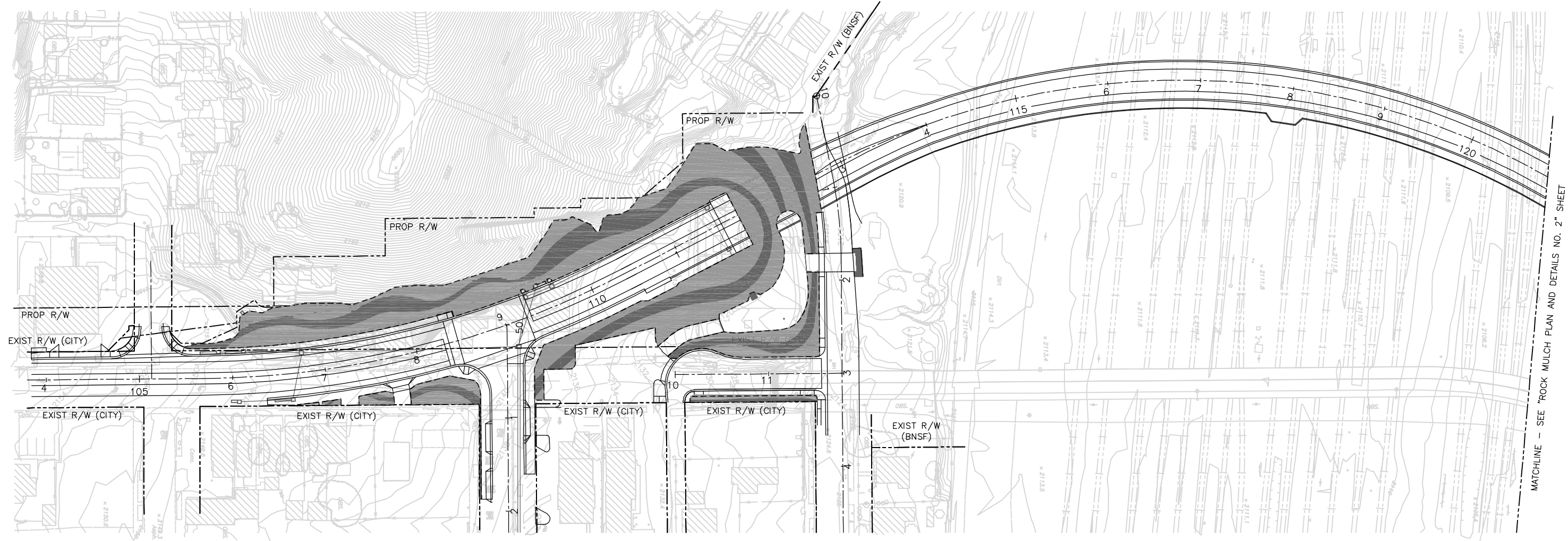
CITY OF BARSTOW
220 E. MOUNTAIN VIEW ST SUITE A
BARSTOW, CA 92311

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CITY OF BARSTOW:
BRAD S. MERRELL
CONSULTING CITY ENGINEER



CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD LIGHTING
APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER
DESIGNED: MJE R.C.E. NO. SHEET 79 OF 140
DRAWN: WC DATE: 09/05/2018 PLAN NO.
SCALE: AS-SHOWN AS BUILT: . PLAN NO. 1594

100% INTERIM PLANS FEB 20, 2019 NOT FOR CONSTRUCTION



PLAN
1" = 50'-0"

LEGEND:

-  - INDICATES LIMIT OF ROCK MULCH GROUND COVER COLOR "LIGHTER COLOR" (0.77 AC)
-  - INDICATES LIMIT OF ROCK MULCH GROUND COVER COLOR "DARKER COLOR" (0.38 AC)



THE CONTRACTOR IS REQUIRED BY GOVERNMENT CODE 4216 "CALIFORNIA ONE CALL LAW" TO CALL DIG ALERT AT LEAST TWO (2) WORKING DAYS BEFORE DIGGING. CONTRACTOR IS REQUIRED BY SAME CODE TO HAND-EXPOSE TO THE POINT OF NO CONFLICT 24" ON EITHER SIDE OF THE UNDERGROUND FACILITY SO YOU CAN DETERMINE ITS EXACT LOCATION BEFORE USING POWER EQUIPMENT.

No.	REVISION	DATE	BY

KLEINFELDER
550 WEST "C" STREET, SUITE 1200 (619) 831-4600
SAN DIEGO, CALIFORNIA 92101
DATE: _____

CITY OF BARSTOW
220 E. MOUNTAIN VIEW ST SUITE A PHONE: (760) 256-3531
BARSTOW, CA 92311 FAX: (760) 256-1750

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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:

BRAD S. MERRELL DATE _____
CONSULTING CITY ENGINEER

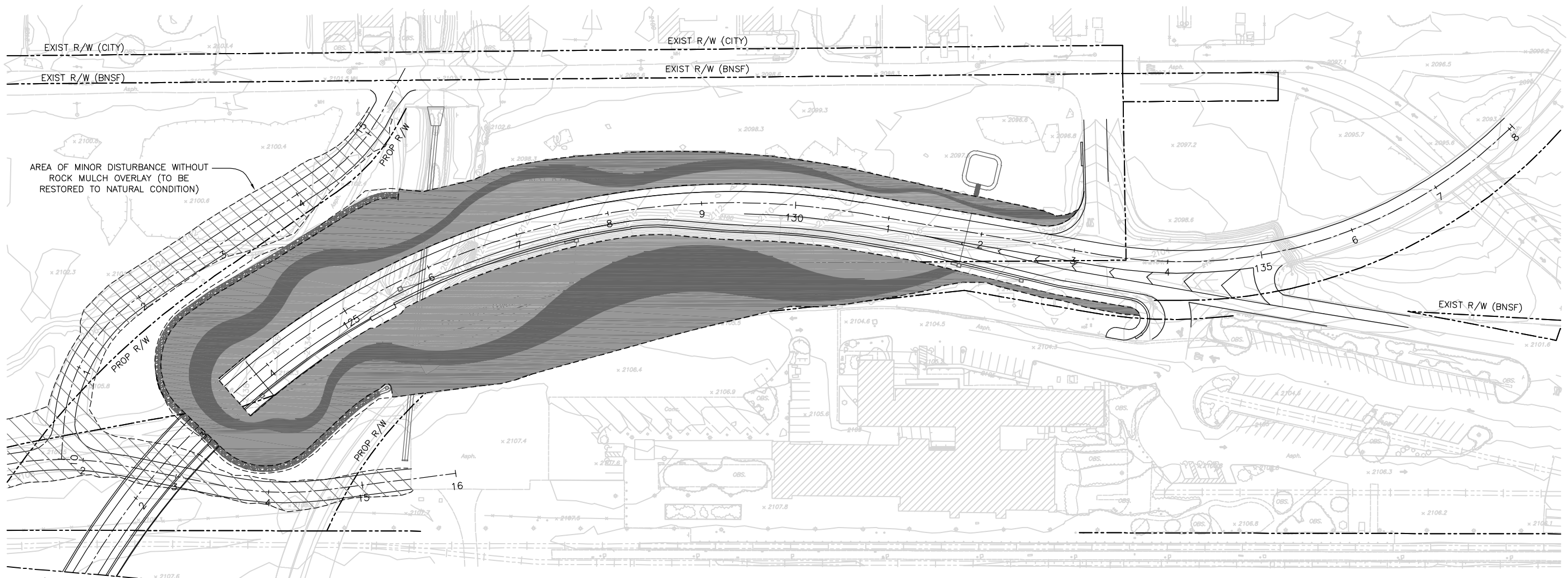
PROJECT No. 5298-030

CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
HARDSCAPE PLAN

APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER
DESIGNED: _____ R.C.E. NO. 49423 SHEET 80 OF 140
DRAWN: TB DATE: _____ PLAN NO. 1594
SCALE: AS-NOTED AS BUILT:

100% INTERIM PLANS FEB 20, 2019 NOT FOR CONSTRUCTION



MATCHLINE - SEE "ROCK MULCH PLAN AND DETAILS NO. 2" SHEET



MATCHLINE - SEE "ROCK MULCH PLAN AND DETAILS NO. 1" SHEET

PLAN
1" = 50'-0"

LEGEND:

-  - INDICATES LIMIT OF ROCK MULCH GROUND COVER COLOR "LIGHTER COLOR" (1.84 AC)
-  - INDICATES LIMIT OF ROCK MULCH GROUND COVER COLOR "DARKER COLOR" (0.79 AC)



THE CONTRACTOR IS REQUIRED BY GOVERNMENT CODE 4216 "CALIFORNIA ONE CALL LAW" TO CALL DIG ALERT AT LEAST TWO (2) WORKING DAYS BEFORE DIGGING. CONTRACTOR IS REQUIRED BY SAME CODE TO HAND-EXPOSE TO THE POINT OF NO CONFLICT 24" ON EITHER SIDE OF THE UNDERGROUND FACILITY SO YOU CAN DETERMINE ITS EXACT LOCATION BEFORE USING POWER EQUIPMENT.

No.	REVISION	DATE	BY

KLEINFELDER
550 WEST "C" STREET, SUITE 1200 (619) 831-4600
SAN DIEGO, CALIFORNIA 92101

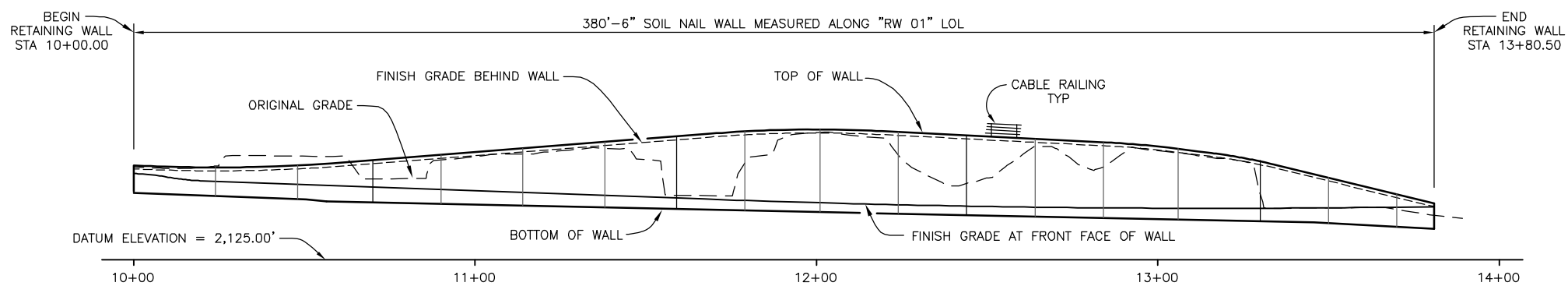
CITY OF BARSTOW
220 E. MOUNTAIN VIEW ST SUITE A PHONE: (760) 256-3531
BARSTOW, CA 92311 FAX: (760) 256-1750

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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
BRAD S. MERRELL
CONSULTING CITY ENGINEER

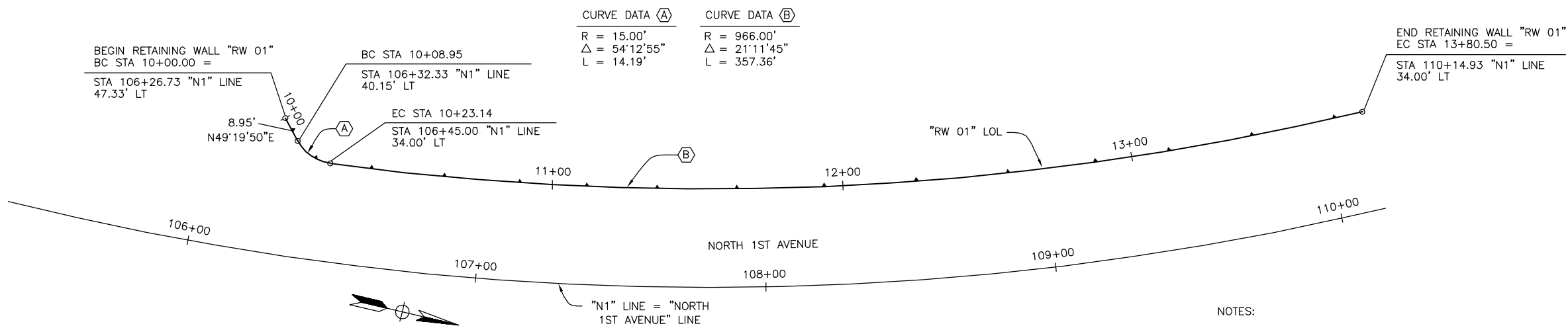
PROJECT No. 5298-030			
CITY OF BARSTOW NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD HARDSCAPE PLAN			
APPROVED BY: BRAD S. MERRELL	TITLE: CONSULTING CITY ENGINEER		
DESIGNED: TB	R.C.E. NO. 49423	SHEET	81 OF 140
SCALE: AS-NOTED	DATE:	PLAN NO.	1594

100% INTERIM PLANS FEB 20, 2019 NOT FOR CONSTRUCTION



DEVELOPED ELEVATION

1" = 20'-0"



CURVE DATA (A)	CURVE DATA (B)
R = 15.00'	R = 966.00'
Δ = 54°12'55"	Δ = 21°11'45"
L = 14.19'	L = 357.36'

PLAN

1" = 20'-0"

NOTES:

- FOR "GENERAL NOTES", "INDEX TO RETAINING WALL PLANS", "TYPICAL SECTION", AND "STANDARD PLANS", SEE "RETAINING WALL - INDEX TO PLANS" SHEET.
- FOR ARCHITECTURAL TREATMENT NOT SHOWN, SEE "RETAINING WALL - ARCHITECTURAL TREATMENT", "RETAINING WALL - MURAL DETAILS NO. 1", "RETAINING WALL - MURAL DETAILS NO. 2", AND "RETAINING WALL - AESTHETIC NOTES AND DETAILS" SHEETS.
- FOR CLARITY, ONLY PORTIONS OF CABLE RAILING SHOWN.

NOTE: CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.



Know what's below.
Call before you dig.

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No.	REVISION	DATE	BY



KLEINFELDER
220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311
PHONE: (760) 256-3531 FAX: (760) 256-1750

550 WEST "C" STREET, SUITE 1200 (619) 831-4600
SAN DIEGO, CALIFORNIA 92101

DATE: _____
PREPARED BY: NGAN HA D. VU R.C.E. NO. 66543
REGISTRATION EXPIRES: 6/30/20

CITY OF BARSTOW
220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311
PHONE: (760) 256-3531 FAX: (760) 256-1750

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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
BRAD S. MERRELL
CONSULTING CITY ENGINEER

DATE: _____

PROJECT No. 5298-030

CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
RETAINING WALL - GENERAL PLAN

APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER

DESIGNED: NV	R.C.E. NO. 49423	SHEET 82 OF 188
DRAWN: TB	DATE: 02/20/19	PLAN NO. 1594
SCALE: AS-NOTED	AS BUILT:	

100% INTERIM PLANS FEB 20, 2019 NOT FOR CONSTRUCTION

INDEX TO RETAINING WALL PLANS

PLAN NUMBER	DESCRIPTION
82	RETAINING WALL - GENERAL PLAN
83	RETAINING WALL - INDEX TO PLANS
84	RETAINING WALL - FOUNDATION PLAN
85	RETAINING WALL - STRUCTURE ELEVATION
86	RETAINING WALL - WALL DETAILS
87	RETAINING WALL - WALL DRAINAGE DETAILS
88	RETAINING WALL - ARCHITECTURAL TREATMENT
89	RETAINING WALL - MURAL DETAILS NO. 1
90	RETAINING WALL - MURAL DETAILS NO. 2
91	RETAINING WALL - AESTHETIC NOTES AND DETAILS

STANDARD PLANS DATED 2015

THE FOLLOWING STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD PLANS, DATED 2015 WITH REVISIONS DATED 2016 THROUGH 2018, ARE PART OF THE CONTACT DRAWINGS.

A3A	ABBREVIATIONS (SHEET 1 OF 3)
A3B	ABBREVIATIONS (SHEET 2 OF 3)
A3C	ABBREVIATIONS (SHEET 3 OF 3)
A10A	LEGEND - LINES AND SYMBOLS (SHEET 1 OF 5)
RSP A10B	LEGEND - LINES AND SYMBOLS (SHEET 2 OF 5)
A10C	LEGEND - LINES AND SYMBOLS (SHEET 3 OF 5)
A10D	LEGEND - LINES AND SYMBOLS (SHEET 4 OF 5)
A10E	LEGEND - LINES AND SYMBOLS (SHEET 5 OF 5)
RSP B0-3	BRIDGE DETAILS
B3-6	RETAINING WALL DETAILS NO. 2
B11-47	CABLE RAILING

GENERAL NOTES

DESIGN: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 2012, 6TH EDITION, WITH CALIFORNIA AMENDMENTS, PREFACE DATED JANUARY 2014
 GEOTECHNICAL ENGINEERING CIRCULAR NO. 7: SOIL NAIL WALLS, REPORT NO. FHWA-NH1-14-007, FEBRUARY 2015

SOIL PARAMETERS: VOLCANICLASTIC SANDSTONE:
 SOIL UNIT WEIGHT, $\gamma_s =$ 130 pcf
 SOIL FRICTION ANGLE, $\phi =$ 41°
 SOIL COHESION, $c =$ 500 psf
 DESIGN PULLOUT RESISTANCE, $Q_d =$ 4.17 kip/ft

COMPACTED FILL:
 SOIL UNIT WEIGHT, $\gamma_s =$ 120 pcf
 SOIL FRICTION ANGLE, $\phi =$ 32°
 SOIL COHESION, $c =$ 100 psf
 DESIGN PULLOUT RESISTANCE, $Q_d =$ 2.36 kip/ft

SEISMIC LOADING: PEAK GROUND ACCELERATION = 0.46 g
 $K_h (H < 20'-0") =$ 0.23
 $K_h (H \geq 20'-0") =$ 0.20

SURCHARGE: LIVE LOAD = 240 psf

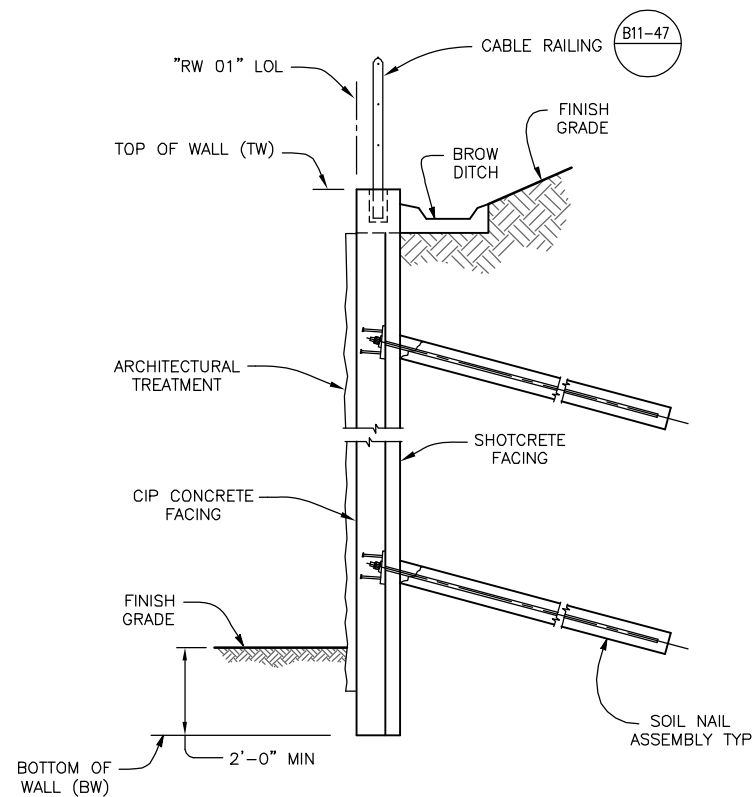
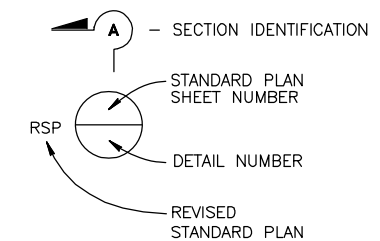
REINFORCED CONCRETE / SHOTCRETE: $f_y =$ 60 ksi
 $f'_c =$ 3.60 ksi
 $n =$ 8

GROUT STRENGTH: 3.0 ksi

STRUCTURAL STEEL: BEARING PLATES: ASTM A36, $f_y =$ 36 ksi
 HEADED STUDS: ASTM A108, $F_u =$ 65 ksi

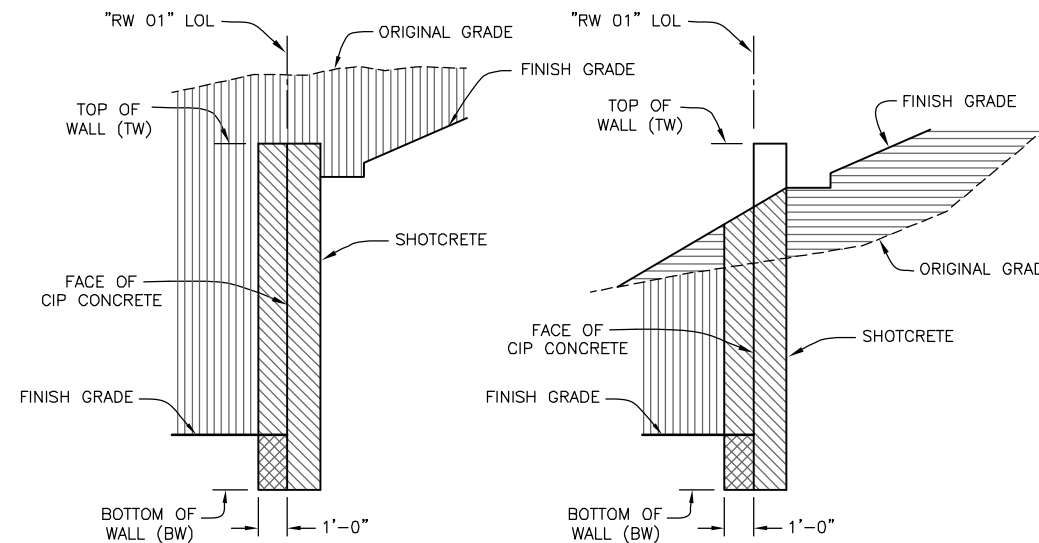
SOIL NAILS: ASTM A615, GRADE 75 (EPOXY COATED)

PLAN SYMBOLS



NOTE: SEE "RETAINING WALL - ARCHITECTURAL TREATMENT", "RETAINING WALL - MURAL DETAILS NO. 1", "RETAINING WALL - MURAL DETAILS NO. 2", AND "RETAINING WALL - AESTHETIC NOTES AND DETAILS" SHEETS.

TYPICAL SECTION
 1/2" = 1'-0"



	STRUCTURE BACKFILL (SOIL NAIL WALL)		ROADWAY EXCAVATION
	STRUCTURE EXCAVATION (SOIL NAIL WALL)		ROADWAY BACKFILL

LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL (SOIL NAIL WALL)

NO SCALE



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No.	REVISION	DATE	BY



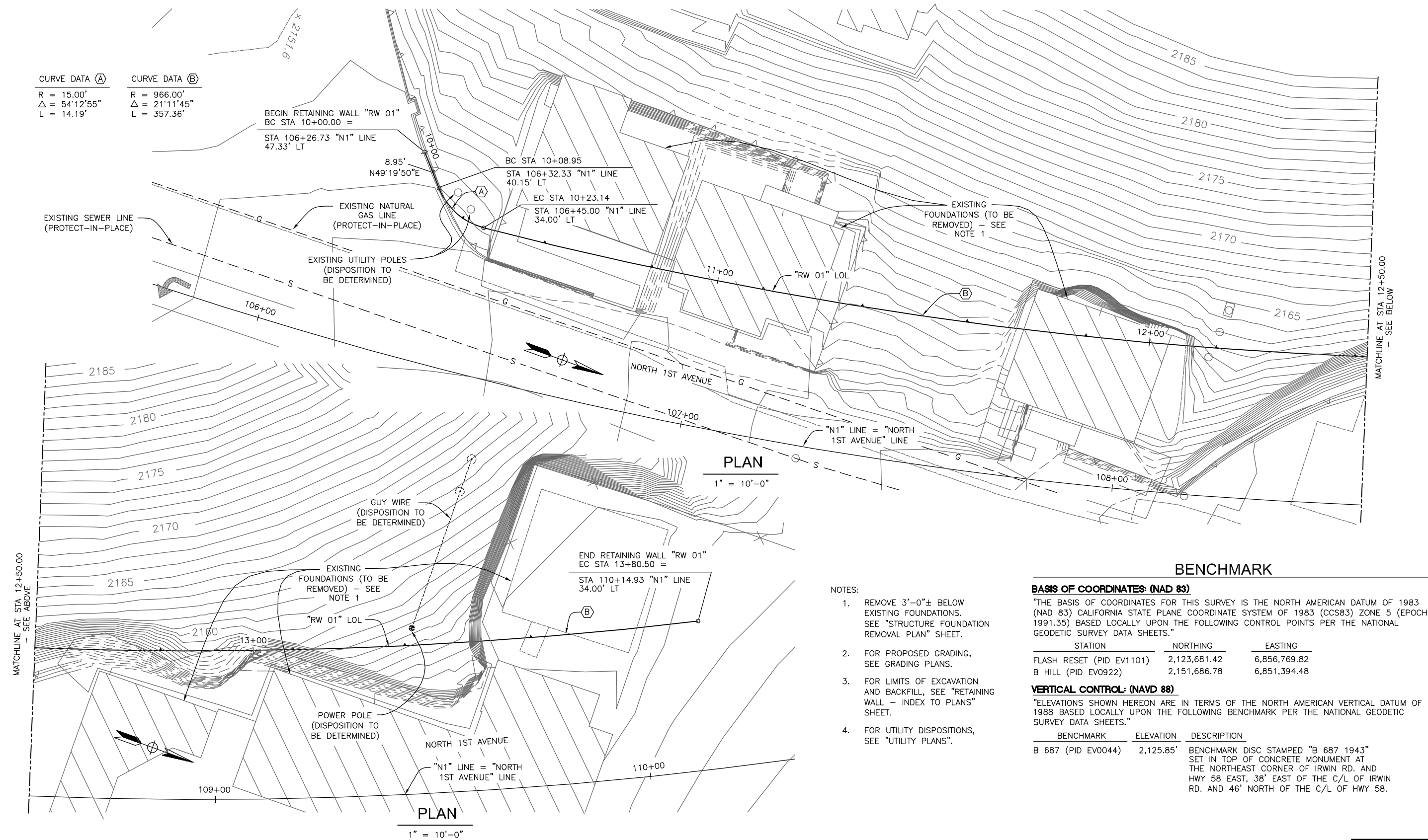
KLEINFELDER
 220 WEST "C" STREET, SUITE 1200 (619) 831-4600
 SAN DIEGO, CALIFORNIA 92101
 DATE: PREPARED BY: NGAN HA D. VU R.C.E. NO. 66543
 REGISTRATION EXPIRES: 6/30/20

CITY OF BARSTOW
 220 E. MOUNTAIN VIEW ST SUITE A PHONE: (760) 256-3531
 BARSTOW, CA 92311 FAX: (760) 256-1750
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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
 BRAD S. MERRELL
 CONSULTING CITY ENGINEER
 DATE

CITY OF BARSTOW			
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD RETAINING WALL - INDEX TO PLANS			
APPROVED BY: BRAD S. MERRELL	TITLE: CONSULTING CITY ENGINEER	PROJECT No. 5298-030	
DESIGNED: NV	R.C.E. NO. 49423	SHEET	83 OF 186
DRAWN: TB	DATE: 02/20/19	PLAN NO.	1594
SCALE: AS-NOTED	AS BUILT:		

CURVE DATA (A)	CURVE DATA (B)
R = 15.00'	R = 966.00'
Δ = 54°12'55"	Δ = 21°11'45"
L = 14.19'	L = 357.36'



PLAN
1" = 10'-0"

PLAN
1" = 10'-0"

BENCHMARK

BASIS OF COORDINATES: (NAD 83)
 "THE BASIS OF COORDINATES FOR THIS SURVEY IS THE NORTH AMERICAN DATUM OF 1983 (NAD 83) CALIFORNIA STATE PLANE COORDINATE SYSTEM OF 1983 (CCS83) ZONE 5 (EPOCH 1991.35) BASED LOCALLY UPON THE FOLLOWING CONTROL POINTS PER THE NATIONAL GEODETIC SURVEY DATA SHEETS."

STATION	NORTHING	EASTING
FLASH RESET (PID EV1101)	2,123,681.42	6,856,769.82
B HILL (PID EV0922)	2,151,686.78	6,851,394.48

VERTICAL CONTROL: (NAVD 88)
 "ELEVATIONS SHOWN HEREON ARE IN TERMS OF THE NORTH AMERICAN VERTICAL DATUM OF 1988 BASED LOCALLY UPON THE FOLLOWING BENCHMARK PER THE NATIONAL GEODETIC SURVEY DATA SHEETS."

BENCHMARK	ELEVATION	DESCRIPTION
B 687 (PID EV0044)	2,125.85'	BENCHMARK DISC STAMPED "B 687 1943" SET IN TOP OF CONCRETE MONUMENT AT THE NORTHEAST CORNER OF IRWIN RD. AND HWY 58 EAST, 38' EAST OF THE C/L OF IRWIN RD. AND 46' NORTH OF THE C/L OF HWY 58.

- NOTES:**
- REMOVE 3'-0"± BELOW EXISTING FOUNDATIONS. SEE "STRUCTURE FOUNDATION REMOVAL PLAN" SHEET.
 - FOR PROPOSED GRADING, SEE GRADING PLANS.
 - FOR LIMITS OF EXCAVATION AND BACKFILL, SEE "RETAINING WALL - INDEX TO PLANS" SHEET.
 - FOR UTILITY DISPOSITIONS, SEE "UTILITY PLANS".



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No.	REVISION	DATE	BY



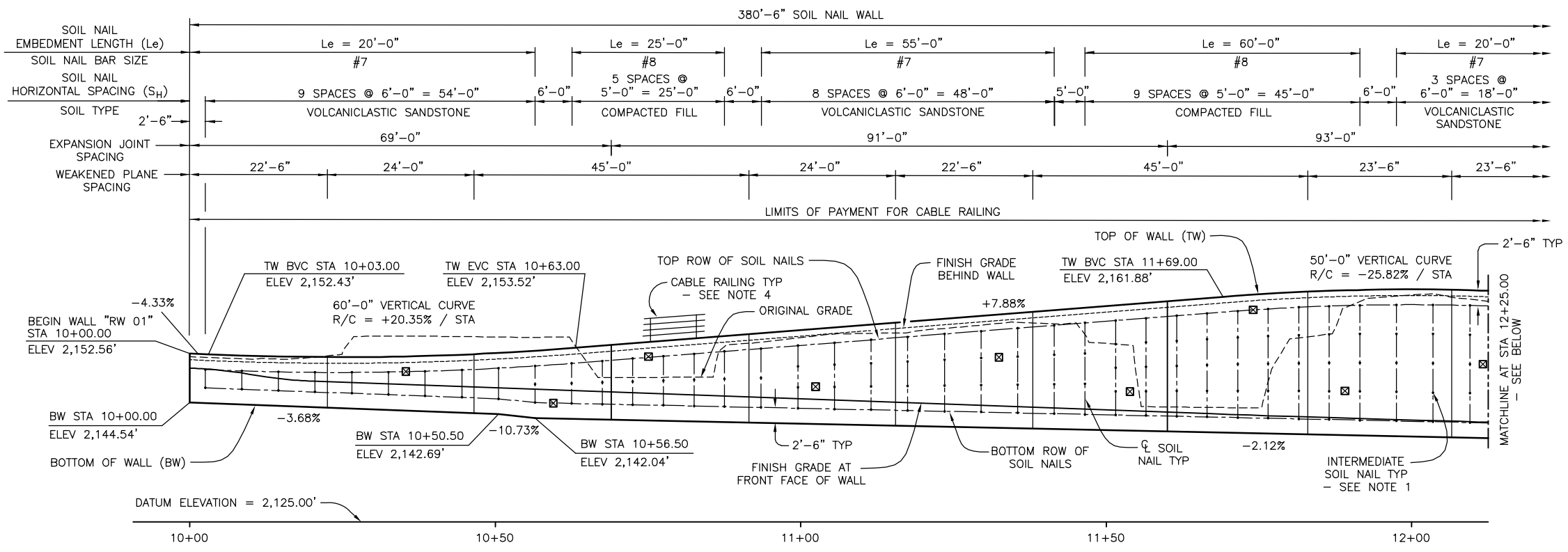
KLEINFELDER
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 SAN DIEGO, CALIFORNIA 92101
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 220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311
 PHONE: (760) 256-3531 FAX: (760) 256-1750
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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
 BRAD S. MERRELL
 CONSULTING CITY ENGINEER

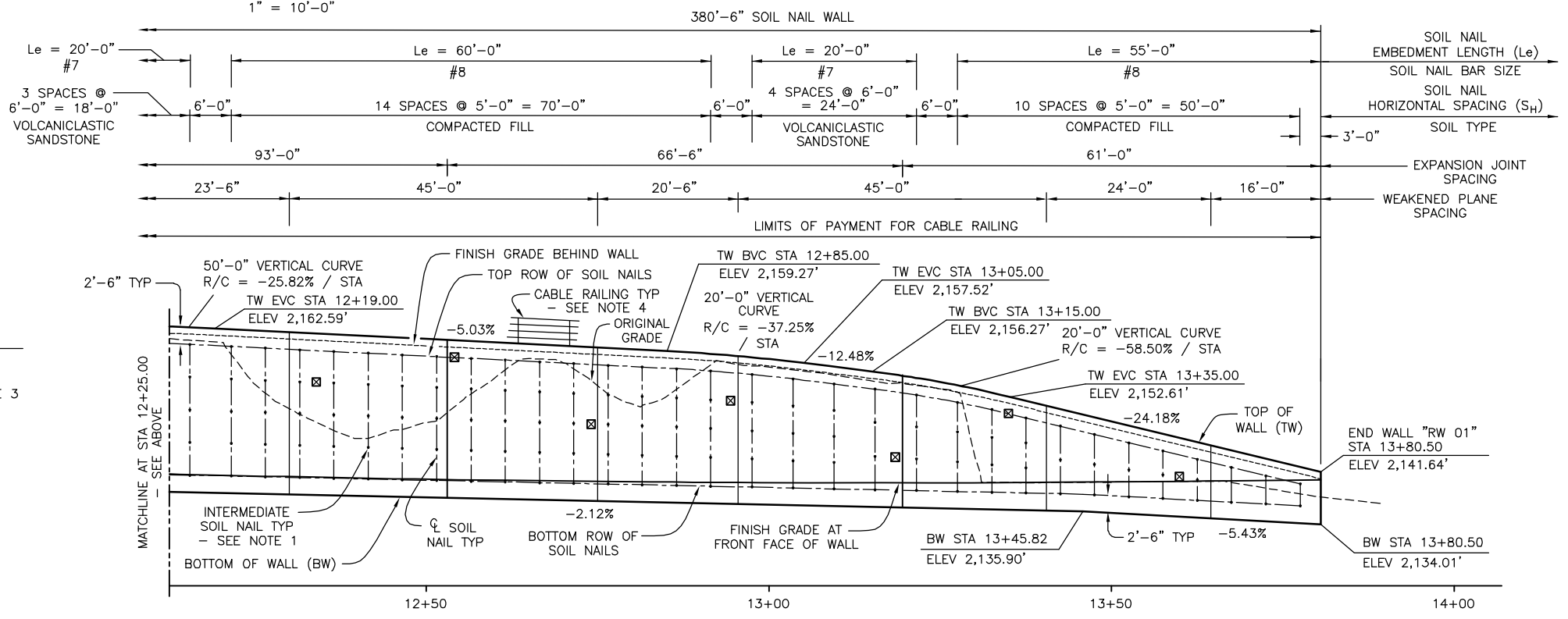
CITY OF BARSTOW			
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD RETAINING WALL - FOUNDATION PLAN			
APPROVED BY: BRAD S. MERRELL	TITLE: CONSULTING CITY ENGINEER		
DESIGNED: NV	R.C.E. NO. 49423	SHEET 84 OF 180	
DRAWN: TB	DATE: 02/20/19	PLAN NO. 1594	
SCALE: AS-NOTED	AS BUILT:		

PROJECT No. 5298-030



DEVELOPED ELEVATION

1" = 10'-0"



DEVELOPED ELEVATION

1" = 10'-0"

LEGEND:

- - INDICATES LOCATION OF SOIL NAIL ASSEMBLY - SEE NOTE 3
- ⊠ - INDICATES LOCATION OF PROOF TEST SOIL NAIL ASSEMBLY - SEE NOTE 3

NOTES:

1. INTERMEDIATE SOIL NAIL VERTICAL SPACING (Sv): 5'-0" MAX, 3'-0" MIN
2. ALL DIMENSIONS MEASURED ALONG "RW 01" LINE.
3. FOR "WEAKENED PLANE DETAIL", "EXPANSION JOINT DETAIL", "SOIL NAIL ASSEMBLY DETAILS", AND "PROOF TEST SOIL NAIL DETAILS", SEE "RETAINING WALL - WALL DETAILS" SHEET.
4. FOR CLARITY, ONLY PORTIONS OF CABLE RAILING SHOWN.



THE CONTRACTOR IS REQUIRED BY GOVERNMENT CODE 4216 "CALIFORNIA ONE CALL LAW" TO CALL DIG ALERT AT LEAST TWO (2) WORKING DAYS BEFORE DIGGING. CONTRACTOR IS REQUIRED BY SAME CODE TO HAND-EXPOSE TO THE POINT OF NO CONFLICT 24" ON EITHER SIDE OF THE UNDERGROUND FACILITY SO YOU CAN DETERMINE ITS EXACT LOCATION BEFORE USING POWER EQUIPMENT.

No.	REVISION	DATE	BY

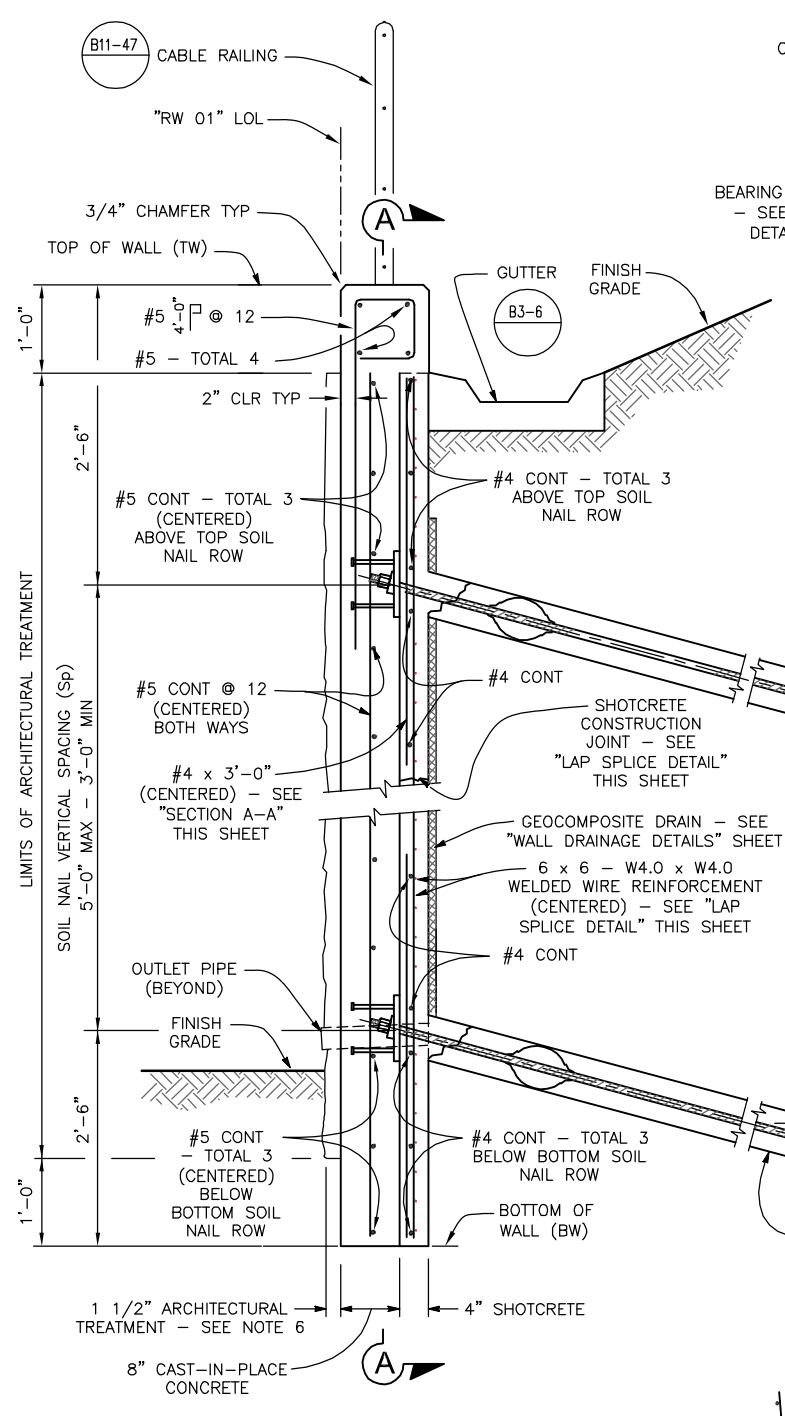


KLEINFELDER
 550 WEST "C" STREET, SUITE 1200 (619) 831-4600
 SAN DIEGO, CALIFORNIA 92101
 PREPARED BY: NGAN HA D. VU R.C.E. NO. 66543
 REGISTRATION EXPIRES: 6/30/20

CITY OF BARSTOW
 220 E. MOUNTAIN VIEW ST SUITE A PHONE: (760) 256-3531
 BARSTOW, CA 92311 FAX: (760) 256-1750
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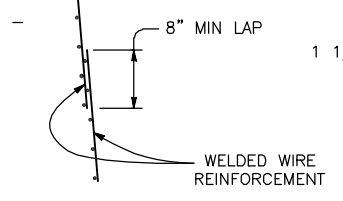
CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
 BRAD S. MERRELL
 CONSULTING CITY ENGINEER

PROJECT No. 5298-030	
CITY OF BARSTOW	
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD RETAINING WALL - STRUCTURE ELEVATION	
APPROVED BY: BRAD S. MERRELL	TITLE: CONSULTING CITY ENGINEER
DESIGNED: NV	R.C.E. NO. 49423
DRAWN: TB	DATE: 02/20/19
SCALE: AS-NOTED	AS BUILT:
SHEET 85 OF 186	PLAN NO. 1594

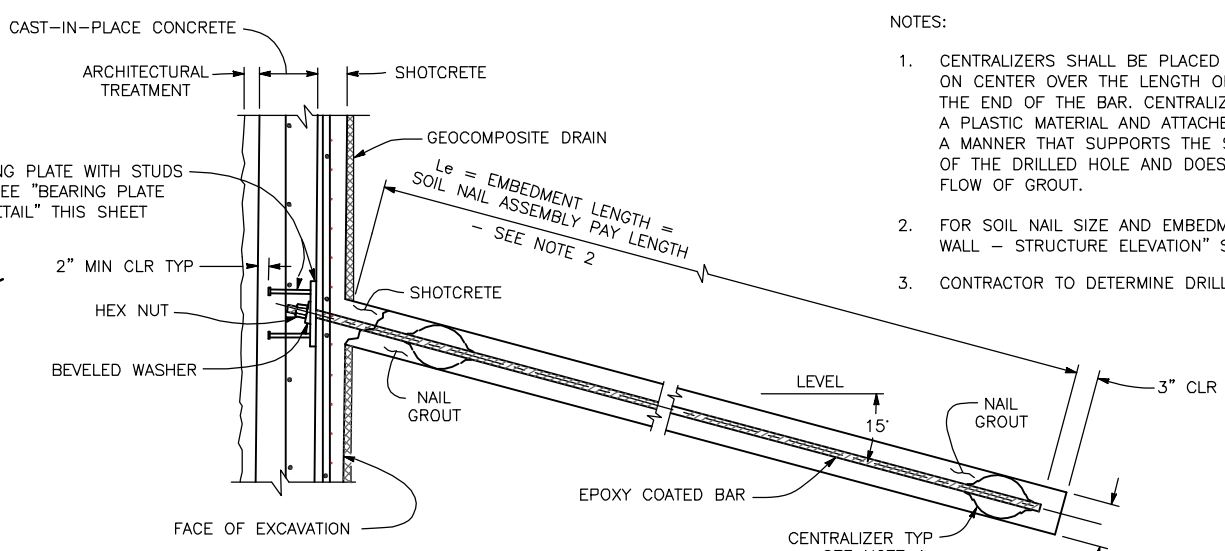


TYPICAL SECTION
1" = 1'-0"

NOTE: SEE "RETAINING WALL - ARCHITECTURAL TREATMENT", "RETAINING WALL - MURAL DETAILS NO. 1", "RETAINING WALL - MURAL DETAILS NO. 2", AND "RETAINING WALL - AESTHETIC NOTES AND DETAILS" SHEETS.

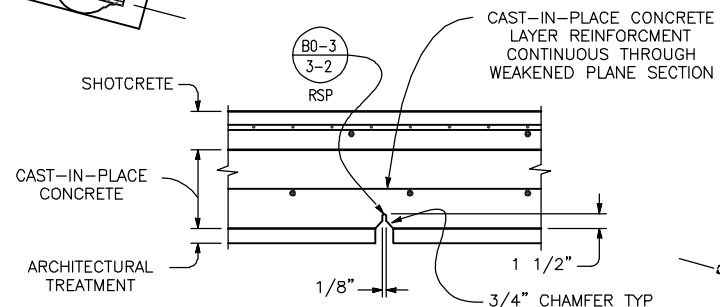


LAP SPLICE DETAIL
NO SCALE

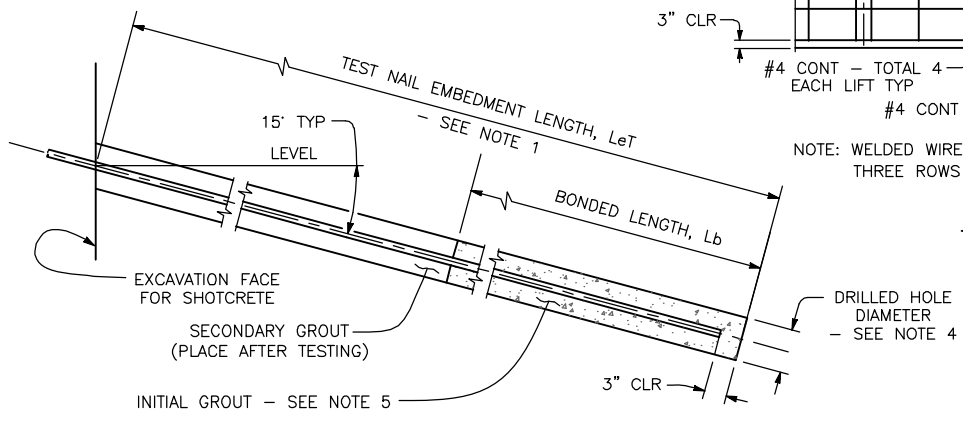


SOIL NAIL ASSEMBLY DETAILS
1" = 1'-0"

- NOTES:
- CENTRALIZERS SHALL BE PLACED AT A MAXIMUM OF 7'-6" ON CENTER OVER THE LENGTH OF THE BAR, AND 1'-6" FROM THE END OF THE BAR. CENTRALIZERS SHALL BE MADE FROM A PLASTIC MATERIAL AND ATTACHED TO THE NAIL IN SUCH A MANNER THAT SUPPORTS THE SOIL NAIL IN THE CENTER OF THE DRILLED HOLE AND DOES NOT IMPEDE THE FREE FLOW OF GROUT.
 - FOR SOIL NAIL SIZE AND EMBEDMENT LENGTH, SEE "RETAINING WALL - STRUCTURE ELEVATION" SHEET.
 - CONTRACTOR TO DETERMINE DRILLED HOLE DIAMETER.

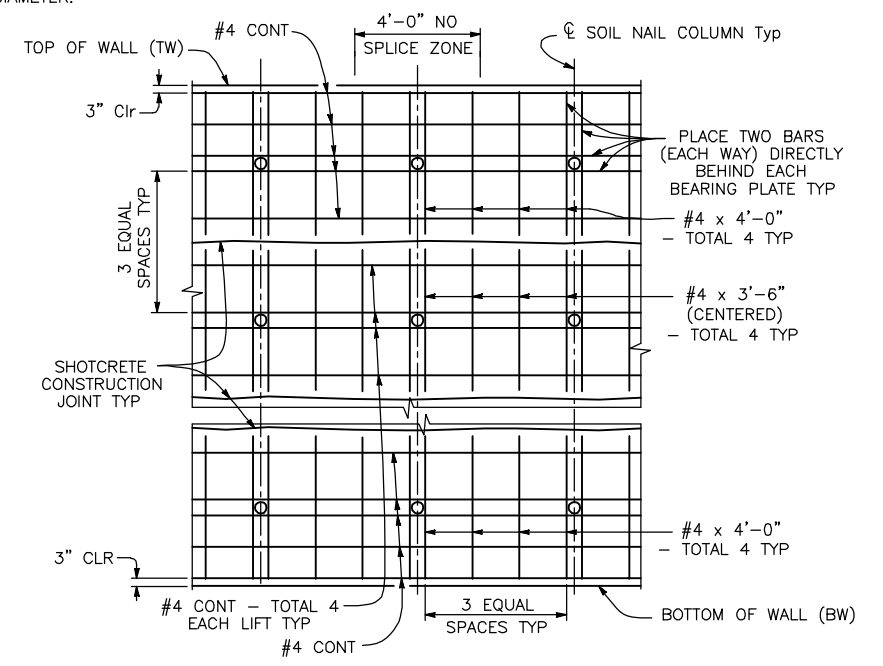


WEAKENED PLANE DETAIL
NO SCALE



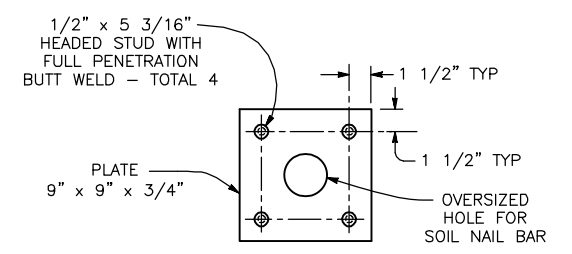
- NOTES:
- THE TEST NAIL EMBEDMENT LENGTH L_{eT} , SHALL BE EQUAL TO 2/3 OF THE EMBEDMENT LENGTH, L_e , OF ADJACENT PRODUCTION SOIL NAIL ASSEMBLIES, BUT NOT LESS THAN 12'-0".
 - THE TOTAL LENGTH OF THE TEST NAIL ASSEMBLY EQUALS THE EMBEDMENT LENGTH PLUS THE LENGTH REQUIRED FOR JACKING EQUIPMENT.
 - FOR LOCATION OF PROOF TEST NAIL, SEE "RETAINING WALL - STRUCTURE ELEVATION" SHEET. ADDITIONAL PROOF TEST NAILS WILL BE INSTALLED AND TESTED PER SPECIAL PROVISIONS.
 - CONTRACTOR TO DETERMINE DRILLED HOLE DIAMETER.
 - FINISHED GROUT SURFACE TO BE NORMAL TO THE BAR.

PROOF TEST SOIL NAIL DETAILS
1" = 1'-0"



SECTION A-A
NO SCALE

NOTE: WELDED WIRE REINFORCEMENT NOT SHOWN FOR CLARITY. THREE ROWS OF NAILS SHOWN, OTHERS SIMILAR.

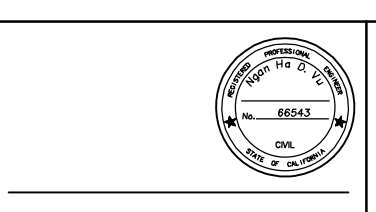


BEARING PLATE DETAIL
2" = 1'-0"



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No.	REVISION	DATE	BY



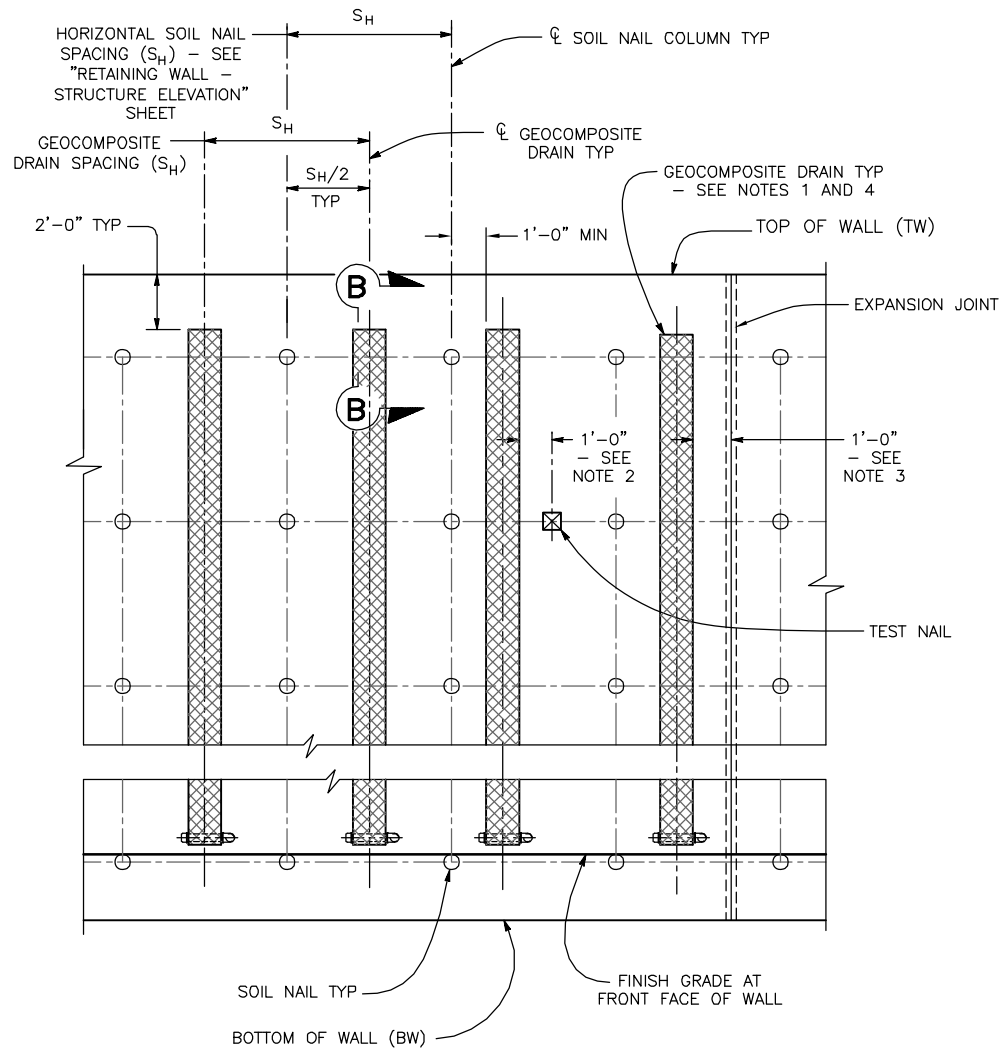
KLEINFELDER
220 WEST "C" STREET, SUITE 1200 (619) 831-4600
SAN DIEGO, CALIFORNIA 92101
DATE: PREPARED BY: NGAN HA D. VU R.C.E. NO. 66543
REGISTRATION EXPIRES: 6/30/20

CITY OF BARSTOW
220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311
PHONE: (760) 256-3531 FAX: (760) 256-1750
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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
BRAD S. MERRELL
CONSULTING CITY ENGINEER

CITY OF BARSTOW		PROJECT No. 5298-030	
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD RETAINING WALL - WALL DETAILS			
APPROVED BY: BRAD S. MERRELL	TITLE: CONSULTING CITY ENGINEER	SHEET 86 OF 186	
DESIGNED: NV	R.C.E. NO. 49423	DATE: 02/20/19	PLAN NO. 1594
DRAWN: TB	AS BUILT:	SCALE: AS-NOTED	

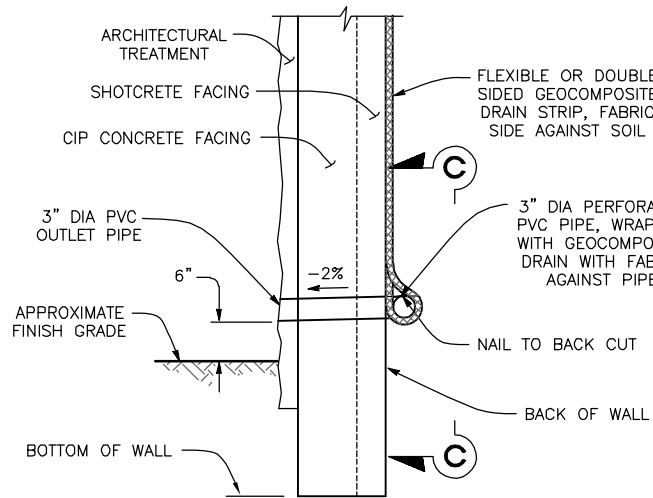
100% INTERIM PLANS FEB 20, 2019 NOT FOR CONSTRUCTION



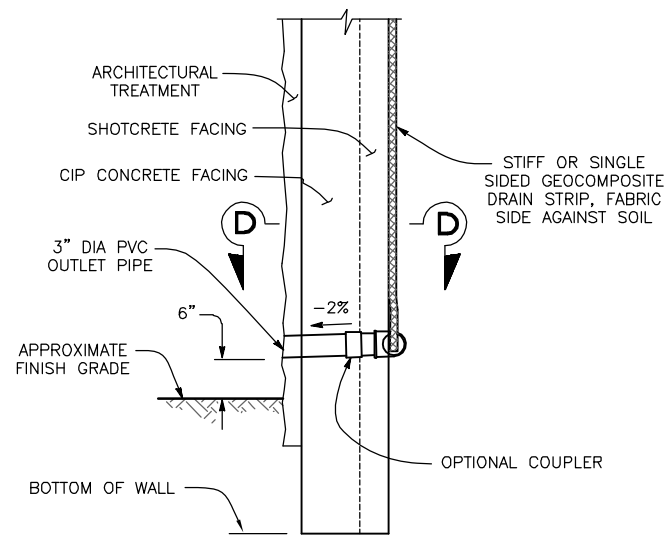
TYPICAL WALL ELEVATION
NO SCALE

NOTES:

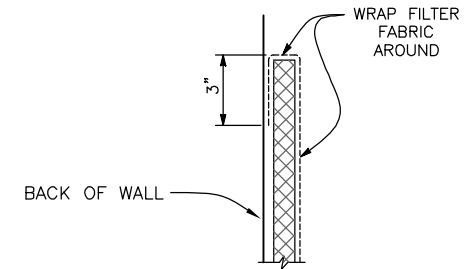
1. GEOCOMPOSITE STRIP PER SECTION 96 "GEOSYNTHETICS" OF THE STANDARD SPECIFICATIONS.
2. SHIFT GEOCOMPOSITE DRAIN LOCATION TO PROVIDE 1'-0" CLEAR TO TEST NAILS.
3. SHIFT GEOCOMPOSITE DRAIN LOCATION TO PROVIDE 1'-0" CLEAR TO WALL EXPANSION JOINTS.
4. GEOCOMPOSITE DRAIN STRIP SHALL BE SIZED TO ENSURE CONTINUITY BETWEEN LIFTS.



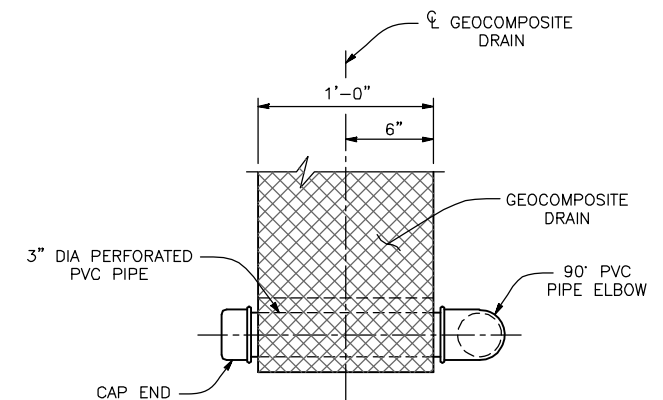
WALL DRAIN DETAIL AT WEEPHOLE (OPTION A)
NO SCALE



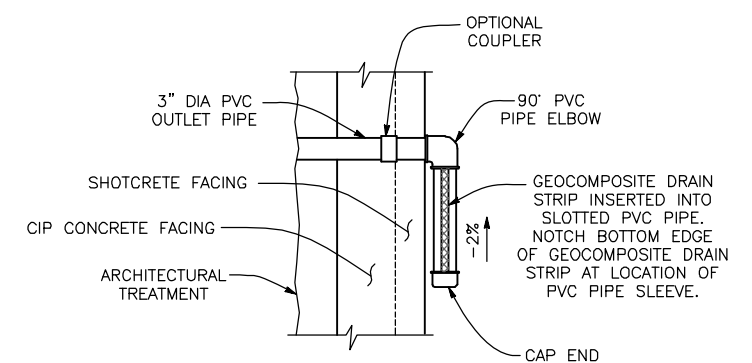
WALL DRAIN DETAIL AT WEEPHOLE (OPTION B)
NO SCALE



VIEW B-B
NO SCALE



VIEW C-C
NO SCALE



SECTION D-D
NO SCALE



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No.	REVISION	DATE	BY



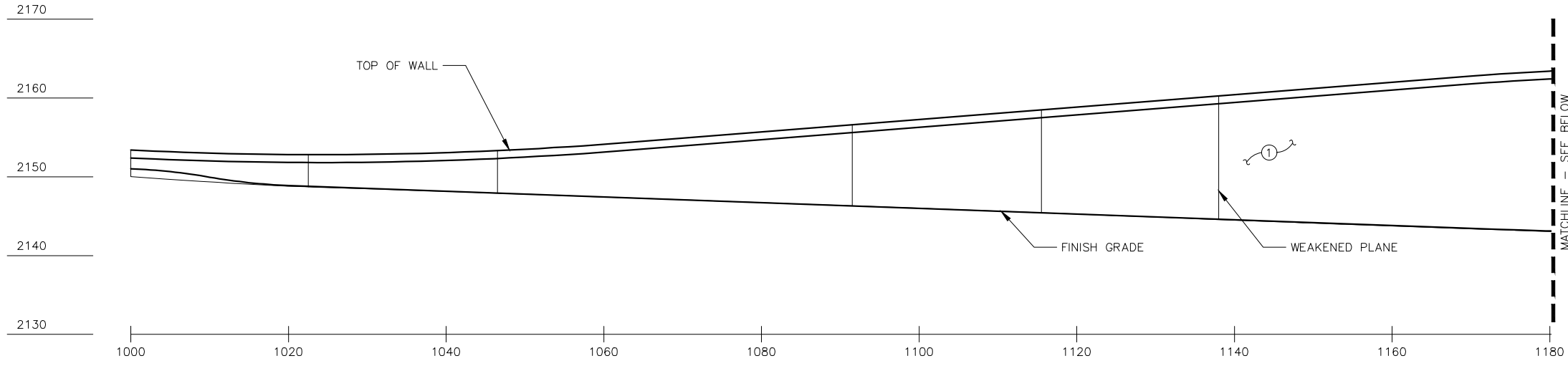
KLEINFELDER
220 WEST "C" STREET, SUITE 1200 (619) 831-4600
SAN DIEGO, CALIFORNIA 92101
DATE: _____
PREPARED BY: NGAN HA D. VU R.C.E. NO. 66543
REGISTRATION EXPIRES: 6/30/20

CITY OF BARSTOW
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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
BRAD S. MERRELL
CONSULTING CITY ENGINEER
DATE _____

PROJECT No. 5298-030
CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
RETAINING WALL - WALL DRAINAGE DETAILS
APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER
DESIGNED: NV R.C.E. NO. 49423 SHEET 87 OF 186
DRAWN: TB DATE: 02/20/19 PLAN NO. 1594
SCALE: AS-NOTED AS BUILT:

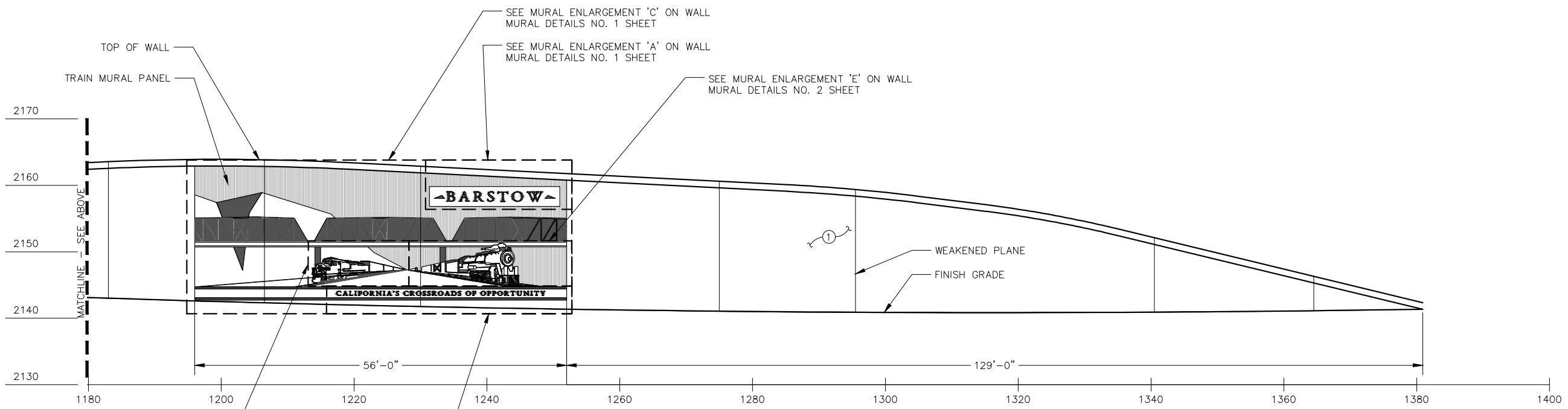
100% INTERIM PLANS FEB 20, 2019 NOT FOR CONSTRUCTION



RETAINING WALL ELEVATION
1/8" = 1'-0"

LEGEND:
① FRACTURED FIN. SEE WALL AESTHETIC DETAILS AND NOTES SHEET FOR ADDITIONAL INFORMATION.

- NOTES:
- A. THIS SHEET IS FOR AESTHETICS DETAILING ONLY. REFER TO STRUCTURAL ENGINEER'S PLANS FOR ADDITIONAL INFORMATION.
 - B. REFER TO ENGINEERING PLANS FOR SCORELINES, WEAKENED PLANES, AND EXPANSION JOINT INFORMATION.
 - C. REFER TO ENGINEERING PLANS FOR LIGHT POLE PEDESTAL DETAILING AND MOUNTING INFORMATION.
 - D. IN THE EVENT THAT DIMENSIONS SHOWN ARE IN CONFLICT WITH THE ENGINEERING PLANS, THE ENGINEERING PLANS SHALL TAKE PRECEDENT.
 - E. ALL CONCRETE COLOR SHALL BE SAND (FEDERAL COLOR #32648)
 - F. ALL CONCRETE FINISHES SHALL BE SMOOTH UNLESS OTHERWISE NOTED.
 - G. NO HORIZONTAL JOINTS SHALL BE SHOWN.



RETAINING WALL ELEVATION
1/8" = 1'-0"

SEE MURAL ENLARGEMENT 'D' ON WALL MURAL DETAILS NO. 2 SHEET

SEE MURAL ENLARGEMENT 'B' ON WALL MURAL DETAILS NO. 1 SHEET



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No.	REVISION	DATE	BY

DAVID TATSUMI

2033 RLA No. DATE:

TATSUMI AND PARTNERS, INC.

LANDSCAPE ARCHITECTURE
URBAN DESIGN
VISUAL MANAGEMENT

49 DISCOVERY SUITE 120
IRVINE, CA 92618
PH 949/453,2901 FAX 949/453,9902
www.tatsumiandpartners.com

CITY OF BARSTOW

220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311

PHONE: (760) 256-3531
FAX: (760) 256-1750

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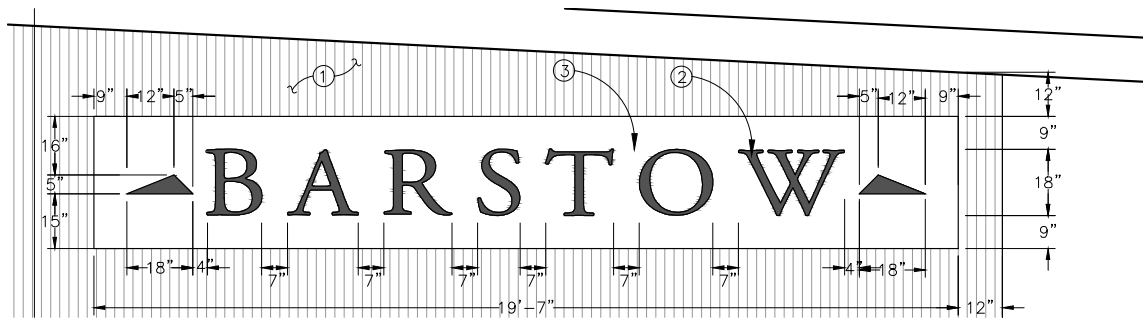
CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:

BRAD S. MERRELL DATE: 02/15/2019
CONSULTING CITY ENGINEER

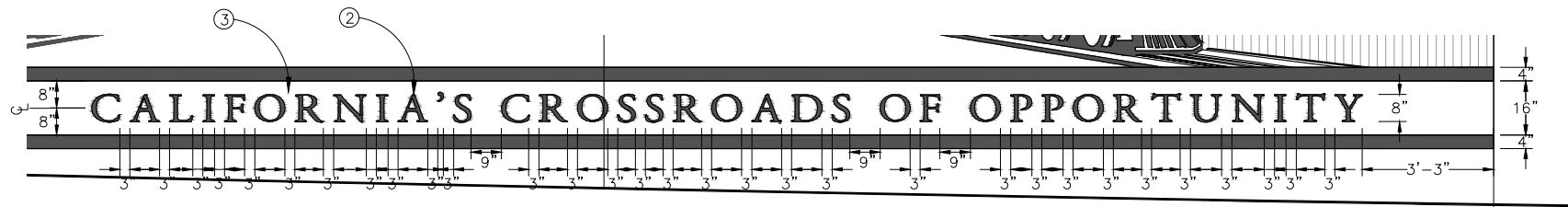
PROJECT No. 5298-030

CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
RETAINING WALL ARCHITECTURAL TREATMENT

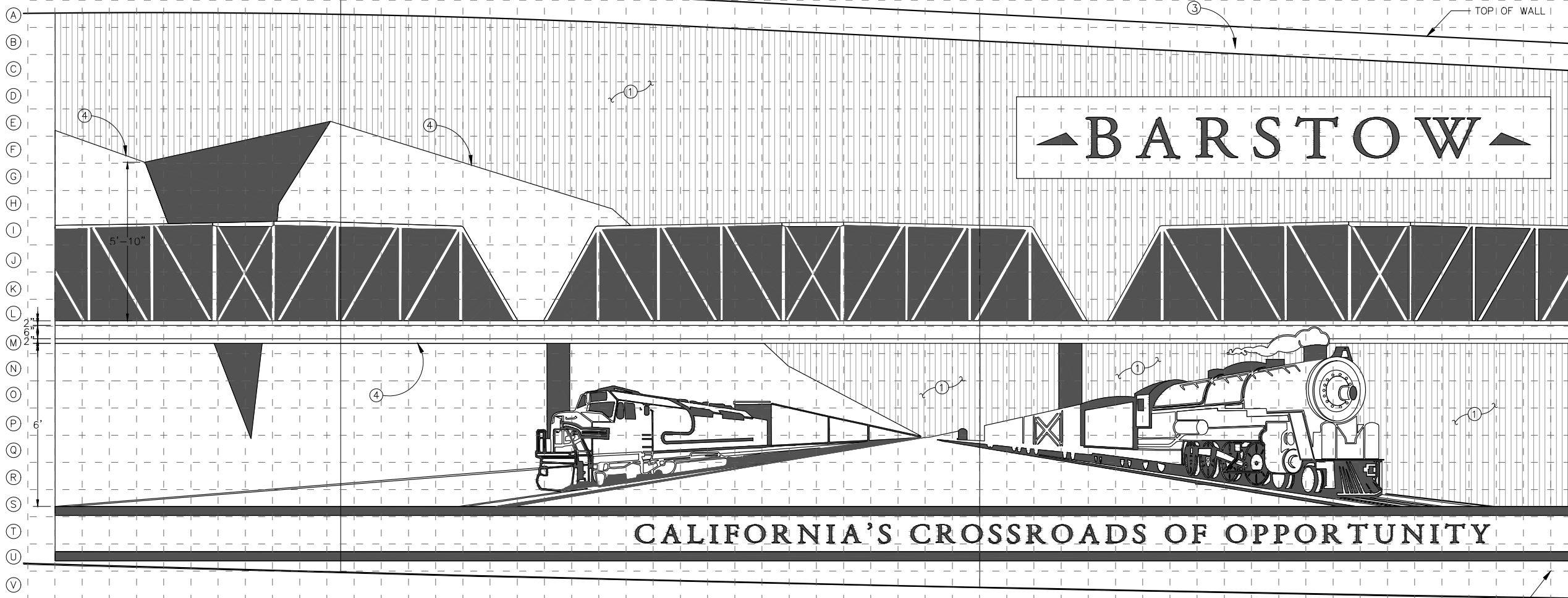
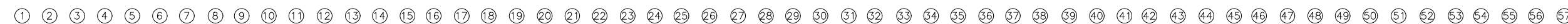
DESIGNED: MA	R.C.E. NO.	SHEET 88 OF 140
DRAWN: WK	DATE: 02/15/2019	PLAN NO. 1594
SCALE:	AS BUILT:	



MURAL ENLARGEMENT 'A'
1/2" = 1'-0"



MURAL ENLARGEMENT 'B'
1/2" = 1'-0"



MURAL ENLARGEMENT 'C'
1/2" = 1'-0"

LEGEND:

- ① FRACTURED FIN. SEE WALL AESTHETIC DETAILS AND NOTES SHEET FOR ADDITIONAL INFORMATION.
- ② ADOBE GARAMOND PRO BOLD FONT. HEIGHT AS NOTED IN DETAILS.
- ③ SMOOTH FINISH CONCRETE BAND.
- ④ REFER TO GROOVE DETAIL ON WALL AESTHETIC DETAILS AND NOTES SHEET.

- FLUSH AT 0", SMOOTH CONCRETE FINISH.
- 3/4" DEPTH WITH ROUGH SANDBLAST FINISH.

NOTES:

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- C. REFER TO ENGINEERING PLANS FOR LIGHT POLE PEDESTAL DETAILING AND MOUNTING INFORMATION.
- D. IN THE EVENT THAT DIMENSIONS SHOWN ARE IN CONFLICT WITH THE ENGINEERING PLANS, THE ENGINEERING PLANS SHALL TAKE PRECEDENT.
- E. ALL CONCRETE COLOR SHALL BE SAND (FEDERAL COLOR #32648)
- F. ALL CONCRETE FINISHES SHALL BE SMOOTH UNLESS OTHERWISE NOTED.
- G. NO HORIZONTAL JOINTS SHALL BE SHOWN.

12" X 12"
DIMENSION
GRID LINES
(TYP)



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No.	REVISION	DATE	BY

DAVID TATSUMI
2033
RLA No. DATE:

TATSUMI AND PARTNERS, INC.
LANDSCAPE ARCHITECTURE
URBAN DESIGN
VISUAL MANAGEMENT
49 DISCOVERY, SUITE 120
IRVINE, CA 92618
PH 949/453-9901 FAX 949/453-9902
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CITY OF BARSTOW
220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311
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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
BRAD S. MERRRELL
CONSULTING CITY ENGINEER

DATE

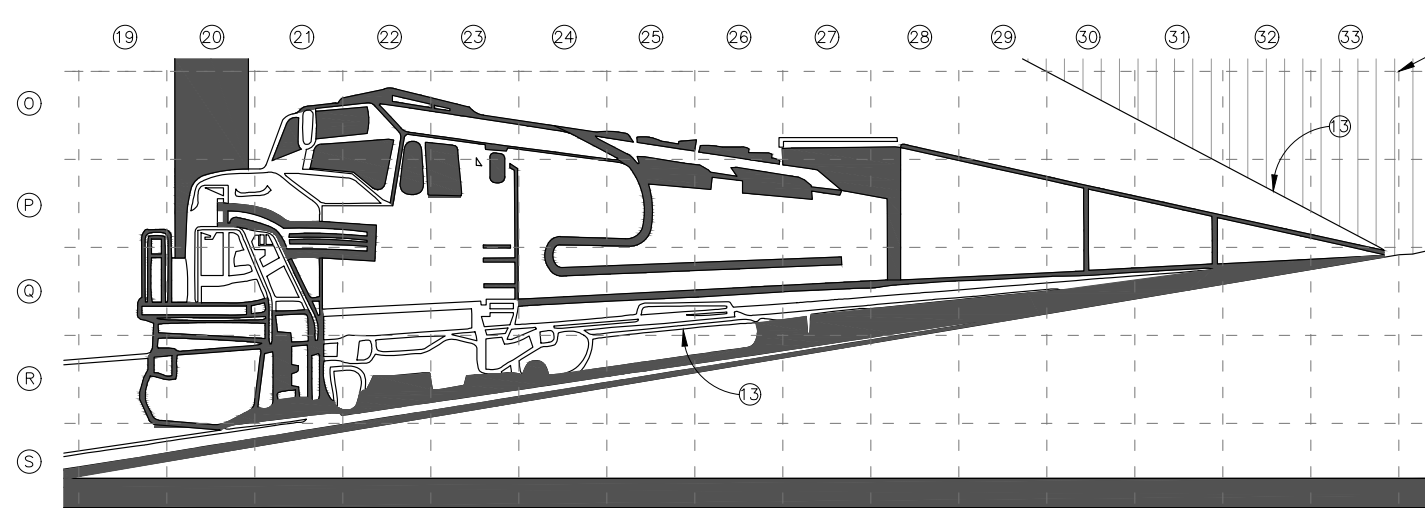
PROJECT No. 5298-030

CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
RETAINING WALL MURAL DETAILS NO. 1

APPROVED BY: TITLE:

DESIGNED: MA R.C.E. NO. SHEET
DRAWN: WK DATE: 02/15/2019 89 OF 140
SCALE: AS BUILT PLAN NO. 1594

100% INTERIM PLANS FEB 20, 2019 NOT FOR CONSTRUCTION



MURAL ENLARGEMENT 'D'

1" = 1'-0"

12" X 12" DIMENSION GRID LINES (TYP)

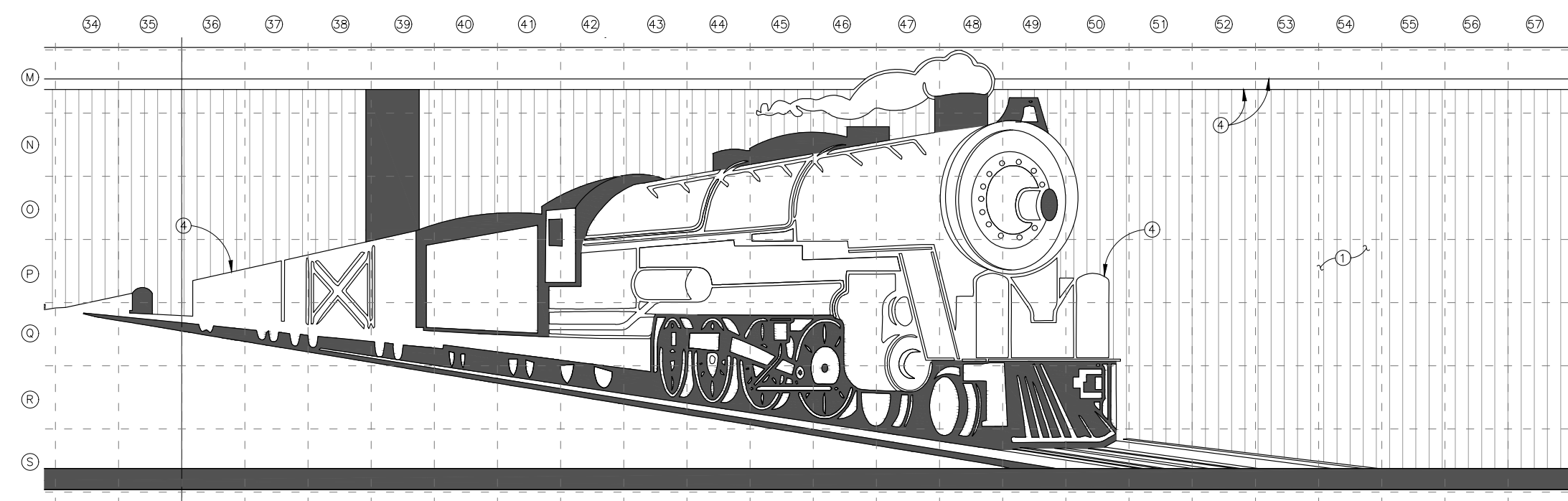
LEGEND:

- ① FRACTURED FIN. SEE WALL AESTHETIC DETAILS AND NOTES SHEET FOR ADDITIONAL INFORMATION.
- ② ADOBE GARAMOND PRO BOLD FONT. HEIGHT AS NOTED IN DETAILS.
- ③ SMOOTH FINISH CONCRETE BAND.
- ④ REFER TO GROOVE DETAIL ON WALL AESTHETIC DETAILS AND NOTES SHEET.

- FLUSH AT 0", SMOOTH CONCRETE FINISH.
- 3/4" DEPTH WITH ROUGH SANDBLAST FINISH.

NOTES:

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- E. ALL CONCRETE COLOR SHALL BE SAND (FEDERAL COLOR #32648)
- F. ALL CONCRETE FINISHES SHALL BE SMOOTH UNLESS OTHERWISE NOTED.
- G. NO HORIZONTAL JOINTS SHALL BE SHOWN.



MURAL ENLARGEMENT 'E'

1" = 1'-0"

12" X 12" DIMENSION GRID LINES (TYP)

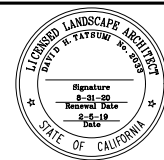
EDGE OF MURAL PANEL



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DAVID TATSUMI
 2033 RLA No. DATE:



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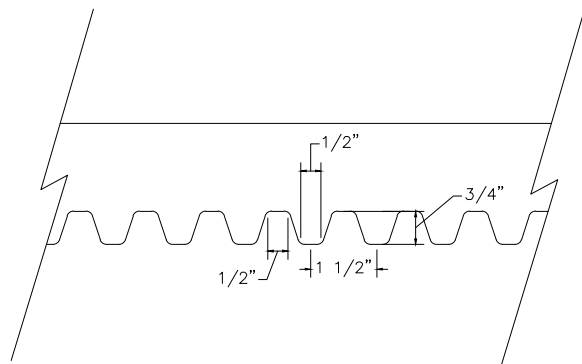
CITY OF BARSTOW
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 PHONE: (760) 256-3531
 FAX: (760) 256-1750

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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
 BRAD S. MERRELL
 CONSULTING CITY ENGINEER

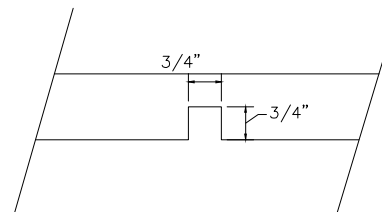
PROJECT No. 5298-030			
CITY OF BARSTOW NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD RETAINING WALL MURAL DETAILS NO. 2			
APPROVED BY:	TITLE:	DESIGNED: MA	R.C.E. NO.
DRAWN: WK	DATE: 02/15/2019	SHEET	90 OF 140
SCALE:	AS BUILT:	PLAN NO.	1594

100% INTERIM PLANS FEB 20, 2019 NOT FOR CONSTRUCTION



FRACTURED FIN DETAIL

NTS



GROOVE DETAIL

NTS

CAST-IN-PLACE
CONCRETE

SHOTCRETE

REFER TO ENGINEERING PLANS FOR SCORE JOINTS, EXPANSION JOINTS, AND ADDITIONAL INFORMATION.

GENERAL AESTHETICS NOTES:

1. CONTRACTOR SHALL LAYOUT ALL SURFACING, SCORE JOINTS AND PAVING PATTERNS AS CLOSELY AS POSSIBLE TO PLANS, DETAILS, AND SPECIFICATIONS. DO NOT DEVIATE FROM PLANS UNLESS SPECIFIC APPROVAL IS OBTAINED FROM THE OWNER'S REPRESENTATIVE.
2. CONTRACTOR SHALL COORDINATE A FORM INSPECTION WITH THE CITY'S AUTHORIZED REPRESENTATIVE NO LESS THAN 24 HOURS PRIOR TO PLACEMENT OF ANY SURFACING.
3. CONCRETE EDGES, SAW CUTS AND/OR TROWELED SCORE JOINTS SHALL BE CRISP, CLEAN, COMPLETE AND NEAT IN APPEARANCE. LOCATE ALL JOINTS AS IDENTIFIED ON THE PLANS OR AS DIRECTED BY THE CITY'S AUTHORIZED REPRESENTATIVE.
4. CONTRACTOR SHALL PROVIDE ALL PROTECTION AND FACILITIES NECESSARY TO INSURE PROPER CURING AND FINISH OF PAVING.
5. VERIFY ALL PLAN DIMENSIONS PRIOR TO START OF CONSTRUCTION. NOTIFY THE CITY'S AUTHORIZED REPRESENTATIVE TO ADDRESS ANY QUESTIONS OR CLARIFY ANY DISCREPANCIES.
6. CONTRACTOR SHALL CONFIRM THAT SITE CONDITIONS ARE SIMILAR TO THE PLANS, WITHIN TOLERANCES STATED IN THE CONTRACT DOCUMENTS, AND SATISFACTORY TO THE CONTRACTOR PRIOR TO START OF WORK. SHOULD SITE CONDITIONS BE DIFFERENT THAN REPRESENTED ON THE PLANS, THE CONTRACTOR SHALL CONTACT THE CITY'S AUTHORIZED REPRESENTATIVE FOR CLARIFICATION AND FURTHER DIRECTION.
7. CONTRACTOR IS RESPONSIBLE TO PAY FOR, AND OBTAIN, ANY REQUIRED APPLICATIONS, PERMITTING, LICENSES, INSPECTIONS AND METERS ASSOCIATED WITH WORK.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY FINES OR PENALTIES ASSESSED TO THE OWNER RELATING TO ANY VIOLATIONS OR NON-CONFORMANCE WITH THE PLANS, SPECIFICATIONS, CONTRACT DOCUMENTS, JURISDICTIONAL CODES, AND REGULATORY AGENCIES.
9. ALL WORK SHALL BE CONFINED TO THE AREA WITHIN THE CONSTRUCTION LIMITS AS SHOWN ON THE PLANS. ANY AREAS OR IMPROVEMENTS DISTURBED OUTSIDE THESE LIMITS SHALL BE RETURNED TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE. IN THE EVENT THE CONTRACTOR REQUIRES A MODIFICATION TO THE CONSTRUCTION LIMITS, WRITTEN PERMISSION MUST BE OBTAINED FROM THE OWNER'S REPRESENTATIVE PRIOR TO ANY DISTURBANCE OUTSIDE OF THE LIMITS OF WORK.
10. THE CONTRACTOR SHALL OBTAIN APPROVAL PRIOR TO ANY WORK WHICH AFFECTS OR IMPACTS THE PUBLIC RIGHTS-OF-WAY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY FINES OR PENALTIES ASSESSED TO THE OWNER RELATING TO THIS REQUIREMENT DURING THE CONTRACT PERIOD.
11. CONTRACTOR IS RESPONSIBLE FOR PROVIDING TEMPORARY SAFETY FENCING AND BARRIERS AROUND ALL IMPROVEMENTS SUCH AS WALLS, PLAY STRUCTURES, EXCAVATIONS, ETC. ASSOCIATED WITH THEIR WORK UNTIL SUCH FACILITIES ARE COMPLETELY INSTALLED PER THE PLANS, SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
12. LOCAL, STATE AND FEDERAL JURISDICTIONAL REQUIREMENTS, RESTRICTIONS OR PROCEDURES SHALL SUPERSEDE THESE PLANS, NOTES AND SPECIFICATIONS WHEN MORE STRINGENT. NOTIFY THE OWNER'S REPRESENTATIVE IF CONFLICTS OCCUR.
13. THESE PLANS ARE FOR AESTHETIC DETAILING ONLY. REFER TO THE STRUCTURAL ENGINEER'S PLANS FOR ADDITIONAL INFORMATION.
14. IN THE EVENT THESE PLANS ARE IN CONFLICT WITH THE CIVIL AND STRUCTURAL ENGINEERING PLANS, THE CIVIL AND STRUCTURAL ENGINEERING PLANS SHALL TAKE PRECEDENT.
15. NO HORIZONTAL JOINTS SHALL BE SHOWN.
16. CONTRACTOR SHALL SUBMIT FORMLINER SHOP DRAWINGS TO THE CITY'S AUTHORIZED REPRESENTATIVE FOR APPROVAL PRIOR TO ANY WORK.
17. CONTRACTOR SHALL PREPARE SAMPLE AESTHETIC PANELS FOR APPROVAL BY THE CITY'S AUTHORIZED REPRESENTATIVE PRIOR TO BEGINNING ANY WORK.
 - A. A 5'X5' TYPICAL AREA OF THE WALL AESTHETIC TREATMENT. THE 5'X5' REPRESENTATIVE AREA TO BE SELECTED BY THE CITY'S AUTHORIZED REPRESENTATIVE.

PROJECT No. 5298-030



THE CONTRACTOR IS REQUIRED BY GOVERNMENT CODE 4216 "CALIFORNIA ONE-CALL LAW" TO CALL DIG ALERT AT LEAST TWO (2) WORKING DAYS BEFORE DIGGING. CONTRACTOR IS REQUIRED BY SAME CODE TO HAND-EXPOSE TO THE POINT OF NO CONFLICT 24" ON EITHER SIDE OF THE UNDERGROUND FACILITY SO YOU CAN DETERMINE ITS EXACT LOCATION BEFORE USING POWER EQUIPMENT.

No.	REVISION	DATE	BY

DAVID TATSUMI

2033 RLA No. DATE:

TATSUMI AND PARTNERS, INC.

LANDSCAPE ARCHITECTURE
URBAN DESIGN
VISUAL MANAGEMENT

49 DISCOVERY, SUITE 120
IRVINE, CA 92618
PH 949/453,9901 FAX 949/453,9902
www.tatsumiandpartners.com

CITY OF BARSTOW

220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311

PHONE: (760) 256-3531
FAX: (760) 256-1750

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CITY OF BARSTOW ENGINEERING DEPARTMENT--APPROVED BY:

BRAD S. MERRELL DATE: _____
CONSULTING CITY ENGINEER

CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
WALL AESTHETIC DETAILS AND NOTES

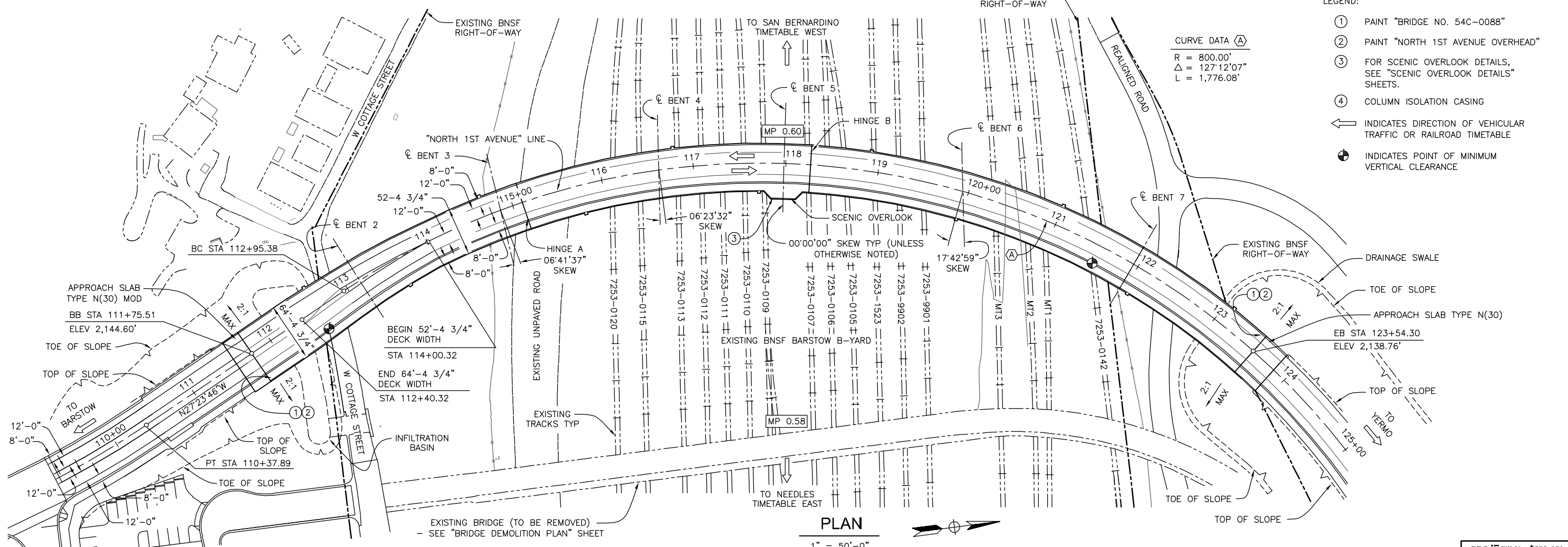
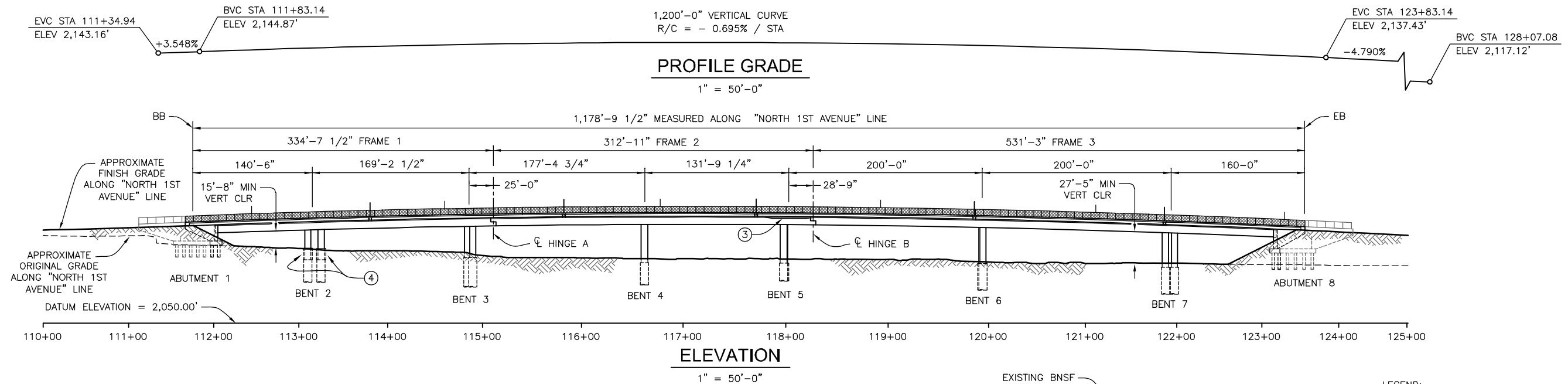
APPROVED BY: _____ TITLE: _____

DESIGNED: MA R.C.E. NO. _____ SHEET 91 OF 140

DRAWN: WK DATE: 02/15/2019 PLAN NO. _____

SCALE: _____ AS BUILT: _____

100% INTERIM PLANS FEB 20, 2019 NOT FOR CONSTRUCTION



- LEGEND:
- ① PAINT "BRIDGE NO. 54C-0088"
 - ② PAINT "NORTH 1ST AVENUE OVERHEAD"
 - ③ FOR SCENIC OVERLOOK DETAILS, SEE "SCENIC OVERLOOK DETAILS" SHEETS.
 - ④ COLUMN ISOLATION CASING
 - ← INDICATES DIRECTION OF VEHICULAR TRAFFIC OR RAILROAD TIMETABLE
 - ⊙ INDICATES POINT OF MINIMUM VERTICAL CLEARANCE

811
Know what's below.
Call before you dig.

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No.	REVISION	DATE	BY

PROFESSIONAL ENGINEER
Sami H. Megally
No. 65520
CIVIL
STATE OF CALIFORNIA

KLEINFELDER
550 WEST "C" STREET, SUITE 1200 (619) 831-4600
SAN DIEGO, CALIFORNIA 92101

DATE: _____
PREPARED BY: SAMI H. MEGALLY
REGISTRATION EXPIRES: 9/30/19 R.C.E. NO. 65520

CITY OF BARSTOW
220 E. MOUNTAIN VIEW ST SUITE A PHONE: (760) 256-3531
BARSTOW, CA 92311 FAX: (760) 256-1750

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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:

BRAD S. MERRELL
CONSULTING CITY ENGINEER

DATE: _____

PROJECT No. 5298-030

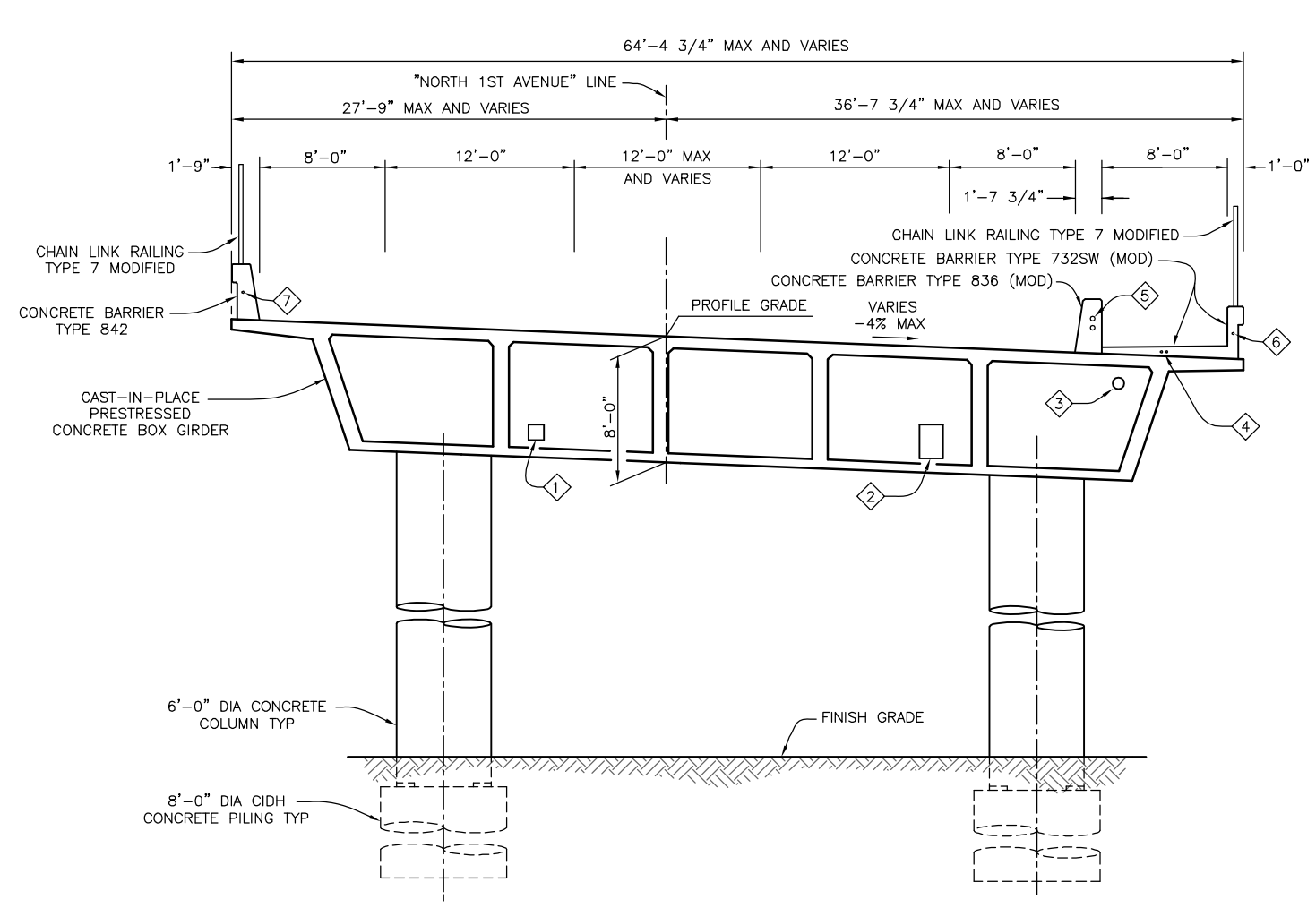
CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
GENERAL PLAN (1 OF 2)

APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER

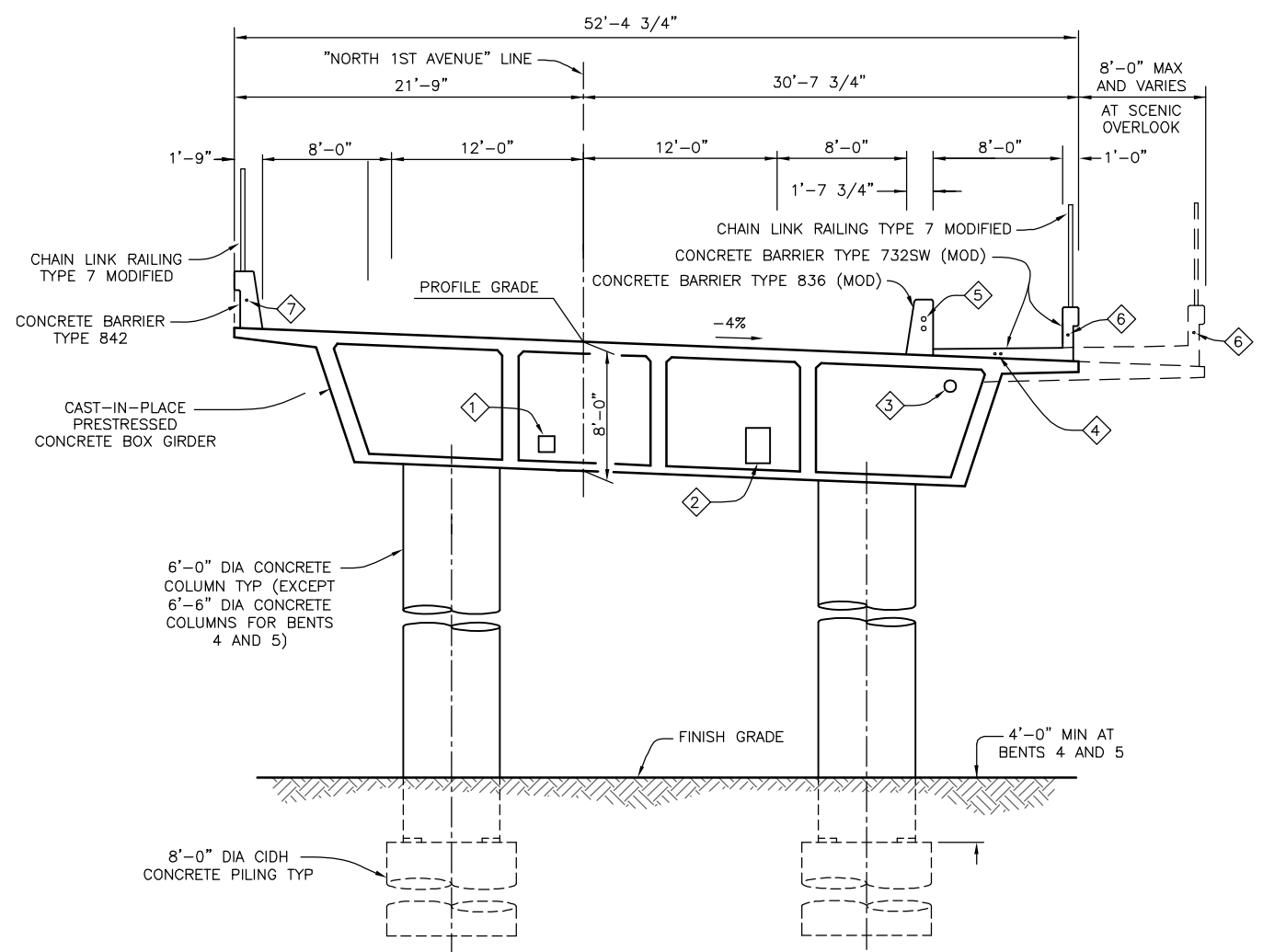
DESIGNED: SM R.C.E. NO. 49423 SHEET 92 OF 180

DRAWN: TB DATE: 02/20/19 PLAN NO. 1594

SCALE: AS-NOTED AS BUILT:



TYPICAL SECTION SOUTH OF HINGE A
1" = 5'-0"



TYPICAL SECTION NORTH OF HINGE A
1" = 5'-0"

BRIDGE UTILITY OPENINGS						
LOCATION	UTILITY	OWNER	UTILITY SIZE	END DIAPHRAGM OPENING SIZE (WIDTH X HEIGHT)	BENT CAP OPENING SIZE (WIDTH X HEIGHT)	LOCATION OF DETAILS
1	TELECOMMUNICATIONS	FRONTIER	4 - 4" DIA PVC	12" x 12"	12" x 12"	BY OTHERS
2	ELECTRICAL	SOUTHERN CALIFORNIA EDISON	6 - 6" DIA PVC	18" x 26"	18" x 26"	BY OTHERS
3	DECK DRAINAGE	CITY OF BARSTOW	SEE BRIDGE PLANS AND STANDARD PLAN B7-8			
4	TELECOMMUNICATIONS	SPECTRUM	2 - 2" DIA HDPE	-	-	BY OTHERS
5	FUTURE	TO BE DETERMINED	2 - 4" DIA	-	-	B11-58
6	ELECTRICAL	CITY OF BARSTOW	2" DIA	-	-	LIGHTING PLANS
7	ELECTRICAL	CITY OF BARSTOW	2" DIA	-	-	LIGHTING PLANS



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No.	REVISION	DATE	BY

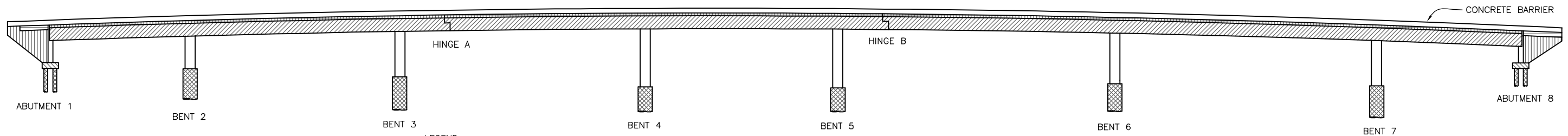


KLEINFELDER
550 WEST "C" STREET, SUITE 1200 (619) 831-4600
SAN DIEGO, CALIFORNIA 92101
DATE: _____
PREPARED BY: SAMI H. MEGALLY R.C.E. NO. 65520
REGISTRATION EXPIRES: 9/30/19

CITY OF BARSTOW
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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
BRAD S. MERRELL
CONSULTING CITY ENGINEER
DATE: _____

PROJECT No. 5298-030
CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
GENERAL PLAN (2 OF 2)
APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER
DESIGNED: SM R.C.E. NO. 49423 SHEET 93 OF 180
DRAWN: TB DATE: 02/20/19 PLAN NO. 1594
SCALE: AS-NOTED AS BUILT:



INDEX TO BRIDGE PLANS

SHEET NO.	TITLE
92	GENERAL PLAN (1 OF 2)
93	GENERAL PLAN (2 OF 2)
94	INDEX TO PLANS
95	STRUCTURE PLAN NO. 1
96	STRUCTURE PLAN NO. 2
97	STRUCTURE PLAN NO. 3
98	DECK CONTOURS
99	DECK GEOMETRY
100	FOUNDATION PLAN
101	ABUTMENT 1 LAYOUT
102	ABUTMENT 8 LAYOUT
103	ABUTMENT DETAILS NO. 1
104	ABUTMENT DETAILS NO. 2
105	ABUTMENT DETAILS NO. 3
106	ABUTMENT AESTHETIC DETAILS
107	BENT DETAILS NO. 1
108	BENT DETAILS NO. 2
109	BENT DETAILS NO. 3
110	BENT DETAILS NO. 4
111	COLUMN ISOLATION CASING DETAILS NO. 1
112	COLUMN ISOLATION CASING DETAILS NO. 2
113	TYPICAL SECTION (1 OF 2)
114	TYPICAL SECTION (2 OF 2)
115	SCENIC OVERLOOK DETAILS NO. 1
116	SCENIC OVERLOOK DETAILS NO. 2
117	GIRDER LAYOUT NO. 1
118	GIRDER LAYOUT NO. 2
119	GIRDER LAYOUT NO. 3
120	CAMBER DIAGRAM
121	GIRDER DETAILS
122	GIRDER REINFORCEMENT NO. 1
123	GIRDER REINFORCEMENT NO. 2
124	HINGE DETAILS NO. 1
125	HINGE DETAILS NO. 2
126	HINGE DETAILS NO. 3
127	BEARING DETAILS
128	EXPANSION JOINT DETAILS AT ABUTMENTS
129	EXPANSION JOINT DETAILS AT HINGES
130	EXPANSION JOINT DETAILS AT SIDEWALK
131	APPROACH SLAB DETAILS
132	STRUCTURE APPROACH DRAINAGE DETAILS
133	CHAIN LINK RAILING TYPE 7 MODIFIED
134	CONCRETE BARRIER ARCHITECTURAL TREATMENT NO. 1
135	CONCRETE BARRIER ARCHITECTURAL TREATMENT NO. 2

LEGEND:

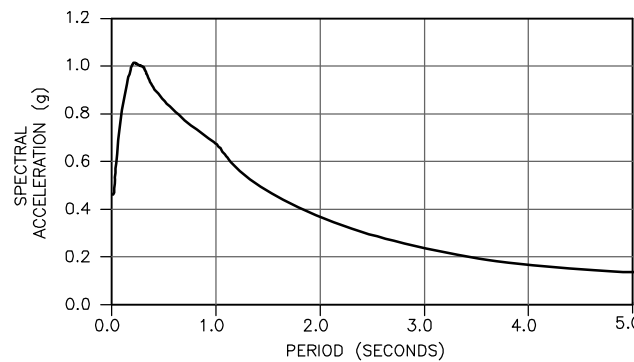
- STRUCTURAL CONCRETE, BRIDGE ($f'c = 3.6 \text{ ksi @ 28 DAYS}$)
- STRUCTURAL CONCRETE, BRIDGE ($f'c = 4.0 \text{ ksi @ 28 DAYS}$)
- STRUCTURAL CONCRETE, BRIDGE (POLYMER FIBER) DECK SLAB ($f'c = 4.0 \text{ ksi @ 28 DAYS}$)
- STRUCTURAL CONCRETE, RETAINING WALL ($f'c = 3.6 \text{ ksi @ 28 DAYS}$)
- STRUCTURAL CONCRETE, APPROACH SLAB ($f'c = 3.6 \text{ ksi @ 28 DAYS}$)
- STRUCTURAL CONCRETE, BRIDGE FOOTING ($f'c = 3.6 \text{ ksi @ 28 DAYS}$)
- CAST-IN-DRILLED-HOLE CONCRETE PILE ($f'c = 3.6 \text{ ksi @ 28 DAYS}$)

CONCRETE STRENGTH AND TYPE LIMITS

NO SCALE

GENERAL NOTES LOAD AND RESISTANCE FACTOR DESIGN

- DESIGN: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 2012, 6TH EDITION WITH CALIFORNIA AMENDMENTS, PREFACE DATED JANUARY 2014
- SEISMIC DESIGN: CALTRANS SEISMIC DESIGN CRITERIA (SDC), VERSION 1.7, DATED APRIL 2013
- DEAD LOAD: INCLUDES 35 psf FOR FUTURE WEARING SURFACE
INCLUDES 100 pif FOR FUTURE AND EXISTING UTILITIES
- LIVE LOAD: HL-93 WITH LOW-BOY AND PERMIT DESIGN VEHICLE
- SEISMIC LOADING: SOIL PROFILE: $V_{s30} = 300.6 \text{ m/s (986 ft/s)}$
MOMENT MAGNITUDE: $M_{max} = 6.9$
PEAK GROUND ACCELERATION = 0.471 g



REINFORCED CONCRETE: $f_y = 60 \text{ ksi}$
 $f'c = 3.6 \text{ ksi (UNLESS OTHERWISE NOTED)}$
 $n = 8$

PRESTRESSED CONCRETE: SEE "PRESTRESSING NOTES" ON "GIRDER LAYOUT NO. 1" THROUGH "GIRDER LAYOUT NO. 3" SHEETS

SPECIFICATIONS

STANDARD SPECIFICATIONS 2018, STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISIONS FOR THE CONSTRUCTION OF THE NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD, DATED DECEMBER 2018

CALTRANS STANDARD PLANS DATED 2018

- A3A ABBREVIATIONS (SHEET 1 OF 3)
- A3B ABBREVIATIONS (SHEET 2 OF 3)
- A3C ABBREVIATIONS (SHEET 3 OF 3)
- A10A LEGEND - LINES AND SYMBOLS (SHEET 1 OF 5)
- A10B LEGEND - LINES AND SYMBOLS (SHEET 2 OF 5)
- A10C LEGEND - LINES AND SYMBOLS (SHEET 3 OF 5)
- A10D LEGEND - LINES AND SYMBOLS (SHEET 4 OF 5)
- A10E LEGEND - LINES AND SYMBOLS (SHEET 5 OF 5)
- A62C LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL - BRIDGE
- B0-1 BRIDGE DETAILS
- B0-3 BRIDGE DETAILS
- B0-5 BRIDGE DETAILS
- B0-13 BRIDGE DETAILS
- B7-1 BOX GIRDER DETAILS
- B7-6 DECK DRAINS TYPE D-1 AND D-2
- B7-10 UTILITY OPENING - BOX GIRDER
- B7-11 UTILITY DETAILS
- B8-5 CAST-IN-PLACE POST-TENSIONED GIRDER DETAILS
- B9-1 STRUCTURE APPROACH - TYPE N(30)
- B9-5 STRUCTURE APPROACH - SLAB DETAILS
- B11-52 CHAIN LINK RAILING TYPE 7
- B11-58 CONCRETE BARRIER TYPE 732SW (SHEET 1 OF 2)
- B11-59 CONCRETE BARRIER TYPE 732SW (SHEET 2 OF 2)
- RSP B11-79 CONCRETE BARRIER TYPE 836 DETAILS NO. 1
- RSP B11-80 CONCRETE BARRIER TYPE 836 DETAILS NO. 2
- RSP B11-81 CONCRETE BARRIER TYPE 842 DETAILS NO. 1
- RSP B11-82 CONCRETE BARRIER TYPE 842 DETAILS NO. 2
- ES-6B ELECTRICAL SYSTEMS (ELECTROLIER ANCHORAGE AND GROUTING FOR TYPE 15 AND TYPE 21, BARRIER RAIL MOUNTED)

PLAN SYMBOLS

- SECTION IDENTIFICATION
- CALTRANS STANDARD PLAN NUMBER
- DETAIL NUMBER (IF APPLICABLE)
- REVISED STANDARD PLAN



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No.	REVISION	DATE	BY



KLEINFELDER
550 WEST "C" STREET, SUITE 1200 (619) 831-4600
SAN DIEGO, CALIFORNIA 92101

DATE: _____
PREPARED BY: SAMI H. MEGALLY R.C.E. NO. 65520
REGISTRATION EXPIRES: 9/30/19

CITY OF BARSTOW
220 E. MOUNTAIN VIEW ST SUITE A PHONE: (760) 256-3531
BARSTOW, CA 92311 FAX: (760) 256-1750

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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:

BRAD S. MERRELL DATE _____
CONSULTING CITY ENGINEER

PROJECT No. 5298-030

CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
INDEX TO PLANS

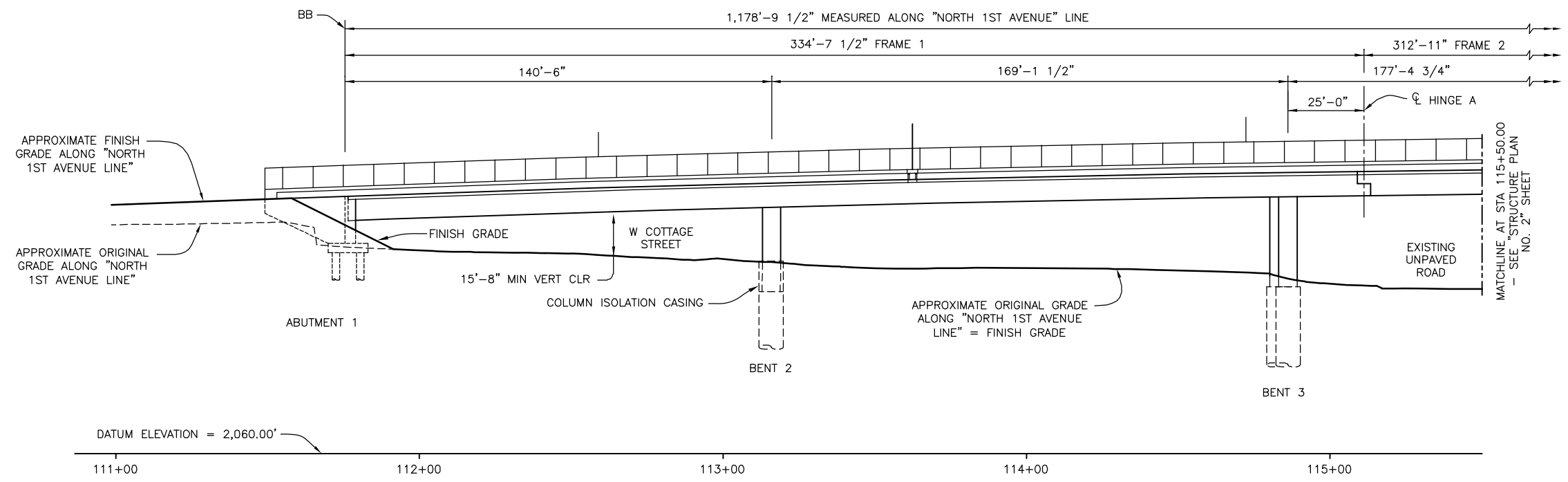
APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER

DESIGNED: SM R.C.E. NO. 49423 SHEET 94 OF 130

DRAWN: TB DATE: 02/20/19 PLAN NO. 1594

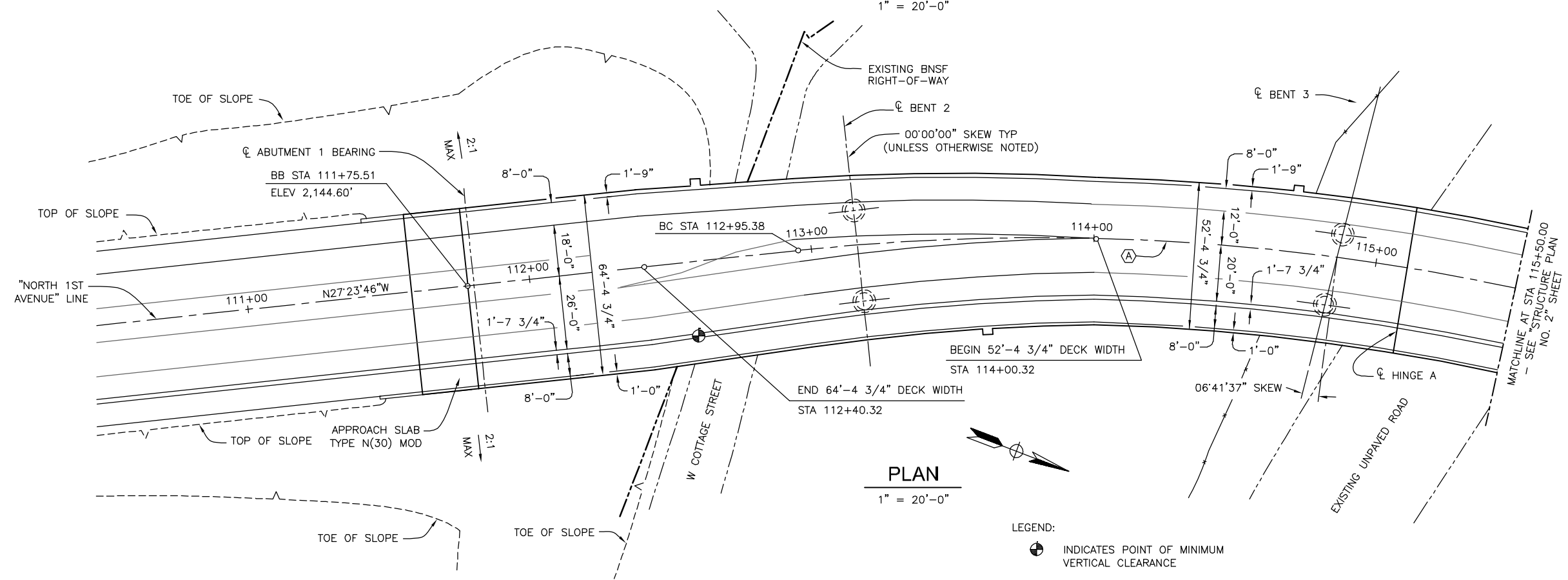
SCALE: AS-NOTED AS BUILT:

100% INTERIM PLANS FEB 20, 2019 NOT FOR CONSTRUCTION



DEVELOPED ELEVATION

1" = 20'-0"



CURVE DATA (A)

R = 800.00'

Δ = 127°12'07"

L = 1,776.08'



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No.	REVISION	DATE	BY



KLEINFELDER
801st people. Right Solutions.

550 WEST "C" STREET, SUITE 1200 (619) 831-4600
SAN DIEGO, CALIFORNIA 92101

DATE: _____ R.C.E. NO. 65520
PREPARED BY: SAMI H. MEGALLY
REGISTRATION EXPIRES: 9/30/19

CITY OF BARSTOW

220 E. MOUNTAIN VIEW ST SUITE A PHONE: (760) 256-3531
BARSTOW, CA 92311 FAX: (760) 256-1750

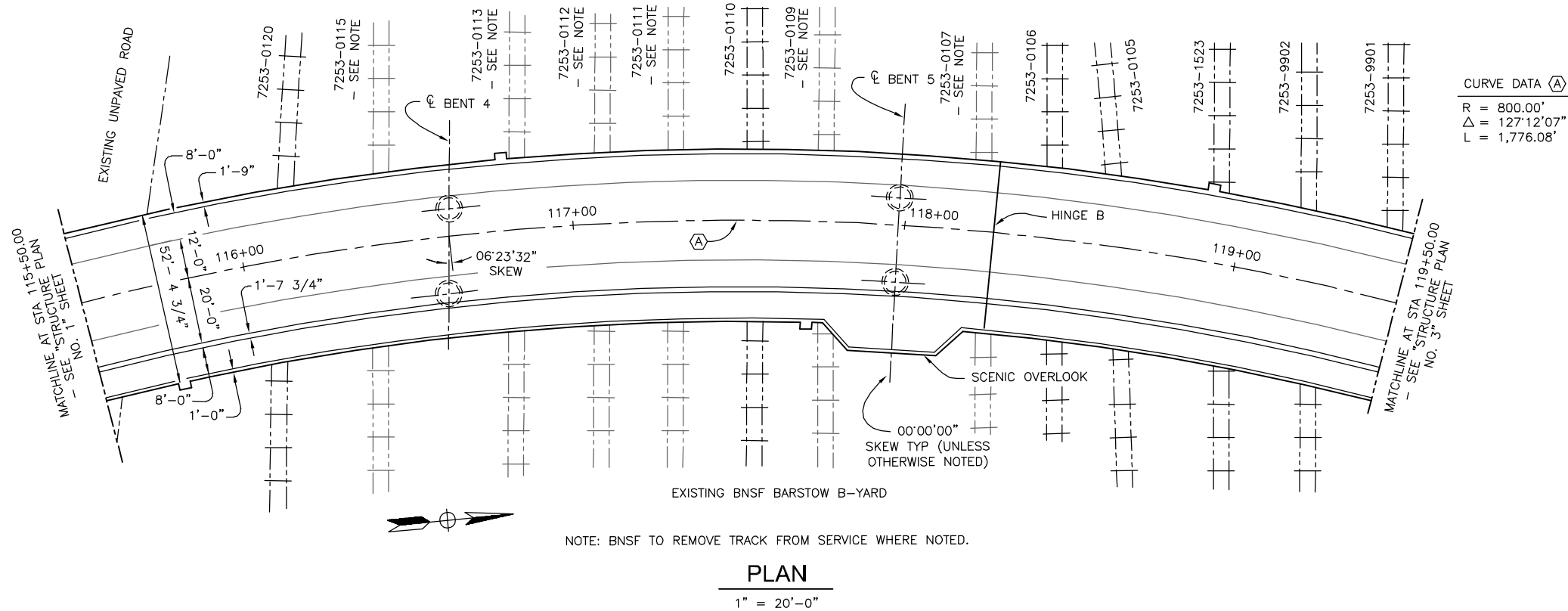
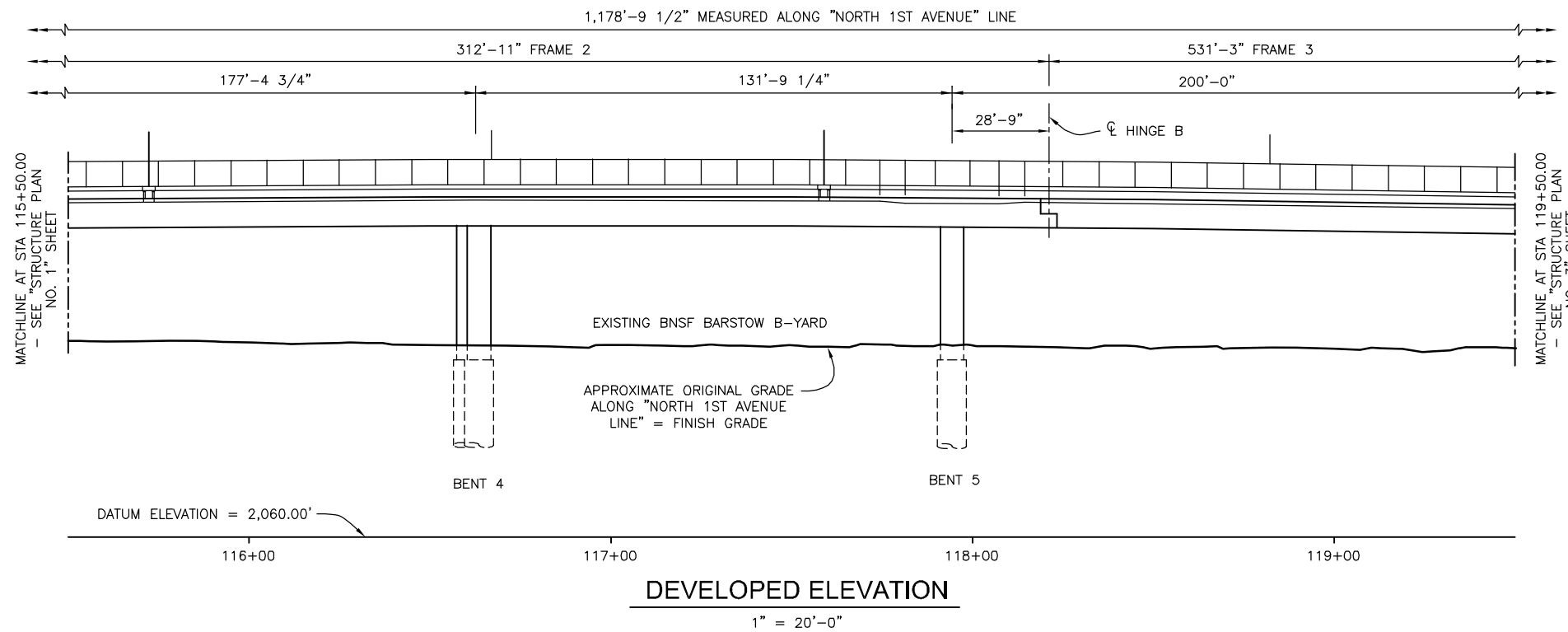
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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:

BRAD S. MERRELL
CONSULTING CITY ENGINEER

DATE: _____

PROJECT No. 5298-030		
CITY OF BARSTOW NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD STRUCTURE PLAN NO. 1		
APPROVED BY: BRAD S. MERRELL	TITLE: CONSULTING CITY ENGINEER	
DESIGNED: SM	R.C.E. NO. 49423	SHEET 95 OF 180
DRAWN: TB	DATE: 02/20/19	PLAN NO. 1594
SCALE: AS-NOTED	AS BUILT:	



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KLEINFELDER
80 years of experience. Right Solutions.

550 WEST "C" STREET, SUITE 1200 (619) 831-4600
SAN DIEGO, CALIFORNIA 92101

DATE: R.C.E. NO. 65520

PREPARED BY: SAMI H. MEGALLY
REGISTRATION EXPIRES: 9/30/19

CITY OF BARSTOW

220 E. MOUNTAIN VIEW ST SUITE A PHONE: (760) 256-3531
BARSTOW, CA 92311 FAX: (760) 256-1750

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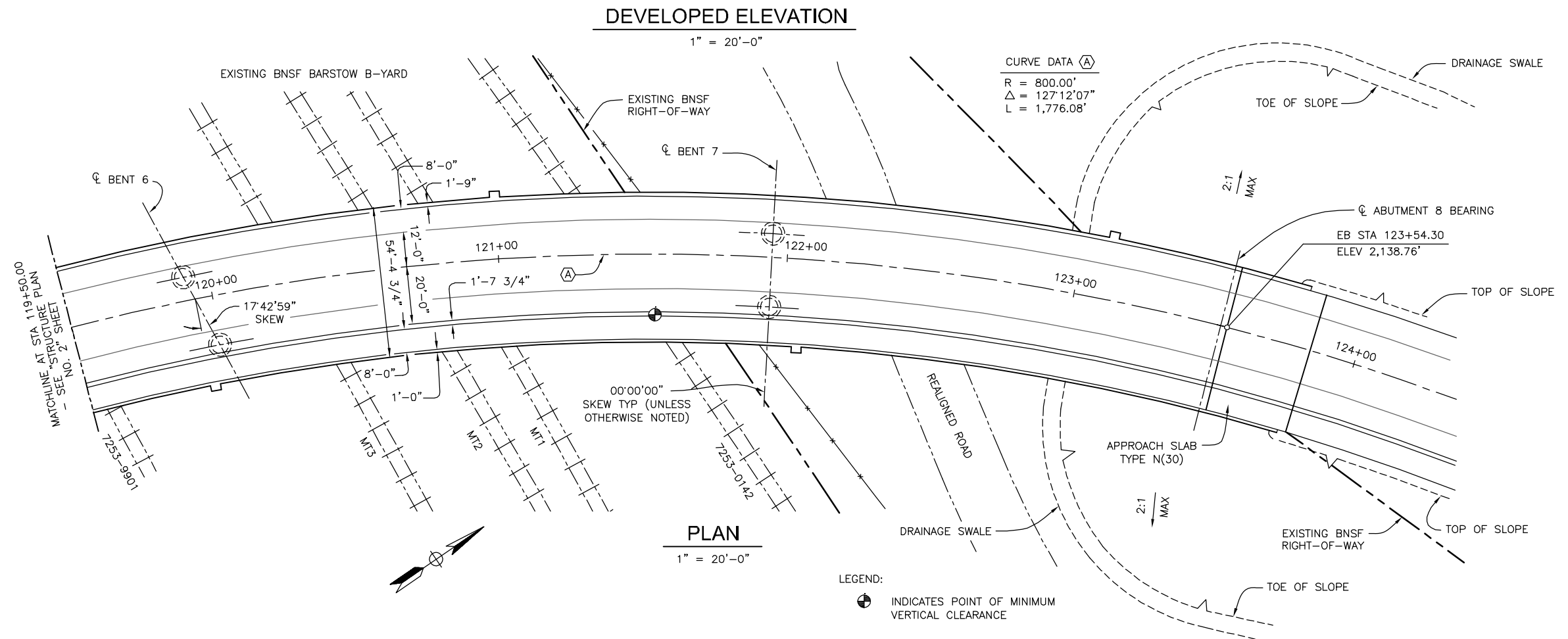
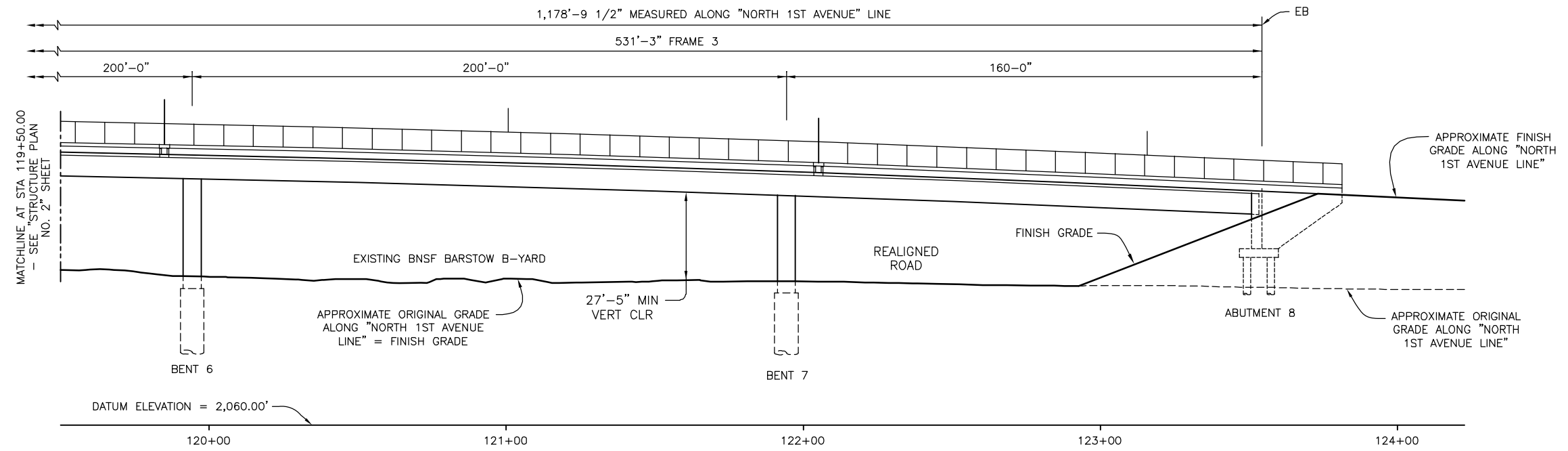
CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:

BRAD S. MERRELL DATE

CONSULTING CITY ENGINEER

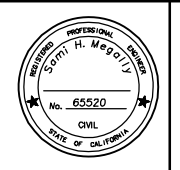
PROJECT No. 5298-030			
CITY OF BARSTOW NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD STRUCTURE PLAN NO. 2			
APPROVED BY: BRAD S. MERRELL	TITLE: CONSULTING CITY ENGINEER	SHEET 96 OF 180	
DESIGNED: SM	R.C.E. NO. 49423	DATE: 02/20/19	PLAN NO. 1594
DRAWN: TB	AS BUILT:	SCALE: AS-NOTED	

100% INTERIM PLANS FEB 20, 2019 NOT FOR CONSTRUCTION



THE CONTRACTOR IS REQUIRED BY GOVERNMENT CODE 4216 "CALIFORNIA ONE CALL LAW" TO CALL DIG ALERT AT LEAST TWO (2) WORKING DAYS BEFORE DIGGING. CONTRACTOR IS REQUIRED BY SAME CODE TO HAND-EXPOSE TO THE POINT OF NO CONFLICT 24" ON EITHER SIDE OF THE UNDERGROUND FACILITY SO YOU CAN DETERMINE ITS EXACT LOCATION BEFORE USING POWER EQUIPMENT.

No.	REVISION	DATE	BY

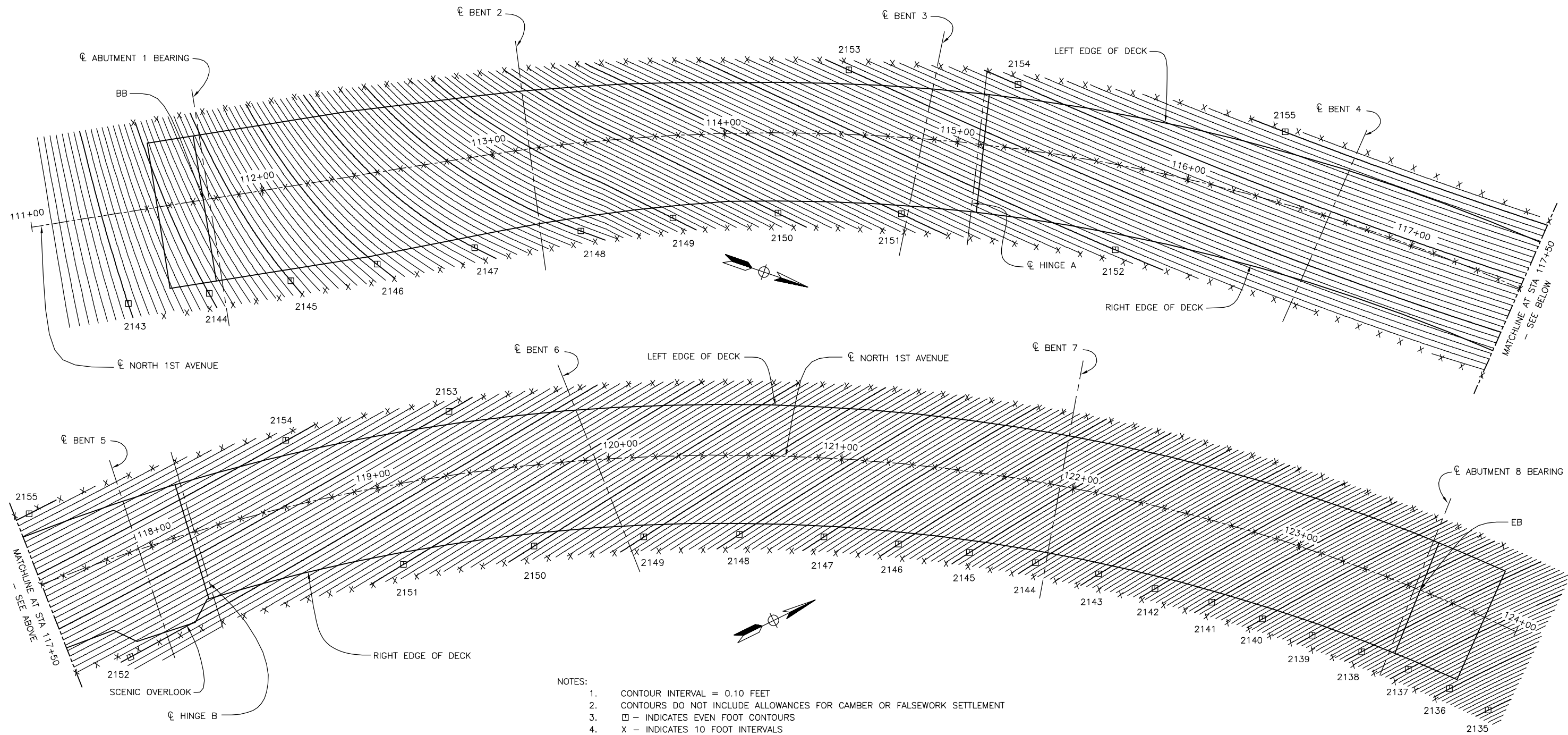


KLEINFELDER
550 WEST "C" STREET, SUITE 1200 (619) 831-4600
SAN DIEGO, CALIFORNIA 92101
DATE: _____
PREPARED BY: SAMI H. MEGALLY R.C.E. NO. 65520
REGISTRATION EXPIRES: 9/30/19

CITY OF BARSTOW
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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
BRAD S. MERRELL
CONSULTING CITY ENGINEER
DATE: _____

PROJECT No. 5298-030		CITY OF BARSTOW	
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD		STRUCTURE PLAN NO. 3	
APPROVED BY: BRAD S. MERRELL	TITLE: CONSULTING CITY ENGINEER	R.C.E. NO. 49423	SHEET 97 OF 180
DESIGNED: SM	DATE: 02/20/19	SCALE: AS-BUILT	PLAN NO. 1594



NOTES:

1. CONTOUR INTERVAL = 0.10 FEET
2. CONTOURS DO NOT INCLUDE ALLOWANCES FOR CAMBER OR FALSEWORK SETTLEMENT
3. □ - INDICATES EVEN FOOT CONTOURS
4. X - INDICATES 10 FOOT INTERVALS

PLAN

1" = 20'-0"



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No.	REVISION	DATE	BY

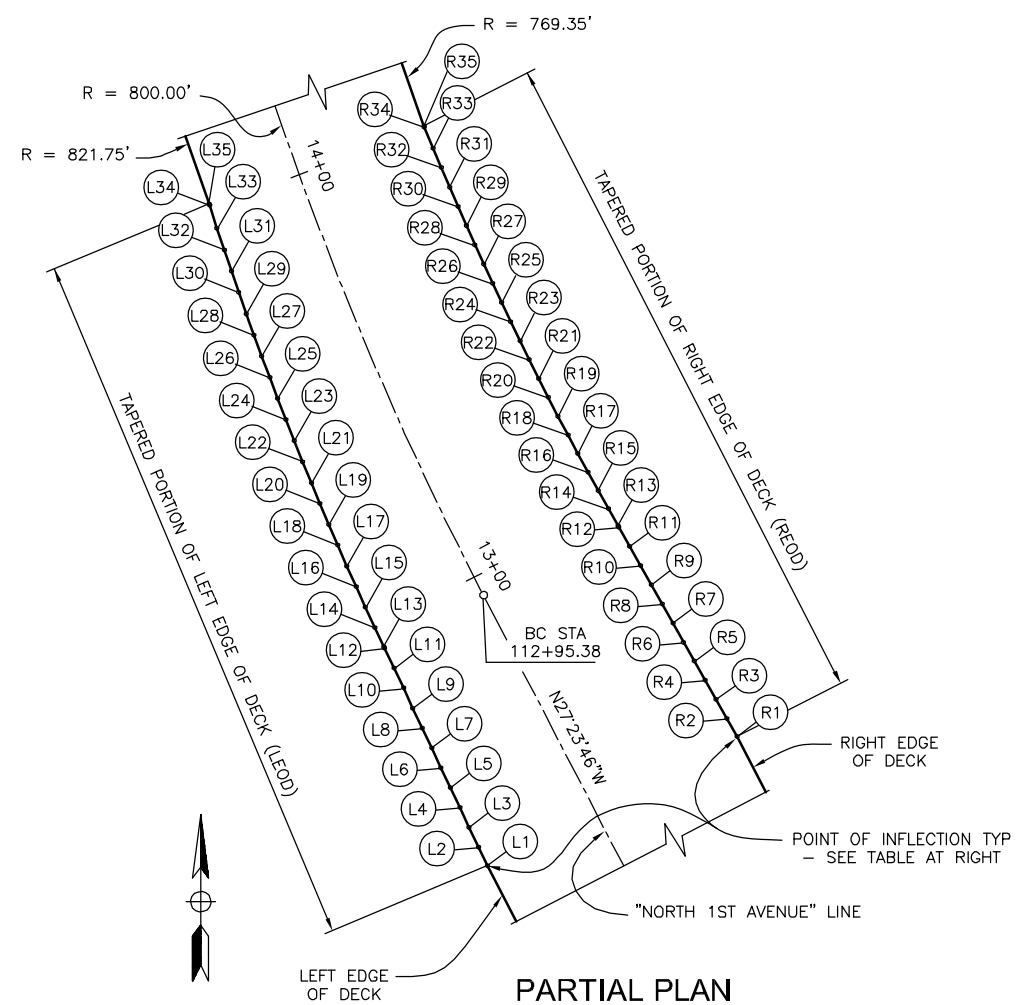


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 SAN DIEGO, CALIFORNIA 92101
 PREPARED BY: SAMI H. MEGALLY R.C.E. NO. 65520
 REGISTRATION EXPIRES: 9/30/19

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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
 BRAD S. MERRELL DATE
 CONSULTING CITY ENGINEER

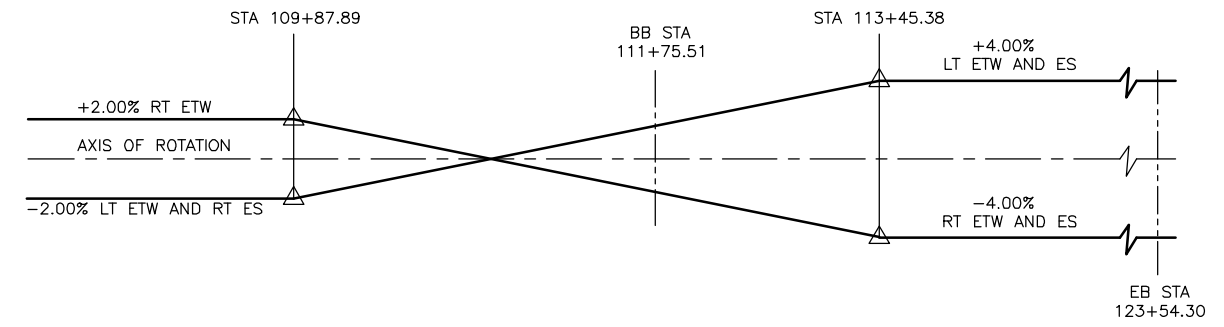
PROJECT No. 5298-030
CITY OF BARSTOW
 NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
 DECK CONTOURS
 APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER
 DESIGNED: SM R.C.E. NO. 49423 SHEET 98 OF 130
 DRAWN: TB DATE: 02/20/19 PLAN NO. 1594
 SCALE: AS-NOTED AS BUILT:



POINT OF INFLECTION LOCATIONS					
LEFT EDGE OF DECK			RIGHT EDGE OF DECK		
NO.	STATION	OFFSET FEET, LT	NO.	STATION	OFFSET FEET, RT
L1	112+40.32	27.75	R1	112+40.32	36.65
L2	112+45.00	27.58	R2	112+45.00	36.47
L3	112+50.00	27.39	R3	112+50.00	36.39
L4	112+55.00	27.20	R4	112+55.00	36.10
L5	112+60.00	27.01	R5	112+60.00	35.91
L6	112+65.00	26.83	R6	112+65.00	35.72
L7	112+70.00	26.64	R7	112+70.00	35.54
L8	112+75.00	26.45	R8	112+75.00	35.35
L9	112+80.00	26.26	R9	112+80.00	35.16
L10	112+85.00	26.08	R10	112+85.00	34.97
L11	112+90.00	25.89	R11	112+90.00	34.79
L12	112+95.00	25.70	R12	112+95.00	34.60
L13	112+95.38	25.69	R13	112+95.38	34.58
L14	113+00.00	25.51	R14	113+00.00	34.41
L15	113+05.00	25.33	R15	113+05.00	34.22
L16	113+10.00	25.14	R16	113+10.00	34.04
L17	113+15.00	24.95	R17	113+15.00	33.85
L18	113+20.00	24.76	R18	113+20.00	33.66
L19	113+25.00	24.58	R19	113+25.00	33.47
L20	113+30.00	24.39	R20	113+30.00	33.39
L21	113+35.00	24.20	R21	113+35.00	33.10
L22	113+40.00	24.01	R22	113+40.00	32.91
L23	113+45.00	23.83	R23	113+45.00	32.72
L24	113+50.00	23.64	R24	113+50.00	32.54
L25	113+55.00	23.45	R25	113+55.00	32.35
L26	113+60.00	23.26	R26	113+60.00	32.16
L27	113+65.00	23.08	R27	113+65.00	31.97
L28	113+70.00	22.89	R28	113+70.00	31.89
L29	113+75.00	22.70	R29	113+75.00	31.60
L30	113+80.00	22.51	R30	113+80.00	31.41
L31	113+85.00	22.33	R31	113+85.00	31.22
L32	113+90.00	22.14	R32	113+90.00	31.04
L33	113+95.00	21.95	R33	113+95.00	30.85
L34	114+00.00	21.76	R34	114+00.00	30.66
L35	114+00.32	21.75	R35	114+00.32	30.65

PARTIAL PLAN

TAPERED EDGE OF DECK GEOMETRY
1" = 20'-0"



SUPERELEVATION DIAGRAM

NOTE: SEE ROADWAY PLANS FOR ADDITIONAL INFORMATION NOT SHOWN HERE.

NO SCALE



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No.	REVISION	DATE	BY



KLEINFELDER
550 WEST "C" STREET, SUITE 1200 (619) 831-4600
SAN DIEGO, CALIFORNIA 92101
DATE: _____ R.C.E. NO. 65520
PREPARED BY: SAMI H. MEGALLY
REGISTRATION EXPIRES: 9/30/19

CITY OF BARSTOW
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PHONE: (760) 256-3531
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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
BRAD S. MERRELL
CONSULTING CITY ENGINEER
DATE: _____

PROJECT No. 5298-030
CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD DECK GEOMETRY
APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER
DESIGNED: SM R.C.E. NO. 49423 SHEET 99 OF 180
DRAWN: TB DATE: 02/20/19 PLAN NO. 1594
SCALE: AS-NOTED AS BUILT:

BENCHMARK

BASIS OF COORDINATES: (NAD 83)

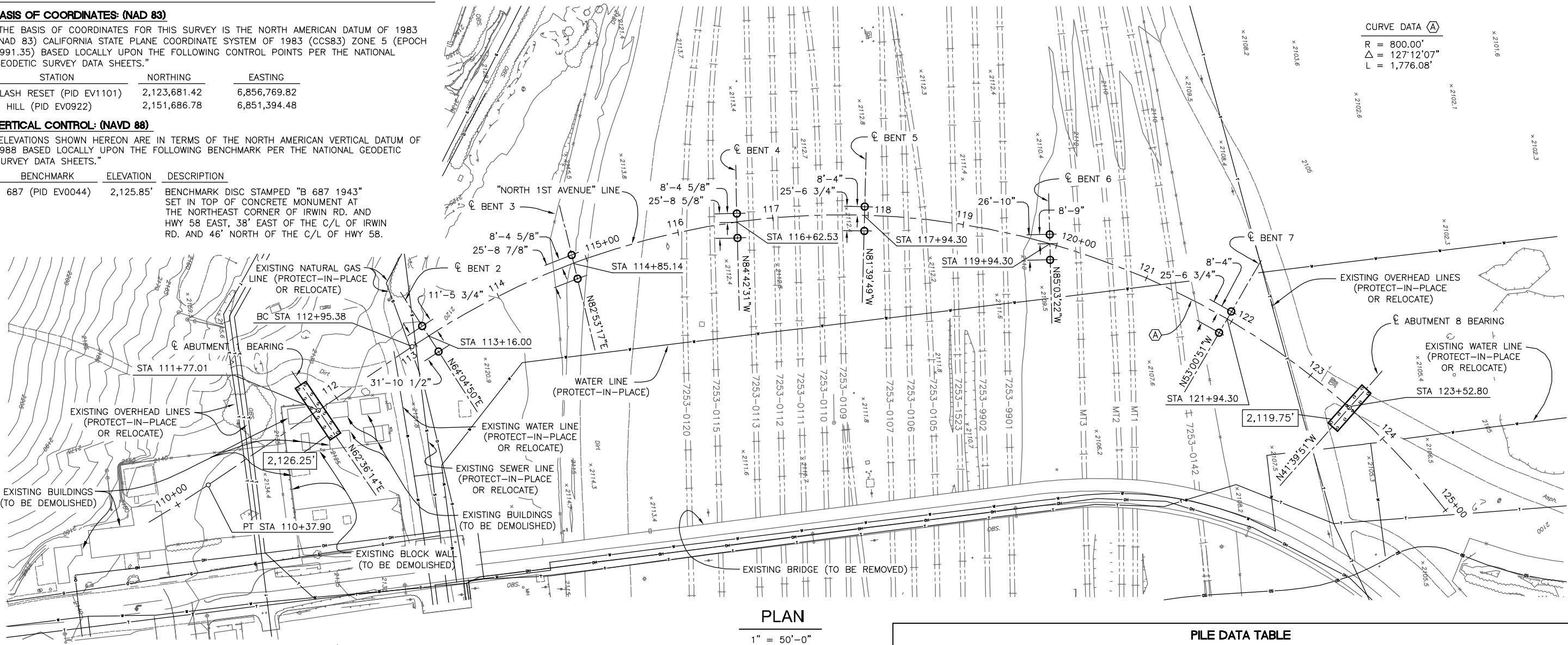
"THE BASIS OF COORDINATES FOR THIS SURVEY IS THE NORTH AMERICAN DATUM OF 1983 (NAD 83) CALIFORNIA STATE PLANE COORDINATE SYSTEM OF 1983 (CCS83) ZONE 5 (EPOCH 1991.35) BASED LOCALLY UPON THE FOLLOWING CONTROL POINTS PER THE NATIONAL GEODETIC SURVEY DATA SHEETS."

STATION	NORTHING	EASTING
FLASH RESET (PID EV1101)	2,123,681.42	6,856,769.82
B HILL (PID EV0922)	2,151,686.78	6,851,394.48

VERTICAL CONTROL: (NAVD 88)

"ELEVATIONS SHOWN HEREON ARE IN TERMS OF THE NORTH AMERICAN VERTICAL DATUM OF 1988 BASED LOCALLY UPON THE FOLLOWING BENCHMARK PER THE NATIONAL GEODETIC SURVEY DATA SHEETS."

BENCHMARK	ELEVATION	DESCRIPTION
B 687 (PID EV0044)	2,125.85'	BENCHMARK DISC STAMPED "B 687 1943" SET IN TOP OF CONCRETE MONUMENT AT THE NORTHEAST CORNER OF IRWIN RD. AND HWY 58 EAST, 38' EAST OF THE C/L OF IRWIN RD. AND 46' NORTH OF THE C/L OF HWY 58.



PLAN

1" = 50'-0"

LEGEND:
 XXX.XX' - INDICATES BOTTOM OF FOOTING ELEVATION
 ○ - INDICATES 96" DIA CAST-IN-DRILLED-HOLE CONCRETE PILE AT BENT
 ◦ - INDICATES 30" DIA CAST-IN-DRILLED-HOLE CONCRETE PILE AT ABUTMENTS

NOTES:
 1. FOR LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL, SEE A62C
 2. CONTRACTOR SHALL HAVE BNSF TELECOM AND SIGNAL UTILITIES LOCATED PRIOR TO COMMENCING WORK. CONTRACTOR SHALL CALL 800-533-2891 FOR TELECOM UTILITIES AND 800-832-5452 FOR SIGNAL UTILITIES.
 3. FOR ADDITIONAL UTILITY INFORMATION, SEE UTILITY PLANS.

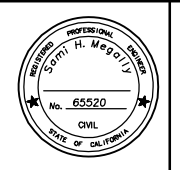
PILE DATA TABLE NOTES:
 1. DESIGN TIP ELEVATIONS ARE CONTROLLED BY: (a) COMPRESSION, (c) SETTLEMENT, (d) LATERAL LOAD.
 2. THE CIDH SPECIFIED TIP ELEVATION SHALL NOT BE RAISED.
 3. BOTTOM OF DRILLED HOLES SHALL BE CLEARED OF LOOSE MATERIALS AND CUTTINGS PRIOR TO PLACEMENT OF REINFORCEMENT CAGE AND CONCRETE FOR CIDH PILES AT ABUTMENTS AND BENTS 2, 3, AND 4.

LOCATION	PILE TYPE	CUT-OFF ELEVATION (FT)	NOMINAL RESISTANCE (KIPS)		STEEL CASING SPECIFIED TIP ELEVATION (FT)	DESIGN TIP ELEVATION (FT)			SPECIFIED TIP ELEVATION (FT)
			COMPRESSION	TENSION		(a)	(c)	(d)	
ABUTMENT 1	30" CIDH	2,126.50	800	0	N/A	2,093.5	2,106.5 (c)	2,093.5 (d)	2,093.5
BENT 2	96" CIDH	2,111.00	6,680	0	2,105	2,043 (a)	2,066 (c)	2,045 (d)	2,043
BENT 3	96" CIDH	2,112.00	6,540	0	2,097	2,040 (a)	2,060 (c)	2,042 (d)	2,040
BENT 4	96" CIDH	2,108.00	6,180	0	2,090	2,041 (a)	2,062 (c)	2,038 (d)	2,038
BENT 5	96" CIDH	2,108.00	6,560	0	2,096	2,022 (a)	2,051 (c)	2,040 (d)	2,022
BENT 6	96" CIDH	2,107.00	6,440	0	2,087	2,022 (a)	2,051 (c)	2,034 (d)	2,022
BENT 7	96" CIDH	2,104.00	6,300	0	2,096	2,023 (a)	2,052 (c)	2,035 (d)	2,023
ABUTMENT 8	30" CIDH	2,120.00	862	0	N/A	2,081 (a)	2,102 (c)	2,085.0 (d)	2,081



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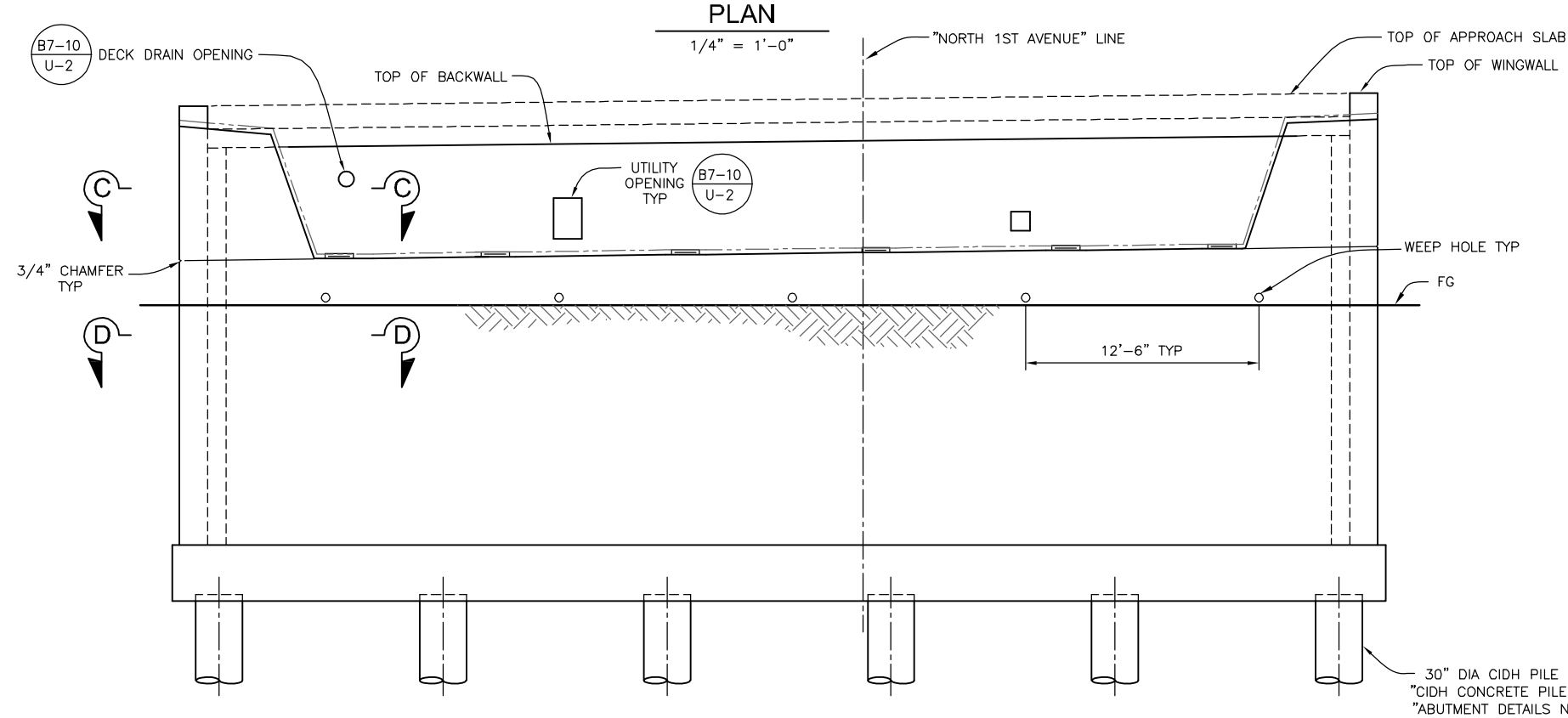
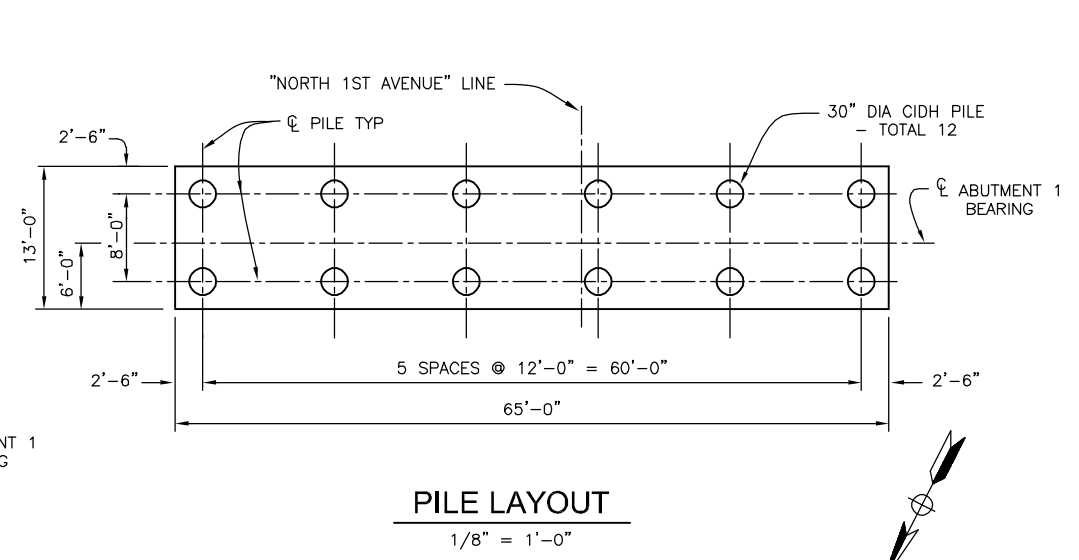
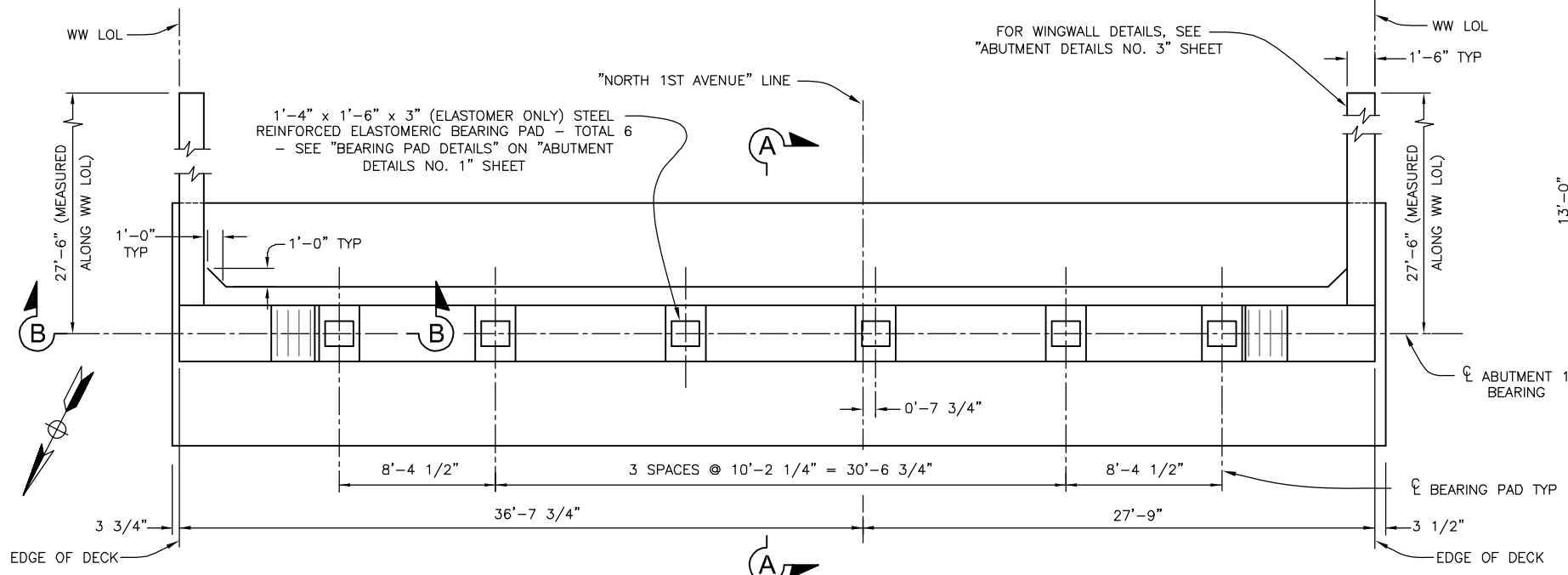
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 SAN DIEGO, CALIFORNIA 92101
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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
 BRAD S. MERRELL
 CONSULTING CITY ENGINEER
 DATE

PROJECT No. 5298-030
CITY OF BARSTOW
 NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
 FOUNDATION PLAN
 APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER
 DESIGNED: SM R.C.E. NO. 49423 SHEET 100 OF 180
 DRAWN: TB DATE: 02/20/19 PLAN NO. 1594
 SCALE: AS-NOTED AS BUILT:

100% INTERIM PLANS FEB 20, 2019 NOT FOR CONSTRUCTION



- NOTES:
- FOR LOCATION OF BRIDGE UTILITY OPENINGS, SEE "TYPICAL SECTION (1 OF 2)" SHEET.
 - FOR UTILITY OPENINGS THROUGH BACKWALL, SEE (B7-10 U-2)
 - FOR ADDITIONAL UTILITY INFORMATION, SEE "BRIDGE UTILITY OPENINGS" TABLE ON "GENERAL PLAN (2 OF 2)" SHEET.
 - FOR "SECTION A-A", SEE "ABUTMENT DETAILS NO. 1" SHEET. FOR SECTIONS "B-B", "C-C", AND "D-D", SEE "ABUTMENT DETAILS NO. 2" SHEET.
 - FOR SPECIFIED PILE TIP ELEVATIONS AND PILE CUT-OFF ELEVATIONS, SEE "PILE DATA TABLE" ON "FOUNDATION PLAN" SHEET.



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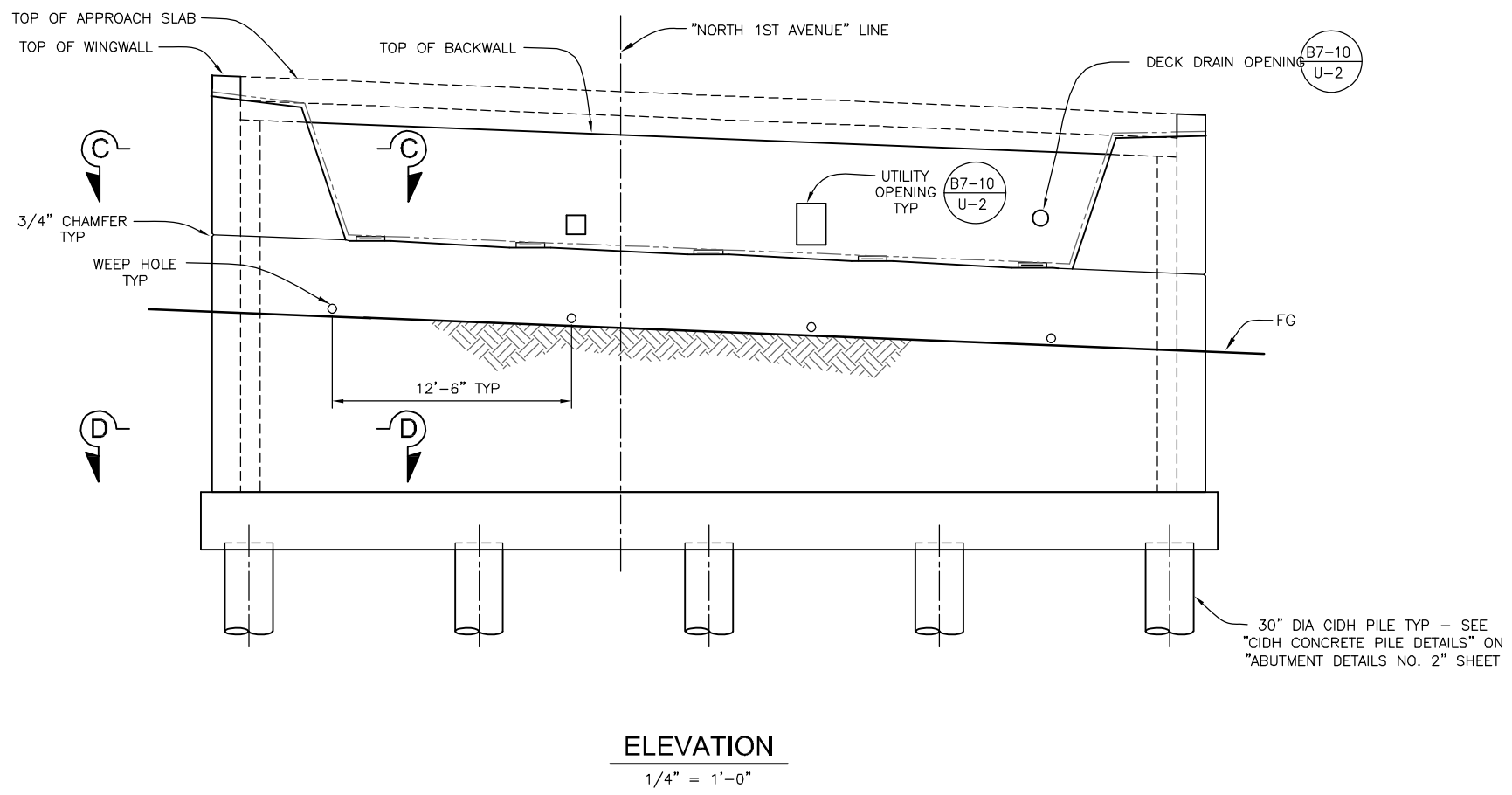
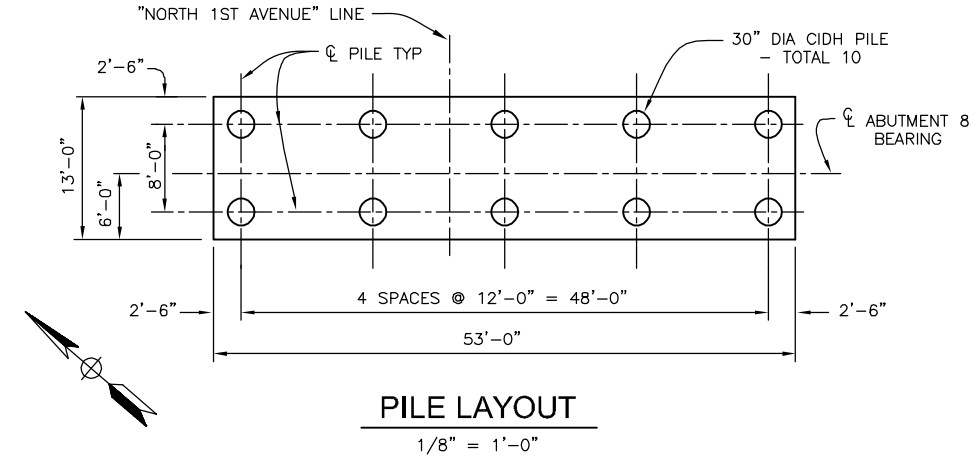
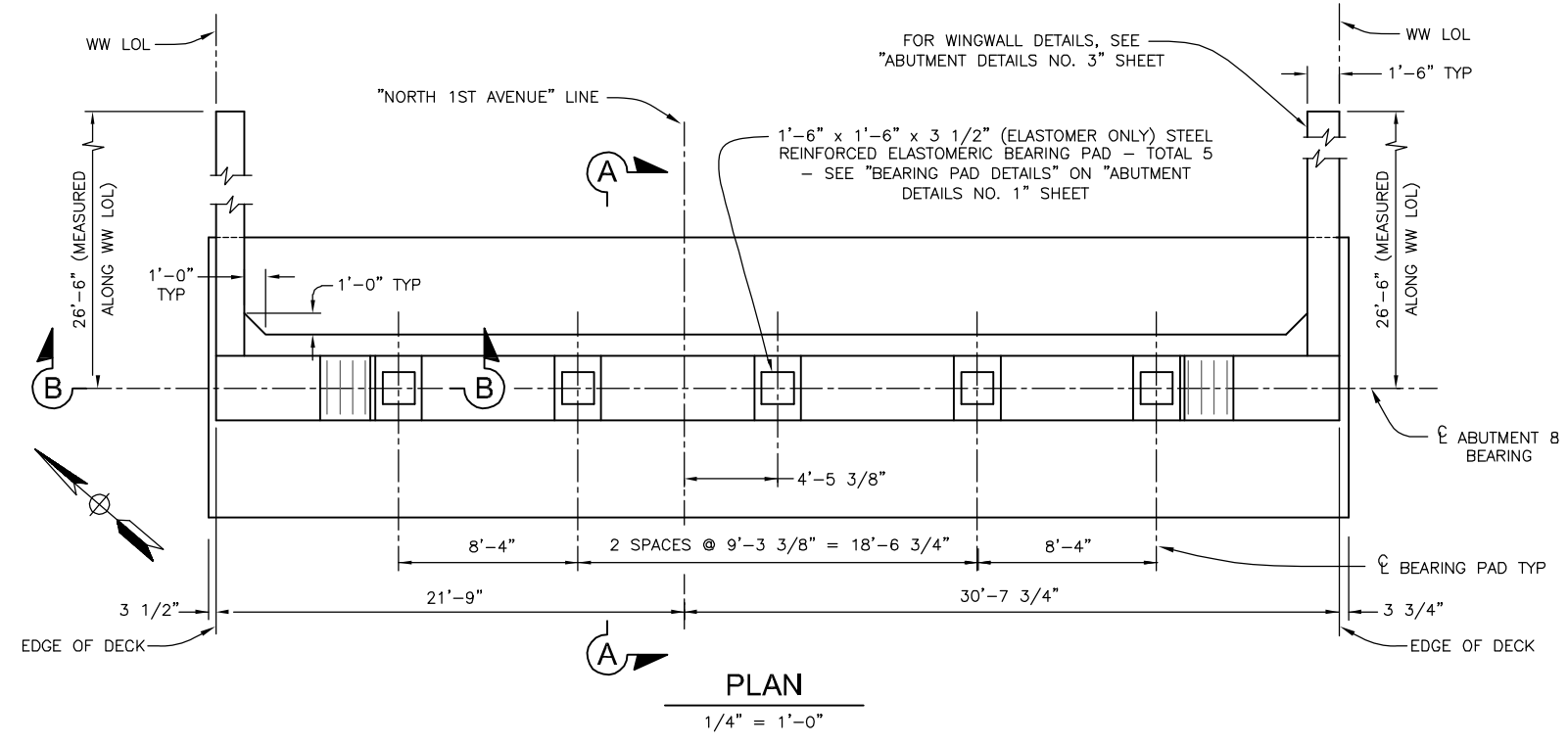


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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
BRAD S. MERRELL
CONSULTING CITY ENGINEER
DATE: _____

PROJECT No. 5298-030			
CITY OF BARSTOW NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD ABUTMENT 1 LAYOUT			
APPROVED BY: BRAD S. MERRELL	TITLE: CONSULTING CITY ENGINEER	SHEET 101 OF 180	
DESIGNED: SM	R.C.E. NO. 49423	DATE: 02/20/19	PLAN NO. 1594
DRAWN: TB	AS BUILT:	SCALE: AS-NOTED	



NOTES:

- FOR LOCATION OF BRIDGE UTILITY OPENINGS, SEE "TYPICAL SECTION (1 OF 2)" SHEET.
- FOR UTILITY OPENINGS THROUGH BACKWALL, SEE (B7-10 U-2)
- FOR ADDITIONAL UTILITY INFORMATION, SEE "BRIDGE UTILITY OPENINGS" TABLE ON "GENERAL PLAN (2 OF 2)" SHEET.
- FOR "SECTION A-A", SEE "ABUTMENT DETAILS NO. 1" SHEET. FOR SECTIONS "B-B", "C-C", AND "D-D", SEE "ABUTMENT DETAILS NO. 2" SHEET.
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KLEINFELDER
Right people. Right Solutions.

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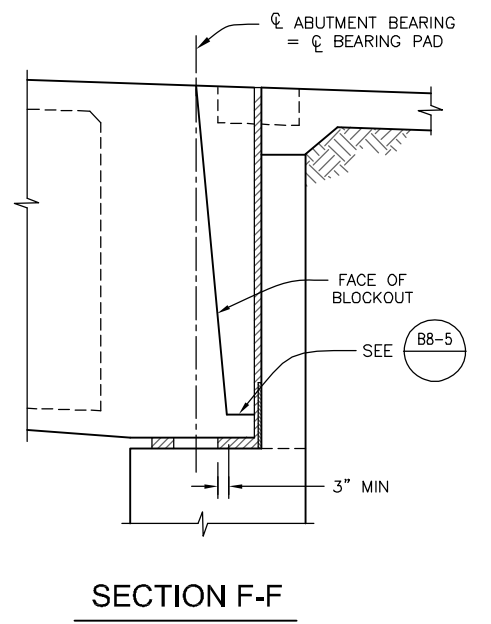
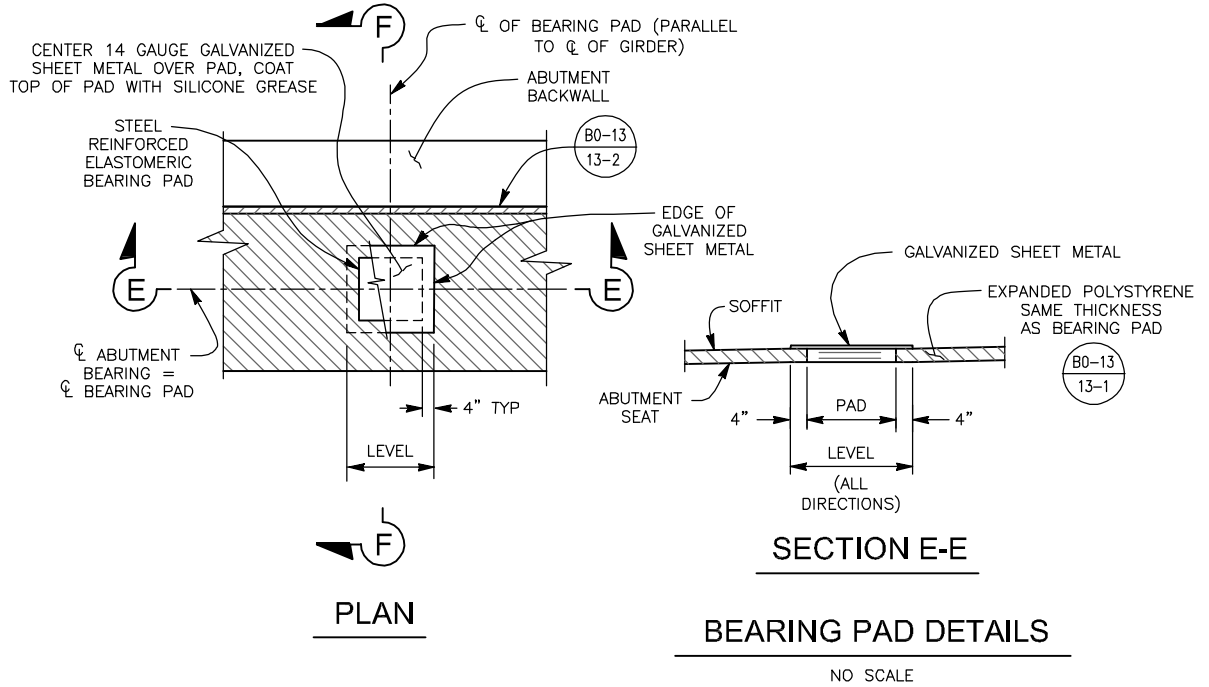
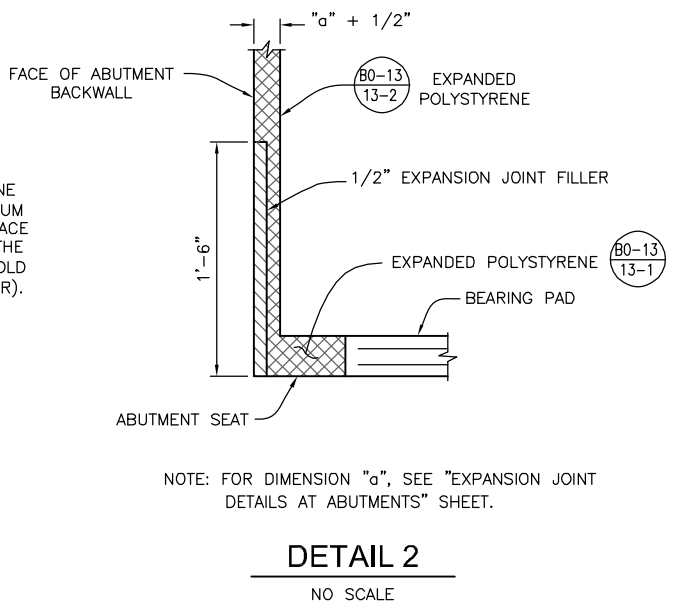
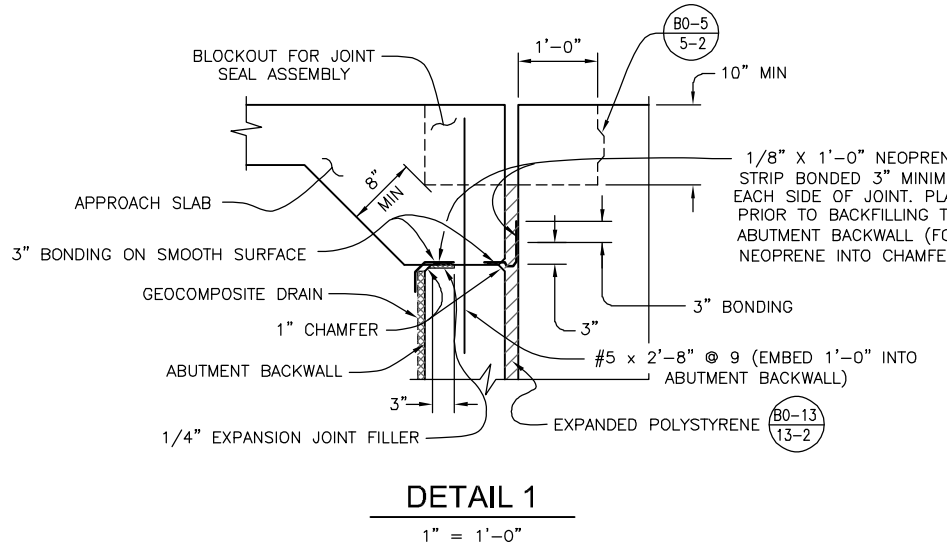
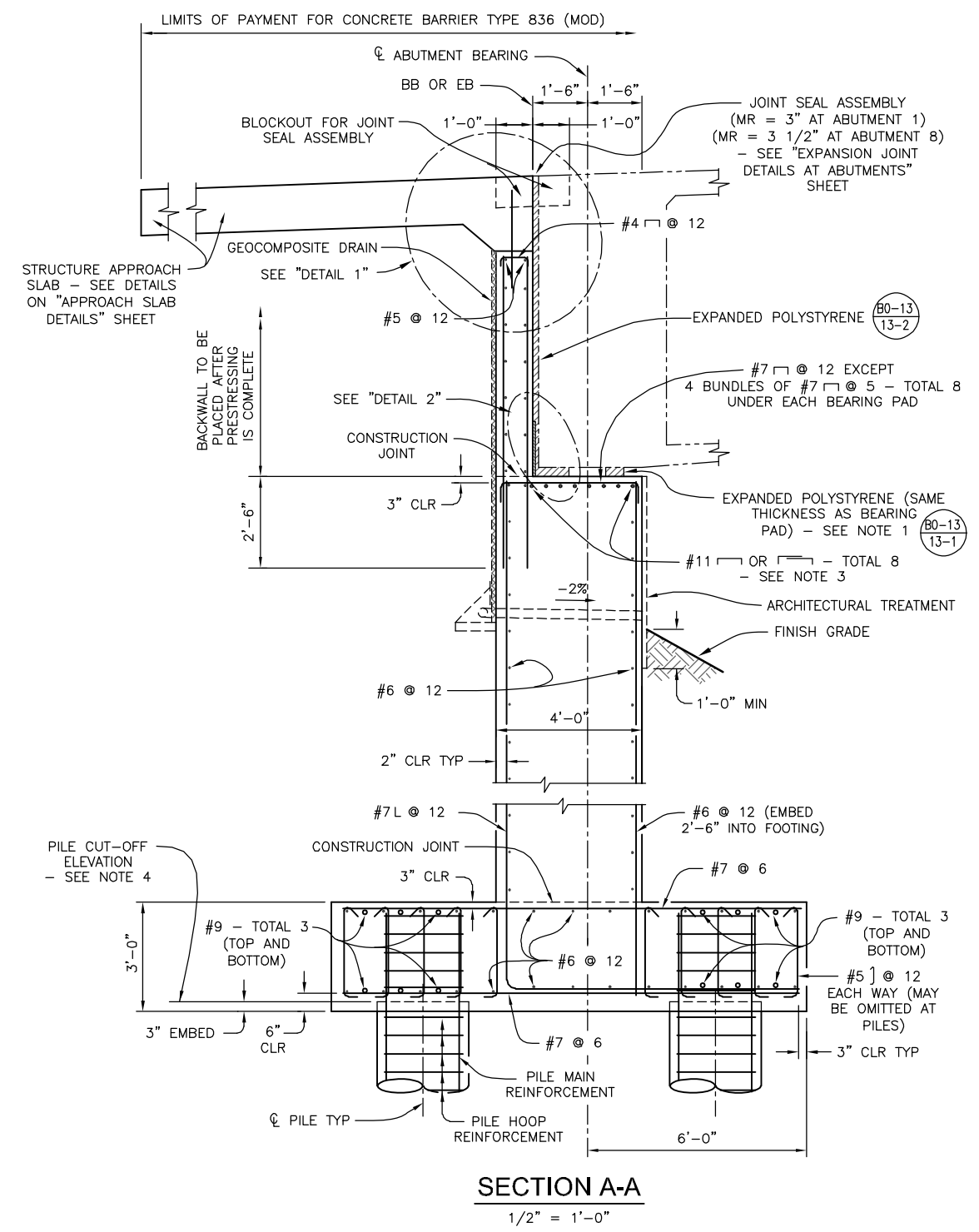
CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:

BRAD S. MERRELL DATE _____
CONSULTING CITY ENGINEER

PROJECT No. 5298-030

CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
ABUTMENT 8 LAYOUT

APPROVED BY: BRAD S. MERRELL	TITLE: CONSULTING CITY ENGINEER
DESIGNED: SM	R.C.E. NO. 49423
DRAWN: TB	DATE: 02/20/19
SCALE: AS-NOTED	AS BUILT:
SHEET 102 OF 180	PLAN NO. 1594

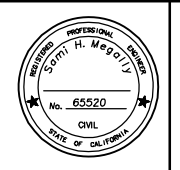


- NOTES:
1. OUTER 6" OF EXPANDED POLYSTYRENE TO BE REMOVED AFTER CONSTRUCTION.
 2. BEARING PADS SHALL BE SET LEVEL.
 3. STAGGERED LAP SPLICES SHALL BE USED FOR THE 8 - #11 HANGER BARS AT ABUTMENT 1. LAP SPLICE SHALL BEGIN AT LEAST 10'-0" FROM EITHER END OF THE ABUTMENT.
 4. FOR PILE CUT-OFF ELEVATION, SEE "PILE DATA TABLE" ON "FOUNDATION PLAN" SHEET.



THE CONTRACTOR IS REQUIRED BY GOVERNMENT CODE 4216 "CALIFORNIA ONE CALL LAW" TO CALL DIG ALERT AT LEAST TWO (2) WORKING DAYS BEFORE DIGGING. CONTRACTOR IS REQUIRED BY SAME CODE TO HAND-EXPOSE TO THE POINT OF NO CONFLICT 24" ON EITHER SIDE OF THE UNDERGROUND FACILITY SO YOU CAN DETERMINE ITS EXACT LOCATION BEFORE USING POWER EQUIPMENT.

No.	REVISION	DATE	BY

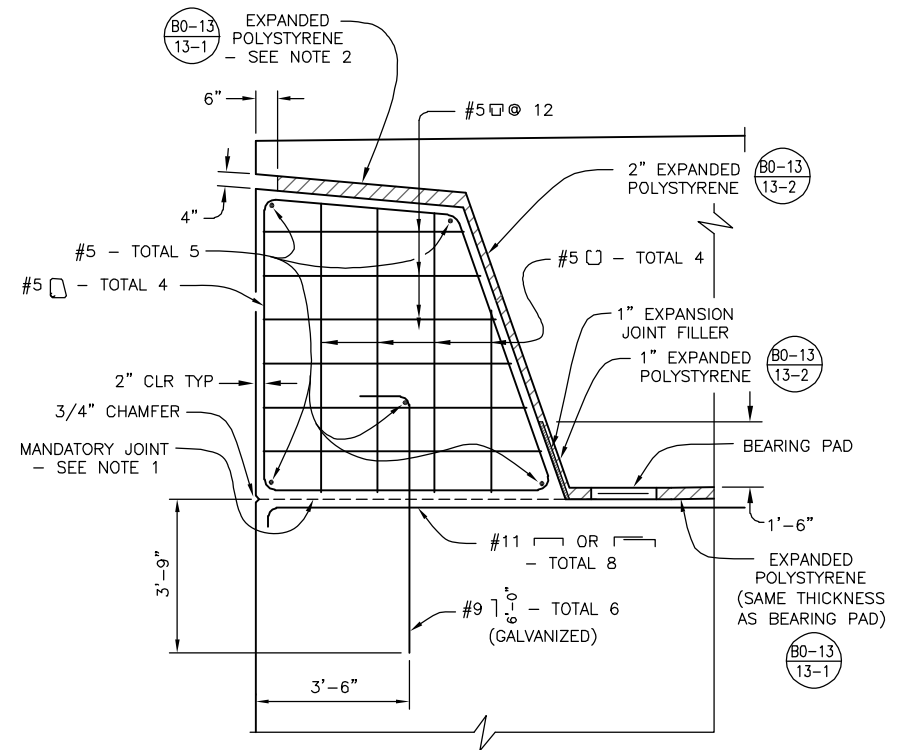


KLEINFELDER
550 WEST "C" STREET, SUITE 1200 (619) 831-4600
SAN DIEGO, CALIFORNIA 92101
DATE: _____ R.C.E. NO. 65520
PREPARED BY: SAMI H. MEGALLY
REGISTRATION EXPIRES: 9/30/19

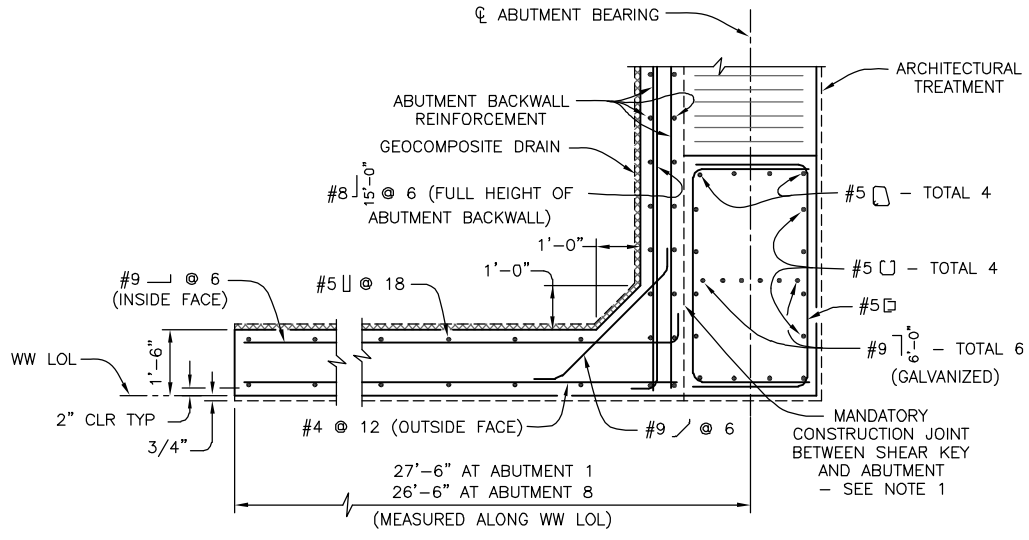
CITY OF BARSTOW
220 E. MOUNTAIN VIEW ST SUITE A PHONE: (760) 256-3531
BARSTOW, CA 92311 FAX: (760) 256-1750
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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
BRAD S. MERRELL
CONSULTING CITY ENGINEER
DATE: _____

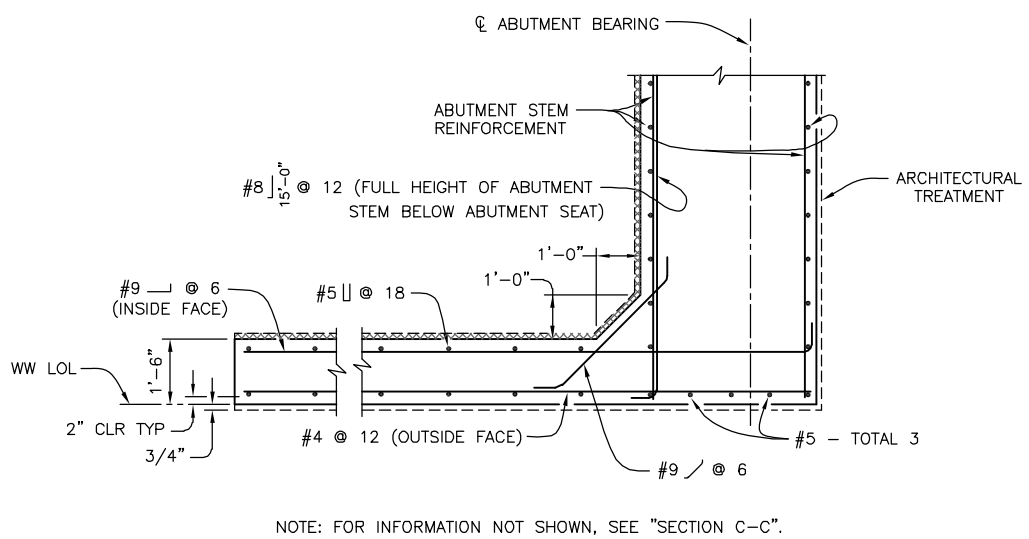
PROJECT No. 5298-030			
CITY OF BARSTOW NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD ABUTMENT DETAILS NO. 1			
APPROVED BY: BRAD S. MERRELL	TITLE: CONSULTING CITY ENGINEER	SHEET 103 OF 180	
DESIGNED: SM	R.C.E. NO. 49423	DATE: 02/20/19	PLAN NO. 1594
DRAWN: TB	AS BUILT:	SCALE: AS-NOTED	



SECTION B-B
1/2" = 1'-0"

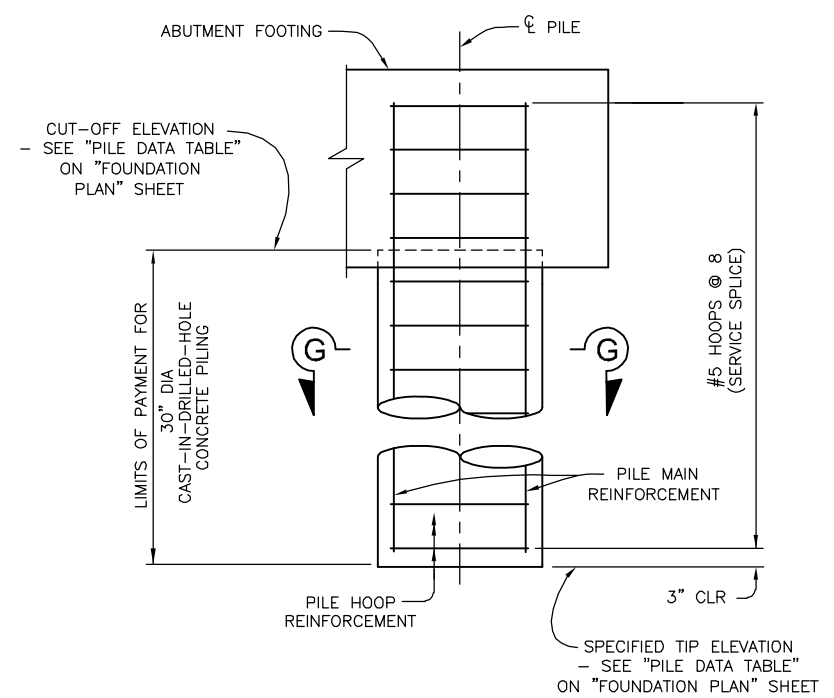


SECTION C-C
1/2" = 1'-0"

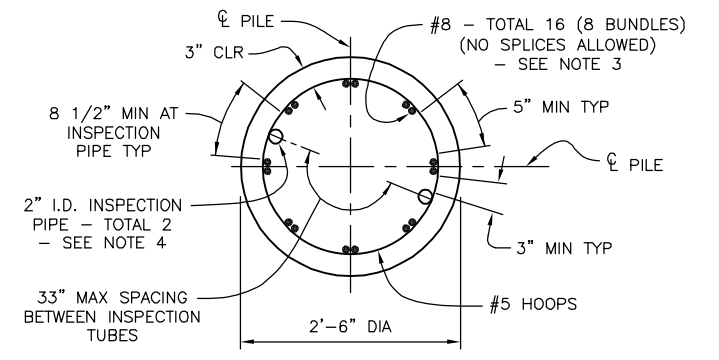


SECTION D-D
1/2" = 1'-0"

NOTE: FOR INFORMATION NOT SHOWN, SEE "SECTION C-C".



ELEVATION
NOT TO SCALE



SECTION G-G
1" = 1'-0"

CIDH CONCRETE PILE DETAILS
AS NOTED

NOTES:

- MANDATORY JOINT SURFACE TO BE SMOOTH FINISHED AND LINED WITH 15 POUND CONSTRUCTION PAPER. FORM OIL SHALL NOT BE USED AS A BOND BREAKER.
- OUTER 6" OF EXPANDED POLYSTYRENE TO BE REMOVED AFTER CONSTRUCTION.
- PRIOR TO PILE CONCRETE PLACEMENT, THE CONTRACTOR SHALL ARRANGE, ROTATE AND SPACE PILE REINFORCING CAGE TO ALLOW SUBSEQUENT PLACEMENT OF FOOTING REINFORCEMENT AS SHOWN IN "SECTION A-A" ON "ABUTMENT DETAILS NO. 1" SHEET.
- INSPECTION TUBES MAY BE ELIMINATED IF HOLE IS DRILLED UNDER DRY CONDITIONS.



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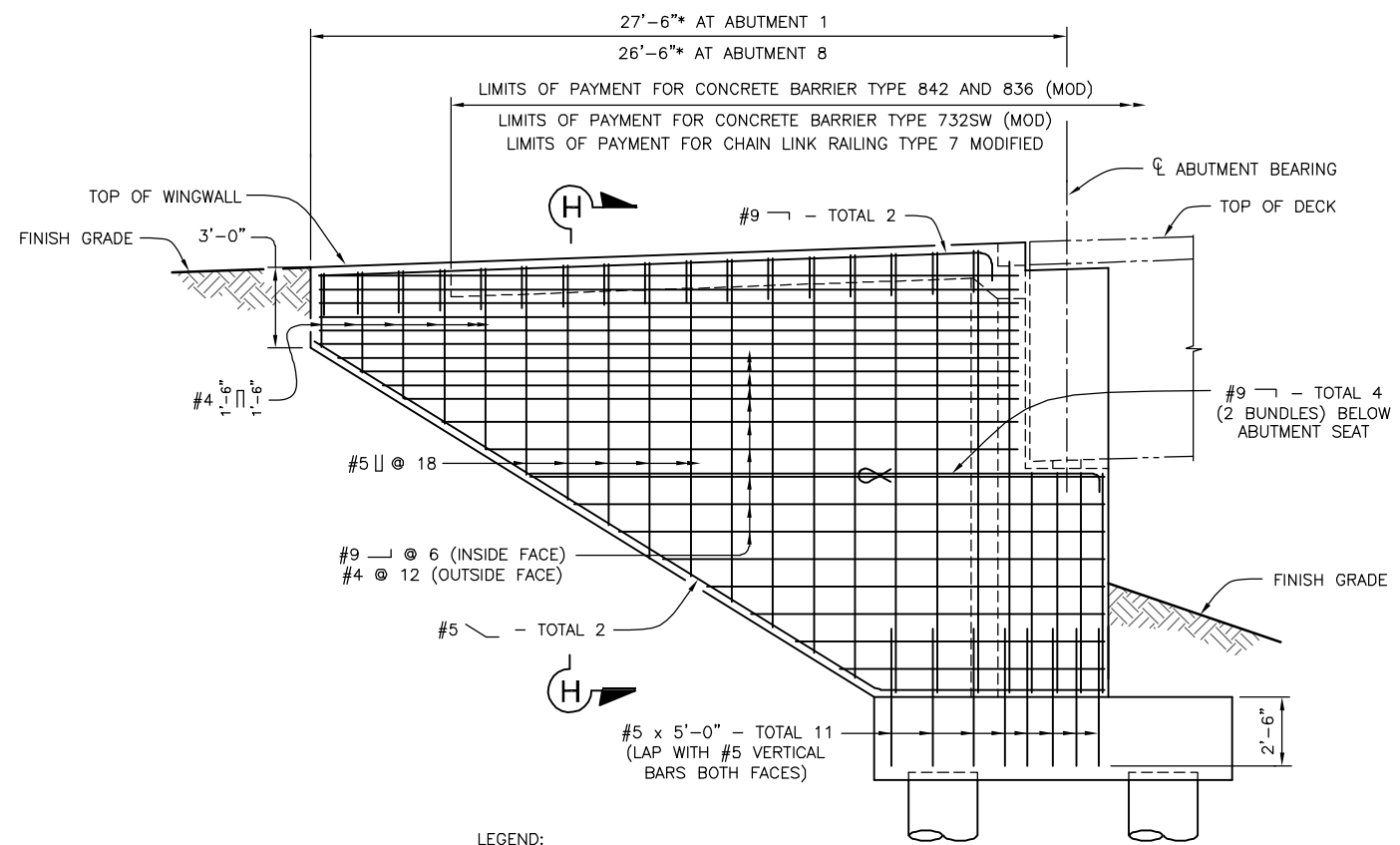


KLEINFELDER
550 WEST "C" STREET, SUITE 1200 (619) 831-4600
SAN DIEGO, CALIFORNIA 92101
DATE: PREPARED BY: SAMI H. MEGALLY R.C.E. NO. 65520
REGISTRATION EXPIRES: 9/30/19

CITY OF BARSTOW
220 E. MOUNTAIN VIEW ST SUITE A PHONE: (760) 256-3531
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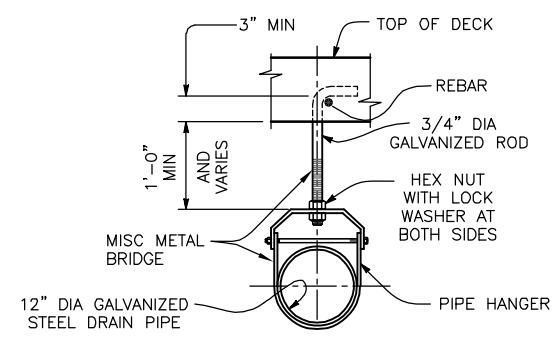
CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
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CONSULTING CITY ENGINEER

PROJECT No. 5298-030			
CITY OF BARSTOW NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD ABUTMENT DETAILS NO. 2			
APPROVED BY: BRAD S. MERRELL	TITLE: CONSULTING CITY ENGINEER		
DESIGNED: SM	R.C.E. NO. 49423	SHEET	104 OF 180
DRAWN: TB	DATE: 02/20/19	PLAN NO.	1594
SCALE: AS-NOTED	AS BUILT:		

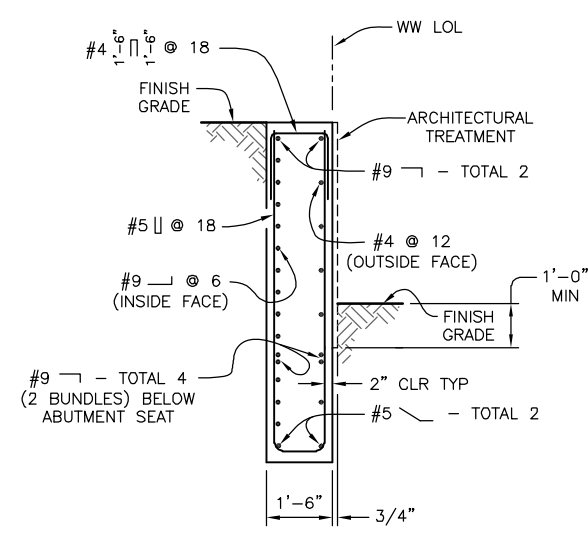


LEGEND:
 ∞ - INDICATES BUNDLED BARS
 * - MEASURED ALONG WW LOL
 NOTE: ABUTMENT 1 WINGWALL SHOWN, ABUTMENT 8 WINGWALL SIMILAR.

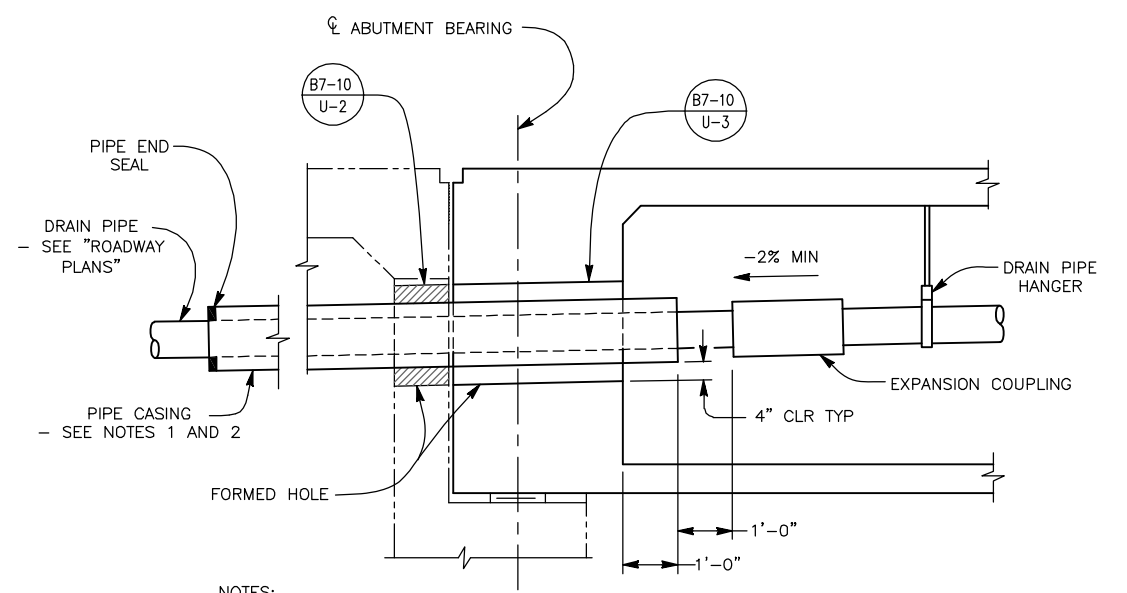
TYPICAL WINGWALL ELEVATION
 5/16" = 1'-0"



DRAIN PIPE HANGER DETAIL
 NO SCALE

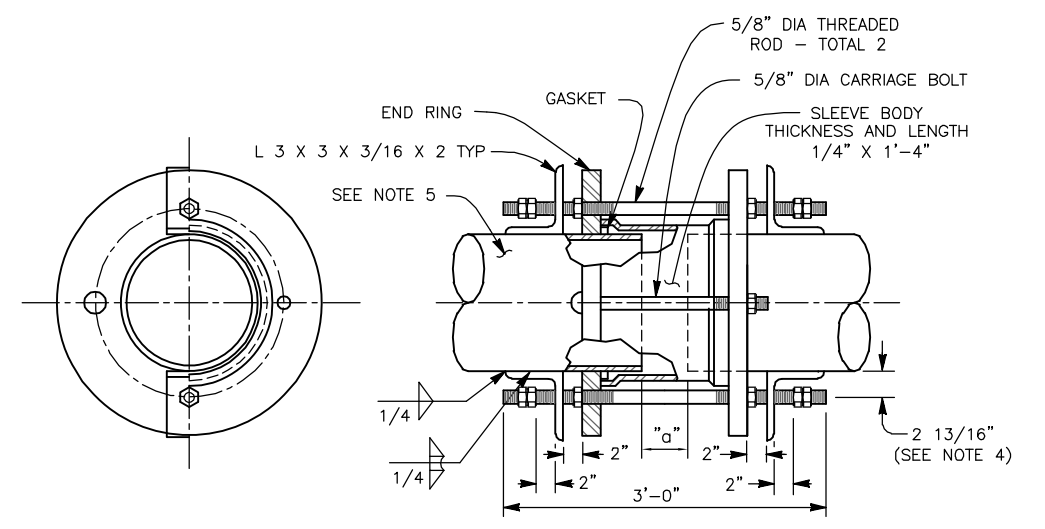


SECTION H-H
 1/2" = 1'-0"



NOTES:
 1. PIPE CASING OUTSIDE DIAMETER = NPS + 4" (1/4" MINIMUM WALL THICKNESS).
 2. PIPE CASING SHALL EXTEND TO THE GREATER OF 5'-0" BEYOND THE END OF APPROACH SLAB OR 20'-0" BEYOND BACK OF ABUTMENT.

DECK DRAIN PIPE DETAIL AT ABUTMENT
 NO SCALE



NOTES:
 1. ALL HARDWARE TO BE GALVANIZED.
 2. FOR "a" DIMENSION, SEE TABLE ON "EXPANSION JOINT DETAILS AT ABUTMENT" SHEET.
 3. EXPANSION COUPLING WITH 4 BOLTS SHOWN. COUPLING WITH A GREATER NUMBER OF BOLTS IS ALLOWED.
 4. ADJUST DIMENSION TO SUIT COUPLER END RING BOLT CIRCLE.
 5. FOR PIPE DIAMETER SEE "DRAIN PIPE HANGER DETAIL" THIS SHEET.

EXPANSION COUPLING
 NO SCALE



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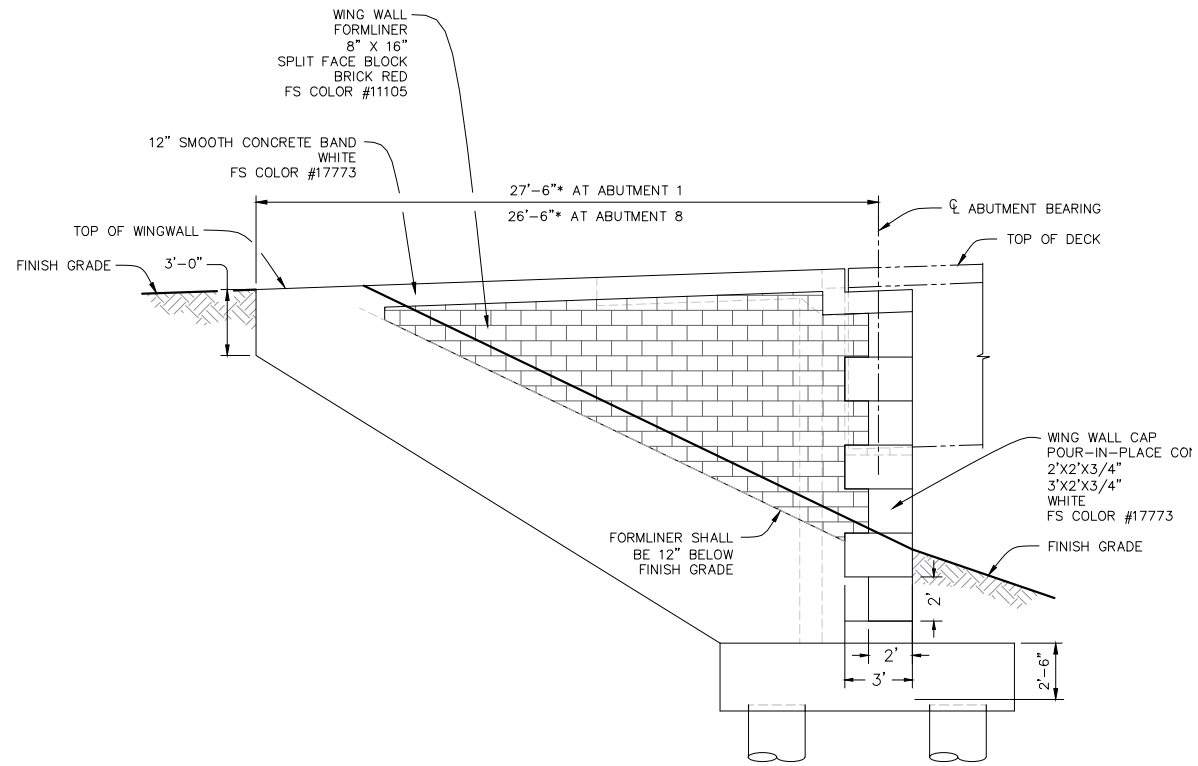


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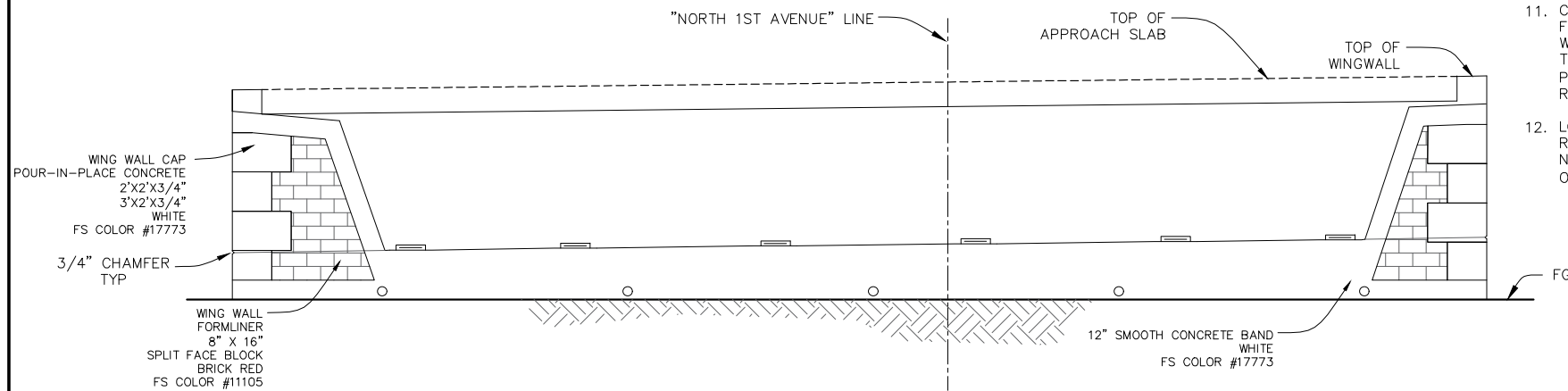
PROJECT No. 5298-030
CITY OF BARSTOW
 NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
 ABUTMENT DETAILS NO. 3
 APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER
 DESIGNED: SM R.C.E. NO. 49423 SHEET 105 OF 180
 DRAWN: TB DATE: 02/20/19 PLAN NO.
 SCALE: AS-NOTED AS BUILT: 1594



WING WALL AESTHETICS ELEVATION

1/4" = 1'-0"

REFER TO ENGINEERING PLANS FOR WING WALL INFORMATION.



WING WALL AESTHETICS - ELEVATION UNDER BRIDGE

1/4" = 1'-0"

REFER TO ENGINEERING PLANS FOR WING WALL INFORMATION.

GENERAL AESTHETICS NOTES:

- CONTRACTOR SHALL LAYOUT ALL SURFACING, SCORE JOINTS AND PAVING PATTERNS AS CLOSELY AS POSSIBLE TO PLANS, DETAILS, AND SPECIFICATIONS. DO NOT DEVIATE FROM PLANS UNLESS SPECIFIC APPROVAL IS OBTAINED FROM THE OWNER'S REPRESENTATIVE.
- CONTRACTOR SHALL COORDINATE A FORM INSPECTION WITH THE CITY'S AUTHORIZED REPRESENTATIVE NO LESS THAN 24 HOURS PRIOR TO PLACEMENT OF ANY SURFACING.
- CONCRETE EDGES, SAW CUTS AND/OR TROWELED SCORE JOINTS SHALL BE CRISP, CLEAN, COMPLETE AND NEAT IN APPEARANCE. LOCATE ALL JOINTS AS IDENTIFIED ON THE PLANS OR AS DIRECTED BY THE CITY'S AUTHORIZED REPRESENTATIVE.
- CONTRACTOR SHALL PROVIDE ALL PROTECTION AND FACILITIES NECESSARY TO INSURE PROPER CURING AND FINISH OF PAVING.
- VERIFY ALL PLAN DIMENSIONS PRIOR TO START OF CONSTRUCTION. NOTIFY THE CITY'S AUTHORIZED REPRESENTATIVE TO ADDRESS ANY QUESTIONS OR CLARIFY ANY DISCREPANCIES.
- CONTRACTOR SHALL CONFIRM THAT SITE CONDITIONS ARE SIMILAR TO THE PLANS, WITHIN TOLERANCES STATED IN THE CONTRACT DOCUMENTS, AND SATISFACTORY TO THE CONTRACTOR PRIOR TO START OF WORK. SHOULD SITE CONDITIONS BE DIFFERENT THAN REPRESENTED ON THE PLANS, THE CONTRACTOR SHALL CONTACT THE CITY'S AUTHORIZED REPRESENTATIVE FOR CLARIFICATION AND FURTHER DIRECTION.
- CONTRACTOR IS RESPONSIBLE TO PAY FOR, AND OBTAIN, ANY REQUIRED APPLICATIONS, PERMITTING, LICENSES, INSPECTIONS AND METERS ASSOCIATED WITH WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY FINES OR PENALTIES ASSESSED TO THE OWNER RELATING TO ANY VIOLATIONS OR NON-CONFORMANCE WITH THE PLANS, SPECIFICATIONS, CONTRACT DOCUMENTS, JURISDICTIONAL CODES, AND REGULATORY AGENCIES.
- ALL WORK SHALL BE CONFINED TO THE AREA WITHIN THE CONSTRUCTION LIMITS AS SHOWN ON THE PLANS. ANY AREAS OR IMPROVEMENTS DISTURBED OUTSIDE THESE LIMITS SHALL BE RETURNED TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE. IN THE EVENT THE CONTRACTOR REQUIRES A MODIFICATION TO THE CONSTRUCTION LIMITS, WRITTEN PERMISSION MUST BE OBTAINED FROM THE OWNER'S REPRESENTATIVE PRIOR TO ANY DISTURBANCE OUTSIDE OF THE LIMITS OF WORK.
- THE CONTRACTOR SHALL OBTAIN APPROVAL PRIOR TO ANY WORK WHICH AFFECTS OR IMPACTS THE PUBLIC RIGHTS-OF-WAY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY FINES OR PENALTIES ASSESSED TO THE OWNER RELATING TO THIS REQUIREMENT DURING THE CONTRACT PERIOD.
- CONTRACTOR IS RESPONSIBLE FOR PROVIDING TEMPORARY SAFETY FENCING AND BARRIERS AROUND ALL IMPROVEMENTS SUCH AS WALLS, PLAY STRUCTURES, EXCAVATIONS, ETC. ASSOCIATED WITH THEIR WORK UNTIL SUCH FACILITIES ARE COMPLETELY INSTALLED PER THE PLANS, SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
- LOCAL, STATE AND FEDERAL JURISDICTIONAL REQUIREMENTS, RESTRICTIONS OR PROCEDURES SHALL SUPERSEDE THESE PLANS, NOTES AND SPECIFICATIONS WHEN MORE STRINGENT. NOTIFY THE OWNER'S REPRESENTATIVE IF CONFLICTS OCCUR.
- CONTRACTOR SHALL LAYOUT ALL SURFACING, SCORE JOINTS AND PAVING PATTERNS AS CLOSELY AS POSSIBLE TO PLANS, DETAILS, AND SPECIFICATIONS. DO NOT DEVIATE FROM PLANS UNLESS SPECIFIC APPROVAL IS OBTAINED FROM THE OWNER'S REPRESENTATIVE.
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- CONCRETE EDGES, SAW CUTS AND/OR TROWELED SCORE JOINTS SHALL BE CRISP, CLEAN, COMPLETE AND NEAT IN APPEARANCE. LOCATE ALL JOINTS AS IDENTIFIED ON THE PLANS OR AS DIRECTED BY THE CITY'S AUTHORIZED REPRESENTATIVE.
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- THE CONTRACTOR SHALL OBTAIN APPROVAL PRIOR TO ANY WORK WHICH AFFECTS OR IMPACTS THE PUBLIC RIGHTS-OF-WAY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY FINES OR PENALTIES ASSESSED TO THE OWNER RELATING TO THIS REQUIREMENT DURING THE CONTRACT PERIOD.
- CONTRACTOR IS RESPONSIBLE FOR PROVIDING TEMPORARY SAFETY FENCING AND BARRIERS AROUND ALL IMPROVEMENTS SUCH AS WALLS, PLAY STRUCTURES, EXCAVATIONS, ETC. ASSOCIATED WITH THEIR WORK UNTIL SUCH FACILITIES ARE COMPLETELY INSTALLED PER THE PLANS, SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
- LOCAL, STATE AND FEDERAL JURISDICTIONAL REQUIREMENTS, RESTRICTIONS OR PROCEDURES SHALL SUPERSEDE THESE PLANS, NOTES AND SPECIFICATIONS WHEN MORE STRINGENT. NOTIFY THE OWNER'S REPRESENTATIVE IF CONFLICTS OCCUR.
- THESE PLANS ARE FOR AESTHETIC DETAILING ONLY. REFER TO THE STRUCTURAL ENGINEER'S PLANS FOR ADDITIONAL INFORMATION.
- IN THE EVENT THESE PLANS ARE IN CONFLICT WITH THE CIVIL AND STRUCTURAL ENGINEERING PLANS, THE CIVIL AND STRUCTURAL ENGINEERING PLANS SHALL TAKE PRECEDENT.
- NO HORIZONTAL JOINTS SHALL BE SHOWN.
- CONTRACTOR SHALL SUBMIT FORMLINER SHOP DRAWINGS TO THE CITY'S AUTHORIZED REPRESENTATIVE FOR APPROVAL PRIOR TO ANY WORK.
- CONTRACTOR SHALL PREPARE SAMPLE AESTHETIC PANELS FOR APPROVAL BY THE CITY'S AUTHORIZED REPRESENTATIVE PRIOR TO BEGINNING ANY WORK.
 - A MAXIMUM 4' LONG SECTION OF THE SPLIT FACE BLOCK FORMLINER AESTHETIC TREATMENT.
 - A 3'X2'X3/4" TYPICAL AREA OF THE WALL CAP AESTHETIC TREATMENT.

NOTES:

- THIS SHEET IS FOR AESTHETICS DETAILING ONLY. REFER TO STRUCTURAL ENGINEER'S PLANS FOR ADDITIONAL INFORMATION.
- REFER TO ENGINEERING PLANS FOR SCORELINES, WEAKENED PLANES, AND EXPANSION JOINT INFORMATION.
- REFER TO ENGINEERING PLANS WING WALL INFORMATION.
- IN THE EVENT THAT DIMENSIONS SHOWN ARE IN CONFLICT WITH THE ENGINEERING PLANS, THE ENGINEERING PLANS SHALL TAKE PRECEDENT.
- BRICK FORMLINER CONCRETE COLOR SHALL BE BRICK RED (FEDERAL COLOR #11105)
- CONCRETE BAND AND CONCRETE WALL CAP FINISHES SHALL BE SMOOTH UNLESS OTHERWISE NOTED.
- NO HORIZONTAL JOINTS SHALL BE SHOWN.



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No.	REVISION	DATE	BY

DAVID TATSUMI
 2033 RLA No. DATE:

TATSUMI AND PARTNERS, INC.
 LANDSCAPE ARCHITECTURE
 URBAN DESIGN
 VISUAL MANAGEMENT
 49 DISCOVERY, SUITE 120
 IRVINE, CA 92618
 PH 949/453,9901 FAX 949/453,9902
 www.tatsumiandpartners.com

CITY OF BARSTOW
 220 E. MOUNTAIN VIEW ST SUITE A
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 PHONE: (760) 256-3531
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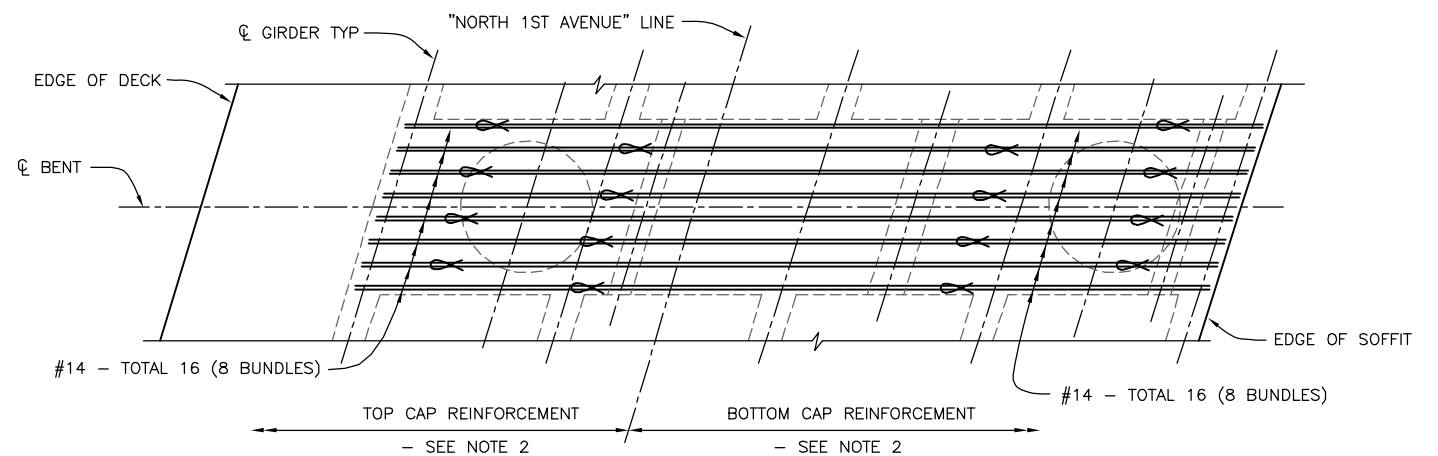
CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
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DATE

PROJECT No. 5298-030

CITY OF BARSTOW
 NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
 ABUTMENT AESTHETIC DETAILS

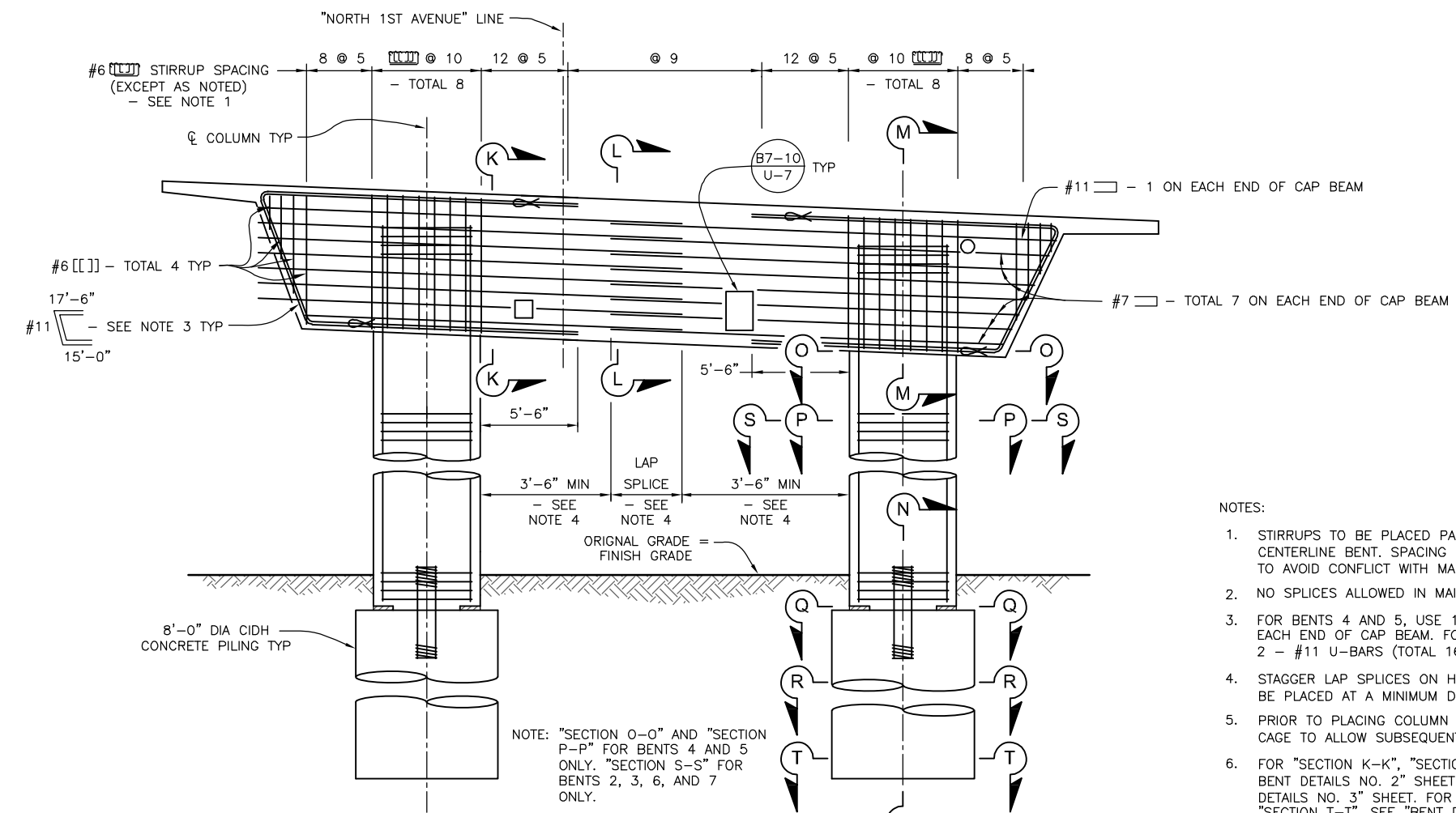
APPROVED BY: TITLE:
 DESIGNED: MA R.C.E. NO. SHEET 106 OF 140
 DRAWN: WK DATE: 02/15/2019 PLAN NO.
 SCALE: AS BUILT: 1594



NOTE: BENT 6 SHOWN, OTHER BENTS SIMILAR.

PLAN

1/4" = 1'-0"



ELEVATION

1/4" = 1'-0"

NOTES:

- STIRRUPS TO BE PLACED PARALLEL TO CENTERLINE GIRDERS AND SPACED ALONG CENTERLINE BENT. SPACING SHOWN IS MAX SPACING. SPACING MAY BE REDUCED TO AVOID CONFLICT WITH MAIN COLUMN REINFORCEMENT.
- NO SPLICES ALLOWED IN MAIN BENT CAP REINFORCEMENT.
- FOR BENTS 4 AND 5, USE 10 BUNDLES OF 2 - #11 U-BARS (TOTAL 20) ON EACH END OF CAP BEAM. FOR BENTS 2, 3, 6, AND 7 USE 8 BUNDLES OF 2 - #11 U-BARS (TOTAL 16) ON EACH END OF CAP BEAM.
- STAGGER LAP SPLICES ON HORIZONTAL U-BARS. LAP SPLICES ON U-BARS MUST BE PLACED AT A MINIMUM DISTANCE OF 3'-6" FROM INTERIOR FACE OF COLUMN.
- PRIOR TO PLACING COLUMN CONCRETE, CONTRACTOR SHALL ROTATE REINFORCING CAGE TO ALLOW SUBSEQUENT BENT CAP REINFORCEMENT PLACEMENT AS SHOWN.
- FOR "SECTION K-K", "SECTION L-L", "SECTION M-M", AND "SECTION N-N", SEE BENT DETAILS NO. 2" SHEET. FOR "SECTION O-O" AND "SECTION P-P", SEE "BENT DETAILS NO. 3" SHEET. FOR "SECTION Q-Q", "SECTION R-R", "SECTION S-S", AND "SECTION T-T", SEE "BENT DETAILS NO. 4" SHEET.



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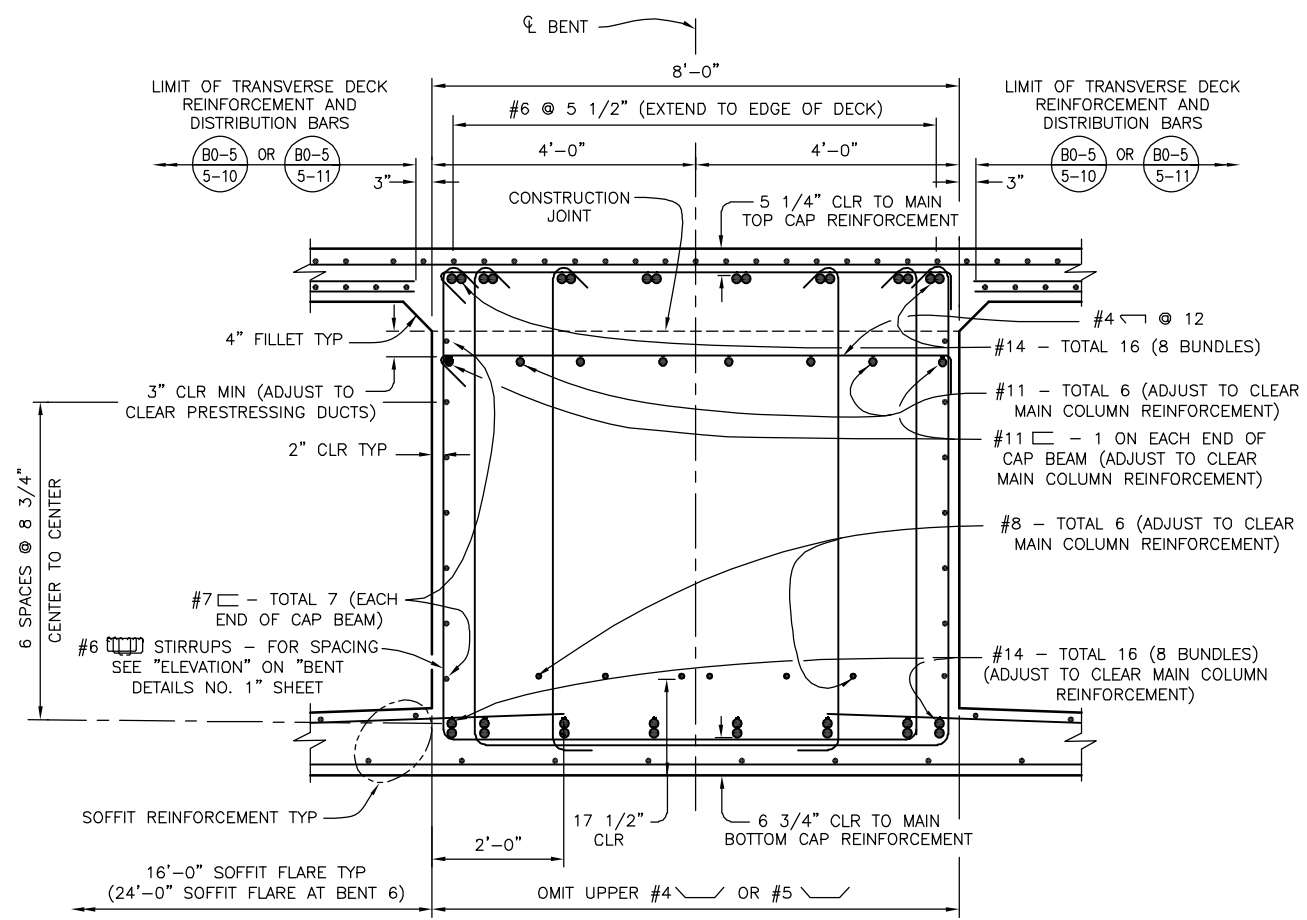


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PREPARED BY: SAMI H. MEGALLY
REGISTRATION EXPIRES: 9/30/19

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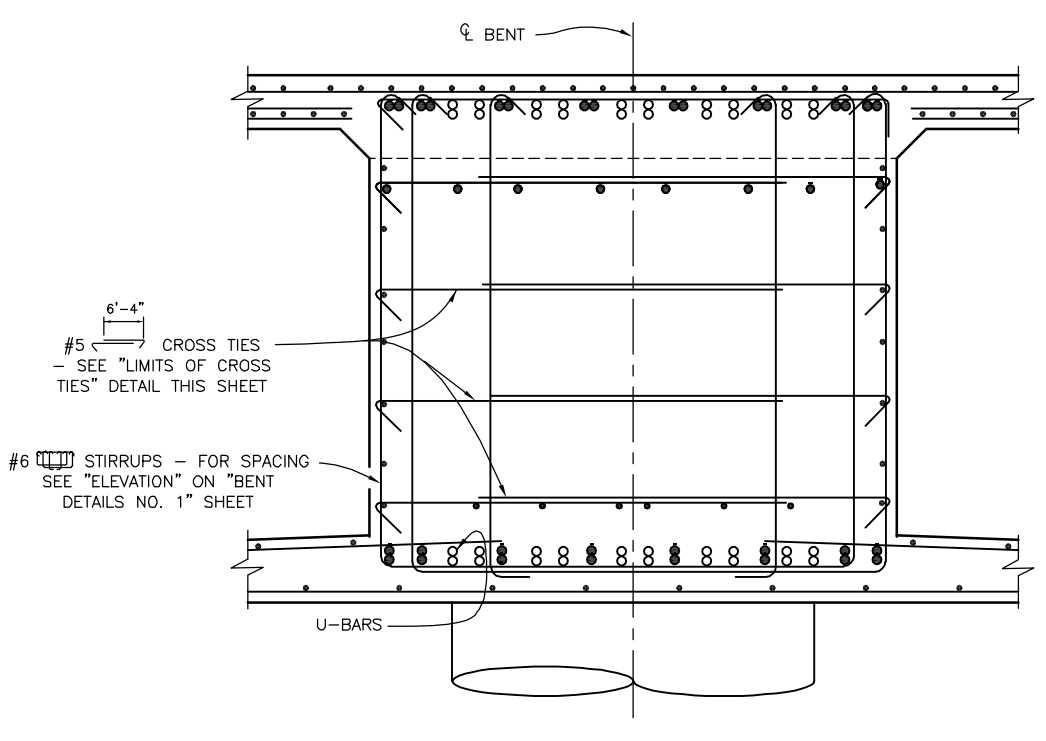
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BRAD S. MERRELL
CONSULTING CITY ENGINEER
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APPROVED BY: BRAD S. MERRELL	TITLE: CONSULTING CITY ENGINEER	
DESIGNED: SM	R.C.E. NO. 49423	SHEET 107 OF 180
DRAWN: TB	DATE: 02/20/19	PLAN NO. 1594
SCALE: AS-NOTED	AS BUILT:	



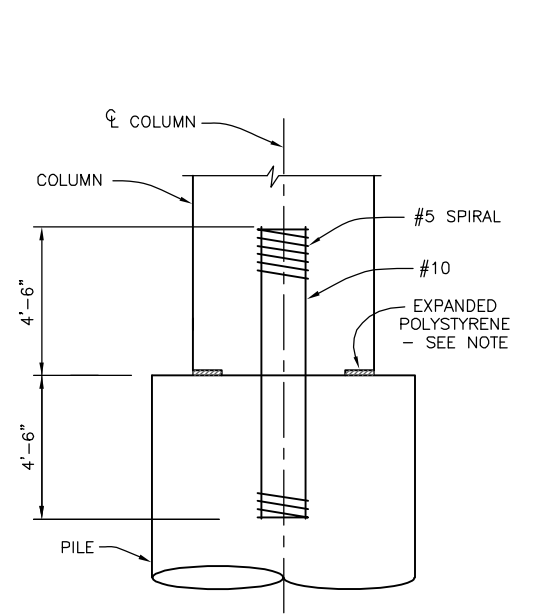
NOTE: REFER TO "GIRDER LAYOUT" SHEETS FOR LIMITS OF TRANSVERSE DECK REINFORCEMENT AND DISTRIBUTION BARS.

SECTION L-L
3/4" = 1'-0"



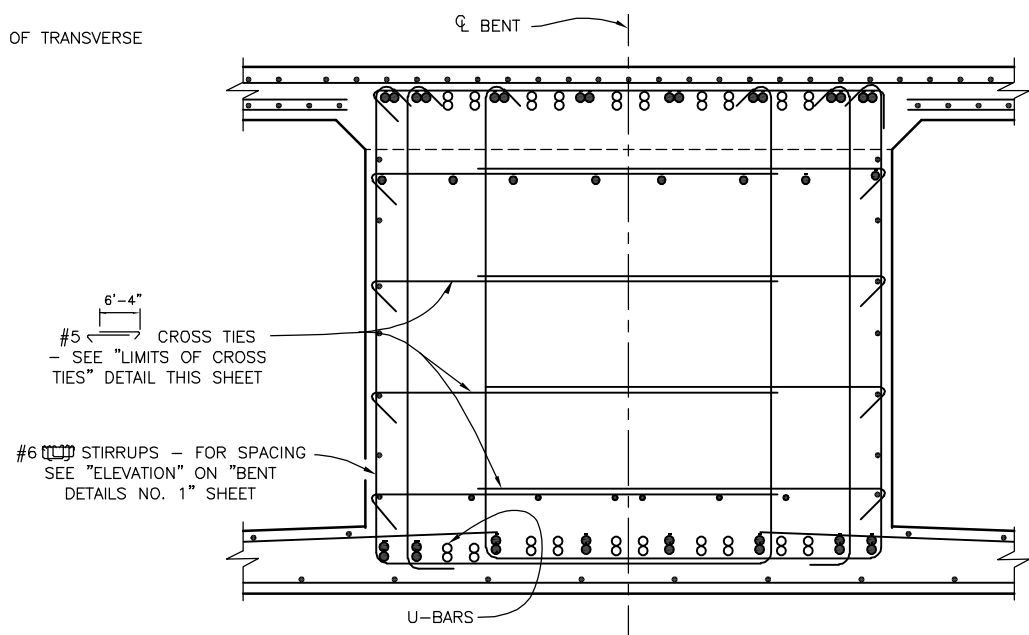
NOTE: FOR INFORMATION NOT SHOWN, SEE "SECTION L-L".

SECTION M-M
3/4" = 1'-0"



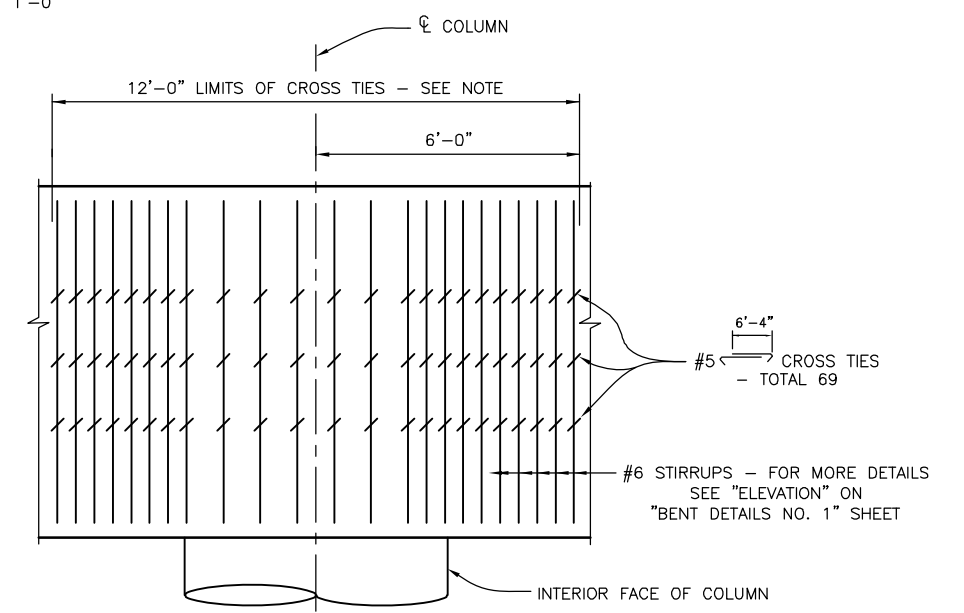
NOTE: FOR GAP SIZE AND POLYSTYRENE THICKNESS, SEE "BENT DETAILS NO. 2" AND "BENT DETAILS NO. 3" SHEETS.

SECTION N-N
3/8" = 1'-0"



NOTE: FOR INFORMATION NOT SHOWN, SEE "SECTION L-L".

SECTION K-K
3/4" = 1'-0"



NOTE: ADJUST STIRRUPS AND CROSS TIES TO ALLOW FOR PASSAGE OF PRESTRESSING DUCTS AND TO CLEAR THE COLUMN MAIN REINFORCEMENT. THE NUMBER OF CROSS TIES AND STIRRUPS IS TO REMAIN UNCHANGED WITHIN THE SPECIFIED REGION.

LIMITS OF CROSS TIES
NOT TO SCALE



THE CONTRACTOR IS REQUIRED BY GOVERNMENT CODE 4216 "CALIFORNIA ONE CALL LAW" TO CALL DIG ALERT AT LEAST TWO (2) WORKING DAYS BEFORE DIGGING. CONTRACTOR IS REQUIRED BY SAME CODE TO HAND-EXPOSE TO THE POINT OF NO CONFLICT 24" ON EITHER SIDE OF THE UNDERGROUND FACILITY SO YOU CAN DETERMINE ITS EXACT LOCATION BEFORE USING POWER EQUIPMENT.

No.	REVISION	DATE	BY

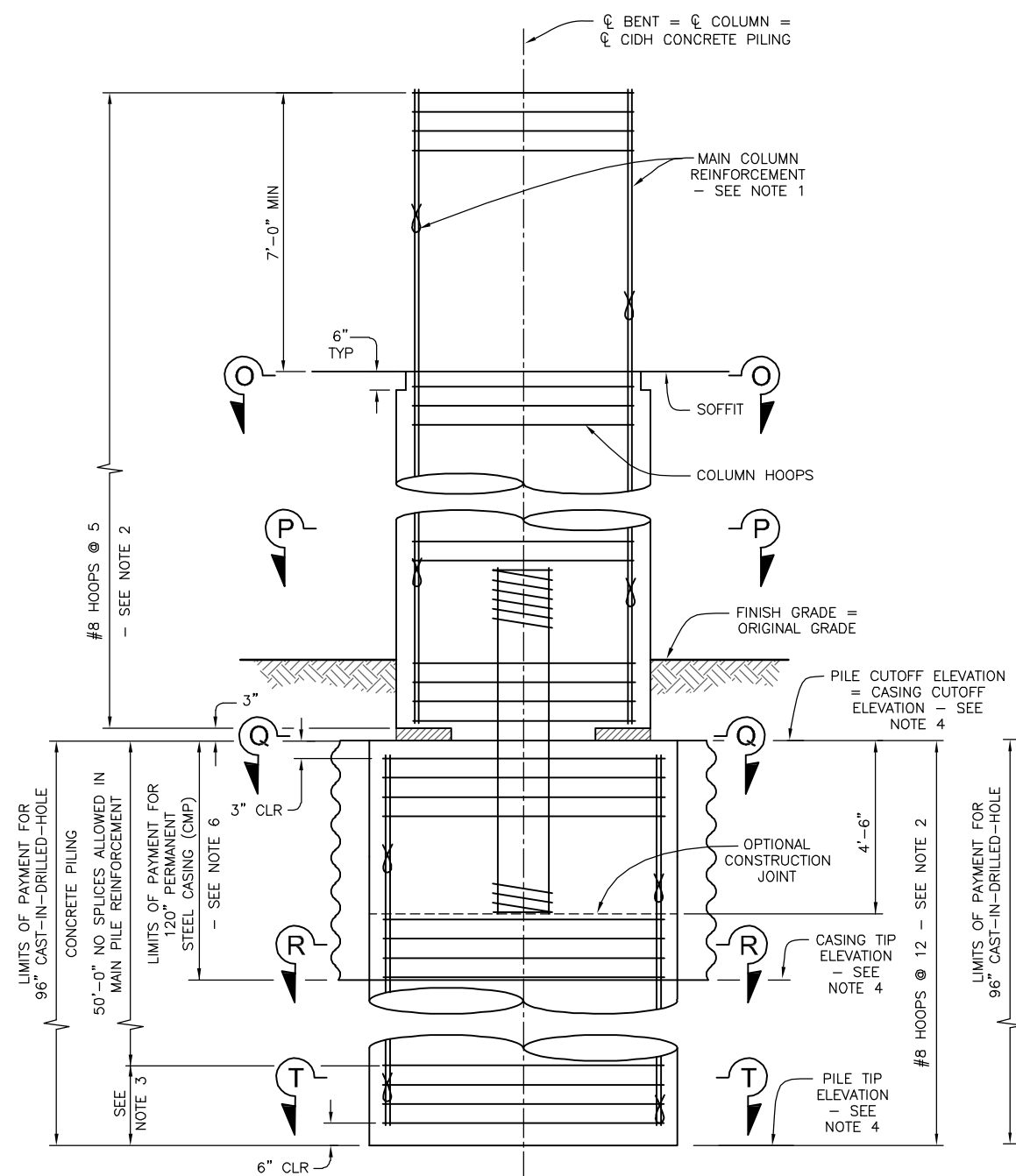


KLEINFELDER
550 WEST "C" STREET, SUITE 1200 (619) 831-4600
SAN DIEGO, CALIFORNIA 92101
DATE: _____ R.C.E. NO. 65520
PREPARED BY: SAMI H. MEGALLY
REGISTRATION EXPIRES: 9/30/19

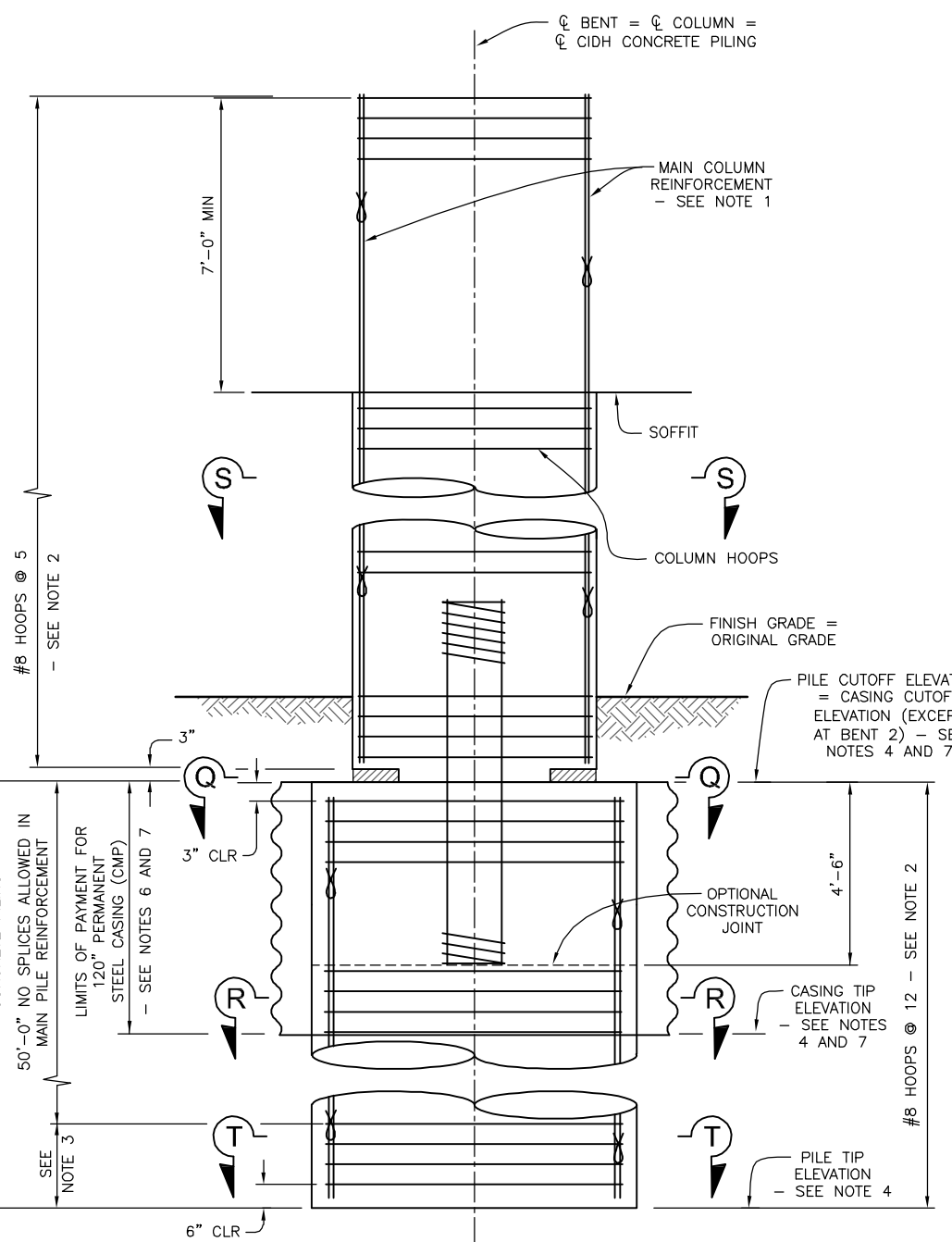
CITY OF BARSTOW
220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311
PHONE: (760) 256-3531
FAX: (760) 256-1750
THIS PLAN SPECIFICATION DRAWING DOCUMENT OTHER IS ON FILE WITH THE CITY OF BARSTOW. IT IS MADE AVAILABLE PURSUANT TO SECTION 6250 et. seq., CALIFORNIA GOVERNMENT CODE UPON PAYMENTS OF THE APPROPRIATE FEE. THE CITY OF BARSTOW MAKES NO REPRESENTATION CONCERNING THE ACCURACY OF THESE ITEMS AND RECOMMENDS THAT THEY BE EXAMINED IN THE FIELD PRIOR TO MAKING ENGINEERING DECISIONS.

CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
BRAD S. MERRELL
CONSULTING CITY ENGINEER
DATE: _____

PROJECT No. 5298-030		CITY OF BARSTOW	
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD		BENT DETAILS NO. 2	
APPROVED BY: BRAD S. MERRELL	TITLE: CONSULTING CITY ENGINEER	DESIGNED: SM	R.C.E. NO. 49423
DATE: 02/20/19	SCALE: AS-BUILT	SHEET 108 OF 180	PLAN NO. 1594

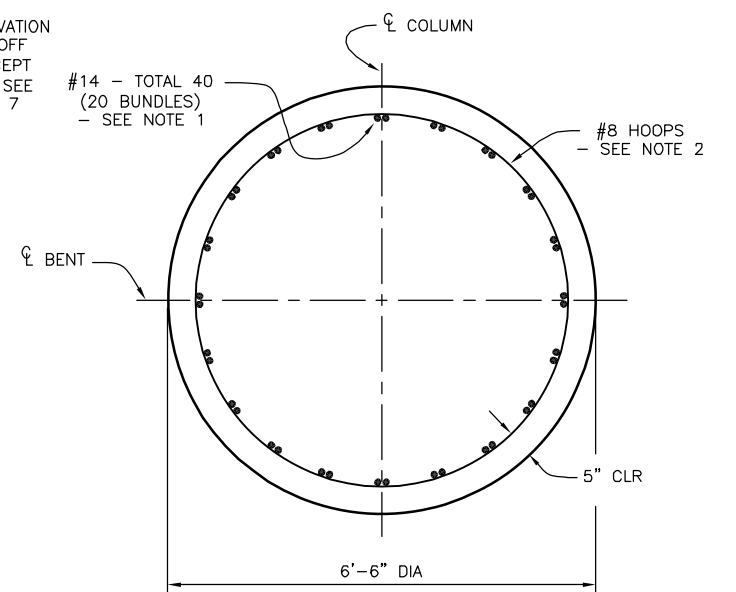
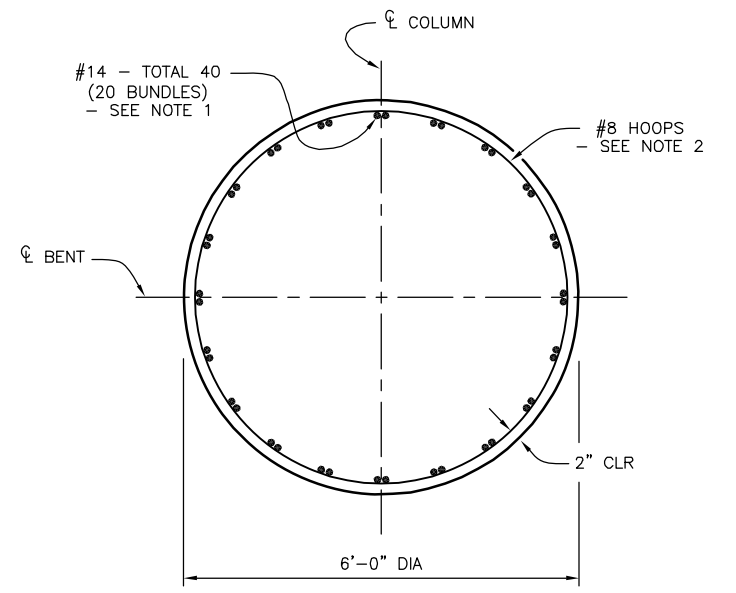


ELEVATION BENTS 4 AND 5
1/2" = 1'-0"



ELEVATION BENTS 2, 3, 6 AND 7
1/2" = 1'-0"

LEGEND:
 - INDICATES BUNDLED BARS



- NOTES:
- NO SPLICES ALLOWED IN COLUMN LONGITUDINAL MAIN REINFORCEMENT.
 - ULTIMATE BUTT SPLICE REQUIRED FOR ALL #8 HOOPS.
 - ONLY STAGGERED ULTIMATE BUTT SPLICES ARE ALLOWED IN CIDH PILE REINFORCEMENT IN THIS ZONE.
 - FOR PILE AND CASING CUTOFF ELEVATIONS AND PILE AND CASING TIP ELEVATIONS, SEE "PILE DATA TABLE" ON "FOUNDATION PLAN" SHEET.
 - FOR SECTIONS "Q-Q", "R-R", "S-S", AND "T-T", SEE "BENT DETAILS NO. 4" SHEET.
 - CASING TIP ELEVATION MAY BE ADJUSTED UPWARD BUT SHALL BE A MINIMUM OF 5 FEET BELOW THE CONSTRUCTION JOINT ELEVATION.
 - FOR BENT 2 COLUMNS, SEE "COLUMN ISOLATION CASING DETAILS NO. 1" SHEET.



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No.	REVISION	DATE	BY

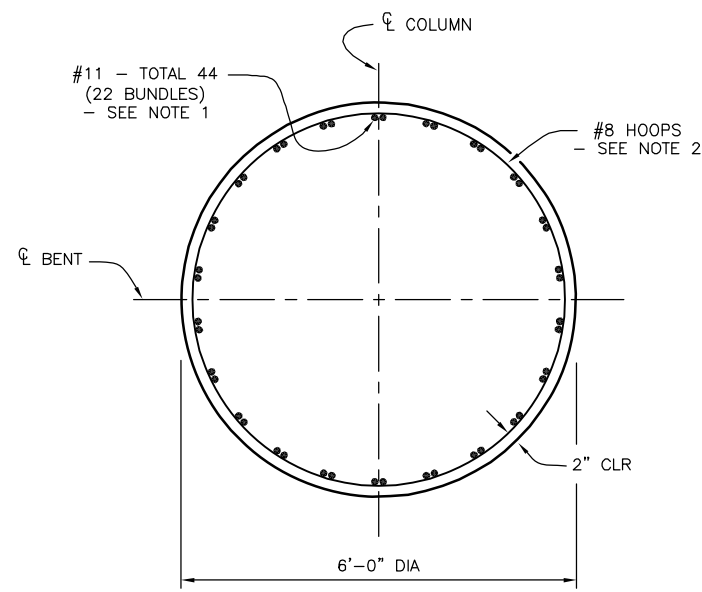


KLEINFELDER
 550 WEST "C" STREET, SUITE 1200 (619) 831-4600
 SAN DIEGO, CALIFORNIA 92101
 PREPARED BY: SAMI H. MEGALLY R.C.E. NO. 65520
 REGISTRATION EXPIRES: 9/30/19

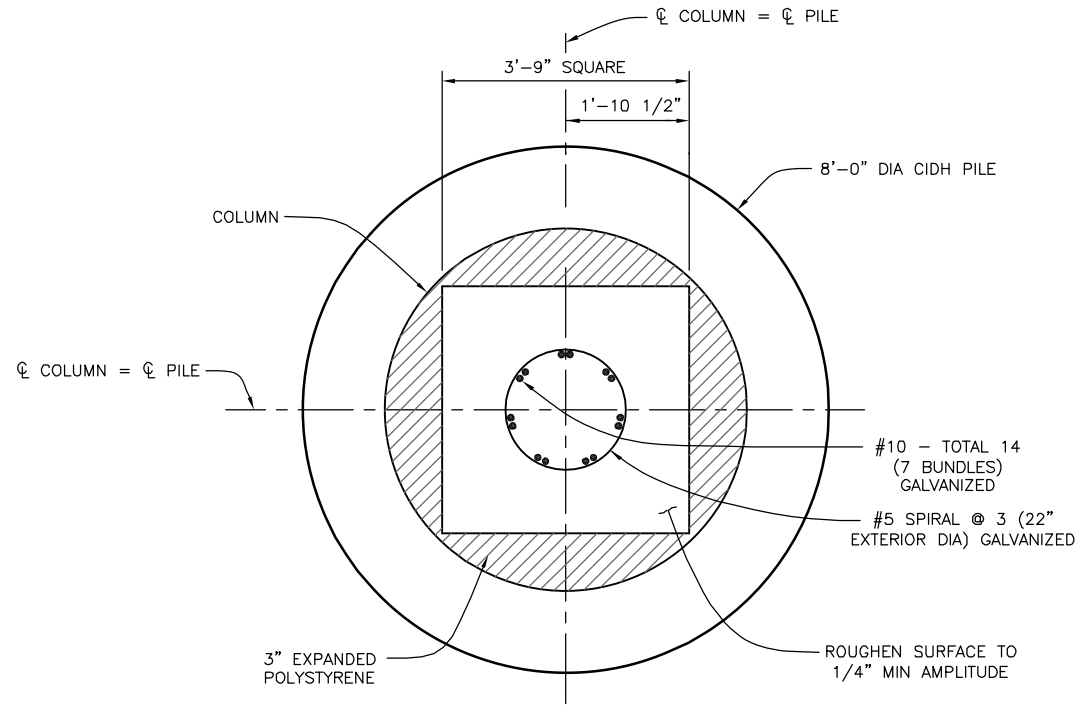
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 BARSTOW, CA 92311 FAX: (760) 256-1750
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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
 BRAD S. MERRELL
 CONSULTING CITY ENGINEER

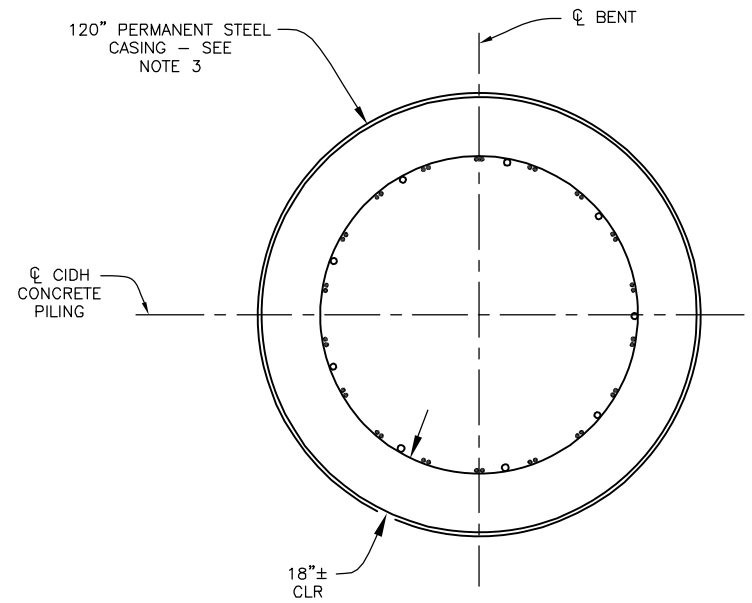
PROJECT No. 5298-030
CITY OF BARSTOW
 NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
 BENT DETAILS NO. 3
 APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER
 DESIGNED: SM R.C.E. NO. 49423 SHEET 109 OF 180
 DRAWN: TB DATE: 02/20/19 PLAN NO. 1594
 SCALE: AS-NOTED AS BUILT:



SECTION S-S
3/4" = 1'-0"



SECTION Q-Q
3/4" = 1'-0"



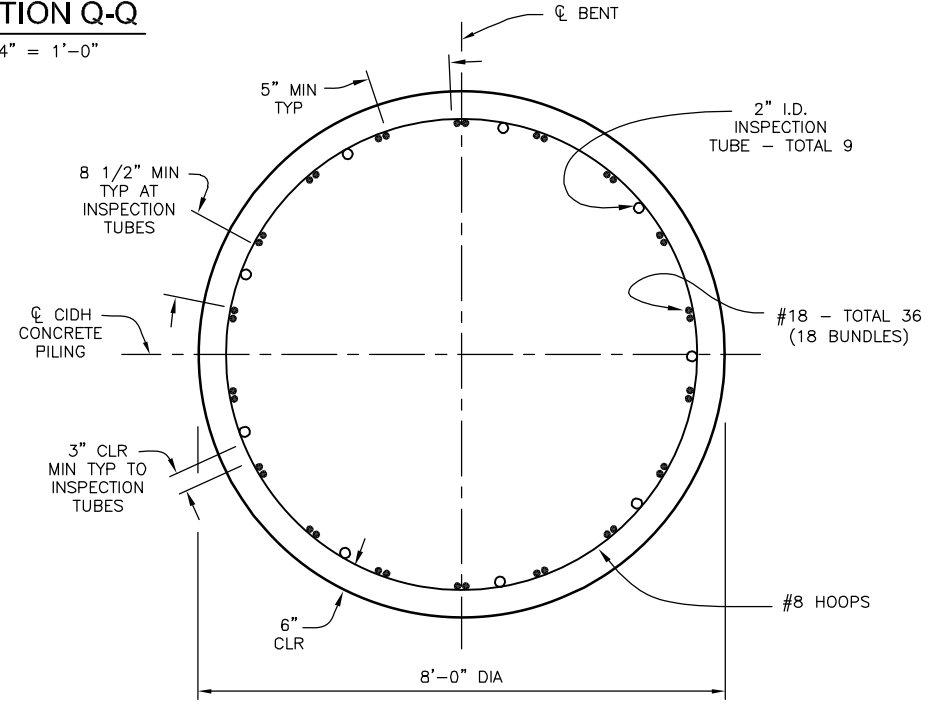
SECTION R-R
3/4" = 1'-0"

NOTE: FOR REINFORCEMENT AND INSPECTION TUBE DETAILS, SEE "SECTION T-T" THIS SHEET.

CMP PROPERTIES	
THICKNESS	0.109 (IN)
WALL AREA	1.56 (IN ² /FT)
RADIUS OF GYRATION	0.3348 (IN)
MOMENT OF INERTIA	0.015459 (IN ⁴ /IN)

NOTES:

- NO SPLICES ALLOWED IN LONGITUDINAL MAIN COLUMN REINFORCEMENT.
- ULTIMATE BUTT SPLICE REQUIRED FOR ALL #8 HOOPS.
- CASING SHALL BE CORRUGATED METAL PIPE WITH A 3" x 1" CORRUGATION. FOR MINIMUM CMP PROPERTIES AND DIMENSIONS, SEE "CMP PROPERTIES" TABLE THIS SHEET.
- SEE "COLUMN ISOLATION CASING DETAILS NO. 1" SHEET FOR ADDITIONAL DETAILS ON CASING FOR BENT 2.
- SEE "LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL" ON "COLUMN ISOLATION CASING DETAILS NO. 2" SHEET.



NOTE: INSPECTION TUBES SHALL BE PLACED AT 33" MAX CIRCUMFERENTIAL SPACING.

SECTION T-T
3/4" = 1'-0"



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No.	REVISION	DATE	BY

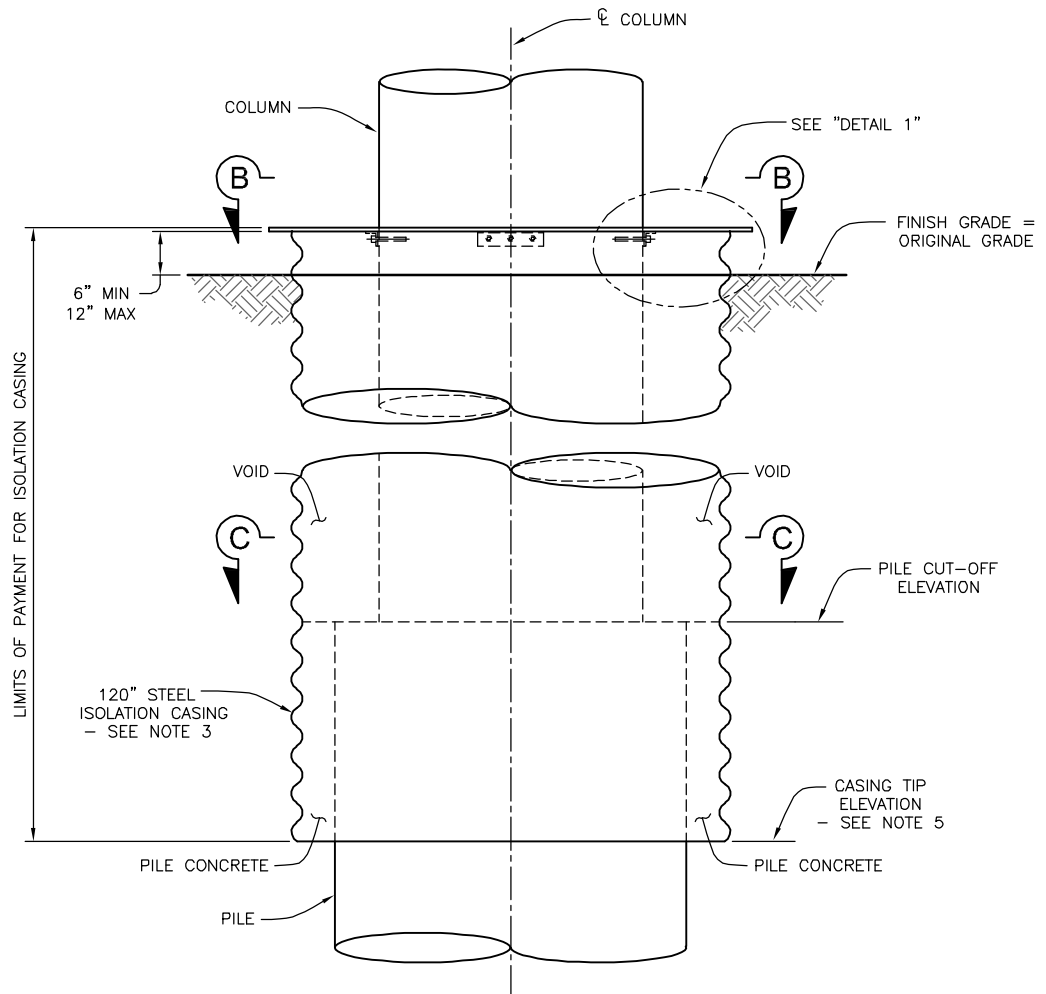


KLEINFELDER
550 WEST "C" STREET, SUITE 1200 (619) 831-4600
SAN DIEGO, CALIFORNIA 92101
DATE: 9/30/19
PREPARED BY: SAMI H. MEGALLY
REGISTRATION EXPIRES: 9/30/19
R.C.E. NO. 65520

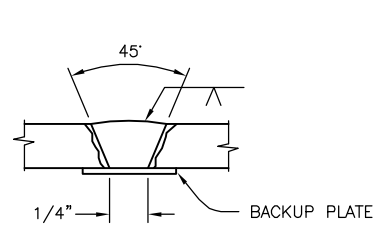
CITY OF BARSTOW
220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311
PHONE: (760) 256-3531
FAX: (760) 256-1750
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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
BRAD S. MERRELL
CONSULTING CITY ENGINEER
DATE: 02/20/19

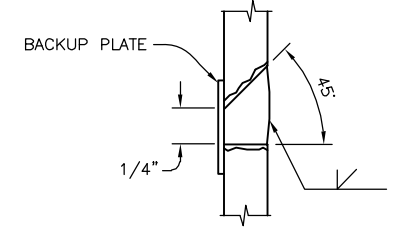
PROJECT No. 5298-030		
CITY OF BARSTOW NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD BENT DETAILS NO. 4		
APPROVED BY: BRAD S. MERRELL	TITLE: CONSULTING CITY ENGINEER	
DESIGNED: SM	R.C.E. NO. 49423	SHEET 110 OF 130
DRAWN: TB	DATE: 02/20/19	PLAN NO. 1594
SCALE: AS-NOTED	AS BUILT:	



ELEVATION
1/2" = 1'-0"



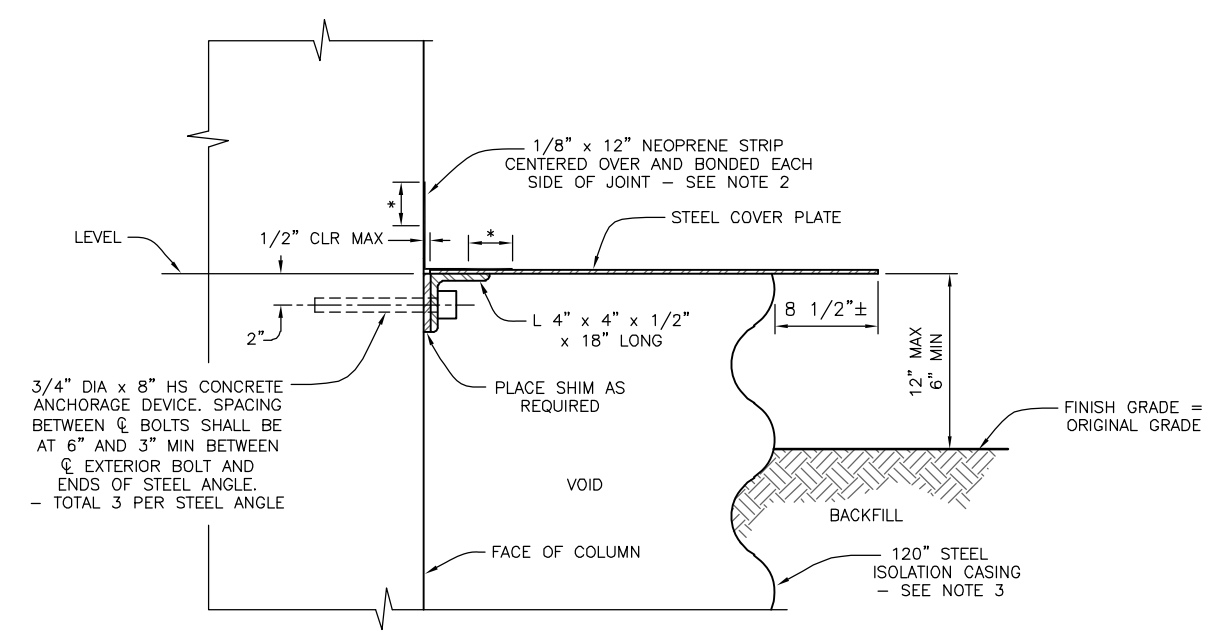
SINGLE VEE-GROOVE



SINGLE BEVEL-GROOVE

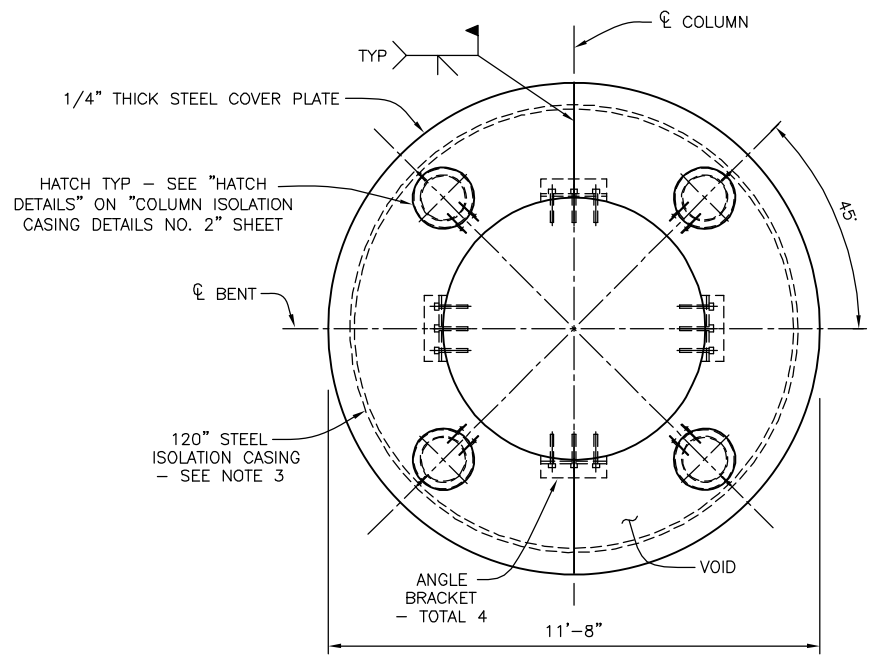
- NOTES:
1. SINGLE VEE-GROOVE AND SQUARE GROOVE PERMITTED FOR ALL POSITIONS.
 2. SINGLE BEVEL-GROOVE PERMITTED AT HORIZONTAL JOINTS ONLY.

CASE WELDING DETAIL (BUTT JOINTS)
NO SCALE

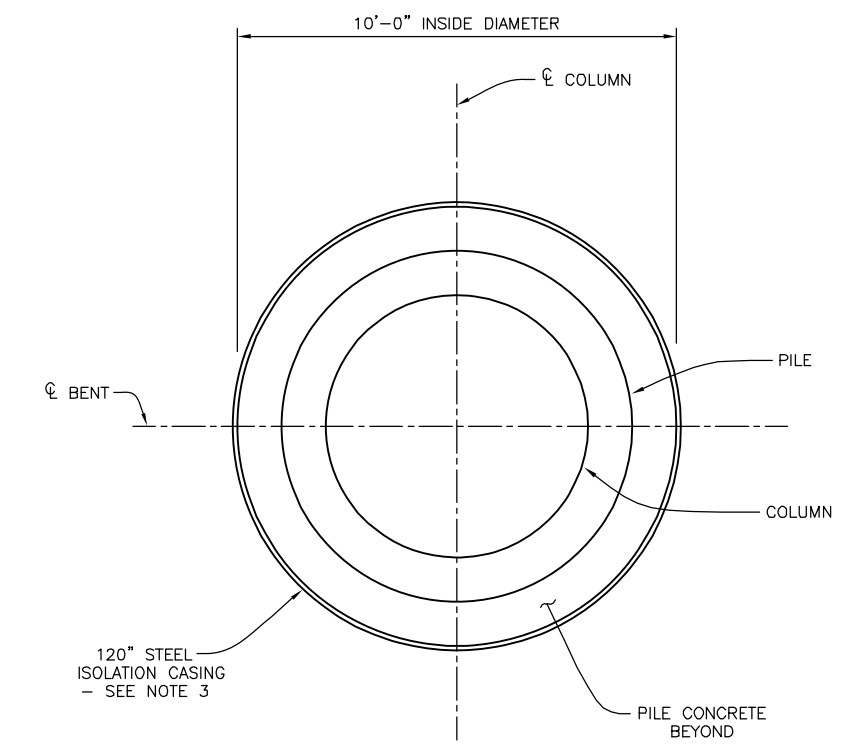


DETAIL 1
NOT TO SCALE

- NOTES:
1. STEEL COVER PLATE, ANGLES AND ALL HARDWARE SHALL BE GALVANIZED.
 2. NEOPRENE STRIP MAY BE CUT AND OVERLAPPED AS REQUIRED TO FIT AGAINST COLUMN AND STEEL COVER PLATE. ENTIRE JOINT BETWEEN COLUMN AND STEEL COVER PLATE SHALL BE SEALED.
 3. STEEL ISOLATION CASING SHALL BE GALVANIZED CORRUGATED METAL PIPE WITH 3" x 1" CORRUGATION. FOR MINIMUM CMP PROPERTIES AND DIMENSIONS, SEE "CMP PROPERTIES" TABLE ON "BENT DETAILS NO. 4" SHEET.
 4. CONTRACTOR MAY SUBMIT AN ALTERNATIVE DETAIL FOR CORRUGATED METAL PIPE SPLICING, TO BE APPROVED BY THE ENGINEER.
 5. FOR CASING TIP ELEVATIONS, SEE "PILE DATA TABLE" ON "FOUNDATION PLAN" SHEET. CASING TIP ELEVATION MAY BE ADJUSTED UPWARD BUT SHALL BE A MINIMUM OF 5 FEET BELOW THE CONSTRUCTION JOINT ELEVATION.
 6. SEE "LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL" ON "COLUMN ISOLATION CASING DETAILS NO. 2" SHEET.



SECTION B-B
NOT TO SCALE



SECTION C-C
NOT TO SCALE



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No.	REVISION	DATE	BY

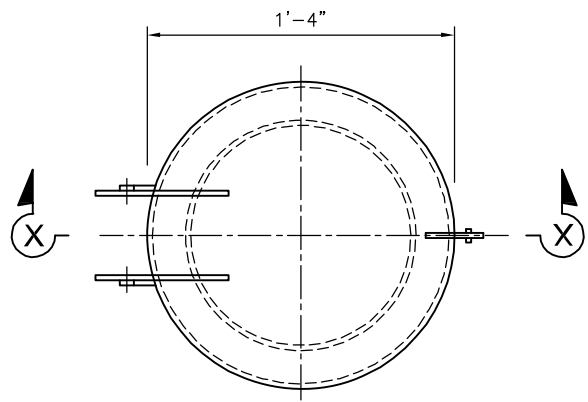


KLEINFELDER
550 WEST "C" STREET, SUITE 1200 (619) 831-4600
SAN DIEGO, CALIFORNIA 92101
DATE: _____ R.C.E. NO. 65520
PREPARED BY: SAMI H. MEGALLY
REGISTRATION EXPIRES: 9/30/19

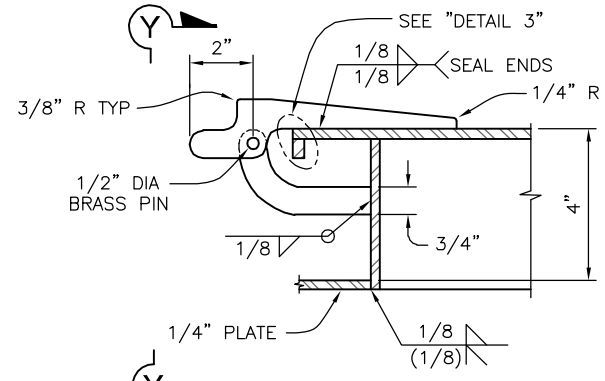
CITY OF BARSTOW
220 E. MOUNTAIN VIEW ST SUITE A PHONE: (760) 256-3531
BARSTOW, CA 92311 FAX: (760) 256-1750
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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
BRAD S. MERRELL
CONSULTING CITY ENGINEER
DATE

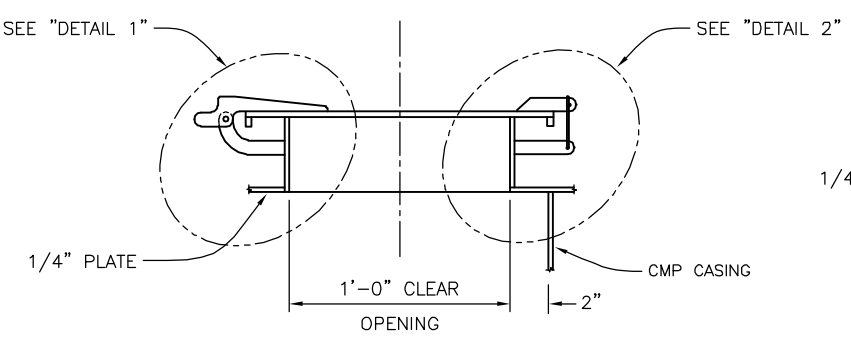
PROJECT No. 5298-030		
CITY OF BARSTOW NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD COLUMN ISOLATION CASING DETAILS NO. 1		
APPROVED BY: BRAD S. MERRELL	TITLE: CONSULTING CITY ENGINEER	
DESIGNED: SM	R.C.E. NO. 49423	SHEET 111 OF 180
DRAWN: TB	DATE: 02/20/19	PLAN NO. 1594
SCALE: AS-NOTED	AS BUILT:	



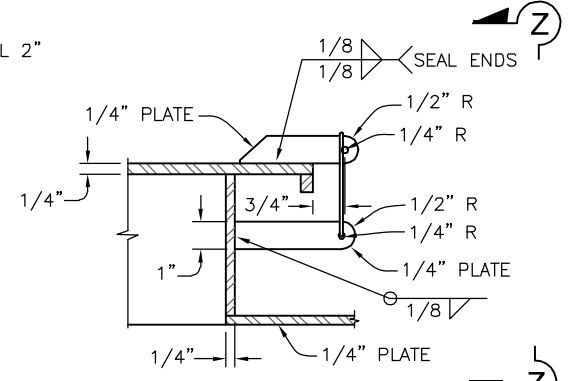
PLAN VIEW
3" = 1'-0"



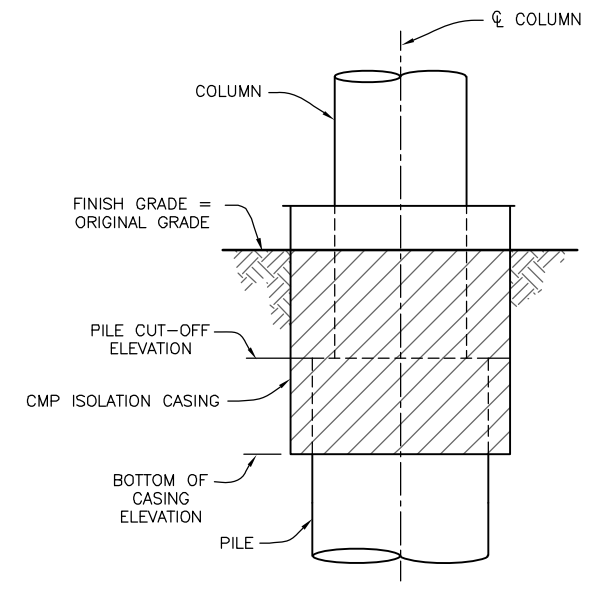
DETAIL 1
NOT TO SCALE



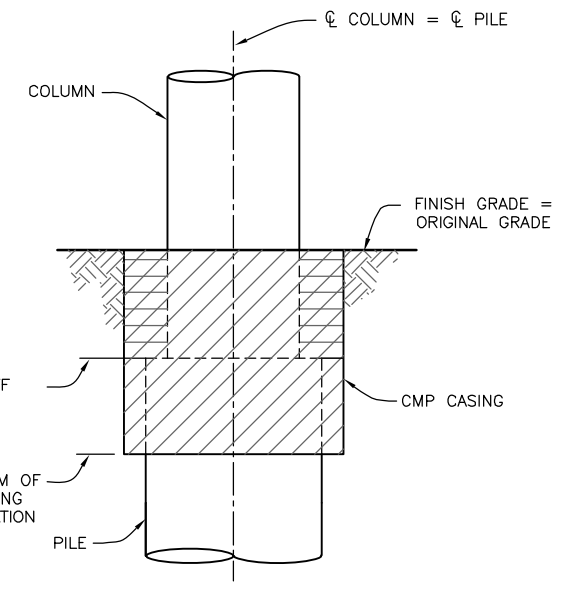
SECTION X-X
3" = 1'-0"



DETAIL 2
NOT TO SCALE



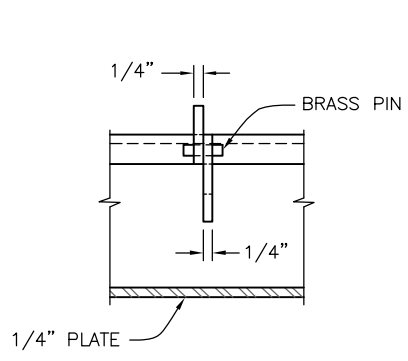
BENT 2



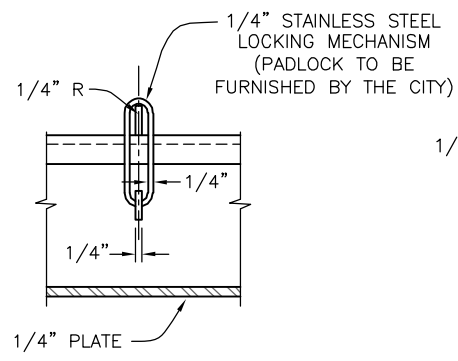
BENTS 3 THROUGH 7

STRUCTURE EXCAVATION (BRIDGE)
 STRUCTURE BACKFILL (BRIDGE)

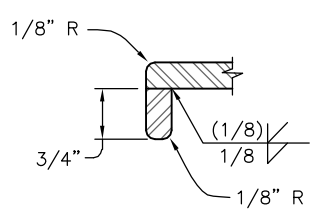
LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL



SECTION Y-Y
NOT TO SCALE



SECTION Z-Z
3" = 1'-0"



DETAIL 3
NOT TO SCALE

HATCH DETAILS
AS NOTED



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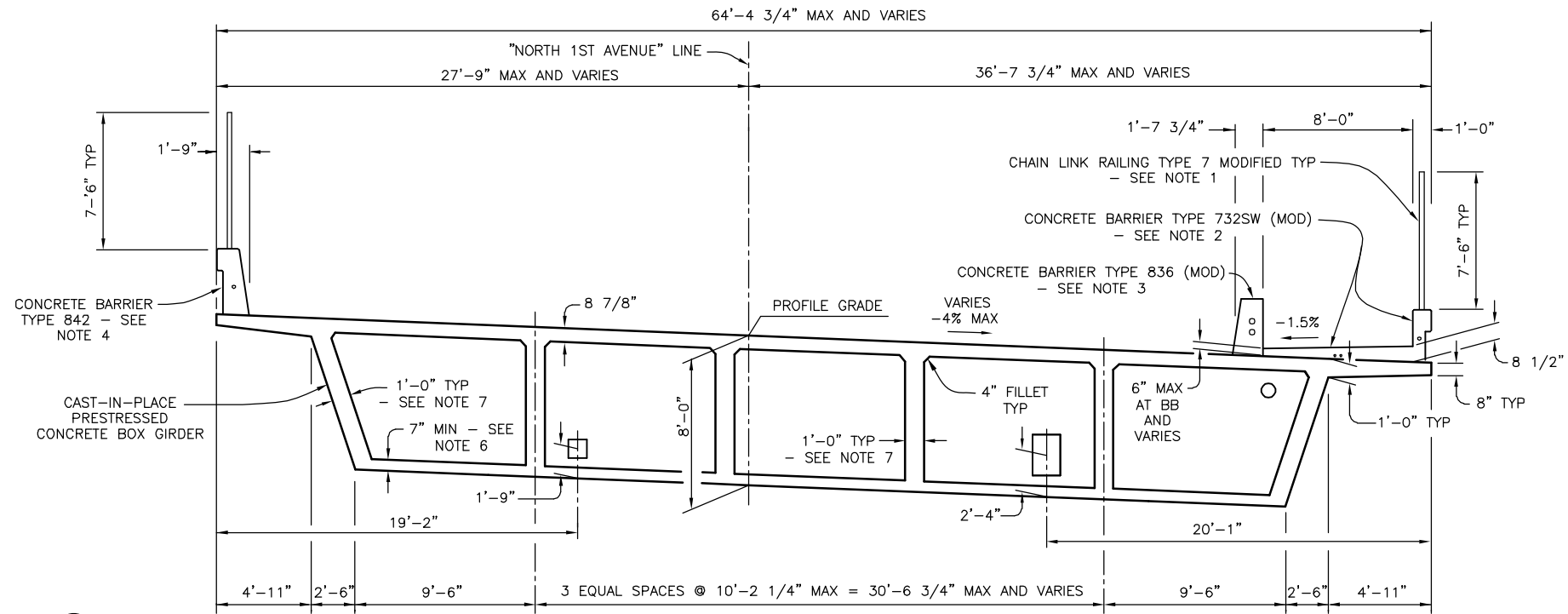
KLEINFELDER
550 WEST "C" STREET, SUITE 1200 (619) 831-4600
SAN DIEGO, CALIFORNIA 92101
DATE: _____ R.C.E. NO. 65520
PREPARED BY: SAMI H. MEGALLY
REGISTRATION EXPIRES: 9/30/19

CITY OF BARSTOW
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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
BRAD S. MERRELL
CONSULTING CITY ENGINEER
DATE: _____

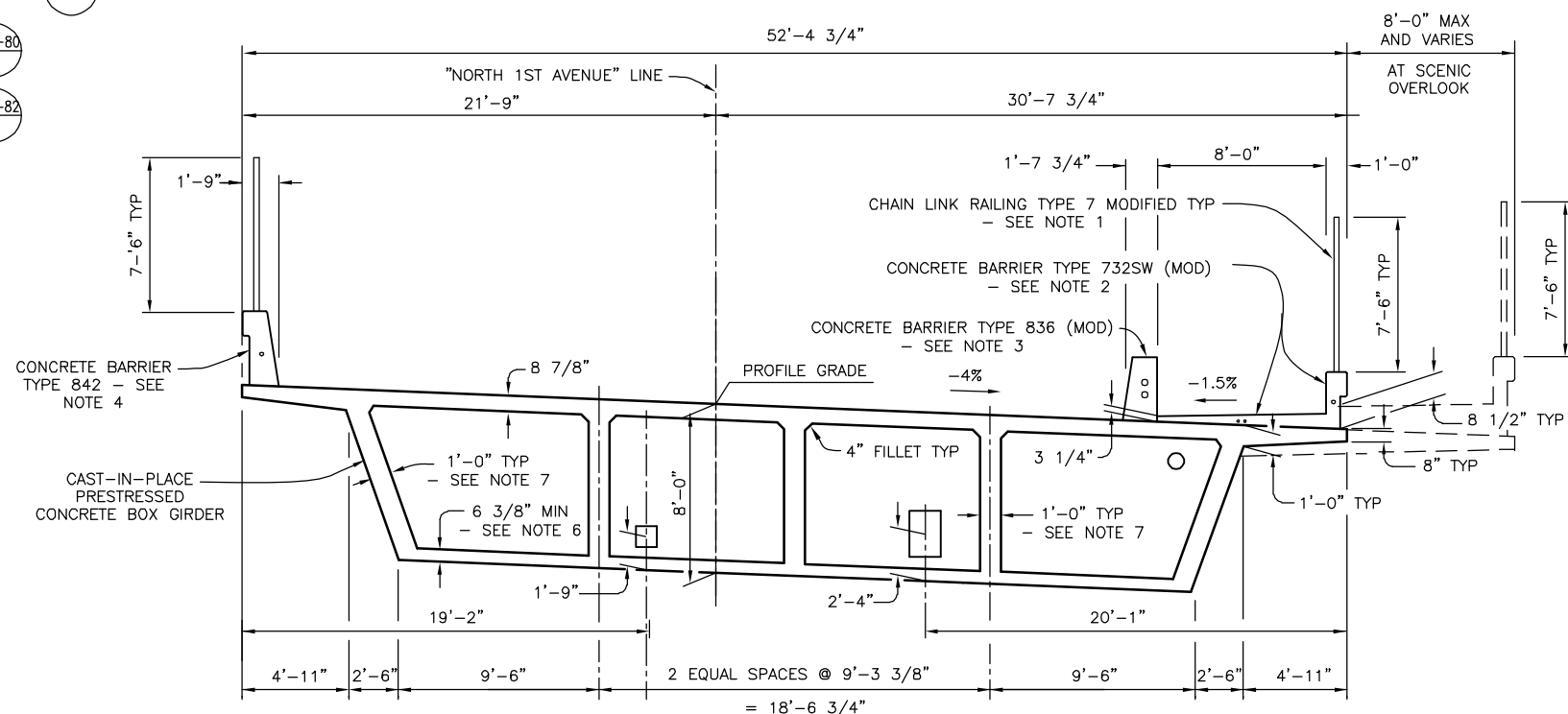
PROJECT No. 5298-030			
CITY OF BARSTOW NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD COLUMN ISOLATION CASING DETAILS NO. 2			
APPROVED BY: BRAD S. MERRELL	TITLE: CONSULTING CITY ENGINEER		
DESIGNED: SM	R.C.E. NO. 49423	SHEET	112 OF 180
DRAWN: TB	DATE: 02/20/19	PLAN NO.	1594
SCALE: AS-NOTED	AS BUILT:		

100% INTERIM PLANS FEB 20, 2019 NOT FOR CONSTRUCTION



TYPICAL SECTION SOUTH OF HINGE A

1/4" = 1'-0"



TYPICAL SECTION NORTH OF HINGE A

1/4" = 1'-0"

NOTES:

1. FOR CHAIN LINK RAILING TYPE 7 MODIFIED DETAILS NOT SHOWN, SEE 811-52
2. FOR CONCRETE BARRIER TYPE 732SW (MOD) DETAILS NOT SHOWN, SEE 811-58 AND 811-59
3. FOR CONCRETE BARRIER TYPE 836 DETAILS NOT SHOWN, SEE 811-79 AND 811-80
4. FOR CONCRETE BARRIER TYPE 842 DETAILS NOT SHOWN, SEE 811-81 AND 811-82
5. TRANSITION FROM FOUR TO THREE EQUALLY SPACED GIRDERS OCCURS AT HINGE A (STA 115+10.14). SOFFIT SLAB THICKNESS CHANGES FROM 7" TO 6 3/8" AT HINGE A.
6. FOR SOFFIT FLARE DIMENSIONS AND LOCATIONS, SEE "LONGITUDINAL SECTION" ON "GIRDER LAYOUT NO. 1" THROUGH "GIRDER LAYOUT NO. 3" SHEETS.
7. FOR GIRDER FLARE DIMENSIONS AND LOCATIONS, SEE "PLAN" ON "GIRDER LAYOUT NO. 1" THROUGH "GIRDER LAYOUT NO. 3" SHEETS.
8. FOR BRIDGE UTILITY INFORMATION AND OPENING SIZES, SEE "GENERAL PLAN (2 OF 2)" SHEET.
9. FOR LIMITS OF CONCRETE BARRIERS, SEE "ABUTMENT DETAILS NO. 1" AND "ABUTMENT DETAILS NO. 3" SHEETS.
10. FOR DETAIL ON BARRIER ARCHITECTURAL TREATMENT, SEE "CONCRETE BARRIER ARCHITECTURAL TREATMENT NO. 1" AND "CONCRETE BARRIER ARCHITECTURAL TREATMENT NO. 2" SHEETS.



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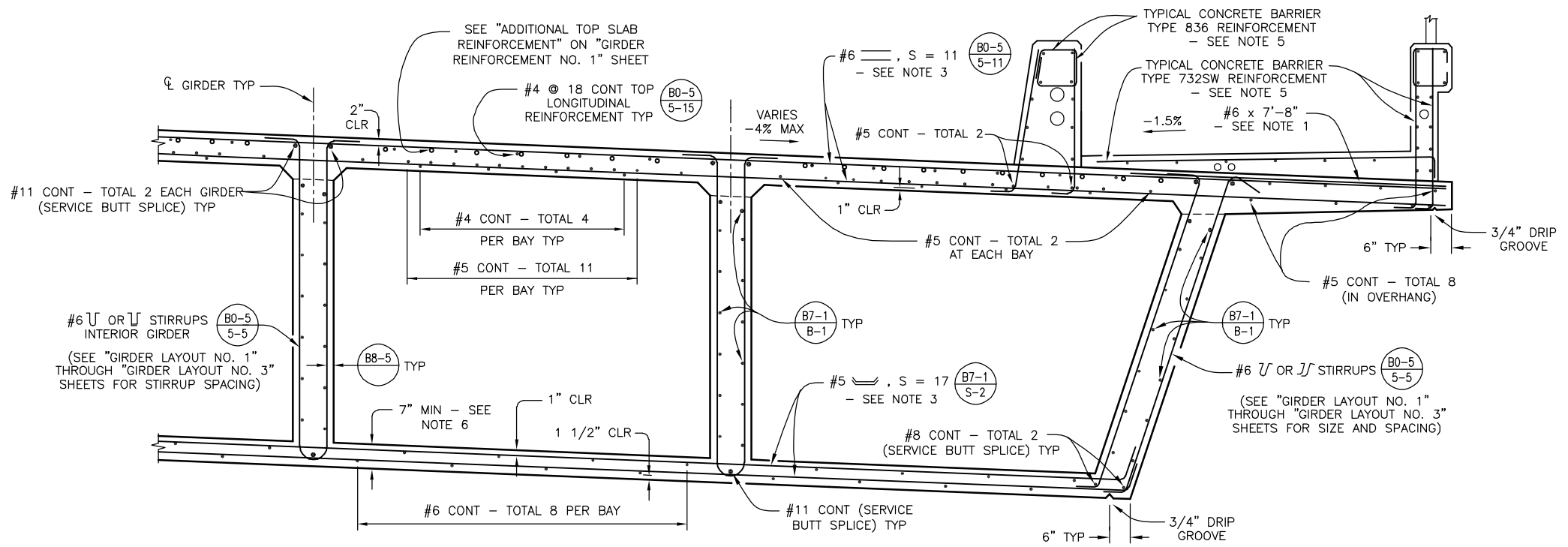


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 SAN DIEGO, CALIFORNIA 92101
 PREPARED BY: SAMI H. MEGALLY R.C.E. NO. 65520
 REGISTRATION EXPIRES: 9/30/19

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 CONSULTING CITY ENGINEER

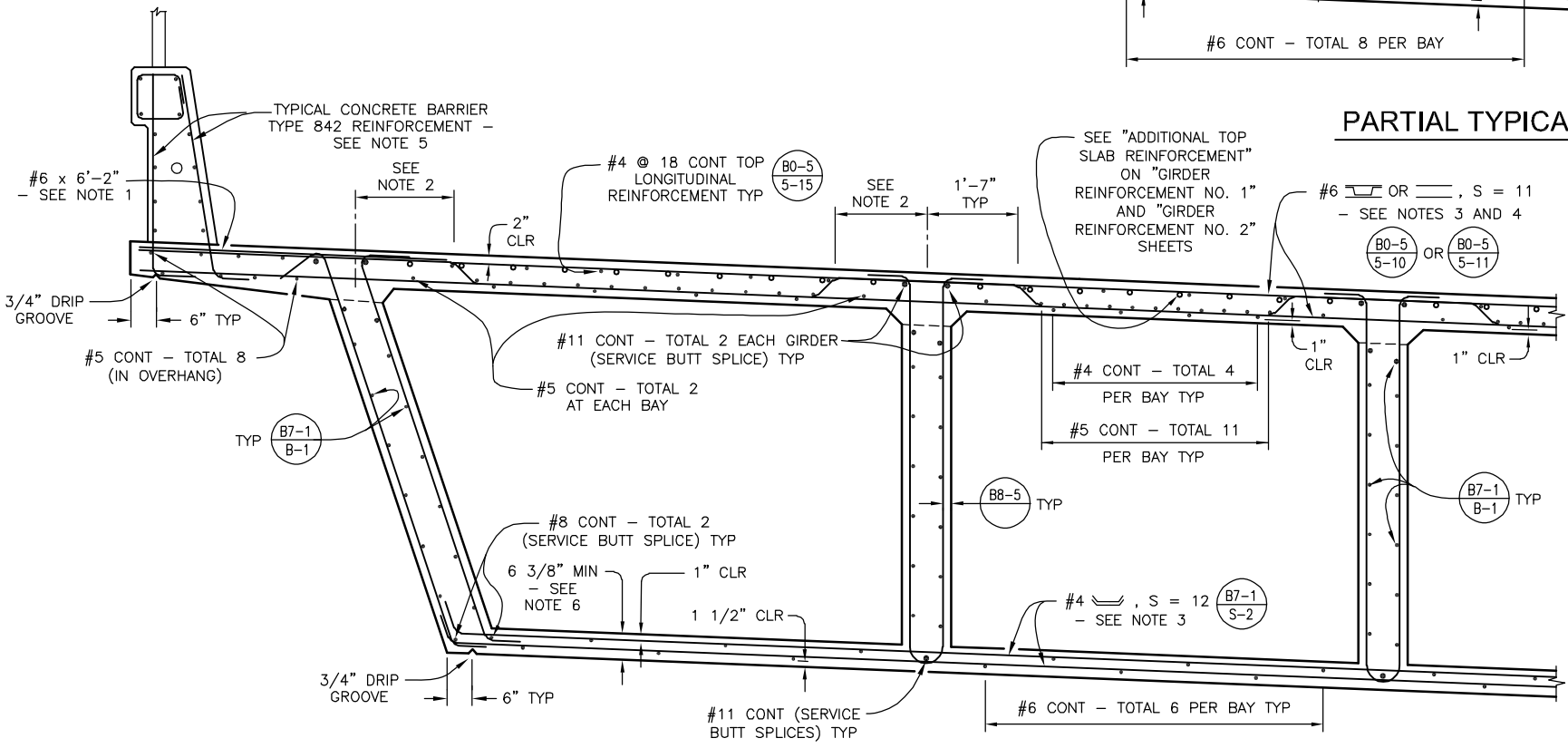
PROJECT No. 5298-030			
CITY OF BARSTOW NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD TYPICAL SECTION (1 OF 2)			
APPROVED BY: BRAD S. MERRELL	TITLE: CONSULTING CITY ENGINEER	SHEET 113 OF 180	
DESIGNED: SM	R.C.E. NO. 49423	DATE: 02/20/19	PLAN NO. 1594
DRAWN: TB	AS BUILT:	SCALE: AS-NOTED	



PARTIAL TYPICAL SECTION SOUTH OF HINGE A

5/8" = 1'-0"

B0-5 B7-1 B8-5



NOTE: SIMILAR TO "PARTIAL TYPICAL SECTION SOUTH OF HINGE A" EXCEPT AS NOTED.

PARTIAL TYPICAL SECTION NORTH OF HINGE A

5/8" = 1'-0"

B0-5 B7-1 B8-5

NOTES:

1. ADDITIONAL TOP TRANSVERSE DECK REINFORCEMENT SHALL BE PROVIDED IN THE OVERHANG FOR A DISTANCE OF 5 FEET ON EITHER SIDE OF AN EXPANSION JOINT IN THE BARRIER RAIL, AND AT THE ENDS OF THE BARRIER RAIL. THE ADDITIONAL BARS SHALL BE BUNDLED WITH EACH ALTERNATING TOP TRANSVERSE BAR IN THE OVERHANG.
2. TRUSS BAR BEND IS AT 1'-10" FROM GIRDER CENTERLINE AT EXTERIOR BAYS. AT INTERIOR BAYS, BEND IS AT A TYPICAL 1'-7" FROM GIRDER CENTERLINE.
3. TRANSVERSE BAR SPACING IS MEASURED AT THE "NORTH 1ST AVENUE" LINE.
4. CALTRANS STANDARD PLAN B0-5 DETAIL 5-11 SHALL BE USED FROM STA 117+69.30 TO STA 118+19.30. TRANSVERSE BARS SHALL EXTEND INTO OVERLOOK AS SHOWN IN "SCENIC OVERLOOK DETAILS NO. 2" SHEET.
5. FOR TYPICAL CONCRETE BARRIER REINFORCEMENT, SEE B11-80 FOR TYPE 836, B11-82 FOR TYPE 842, AND B11-58 FOR TYPE 732SW.
6. FOR SOFFIT FLARE DIMENSIONS AND LOCATIONS, SEE "LONGITUDINAL SECTION" ON "GIRDER LAYOUT NO. 1" THROUGH "GIRDER LAYOUT NO. 3" SHEETS.
7. FOR GIRDER FLARE DIMENSIONS AND LOCATIONS, SEE "PLAN" ON "GIRDER LAYOUT NO. 1" THROUGH "GIRDER LAYOUT NO. 3" SHEETS.
8. FOR BRIDGE UTILITY INFORMATION AND OPENING SIZES, SEE "GENERAL PLAN (2 OF 2)" SHEET.
9. FOR LIMITS OF CONCRETE BARRIERS, SEE "ABUTMENT DETAILS NO. 1" AND "ABUTMENT DETAILS NO. 3" SHEETS.
10. FOR DETAIL ON BARRIER ARCHITECTURAL TREATMENT, SEE "CONCRETE BARRIER ARCHITECTURAL TREATMENT NO. 1" AND "CONCRETE BARRIER ARCHITECTURAL TREATMENT NO. 2" SHEETS.



THE CONTRACTOR IS REQUIRED BY GOVERNMENT CODE 4216 "CALIFORNIA ONE CALL LAW" TO CALL DIG ALERT AT LEAST TWO (2) WORKING DAYS BEFORE DIGGING. CONTRACTOR IS REQUIRED BY SAME CODE TO HAND-EXPOSE TO THE POINT OF NO CONFLICT 24" ON EITHER SIDE OF THE UNDERGROUND FACILITY SO YOU CAN DETERMINE ITS EXACT LOCATION BEFORE USING POWER EQUIPMENT.

No.	REVISION	DATE	BY

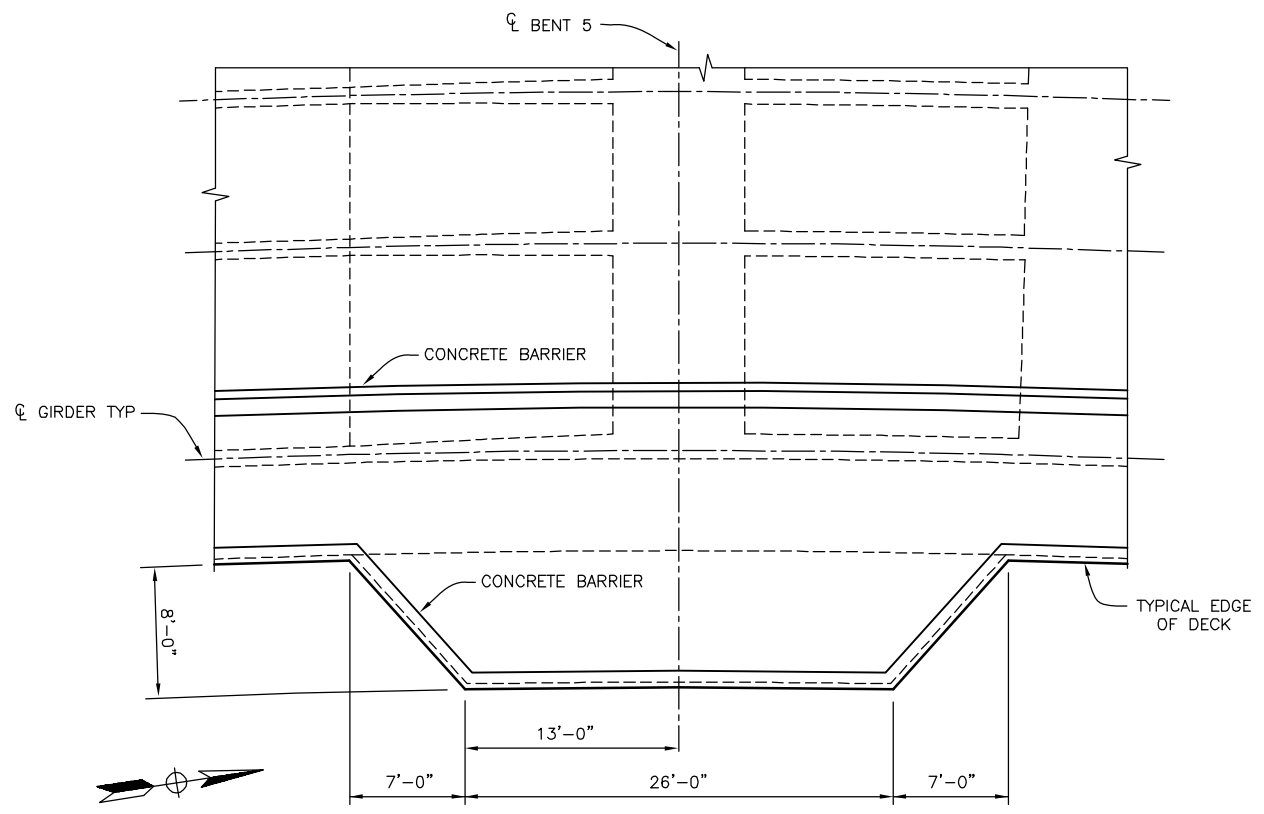


KLEINFELDER
 550 WEST "C" STREET, SUITE 1200 (619) 831-4600
 SAN DIEGO, CALIFORNIA 92101
 PREPARED BY: SAMI H. MEGALLY
 REGISTRATION EXPIRES: 9/30/19 R.C.E. NO. 65520

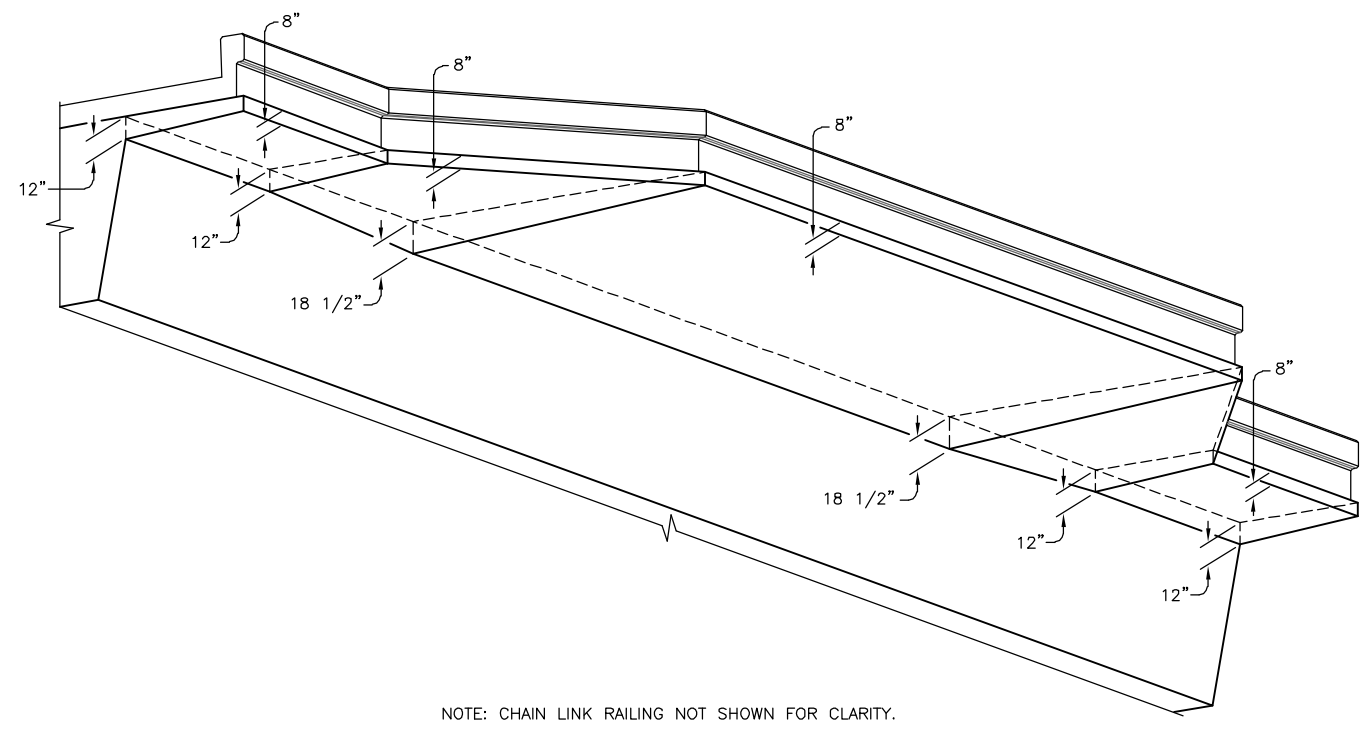
CITY OF BARSTOW
 220 E. MOUNTAIN VIEW ST SUITE A PHONE: (760) 256-3531
 BARSTOW, CA 92311 FAX: (760) 256-1750
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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
 BRAD S. MERRELL
 CONSULTING CITY ENGINEER

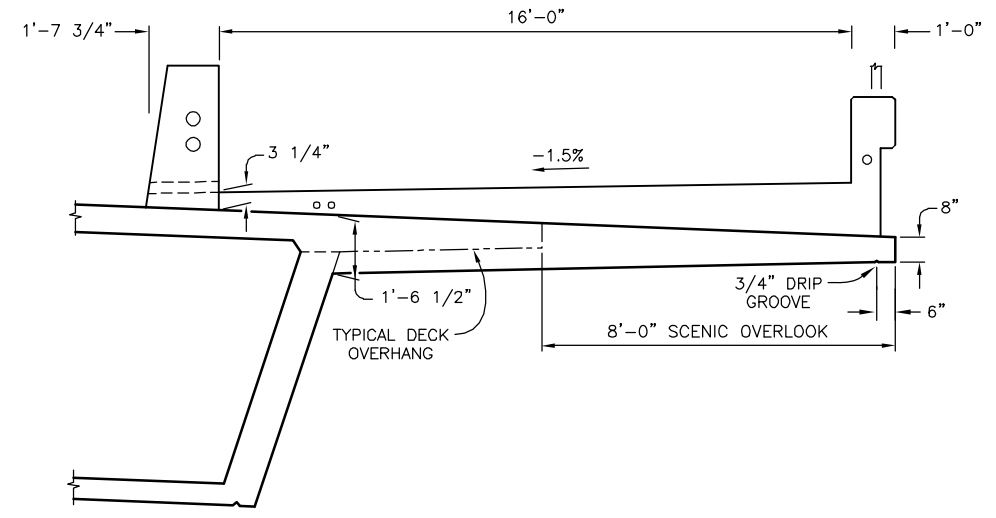
PROJECT No. 5298-030			
CITY OF BARSTOW NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD TYPICAL SECTION (2 OF 2)			
APPROVED BY: BRAD S. MERRELL	TITLE: CONSULTING CITY ENGINEER	SHEET 114 OF 180	
DESIGNED: SM	R.C.E. NO. 49423	DATE: 02/20/19	PLAN NO. 1594
DRAWN: TB	AS BUILT:	SCALE: AS-NOTED	



PLAN AT SCENIC OVERLOOK
3/16" = 1'-0"



NOTE: CHAIN LINK RAILING NOT SHOWN FOR CLARITY.
ISOMETRIC VIEW AT SCENIC OVERLOOK
NO SCALE



NOTE: CHAIN LINK RAILING NOT SHOWN FOR CLARITY.
TYPICAL SECTION AT SCENIC OVERLOOK
1/2" = 1'-0"



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No.	REVISION	DATE	BY

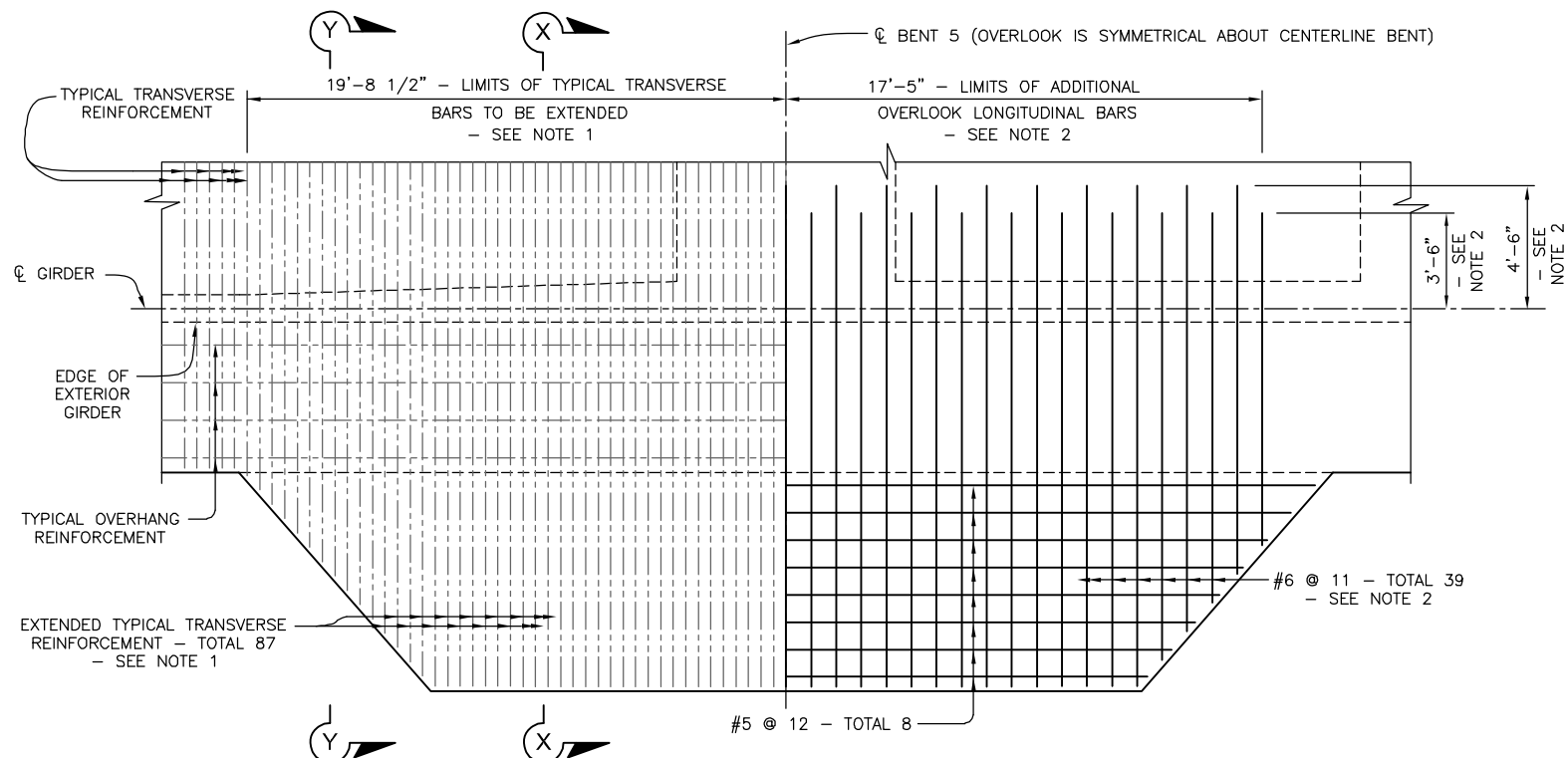


KLEINFELDER
550 WEST "C" STREET, SUITE 1200 (619) 831-4600
SAN DIEGO, CALIFORNIA 92101
DATE: PREPARED BY: SAMI H. MEGALLY R.C.E. NO. 65520
REGISTRATION EXPIRES: 9/30/19

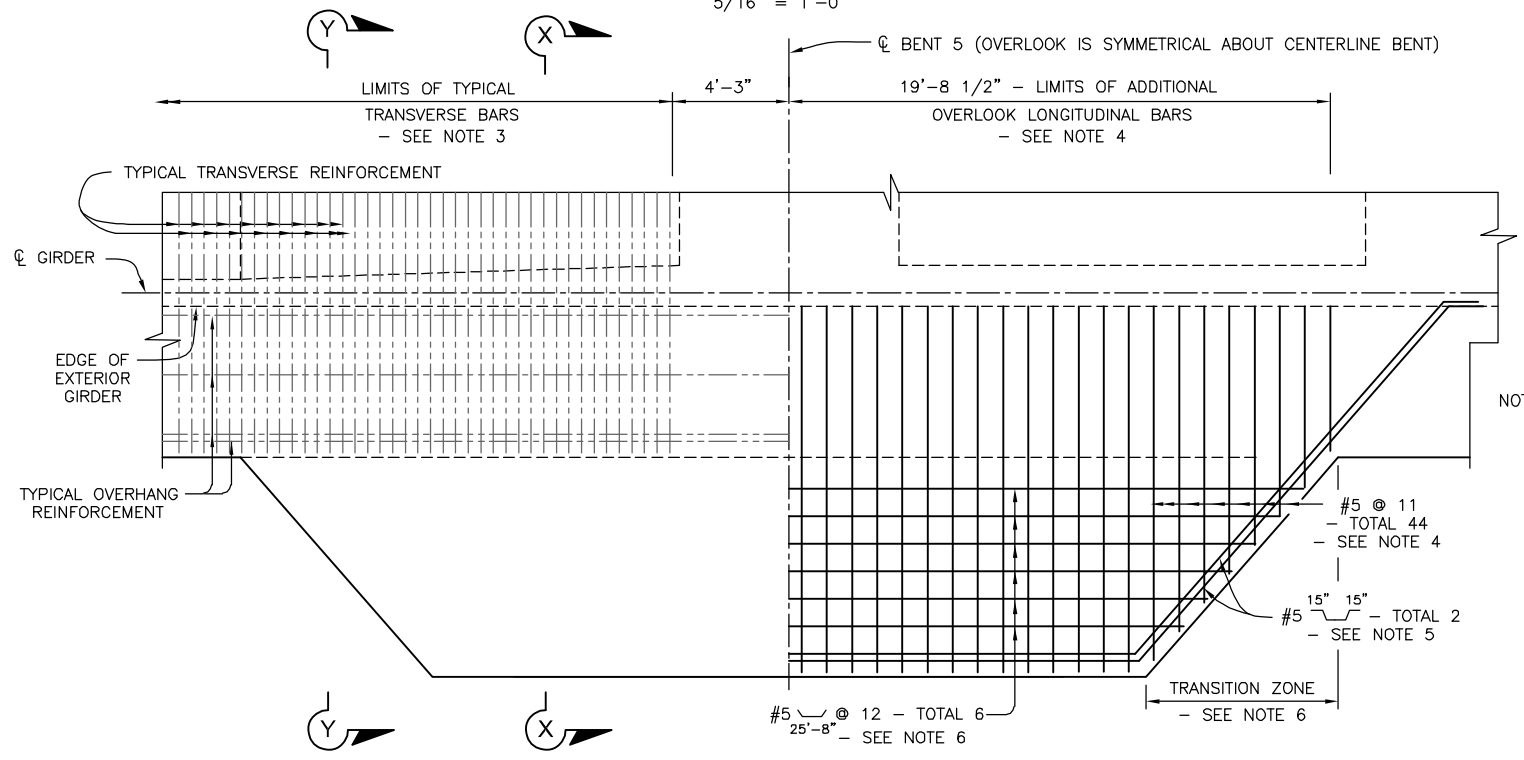
CITY OF BARSTOW
220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311
PHONE: (760) 256-3531 FAX: (760) 256-1750
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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
BRAD S. MERRELL
CONSULTING CITY ENGINEER
DATE

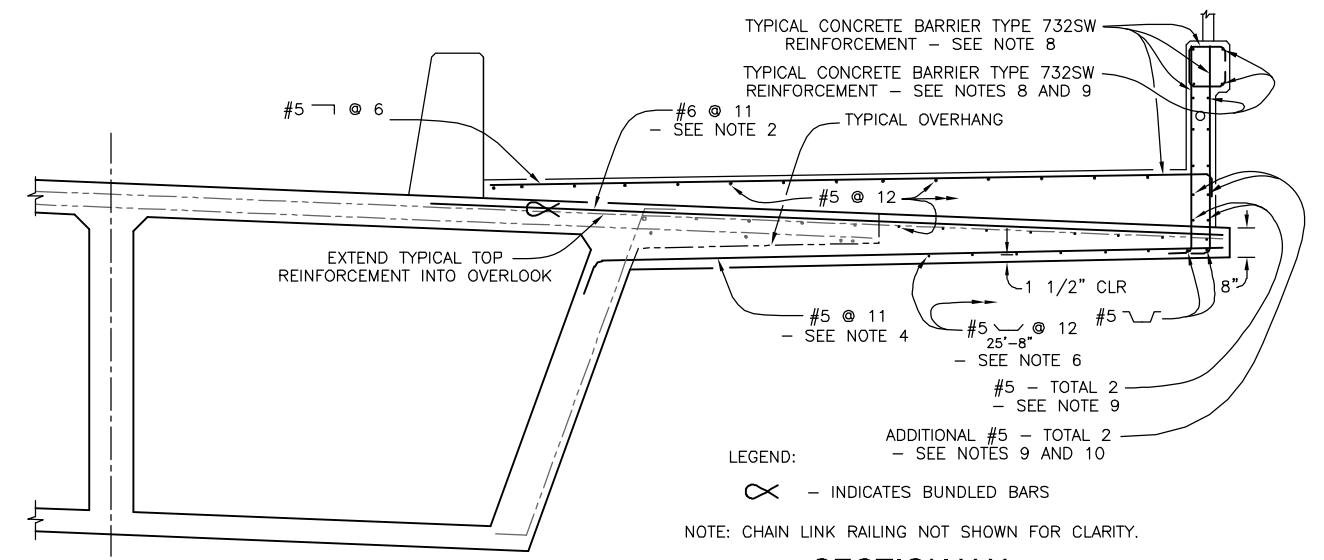
PROJECT No. 5298-030		
CITY OF BARSTOW NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD SCENIC OVERLOOK DETAILS NO. 1		
APPROVED BY: BRAD S. MERRELL	TITLE: CONSULTING CITY ENGINEER	
DESIGNED: SM	R.C.E. NO. 49423	SHEET 115 OF 180
DRAWN: TB	DATE: 02/20/19	PLAN NO. 1594
SCALE: AS-NOTED	AS BUILT:	



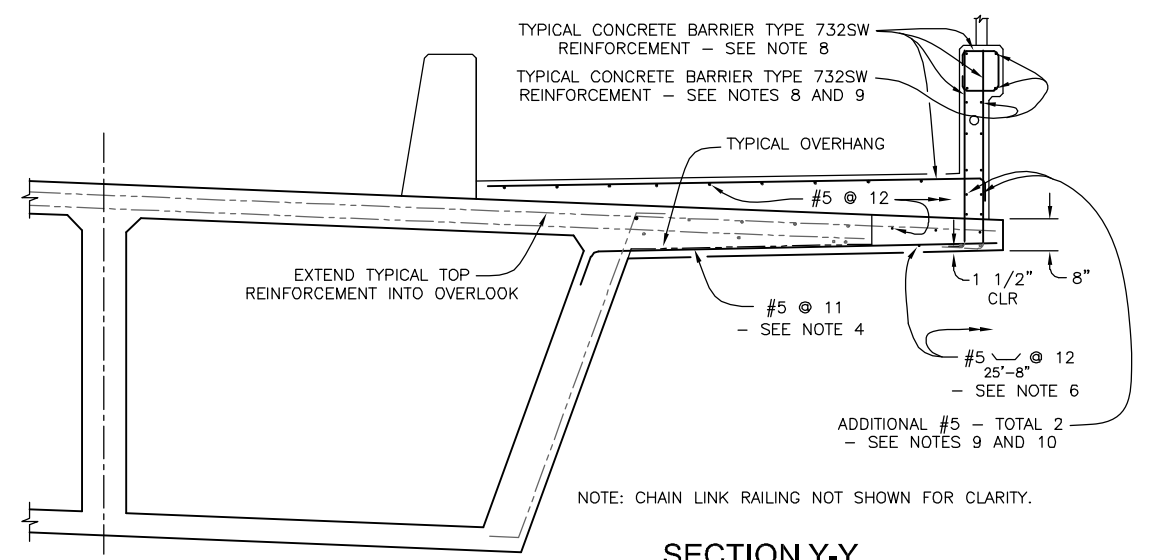
TOP MAT REINFORCEMENT PLAN AT SCENIC OVERLOOK
5/16" = 1'-0"



BOTTOM MAT REINFORCEMENT PLAN AT SCENIC OVERLOOK
5/16" = 1'-0"



SECTION X-X
1/2" = 1'-0"



SECTION Y-Y
1/2" = 1'-0"

- NOTES:
1. EXTEND TYPICAL TRANSVERSE TOP BARS WITHIN A 39'-5" ZONE (87 BARS) CENTERED ABOUT THE BENT CENTERLINE INTO THE OVERLOOK, 2" CLEAR FROM EDGE.
 2. PROVIDE ADDITIONAL OVERLOOK TOP MAT LONGITUDINAL BARS WITHIN A 34'-10" ZONE (39 BARS) CENTERED ABOUT THE BENT CENTERLINE. BARS SHALL EXTEND 2" CLEAR FROM EDGE OF DECK TO ALTERNATING DISTANCES OF 3'-6" AND 4'-6" BEYOND THE CENTERLINE OF THE EXTERIOR GIRDER. BUNDLE ADDITIONAL OVERLOOK LONGITUDINAL BARS WITH TYPICAL TRANSVERSE TOP BARS.
 3. TERMINATE ALL TYPICAL TRANSVERSE BOTTOM BARS AT 4'-9" FROM THE EXTERIOR FACE OF EXTERIOR GIRDER INTO OVERHANG.
 4. PROVIDE ADDITIONAL OVERLOOK BOTTOM MAT LONGITUDINAL BARS WITHIN A 39'-5" ZONE (44 BARS) CENTERED ABOUT THE BENT CENTERLINE. HOOK LONGITUDINAL BOTTOM MAT OVERLOOK BARS INTO EXTERIOR GIRDER.
 5. HOOK OVERLOOK TRUSS BARS INTO EXTERIOR GIRDER.
 6. BEND ENDS OF OVERLOOK TRANSVERSE BOTTOM MAT BARS AS NEEDED TO MAINTAIN 2" CLEAR TO THE BOTTOM FACE OF THE OVERLOOK IN THE TRANSITION ZONE.
 7. FOR DETAILS NOT SHOWN, SEE "PLAN AT SCENIC OVERLOOK" ON "SCENIC OVERLOOK DETAILS NO. 1" SHEET.
 8. FOR TYPICAL CONCRETE BARRIER REINFORCEMENT, SEE B11-80 FOR TYPE 836, B11-82 FOR TYPE 842, AND B11-58 FOR TYPE 732SW.
 9. BEND TYPICAL HORIZONTAL BARS AND ADDITIONAL #5 BARS TO FOLLOW OVERLOOK SHAPE.
 10. ADDITIONAL #5 BARS TO BE CENTERED BETWEEN THE BOTTOM TWO ROWS OF TYPICAL BARRIER REINFORCEMENT.



THE CONTRACTOR IS REQUIRED BY GOVERNMENT CODE 4216 "CALIFORNIA ONE CALL LAW" TO CALL DIG ALERT AT LEAST TWO (2) WORKING DAYS BEFORE DIGGING. CONTRACTOR IS REQUIRED BY SAME CODE TO HAND-EXPOSE TO THE POINT OF NO CONFLICT 24" ON EITHER SIDE OF THE UNDERGROUND FACILITY SO YOU CAN DETERMINE ITS EXACT LOCATION BEFORE USING POWER EQUIPMENT.

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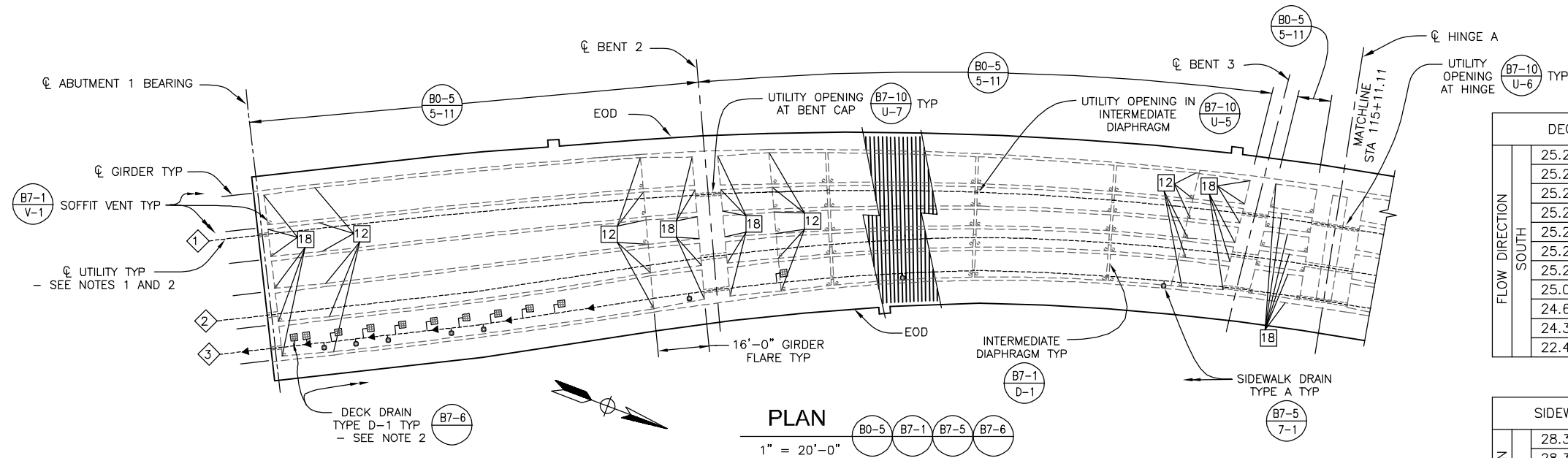


KLEINFELDER
550 WEST "C" STREET, SUITE 1200 (619) 831-4600
SAN DIEGO, CALIFORNIA 92101
DATE: _____
PREPARED BY: SAMI H. MEGALLY R.C.E. NO. 65520
REGISTRATION EXPIRES: 9/30/19

CITY OF BARSTOW
220 E. MOUNTAIN VIEW ST SUITE A PHONE: (760) 256-3531
BARSTOW, CA 92311 FAX: (760) 256-1750
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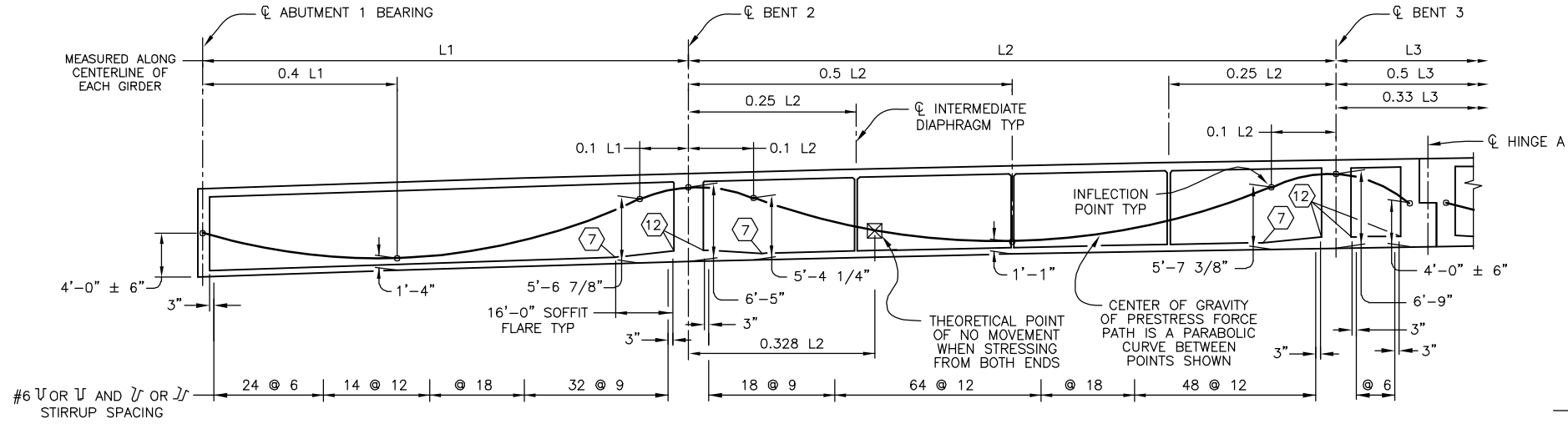
CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
BRAD S. MERRELL
CONSULTING CITY ENGINEER
DATE _____

PROJECT No. 5298-030
CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
SCENIC OVERLOOK DETAILS NO. 2
APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER
DESIGNED: SM R.C.E. NO. 49423 SHEET 116 OF 180
DRAWN: TB DATE: 02/20/19 PLAN NO. 1594
SCALE: AS-NOTED AS BUILT:



DECK DRAIN TABLE	
FLOW DIRECTION SOUTH	25.23' RT STA 111+81.00
	25.23' RT STA 111+85.00
	25.23' RT STA 111+95.00
	25.23' RT STA 112+05.00
	25.23' RT STA 112+15.00
	25.23' RT STA 112+25.00
	25.05' RT STA 112+45.00
	24.68' RT STA 112+55.00
24.30' RT STA 112+65.00	
22.43' RT STA 113+35.00	

SIDEWALK DRAIN TABLE	
FLOW DIRECTION SOUTH	28.34' RT STA 111+90.00
	28.34' RT STA 112+00.00
	28.34' RT STA 112+10.00
	28.34' RT STA 112+30.00
	28.34' RT STA 112+40.00
	25.92' RT STA 113+05.00
	23.29' RT STA 113+75.00
22.34' RT STA 114+35.00	



LONGITUDINAL SECTION

NO SCALE

- LEGEND:
- - INDICATES GIRDER STEM THICKNESS IN INCHES
 - - INDICATES SOFFIT SLAB THICKNESS IN INCHES
 - ◇ - INDICATES UTILITY IDENTIFIER
 - - DENOTES DECK DRAIN INLET (TYPE D-1)
 - - DENOTES SIDEWALK DRAIN INLET (TYPE A)
 - ← - DENOTES DIRECTION OF FLOW

- NOTES:
- SEE "GENERAL PLAN (2 OF 2)" SHEET FOR UTILITY INFORMATION AND OPENING SIZES.
 - SEE ROADWAY PLANS FOR CONTINUATION OF DECK DRAINS.

FRAME 1 PRESTRESSING NOTES

270 ksi LOW RELAXATION STRANDS:
 Pjack = 11,337 kips
 ANCHOR SET = 3/8"
 TOTAL NUMBER OF GIRDERS = 6
 FRICTION CURVATURE COEFFICIENT $\mu = 0.15$ (1/rad)
 FRICTION WOBBLE COEFFICIENT $k = 0.0002$ (1/ft)
 DISTRIBUTION OF PRESTRESS FORCE (Pjack) BETWEEN GIRDERS SHALL NOT EXCEED THE RATIO OF 10:9.
 CONCRETE:
 $f'c = 4,000$ psi AT 28 DAYS
 $f'ci = 4,000$ psi AT TIME OF STRESSING
 CONTRACTOR SHALL SUBMIT ELONGATION CALCULATION BASED ON INITIAL STRESS AT $\square = 0.885$ TIMES JACKING STRESS.
 STRESSING SHALL BE PERFORMED FROM BOTH ENDS.



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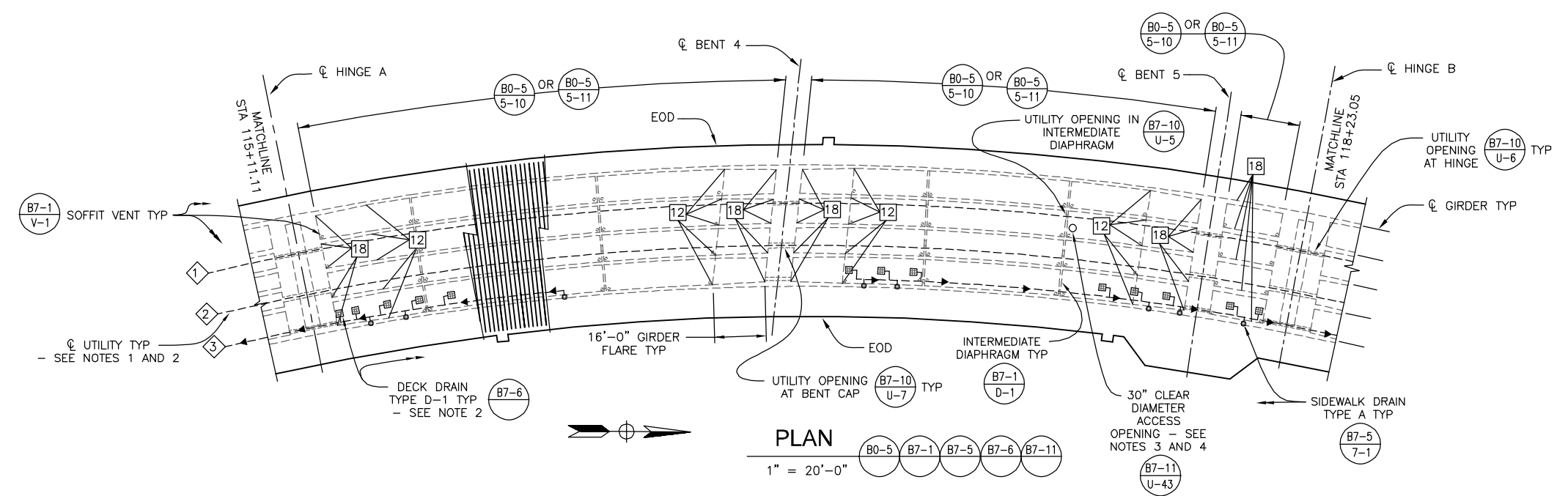


KLEINFELDER
 550 WEST "C" STREET, SUITE 1200 (619) 831-4600
 SAN DIEGO, CALIFORNIA 92101
 PREPARED BY: SAMI H. MEGALLY R.C.E. NO. 65520
 REGISTRATION EXPIRES: 9/30/19

CITY OF BARSTOW
 220 E. MOUNTAIN VIEW ST SUITE A PHONE: (760) 256-3531
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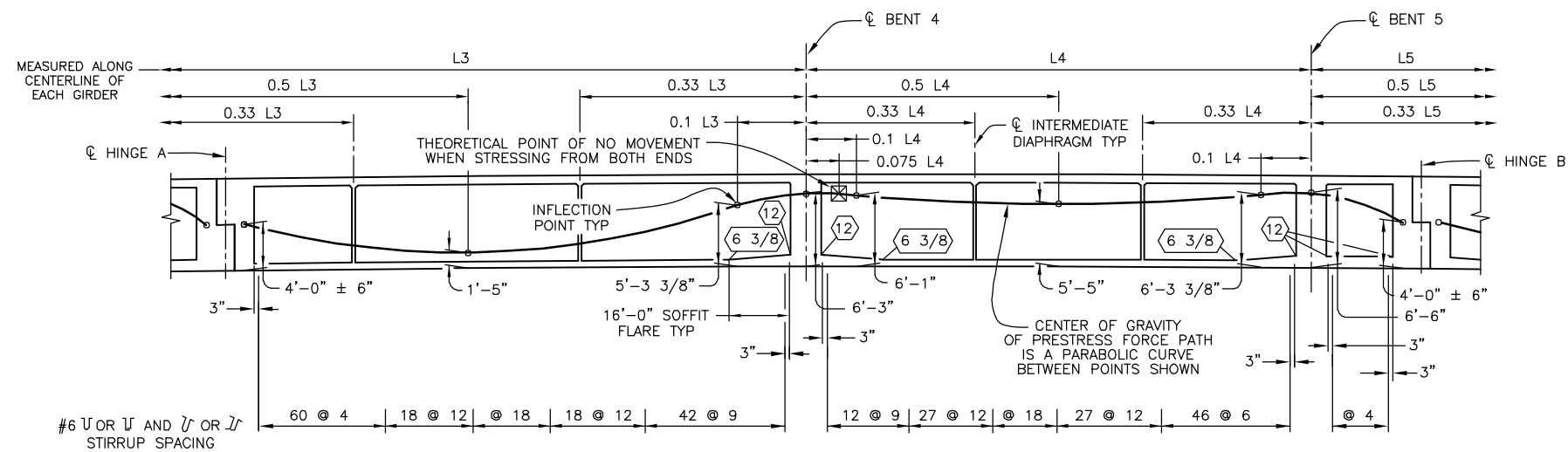
CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
 BRAD S. MERRELL
 CONSULTING CITY ENGINEER

CITY OF BARSTOW			
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD GIRDER LAYOUT NO. 1			
APPROVED BY: BRAD S. MERRELL	TITLE: CONSULTING CITY ENGINEER	PROJECT No. 5298-030	
DESIGNED: SM	R.C.E. NO. 49423	SHEET	117 OF 180
DRAWN: TB	DATE: 02/20/19	PLAN NO.	1594
SCALE: AS-NOTED	AS BUILT:		



DECK DRAIN TABLE	
FLOW DIRECTION SOUTH	19.23' RT STA 115+20.00
	19.23' RT STA 115+25.00
	19.23' RT STA 115+35.00
	19.23' RT STA 115+45.00
	19.23' RT STA 115+55.00
FLOW DIRECTION NORTH	19.23' RT STA 116+85.00
	19.23' RT STA 116+95.00
	19.23' RT STA 117+05.00
	19.23' RT STA 117+65.00
	19.23' RT STA 117+75.00
FLOW DIRECTION NORTH	19.23' RT STA 117+85.00
	19.23' RT STA 118+05.00
	19.23' RT STA 118+14.00

SIDEWALK DRAIN TABLE	
FLOW DIRECTION SOUTH	22.34' RT STA 115+30.00
	22.34' RT STA 115+40.00
	22.34' RT STA 115+90.00
FLOW DIRECTION NORTH	22.34' RT STA 116+90.00
	22.34' RT STA 117+00.00
	22.34' RT STA 117+80.00
FLOW DIRECTION NORTH	22.34' RT STA 117+89.00
	22.34' RT STA 118+10.00



FRAME 2 PRESTRESSING NOTES

270 ksi LOW RELAXATION STRANDS:
 Pjack = 14,281 kips
 ANCHOR SET = 3/8"
 TOTAL NUMBER OF GIRDERS = 5
 FRICTION CURVATURE COEFFICIENT $\mu = 0.15$ (1/rad)
 FRICTION WOBBLE COEFFICIENT $k = 0.0002$ (1/ft)
 DISTRIBUTION OF PRESTRESS FORCE (Pjack) BETWEEN GIRDERS SHALL NOT EXCEED THE RATIO OF 10:9.
 CONCRETE:
 $f'_c = 4,000$ psi AT 28 DAYS
 $f'_{ci} = 4,000$ psi AT TIME OF STRESSING
 CONTRACTOR SHALL SUBMIT ELONGATION CALCULATION BASED ON INITIAL STRESS AT $\square = 0.914$ TIMES JACKING STRESS.
 STRESSING SHALL BE PERFORMED FROM BOTH ENDS.

- LEGEND:**
- INDICATES GIRDER STEM THICKNESS IN INCHES
 - INDICATES SOFFIT SLAB THICKNESS IN INCHES
 - INDICATES UTILITY IDENTIFIER
 - DENOTES DECK DRAIN INLET (TYPE D-1)
 - DENOTES SIDEWALK DRAIN INLET (TYPE A)
 - DENOTES DIRECTION OF FLOW

- NOTES:**
- SEE "GENERAL PLAN (2 OF 2)" SHEET FOR UTILITY INFORMATION AND OPENING SIZES.
 - SEE ROADWAY PLANS FOR CONTINUATION OF DECK DRAINS.
 - PLACE CENTER OF DECK ACCESS OPENING AT STA 117+53.40 ON "NORTH 1ST AVENUE" LINE. CLEAR OPENING SHALL BE 30 INCHES.
 - INSTALL LADDER RUNGS ON INTERMEDIATE DIAPHRAGM ALIGNED WITH ACCESS OPENING PER B7-11 U-44.



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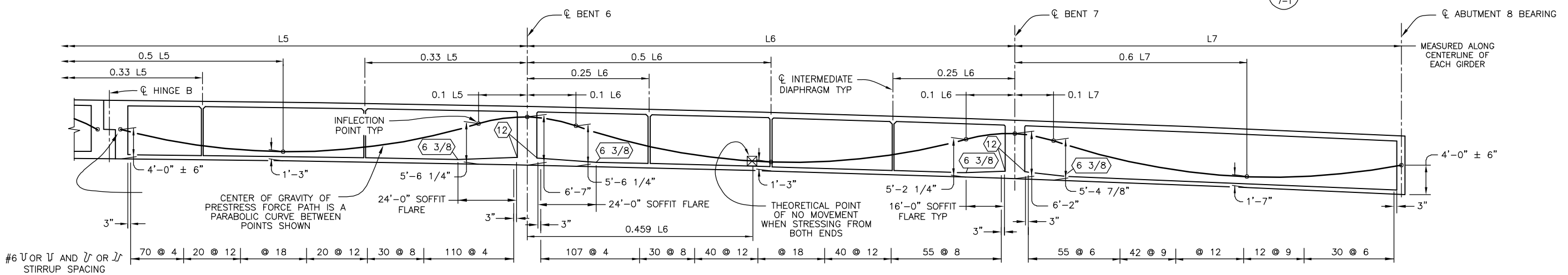
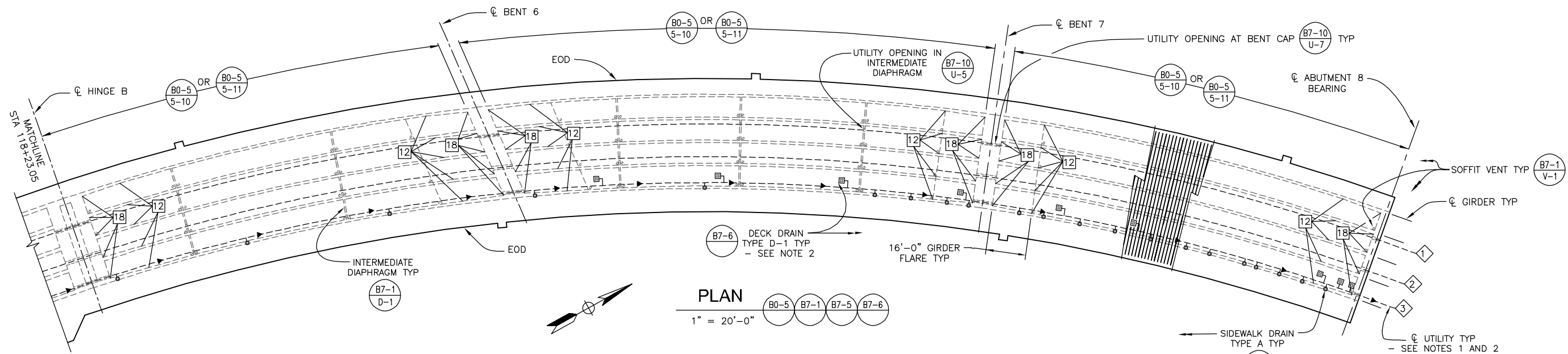


KLEINFELDER
 550 WEST "C" STREET, SUITE 1200 (619) 831-4600
 SAN DIEGO, CALIFORNIA 92101
 PREPARED BY: SAMI H. MEGALLY R.C.E. NO. 65520
 REGISTRATION EXPIRES: 9/30/19

CITY OF BARSTOW
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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
 BRAD S. MERRELL
 CONSULTING CITY ENGINEER

PROJECT No. 5298-030			
CITY OF BARSTOW NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD GIRDER LAYOUT NO. 2			
APPROVED BY: BRAD S. MERRELL	TITLE: CONSULTING CITY ENGINEER	SHEET 118 OF 180	
DESIGNED: SM	R.C.E. NO. 49423	DATE: 02/20/19	PLAN NO. 1594
DRAWN: TB	AS BUILT:	SCALE: AS-NOTED	



LONGITUDINAL SECTION

NO SCALE

- LEGEND:
- - INDICATES GIRDER STEM THICKNESS IN INCHES
 - - INDICATES SOFFIT SLAB THICKNESS IN INCHES
 - ◇ - INDICATES UTILITY IDENTIFIER
 - - DENOTES DECK DRAIN (TYPE D-1)
 - - DENOTES SIDEWALK DRAIN INLET (TYPE A)
 - ← - DENOTES DIRECTION OF FLOW

- NOTES:
1. SEE "GENERAL PLAN (2 OF 2)" SHEET FOR UTILITY INFORMATION AND OPENING SIZES.
 2. SEE ROADWAY PLANS FOR CONTINUATION OF DECK DRAINS.

FLOW DIRECTION	RT STA
NORTH	19.23' RT STA 120+35.00
NORTH	19.23' RT STA 120+85.00
NORTH	19.23' RT STA 121+35.00
NORTH	19.23' RT STA 121+85.00
NORTH	19.23' RT STA 122+25.00
NORTH	19.23' RT STA 122+55.00
NORTH	19.23' RT STA 123+35.00
NORTH	19.23' RT STA 123+45.00
NORTH	19.23' RT STA 123+49.00

FLOW DIRECTION	RT STA	RT STA
NORTH	22.34' RT STA 118+35.00	22.34' RT STA 122+35.00
NORTH	22.34' RT STA 118+90.00	22.34' RT STA 122+50.00
NORTH	22.34' RT STA 119+50.00	22.34' RT STA 122+65.00
NORTH	22.34' RT STA 120+10.00	22.34' RT STA 122+80.00
NORTH	22.34' RT STA 120+80.00	22.34' RT STA 122+90.00
NORTH	22.34' RT STA 121+50.00	22.34' RT STA 123+05.00
NORTH	22.34' RT STA 121+65.00	22.34' RT STA 123+10.00
NORTH	22.34' RT STA 121+80.00	22.34' RT STA 123+20.00
NORTH	22.34' RT STA 121+89.00	22.34' RT STA 123+30.00
NORTH	22.34' RT STA 122+10.00	22.34' RT STA 123+40.00
NORTH	22.34' RT STA 122+20.00	

FRAME 3 PRESTRESSING NOTES

270 ksi LOW RELAXATION STRANDS:
 Pjack = 13,841 kips
 ANCHOR SET = 3/8"
 TOTAL NUMBER OF GIRDERS = 5
 FRICTION CURVATURE COEFFICIENT $u = 0.15$ (1/rad)
 FRICTION WOBBLE COEFFICIENT $k = 0.0002$ (1/ft)
 DISTRIBUTION OF PRESTRESS FORCE (Pjack) BETWEEN GIRDERS SHALL NOT EXCEED THE RATIO OF 10:9.
 CONCRETE:
 $f'c = 4,000$ psi AT 28 DAYS
 $f'ci = 4,000$ psi AT TIME OF STRESSING
 CONTRACTOR SHALL SUBMIT ELONGATION CALCULATION BASED ON INITIAL STRESS AT $\square = 0.867$ TIMES JACKING STRESS.
 STRESSING SHALL BE PERFORMED FROM BOTH ENDS.



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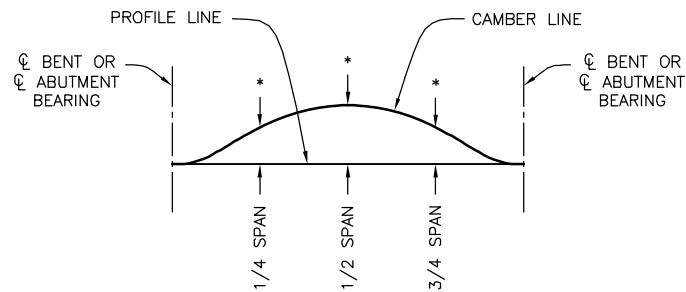


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 SAN DIEGO, CALIFORNIA 92101
 PREPARED BY: SAMI H. MEGALLY
 REGISTRATION EXPIRES: 9/30/19 R.C.E. NO. 65520

CITY OF BARSTOW
 220 E. MOUNTAIN VIEW ST SUITE A PHONE: (760) 256-3531
 BARSTOW, CA 92311 FAX: (760) 256-1750
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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
 BRAD S. MERRELL
 CONSULTING CITY ENGINEER

PROJECT No. 5298-030
CITY OF BARSTOW
 NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
 GIRDER LAYOUT NO. 3
 APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER
 DESIGNED: SM R.C.E. NO. 49423 SHEET 119 OF 180
 DRAWN: TB DATE: 02/20/19 PLAN NO.
 SCALE: AS-NOTED AS BUILT: PLAN NO. 1594



* - FOR CAMBER VALUES, SEE "CAMBER TABLE".

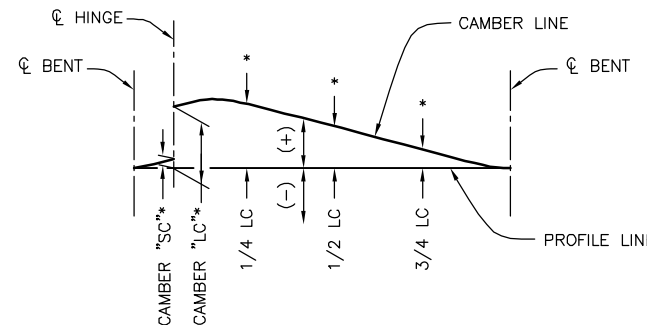
**CAMBER DIAGRAM
SPANS 1, 2, 4, 6, AND 7**

NO SCALE

CAMBER TABLE			
SPAN NUMBER	1/4 SPAN	1/2 SPAN	3/4 SPAN
1	0.03	0.04	0.02
2	0.02	0.02	0.00
4	0.02	0.01	0.00
6	0.11	0.20	0.13
7	0.00	0.01	0.00

NOTES:

- CAMBER VALUES ARE IN FEET.
- CAMBER VALUES DO NOT INCLUDE ALLOWANCE FOR FALSEWORK SETTLEMENT.



* - FOR CAMBER VALUES, SEE "TIME DEPENDENT CAMBER TABLE".

**CAMBER DIAGRAM
SPANS 3 AND 5**

NO SCALE

ELAPSED TIME MEASURED FROM PRESTRESSING THE SHORT CANTILEVER UNTIL LOAD TRANSFER OF LONG CANTILEVER	HINGE A						HINGE B				
	LONG CANTILEVER CAMBER (FT)			LONG CANTILEVER CAMBER "LC" (FT)	SHORT CANTILEVER CAMBER "SC" (FT)	LONG CANTILEVER CAMBER (FT)			LONG CANTILEVER CAMBER "LC" (FT)	SHORT CANTILEVER CAMBER "SC" (FT)	
	1/4 LC	1/2 LC	3/4 LC			1/4 LC	1/2 LC	3/4 LC			
30 DAYS	0.04	0.02	0.00	0.05	0.05	0.15	0.12	0.04	0.11	0.10	
60 DAYS	0.04	0.02	0.00	0.05	0.05	0.14	0.11	0.04	0.11	0.10	
90 DAYS	0.04	0.02	0.00	0.05	0.04	0.14	0.11	0.04	0.10	0.09	
120 DAYS	0.04	0.02	0.00	0.05	0.04	0.14	0.11	0.04	0.10	0.09	
180 DAYS	0.04	0.02	0.00	0.05	0.04	0.14	0.11	0.04	0.10	0.09	
240 DAYS	0.04	0.02	0.00	0.05	0.04	0.14	0.11	0.04	0.10	0.09	
360 DAYS	0.04	0.02	0.00	0.05	0.04	0.14	0.11	0.04	0.10	0.09	
720 DAYS	0.04	0.02	0.00	0.05	0.04	0.14	0.11	0.04	0.10	0.08	



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No.	REVISION	DATE	BY



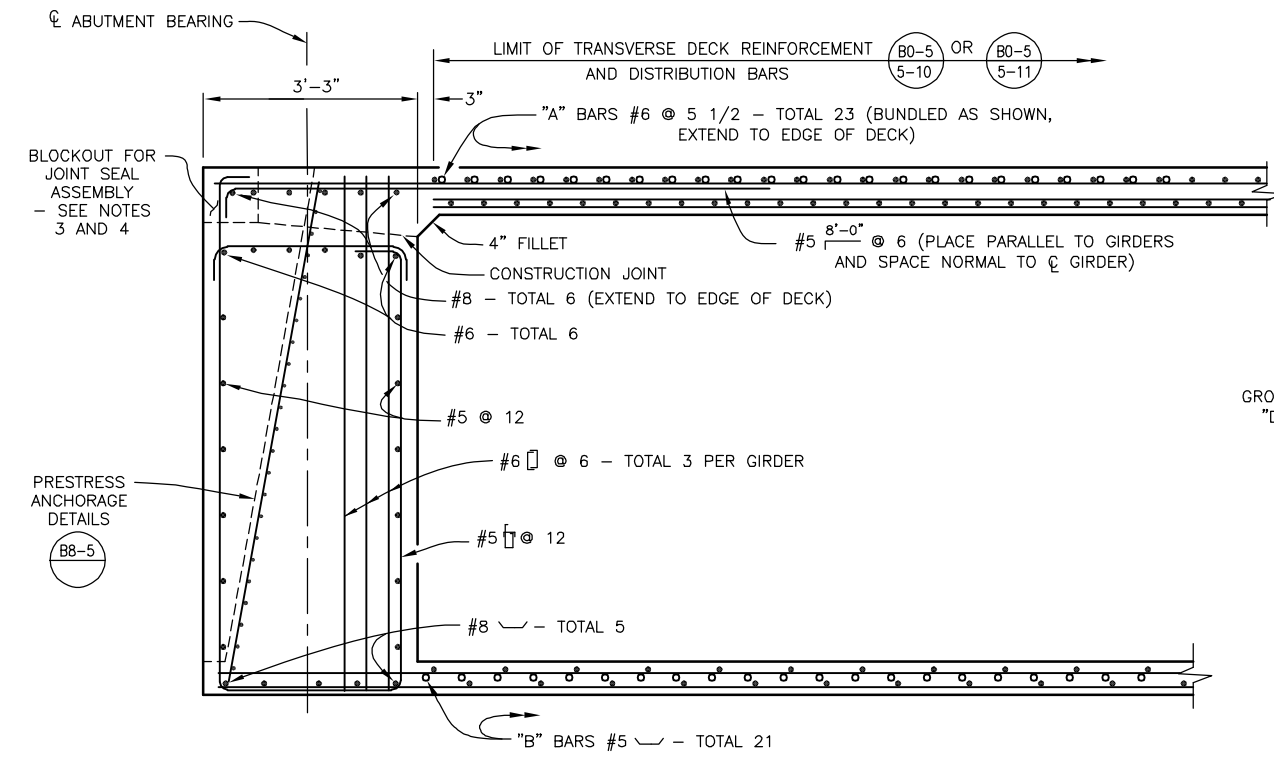
KLEINFELDER
550 WEST "C" STREET, SUITE 1200 (619) 831-4600
SAN DIEGO, CALIFORNIA 92101
DATE: _____
PREPARED BY: SAMI H. MEGALLY R.C.E. NO. 65520
REGISTRATION EXPIRES: 9/30/19

CITY OF BARSTOW
220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311
PHONE: (760) 256-3531 FAX: (760) 256-1750
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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
BRAD S. MERRELL
CONSULTING CITY ENGINEER
DATE: _____

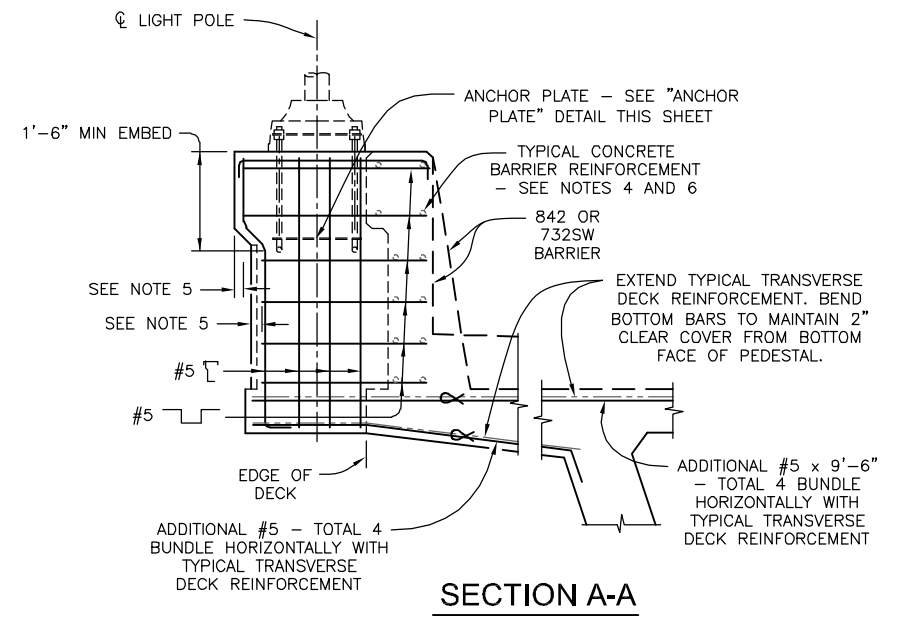
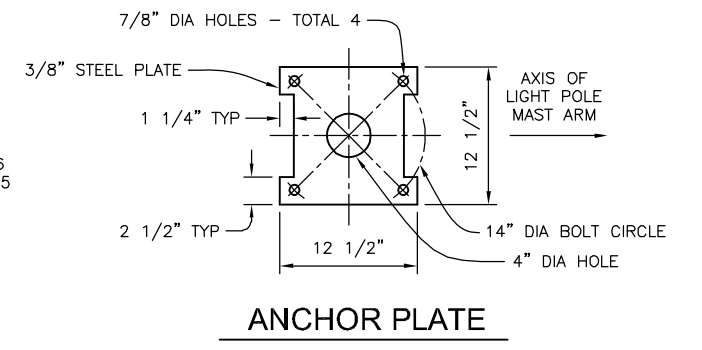
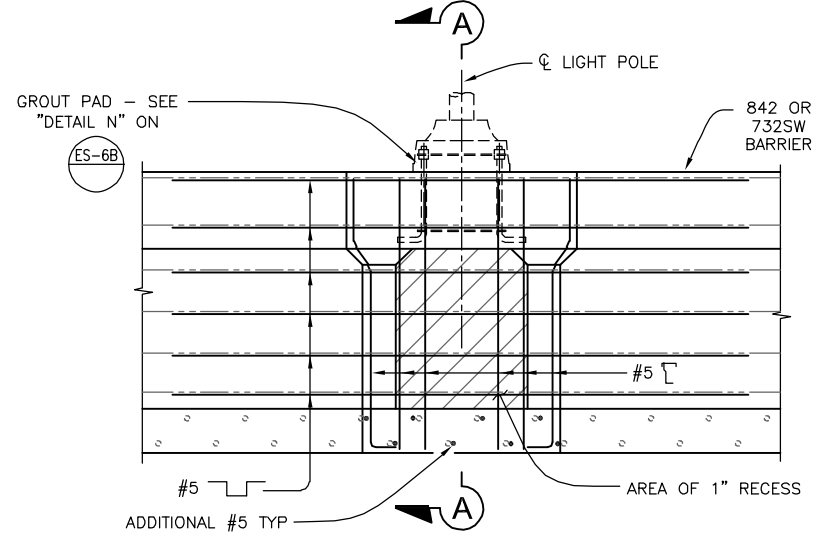
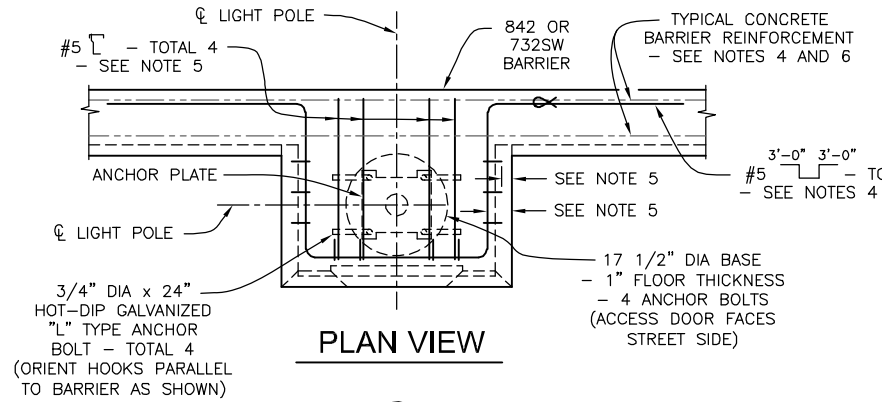
PROJECT No. 5298-030		
CITY OF BARSTOW NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD CAMBER DIAGRAM		
APPROVED BY: BRAD S. MERRELL	TITLE: CONSULTING CITY ENGINEER	
DESIGNED: SM	R.C.E. NO. 49423	SHEET 120 OF 180
DRAWN: TB	DATE: 02/20/19	PLAN NO. 1594
SCALE: AS-NOTED	AS BUILT:	

100% INTERIM PLANS FEB 20, 2019 NOT FOR CONSTRUCTION



NOTES:

- "A" AND "B" BARS ARE IN ADDITION TO REINFORCEMENT SHOWN ELSEWHERE.
- PLACE "A" BARS AND "B" BARS PARALLEL TO CENTERLINE ABUTMENT BEARING AND SPACE NORMAL TO CENTERLINE ABUTMENT BEARING.
- REINFORCING BARS MAY BE ADJUSTED AS NECESSARY TO ACCOMMODATE INSTALLATION OF THE JOINT SEAL ASSEMBLY UPON APPROVAL OF THE JOINT SEAL SHOP DRAWINGS AND AS DIRECTED BY THE ENGINEER.
- FOR JOINT SEAL ASSEMBLY BLOCKOUT, SEE "DETAIL 1" ON "ABUTMENT DETAILS NO. 1 SHEET."

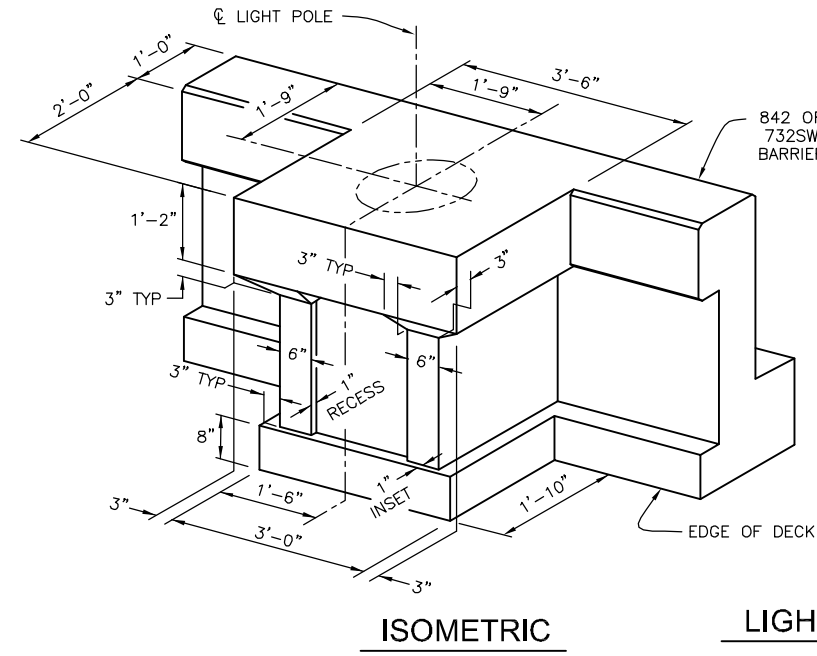


LEGEND:

⊗ - INDICATES BUNDLED BARS

NOTES:

- FOR LIGHT POLE LOCATIONS, SEE LIGHTING PLANS.
- ANCHOR BOLT THREAD SHALL EXTEND 1/2" MAX ABOVE NUT ON LEVEL BASE PLATE AFTER GROUTING.
- LIGHT POLE ANCHOR BOLTS SHALL BE HELD IN POSITION FOR POURING BY MEANS OF ANCHOR PLATES AND SUITABLE TEMPLATES. DEVIATION FROM THE TRUE POSITION, VERTICAL AND HEIGHT, SHALL NOT EXCEED 1/16".
- BUNDLE LEGS OF HORIZONTAL PEDESTAL REINFORCEMENT VERTICALLY WITH THE TYPICAL CONCRETE BARRIER REINFORCEMENT ON THE FRONT FACE OF THE BARRIER.
- PROVIDE 2" CLEAR COVER TO EXTERIOR FACE OF PEDESTAL AS APPROPRIATE.
- FOR MORE INFORMATION ON TYPICAL CONCRETE BARRIER REINFORCEMENT, SEE "TYPICAL SECTION (2 OF 2)" SHEET.



LIGHT POLE PEDESTAL DETAILS
3/4" = 1'-0"



THE CONTRACTOR IS REQUIRED BY GOVERNMENT CODE 4216 "CALIFORNIA ONE CALL LAW" TO CALL DIG ALERT AT LEAST TWO (2) WORKING DAYS BEFORE DIGGING. CONTRACTOR IS REQUIRED BY SAME CODE TO HAND-EXPOSE TO THE POINT OF NO CONFLICT 24" ON EITHER SIDE OF THE UNDERGROUND FACILITY SO YOU CAN DETERMINE ITS EXACT LOCATION BEFORE USING POWER EQUIPMENT.

No.	REVISION	DATE	BY

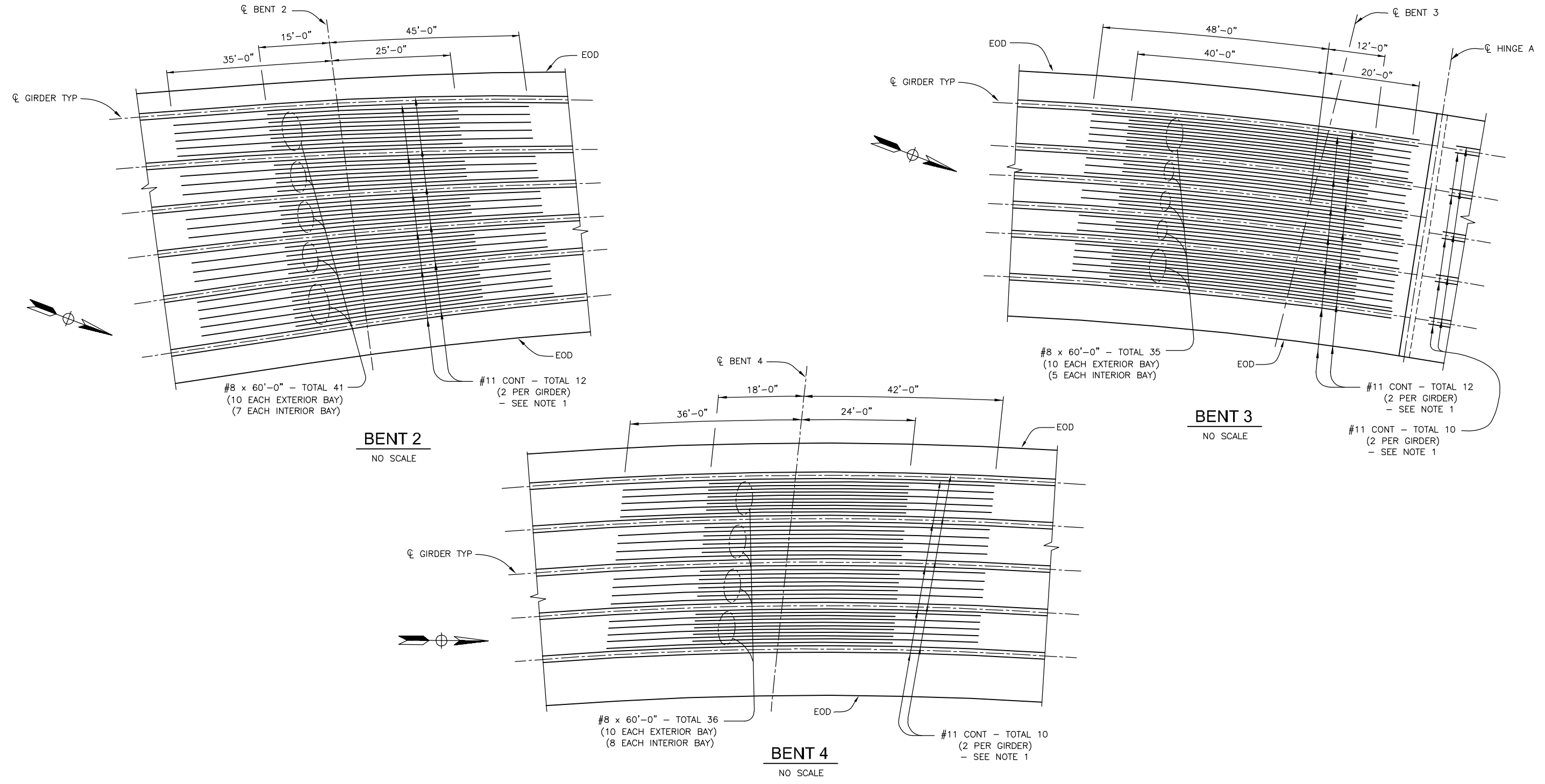


KLEINFELDER
550 WEST "C" STREET, SUITE 1200 (619) 831-4600
SAN DIEGO, CALIFORNIA 92101
DATE: _____
PREPARED BY: SAMI H. MEGALLY R.C.E. NO. 65520
REGISTRATION EXPIRES: 9/30/19

CITY OF BARSTOW
220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311
PHONE: (760) 256-3531 FAX: (760) 256-1750
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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
BRAD S. MERRELL
CONSULTING CITY ENGINEER

PROJECT No. 5298-030		
CITY OF BARSTOW NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD GIRDER DETAILS		
APPROVED BY: BRAD S. MERRELL	TITLE: CONSULTING CITY ENGINEER	
DESIGNED: SM	R.C.E. NO. 49423	SHEET 121 OF 180
DRAWN: TB	DATE: 02/20/19	PLAN NO. 1594
SCALE: AS-NOTED	AS BUILT:	



ADDITIONAL TOP SLAB REINFORCEMENT

AS SHOWN

- NOTES:
1. REINFORCEMENT SPlicing SHALL CONFORM TO THE REQUIREMENTS OF SERVICE SPLICE. NO SPLICES ARE ALLOWED WITHIN 25'-0" FROM CENTERLINE BENT.
 2. REINFORCEMENT CUT-OFF DIMENSIONS SHOWN ARE MEASURED ALONG BAR LENGTH.



THE CONTRACTOR IS REQUIRED BY GOVERNMENT CODE 4216 "CALIFORNIA ONE CALL LAW" TO CALL DIG ALERT AT LEAST TWO (2) WORKING DAYS BEFORE DIGGING. CONTRACTOR IS REQUIRED BY SAME CODE TO HAND-EXPOSE TO THE POINT OF NO CONFLICT 24" ON EITHER SIDE OF THE UNDERGROUND FACILITY SO YOU CAN DETERMINE ITS EXACT LOCATION BEFORE USING POWER EQUIPMENT.

No.	REVISION	DATE	BY

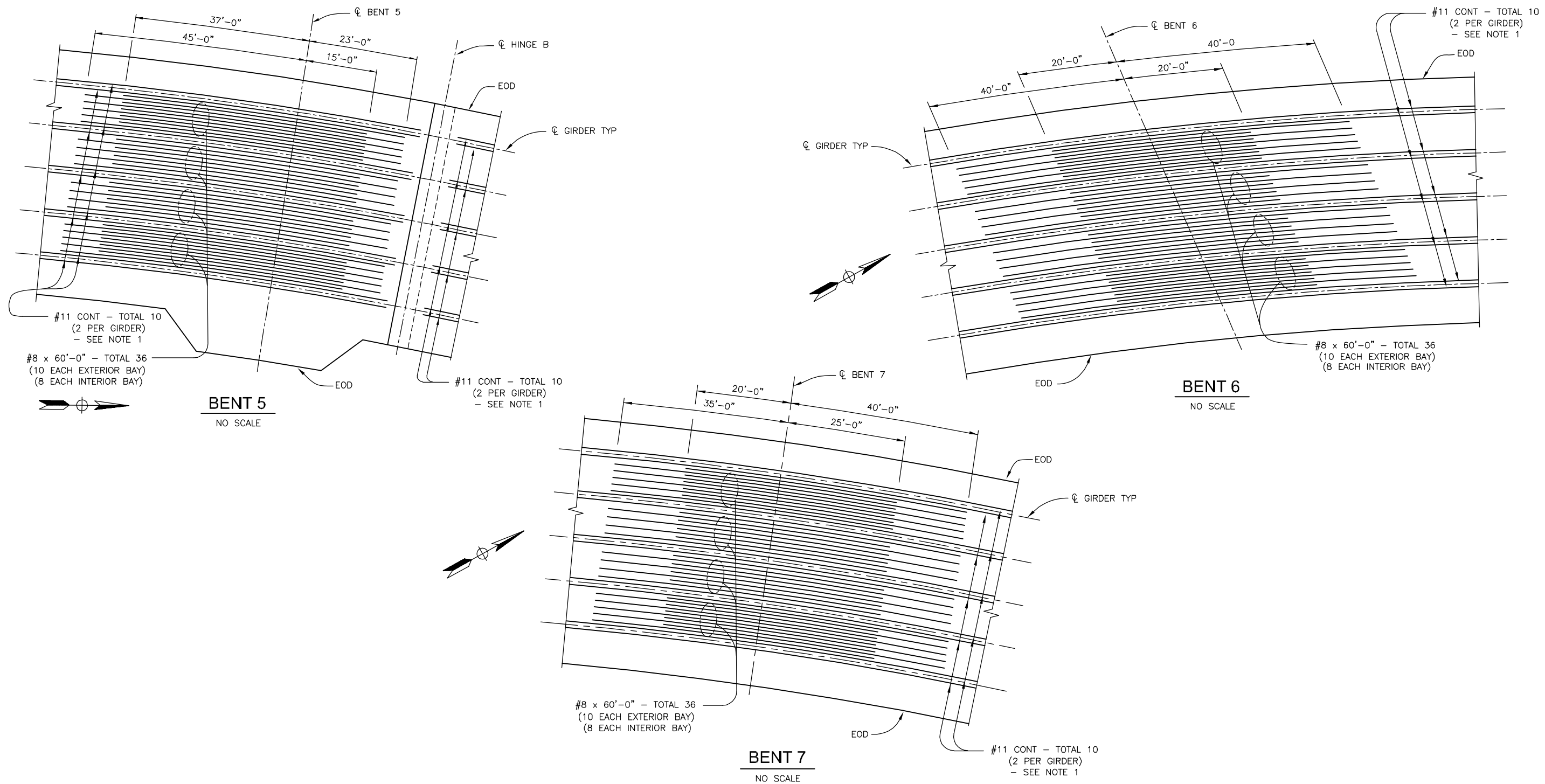


KLEINFELDER
 550 WEST "C" STREET, SUITE 1200 (619) 831-4600
 SAN DIEGO, CALIFORNIA 92101
 PREPARED BY: SAMI H. MEGALLY R.C.E. NO. 65520
 REGISTRATION EXPIRES: 9/30/19

CITY OF BARSTOW
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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
 BRAD S. MERRELL
 CONSULTING CITY ENGINEER

PROJECT No. 5298-030			
CITY OF BARSTOW NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD GIRDER REINFORCEMENT NO. 1			
APPROVED BY: BRAD S. MERRELL	TITLE: CONSULTING CITY ENGINEER		
DESIGNED: SM	R.C.E. NO. 49423	SHEET	122 OF 180
DRAWN: TB	DATE: 02/20/19	PLAN NO.	1594
SCALE: AS-NOTED	AS BUILT:		



ADDITIONAL TOP SLAB REINFORCEMENT
AS SHOWN

- NOTES:
1. REINFORCEMENT SPLICING SHALL CONFORM TO THE REQUIREMENTS OF SERVICE SPLICE. NO SPLICES ARE ALLOWED WITHIN 25'-0" FROM CENTERLINE BENT.
 2. REINFORCEMENT CUT-OFF DIMENSIONS SHOWN ARE MEASURED ALONG BAR LENGTH.



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No.	REVISION	DATE	BY



KLEINFELDER
Right people. Right Solutions.

550 WEST "C" STREET, SUITE 1200 (619) 831-4600
SAN DIEGO, CALIFORNIA 92101

DATE: _____ R.C.E. NO. 65520
PREPARED BY: SAMI H. MEGALLY
REGISTRATION EXPIRES: 9/30/19

CITY OF BARSTOW

220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311
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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:

BRAD S. MERRELL
CONSULTING CITY ENGINEER

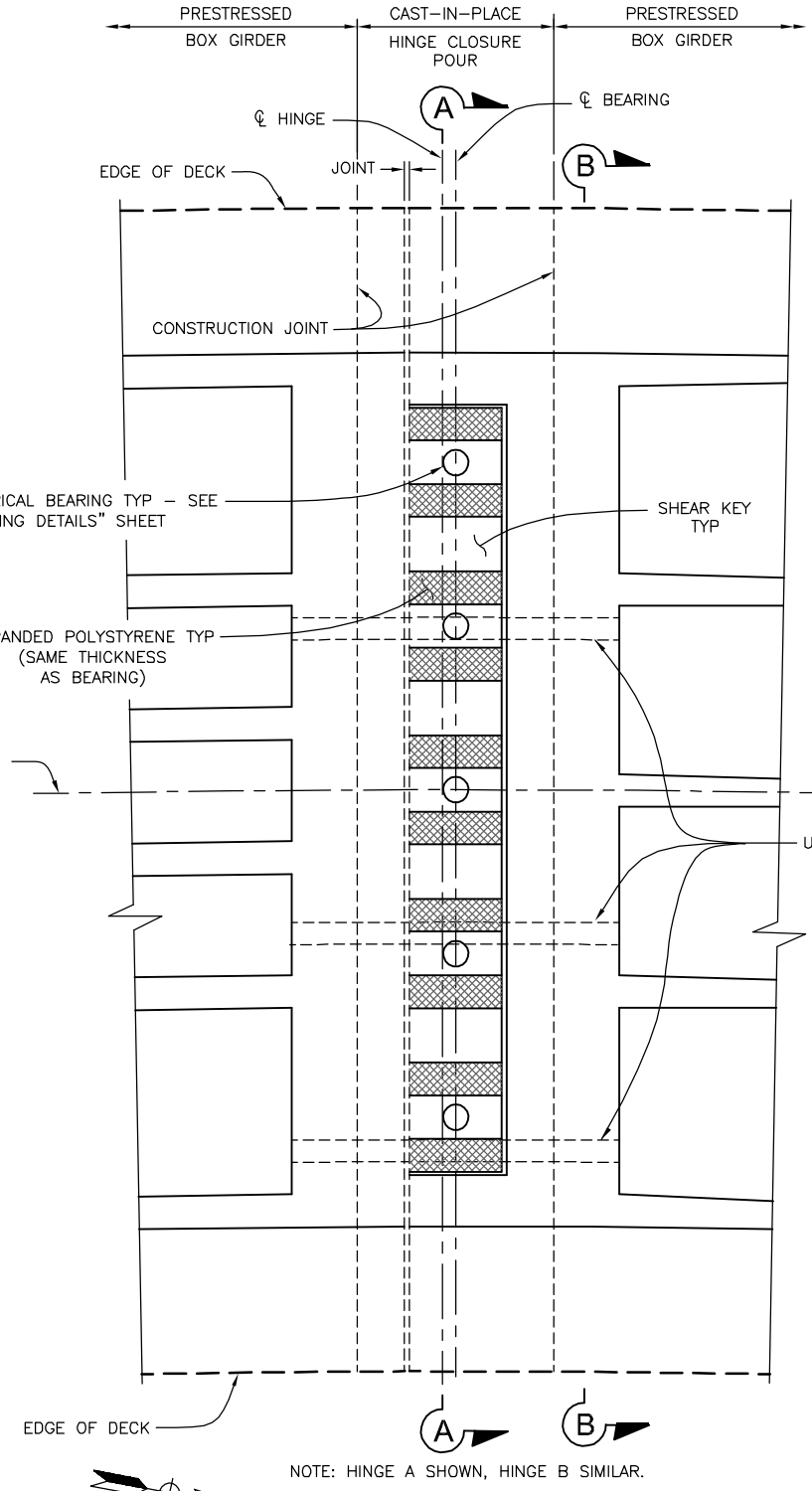
DATE: _____

PROJECT No. 5298-030

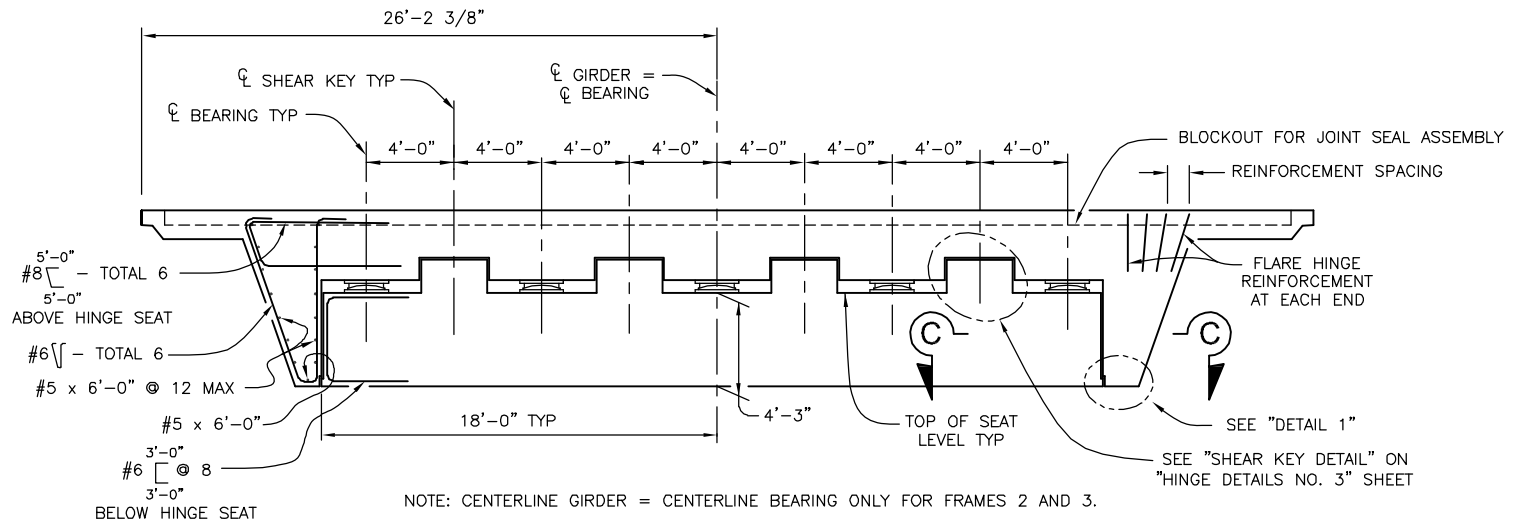
CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
GIRDER REINFORCEMENT NO. 2

APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER

DESIGNED: SM	R.C.E. NO. 49423	SHEET 123 OF 180
DRAWN: TB	DATE: 02/20/19	PLAN NO. 1594
SCALE: AS-NOTED	AS BUILT:	

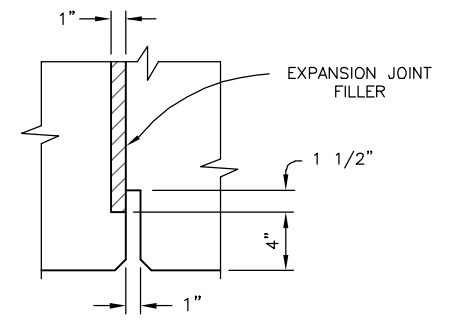


PLAN
1/4" = 1'-0"

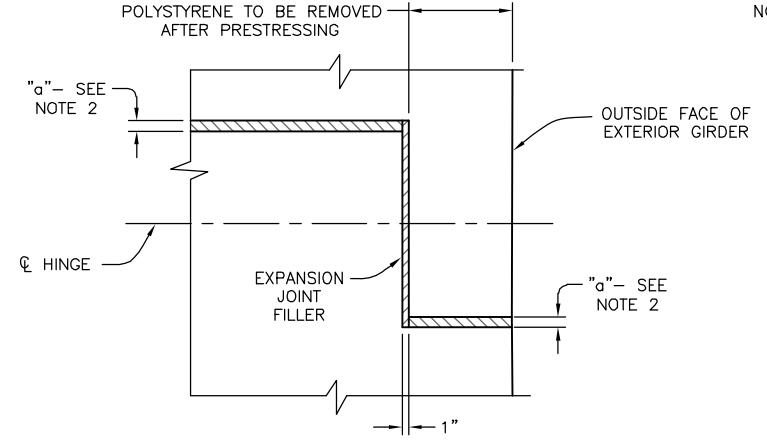


SECTION A-A
1/4" = 1'-0"

HINGE	SUPPORTED HINGE DEAD LOAD + PRESTRESS UNFACTORED REACTION
A	1,510 kips
B	1,620 kips



DETAIL 1
NO SCALE



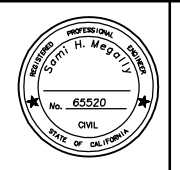
SECTION C-C
NO SCALE

- NOTES:
- FOR "SECTION B-B", SEE "HINGE DETAILS NO. 3" SHEET.
 - FOR DIMENSION "a", SEE "EXPANSION JOINT DETAILS AT HINGES" SHEET.



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No.	REVISION	DATE	BY



KLEINFELDER
550 WEST "C" STREET, SUITE 1200 SAN DIEGO, CALIFORNIA 92101 (619) 831-4600

PREPARED BY: SAMI H. MEGALLY R.C.E. NO. 65520
REGISTRATION EXPIRES: 9/30/19

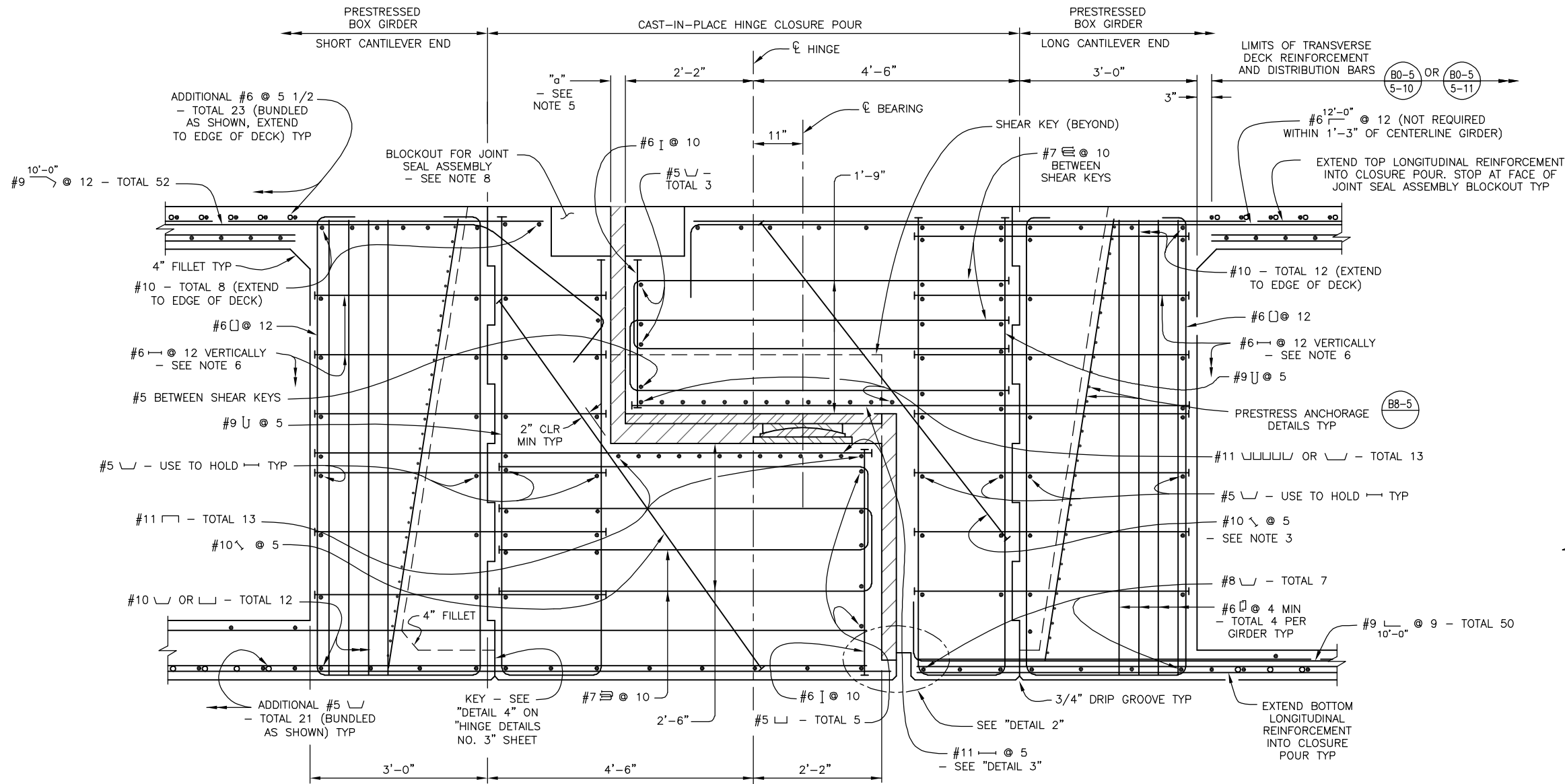
CITY OF BARSTOW
220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311
PHONE: (760) 256-3531 FAX: (760) 256-1750

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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
BRAD S. MERRELL CONSULTING CITY ENGINEER

DATE

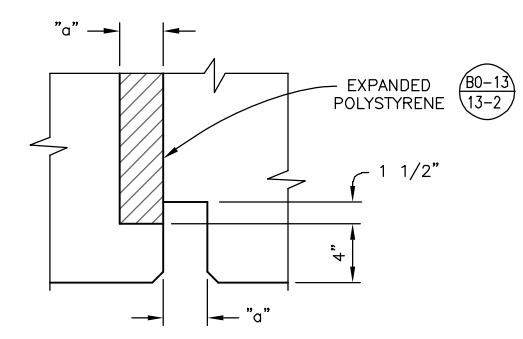
CITY OF BARSTOW			
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD HINGE DETAILS NO. 1			
APPROVED BY: BRAD S. MERRELL	TITLE: CONSULTING CITY ENGINEER	PROJECT No. 5298-030	
DESIGNED: SM	R.C.E. NO. 49423	SHEET	124 OF 180
DRAWN: TB	DATE: 02/20/19	PLAN NO.	1594
SCALE: AS-NOTED	AS BUILT:		



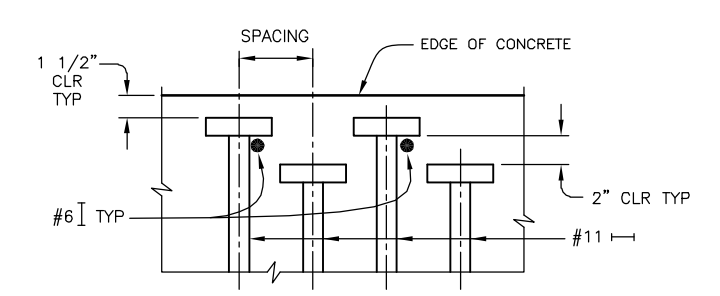
TYPICAL HINGE ELEVATION
NO SCALE

LEGEND:
- - - INDICATES HEADED BAR REINFORCEMENT

- NOTES:
- SEE BRIDGE DETAILS (B0-13) AND (B0-13) 13-1 AND 13-2
 - TO PROVIDE FOR FREE MOVEMENT OF THE COMPLETED HINGE, CONCRETE SHALL BE EXCLUDED FROM THE JOINT BY SEALING ALL OPENINGS.
 - ADJUST ANGLE OF BARS AT SHEAR KEY TO CLEAR.
 - REINFORCEMENT SHALL BE PLACED PARALLEL TO CENTERLINE BRIDGE AND SPACED ALONG CENTERLINE HINGE.
 - FOR DIMENSION "a", SEE "EXPANSION JOINT DETAILS AT HINGES" SHEET.
 - FOR HORIZONTAL SPACING, SEE "SECTION B-B" ON "HINGE DETAILS NO. 3" SHEET.
 - ALL HEADED BARS SHALL HAVE A MINIMUM CLEAR CONCRETE COVER OF 1.5 INCHES (2 INCHES TO TOP OF DECK).
 - SEE "BLOCKOUT REINFORCEMENT" ON "HINGE DETAILS NO. 3" SHEET.



DETAIL 2
NO SCALE



DETAIL 3
NO SCALE



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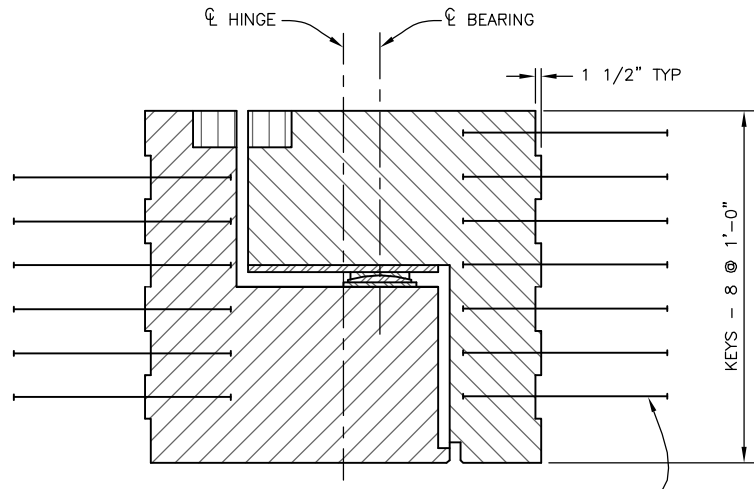


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PHONE: (760) 256-3531 FAX: (760) 256-1750
PREPARED BY: SAMI H. MEGALLY REGISTRATION EXPIRES: 9/30/19 R.C.E. NO. 65520

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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
BRAD S. MERRELL
CONSULTING CITY ENGINEER

PROJECT No. 5298-030			
CITY OF BARSTOW NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD HINGE DETAILS NO. 2			
APPROVED BY: BRAD S. MERRELL	TITLE: CONSULTING CITY ENGINEER	SHEET 125 OF 180	
DESIGNED: SM	R.C.E. NO. 49423	DATE: 02/20/19	PLAN NO. 1594
DRAWN: TB	AS BUILT:	SCALE: AS-NOTED	



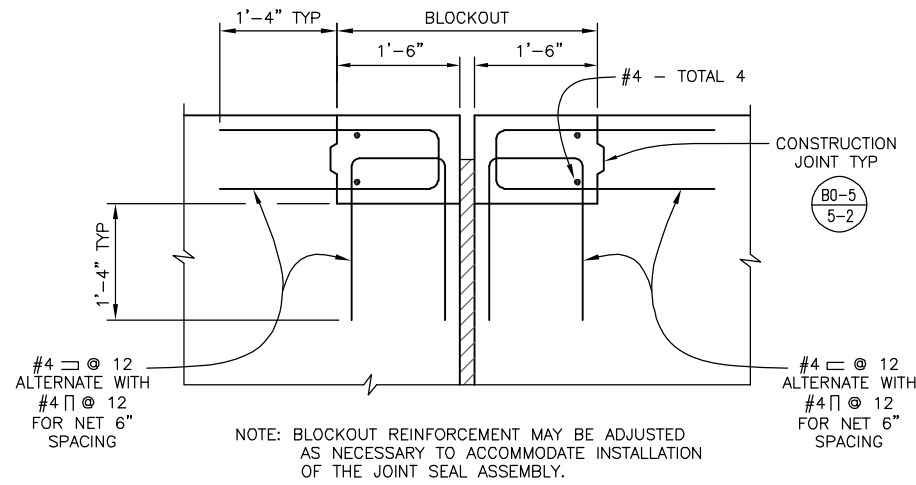
LEGEND:

- INDICATES BLOCKOUT FOR JOINT SEAL ASSEMBLY
- INDICATES CAST-IN-PLACE CONCRETE TO BE PLACED AFTER BOTH FRAMES HAVE BEEN PRESTRESSED. CONCRETE TO BE SAME STRENGTH AS CAST-IN-PLACE PRESTRESSED CONCRETE.
- INDICATES CAST-IN-PLACE CONCRETE TO BE PLACED AFTER SUPPORTING SIDE OF HINGE IS CONSTRUCTED AND BEARINGS HAVE BEEN PROPERLY POSITIONED. CONCRETE TO BE SAME STRENGTH AS CAST-IN-PLACE PRESTRESSED CONCRETE. FALSEWORK SHALL REMAIN IN PLACE UNTIL CONCRETE HAS ATTAINED A STRENGTH OF AT LEAST 3,600 PSI.
- INDICATES HEADED BAR REINFORCEMENT

DETAIL 4

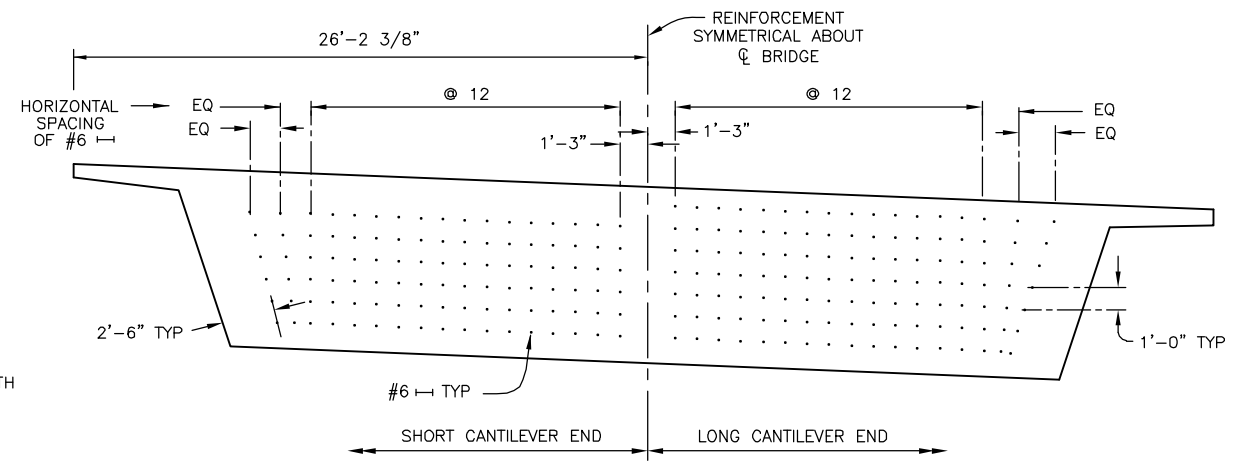
NO SCALE

#6 PLACE AT CENTER OF EACH KEY TYP



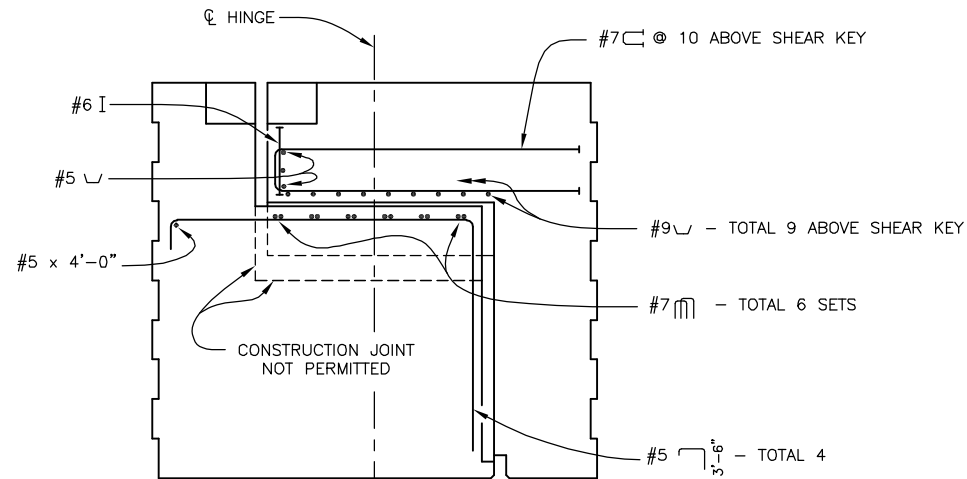
BLOCKOUT REINFORCEMENT

NO SCALE



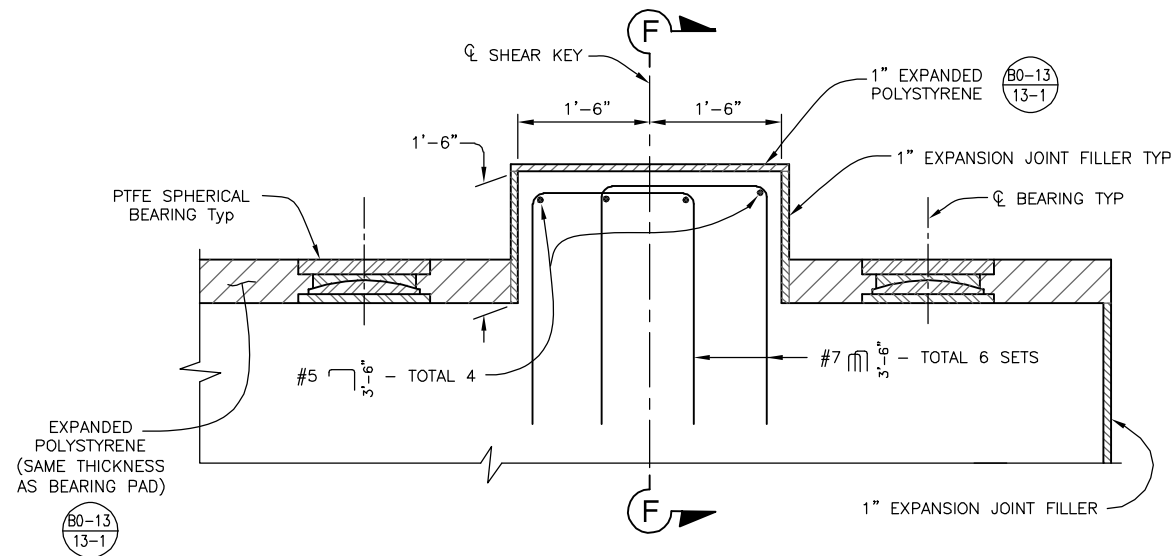
SECTION B-B

NO SCALE



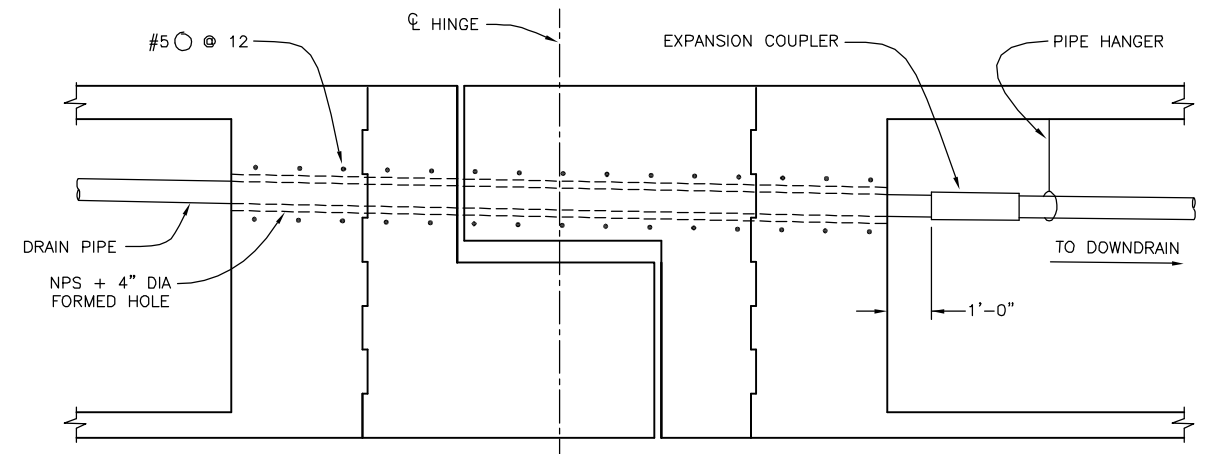
SECTION F-F

3/4" = 1'-0"



SHEAR KEY DETAIL

1" = 1'-0"



DRAIN PIPE AT HINGE

NO SCALE



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No.	REVISION	DATE	BY

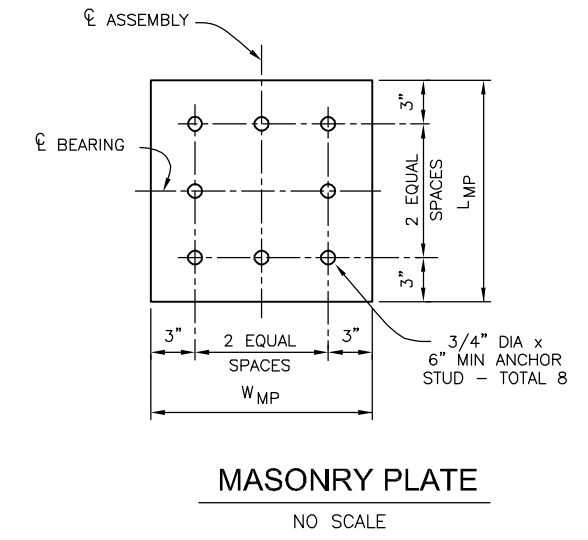
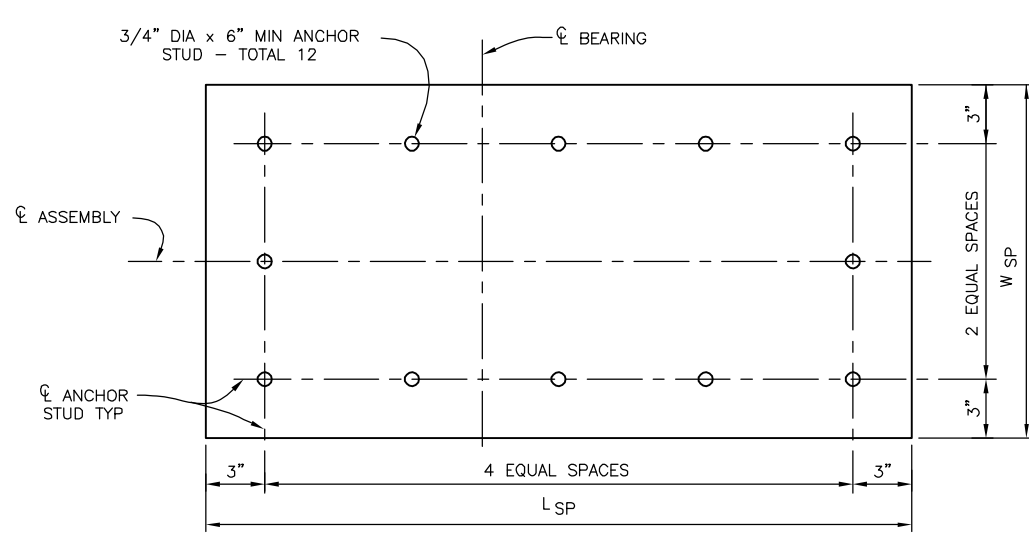
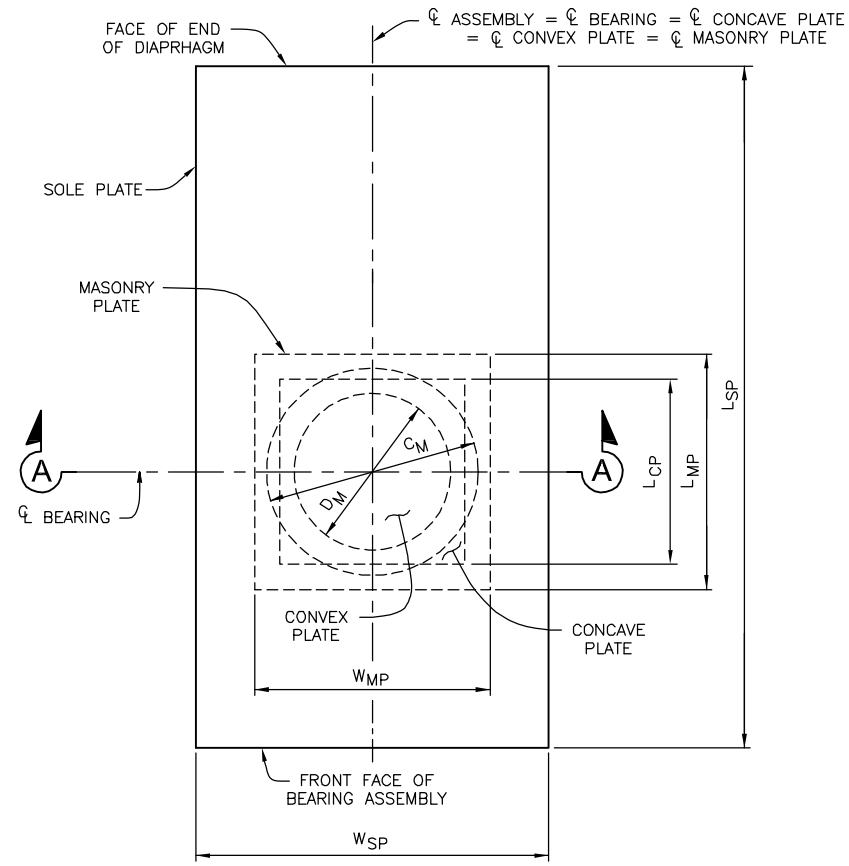


KLEINFELDER
550 WEST "C" STREET, SUITE 1200 (619) 831-4600
SAN DIEGO, CALIFORNIA 92101
DATE: _____ R.C.E. NO. 65520
PREPARED BY: SAMI H. MEGALLY
REGISTRATION EXPIRES: 9/30/19

CITY OF BARSTOW
220 E. MOUNTAIN VIEW ST SUITE A PHONE: (760) 256-3531
BARSTOW, CA 92311 FAX: (760) 256-1750
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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
BRAD S. MERRELL DATE: _____
CONSULTING CITY ENGINEER

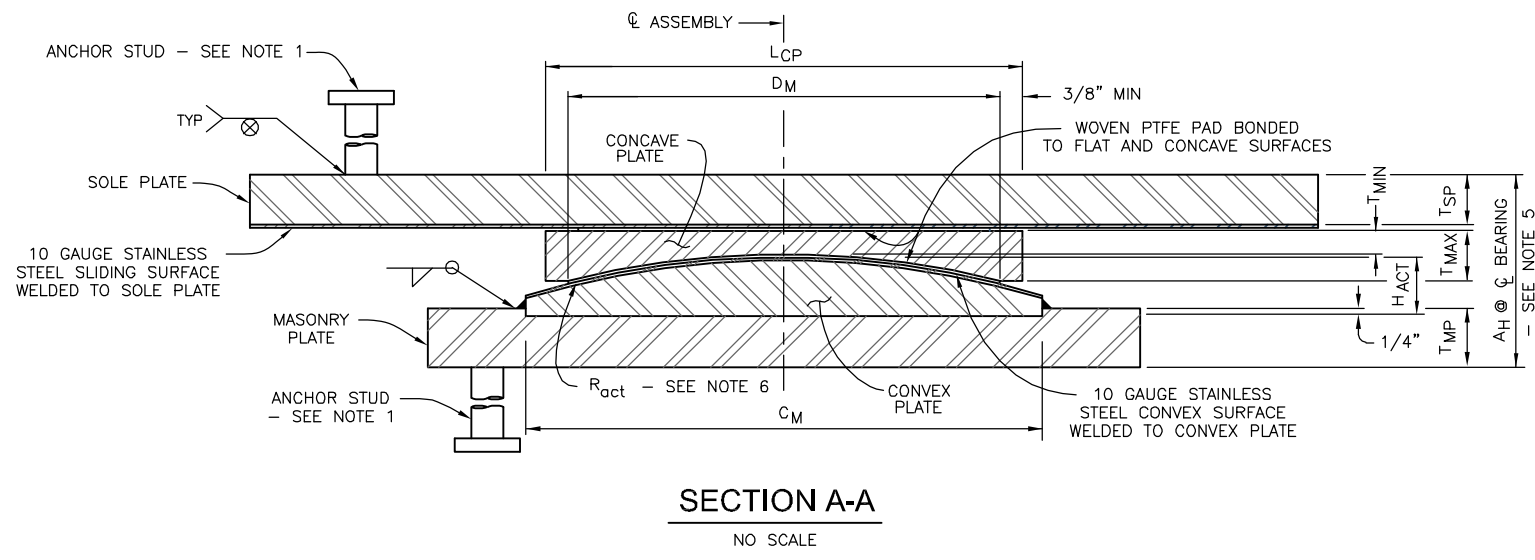
PROJECT No. 5298-030
CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
HINGE DETAILS NO. 3
APPROVED BY: **BRAD S. MERRELL** TITLE: CONSULTING CITY ENGINEER
DESIGNED: SM R.C.E. NO. 49423 SHEET 126 OF 180
DRAWN: TB DATE: 02/20/19 PLAN NO. 1594
SCALE: AS-NOTED AS BUILT:



LOCATION	MAXIMUM VERTICAL LOAD (kips)*	MINIMUM DEAD LOAD (kips)*	DESIGN ROTATION (RADIAN)	CONCAVE PLATE						CONVEX PLATE		MASONRY PLATE			SOLE PLATE			ASSEMBLY HEIGHT
				WIDTH/LENGTH	FLAT PTFE AREA (IN ²)	DIAMETER	SPHERICAL RADIUS	MINIMUM THICKNESS	MAXIMUM THICKNESS	DIAMETER	MAXIMUM THICKNESS	WIDTH	LENGTH	THICKNESS	WIDTH	LENGTH	THICKNESS	
				LCP	A _{PTFE}	D _M	R _{ACT}	T _{MIN}	T _{MAX}	C _M	H _{ACT}	W _{MP}	L _{MP}	T _{MP}	W _{SP}	L _{SP}	T _{SP}	
HINGE A	526	316	0.035	13.625	127	12.5	26.25	0.75	1.75	14.375	1.875	18	18	1.50	18	52	1.75	5.906
HINGE B	531	324	0.035	13.75	127	12.625	27.25	0.75	1.75	14.5	1.875	18	18	1.50	18	52	1.75	5.906

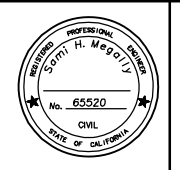
* PER BEARING

- NOTES:
- SEE "SOLE PLATE" AND "MASONRY PLATE" FOR ANCHOR STUD LAYOUT.
 - ALL UNITS IN INCHES UNLESS OTHERWISE NOTED.
 - ALL DIMENSIONS SHOWN ARE TO STEEL, UNLESS OTHERWISE NOTED.
 - H_{ACT} INCLUDES STAINLESS STEEL.
 - A_H INCLUDES PTFE, SUBSTRATUM AND STAINLESS STEEL.
 - RADIUS MEASURED IS TO SLIDING SURFACE.
 - EXPANDED POLYSTYRENE NOT SHOWN.



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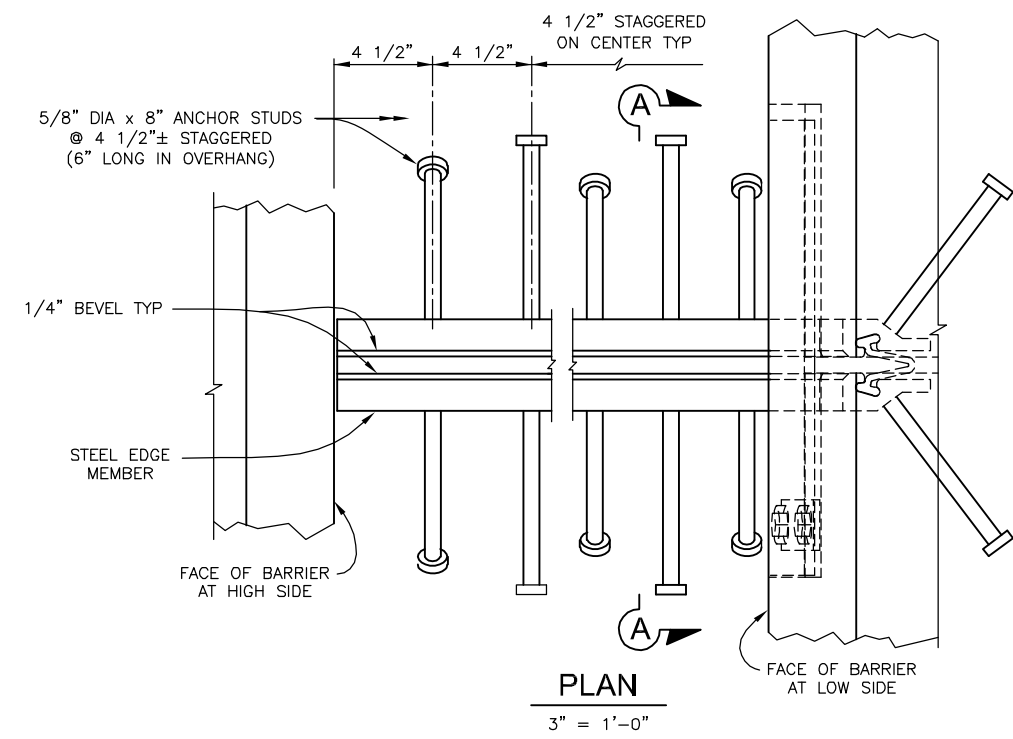


KLEINFELDER
550 WEST "C" STREET, SUITE 1200 (619) 831-4600
SAN DIEGO, CALIFORNIA 92101
DATE: _____ R.C.E. NO. 65520
PREPARED BY: SAMI H. MEGALLY
REGISTRATION EXPIRES: 9/30/19

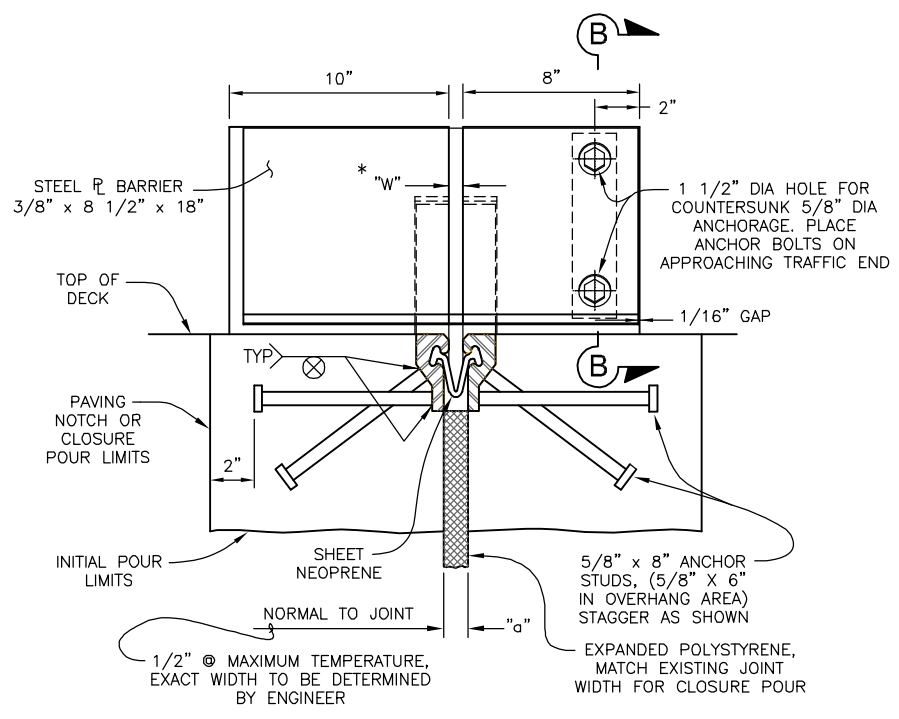
CITY OF BARSTOW
220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311
PHONE: (760) 256-3531
FAX: (760) 256-1750
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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
BRAD S. MERRELL
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DATE: _____

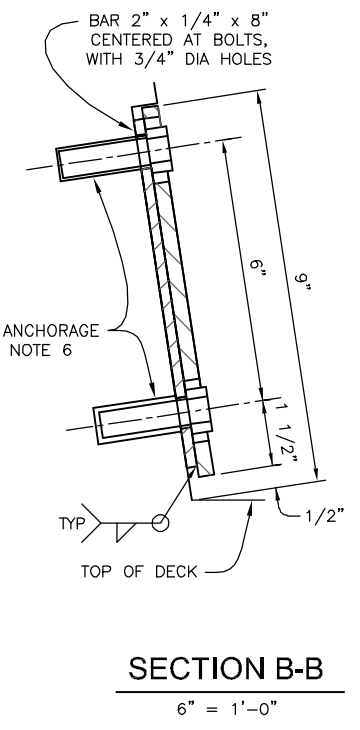
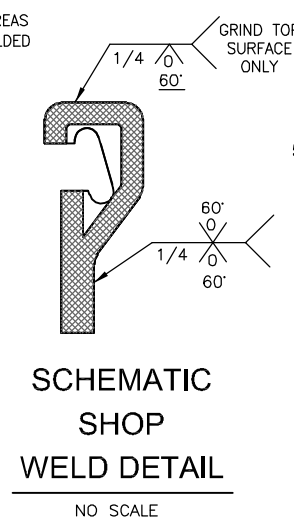
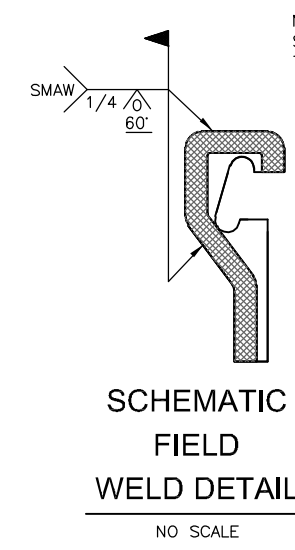
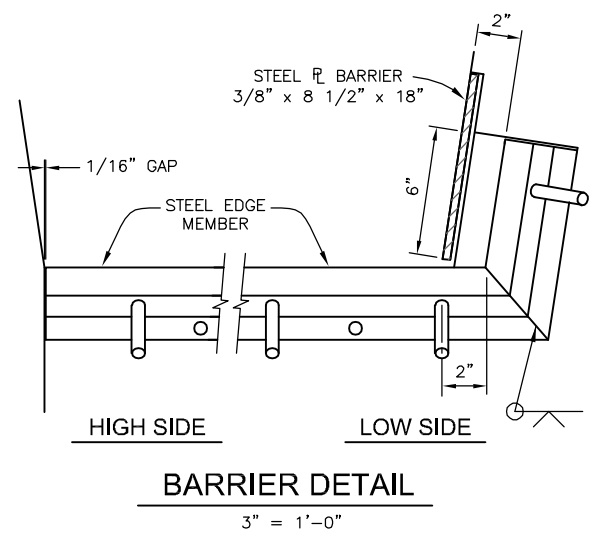
PROJECT No. 5298-030			
CITY OF BARSTOW NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD BEARING DETAILS			
APPROVED BY: BRAD S. MERRELL	TITLE: CONSULTING CITY ENGINEER	SHEET 127 OF 180	
DESIGNED: SM	R.C.E. NO. 49423	DATE: 02/20/19	PLAN NO. 1594
DRAWN: TB	AS BUILT:	SCALE: AS-NOTED	



- NOTES:
1. ALTERNATIVELY, FILLET OR COMPLETE PENETRATION WELDS MAY BE USED AT ANCHOR STUDS.
 2. ALTERNATE TYPES OF ANCHOR STUDS MAY BE PERMITTED SUBJECT TO THE AUTHORIZATION BY THE ENGINEER.
 3. ALL METAL PARTS TO BE PAINTED OR GALVANIZED AFTER FABRICATION.
 4. JOINT SEAL ASSEMBLY TO BE USED IN CONJUNCTION WITH CLOSURE POUR (SEE OTHER SHEETS FOR LIMITS). CLOSURE POUR SHALL NOT BE PLACED UNTIL FINAL DECK SURFACE IS WITHIN THE TOLERANCES SPECIFIED.
 5. SHEET NEOPRENE SHALL BE FABRICATED IN ONE CONTINUOUS PIECE AND SHALL BE FABRICATED TO BEND AROUND CORNERS. FIELD SPLICES OF THE NEOPRENE ARE NOT ALLOWED.
 6. INSERT ASSEMBLY OR EXPANSION ANCHORAGE FOR 5/8" x 1 3/4" BOLTS. USE INSTALLATION BOLTS EXTENDED 1/2" MINIMUM PAST NUT AND COAT WITH BOND BREAKER, AFTER CONCRETE HAS CURED, REMOVE INSTALLATION BOLTS, INSTALL HS BOLTS AND SHEET NEOPRENE.
 7. USE SIDEWALK DETAIL AT ALL SIDEWALK JOINTS. USE BARRIER DETAIL LOW SIDE AT BOTH SIDES IF THE ROADWAY IS CROWNED, OR IF THE DIFFERENCE IN ELEVATION BETWEEN THE ENDS OF THE SEAL IS 6 INCHES OR LESS.
 8. α_c , α_s , ARE THE THERMAL EXPANSION COEFFICIENTS FOR CONCRETE AND STEEL RESPECTIVELY.
 9. ANCHOR STUDS SHALL CONFORM TO ASTM 108.



JOINT INFORMATION			"a" DIMENSIONS		
LOCATION	MOVEMENT RATING (MR)	SKEW	WINTER	SPRING & FALL	SUMMER
ABUTMENT 1	3	-	1 11/16"	1 1/4"	13/16"
ABUTMENT 8	3.5	-	1 15/16"	1 7/16"	15/16"



* TO SET MINIMUM JOINT OPENING "w"

$$w = \begin{cases} [1/2 + ((\text{MAX STR TEMPERATURE IN } ^\circ\text{F}) - (\text{ACTUAL STR TEMPERATURE IN } ^\circ\text{F})) * (\alpha_c \text{ OR } \alpha_s) * (12) \text{ (CONTRIBUTORY L IN FEET)}] \\ 1/2 \text{ MINIMUM} \\ \alpha_c = 0.0000060 \text{ } 1/^\circ\text{F} \\ \alpha_s = 0.0000065 \text{ } 1/^\circ\text{F} \end{cases}$$



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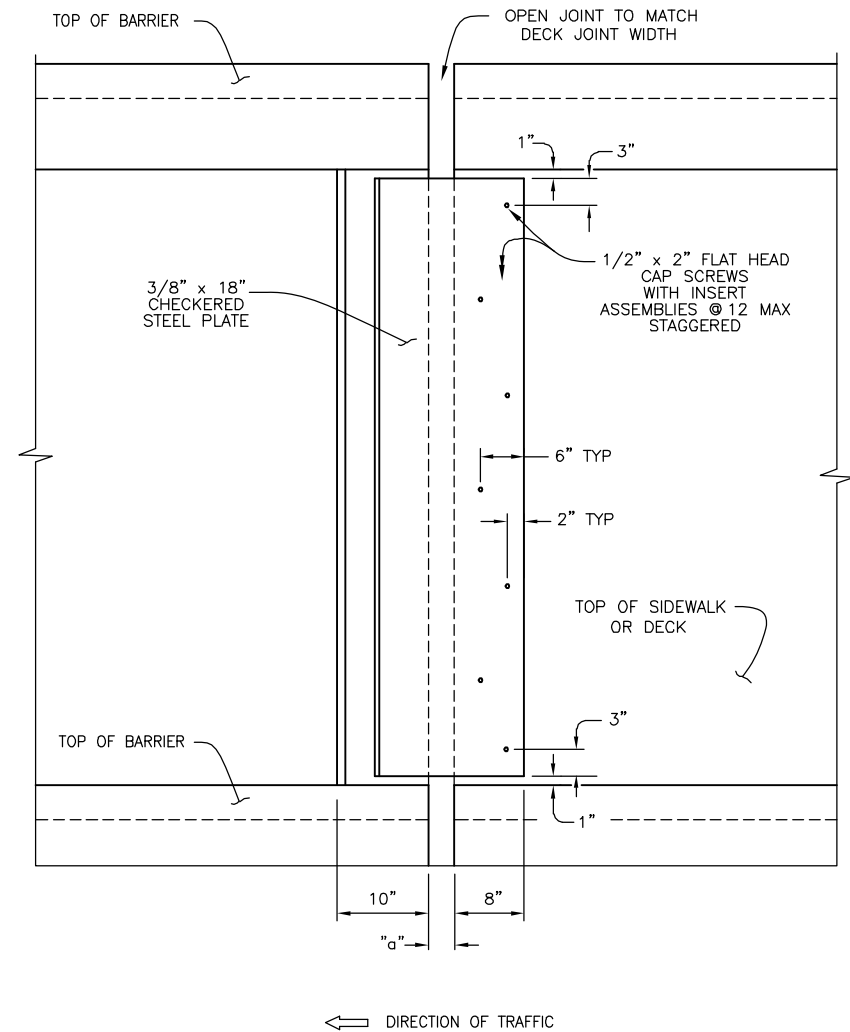
KLEINFELDER
550 WEST "C" STREET, SUITE 1200 (619) 831-4600
SAN DIEGO, CALIFORNIA 92101
DATE: 9/30/19
R.C.E. NO. 65520
PREPARED BY: SAMI H. MEGALLY
REGISTRATION EXPIRES: 9/30/19

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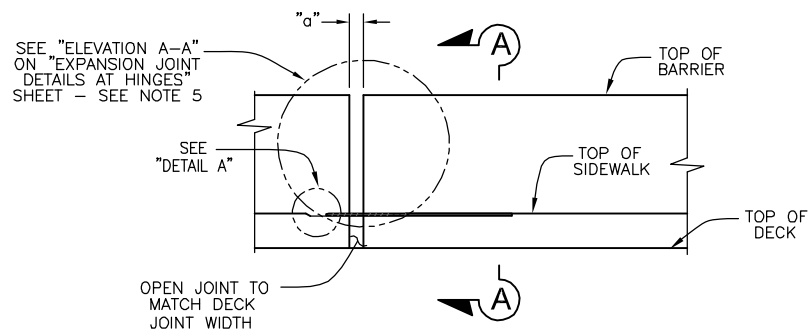
CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
BRAD S. MERRELL
CONSULTING CITY ENGINEER
DATE: _____

PROJECT No. 5298-030
CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
EXPANSION JOINT DETAILS AT ABUTMENTS
APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER
DESIGNED: SM R.C.E. NO. 49423 SHEET 128 OF 180
DRAWN: TB DATE: 02/20/19 PLAN NO. 1594
SCALE: AS-NOTED AS BUILT:

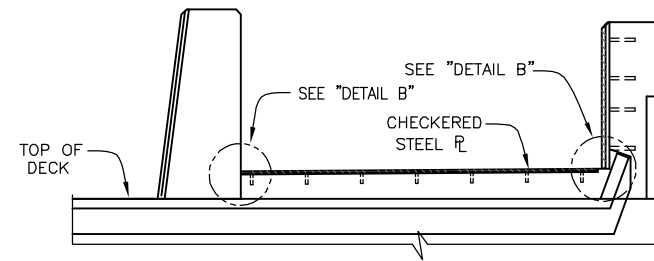
100% INTERIM PLANS FEB 20, 2019 NOT FOR CONSTRUCTION



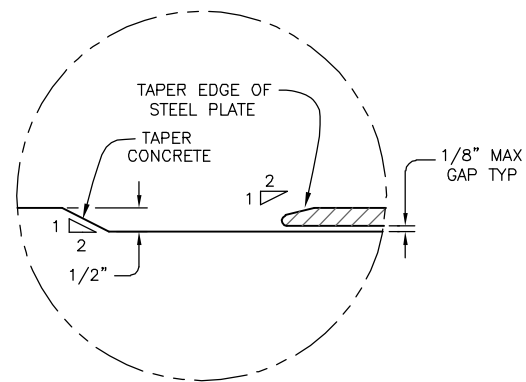
PLAN
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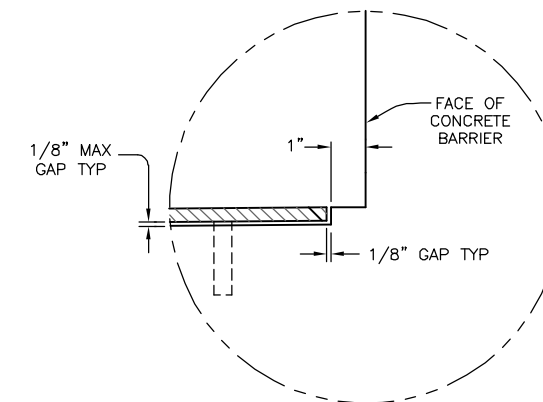
ELEVATION
NO SCALE



SECTION A-A
NO SCALE



DETAIL A
NO SCALE



NOTE: DETAILS IS MIRRORED VERTICALLY FOR BACK FACE OF TYPE 836 (MOD) CONCRETE BARRIER.

DETAIL B
NO SCALE

NOTES:

1. UTILITY OPENINGS AND EXPANSION JOINTS NOT SHOWN FOR CLARITY.
2. RECESS CONCRETE 1/2" FOR PLATES.
3. PLATES TO BE GALVANIZED.
4. ARCHITECTURAL TREATMENT NOT SHOWN.
5. FOR "a" DIMENSION AT ABUTMENTS, REFER TO TABLE ON "EXPANSION JOINT DETAILS AT ABUTMENTS" SHEET. FOR "a" DIMENSION AT HINGES, REFER TO TABLE ON "EXPANSION JOINT DETAILS AT HINGES" SHEET.



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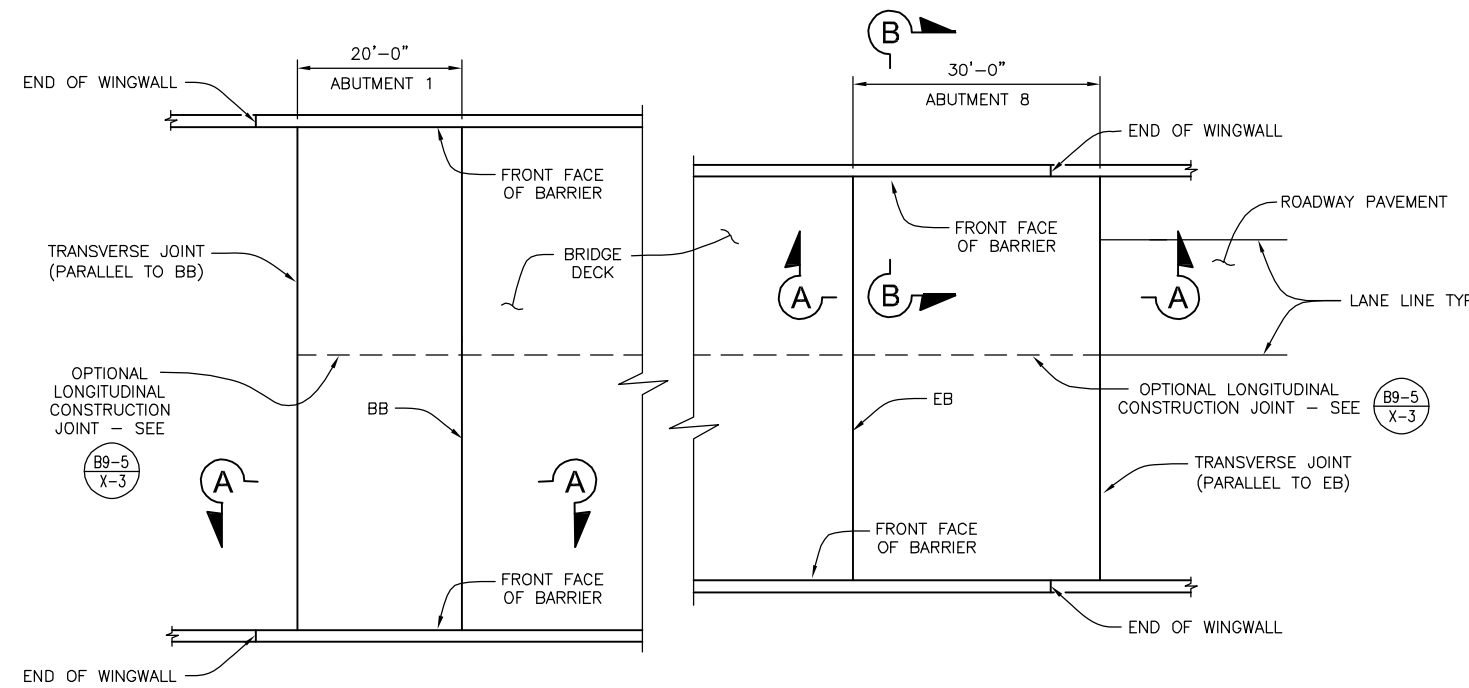
KLEINFELDER
8811 pasala, Right Solutions
550 WEST "C" STREET, SUITE 1200 (619) 831-4600
SAN DIEGO, CALIFORNIA 92101
DATE: _____
PREPARED BY: SAMI H. MEGALLY R.C.E. NO. 65520
REGISTRATION EXPIRES: 9/30/19

CITY OF BARSTOW
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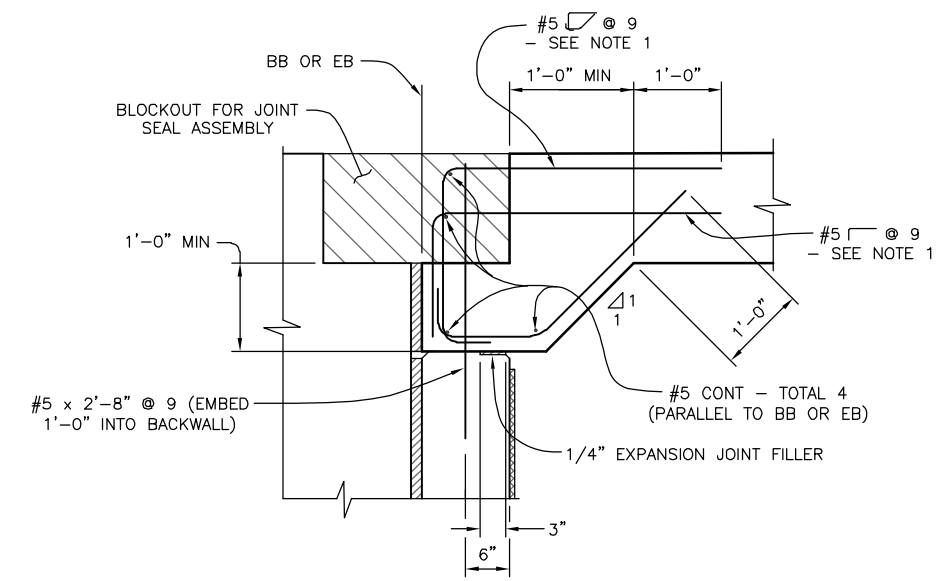
CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
BRAD S. MERRELL DATE _____
CONSULTING CITY ENGINEER

PROJECT No. 5298-030		
CITY OF BARSTOW NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD EXPANSION JOINT DETAILS AT SIDEWALK		
APPROVED BY: BRAD S. MERRELL	TITLE: CONSULTING CITY ENGINEER	
DESIGNED: SM	R.C.E. NO. 49423	SHEET 130 OF 180
DRAWN: TB	DATE: 02/20/19	PLAN NO. 1594
SCALE: AS-NOTED	AS BUILT:	

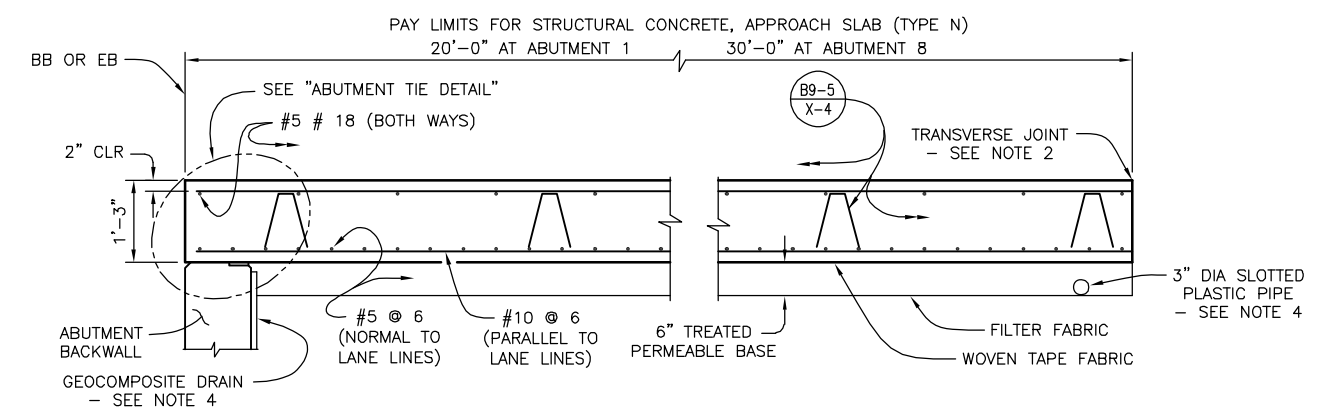
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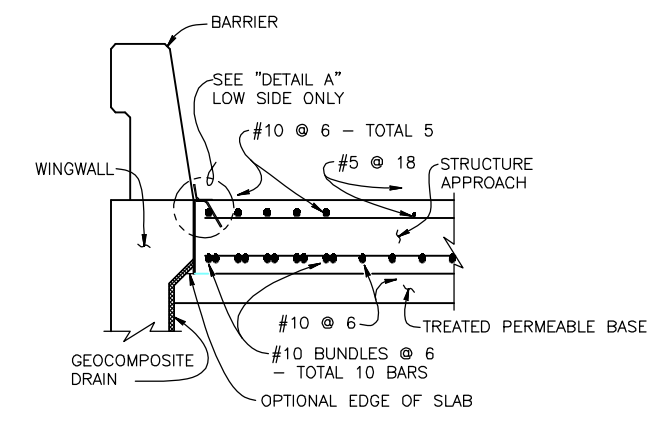
PLAN
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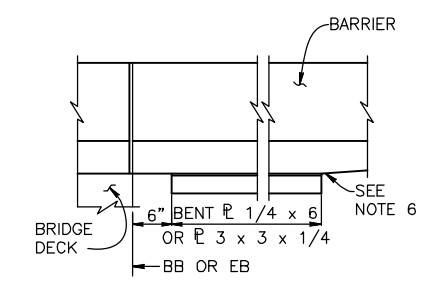
ABUTMENT TIE DETAIL
NO SCALE



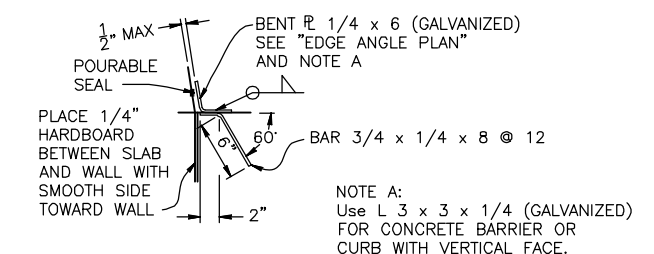
SECTION A-A
NO SCALE



SECTION B-B
NO SCALE



EDGE ANGLE PLAN
NO SCALE



DETAIL A
NO SCALE

- NOTES:**
1. REINFORCEMENT MUST BE NORMAL TO BB OR EB AND SPACED TO AVOID JOINT SEAL ASSEMBLY ANCHORAGE.
 2. TRANSVERSE JOINT MUST BE A MINIMUM OF 5'-0" FROM AN EXISTING OR CONSTRUCTED WEAKENED PLANE JOINT IN APPROACH PCC ROADWAY PAVEMENT. REFER TO STANDARD PLANS P10 AND P14.
 3. APPROACH SLAB TRANSVERSE REINFORCEMENT SHALL BE PLACED PARALLEL TO BB OR EB. SPACING OF TRANSVERSE REINFORCEMENT IS MEASURED ALONG ROADWAY.
 4. FOR STRUCTURE APPROACH DRAINAGE DETAILS, SEE "STRUCTURE APPROACH DRAINAGE DETAILS" SHEET.
 5. FOR DETAILS NOT SHOWN, REFER TO STANDARD PLAN B9-5.
 6. END THE PLATE OR EDGE ANGLE AT BEGINNING OF BARRIER TRANSITION, END OF WINGWALL OR END OF STRUCTURE APPROACH AS APPLICABLE.



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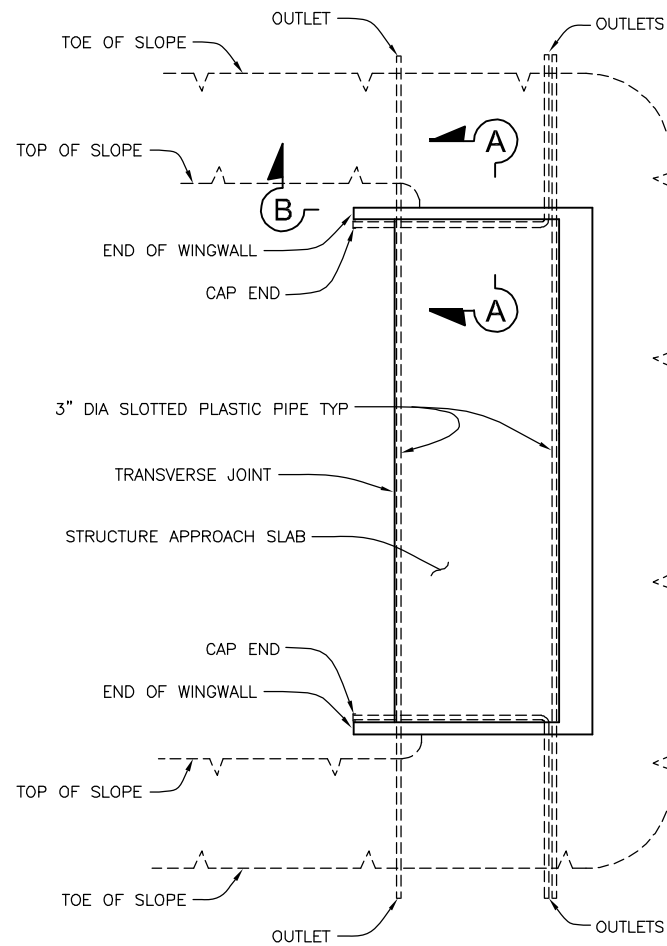


KLEINFELDER
550 WEST "C" STREET, SUITE 1200 (619) 831-4600
SAN DIEGO, CALIFORNIA 92101
DATE: _____ R.C.E. NO. 65520
PREPARED BY: SAMI H. MEGALLY REGISTRATION EXPIRES: 9/30/19

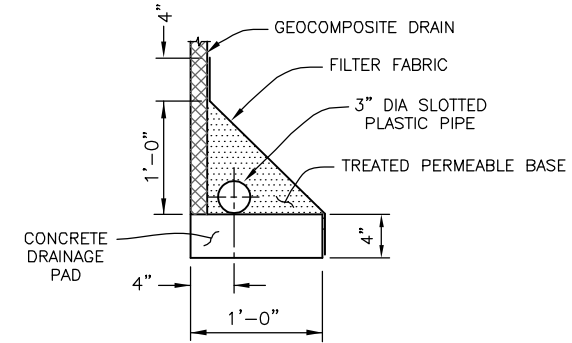
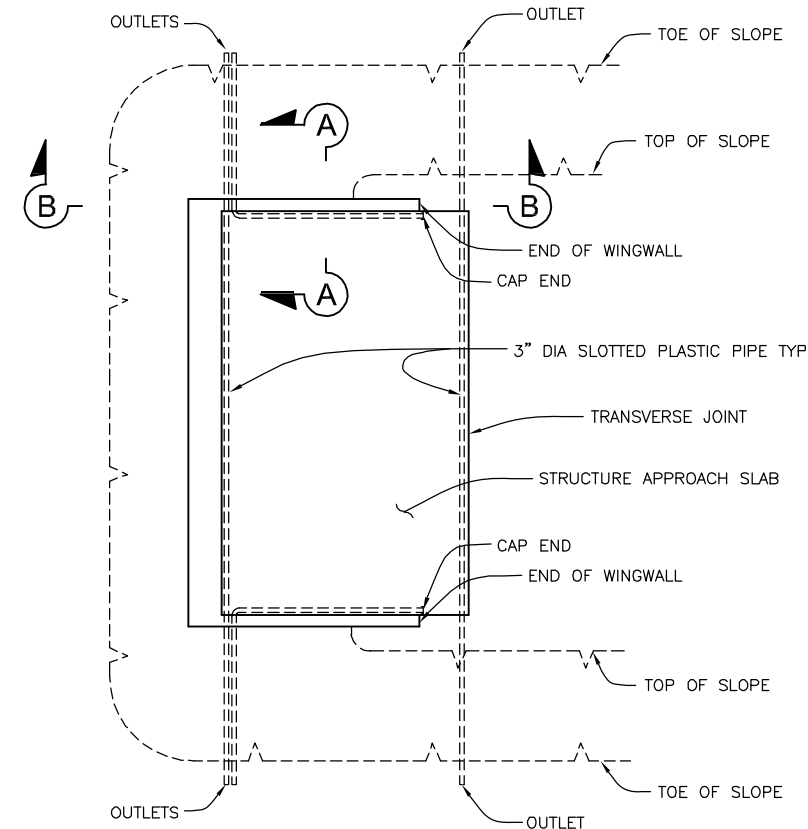
CITY OF BARSTOW
220 E. MOUNTAIN VIEW ST SUITE A PHONE: (760) 256-3531
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CONSULTING CITY ENGINEER
DATE: _____

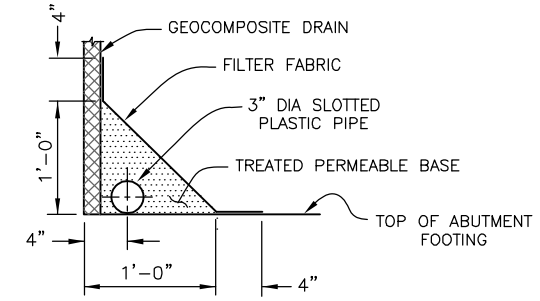
PROJECT No. 5298-030		
CITY OF BARSTOW NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD APPROACH SLAB DETAILS		
APPROVED BY: BRAD S. MERRELL	TITLE: CONSULTING CITY ENGINEER	
DESIGNED: SM	R.C.E. NO. 49423	SHEET 131 OF 180
DRAWN: TB	DATE: 02/20/19	PLAN NO. 1594
SCALE: AS-NOTED	AS BUILT:	



PLAN
NO SCALE



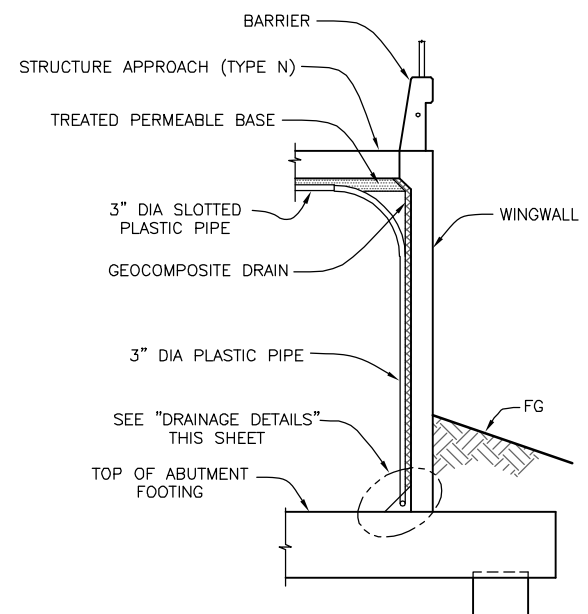
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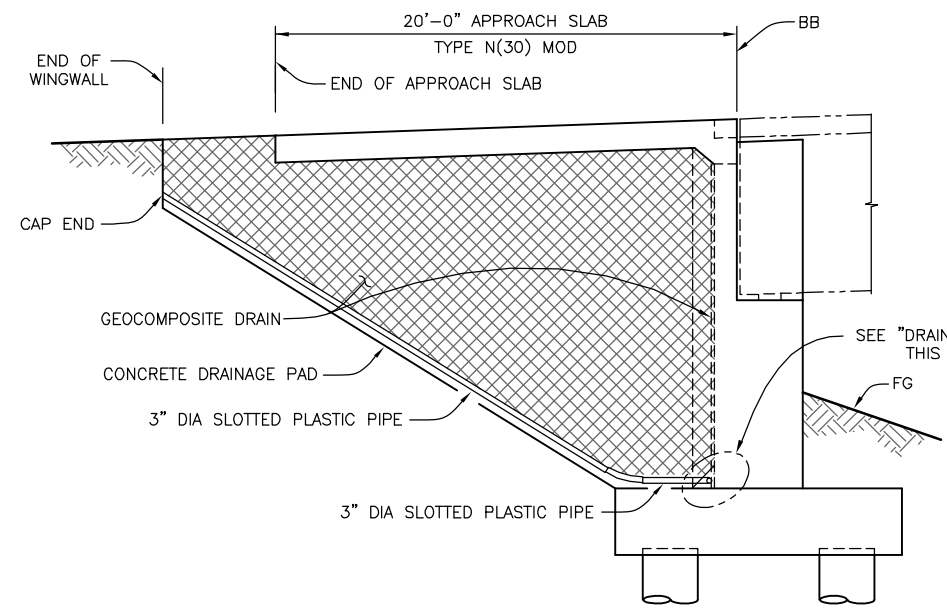
FOOTING

DRAINAGE DETAILS
NO SCALE

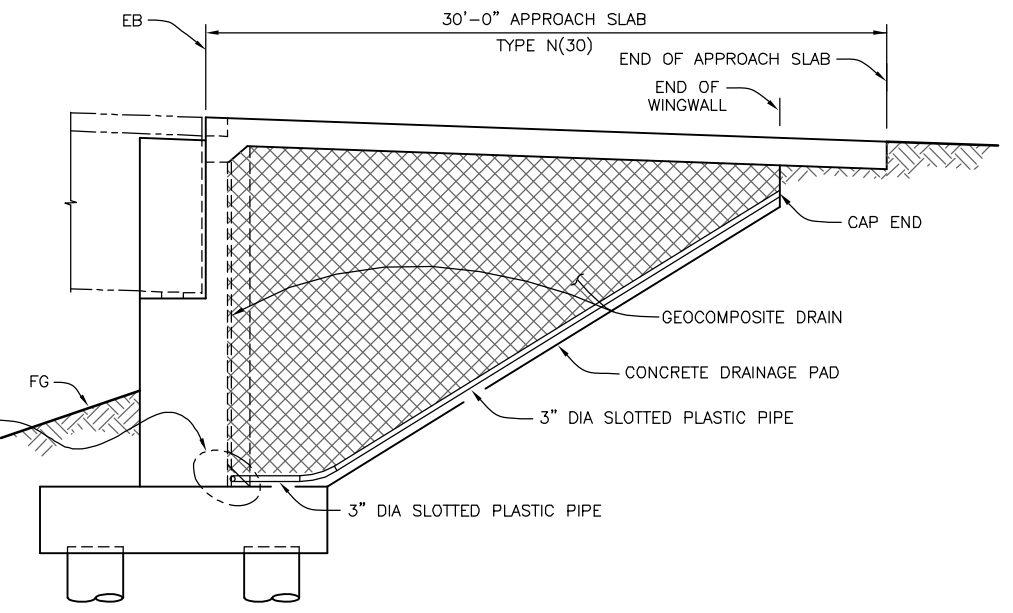
- NOTES:
1. ALL BENDS IN PLASTIC PIPE MUST HAVE 3'-0" MINIMUM RADIUS. PLASTIC PIPE USED FOR BENDS IS NOT REQUIRED TO BE SLOTTED.
 2. FOR APPROACH SLAB (TYPE N) DETAILS, SEE "APPROACH SLAB DETAILS" SHEET.



SECTION A-A
NO SCALE

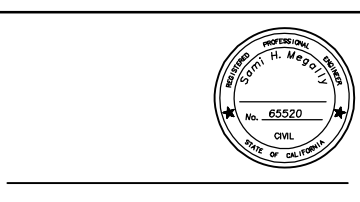


SECTION B-B
NO SCALE



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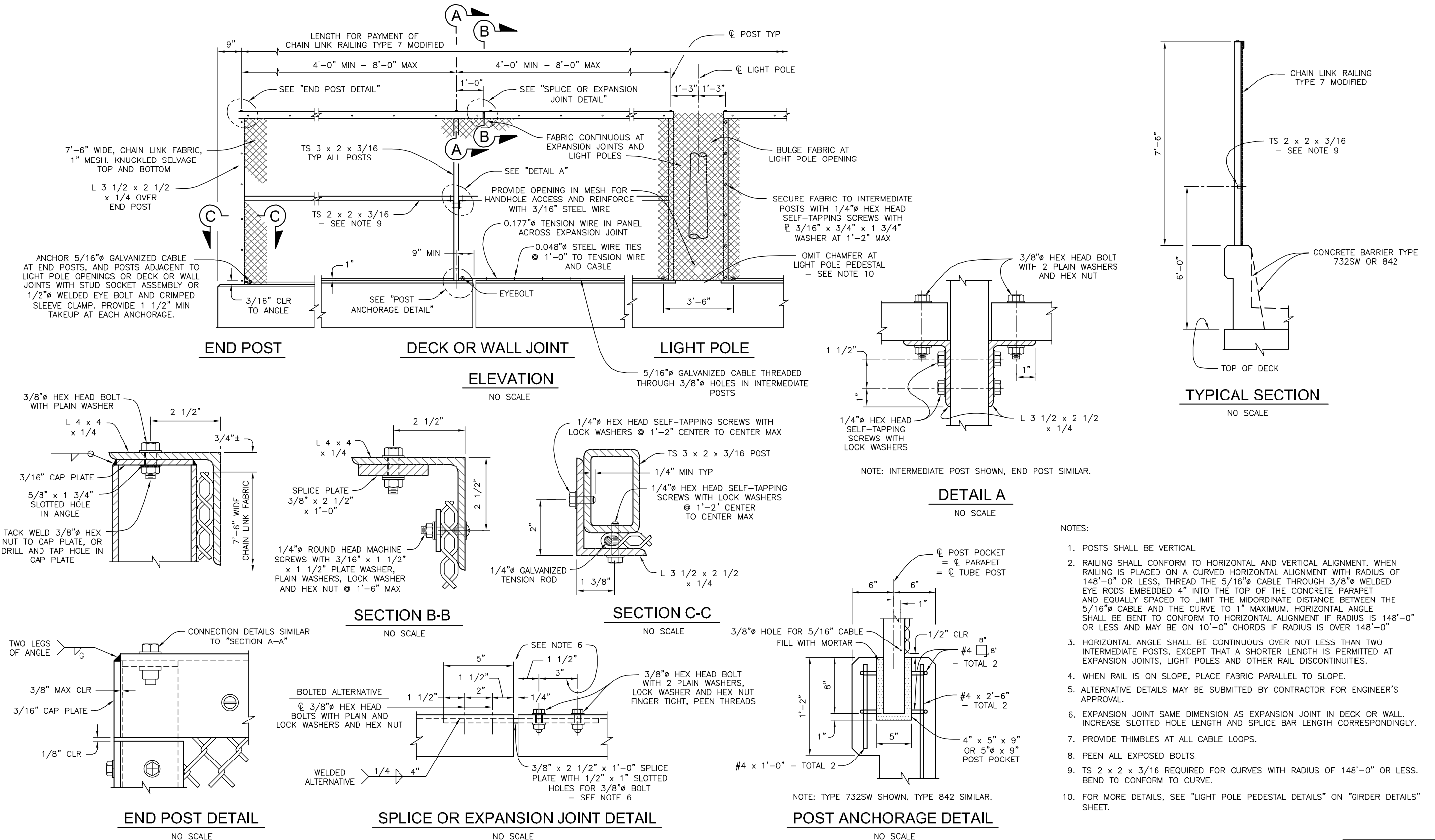
KLEINFELDER
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SAN DIEGO, CALIFORNIA 92101
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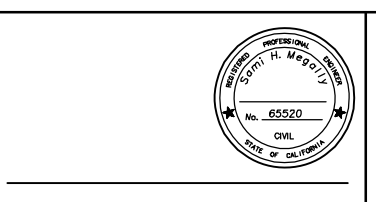
CITY OF BARSTOW			
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD STRUCTURE APPROACH DRAINAGE DETAILS			
APPROVED BY: BRAD S. MERRELL	TITLE: CONSULTING CITY ENGINEER	PROJECT No. 5298-030	
DESIGNED: SM	R.C.E. NO. 49423	SHEET	132 OF 180
DRAWN: TB	DATE: 02/20/19	PLAN NO.	1594
SCALE: AS-NOTED	AS BUILT:		

100% INTERIM PLANS FEB 20, 2019 NOT FOR CONSTRUCTION



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No.	REVISION	DATE	BY

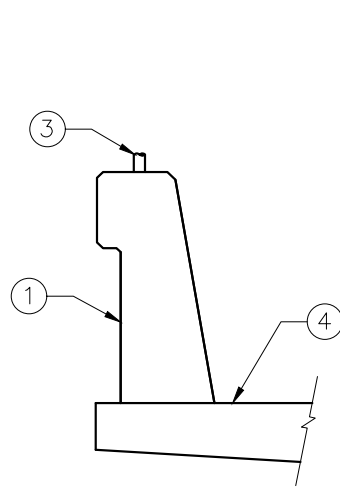


KLEINFELDER
550 WEST "C" STREET, SUITE 1200 (619) 831-4600
SAN DIEGO, CALIFORNIA 92101
DATE: _____ R.C.E. NO. 65520
PREPARED BY: SAMI H. MEGALLY
REGISTRATION EXPIRES: 9/30/19

CITY OF BARSTOW
220 E. MOUNTAIN VIEW ST SUITE A PHONE: (760) 256-3531
BARSTOW, CA 92311 FAX: (760) 256-1750
THIS PLAN SPECIFICATION DRAWING DOCUMENT OTHER IS ON FILE WITH THE CITY OF BARSTOW. IT IS MADE AVAILABLE PURSUANT TO SECTION 6250 et. seq., CALIFORNIA GOVERNMENT CODE UPON PAYMENTS OF THE APPROPRIATE FEE. THE CITY OF BARSTOW MAKES NO REPRESENTATION CONCERNING THE ACCURACY OF THESE ITEMS AND RECOMMENDS THAT THEY BE EXAMINED IN THE FIELD PRIOR TO MAKING ENGINEERING DECISIONS.

CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
BRAD S. MERRELL
CONSULTING CITY ENGINEER
DATE: _____

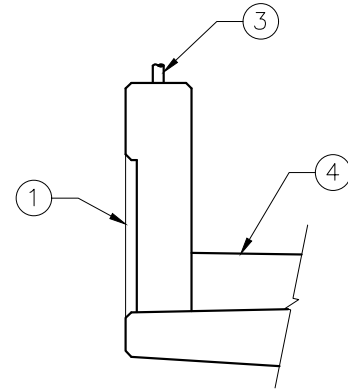
PROJECT No. 5298-030
CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
CHAIN LINK RAILING TYPE 7 MODIFIED
APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER
DESIGNED: SM R.C.E. NO. 49423 SHEET 133 OF 180
DRAWN: TB DATE: 02/20/19 PLAN NO.
SCALE: AS-NOTED AS BUILT: 1594



TYPICAL TYPE 842 BARRIER ELEVATION

3/4" = 1'-0"

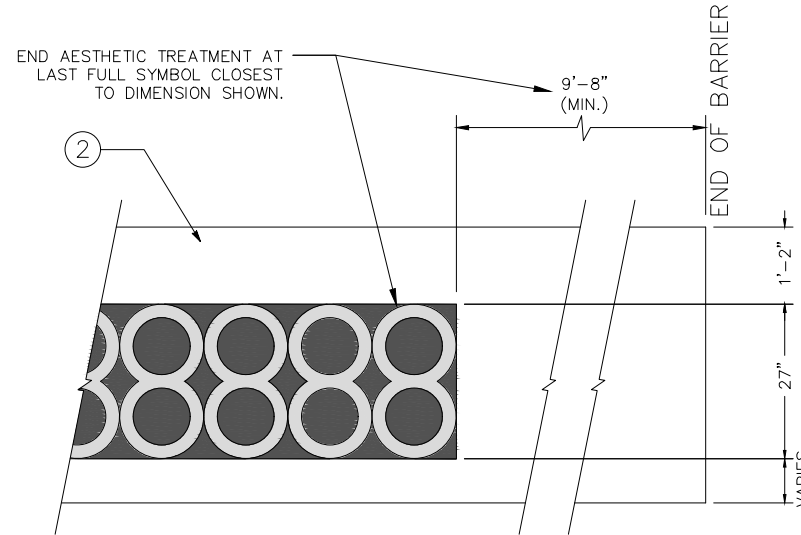
DIMENSIONS SHOWN ARE FOR REFERENCE ONLY. REFER TO ENGINEERING PLANS FOR ADDITIONAL INFORMATION.



TYPICAL TYPE 732SW BARRIER ELEVATION

3/4" = 1'-0"

DIMENSIONS SHOWN ARE FOR REFERENCE ONLY. REFER TO ENGINEERING PLANS FOR ADDITIONAL INFORMATION.



AESTHETIC PATTERN END TREATMENT FOR BOTH TYPE 842 & 732SW BARRIERS

3/4" = 1'-0"

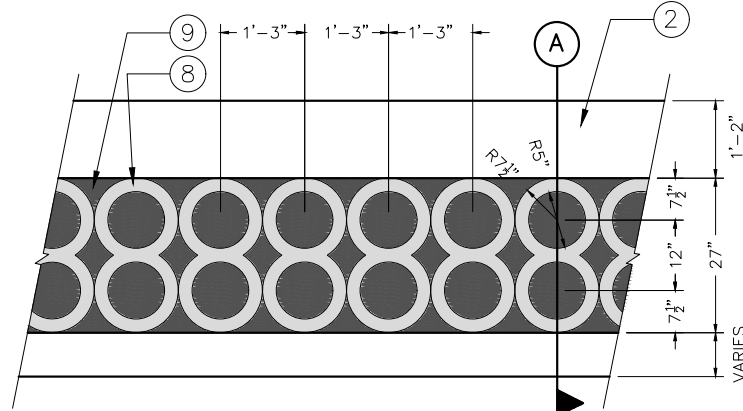
LEGEND:

- ① ARCHITECTURAL AESTHETIC TREATMENT.
- ② TYPICAL TYPE 842 OR TYPE 732SW CONCRETE BARRIER.
- ③ FENCE POST AT FENCE POST CONDITION. SEE ENGINEERING PLANS FOR ADDITIONAL INFORMATION.
- ④ CONCRETE DECK OR FINISH GRADE.
- ⑤ LIGHT STANDARD, REFER TO ENGINEERING AND LIGHTING PLANS FOR ADDITIONAL INFORMATION.
- ⑥ AESTHETIC SHALL MEET AT THE LIGHT PEDESTAL WITH EITHER A FULL OR HALF ARCHITECTURAL TREATMENT SYMBOL.
- ⑦ SMOOTH FINISH CONCRETE
- ⑧ AESTHETIC SYMBOL SHALL BE FLUSH WITH BARRIER FACE (TYP.).
- ⑨ 3/4" RECESS, ROUGH SANDBLAST FINISH (TYP.).

- 3/4" RECESS, ROUGH SANDBLAST FINISH
- FLUSH WITH BARRIER FACE

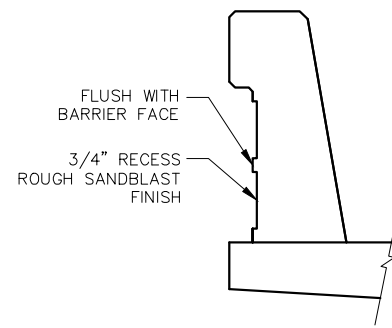
NOTES:

- A. THIS SHEET IS FOR AESTHETICS DETAILING ONLY. REFER TO STRUCTURAL ENGINEER'S PLANS FOR ADDITIONAL INFORMATION.
- B. REFER TO ENGINEERING PLANS FOR SCORELINES, WEAKENED PLANES, AND EXPANSION JOINT INFORMATION.
- C. REFER TO ENGINEERING PLANS FOR LIGHT POLE PEDESTAL DETAILING AND MOUNTING INFORMATION.
- D. IN THE EVENT THAT DIMENSIONS SHOWN ARE IN CONFLICT WITH THE ENGINEERING PLANS, THE ENGINEERING PLANS SHALL TAKE PRECEDENT.
- E. ALL CONCRETE COLOR SHALL BE SAND (FEDERAL COLOR #32648)
- F. ALL CONCRETE FINISHES SHALL BE SMOOTH UNLESS OTHERWISE NOTED.
- G. NO HORIZONTAL JOINTS SHALL BE SHOWN.
- H. CONTRACTOR SHALL PREPARE SAMPLE AESTHETIC PANELS FOR APPROVAL BY THE CITY'S AUTHORIZED REPRESENTATIVE PRIOR TO BEGINNING ANY WORK.
 - A. A MAXIMUM 4' LONG SECTION OF THE TYPE 742 BARRIER AESTHETIC TREATMENT.
 - B. A MAXIMUM 4' LONG SECTION OF THE TYPE 732SW BARRIER AESTHETIC TREATMENT.



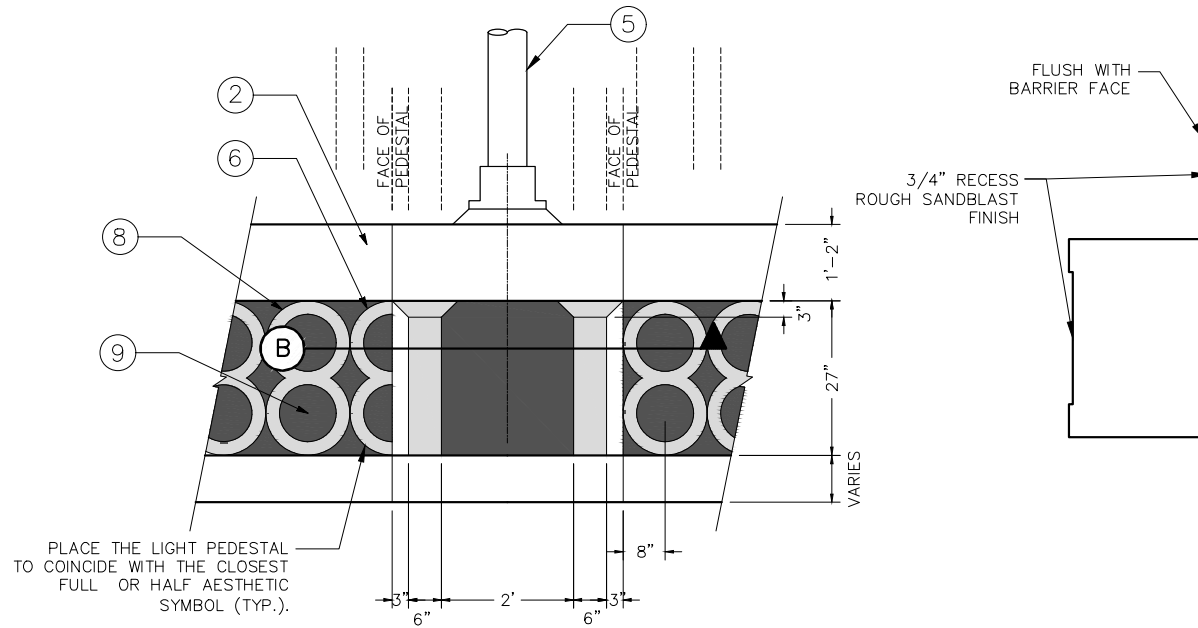
AESTHETIC PATTERN DETAIL

3/4" = 1'-0"



SECTION A

3/4" = 1'-0"



TYPICAL TYPE 842 & 732SW PEDESTAL AND AESTHETICS END TREATMENT

3/4" = 1'-0"

DIMENSIONS SHOWN ARE FOR REFERENCE ONLY. REFER TO ENGINEERING PLANS FOR ADDITIONAL INFORMATION.



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No.	REVISION	DATE	BY

DAVID TATSUMI
RLA No. DATE: 2033

TATSUMI AND PARTNERS, INC.
LANDSCAPE ARCHITECTURE
URBAN DESIGN
VISUAL MANAGEMENT
49 DISCOVERY, SUITE 120
IRVINE, CA 92618
PH 949/453-9901 FAX 949/453-9902
www.tatsumiandpartners.com

CITY OF BARSTOW
220 E. MOUNTAIN VIEW ST SUITE A
BARSTOW, CA 92311
PHONE: (760) 256-3531
FAX: (760) 256-1750

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CITY OF BARSTOW ENGINEERING DEPARTMENT-APPROVED BY:
BRAD S. MERRELL
CONSULTING CITY ENGINEER

DATE

PROJECT No. 5298-030

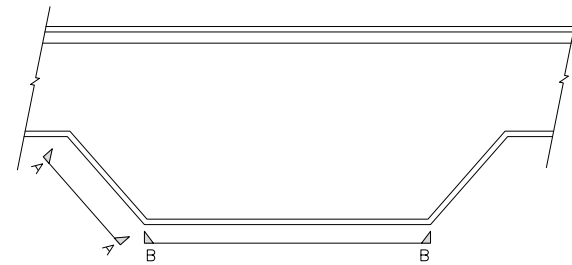
CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
CONCRETE BARRIER
ARCHITECTURAL TREATMENT NO. 1

APPROVED BY: TITLE:

DESIGNED: MA R.C.E. NO. SHEET 134 OF 140

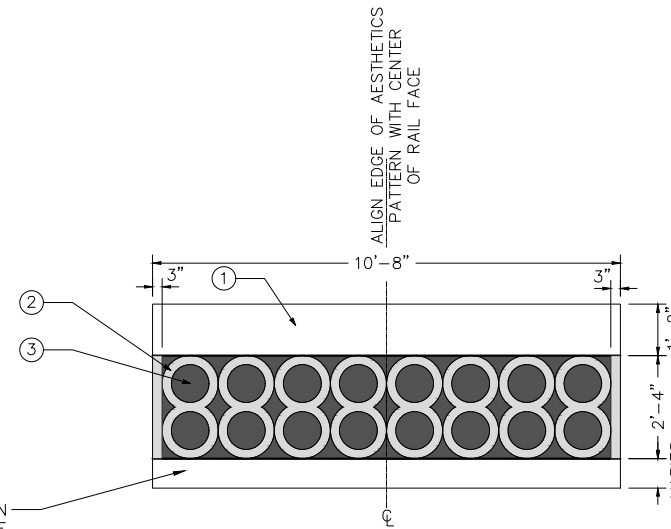
DRAWN: WK DATE: 02/15/2019 PLAN NO.

SCALE: AS BUILT: 1594



OVERLOOK PLAN VIEW

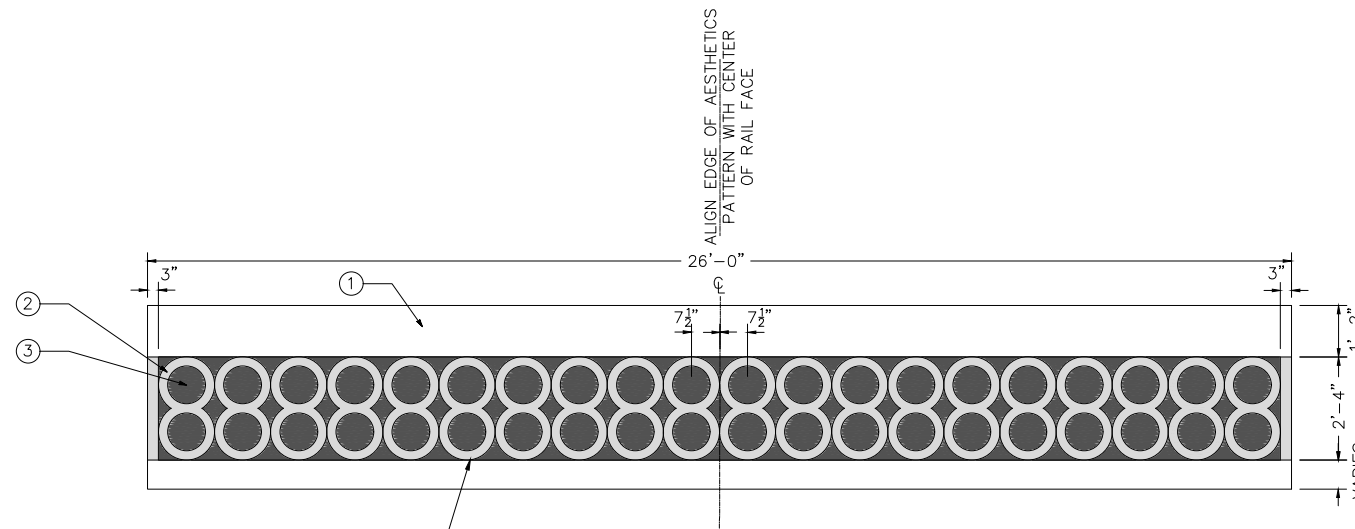
NTS



TYPE 732SW OVERLOOK ELEVATION A-A

1/2" = 1'-0"

REFER TO AESTHETIC PATTERN DETAIL ON THE CONCRETE BARRIER ARCHITECTURAL TREATMENT NO. 1 SHEET FOR ADDITIONAL INFORMATION.



TYPE 732SW OVERLOOK ELEVATION B-B

1/2" = 1'-0"

REFER TO AESTHETIC PATTERN DETAIL ON THE CONCRETE BARRIER ARCHITECTURAL TREATMENT NO. 1 SHEET FOR ADDITIONAL INFORMATION.

LEGEND:

- ① TYPICAL TYPE 842 OR TYPE 732SW CONCRETE BARRIER.
- ② AESTHETIC SYMBOL SHALL BE FLUSH WITH BARRIER FACE (TYP.).
- ③ 3/4" RECESS, ROUGH SANDBLAST FINISH (TYP.).

- 3/4" RECESS, ROUGH SANDBLAST FINISH
- FLUSH WITH BARRIER FACE

NOTES:

- A. THIS SHEET IS FOR AESTHETICS DETAILING ONLY. REFER TO STRUCTURAL ENGINEER'S PLANS FOR ADDITIONAL INFORMATION.
- B. REFER TO ENGINEERING PLANS FOR SCORELINES, WEAKENED PLANES, AND EXPANSION JOINT INFORMATION.
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- E. ALL CONCRETE COLOR SHALL BE SAND (FEDERAL COLOR #32648)
- F. ALL CONCRETE FINISHES SHALL BE SMOOTH UNLESS OTHERWISE NOTED.
- G. NO HORIZONTAL JOINTS SHALL BE SHOWN.



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No.	REVISION	DATE	BY

DAVID TATSUMI
 2033 RLA No. DATE:

TATSUMI AND PARTNERS, INC.
 LANDSCAPE ARCHITECTURE
 URBAN DESIGN
 VISUAL MANAGEMENT
 49 DISCOVERY, SUITE 120
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CITY OF BARSTOW ENGINEERING DEPARTMENT—APPROVED BY:

BRAD S. MERRELL DATE
 CONSULTING CITY ENGINEER

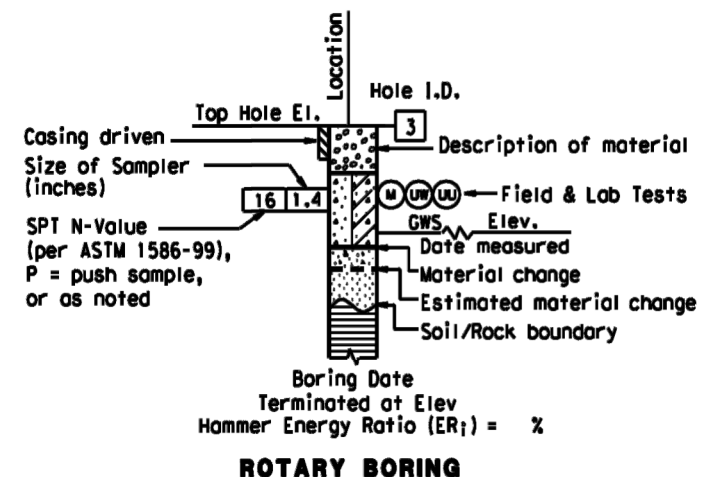
PROJECT No. 5298-030

CITY OF BARSTOW
 NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
 CONCRETE BARRIER
 ARCHITECTURAL TREATMENT NO. 2

APPROVED BY: TITLE:

DESIGNED: MA	R.C.E. NO.	SHEET 135 OF 140
DRAWN: WK	DATE: 02/15/2019	PLAN NO.
SCALE:	AS BUILT:	1594

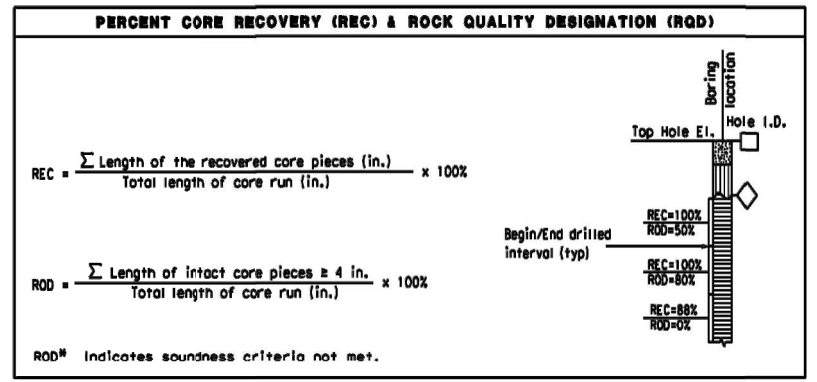
100% INTERIM PLANS FEB 20, 2019 NOT FOR CONSTRUCTION



GROUP SYMBOLS AND NAMES			
Graphic/Symbol	Group Names	Graphic/Symbol	Group Names
[Symbol]	SP Poorly-graded SAND Poorly-graded SAND with GRAVEL	[Symbol]	SC CLAYEY SAND CLAYEY SAND with GRAVEL
[Symbol]	SP-SM Poorly-graded SAND with SILT Poorly-graded SAND with SILT and GRAVEL	[Symbol]	CL Lean CLAY Lean CLAY with SAND Lean CLAY with GRAVEL SANDY lean CLAY SANDY lean CLAY with GRAVEL GRAVELLY lean CLAY GRAVELLY lean CLAY with SAND
[Symbol]	SM SILTY SAND SILTY SAND with GRAVEL	[Symbol]	ML SILT SILT with SAND SILT with GRAVEL SANDY SILT SANDY SILT with GRAVEL GRAVELLY SILT GRAVELLY SILT with SAND

LEGEND OF ROCK MATERIALS

[Symbol] SEDIMENTARY ROCK



WEATHERING DESCRIPTORS FOR INTACT ROCK						
Description	Diagnostic Features				General Characteristics	
	Chemical Weathering-Discoloration and/or Oxidation		Mechanical Weathering-Grain Boundary Conditions (Disaggregation) Primarily for Granitics and Some Coarse-Grained Sediments	Texture and Leaching		
	Body of Rock	Fracture Surfaces		Texture		Leaching
Fresh	No discoloration, not oxidized.	No discoloration or oxidation.	No separation, intact (tight).	No change	No leaching	Hammer rings when crystalline rocks are struck.
Slightly Weathered	Discoloration or oxidation is limited to surface of, or short distance from, fractures; some feldspar crystals are dull.	Minor to complete discoloration or oxidation of most surfaces.	No visible separation, intact (tight).	Preserved	Minor leaching of some soluble minerals.	Hammer rings when crystalline rocks are struck. Body of rock not weakened.
Moderately Weathered	Discoloration or oxidation extends from fractures usually throughout; Fe-Mg minerals are "rusty," feldspar crystals are "cloudy."	All fracture surfaces are discolored or oxidized.	Partial separation of boundaries visible.	Generally preserved	Soluble minerals may be mostly leached.	Hammer does not ring when rock is struck. Body of rock is slightly weakened.
Intensely Weathered	Discoloration or oxidation throughout; all feldspars and Fe-Mg minerals are altered to clay to some extent; or chemical alteration produces in-situ disaggregation, see grain boundary conditions.	All fracture surfaces are discolored or oxidized, surfaces friable.	Partial separation, rock is friable; in semiarid conditions granitics are disaggregated.	Texture altered by chemical disintegration (hydration, argillation).	Leaching of soluble minerals may be complete.	Dull sound when struck with hammer, usually can be broken with moderate to heavy manual pressure or by light hammer blow without reference to planes of weakness such as incipient or hairline fractures, or veinlets. Rock is significantly weakened.
Decomposed	Discolored or oxidized throughout, but resistant minerals such as quartz may be unaltered; all feldspars and Fe-Mg minerals are completely altered to clay.		Complete separation of grain boundaries (disaggregated).	Resembles a soil, partial or complete remnant rock structure may be preserved; leaching of soluble minerals usually complete.		Can be granulated by hand. Resistant minerals such as quartz may be present as "stringers" or "dikes."

FRACTURE DENSITY	
Description	Observed Fracture Density
Unfractured	No fractures.
Very Slightly Fractured	Core lengths greater than 3 ft.
Slightly Fractured	Core lengths mostly from 1 to 3 ft.
Moderately Fractured	Core lengths mostly from 4 in. to 1 ft.
Intensely Fractured	Core lengths mostly from 1 to 4 in.
Very Intensely Fractured	Mostly chips and fragments.

CEMENTATION	
Description	Criteria
Weak	Crumbles or breaks with handling or little finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure.
Strong	Will not crumble or break with finger pressure.

ROCK HARDNESS	
Description	Criteria
Extremely Hard	Cannot be scratched with a pocketknife or sharp pick. Can only be chipped with repeated heavy hammer blows.
Very Hard	Cannot be scratched with a pocketknife or sharp pick. Breaks with repeated heavy hammer blows.
Hard	Can be scratched with a pocketknife or sharp pick with difficulty (heavy pressure). Breaks with heavy hammer blows.
Moderately Hard	Can be scratched with pocketknife or sharp pick with light or moderate pressure. Breaks with moderate hammer blows.
Moderately Soft	Can be grooved 1/16 in. deep with a pocketknife or sharp pick with moderate or heavy pressure. Breaks with light hammer blow or heavy manual pressure.
Soft	Can be grooved or gauged easily by a pocketknife or sharp pick with light pressure, can be scratched with fingernail. Breaks with light to moderate manual pressure.
Very Soft	Can be readily indented, grooved or gauged with fingernail, or carved with a pocketknife. Breaks with light manual pressure.

CONSISTENCY OF COHESIVE SOILS				
Description	Shear Strength (tsf)	Pocket Penetrometer Measurement, PP, (tsf)	Torvane Measurement, TV, (tsf)	Vane Shear Measurement, VS, (tsf)
Very Soft	Less than 0.12	Less than 0.25	Less than 0.12	Less than 0.12
Soft	0.12 - 0.25	0.25 - 0.5	0.12 - 0.25	0.12 - 0.25
Medium Stiff	0.25 - 0.5	0.5 - 1	0.25 - 0.5	0.25 - 0.5
Stiff	0.5 - 1	1 - 2	0.5 - 1	0.5 - 1
Very Stiff	1 - 2	2 - 4	1 - 2	1 - 2
Hard	Greater than 2	Greater than 4	Greater than 2	Greater than 2

BOREHOLE IDENTIFICATION		
Symbol	Hole Type	Description
[Symbol]	A	Auger Boring (hollow or solid stem bucket)
[Symbol]	R	Rotary drilled diamond core

- FIELD AND LABORATORY TESTING**
- CR Corrosivity Testing (CTM 643, CTM 422, CTM 417)
 - DS Direct Shear (ASTM D 3080)
 - M Moisture Content (ASTM D 2216)
 - PA Particle Size Analysis (ASTM D 422)
 - PI Plasticity Index (AASHTO T 90) Liquid Limit (AASHTO T 89)
 - R R-Value (CTM 301)
 - UC Unconfined Compression-Soil (ASTM D 2166)
 - UC Unconfined Compression-Rock (ASTM D 2938)
 - UW Unit Weight (ASTM D 4767)

APPARENT DENSITY OF COHESIONLESS SOILS	
Description	SPT N ₆₀ (Blows / 12 in.)
Very Loose	0 - 5
Loose	5 - 10
Medium Dense	10 - 30
Dense	30 - 50
Very Dense	Greater than 50

MOISTURE	
Description	Criteria
Dry	No discernable moisture
Moist	Moisture present, but no free water
Wet	Visible free water

PERCENT OR PROPORTION OF SOILS	
Description	Criteria
Trace	Particles are present but estimated to be less than 5%
Few	5% - 10%
Little	15% - 25%
Some	30% - 45%
Mostly	50% - 100%

BEDDING SPACING	
Description	Thickness / Spacing
Massive	Greater than 10 ft
Very Thickly Bedded	3 ft - 10 ft
Thickly Bedded	1 ft - 3 ft
Moderately Bedded	4 in. - 1 ft
Thinly Bedded	1 in. - 4 in.
Very Thinly Bedded	1/4 in. - 1 in.
Laminated	Less than 1/4 in.

PARTICLE SIZE		
Description	Size (in.)	
Boulder	Greater than 12	
Cobble	3 - 12	
Gravel	Coarse	3/4 - 3
	Fine	1/5 - 3/4
Sand	Coarse	1/16 - 1/5
	Medium	1/64 - 1/16
	Fine	1/300 - 1/64
Silt and Clay	Less than 1/300	

No.	REVISION	DATE	BY

PREPARED BY: THOMAS B CANADY R.C.E. NO. 50057
REGISTRATION EXPIRES: 3/31/19



SCST, Inc.
2280 Riverside Street
San Diego, California 92120

PHONE: (619) 280-4321
FAX: (619) 280-4717

CITY OF BARSTOW
220 E. MOUNTAIN VIEW ST SUITE A
BARSTOW, CA 92311

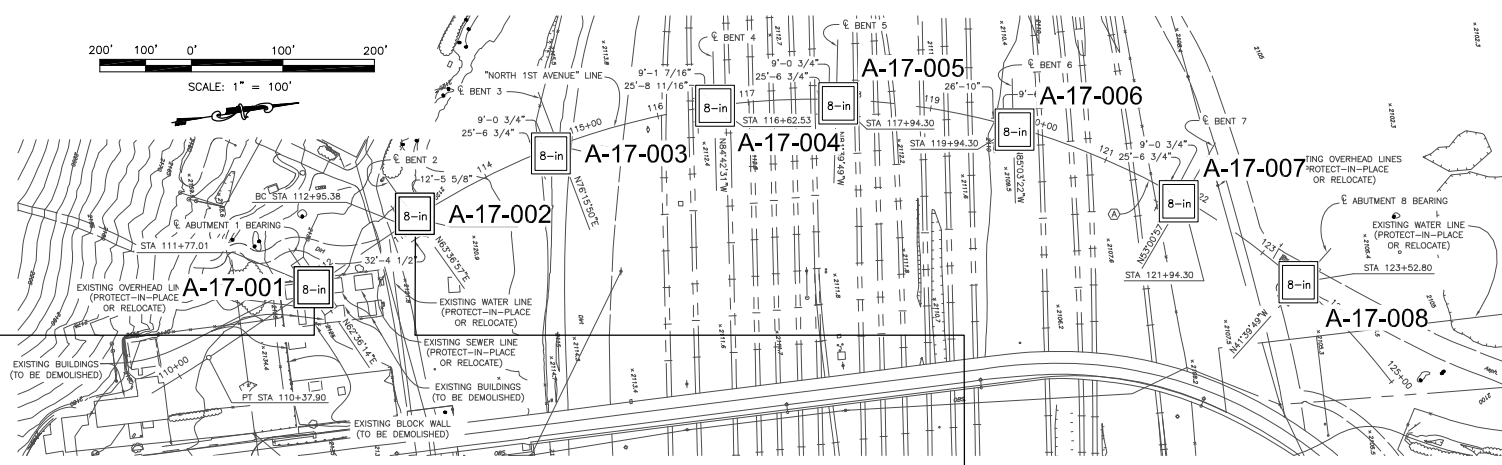
PHONE: (760) 256-3531
FAX: (760) 256-1750

CITY OF BARSTOW ENGINEERING DEPARTMENT--APPROVED BY:
BRAD S. MERRELL
CONSULTING CITY ENGINEER

CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
LOG OF TEST BORING SHEET LEGEND

APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER
DESIGNED: DTC R.C.E. NO. 49423 SHEET OF
DRAWN: DTC DATE: 09/17/2018 PLAN NO.
SCALE: AS-SHOWN AS BUILT:

100% INTERIM PLANS FEB 20, 2019 NOT FOR CONSTRUCTION

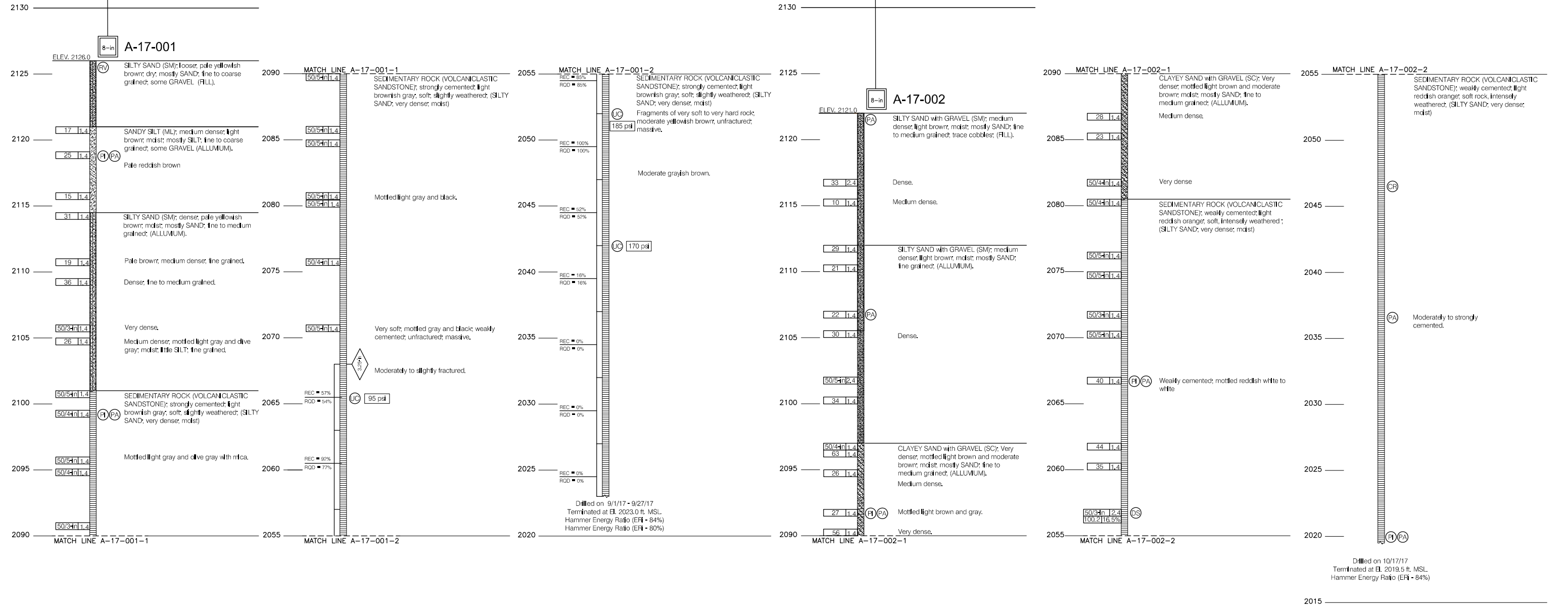


PROFILE
VERTICAL: 1 in. = 3.5 ft.

BENCHMARKS
 Designation: _____
 Description: _____
 Location: _____
 Elevation: _____
 Datum: _____

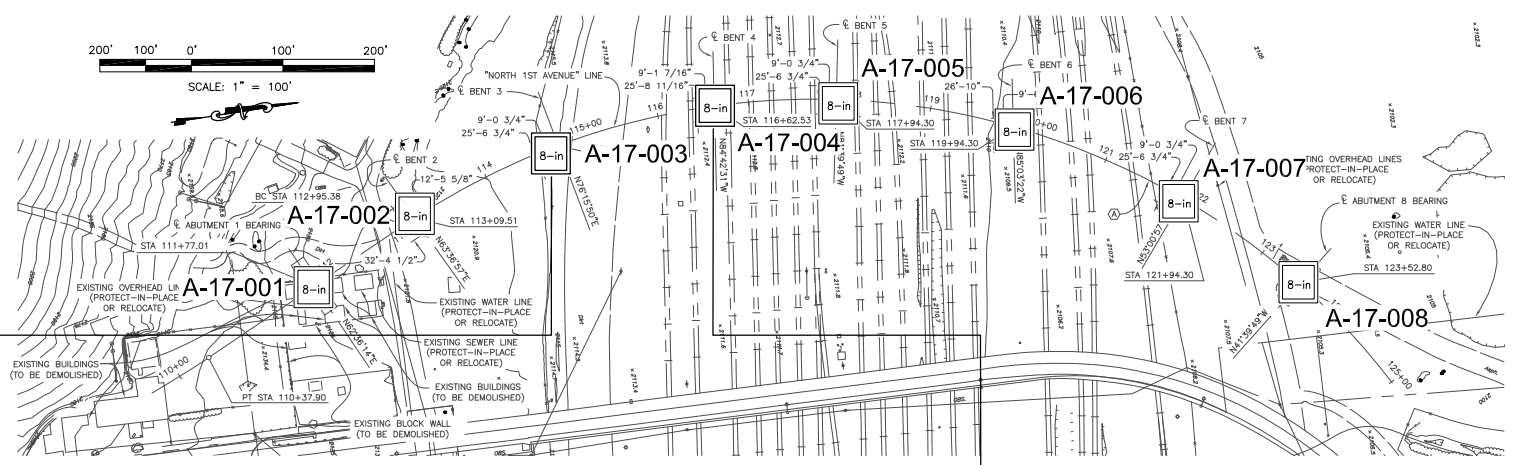
Elevations determined in the field by referencing the plans provided by Kleinfelder dated October, 2017.

Boring	Station No.	Offset
A-17-001	111+77	Borings performed along planned Center Line
A-17-002	113+09	



		<p>SCST, Inc. 6280 Riverside Street San Diego, California 92120 PHONE: (619) 280-4321 FAX: (619) 280-4717</p>	<p>CITY OF BARSTOW 220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311 PHONE: (760) 256-3531 FAX: (760) 256-1750</p>	<p>CITY OF BARSTOW ENGINEERING DEPARTMENT--APPROVED BY:</p> <p>BRAD S. MERRELL CONSULTING CITY ENGINEER</p>	<p>CITY OF BARSTOW</p> <p>NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD LOG OF TEST BORING SHEET, BORINGS 1 AND 2</p>
<p>PREPARED BY: THOMAS B CANADY R.C.E. NO. 50057 REGISTRATION EXPIRES: 3/31/19</p>		<p>THIS PLAN <input checked="" type="checkbox"/> SPECIFICATION <input type="checkbox"/> DRAWING <input type="checkbox"/> DOCUMENT <input type="checkbox"/> OTHER <input type="checkbox"/> IS ON FILE WITH THE CITY OF BARSTOW. IT IS MADE AVAILABLE PURSUANT TO SECTION 6250 et. seq., CALIFORNIA GOVERNMENT CODE UPON PAYMENTS OF THE APPROPRIATE FEE. THE CITY OF BARSTOW MAKES NO REPRESENTATION CONCERNING THE ACCURACY OF THESE ITEMS AND RECOMMENDS THAT THEY BE EXAMINED IN THE FIELD PRIOR TO MAKING ENGINEERING DECISIONS.</p>		<p>APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER</p> <p>DESIGNED: DTC R.C.E. NO. 49423 SHEET OF</p> <p>DRAWN: DTC DATE: 09/17/2018 PLAN NO.</p> <p>SCALE: AS-SHOWN AS BUILT:</p>	

100% INTERIM PLANS FEB 20, 2019 NOT FOR CONSTRUCTION

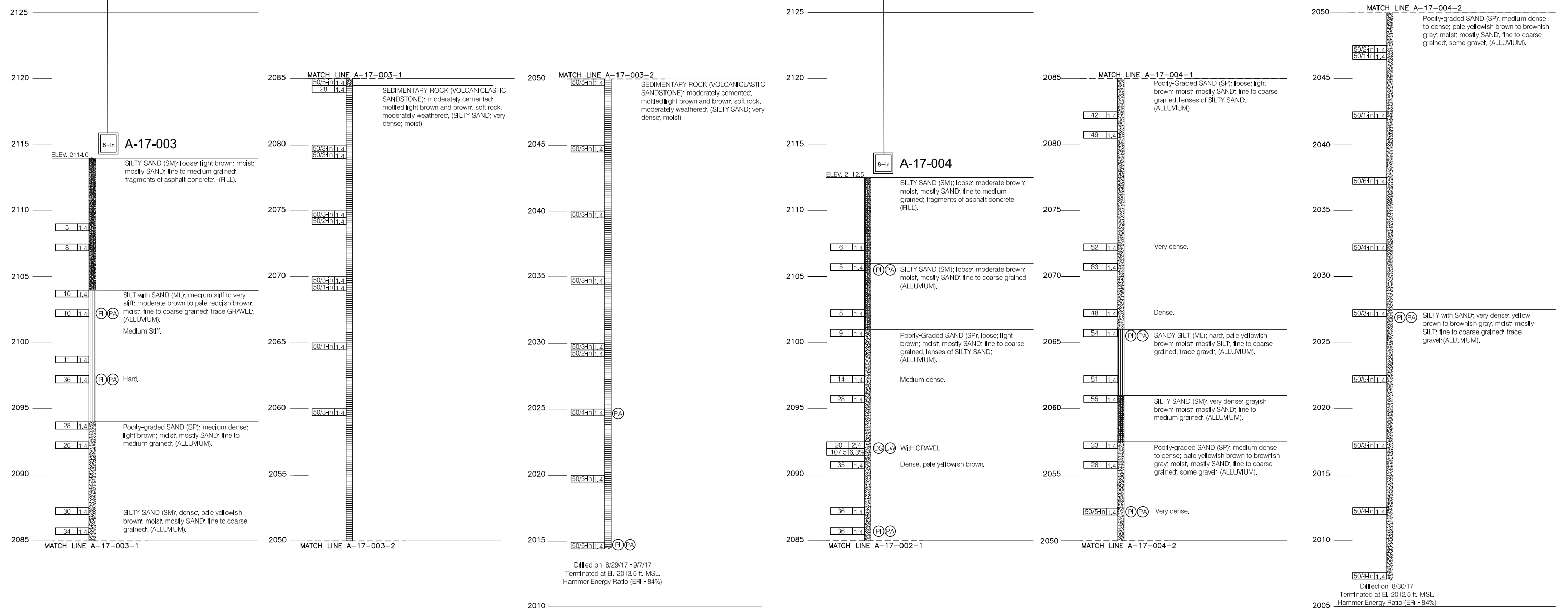


PROFILE
VERTICAL: 1 in. = 3.5 ft.

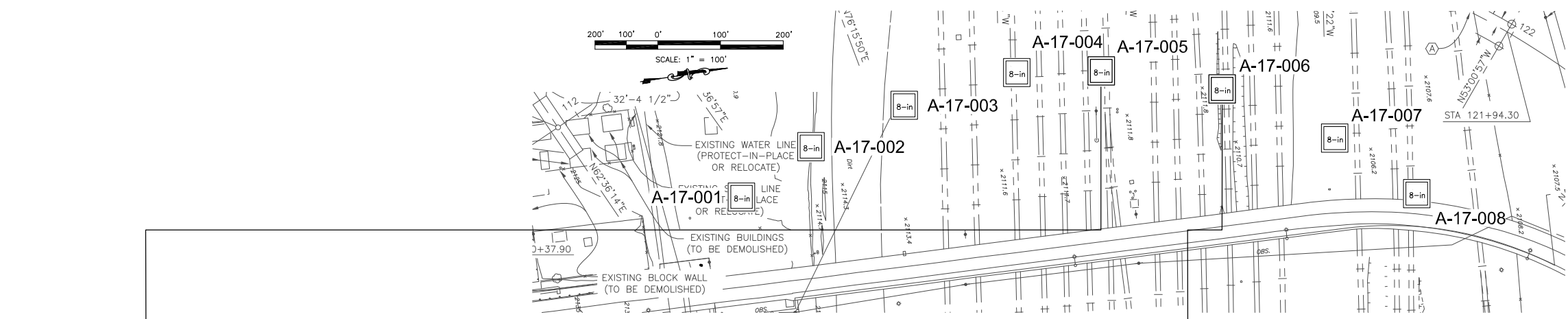
BENCHMARKS
 Designation: _____
 Description: _____
 Location: _____
 Elevation: _____
 Datum: _____

Elevations determined in the field by
referencing the plans provided by
Kleinfelder dated October, 2017.

Boring	Station No.	Offset
A-17-003	111+86	Borings performed along planned Center Line
A-17-004	113+63	



		SCST, Inc. 6280 Riverside Street San Diego, California 92120 PHONE: (619) 280-4321 FAX: (619) 280-4717	CITY OF BARSTOW 220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311 PHONE: (760) 256-3531 FAX: (760) 256-1750	CITY OF BARSTOW ENGINEERING DEPARTMENT--APPROVED BY: BRAD S. MERRELL CONSULTING CITY ENGINEER	CITY OF BARSTOW NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD LOG OF TEST BORING SHEET, BORINGS 3 AND 4 APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER DESIGNED: DTC R.C.E. NO. 49423 SHEET OF DRAWN: DTC DATE: 09/17/2018 PLAN NO. SCALE: AS-SHOWN AS BUILT:																																												
<table border="1"> <thead> <tr> <th>No.</th> <th>REVISION</th> <th>DATE</th> <th>BY</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	No.	REVISION	DATE	BY																																									PREPARED BY: THOMAS B CANADY R.C.E. NO. 50057 REGISTRATION EXPIRES: 3/31/19				
No.	REVISION	DATE	BY																																														



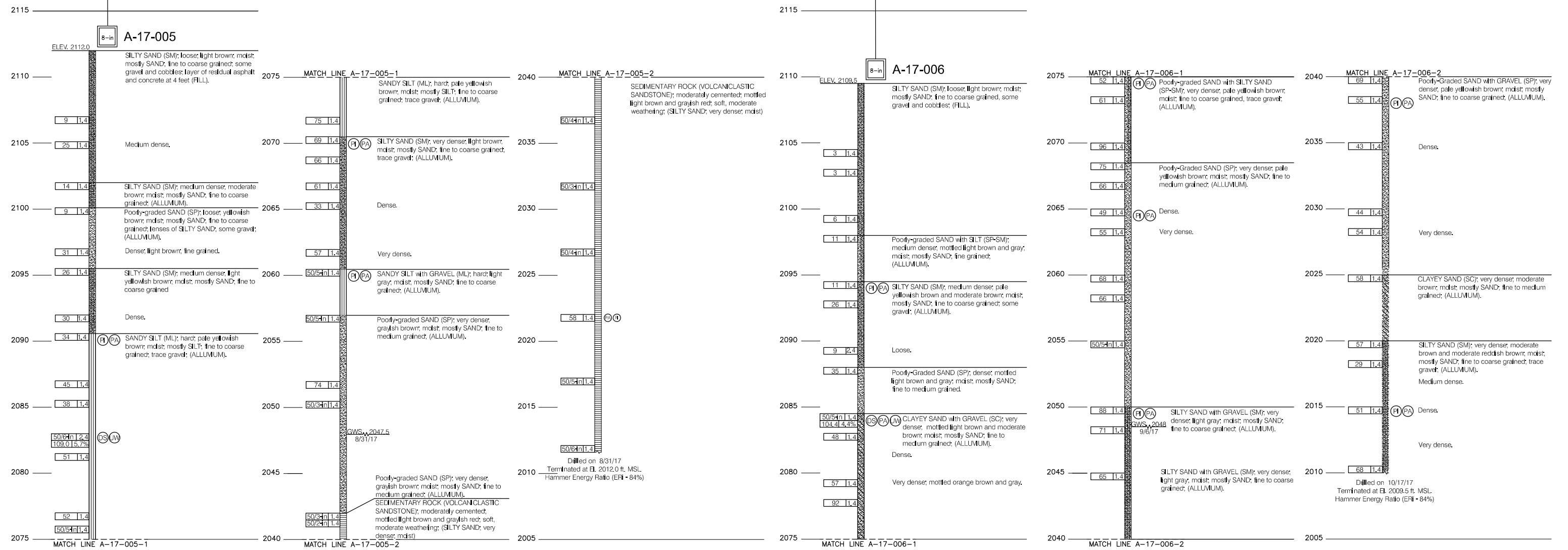
PROFILE

VERTICAL: 1 in. = 3.5 ft.

BENCHMARKS
 Designation: _____
 Description: _____
 Location: _____
 Elevation: _____
 Datum: _____

Elevations determined in the field by referencing the plans provided by Kleinfelder dated October, 2017.

Boring	Station No.	Offset
A-17-005	117+94	Borings performed along planned Center Line
A-17-006	119+94	Borings performed along planned Center Line



No.	REVISION	DATE	BY

PREPARED BY: THOMAS B CANADY R.C.E. NO. 50057
 REGISTRATION EXPIRES: 3/31/19

SCST, Inc.
 6280 Riverside Street
 San Diego, California 92120
 PHONE: (619) 280-4321
 FAX: (619) 280-4717

CITY OF BARSTOW
 220 E. MOUNTAIN VIEW ST SUITE A
 BARSTOW, CA 92311
 PHONE: (760) 256-3531
 FAX: (760) 256-1750

THIS PLAN SPECIFICATION DRAWING DOCUMENT
 OTHER IS ON FILE WITH THE CITY OF BARSTOW. IT IS MADE AVAILABLE PURSUANT TO SECTION 6250 et. seq., CALIFORNIA GOVERNMENT CODE UPON PAYMENTS OF THE APPROPRIATE FEE. THE CITY OF BARSTOW MAKES NO REPRESENTATION CONCERNING THE ACCURACY OF THESE ITEMS AND RECOMMENDS THAT THEY BE EXAMINED IN THE FIELD PRIOR TO MAKING ENGINEERING DECISIONS.

CITY OF BARSTOW ENGINEERING DEPARTMENT--APPROVED BY:

BRAD S. MERRELL DATE _____
 CONSULTING CITY ENGINEER

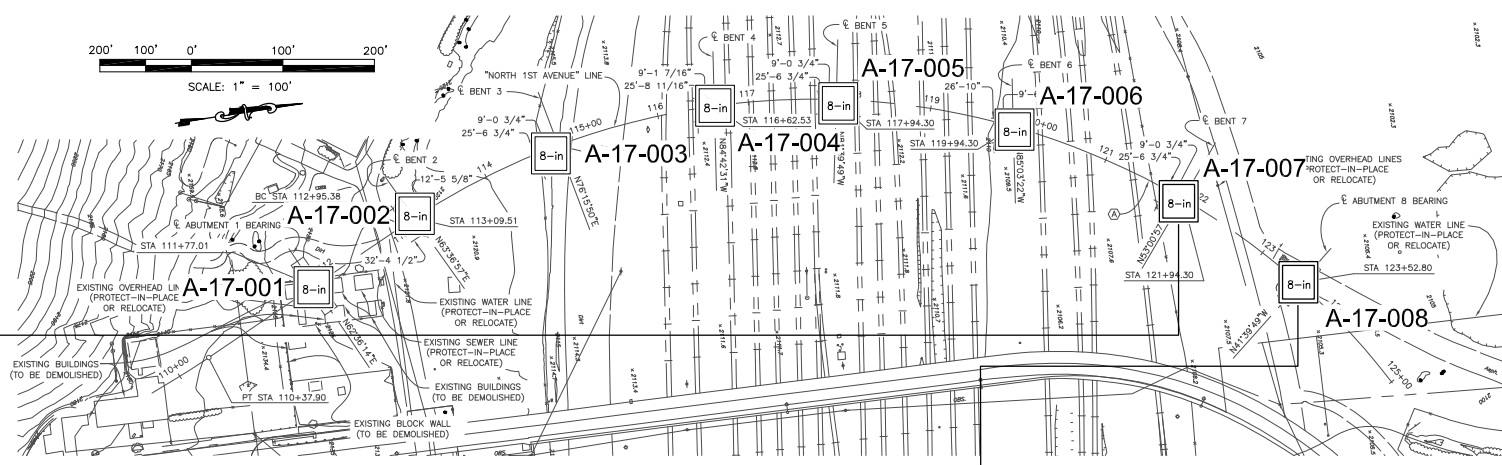
CITY OF BARSTOW

NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
 LOG OF TEST BORING SHEET, BORINGS 5 AND 6

APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER

DESIGNED: DTC	R.C.E. NO. 49423	SHEET OF
DRAWN: DTC	DATE: 09/17/2018	PLAN NO.
SCALE: AS-SHOWN	AS BUILT:	

100% INTERIM PLANS FEB 20, 2019 NOT FOR CONSTRUCTION

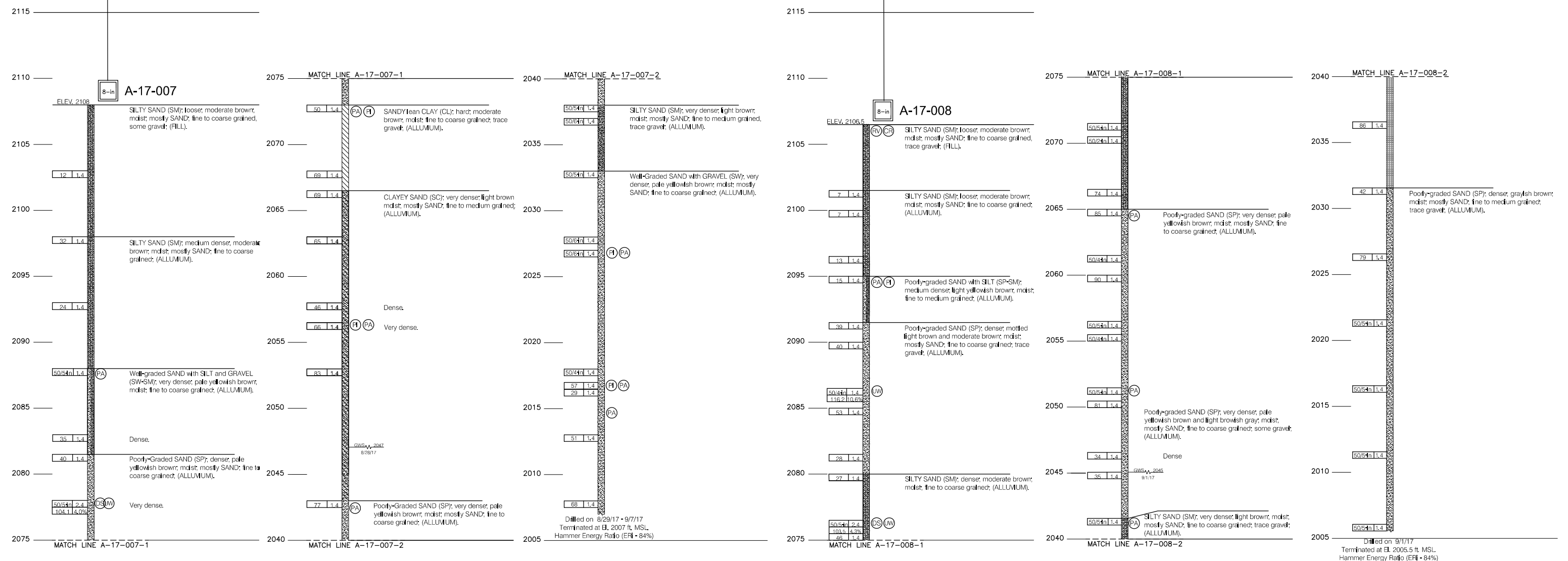


PROFILE
VERTICAL: 1 in. = 3.5 ft.

BENCHMARKS
 Designation: _____
 Description: _____
 Location: _____
 Elevation: _____
 Datum: _____

Elevations determined in the field by referencing the plans provided by Kleinfield dated October, 2017.

Boring	Station No.	Offset
A-17-007	111+94	Borings performed along planned Center Line
A-17-008	113+58	



		<p>SCST, Inc. 6280 Riverside Street San Diego, California 92120 PHONE: (619) 280-4321 FAX: (619) 280-4717</p>	<p>CITY OF BARSTOW 220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311 PHONE: (760) 256-3531 FAX: (760) 256-1750</p>	<p>CITY OF BARSTOW ENGINEERING DEPARTMENT--APPROVED BY: BRAD S. MERRELL DATE _____ CONSULTING CITY ENGINEER</p>	<p>CITY OF BARSTOW NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD LOG OF TEST BORING SHEET, BORINGS 7 AND 8</p> <p>APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER</p> <p>DESIGNED: DTC R.C.E. NO. 49423 SHEET _____ OF _____</p> <p>DRAWN: DTC DATE: 09/17/2018 PLAN NO. _____</p> <p>SCALE: AS-SHOWN AS BUILT: _____</p>																				
<table border="1"> <thead> <tr> <th>No.</th> <th>REVISION</th> <th>DATE</th> <th>BY</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	No.	REVISION	DATE	BY																	<p>PREPARED BY: THOMAS B CANADY R.C.E. NO. 50057 REGISTRATION EXPIRES: 3/31/19</p>				
No.	REVISION	DATE	BY																						

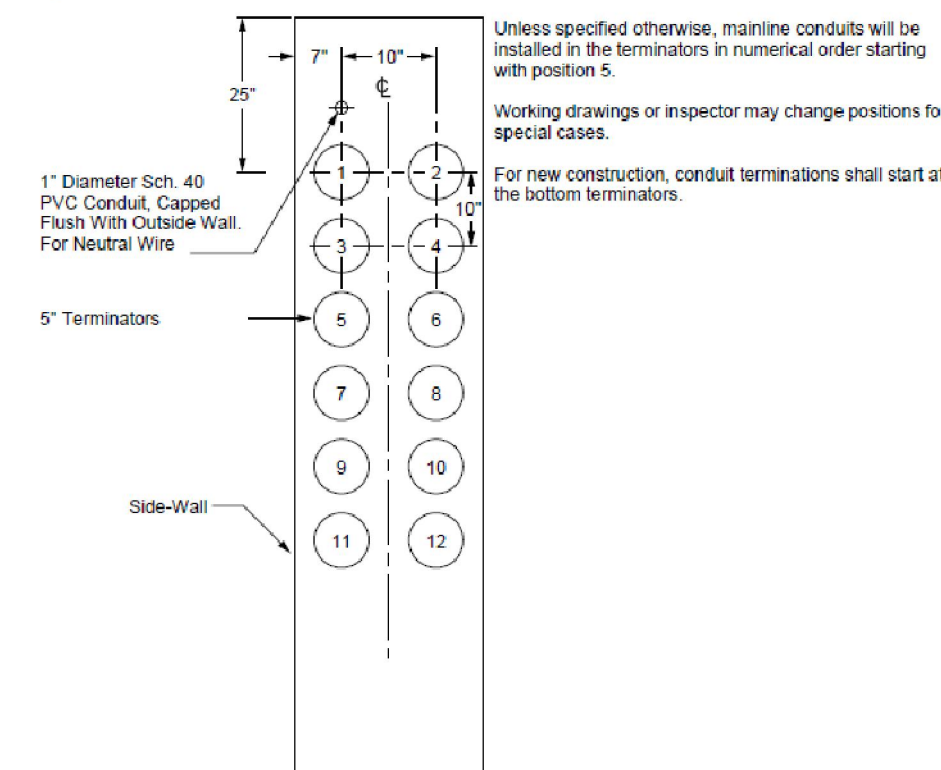
100% INTERIM PLANS FEB 20, 2019 NOT FOR CONSTRUCTION

Exhibit A-2

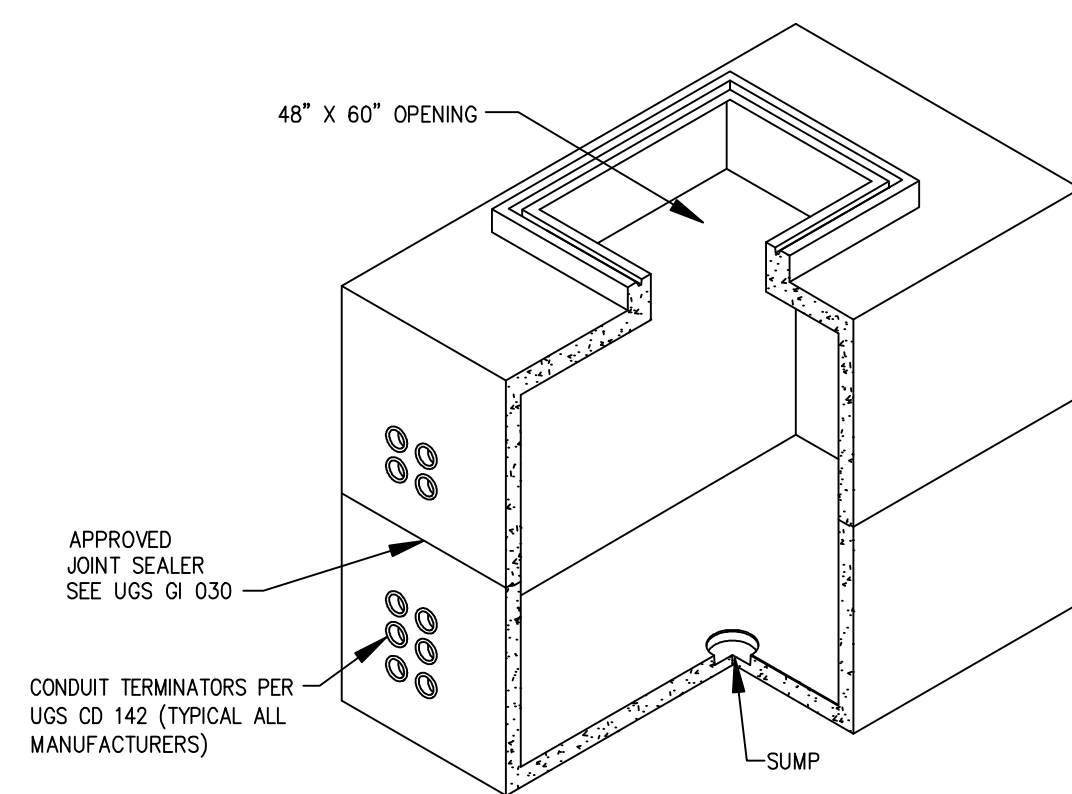
UTILITY RELOCATION PLANS

DRAFT

Figure CD 142-1: Conduit Terminators for Precast Tunnel Vaults



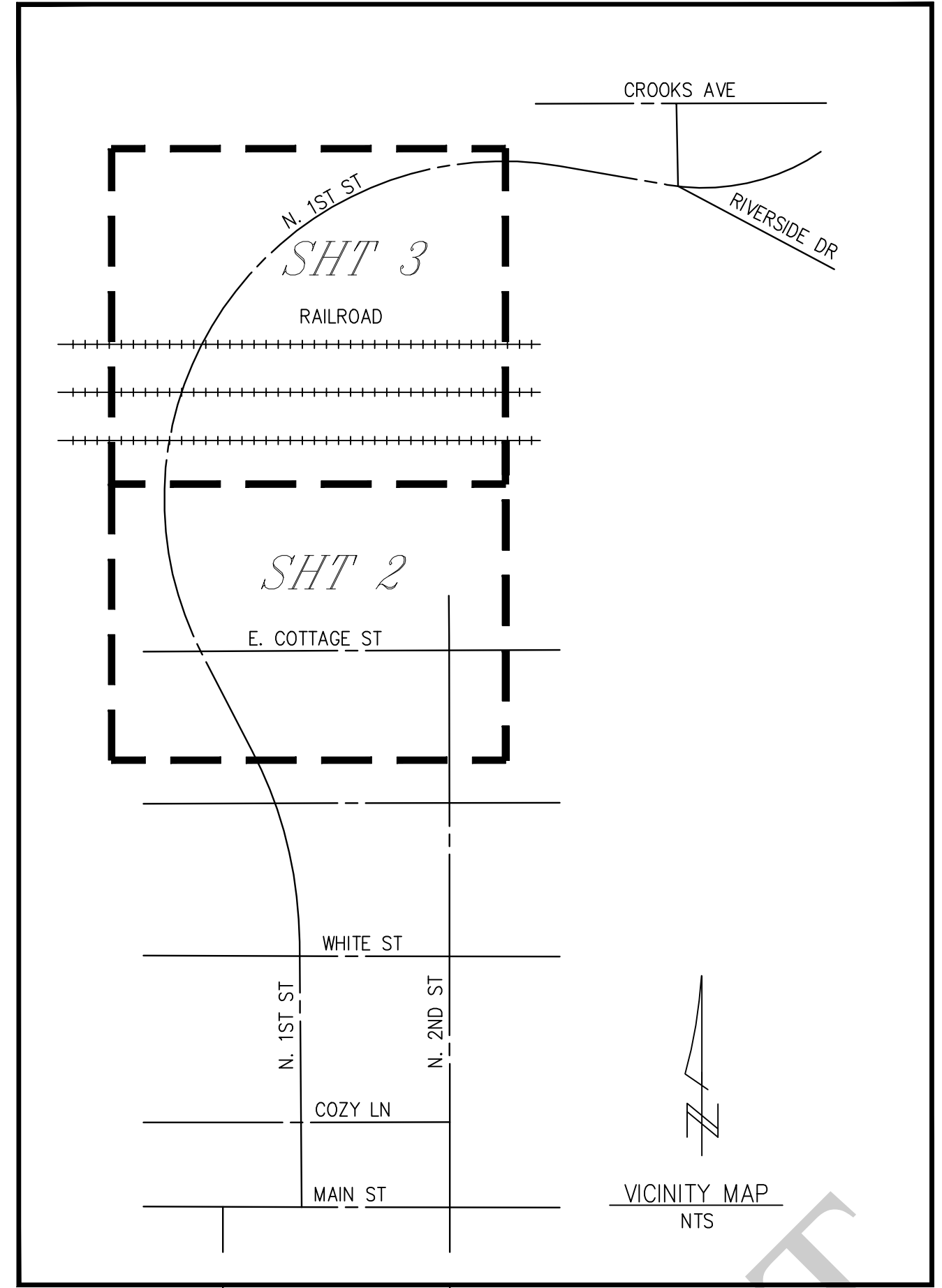
PRECAST TUB-TYPE VAULTS SEE UGS VA 410



CONSULT MANUFACTURER'S INSTALLATION GUIDES FOR EXACT EXCAVATION DIMENSIONS FOR EACH STRUCTURE SIZE.

ITEM NUMBER	NOMINAL SIZE	TYPE	MANUFACTURER'S NUMBERS	
			JENSEN PRECAST	UTILITY VAULT CO.
V510	5' x 10'-6\"/>			

NOTES:
 1. CONDUIT TERMINATORS TO BE GENERALLY LOCATED AS SHOWN ON UGS CD 142. STANDARD CONDUIT ENTRANCE SHALL BE A FLATWALL DESIGN. SLIGHT VARIATIONS BY MANUFACTURERS MAY BE ALLOWABLE WITH COMPANY APPROVAL.
 2. TUB-TYPE STRUCTURES SHALL BE FURNISHED WITH 1/2\"/>

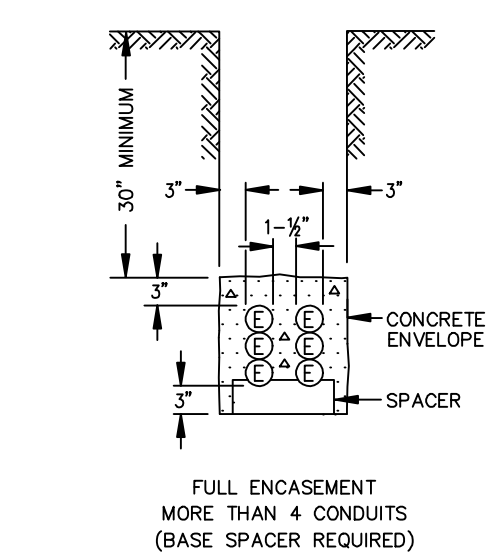


LIST OF MATERIALS [EDISON CO.]

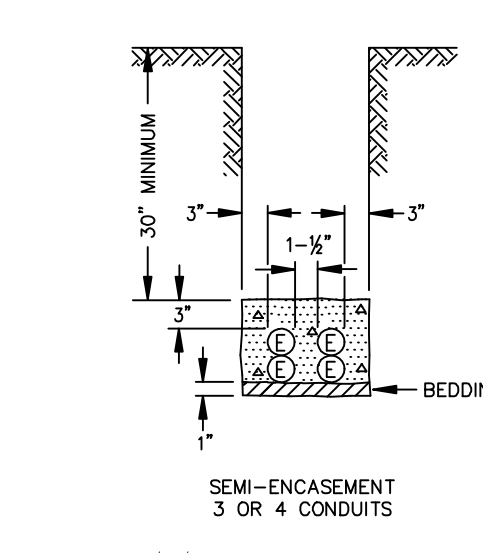
NOTES:
 1. Footage quantities are approximate.
 2. Where reference is to an item not detailed, see separate description list.
 3. This list provides a summary of major items.

QUAN.	UNIT	DESCRIPTION	SIZE	ITEM NO.	REF. DWG.	REV. DATE
2	EACH	VAULT	7' x 18' x 8'	V718A	UGS-VA 410	02/11
2	EACH	VAULT COVER (TRAFFIC)	4' x 5'	UGS-FC 660	05/05	
4	EACH	GRADE RINGS (VAULT)	6\"/>			

TYPICAL CONDUIT BANK SECTION SEE UGS CD 120



TYPICAL CONDUIT BANK SECTION SEE UGS CD 120

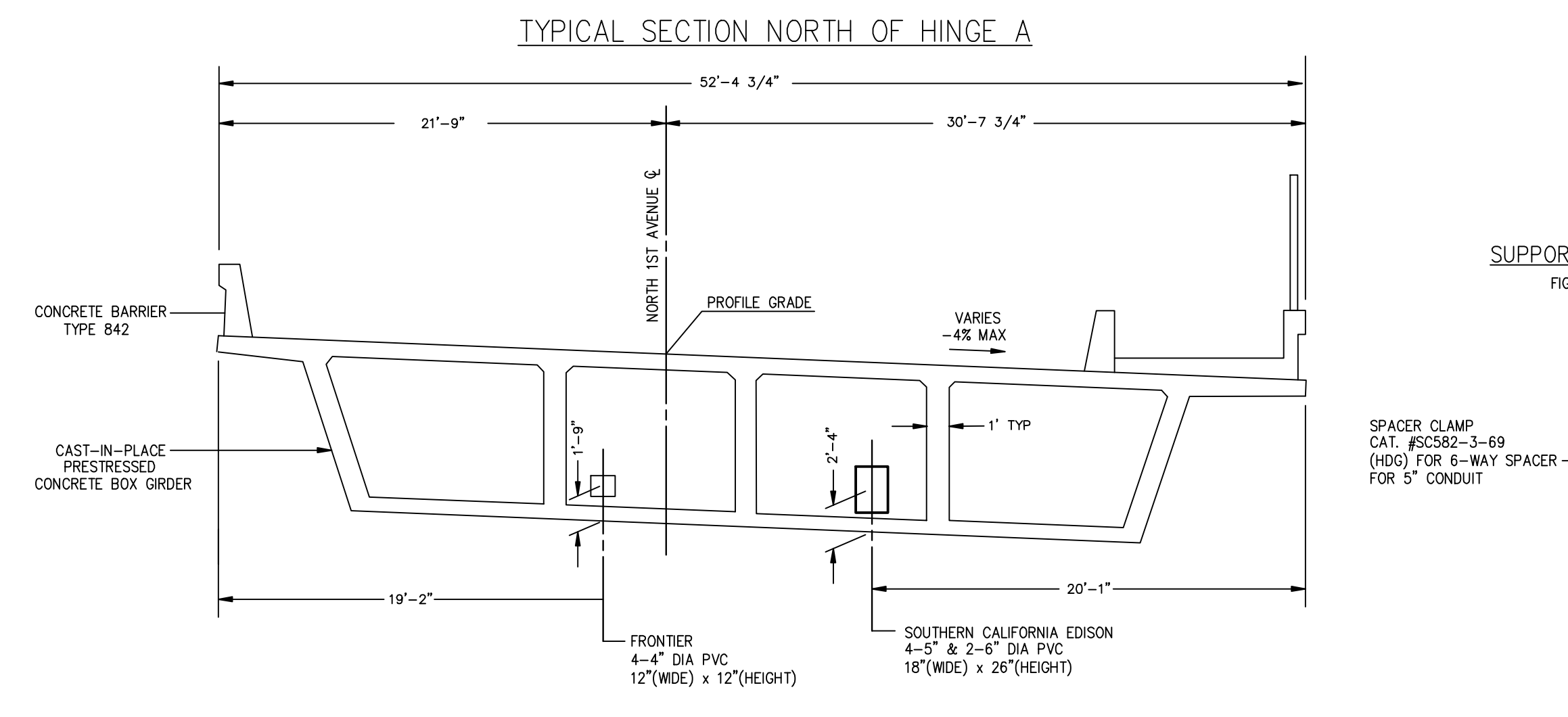
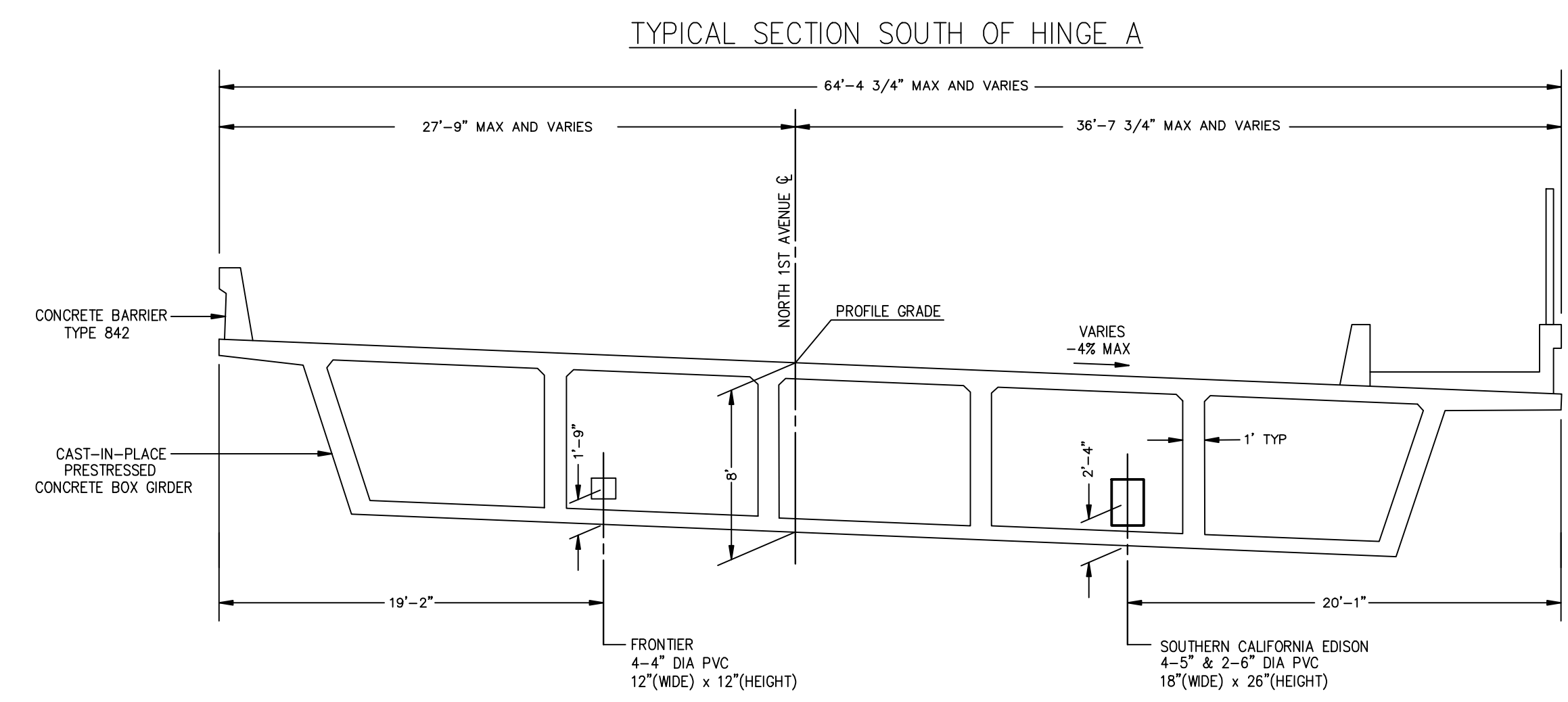


CONCRETE PRODUCTS

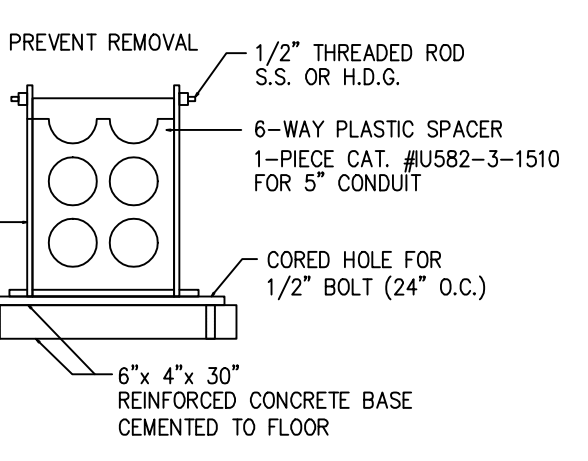
Precast concrete item complete with neck. Cover and inserts may be obtained from any of the following listed and approved manufacturers:

- JENSEN PRECAST
14221 San Bernardino Ave., Fontana, Calif. 92335
Phone: (909) 350-4111
(800) 257-6100
- OLDCASTLE PRECAST
10650 Hemlock Ave., Fontana, Calif. 92337
Phone: (909) 428-3700
(800) 626-3860

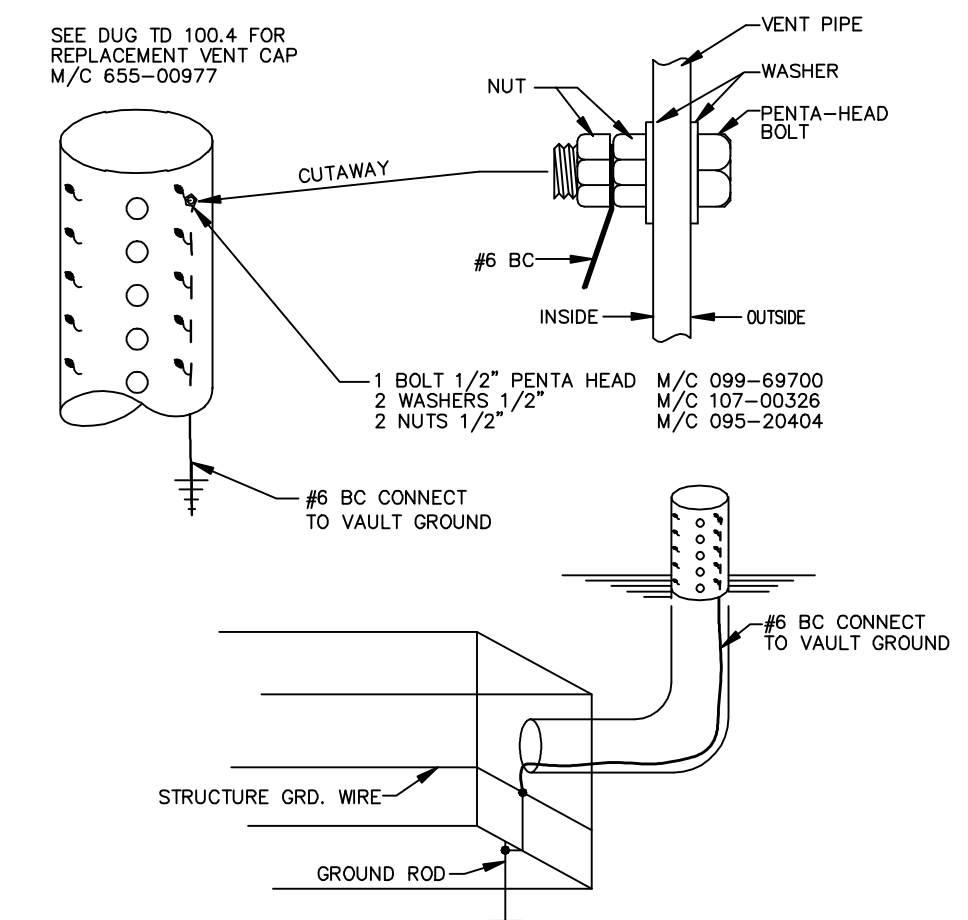
FOR HANDHOLE AND PULLBOX MANUFACTURERS SEE UGS HP 200.



SUPPORTS FOR CONDUITS ON BRIDGE FIGURE CD 190-2.5: TYPE 'C' DETAILS

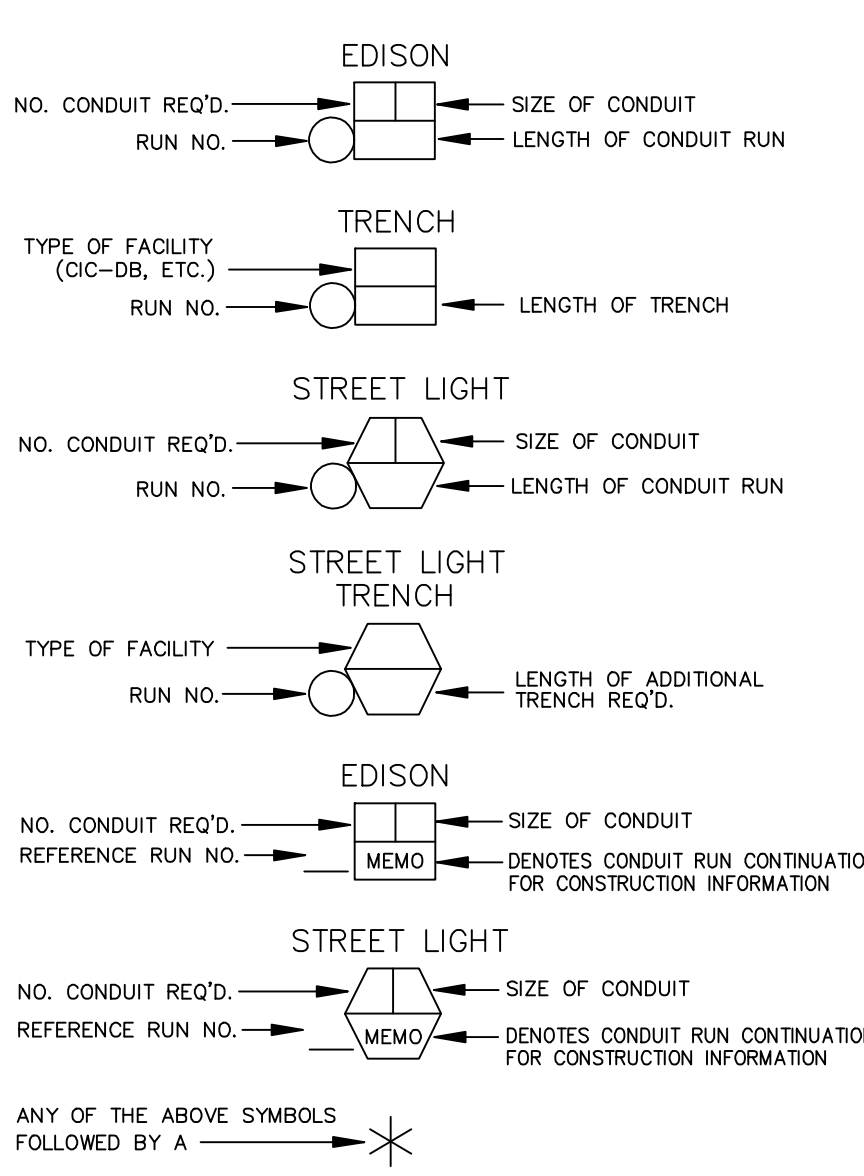


GROUND CONNECTION INSTALLATION IN A PVC VENT SEE UGS AC 760.1



NOTE:
 TO ASSIST IN UNDERGROUND STRUCTURE LOCATING FROM THE SURFACE, INSTALL A #6 BARE COPPER WIRE FROM INSIDE THE VENT PIPE TO THE STRUCTURE GROUND SYSTEM. THIS INSTALLATION WILL ALLOW A SINGLE PERSON CREW TO TIE INTO THE SYSTEM GROUND AND LOCATE THE FACILITIES (MARKED). THE INSTALLATION SHOULD BE MADE DURING NEW CONSTRUCTION, ADDED TO THE APPROPRIATE STRUCTURE DURING THE ROUTINE MAINTENANCE CYCLE, OR AS THE NEED ARISES BY REQUEST FOR ASSISTANCE FROM THE CONTRACT CABLE LOCATING COMPANY.

LEGEND OF CONDUIT SYMBOLS (CONVENTIONAL U. G.)



NOTES:
 DENOTES THE FOLLOWING:
 DB CONDUIT WITHOUT ENCASEMENT IS ACCEPTABLE FOR PORTIONS OF TRENCH WITH ONLY ONE OR TWO CONDUITS
 SEMI-ENCASEMENT IS REQUIRED FOR PORTIONS OF TRENCH WITH ONLY THREE OR FOUR CONDUITS
 FULL ENCASEMENT IS REQUIRED FOR MORE THAN FOUR CONDUITS

PROJECT REQUIREMENTS (Y/N)

EDISON EASEMENT REQUIRED	<input checked="" type="checkbox"/>
PWRD 88 REQUIRED	<input checked="" type="checkbox"/>
UG CIVIL ONLY WORK ORDER	<input checked="" type="checkbox"/>
PERMIT REQUIRED	<input type="checkbox"/>
PERMIT TYPE:	
OUTAGE DATE:	
TRAFFIC CONTROL REQUIRED	<input type="checkbox"/>
PED. TRAFFIC CONTROL REQ'D	<input type="checkbox"/>
CONVEYANCE LETTER REQ'D	<input type="checkbox"/>
ENVIRONMENTAL CLEARANCE REQ'D	<input type="checkbox"/>
CSD 140 (TLM) REQ'D	<input type="checkbox"/>

- CONSTRUCTION NOTES:
 Unless otherwise specified on the working drawing which forms a part of the specification, the Contractor/Developer shall furnish the following items at no cost to the Edison Company.
 Southern California Edison Company has attempted to correctly show all existing utilities and substructures in the vicinity of the work, but does not guarantee there are no other substructures in the area.
 Failure of SCE to show all substructures in their correct location will not be a basis for a claim for extra work, and the contractor shall be responsible for all damages to substructures whether shown or not.
- FOR GENERAL SPECIFICATIONS SEE UGS GI 001.
 - CONDUIT:
 - Minimum cover in street or parkway is 30\"/>
 - CONDUIT RADIUS REQUIREMENTS:
 - The minimum radius for bends are:
 36\"/>
 - EXCAVATION AND BACKFILL:
 - Work area shall be cleared and rough graded to within four inches of final grade prior to installation of Edison conduit or structures.
 - All excavations shall be in accordance with the California State Construction Safety Orders (when applicable), Edison specifications, and all governing local ordinances.
 - Each trench to be a uniform depth below final grade prior to installation of Edison conduit or structures.
 - Backfill shall be provided by the Contractor for all excavations and shall include crushed rock, concrete, and/or imported backfill, when required.
 - Backfill with a MINIMUM of one sack per yard sand cement slurry around and over vaults and manholes per UGS GI 030, section 6.4 and around PMH's within one foot of finished grade, per UGS SS 590.1.
 - Backfill, per Edison specifications, shall immediately follow conduit or substructure installation. At no time shall conduit be left exposed over 24 hours.
 - No rocks are allowed within 12 inches of direct-buried cables or any conduit without concrete encasement. Native backfill capable of passing through a one-half inch mesh screen shall be considered to be 'rock free'. If existing backfill does not pass through a 1/2\"/>
 - PAVING:
 - Repaving, where required, shall be placed in such a manner that interference with traffic, including pedestrian traffic, will be kept to a minimum. The Contractor shall establish a program of repaving acceptable to the Municipality, County, or other authority having jurisdiction and which is acceptable to Edison.
 - STRUCTURES:
 - All substructures shall be constructed or installed to Edison specifications.
 - Install protection barriers per UGS MS 830 when required in areas exposed to traffic, per Edison Inspector.
 - All conduit lines and concrete floored substructures shall be water tight.
 - All grounding materials shall be furnished and installed by the Contractor.
 - RETAINING WALLS:
 - When required, retaining walls shall be provided by the Developer. Walls are required wherever grade rises more than 18 inches above the structure or 24\"/>
 - PERMITS:
 - All permits necessary for excavation shall be provided by the Contractor/Developer.
 - ACCESS:
 - Heavy truck access shall be maintained to equipment locations. Structures must be clear of all appurtenances that would obstruct the loading or unloading of equipment.
 - SERVICES:
 - Meters and services shall comply with Edison Electrical Services Requirements.
 - Wiring must be in accordance with applicable local ordinances and approved by local Inspection Authorities.
 - LOCATION:
 - The location of excavations and structures for Edison shall be as shown on the working drawing. No deviation from the planned locations will be permitted unless approved by the Edison Inspector. See UGS GI 001, section 2.2.
 - Actual location of obstructions, storm drains, and/or other foreign utilities to be the responsibility of the Contractor. See UGS GI 001, section 2.3.
 - CONTRACTOR IS TO VERIFY LOCATION AND WIDTHS OF ALL SIDEWALKS AND DRIVEWAYS PRIOR TO STREET LIGHT INSTALLATION. SEE UGS CD 175.1, UGS CD 175.2 AND UGS CD 175.3.
 - SURVEY:
 - Surveying of street improvements, property corners, lot lines, finished grade, etc., necessary for the installation of underground facilities must be completed and markers or stakes placed prior to the start of the installation. In addition, Developer shall maintain the markers during the installation and inspection by Edison. Grade and property line stakes must show any offset measurements.
 - COORDINATION AND SUPERVISION:
 - The Developer shall provide supervision over and coordination among the various contractors working within the development in order to prevent damage to Edison facilities. He is responsible for the cost of repairs, replacement, relocation, or other corrections to Edison facilities made necessary by his failure to provide supervision or to otherwise comply with these specifications.
 - TELEPHONE AND OTHER UTILITY REQUIREMENTS:
 - The drawing prepared for this job may also cover the facilities to be installed for the telephone company and/or other utility. Any questions concerning details of their installation should be referred to the company concerned.
 - OWNERSHIP:
 - Developer is to deed to the Edison Company all structures shown herein except those shown as customer owned.
 - WARRANTY:
 - Applicants expressly represent and warrant that all work performed and all material used in meeting Applicants' obligations herein are free from defects in workmanship and are in conformity with Southern California Edison Company's requirements. This warranty shall commence upon receipt by Applicants of Company's final acceptance and shall expire one year from that date. Applicants agree to promptly correct to the Company's satisfaction and that of any governmental agency having jurisdiction and of Applicant's expense any breach of this warranty which may become apparent through inspection or operation of underground electric system by Company during this warranty period.
 - INSPECTION:
 - Inspection is required during the construction period. A 48 hour advance notice of intent to start construction is required from the contractor to the Southern California Edison Company. Standards of Edison construction requirements are available upon request.

Duct and Structure Inspector: PAUL KANESKI Phone: (951)440-8641
 Cabling Construction Coordinator: Phone:

005: Rev. 07/21/16

WARNING
 THE EXCAVATOR MUST TAKE ALL STEPS NECESSARY TO AVOID CONTACT WITH UNDERGROUND FACILITIES WHICH MAY RESULT IN INJURY TO PERSONS OR DAMAGE TO FACILITIES IN THE AREA. THE INDICATED LOCATIONS OF EDISON UNDERGROUND FACILITIES, AS PROVIDED, ARE BELIEVED TO BE ACCURATE. HOWEVER, THE FINAL DETERMINATION OF EXACT LOCATIONS AND THE COST OF REPAIR TO DAMAGED FACILITIES IS THE RESPONSIBILITY OF THE EXCAVATOR.

RUN NUMBER CALL-OUTS AS FOLLOWS:

- (1 - 16) MAINLINE CONDUIT
- (NA - NA) SERVICE CONDUIT
- (101 - 121) STREET LIGHT CONDUIT

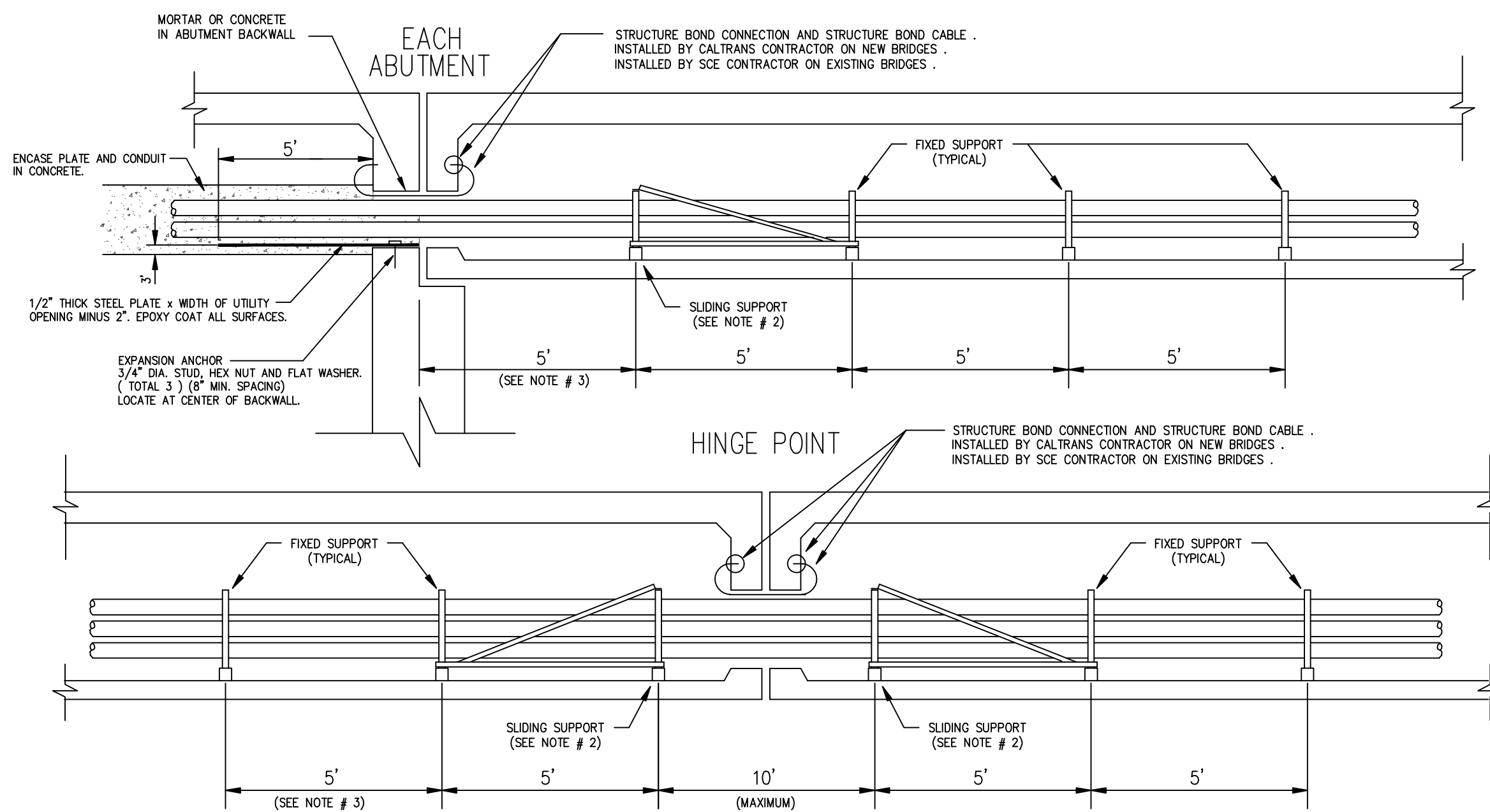
UNDERGROUND SERVICE ALERT

Dial 811
 Call USA
 For Underground Locating
 2 Working Days Before You Dig

DISTRICT 72 - BARSTOW	PROJ. MGR. QUINN, DINDY (760) 951-3142	PLANNER BAFFORD, ERIC (909)838-1530	DESIGNER
PROJECT NO. 1861299	SERVICE REQUEST 2763983	USER NO. N/A	PRODUCT-1 TD1626254 - BRIDGE CROSSING
CIRCUIT / VOLTAGE MAUEL 12KV	THOMAS GUIDE	PRODUCT-2	ASSOC DESIGN
SUB / PG NO. BARSTOW	CIRCUIT CODE	PRODUCT-3	ASSOC DESIGN
INVENTORY MAP 510-2290-5	J.P.A. NO.	PROPOSED CONSTRUCTION (LOCATION) 1ST STREET BRIDGE CROSSING - MAT 2PD XSTR1 N 1ST ST & HUTCHINSON ST BARSTOW, CA 92311	
P 2/05/20	E. BAFFORD	10196	SHEET 1 OF 4
TYPE DATE APPROVED BY	CHECKED BY	DRAWN BY	PAX # SHEET

DETAIL "A"
BRIDGE SECTION

6 DUCT SYSTEM (NO SCALE)



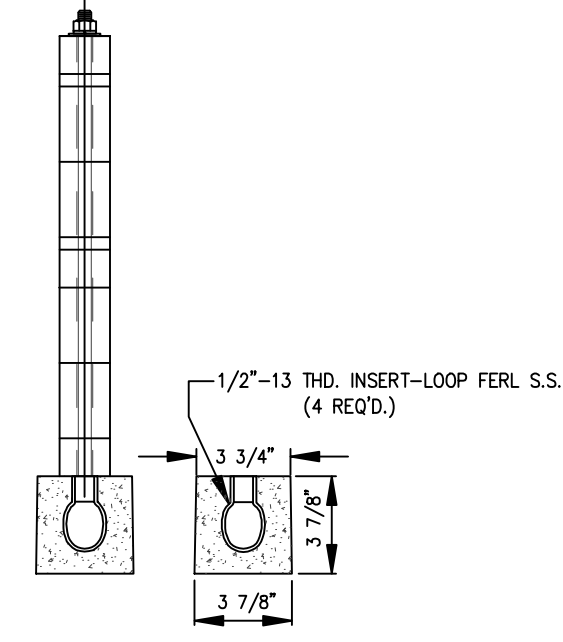
DETAIL "B"
BRIDGE ABUTMENT AND HINGE POINT

6 DUCT SYSTEM (NO SCALE)

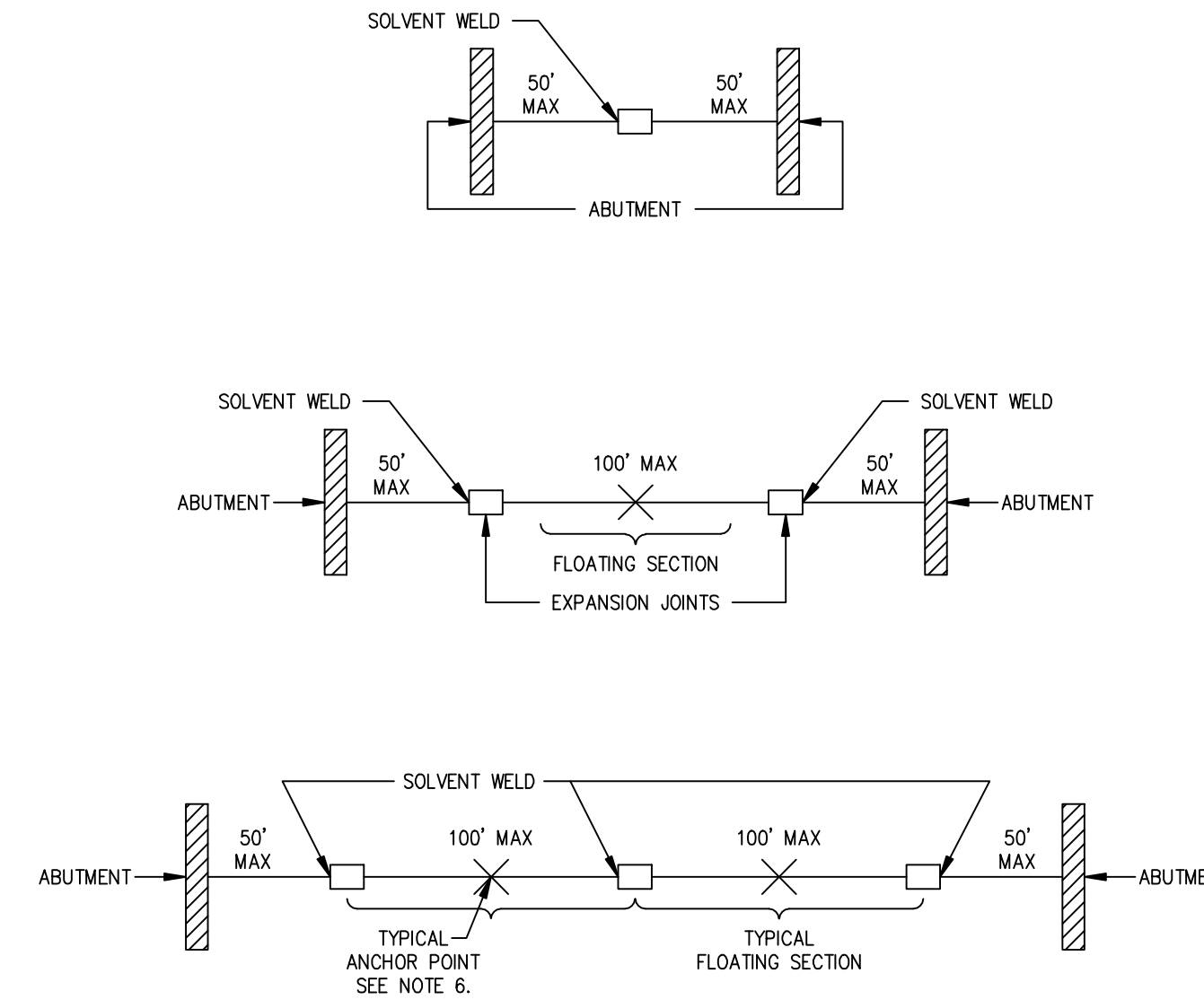
- NOTES:
- CONDUIT SHALL BE CENTERED (HORIZONTALLY) IN UTILITY OPENING.
 - SLIDING SUPPORTS SHALL BE INSTALLED AS FOLLOWS:
 - ONE AT EACH ABUTMENT.
 - ONE ON EACH SIDE OF ALL HINGE POINTS.
 - MAXIMUM SPACING BETWEEN CONDUIT SUPPORTS IS:
 - 5' SPACING FOR 6" PVC.
 - 5' SPACING FOR 4" OR 5" PVC.
 - ALL CONDUITS AND FITTINGS SHALL BE SCHEDULE 40 PVC MINIMUM.

DETAIL "C"
PVC CONDUIT DEFLECTION SUPPORT

6 DUCT SYSTEM (NO SCALE)

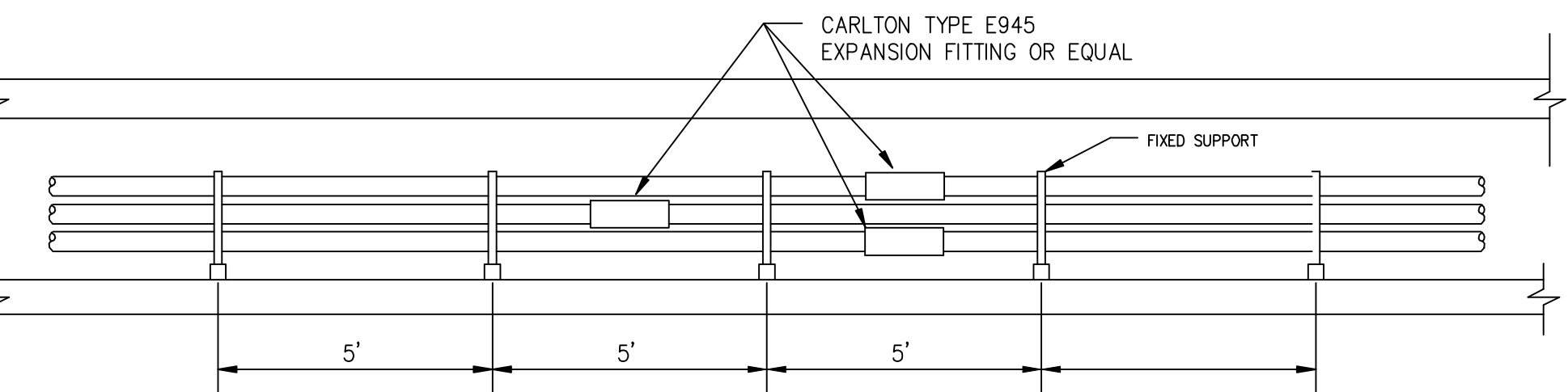
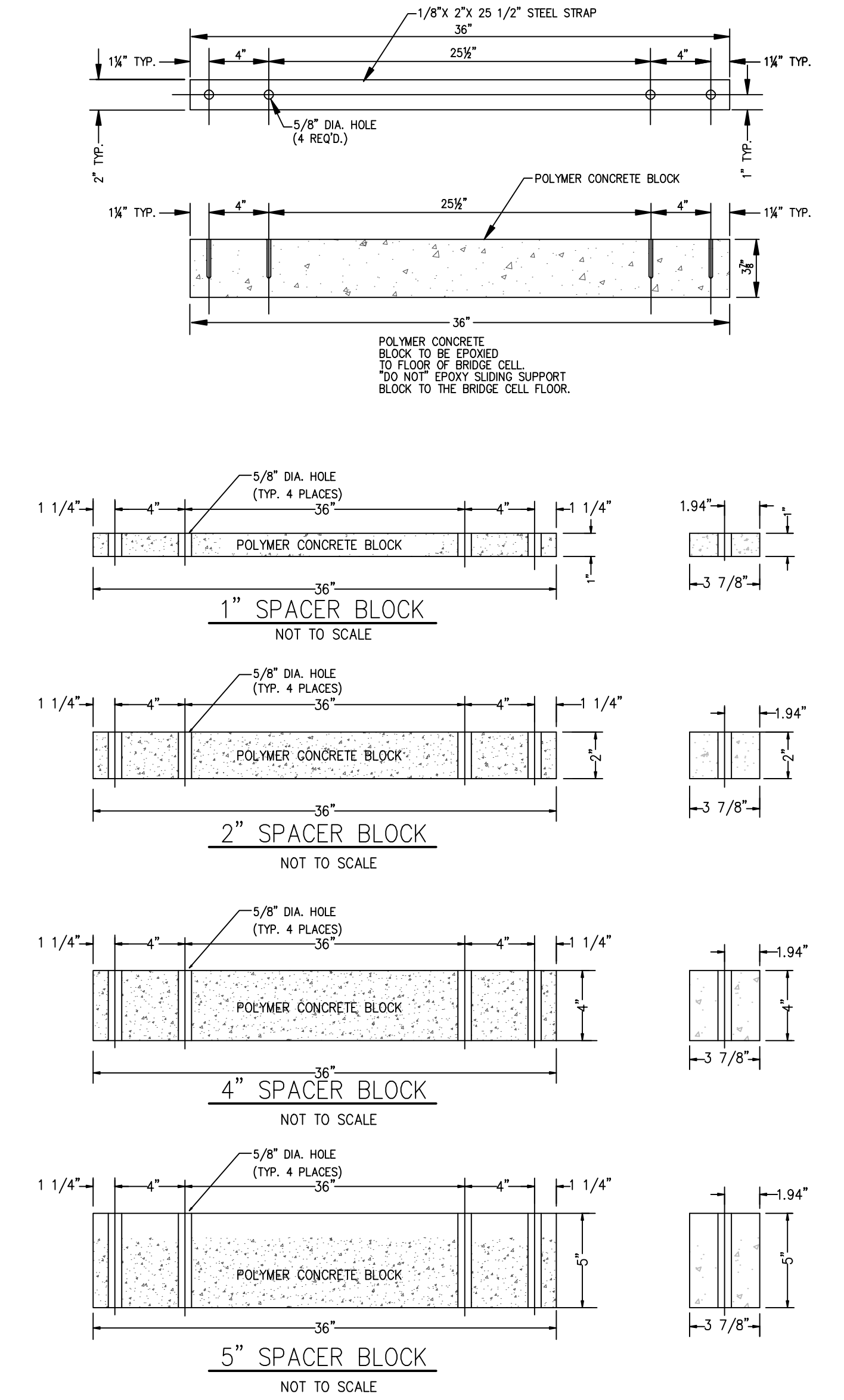


EXPANSION JOINT FOR PLASTIC CONDUIT
SEE UGS CD 191



- NOTE(S):
- THE EXPANSION JOINT IS A LENGTH OF COUPLING STOCK EXTRUDED FROM THE SAME MATERIAL AS THE CONDUIT THAT IT JOINS.
 - THE MATING ENDS OF CONDUIT WILL BE BEVELLED TO PROVIDE A SMOOTH TRANSITION WITHIN THE JOINT.
 - THE EXPANSION JOINT WILL BE SOLVENT WELDED THREE TO FOUR INCHES ONTO ONE END OF THE CONDUIT.
 - THE MATING END OF THE CONDUIT WILL THEN BE POSITIONED 22 INCHES INTO THE FREE END OF THE EXPANSION JOINT. DO NOT SOLVENT WELD.
 - INSTALL ALL EXPANSION JOINTS AT THE MIDWAY POINT BETWEEN CONDUIT SUPPORTS SO THE MAXIMUM DISTANCE CAN BE MAINTAINED FROM ALL SPACERS, SUPPORTS, OR STRAPS.
 - INSTALL THE EXPANSION JOINT WITHIN 50 FEET OF THE BRIDGE ABUTMENT PER CD 190. WHEN ONLY ONE EXPANSION JOINT IS REQUIRED, DO NOT ANCHOR THE EXPANSION JOINT OR CONDUIT. WHEN TWO OR MORE EXPANSION JOINTS ARE REQUIRED, EACH SECTION OF FLOATING CONDUIT MUST BE ANCHORED AT MID-POINT BETWEEN THE EXPANSION JOINTS TO PREVENT EXCESSIVE LONGITUDINAL MOVEMENT. CONDUIT TO BE ANCHORED BY SOLVENT WELDING COLLARS AT EACH SIDE OF HANGER SUPPORT.
 - EXPANSION JOINT MATERIAL SHALL BE UL LISTED.

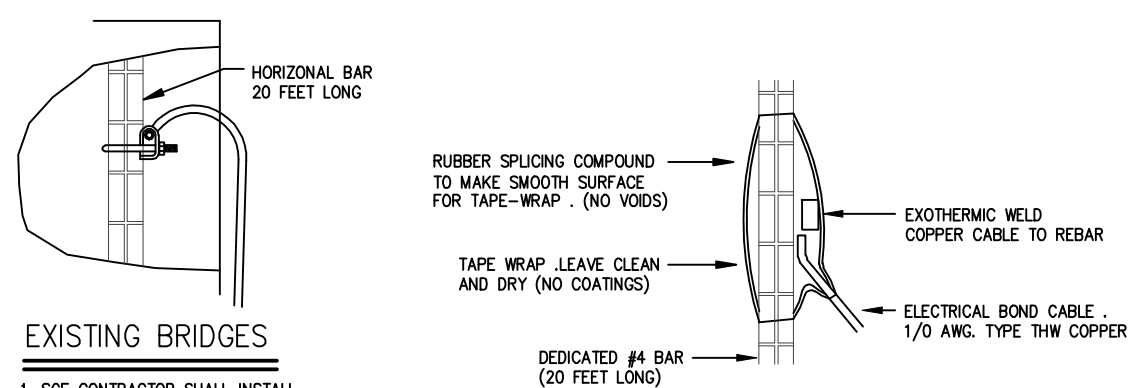
REF: UGS CD 191
D66 - Rev. 05/13/19



DETAIL "D"
BRIDGE EXPANSION FITTINGS

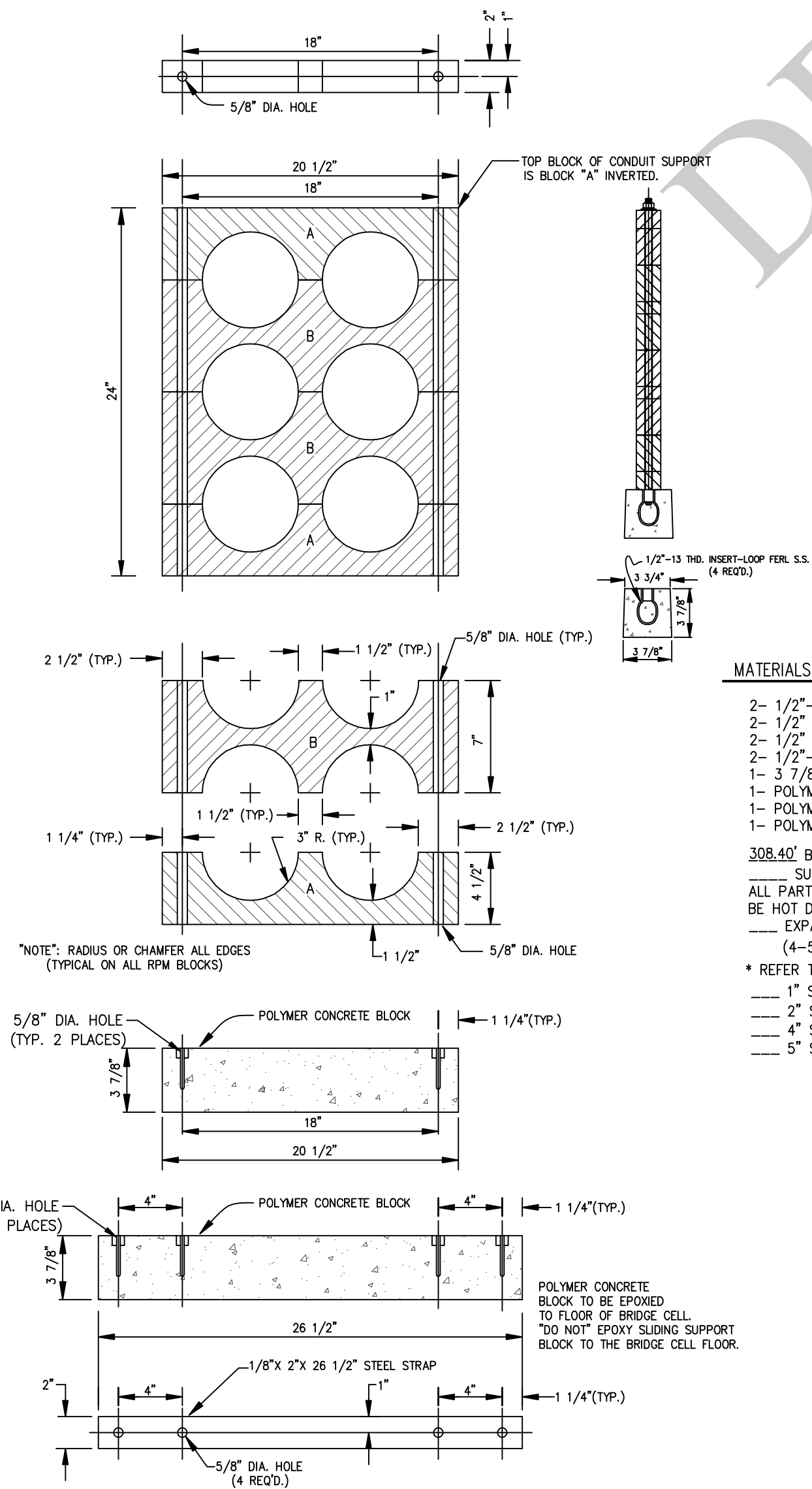
6 DUCT SYSTEM

- NOTE:
- INSTALL EXPANSION FITTINGS A MINIMUM OF 28" FROM ALL SLIDING SUPPORTS.
 - CENTER EXPANSION FITTINGS BETWEEN SUPPORTS AND STAGGER AS SHOWN.



DETAIL "E"
STRUCTURE BOND CONNECTION DETAILS

(NO SCALE)

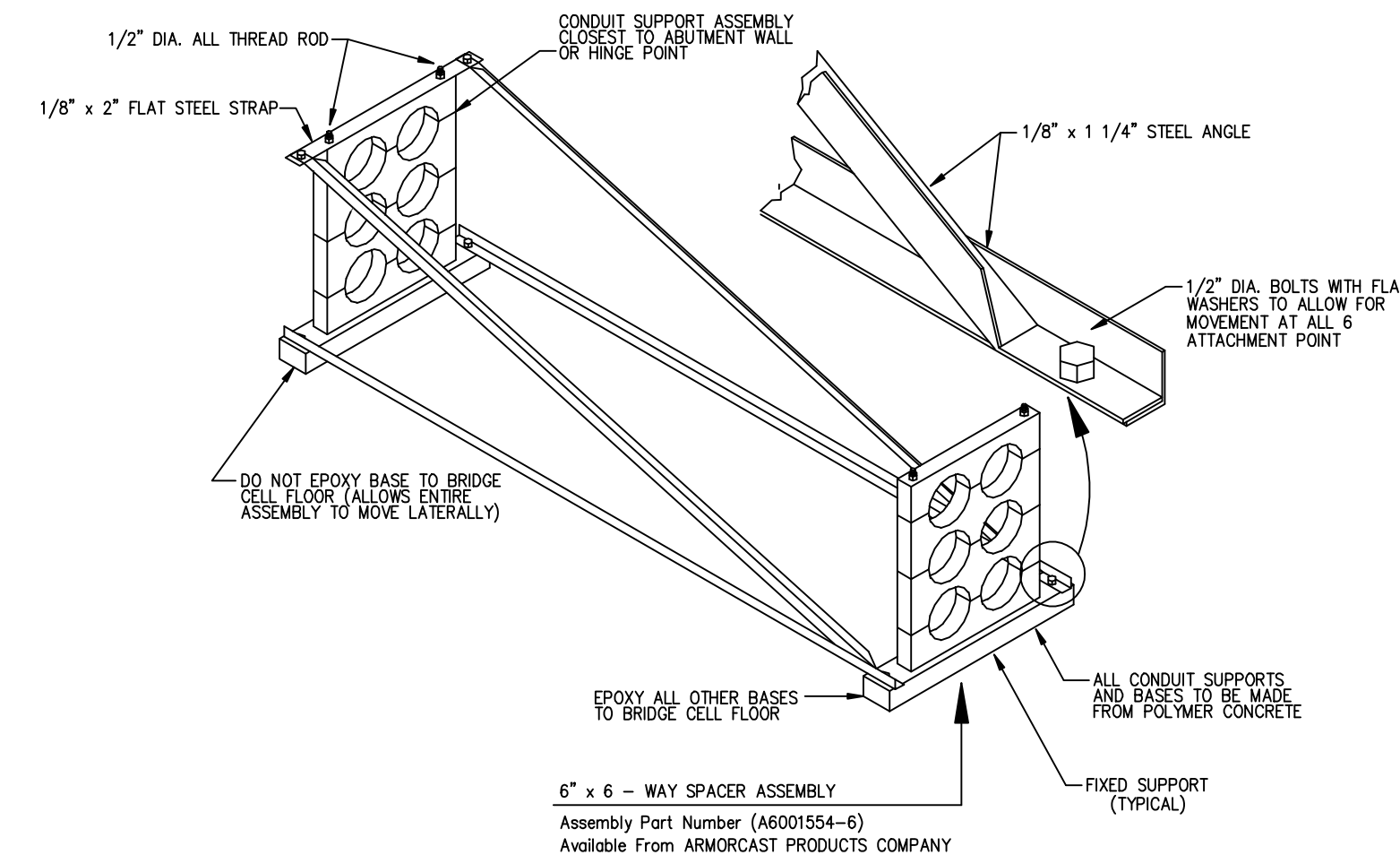


MATERIALS REQ'D. PER SOLID CONDUIT SUPPORT

- 2- 1/2"-13 HOT DIPPED GALVANIZED NUT
 - 2- 1/2" HOT DIPPED GALVANIZED WASHER
 - 2- 1/2" HOT DIPPED GALVANIZED LOCK WASHER
 - 2- 1/2"-13 X 30" HOT DIPPED GALVANIZED ALL-THREAD ROD
 - 1- 3 7/8" X 3 7/8" X 36" POLYMER CONCRETE BLOCK
 - 1- POLYMER CONCRETE BLOCK "A"
 - 1- POLYMER CONCRETE BLOCK "B"
 - 1- POLYMER CONCRETE BLOCK "C"
- 308.40' BRIDGE / 5' SPACING
- SUPPORTS REQ'D.
- ALL PARTS OF SUPPORT (EXCLUDING BLOCK) TO BE HOT DIPPED GALVANIZED AFTER FABRICATION.
- EXPANSION JOINT(S) REQ'D. PER UGS-CD191 (4-5" & 2-6")
- * REFER TO BRIDGE ABUTMENT AND BENT DETAIL
- 1" SPACER BLOCKS REQ'D.
 - 2" SPACER BLOCKS REQ'D.
 - 4" SPACER BLOCKS REQ'D.
 - 5" SPACER BLOCKS REQ'D.

DETAIL "C"
PVC CONDUIT DEFLECTION SUPPORT

6 DUCT SYSTEM (NO SCALE)



MATERIALS REQ'D. PER SLIDING CONDUIT SUPPORT

- 10- 1/2"-13 HOT DIPPED GALVANIZED NUT
- 10- 1/2" HOT DIPPED GALVANIZED FLAT WASHER
- 8- 1/2" HOT DIPPED GALVANIZED LOCK WASHER
- 6- 1/2"-13 X 1 1/4" HOT DIPPED GALVANIZED BOLTS
- 4- 1/2"-13 X 30" HOT DIPPED GALVANIZED ALL-THREAD ROD
- 2- 3 7/8" X 3 7/8" X 36" POLYMER CONCRETE BLOCK
- 1- 1/8" X 2" X 36" HOT DIPPED GALVANIZED STEEL STRAP
- 2- 1 1/4" X 1 1/4" X 1/8" X 64" ANGLE
- 2- 1 1/4" X 1 1/4" X 1/8" X 66" ANGLE

SUPPORTS REQ'D.
ALL PARTS OF SUPPORT (EXCLUDING BLOCK) TO BE HOT DIPPED GALVANIZED AFTER FABRICATION.

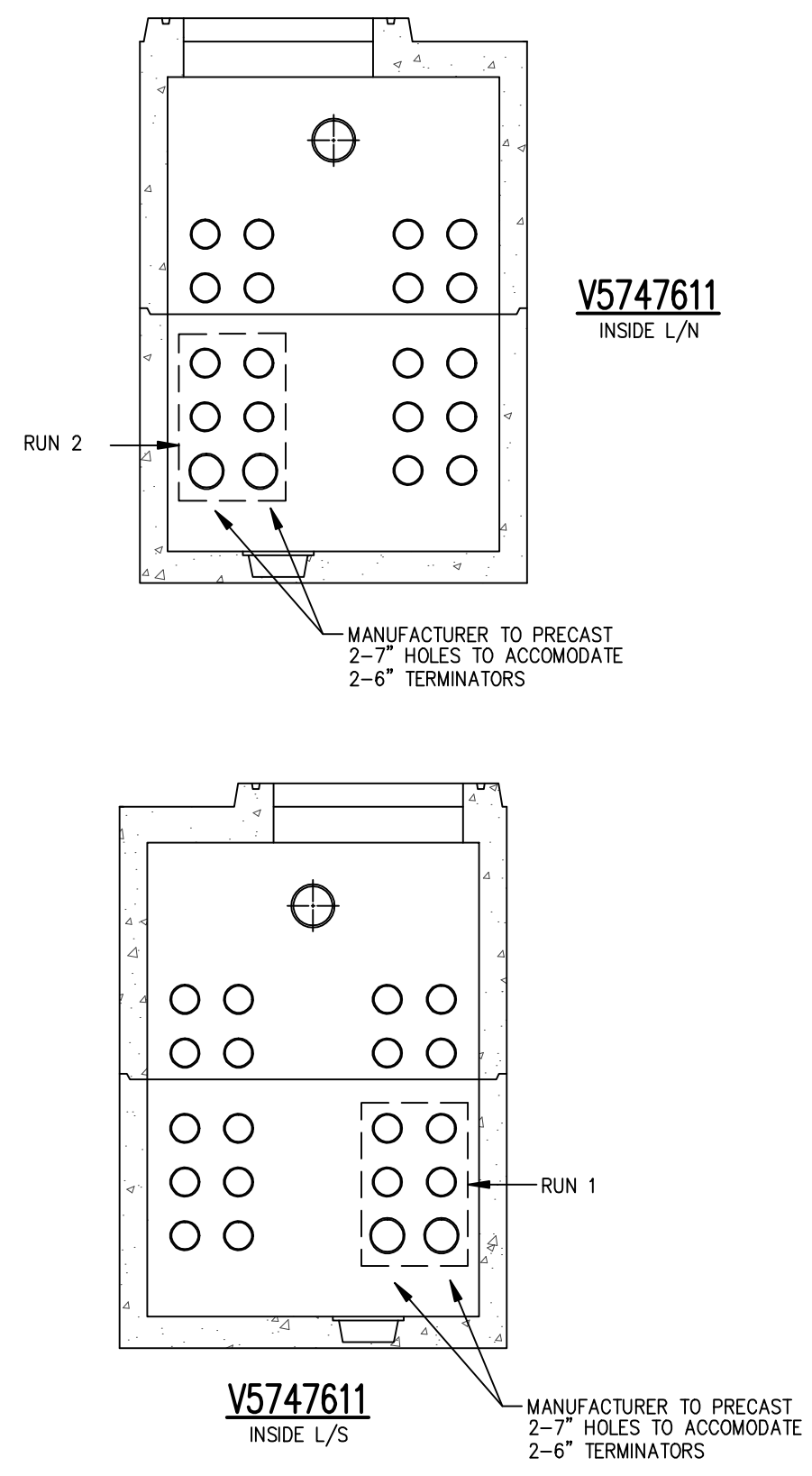


UNDERGROUND SERVICE ALERT

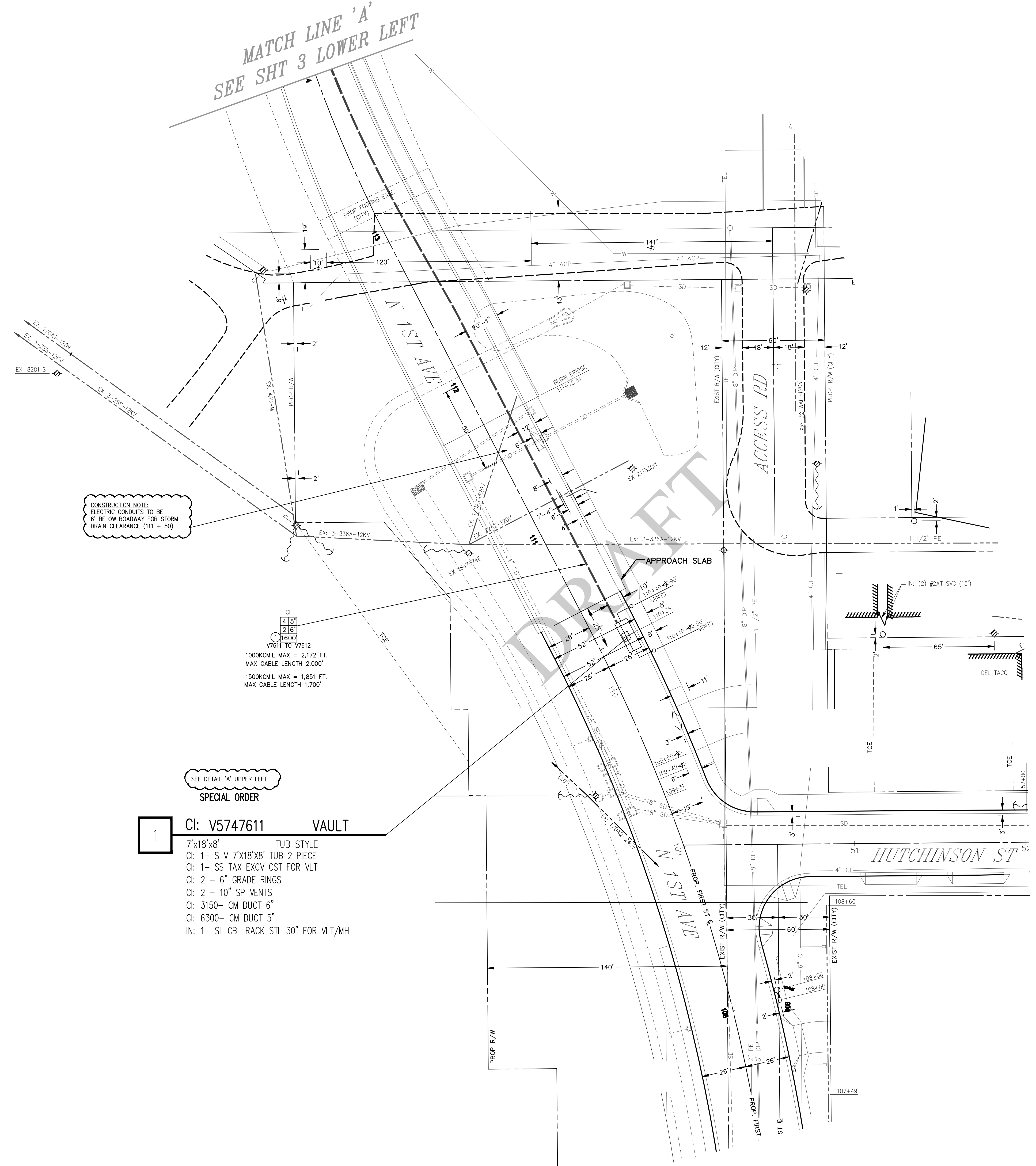
Dial 811
Call USA
For Underground Locating
2 Working Days Before You Dig

DISTRICT 72 - BARSTOW	PROJ. MGR. QUINN, CINDY PHONE (760) 951-3142	PLANNER BAFFORD, ERIC PHONE (909) 838-1530	DESIGNER
PROJECT NO. SERVICE REQUEST 1861299	USER NO. N/A	PRODUCT-1 TD1626254 - BRIDGE CROSSING	ASSOC. DESIGNER
CIRCUIT / VOLTAGE MAUEL 12KV	THOMAS GUIDE	PRODUCT-2	ASSOC. DESIGNER
SUB / PG. NO. BARSTOW	CIRCUIT CODE	PRODUCT-3	ASSOC. DESIGNER
INVENTORY MAP 510-2290-5	J.P.A. NO.	PROPOSED CONSTRUCTION (LOCATION) 1ST STREET BRIDGE CROSSING - MAT 2PD XSTR1 N 1ST ST & HUTCHINSON ST BARSTOW, CA 92311	
P 2/05/20	APPROVED BY E. BAFFORD	CHECKED BY 10196	DESIGNED BY PAX #
TYPE	DATE	APPROVED BY	CHECKED BY
Southern California Edison Company			
SHEET 2 OF 4			1214706 0.01

DETAIL 'A'
NTS



MATCH LINE 'A'
SEE SHT 3 LOWER LEFT



CONSTRUCTION NOTE:
ELECTRIC CONDUITS TO BE
6\"/>

CI: V5747611
V7611 TO V7612
1000CMIL MAX = 2,172 FT.
MAX CABLE LENGTH 2,000'
1500CMIL MAX = 1,851 FT.
MAX CABLE LENGTH 1,700'

SEE DETAIL 'A' UPPER LEFT
SPECIAL ORDER

- 1** CI: V5747611 VAULT
- 7'x18'x8' TUB STYLE
 - CI: 1- S V 7'x18'x8' TUB 2 PIECE
 - CI: 1- SS TAX EXCV CST FOR VLT
 - CI: 2 - 6\"/>

UNDERGROUND SERVICE ALERT
Dial 811
Call USA
For Underground Locating
2 Working Days Before You Dig

- RUN NUMBER CALL-OUTS AS FOLLOWS:
- (6) - (13) MAINLINE CONDUIT
 - (NA) - (NA) SERVICE CONDUIT
 - (NA) - (NA) STREET LIGHT CONDUIT

DB4: Rev. 2/12/08

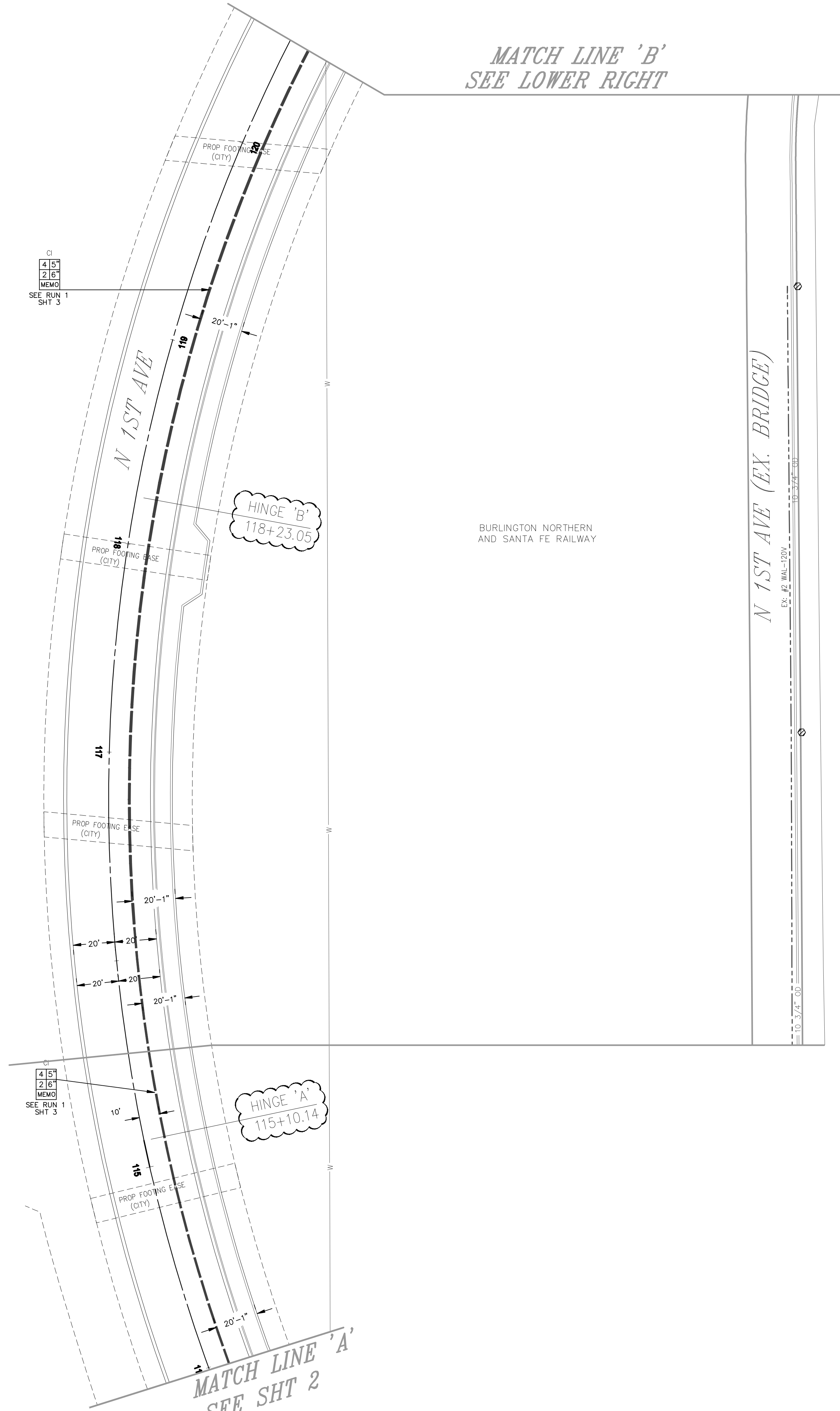


SCALE: 1" = 30'
0 30 60

PRELIMINARY
Not For Construction

DISTRICT 72 - BARSTOW	PROJ. MGR. QUINN, CINDY PHONE (760) 951-3142	PLANNER BAFFORD, ERIC PHONE (909) 838-1530	DESIGNER
PROJECT NO. / SERVICE REQUEST 1861299 / 2763983	USER NO. N/A	PRODUCT-1 TD1626254 - BRIDGE CROSSING	ASSOC DESIGN
CIRCUIT / VOLTAGE MAUEL 12KV	THOMAS GUIDE	PRODUCT-2	ASSOC DESIGN
SUB / PG. NO. BARSTOW	CIRCUIT CODE	PRODUCT-3	ASSOC DESIGN
INVENTORY MAP 510-2290-5	J.P.A. NO.	PROPOSED CONSTRUCTION (LOCATION) 1ST STREET BRIDGE CROSSING - MAT 2PD XSTR N 1ST ST & HUTCHINSON ST BARSTOW, CA 92311	
P 2/05/20	APPROVED BY	CHECKED BY	E. BAFFORD 10196
TYPE DATE	APPROVED BY	CHECKED BY	DRAWN BY PAX # SHEET
Southern California Edison Company			3 OF 4
Southern California Edison Company			DESIGN/DRWG NO. 1214706 0.01

MATCH LINE 'B'
SEE LOWER RIGHT

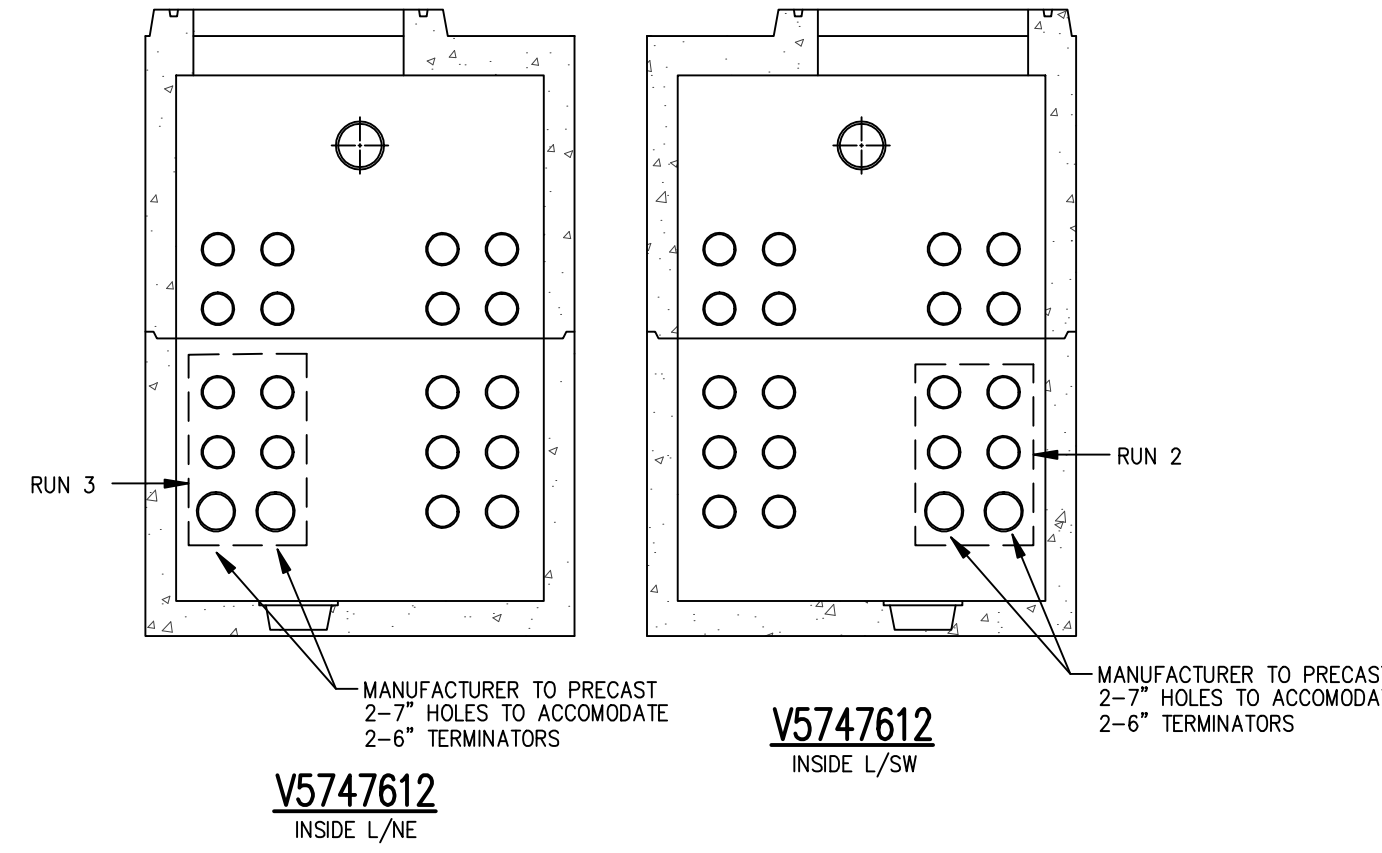


CI
4 1/2"
2 1/8"
MEMO
SEE RUN 1
SHT 3

CI
4 1/2"
2 1/8"
MEMO
SEE RUN 1
SHT 3

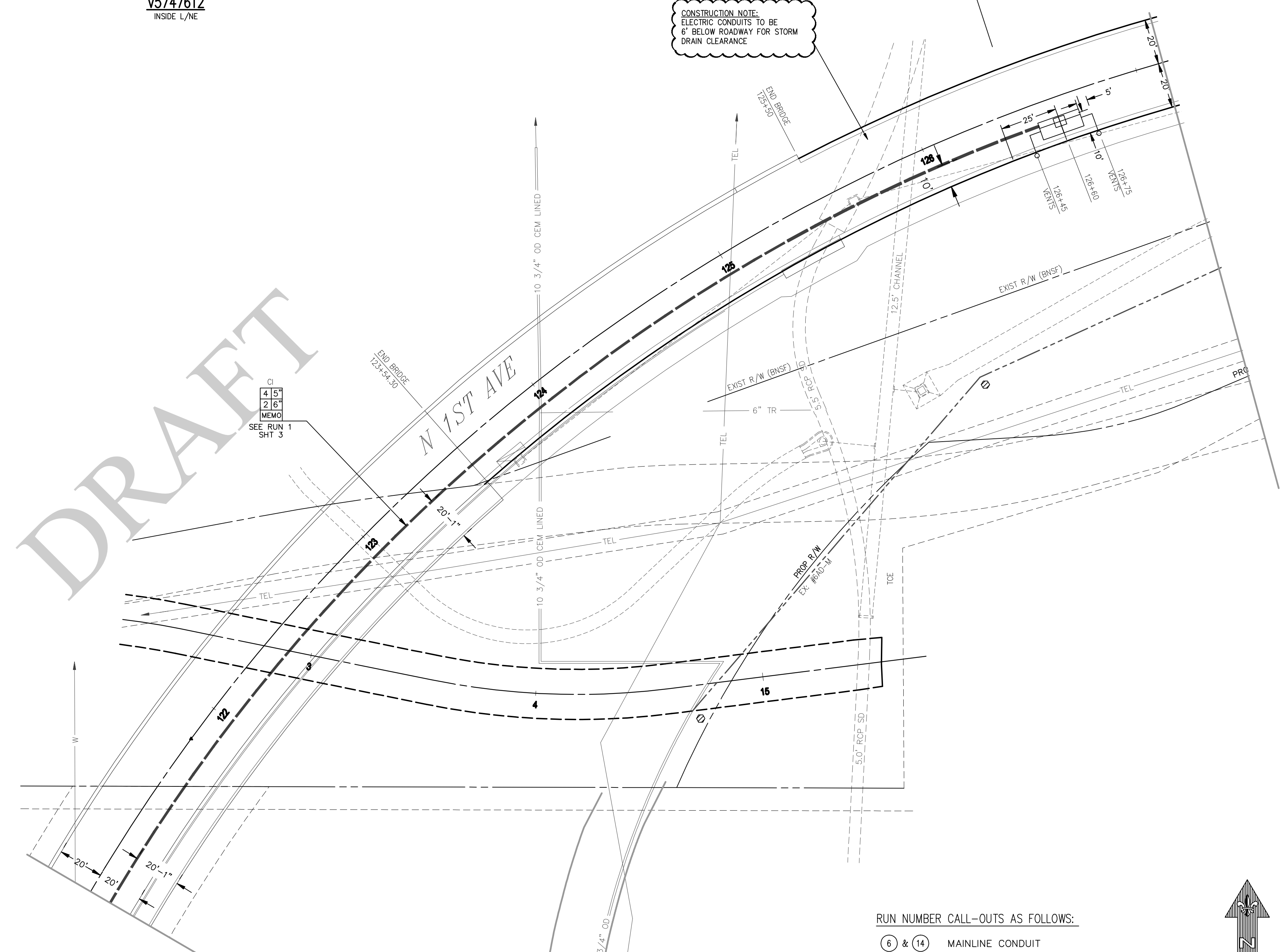
DRAFT

DETAIL 'B'
NTS



SPECIAL ORDER
2 CI: V5747612 VAULT
7'x18'x8" TUB STYLE
CI: 1- S V 7'x18'x8" TUB 2 PIECE
CI: 1- SS TAX EXCV CST FOR VLT
CI: 2 - 10" SP VENTS
CI: 2 - 6" GRADE RINGS
IN: 1- SL CBL RACK STL 30" FOR VLT/MH

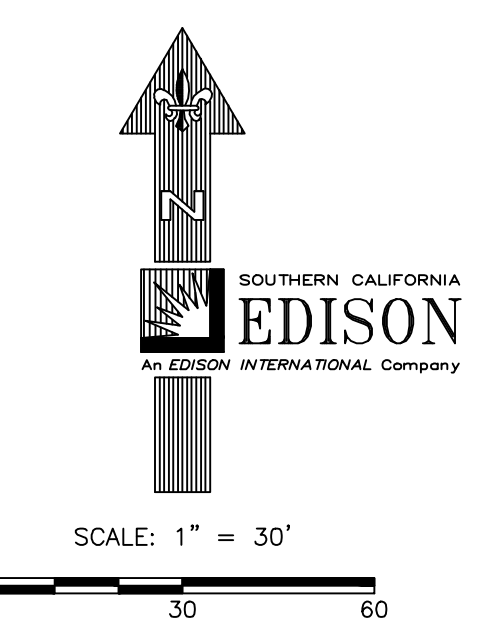
CONSTRUCTION NOTE:
ELECTRIC CONDUITS TO BE
6" BELOW ROADWAY FOR STORM
DRAIN CLEARANCE



MATCH LINE 'B'
SEE UPPER LEFT

RUN NUMBER CALL-OUTS AS FOLLOWS:
 (6 & 14) MAINLINE CONDUIT
 (NA) - (NA) SERVICE CONDUIT
 (NA) - (NA) STREET LIGHT CONDUIT

UNDERGROUND SERVICE ALERT
Dial 811
Call USA
For Underground Locating
2 Working Days Before You Dig



PRELIMINARY
Not For Construction

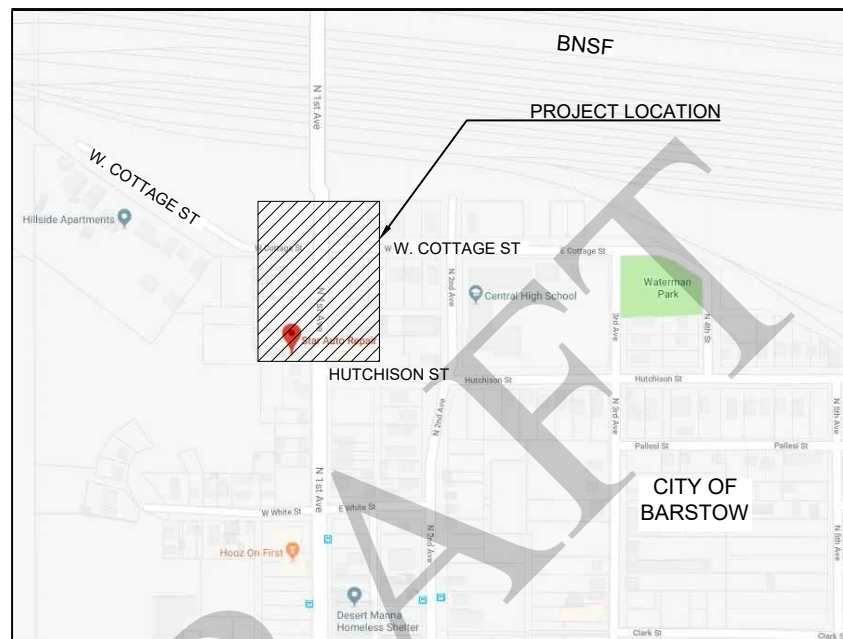
DISTRICT 72 - BARSTOW	PROJ. MGR. QUINN, CINDY PHONE (760) 951-3142	PLANNER BAFFORD, ERIC PHONE (909) 838-1530	DESIGNER
PROJECT NO. 1861299	SERVICE REQUEST 2763983	MSR NO. N/A	PRODUCT-1 TD1626254 - BRIDGE CROSSING
CIRCUIT / VOLTAGE MAUEL 12KV	THOMAS GUIDE	PRODUCT-2	ASSOC DESIGN
SUB / PG NO. BARSTOW	CIRCUIT CODE	PRODUCT-3	ASSOC DESIGN
INVENTORY MAP 510-2290-5	J.P.A. NO.	PROPOSED CONSTRUCTION (LOCATION) 1ST STREET BRIDGE CROSSING - MAT 2PD XSTR1 N 1ST ST & HUTCHINSON ST BARSTOW, CA 92311	
P 2/05/20	APPROVED BY E. BAFFORD	10196	SHEET 4 OF 4
Southern California Edison Company			DESIGN/DRWG NO. 1214706 0.01

**FRONTIER COMMUNICATION
CONSTRUCTION SPECIFICATIONS**

- Contact Frontier Engineer DAN RANDOLPH (760) 245-0660 sixty (60) days prior to need of service in order to confirm compliance, order materials, and schedule work forces.
- FRONTIER COMMUNICATIONS, INCORPORATED RESERVES THE RIGHT TO REFUSE ANY CONDUIT, PULL BOXES, MANHOLES, OR UTILITY BOXES THAT DEVIATE FROM PLANS AND SPECIFICATIONS.
- CHANGES OR DEVIATIONS FROM THIS PLAN MUST BE APPROVED BY FRONTIER.
- CONTACT THE FRONTIER INSPECTOR 48 HOURS BEFORE TRENCHING AND UPON COMPLETION OF YOUR SUBSTRUCTURES TO SCHEDULE THE FINAL INSPECTION.
- FRONTIER INSPECTOR SHALL BE PRESENT ON SITE WHEN CONTRACTOR NEEDS TO ACCESS ANY EXISTING FRONTIER FACILITY.
- All conduit risers bends to have a minimum thirty-six (36) inch radius.
- All horizontal ninety degree bends (90°) shall have a radius of not less than 12.5 feet and all vertical ninety degree bends (90°) shall have a radius of not less than three feet. No more than two (2) ninety degree (90°) horizontal bends shall be placed in any single run unless otherwise specified. Contact Frontier engineer concerning any required deviations.
- All conduit must be proven using a mandrel no less than a 1/2" smaller than the conduit to be accepted. Mule tape shall be placed in all conduits proven. Wall to wall measurements must be taken with a mule tape.
- Accurate AS-BUILTS shall be provided to the Frontier inspector assigned to this project. AS-BUILTS shall include conduit section measurements, wall to wall footages, stations and offsets of AS-BUILT Frontier structures, and the cover to the top of the Fronter underground structure placed. Copy of the AS-BUILT conduit work order must be provided to the Frontier inspector assigned to your project.
- Contact DON MARTIN (760) 628-8826 at the inspection office for coordination of inspection dates.
- Place temporary weatherproof cap on end of all conduits exposed during construction.
- Rigid steel, approved plastic conduit (PVC Schedule #40, TYPE-C (4") or DB-120 (2") or Frontier provided or approved Roll Sheet sub duct, is specified for underground construction. Condulets, Flex, Transite, Plumbers fittings, Water and Gas Pipes must NOT be used. RIGID STEEL MUST BE USED WHEN CONDUIT CAN BE EXPOSED TO VEHICULAR TRAFFIC.
- Conduit terminated on a pole must be PVC Schedule 80. If conduit will be exposed to traffic, rigid steel pipe and sweep is required to 48" above finished grade otherwise turned up 12" above finished grade. Location of riser on pole will be as shown on conduit plan and location can be modified by approval of Frontier engineer/inspector only.
- Minimum separation from other utilities shall be a minimum of 12". Conduit placed in same trench with primary power conduit must be separated by no less than twelve inches (12") of well-packed sand or three inches (3") of concrete. Minimum cover shall be no less than thirty (30") inches measured from the final grade of the street flow line to the top of Frontier structure unless noted otherwise. Ducts placed in the driven portion of the roadway must have no less than 48 inches (48") of cover to top of pipe measured at flow line of roadway.
- Three to six weeks will be needed from the date of final inspection for Frontier to start placing facilities. All paperwork and easements must also be completed, if applicable.
- Work crew to adjust manholes to final grade as shown on the approved grading plan.
- Actual footages of conduit are needed to order materials.

FTR FACILITIES RELOCATION

N. 1ST AVE. B.N.S.F. OVERCROSSING BRIDGE REPLACEMENT - PH 2 BARSTOW CA 92311



VICINITY MAP
NTS

PICK UP POINT:
-FRONTIER MH #24
23' S/O C/L HUTCHINSON,
147'± E/O N. 1ST AVE

PATH LENGTH:
PHASE II
-SOLE TRENCH = 678'
-BRIDGE = 1,180'

MATERIALS:
-2,712 OF 4" PVC
-4,720' OF FIBERGLASS
-(2) 4'6"x8'6"x6'6" MH

SHEET INDEX
1 - COVER
2 - 4 FACILITIES RELOCATION PH II
5 - 6 DETAILS

SCOPE OF WORK:
1) PLACE FTR CONDUIT IN PROPOSED BRIDGE OVERCROSSING FROM FTR MH #24 TO THE FTR CAP PROVIDED IN PH I OF THIS PROJECT.

LEGEND

CONDUIT		
	Mainline/Backbone Conduit or ABS	
	Service Lateral Conduit	
	Joint Trench	
	Sole Trench	
	Proposed Construction Call Out	
UTILITIES		
	Existing	Proposed
Gas	g	G
Water	w	W
Telephone	t	T
San Sewer	ss	SS
Electric	e	E
Storm Drain	sd	SD
POLES		
	Existing	Proposed
Frontier Owned	○	○
Foreign Owned	×	×
Joint Owned	⊗	⊗
FACILITIES		
Manhole	⊗	⊗
Handhole	□	□
PullBox	□	□
Bore Pit		□
5/8"-8' Copper Ground Rod		⚡

ABBREVIATIONS	PROPOSED	EXISTING
BUILDING	BLDG	bldg
CENTERLINE	C/L	c/l
CONCRETE	CONC	conc
SIDEWALK	CSW	csw
DRIVEWAY	DWY	dwy
EDGE OF PAVMENT	EOP	eop
FACE OF CURB	FOC	foc
HANDHOLE	HH	hh
MANHOLE	MH	mh
PEDESTAL	PED	ped
POLYVINYL CHLORIDE	PVC	pvc
PROPERTY LINE	P/L	p/l
RIGHT OF WAY	R/W	r/w
SOUTHERN CAL EDISON	SCE	sce
WALL TO BUILDING	W-B	
WALL TO POLE	W-P	
NOT TO SCALE	NTS	

PHASE II

DIGALERT



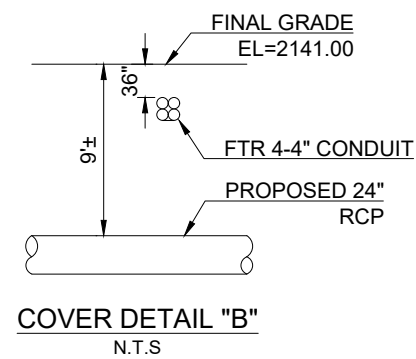
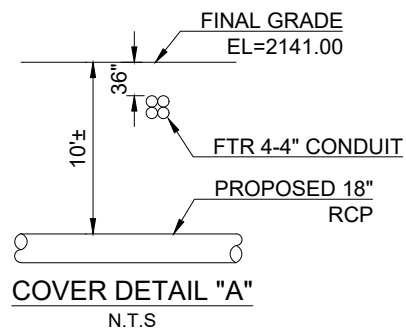
Section 4216/4217 of the Government Code requires a Dig Alert Identification Number to be issued before a "Permit to Excavate" will be valid. For your Dig Alert ID: 1-800-227-2600

CALL BEFORE YOU DIG



Frontier COMMUNICATIONS

JOB ID: 70174-5202055	DATE: 10/23/2020
TITLE: CONDUIT DESIGN PH II	
STREET ADDRESS: N. 1ST AVE & BNSF R.R. O.C.	
CITY/STATE: BARSTOW CA, 92311	
FTR ENGINEER: DAN RANDOLPH 760.245.0660	
FTR INSPECTOR: DON MARTIN 760.628.8826	
 DRAWN BY: MTCS 909-798-4400 EST. #:	SHEET#: 1 OF 6



TOP
 3 4
 1 2
 LK N
 PLACE 45' OF 4-4" PVC
 45' W-ABUTMENT

PH I CONDUIT DESIGN

TOP
 9 10
 7 8
 LK N
 PLACE 431' OF 4-4" PVC
 431' W-W
 DEPTH=48"

SEE COVER DETAIL "A" THIS SHEET

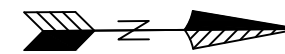
C/L - C/L INTERSECTION
 STA 109+00 1ST (REALIGNED)=
 STA 50+00 E. HUTCHISON ST

CITY OF
 BARSTOW

SEE COVER DETAIL "B" THIS SHEET

CL-CL INTERSECTION
 STA 100+00 1ST AVE=
 STA 10+00 MAIN ST
 BEGIN PROJECT
 STA 103+84.45

EXISTING N. 1ST AVE
 (PORTION ABANDONED)
 PROPOSED
 OLD N. 1ST AVE



SCALE: 1"=50'

PHASE II



DIGALERT



Section 4216/4217 of the Government Code requires a Dig Alert Identification Number to be issued before a "Permit to Excavate" will be valid. For your Dig Alert ID: 1-800-227-2600

CALL BEFORE YOU DIG

FTR 6-4" PVC
 PROTECT
 IN PLACE
 FTR 6-4" PVC
 708' W-W

ALLEY
 TO C.O.

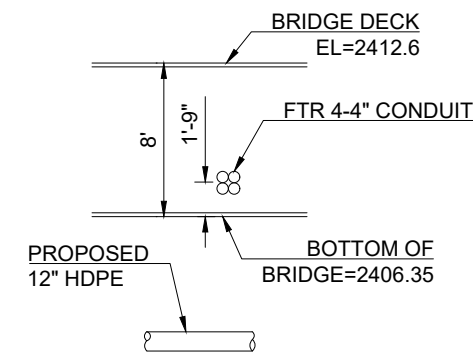
FTR
 MANHOLE #24

TOP
 9 10
 5 6
 3 4
 1 2
 WEST WALL
 LK W

SEE COVER DETAIL "C" THIS SHEET

PLACE 46"x8'6"x6" MANHOLE
 SEE DETAIL 1 ON SHEET 5

PLACE 1,180' OF 4-4"
 FIBERGLASS "40BSW20"
 1,180' ABUTMENT- ABUTMENT
 TOP
 3 4
 1 2
 LK N



COVER DETAIL "C"
 N.T.S

CURVE DATA				
	D	R	L	T
A	69.58 °	50.0'	60.67'	34.70'
B	70.59 °	803.31'	989.70'	568.67'

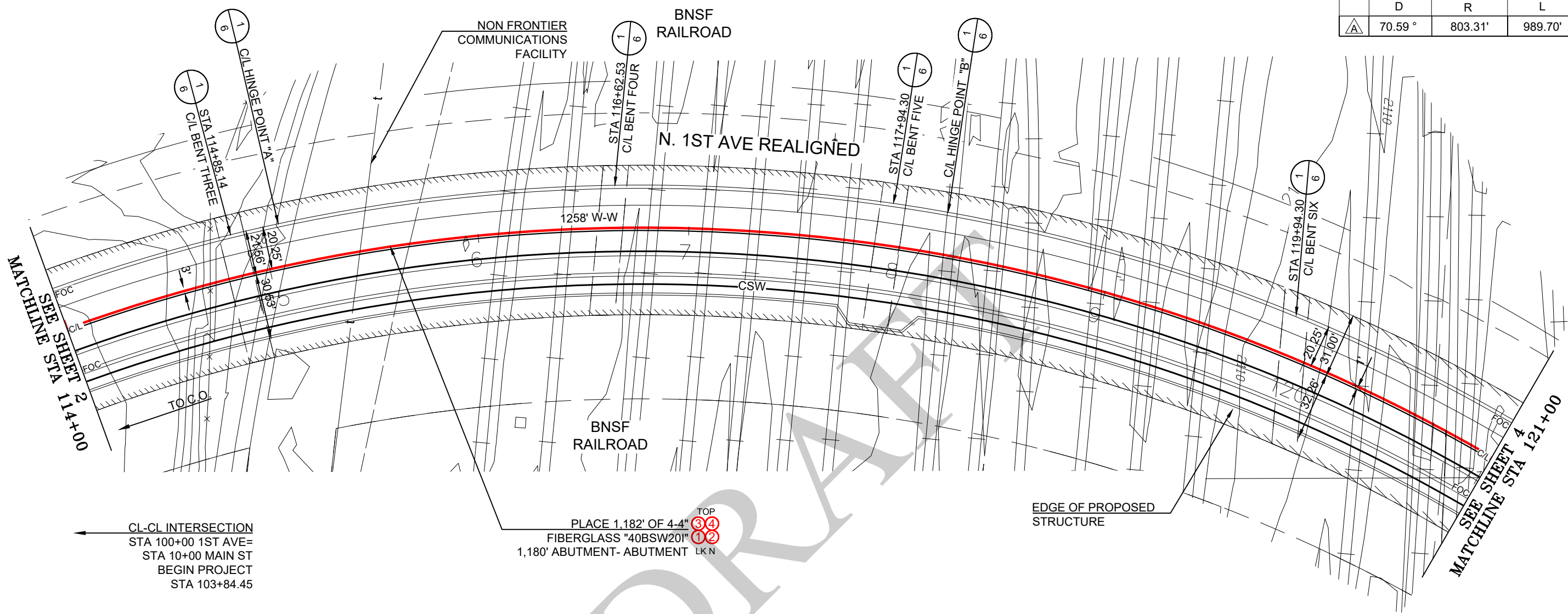
Frontier COMMUNICATIONS

JOB ID: 70174-5202055 DATE: 10/23/2020
 TITLE: CONDUIT DESIGN PH II
 STREET ADDRESS: N. 1ST AVE & BNSF R.R. O.C.
 CITY/STATE: BARSTOW CA, 92311
 FTR ENGINEER: DAN RANDOLPH 760.245.0660
 FTR INSPECTOR: DON MARTIN 760.628.8826

DRAWN BY: MTCS 909-798-4400
 EST. #: SHEET#: 2 OF 6

Mountain Top Communication Services LLC

CURVE DATA			
	D	R	T
△	70.59°	803.31'	568.67'



CL-CL INTERSECTION
 STA 100+00 1ST AVE=
 STA 10+00 MAIN ST
 BEGIN PROJECT
 STA 103+84.45

PLACE 1,182' OF 4-4" TOP
 FIBERGLASS "40BSW20"
 1,180' ABUTMENT- ABUTMENT LK N

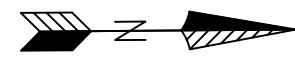
DRAFT

PHASE II

DIGALERT



Section 4216/4217 of the Government Code requires a Dig Alert Identification Number to be issued before a "Permit to Excavate" will be valid. For your Dig Alert ID: 1-800-227-2600
CALL BEFORE YOU DIG

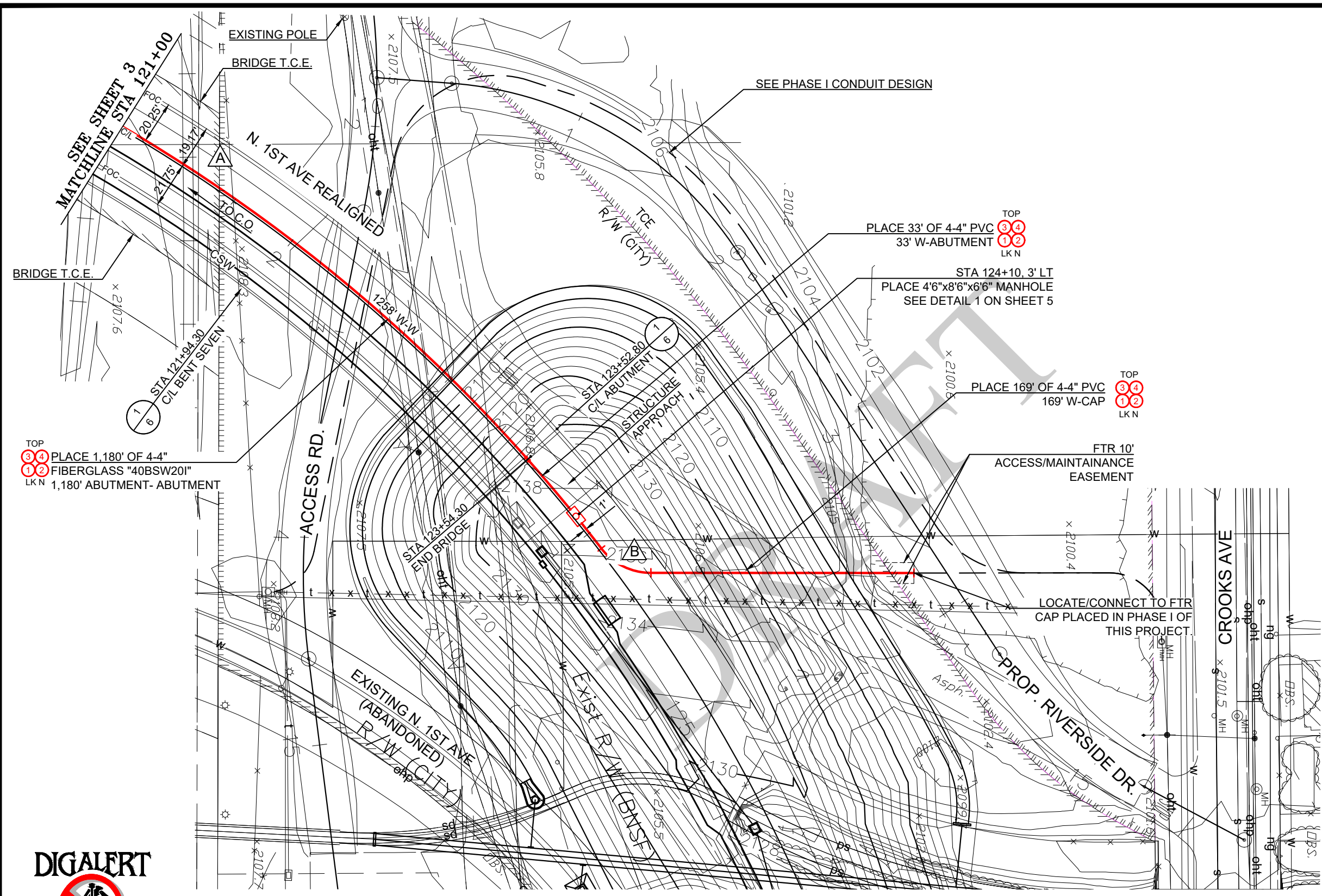


SCALE: 1"=50'

Frontier
COMMUNICATIONS

JOB ID: 70174-5202055		DATE: 10/23/2020	
TITLE: CONDUIT DESIGN PH II			
STREET ADDRESS: N. 1ST AVE & BNSF R.R. O.C.			
CITY/STATE: BARSTOW CA, 92311			
FTR ENGINEER: DAN RANDOLPH 760.245.0660			
FTR INSPECTOR: DON MARTIN 760.628.8826			
<p>Mountain Top Communication Services LLC</p>		DRAWN BY: MTCS 909-798-4400	
		EST. #:	SHEET#: 3 OF 6

CURVE DATA				
	D	R	L	T
△	70.59°	803.31'	989.70'	568.67'
△	52.79°	30.00'	27.64'	14.89'



TOP
 3 4 PLACE 1,180' OF 4-4"
 1 2 FIBERGLASS "40BSW20I"
 LKN 1,180' ABUTMENT- ABUTMENT

PLACE 33' OF 4-4" PVC
 33' W-ABUTMENT
 TOP 3 4
 1 2
 LKN

STA 124+10. 3' LT
 PLACE 4'6"x8'6"x6'6" MANHOLE
 SEE DETAIL 1 ON SHEET 5

PLACE 169' OF 4-4" PVC
 169' W-CAP
 TOP 3 4
 1 2
 LKN

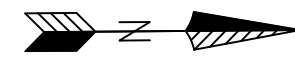
FTR 10'
 ACCESS/MAINTAINANCE
 EASEMENT

LOCATE/CONNECT TO FTR
 CAP PLACED IN PHASE I OF
 THIS PROJECT.

DIGALERT



Section 4216/4217 of the Government Code requires a Dig Alert Identification Number to be issued before a "Permit to Excavate" will be valid. For your Dig Alert ID: 1-800-227-2600
CALL BEFORE YOU DIG



SCALE: 1"=50'



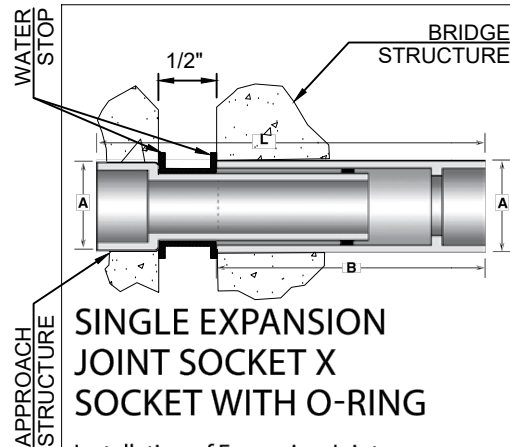
PHASE II

Frontier
 COMMUNICATIONS

JOB ID: 70174-5202055 DATE: 10/23/2020
 TITLE: CONDUIT DESIGN PH II
 STREET ADDRESS: N. 1ST AVE & BNSF R.R. O.C.
 CITY/STATE: BARSTOW CA, 92311
 FTR ENGINEER: DAN RANDOLPH 760.245.0660
 FTR INSPECTOR: DON MARTIN 760.628.8826



DRAWN BY:
 MTCS 909-798-4400
 EST. #:
 SHEET#:
 4 OF 6



SINGLE EXPANSION JOINT SOCKET X SOCKET WITH O-RING

Installation of Expansion Joints:

- When the duct is shorter than 50 ft., no Expansion Joint needed
- When the duct is between 50 ft. up to 200 ft., install one Expansion Joint at the mid point
- If the duct is longer than 200 ft., install one Expansion Joint every 200 ft. apart

Note: All Expansion Joints have a yellow line on the nipple end of the joint for proper installation.

NOTES:

- 1) USE "40BSW37" OR EQUIVALENT FOR CONDUIT IN BRIDGE STRUCTURE
- 2) WATER STOP TYPE/MATERIAL / INSTALLATION TO BE DETERMINED BY BRIDGE ENGINEER.
- 3) USE "CHAMPION MIX" EPOXY ADHESIVE OR EQUIVALENT.
- 4) DURING BRIDGE CONSTRUCTION, WORK CREW TO COORDINATE CONDUIT PLACEMENT WITH BRIDGE BUILDER

Nominal Size	Type	IPS Item No.		A	B	L - Min	L - Max	Weight	
		Belowground	Aboveground					lbs	kg
3/4	SW	07A-SW-37	07C-SW-37	1.20 (30)	12 (305)	18 (457)	26 (660)	0.49 (0.22)	
1	SW	10A-SW-37	10C-SW-37	1.46 (37)	12 (305)	18 (457)	26 (660)	0.55 (0.25)	
1 1/4	SW	12A-SW-37	12C-SW-37	1.81 (46)	12 (305)	18 (457)	26 (660)	0.66 (0.30)	
1 1/2	SW	15A-SW-37	15C-SW-37	2.04 (52)	12 (305)	18 (457)	26 (660)	0.76 (0.35)	
2	SW	20A-SW-37	20C-SW-37	2.54 (65)	12 (305)	18 (457)	26 (660)	1.09 (0.50)	
3	SW	30A-SW-37	30C-SW-37	3.66 (93)	12 (305)	18 (457)	26 (660)	1.73 (0.79)	
4	SW	40A-SW-37	40C-SW-37	4.61 (117)	12 (305)	18 (457)	26 (660)	2.07 (0.94)	
4	HW	40A-HW-37	40C-HW-37	4.69 (119)	12 (305)	18 (457)	26 (660)	2.79 (1.27)	
5	SW	50A-SW-37	50C-SW-37	5.68 (144)	12 (305)	18 (457)	26 (660)	2.59 (1.18)	
5	MW	50A-MW-37	50C-MW-37	5.79 (147)	12 (305)	18 (457)	26 (660)	3.45 (1.57)	
5	HW	50A-HW-37	50C-HW-37	5.85 (149)	12 (305)	18 (457)	26 (660)	3.74 (1.70)	
6	SW	60A-SW-37	60C-SW-37	6.75 (171)	12 (305)	18 (457)	26 (660)	2.88 (1.31)	
6	MW	60A-MW-37	60C-MW-37	6.85 (174)	12 (305)	18 (457)	26 (660)	4.08 (1.85)	
6	HW	60A-HW-37	60C-HW-37	6.91 (176)	12 (305)	18 (457)	26 (660)	4.69 (2.13)	

Nominal Size	Type	ID Item No.		A	B	L - Min	L - Max	Weight	
		Belowground	Aboveground					lbs	kg
2	SW	20B-SW-37	20D-SW-37	2.30 (58)	12 (305)	18 (457)	26 (660)	0.98 (0.45)	
2 1/2	SW	25B-SW-37	25D-SW-37	2.80 (71)	12 (305)	18 (457)	26 (660)	1.21 (0.55)	
3	SW	30B-SW-37	30D-SW-37	3.30 (84)	12 (305)	18 (457)	26 (660)	1.38 (0.63)	
3 1/2	SW	35B-SW-37	35D-SW-37	3.80 (96)	12 (305)	18 (457)	26 (660)	1.73 (0.79)	
4	SW	40B-SW-37	40D-SW-37	4.30 (109)	12 (305)	18 (457)	26 (660)	1.98 (0.90)	
4	HW	40B-HW-37	40D-HW-37	4.39 (111)	12 (305)	18 (457)	26 (660)	2.65 (1.20)	
4 1/2	SW	45B-SW-37	45D-SW-37	4.80 (122)	12 (305)	18 (457)	26 (660)	2.16 (0.98)	
4 1/2	HW	45B-HW-37	45D-HW-37	4.89 (124)	12 (305)	18 (457)	26 (660)	2.99 (1.36)	
5	SW	50B-SW-37	50D-SW-37	5.30 (135)	12 (305)	18 (457)	26 (660)	2.44 (1.11)	
5	MW	50B-MW-37	50D-MW-37	5.39 (137)	12 (305)	18 (457)	26 (660)	3.25 (1.48)	
5	HW	50B-HW-37	50D-HW-37	5.42 (138)	12 (305)	18 (457)	26 (660)	3.80 (1.73)	
6	SW	60B-SW-37	60D-SW-37	6.30 (160)	12 (305)	18 (457)	26 (660)	2.93 (1.33)	
6	MW	60B-MW-37	60D-MW-37	6.39 (162)	12 (305)	18 (457)	26 (660)	3.88 (1.76)	
6	HW	60B-HW-37	60D-HW-37	6.42 (163)	12 (305)	18 (457)	26 (660)	4.54 (2.06)	

Nominal Size	Type	Item No.		A	B	L - Min	L - Max	Weight	
		Belowground	Aboveground					lbs	kg
2	XW	20B-XW-37	20D-XW-37	3.000 (76)	12 (305)	18 (457)	26 (660)	3.62 (1.64)	
2 1/2	XW	25B-XW-37	25D-XW-37	3.525 (90)	12 (305)	18 (457)	26 (660)	4.44 (2.01)	
3	XW	30B-XW-37	30D-XW-37	4.000 (102)	12 (305)	18 (457)	26 (660)	5.23 (2.37)	
3 1/2	XW	35B-XW-37	35D-XW-37	4.525 (115)	12 (305)	18 (457)	26 (660)	6.06 (2.75)	
4	XW	40B-XW-37	40D-XW-37	5.000 (127)	14 (356)	22 (559)	32 (812)	7.89 (3.58)	
5	XW	50B-XW-37	50D-XW-37	6.000 (152)	14 (356)	22 (559)	32 (812)	9.75 (4.43)	
6	XW	60B-XW-37	60D-XW-37	7.000 (178)	14 (356)	22 (559)	32 (812)	12.08 (5.48)	
8	XW	80A-XW-37	80C-XW-37	9.420 (239)	14 (356)	22 (559)	32 (812)	16.56 (7.52)	

EXPANSION JOINT DETAIL

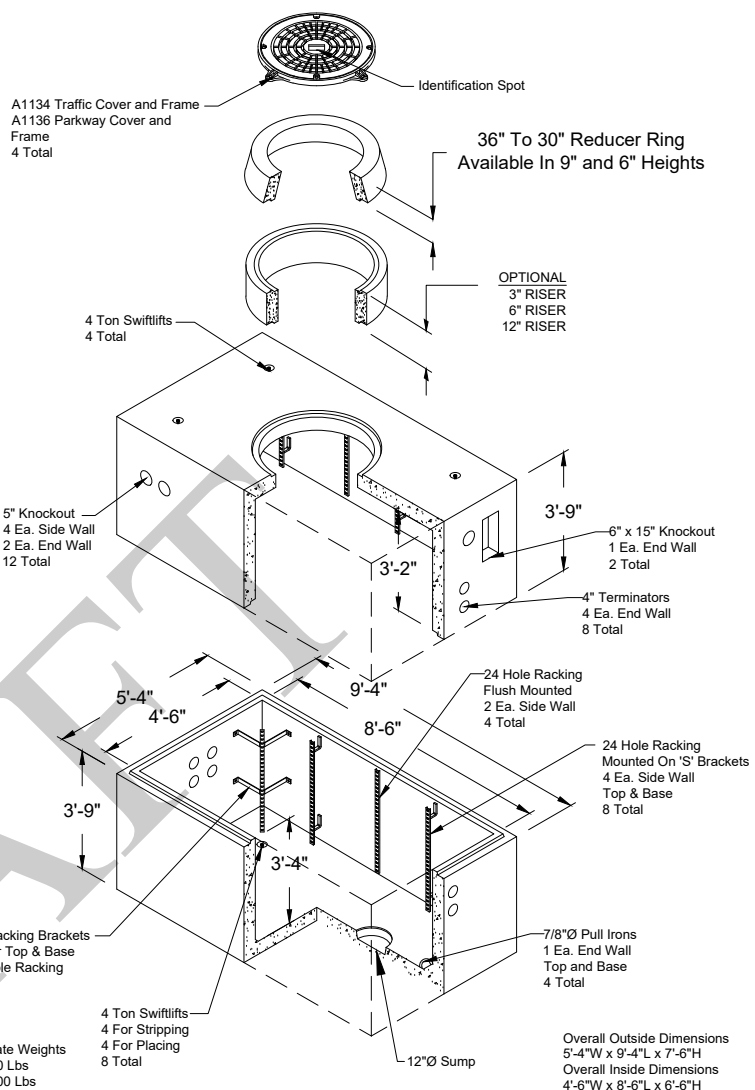
CHAMPION DUCT® / 25

6400 Spring Stuebner Rd Spring, TX 77389 Main: 281.655.8900 Fax: 281.257.2523
 info@championfiberglass.com championfiberglass.com



2

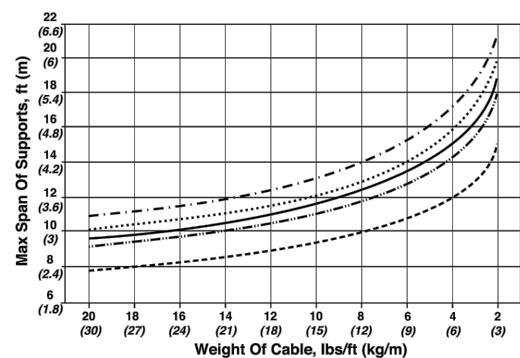
FITTINGS



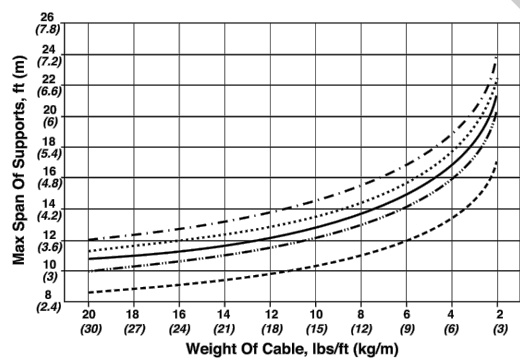
4'-6"x8'-6"x6'-6" MANHOLE DETAIL

1

3 1/2" SW DIAMETER



4" SW DIAMETER



1/4" (6) Deflection 1/2" (13) Deflection 3/8" (16) Deflection 1/2" (19) Deflection 1" (25) Deflection

DEFLECTION

Deflection is always determined at midspan.

The empirical formula for deflection is:

$$D = \frac{131 \cdot W \cdot L^4}{E(OD^4 - ID^4)}$$

Where: D = Midspan deflection (in.)

OD = Outside diameter of conduit (in.)

ID = Inside diameter of conduit (in.)

E = Modulus of elasticity of conduit (psi), which is 1,400,000 for epoxy fiberglass conduit

L = Distance between hangers (ft.)

W = Total weight of cable and conduit (lbs/ft.)

It is recommended that midspan deflection never exceeds 3/8 inches (16 mm).

Below are easy graphs for determining support distance between hangers for various diameters and wall thicknesses of conduit.



PHASE II

Frontier COMMUNICATIONS

JOB ID: 70174-5202055 DATE: 10/23/2020

TITLE: CONDUIT DESIGN PH II

STREET ADDRESS: N. 1ST AVE & BNSF R.R. O.C.

CITY/STATE: BARSTOW CA, 92311

FTR ENGINEER: DAN RANDOLPH 760.245.0660

FTR INSPECTOR: DON MARTIN 760.628.8826



DRAWN BY: MTCS 909-798-4400

EST. #: SHEET#:

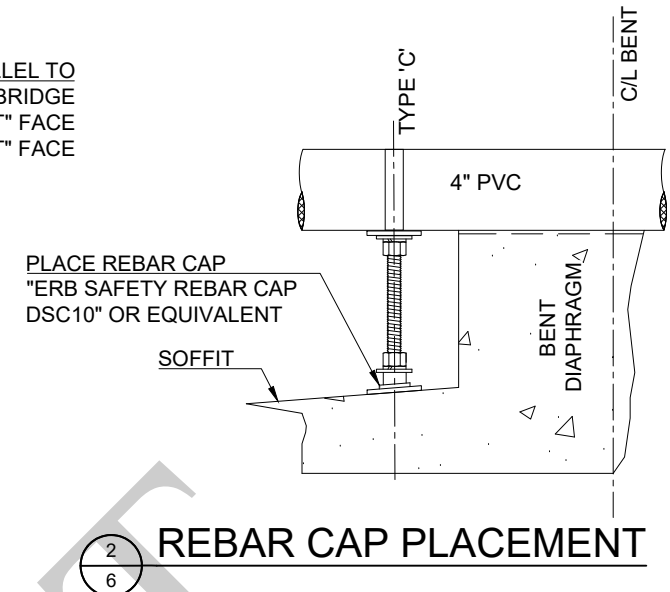
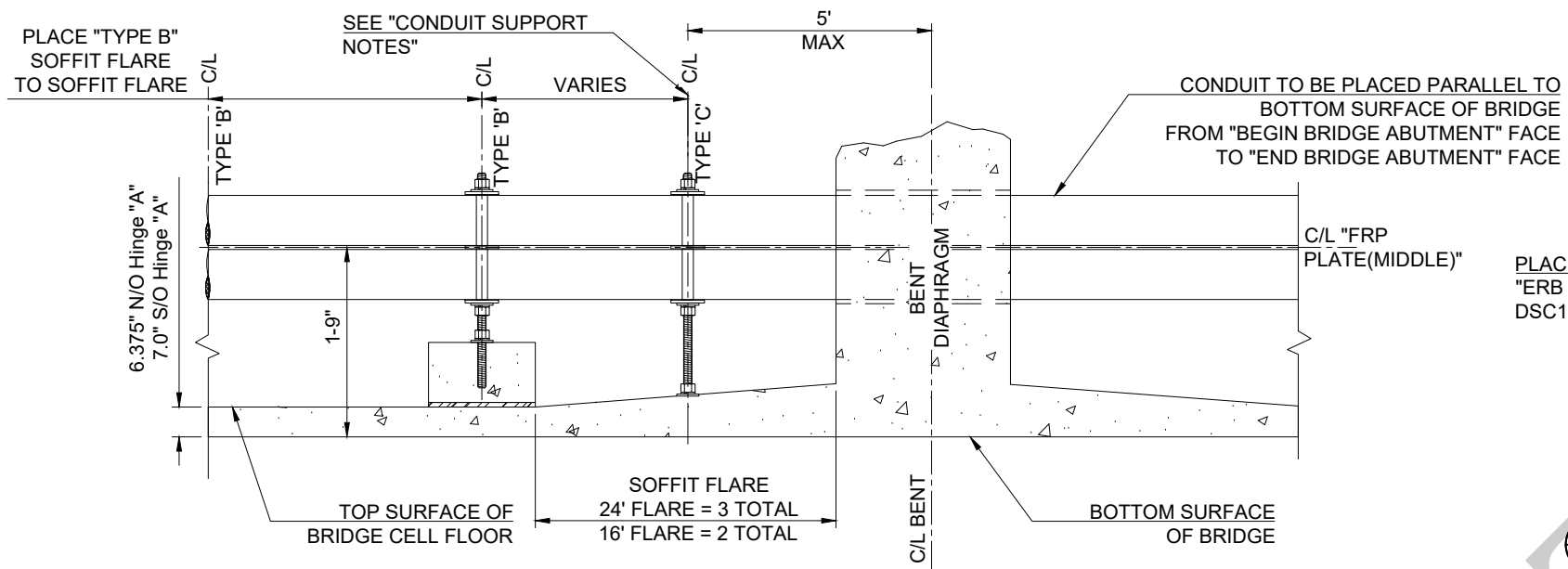
5 OF 6

DUCT®



6400 Spring Stuebner Rd Spring, TX 77389 Main: 281.655.8900 Fax: 281.257.2523
 info@championfiberglass.com championfiberglass.com

CD-1012



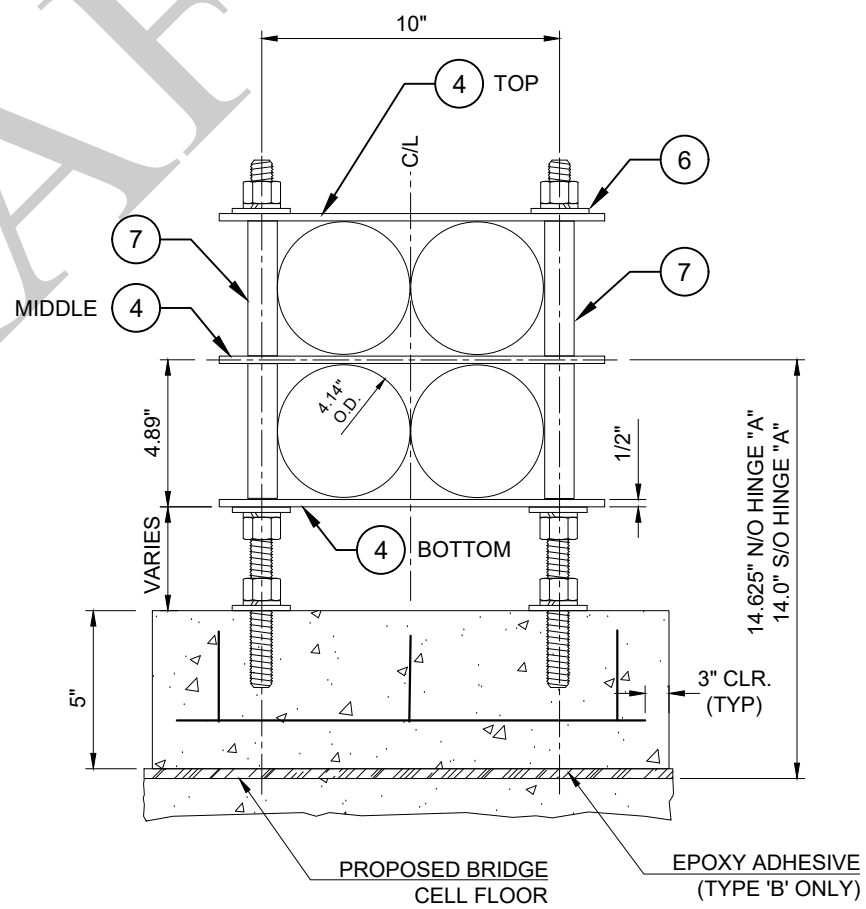
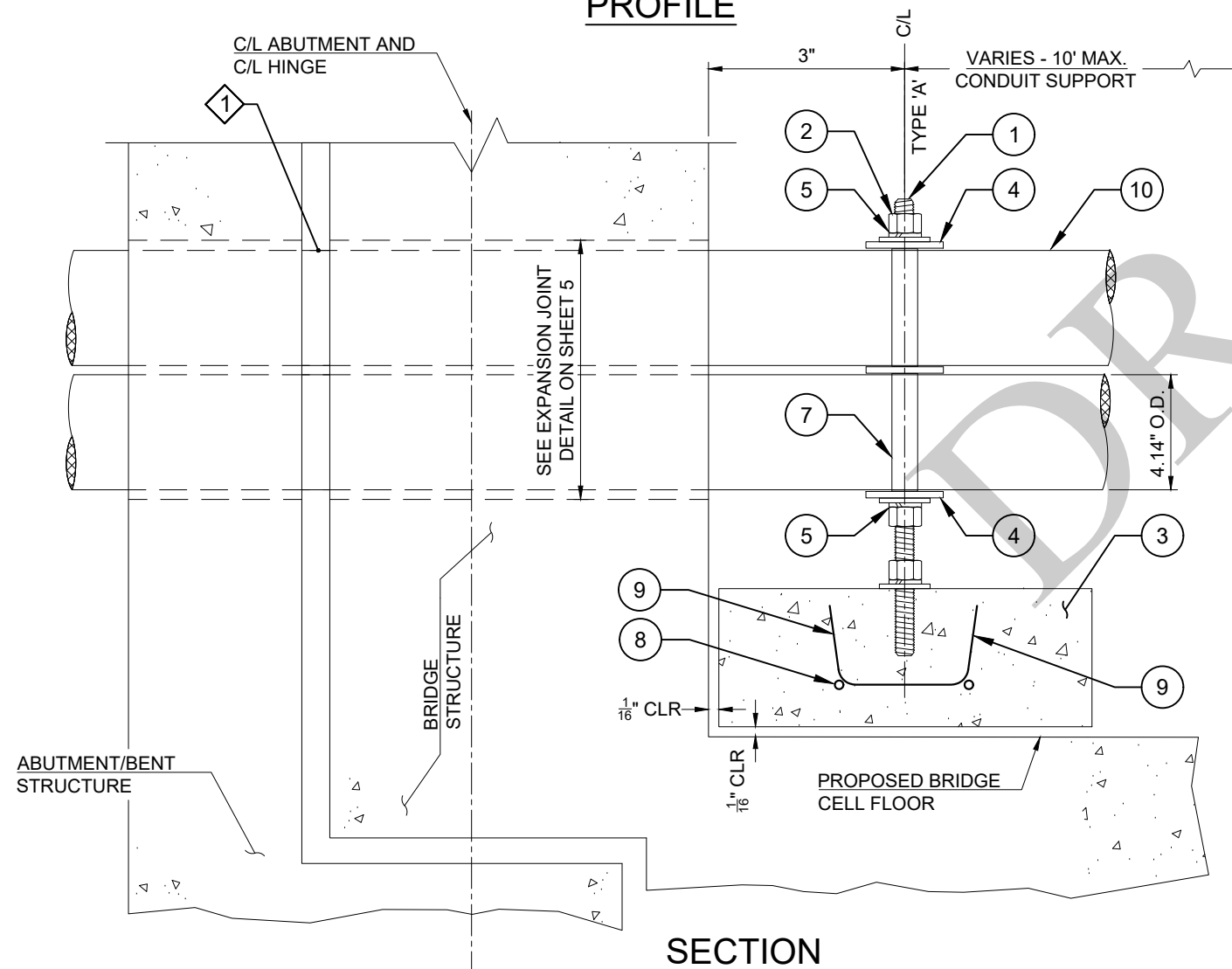
2/6 REBAR CAP PLACEMENT

CONDUIT SUPPORT NOTES

- 1 EXPANSION JOINT - SEE DETAIL 2 SHEET 5
- 2 CONDUIT SUPPORTS TO BE PLACED @ 10' O.C. MAX UNLESS SHOWN OTHERWISE
- 3 USE "CHAMPION MIX" EPOXY ADHESIVE OR EQUIVALENT
- 4 CONDUIT SUPPORTS TO BE PLACED TO MAINTAIN 1'-7" CLEARANCE FROM BOTTOM OF BRIDGE TO CL FRP PLATE (MIDDLE).
- 5 CONDUIT SUPPORT DESIGNATIONS:
 - TYPE 'A' - AS SHOWN HEREON. TO BE PLACED AT ABUTMENTS & HINGES AS SHOWN HEREON.
 - TYPE 'B' - TYPE 'A' MODIFIED BY PLACEMENT OF EPOXY ADHESIVE. PLACE FROM SOFFIT FLARE TO SOFFIT FLARE.
 - TYPE 'C' - TYPE 'A' MODIFIED BY OMITTING SUPPORT BLOCK, EPOXY ADHESIVE & EXTENDING 3/4" THREADS TO SOFFIT. PLACE REBAR CAP AS SHOWN IN "REBAR CAP PLACEMENT" DETAIL.

2/6

PROFILE



#	QTY PER SUPPORT	CONDUIT SUPPORT
1	2	3/4" THREADED BOLT(S)
2	6	3/4" NUT(S)
3	1	SUPPORT BLOCK - 18"x6"x5"
4	3	1"x2" FRP FLAT BAR(S)
5	6	LOCK WASHER(S)
6	6	FLAT WASHER(S)
7	4	1"x4.46" FRP ROUND TUBE(S)
8	2	#2 - 17" REBAR(S)
9	3	#2 - \ / REBAR(S)
10	4	FTR 4" CONDUIT(S)

PHASE II

Frontier COMMUNICATIONS

JOB ID: 70174-5202055 DATE: 10/23/2020

TITLE: CONDUIT DESIGN PH II

STREET ADDRESS: N. 1ST AVE & BNSF R.R. O.C.

CITY/STATE: BARSTOW CA, 92311

FTR ENGINEER: DAN RANDOLPH 760.245.0660

FTR INSPECTOR: DON MARTIN 760.628.8826

DRAWN BY: MTCS 909-798-4400

EST. #: SHEET #: 6 OF 6

Mountain Top Communication Services LLC



1 CONDUIT SUPPORT DETAIL AT ABUTMENT/ HINGE (TYPE 'A')

6 N.T.S.

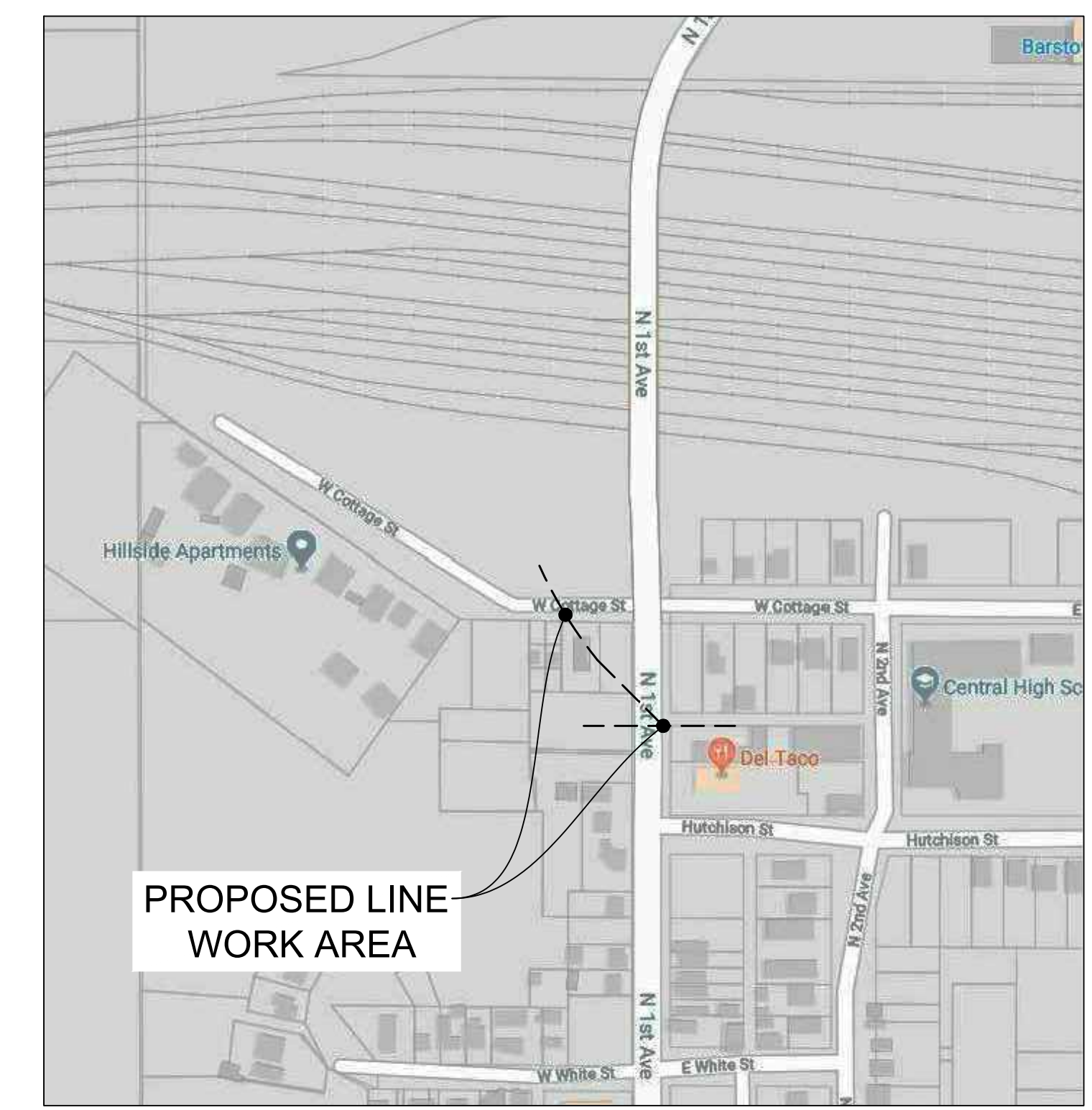
JOB NOTES:

1. THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OR STRUCTURES WAS OBTAINED BY A SEARCH OF THE AVAILABLE RECORDS AND FIELD CONDITIONS. ADDITIONAL UNDERGROUND FACILITIES MAY EXIST, OR THE LOCATION OF THE FACILITIES MAY DIFFER FROM THE LOCATIONS SHOWN ON THESE PLANS. THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, DETERMINE THE EXACT LOCATION OF ALL SUCH UNDERGROUND FACILITIES PRIOR TO COMMENCEMENT OF ANY WORK OR ANY ACTION WHICH MAY DAMAGE SUCH FACILITIES OR INTERFERE WITH THEIR CONTINUOUS AND PROPER OPERATION.

PROPOSED CONDUIT PLACEMENT PLAN

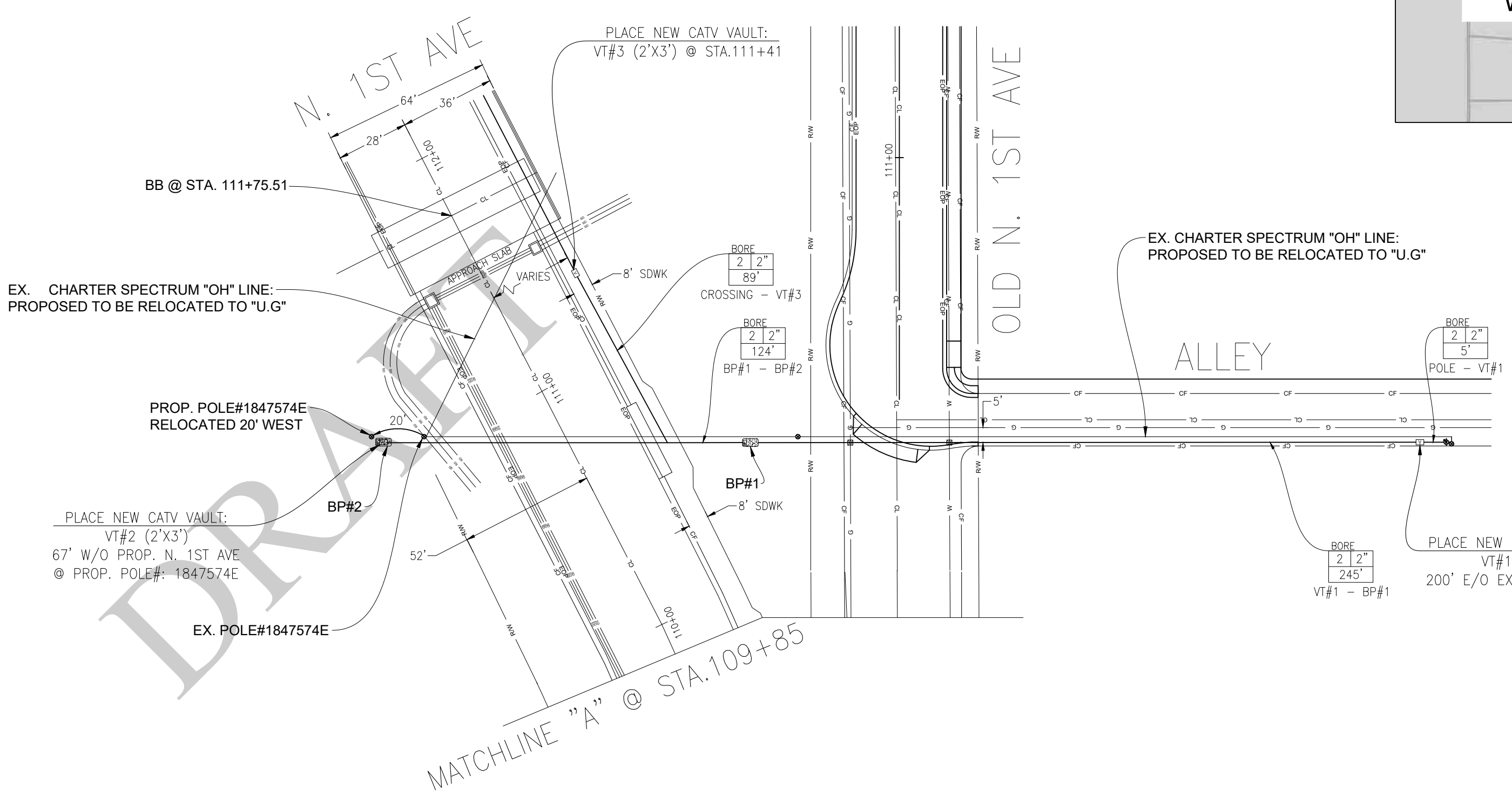
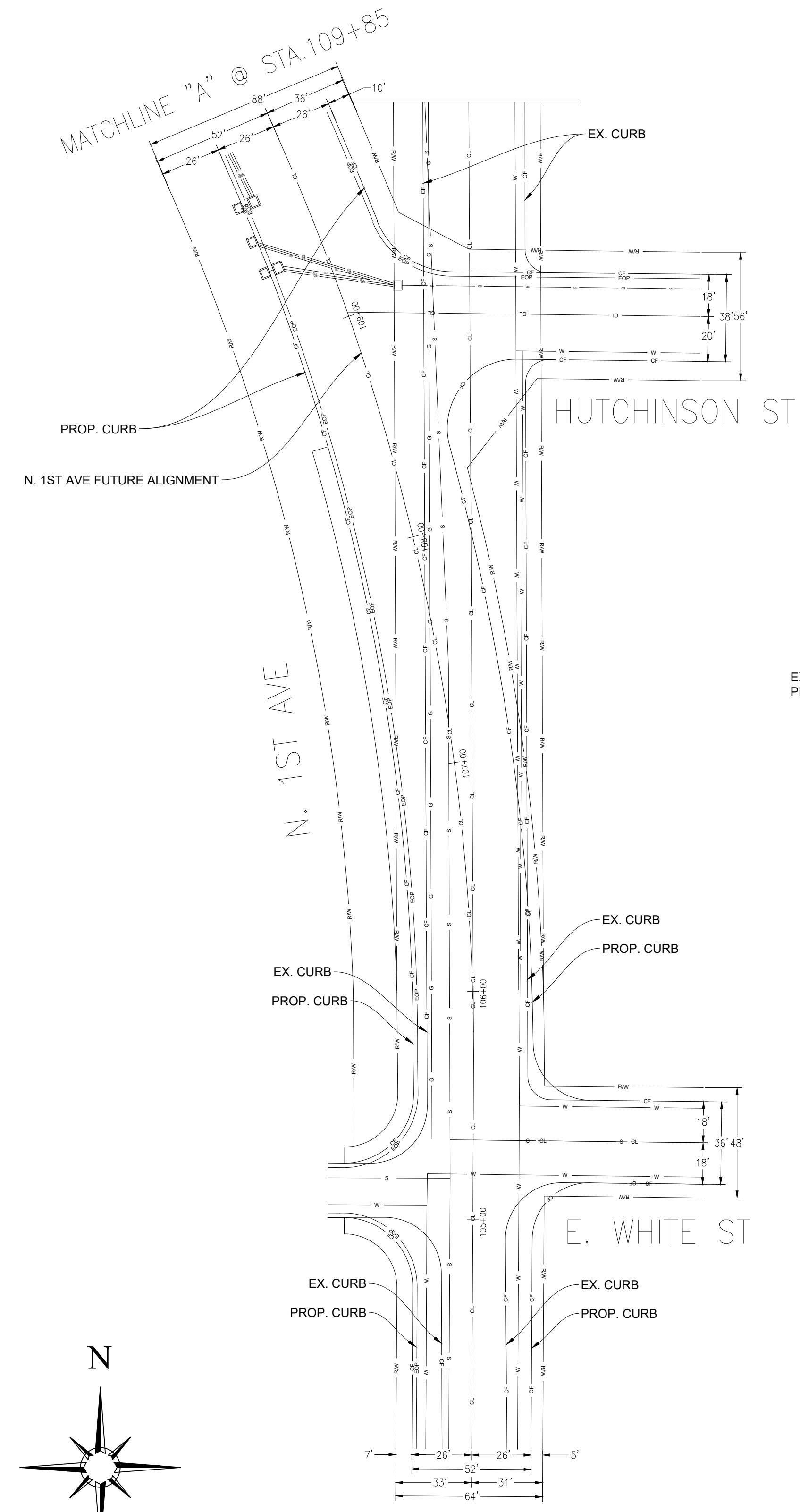
PLACE NEW 2-2" CONDUIT FOR CHARTER SPECTRUM

VICINITY MAP N.T.S



NOTES:

- BORE DEPTH SHALL BE FROM 36"-48" OR AS NECESSARY TO AVOID EXISTING UTILITIES OR OBJECTS.
- BORE PATH MAY DEVIATE SLIGHTLY TO AVOID ANY OBJECTS OR UTILITIES.
- ANY UTILITIES CONFLICTING WITH BORE PATH SHALL BE POT HOLED AS PER USA MARKINGS.
- RESTORATION SHALL BE DONE PER COUNTY STANDARDS OR PER INSPECTOR.
- REPAIR AND REPLACE IF DAMAGED ANY IRRIGATION LINES AN/OR LANDSCAPING.
- RECOMPACT SOIL TO 95% OR BETTER.



PERMIT #:
PROPOSED EXCAVATION

CONSTRUCTION TOTALS	
BORE (H.D.D.)	463'
TRENCH	0'
VAULTS/PEDESTALS	4
R/R ASPHALT (SQ.FT)	16'
R/R CONCRETE (SQ.FT)	N/A
TOTAL CONDUITS.	463'

CONDUIT LEGEND

CONSTRUCTION METHOD → **BORE/TRENCH**

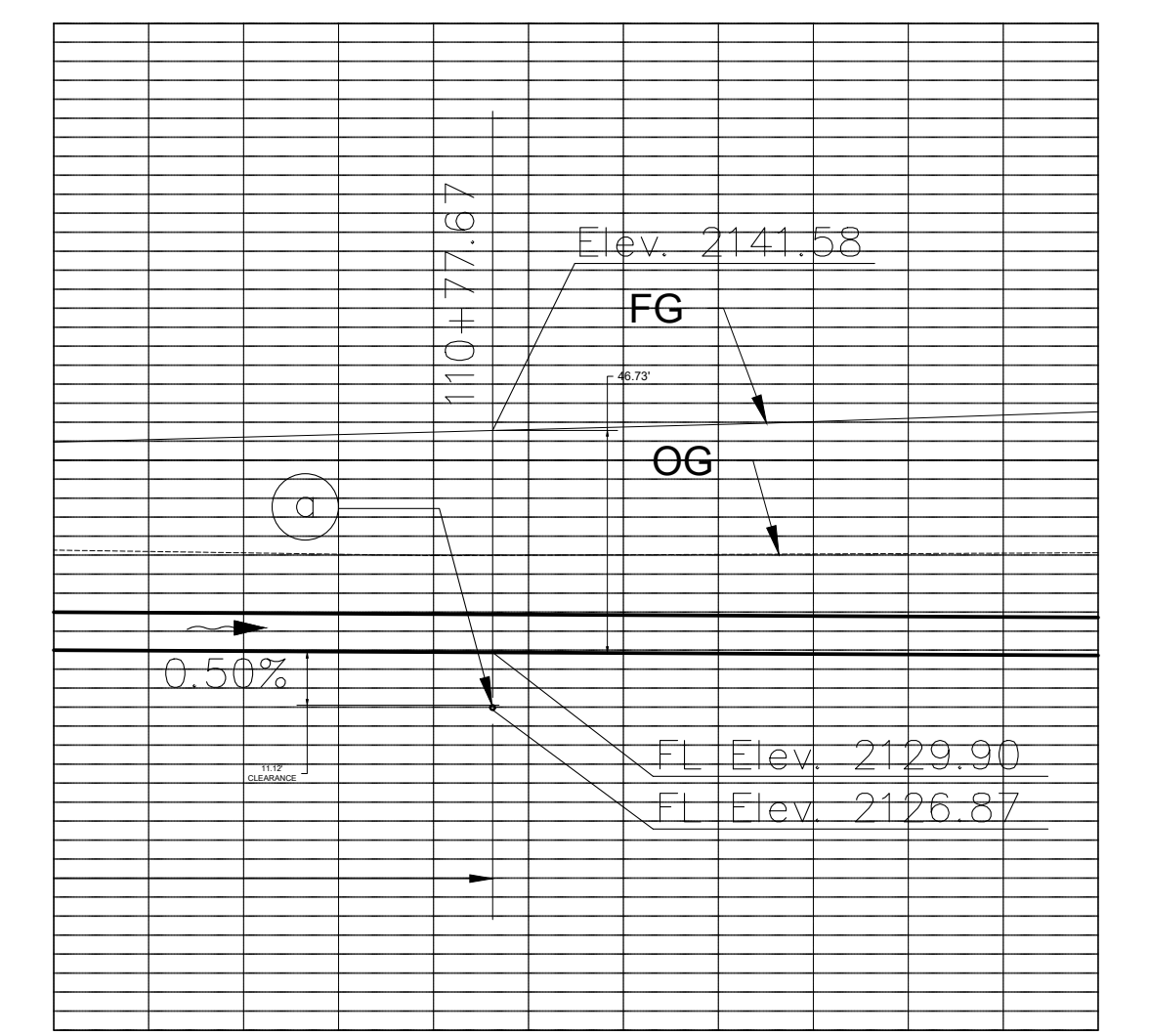
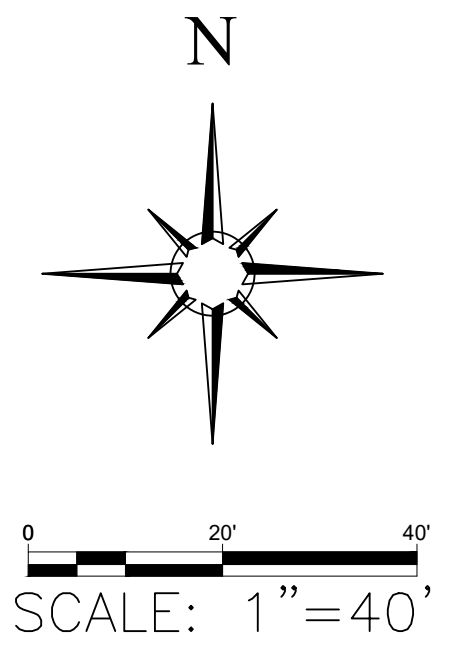
NO. OF CONDUITS → **X X** → CONDUIT SIZE

LENGTH OF SPAN → **XX'**

TYPICAL CATV 2"x3" VAULT DETAIL
N.T.S

DIMENSIONS

INSTALLATION



NOTE:

- SEE PROFILE/ELEVATION PLANS ON SHEET 3 OF 3

Underground Service Alert

Call: TOLL FREE 811

www.call811.com

TWO WORKING DAYS BEFORE YOU DIG

EXISTING OBJECTS	
—○—	GAS LINE
—●—	ELECTRIC LINE
—W—	WATER LINE
—S—	SEWER LINE
—FO—	FIBER OPTIC LINE
—T—	TELEPHONE LINE
—SD—	STORM DRAIN LINE
—CF—	CURB FACE
—EP—	EDGE OF PAVEMENT
—RW—	RIGHT OF WAY
—CL—	CENTER LINE
—D-W	DRIVEWAY
CA	CATV VAULT
CP	CATV PEDESTAL
W	WATER VAULT
⊗	UTILITY POLE
G	GAS VAULT
SL	STREET LIGHT VAULT
E	ELECTRIC VAULT

PROPOSED CONSTRUCTION	
—	BORE ROUTE TO INSTALL CONDUITS
- - -	TRENCH ROUTE TO INSTALL CONDUITS
▒	R&R CONCRETE
▨	POT HOLE
V	NEW VAULT
Ⓟ	BORE PIT

CONTRACTOR:

OPTIMUM, INC.
GENERAL ENGINEER CONTRACTORS

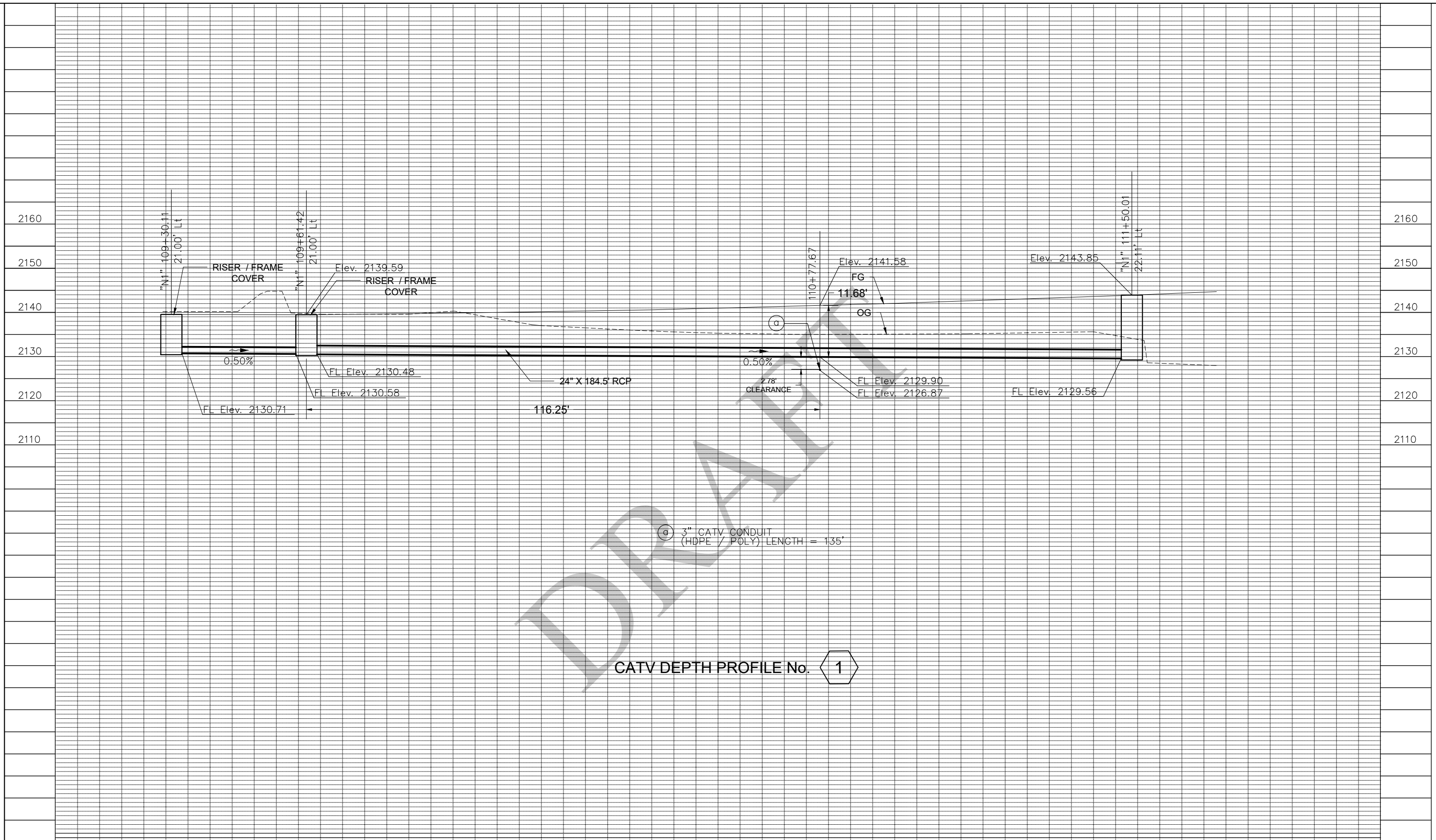
17890 VALLEY BLVD BLOOMINGTON CA
OFFICE: (909) 990-0767
FAX: (909) 990-0766

CUSTOMER:

Charter COMMUNICATIONS

7337 CENTRAL AVE,
RIVERSIDE, CA 92504

DATE:	REV.3 02/03/2020	WO/SRO#	-
JOB ADDRESS:	N.1ST AVE UTILITY RELOCATION		-
CITY:	CITY OF BARSTOW		-
THOMAS GUIDE PAGE:	N/A	PAGE#	1 of 3
DRAWN BY:	LUSIEN GIOSHEV (951)231-7118		
CUSTOMER CONTACT:	J.C. ESCOBAR		
PROJECT MANAGER:	OPTIMUM INC.		
DIG ALERT #:	PENDING		



CATV DEPTH PROFILE No. 1

H: 1" = 10'
V: 1" = 10'


 GENERAL ENGINEER CONTRACTORS 17890 VALLEY BLVD BLOOMINGTON CA OFFICE: (909) 990-0767 FAX: (909) 990-0766	CONTRACTOR:	CUSTOMER:	DATE:	REV.3 02/12/2020	WO/SRO#
		Charter	JOB ADDRESS:	N.1ST AVE UTILITY RELOCATION	-
		COMMUNICATIONS	CITY:	CITY OF BARSTOW	-
		7337 CENTRAL AVE, RIVERSIDE, CA 92504	THOMAS GUIDE PAGE:	N/A	PAGE#
			DRAWN BY:	DANIEL LEE (909) 755-6288	3 OF 3
		CUSTOMER CONTACT:	J.C. ESCOBAR		
		PROJECT MANAGER:	OPTIMUM INC.		
		DIG ALERT #:	PENDING		

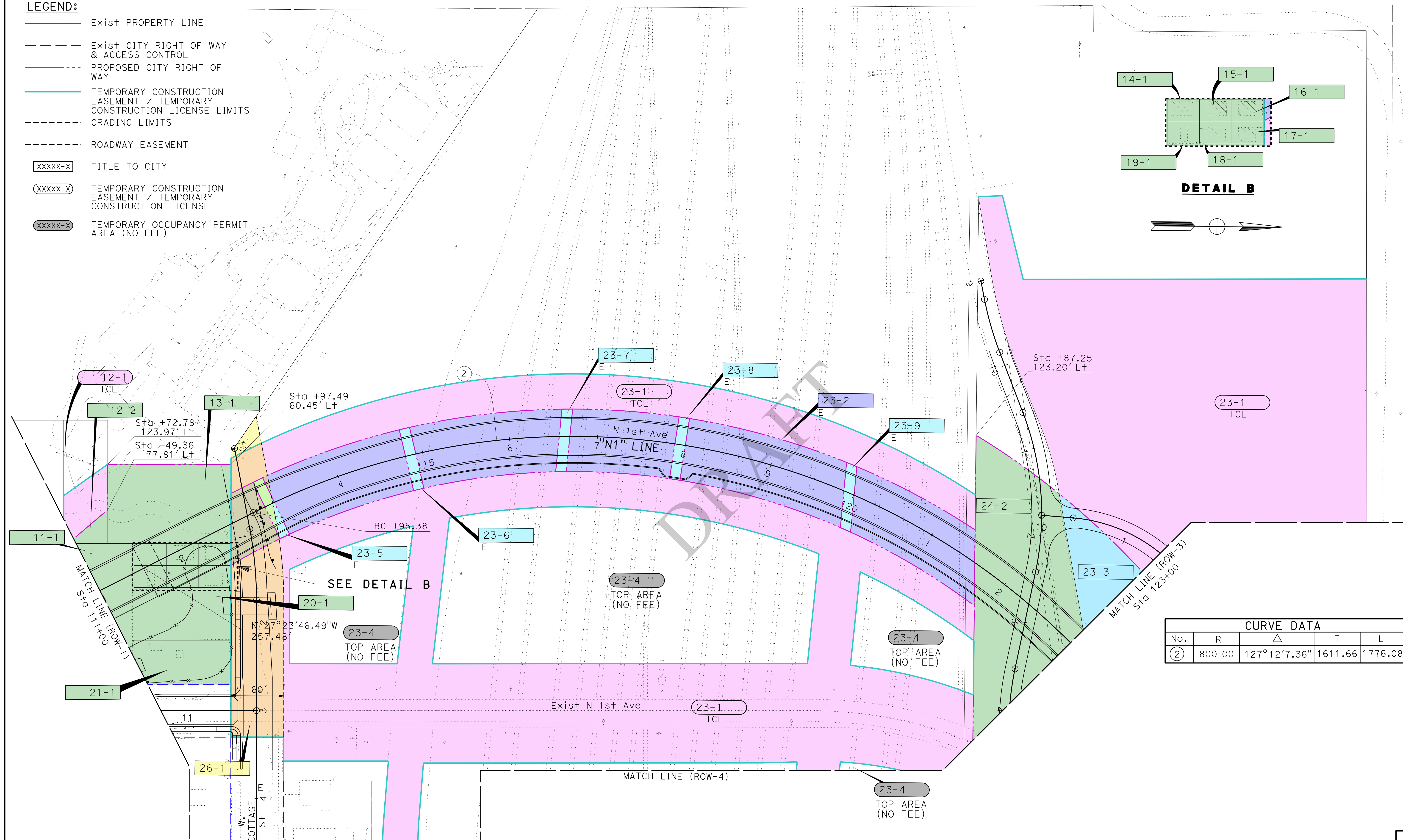
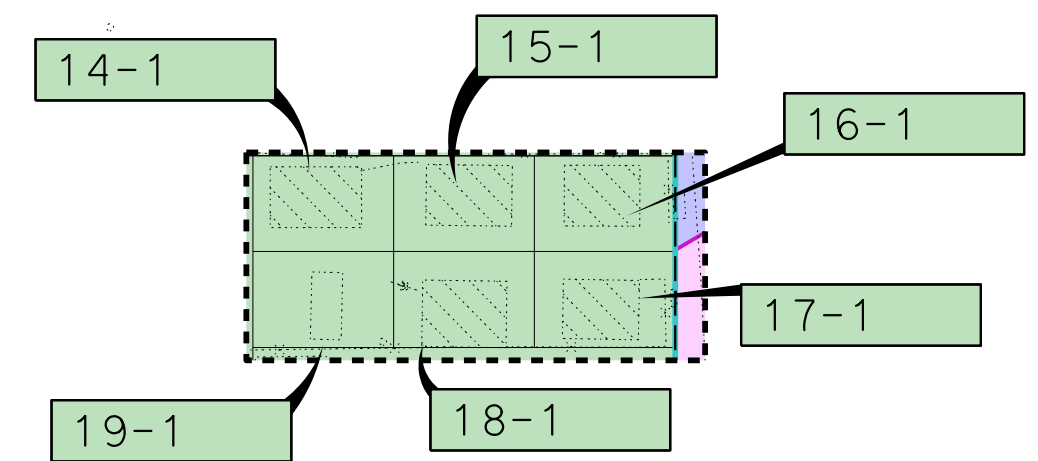
Exhibit B

PROPERTY

DRAFT

LEGEND:

- Exist PROPERTY LINE
- Exist CITY RIGHT OF WAY & ACCESS CONTROL
- PROPOSED CITY RIGHT OF WAY
- TEMPORARY CONSTRUCTION EASEMENT / TEMPORARY CONSTRUCTION LICENSE LIMITS
- GRADING LIMITS
- ROADWAY EASEMENT
- XXXX-X TITLE TO CITY
- XXXX-X TEMPORARY CONSTRUCTION EASEMENT / TEMPORARY CONSTRUCTION LICENSE
- XXXX-X TEMPORARY OCCUPANCY PERMIT AREA (NO FEE)



CURVE DATA				
No.	R	Δ	T	L
②	800.00	127° 12' 7.36"	1611.66	1776.08

SCALE: 1"=10'
PROJECT No. 5298-030

No.	REVISION	DATE	BY

Professional Engineer Seal for Jason Valencia, No. 63263, Exp. 6/30/22, State of California. Includes signature of Jason Valencia.

Kimley»Horn
401 B STREET, SUITE 600
SAN DIEGO, CA 92101
PHONE: (619) 234-9411

CITY OF BARSTOW
220 E. MOUNTAIN VIEW ST SUITE A
BARSTOW, CA 92311
PHONE: (760) 256-3531
FAX: (760) 256-1750

THIS PLAN & SPECIFICATION DRAWING DOCUMENT OTHER IS ON FILE WITH THE CITY OF BARSTOW. IT IS MADE AVAILABLE PURSUANT TO SECTION 6250 et. seq., CALIFORNIA GOVERNMENT CODE UPON PAYMENTS OF THE APPROPRIATE FEE. THE CITY OF BARSTOW MAKES NO REPRESENTATION CONCERNING THE ACCURACY OF THESE ITEMS AND RECOMMENDS THAT THEY BE EXAMINED IN THE FIELD PRIOR TO MAKING ENGINEERING DECISIONS.

CITY OF BARSTOW ENGINEERING DEPARTMENT—APPROVED BY:
Brad S. Merrell
BRAD S. MERRELL CONSULTING CITY ENGINEER
DATE 7/3/2020

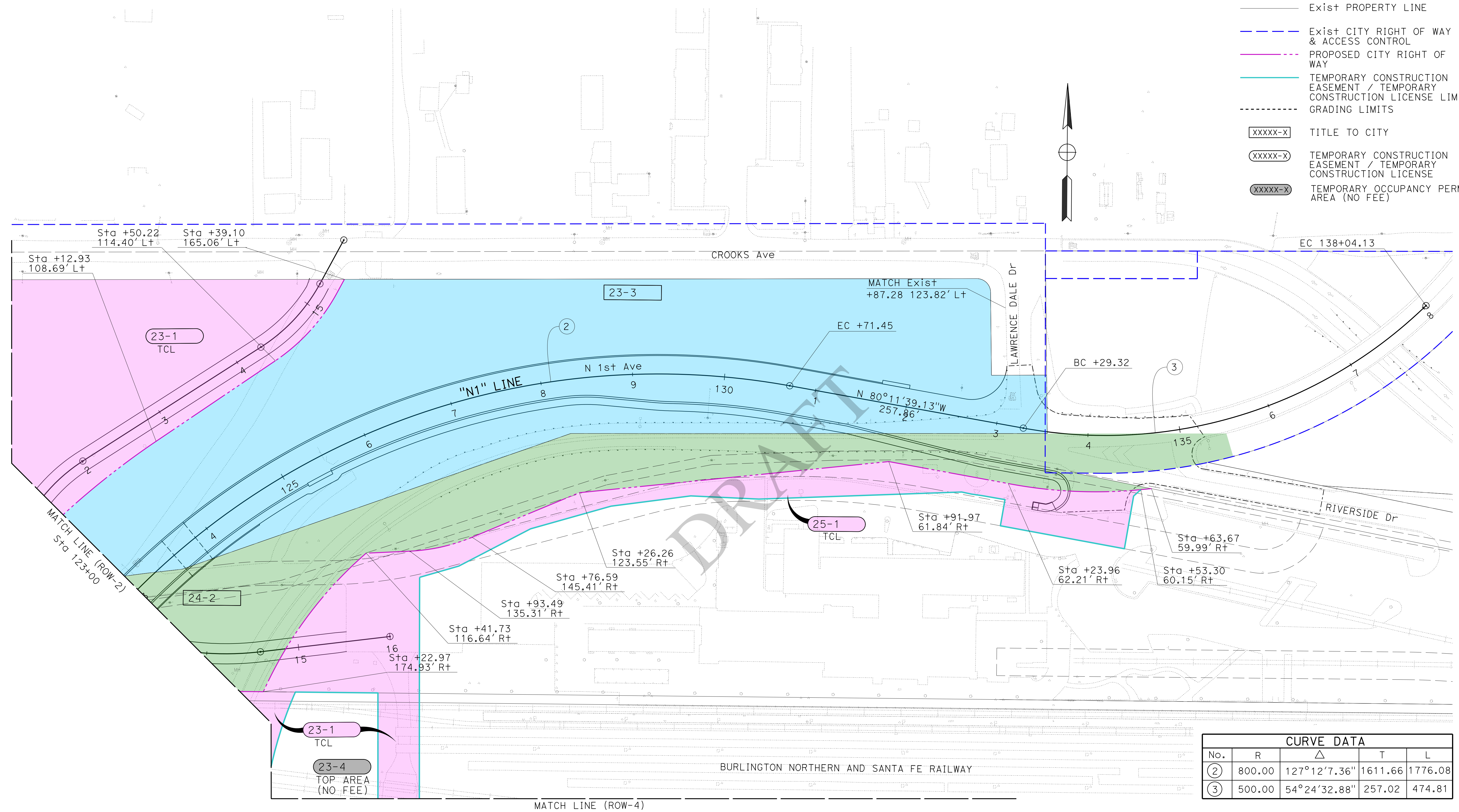
CITY OF BARSTOW
NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD
RIGHT OF WAY REQUIREMENT

APPROVED BY: BRAD S. MERRELL TITLE: CONSULTING CITY ENGINEER

DESIGNED:	R.C.E. NO. 49423	SHEET 2 OF 5
DRAWN:	DATE: 05/11/2020	PLAN NO. ROW-2
SCALE: AS-SHOWN	AS BUILT:	

02-FEB-2021 K:\SND_TRANSPORT\05298\030\Nst-Overhead-RW-Right-of-Way-Requirement\VDGN_ROW_ROW-2_150_Scale.dgn 10/20

- LEGEND:**
- Exist PROPERTY LINE
 - Exist CITY RIGHT OF WAY & ACCESS CONTROL
 - PROPOSED CITY RIGHT OF WAY
 - TEMPORARY CONSTRUCTION EASEMENT / TEMPORARY CONSTRUCTION LICENSE LIMITS
 - GRADING LIMITS
 - XXXXX-X TITLE TO CITY
 - XXXXX-X TEMPORARY CONSTRUCTION EASEMENT / TEMPORARY CONSTRUCTION LICENSE
 - XXXXX-X TEMPORARY OCCUPANCY PERMIT AREA (NO FEE)



CURVE DATA				
No.	R	Δ	T	L
②	800.00	127°12'7.36"	1611.66	1776.08
③	500.00	54°24'32.88"	257.02	474.81

SCALE: 1"=10'

PROJECT No. 5298-030

No.	REVISION	DATE	BY

Jason Valencia

401 B STREET, SUITE 600 SAN DIEGO, CA 92101

 PHONE: (619) 234-9411

CITY OF BARSTOW

 220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311

 PHONE: (760) 256-3531

 FAX: (760) 256-1750

CITY OF BARSTOW ENGINEERING DEPARTMENT—APPROVED BY:

 BRAD S. MERRELL

 CONSULTING CITY ENGINEER

 DATE 7/3/2020

CITY OF BARSTOW

 NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD

RIGHT OF WAY REQUIREMENT

 APPROVED BY: BRAD S. MERRELL

 TITLE: CONSULTING CITY ENGINEER

 DESIGNED: R.C.E. NO. 49423

 SHEET 3 OF 5

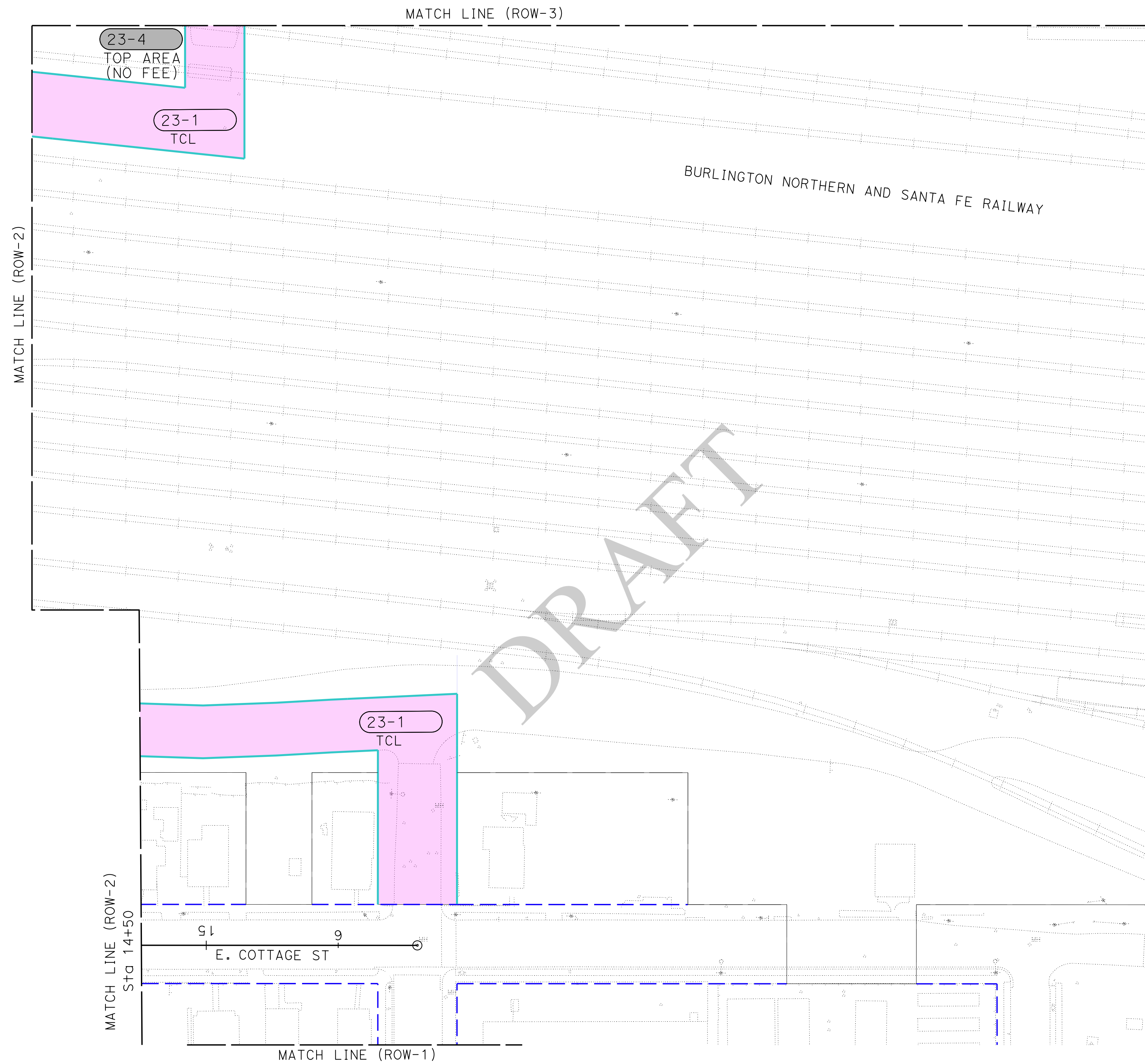
 DRAWN: DATE: 05/11/2020

 PLAN NO. ROW-3

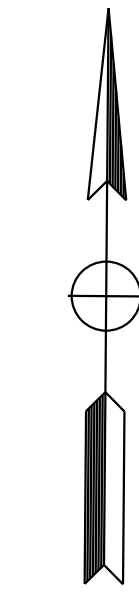
 SCALE: AS-SHOWN

 AS BUILT:

02-FEB-2021 K:\SND\TRANS\09527902\Mst-Overhead\FSEA\Right of Way Requirement\VDGN_ROW_ROW-3.dgn 1022 A:\ssca\Maxon



- LEGEND:**
- Exist PROPERTY LINE
 - Exist CITY RIGHT OF WAY & ACCESS CONTROL
 - PROPOSED CITY RIGHT OF WAY
 - TEMPORARY CONSTRUCTION EASEMENT / TEMPORARY CONSTRUCTION LICENSE LIMITS
 - GRADING LIMITS
 - XXXXX-X TITLE TO CITY
 - XXXXX-X TEMPORARY CONSTRUCTION EASEMENT / TEMPORARY CONSTRUCTION LICENSE
 - XXXXX-X TEMPORARY OCCUPANCY PERMIT AREA (NO FEE)



SCALE: 1"=10'

PROJECT No. 5298-030

No.	REVISION	DATE	BY

Jason Valencia

Kimley»Horn

 401 B STREET, SUITE 600 SAN DIEGO, CA 92101

 PHONE: (619) 234-9411

CITY OF BARSTOW

 220 E. MOUNTAIN VIEW ST SUITE A BARSTOW, CA 92311

 PHONE: (760) 256-3531

 FAX: (760) 256-1750

CITY OF BARSTOW ENGINEERING DEPARTMENT—APPROVED BY:

 BRAD S. MERRELL DATE 7/3/2020

 CONSULTING CITY ENGINEER

CITY OF BARSTOW

 NORTH 1ST AVENUE BRIDGE OVER THE BNSF RAILROAD

RIGHT OF WAY REQUIREMENT

APPROVED BY: BRAD S. MERRELL	TITLE: CONSULTING CITY ENGINEER
DESIGNED:	R.C.E. NO. 49423
DRAWN:	DATE: 05/11/2020
SCALE: AS-SHOWN	AS BUILT:

SHEET 4 OF 5
PLAN NO. ROW-4

02-FEB-2021 K:\SND_TRANSPORT\092702\Nst-Overhead P&E\Right of Way Requirement\UDN_ROW_ROW-4_150 Scale.dgn 1024 A185ca\Maxon

Exhibit B-1

EASEMENT AGREEMENT

DRAFT

**EASEMENT AGREEMENT
FOR N. 1st Avenue Overpass
(C&M Agreement)**

THIS EASEMENT AGREEMENT FOR CONSTRUCTING A NEW OVERPASS AT N. 1st Avenue ("**Easement Agreement**") is made and entered into as of the _____ day of _____ 20__ ("**Effective Date**"), by and between **BNSF RAILWAY COMPANY**, a Delaware corporation ("**Grantor**"), and the **CITY OF BARSTOW**, a political subdivision of the State of California ("**Grantee**").

A. Grantor owns or controls certain real property situated at or near the vicinity of Barstow, County of San Bernardino, State of California, at Railroad Line Segment 7200-6, Mile Post 0.55, as described or depicted on **Exhibit "A"** attached hereto and made a part hereof (the "**Premises**").

B. Grantor and Grantee have entered into that certain Construction and Maintenance Agreement dated as of _____ concerning improvements on or near the Premises (the "**C&M Agreement**").

C. Grantee has requested that Grantor grant to Grantee an easement over the Premises for the Easement Purpose (as defined below).

D. Grantor has agreed to grant Grantee such easement, subject to the terms and conditions set forth in this Easement and in the C&M Agreement incorporated herein as if fully set forth in this instrument which terms shall be in full force and effect for purposes of this Easement even if the C&M Agreement is, for whatever reason, no longer in effect.

NOW, THEREFORE, for and in consideration of the foregoing recitals which are incorporated herein, the mutual promises contained herein, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties agree as follows:

Section 1 Granting of Easement.

1.1 Easement Purpose. The "**Easement Purpose**" shall be for the purposes set forth in the C&M Agreement. Any improvements to be constructed in connection with the Easement Purpose are referred to herein as "**Improvements**" and shall be constructed, located, configured and maintained by Grantee in strict accordance with the terms of this Easement Agreement and the C&M Agreement.

1.2 Grant. Grantor does hereby grant unto Grantee a non-exclusive easement ("**Easement**") over the Premises for the Easement Purpose and for no other purpose. The Easement is granted subject to any and all restrictions, covenants, easements, licenses, permits, leases and other encumbrances of whatsoever nature whether or not of record, if any, relating to the Premises and subject to all with all applicable federal, state and local laws, regulations, ordinances, restrictions, covenants and court or administrative decisions and orders, including Environmental Laws (defined below) and zoning laws (collectively, "**Laws**"). Grantor may not make any alterations or improvements or perform any maintenance or repair activities within the Premises except in accordance with the terms and conditions of the C&M Agreement.

1.3 Reservations by Grantor. Grantor excepts and reserves the right, to be exercised by Grantor and any other parties who may obtain written permission or authority from Grantor:

- (a) to install, construct, maintain, renew, repair, replace, use, operate, change, modify and relocate any existing pipe, power, communication, cable, or utility lines and appurtenances and other facilities or structures of like character (collectively, "**Lines**") upon, over, under or across the Premises;
- (b) to install, construct, maintain, renew, repair, replace, use, operate, change, modify and relocate any tracks or additional facilities or structures upon, over, under or across the Premises; and

- (c) to use the Premises in any manner as the Grantor in its sole discretion deems appropriate, provided Grantor uses all commercially reasonable efforts to avoid material interference with the use of the Premises by Grantee for the Easement Purpose.

Section 2 **Term of Easement.** The term of the Permanent Easement, unless sooner terminated under provisions of this Easement Agreement, shall be perpetual.

Section 3 **No Warranty of Any Conditions of the Premises.** Grantee acknowledges that Grantor has made no representation whatsoever to Grantee concerning the state or condition of the Premises, or any personal property located thereon, or the nature or extent of Grantor's ownership interest in the Premises. Grantee has not relied on any statement or declaration of Grantor, oral or in writing, as an inducement to entering into this Easement Agreement, other than as set forth herein. GRANTOR HEREBY DISCLAIMS ANY REPRESENTATION OR WARRANTY, WHETHER EXPRESS OR IMPLIED, AS TO THE DESIGN OR CONDITION OF ANY PROPERTY PRESENT ON OR CONSTITUTING THE PREMISES, ITS MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE, THE QUALITY OF THE MATERIAL OR WORKMANSHIP OF ANY SUCH PROPERTY, OR THE CONFORMITY OF ANY SUCH PROPERTY TO ITS INTENDED USES. GRANTOR SHALL NOT BE RESPONSIBLE TO GRANTEE OR ANY OF GRANTEE'S CONTRACTORS FOR ANY DAMAGES RELATING TO THE DESIGN, CONDITION, QUALITY, SAFETY, MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OF ANY PROPERTY PRESENT ON OR CONSTITUTING THE PREMISES, OR THE CONFORMITY OF ANY SUCH PROPERTY TO ITS INTENDED USES. GRANTEE ACCEPTS ALL RIGHTS GRANTED UNDER THIS EASEMENT AGREEMENT IN THE PREMISES IN AN "AS IS, WHERE IS" AND "WITH ALL FAULTS" CONDITION, AND SUBJECT TO ALL LIMITATIONS ON GRANTOR'S RIGHTS, INTERESTS AND TITLE TO THE PREMISES. Grantee has inspected or will inspect the Premises, and enters upon Grantor's rail corridor and property with knowledge of its physical condition and the danger inherent in Grantor's rail operations on or near the Premises. Grantee acknowledges that this Easement Agreement does not contain any implied warranties that Grantee or Grantee's Contractors (as hereinafter defined) can successfully construct or operate the Improvements.

Section 4 **Nature of Grantor's Interest in the Premises.** GRANTOR DOES NOT WARRANT ITS TITLE TO THE PREMISES NOR UNDERTAKE TO DEFEND GRANTEE IN THE PEACEABLE POSSESSION OR USE THEREOF. NO COVENANT OF QUIET ENJOYMENT IS MADE. In case of the eviction of Grantee by anyone owning or claiming title to or any interest in the Premises, or by the abandonment by Grantor of the affected rail corridor, Grantor shall not be liable to refund Grantee any compensation paid hereunder.

Section 5 **Improvements.** Grantee shall take, in a timely manner, all actions necessary and proper to the lawful establishment, construction, operation, and maintenance of the Improvements, including such actions as may be necessary to obtain any required permits, approvals or authorizations from applicable governmental authorities. Any and all cuts and fills, excavations or embankments necessary in the construction, maintenance, or future alteration of the Improvements shall be made and maintained in such manner, form and extent as will provide adequate drainage of and from the adjoining lands and premises of the Grantor; and wherever any such fill or embankment shall or may obstruct the natural and pre-existing drainage from such lands and premises of the Grantor, the Grantee shall construct and maintain such culverts or drains as may be requisite to preserve such natural and pre-existing drainage, and shall also wherever necessary, construct extensions of existing drains, culverts or ditches through or along the premises of the Grantor, such extensions to be of adequate sectional dimensions to preserve the present flowage of drainage or other waters, and of materials and workmanship equally as good as those now existing. In the event any construction, repair, maintenance, work or other use of the Premises by Grantee will affect any Lines, fences, buildings, improvements or other facilities (collectively, "**Other Improvements**"), Grantee will be responsible at Grantee's sole risk to locate and make any adjustments necessary to such Other Improvements. Grantee must contact the owner(s) of the Other Improvements notifying them of any work that may damage these Other Improvements and/or interfere with their service and obtain the owner's written approval prior to so affecting the Other Improvements. Grantee must mark all Other Improvements on the Plans and Specifications and mark such Other Improvements in the field in order to verify their locations. Grantee must also use all reasonable methods when working on or near Grantor property to determine if any Other Improvements (fiber optic, cable, communication or otherwise) may exist. The Grantee agrees to keep the above-described premises free and clear from combustible materials and to cut and remove or cause to be cut and removed at its sole expense all weeds and vegetation on said

premises, said work of cutting and removal to be done at such times and with such frequency as to comply with Grantee and local laws and regulations and abate any and all hazard of fire.

Section 6 Taxes and Recording Fees. Grantee shall pay when due any taxes, assessments or other charges (collectively, "**Taxes**") levied or assessed upon the Improvements by any governmental or quasi-governmental body or any Taxes levied or assessed against Grantor or the Premises that are attributable to the Improvements. Grantee agrees to purchase, affix and cancel any and all documentary stamps in the amount prescribed by statute, and to pay any and all required transfer taxes, excise taxes and any and all fees incidental to recordation of the Memorandum of Easement. In the event of Grantee's failure to do so, if Grantor shall become obligated to do so, Grantee shall be liable for all costs, expenses and judgments to or against Grantor, including all of Grantor's legal fees and expenses.

Section 7 Environmental.

7.1 Compliance with Environmental Laws. Grantee shall strictly comply with all federal, state and local environmental Laws in its use of the Premises, including, but not limited to, the Resource Conservation and Recovery Act, as amended (RCRA), the Clean Water Act, the Oil Pollution Act, the Hazardous Materials Transportation Act, the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and the Toxic Substances Control Act (collectively referred to as the "**Environmental Laws**"). Grantee shall not maintain a "treatment," "storage," "transfer" or "disposal" facility, or "underground storage tank," as those terms are defined by Environmental Laws, on the Premises. Grantee shall not handle, transport, release or suffer the release of "hazardous waste" or "hazardous substances", as "hazardous waste" and "hazardous substances" may now or in the future be defined by any Environmental Laws.

7.2 Notice of Release. Grantee shall give Grantor immediate notice to Grantor's Resource Operations Center at (800) 832-5452 of any release of hazardous substances on or from the Premises, violation of Environmental Laws, or inspection or inquiry by governmental authorities charged with enforcing Environmental Laws with respect to Grantee's use of the Premises. Grantee shall use its best efforts to promptly respond to any release on or from the Premises. Grantee also shall give Grantor immediate notice of all measures undertaken on behalf of Grantee to investigate, remediate, respond to or otherwise cure such release or violation.

7.3 Remediation of Release. In the event that Grantor has notice from Grantee or otherwise of a release or violation of Environmental Laws which occurred or may occur during the term of this Easement Agreement, Grantor may require Grantee, at Grantee's sole risk and expense, to take timely measures to investigate, remediate, respond to or otherwise cure such release or violation affecting the Premises. If during the construction or subsequent maintenance of the Improvements, soils or other materials considered to be environmentally contaminated are exposed, Grantee will remove and safely dispose of said contaminated soils. Determination of soils contamination and applicable disposal procedures thereof, will be made only by an agency having the capacity and authority to make such a determination.

7.4 Preventative Measures. Grantee shall promptly report to Grantor in writing any conditions or activities upon the Premises known to Grantee which create a risk of harm to persons, property or the environment and shall take whatever action is necessary to prevent injury to persons or property arising out of such conditions or activities; provided, however, that Grantee's reporting to Grantor shall not relieve Grantee of any obligation whatsoever imposed on it by this Easement Agreement. Grantee shall promptly respond to Grantor's request for information regarding said conditions or activities.

7.5 Evidence of Compliance. Grantee agrees periodically to furnish Grantor with proof satisfactory to Grantor that Grantee is in compliance with this **Section 7**. Should Grantee not comply fully with the above-stated obligations of this **Section 7**, notwithstanding anything contained in any other provision hereof, Grantor may, at its option, terminate this Easement Agreement by serving five (5) days' notice of termination upon Grantee. Upon termination, Grantee shall remove the Improvements and restore the Premises as provided in **Section 9**.

Section 8 **Default and Termination.**

8.1 **Grantor's Performance Rights.** If at any time Grantee, or Grantee's Contractors, fails to properly perform its obligations under this Easement Agreement, Grantor, in its sole discretion, may: (i) seek specific performance of the unperformed obligations, or (ii) at Grantee's sole cost, may arrange for the performance of such work as Grantor deems necessary for the safety of its rail operations, activities and property, or to avoid or remove any interference with the activities or property of Grantor, or anyone or anything present on the rail corridor or property with the authority or permission of Grantor. Grantee shall promptly reimburse Grantor for all costs of work performed on Grantee's behalf upon receipt of an invoice for such costs. Grantor's failure to perform any obligations of Grantee or Grantee's Contractors shall not alter the liability allocation set forth in this Easement Agreement.

8.2 **Abandonment.** Grantor may, at its option, terminate this Easement Agreement by serving five (5) days' notice in writing upon Grantee if Grantee should abandon or cease to use the Premises for the Easement Purpose. Any waiver by Grantor of any default or defaults shall not constitute a waiver of the right to terminate this Easement Agreement for any subsequent default or defaults, nor shall any such waiver in any way affect Grantor's ability to enforce any section of this Easement Agreement.

8.3 **Effect of Termination or Expiration.** Neither termination nor expiration will release Grantee from any liability or obligation under this Easement, whether of indemnity or otherwise, resulting from any acts, omissions or events happening prior to the date of termination or expiration, or, if later, the date the Premises are restored as required by **Section 9**.

8.4 **Non-exclusive Remedies.** The remedies set forth in this **Section 8** shall be in addition to, and not in limitation of, any other remedies that Grantor may have under the C&M Agreement, at law or in equity.

Section 9 **Surrender of Premises.**

9.1 **Removal of Improvements and Restoration.** Upon termination of this Easement Agreement, whether by abandonment of the Easement or by the exercise of Grantor's termination rights hereunder, Grantee shall, at its sole cost and expense, immediately perform the following:

- (a) remove all or such portion of Grantee's Improvements and all appurtenances thereto from the Premises, as Grantor directs at Grantor's sole discretion;
- (b) repair and restore any damage to the Premises arising from, growing out of, or connected with Grantee's use of the Premises;
- (c) remedy any unsafe conditions on the Premises created or aggravated by Grantee; and
- (d) leave the Premises in the condition which existed as of the Effective Date.

9.2 **Limited License for Entry.** If this Easement Agreement is terminated, Grantor may direct Grantee to undertake one or more of the actions set forth above, at Grantee's sole cost, in which case Grantee shall have a limited license to enter upon the Premises to the extent necessary to undertake the actions directed by Grantor. The terms of this limited license include all of Grantee's obligations under this Easement Agreement. Termination will not release Grantee from any liability or obligation under this Easement Agreement, whether of indemnity or otherwise, resulting from any acts, omissions or events happening prior to the date of termination, or, if later, the date when Grantee's Improvements are removed and the Premises are restored to the condition that existed as of the Effective Date. If Grantee fails to surrender the Premises to Grantor upon any termination of the Easement, all liabilities and obligations of Grantee hereunder shall continue in effect until the Premises are surrendered.

Section 10 **Liens.** Grantee shall promptly pay and discharge any and all liens arising out of any construction, alterations or repairs done, suffered or permitted to be done by Grantee on the Premises or attributable to Taxes that are the responsibility of Grantee pursuant to **Section 6**. Grantor is hereby authorized

to post any notices or take any other action upon or with respect to the Premises that is or may be permitted by Law to prevent the attachment of any such liens to any portion of the Premises; provided, however, that failure of Grantor to take any such action shall not relieve Grantee of any obligation or liability under this **Section 10** or any other section of this Easement Agreement.

Section 11 **Tax Exchange.** Grantor may assign its rights (but not its obligations) under this Easement Agreement to Goldfinch Exchange Company LLC, an exchange intermediary, in order for Grantor to effect an exchange under Section 1031 of the Internal Revenue Code. In such event, Grantor shall provide Grantee with a Notice of Assignment, attached as Exhibit C, and Grantee shall execute an acknowledgement of receipt of such notice.

Section 12 **Notices.** Any notice required or permitted to be given hereunder by one party to the other shall be delivered in the manner set forth in the C&M Agreement. Notices to Grantor under this Easement shall be delivered to the following address: BNSF Railway Company, Real Estate Department, 2501 Lou Menk Drive, Ft. Worth, TX 76131, Attn: Real Estate, or such other address as Grantor may from time to time direct by notice to Grantee.

Section 13 **Recordation.** It is understood and agreed that this Easement Agreement shall not be in recordable form and shall not be placed on public record and any such recording shall be a breach of this Easement Agreement. Grantor and Grantee shall execute a Memorandum of Easement in the form attached hereto as Exhibit "B" (the "**Memorandum of Easement**") subject to changes required, if any, to conform such form to local recording requirements. The Memorandum of Easement shall be recorded in the real estate records in the county where the Premises are located. If a Memorandum of Easement is not executed by the parties and recorded as described above within 30 days of the Effective Date, Grantor shall have the right to terminate this Easement Agreement upon notice to Grantee.

Section 14 **Miscellaneous.**

14.1 All questions concerning the interpretation or application of provisions of this Easement Agreement shall be decided according to the substantive Laws of the State of California without regard to conflicts of law provisions.

14.2 In the event that Grantee consists of two or more parties, all the covenants and agreements of Grantee herein contained shall be the joint and several covenants and agreements of such parties. This instrument and all of the terms, covenants and provisions hereof shall inure to the benefit of and be binding upon each of the parties hereto and their respective legal representatives, successors and assigns and shall run with and be binding upon the Premises.

14.3 If any action at law or in equity is necessary to enforce or interpret the terms of this Easement Agreement, the prevailing party or parties shall be entitled to reasonable attorneys' fees, costs and necessary disbursements in addition to any other relief to which such party or parties may be entitled.

14.4 If any provision of this Easement Agreement is held to be illegal, invalid or unenforceable under present or future Laws, such provision will be fully severable and this Easement Agreement will be construed and enforced as if such illegal, invalid or unenforceable provision is not a part hereof, and the remaining provisions hereof will remain in full force and effect. In lieu of any illegal, invalid or unenforceable provision herein, there will be added automatically as a part of this Easement Agreement a provision as similar in its terms to such illegal, invalid or unenforceable provision as may be possible and be legal, valid and enforceable.

14.5 This Easement Agreement is the full and complete agreement between Grantor and Grantee with respect to all matters relating to Grantee's use of the Premises and supersedes any and all other agreements between the parties hereto relating to Grantee's use of the Premises as described herein. However, nothing herein is intended to terminate any surviving obligation of Grantee or Grantee's obligation to defend and hold Grantor harmless in any prior written agreement between the parties.

14.6 Time is of the essence for the performance of this Easement Agreement.

ADMINISTRATIVE FEE

15. Grantee acknowledges that a material consideration for this agreement, without which it would not be made, is the agreement between Grantee and Grantor, that the Grantee shall pay upon return of this Agreement signed by Grantee to Grantor's Broker a processing fee in the amount of **\$2,500.00** over and above the agreed upon Acquisition Price. Said fee shall be made payable to BNSF Railway Company by a separate check.

Witness the execution of this Easement Agreement as of the date first set forth above.

GRANTOR:

BNSF RAILWAY COMPANY, a Delaware corporation

By: _____
Name: _____
Title: _____

GRANTEE:

CITY OF BARSTOW, a political subdivision of the State of California

By: _____
Name: _____
Title: _____

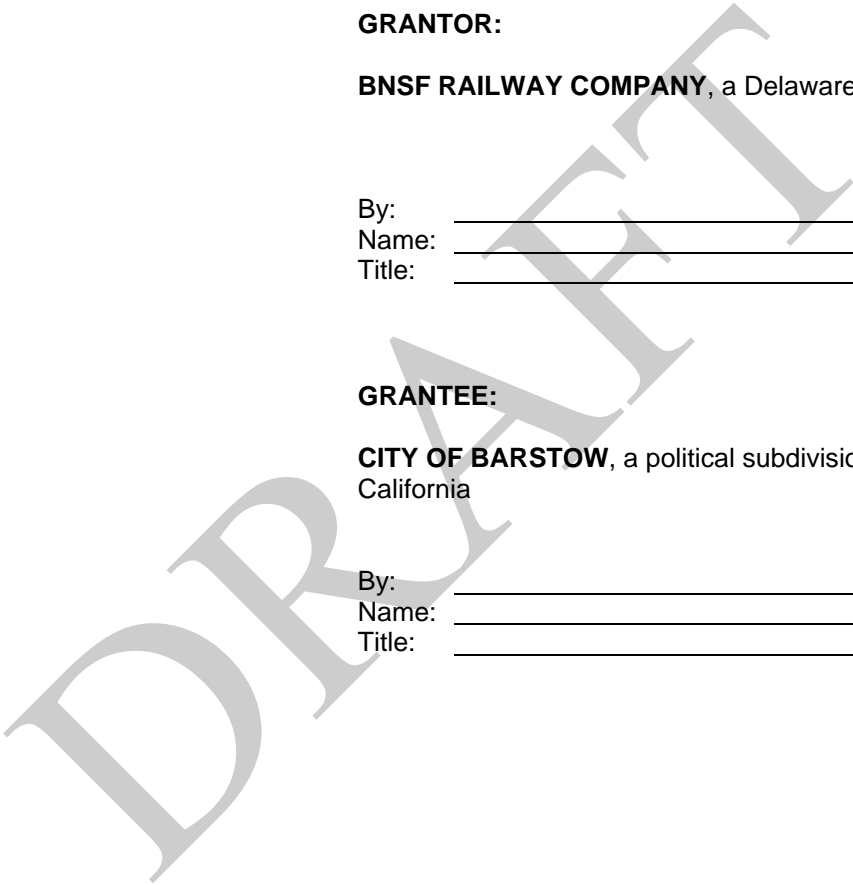


EXHIBIT "A"

Premises

DRAFT

EXHIBIT "B"

MEMORANDUM OF EASEMENT

DRAFT

MEMORANDUM OF EASEMENT

THIS MEMORANDUM OF EASEMENT is hereby executed this _____ day of _____, 20__, by and between **BNSF RAILWAY COMPANY**, a Delaware corporation ("**Grantor**"), whose address for purposes of this instrument is 2500 Lou Menk Drive, Fort Worth, Texas 76131, and the **CITY OF BARSTOW**, a political subdivision of the State of California ("**Grantee**"), whose address for purposes of this instrument is _____, which terms "Grantor" and "Grantee" shall include, wherever the context permits or requires, singular or plural, and the heirs, legal representatives, successors and assigns of the respective parties:

WITNESSETH:

WHEREAS, Grantor owns or controls certain real property situated in San Bernardino County, California as described on **Exhibit "A"** attached hereto and incorporated herein by reference (the "**Premises**");

WHEREAS, Grantor and Grantee entered into an Easement Agreement, dated _____, 20__ (the "**Easement Agreement**") which set forth, among other things, the terms of an easement granted by Grantor to Grantee over and across the Premises (the "**Easement**"); and

WHEREAS, Grantor and Grantee desire to memorialize the terms and conditions of the Easement Agreement of record.

For valuable consideration the receipt and sufficiency of which are hereby acknowledged, Grantor does grant unto Grantee and Grantee does hereby accept from Grantor the Easement over and across the Premises.

The term of the Easement, unless sooner terminated under provisions of the Easement Agreement, shall be perpetual.

All the terms, conditions, provisions and covenants of the Easement Agreement are incorporated herein by this reference for all purposes as though written out at length herein, and both the Easement Agreement and this Memorandum of Easement shall be deemed to constitute a single instrument or document. This Memorandum of Easement is not intended to amend, modify, supplement, or supersede any of the provisions of the Easement Agreement and, to the extent there may be any conflict or inconsistency between the Easement Agreement or this Memorandum of Easement, the Easement Agreement shall control.

IN WITNESS WHEREOF, Grantor and Grantee have executed this Memorandum of Easement to as of the date and year first above written.

GRANTOR:

BNSF RAILWAY COMPANY, a Delaware corporation

By: _____
Name: _____
Title: _____

STATE OF TEXAS §
 §
COUNTY OF TARRANT §

This instrument was acknowledged before me on the _____ day of _____, 20____,
by _____ (name) as
_____ (title) of **BNSF RAILWAY COMPANY**, a Delaware
corporation.

Notary Public

My appointment expires: _____

(Seal)

GRANTEE:
CITY OF BARSTOW, a political subdivision of the
State of California

By: _____
Name: _____
Title: _____

STATE OF _____ §
 §
COUNTY OF _____ §

This instrument was acknowledged before me on the _____ day of _____,
20__, by _____ (name) as
_____ (title) of _____, a
_____.

Notary Public

My appointment expires: _____

(Seal)

Exhibit C

CONTRACTOR REQUIREMENTS

DRAFT

EXHIBIT C

CONTRACTOR REQUIREMENTS

1.01 General:

- **1.01.01** The Contractor must cooperate with **BNSF RAILWAY COMPANY**, hereinafter referred to as "**Railway**" where work is over or under on or adjacent to Railway property and/or right-of-way, hereafter referred to as "Railway Property", during the construction of construction of the a new grade separated overhead crossing and removal of the existing overhead crossing at North 1st Avenue.
- **1.01.02** The Contractor must execute and deliver to the Railway duplicate copies of the Exhibit "C-1" Agreement, in the form attached hereto, obligating the Contractor to provide and maintain in full force and effect the insurance called for under Section 3 of said Exhibit "C-1". Questions regarding procurement of the Railroad Protective Liability Insurance should be directed to Rosa Martinez at Marsh, USA, 214-303-8519.
- **1.01.03** The Contractor must plan, schedule and conduct all work activities so as not to interfere with the movement of any trains on Railway Property.
- **1.01.04** The Contractor's right to enter Railway's Property is subject to the absolute right of Railway to cause the Contractor's work on Railway's Property to cease if, in the opinion of Railway, Contractor's activities create a hazard to Railway's Property, employees, and/or operations. Railway will have the right to stop construction work on the Project if any of the following events take place: (i) Contractor (or any of its subcontractors) performs the Project work in a manner contrary to the plans and specifications approved by Railway; (ii) Contractor (or any of its subcontractors), in Railway's opinion, prosecutes the Project work in a manner which is hazardous to Railway property, facilities or the safe and expeditious movement of railroad traffic; (iii) the insurance described in the attached Exhibit C-1 is canceled during the course of the Project; or (iv) Contractor fails to pay Railway for the Temporary Construction License or the Easement. The work stoppage will continue until all necessary actions are taken by Contractor or its subcontractor to rectify the situation to the satisfaction of Railway's Division Engineer or until additional insurance has been delivered to and accepted by Railway. In the event of a breach of (i) this Agreement, (ii) the Temporary Construction License, or (iii) the Easement, Railway may immediately terminate the Temporary Construction License or the Easement, upon reimbursement to CITY of the cost of granting said Easement(s). Any such work stoppage under this provision will not give rise to any liability on the part of Railway, other than reimbursement for the purchase of the Easement(s). Railway's right to stop the work is in addition to any other rights Railway may have including, but not limited to, actions or suits for damages or lost profits. In the event that Railway desires to stop construction work on the Project, Railway agrees to immediately notify the following individual in writing:

- **1.01.05** The Contractor is responsible for determining and complying with all Federal, State and Local Governmental laws and regulations, including, but not limited to environmental laws and regulations (including but not limited to the Resource Conservation and Recovery Act, as amended; the Clean Water Act, the Oil Pollution Act, the Hazardous Materials Transportation Act, CERCLA), and health and safety laws and regulations. The Contractor hereby indemnifies, defends and holds harmless Railway for, from and against all fines or penalties imposed or assessed by Federal, State and Local Governmental Agencies against the Railway which arise out of Contractor's work under this Agreement.
- **1.01.06** The Contractor must notify Henry Stultz, P.E. at 909-884.8276 and Railway's Manager Public Projects, telephone number () _____ at least thirty (30) calendar days before commencing any work on Railway Property. Contractor's notification to Railway must refer to Railway's file _____.
- **1.01.07** For any bridge demolition and/or falsework above any tracks or any excavations located with any part of the excavations located within, whichever is greater, twenty-five (25) feet of the nearest track or intersecting a slope from the plane of the top of rail on a 2 horizontal to 1 vertical slope beginning at eleven (11) feet from centerline of the nearest track, both measured perpendicular to center line of track, the Contractor must furnish the Railway five sets of working drawings showing details of construction affecting Railway Property and tracks. The working drawing must include the proposed method of installation and removal of falsework, shoring or cribbing, not included in the contract plans and two sets of structural calculations of any falsework, shoring or cribbing. For all excavation and shoring submittal plans, the current "BNSF-UPRR Guidelines for Temporary Shoring" must be used for determining the design loading conditions to be used in shoring design, and all calculations and submittals must be in accordance with the current "BNSF-UPRR Guidelines for Temporary Shoring". All submittal drawings and calculations must be stamped by a registered professional engineer licensed to practice in the state the project is located. All calculations must take into consideration railway surcharge loading and must be designed to meet American Railway Engineering and Maintenance-of-Way Association (previously known as American Railway Engineering Association) Coopers E-80 live loading standard. All drawings and calculations must be stamped by a registered professional engineer licensed to practice in the state the project is located. The Contractor must not begin work until notified by the Railway that plans have been approved. The Contractor will be required to use lifting devices such as, cranes and/or winches to place or to remove any falsework over Railway's tracks. In no case will the Contractor be relieved of responsibility for results obtained by the implementation of said approved plans.
- **1.01.08** Subject to the movement of Railway's trains, Railway will cooperate with the Contractor such that the work may be handled and performed in an efficient manner. The Contractor will have no claim whatsoever for any type of damages or for extra or additional compensation in the event his work is delayed by the Railway.

1.02 Contractor Safety Orientation

- **1.02.01** No employee of the Contractor, its subcontractors, agents or invitees may enter Railway Property without first having completed Railway's Engineering Contractor Safety Orientation, found on the web site www.BNSFContractor.com. The Contractor must ensure that each of its employees, subcontractors, agents or invitees completes Railway's Engineering Contractor Safety Orientation through internet sessions before any work is performed on the Project. Additionally, the Contractor must ensure that each and every one of its employees, subcontractors, agents or invitees possesses a card certifying completion of the Railway Contractor Safety Orientation before entering Railway Property. The Contractor is responsible for the cost of the Railway Contractor Safety Orientation. The Contractor must renew the Railway Contractor Safety Orientation annually. Further clarification can be found on the web site or from the Railway's Representative.

1.03 Railway Requirements

- **1.03.01** The Contractor must take protective measures as are necessary to keep railway facilities, including track ballast, free of sand, debris, and other foreign objects and materials resulting from his operations. Any damage to railway facilities resulting from Contractor's operations will be repaired or replaced by Railway and the cost of such repairs or replacement must be paid for by the Agency.
- **1.03.02** The Contractor must notify the Railway's Project Engineer _____ at (_____) _____ and provide blasting plans to the Railway for review seven (7) calendar days prior to conducting any blasting operations adjacent to or on Railway's Property.
- **1.03.03** The Contractor must abide by the following temporary clearances during construction:
 - 15'-0" Horizontally from centerline of nearest track
 - 8' – 6" Horizontally from Centerline of nearest yard tracks
 - 21'-6" Vertically above top of rail
 - 27'-0" Vertically above top of rail for electric wires carrying less than 750 volts
 - 28'-0" Vertically above top of rail for electric wires carrying 750 volts to 15,000 volts
 - 30'-0" Vertically above top of rail for electric wires carrying 15,000 volts to 20,000 volts
 - 34'-0" Vertically above top of rail for electric wires carrying more than 20,000 volts
- **1.03.04** Upon completion of construction, the following clearances shall be maintained:
 - 25' Horizontally from centerline of nearest track
 - 23' 6" Vertically above top of rail
- **1.03.05** Any infringement within State statutory clearances due to the Contractor's operations must be submitted to the Railway and to the **(Agency)** and must not be

undertaken until approved in writing by the Railway, and until the **(Agency)** has obtained any necessary authorization from the State Regulatory Authority for the infringement. No extra compensation will be allowed in the event the Contractor's work is delayed pending Railway approval, and/or the State Regulatory Authority's approval.

- **1.03.06** In the case of impaired vertical clearance above top of rail, Railway will have the option of installing tell-tales or other protective devices Railway deems necessary for protection of Railway operations. The cost of tell-tales or protective devices will be borne by the Agency.
- **1.03.07** The details of construction affecting the Railway's Property and tracks not included in the contract plans must be submitted to the Railway by **(Agency)** for approval before work is undertaken and this work must not be undertaken until approved by the Railway.
- **1.03.08** At other than public road crossings, the Contractor must not move any equipment or materials across Railway's tracks until permission has been obtained from the Railway. The Contractor must obtain a "Temporary Construction Crossing Agreement" from the Railway prior to moving his equipment or materials across the Railways tracks. The temporary crossing must be gated and locked at all times when not required for use by the Contractor. The temporary crossing for use of the Contractor will be constructed and, at the completion of the project, removed at the expense of the Contractor.
- **1.03.09** Discharge, release or spill on the Railway Property of any hazardous substances, oil, petroleum, constituents, pollutants, contaminants, or any hazardous waste is prohibited and Contractor must immediately notify the **Railway's Resource Operations Center at 1(800) 832-5452**, of any discharge, release or spills in excess of a reportable quantity. Contractor must not allow Railway Property to become a treatment, storage or transfer facility as those terms are defined in the Resource Conservation and Recovery Act or any state analogue.
- **1.03.10** The Contractor upon completion of the work covered by this contract, must promptly remove from the Railway's Property all of Contractor's tools, equipment, implements and other materials, whether brought upon said property by said Contractor or any Subcontractor, employee or agent of Contractor or of any Subcontractor, and must cause Railway's Property to be left in a condition acceptable to the Railway's representative.

1.04 Contractor Roadway Worker on Track Safety Program and Safety Action Plan:

- **1.04.01** Each Contractor that will perform work within 25 feet of the centerline of a track must develop and implement a Roadway Worker Protection/On Track Safety Program and work with Railway Project Representative to develop an on track safety strategy as described in the guidelines listed in the on track safety portion of the Safety Orientation. This Program must provide Roadway Worker protection/on track training for all employees of the Contractor, its subcontractors, agents or invitees. This training is reinforced at the job site through job safety briefings. Additionally, each Contractor must develop and implement the Safety Action Plan, as provided for on the web site www.BNSFContractor.com, which will be made available to Railway prior to commencement of any work on Railway Property. During the performance of work, the Contractor must audit its work activities. The Contractor

must designate an on-site Project Supervisor who will serve as the contact person for the Railway and who will maintain a copy of the Safety Action Plan, safety audits, and Material Safety Datasheets (MSDS), at the job site.

- **1.04.02** Contractor shall have a background investigation performed on all of its employees, subcontractors and agents who will be performing any services for Railroad under this Agreement which are determined by Railroad in its sole discretion **a)** to be on Railroad's property, or **b)** that require access to Railroad Critical Infrastructure, Railroad Critical Information Systems, Railroad's Employees, Hazardous Materials on Railroad's property or is being transported by or otherwise in the custody of Railroad, or Freight in Transit involving Railroad.

The required background screening shall at a minimum meet the rail industry background screening criteria defined by the e-RAILSAFE Program as outlined at www.everifile.com, in addition to any other applicable regulatory requirements.

Contractor shall obtain written consent from all its employees, subcontractors or agents screened in compliance with the e-RAILSAFE Program to participate in the Program on their behalf and to release completed background information to Railroad's designee. Contractor shall be subject to periodic audit to ensure compliance.

Contractor subject to the e-RAILSAFE Program hereunder shall not permit any of its employees, subcontractors or agents to perform services hereunder who are not first approved under e-RAILSAFE Program standards. Railroad shall have the right to deny entry onto its premises or access as described in this section above to any of Contractor's employees, subcontractors or agents who do not display the authorized identification badge issued by a background screening service meeting the standards set forth in the e-RAILSAFE Program, or who in Railroad's opinion, which may not be unreasonable, may pose a threat to the safety or security of Railroad's operations, assets or personnel.

Contractors shall be responsible for ensuring that its employees, subcontractors and agents are United States citizens or legally working in the United States under a lawful and appropriate work VISA or other work authorization.

1.05 Railway Flagger Services:

- **1.05.01** The Contractor must give Railway's **Roadmaster (telephone _____)** a minimum of thirty (30) calendar days advance notice when flagging services will be required so that the Roadmaster can make appropriate arrangements (i.e., bulletin the flagger's position). If flagging services are scheduled in advance by the Contractor and it is subsequently determined by the parties hereto that such services are no longer necessary, the Contractor must give the Roadmaster five (5) working days advance notice so that appropriate arrangements can be made to abolish the position pursuant to union requirements.
- **1.05.02** Unless determined otherwise by Railway's Project Representative, Railway flagger will be required and furnished when Contractor's work activities are located over,

under and/or within twenty-five (25) feet measured horizontally from centerline of the nearest track and when cranes or similar equipment positioned beyond 25-feet from the track centerline could foul the track in the event of tip over or other catastrophic occurrence, but not limited thereto for the following conditions:

- **1.05.02a** When, upon inspection by Railway's Representative, other conditions warrant.
- **1.05.02b** When any excavation is performed below the bottom of tie elevation, if, in the opinion of Railway's representative, track or other Railway facilities may be subject to movement or settlement.
- **1.05.02c** When work in any way interferes with the safe operation of trains at timetable speeds.
- **1.05.02d** When any hazard is presented to Railway track, communications, signal, electrical, or other facilities either due to persons, material, equipment or blasting in the vicinity.
- **1.05.02e** Special permission must be obtained from the Railway before moving heavy or cumbersome objects or equipment which might result in making the track impassable.
- **1.05.03** Flagging services will be performed by qualified Railway flaggers.
- **1.05.03a** Flagging crew generally consists of one employee. However, additional personnel may be required to protect Railway Property and operations, if deemed necessary by the Railways Representative.
- **1.05.03b** Each time a flagger is called, the minimum period for billing will be the eight (8) hour basic day.
- **1.05.03c** The cost of flagger services provided by the Railway will be borne by **(Agency)**. The estimated cost for one (1) flagger is approximately between \$800.00-\$1,600.00 for an eight (8) hour basic day with time and one-half or double time for overtime, rest days and holidays. The estimated cost for each flagger includes vacation allowance, paid holidays, Railway and unemployment insurance, public liability and property damage insurance, health and welfare benefits, vehicle, transportation, meals, lodging, radio, equipment, supervision and other costs incidental to performing flagging services. Negotiations for Railway labor or collective bargaining agreements and rate changes authorized by appropriate Federal authorities may increase actual or estimated flagging rates. **THE FLAGGING RATE IN EFFECT AT THE TIME OF PERFORMANCE BY THE CONTRACTOR HEREUNDER WILL BE USED TO CALCULATE THE ACTUAL COSTS OF FLAGGING PURSUANT TO THIS PARAGRAPH.**
- **1.05.03d** The average train traffic on this route is _____ freight trains per 24-hour period at a timetable speed _____ MPH and _____ passenger trains at a timetable speed of _____ MPH.

1.06 Contractor General Safety Requirements

- **1.06.01** Work in the proximity of railway track(s) is potentially hazardous where movement of trains and equipment can occur at any time and in any direction. All work performed by contractors within 25 feet of any track must be in compliance with FRA Roadway Worker Protection Regulations.
- **1.06.02** Before beginning any task on Railway Property, a thorough job safety briefing must be conducted with all personnel involved with the task and repeated when the personnel or task changes. If the task is within 25 feet of any track, the job briefing must include the Railway's flagger, as applicable, and include the procedures the Contractor will use to protect its employees, subcontractors, agents or invitees from moving any equipment adjacent to or across any Railway track(s).
- **1.06.03** Workers must not work within 25 feet of the centerline of any track without an on track safety strategy approved by the Railway's Project Representative. When authority is provided, every contractor employee must know: (1) who the Railway flagger is, and how to contact the flagger, (2) limits of the authority, (3) the method of communication to stop and resume work, and (4) location of the designated places of safety. Persons or equipment entering flag/work limits that were not previously job briefed, must notify the flagger immediately, and be given a job briefing when working within 25 feet of the center line of track.
- **1.06.04** When Contractor employees are required to work on the Railway Property after normal working hours or on weekends, the Railway's representative in charge of the project must be notified. A minimum of two employees must be present at all times.
- **1.06.05** Any employees, agents or invitees of Contractor or its subcontractors under suspicion of being under the influence of drugs or alcohol, or in the possession of same, will be removed from the Railway's Property and subsequently released to the custody of a representative of Contractor management. Future access to the Railway's Property by that employee will be denied.
- **1.06.06** Any damage to Railway Property, or any hazard noticed on passing trains must be reported immediately to the Railway's representative in charge of the project. Any vehicle or machine which may come in contact with track, signal equipment, or structure (bridge) and could result in a train derailment must be reported immediately to the Railway representative in charge of the project and to the Railway's Resource Operations Center at 1(800) 832-5452. Local emergency numbers are to be obtained from the Railway representative in charge of the project prior to the start of any work and must be posted at the job site.
- **1.06.07** For safety reasons, all persons are prohibited from having pocket knives, firearms or other deadly weapons in their possession while working on Railway's Property.
- **1.06.08** All personnel protective equipment (PPE) used on Railway Property must meet applicable OSHA and ANSI specifications. Current Railway personnel protective equipment requirements are listed on the web site, www.BNSFContractor.com, however, a partial list

of the requirements include: a) safety glasses with permanently affixed side shields (no yellow lenses); b) hard hats; c) safety shoe with: hardened toes, above-the-ankle lace-up and a defined heel; and d) high visibility retro-reflective work wear. The Railway's representative in charge of the project is to be contacted regarding local specifications for meeting requirements relating to hi-visibility work wear. Hearing protection, fall protection, gloves, and respirators must be worn as required by State and Federal regulations. **(NOTE – Should there be a discrepancy between the information contained on the web site and the information in this paragraph, the web site will govern.)**

- **1.06.09 THE CONTRACTOR MUST NOT PILE OR STORE ANY MATERIALS, MACHINERY OR EQUIPMENT CLOSER THAN 25'-0" TO THE CENTER LINE OF THE NEAREST RAILWAY TRACK. MATERIALS, MACHINERY OR EQUIPMENT MUST NOT BE STORED OR LEFT WITHIN 250 FEET OF ANY HIGHWAY/RAIL AT-GRADE CROSSINGS OR TEMPORARY CONSTRUCTION CROSSING, WHERE STORAGE OF THE SAME WILL OBSTRUCT THE VIEW OF A TRAIN APPROACHING THE CROSSING. PRIOR TO BEGINNING WORK, THE CONTRACTOR MUST ESTABLISH A STORAGE AREA WITH CONCURRENCE OF THE RAILWAY'S REPRESENTATIVE.**
- **1.06.10** Machines or vehicles must not be left unattended with the engine running. Parked machines or equipment must be in gear with brakes set and if equipped with blade, pan or bucket, they must be lowered to the ground. All machinery and equipment left unattended on Railway's Property must be left inoperable and secured against movement. (See internet Engineering Contractor Safety Orientation program for more detailed specifications)
- **1.06.11** Workers must not create and leave any conditions at the work site that would interfere with water drainage. Any work performed over water must meet all Federal, State and Local regulations.
- **1.06.12** All power line wires must be considered dangerous and of high voltage unless informed to the contrary by proper authority. For all power lines the minimum clearance between the lines and any part of the equipment or load must be; 200 KV or below - 15 feet; 200 to 350 KV - 20 feet; 350 to 500 KV - 25 feet; 500 to 750 KV - 35 feet; and 750 to 1000 KV - 45 feet. If capacity of the line is not known, a minimum clearance of 45 feet must be maintained. A person must be designated to observe clearance of the equipment and give a timely warning for all operations where it is difficult for an operator to maintain the desired clearance by visual means.

1.07 Excavation:

- **1.07.01** Before excavating, the Contractor must determine whether any underground pipe lines, electric wires, or cables, including fiber optic cable systems are present and located within the Project work area. The Contractor must determine whether excavation on Railway's Property could cause damage to buried cables resulting in delay to Railway traffic and disruption of service to users. Delays and disruptions to service may cause business interruptions involving loss of revenue and profits. Before commencing excavation, the Contractor must contact **BNSF's Field Engineering Representative (_____)**. All underground and overhead wires will be considered HIGH VOLTAGE and dangerous until verified with the company having ownership of the line. **It is the Contractor's**

responsibility to notify any other companies that have underground utilities in the area and arrange for the location of all underground utilities before excavating.

- **1.07.02** The Contractor must cease all work and notify the Railway immediately before continuing excavation in the area if obstructions are encountered which do not appear on drawings. If the obstruction is a utility and the owner of the utility can be identified, then the Contractor must also notify the owner immediately. If there is any doubt about the location of underground cables or lines of any kind, no work must be performed until the exact location has been determined. There will be no exceptions to these instructions.
- **1.07.03** All excavations must be conducted in compliance with applicable OSHA regulations and, regardless of depth, must be shored where there is any danger to tracks, structures or personnel.
- **1.07.04** Any excavations, holes or trenches on the Railway's Property must be covered, guarded and/or protected when not being worked on. When leaving work site areas at night and over weekends, the areas must be secured and left in a condition that will ensure that Railway employees and other personnel who may be working or passing through the area are protected from all hazards. All excavations must be back filled as soon as possible.

1.08 Hazardous Waste, Substances and Material Reporting:

- **1.08.01** If Contractor discovers any hazardous waste, hazardous substance, petroleum or other deleterious material, including but not limited to any non-containerized commodity or material, on or adjacent to Railway's Property, in or near any surface water, swamp, wetlands or waterways, while performing any work under this Agreement, Contractor must immediately: (a) notify the Railway's Resource Operations Center at 1(800) 832-5452, of such discovery: (b) take safeguards necessary to protect its employees, subcontractors, agents and/or third parties: and (c) exercise due care with respect to the release, including the taking of any appropriate measure to minimize the impact of such release.

1.09 Personal Injury Reporting

- **1.09.01** The Railway is required to report certain injuries as a part of compliance with Federal Railroad Administration (FRA) reporting requirements. Any personal injury sustained by an employee of the Contractor, subcontractor or Contractor's invitees while on the Railway's Property must be reported immediately (by phone mail if unable to contact in person) to the Railway's representative in charge of the project. The Non-Employee Personal Injury Data Collection Form contained herein is to be completed and sent by Fax to the Railway at 1(817) 352-7595 and to the Railway's Project Representative no later than the close of shift on the date of the injury.



NON-EMPLOYEE PERSONAL INJURY DATA COLLECTION

(If injuries are in connection with rail equipment accident/incident, highway rail grade crossing accident or automobile accident, ensure that appropriate information is obtained, forms completed and that data entry personnel are aware that injuries relate to that specific event.)

Injured Person Type:

- Passenger on train (C)
- Non-employee (N)
(i.e., emp of another railroad, or, non-BNSF emp involved in vehicle accident, including company vehicles)
- Contractor/safety sensitive (F)
- Contractor/non-safety sensitive (G)
- Volunteer/safety sensitive (H)
- Volunteer/other non-safety sensitive (I)
- Non-trespasser (D) - to include highway users involved in highway rail grade crossing accidents who did not go around or through gates
- Trespasser (E) - to include highway users involved in highway rail grade crossing accidents who went around or through gates
- Non-trespasser (J) - Off railroad property

If train involved, Train ID:

Transmit attached information to Accident/Incident Reporting Center by:

Fax 1-817-352-7595

or by Phone 1-800-697-6736

or email to: Accident-Reporting.Center@BNSF.com

Officer Providing Information:

(Name)

(Employee No.)

(Phone #)

REPORT PREPARED TO COMPLY WITH FEDERAL ACCIDENT REPORTING REQUIREMENTS AND PROTECTED FROM DISCLOSURE PURSUANT TO 49 U.S.C. 20903 AND 83 U.S.C. 490



NON-EMPLOYEE PERSONAL INJURY DATA COLLECTION

INFORMATION REQUIRED TO BE COLLECTED PURSUANT TO FEDERAL REGULATION. IT SHOULD BE USED FOR COMPLIANCE WITH FEDERAL REGULATIONS ONLY AND IT IS NOT INTENDED TO PRESUME ACCEPTANCE OF RESPONSIBILITY OR LIABILITY.

I. Accident City/St: _____ 2. Date: _____ Time: _____
County: _____ 3. Temperature: _____ 4. Weather: _____
(if non BNSF location)

Mile Post / Line Segment: _____

5. Driver's License No (and state) or other ID: _____ **SSN (required):** _____

6. Name (last, first, mi): _____

7. Address: _____ City: _____ St: _____ Zip: _____

8. Date of Birth: _____ and/or Age: _____ Gender: _____
(if available)

Phone Number: _____ Employer: _____

9. Injury: _____ 10. Body Part: _____
(i.e., Laceration, etc.) (i.e., Hand, etc.)

II. Description of Accident (To include location, action, result, etc.):

12. Treatment:
 First Aid Only
 Required Medical Treatment
 Other Medical Treatment

13. Dr. Name: _____ Date: _____

14. Dr. Address:
Street: _____ City: _____ St: _____ Zip: _____

15. Hospital Name: _____

16. Hospital Address:
Street: _____ City: _____ St: _____ Zip: _____

17. Diagnosis: _____



EXHIBIT C-1

Agreement Between BNSF RAILWAY COMPANY and the CONTRACTOR

Railway File: _____

Agency Project: _____

XXXXXXX [Insert contractor's legal name here] (hereinafter called "Contractor"), has entered into an agreement (hereinafter called "Agreement") dated _____, 201_, [***Drafter's Note: insert the date of the contract between the Agency and the Contractor here] with [Drafter's Note: insert the name of the Agency here] for the performance of certain work in connection with the following project: _____ Performance of such work will necessarily require Contractor to enter **BNSF RAILWAY COMPANY** (hereinafter called "Railway") right of way and property (hereinafter called "Railway Property"). The Agreement provides that no work will be commenced within Railway Property until the Contractor employed in connection with said work for [insert Agency name here] (i) executes and delivers to Railway an Agreement in the form hereof, and (ii) provides insurance of the coverage and limits specified in such Agreement and Section 3 herein. If this Agreement is executed by a party who is not the Owner, General Partner, President or Vice President of Contractor, Contractor must furnish evidence to Railway certifying that the signatory is empowered to execute this Agreement on behalf of Contractor.

Accordingly, in consideration of Railway granting permission to Contractor to enter upon Railway Property and as an inducement for such entry, Contractor, effective on the date of the Agreement, has agreed and does hereby agree with Railway as follows:

1) RELEASE OF LIABILITY AND INDEMNITY

Contractor hereby waives, releases, indemnifies, defends and holds harmless Railway for all judgments, awards, claims, demands, and expenses (including attorneys' fees), for injury or death to all persons, including Railway's and Contractor's officers and employees, and for loss and damage to property belonging to any person, arising in any manner from Contractor's or any of Contractor's

subcontractors' acts or omissions or any work performed on or about Railway's property or right-of-way. **THE LIABILITY ASSUMED BY CONTRACTOR WILL NOT BE AFFECTED BY THE FACT, IF IT IS A FACT, THAT THE DESTRUCTION, DAMAGE, DEATH, OR INJURY WAS OCCASIONED BY OR CONTRIBUTED TO BY THE NEGLIGENCE OF RAILWAY, ITS AGENTS, SERVANTS, EMPLOYEES OR OTHERWISE, EXCEPT TO THE EXTENT THAT SUCH CLAIMS ARE PROXIMATELY CAUSED BY THE WILLFUL MISCONDUCT OR SOLE NEGLIGENCE OF RAILWAY.**

THE INDEMNIFICATION OBLIGATION ASSUMED BY CONTRACTOR INCLUDES ANY CLAIMS, SUITS OR JUDGMENTS BROUGHT AGAINST RAILWAY UNDER THE FEDERAL EMPLOYEE'S LIABILITY ACT, INCLUDING CLAIMS FOR STRICT LIABILITY UNDER THE SAFETY APPLIANCE ACT OR THE LOCOMOTIVE INSPECTION ACT, WHENEVER SO CLAIMED.

Contractor further agrees, at its expense, in the name and on behalf of Railway, that it will adjust and settle all claims made against Railway, and will, at Railway's discretion, appear and defend any suits or actions of law or in equity brought against Railway on any claim or cause of action arising or growing out of or in any manner connected with any liability assumed by Contractor under this Agreement for which Railway is liable or is alleged to be liable. Railway will give notice to Contractor, in writing, of the receipt or dependency of such claims and thereupon Contractor must proceed to adjust and handle to a conclusion such claims, and in the event of a suit being brought against Railway, Railway may forward summons and complaint or other process in connection therewith to Contractor, and Contractor, at Railway's discretion, must defend, adjust, or settle such suits and protect, indemnify, and save harmless Railway from and against all damages, judgments, decrees, attorney's fees, costs, and expenses growing out of or resulting from or incident to any such claims or suits.

In addition to any other provision of this Agreement, in the event that all or any portion of this Article shall be deemed to be inapplicable for any reason, including without limitation as a result of a decision of an applicable court, legislative enactment or regulatory order, the parties agree that this Article shall be interpreted as requiring Contractor to indemnify Railway to the fullest extent permitted by applicable law. **THROUGH THIS AGREEMENT THE PARTIES EXPRESSLY INTEND FOR CONTRACTOR TO INDEMNIFY RAILWAY FOR RAILWAY'S ACTS OF NEGLIGENCE.**

It is mutually understood and agreed that the assumption of liabilities and indemnification provided for in this Agreement survive any termination of this Agreement.

2) TERM

This Agreement is effective from the date of the Agreement until (i) the completion of the project set forth herein, and (ii) full and complete payment to Railway of any and all sums or other amounts owing and due hereunder.

3) INSURANCE

Contractor shall, at its sole cost and expense, procure and maintain during the life of this Agreement the following insurance coverage:

A. Commercial General Liability insurance. This insurance shall contain broad form contractual liability with a combined single limit of a minimum of \$5,000,000 each occurrence and an aggregate limit of at least \$10,000,000 but in no event less than the amount otherwise carried by the Contractor. Coverage must be purchased on a post 2004 ISO occurrence form or equivalent and include coverage for, but not limit to the following:

- ◆ Bodily Injury and Property Damage
- ◆ Personal Injury and Advertising Injury
- ◆ Fire legal liability
- ◆ Products and completed operations

This policy shall also contain the following endorsements, which shall be indicated on the certificate of insurance:

- ◆ The definition of insured contract shall be amended to remove any exclusion or other limitation for any work being done within 50 feet of railroad property.
- ◆ Waiver of subrogation in favor of and acceptable to Railway.
- ◆ Additional insured endorsement in favor of and acceptable to Railway.
- ◆ Separation of insureds.
- ◆ The policy shall be primary and non-contributing with respect to any insurance carried by Railway.

It is agreed that the workers' compensation and employers' liability related exclusions in the Commercial General Liability insurance policy(s) required herein are intended to apply to employees of the policy holder and shall not apply to **Railway** employees.

No other endorsements limiting coverage as respects obligations under this Agreement may be included on the policy with regard to the work being performed under this agreement.

B. Business Automobile Insurance. This insurance shall contain a combined single limit of at least \$1,000,000 per occurrence, and include coverage for, but not limited to the following:

- ◆ Bodily injury and property damage
- ◆ Any and all vehicles owned, used or hired

The policy shall also contain the following endorsements or language, which shall be indicated on the certificate of insurance:

- ◆ Waiver of subrogation in favor of and acceptable to Railway.

- ◆ Additional insured endorsement in favor of and acceptable to Railway.
- ◆ Separation of insureds.
- ◆ The policy shall be primary and non-contributing with respect to any insurance carried by Railway.

C. Workers Compensation and Employers Liability insurance including coverage for, but not limited to:

- ◆ Contractor's statutory liability under the worker's compensation laws of the state(s) in which the work is to be performed. If optional under State law, the insurance must cover all employees anyway.
- ◆ Employers' Liability (Part B) with limits of at least \$500,000 each accident, \$500,000 by disease policy limit, \$500,000 by disease each employee.

This policy shall also contain the following endorsements or language, which shall be indicated on the certificate of insurance:

- ◆ Waiver of subrogation in favor of and acceptable to Railway.

A. Railroad Protective Liability insurance naming only the **Railway** as the Insured with coverage of at least \$5,000,000 per occurrence and \$10,000,000 in the aggregate. The policy Must be issued on a standard ISO form CG 00 35 12 04 and include the following:

- ◆ Endorsed to include the Pollution Exclusion Amendment
- ◆ Endorsed to include the Limited Seepage and Pollution Endorsement.
- ◆ Endorsed to remove any exclusion for punitive damages.
- ◆ No other endorsements restricting coverage may be added.
- ◆ The original policy must be provided to the **Railway** prior to performing any work or services under this Agreement
- ◆ Definition of "Physical Damage to Property" shall be endorsed to read: "means direct and accidental loss of or damage to all property owned by any named insured and all property in any named insured' care, custody, and control arising out of the acts or omissions of the contractor named on the Declarations.

In lieu of providing a Railroad Protective Liability Policy, Licensee may participate (if available) in Railway's Blanket Railroad Protective Liability Insurance Policy.

Other Requirements:

Where allowable by law, all policies (applying to coverage listed above) shall contain no exclusion for punitive damages.

Contractor agrees to waive its right of recovery against **Railway** for all claims and suits against **Railway**. In addition, its insurers, through the terms of the policy or policy endorsement, waive their right of subrogation against **Railway** for all claims and suits. Contractor further waives its right of recovery, and its insurers also waive their right of subrogation against **Railway** for loss of its owned or leased property or property under Contractor's care, custody or control.

Allocated Loss Expense shall be in addition to all policy limits for coverages referenced above.

Contractor is not allowed to self-insure without the prior written consent of **Railway**. If granted by **Railway**, any self-insured retention or other financial responsibility for claims shall be covered directly by Contractor in lieu of insurance. Any and all **Railway** liabilities that would otherwise, in accordance with the provisions of this Agreement, be covered by Contractor's insurance will be covered as if Contractor elected not to include a deductible, self-insured retention or other financial responsibility for claims.

Prior to commencing services, Contractor shall furnish to **Railway** an acceptable certificate(s) of insurance from an authorized representative evidencing the required coverage(s), endorsements, and amendments. The certificate should be directed to the following address:

BNSF Railway Company
c/o CertFocus
P.O. Box 140528
Kansas City, MO 64114
Toll Free: 877-576-2378
Fax number: 817-840-7487
Email: BNSF@certfocus.com
www.certfocus.com

Contractor shall notify **Railway** in writing at least 30 days prior to any cancellation, non-renewal, substitution or material alteration.

Any insurance policy shall be written by a reputable insurance company acceptable to **Railway** or with a current Best's Guide Rating of A- and Class VII or better, and authorized to do business in the state(s) in which the service is to be provided.

If coverage is purchased on a "claims made" basis, Contractor hereby agrees to maintain coverage in force for a minimum of three years after expiration, cancellation or termination of this Agreement. Annually Contractor agrees to provide evidence of such coverage as required hereunder.

Contractor represents that this Agreement has been thoroughly reviewed by Contractor's insurance agent(s)/broker(s), who have been instructed by Contractor to procure the insurance coverage required by this Agreement.

Not more frequently than once every five years, **Railway** may reasonably modify the required insurance coverage to reflect then-current risk management practices in the railroad industry and underwriting practices in the insurance industry.

If any portion of the operation is to be subcontracted by Contractor, Contractor shall require that the subcontractor shall provide and maintain insurance coverage(s) as set forth herein, naming **Railway** as an additional insured, and shall require that the subcontractor shall release, defend and indemnify **Railway** to the same extent and under the same terms and conditions as Contractor is required to release, defend and indemnify **Railway** herein.

Failure to provide evidence as required by this section shall entitle, but not require, **Railway** to terminate this Agreement immediately. Acceptance of a certificate that does not comply with this section shall not operate as a waiver of Contractor's obligations hereunder.

The fact that insurance (including, without limitation, self-insurance) is obtained by Contractor shall not be deemed to release or diminish the liability of Contractor including, without limitation, liability under the indemnity provisions of this Agreement. Damages recoverable by **Railway** shall not be limited by the amount of the required insurance coverage.

In the event of a claim or lawsuit involving **Railway** arising out of this agreement, Contractor will make available any required policy covering such claim or lawsuit.

These insurance provisions are intended to be a separate and distinct obligation on the part of the Contractor. Therefore, these provisions shall be enforceable and Contractor shall be bound thereby regardless of whether or not indemnity provisions are determined to be enforceable in the jurisdiction in which the work covered hereunder is performed.

For purposes of this section, **Railway** shall mean "Burlington Northern Santa Fe LLC", "BNSF Railway Company" and the subsidiaries, successors, assigns and affiliates of each.

4) SALES AND OTHER TAXES

In the event applicable sales taxes of a state or political subdivision of a state of the United States are levied or assessed in connection with and directly related to any amounts invoiced by Contractor to Railway ("Sales Taxes"), Railway shall be responsible for paying only the Sales Taxes that Contractor separately states on the invoice or other billing documents provided to Railway; *provided, however*, that (i) nothing herein shall preclude Railway from claiming whatever Sales Tax exemptions are applicable to amounts Contractor bills Railway, (ii) Contractor shall be responsible for all sales, use, excise, consumption, services and other taxes which may accrue on all services, materials, equipment, supplies or fixtures that Contractor and its subcontractors use or consume in the performance of this

Agreement, (iii) Contractor shall be responsible for Sales Taxes (together with any penalties, fines or interest thereon) that Contractor fails to separately state on the invoice or other billing documents provided to Railway or fails to collect at the time of payment by Railway of invoiced amounts (except where Railway claims a Sales Tax exemption), and (iv) Contractor shall be responsible for Sales Taxes (together with any penalties, fines or interest thereon) if Contractor fails to issue separate invoices for each state in which Contractor delivers goods, provides services or, if applicable, transfers intangible rights to Railway.

Upon request, Contractor shall provide Railway satisfactory evidence that all taxes (together with any penalties, fines or interest thereon) that Contractor is responsible to pay under this Agreement have been paid. If a written claim is made against Contractor for Sales Taxes with respect to which Railway may be liable for under this Agreement, Contractor shall promptly notify Railway of such claim and provide Railway copies of all correspondence received from the taxing authority. Railway shall have the right to contest, protest, or claim a refund, in Railway's own name, any Sales Taxes paid by Railway to Contractor or for which Railway might otherwise be responsible for under this Agreement; provided, however, that if Railway is not permitted by law to contest any such Sales Tax in its own name, Contractor shall, if requested by Railway at Railway's sole cost and expense, contest in Contractor's own name the validity, applicability or amount of such Sales Tax and allow Railway to control and conduct such contest.

Railway retains the right to withhold from payments made under this Agreement amounts required to be withheld under tax laws of any jurisdiction. If Contractor is claiming a withholding exemption or a reduction in the withholding rate of any jurisdiction on any payments under this Agreement, before any payments are made (and in each succeeding period or year as required by law), Contractor agrees to furnish to Railway a properly completed exemption form prescribed by such jurisdiction. Contractor shall be responsible for any taxes, interest or penalties assessed against Railway with respect to withholding taxes that Railway does not withhold from payments to Contractor.

1) EXHIBIT "C" CONTRACTOR REQUIREMENTS

The Contractor must observe and comply with all provisions, obligations, requirements and limitations contained in the Agreement, and the Contractor Requirements set forth on Exhibit "C" attached to the Agreement and this Agreement, including, but not be limited to, payment of all costs incurred for any damages to Railway roadbed, tracks, and/or appurtenances thereto, resulting from use, occupancy, or presence of its employees, representatives, or agents or subcontractors on or about the construction site. Contractor shall execute a Temporary Construction Crossing Agreement or Private Crossing Agreement (<http://www.bnsf.com/communities/faqs/permits-real-estate/>), for any temporary crossing requested to aid in the construction of this Project, if approved by BNSF.

2) TRAIN DELAY

Contractor is responsible for and hereby indemnifies and holds harmless Railway (including its affiliated railway companies, and its tenants) for, from and against all damages arising from any unscheduled

delay to a freight or passenger train which affects Railway's ability to fully utilize its equipment and to meet customer service and contract obligations. Contractor will be billed, as further provided below, for the economic losses arising from loss of use of equipment, contractual loss of incentive pay and bonuses and contractual penalties resulting from train delays, whether caused by Contractor, or subcontractors, or by the Railway performing work under this Agreement. Railway agrees that it will not perform any act to unnecessarily cause train delay.

For loss of use of equipment, Contractor will be billed the current freight train hour rate per train as determined from Railway's records. Any disruption to train traffic may cause delays to multiple trains at the same time for the same period.

Additionally, the parties acknowledge that passenger, U.S. mail trains and certain other grain, intermodal, coal and freight trains operate under incentive/penalty contracts between Railway and its customer(s). Under these arrangements, if Railway does not meet its contract service commitments, Railway may suffer loss of performance or incentive pay and/or be subject to penalty payments. Contractor is responsible for any train performance and incentive penalties or other contractual economic losses actually incurred by Railway which are attributable to a train delay caused by Contractor or its subcontractors.

The contractual relationship between Railway and its customers is proprietary and confidential. In the event of a train delay covered by this Agreement, Railway will share information relevant to any train delay to the extent consistent with Railway confidentiality obligations. The rate then in effect at the time of performance by the Contractor hereunder will be used to calculate the actual costs of train delay pursuant to this agreement.

Contractor and its subcontractors must give Railway's representative () _____ () weeks advance notice of the times and dates for proposed work windows. Railway and Contractor will establish mutually agreeable work windows for the project. Railway has the right at any time to revise or change the work windows due to train operations or service obligations. Railway will not be responsible for any additional costs or expenses resulting from a change in work windows. Additional costs or expenses resulting from a change in work windows shall be accounted for in Contractor's expenses for the project.

Contractor and subcontractors must plan, schedule, coordinate and conduct all Contractor's work so as to not cause any delays to any trains.



IN WITNESS WHEREOF, each of the parties hereto has caused this Agreement to be executed by its duly authorized officer the day and year first above written.

XXXXXXX

BNSF Railway Company

By: _____

By: _____

Printed Name: _____

Name: _____

Manager Public Projects

Title: _____

Accepted and effective this _____ day of 20__.

Contact Person: _____

Address: _____

City: _____

State: _____ Zip: _____

Fax: _____

Phone: _____

E-mail: _____

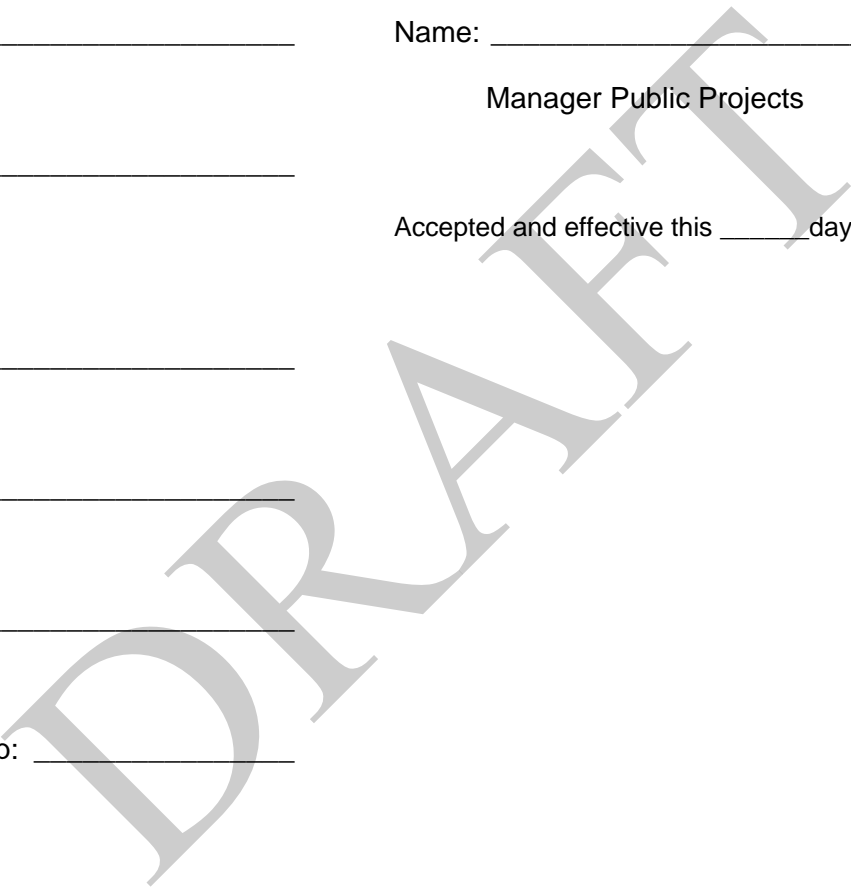


Exhibit D

ESTIMATES

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Exhibit D-1

BNSF Work Before Bridge Construction Description and Estimate

BNSF's Work Description:

In order to build the new N. 1st Avenue Bridge crossing over the BNSF tracks yard, BNSF needs to relocate and adjust some of their facilities inside BNSF's Right-of-Way. BNSF will furnish all labor, materials, tools, and equipment for the required railroad work. The following is their anticipated work:

1. Temporary Storage: Temporary rental to substitute lost Storage Track Adjacent to Main 1 - D Yard
2. Track Work Before Starting the Bridge Construction:
 - a. Procurement of materials, equipment and supplies necessary for the railroad work;
 - b. Construction of East Yard – Adjacent to N. 1st Avenue Bridge
 - o Realign 10 yard tracks to accommodate the construction and demolition of Overpass
 - o Temporarily install seven #9 turnouts for the realignment of tracks
 - o Remove approximately 7,200 ft. of track
 - c. Construction at D Yard
 - o Install two #11 turnouts
 - o Modify the earthen berm to construct tracks
 - o Install approximately 7,500 ft. of track
 - o Install two signal electric locks
 - o Procurement of materials, equipment and supplies necessary for the railroad work;
 - o Construction of East Yard – Adjacent to N. 1st Avenue Bridge
 - o Realign 10-yard tracks to accommodate the construction and demolition of Overpass
 - o Temporarily install seven #9 turnouts for the realignment of tracks
 - o Remove approximately 7,200 ft. of track
3. Track Work After the End of Bridge Construction:
 - o Restore tracks to the original configuration
4. BNSF's Utilities Adjustments:
 - a. Airline demolition and construction of a new line
 - b. Extend casing of Diesel fuel line
 - c. Light poles and lines relocations

BNSF's Work Schedule:

- The Tri-Party Construction and Maintenance Agreement (CMA) must be executed and signed by all parties for BNSF to authorize track work.
- BNSF Public Works team issues an Authority for Expenditure (AFA) to order materials and to begin work.
- BNSF needs 60 days to procure major materials needed for track work.
- BNSF estimates they need 9 months to complete all track work from the time they receive “Notice to Proceed” from their Public Works team – including material procurement time. The contractor may start work on the approach roadway and areas outside of BNSF ROW prior to the nine months period.

BNSF’s Work Cost:

	Work Activity	Estimated Cost	RFA #
1	Temporary Storage to compensate for lost Storage Track Adjacent to Main 1 - D Yard	\$ 4,363,561	R 5907719
2	Track Work Before Starts the Bridge Construction	\$2,422,998	R 5907219
3	Track Work After the End of Bridge Construction	\$ 1,569,310	R 5907619
4	BNSF’s Utilities Adjustments	\$ 472,680	R 5938919
	BNSF Work Total Cost	\$8,828,549	

Exhibit D-2

Cost to Cure between the City and BNSF

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District	County	Route	P.M. (KP)	E. A.	Fed. Ref.	Name	APN
8	SBd	N/A	N/A	N/A	BRLS 5298 (030)	BNSF Railway	0181-02-140

BNSF Railway Company, a Delaware Corporation

COST TO CURE AGREEMENT

BNSF Railway Company, a Delaware Corporation ("BNSF") owns the real property in the County of San Bernardino, Assessor Parcel Number 0181-02-140 (the "Property"). The City of Barstow ("CITY") is making improvements to the N. 1st Avenue Bridge (the "Project") pursuant to a separate agreement governing the construction and maintenance of the Project among the parties thereto (the "C&M Agreement").

In consideration of which, and the other considerations hereinafter set forth, it is mutually agreed as follows:

1. CITY shall pay BNSF for the expense of performing the following work: See Exhibit "A" ("BNSF Work") pursuant to the C&M Agreement. The Estimated Cost of the "BNSF Work" is attached in Exhibit "A".

BNSF agrees to use all reasonable efforts to perform the BNSF Work in a timely manner. BNSF agrees to perform all of the BNSF Work, subject to CITY approval, which shall not be unreasonably withheld.

2. BNSF shall grant CITY, its authorized agents, or contractor, the right to enter upon BNSF's Property to make necessary and reasonable inspections of the BNSF Work in accordance with the C&M Agreement.
3. The parties intend that this Cost to Cure Agreement will result in a full, complete and final resolution and settlement of any and all claims, causes of action or disputes which exist, or may exist, between them as to the work to be performed by BNSF set forth in Exhibit "A", except as expressly provided herein.
4. Any notice either party may or is required to give the other shall be in writing, and shall be either personally delivered or sent by registered or certified mail, return receipt requested. If by mail, service shall be deemed to have been received by such party at the time the notice is delivered to the following addresses:

To BNSF:
7120 N 60th Ave
Glendale, AZ 85301
Attn: Cheryl Townlian
Assistant Director Public Projects

To the City of Barstow:
220 E Mountain View Street, Suite A
Barstow, CA 92311
Attn: Brad Merrell
City Engineer

With a copy to SBCTA:
1170 W. 3rd Street, 2nd Floor
San Bernardino, CA 92410
Attn: Paula Beauchamp
Director of Project Delivery and Toll Operations

5. It is understood and agreed by and between the parties hereto that this Cost to Cure Agreement inures to the benefit of, and is binding on, the parties, their respective heirs, personal representatives, subsequent purchasers, successors, and/or assignees. CITY may freely assign any or all of its interests or rights under this Cost to Cure Agreement.
6. This Cost to Cure Agreement, together with the C&M Agreement, constitutes the entire agreement between the parties hereto with respect to the subject matter of the Cost to Cure Agreement and may not be modified except by an instrument in writing signed by the party to be bound thereby.
7. If any term or provision of this Cost to Cure Agreement shall be held to be invalid or unenforceable, the remainder of the Cost to Cure Agreement shall remain in full force and effect.
8. Each individual executing this Cost to Cure Agreement on behalf of an entity represents and warrants that he or she has been authorized to do so by the entity on whose behalf he or she executes this Cost to Cure Agreement and that said entity will thereby be obligated to perform the terms of this Cost to Cure Agreement.
9. This Agreement may be executed in counterparts, including by facsimile and/or e-mail, each of which so executed shall, irrespective of the date of its execution and delivery, be deemed an original, and all such counterparts together shall constitute one and the same instrument.

*REMAINDER OF PAGE INTENTIONALLY LEFT BLANK
SIGNATURE PAGE FOLLOWS*

In Witness Whereof, the Parties vested have executed this Cost to Cure Agreement the day and year set forth below.

BNSF RAILWAY

By: _____

Date: _____

CITY OF BARSTOW (CITY)

By: _____

Date: _____

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EXHIBIT D-3

Cost Estimate for BNSF Flagging and Inspection

BNSF FLAGGERS	\$1,592,690.00
BNSF INSPECTION/COORDINATION/PLAN REVIEW (3rd PARTY)	\$888,800.00

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