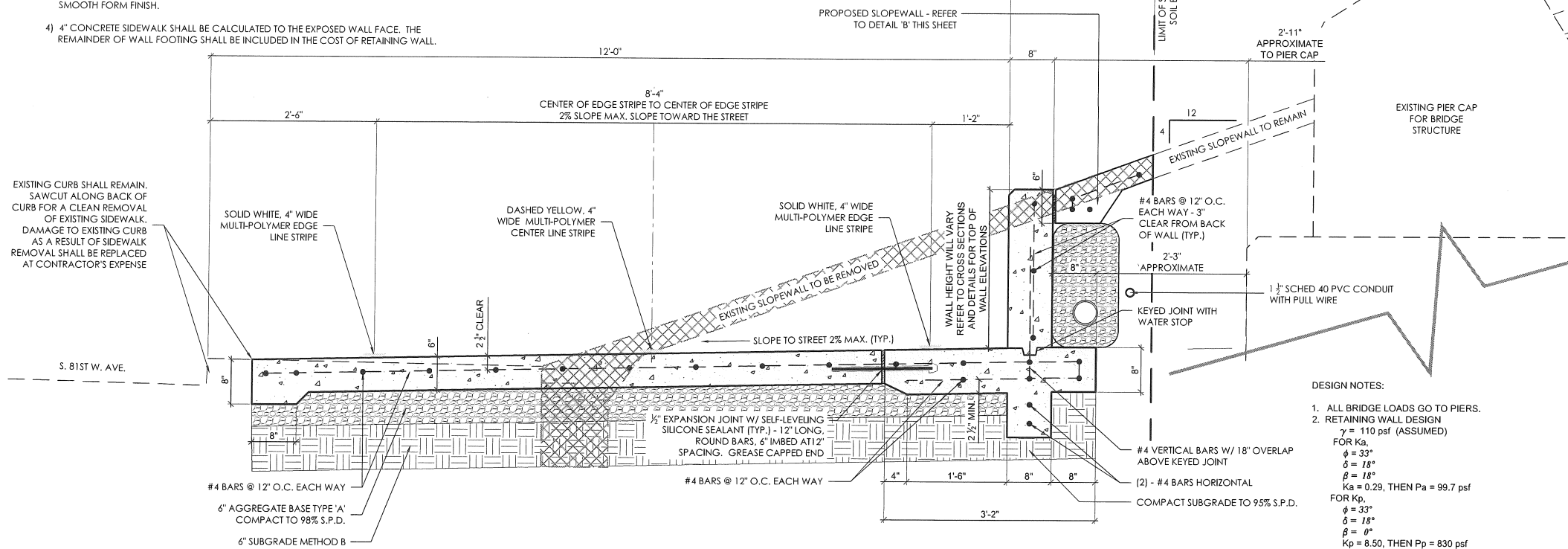


OKLAHOMA DEPARTMENT OF TRANSPORTATION					
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA.	28844(04)			
DESCRIPTION			REVISIONS		
			DATE		

NOTES:

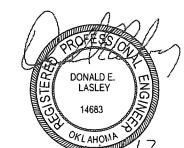
- 1) TRAIL RETAINING WALL ELEVATIONS VARY. SEE CROSS SECTIONS AT 50'-0" INTERVALS, TRAIL PROFILE AND THE TRAIL RAMP DETAILS FOR TOP OF WALL ELEVATIONS.
- 2) DIMENSION FROM PROPOSED WALL TO THE EXISTING PIER LOCATION IS APPROXIMATE BASED OFF OF THE 20 SCALE ELEVATION DETAIL FROM E-W & W-E OVER 81ST WEST AVE STRUCTURE NO.1 - GENERAL PLAN AND ELEVATION (PROJECT NO. F.A.P.-F-85(43)).
- 3) COST FOR RETAINING WALL INCLUDES ALL ITEMS AS SHOWN IN DETAILS INCLUDING PIPE UNDERDRAIN, OUTLET LATERAL HEADWALL, FOOTING AND KEYED JOINT MATERIALS, WASHED AGGREGATE AND WRAPPING MATERIAL. WALL SHALL BE COMPLETED WITH SMOOTH FORM FINISH.
- 4) 4" CONCRETE SIDEWALK SHALL BE CALCULATED TO THE EXPOSED WALL FACE, THE REMAINDER OF WALL FOOTING SHALL BE INCLUDED IN THE COST OF RETAINING WALL.



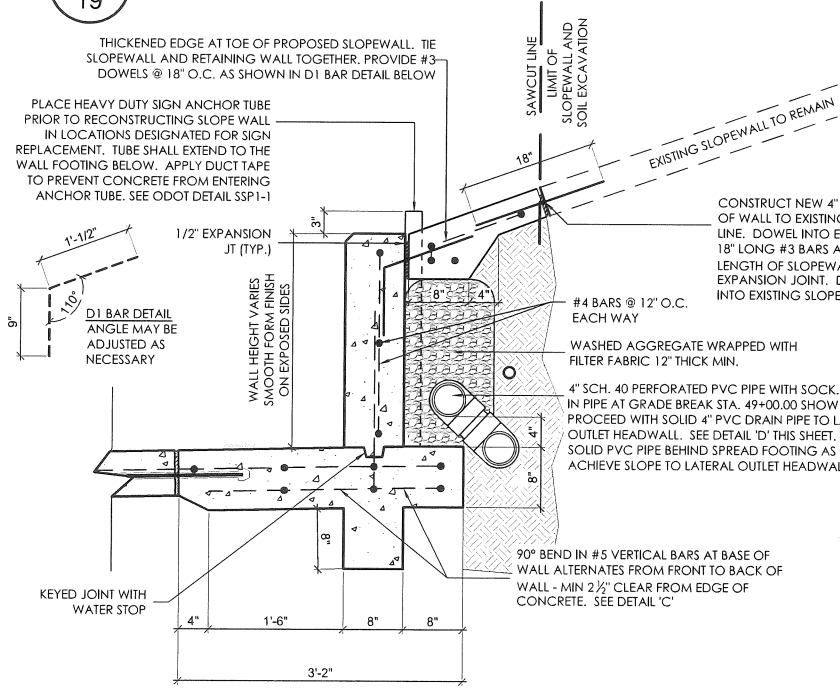
- ### TYPICAL TRAIL CONSTRUCTION NOTES
- 1) CONSTRUCT 2% CROSS SLOPE (MAX.) IN SAME DIRECTION AS EXISTING GRADE UNLESS OTHERWISE DESIGNATED.
  - 2) LONGITUDINAL TRAIL GRADE SHALL NOT EXCEED 5% UNLESS OTHERWISE DESIGNATED.
  - 3) WHEN SETTING GRADES FOR TRAIL, CONTRACTOR SHALL FIELD VERIFY THAT WATER WILL FLOW FREELY AWAY FROM TRAIL SURFACE BELOW BRIDGES.
  - 4) PROVIDE CONTROL JOINTS IN TRAIL EVERY 10' AND SEALED EXPANSION JOINTS IN CONJUNCTION WITH THE LOCATION OF EACH WALL EXPANSION JOINT ALONG THE ENTIRE LENGTH OF THE TRAIL WALL - SEE ODOT STANDARD LEC-4 FOR SEALED EXPANSION JOINTS. SMOOTH EXPANSION JOINT DOWELS SHALL MATCH DIAMETER OF REINFORCING STEEL (TYP.). LENGTH OF DOWELS SHALL BE 18" (TYP.).
  - 5) WASHED AGGREGATE BEHIND RETAINING WALL SHALL BE ANGULAR, CLEAN STONE OR GRANULAR FILL MEETING THE GRADATION AS DETERMINED IN ACCORDANCE WITH THE 2009 ODOT SPECIFICATIONS FOR COARSE COVER MATERIAL FOR PIPE UNDERDRAINS PER SECTION 703.06.
  - 6) REFER TO ODOT STANDARD DETAIL PED-3 FOR OUTLET LATERAL HEADWALL END TREATMENT OF 4" PIPE UNDERDRAIN BEHIND WALL.
  - 7) PROVIDE VERTICAL CONSTRUCTION JOINTS ALONG SLOPE WALL TO MATCH JOINT SPACING WITH EXISTING SLOPEWALL.
  - 8) TOP OF WALL ELEVATION VARIES. REFER TO CROSS SECTIONS AND DETAILS FOR TOP OF WALL ELEVATIONS AT 50' INTERVALS AND AT RAMP LOCATIONS.
  - 9) REFER TO SIGNAGE AND STRIPING PLANS FOR TRAIL STRIPING INFORMATION.
  - 10) CONSTRUCT VERTICAL CONTROL JOINTS IN BOTH FACES OF THE RETAINING WALL STEM (A MINIMUM OF 10% OF WALL THICKNESS) EVERY 20' ALONG ENTIRE LENGTH OF WALL. CONSTRUCT VERTICAL EXPANSION JOINTS EVERY 50' EXTENDING THE FULL HEIGHT AND THICKNESS OF WALL INCLUDING THE WALL FOOTING OR TRAIL SURFACE. EDGES AND CORNERS OF ALL JOINTS SHALL BE CHAMFERED AT 3/4" ON EACH SIDE OF JOINT.

DESIGN NOTES:

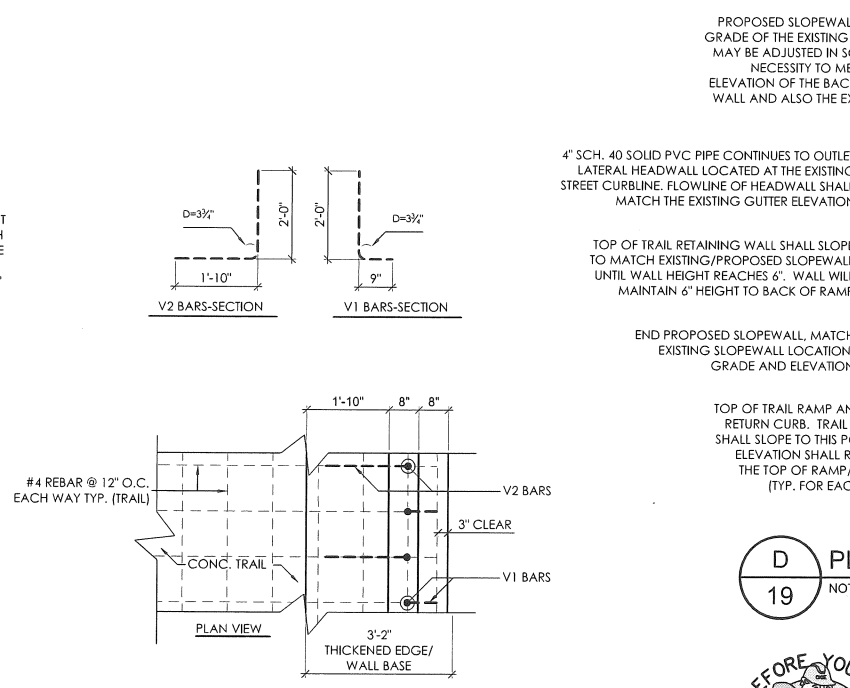
1. ALL BRIDGE LOADS GO TO PIERS.
2. RETAINING WALL DESIGN  
 $\gamma = 110$  psf (ASSUMED)  
 FOR  $K_a$ ,  
 $\phi = 33^\circ$   
 $\delta = 18^\circ$   
 $\beta = 18^\circ$   
 $K_a = 0.29$ , THEN  $P_a = 99.7$  psf  
 FOR  $K_p$ ,  
 $\phi = 33^\circ$   
 $\delta = 18^\circ$   
 $\beta = 0^\circ$   
 $K_p = 8.50$ , THEN  $P_p = 830$  psf  
 MAX ALLOWABLE BEARING PRESSURE = 2000 psf (ASSUMED)
3. READY-MIX CONCRETE MIX SHALL BE  $f'_c = 4000$  psi, AND CONFORM TO ASTM C94
4. CONCRETE MATERIAL AND PLACEMENT SHALL BE IN ACCORDANCE WITH ACI-318, LATEST EDITION.
5. READY-MIX CONCRETE MIX SHALL BE  $f'_c = 3000$  psi, AND CONFORM TO ASTM C94
6. REINFORCING STEEL SHALL BE DEFORMED REINFORCING BAR WITH A MINIMUM YIELD STRENGTH  $f_y = 60,000$  psi AND SHALL CONFORM TO ASTM 615, GRADE 60.



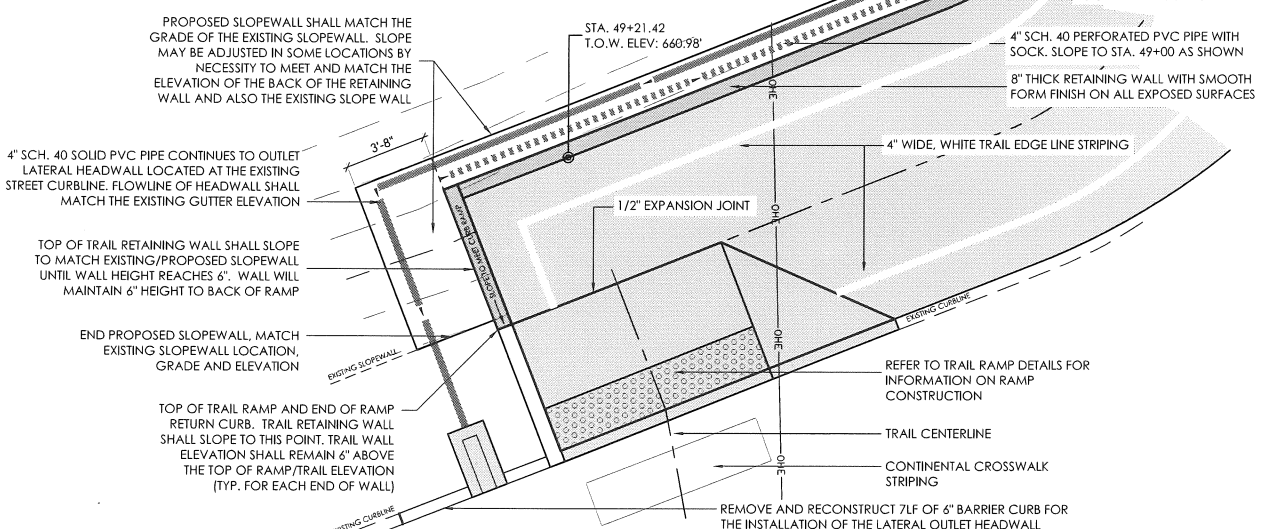
**A SECTION - TYPICAL TRAIL CONSTRUCTION AT BRIDGE UNDERPASS (PIER LOCATION STA. 47+95.44)**  
 19 NOT TO SCALE



**B SECTION - 8" WALL - SLOPEWALL AND PIPE UNDERDRAIN**  
 19 NOT TO SCALE

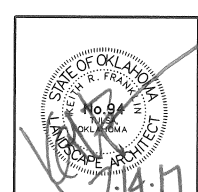


**C PLAN - 8" WALL - BEND IN V-BARS AT WALL BASE**  
 19 NOT TO SCALE



**D PLAN - TRAIL RETAINING WALL TERMINUS AT RAMP LOCATION STA. 49+21.44**  
 19 NOT TO SCALE

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City of Sand Springs - Park Road Trail			PREPARED BY: LANDPLAN CONSULTANTS		
Design	JM	7/16	1110 19th St SW, Tulsa, OK 74107 918-584-4461		
Drawn	JM/BB	8/16	Tulsa County		
Checked	KF/JM	6/17	<b>CONSTRUCTION DETAILS (6)</b>		
Approved			<b>BRIDGE UNDERPASS</b>		
Squad	LandPlan		STATE JOB NO. 28844(04) Sheet No. 19 of 62		