QUESTA CITIZENS DITCH - FLUME REPLACEMENT PROJECT

PREPARED FOR:

QUESTA CITIZENS DITCH ASSOCIATION
CONTACT: MR. BOBBY ORTEGA, PRESIDENT
ADDRESS: PO BOX 1313
QUESTA, NM 87556
EMAIL: questacitizensditch@gmail.com

ACEQUIA CERTIFICATE

THE UNDERSIGNED COMMISSIONERS OF THE QUESTA CITIZENS DITCH ASSOCIATION, STATE THAT THE ACCOMPANYING CONSTRUCTION DRAWINGS CONSISTING OF EIGHT (8) SHEETS FOR THE QUESTA CITIZENS DITCH - FLUME REPLACEMENT PROJECT WERE MADE UNDER THE AUTHORITY OF THE DITCH COMMISSION; WE HAVE READ AND EXAMINED THE STATEMENTS AND REPRESENTATIONS; ALL THAT IS SHOWN HEREIN IS DONE WITH OUR TRUE CONSENT AND IN ACCORDANCE WITH OUR WISHES; WE STATE THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF OUR KNOWLEDGE AND BELIEF.

_____
MEMBER DATE

_____
MEMBER DATE

_____
MEMBER DATE

ENGINEER:

AGUA FRIA ENGINEERING LLC.
3937 AGUA FRIA STREET
SANTA FE, NM 87507

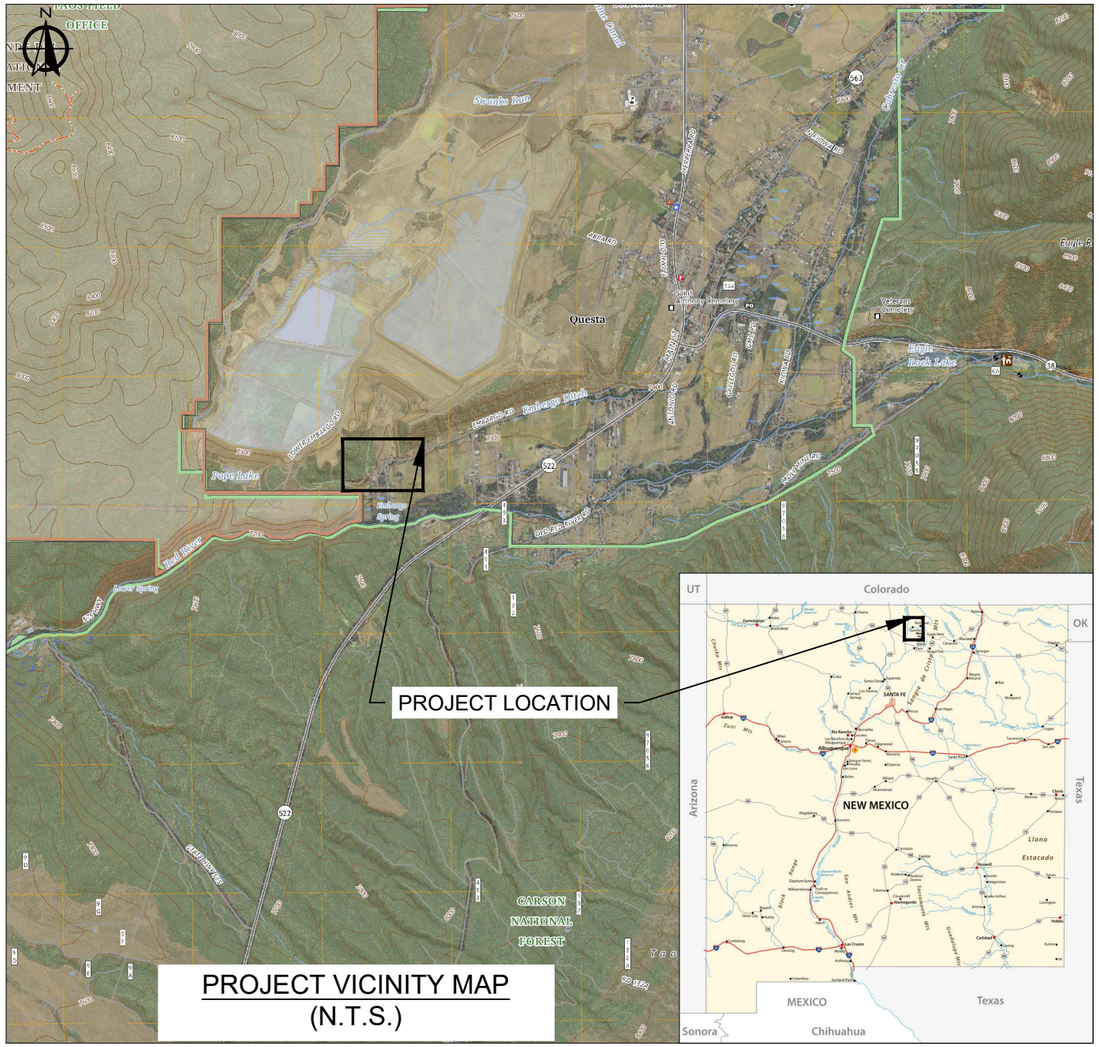
PHONE: 505-501-8006
PHONE: CONSTRUCTION@AGUAFRIAENGINEERING.COM

ENGINEER'S CERTIFICATE

I, ANDREW STRASSER, HEREBY CERTIFY THAT I AM A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW MEXICO, QUALIFIED IN CIVIL ENGINEERING; THAT THESE CONSTRUCTION DRAWINGS FOR THE QUESTA CITIZENS DITCH FLUME REPLACEMENT PROJECT WERE PREPARED BY ME OR UNDER MY SUPERVISION AND ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

_____,
ANDREW STRASSER
LICENSE NO. 26807

DATE: 4/30/26



PROJECT VICINITY MAP
(N.T.S.)

SHEET INDEX:

G1	COVER PAGE
V1	EXISTING CONDITIONS/DEMOLITION PLAN
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D1	DETAILS: PIPE SUPPORT & CONCRETE END SECTION
SPEC1	CONSTRUCTION SPECIFICATIONS (1 OF 4)
SPEC2	CONSTRUCTION SPECIFICATIONS (2 OF 4)
SPEC3	CONSTRUCTION SPECIFICATIONS (3 OF 4)
SPEC4	CONSTRUCTION SPECIFICATIONS (4 OF 4)

GENERAL NOTES:

1. THE LOCATION AND ELEVATIONS OF EXISTING UTILITIES ARE NOT SHOWN ON THESE DRAWINGS. THE CONTRACTOR SHALL CONTACT NEW MEXICO ONE CALL SYSTEM, AS REQUIRED BY LAW, 48 HOURS PRIOR TO ANY EXCAVATION TO LOCATE EXISTING UNDERGROUND UTILITIES. UTILITY FACILITIES ARE SHOWN AS BELIEVED TO EXIST AT TIME OF SURVEYS. FACILITIES MAY HAVE BEEN OMITTED, MISPLACED, AND OR RELOCATED. THE CONTRACTOR SHALL PROTECT ALL UTILITIES WHETHER SHOWN ON THE DRAWINGS OR NOT. THE CONTRACTOR IS RESPONSIBLE FOR FINAL VERIFICATION OF ALL UTILITIES WITH THE UTILITY OWNERS BEFORE CONSTRUCTION IS INITIATED.
2. THE CONTRACTOR SHALL MAKE ALL NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, ROADWAY, DRAINAGE WAYS, CULVERTS, AND VEGETATION UNTIL SUCH ITEMS ARE TO BE DISTURBED OR REMOVED AS INDICATED ON THE CONSTRUCTION DOCUMENTS. BEST MANAGEMENT PRACTICES SHALL BE INSTALLED AND MAINTAINED DURING AND AFTER CONSTRUCTION ACTIVITY, IN ACCORDANCE WITH CONSTRUCTION SPECIFICATION NO. 5 POLLUTION CONTROL, TO PREVENT POLLUTION FROM STORMWATER RUNOFF FROM THE ENTERING RIVER.
3. ALL STATIONING REFERS TO THE BASELINE OF CONSTRUCTION AND IS THE MEASURED HORIZONTAL DISTANCE FROM DOWNSTREAM TO UPSTREAM.
4. LEFT AND RIGHT OF THE BASELINE ARE DETERMINED BY LOOKING IN THE DOWNSTREAM DIRECTION.
5. SLOPES DESIGNATED AS 1:1, 3:1, 5:1, ET CETERA, REFER TO THE RATIO OF HORIZONTAL TO VERTICAL DISTANCE.
6. DIMENSIONS FOR EARTHWORK (EXCAVATION, BACKFILL, DRAINFILL) ARE GIVEN IN FEET AND TENTHS OF FEET. VOLUME IS GIVEN IN CUBIC YARDS AND TENTHS OF CUBIC YARDS.
7. REMOVAL AND REPLACEMENT OF PROPERTY FENCES (IF NECESSARY FOR ACCESS) IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
8. UPON COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL REMOVE FROM THE WORK SITE: ALL DEBRIS, UNUSED MATERIALS, AND OTHER MATERIALS BELONGING TO OR USED UNDER THEIR DIRECTION DURING THE CONSTRUCTION. THE AREAS OF THE JOB SITE DISTURBED BY THE WORK SHALL BE GRADED TO A UNIFORM SLOPE AND RE-VEGETATED AS SPECIFIED. THE SITE SHALL HAVE A NEAT LOOKING APPEARANCE, AND IF NEEDED, BE RESTORED TO EXISTING GRADES AND CONDITIONS AFTER THE WORK HAS BEEN COMPLETED.
9. THE PROPOSED DISTURBED AREA FOR THIS PROJECT IS LESS THAN 1 ACRE. THEREFORE, A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) IS NOT REQUIRED. CONTRACTOR REMAINS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL WATER QUALITY REGULATIONS.

SCHEDULE OF MATERIALS

ITEM NO.	ITEM DESCRIPTION	SPEC	UNITS	QUANTITY
1	MOBILIZATION & DEMOBILIZATION	SP-01	LUMP SUM	1
2	CONSTRUCTION SURVEYS	SP-04	LUMP SUM	1
3	REMOVE AND DISPOSE OF EXISTING FLUME AND SUPPORTS	SP-05	LUMP SUM	1
4	FURNISH AND INSTALL 16" DIAMETER SCHEUDLE 40 STEEL PIPE	SP-08	LINEAR FOOT	160
5	FURNISH AND INSTALL ELEVATED PIPE SUPPORTS (EXCLUDING W8X36 PILES)	SP-06,08	EACH	2
6	FURISH AND DRIVE W8X36 FOUNDATION PILES (APPROX 15 FOOT EACH (4))	SP-08,	LINEAR FOOT	60
7	FURNSIH AND INSTALL AT GRADE PIPE SUPPORTS	SP-06, 08	EACH	2
8	FURNISH AND INSTALL 16" DIAMETER 150 SOCKET WELD FLANGE	SP-08	EACH	3
9	FURNISH AND INSTALL CAST-IN-PLACE CONCRETE END SECTION	SP-06	CY	2
10	FURNISH AND INSTALL END SECTION TRASH RACK	SP-08	EACH	1
11	FURNISH AND INSTALL CLASS B RIPRAP	SP-07	CUBIC YARD	27
12	FURNISH AND INSTALL 6" DITCH ROCK	SP-07	CUBIC YARD	14
13	EARTHWORK: EXCAVATION AND COMPACTED BACKFILL (BALANCED ONSITE)	SP-06	CUBIC YARD	110
14	EARTHWORK: COMPACTED BACKFILL (IMPORTED)	SP-06	CUBIC YARD	100

CONTRACTOR SUMITTALS

SUBMITTAL NO.	ITEM	SPEC	SUBMITTAL
1	SCHEDULE 40 STEEL PIPE 16", 12", 1-1/2"	SP-08	MANUFACTURERS SPECIFICATION SHEET
2	PIPE FLUME SUPPORT METALWORK	SP-08	SHOP DRAWINGS, METERIAL SPECIFICATION SHEETS
3	CON-SLIDE PF PAD	SP-08	MANUFACTURERS SPECIFICATION SHEET
4	TRASH RACK	SP-08	SHOP DRAWING
5	CONCRETE MIX DESIGN FOR CIP STRUCTURE	SP-06	CONCRETE MIX DESIGN, AGGREGATE GRADATION AND TESTING
6	ROCK RIPRAP	SP-07	GRADATION, SOURCE INFORMATION

ANDREW STRASSER
NEW MEXICO
26807
PROFESSIONAL ENGINEER

AGUA FRIA ENGINEERING LLC

Agua Fira Engineering LLC
3937 Agua Fria Steet
Santa Fe, NM 87507

COVER PAGE & GENERAL INFORMATION

QUESTA CITIZNS DITCH ASSOCIATION
FLUME REPLACEMENT PROJECT
QUESTA, NEW MEXICO

Designed:	Drawn By:	Checked By:	
AMS	AMS	SFS	
Project Number: 350552601	Date: APRIL 30, 2026		Sheet: G1

EXISTING 66" DIA CMP
CULVERTS (4)
FOR TAILING DAM OUTLET

1
7274.58
cp

EXISTING IRRIGATION DITCH

EMBARGO RD.

EXTENT OF
TOPOGRAPHIC DATA COLLECTION

164'

EXISTING IRRIGATION
DITCH

2
7275.35
cp

3
7273.50
cp

REMOVE AND DISPOSE OF
EXISTING CMP HALF PIPE
AND PIPE SUPPORT

PHOTO 1

REMOVE TREES AS
NEEDED

N

PHOTO 1



EXISTING CONDITIONS PLAN:

SCALE: 1" = 20'

DATA NOTES:

1. DATA COLLECTED BY AGUA FRIA ENGINEERING LLC (AMS)
2. DATE OF DATA COLLECTION : FEBRUARY 6, 2026
3. REFERENCE POSITION: PT 1 (RTK BASE STATION) COORDINATES ESTABLISHED VIA OPUS STATIC OBSERVATION
4. COORDINATE REFERENCE SYSTEM: NAD83(2011) NEW MEXICO STATE PLANE CENTRAL ZONE
5. VERTICAL DATUM: NAVD88
6. EQUIPMENT: HEMISPHERE S631 BASE STATION AND ROVER

CONTROL POINTS

Point #	Elevation	Northing	Easting	Description
1	7274.58	2073228.98	1824953.36	cp
2	7275.35	2073141.23	1824832.57	cp
3	7273.50	2073153.66	1825015.16	cp

ANDREW STRASSER
NEW MEXICO
26807
PROFESSIONAL ENGINEER
4/30/26

AGUA FRIA ENGINEERING LLC

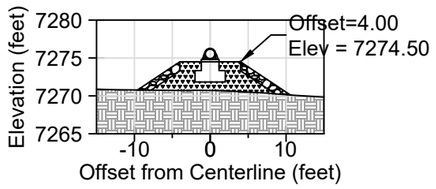
Agua Fira Engineering LLC
3937 Agua Fria Steet
Santa Fe, NM 87507

EXISTING CONDITIONS & DEMOLITION PLAN

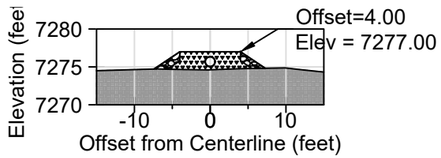
QUESTA CITIZENS DITCH ASSOCIATION
FLUME REPLACEMENT PROJECT
QUESTA, NEW MEXICO

Designed:	Drawn By:	Checked By:	
AMS	AMS	AMS	
Project Number: 0350552601	Date: APRIL 30, 2026		Sheet: V1

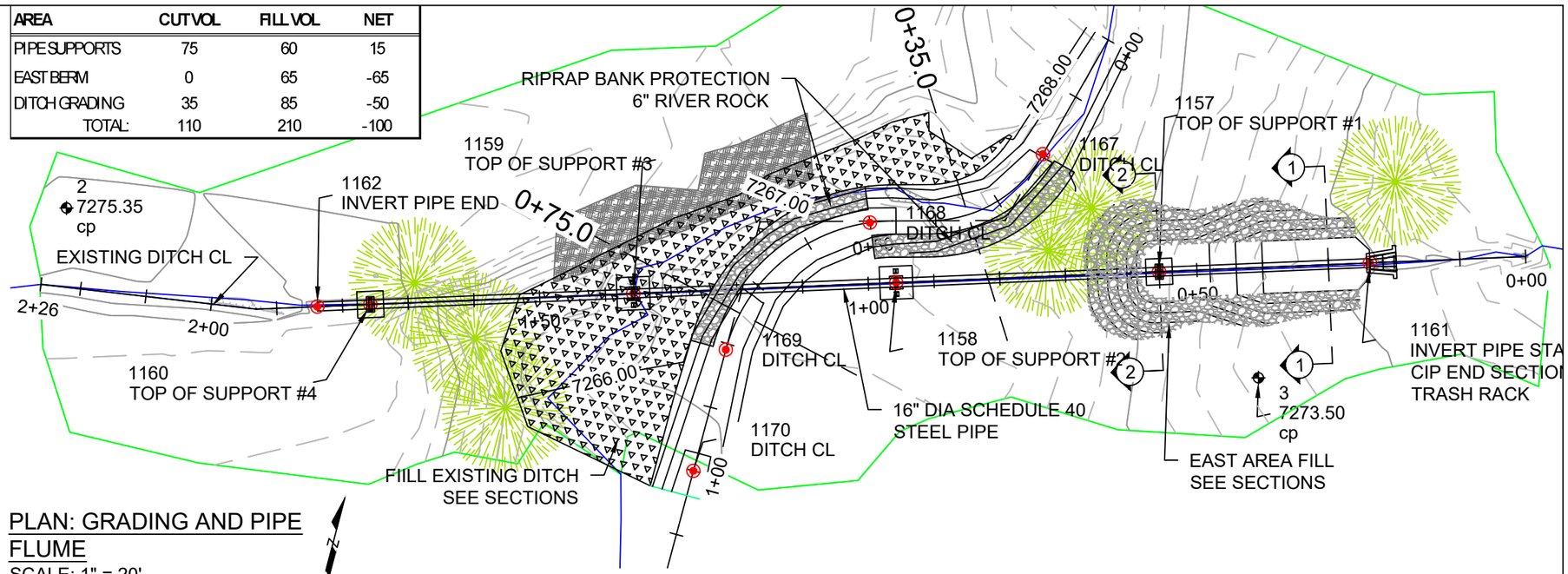
AREA	CUT VOL	FILL VOL	NET
PIPE SUPPORTS	75	60	15
EAST BERM	0	65	-65
DITCH GRADING	35	85	-50
TOTAL:	110	210	-100



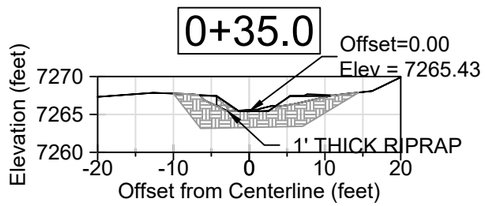
SECTION 2: DITCH GRADING
SCALE: 1" = 20'

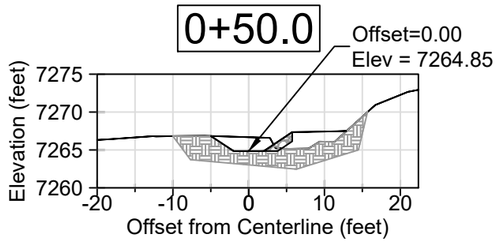


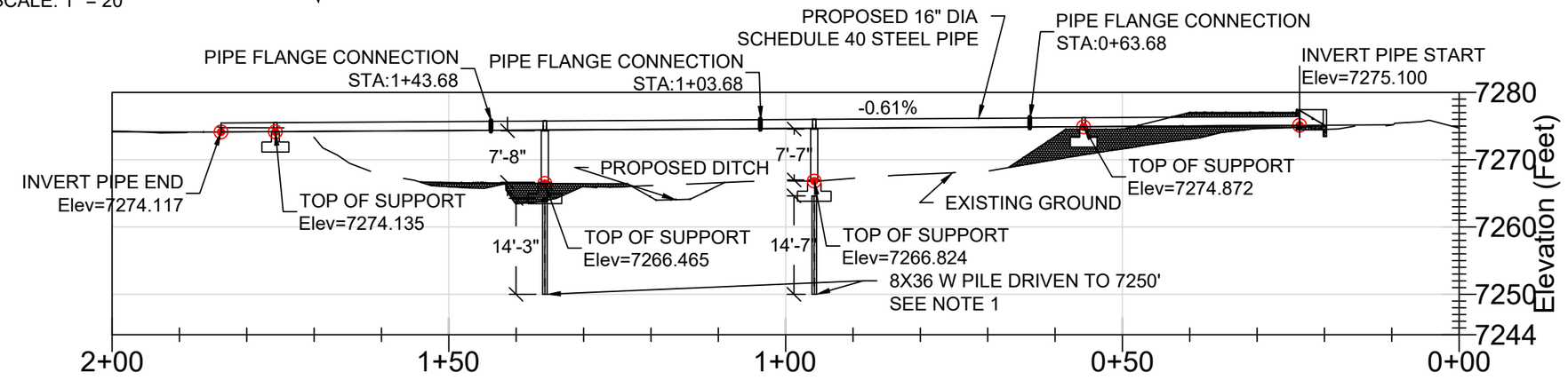
SECTION 1: DITCH GRADING
SCALE: 1" = 20'



PLAN: GRADING AND PIPE FLUME
SCALE: 1" = 20'

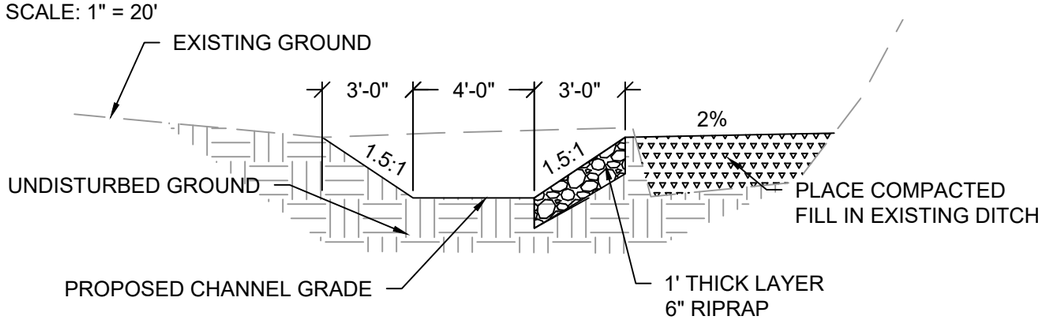






PROFILE: PIPE FLUME
SCALE: 1" = 20'

SECTIONS: DITCH GRADING
SCALE: 1" = 20'



DETAIL: TYPICAL DITCH SECTION
SCALE: 1" = 20'

STAKEOUT POINTS				
Point #	Elevation	Northing	Easting	Description
1157	7274.87	2073166.30	1824997.04	TOP OF SUPPORT
1158	7266.82	2073156.37	1824958.29	TOP OF SUPPORT
1159	7266.46	2073146.44	1824919.54	TOP OF SUPPORT
1160	7274.14	2073136.51	1824880.79	TOP OF SUPPORT
1161	7275.10	2073174.26	1825028.11	INVERT PIPE START
1162	7274.12	2073134.50	1824872.97	INVERT PIPE END
1167	7266.02	2073180.08	1824976.05	DITCH CL
1168	7264.85	2073164.45	1824952.49	DITCH CL
1169	7263.64	2073141.00	1824935.08	DITCH CL
1170	7262.89	2073121.98	1824934.08	DITCH CL

PILE INSTALLATION NOTE:
DRIVE W8X36 PILES TO A DEPTH OF 15 FEET (APPROX. 7250 FT ELEVATION) OR UNTIL REFUSAL, IN ACCORDANCE WITH THE GEOTECHNICAL REPORT PROVIDED BY YEDOMA CONSULTANTS (4/26/2026).

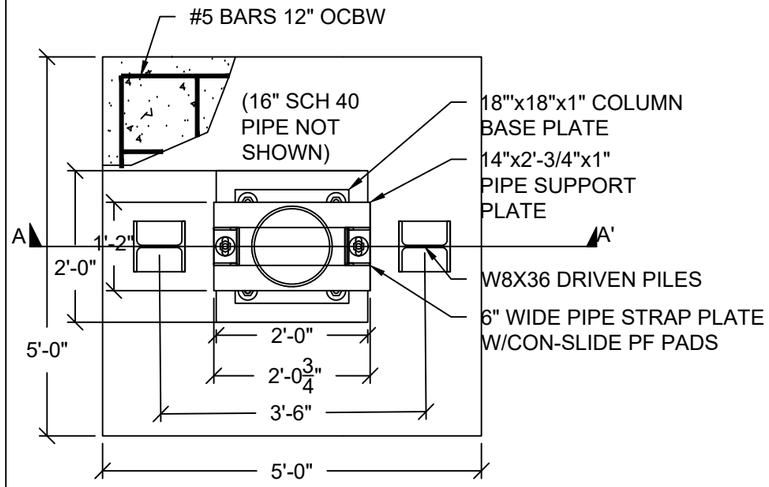
ANDREW STRASSER
NEW MEXICO
26807
4/30/26
PROFESSIONAL ENGINEER

AGUA FRIA ENGINEERING LLC
Agua Fria Engineering, LLC.
3937 Agua Fria Street
Santa Fe, NM 87507

PLAN, PROFILE, AND SECTIONS

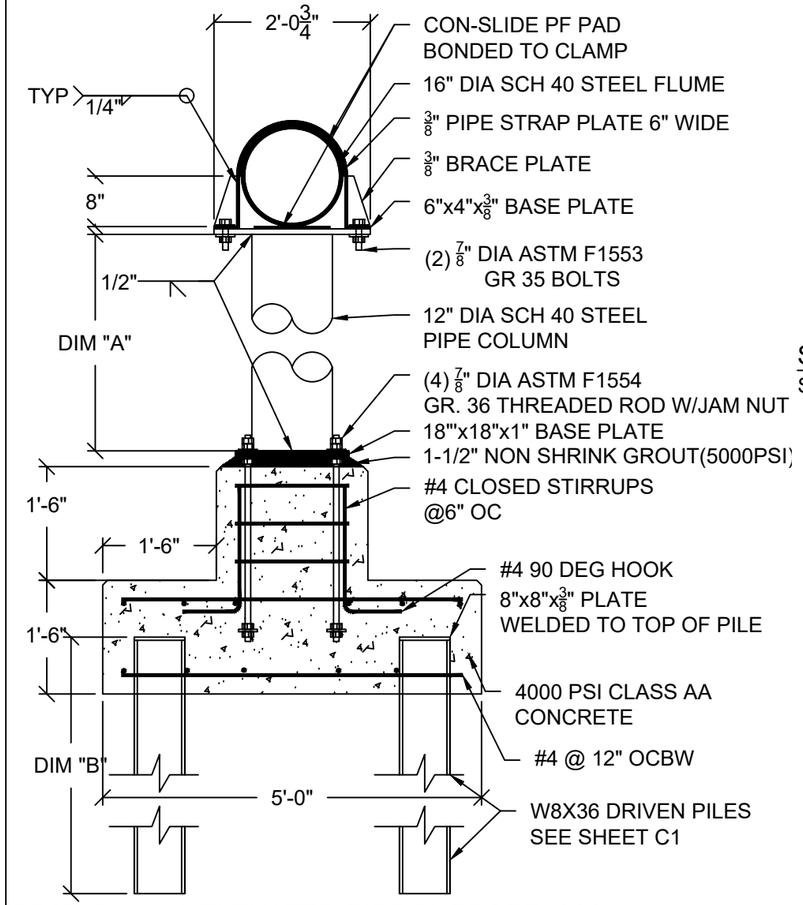
QUESTA CITIZENS DITCH ASOCIATION
FLUME REPLACEMENT PROJECT
QUESTA, NEW MEXICO

Designed:	Drawn By:	Checked By:	
AMS	AMS	SFS	
Project Number: 350552601	Date: APRIL 30, 2026		Sheet: C1



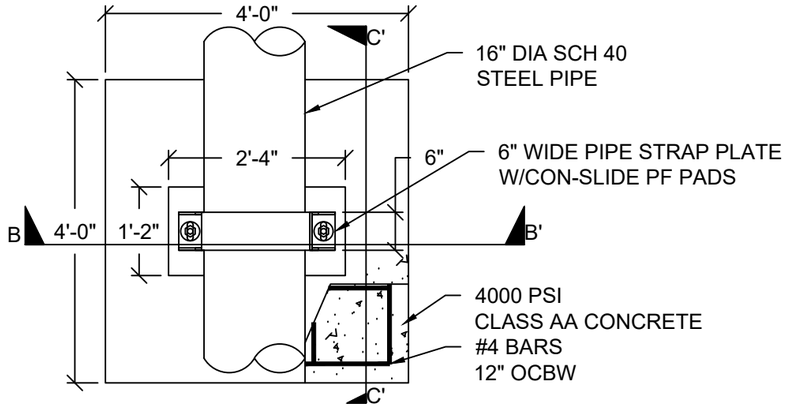
DETAIL: ELEVATED PIPE SUPPORT (2&3)

SCALE: 1" = 2'



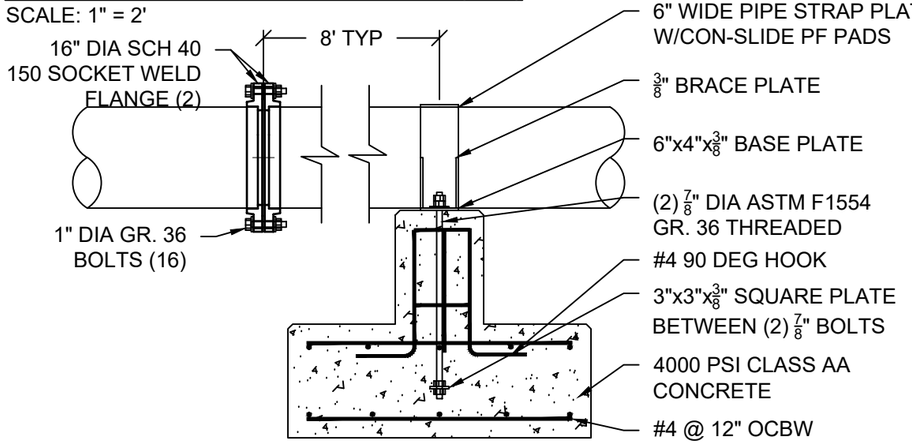
SECTION A-A': ELEVATED PIPE SUPPORT (2&3)

SCALE: 1" = 2'



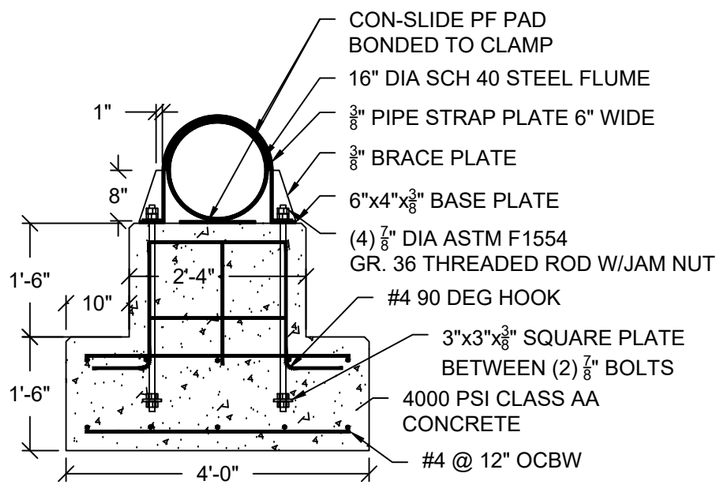
DETAIL: AT GRADE PIPE SUPPORT (1&4)

SCALE: 1" = 2'



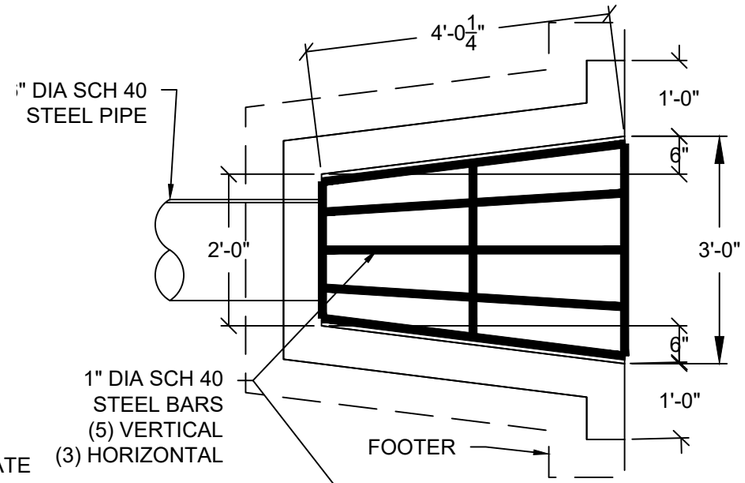
SECTION C-C': AT GRADE PIPE SUPPORT W/ FLANGE(1&4)

SCALE: 1" = 2'



SECTION B-B': AT GRADE PIPE SUPPORT

SCALE: 1" = 2'



DETAIL: CONCRETE INTAKE W. TRASH RACK

SCALE: 1" = 2'

PIPE SUPPORT	STATION	PIPE INVERT ELEV.	TOP OF CONCRETE ELEV.	SUPPORT COL. HEIGHT	W8X36 PILE LENGTH
1	0+55.74	7277.90	7274.87	-	-
2	0+95.75	7274.66	7266.82	7'-7"	14'-7"
3	1+35.75	7274.41	7266.47	7'-8"	14'3"
4	1+75.74	7274.17	7274.14	-	-



AGUA FRIA ENGINEERING LLC
Agua Fria Engineering, LLC.
3937 Agua Fria Street
Santa Fe, NM 87507

DETAILS: PIPE SUPPORTS & END SECTION

QUESTA CITIZENS DITCH ASOCIATION
FLUME REPLACEMENT PROJECT
QUESTA, NEW MEXICO

Designed:	Drawn By:	Checked By:	
AMS	AMS	SFS	
Project Number: 350552601	Date: APRIL 30, 2026		Sheet: D1

GENERAL SPECIFICATIONS NOTE:

These Special Provisions have been prepared for use in conjunction with New Mexico Department of Transportation (NMDOT) and U.S. Department of Agriculture - Natural Resources Conservation Service (NRCS) standards. While these specifications are intended to be comprehensive, additional or supplemental specifications may be required for specific projects or site conditions.

In all cases of conflict or omission, the governing standards shall be those of the NMDOT Standard Specifications for Highway and Bridge Construction (2019 Edition), or as otherwise directed by the Engineer.

Special Provision 1--Mobilization and Demobilization

1. Scope

The work consists of the mobilization and demobilization of the Contractor's forces and equipment necessary for performing the work required under the contract, obtaining applicable permits if any are necessary for carrying out the work shown in the drawings or as described in the specifications, and restoration of the site to a quality that is equal to or greater that of preconstruction conditions.

2. Equipment and material

Mobilization shall include all activities and associated costs for transportation of Contractor's personnel, equipment, and operating supplies to the site; premiums paid for permits and performance and payment bonds including coinsurance and reinsurance agreements as applicable.

Demobilization shall include site restoration to a quality that meets or exceeds preconstruction conditions and appearances as approved by Engineer and all activities and costs for transportation of personnel, equipment, and supplies not required or included in the contract from the site; including the disassembly, removal, and site cleanup of facilities assembled on the site specifically for this contract.

Contractor shall grade all site areas outside channel to flat topography (no holes, depressions, etc.). Earthen slopes in restored areas are to be a maximum steepness of 3:1, unless otherwise provided.

This work includes mobilization and demobilization required by the contract at the time of award. If additional mobilization and demobilization activities and costs are required during the performance of the contract as a result of changed, deleted, or added items of work for which the Contractor is entitled to an adjustment in contract price, compensation for such costs will be included in the price adjustment for the item or items of work changed or added.

3. Payment

Payment for mobilization and demobilization, site restoration and permits will be made as the work proceeds, after presentation of paid invoices or documentation of direct costs by the Contractor showing specific mobilization and demobilization costs and supporting evidence of the charges of suppliers, subcontractors, and others. When the total of such payments is less than the lump sum contract price, the balance remaining will be included in the final contract payment. Payment of the lump sum contract price for mobilization and demobilization will constitute full compensation for completion of the work.

Special Provision 2--Pollution Control

1. Scope

The work consists of installing measures or performing work to control erosion and minimize the production of sediment and other pollutants to water and air from construction activities.

2. Erosion and sediment control measures and works

The measures and works shall include, but are not limited to, the following:

Staging of earthwork activities--The excavation and moving of soil materials shall be scheduled to minimize the size of areas disturbed and unprotected from erosion for the shortest reasonable time.

3. Chemical pollution

The Contractor shall provide watertight tanks or barrels or construct a sump sealed with plastic sheets to dispose of chemical pollutants, such as drained lubricating or transmission fluids, grease, soaps, produced as a by-product of the construction activities. At the completion of the construction work, sumps shall be removed and the area restored to its original condition. Sump removal shall be conducted without causing pollution.

Sanitary facilities, such as chemical toilets, or septic tanks shall not be located next to live streams, wells, or springs. They shall be located at a distance sufficient to prevent contamination of any water source. At the completion of construction activities, facilities shall be disposed of without causing pollution.

4. Air pollution

Burning of brush, slash and other materials is not permitted at the construction site.

5. Maintenance, removal, and restoration

All pollution control measures and temporary works shall be adequately maintained in a functional condition for the duration of the construction period. All temporary measures shall be removed and the site restored to near original condition.

6. Measurement and payment

Payment for pollution control is considered incidental to bid item no. 1, mobilization and demobilization.

7. Special conditions

The Contractor is solely responsible for clean-up of all spills or leaks that occur during the performance of this contract. Clean up spills or leaks in a manner that complies with Federal, state, and local laws and regulations.

- Temporary refueling and servicing shall occur away from the water body.
- Maintain equipment utilized in and around streams in a clean and orderly fashion. Immediately repair any fluid or fuel leaks.
- An oil spill containment kit is required on the job site. At a minimum, include tarps and oil-absorbent pads. The Contractor shall also supply and install petroleum absorbent boom pads, pillows, socks or similar material suitable to contain accidental leaks or spills of oil, fuel and hydraulic fluid.

Special Provision 3--Control of Water

1. Scope

The work consists of the bypass of surface water and ground water as necessary to perform the construction required by the contract in accordance with the specifications. It shall include: (1) constructing, installing, building, and maintaining all necessary temporary water containment facilities, channels, and diversions; (2) furnishing, installing, and operating all necessary pumps, piping, and other facilities and equipment; and (3) removing all such temporary works and equipment after their intended function is no longer required.

2. Bypass surface water

The contractor shall install, maintain, and operate all cofferdams, channels, flumes, sumps, and all other temporary diversion and protective works needed to bypass streamflow and other surface water through or around the construction site. Control of surface water shall be continuous during the period that damage to construction work could occur. Unless otherwise specified and/or approved, the outfall shall be into the same drainage way that the water would have reached before being bypassed.

3. Groundwater Control

The Contractor shall, install, maintain, and operate groundwater control systems to provide a stable, dry excavation for all construction activities. This work shall include, but is not limited to, the use of well points, eductors, sumps, trenches, or other effective methods necessary to lower the water table and intercept seepage. Control of groundwater shall be conducted until such time that the permanent structure has gained sufficient strength to withstand hydrostatic pressure and buoyancy forces, and the excavation has been backfilled to a level that eliminates the risk of heave or instability.

4. Erosion and pollution control

Removal of water from the construction site shall be accomplished in a manner that erosion and the transporting of sediment and other pollutants are minimized. Dewatering activities shall be accomplished in a manner that the water table water quality is not altered. Pollution control activities shall not conflict with the requirements of Special Provision 5, Pollution Control.



AGUA FRIA ENGINEERING LLC
Agua Fira Engineering LLC
3937 Agua Fria Steet
Santa Fe, NM 87507

CONSTRUCTION SPECIFICATIONS

QUESTA CITIZENS DITCH ASSOCIATION
FLUME REPLACEMENT PROJECT
QUESTA, NEW MEXICO

Designed:	Drawn By:	Checked By:	
AMS	AMS	SFS	
Project Number: 350552601	Date: APRIL 30, 2026		Sheet: SPEC 1

Special Provision 3 - Control of Water (Cont)

5. Removal of temporary works

When temporary works are no longer needed, the contractor shall remove and return the area to a condition similar to that which existed before construction. Areas where temporary works were located shall be graded for sightly appearance with no obstruction to natural surface water flows or the proper functioning and access to the works of improvement installed. The contractor shall exercise extreme care during the removal stages to minimize the loss of soil sediment and debris that was trapped during construction.

6. Measurement and payment

Items of work listed in the bid schedule for removal of water, bypassing surface water, and dewatering construction sites are paid for at the contract lump sum prices. Such payment will constitute full compensation for all labor, equipment, tools, and all other items necessary and incidental to the completion of the work.

Special Provision 4--Construction Surveys

4. Scope

The work consists of performing all surveys, measurements, and computations required by this specification.

5. Primary control

The baselines and benchmarks for primary control, necessary to establish lines and grades needed for construction, are shown on the drawings and have been located on the job site. These baselines and benchmarks shall be used as the origin of all surveys, layouts, and measurements to establish construction lines and grades. The Contractor shall take all necessary precautions to prevent the loss or damage of primary control points. Any stakes or control points lost or damaged by construction activity will be reestablished by the Contractor or at Contractor expense.

6. Quality of work

All work shall follow recognized professional practice and the standards of the industry. The horizontal locations for all work shall be determined and recorded to the nearest 1 ft. The vertical elevations for all work shall be determined and recorded to the nearest 0.1 ft.

7. Construction surveys

Contractor performed surveys shall consist of all work necessary for:

- Establishing line and grade for all work
- Checking and any supplemental or interim staking
- Establishing final grade stakes
- Performing quantity surveys, measurements, and computations for progress payment.

5. Staking

Centerline and offset reference line stakes for location, alignment, and elevation shall be placed for all structures.

6. Payment

Payment for construction surveys will be made at the lump sum contract price and will constitute full compensation for completion of all work under this cost item. Payment will not be provided under this item for the purchase price of materials or equipment having a residual value.

7. Items of work and construction details

Before beginning work, the Contractor shall check and verify all established control points and shall advise the Engineer in writing that the points are acceptable or, if they are not acceptable, the reasons therefore.

Special Provision 5-- Clearing and Grubbing and Removal of Existing Structures

1. Scope

The work consists of clearing and grubbing and disposal of trees, snags, logs, brush, stumps, shrubs, rubbish, and existing structures from the ditch corridor.

2. Clearing and grubbing

Trees, snags, logs, brush and stumps in the existing ditch corridor and other areas designated on the construction drawings that obstruct the installation of the proposed pipeline or movement of equipment and materials may be cut and disposed of in a manner and at locations approved by the Engineer or Owner. Only trees, logs, snags, brush and stumps within 15 feet of the inside toe of the existing ditch alignment may be removed. The contractor is responsible for complying with all local rules and regulations and the payment of any and all fees that may result from disposal at locations away from the project site.

3. Salvage

items on the plan identified for savage and reuse must be carefully removed from their existing location and stockpiled in an area identified by the owner.

4. Measurement and payment

For items of work for which specific lump sum prices are established in the contract, payment for the work is made at the contract lump sum price. Progress payments will be made based upon the percentage of estimated material cleared, grubbed or salvaged from the site or unless otherwise specified by the Engineer. Payment will constitute full compensation for all items related to clearing, grubbing and salvage of materials from the project site.

Special Provision 6- Common Excavation And Backfill

1. Scope

This work shall consist of all excavation, grading, and backfilling necessary to complete the work as shown on the drawings and as specified herein. Work includes removal of material to the required lines and grades, placement and compaction of suitable backfill, and disposal of excess or unsuitable material.

2. Classification Of Excavation And Backfill

Two classes of material and work are defined under this specification:

(1)Excavation and Compacted Backfill (Balanced Onsite) - Excavation, placement, and compaction of suitable native materials obtained from required cuts or other onsite sources.
(2) Imported Compacted Backfill - Placement and compaction of approved imported material meeting the requirements of NMDOT Section 207 - Select Borrow when suitable onsite material is not available or as shown on the drawings.

3. Materials

3.1 Onsite (Balanced) Material - Suitable excavated material shall be free of organics, frozen soil, debris, and stones larger than 3 inches in greatest dimension. Material shall contain no more than 5 percent organics by volume and shall be capable of meeting the specified compaction.

3.2 Imported Backfill - Imported material shall conform to NMDOT Section 207 - Select Borrow, meeting the gradation and plasticity requirements therein. The material shall be well graded, non-expansive, and capable of achieving the required density and stability.

4. Moisture Conditioning

Backfill materials shall be moisture-conditioned to within ±2 percent of optimum moisture content at the time of compaction, as determined by ASTM D698 (Standard Proctor).

5. Foundation Preparation

Foundations for structures, pipes, and appurtenances shall be excavated to the lines and grades shown. Soft, loose, or unsuitable material shall be removed and replaced with compacted backfill conforming to this specification. When required, subgrade stabilization material shall be installed per NMDOT Section 203.3.1.

6. Placement And Compaction

Backfill shall be placed in uniform horizontal lifts not exceeding 8 inches (loose thickness). Compaction shall be accomplished by mechanical tampers, vibratory compactors, or rollers suitable to the work. Jetting or flooding of backfill is not permitted unless approved.

6.1 Compaction Requirements -For all compacted fill beneath or within 5 feet of structures, pipelines, or paved areas: minimum 95 percent of Standard Proctor Density (ASTM D698). For other areas: minimum 90 percent of Standard Proctor Density (ASTM D698).

ANDREW STRASSER
NEW MEXICO
26807
4/30/26
PROFESSIONAL ENGINEER

AGUA FRIA ENGINEERING LLC

Agua Fira Engineering LLC
3937 Agua Fria Steet
Santa Fe, NM 87507

CONSTRUCTION SPECIFICATIONS (CONT)

QUESTA CITIZENS DITCH ASSOCIATION
FLUME REPLACEMENT PROJECT
QUESTA, NEW MEXICO

Designed:	Drawn By:	Checked By:	
AMS	AMS	SFS	
Project Number: 350552601	Date: APRIL 30, 2026		Sheet: SPEC 2

Special Provision 6- Common Excavation And Backfill (cont)

6.2 Backfill around Structures - Material shall be placed evenly on all sides of structures to prevent unbalanced loading. Compact each lift before subsequent placement.

6.3 Backfill over Pipes - Backfill shall not be placed until joints and bedding are inspected. Initial backfill to a minimum of 12 inches above the crown shall be free of rock or other hard material exceeding 1 inch in diameter.

7. Quality Assurance

Density Testing -Field density shall be verified by the Contractor using methods conforming to ASTM D1556 (Sand Cone), ASTM D6938 (Nuclear Density Gauge), or other approved equivalent.

8. Excess And Unsuitable Material

Material not suitable for backfill or not required for embankment or grading shall be disposed of in a manner approved by the Engineer, per NMDOT Section 203.3.5.

9. Measurement And Payment

(1) Excavation and Compacted Backfill (Balanced Onsite) - Measurement shall be by the cubic yard of compacted material or included in the lump sum for associated work, as shown on the bid schedule. Payment includes excavation, hauling, placement, moisture control, and compaction of suitable onsite materials.

(2) Imported Compacted Backfill - Measurement shall be by the cubic yard of imported and compacted material or as otherwise noted. Payment includes furnishing, hauling, placement, moisture control, and compaction of imported select borrow material.

Special Provision 6 - Cast-In-Place Concrete Structures

1. Scope

This work consists of furnishing, placing, finishing, and curing cast-in-place concrete for structures as shown on the drawings and as specified herein. Work includes all labor, materials, equipment, formwork, reinforcement, curing, and incidentals necessary to complete the work.

2. Materials

All materials shall conform to the following requirements unless otherwise specified on the drawings or in these Special Provisions.

2.1 Concrete - Concrete shall conform to NMDOT Class AA Concrete (4,000 psi minimum compressive strength at 28 days) and applicable provisions of NMDOT 2019 Standard Specifications, unless modified herein. Concrete shall meet the following requirements:

- Minimum Compressive Strength (28-day): 4,000 psi
- Maximum Water-Cement Ratio: 0.45
- Minimum Cement Content: 5.5 sacks per cubic yard (approximately 517 lbs./cy)
- Air Content: 5 percent to 8 percent (entrained air required for freeze-thaw durability)
- Target Slump: 4.5 to 5.5 inches prior to addition of admixtures
- Maximum Aggregate Size: 1 inch nominal

2.2 Aggregates shall conform to ASTM C33. Air-entraining admixtures shall be used. Water-reducing admixtures may be used provided the maximum water-cement ratio is not exceeded.

2.3 Reinforcing Steel - Reinforcing steel shall conform to ASTM A615 Grade 60 or ASTM A706, unless otherwise shown on the drawings. Reinforcement shall be free of rust, scale, oil, or other deleterious materials that may impair bond.

2.4 Tie Wire and Supports - Tie wire shall be 16-gauge or heavier black annealed steel wire. Chairs, spacers, and supports shall be of sufficient strength to maintain reinforcement in proper position during concrete placement.

3. Construction Requirements

3.1 Subgrade Preparation - Concrete shall not be placed on frozen or unstable subgrade. The subgrade shall be properly prepared, moist, and free of loose or deleterious material.

3.2 Formwork - Forms shall be true to line and grade, mortar-tight, and sufficiently rigid to prevent deformation during concrete placement.

3.3 Reinforcement Placement -Reinforcement shall be placed as shown on the drawings and securely tied prior to concrete placement. Reinforcement shall be accurately positioned and supported to maintain required cover and spacing.

3.4 Minimum concrete cover shall be as shown on the drawings or, if not shown, shall conform to NMDOT requirements.

3.5 Reinforcement shall not be displaced during placement of concrete.

3.6 Field bending of reinforcement shall not be permitted unless approved by the Engineer.

3.7 Placement - Concrete shall be placed in a continuous operation to prevent cold joints unless otherwise approved by the Engineer.

3.8 Consolidation - Concrete shall be consolidated using mechanical vibration to eliminate voids and ensure full contact with forms and reinforcement.

3.9 Finishing - Exposed surfaces shall be finished to a smooth and even surface unless otherwise shown on the drawings.

3.10 Curing - Curing shall begin immediately after finishing and shall conform to NMDOT requirements. Concrete shall be protected from premature drying, freezing, and excessive heat.

3.11 Cold Weather Placement - Concrete placement during cold weather shall comply with NMDOT requirements. Concrete shall be protected to maintain adequate curing temperatures and prevent freezing.

4. Measurement And Payment

Measurement for cast-in-place concrete structures will be by the cubic yard of concrete placed and accepted in the work.

Payment will be made at the contract unit price per cubic yard, which shall include full compensation for furnishing all materials, mixing, transporting, placing, finishing, curing, formwork, reinforcement, and all labor, tools, equipment, and incidentals necessary to complete the work.

Special Provision 7 - Rock Riprap

1. Scope:

The work shall consist of furnishing, transporting, and placing a protective covering of riprap at the locations shown on the drawings.

2. Materials

Rock shall be dense, sound, hard, and durable. The minimum specific gravity of all rock shall be no less than 2.5. The size and shape of rock material shall conform to the characteristics in the table below:

AREA	ROCK TYPE	DIMENSIONS			
		MAX	MIN	D50	STONE VOL
EAST Berm	NMDOT Class B Angular RIPRAP	12	5	8	1-2CF
Ditch Bank Rock	River Rock (Rounded)	10	4	6	0.5-1.5CF

3. Subgrade Preparation

The subgrade surfaces shall be excavated or filled to the lines and grades shown on the drawings. Compaction: Foundations shall be compacted to a density equal to the adjacent undisturbed material. Clearing: All organic matter, debris, and large roots shall be removed prior to stone placement. No geotextile is required.

4. Placement

The riprap shall be placed to a total course thickness as shown in the plans. Stone shall be placed in a manner that ensures the rock is in direct contact with the subgrade. Larger stones shall be "nested" or keyed into the subgrade to prevent movement. Distribution: The finished surface shall be a dense, homogenous mass without clusters of small stones or large voids. Tolerance: A tolerance of plus or minus 2 inches from the design grade is permitted, provided the layer remains a functional, continuous protective cover.

ANDREW STRASSER NEW MEXICO 26807 4/30/26 PROFESSIONAL ENGINEER

AGUA FRIA ENGINEERING LLC
Agua Fira Engineering LLC
3937 Agua Fria Steet
Santa Fe, NM 87507

CONSTRUCTION SPECIFICATIONS (CONT)

QUESTA CITIZENS DITCH ASSOCIATION
FLUME REPLACEMENT PROJECT
QUESTA, NEW MEXICO

Designed:	Drawn By:	Checked By:	
AMS	AMS	SFS	
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Special Provision 7 - Rock Riprap (cont)

5. Measurement and Payment

The quantity of riprap shall be measured in cubic yards (CY) based on the in-place volume within the neat lines shown on the drawings. Payment: Payment will be made at the contract unit price per cubic yard. Such payment shall constitute full compensation for all subgrade preparation, material hauling, and placement.

Special Provision 8 - Structural Steel and Metalwork

1. Description

This work shall consist of the fabrication, surface preparation, protective coating, and erection of structural steel and miscellaneous metalwork as shown on the drawings and specified herein. All work shall conform to the applicable codes and specifications, including the American Institute of Steel Construction (AISC) Specifications, the latest edition of AWS D1.1, and ASTM A-36.

2. Materials

2.1 Structural Steel:

- Hot Rolled Shapes: Must conform to ASTM A-36, A-572, or A-992, with minimum yield of 36 or 50 ksi, respectively.
- Pipe Sections: Must conform to ASTM A53, Grade B, with a minimum yield strength of 35 ksi.
- Cold-Formed Sections: Must conform to ASTM A-1011 or A-1039 Grade 55, or ASTM A-653 Grade 55, with minimum yield strength of 55 ksi.

2.2 Welding Electrodes: Manual shielding metal-arc welding electrodes shall conform to the E60 or E70 series of ASTM A233. Electrodes and granular flux for the submerged arc process shall conform to the provisions of AISC Section 1.173, or Part 5.

2.3 Fasteners:

- Standard Bolts: ASTM A307.
- High-Strength Bolts: ASTM A490 or A325, as designated on the plans.

2.4 Grout: Grout for base plates shall be Embeco (as manufactured by Master Builders Company) or an approved equal.

3. Protective Coatings

3.1 A. General: All steel framing shall receive one shop coat of primer.

3.2 Primer System: Steel shall be given a primer coat to provide a dry film thickness (DFT) of not less than 1.5 mils.

3.3 Field Touch-up: All field welds, bolts, nuts, abrasions, and scrapes shall be primed after erection to match the shop primer thickness.

3.4 Finish Coat: Following erection, all exposed steel shall receive a finish coat. The color and texture shall be a neutral earth tone (Sand, Buff, or approved equivalent), subject to final approval by the Civil Engineer.

4. Submittals

4.1 Shop Drawings: Shall indicate all structural steel layouts, member types, sizes, connection details, weld types, bolt specifications, and shop paint types.

4.2 Coordination: Contractor shall coordinate final column locations based on opening size and architectural requirements for finishes.

5. Fabrication And Erection

5.1 Responsibility: The subcontractor for fabrication holds full responsibility for errors of detailing, fabrication, and the correct fit of all members.

5.2. Splices: Splices not shown on the drawings are prohibited unless specifically approved in writing by the Structural Engineer.

5.3 Erection Standards: Erection shall be in accordance with AISC specifications and the AISC Code of Standard Practice.

5.4 Bolted Connections: Bolted field connections shall be standard framed beam connections, made in accordance with specifications for structural joints using ASTM A-490 or A-325 bolts.

5.5 Alignment and Stability: Maintain all steel in alignment. Install temporary guys and bracing to resist wind loading as designated in the applicable building code. The contractor is responsible for the stability of the frame until all structural elements are completed and the building is enclosed.

6. Quality Control and Inspection

6.1 Testing: The Owner shall engage an independent agency to inspect bolted and welded connections. If deemed necessary by the Structural Engineer, radiographic, ultrasonic, or magnetic particle testing of structural welds shall be performed.

6.2 Fabricator/Installer Qualifications: The fabricator/installer shall participate in the AISC Quality Certification Program and be a designated AISC-Certified Plant, Category STD.

In lieu of AISC certification, the fabricator/erector may employ the services of an approved independent qualified inspector. Inspector qualifications and special inspections shall conform to the requirements of the International Building Code (IBC) Chapter 17 and be in accordance with AWS D1.1.

7. Measurement And Payment

Measurement and payment shall be based on the completed and accepted work as detailed in the contract documents, covering all materials, labor, testing, and protective coatings required for a complete installation.



AGUA FRIA ENGINEERING LLC
Agua Fira Engineering LLC
3937 Agua Fria Steet
Santa Fe, NM 87507

CONSTRUCTION SPECIFICATIONS (CONT)

QUESTA CITIZENS DITCH ASSOCIATION
FLUME REPLACEMENT PROJECT
QUESTA, NEW MEXICO

Designed: AMS	Drawn By: AMS	Checked By: SFS	Sheet: SPEC 4
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