



## SOUTHERN SANDOVAL COUNTY ARROYO FLOOD CONTROL AUTHORITY

### *IFB# 2017-01 – BOSQUE DE BERNALILLO WATER QUALITY PROJECT*

#### **ADDENDUM #1**

**January 24, 2017**

This Addendum consists of three (3) pages and five (5) attachments. The information contained in this addendum shall be incorporated into the project bid and contract documents the same as if originally contained therein.

Bidders shall acknowledge receipt of this addendum on the Bid Proposal form in the space provided. Failure to acknowledge this addendum by any prospective bidder will render the bid non-responsive.

#### **1. QUESTIONS RECEIVED FROM PROSPECTIVE BIDDERS**

Q1: The plans call for gabions to be filled with basalt. Can another type of rock be used?

**A1: Yes. The selected rock must conform to APWA NM Standard Specifications for Public Works Construction (latest edition) Sections 610 and 109. Conformance with these specs will be checked during the submittal process.**

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Q2: Is there a specification for the San Diego Buff concrete coloring?

**A2: Davis Color (or approved equal) "San Diego Buff" 1 LB per sack of cement should be used. We realize there are slight variations in the "San Diego Buff" coloring, especially with liquid coloring, and will review the proposed dosage during the submittal process. See Supplemental Technical Specification 1507 – Shotcrete for more details.**

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Q3: Are there two pipe gates, or one?

**A3: There are two pipe gates. See Sheet 8, Keyed Note 6 and Sheet 12 callout (Access Rd. STA 2+80, 25.50' RT).**

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Q4: Are check dams paid for under the riprap bid item #14?

**A4: Yes, check dams are paid for under Bid Item #14.**

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Q5: Is the weather station pad paid for under the drop structure bid item #15?

**A5: Yes, the weather station pad is paid for under Bid Item #15.**

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Q6: In what bid item does the 4' MH get paid?

**A6: The "Unit Price Bid Proposal" has been revised to include a new Bid Item #34. Replace Pages 22-24 of the Bid and Contract Documents with the attached revised pages. Manhole shall conform to APWA NM Standard Specifications for Public Works Construction (latest edition) Section 920.**

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Q7: Is the relocation of sewer cleanouts paid for under the Utility Allowance?

**A7: Yes.**

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Q8: What pipe material is required for the 24" and 18" storm drains?

**A8: All "storm drain" pipe as called out in the plans shall meet material and construction requirements set forth in NMDOT Standard Specifications for Highway and Bridge Construction (latest edition) Section 570 for "Storm Drain Culvert Pipe" and "Storm Drain Culvert Pipe End Section".**

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Q9: What kind of fence is being removed?

**A9: Metal T-posts and barbed wire.**

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Q10: Is there a detail available for the headwalls showing dimensions and reinforcing?

**A10: The storm drain headwalls shall be installed per NMDOT Standard Drawing 511-03-1/2 and 511-03-2/2. A copy of this Drawing is attached to this addendum.**

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Q11: Is there a shotcrete spec for this project?

**A11: Shotcrete Spec 1507 has been added as an attachment to this addendum, please add this to the Bid & Contract Documents under the "Supplemental Technical Specifications" section.**

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## 2. PLANS

- Replace cover sheet with the attached signed version.

## 3. BID AND CONTRACT DOCUMENTS

- Replace Pages 22-24 of the Bid and Contract Documents with the attached revised pages.
- Replace Page 143 (Technical Specifications Table of Contents) with the attached revised page.
- Add Supplemental Technical Specification 1507 – Shotcrete to the Bid and Contract Documents, additional pages are attached to this addendum.

All other provisions of the Bid and Contract Documents shall remain unchanged. This Addendum is hereby made a part of the Bid and Contract Documents to the same extent as those provisions contained in the originals.

  
Andrés Sanchez, PE  
SSCAFCA

### Attachments:

1. Revised Construction Plans Cover Sheet (1 sheet)
2. Supplemental Technical Specifications, Bid & Contract Docs, Page 143 (1 page)
3. Spec 1507 – Shotcrete (3 pages)
4. NMDOT Std Dwg 511-03-1/2 & 511-03-2/2 (2 pages)
5. Revised Unit Price Bid Proposal (3 pages)



SOUTHERN SANDOVAL COUNTY  
ARROYO FLOOD CONTROL AUTHORITY

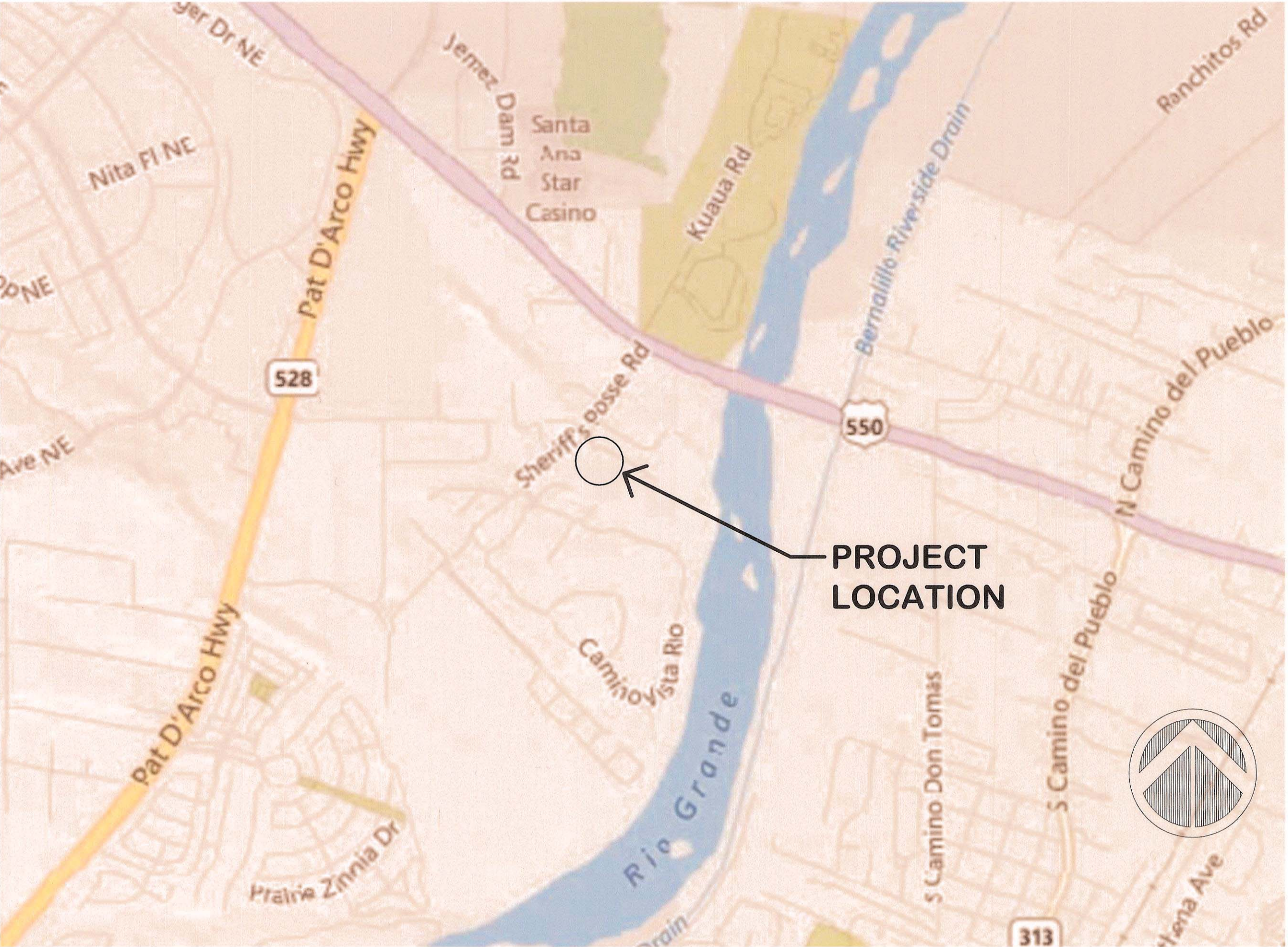
**BOSQUE DE BERNALILLO**

**WATER QUALITY PROJECT**

**CORONADO WATERSHED**

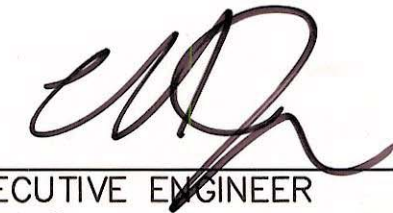
FUNDED BY STATE CAPITAL OUTLAY (SAP 16-A2300-STB) & SSCAFCA BOND FUNDS


SHEET INDEX	
Sheet Number	Sheet Title
1	COVER SHEET
2	GENERAL NOTES
3	BOUNDARY SURVEY
4	TOPOGRAPHIC SURVEY
5	SITE DEMOLITION PLAN
6	COORDINATE CONTROL PLAN & POINT TABLE
7	GRADING PLAN
CORONADO ARROYO PLAN & PROFILE	
8	0+00.00–3+50.00
9	3+50.00–7+50.00
10	7+50.00–11+50.00
11	11+50.00–14+04.54
ACCESS ROAD PLAN & PROFILE	
12	0+00.00–3+50.00
13	3+50.00–7+00.00
14	7+00.00–9+00.00
15	SD PIPING & WQ PLAN AND PROFILE
16	DETAIL SHEET
17	BORROW SITE
18	CROSS SECTIONS – CORONADO ARROYO
19	CROSS SECTIONS – CORONADO ARROYO
20	CROSS SECTIONS – ACCESS ROAD



VICINITY MAP

APPROVALS

SSCAFCA:  EXECUTIVE ENGINEER

TOWN OF BERNALILLO:  PUBLIC WORKS DIRECTOR

DATE: 1/6/2017

DATE: 1/20/2017



Southern Sandoval  
County  
Arroyo Flood Control  
Authority

1041 Commercial Dr. S.E.  
Rio Rancho, New Mexico 87124  
505-892-RAIN (7246)  
505-892-7241 (Fax)  
www.sscafcfa.com



BOSQUE DE BERNALILLO  
WATER QUALITY PROJECT

COVER SHEET  
VICINITY MAP - SHEET INDEX

REVISIONS & CHANGE NOTICES		
MARK	DESCRIPTION	DATE

PROJECT NO: CO\_P0002  
DESIGNED BY: AES  
DRAWN BY: KLF  
CHECKED BY: DDG  
DATE: 11/17/2016





## Technical Specifications

### BOSQUE DE BERNALILLO WATER QUALITY PROJECT

The "NEW MEXICO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION – 2006" are incorporated into this project as technical specifications.

The New Mexico Standard Specifications for Public Works Construction – 2006 is available at Albuquerque Reprographics 4716 McLeod NE Albuquerque, NM 87109 (505) 884-0862 FAX (505) 883-6452 <http://www.abqrepro.com>.

SECTION	SUPPLEMENTAL SPECIFICATION	Page
SECTION 101 – Portland Cement Concrete .....		101-1
SECTION 201 – Clearing & Grubbing .....		201-1
SECTION 203 – Excavation, Borrow, & Fill .....		203-1
SECTION 204 – Fill Construction .....		204-1
SECTION 1012 – Native Grass Seeding .....		1012-1
SECTION 1503 – Mobilization .....		1503-1
SECTION 1504 – NPDES Compliance.....		1504-1
SECTION 1505 – Control of Storm Water and Nuisance Flow .....		1505-1
SECTION 1506 – Construction Staking .....		1506-1
SECTION 1507 – Shotcrete.....		1507-1

#### REPORTS BY OTHERS

*The referenced reports are for information only. Owner/Engineer does not take responsibility for any information with respect to accuracy or completeness of this report with respect to project design or execution.*

**None.**

## SUPPLEMENTAL TECHNICAL SPECIFICATION

### SECTION 1507

#### SHOTCRETE (Modified NMDOT Spec)

##### 1507.1 GENERAL

- 1507.1.1 This work shall consist of construction of the shotcrete drop structures and weather station utilizing the shotcrete process, including mixing, placing, finishing, testing and curing as shown in the contract in compliance with these specifications:
- 1507.1.2 The requirements of NMDOT Standard Specification Sections 101, 509 and 510 shall apply where appropriate and not expressly modified by these specifications. Fly Ash shall be used in all shotcrete per NMDOT Standard Specification Sections 509 and 510.

##### 1507.2 MATERIALS

- 1507.2.1 All requirements of NMDOT Standard Specification Section 101 shall apply except as modified herein. Shotcrete shall have a minimum compressive strength of 3,000 PSI at 28 days, 5-8% air content at the pump and a slump of 1-1/2" at the pump. Shotcrete shall be tinted in accordance with Subsection 1507.2.1.1 of this specification.

- 1507.2.1.1 Tinted concrete will be made by the addition of an approved concrete coloring agent to the concrete mix. The coloring agent will be added in addition to other concrete ingredients and no reductions to other ingredients will be made.

The concrete coloring for use on this project shall be:

DAVIS COLOR OR APPROVED EQUAL

<u>lbs./sack of cement</u>	<u>Color number</u>
1 LB	San Diego Buff

The design mixes must be submitted by the Contractor for approval by the Project Manager prior to placement.

Coordination with the General contractor, shotcrete subcontractor, SSCAFCA Project Manager will be required prior to any shotcrete placement.

- 1507.2.2 Coarse Aggregate. Coarse aggregate shall meet the following gradation requirements.

<u>Sieve Size</u>	<u>Percent Passing</u>
½ inch	100
3/8 inch	85-100
No. 4	10-30
No. 8	0-10
No. 16	0-5

- 1507.2.3 Proportioning. Shotcrete shall be mixed and pneumatically applied by the wet-mix process. The concrete shall meet the minimum requirements set forth in NMDOT Standard Specification Section 510 including the addition of air entrainment, fly ash, and tint.

- 1507.2.3.1 The design mixes must be submitted by the Contractor for approval by the Project Manager.

#### 1507.2.4 Quality Acceptance Tests:

At least one sample from each of the first three concrete loads delivered to the site shall be tested for slump, air content, and unit weight per this specification. One set of compressive strength test cylinders shall be obtained from one of these three loads at the direction of the Engineer. Beginning with the fourth load of concrete delivered to the project, one load from each sub-lot of ten (10) loads will be randomly selected for testing to include slump, air content, unit weight, cement content per cubic yard, and one set of compressive strength test cylinders. Sample requirements are subject to change at the discretion of the Engineer.

Minimum compression strengths shall be as follows:

<u>7 day</u>	<u>14 day</u>	<u>28 day</u>
1,800 PSI	2,250 PSI	3,000 PSI

If shotcrete cylinders at 28 days show deficient strength, cores shall be taken at each drop structure for additional testing. Coring and testing shall be at the Contractor's expense. The location of the cores shall be designated by the Engineer. Should either core test prove deficient, the defective shotcrete shall be removed and replaced at the Contractor's expense. No additional shotcreting shall be done until the shotcrete mixture is revised and approved by the Project Manager.

Should a strength deficiency be evident in 7-day or 14-day cylinders, on approval of Project Manager, the Contractor may proceed with the work on his own responsibility until the 28 day cylinders are tested.

Prior to any shotcrete placement, after steel reinforcement is installed and subgrade is prepared, depth markers shall be placed on a 2'x2' (max. spacing) grid, at a height equal to the shotcrete thickness specified in the construction plans, to ensure design thickness of shotcrete is applied. The material and type of depth marker shall be approved by Engineer prior to shotcrete placement.

### 1507.3 CONSTRUCTION

1507.3.1 Equipment and Workmen. Shotcreting shall be done only by experienced personnel. When requested by the Project Manager, the Contractor shall furnish evidence that each foreman, nozzle operator and delivery equipment operator has done satisfactory work in a similar capacity elsewhere and is fully qualified to perform the work.

The Contractor shall furnish the Project Manager with copies of the manufacturer's specifications and operating instructions for the equipment used. No shotcrete shall be placed until the type of equipment and method of operation have been approved by the Project Manager.

1507.3.1.1 Premixed Shotcrete. The mixing equipment shall be capable of thoroughly mixing the specified materials in sufficient quantity to maintain continuous placing.

1507.3.2 Surface Preparation. The foundation for areas to receive shotcrete shall be evenly graded to the required elevation before the shotcrete is applied. The areas shall be thoroughly compacted with sufficient mixture to provide a firm foundation and to prevent absorption of water from the shotcrete. No high subgrade will be permitted.

Surfaces shall not contain free surface water, loose material or frozen material at the time of shotcrete application.

1507.3.3 Forms and Reinforcement. Forms, headers, and shooting strips shall be provided and rigidly

braced as required for backing. Ground or gaging wires and depth gages shall be used where necessary to establish and insure thickness, surface and finish lines.

Steel reinforcement shall be rigidly supported in the position shown in the contract. Unless otherwise specified, metal chairs or concrete "dobies" with wire ties shall be used to properly anchor and place the reinforcement. All reinforcement shall be clean and free from loose mill scale, loose rust, overspray from previous shotcrete application, soil and other undesirable materials that interfere with bonding.

- 1507.34 Placing. Each layer of shotcrete shall be built up by making several passes of the nozzle over the working area. When enclosing steel reinforcement, the nozzle shall be held so as to direct the material around the bars. The shotcrete shall emerge from the nozzle in a steady, uninterrupted flow. The nozzle shall be directed so as to result in minimum rebound. The velocity of the material as it leaves the nozzle shall be maintained uniform and at a rate determined for the given job conditions.

Contractor shall use appropriate form work to separate areas of different tinting, and shall prevent adjacent areas from being discolored by overspray and rebound.

Rebound shall not be worked back into the construction or salvaged. Rebound that does not fall clear of the work shall be removed.

Shotcrete shall not be placed when the air temperature is below forty degrees (40°)F unless the air temperature is at least thirty-five degrees (35°)F and rising.

The mixing, transporting, and placement time for shotcrete materials, shall not exceed two hours or 250 revolutions of the mixer drum whichever comes first. Additional water may be added at job site only if requested by the Project Manager. When additional water is added, the drum shall be rotated a minimum of 30 additional revolutions. The ready-mix plant shall certify the material for weight, water, admixtures and mixing time.

- 1507.35 Finishing. Unless otherwise specified in the construction plans, after the shotcrete has been placed as nearly as practical to the required thickness, the ground wires may be removed, the surfaces shall be checked with a straight edge, and low spots or depressions shall be corrected by placing additional shotcrete in such a manner that the finished surface is natural as left by the nozzle and will be reasonably smooth and uniform.

Loose areas of shotcrete shall be removed and replaced by the Contractor at no additional cost.

- 1507.36 Curing. In all cases, the period of protection shall be not less than 7 days.

- 1507.38 Method of Measurement. Shotcrete will be measured by the square yard parallel to the surface.

Basis for Payment. The accepted quantities of shotcrete will be paid for at the contract unit price per square yard. Such payment shall constitute full reimbursement for all materials, labor and equipment used in the placement of all shotcrete, steel reinforcement, support chairs, forms, joints, tinting, finishing, curing, and all other necessary operations to complete the shotcrete in place. No extra payment will be made for additional shotcrete placed in excess of that shown on the plans unless directed by the Project Manager.

**Pay Item:** Reinforced Shotcrete, 6", Colored, 3000 psi, Complete

**Pay Unit:** SY

**END OF SECTION**



GENERAL NOTES:

1. WORKMANSHIP AND MATERIALS SHALL CONFORM TO THE NEW MEXICO DEPARTMENT OF TRANSPORTATION'S (NMDOT'S) STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION CURRENT EDITION, SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.
2. CONCRETE SHALL CONFORM TO SECTION 510 - PORTLAND CEMENT CONCRETE. CONCRETE IS TO BE CLASS "A." CHAMFER ALL EXPOSED EDGES 3/4 INCH UNLESS OTHERWISE NOTED ON THE PLANS.
3. REINFORCING STEEL (REBAR) SHALL CONFORM TO SECTION 540 - STEEL REINFORCEMENT AASHTO M 31 (ASTM A 615), GRADE 60. DIMENSIONS REFER TO THE CENTERLINE OF REINFORCING STEEL UNLESS OTHERWISE NOTED ON THE PLANS.
4. WHILE THE DETAILS ON THESE DRAWINGS ARE FOR A TYPICAL CULVERT WITH 2 PIPES, THIS DRAWING APPLIES TO CULVERT HEADWALLS WITH ANY NUMBER OF PIPES. THE CENTRAL PORTION OF THE WALL OF LENGTH "B" IS REPEATED AS MANY TIMES AS REQUIRED BY THE NUMBER OF PIPES.
5. INSTALL A WATERSTOP GASKET ON THE PIPE IN THE HEADWALL MEETING ASTM C 923 REQUIREMENTS.

## DESIGN DATA

DESIGN ACCORDING TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS,  
2010 EDITION.


UNIT STRESSES: REINFORCED CONCRETE:  $f_c' = 3000 \text{ psi}$ 
$$f_y = 60 \text{ Ksi}$$

HORIZONTAL EARTH PRESSURE = 45 LBS./CU. YDS. EQUIVALENT FLUID PRESSURE  
(SLOPING SURCHARGE)

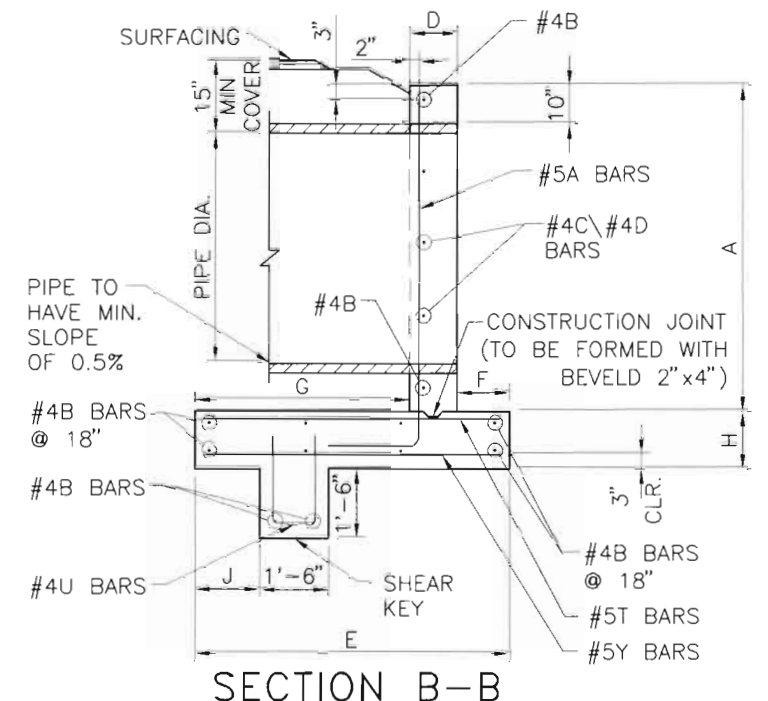
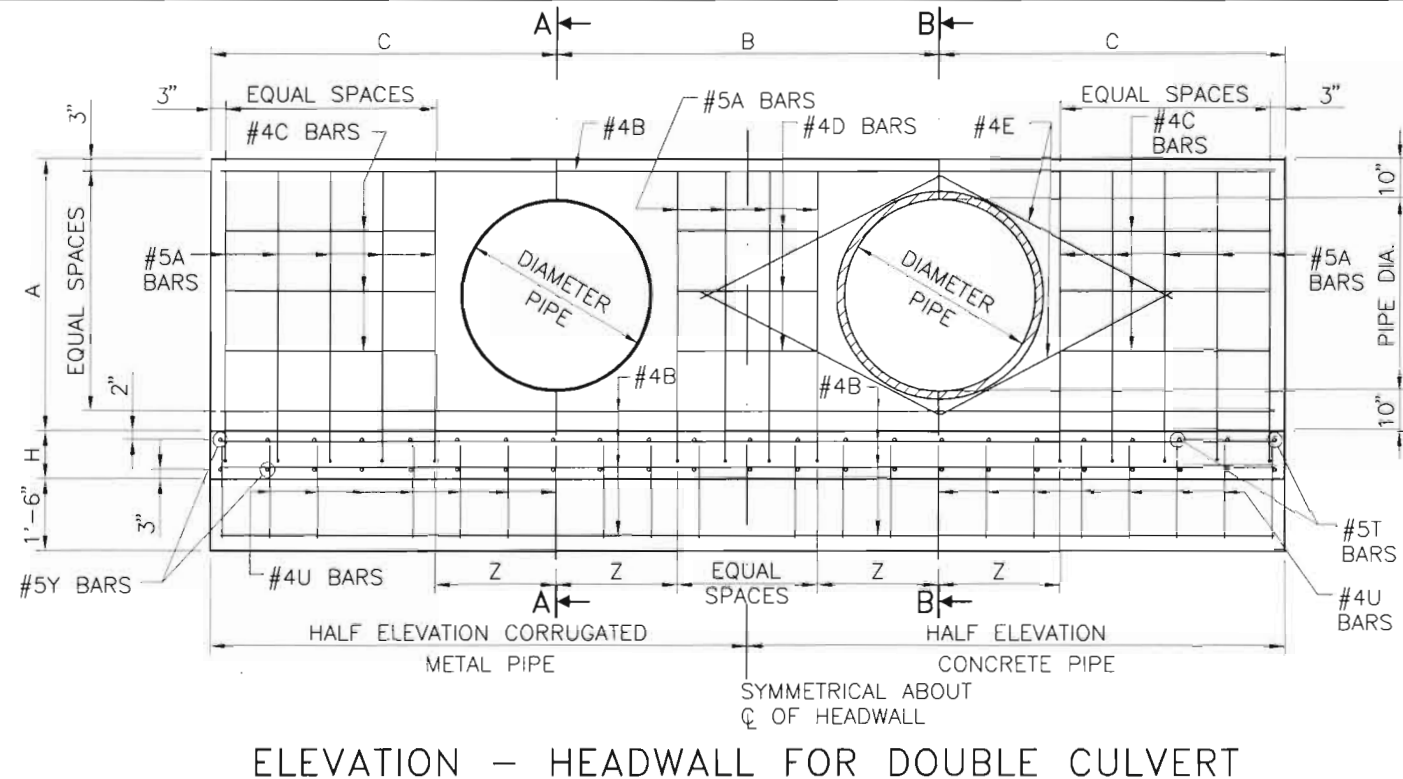
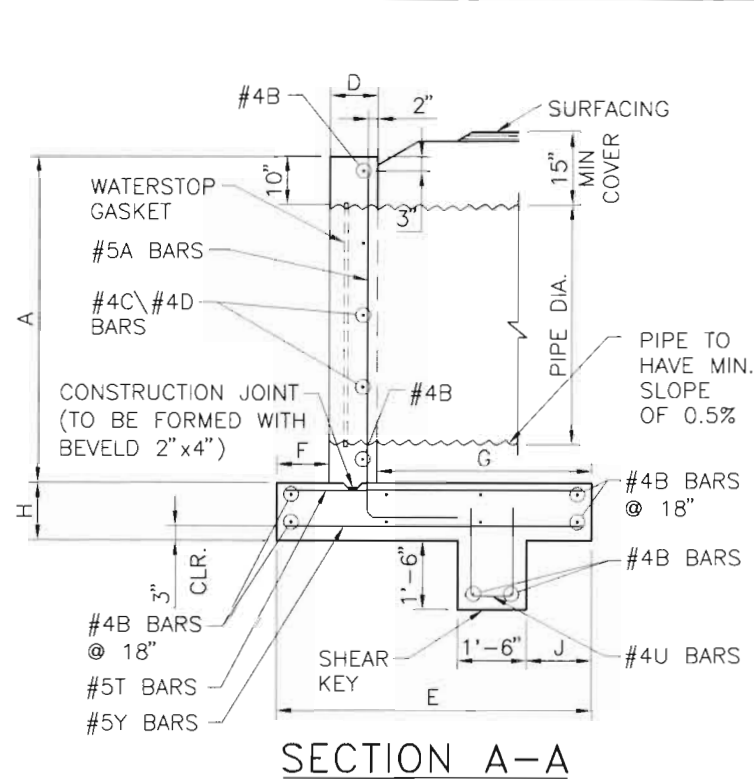
EARTH WEIGHT = 120 LBS./CU. FT.

\* DENOTES THAT THE SHEAR KEY OF FOOTING IS NOT REQUIRED.

CONCRETE HEADWALLS																													
BAR SPACINGS SHOWN ARE APPROXIMATE ONLY.											QUANTITIES SHOWN ARE FOR TWO HEADWALLS.																		
PIPE DIAMETER	D I M E N S I O N S										ADD FOR EACH ADDITIONAL PIPE																		
	A	B	C	D	E	F	G	H	J	O <sub>1</sub>	#5A BARS	#4D BARS			#4E BARS		#4U BARS			#5Y BARS			#5T BARS			QUANTITIES			
											NO.	NO.	LENGTH	SPACING	NO.	LENGTH	NO.	LENGTH	SPACING	NO.	LENGTH	SPACING	NO.	LENGTH	SPACING	NO.	LENGTH	SPACING	REINFORCING STEEL—LBS
*	18"	3'-2"	3'-0"	3'-3"	10"	3'-6"	9"	1'-11"	12"	N/A	6'-6"	4	2	1'-0"	1'-4"	4	4'-0"	N/A	N/A	N/A	6	3'-0"	12"	6	3'-3"	12"	71	1.19	1.26
*	24"	3'-8"	4'-0"	4'-0"	10"	3'-6"	9"	1'-11"	12"	N/A	8'-0"	4	2	1'-3"	1'-7"	4	5'-0"	N/A	N/A	N/A	8	3'-0"	12"	9	3'-3"	12"	93	1.64	1.75
*	30"	4'-2"	5'-0"	4'-9"	10"	3'-6"	9"	1'-11"	12"	N/A	9'-6"	4	4	1'-9"	1'-3"	4	6'-0"	N/A	N/A	N/A	10	3'-0"	12"	10	3'-3"	12"	110	2.12	2.28
	36"	4'-8"	6'-0"	5'-9"	10"	4'-6"	10"	2'-10"	12"	9"	11'-6"	6	4	2'-3"	1'-5"	4	7'-0"	12	4'-6"	12"	12	3'-11"	12"	12	4'-3"	12"	203	4.08	4.29
	42"	5'-2"	7'-0"	6'-6"	10"	4'-6"	10"	2'-10"	12"	9"	13'-0"	6	4	2'-9"	1'-6"	4	8'-0"	14	4'-6"	12"	14	3'-11"	12"	14	4'-3"	12"	233	4.86	5.14
	48"	5'-8"	8'-0"	7'-3"	10"	5'-6"	11"	3'-9"	12"	10"	14'-6"	8	6	3'-0"	1'-3"	4	9'-0"	16	4'-6"	12"	16	4'-10"	12"	16	5'-3"	12"	314	6.26	6.62
	54"	6'-2"	9'-0"	8'-0"	10"	5'-6"	11"	3'-9"	12"	10"	16'-0"	8	6	3'-6"	1'-5"	4	10'-0"	18	4'-6"	12"	18	4'-10"	12"	18	5'-3"	12"	350	7.17	7.61
	60"	6'-8"	10'-0"	8'-9"	10"	6'-6"	12"	4'-8"	13"	11"	17'-6"	12	6	3'-9"	1'-6½"	4	11'-0"	20	4'-6"	12"	20	5'-9"	12"	20	6'-3"	9"	460	9.25	9.78

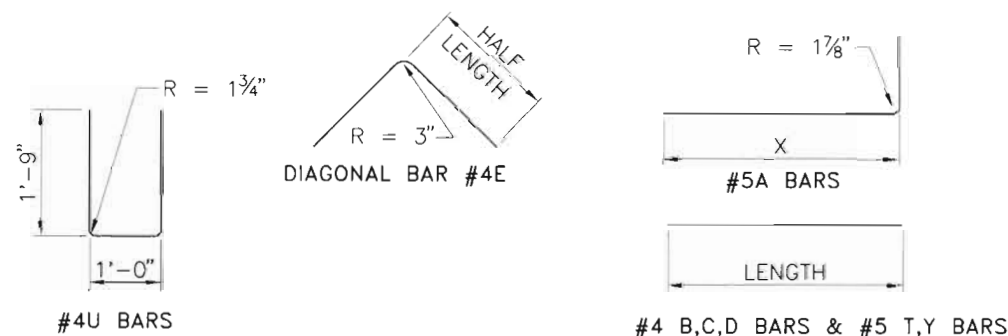
DATE	BY	DESCRIPTION
	8/2011	YML REDESIGNED BY 'REF' REVISIONS (OR CHANGE NOTICES)
<p align="center"><b>NEW MEXICO</b>  <b>DEPARTMENT OF TRANSPORTATION</b>  <b>STANDARD DRAWING</b></p>		
<p align="center"><b>PIPE CULVERT HEADWALLS</b></p>		
DESIGNED BY: <u>YML</u> DRAWN BY: <u>SKL</u> CHECKED BY: <u>YML/TM</u>		
511-03-1/2		
		1 of 2





\* DENOTES THAT THE SHEAR KEY OF FOOTING IS NOT REQUIRED.

BAR SPACINGS SHOWN ARE APPROXIMATE ONLY											C O N C R E T E   H E A D W A L L S																QUANTITIES SHOWN ARE FOR 2 HEADWALLS										
PIPE DIAMETER	D I M E N S I O N S										REQUIRED FOR TWO HEADWALLS WITH ONE PIPE																										
	A	B	C	D	E	F	G	H	J	O <sub>1</sub>	#5A BARS				#4B BARS		#4C BARS			#4E BARS		#4U BARS			#5Y BARS			#5T BARS			QUANTITIES						
											NO.	LENGTH	X	SPACING	Z	NO.	LENGTH	NO.	LENGTH	SPACING	NO.	LENGTH	NO.	LENGTH	SPACING	NO.	LENGTH	SPACING	NO.	LENGTH	SPACING	NO.	LENGTH	SPACING	REINFORCING STEEL-LBS	CONCRETE RCP CU.YDS.	CONCRETE CMP CU.YDS.
18"	3'-2"	3'-0"	3'-3"	10"	3'-6"	9"	1'-11"	12"	N/A	6'-6"	12	4'-10"	3'-10"	1'-0"	1'-1"	20	0 <sub>n</sub> -3"	4	2'-0"	1'-4"	4	4'-0"	N/A	N/A	N/A	14	3'-0"	12"	14	3'-3"	12"	251	2.78	2.85			
24"	3'-8"	4'-0"	4'-0"	10"	3'-6"	9"	1'-11"	12"	N/A	8'-0"	12	5'-4"	4'-4"	1'-0"	1'-4½"	20	0 <sub>n</sub> -3"	4	2'-6"	1'-7"	4	5'-0"	N/A	N/A	N/A	16	3'-0"	12"	16	3'-3"	12"	295	3.58	3.69			
30"	4'-2"	5'-0"	4'-9"	10"	3'-6"	9"	1'-11"	12"	N/A	9'-6"	12	5'-10"	4'-10"	1'-0"	1'-8"	20	0 <sub>n</sub> -3"	8	3'-3"	1'-3"	4	6'-0"	N/A	N/A	N/A	20	3'-0"	12"	20	3'-3"	12"	360	4.45	4.60			
36"	4'-8"	6'-0"	5'-9"	10"	4'-6"	10"	2'-10"	12"	9"	11'-6"	16	6'-4"	5'-4"	1'-0"	1'-11½"	22	0 <sub>n</sub> -3"	8	4'-0"	1'-5"	4	7'-0"	24	4'-6"	12"	24	3'-11"	12"	24	4'-3"	12"	588	8.41	8.63			
42"	5'-2"	7'-0"	6'-6"	10"	4'-6"	10"	2'-10"	12"	9"	13'-0"	16	6'-10"	5'-10"	1'-0"	2'-3"	22	0 <sub>n</sub> -3"	8	4'-6"	1'-6"	4	8'-0"	26	4'-6"	12"	26	3'-11"	12"	26	4'-3"	12"	646	9.77	10.05			
48"	5'-8"	8'-0"	7'-3"	10"	5'-6"	11"	3'-9"	12"	10"	14'-6"	20	7'-4"	6'-4"	1'-0"	2'-6½"	24	0 <sub>n</sub> -3"	12	4'-9"	1'-3"	4	9'-0"	30	4'-6"	12"	30	4'-10"	12"	30	5'-3"	12"	849	12.26	12.62			
54"	6'-2"	9'-0"	8'-0"	10"	5'-6"	11"	3'-9"	12"	10"	16'-0"	24	7'-10"	6'-10"	1'-0"	2'-10"	24	0 <sub>n</sub> -3"	12	5'-0"	1'-5"	4	10'-0"	32	4'-6"	12"	32	4'-10"	12"	32	5'-3"	12"	948	13.85	14.29			
60"	6'-8"	10'-0"	8'-9"	10"	6'-6"	12"	4'-8"	13"	11"	17'-6"	32	8'-5"	7'-5"	0'-9"	3'-1½"	28	0 <sub>n</sub> -3"	12	5'-6"	1'-6½"	4	11'-0"	36	4'-6"	12"	36	5'-9"	12"	48	6'-3"	9"	1314	17.50	18.03			



(SEE TABLE FOR BARS REQUIRED)

$O_1 = 2C$        $O_2 = 2C + B$   
 $O_3 = 2C + 2B$        $O_n = 2C + (n-1)B$   
 WHERE n = NUMBER OF PIPES



DATE	BY	DESCRIPTION
8/2011	YML	REDESIGNED BY LRFD.
REVISIONS (OR CHANGE NOTICES)		
NEW MEXICO DEPARTMENT OF TRANSPORTATION STANDARD DRAWING		
PIPE CULVERT HEADWALLS		
DESIGNED BY: YML DRAWN BY: SKL CHECKED BY: YML/TM		
511-03-2/2		



## Unit Price Bid Proposal

Bid Item Number	Item	Est'd Qty	Units	Cost/Unit	Cost
1	Project Sign, installed at locations specified by SSCAFCA, Complete	1	EA		
2	Traffic Control, Barricading, any/all access signs & permits required by Town of Bernalillo, Complete	1	LS		
3	Control of Storm Water & Nuisance Flow, CIP	1	LS		
4	Materials Testing, Complete	1	ALLOW.	-	\$ 8,000.00
5	Utility Allowance	1	ALLOW.	-	\$ 10,000.00
6	Construction Survey/Staking, Complete	1	LS		
7	Clear & Grub, includes haul and disposal, Complete	5.3	AC		
8	Silt Fence Protection Around "Limit Disturbance" Areas, Includes Post-Construction Removal/Disposal, Complete	2150	LF		
9	Unclassified Excavation - Project Cut Quantity plus Riprap Excav., includes excavation, haul and placement/compaction on-site, Complete	7455	CY		
10	Borrow - Includes excavation, haul, and placement/compaction, Complete	1405	CY		
11	Portland Cement Concrete Paving 4", Overflow Weir, incl. Reinforcement, Complete	548	SF		
12	Existing Wire-enclosed Riprap, Dispose of Wire/Stakes, Salvage Rock, Any Thickness, Complete	4032	SF		
13	Placement of Salvaged Riprap where D50=4" is required, Complete	100	CY		
14	D50=4" Dumped Riprap, incl. Subgrade Prep & Filter Fabric, Complete	130	CY		

15	D50=9" Type "L" Dumped Riprap, incl. Subgrade Prep & Filter Fabric, Complete	2150	CY		
16	Reinforced Shotcrete for Drop Structures, 6" Colored 3000 psi, Complete	84.5	SY		
17	Reinforced Concrete for WQ Diversion Structure, Complete	0.5	CY		
18	Reinforced Concrete for Storm Drain Headwalls, Complete	4	CY		
19	24" Storm Drain Pipe, Complete	385	LF		
20	24" Storm Drain End Section, Complete	1	EA		
21	18" Storm Drain Pipe, Complete	20	LF		
22	18" Storm Drain End Section, Complete	2	EA		
23	Concrete Header Curb @ Parking Lot, Complete	410	LF		
24	Subgrade Prep (Parking Lot/Access Rd./Maintenance Rd.), 8"-12" 95% Comp., Complete	4010	SY		
25	Aggregate Base Course (Parking Lot/Access Rd./Trail-1), 6" at 95% Comp., Complete	4010	SY		
26	Metal Signs (R8-3a (x2), "Private Property"), includes all installation materials as req'd, Complete	1	LS		
27	Wire-enclosed Gabions, 1.5'x3'x6' Basalt-filled, incl. Subgrade Prep and Filter Fabric, Complete	385	CY		
28	Barbless Wire Fence, Incl. Posts, Complete	3255	LF		
29	Existing Fence, any Type, Remove and Dispose/Salvage, Complete	1335	LF		
30	Pipe Gate, 12' Wide, Complete	2	EA		
31	Tubular Gate, 14' Wide, Complete	1	EA		



32	Native Grass Seeding, Hydro-seed All Disturbed Areas, Complete	4.2	AC		
33	NPDES & SWPPP, Complete	1	LS		
34	4' Diameter Storm Drain Manhole, Complete	1	LS		
<b>SUBTOTAL FOR ITEMS 1 - 34</b>					

35	Mobilization, Complete. NOT TO EXCEED 7% SUBTOTAL ABOVE	1	LS	NTE 7% SUBTOTAL	
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<b>BASE BID SUBTOTAL Items 1-35</b>					
<b>NEW MEXICO GROSS RECEIPTS TAX (NMGRT) @ 7.0625%</b>					
<b>BASE BID TOTAL</b>					

- Unit Price Bid Proposal End -