

MOUNTAIN VIEW, NEW MEXICO

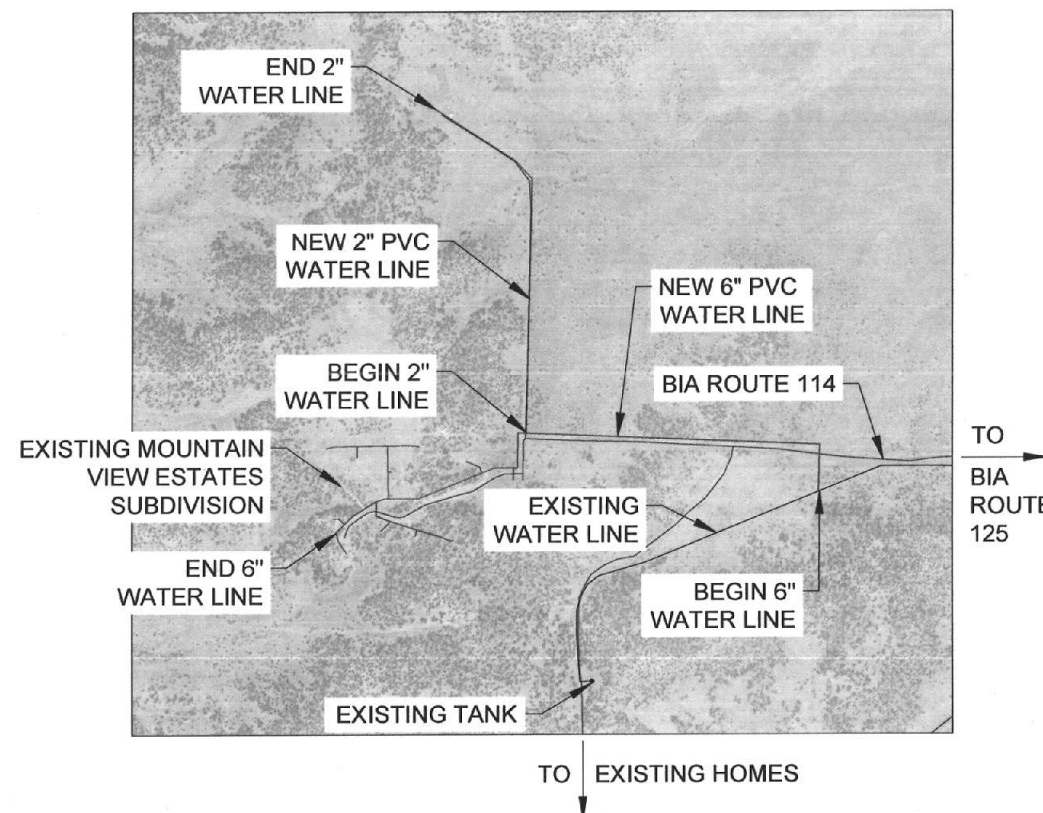


PROJECT DESCRIPTION

THE PROJECT CONSISTS OF CONSTRUCTION OF APPROXIMATELY 5,422 LF OF 6" AND 5,811 LF OF 2" INCH WATERLINE WITH ASSOCIATED APPURTENANCES, INCLUDING SERVICE LINES TO 11 EXISTING HOMES.

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PROJECT SITE MAP

GENERAL NOTES

GENERAL: SOUDER, MILLER AND ASSOCIATES (SMA) SHALL HEREINAFTER BE KNOWN AS THE ENGINEER. THERE WILL BE A RESIDENT PROJECT REPRESENTATIVE APPROVED BY THE RAMAH NAVAJO CHAPTER / NAVAJO NATION (HEREINAFTER KNOWN AS THE OWNER) TO ACT AS A CONTACT PERSON BETWEEN THE CONTRACTOR AND THE ENGINEER. ON BEHALF OF THE ENGINEER AND OWNER, THE RESIDENT PROJECT REPRESENTATIVE WILL OBSERVE CONSTRUCTION AND PROVIDE INFORMATION TO THE CONTRACTOR IN THE FIELD. THE ENGINEER WAIVES ANY AND ALL RESPONSIBILITY AND IS NOT LIABLE FOR PROBLEMS THAT MAY ARISE FROM THE CONTRACTOR'S FAILURE TO FOLLOW THESE DRAWINGS, SPECIFICATIONS, AND THE DESIGN INTENT THEY CONVEY, OR FOR PROBLEMS ARISING FROM FAILURE TO OBTAIN AND/OR FOLLOW THE ENGINEER'S GUIDANCE WITH RESPECT TO ANY ERRORS, OMISSIONS, INCONSISTENCIES, AMBIGUITIES, OR CONFLICTS.

ARCHAEOLOGICAL DISCOVERY: NO ARCHAEOLOGICAL SITES ARE TO BE EXCAVATED OR OTHERWISE DISTURBED. THE CONTRACTOR SHALL CONFINE ALL CONSTRUCTION-RELATED ACTIVITIES TO AREAS THAT HAVE RECEIVED PRIOR ARCHAEOLOGICAL CLEARANCE. IF A HIDDEN ARCHAEOLOGICAL SITE IS DISCOVERED WITHIN THE APPROVED CONSTRUCTION RIGHT-OF-WAY, THE CONTRACTOR SHALL IMMEDIATELY STOP WORK IN THAT AREA AND NOTIFY THE ENGINEER. THE CONTRACTOR SHOULD BE AWARE OF HIS/HER RESPONSIBILITIES UNDER THE HISTORIC PRESERVATION ACT OF 1966.

ENVIRONMENTAL REQUIREMENTS: CONTRACTOR SHALL COMPLY WITH ALL ENVIRONMENTAL REQUIREMENTS IMPOSED BY THE BUREAU OF INDIAN AFFAIRS, NAVAJO NATION AND ANY OTHER AGENCY WITH JURISDICTION OVER THE PROJECT AREA. ALL WORK NEAR LIVE STREAMS, WATER IMPOUNDMENTS, WETLANDS OR IRRIGATION SUPPLIES SHALL BE EFFECTED IN SUCH A MANNER AS TO MINIMIZE VEGETATION REMOVAL, SOIL DISTURBANCE AND EROSION. CROSSINGS OF LIVE STREAMS WITH HEAVY EQUIPMENT SHALL BE MINIMIZED, AS DETERMINED BY THE PROJECT MANAGER. EQUIPMENT REFUELING, MAINTENANCE AND CEMENT DUMPING NEAR WATER COURSES IS STRICTLY PROHIBITED AND SHALL BE PERFORMED IN PROPER CONTAINMENT AREAS.

UTILITIES: IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FAMILIARIZE HIMSELF WITH THE LOCATION OF ALL UTILITIES LOCATED WITHIN THE LIMITS OF CONSTRUCTION. THE GENERAL LOCATION OF KNOWN EXISTING UTILITIES HAS BEEN SHOWN ON THE CONSTRUCTION DRAWINGS TO INDICATE THAT CAUTION MUST BE EXERCISED WHEN WORKING IN THESE AREAS. THE EXACT LOCATION OF THE FACILITIES IS NOT KNOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING ALL OVERHEAD AND UNDERGROUND UTILITIES WITHIN THE VICINITY OF THE NEW CONSTRUCTION. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR, WORKING WITH THE RESPECTIVE UTILITY COMPANIES, SHALL ACCURATELY LOCATE AND MARK ALL BURIED FACILITIES, INCLUDING SERVICE LINES. ALL EQUIPMENT LABOR, ETC. NECESSARY TO PROPERLY LOCATE THE EXISTING UTILITIES SHALL BE FURNISHED BY THE CONTRACTOR, THE COST OF WHICH SHALL BE INCLUDED IN THE UNIT PRICES ON VARIOUS BID ITEMS. CONTRACTOR IS SOLELY RESPONSIBLE FOR UTILITY LOCATION, PROTECTION, AND VERIFICATION. CONTRACTOR MUST NOTIFY NEW MEXICO ONE CALL SYSTEM, INC. AT 811 OR 1-800-321-2537 AND ALL LOCAL UTILITY PROVIDERS THREE (3) DAYS BEFORE STARTING CONSTRUCTION.

EXISTING WATER SYSTEM: THROUGHOUT THE LIFE OF THE PROJECT, THE CONTRACTOR SHALL KEEP THE EXISTING UTILITY SYSTEMS OPERATING. THE CONTRACTOR SHALL REPORT SHUTOFFS OF ANY OR ALL CONNECTIONS TO THE OWNER AND ENGINEER AT LEAST TWENTY-FOUR (24) HOURS IN ADVANCE OF THE SHUT-OFFS. ALL RESIDENTS SHALL BE CONTACTED BEFORE ANY DISCONNECTION OF ANY SERVICE. ANY INTERRUPTION OF SERVICE SHALL BE KEPT TO THE MINIMUM LENGTH OF TIME POSSIBLE. THE EXISTING WATER SYSTEM IS TO REMAIN OPERATIONAL UNTIL THE NEW SYSTEM IS ACCEPTED BY THE OWNER & ANY DAMAGE TO THE EXISTING SYSTEM SHALL BE IMMEDIATELY REPAIRED BY CONTRACTOR.

ROCK EXCAVATION: THE CONTRACTOR WILL BE PAID FOR THE AMOUNT OF ROCK EXCAVATION ACTUALLY PERFORMED AT THE UNIT PRICE IN THE BID SCHEDULE. SINCE THERE MAY BE LARGE VARIATIONS IN THE QUANTITY OF ROCK EXCAVATION REQUIRED, CONTRACTOR IS HEREBY NOTIFIED THAT THERE WILL BE NO ADDITIONAL COMPENSATION FOR OVERHEAD RECOVERY OR OTHER COSTS INCURRED BY THE CONTRACTOR FOR OVERRUNS OR UNDERRUNS (NO MATTER HOW SIGNIFICANT) ON THE ROCK EXCAVATION QUANTITIES. THE CONTRACTOR SHALL COORDINATE CLOSELY WITH THE OWNER'S REPRESENTATIVE ON THE PROJECT FOR ALL ROCK EXCAVATION QUANTITIES, INCLUDING MAKING SURE THAT DEPTHS AND EXTENTS OF ROCK EXCAVATION ARE MEASURED AND AGREED UPON BEFORE ROCK EXCAVATION IS PERFORMED.

CONSTRUCTION LIMITS: CONTRACTOR SHALL CONFINE ALL CONSTRUCTION OPERATIONS TO THE LIMITS OF THE PROJECT RIGHT-OF-WAY/EASEMENTS DEFINED IN THESE DRAWINGS, AND IN NO WAY ENCROACH ONTO ADJACENT PROPERTIES, UNLESS LEGAL EASEMENTS ARE PROVIDED. CONTRACTOR SHALL BE HELD SOLELY RESPONSIBLE FOR ANY AGREEMENTS NEEDED, OR DAMAGE CAUSED BY CONSTRUCTION ACTIVITIES TO PUBLIC OR PRIVATE PROPERTY, INCLUDING UTILITIES.

REQUIREMENTS/STANDARDS: THE CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTING THE PROJECT ACCORDING TO CURRENT NEW MEXICO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (NMSSPWC) AWWA SPECS, AND NAVAJO NATION/ NTUA STANDARDS, INCLUDING WHERE PARTICULAR WORK ITEMS ARE NOT SPECIFIED HEREIN. CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS AS SET FORTH IN THE TECHNICAL SPECIFICATIONS AND CONTRACT DOCUMENTS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT THE ENGINEER REGARDING ANY QUESTION ARISING FROM ANY ASPECT OF THIS PROJECT NOT SPECIFICALLY COVERED IN THE PLANS AND TECHNICAL SPECIFICATIONS, OR ANY CHANGES OR CORRECTIONS TO THE PLANS AND SPECS.

SAFETY: THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPORTING AND CLEANUP OF SPILLS ASSOCIATED WITH PROJECT CONSTRUCTION AND SHALL REPORT AND RESPOND TO SPILLS OF HAZARDOUS MATERIALS SUCH AS GASOLINE, DIESEL, MOTOR OILS, SOLVENTS, CHEMICALS, TOXIC AND CORROSIVE SUBSTANCES, AND OTHER MATERIALS WHICH MAY BE A THREAT TO PUBLIC HEALTH OR THE ENVIRONMENT. REPORTS SHALL BE MADE IMMEDIATELY TO THE NEW MEXICO ENVIRONMENT DEPARTMENT EMERGENCY RESPONSE TEAM AT (505) 827-9329 OR (505) 476-6025, THE NATIONAL RESPONSE TEAM AT 1-800-424-8802, NAVAJO NATION EPA AT (928) 871-7701, AND TO THE ENGINEER.

THE CONTRACTOR IS SOLELY RESPONSIBLE FOR JOB SITE SAFETY, AND FOR KNOWLEDGE AND COMPLIANCE WITH APPLICABLE O.S.H.A. STANDARDS. THE CONTRACTOR SHALL MAINTAIN ALL TRENCHES IN A SAFE CONDITION PROTECTING THE WORKERS AND THE GENERAL PUBLIC. TRENCH PROTECTION SHALL BE IN ACCORDANCE WITH APPLICABLE O.S.H.A. REGULATIONS. EXCAVATIONS SHALL BE SLOPED, BRACED, OR SHORED AS REQUIRED BY O.S.H.A. REGULATIONS. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE SAFE HANDLING OF CONSTRUCTION EQUIPMENT AND MATERIALS TO AND FROM THE STAGING/STORAGE AREA AND FOR SITE SECURITY. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONSTRUCTION AND NO ADDITIONAL COMPENSATION SHALL BE MADE THEREFOR.

THE CONTRACTOR SHALL NOT STORE EQUIPMENT OR MATERIAL WITHIN 30' FROM THE EDGE OF THE DRIVING LANE UNLESS THE EQUIPMENT OR MATERIAL IS PROPERLY SHIELDED UTILIZING CURRENT SAFETY DESIGN AND INSTALLATION METHODS. THE SAFETY DESIGN FOR SHIELDING SHALL BE PROVIDED BY THE CONTRACTOR AND MUST BE APPROVED BY THE ENGINEER BEFORE IMPLEMENTING. THIS WORK, INCLUDING DESIGN, SHALL BE CONSIDERED INCIDENTAL TO THE COMPLETION OF THE PROJECT AND NO SEPARATE MEASUREMENT OR PAYMENT WILL BE MADE THEREFOR. DURING CONSTRUCTION, ALL ACCESS ROADS SHALL BE SERVICEABLE AND MAINTAINED FOR FIRE PROTECTION AND EMERGENCY VEHICLE ACCESS.

PERMITS: CONTRACTOR IS SOLELY RESPONSIBLE FOR OBTAINING ANY PERMITS WHICH HAVE NOT ALREADY BEEN OBTAINED BY THE OWNER OR ENGINEER. ANY FINES ASSOCIATED WITH NOT OBTAINING NECESSARY PERMITS ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH THE TERMS OF ALL PERMITS RELATED TO CONSTRUCTION. COST OF COMPLIANCE WITH THESE PERMITS SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION, AND NO ADDITIONAL PAYMENT SHALL BE MADE THEREFOR.

SITE ACCESS AND PROTECTION: THE CONTRACTOR IS RESPONSIBLE FOR SECURING A LOCATION FOR THE STAGING AND STORAGE OF EQUIPMENT AND SUPPLIES. THE OWNER SHALL NOT BE RESPONSIBLE FOR THE THEFT, LOSS, OR DAMAGE OF ANY CONTRACTOR EQUIPMENT OR SUPPLIES. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE PROTECTION OF MATERIALS AND EQUIPMENT PRIOR TO AND AFTER THEIR INSTALLATION AS APPLICABLE, UNTIL THE PROJECT'S FINAL ACCEPTANCE BY THE OWNER.

TRAFFIC CONTROL: CONTRACTOR SHALL PROVIDE ALL TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH NMDOT, BIA NRO-DOT AND COUNTY ROAD DEPARTMENT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND ANY APPLICABLE SPECIAL PROVISION AND/OR SUPPLEMENTAL SPECIFICATION, AS WELL AS THE MOST CURRENT EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, UNLESS OTHERWISE SPECIFIED HEREIN. AS PART OF THE TRAFFIC CONTROL PLAN AND TRAFFIC CONTROL MANAGEMENT, THE CONTRACTOR SHALL HAVE PERSONNEL AVAILABLE 24 HOURS PER DAY, 7 DAYS PER WEEK, TO INSPECT AND MAINTAIN DETOURS AND TRAFFIC CONTROL DEVICES.

REMOVALS: THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REMOVALS REQUIRED BY THE PLANS WHETHER SPECIFICALLY LISTED OR NOT TO COMPLETE THE PROJECT. THIS WORK WILL BE CONSIDERED INCIDENTAL TO CONSTRUCTION AND THE CONTRACTOR WILL NOT RECEIVE ADDITIONAL COMPENSATION FOR UNLISTED REMOVALS. OBSTRUCTIONS REMOVED FROM THE WORK AREAS SHALL BE DISPOSED OF BY THE CONTRACTOR. DISPOSAL OF USABLE MATERIALS (E.G., EXCESS DIRT, GRAVEL, ETC.) SHALL BE AT A SITE DESIGNATED BY THE OWNER DURING CONSTRUCTION. ALL OTHER WASTE SHALL BE DISPOSED OF AT AN APPROVED LANDFILL. ALL DISPOSAL SITES MUST BE APPROVED BY THE ENGINEER AND OWNER PRIOR TO DISPOSAL OF ANY WASTE.

SALVAGE ITEMS: THE CONTRACTOR SHALL SALVAGE ANY OBSTRUCTIONS NOTED ON THE CONTRACT DRAWINGS AS WELL AS

REUSABLE ITEMS FOUND DURING CONSTRUCTION. SUCH ITEMS, IF ANY, SHALL BE DELIVERED TO THE PROPERTY OWNER AS DIRECTED BY THE ENGINEER AND/OR OWNER DURING CONSTRUCTION.

WATER SOURCE: THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A WATER SOURCE FOR CONSTRUCTION UNLESS OTHERWISE PROVIDED. NO DIRECT PAYMENT WILL BE MADE FOR WATER. ALL PERMITS, FEES, EQUIPMENT, HAUL, ETC. RELATIVE TO OBTAINING WATER SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS BID ITEMS.

SURVEY: CONTRACTOR WILL BE RESPONSIBLE FOR CONSTRUCTION STAKING NECESSARY TO CONSTRUCT THE PROJECT. THE ENGINEER WILL SUPPLY CONTRACTOR WITH INFORMATION RELATED TO PROJECT COORDINATES AND CONTROL. THE CONSTRUCTION STAKING SHALL BE COMPLETED UNDER THE SUPERVISION OF A LICENSED SURVEYOR. THE CONSTRUCTION SURVEYOR SHALL VERIFY THE PROJECT CONTROL, THE EXISTING AND PROPOSED GRADES, EXISTING AND PROPOSED BUILDING FOOTPRINTS, SETBACKS AND TOPOGRAPHY PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL TAKE ANY NECESSARY MEASURES TO PROTECT HORIZONTAL AND VERTICAL CONTROL SURVEY MONUMENTS FROM DAMAGE DURING CONSTRUCTION. IF DURING EXECUTION OF THE PROJECT, THE CONTRACTOR'S ACTIVITIES DISTURB OR DESTROY SUCH MONUMENTS, THE CONTRACTOR SHALL RE-ESTABLISH THEM IN ACCORDANCE WITH ESTABLISHED STANDARDS AND PROCEDURES.

CLEAN WORK AREA: CONTRACTOR SHALL PROTECT AND MAINTAIN ALL EXISTING STRUCTURES FREE OF DUST AND/OR CONSTRUCTION DEBRIS AT ALL TIMES DURING THE EXECUTION OF THE PROJECT. ALL EXISTING AND NEW STRUCTURES SHALL BE CLEANED PRIOR TO FINAL ACCEPTANCE OF THE PROJECT. ALL COSTS RELATED TO THIS ITEM SHALL BE INCIDENTAL TO THE WORK AND NO EXTRA PAYMENT SHALL BE MADE TO THE CONTRACTOR.

REPAIR DAMAGE: CONTRACTOR SHALL REPAIR ANY EXISTING STRUCTURE OR UTILITY DAMAGED DURING THE EXECUTION OF THE PROJECT, AT NO ADDITIONAL COSTS TO THE OWNER.

EROSION CONTROL: CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR EROSION CONTROL INCIDENTAL TO THE CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL PROVIDE A STORM WATER POLLUTION PREVENTION PLAN (SWPPP), IF REQUIRED. THIS SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT REQUIREMENT FOR ALL CONSTRUCTION ACTIVITIES.

PLAN CHANGES, AS BUILT, RECORD DRAWINGS: THE CONTRACTOR SHALL MAINTAIN AN UP TO DATE SET OF AS-BUILT PLANS FOR THE PROJECT. THESE PLANS SHALL BE KEPT CURRENT, WITHIN TWO WEEKS, AT ALL TIMES. THESE PLANS SHALL BE SUBJECT TO REVIEW BY THE ENGINEER THROUGHOUT THE PROJECT AND WILL BE REVIEWED BY THE ENGINEER FOR ACCURACY AND COMPLETENESS AT LEAST ONCE EVERY 30 DAYS. PAYMENT MAY BE WITHHELD UNTIL AS BUILT PLANS ARE CURRENT. THE CONTRACTOR SHALL PHOTOGRAPH THE CONSTRUCTION AND AREA OF DISTURBANCE DAILY. THESE PHOTOS, A LOG OF THE DAILY PHOTOS AND TWO (2) SETS OF THE FINAL AS-BUILT PLANS SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO FINAL PAYMENT.

MATERIAL CERTIFICATIONS: CONTRACTOR SHALL SUBMIT ASTM OR AASHTO CERTIFICATES OF MATERIAL'S COMPLIANCE TO THE PROJECT REPRESENTATIVE, NO LESS THAN 5 DAYS PRIOR TO INITIATING ANY WORK INVOLVING SUCH MATERIALS.

CHANGE IN PLACEMENT OR DEPTH: ANY EXCEPTIONS TO PLACEMENT OR DEPTH OF MATERIALS AND EQUIPMENT MUST BE AUTHORIZED BY THE ENGINEER IN WRITING.

TESTING: TESTING SHALL BE PERFORMED BY THE CONTRACTOR AS PER CONTRACT DOCUMENTS.

DISINFECTION: ALL WATERLINES AND MATERIALS SHALL BE DISINFECTED PRIOR TO PLACING IN SERVICE AS PER CONTRACT DOCUMENTS.

OVER-EX AND FILL: OVER-EXCAVATION OF TRENCHES SHALL NOT BE PERFORMED UNLESS IT IS DETERMINED TO THE SATISFACTION OF THE ENGINEER THAT THE SUBSOIL IS NOT SUITABLE FOR PIPE BEDDING AND MUST BE REPLACED WITH IMPORTED FILL. OVER-EXCAVATION PERFORMED UNNECESSARILY BY THE CONTRACTOR SHALL BE REMEDIED WITH CLASSIFIED FILL AND COMPACTION AS REQUIRED BY THE SPECIFICATIONS. NO ADDITIONAL PAYMENT SHALL BE MADE FOR IMPORTED FILL UNDER ANY CIRCUMSTANCES.

SLOPES: ALL FINISHED SLOPES (BOTH SIDE-SLOPES AND ALONG THE CENTERLINE) SHALL BE 3:1 OR SHALLOWER.

PADDING/BACK FILL MATERIAL: IMPORTED PADDING AND BACK FILL MATERIAL, IF REQUIRED, SHALL BE OBTAINED BY THE CONTRACTOR AT HIS EXPENSE. SEPARATE PAYMENT WILL NOT BE MADE FOR PADDING AND BACK FILL MATERIAL OR HAUL. ALL PADDING AND BACK FILL MATERIAL OR HAUL SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS WORK ITEMS. THE CONTRACTOR SHALL SECURE A SUITABLE PADDING AND BACK FILL MATERIAL PIT IF MATERIAL IS REQUIRED TO COMPLETE THE PROJECT.

DENSITY TESTS: BACK FILL DENSITY TESTS SHALL BE PERFORMED AS PER SPECIFICATIONS. MINIMUM REQUIREMENTS ARE HORIZONTALLY FOR EACH 400 LINEAR FEET OF PIPELINE, OR ANY STRUCTURE THAT REQUIRES COMPACTED FOUNDATION OR CONTROLLED BACK FILL. ADDITIONAL COMPACTION TESTS SHALL ALSO BE TAKEN EVERY 3 VERTICAL FEET OF BACK FILL.

DISTURBED AREAS: ALL AREAS DISTURBED BY THE CONSTRUCTION ACTIVITIES OF THIS PROJECT SHALL BE RESTORED AND RE-GRADED IN A MANNER ACCEPTABLE TO THE OWNER AND ENGINEER. AREAS REQUIRING RESEEDING SHALL BE RESEEDED PER THE NAVAJO NATION DEPARTMENT OF AGRICULTURE REQUIREMENTS.

WARRANTEE: CONTRACTOR SHALL WARRANTEE ALL MATERIALS AND LABOR FOR A PERIOD OF NOT LESS THAN 12 MONTHS FROM THE DATE OF FINAL INSPECTION AND ACCEPTANCE OF THE PROJECT.

PERMISSION TO TAP: CONTRACTOR SHALL SUBMIT PERMISSION TO TAP APPLICATION TO THE UTILITY OPERATOR, RAMAH NAVAJO UTILITY AUTHORITY (RNAU), AT LEAST THREE (3) WEEKS PRIOR TO TAPPING ANY EXISTING RNAU WATERLINE.

ARVS AT HIGH POINTS: INSTALL COMBINATION AIR RELEASE VALVE ASSEMBLIES AT HIGH POINTS. ADJUST STATIONING OF AIR VALVES FROM THOSE SHOWN ON PLANS, IF NEEDED, TO ENSURE AIR VALVES ARE AT HIGH POINTS AND INDICATE ANY ADJUSTED LOCATIONS ON AS-BUILT DRAWINGS. CONTRACTOR SHALL NOT INSTALL THE PIPE WITH ANY HIGH SPOTS WITHOUT AN APPROVED AIR VALVE.

BENDS: HORIZONTAL AND VERTICAL BENDS SHALL UTILIZE FITTINGS AS SHOWN IN THE PLANS. JOINT DEFLECTIONS SHALL NOT EXCEED ONE DEGREE. MINIMUM COVER SHOWN IN PLANS MUST BE MAINTAINED.

CONFLICT WITH PLANS/SPECS: IF THERE IS A CONFLICT BETWEEN PLANS/SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS FOR ANY DEVICE, PART, OR MATERIAL USED IN THE PROJECT, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY IN WRITING THE ENGINEER FOR CLARIFICATION.

DRAWING SCALES: ALL SCALES ARE BASED ON 11" x 17" SHEET SIZE.

CONTACT INFORMATION:
NAVAJO NATION WATER MANAGEMENT BRANCH (OWNER): JASON JOHN (928) 729-4004

RAMAH NAVAJO CHAPTER (OWNER): SAMANTHA WHITETAIL EAGLE (505) 775-7105

RAMAH NAVAJO UTILITY AUTHORITY (OPERATOR): ELMER YAZZIE (505) 775-7162

SOUDER, MILLER & ASSOCIATES (ENGINEER): GEORGE MIHALIK, P.E. (505) 299-0942 / (505) 507-1306

CENTURYLINK (TELEPHONE): DANNY STOKES (505) 782-5464

CONTINENTAL DIVIDE (ELECTRIC): JOSE MOLINA (505) 285-6656

ABBREVIATIONS

AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
AC	ACRE
ACS	ACRES
ALUM	ALUMINUM
ARV	AIR RELEASE VALVE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AWG	AMERICAN WIRE GAUGE
AWWA	AMERICAN WATER WORKS ASSOCIATION
BIA	BUREAU OF INDIAN AFFAIRS
BLM	BUREAU OF LAND MANAGEMENT
C or CL	CENTERLINE
CFS	CUBIC FEET PER SECOND
CI	CAST IRON
CLR	CLEAR
CO	CLEAN OUT
COMM	COMMUNICATION
CONC	CONCRETE
CONT	CONTINUOUS
COUP	COUPLING
CP	CONTROL POINT
CU	CUBIC
DI	DUCTILE IRON
DIA	DIAMETER
DT	DETAIL
E	EASTING
EACH	EACH
E.G.	EXISTING GROUND
ELEC	ELECTRICAL
ELEV	ELEVATION
ESMT	EASEMENT
EX	EXISTING
FIG	FIGURE
FD	FOUND
FL	FLANGE
FNPT	FEMALE NATIONAL PIPE THREAD
FND	FEET
GA	GAUGE
G.I.	GALVANIZED
GPM	GALLONS PER MINUTE
GV	GATE VALVE
HDPE	HIGH DENSITY POLYETHYLENE
GALV.	HORIZONTAL
HWY	HIGHWAY
I.D.	INNER DIAMETER
IN	INCH
L	LENGTH
LEN	LENGTH
LF	LINEAR FEET
LT	LEFT
MAX	MAXIMUM
MIL	ONE THOUSANDTHS OF AN INCH
MIN	MINIMUM
M.J.	MECHANICAL JOINT
MNPT	MALE NATIONAL PIPE THREAD
N	NORTHING
N	NORTH
NG	NATURAL GAS
NM	NEW MEXICO
NMDOT	NEW MEXICO DEPARTMENT OF TRANSPORTATION
NMED	NEW MEXICO ENVIRONMENT DEPARTMENT
NO	NUMBER
NTS	NOT TO SCALE
OAE	OR APPROVED EQUAL
O.C.E.W	OFF CENTER, EACH WAY
O.D.	OUTER DIAMETER
OHE	OVERHEAD ELECTRICAL
PE	POLYETHYLENE
PI	POINT INFLECTION
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PVC	POLY VINYL CHLORIDE
Q	FLOW
R	RADIUS
RNAU	RAMAH NAVAJO UTILITY AUTHORITY
ROW	RIGHT OF WAY
RT	RIGHT
SCH.	SCHEDULE
SDR	STANDARD DIMENSION RATIO
SPECS	SPECIFICATIONS
SS	STAINLESS STEEL
STA	STATION
STD.	STANDARD
T	TOWNSHIP
TBD	TO BE DETERMINED
TELE	TELEPHONE
TP	TOP OF PIPE
TYP.	TYPICAL
UGE	UNDERGROUND ELECTRIC
UGT	UNDERGROUND TELEPHONE
USGS	UNITED STATES GEOLOGICAL SURVEY
V	VOLUME
VERT.	VERTICAL
VL	VERTICAL LINEAR FOOT
W	WATER
W/	WITH
WL	WATERLINE
WW	WATER VALVE

LEGEND - EXISTING

	EXISTING WATER VALVE
	EXISTING TELEPHONE PEDESTAL
	EXISTING STORM DRAIN CULVERT
	EXISTING DRAINAGE WASH
	EXISTING TREE
	EXISTING HOUSE
	EXISTING CATTLE GUARD
	EXISTING ROAD
	EXISTING CONTOUR MAJOR
	EXISTING CONTOUR MINOR
	CURRENT LAND STATUS (OWNER)
	SECTION LINE
	PROPERTY LINE
	SECTION CORNER
	SECTION NUMBER
	EXISTING FENCE
	EXISTING OVER-HEAD ELECTRICAL
	EXISTING POWER POLE
	EXISTING UNDERGROUND TELEPHONE
	EXISTING WATER LINE
	SURVEY CONTROL POINT
	CULTURALLY / BIOLOGICALLY SENSITIVE AREA, DO NOT ENCR OACH

LEGEND - PROPOSED

	NEW WATER LINE
	NEW WATER METER
	NEW GATE VALVE (PLAN VIEW)
	NEW GATE VALVE (PROFILE VIEW)
	NEW REDUCER
	NEW CURB STOP (PLAN VIEW)
	NEW CURB STOP (PROFILE VIEW)
	NEW CORP STOP (PLAN VIEW)
	NEW CORP STOP (PROFILE VIEW)
	NEW AIR RELEASE VALVE
	NEW FLUSH HYDRANT
	PIPE CASING
	40' WATERLINE ROW EASEMENT
	MATCH LINE
	DIRECTION OF FLOW

By

CHKD

Description

Rev #

Date

811

Know what's below.
Call before you dig.

GEORGE M. MIHALIK

1813A

Professional Engineer

THIS DRAWING IS INCOMPLETE AND NOT TO BE USED FOR CONSTRUCTION UNLESS IT IS STAMPED, SIGNED AND DATED

Designed

Drawn

Checked

GMM

AAV

TTT

Date:

January 2017

Scale:

Horiz: N/A

Vert: N/A

Project No:

6923836

Sheet:

G-2

RAMAH NAVAJO CHAPTER / NAVAJO NATION

MOUNTAIN VIEW, NM

GENERAL NOTES AND LEGEND

MOUNTAIN VIEW ESTATES

WATER SYSTEM EXTENSION

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Engineering • Environmental • Surveying

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P:\6-Ramah Mountain View Estates waterline (6923836)\CAD\CONSTRUCTION PLANS\Ramah MVE Cover-Gen Notes.dwg, 1/10/2017 2:48:19 PM AAV

CIBOLA COUNTY, NEW MEXICO
TOWNSHIP 9 NORTH, RANGE 15 WEST

Indian
Allotment
37969

Indian
Allotment
37968

Navajo
Tribal
Fee

SECTION
20

SECTION
21

Point Table				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
101	1451232.97	2542964.98	7243.09	#4 REBAR W/CAP "SMA CONTROL"
200	1451677.87	2542990.61	7225.92	FOUND BRASS CAP S20S21S28S29 BLM 1978
201	1451568.66	2545636.59	7180.10	FOUND BRASS CAP S21S28 BLM 1978
213	1454326.74	2543046.02	7183.80	FOUND BRASS CAP S20S21 BLM 1978 T9NR15W

MODIFIED US STATE PLANE 1983
NEW MEXICO WEST ZONE 3003
ALL DISTANCES ARE GROUND
GRID TO GROUND SCALE FACTOR: 1.0003841413
SCALED FROM N=1451232.97 E=2542964.98

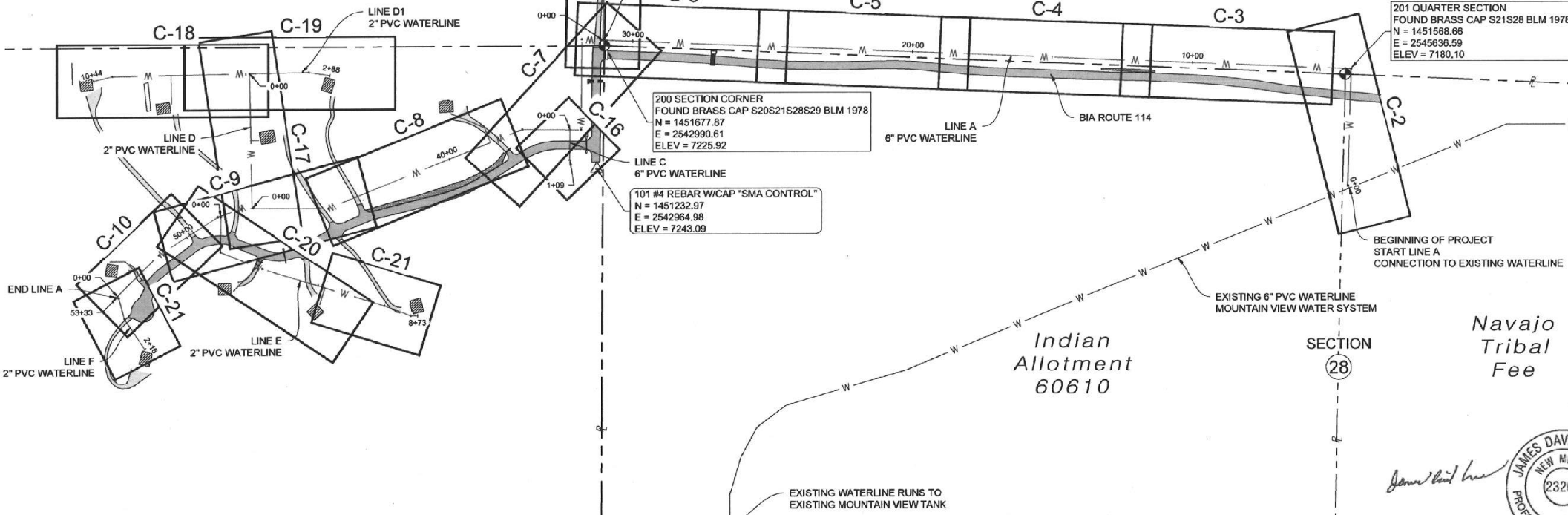
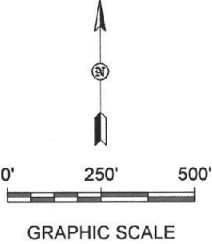
Indian
Allotment
37966

Navajo
Tribal
Trust

Navajo
Tribal
Fee

LEGEND - PROJECT SITE		
— W —	PROPOSED WATERLINE	Tribal Trust
— W —	EXISTING WATERLINE	29 SECTION NUMBER
- - -	SECTION LINE	SECTION / QUARTER CORNER
- - -	QUARTER SECTION LINE	SMA CONTROL POINT
▬	DIRT ROAD	PROPERTY LINE
▬	PAVED ROAD	EXISTING HOUSE

TYPE PIPE	O.D. (IN)	I.D. (IN)	DR	PRESSURE RATRIG
1 INCH PE	1.367	1.049	7	200
2 INCH PVC	2.375	2.135	21	200
6 INCH PVC C900	6.900	6.090	18	235



CIBOLA COUNTY, NEW MEXICO SECTIONS 21 & 28, TOWNSHIP 9 NORTH, RANGE 15 WEST

Indian
Allotment
60610

BEGIN LINE A
TIE INTO EXISTING WATERLINE
WITH 6" MJ TEE, DI AND
RESTRAINED COUPLING
PI STA 0+00.00
N=1451158.96, E=2545651.71
APPROXIMATE LOCATION
CONTRACTOR TO FIELD VERIFY

INSTALL 6" GATE VALVE
3FT. FROM TEE ON
EXISTING WATERLINE
(SEE DETAIL, DT-2)

APPROX. STA 0+03.00
PLACE 3 FT. FROM
EXISTING WATERLINE
6" GATE VALVE
(SEE DETAIL, DT-2)

EXISTING 6" WATERLINE
MOUNTAIN VIEW WATER SYSTEM

Navajo
Tribal
Fee

APPROXIMATELY
20' OFFSET FROM
FENCE / SECTION

LINE A
6" PVC WATERLINE

STA 1+50.27
VERTICAL BEND
N=1451306.43
E=2545651.49

STA 1+84.87
WASH CROSSING

STA 2+06.13
VERTICAL BEND
N=1451362.27
E=2545652.92

STA 1+87.52
VERTICAL BEND
N=1451323.67
E=2545651.93

STA 2+13.15
VERTICAL BEND
N=1451388.29
E=2545653.10

STA 2+85.39
6" GATE VALVE
(SEE DETAIL, DT-2)
N=1451441.50
E=2545654.96

STA 2+90.39
FENCE CROSSING
N=1451446.50
E=2545655.08

120' PAVED ROAD CROSSING
(BORE & CASE)
STA 2+91 TO STA: 4+11
12"Ø, 0.25" WALL STEEL CASING
W/ SPACERS (SEE SHEET DT-5)

MATCHLINE STA
SEE SHT. C-3

BIA ROUTE 114
(PAVED)

U.S. GENERAL LAND OFFICE SURVEY
1/4 S28 S21
1978

201 QUARTER SECTION
FD BC S21S28 BLM 1978
N=1451568.06
E=2545636.59
ELEV=7180.10

PI STA 4+31.70
6" MJ TEE, DI
N=1451587.76
E=2545658.70

STA 4+11.43
FENCE CROSSING
N=1451567.51
E=2545658.19

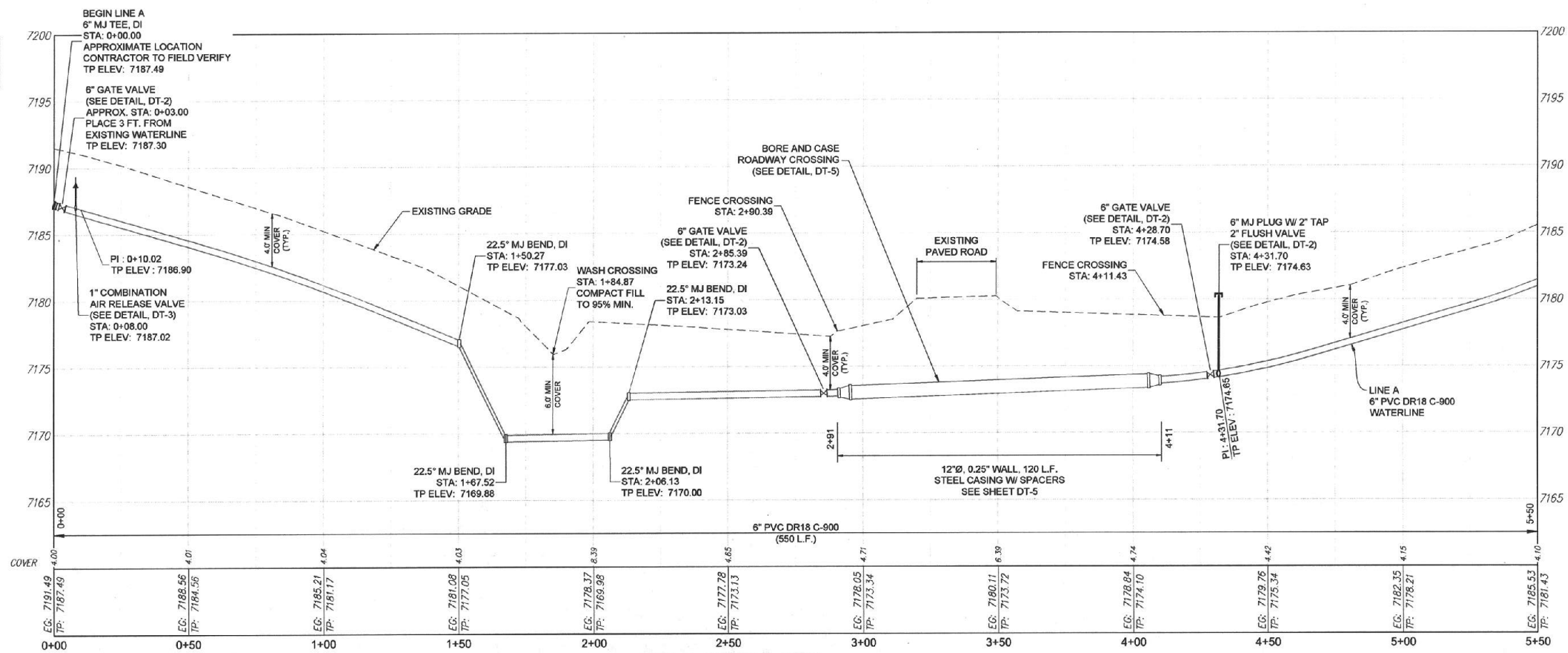
STA 4+28.70
6" GATE VALVE
(SEE DETAIL, DT-2)
N=1451584.77
E=2545658.63

STA 4+31.70
6" MJ PLUG W/ 2" TAP
2" FLUSH VALVE
(SEE DETAIL SHT DT-2)
N=1451587.76
E=2545658.70

Navajo
Tribal
Fee

LINE A PLAN VIEW
6" WATERLINE

NOTE: CONTRACTOR RESPONSIBLE TO
DETERMINE EXACT LOCATION, DEPTH
AND SIZE OF ALL BURIED UTILITY LINES.



LINE A PROFILE VIEW
6" WATERLINE

Souder, Miller & Associates
Engineering • Environmental • Surveying
Albuquerque, NM 87107 3451
Candelaria Road NE, Suite D
Phone (505) 290-0942 Toll-free (877) 250-0942 Fax (505) 293-3450

RAMAH NAVAJO CHAPTER / NAVAJO NATION MOUNTAIN VIEW, NM
LINE A PLAN AND PROFILE
STA 0+00 TO STA 5+50
MOUNTAIN VIEW ESTATES
WATER SYSTEM EXTENSION



THIS DRAWING IS INCOMPLETE
AND NOT TO BE USED FOR
CONSTRUCTION UNLESS IT IS
STAMPED, SIGNED AND DATED
Designed GMM Draw AAV Checked TTT
Date: January 2017
Scale: Horiz: 1" = 50'
Vert: 1" = 10'
Project No: 6923836
Sheet: C-2

CIBOLA COUNTY, NEW MEXICO
SECTION 21, TOWNSHIP 9 NORTH, RANGE 15 WEST

Indian Allotment 60610

BIA ROUTE 114

Indian Allotment 60610

Matchline STA. 12+00 SEE SHT. C-4

STA 5+50.00
 N=1451562.64
 E=2545540.50

APPROXIMATELY 20.0' OFFSET FROM FENCE / SECTION

40' R.O.W.

LINE A
 6" PVC WATERLINE

APPROXIMATELY 20.0' OFFSET FROM FENCE / SECTION

STA 12+00.00
 N=1451619.45
 E=2544891.06

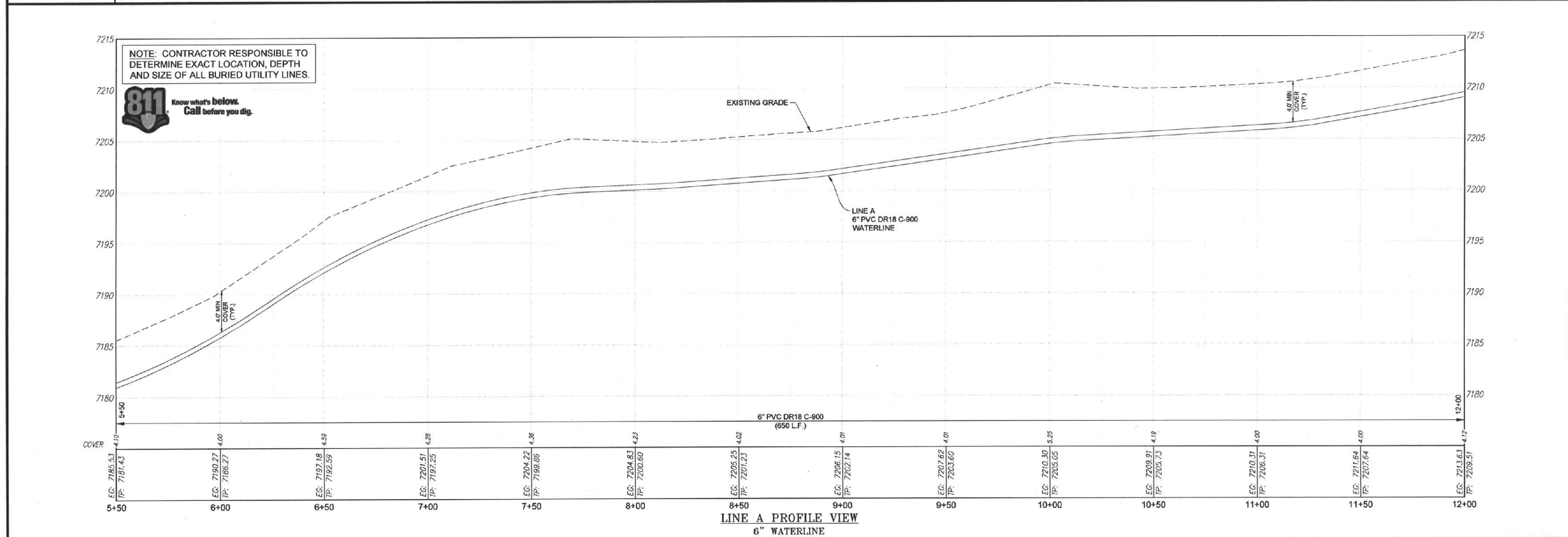
Navajo Tribal Fee

Navajo Tribal Fee

Matchline STA. 6+50 SEE SHT. C-2

GRAPHIC SCALE
 0' 20' 50'

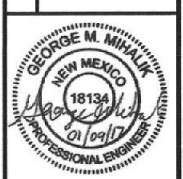
LINE A PLAN VIEW
6" WATERLINE



SMA
Souders, Miller & Associates
Engineering • Environmental • Surveying
Albuquerque, NM 87107 345-1
Candelaria Road NE, Suite D
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RAMAH NAVAJO CHAPTER / NAVAJO NATION MOUNTAIN VIEW, NM

LINE A PLAN AND PROFILE
STA 5+50 TO STA 12+00
MOUNTAIN VIEW ESTATES
WATER SYSTEM EXTENSION



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Designed GMM	Drawn AAV	Checked TTT
Date: January 2017		
Scale: Horiz: 1" = 50' Vert: 1" = 10'		
Project No: 6923836		
Sheet: C-3		

CIBOLA COUNTY, NEW MEXICO
SECTION 21, TOWNSHIP 9 NORTH, RANGE 15 WEST

Indian Allotment 60610

BIA ROUTE 114

Indian Allotment 60610

STA 18+50.00
N=1451646.25
E=2544241.61

APPROXIMATELY 20.0' OFFSET FROM FENCE / SECTION

40' R.O.W.

LINE A
6" PVC WATERLINE

APPROXIMATELY 20.0' OFFSET FROM FENCE / SECTION

STA 25+00.00
N=1451673.06
E=2543592.16

Navajo Tribal Fee

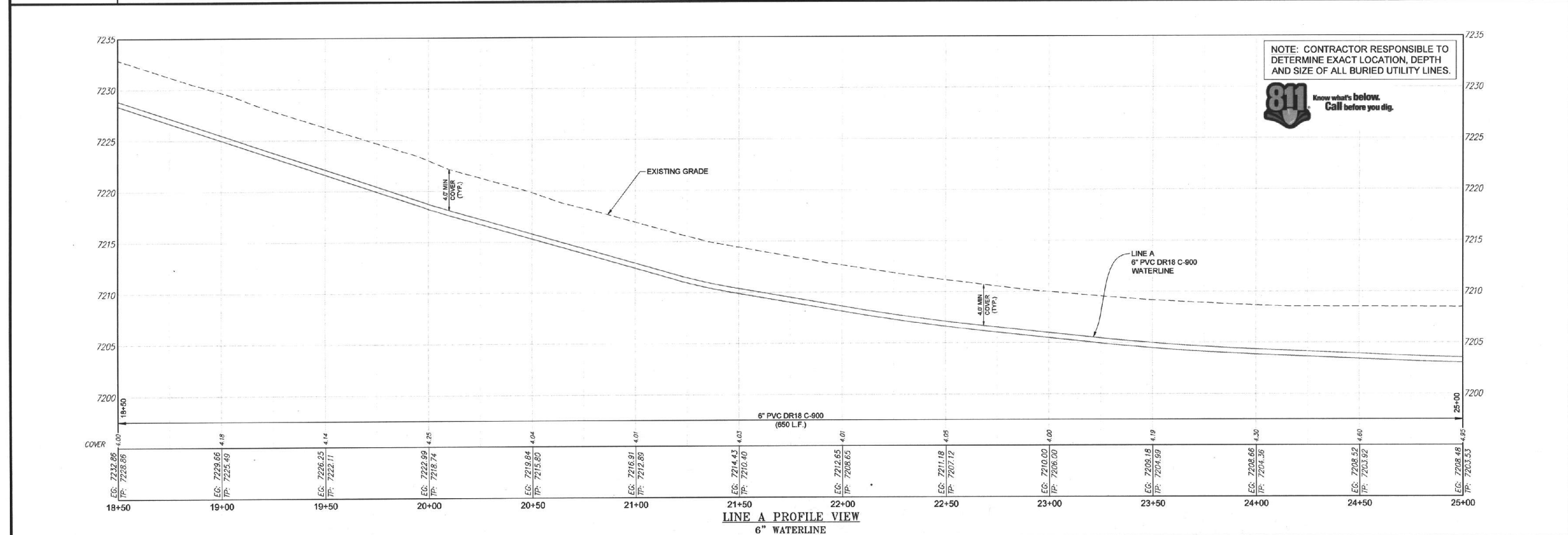
Navajo Tribal Fee

0' 20' 50'
GRAPHIC SCALE

LINE A PLAN VIEW
6" WATERLINE

MATCHLINE STA 18+50
SEE SHT. C-4

MATCHLINE STA 25+00
SEE SHT. C-6



P:\6-Ramah Mountain View Estates waterline (6923836)\CAD\CONSTRUCTION PLANS\VFG - Ramah MVE Alignment A - (13).dwg, 1/10/2017 10:32:53 AM AAV



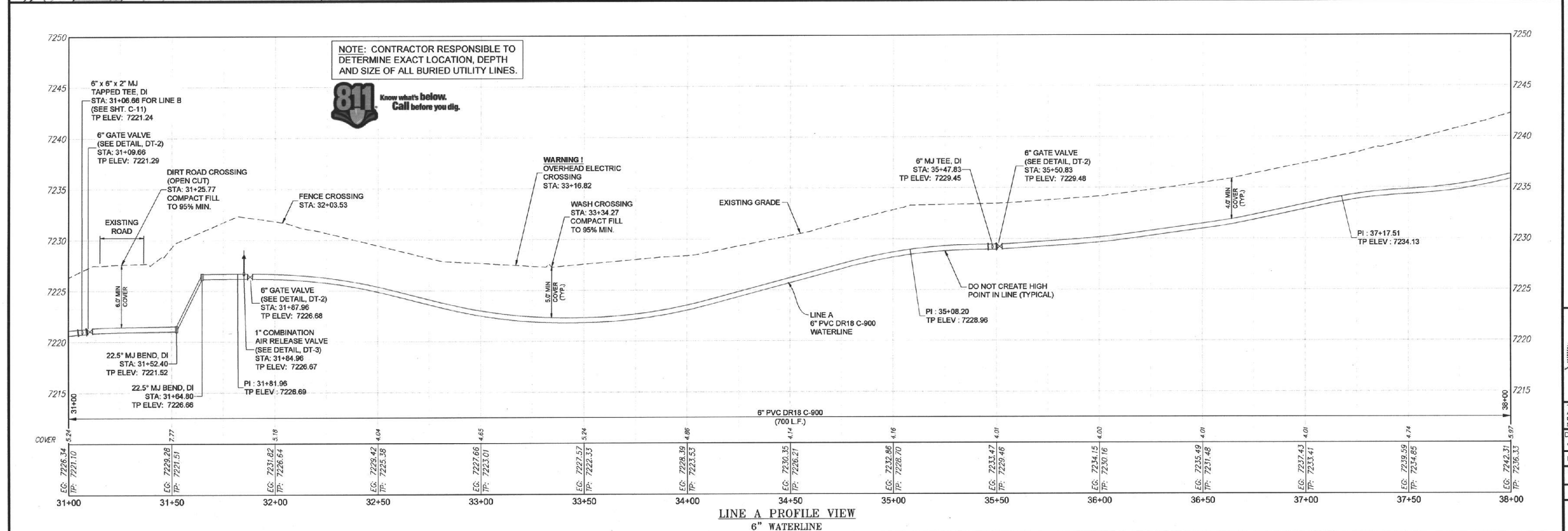
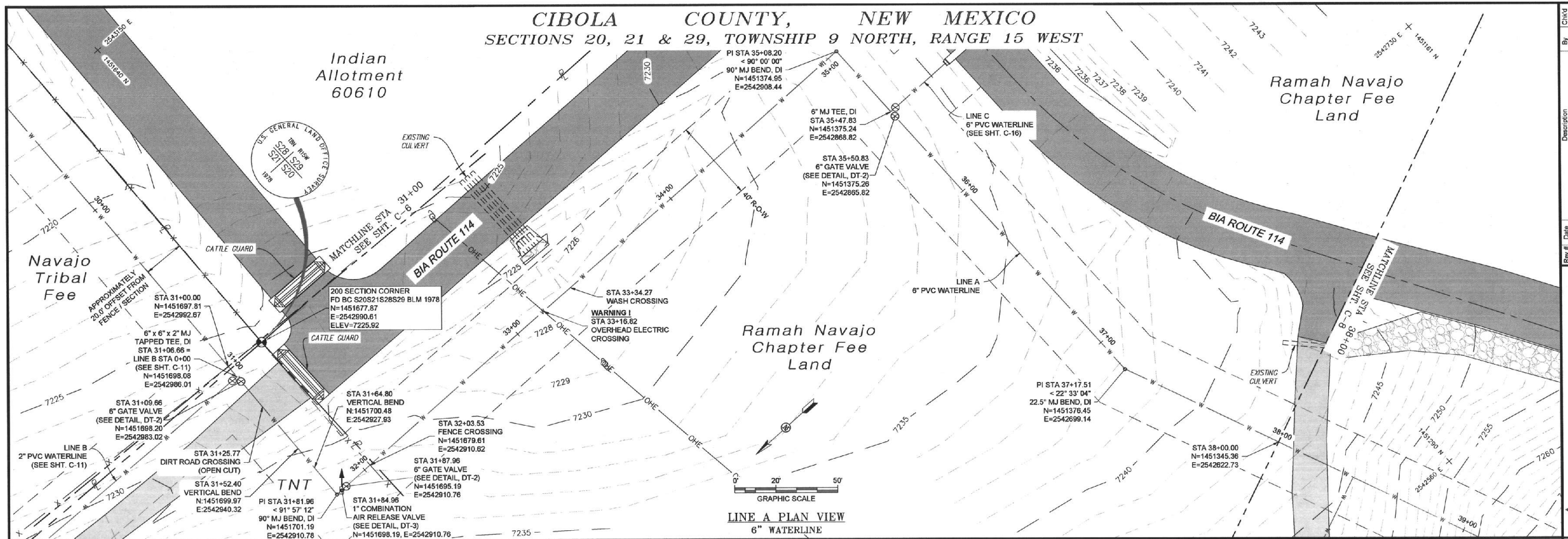
LINE A PLAN AND PROFILE
STA 18+50 TO STA 25+00
MOUNTAIN VIEW ESTATES
WATER SYSTEM EXTENSION



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Designed MM	Drawn AAV	Checked TTT
Date: January 2017		
Scale: Horiz: 1" = 50'		
Vert: 1" = 10'		
Project No: 6923836		
Sheet:		

C-5



Checked By: _____ Reviewed By: _____ Date: _____	Project No: 6923836 Sheet: C-7
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GEORGE M. MALLAK
18134
Professional Engineer
New Mexico

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Designed: GMM Drawn: AAV Checked: TTT

Date: January 2017

Scale: Horiz: 1" = 50'
Vert: 1" = 10'

Project No: 6923836

Sheet: **C-7**

RAMAH NAVAJO CHAPTER / NAVAJO NATION
LINE A PLAN AND PROFILE
STA 31+00 TO STA 38+00
MOUNTAIN VIEW ESTATES
WATER SYSTEM EXTENSION

CIBOLA COUNTY, NEW MEXICO
SECTION 29, TOWNSHIP 9 NORTH, RANGE 15 WEST

Ramah Navajo Chapter Fee Land

LINE A 6" WATERLINE

STA 38+17.20
DIRT ROAD CROSSING (OPEN CUT)

STA 38+22.43
VERTICAL BEND
N=1451336.91
E=2542601.96

STA 38+43.30
6" GATE VALVE
(SEE DETAIL, DT-2)
N=1451329.04
E=2542582.63

STA 38+00.00
N=1451345.36
E=2542622.73

6" MJ x 1" FIPT TAPPED TEE
STA 38+40.30
N=1451330.17
E=2542585.41

1" CORP STOP
(SEE DETAIL, DT-1)

PI
N=1451384.00
E=2542563.53

190 L.F. 1" PE SDR 7
200 psi SERVICE LINE.
4.0' MIN. COVER
(SEE DETAIL, DT-1)
DO NOT CREATE
HIGH POINT IN LINE
(TYPICAL)

3/4" WATER METER AND BOX ASSEMBLY
EXACT LOCATION TO BE DETERMINED
IN THE FIELD BY THE ENGINEER
(SEE DETAIL, DT-1)

HOUSE TIE-IN (APPROXIMATE)
N=1451434.94, E=2542442.69
EXISTING CISTERN SYSTEM TO
BE EXCAVATED AND GIVEN TO
HOME OWNER AFTER WATER
SERVICE IS FULLY FUNCTIONAL

HOUSE #1
MARCUS BEGAY /
NATASHA PIHO
505-331-4659

STA 40+39.11
VERTICAL BEND
N=1451255.24
E=2542401.26

STA 43+61.20
DIRT ROAD CROSSING (OPEN CUT)

STA 44+00.00
N=1451119.23
E=2542066.98

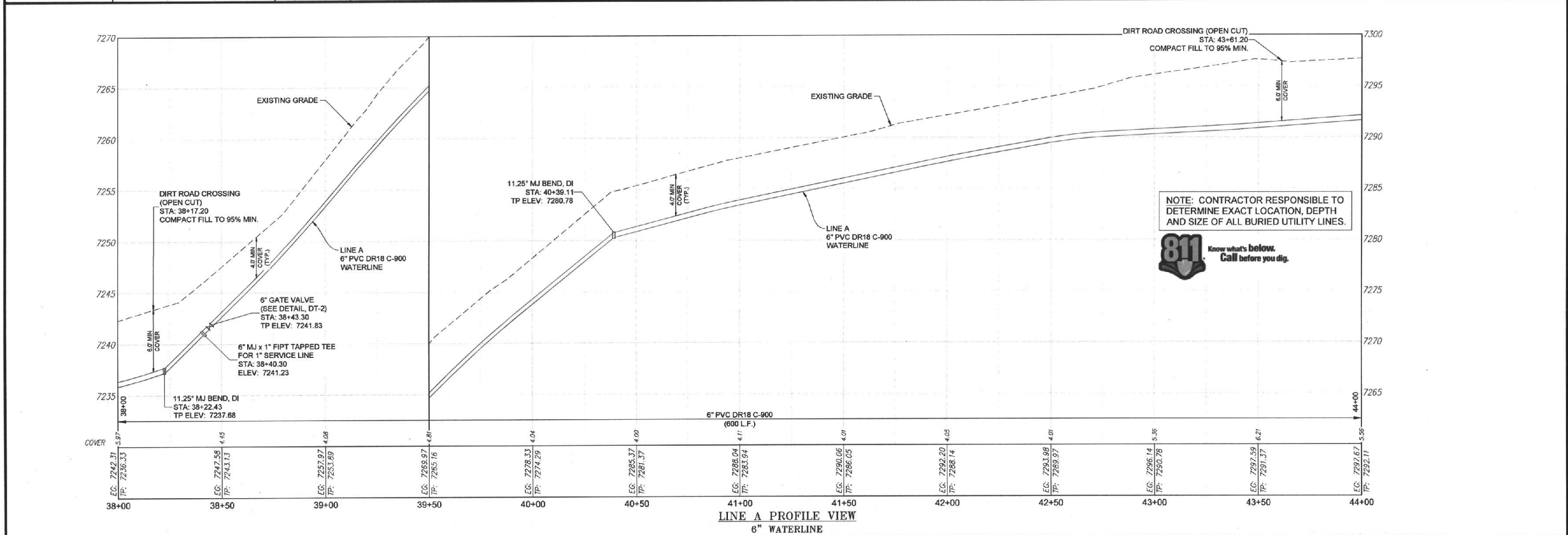
PI STA 44+67.61
< 22° 30' 00"
22.5° MJ BEND, DI
N=1451093.75
E=2542004.35

MATCHLINE STA 38+00
SEE SHT. C-7

MATCHLINE STA 44+00
SEE SHT. C-9

GRAPHIC SCALE
0' 20' 50'

LINE A PLAN VIEW
6" WATERLINE



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2950-0942
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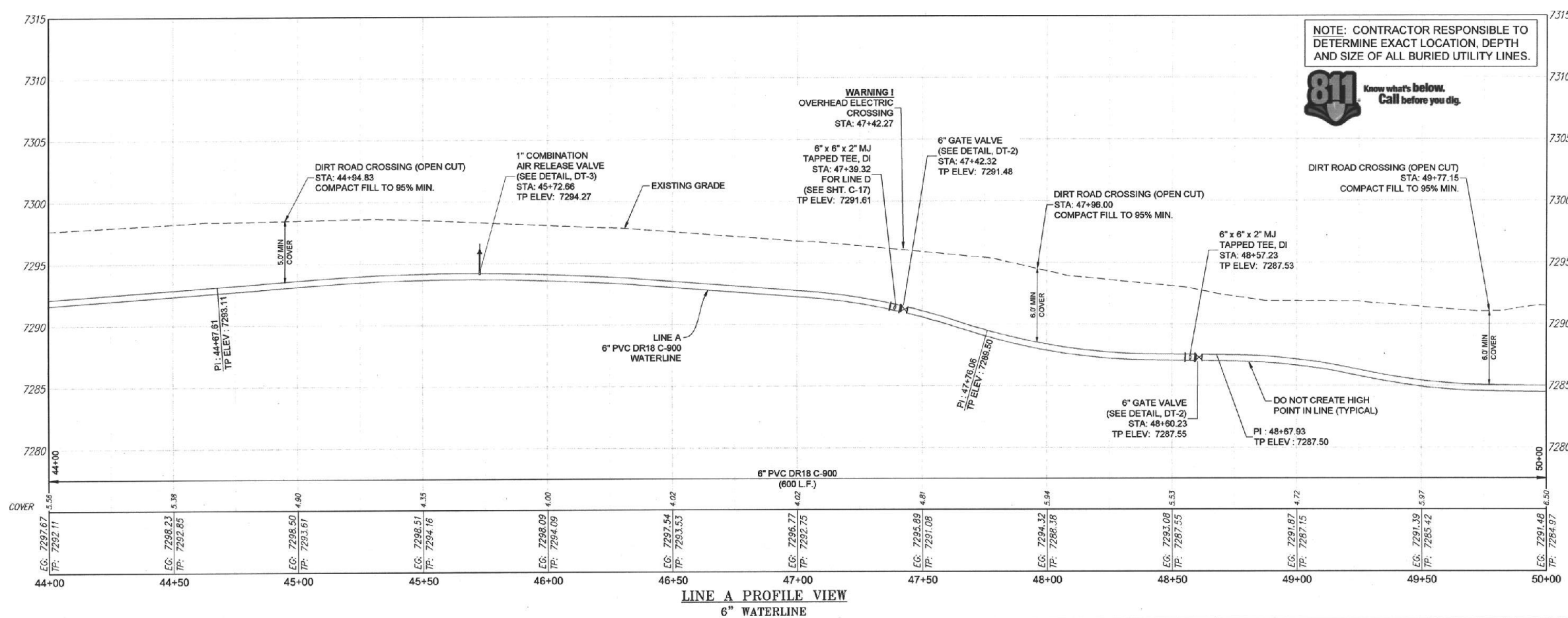
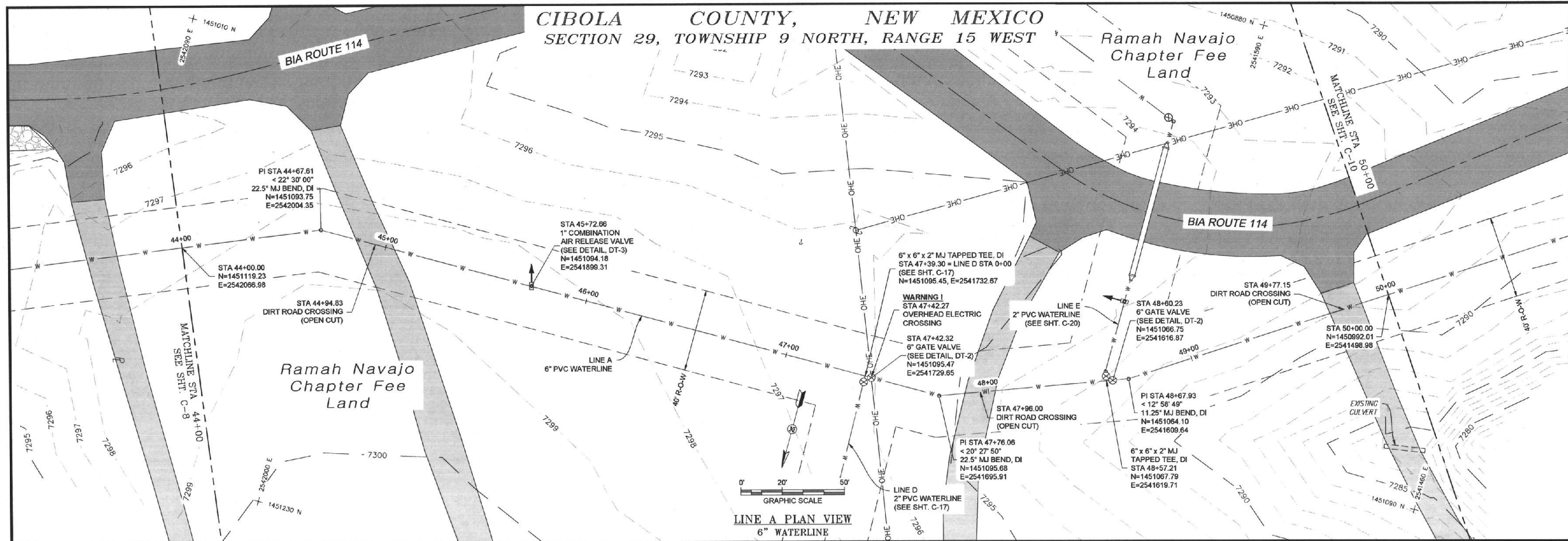
Designed	Drawn	Checked
GMM	AAV	TTT

Date: **January 2017**

Scale: Horiz: 1" = 50'
Vert: 1" = 10'

Project No: 6923836

Sheet: **C-8**



SMA Sonder, Miller & Associates Engineering • Environmental • Surveying Albuquerque, NM 87107 3451 Candelaria Road NE, Suite D Phone (505) 299-0942 Toll-Free (877) 299-0942 Fax (505) 293-3430	By: _____ Date: _____ Rev # _____
	DESCRIPTION
	PROJECT
	SHEET

RAMAH NAVAJO CHAPTER / NAVAJO NATION MOUNTAIN VIEW, NM

LINE A PLAN AND PROFILE

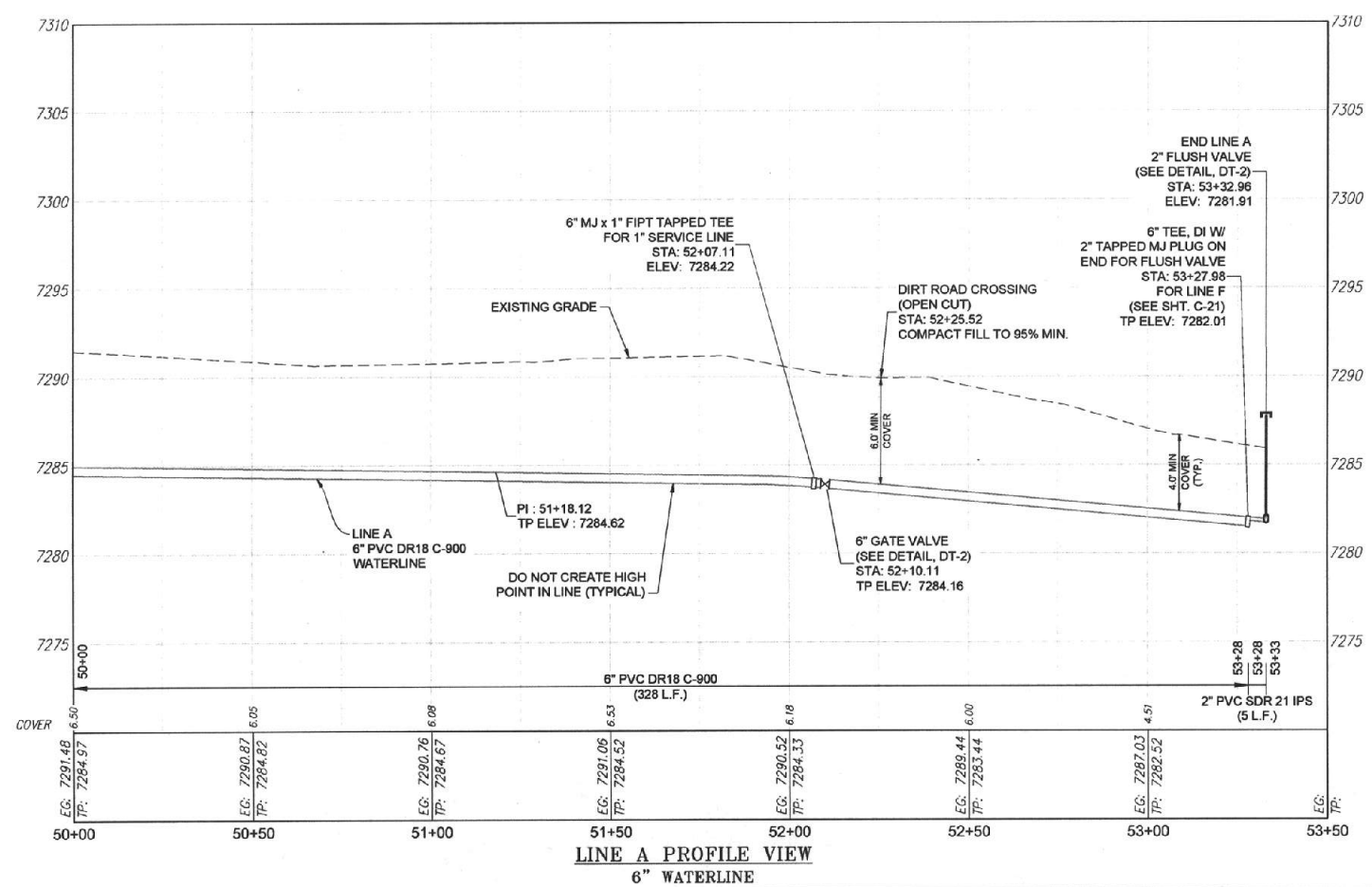
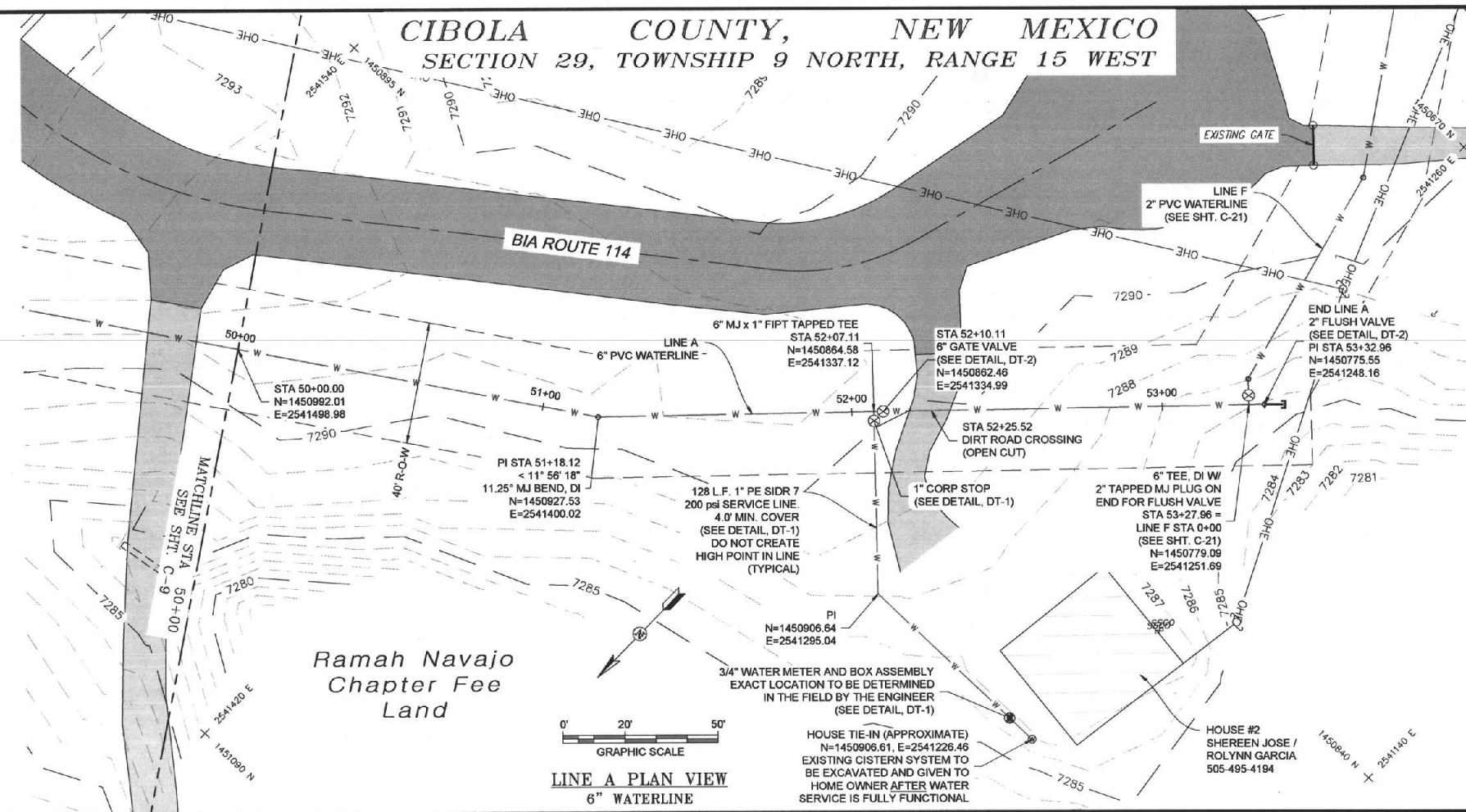
STA 44+00 TO STA 50+00

MOUNTAIN VIEW ESTATES

WATER SYSTEM EXTENSION

THIS DRAWING IS INCOMPLETE AND NOT TO BE USED FOR CONSTRUCTION UNLESS IT IS STAMPED, SIGNED AND DATED

Designed: GMM Drawn: AAV Checked: TTT
 Date: January 2017
 Scale: Horiz. 1" = 50' Vert. 1" = 10'
 Project No: 6923836
 Sheet: C-9



NOTE: CONTRACTOR RESPONSIBLE TO DETERMINE EXACT LOCATION, DEPTH AND SIZE OF ALL BURIED UTILITY LINES.



Checked	By	
Description		
Rev #	Date	

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Albuquerque, NM 87107 3451
Candelaria Road NE, Suite D
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811 Know what's below. Call before you dig.

RAMAH NAVAJO CHAPTER / NAVAJO NATION
MOUNTAIN VIEW, NM

LINE A PLAN AND PROFILE
STA 50+00 TO STA 53+32.96
MOUNTAIN VIEW ESTATES
WATER SYSTEM EXTENSION

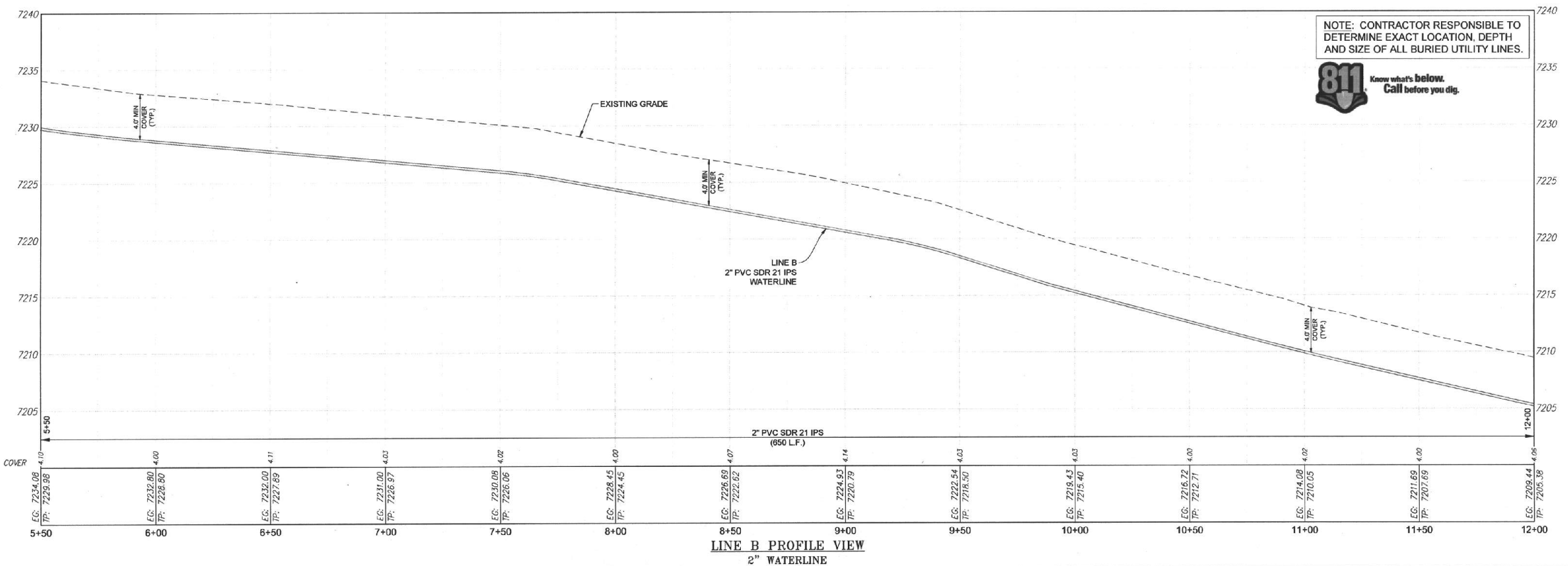
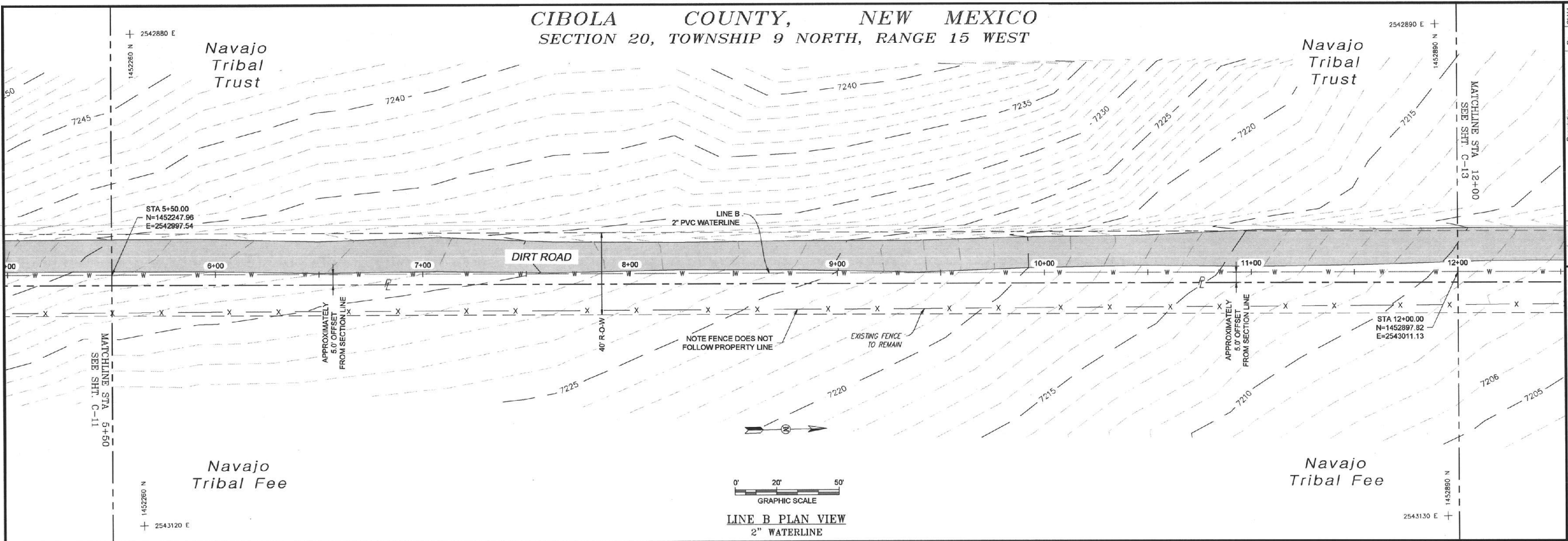
GEORGE M. MINALIK
18134
Professional Engineer
01/09/17

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Designed	Drawn	Checked
GMM	AAV	TTT

Date: January 2017
Scale: Horiz: 1" = 50'
Vert: 1" = 10'
Project No: 6923836
Sheet: C-10

CIBOLA COUNTY, NEW MEXICO SECTION 20, TOWNSHIP 9 NORTH, RANGE 15 WEST



By	CHK'd
Rev #	Date
Description	

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RAMAH NAVAJO CHAPTER / NAVAJO NATION
MOUNTAIN VIEW, NM

LINE B PLAN AND PROFILE
STA 5+50 TO STA 12+00
MOUNTAIN VIEW ESTATES
WATER SYSTEM EXTENSION

GEORGE M. MINALIK
18134
PROFESSIONAL ENGINEER

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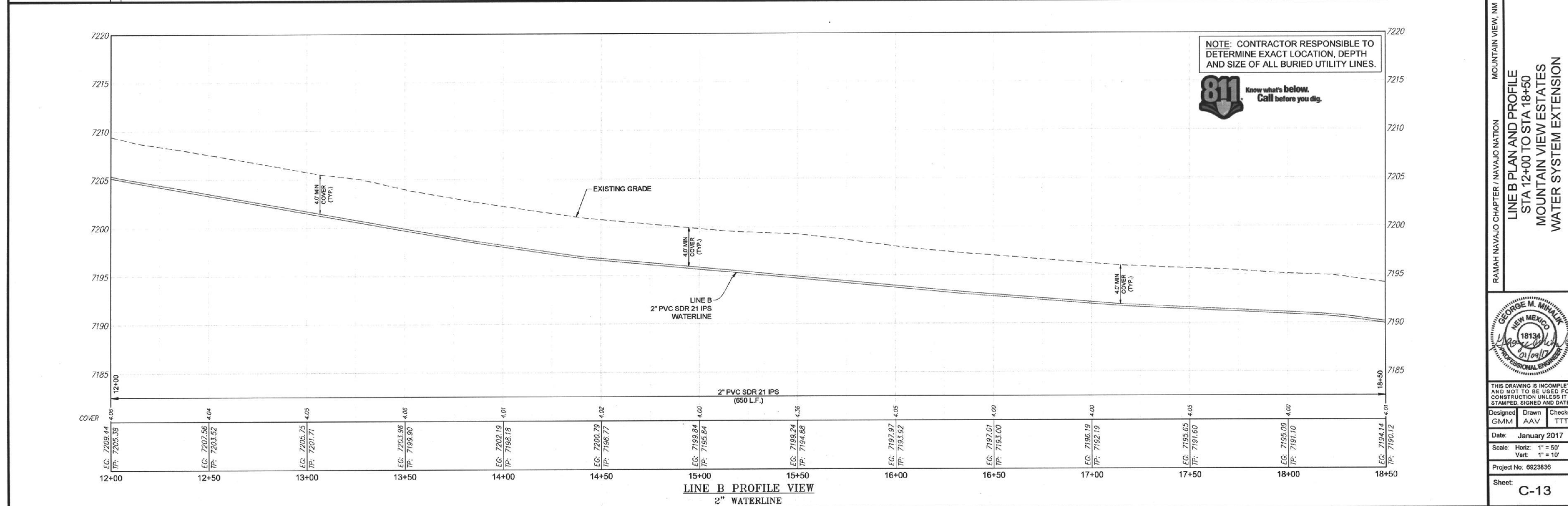
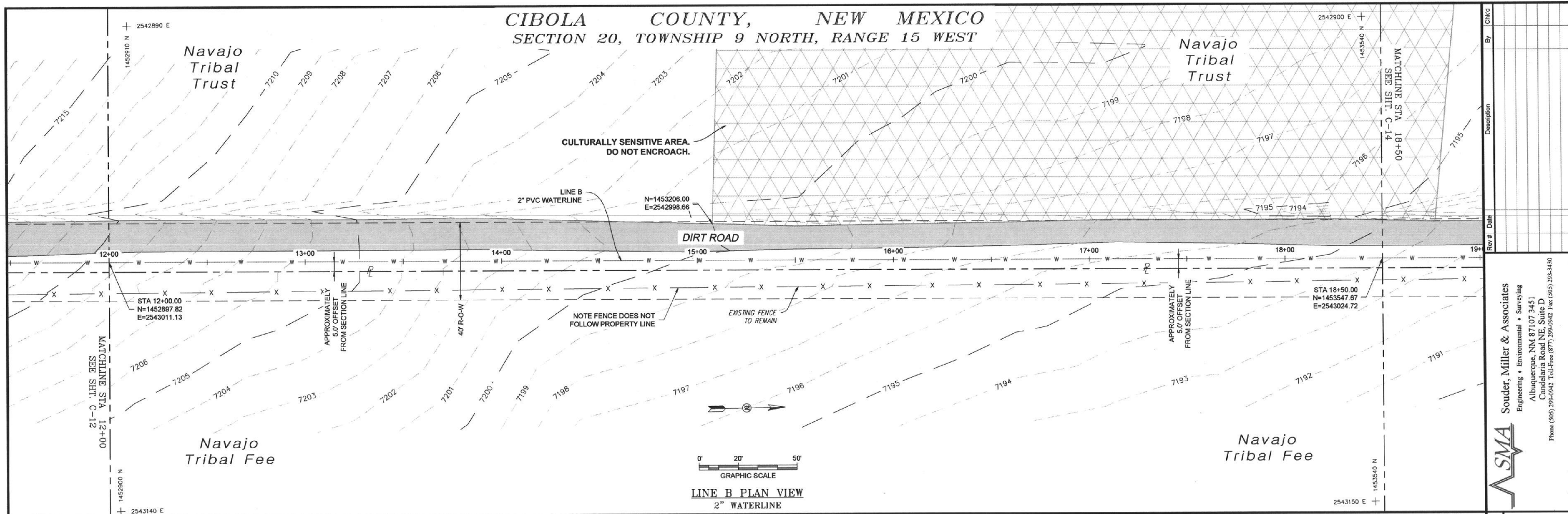
Designed: GMM Drawn: AAV Checked: TTT

Date: January 2017

Scale: Horiz: 1" = 50'
Vert: 1" = 10'

Project No: 6923836

Sheet: C-12



By	CHK'd
Rev #	Date
Description	

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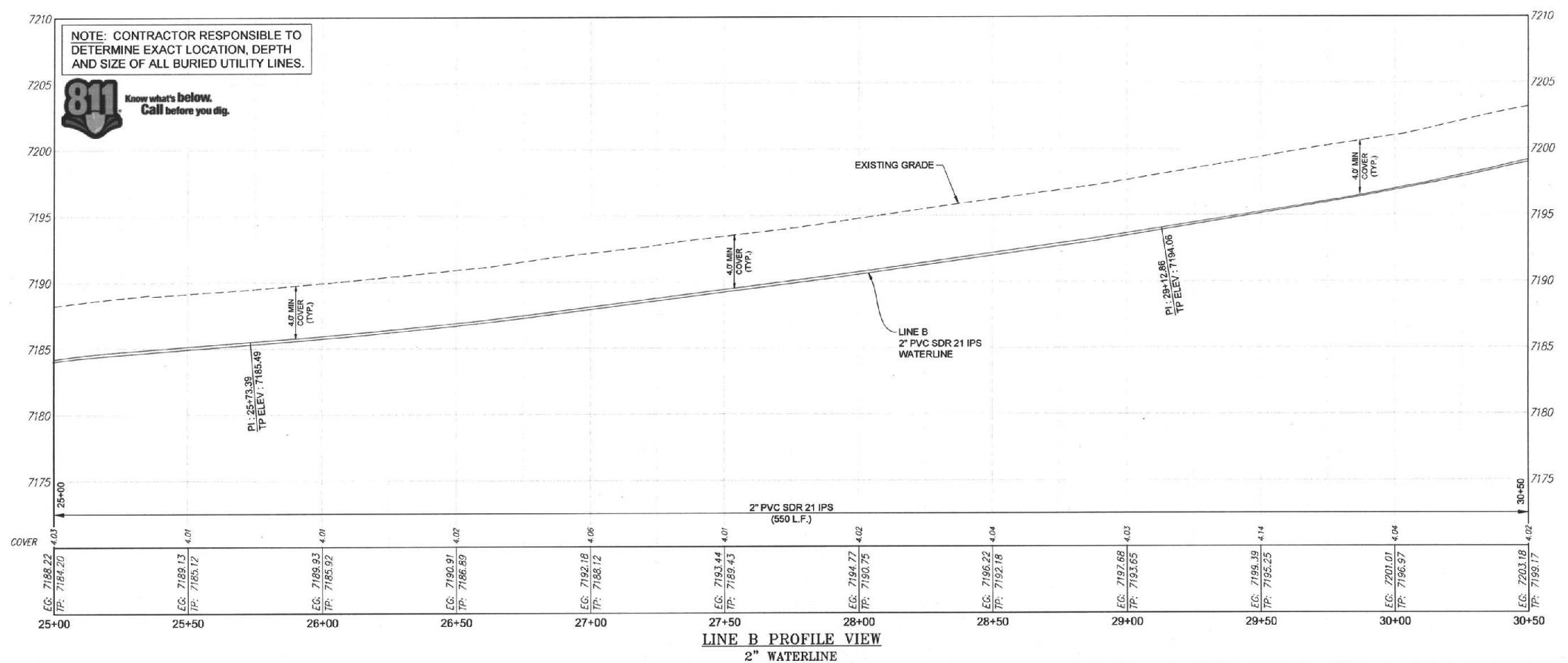
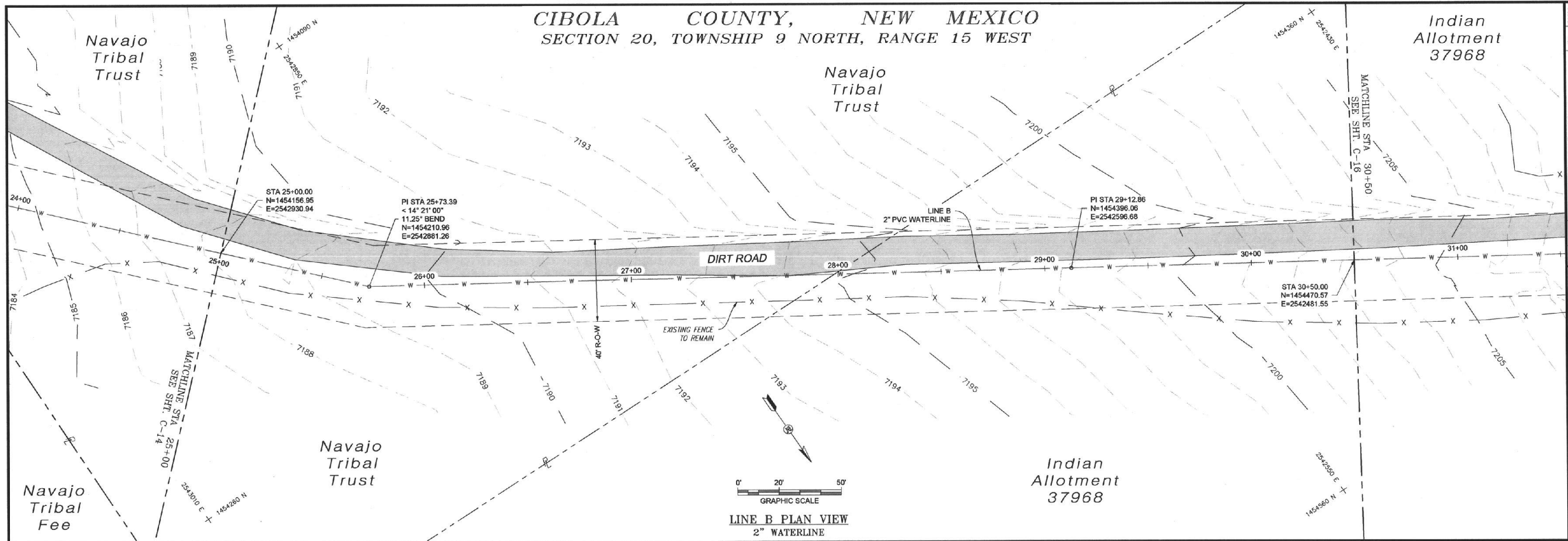
SM&A

GEORGE M. MIHALAK
18134
01/09/17
PROFESSIONAL ENGINEER

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Designed	GMM	Drawn	AAV	Checked	TTT
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Date: January 2017
Scale: Horiz 1" = 50'
Vert 1" = 10'
Project No. 6923836
Sheet: **C-13**



By	CHKD
Date	
Rev #	
Description	

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SM

RAMAH NAVAJO CHAPTER / NAVAJO NATION MOUNTAIN VIEW, NM

LINE B PLAN AND PROFILE
 STA 25+00 TO STA 30+50
 MOUNTAIN VIEW ESTATES
 WATER SYSTEM EXTENSION

GEORGE M. MINALCAN
 18134
 PROFESSIONAL ENGINEER

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Designed	Drawn	Checked
GMM	AAV	TTT

Date: January 2017
 Scale: Horiz: 1" = 50'
 Vert: 1" = 10'
 Project No: 6923836
 Sheet: **C-15**

CIBOLA COUNTY, NEW MEXICO
SECTIONS 20 & 29, TOWNSHIP 9 NORTH, RANGE 15 WEST

Indian Allotment 37968

STA 30+50.00
 N=1454470.57
 E=2542481.55

LINE B
 2" PVC WATERLINE

40' R.O.W.

DIRT ROAD

31+00 32+00 33+00 34+00

EXISTING FENCE TO REMAIN

BARN

HOUSE #3
 SAMUEL ALON
 505-870-6309

3/4" WATER METER AND BOX ASSEMBLY
 EXACT LOCATION TO BE DETERMINED
 IN THE FIELD BY THE ENGINEER
 (SEE DETAIL, DT-1)

32 L.F. 1" PE SDR 7
 200 psi SERVICE LINE.
 4.0' MIN. COVER
 (SEE DETAIL, DT-1)
 DO NOT CREATE
 HIGH POINT IN LINE
 (TYPICAL)

STA 34+06.40
 DIRT ROAD CROSSING
 (OPEN CUT)

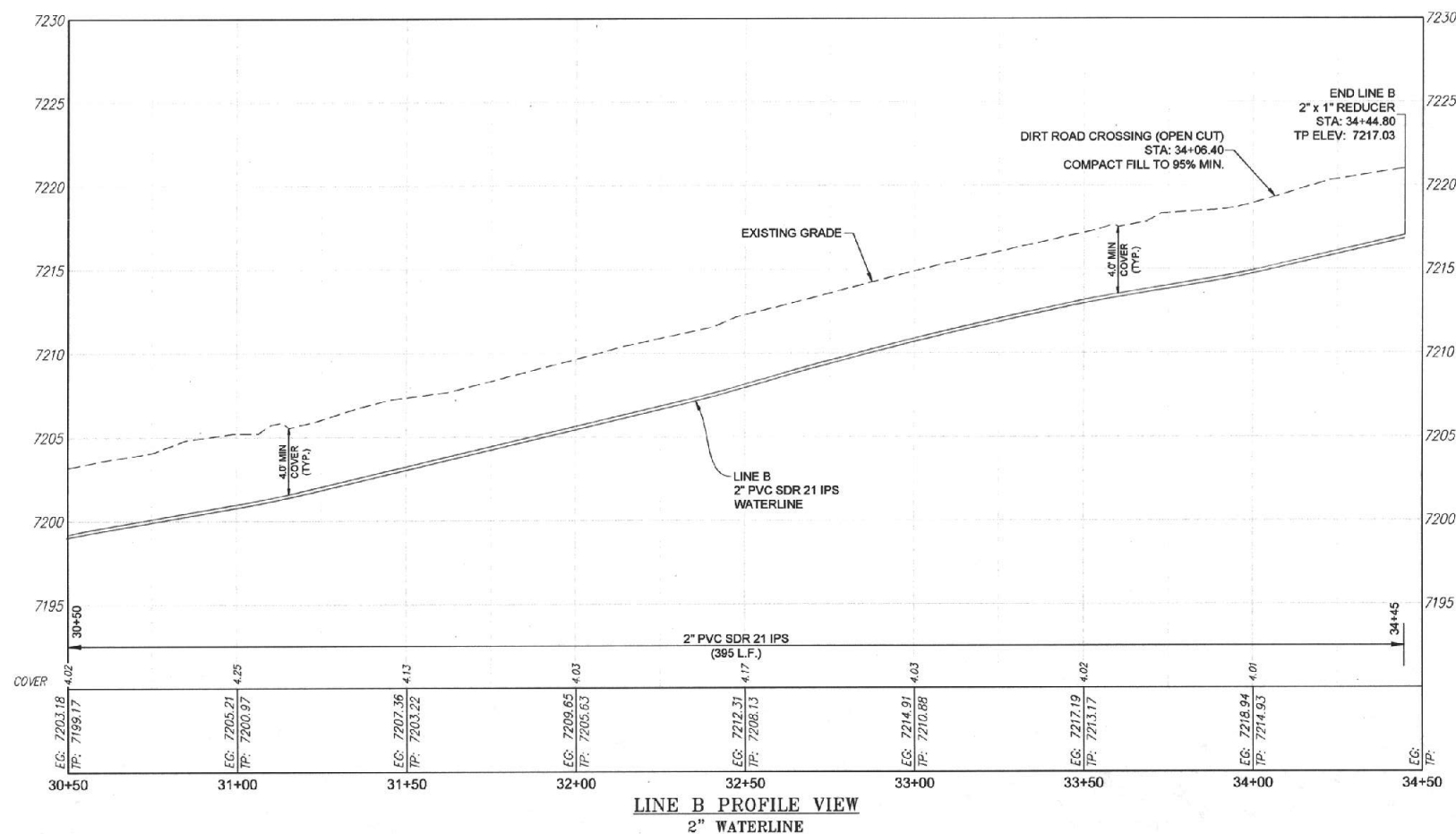
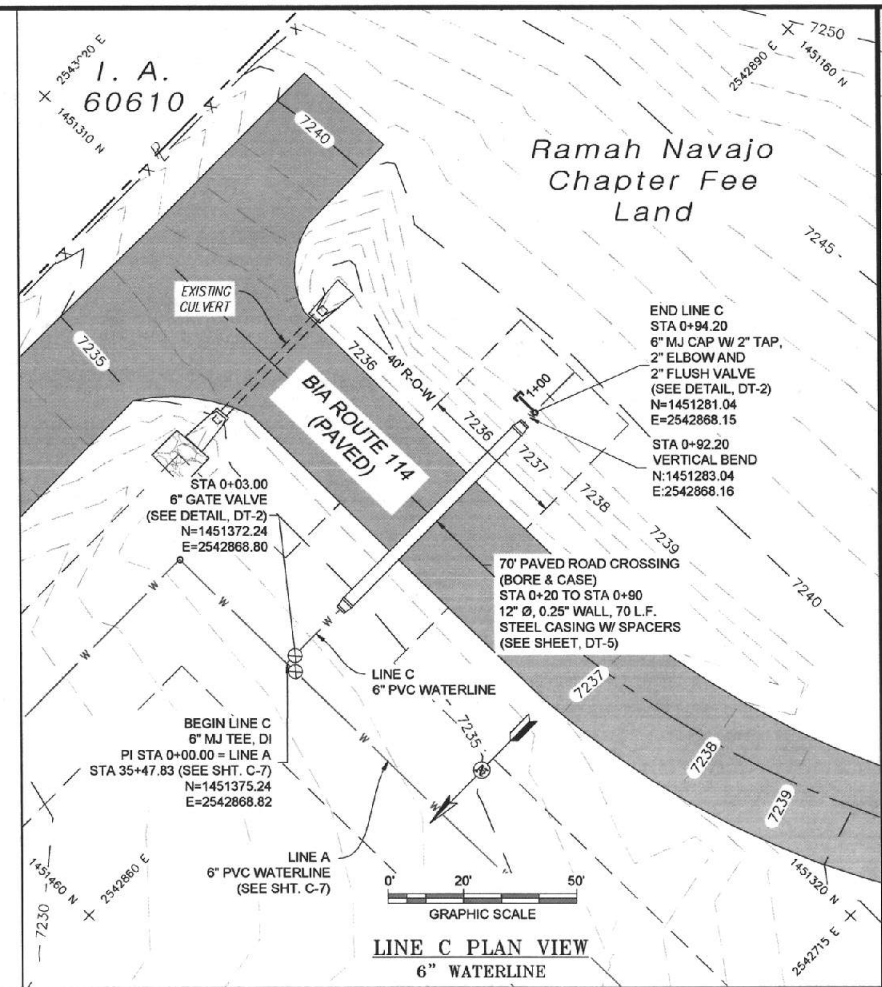
END LINE B
 2" x 1" REDUCER
 WITH 1" CORP STOP
 PI STA 34+44.80
 N=1454685.06
 E=2542150.09

HOUSE TIE-IN (APPROXIMATE)
 N=1454702.27, E=2542123.50
 EXISTING CISTERN SYSTEM TO
 BE EXCAVATED AND GIVEN TO
 HOME OWNER AFTER WATER
 SERVICE IS FULLY FUNCTIONAL

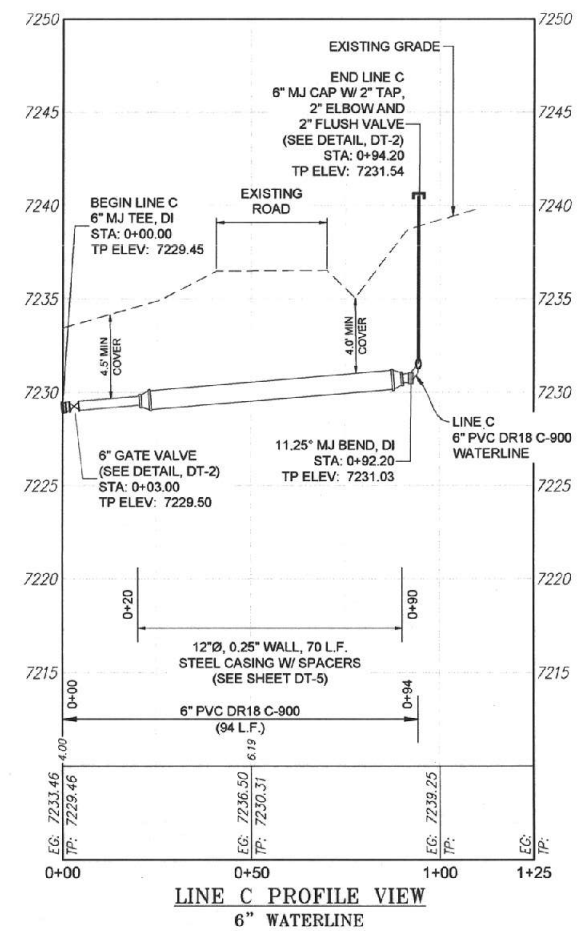
0' 20' 50'
 GRAPHIC SCALE

Indian Allotment 37968

LINE B PLAN VIEW
2" WATERLINE



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



LINE B P&P STA 30+50 TO 34+44.80
LINE C P&P STA 0+00 TO 1+05
MOUNTAIN VIEW ESTATES
WATER SYSTEM EXTENSION



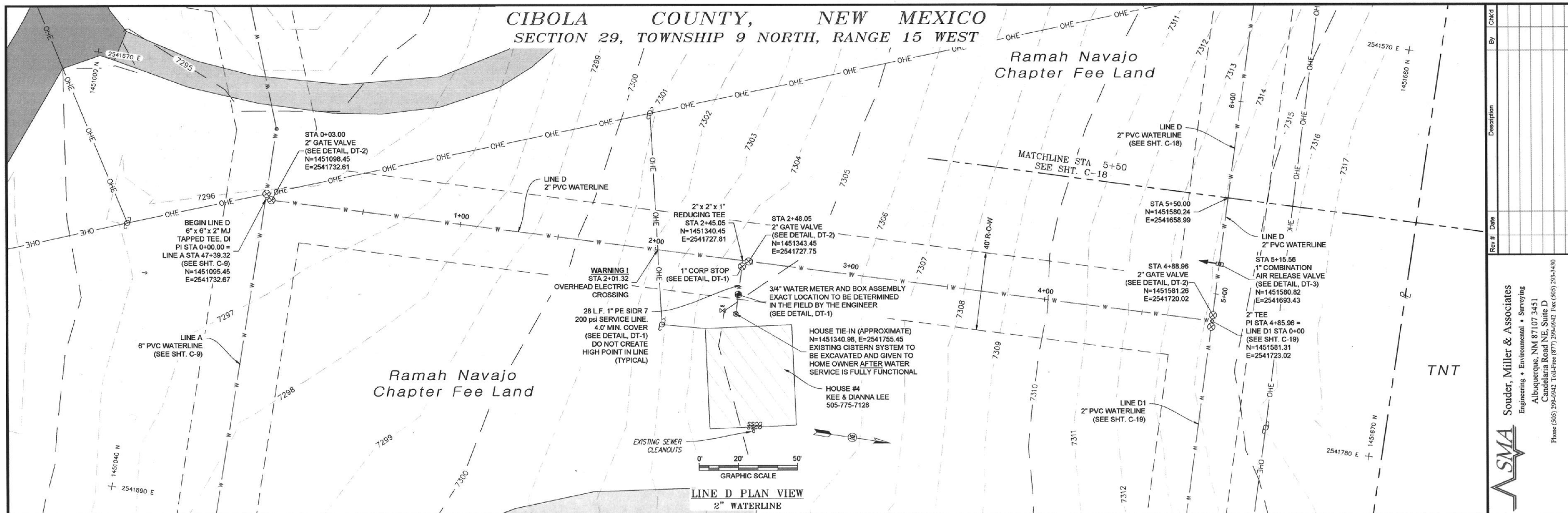
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CONSTRUCTION UNLESS IT IS
STAMPED, SIGNED AND DATED

signed MM	Drawn AAV	Checked TTT
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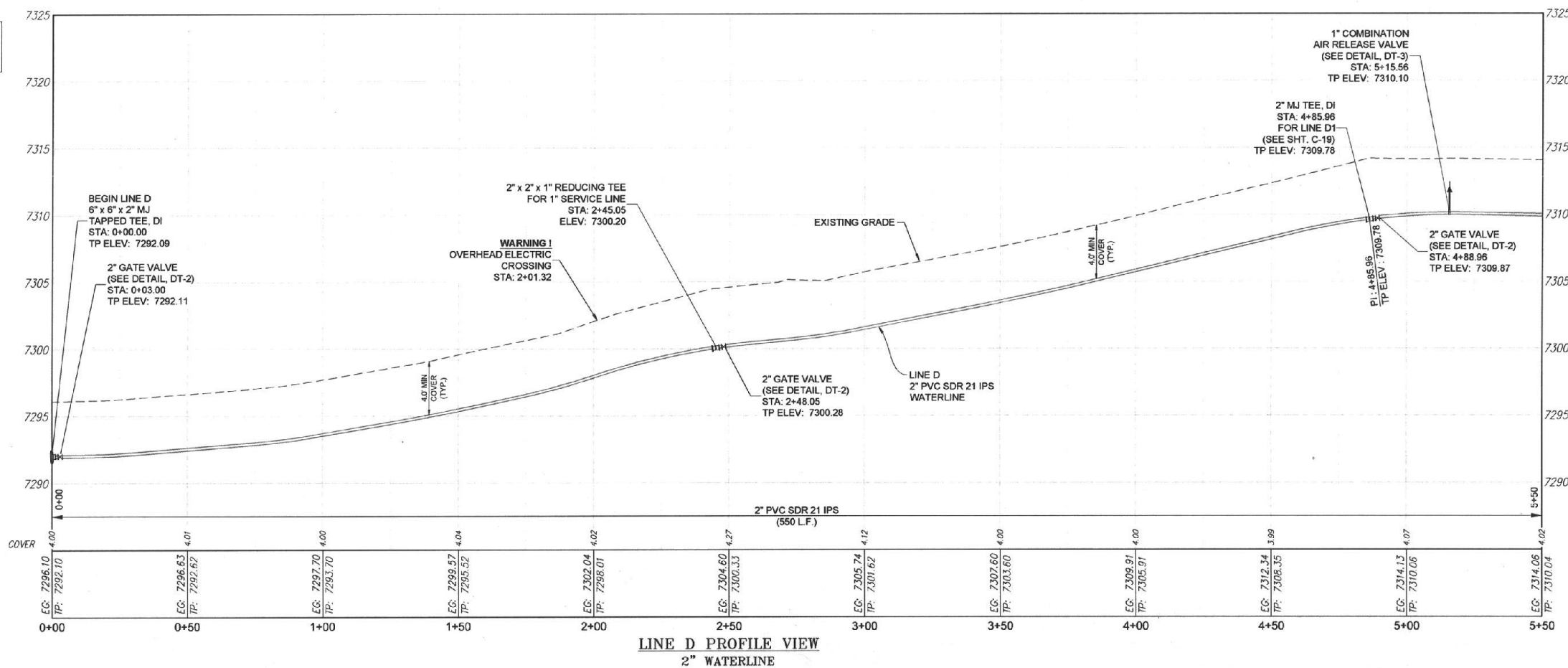
Scale: Horiz: 1" = 50'

Project No: 6923836

Sheet: C-16



NOTE: CONTRACTOR RESPONSIBLE TO DETERMINE EXACT LOCATION, DEPTH AND SIZE OF ALL BURIED UTILITY LINES.



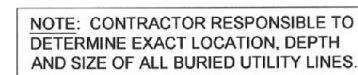
RAMAH NAVAJO CHAPTER / NAVAJO NATION MOUNTAIN VIEW, NM

**LINE D PLAN AND PROFILE
STA 0+00 TO STA 5+50
MOUNTAIN VIEW ESTATES
WATER SYSTEM EXTENSION**



THIS DRAWING IS INCOMPLETE AND NOT TO BE USED FOR CONSTRUCTION UNLESS IT IS STAMPED, SIGNED AND DATED

Designed: GMM Drawn: AAV Checked: TTT
Date: January 2017
Scale: Horiz: 1" = 50'
Vert: 1" = 10'
Project No: 6923836
Sheet: C-17



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

JO CHAPTER / NAVAJO NATION
 MOUNTAIN VIEW, NM
 LINE D PLAN AND PROFILE
 STA 5+50 TO STA 10+44.28
 MOUNTAIN VIEW ESTATES
 WATER SYSTEM EXTENSION



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Designed GMM	Drawn AAV	Checked TTT
Date: January 2017		
Scale: Horiz: 1" = 50' Vert: 1" = 10'		
Project No: 6923836		
Sheet: C-18		

Ramah Navajo
Chapter Fee Land

Ramah Navajo
Chapter Fee Land

ESTIMATED LOCATION OF
EXISTING WATERLINE SERVICE.
DO NOT DISTURB.

STA: 2+72.90
2" x 1" REDUCER
W/ CORP STOP

3/4" WATER METER AND BOX ASSEMBLY
EXACT LOCATION TO BE DETERMINED
IN THE FIELD BY THE ENGINEER
(SEE DETAIL, DT-1)

END LINE D1
HOUSE TIE-IN (APPROXIMATE)

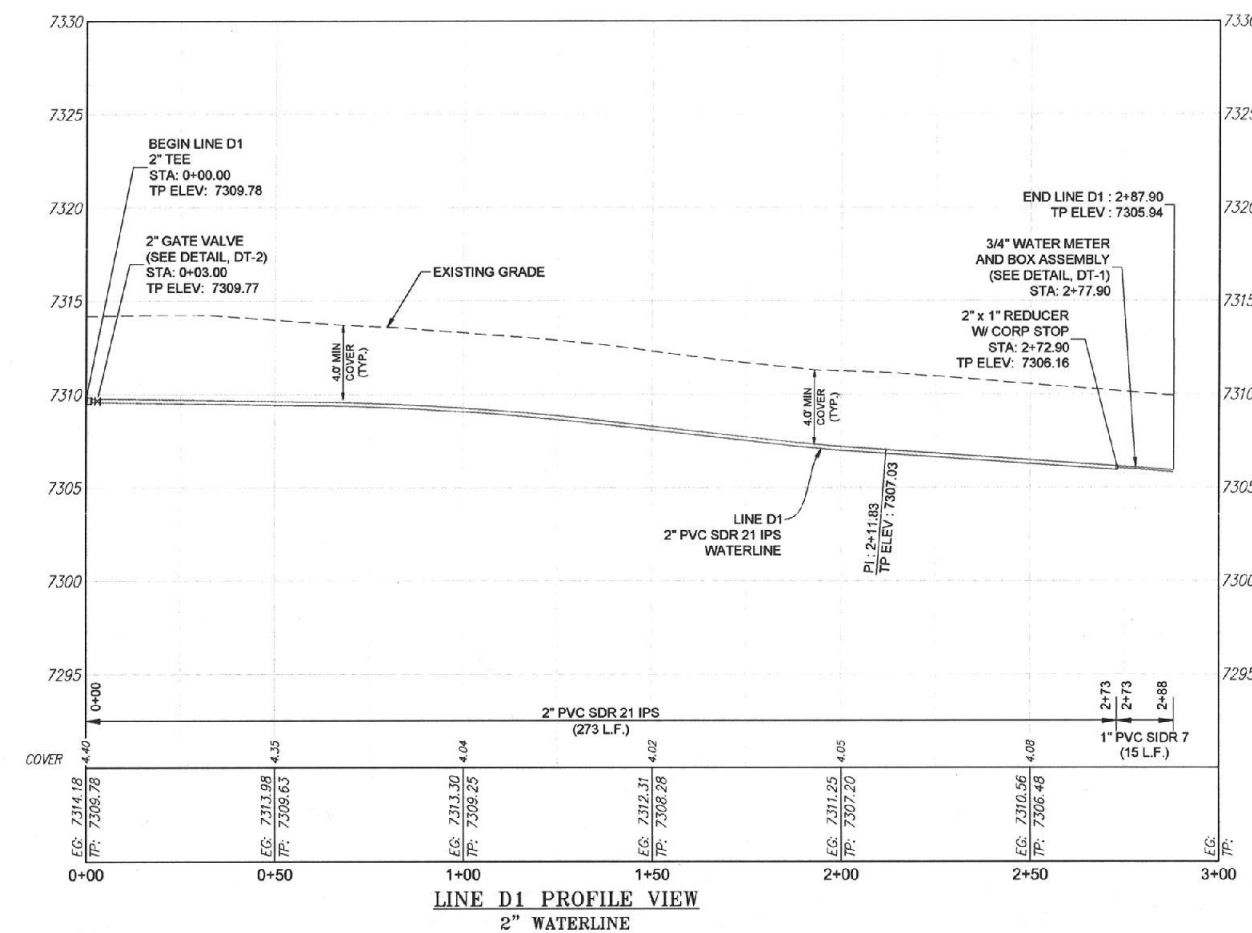
PI STA 2+87.90
N=1451573.86, E=2542010.10
EXISTING CISTERN SYSTEM TO
BE EXCAVATED AND GIVEN TO
HOME OWNER AFTER WATER
SERVICE IS FULLY FUNCTIONAL

15 L.F. 1" PE SDR 7
200 psi SERVICE LINE.
4.0' MIN. COVER
(SEE DETAIL, DT-1)
DO NOT CREATE
HIGH POINT IN LINE
(TYPICAL)

HOUSE #7
DARYL LORENZO
505-567-1726

APPROXIMATE LOCATION
OF EXISTING LEACH FIELD

LINE D1 PLAN VIEW
2" WATERLINE



NOTE: CONTRACTOR RESPONSIBLE TO DETERMINE EXACT LOCATION, DEPTH AND SIZE OF ALL BURIED UTILITY LINES.



Know what's below.
Call before you dig.

LINE D1 PLAN AND PROFILE
STA 0+00 TO STA 2+87.90
MOUNTAIN VIEW ESTATES
WATER SYSTEM EXTENSION



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AND NOT TO BE USED FOR
CONSTRUCTION UNLESS IT IS
STAMPED, SIGNED AND DATED

signed MM	Drawn AAV	Checked TTT
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te: January 2017

Scale: Horiz: 1" = 50'
Vert: 1" = 10'

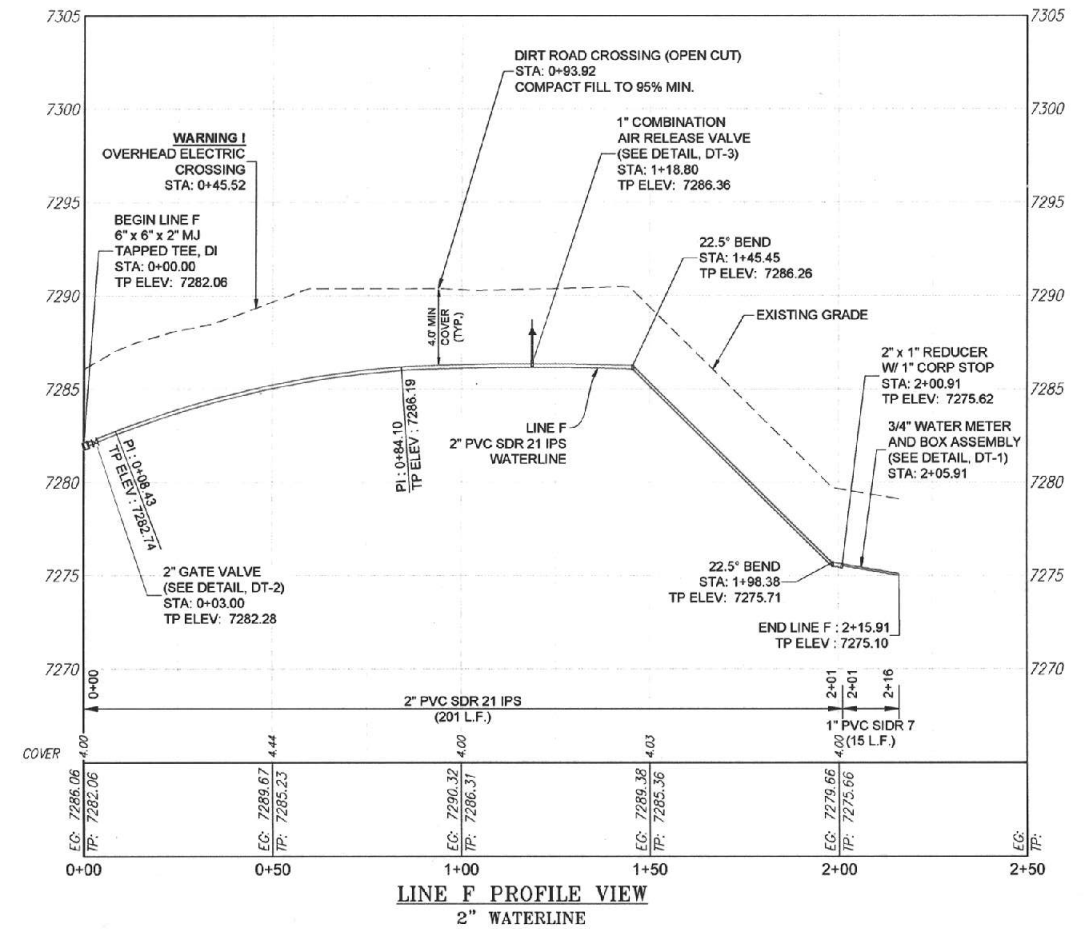
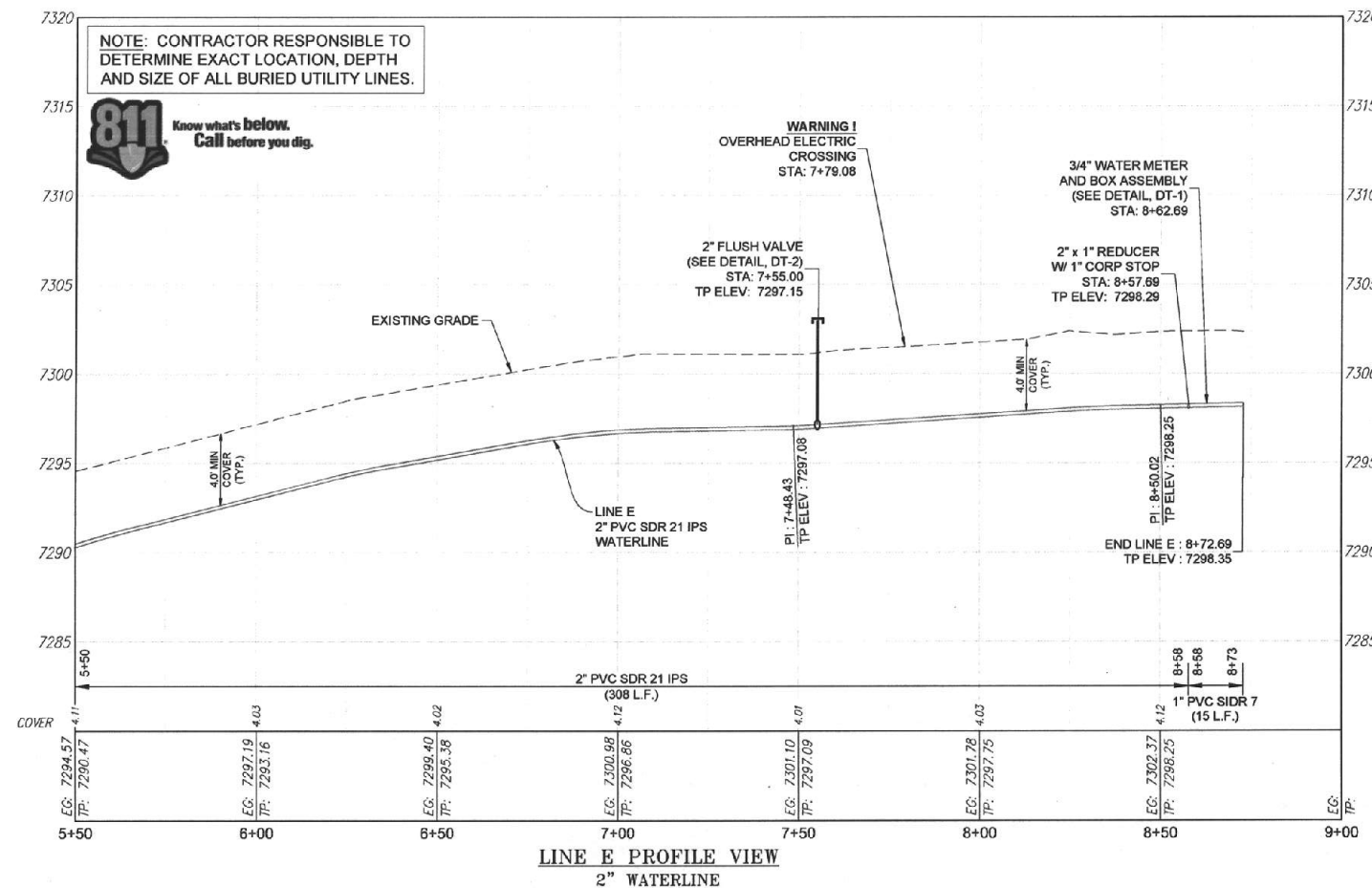
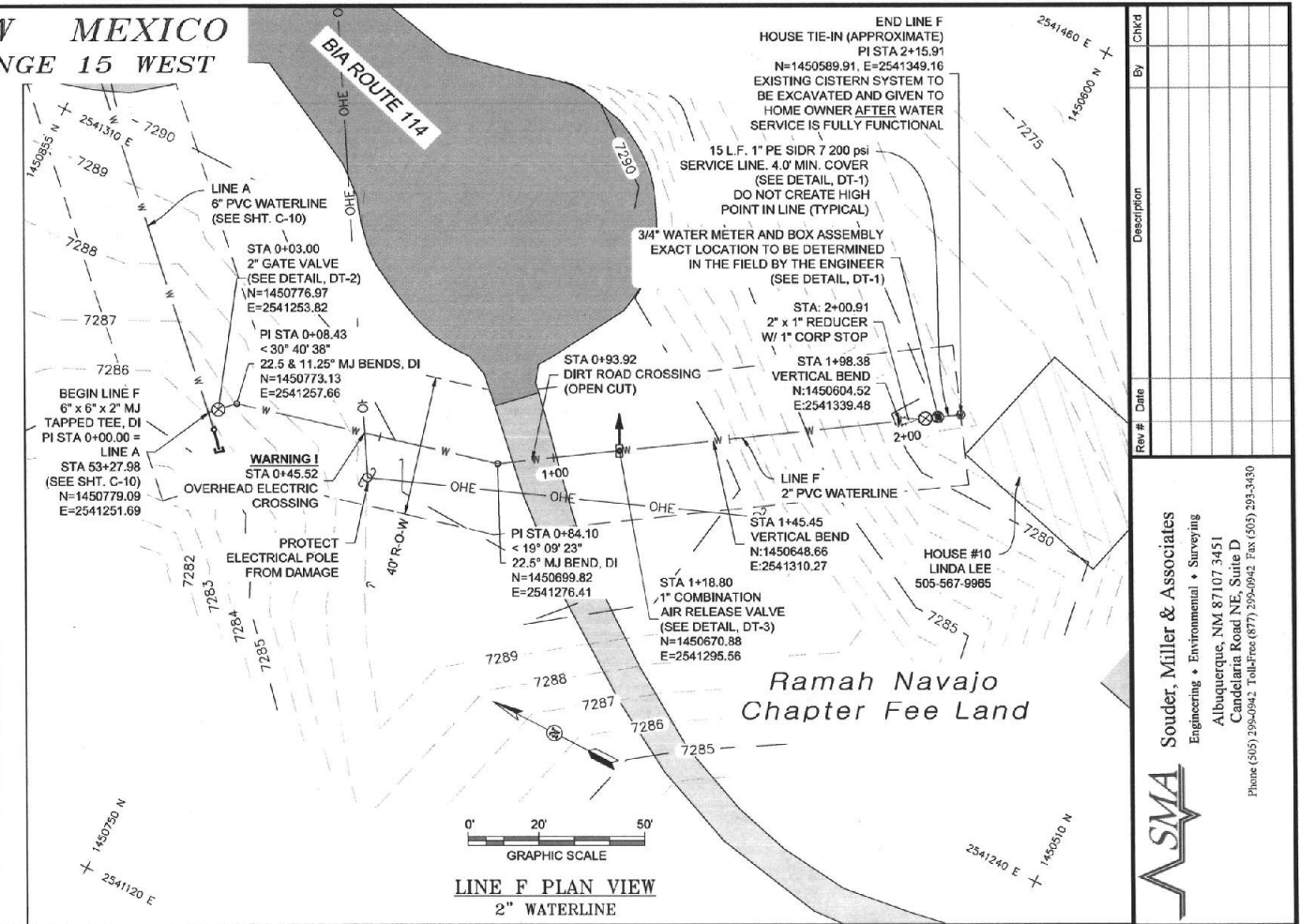
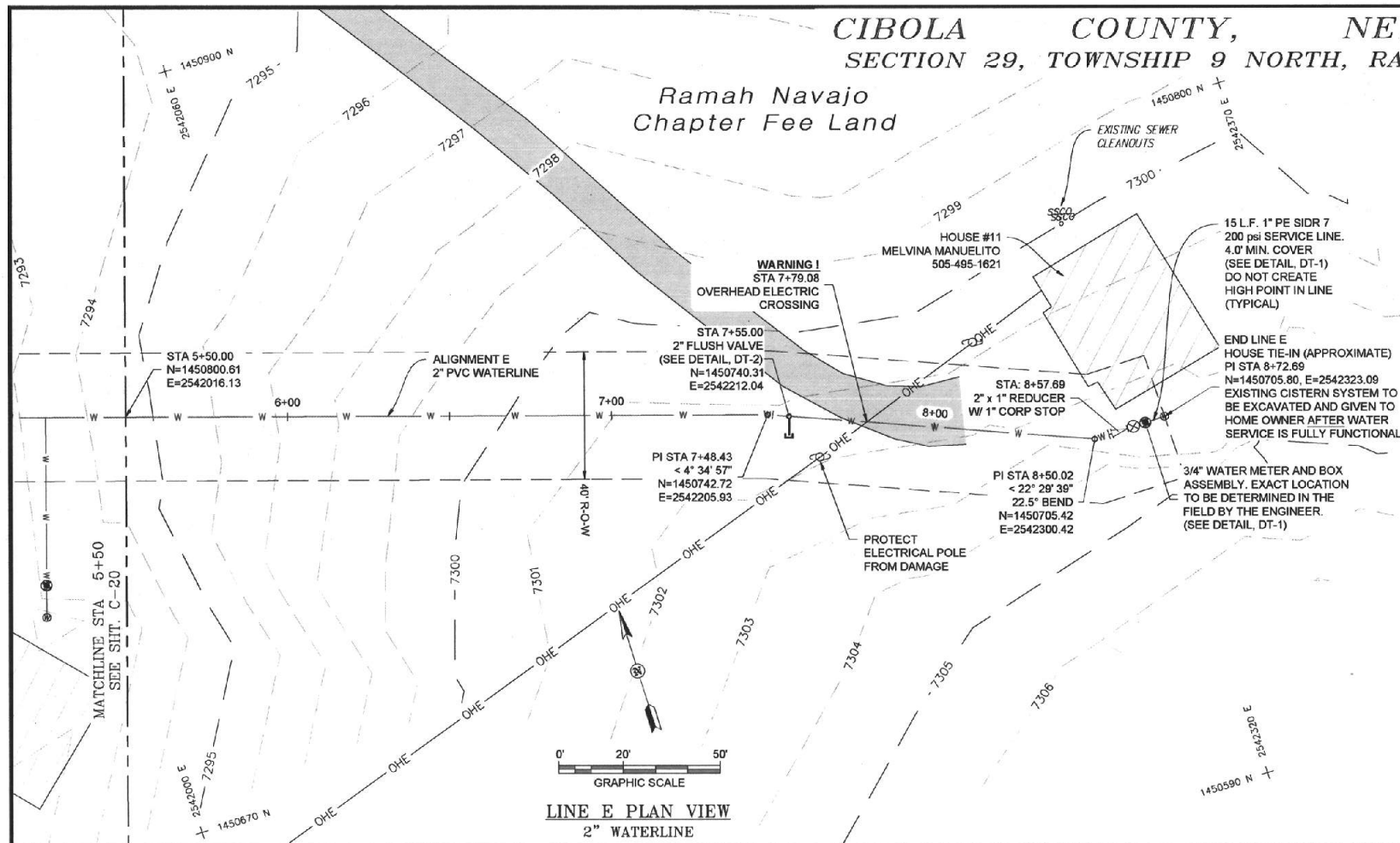
Project No: 6923836

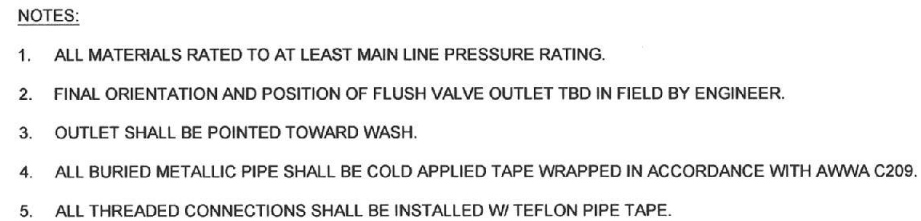
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C-19

CIBOLA COUNTY, NEW MEXICO SECTION 29, TOWNSHIP 9 NORTH, RANGE 15 WEST

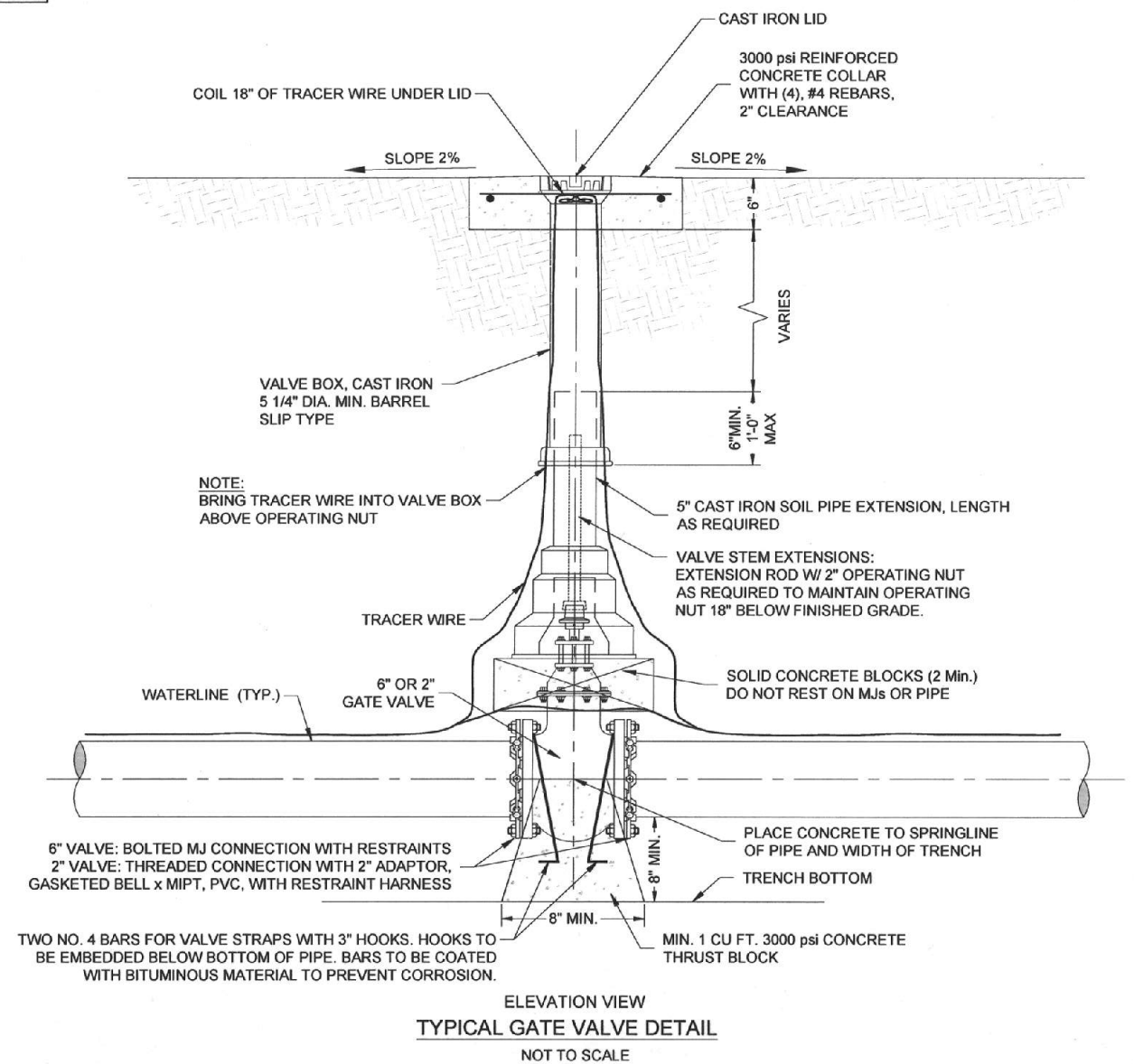
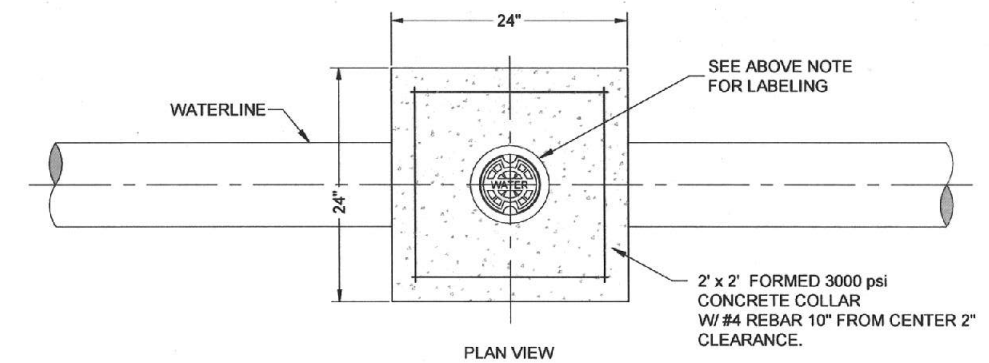
Ramah Navajo
Chapter Fee Land





FLUSH VALVE DETAIL
NOT TO SCALE

FLUSH VALVE ASSEMBLY BILL OF MATERIALS		
ITEM	QUAN.	DESCRIPTION
1.	1	2" GATE VALVE, FIPT - MUELLER A2360-37 W/ 2" OPERATING NUT, OAE
2.	1	VALVE BOX 5 1/4" C.I., BARREL, SLIP TYPE
3.	1	2" x 3' MIN. G.I. PIPE
4.	1	2" G.I. 45° ELBOW W/ TWO 1/8" WEEP HOLES
5.	1	2" G.I. PIPE, CUT TO LENGTH AS NEEDED
6.	1	2" G.I. THREADED PIPE CAP W/ 1/8" VENT HOLE
7.	1	2" PVC PIPE
8.	1	THRUST BLOCK, MIN. 1.5 CUBIC FEET (DO NOT COVER JOINTS / BOLTS)
9.	1	FILTER ROCK, 2' x 2' x 2'
10.	1	6" x 2", 2' x 2" TEE OR 2" MAINLINE, PER PLANS
11.	2	2" ADAPTOR, GASKETED BELL x MIPT, PVC, WITH RESTRRAINT HARNESS
12.	1	BLUE CARSONITE MARKER POST IN CONCRETE ANCHOR BLOCK



NOTES:

1. CONTRACTOR SHALL LABEL ALL CONCRETE GATE VALVE COLLARS "GV" WITH DIRECTIONAL ARROWS, PIPE SIZES, MATERIAL, AND LINE STATION.
2. ALL MATERIALS RATED TO AT LEAST THE TEST PRESSURE RATING OF THE WATER MAIN LINE.
3. ALL BURIED METALLIC COMPONENTS IN CONTACT WITH SOIL SHALL BE COLD APPLIED TAPE COATED PER AWWA C209.

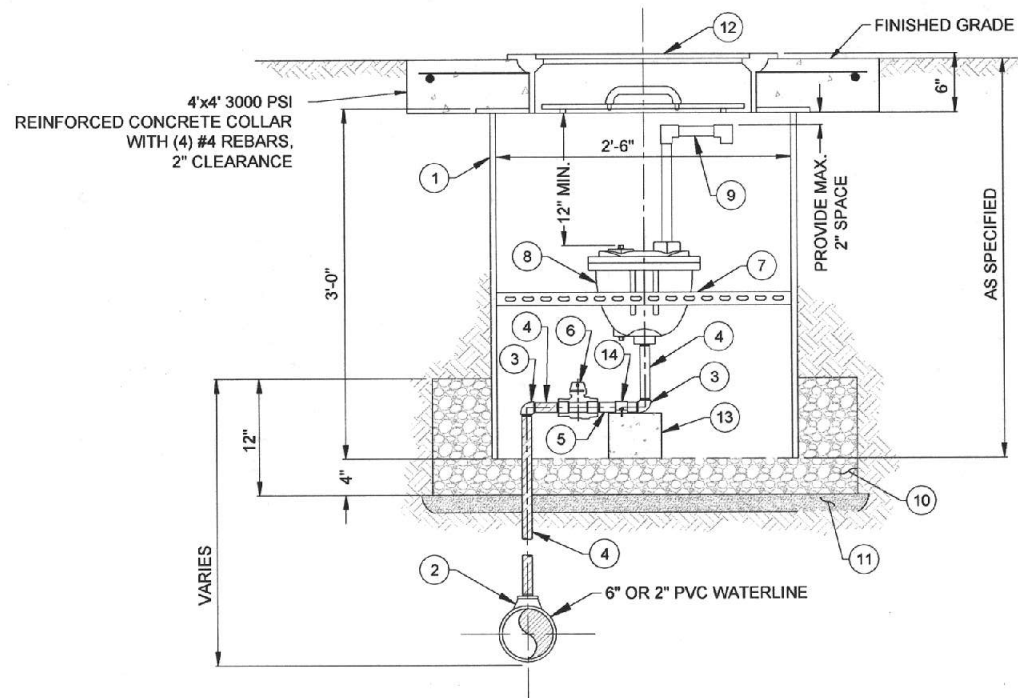
CA
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**GATE VALVE AND FLUSH VALVE
DETAILS**
MOUNTAIN VIEW ESTATES
WATER SYSTEM EXTENSION

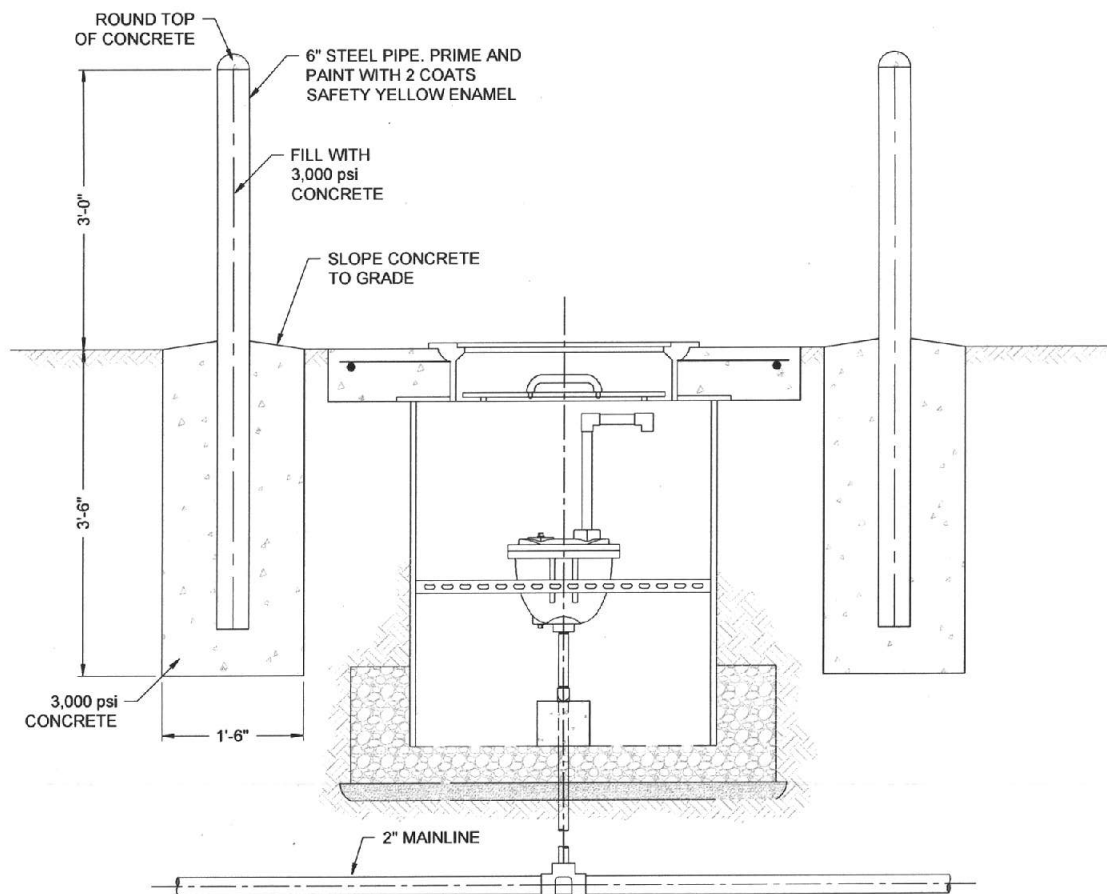


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Date: January 2017		
Scale: Horiz: Vert:		
Project No: 6923836		
Sheet:		



1" COMBINATION AIR RELEASE VALVE ASSEMBLY (TYP.)
NOT TO SCALE



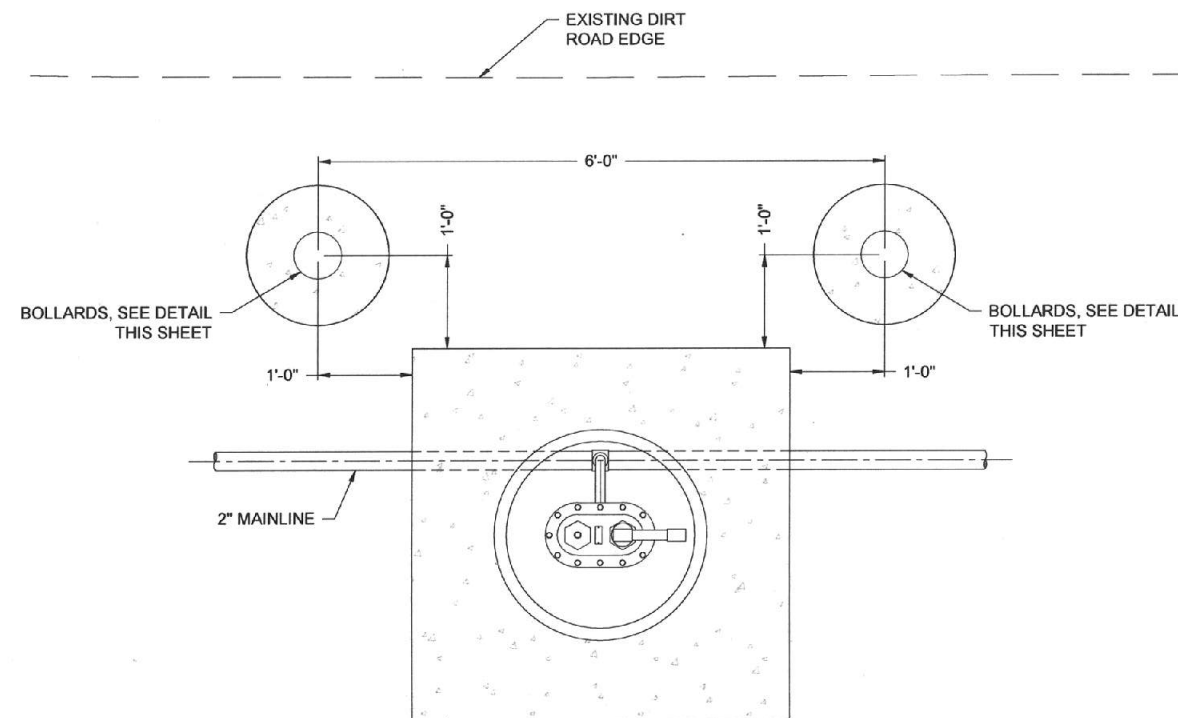
ELEVATION VIEW - 1" COMBINATION AIR RELEASE VALVE WITH BOLLARDS
FOR USE AT ALIGNMENT B STA: 3+47.35 ONLY (SEE SHT. C-11)
NOT TO SCALE

SCHEDULE

- 1 30" DIA. PLASTIC (METER) BOX WITH REMOVABLE FROST LID W/INSULATION
- 2 6" x 1" TAPPED TEE OR 2" x 1" TEE
- 3 ELBOW, 1" 90°, BRASS
- 4 NIPPLE, 1" x LENGTH AS NEEDED, BRASS, WRAPPED W/ TAPE
- 5 NIPPLE, 1" x 4", BRASS
- 6 CURBSTOP VALVE, 1" FNPT, BRASS
- 7 1" UNISTRUT SCREWED TO BOX AT ENDS WITH MIN. OF (2) 3/8" Ø SELF-TAPPING SHEET METAL SCREWS ON EACH END, WITH GALVANIZED PIPE STRAP SECURING AIR VALVE BOLTED TO UNISTRUT
- 8 1" COMBINATION AIR VALVE, W/ 1" OUTLET, EPOXY COATED
- 9 1" PVC SCH. 80 DOWN SPOUT, PVC WITH SCREENED OUTLET
- 10 12" THICK GRAVEL BASE FOR CAN
- 11 COMPACTED SOIL BACKFILL
- 12 21 5/8" FROST PROOF METER PIT COVER
- 13 CONCRETE BLOCK SUPPORT, SOLID 8" x 8" x 16"
- 14 1" COPPER PIPE STRAP, ANCHOR PIPE TO BLOCK W/ 1/4" x 2" ANCHORS

NOTE:

1. ALL MATERIALS SHALL BE RATED TO AT LEAST MAIN LINE PRESSURE RATING.
2. CONTRACTOR SHALL LABEL ALL CONCRETE ARV COLLARS "ARV", WITH DIRECTIONAL ARROWS, PIPE SIZES, MATERIAL AND LINE STATION.
3. PVC DOWN SPOUT SHALL BE LONG ENOUGH AND LOCATED AS TO NOT DRIP WATER ONTO VALVE BODY OR CURB STOP VALVE.
4. CURB STOP & AIR VALVES SHALL HAVE ADEQUATE HORIZONTAL CLEARANCE TO ALLOW EASE OF OPERATION OF CURB STOP W/ VALVE KEY AFTER INSTALLATION.
5. ALL BURIED METALLIC PIPE SHALL BE COLD APPLIED TAPE WRAPPED IN ACCORDANCE WITH AWWA C209.
6. ALL THREADED PIPE TO BE INSTALLED WITH TEFLON PIPE TAPE.



PLAN VIEW - 1" COMBINATION AIR RELEASE VALVE WITH BOLLARDS
FOR USE AT ALIGNMENT B STA: 3+47.35 ONLY (SEE SHT. C-11)
NOT TO SCALE

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RAMAH NAVAJO CHAPTER / NAVAJO NATION MOUNTAIN VIEW, NM
AIR RELEASE VALVE DETAIL
MOUNTAIN VIEW ESTATES
WATER SYSTEM EXTENSION



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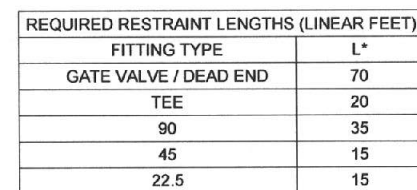
Designed GMM Drawn AAV Checked TTT

Date: January 2017

Scale: Horiz: Vert:

Project No: 6923836

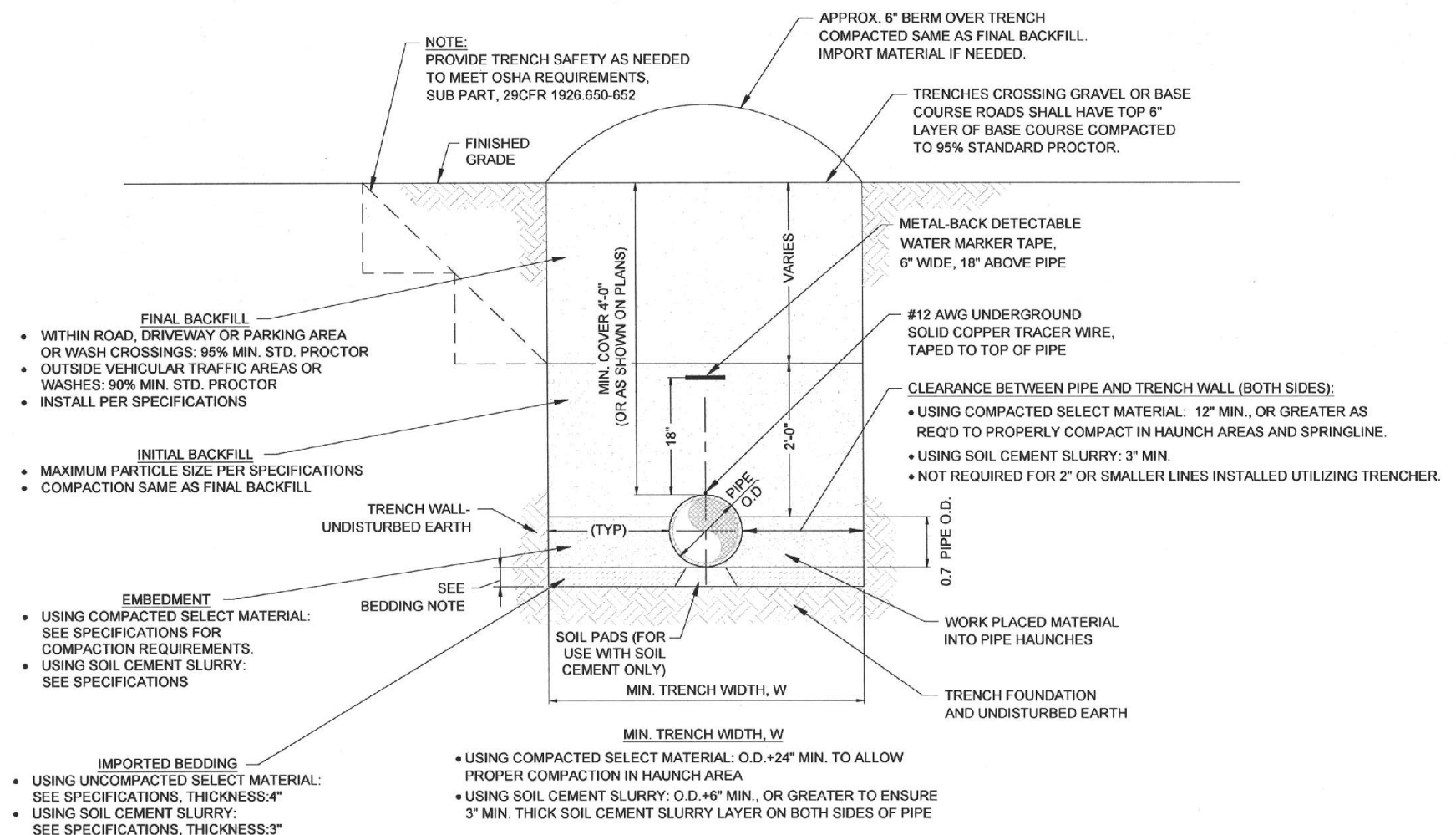
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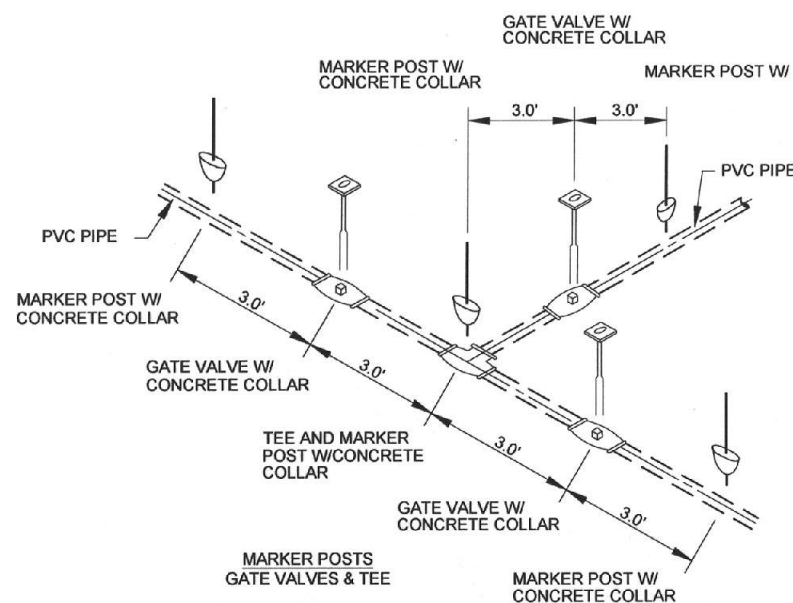
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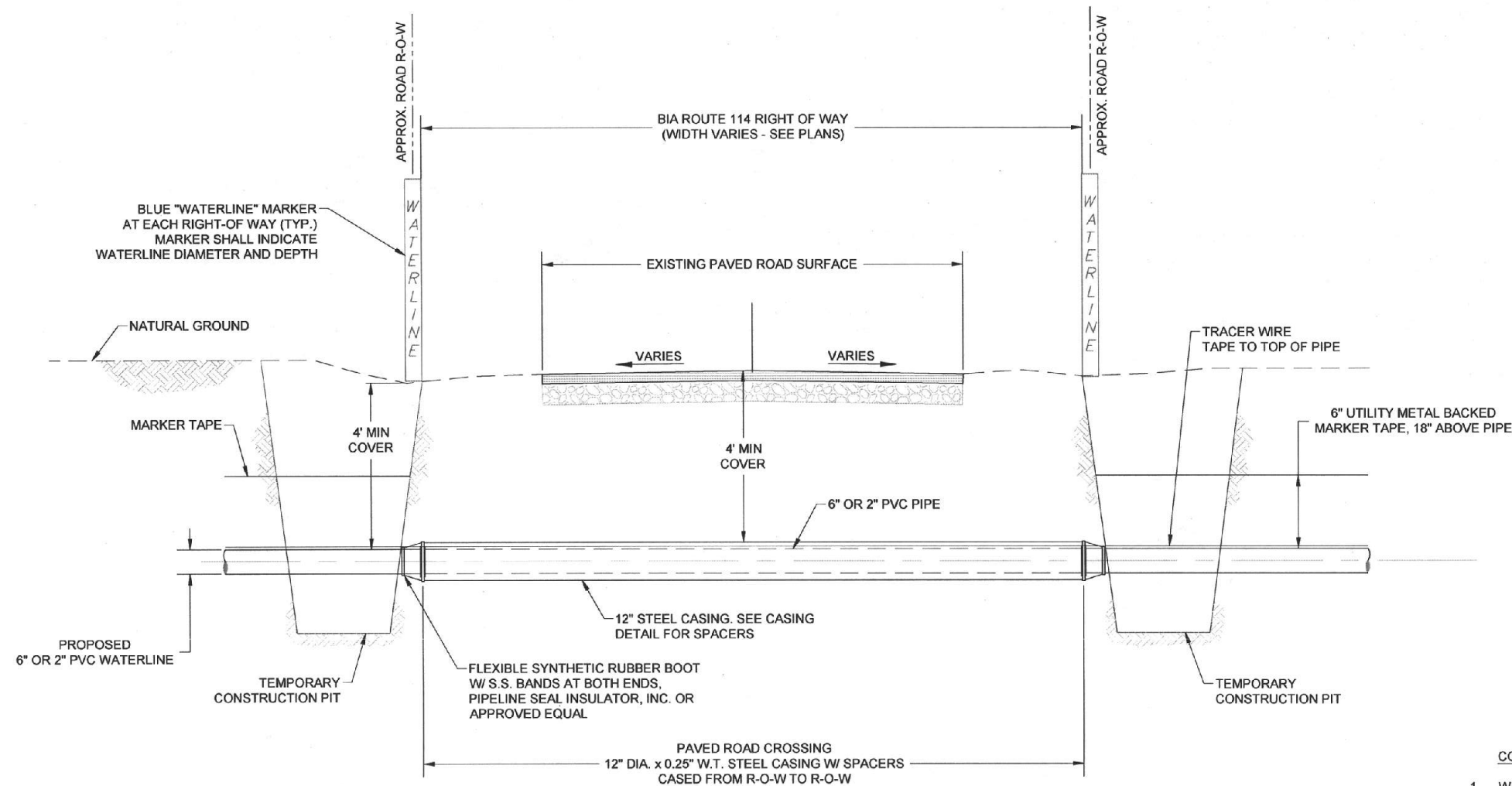
1. INSTALL PER MANUFACTURER'S SPECIFICATIONS
2. SUBMIT JOINT RESTRAINT TABLE BASED ON MANUFACTURER'S SPECIFICATIONS. (APPROXIMATE LENGTHS PROVIDED BELOW)

WATERLINE JOINT RESTRAINTS AT
VERTICAL / HORIZONTAL BENDS AND GATE VALVES
NOT TO SCALE



TYPICAL TRENCH DETAIL
NOT TO SCALE

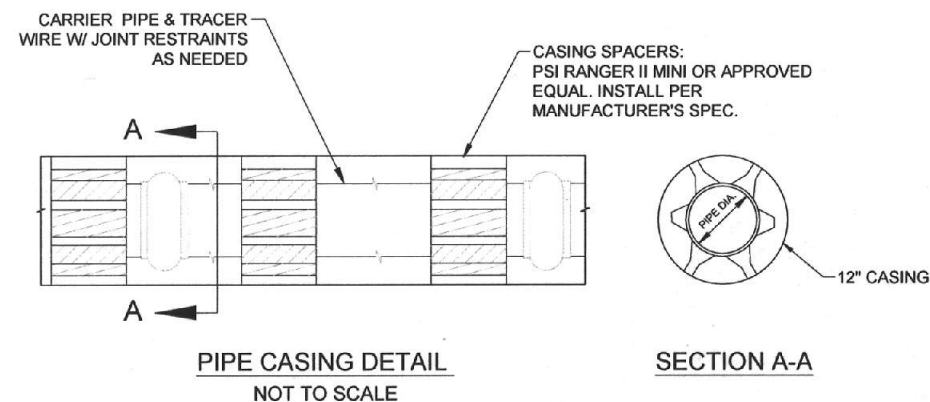




BIA ROUTE 114 BORED/CASED ROAD CROSSING
NOT TO SCALE

CONSTRUCTION NOTES:

1. WATERLINE SHALL BE INSTALLED BY BORE AND JACK UNDER BIA ROUTE 114 WITH CASING FROM ROW TO ROW AS PER BIA REQUIREMENTS (SEE PERMIT).
2. CASING SHALL CROSS THE ROADWAY AT 90 DEGREE ANGLE.
3. EXCAVATIONS OUTSIDE THE ROADWAY FORESLOPES SHALL BE COMPACTED PER SPECIFICATIONS. EXCAVATION WITHIN THE TOE OF THE FORESLOPES SHALL BE COMPACTED TO 95% STANDARD PROCTOR AS DETERMINED BY AASHTO METHOD T-99 OR EQUIVALENT.
4. PERMANENT CROSSING MARKERS SHALL BE PLACED AT THE ENDS OF THE CASINGS FOR ALL WATERLINE ROAD CROSSINGS.

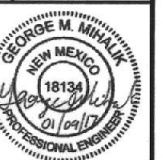


Rev #	Date	Description	By	CHKD

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RAMAH NAVAJO CHAPTER / NAVAJO NATION MOUNTAIN VIEW, NM
BIA ROUTE 114 PAVED ROAD CROSSING DETAILS
MOUNTAIN VIEW ESTATES
WATER SYSTEM EXTENSION



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Date:	January 2017	
Scale:	Horiz: Vert:	
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Sheet:	DT-5	

EACH SIGN FACE SHOWN ON PLANS SHALL MEET THE SPECIFICATIONS IN THE STANDARD HIGHWAY SIGNS MANUAL (CURRENT EDITION) FOR PROPER ARRANGEMENT AND SPACING OF LETTERS, LETTER HEIGHT, LETTER SERIES, SYMBOLS, AND BORDERS FOR THE SPECIFIED SIZE AND MESSAGE AS SHOWN ON THE PLANS.



1. AT THE END OF EACH WORK DAY IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ROAD DRIVING LANES (TWO WAY TRAFFIC) FREE OF MATERIALS AND OBSTRUCTIONS.
2. AS PART OF THE TRAFFIC CONTROL PLAN AND TRAFFIC CONTROL MANAGEMENT, CONTRACTOR SHALL HAVE PERSONNEL AVAILABLE 24 HOURS PER DAY, 7 DAYS A WEEK, TO INSPECT AND MAINTAIN DETOURS AND TRAFFIC CONTROL DEVICES.
3. CONTRACTOR SHALL MAINTAIN AT LEAST ONE LANE OPEN TO TRAFFIC AT ALL TIMES.
4. SHOULD WORK CONSTRUCTION SHALL BE RESTRICTED TO ONE SIDE OF ROAD. THE CONTRACTOR SHALL SET TRAFFIC CONTROL DEVICES TO DEFINE WORK ZONE AT THE BEGINNING OF EACH WORK DAY. THERE SHALL BE A MAXIMUM OF THREE WORK ZONES FOR THE ENTIRE PROJECT LENGTH AT ANY GIVEN TIME. SHOULD WORK SHALL BE DEFINED AS ANY ACTIVITY OR CONSTRUCTION EQUIPMENT WITHIN THE ROAD R/W BUT MORE THAN 18 FT. FROM THE EDGE OF THE DRIVING LANE.
5. DURING NON-WORKING HOURS, THE CONTRACTOR SHALL MOVE DRUMS, SIGNS, AND OTHER TRAFFIC CONTROL DEVICES TO R/W FENCE AND LAY SIGNING DOWN AWAY FROM TRAFFIC.
6. NIGHT-TIME CONDITIONS: THE CONTRACTOR SHALL NOT PARK CONSTRUCTION EQUIPMENT, OR LEAVE MATERIALS WITHIN 24 FT. OF THE EDGE OF DRIVING LANE.
7. THE CONTRACTOR SHALL PROVIDE ACCESS TO ALL DRIVEWAYS AND TURNOUTS AT ALL TIMES.
8. LANE CLOSURE SHALL BE USED WHEN ANY CONSTRUCTION EQUIPMENT, CONSTRUCTION MATERIAL, OR CONSTRUCTION OBJECTS ARE WITHIN 18 FT. FROM EDGE OF DRIVING LANE.
9. ALL CONSTRUCTION TRAFFIC CONTROL DEVICES SHALL COMPLY WITH BIA-SWP REGIONAL OFFICE DEPARTMENT OF TRANSPORTATION REQUIREMENTS, THE NEW MEXICO STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, LATEST EDITION, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
10. EXCEPT DURING AN EMERGENCY, NO NIGHT-TIME WORK TO BE PERFORMED.
11. ALL STAGING AREAS AND MATERIAL AND EQUIPMENT STORAGE SHALL BE CONFINED TO PROJECT R/W AND ARE SUBJECT TO THE SAME RESTRICTIONS AS THE WORK AREAS AS SET FORTH ABOVE.
12. CONTRACTOR RESPONSIBLE FOR NOTIFICATION OF AND COORDINATION WITH GAS COMPANIES AND OTHER UTILITIES WORKING IN AREA PRIOR TO/DURING ANY LANE CLOSURES.

LANE CLOSURE (LEFT AND RIGHT)

NMDOT CHANNELIZATION DEVICES, TYPE: DRUM, NO. 702525. TOTAL OF 17 DRUMS REQUIRED.

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MOUNTAIN VIEW, NM

RAMAH NAVAJO CHAPTER / NAVAJO NATION

TRAFFIC CONTROL
MOUNTAIN VIEW ESTATES
WATER SYSTEM EXTENSION



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Project No: 6923836

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DT-6